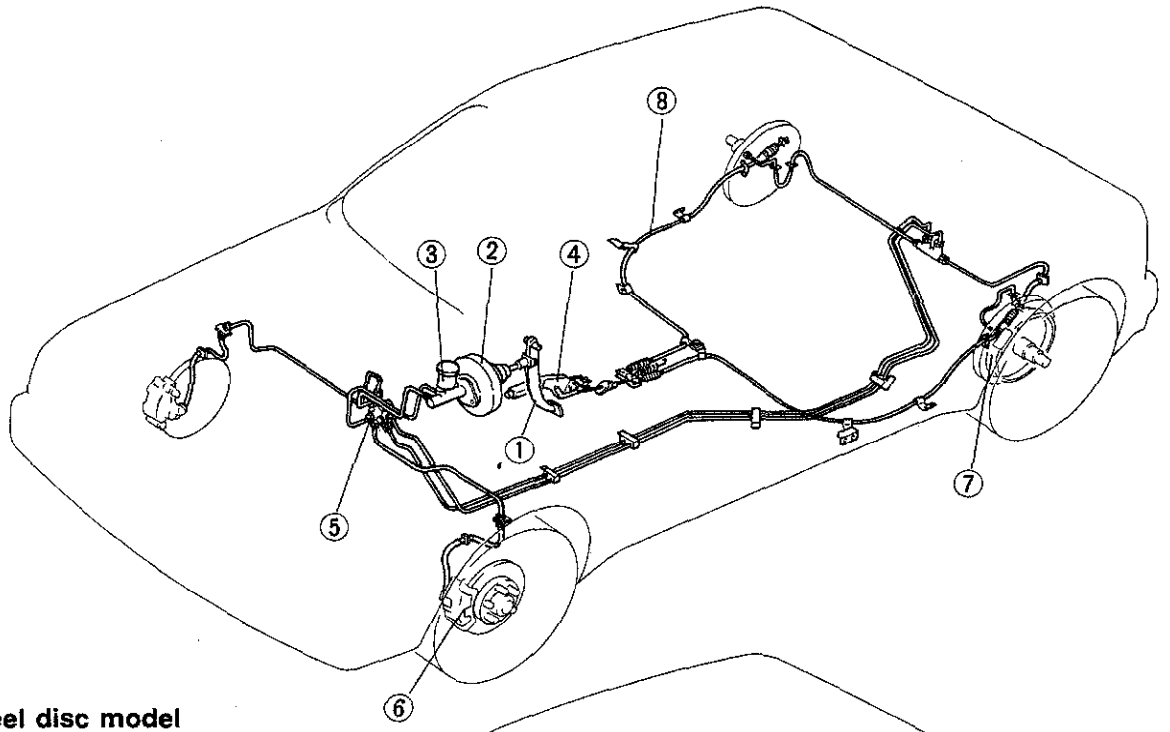
BRAKING SYSTEM

83U11X-001

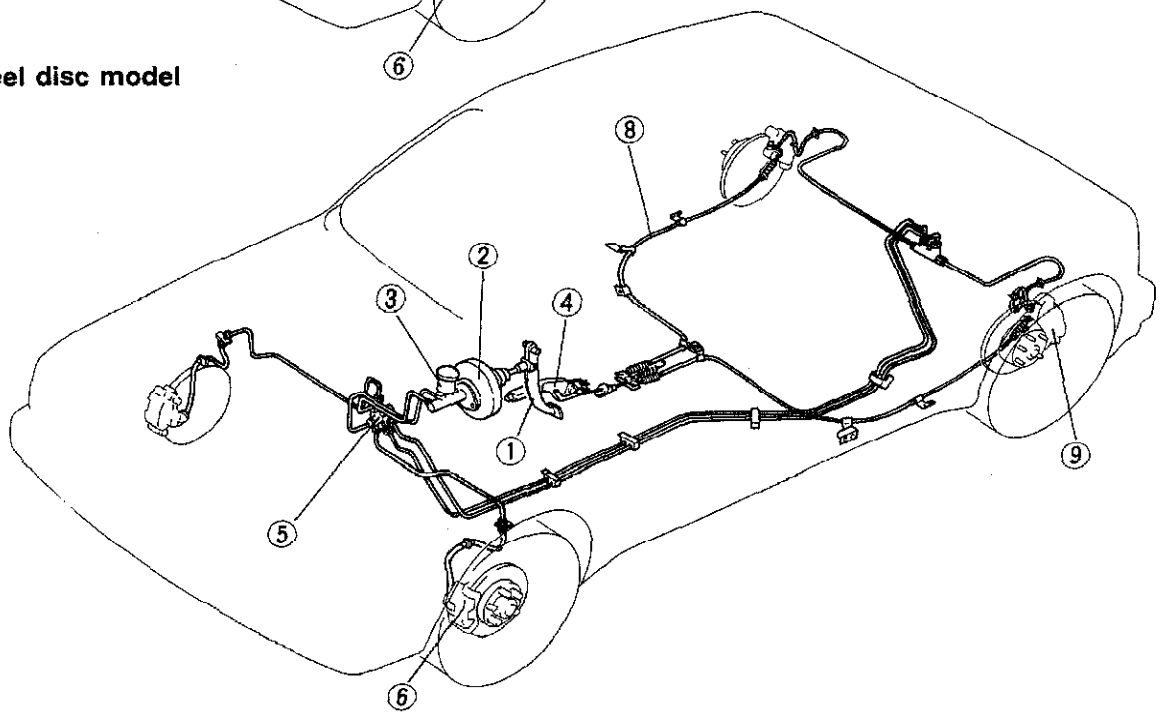
OUTLINE

STRUCTURAL VIEW

Front disc, rear drum model



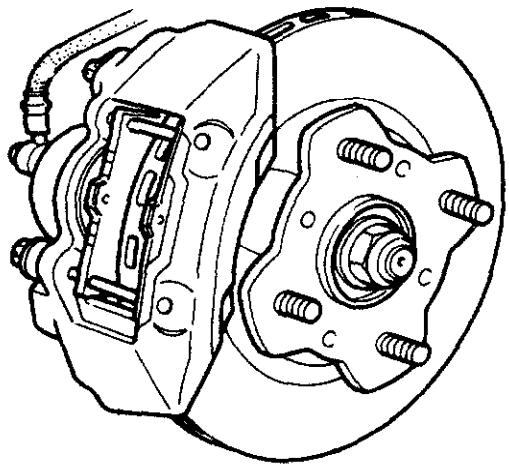
4-wheel disc model



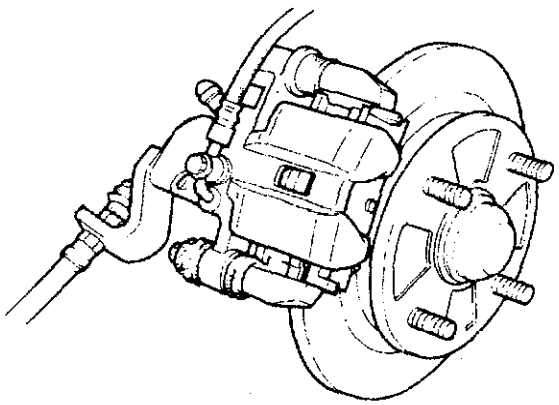
63U11X-002

1. Brake pedal
2. Power brake unit
3. Brake master cylinder
4. Parking brake lever
5. Dual proportioning valve
6. Front disc brake
7. Rear drum brake
8. Parking brake cable
9. Rear disc brake

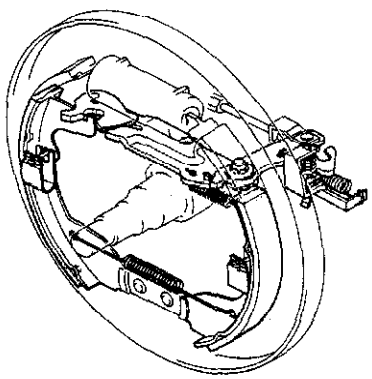
Front disc brake
Ventilated disc



Rear disc brake
Solid disc



Rear drum brake
Leading-trailing



83U11X-002

SPECIFICATIONS

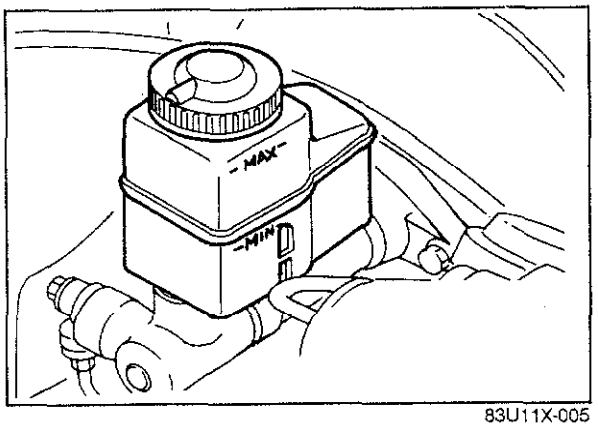
Item		Specification
Brake pedal	Type	Suspended
	Pedal lever ratio	4.63
	Max. stroke mm (in)	145 (5.71)
Master cylinder	Type	Tandem (with level sensor)
	Cylinder inner diameter mm (in)	22.22 (0.875)
Front disc brake	Type	Ventilated disc (integral)
	Cylinder bore mm (in)	51.1 (2.01)
	Pad dimensions (area x thickness) mm^2 (in^2) x mm (in)	3,800 (5.89) x 10 (0.39)
	Disc plate dimensions mm (in) *(outer diameter x thickness)*	13 inch-wheel : 238 x 18 (9.37 x 0.71) *14 inch-wheel : 260 x 18 (10.24 x 0.71)*
Rear disc brake	Type	Sold disc (mounting support)
	Cylinder bore mm (in)	30.2
	Pad dimensions (area x thickness) mm^2 (in^2) x mm (in)	2,728 x 8 (4.23 x 0.31)
	Disc plate dimensions mm (in) (outer diameter x thickness)	247 x 10 (9.72 x 0.39)
Rear drum brake	Type	Leading-trailing
	Wheel cylinder inner diameter mm (in)	17.46 (0.687)
	Lining dimensions mm (in) (width x length x thickness)	25 x 191.9 x 5 (0.98 x 7.56 x 0.19)
	Drum inner diameter mm (in)	200 (7.87)
	Shoe clearance adjustment	Automatic adjuster
Power brake unit	Type	Vacuum multiplier
	Diameter	213 (8.39)
Braking force control device	Type	Dual proportioning valve
Brake fluid		FMVSS 116, DOT-3 or DOT-4, or SAE J1703a
Parking brake	Type	*Mechanical two rear wheel control*
	Operation system	Center lever

83U11X-003

TROUBLESHOOTING GUIDE

Problem	Possible cause	Remedy	Page
Poor braking	Leakage of brake fluid	Repair	—
	Air in system	Air bleed	11—11
	Worn pad or lining	Replace	11—26,29,38
	Brake fluid, grease, oil or water on pad or lining	Clean or replace	11—26,29,38
	Hardening of pad or lining surface, or poor contact	Grind or replace	11—26,29,38
	Malfunction of disc brake piston	Replace	11—27,41
	Malfunction of master cylinder or wheel cylinder	Repair or replace	11—14,30
	Malfunction of power brake unit	Repair or replace	11—21
	Malfunction of check valve (vacuum hose)	Repair or replace	11—21
	Damaged vacuum hose	Replace	—
	Deterioration of flexible hose	Replace	—
	Malfunction of dual proportioning valve	Replace	11—48
Brakes pull to one side	Worn pad or lining	Replace	11—26,29,38
	Brake fluid, grease, oil or water on pad or lining	Clean or replace	11—26,29,38
	Hardening of pad of lining surface, or poor contact	Grind or replace	11—26,29,38
	Abnormal wear, distortion of disc or lining	Repair or replace	—
	Malfunction of automatic adjuster	Repair or replace	—
	Looseness or deformation of backing plate mounting bolt	Tighten or replace	11—34
	Malfunction of wheel cylinder	Repair or replace	11—30
	Improper adjustment of wheel bearing preload, or wear	Refer to Section 9	—
	Improper adjustment of wheel alignment	Refer to Section 10	—
	Unequal tire air pressures	Refer to Section 12	—
Brakes do not release	No brake pedal play	Adjust	11— 7
	Improper adjustment of operating rod or push rod	Adjust	11—15
	Clogged master cylinder return port	Clean	—
	Shoe does not return properly	Adjust	—
	Wheel cylinder does not return properly	Clean or replace	11—30
	Improper return due to malfunction of piston seal of disc brake	Replace	11—27,41
	Excessive runout of disc plate	Replace	—
	Improper return of parking brake cable, or improper adjustment	Repair or adjust	11— 8
	Improper adjustment of wheel bearing preload	Refer to Section 9	—
Pedal goes too far (Too much pedal stroke)	Air in system due to insufficient brake fluid	Add fluid and bleed air.	11—11
	Improper adjustment of pedal play	Adjust	11— 7
	Worn pad or lining	Replace	11—26,29,38
	Air in system	Air bleed	11—11
Abnormal noise or vibration during braking	Worn pad or lining	Replace	11—26,29,38
	Deterioration of pad or lining surface	Grind or replace	11—26,29,38
	Brakes do not release	Repair	—
	Foreign material or scratches on disc plate or drum contact surface	Clean	—
	Looseness of backing plate or caliper mounting bolts	Tighten	11—34
	Damage or deviation of disc or drum contact surface	Replace	—
	Poor contact of pad or lining	Repair or replace	11—26,29,38
	Insufficient grease on sliding parts	Apply grease.	—
Parking brake does not hold well	Excessive lever stroke	Adjust	11— 8
	Brake cable stuck or damaged	Repair or replace	11—50
	Brake fluid or oil on pad or lining	Clean or replace	11—26,29,38
	Hardening of pad or lining surface, or poor contact	Grind or replace	

83U11X-004

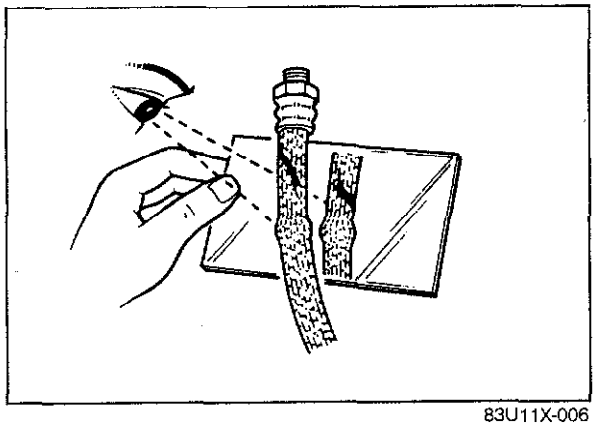


83U11X-005

ON-VEHICLE MAINTENANCE

BRAKE FLUID LEVEL

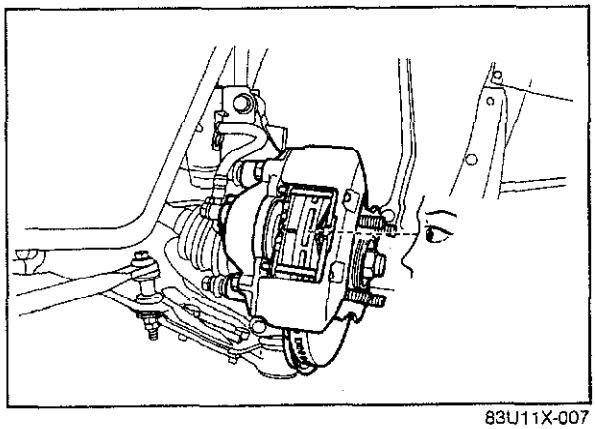
Check fluid level in reservoir. It should be between the "Max" and "Min" lines on the reservoir.
If the fluid level is extremely low, check the brake system for leaks.


83U11X-006

BRAKE LINES

Check the following and replace or repair any faulty parts.

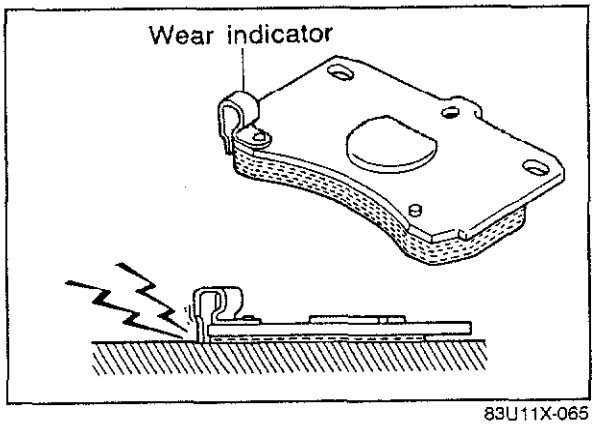
1. Cracks damage and corrosion of brake hose
2. Damage to brake hose threads
3. Scars, cracks and swelling of flexible hose
4. Fluid leakage of all lines


83U11X-007

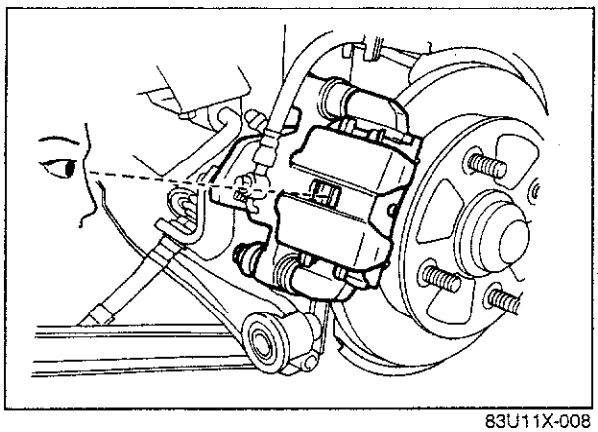
SIMPLE INSPECTION OF DISC PAD (Front)

1. Loosen the front wheel lug nuts.
2. Jack up the front of the vehicle, and support it with safety stands.
3. Remove the wheels.
4. Check through the caliper inspection hole and see if the remaining thickness of the pad is at least **2 mm (0.08 in)**

Note
When the remaining thickness becomes 2 mm (0.08 in), the wear indicator indicates that the pad should be replaced by creating a squealing noise while driving.



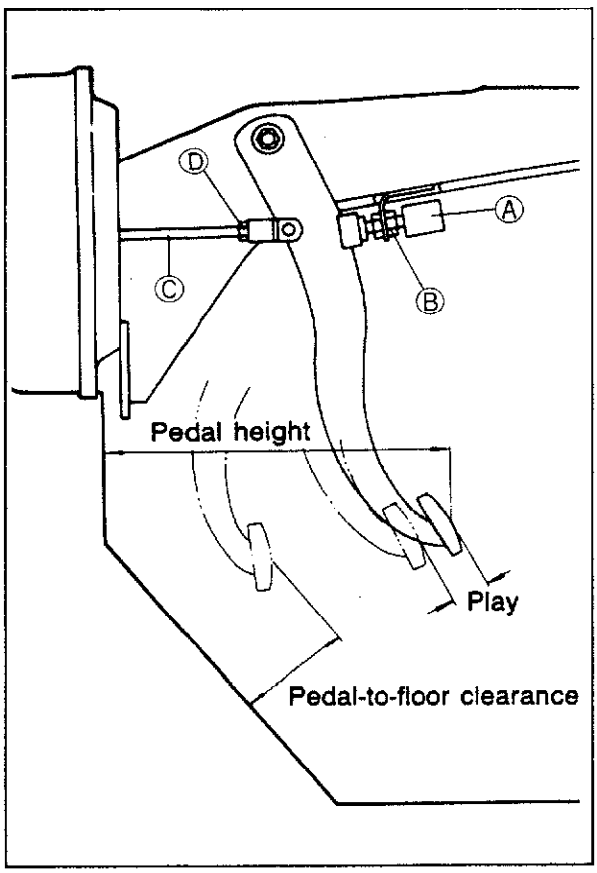
83U11X-065



83U11X-008

SIMPLE INSPECTION OF DISC PAD (Rear)

1. Loosen the rear wheel lug nuts.
2. Jack up the rear of the vehicle, and support it with safety stands.
3. Remove the wheels.
4. Check through the caliper inspection hole and see it the remaining thickness of the pad is at least **1 mm (0.04 in)**.



83U11X-009

PEDAL HEIGHT

Inspection

Check that the distance from the center of the upper surface of the pedal pad to the firewall is as specified.

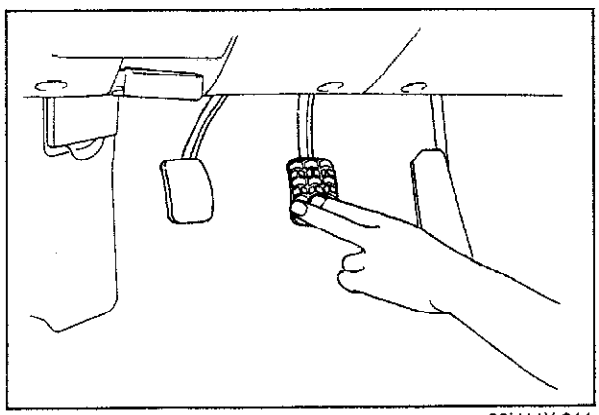
Pedal height: 214 $\pm^{5}_{0}$ mm (8.43 $\pm^{0.20}_{0}$ in)

Adjustment

1. Disconnect the stop light switch connector.
2. Loosen locknut B and turn switch A until it does not contact the pedal.
3. Loosen locknut D and turn rod C to adjust the height.
4. Adjust the pedal free play and tighten locknut D.
5. Turn the stop light switch until it contacts the pedal; then turn an additional 1/2 turn. Tighten locknut B.

Locknut B tightening torque:
14—18 N·m (1.4—1.8 m-kg, 10—13 ft-lb)
Locknut D tightening torque:
24—34 N·m (2.4—3.5 m-kg, 17—25 ft-lb)

6. Connect the stop light switch connector.



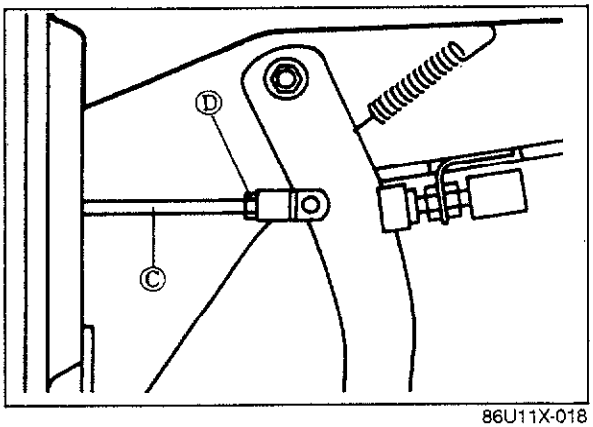
63U11X-011

PEDAL PLAY

Inspection

1. Depress the pedal a few times in order to eliminate the vacuum in the vacuum line.
2. Gently depress the pedal by hand and check the free play.
   (Until the valve plunger contacts the stopper plate; until resistance is felt)

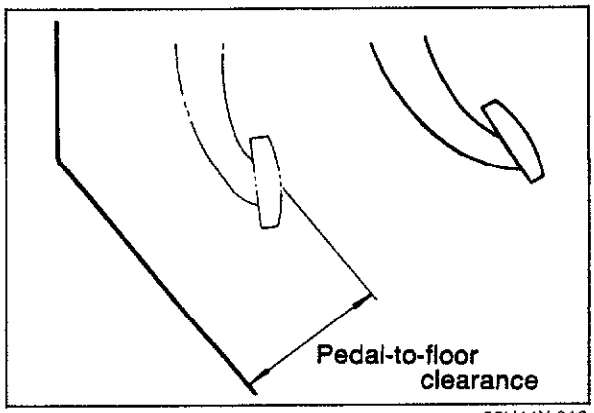
Pedal play: 4—7 mm (0.16—0.28 in)



86U11X-018

Adjustment
Loosen the locknut D of the operating rod C; then turn the rod to adjust the free play.

Locknut D tightening torque:
24—34 N·m (2.4—3.5 m-kg, 17—25 ft-lb)

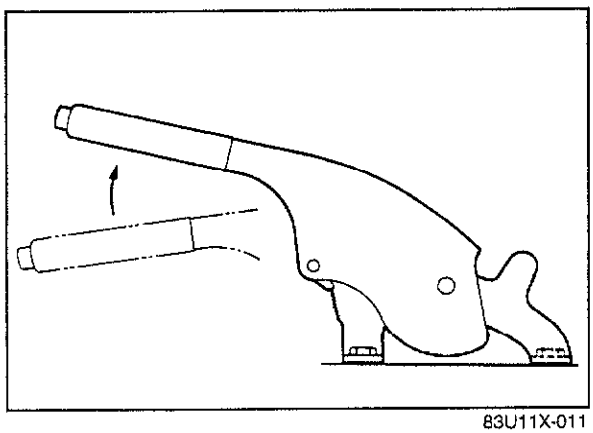


83U11X-010

PEDAL-TO-FLOOR CLEARANCE
Inspection
Check that the distance from the floor panel to the center of the upper surface of the pedal pad is the standard value when the pedal is depressed with a force of 60 kg (132.3 lb).

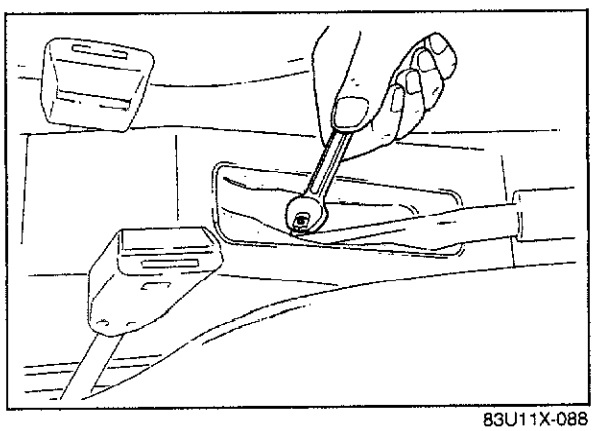
Pedal-to-floor clearance: 83 mm (3.27 in) min.

If the distance is less than the standard value, check as described below.
1. Air in brake system
2. Malfunction of automatic adjuster
3. Worn shoes or pads


83U11X-011

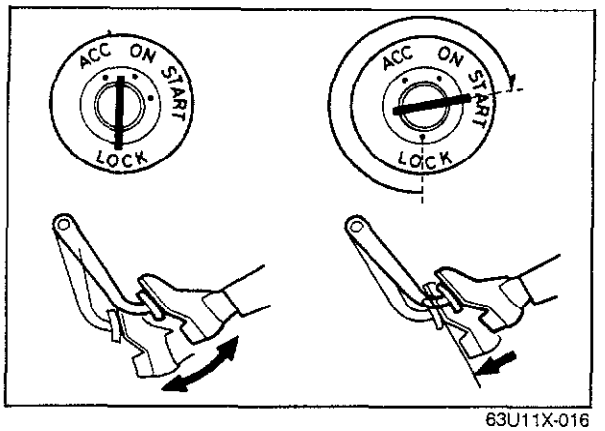
PARKING BRAKE LEVER STROKE
Inspection
Check whether the stroke of the parking brake lever is within the standard value range when it is pulled by applying a force of 10 kg (22 lb).

Stroke: 5—7 notches


83U11X-088

Adjustment
1. Before adjustment, depress the brake pedal several times while the vehicle is moving in reverse to adjust the automatic adjusters.
2. After loosening the locknut, turn the adjusting nut at the front of the brake cable.
3. Check to be sure that the parking brake warning lamp illuminates when the brake lever is pulled one notch.

Caution
a) Check to be sure that the brakes do not drag.
b) Make the adjustment after starting the engine and depressing the brake pedal 2 to 3 time.

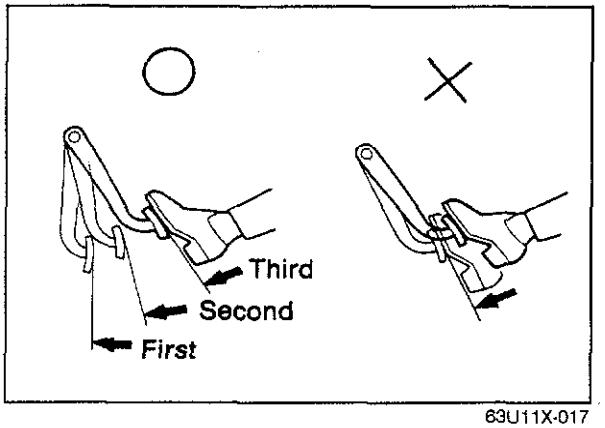


63U11X-016

POWER BRAKE UNIT

First Step

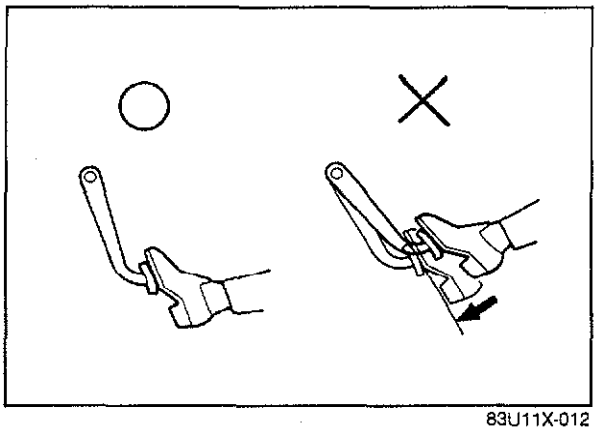
1. *With the engine stopped, depress the pedal a few* times.
2. With the pedal depressed, start the engine.
3. If, immediately after the engine starts, the pedal moves down slightly, the unit is good.



63U11X-017

Second Step

1. Start the engine.
2. Stop the engine after it has run for **1 or 2 minutes**.
3. Depress the pedal with the usual force.
4. If the first pedal stroke is long and becomes shorter with subsequent strokes, the unit is serviceable.
5. If there is a problem, check for damage of the check valve or vacuum hose, and check for proper connection. Repair if necessary, and check once again.


83U11X-012

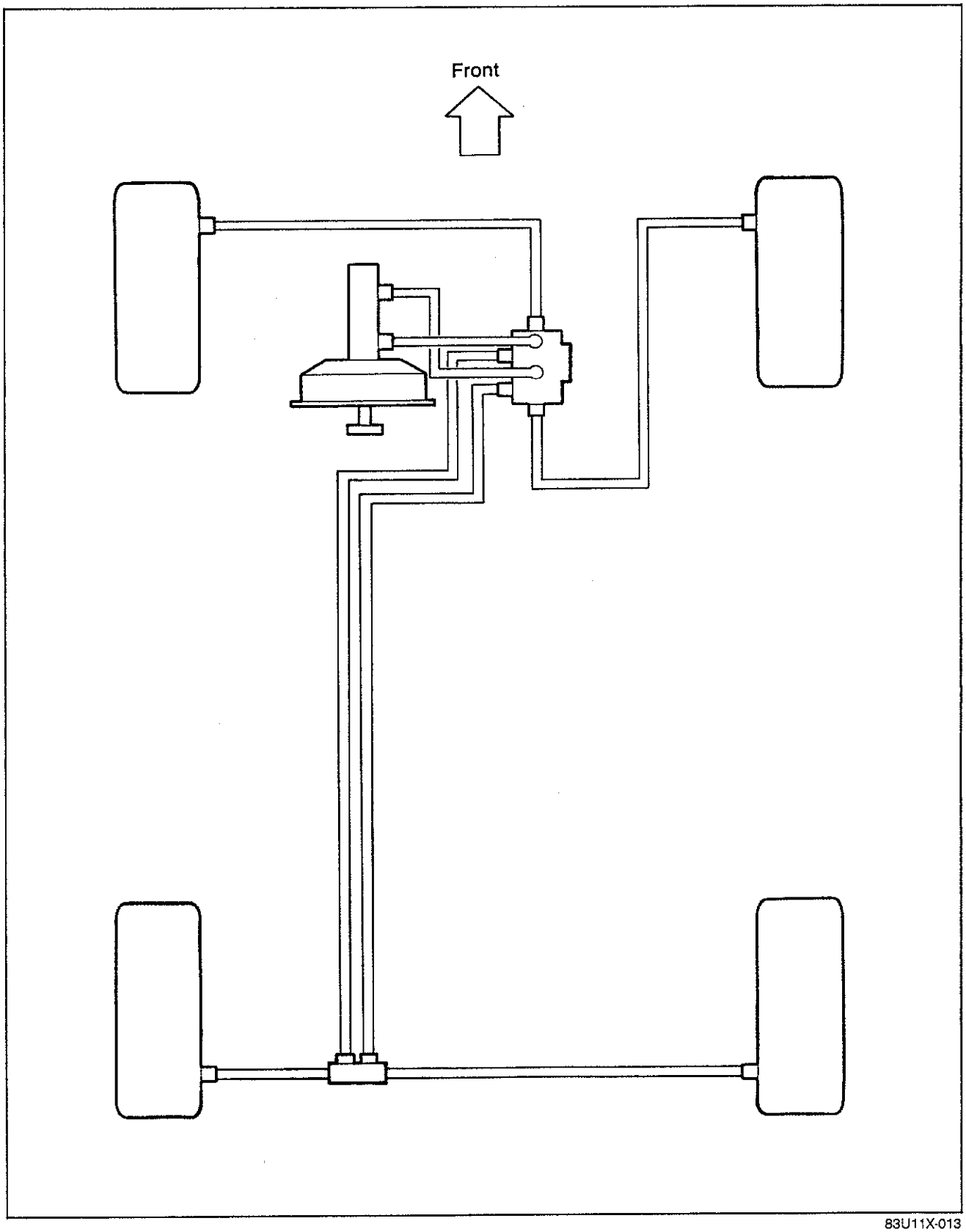
Third Step

1. Start the engine.
2. Depress the pedal with the usual force.
3. *Stop the engine with the pedal still depressed.*
4. Hold the pedal down for **about 30 seconds**.
5. If the pedal height does not change, the unit is serviceable.
6. If there is a problem, check for damage of the check valve or vacuum hose, and check for proper connection. Repair if necessary, and check once again.

If the nature of the problem is still not clear after following the 3 steps above, follow the more detailed check described in "Method using a tester." See page 11—19.

BRAKE HYDRAULIC LINES

STRUCTURAL VIEW



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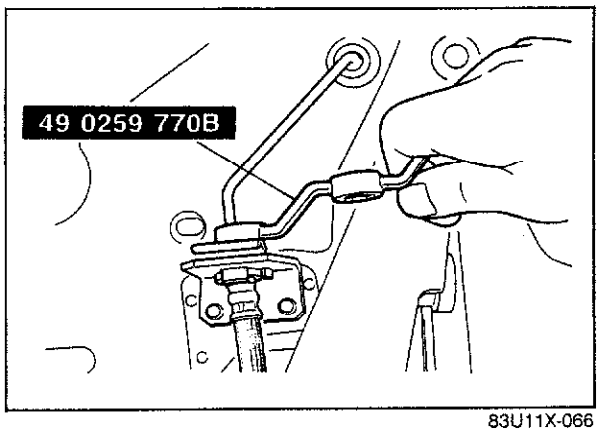

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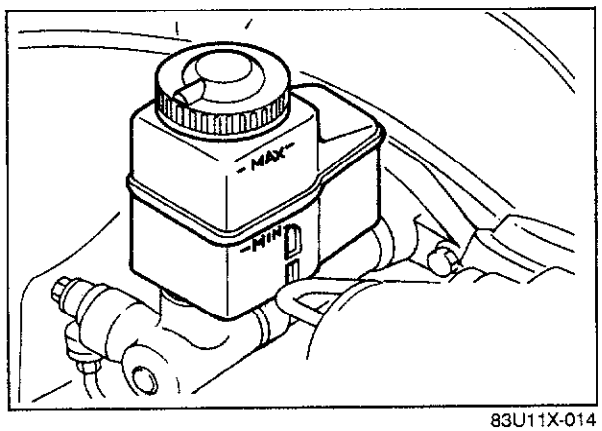


83U11X-014

REMOVAL AND INSTALLATION

1. When disconnecting the flexible hose and brake line, remove the clip after loosening the flare nut.
2. When connecting the flexible hose, do not tighten too tight or twist.
3. Check that the hose does not contact other parts when the vehicle bounces, or when the steering wheel is turned all the way to the right or left.
4. Bleed air as described below.

Caution
Do not allow the brake fluid to get on painted surfaces. If it does wipe it off immediately.

REPLACEMENT OF BRAKE FLUID

1. Remove the brake fluid from the reservoir by using a suction pump.
2. Fill the reservoir with new brake fluid.
3. Attach a vinyl tube to the bleeder screw and place the other end of the vinyl tube in a container.
4. Pump out the old brake fluid by loosening each bleeder screw (one by one) and pumping the brake pedal.
5. Bleed air as described below.

Caution
Do not allow the brake fluid to get on painted surfaces. If it does wipe it off immediately.

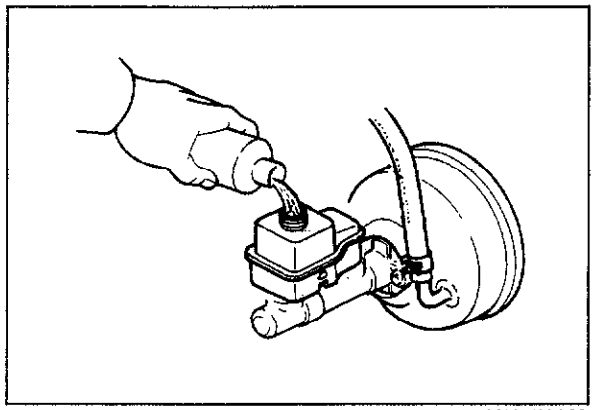
AIR BLEEDING

After repairs, air bleed as follows:

Disassembly locations			Air bleeding locations			
			Front		Rear	
			Right side	Left side	Left side	Right side
Master cylinder			x	x	x	x
Wheel cylinder or caliper	Front	Right side	x	x	—	—
		Left side	x	x	—	—
	Rear	Right side	—	—	x	x
		Left side	—	—	x	x
Dual proportioning valve			x	x	x	x

x indicates locations where air bleeding is necessary.

63U11X-022



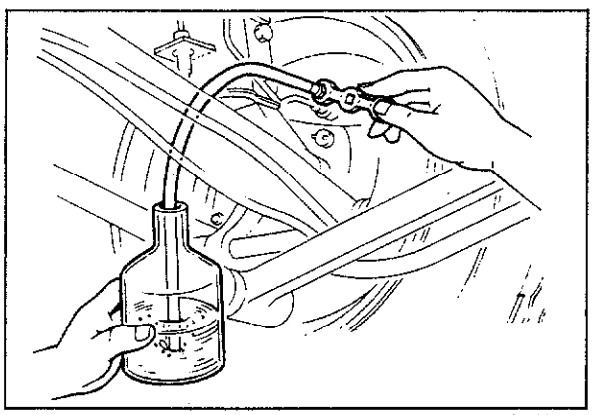
63U11X-023

Bleed air as described below.

Caution

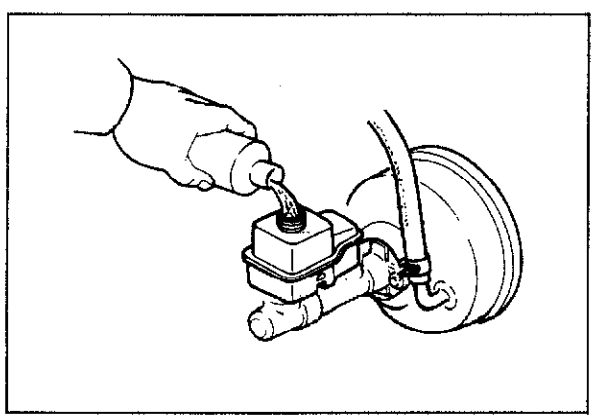
a) The fluid in the reservoir must be maintained at the 2/4 level or higher during air bleeding.

b) Be careful not to spill brake fluid onto painted surfaces.



63U11X-024

1. Jack up the vehicle and support it with safety stands.
2. Remove the bleeder cap and attach a vinyl hose to the bleeder plug.
3. Place the other end of the vinyl tube in a container.
4. Slowly pump the brake pedal several times.
5. While the brake pedal is pressed, loosen the bleeder screw to let fluid and air escape.
6. Repeat steps 4 and 5 until there are no air bubbles in the fluid.
7. Check for correct brake operation.



63U11X-025

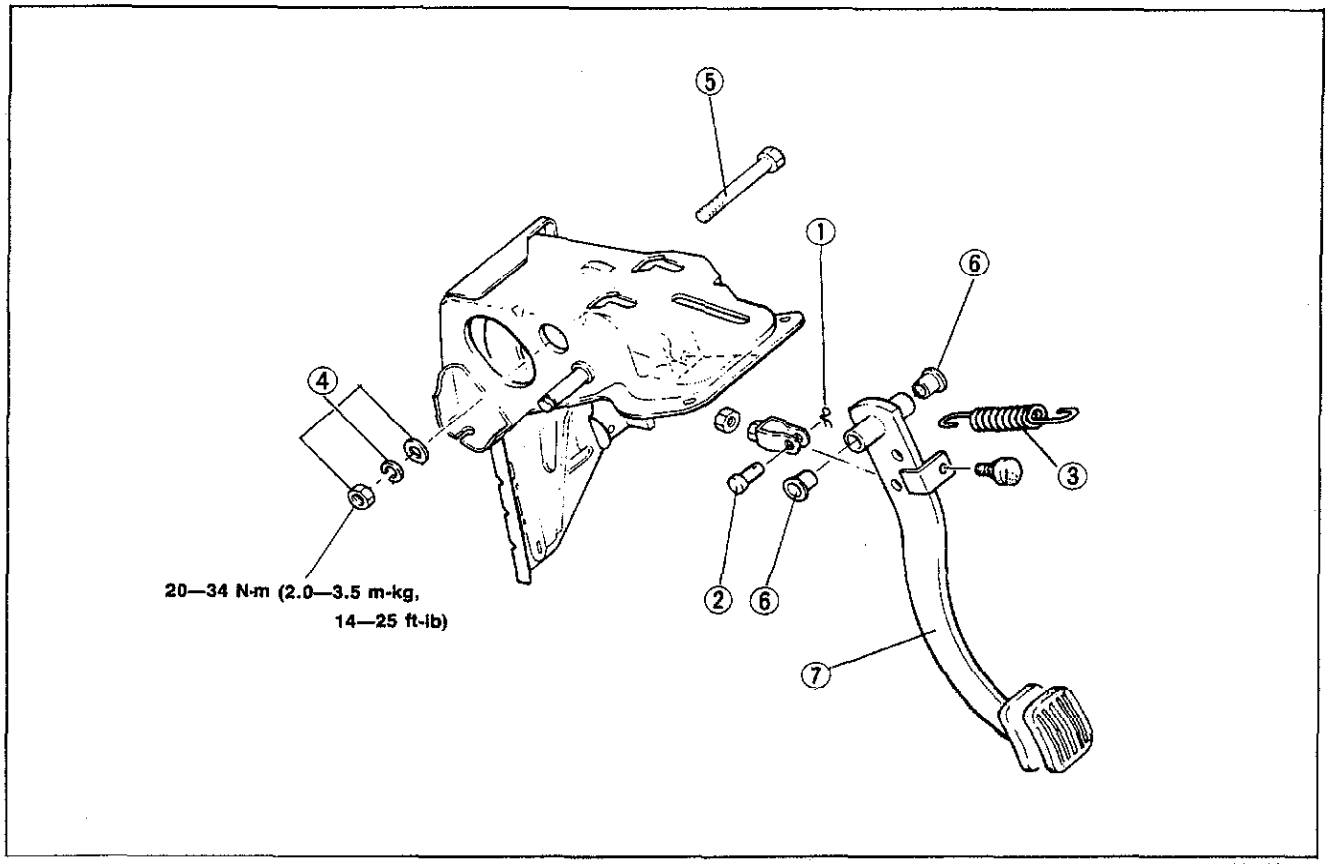
8. Check that there is no fluid leakage. Clean away any spilled fluid with rags.
9. After bleeding the air, add brake fluid to the reservoir up to the specified level.

BRAKE PEDAL

REMOVAL AND INSTALLATION

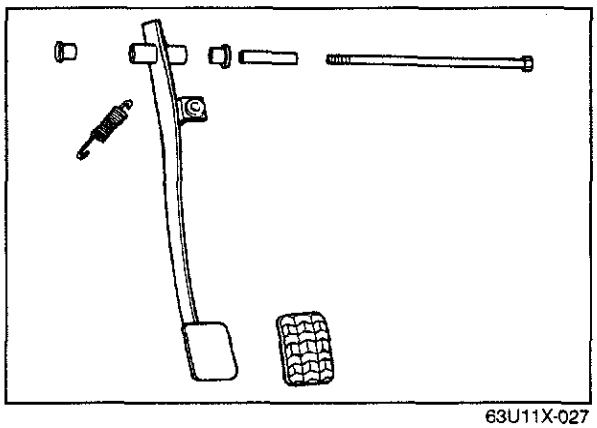
1. Remove the parts in the numbered sequence shown in the figure.
2. Install in the reverse order of removal.
3. After installation, check and adjust the pedal height and free play if necessary.

Caution
Apply grease to the inner surface of the bushing, and to the contact surfaces of the clevis pin and spring.



63U11X-026

1. Cotter pin
2. Clevis pin
3. Return spring
4. Nut, lock washer and flat washer
5. Bolt
6. Bushings
7. Pedal



63U11X-027

INSPECTION

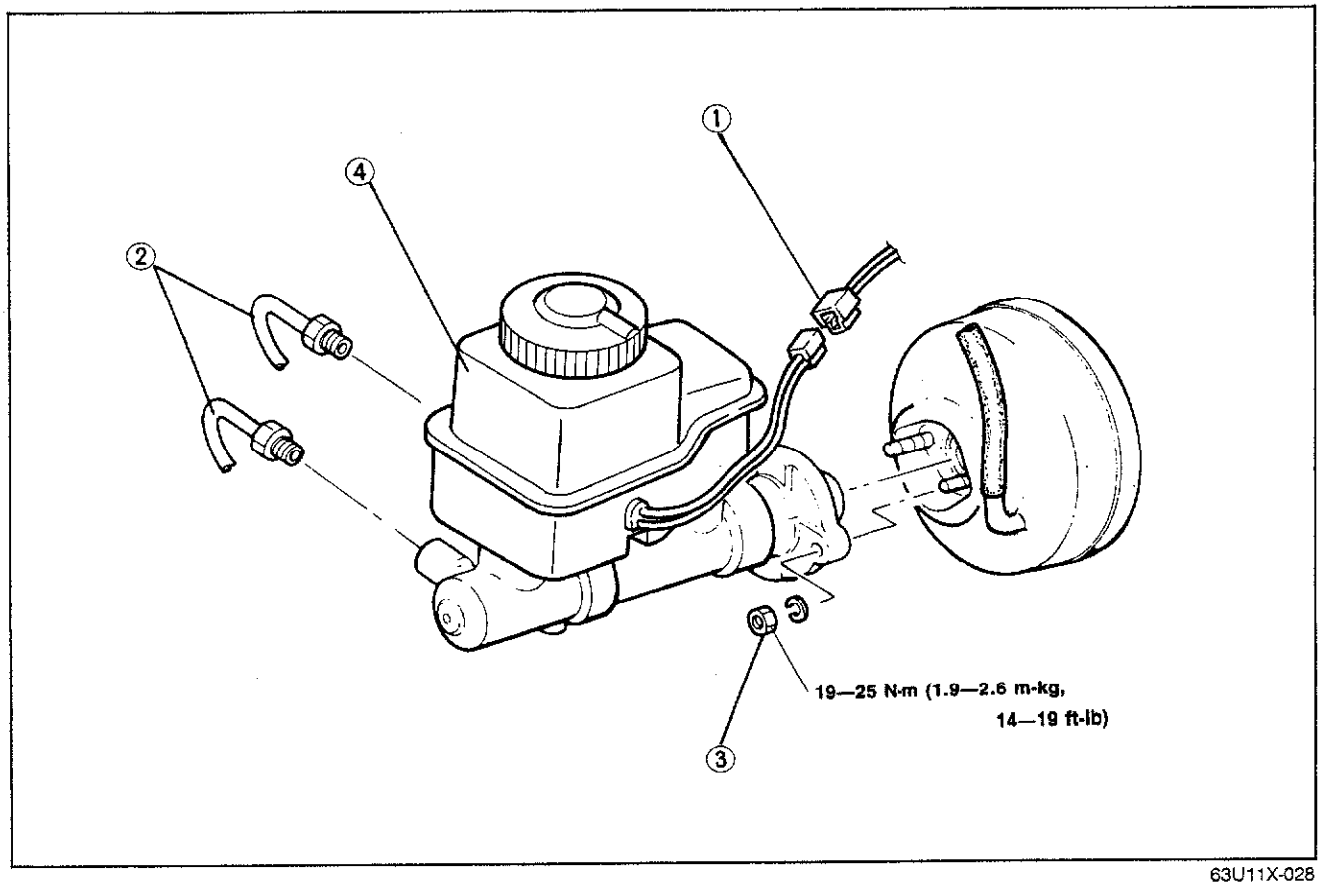
Check the following points, replace if necessary.
1. Bushing for wear
2. Pedal for bending
3. Pedal pad for wear or damage
4. Bolt for bending
5. Return spring for weakness or damage

MASTER CYLINDER

REMOVAL AND INSTALLATION

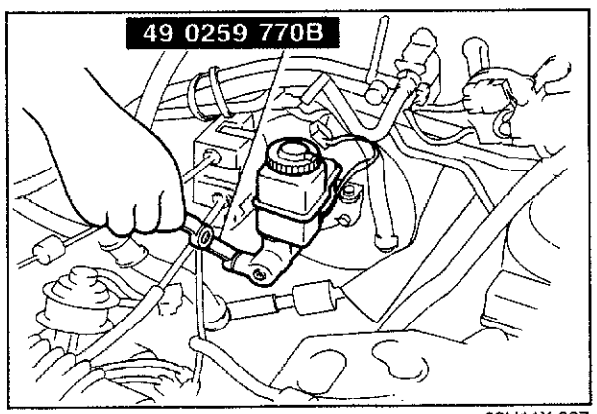
1. Remove the parts in the numbered sequence shown in the figure.
2. Install in the reverse order of removal.
3. After installation, add brake fluid and bleed the air; then check each part for fluid leakage.

Caution
Brake fluid will damage painted surfaces. If it does get on a painted surface, clean it immediately.



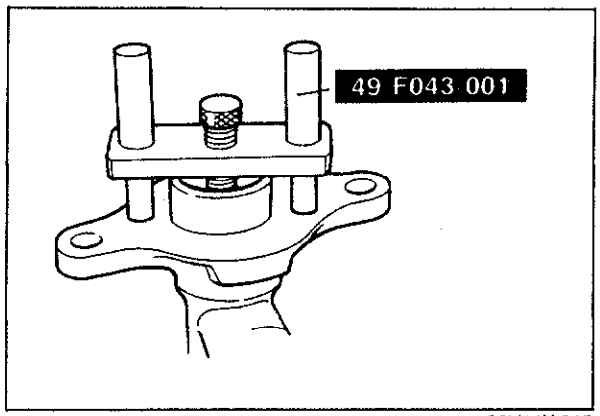
63U11X-028

1. Fluid level sensor
2. Brake pipe
3. Nut
4. Reservoir and master cylinder



83U11X-067

Brake Pipe
Disconnect the brake pipe from the master cylinder with **SST**.

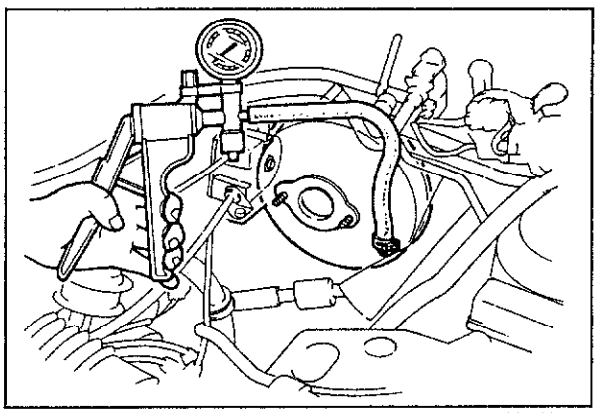


83U11X-015

Piston to Push Rod Clearance

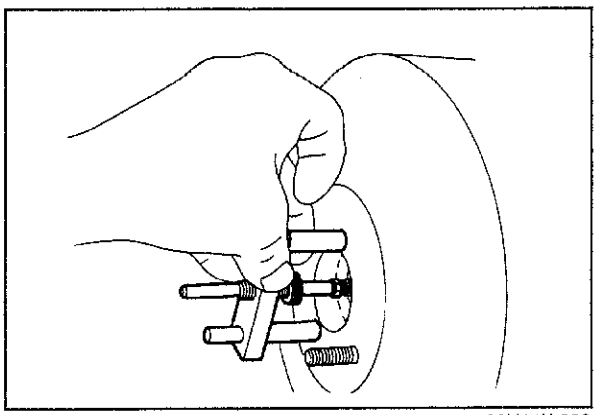
Before installing the master cylinder, check the clearance between the piston of the master cylinder and the push rod of the power brake unit as follows.

1. Place the **SST** on the top of the master cylinder; then turn the adjust bolt until it contacts the bottom of the push rod hole in the piston.



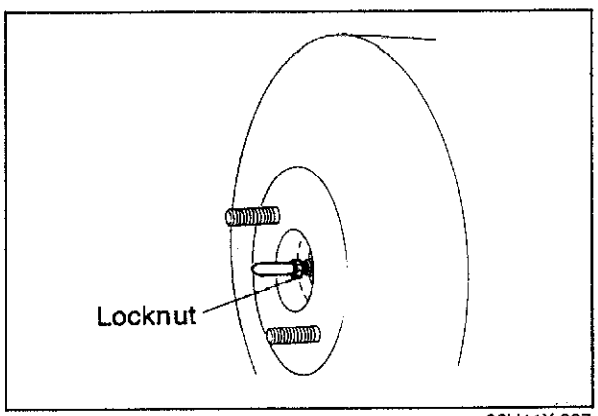
86U11X-035

2. Apply **500 mm-Hg (19.7 in-Hg)** vacuum to the power brake unit with a vacuum pump.



86U11X-036

3. Invert the adjustment gauge used in step 1, and place it on the power brake unit.



86U11X-037

4. Check the clearance between the end of the gauge and the push rod of the power brake unit. If it is not **0 mm**, loosen the push rod locknut and turn the push rod to adjust.

DISASSEMBLY AND ASSEMBLY

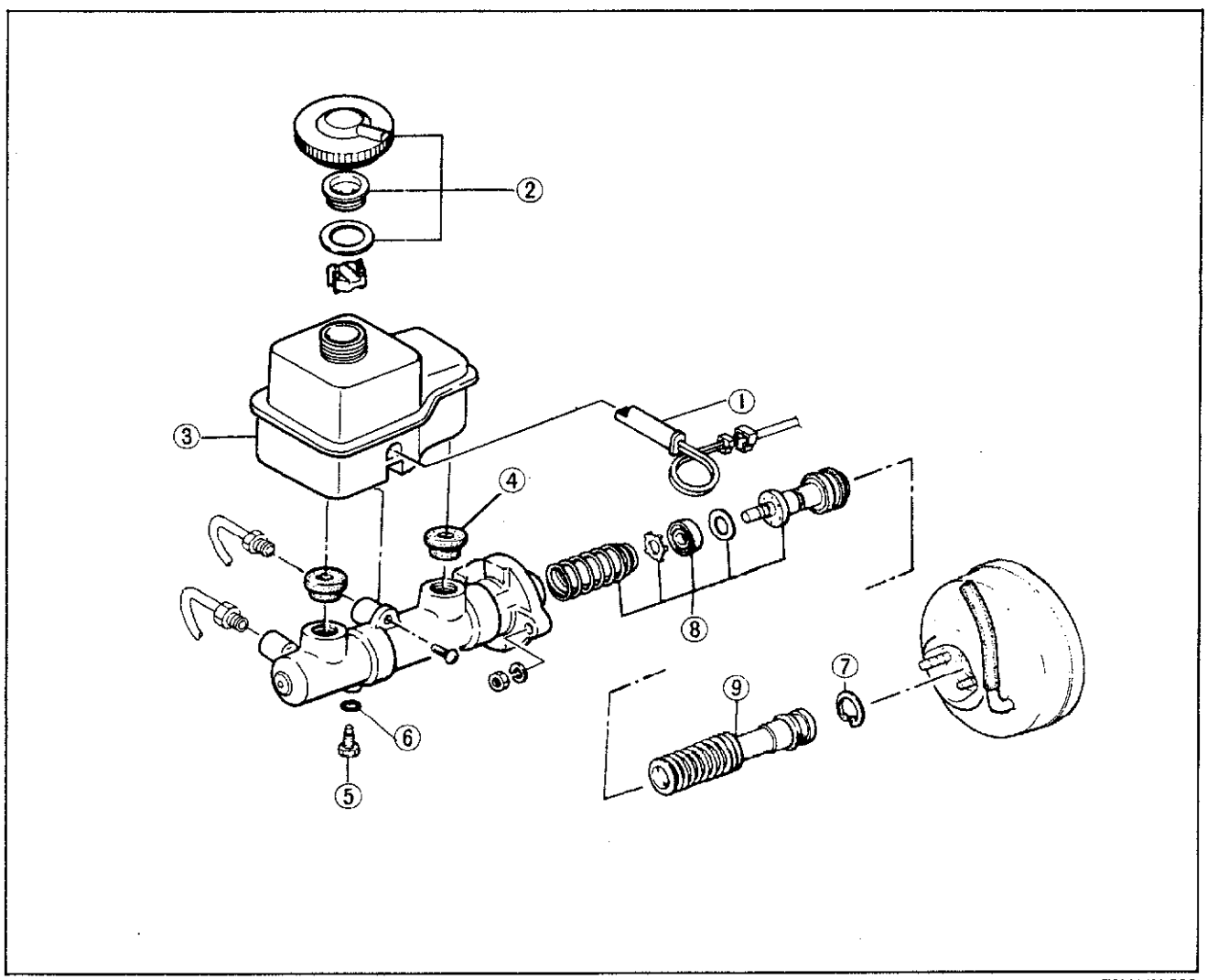
1. After removing the brake fluid, disassemble the brake master cylinder in the numbered sequence shown in the figure.
2. Assemble in the reverse order of removal.

Caution

a) Secure the master cylinder flange in a vise when securing.

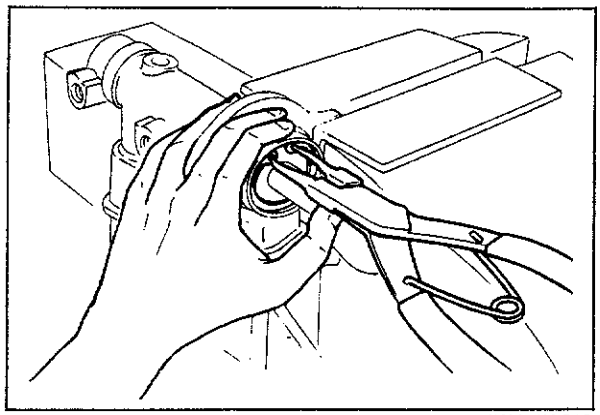
b) Use a new piston cup and O-ring. Note that the primary side is replaced as the piston assembly.

c) Do not let foreign material in, and do not scratch the inside of the cylinder or the outer surface of the piston.

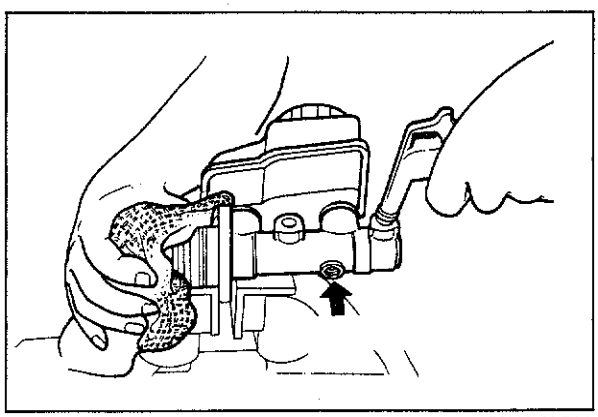


73U11X-509

1. Fluid level sensor
2. Reservoir cap
3. Reservoir
4. Bushing
5. Stopper screw
6. O-ring
7. Stop ring
8. Primary piston assembly
9. Secondary piston assembly

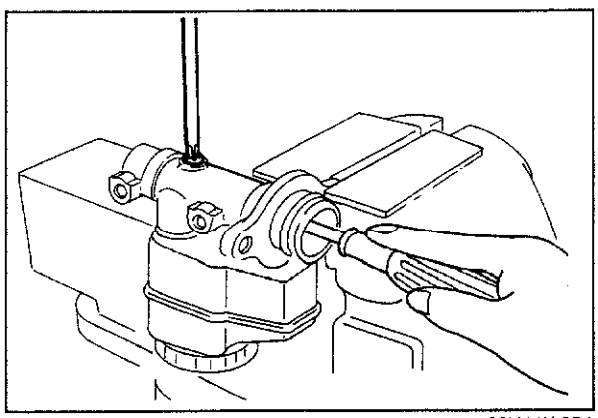

73U11X-510

Stop Ring
Push the piston by hand, remove or install the stop ring using snap-ring pliers.

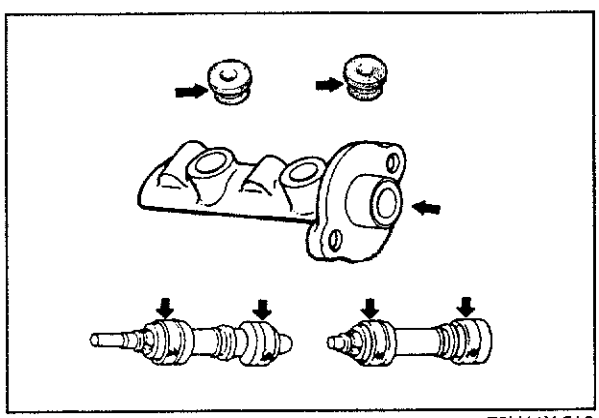

73U11X-511

Secondary Piston Assembly
Remove the secondary piston assembly by gradually blowing compressed air into the cylinder.

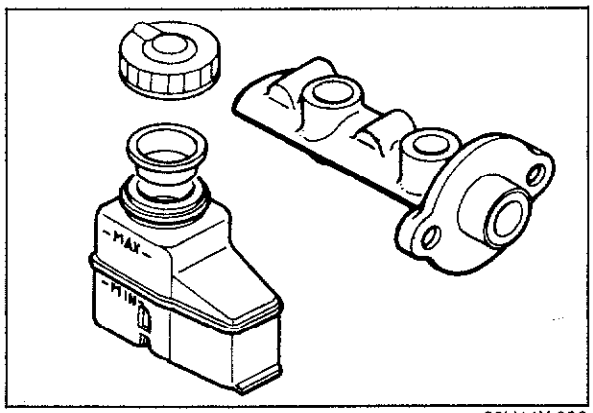
Caution
Use a rag to catch the secondary piston assembly when blowing compressed air.


63U11X-034

Stopper Screw
1. When installing the stopper screw, use a cross-tipped screwdriver to push the primary piston assembly in all the way.
2. Tighten the stopper screw.
3. Push and release the screwdriver to check that the position of the stopper screw is correct.


73U11X-512

Application of Brake Fluid
Before assembly, apply brake fluid to the following parts:
1. Cylinder inner surface.
2. Piston cups
3. Bushings

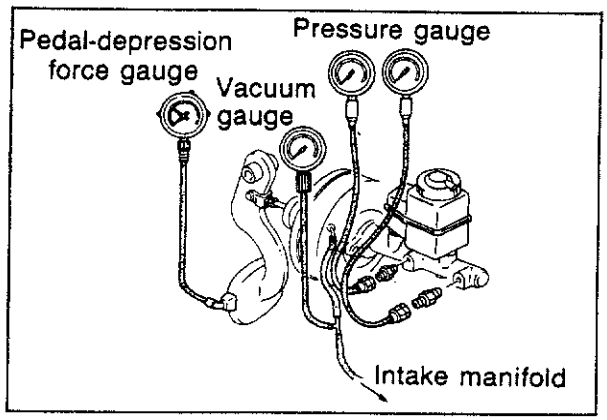


63U11X-036

INSPECTION

Check the following points, replace parts if necessary,

1. Piston and the cylinder bore for abnormal wear, rust or damage.
2. Springs for weakness or damage.
3. Reservoir for damage, or deformation.



63U11X-037

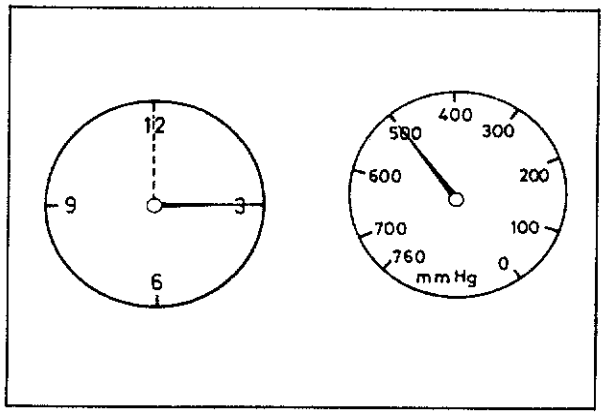
POWER BRAKE UNIT

ON-VEHICLE INSPECTION

Method Using a Tester

Connect a pressure gauge, vacuum gauge and pedal depression force gauge as shown in the figure. After bleeding the air from the pressure gauge, conduct the test as described in the 3 steps below.

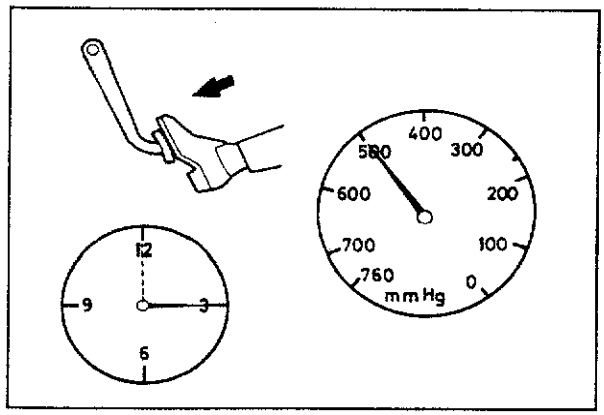
Note
Use commercially available gauges and pedal depression force gauge.



63U11X-038

Checking for Vacuum Loss at Un-loaded Condition

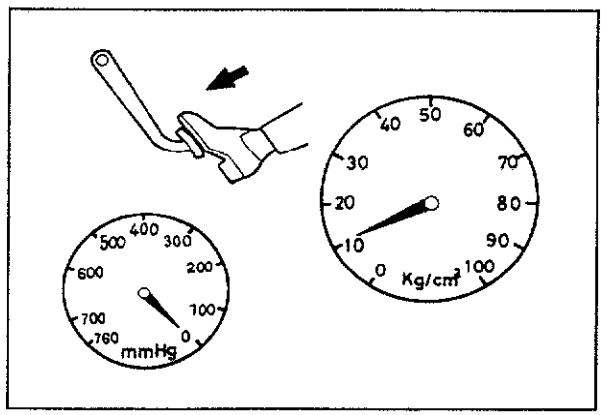
1. Start the engine.
2. Stop the engine when the vacuum gauge reading reaches **500 m-Hg (19.7 in-Hg)**.
3. Observe the vacuum gauge for 15 seconds. If the gauge shows **475—500 mm-Hg (18.7—19.7 in-Hg)**, the unit is serviceable.



63U11X-039

Checking for Vacuum Loss at Loaded Condition

1. Start the engine.
2. Depress the brake pedal with a force of **196 N (20 kg, 44 lb)**.
3. With the brake pedal depressed, stop the engine when the vacuum gauge reading reaches **500 mm-Hg (19.7 in-Hg)**.
4. Observe the vacuum gauge for 15 seconds. If the gauge shows **475—500 mm-Hg (18.7—19.7 in-Hg)**, the unit is serviceable.

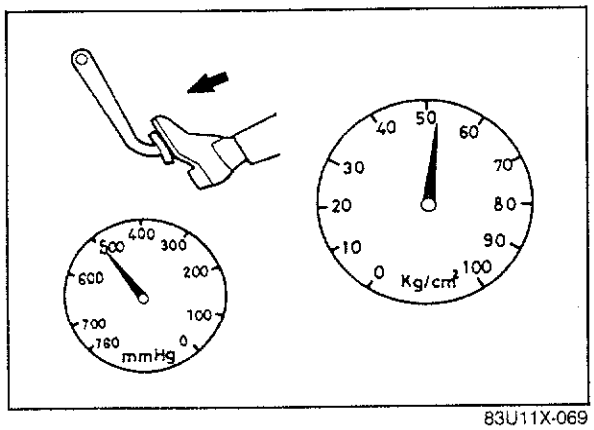


83U11X-068

Checking for Hydraulic Pressure

1. If with the engine stopped (when the vacuum is **0 mm-Hg**), the relationship between the pedal force and fluid pressure is within the standard value range, the unit is serviceable.

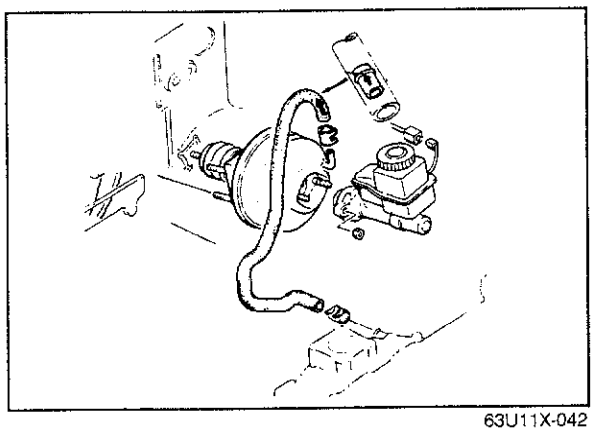
Pedal force	Fluid pressure
196 N (20 kg, 44 lb)	1,373 kPa (14 kg/cm², 199 psi) min



83U11X-069

2. Start the engine. Depress the brake pedal when the vacuum reaches **500 mm-Hg (19.7 in-Hg)**. If the relationship between the pedal force and fluid pressure is within the standard value range, the unit is good.

Pedal force	Fluid pressure
196 N (20 kg, 44 lb)	5,390 kPa (55 kg/cm², 782 psi) min



63U11X-042

CHECK VALVE

Inspection

1. Disconnect the vacuum hose (with intenal check valve) from the engine side.
2. Apply suction and pressure to the hose from the engine side. Be sure air flows only toward the engine.

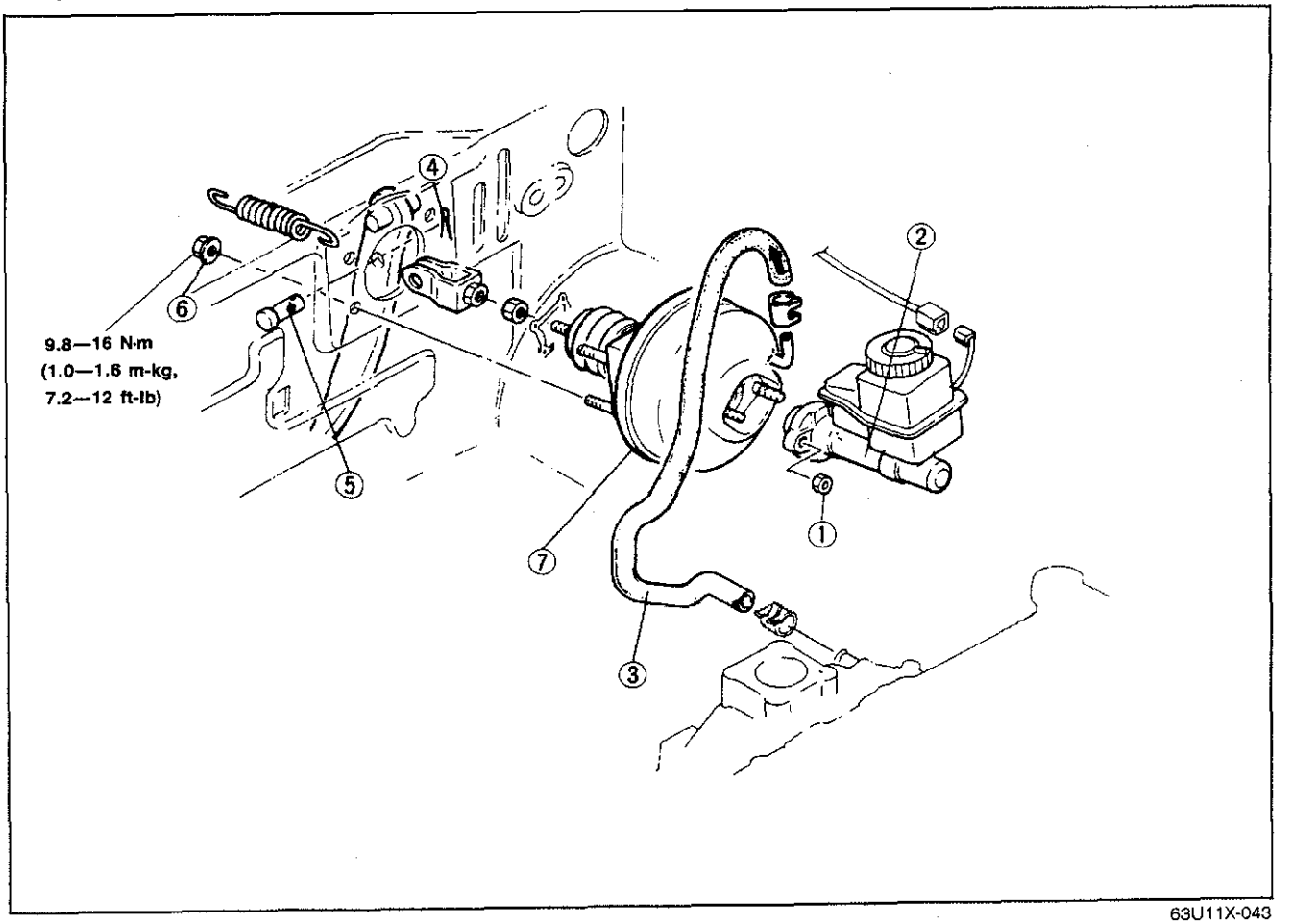
Caution
If the check valve is bad, replace the hose and valve.

Note
The check valve is pressed into the vacuum hose, and there is an arrow on the hose surface to indicate the installation direction.

REMOVAL AND INSTALLATION

1. Remove the parts in the numbered sequence shown in the figure.
2. Install in the reverse order of removal.
3. Take the following steps after installation:
   (1) Check and adjust the push rod and piston clearance.
   (2) Add fluid and bleed the air.
   (3) Check all parts for fluid leakage.
   (4) Make an on-vehicle check of the unit.
   (5) Check that the vacuum hose does not contact other parts.

Caution
Apply grease to the clevis pin.

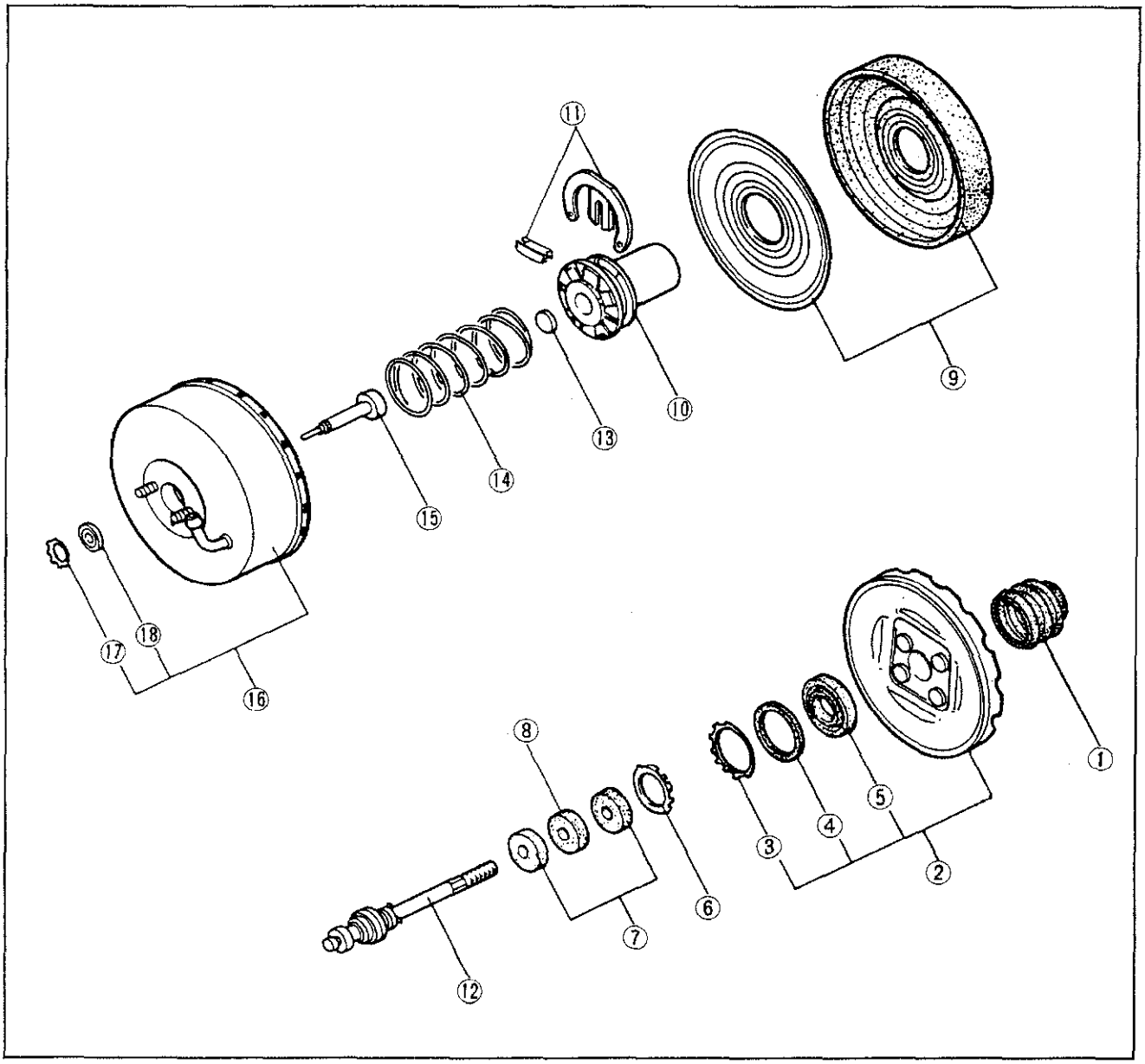


63U11X-043

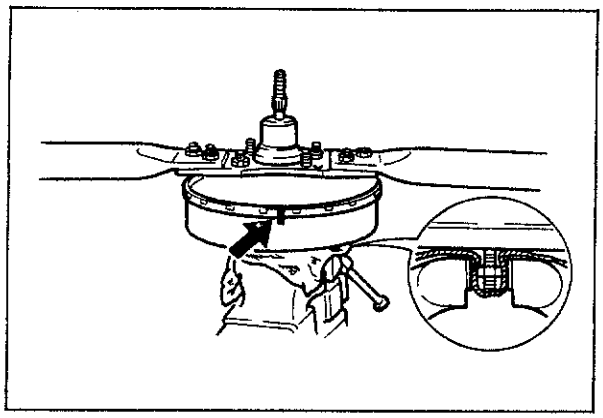
1. Nut
2. Master cylinder
3. Vacuum hose
4. Cotter pin
5. Clevis pin
6. Nut
7. Power-brake unit

DISASSEMBLY

Disassemble the power-brake unit in the numbered sequence shown in the figure.



1. Dust boot
2. Rear shell assembly
3. Retainer
4. Bearing
5. Dust seal
6. Retainer
7. Air filter
8. Air silencer
9. Diaphragm and plate
10. Power piston assembly
11. Retainer key and stopper
12. Valve rod and plunger assembly
13. Reaction disc
14. Spring
15. Push rod
16. Front shell assembly
17. Retainer
18. Seal

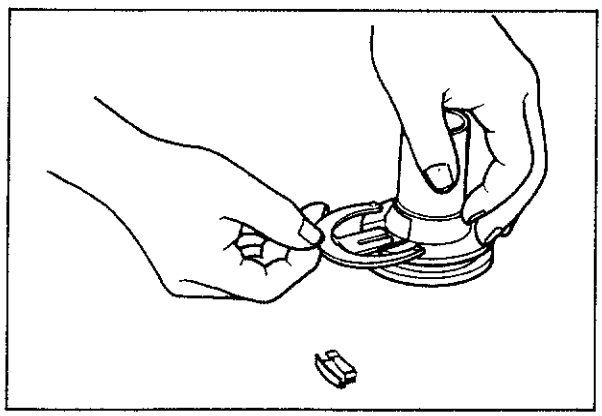


63U11X-044

Rear Shell

1. Before separating the front and rear shells, make mating marks to be used for reassembly.
2. Fit a wrench onto the studs of the rear shell, rotate the rear shell counterclockwise to unlock.

Caution
The rear shell is spring loaded; loosen it carefully.

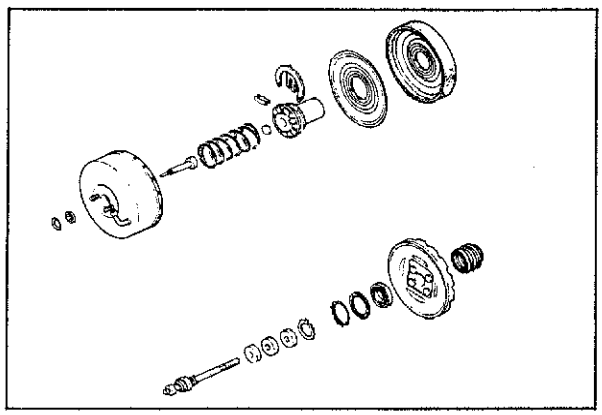


4EG11X-034

Retainer Key

Press the valve rod in to remove the valve retainer key.
Remove the valve rod and plunger assembly.

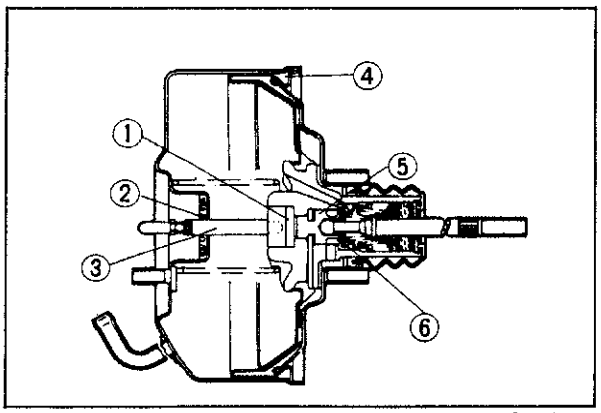
Caution
The valve rod and plunger must be serviced as an assembly.



63U11X-045

INSPECTION

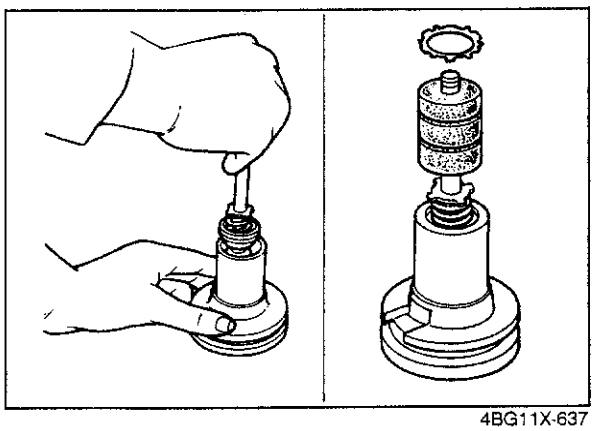
1. Inspect all rubber parts. Wipe free of fluid and carefully inspect all rubber parts for cuts, nicks, or other damage.
2. Check the power piston for cracks, distortion, chipping, or damaged seats.
3. Inspect the reaction disc rubber for deterioration.
4. Check that the seats of the valve rod and plunger are smooth and free of nicks and dents. Replace if defective.
5. Inspect the front and rear shells for scratches, scores, pits, dents, or other damage.
6. Check the diaphragm for cuts or other damage.



4BG11X-636

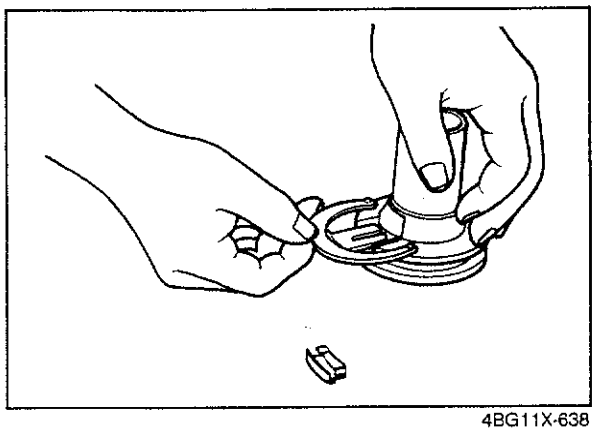
ASSEMBLY

1. Coat the parts shown in the figure with silicon grease.
   (1) Entire surface of reaction disc
   (2) Dust seal lip
   (3) Push rod
   (4) Diaphragm to shell contacting surfaces
   (5) Power piston
   (6) Valve plunger oil seal



4BG11X-637

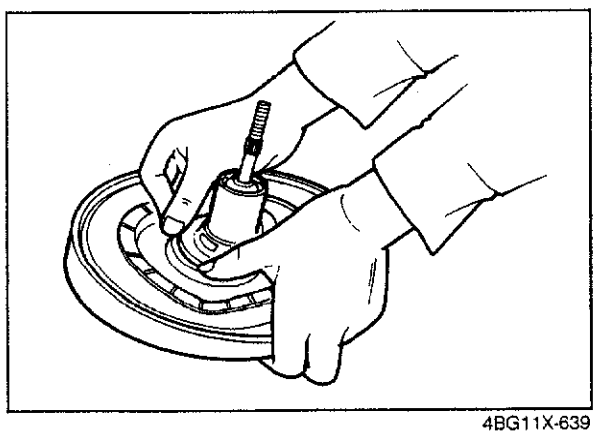
2. Install the valve rod and plunger assembly.
3. Install the air filter and silencer.
4. Install the retainer.



4BG11X-638

5. Install the retainer key.

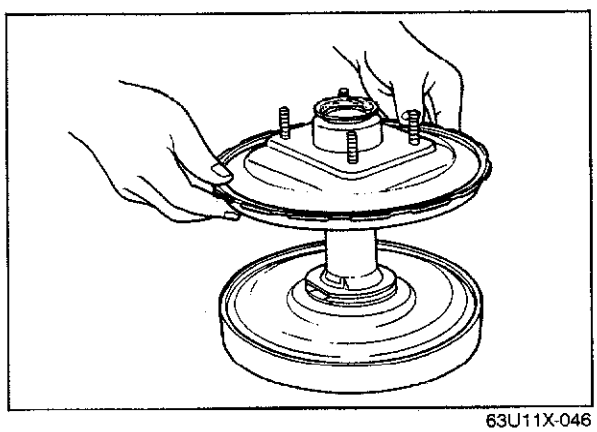
Caution
Push down the valve rod, align the groove in the valve plunger with the slot of the power piston, and insert the valve retainer key.



4BG11X-639

6. Connect the diaphragm to the power piston and plate.

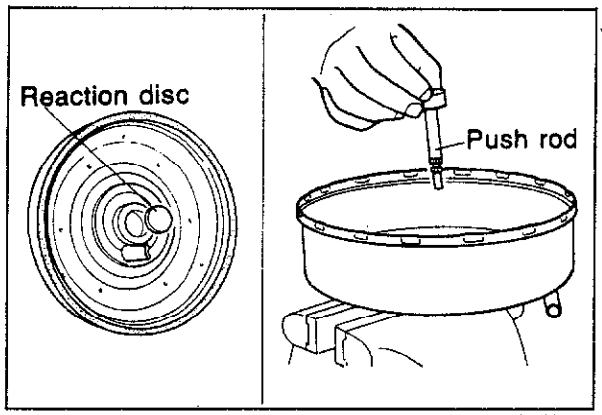
Caution
Make certain that the diaphragm is well seated in the groove.



63U11X-046

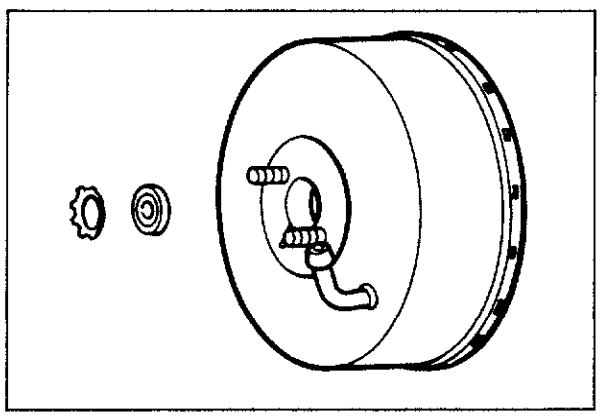
7. Assemble the rear shell assembly.

Caution
Carefully guide the tube end of the power piston through the seal in the rear shell.



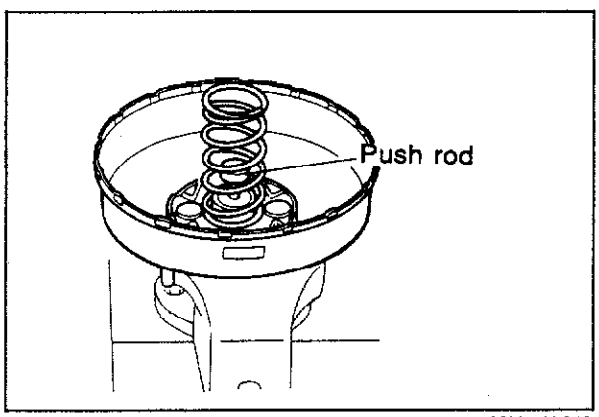
63U11X-047

8. Push the reaction disc into the power piston with the push rod.


63U11X-048

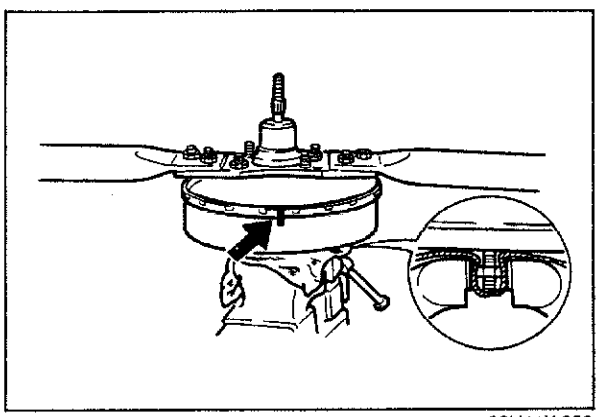
9. Put the dust seal and retainer into the front shell.

Caution
Place the front shell assembly in a vise, to complete the following operations and to compress the spring.

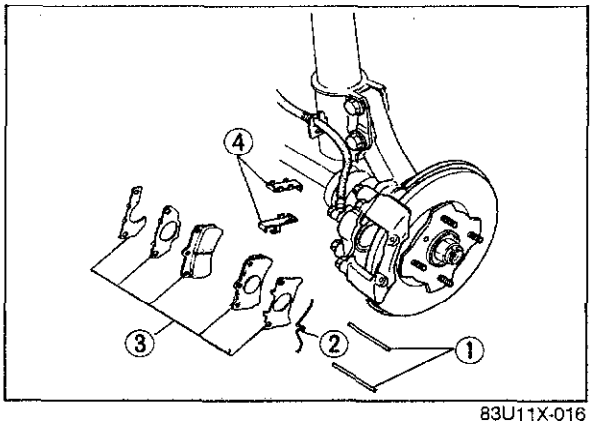


63U11X-049

10. Install the push rod.
11. Install the return spring.


63U11X-050

12. Press the rear shell down and rotate it clockwise until the mating marks are aligned by using a suitable wrench.
13. Put the dust boot on to the rear shell.



83U11X-016

FRONT DISC BRAKE

REPLACEMENT OF DISC PAD

Caution
Replace the left and right pads at the same time.

1. Jack up the front of the vehicle, and support it with safety stands.
2. Remove the wheels.
3. Remove the disc pad in the sequence shown in the figure.

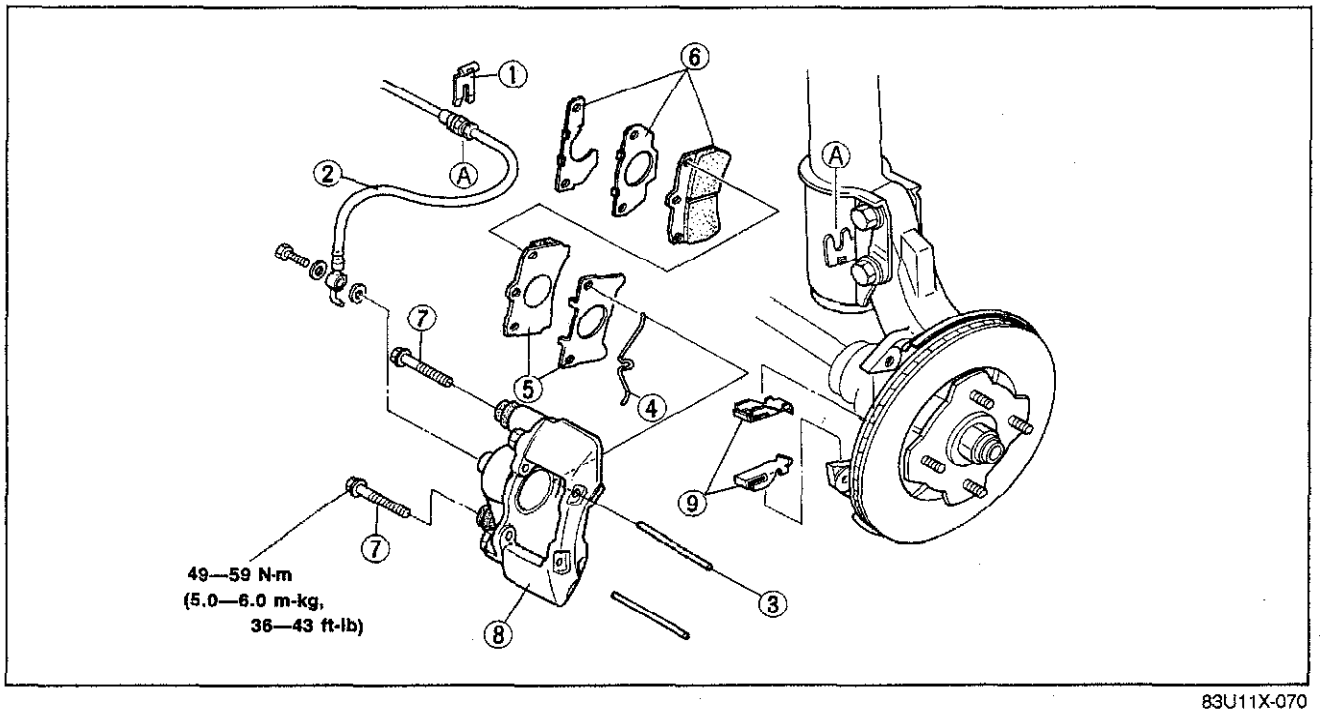
Warning
Asbestos dust is hazardous to one's health.
Do not blow away the dust with compressed air.

4. Install in the reverse order of removal.

Note
Use the SST (49 0221 600C) to push the piston into the cylinder.

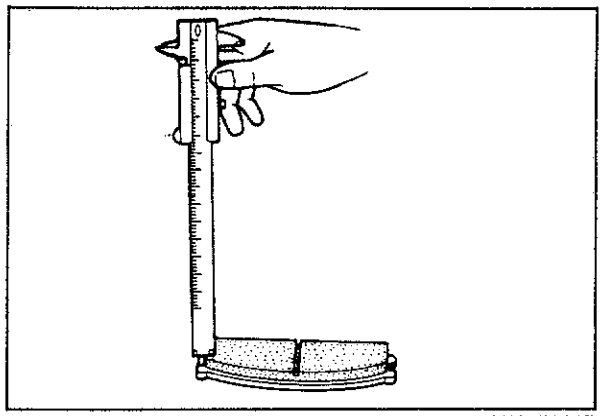
REMOVAL AND INSTALLATION

1. Jack up the front of the vehicle and support it with safety stands.
2. Remove the wheels and remove the front disc brakes in the numbered sequence shown in the figure.
3. Install in the reverse order or removal.



83U11X-070

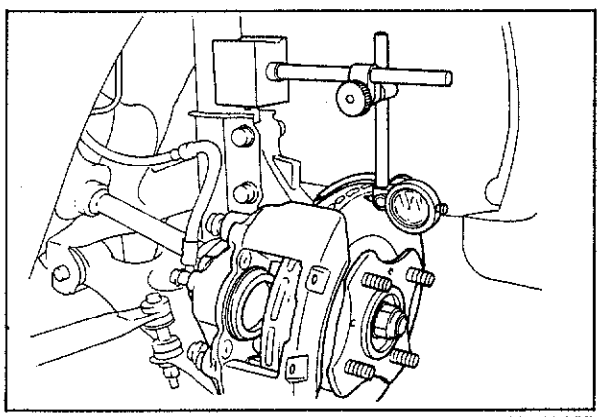
1. Clip
2. Flexible hose
3. Pad pin
4. Pad spring
5. Outer pad and shim
6. Inner pad and shim
7. Bolt
8. Caliper
9. Guide plate


83U11X-017

INSPECTION
Inspect and if necessary replace parts.

Disc Pad
1. Oil or grease on facing
2. Abnormal wear or cracks
3. Deterioration or damage by heat
4. Remaining lining thickness

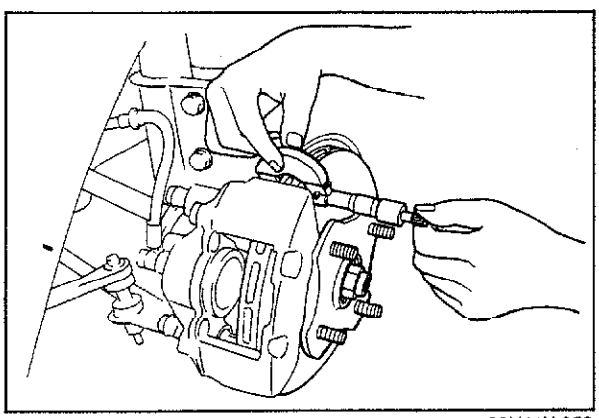
Thickness limit: 2 mm (0.08 in) min.


63U11X-057

Disc Plate
1. Runout

Runout limit: 0.1 mm (0.004 in)

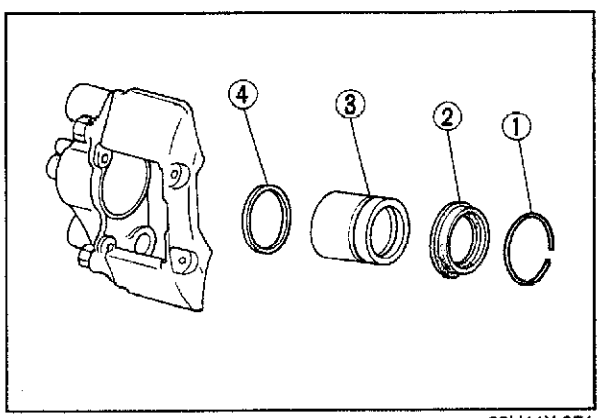
Caution
a) There must be no wheel bearing play.
b) The point of measurement is the outermost diameter of the contact surface of the disc pad.


63U11X-058

2. Wear or damage

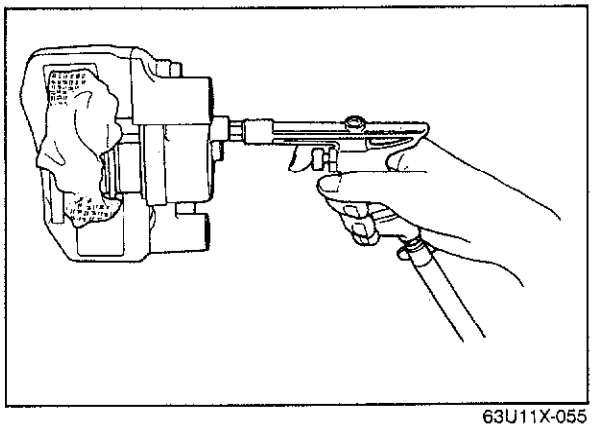
Thickness
Standard: 18 mm (0.71 in)
Limit: 16 mm (0.63 in)

DISASSEMBLY
Disassemble the caliper in the numbered sequence shown in the figure.



83U11X-071

1. Rataining ring
2. Dust seal
3. Piston
4. Piston seal



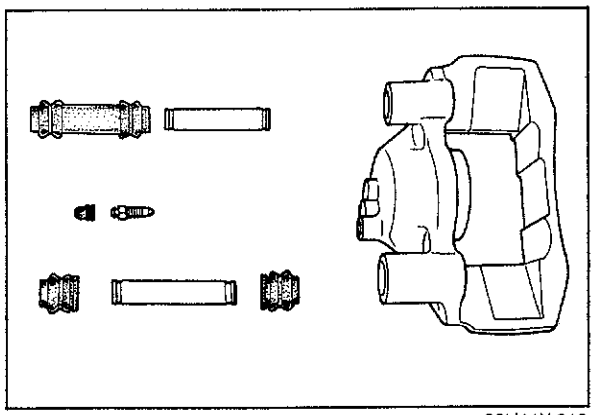
63U11X-055

Piston

Place a piece of wood in the caliper, and then blow compressed air through the flexible hose connection hole to force the piston out of the caliper.

Caution

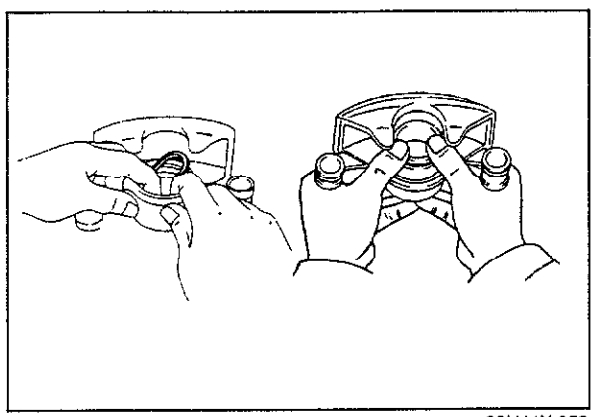
Blow the compressed air a little at a time to prevent the piston from jumping out.



83U11X-018

INSPECTION

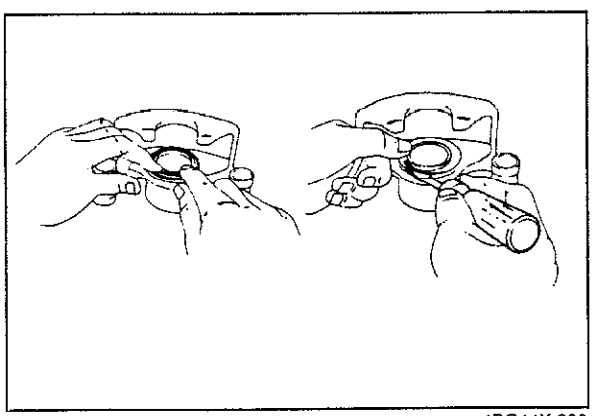
1. Cylinder and piston for wear or rust.
2. Caliper body for damage or cracks.
3. Guide pin bushing and dust cover for damage or poor sealing.



63U11X-059

ASSEMBLY

1. Coat the piston seal with the pink grease (supplied in the seal kit) and install it to the caliper.



4BG11X-660

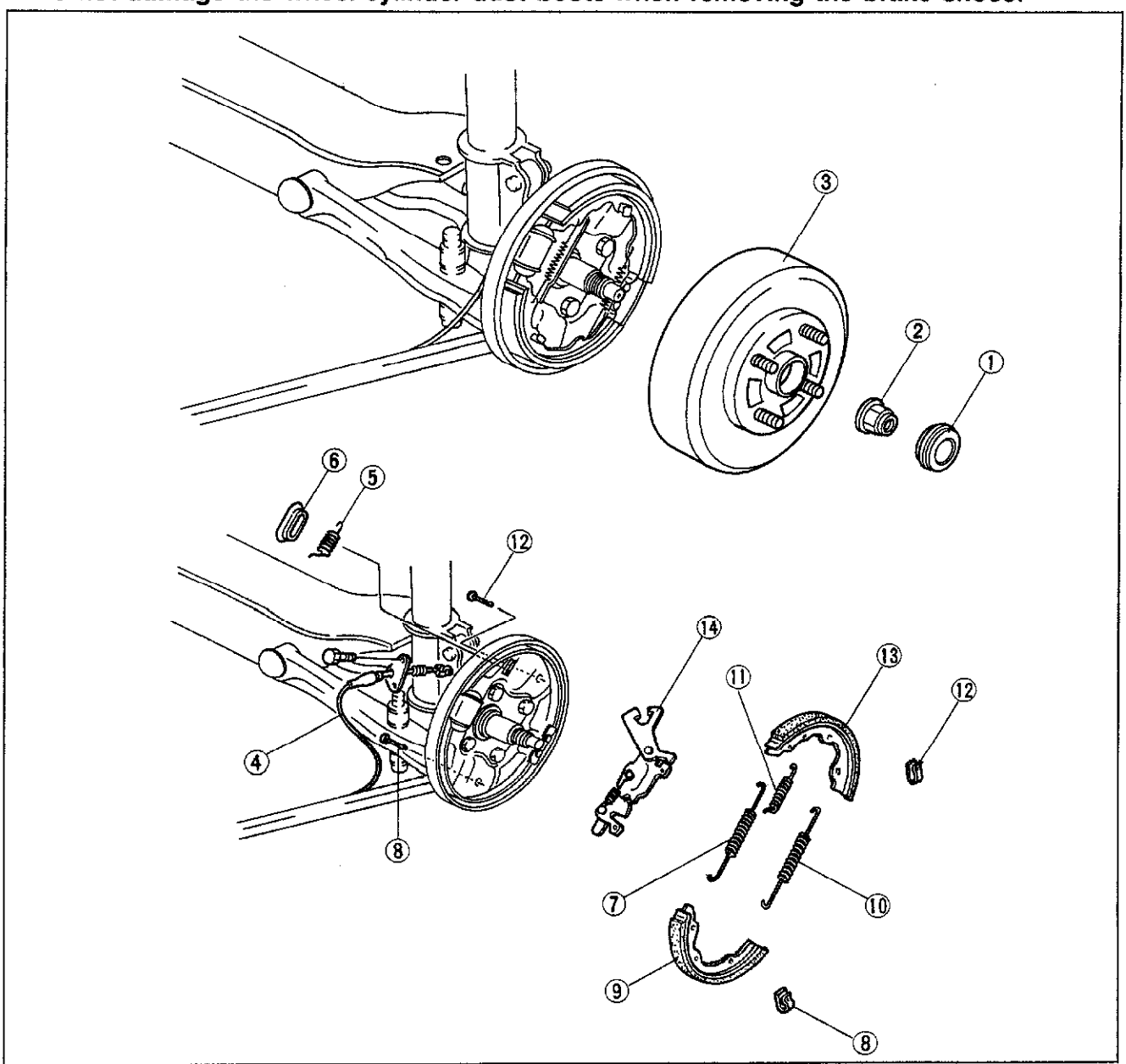
2. Coat the piston and the cylinder with brake fluid, and fit the piston straight into the cylinder.
3. Install the dust seal.

REAR DRUM BRAKE

REMOVAL

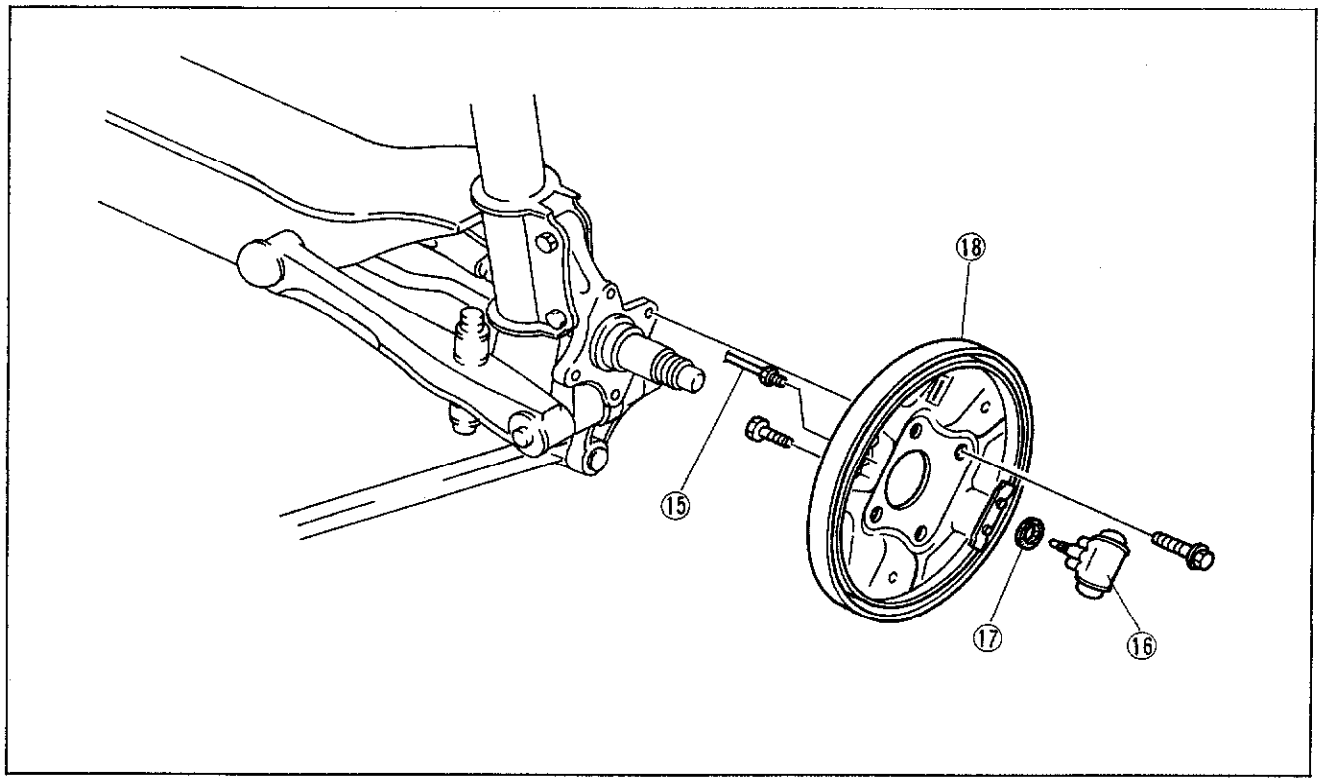
1. Loosen the wheel lug nuts.
2. Release the parking brakes.
3. Jack up the rear of the vehicle and support it with safety stands.
4. Remove the wheels.
5. Remove in the sequence shown in the figure.

Caution
Do not damage the wheel cylinder dust boots when removing the brake shoes.



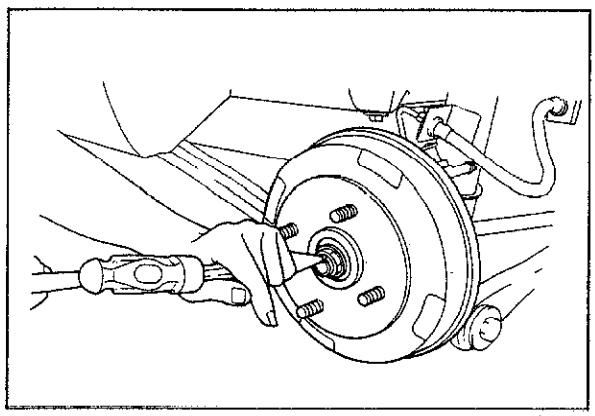
83U11X-089

1. Hub cap
2. Locknut
3. Brake drum
4. Parking cable
5. Return spring
6. Dust cover
7. Return spring (upper)
8. Hold pin and spring
9. Brake shoe (leading side)
10. Return spring (lower)
11. Anti-rattle spring
12. Hold pin and spring
13. Brake shoe (trailing side)
14. Operating lever assembly



83U11X-090

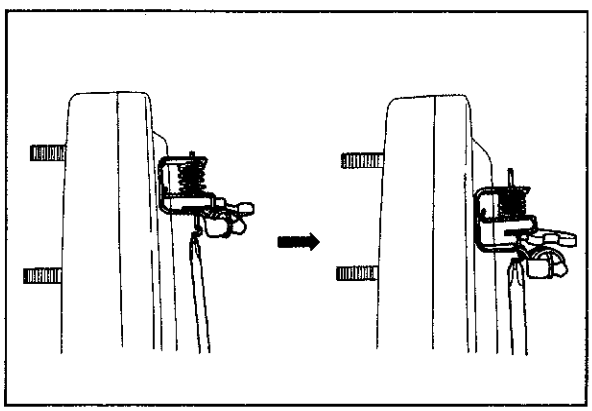
15. Brake pipe
16. Wheel cylinder assembly
17. Gasket
18. Backing plate



83U11X-091

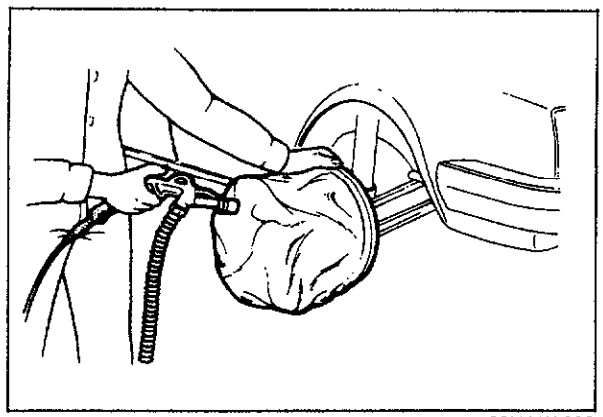
Locknut
Uncrimp the locknut, and remove it.

Caution
Do not reuse the locknut.



83U11X-092

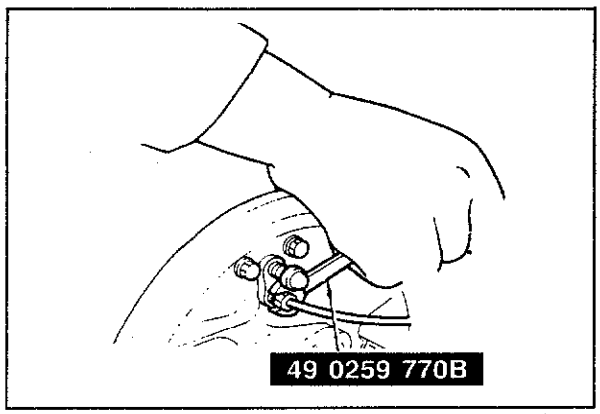
Brake Drum
If the drum is difficult to remove, push the operating lever stopper (at backing plate) upward to release the operating lever and increase shoe clearance.



83U11X-093

Cleaning of Drum Brake Assembly
Use a vacuum cleaner or equivalent to clean the brake assembly

Warning
Asbestos dust is hazardous to one's health. When cleaning the brake assembly, do not use compressed air or a brush.



83U11X-094

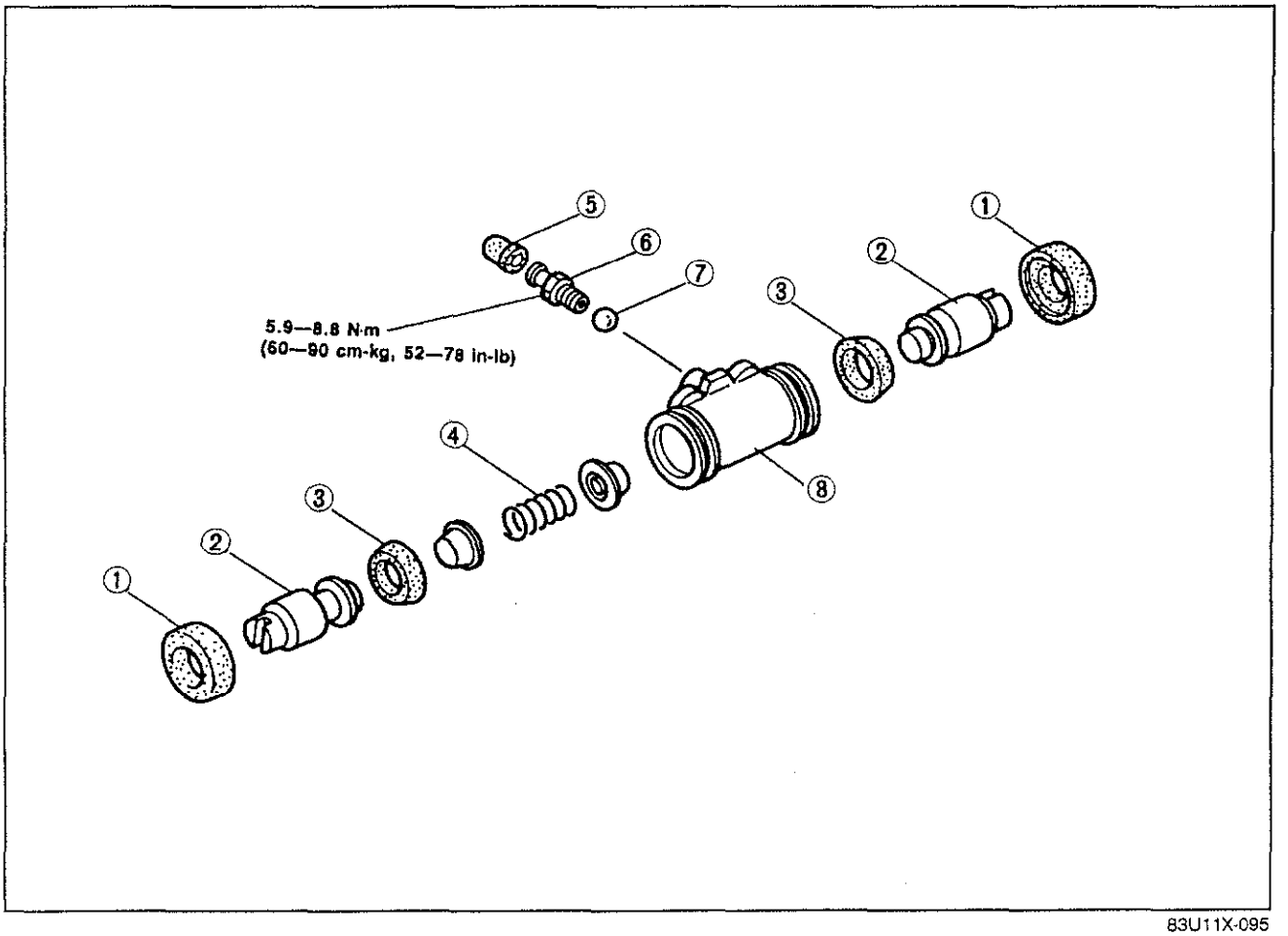
Brake Pipe
Disconnect or connect the brake pipe with the **SST**.

Caution
Brake fluid will damage painted surfaces. If it does get on a painted surface, wipe it off immediately.

DISASSEMBLY AND ASSEMBLY OF WHEEL CYLINDER

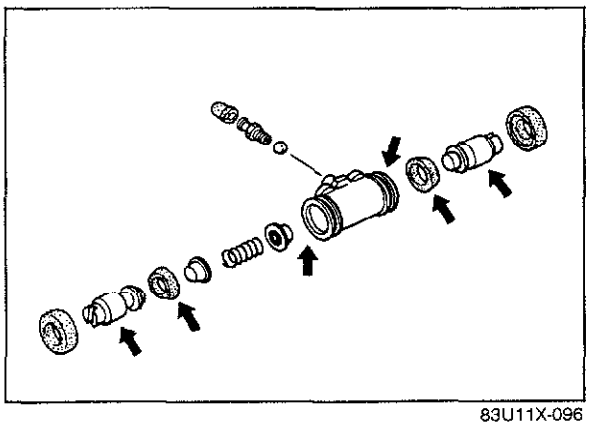
1. Disassemble in the sequence shown in the figure.
2. Assemble in the reverse order of disassembly.

Caution
Do not damage the piston or cylinder. Do not let foreign material in the cylinder.



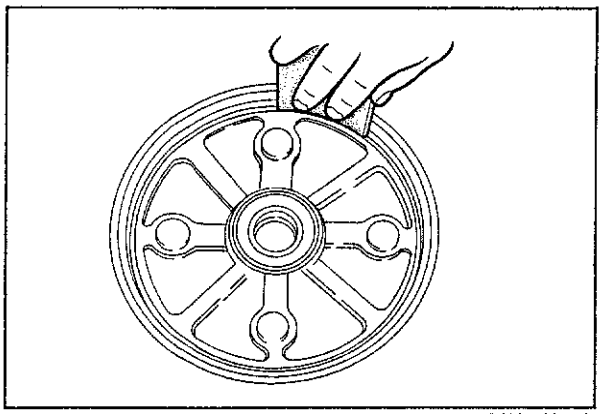
83U11X-095

1. Dust boot
2. Piston
3. Piston cup
4. Spring
5. Rubber cap
6. Bleeder screw
7. Steel ball
8. Wheel cylinder body



83U11X-096

Application of Grease
Before assembly, apply brake fluid to the following parts:
1. Piston cup
2. Cylinder inner wall
3. Piston

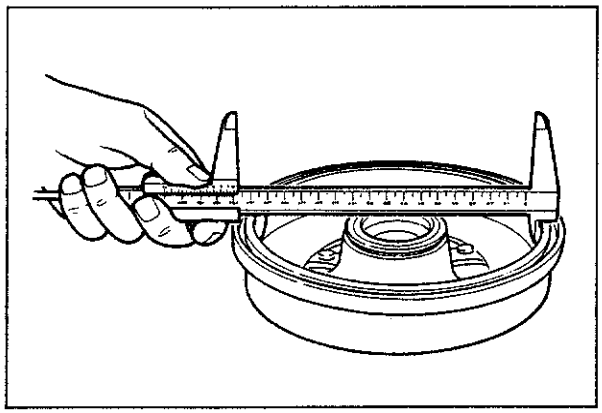

86U11X-117

INSPECTION

Check the following and repair or replace any faulty parts.

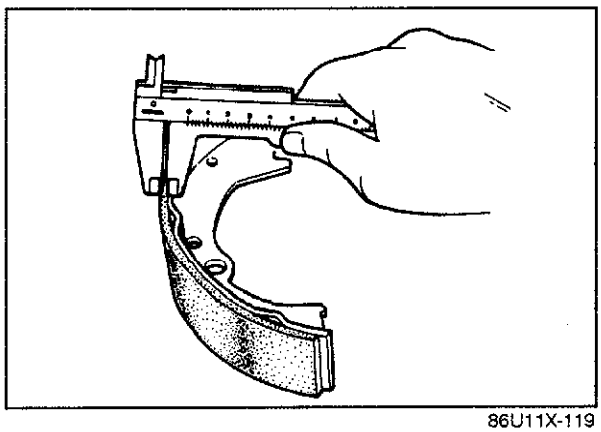
1. Scratches, uneven or abnormal wear inside drum

Note
Repair by sanding if the problem is minor.


83U11X-072

2. Drum inner diameter

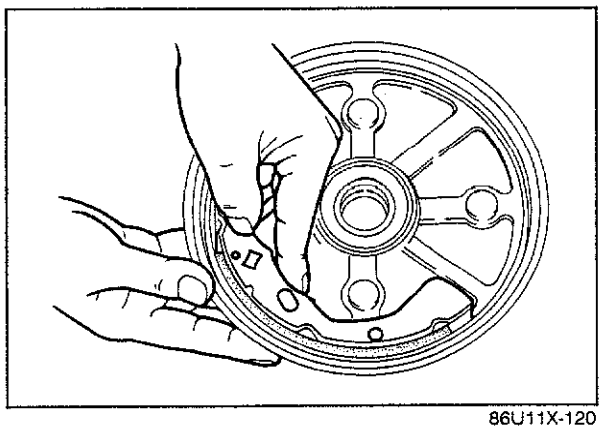
Diameter: 200 mm (7.87 in)
Maximum: 201 mm (7.91 in)


86U11X-119

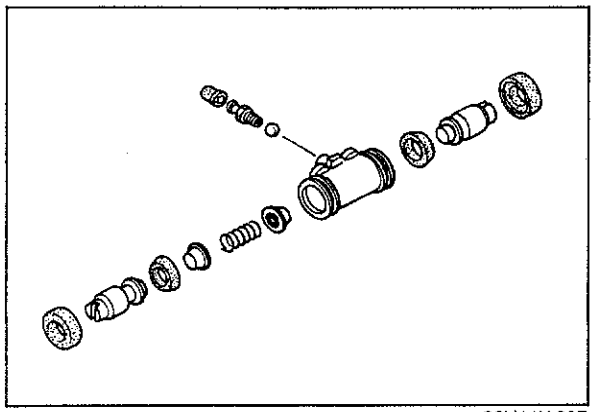
3. Peeling, cracking, or extremely uneven wear of lining
4. Lining wear

Thickness: 1.0 mm (0.04 in) min.

Caution
When replacing the shoe assembly, replace the left and right shoes at the same time as a set.


86U11X-120

5. Fit of drum and lining
   (1) Apply chalk to the inside of the drum.
   (2) Rub the shoe against the drum.
   (3) Check for the fitness of the drum and lining and replace the brake shoe or repair the brake drum.
   (4) After the check, wipe the chalk off.



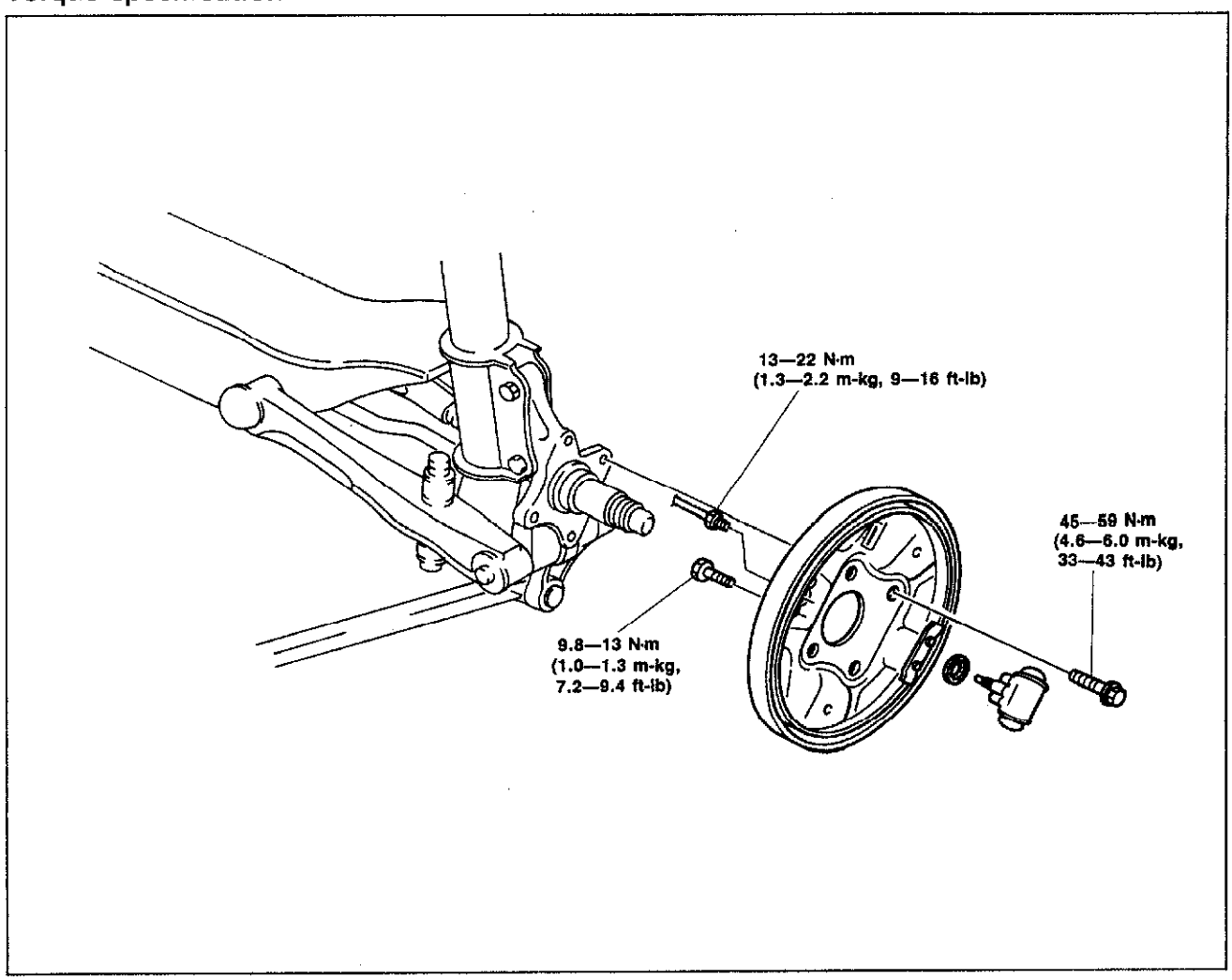
83U11X-097

6. Weak or broken spring
7. Worn, rusted, or damaged wheel cylinder

INSTALLATION

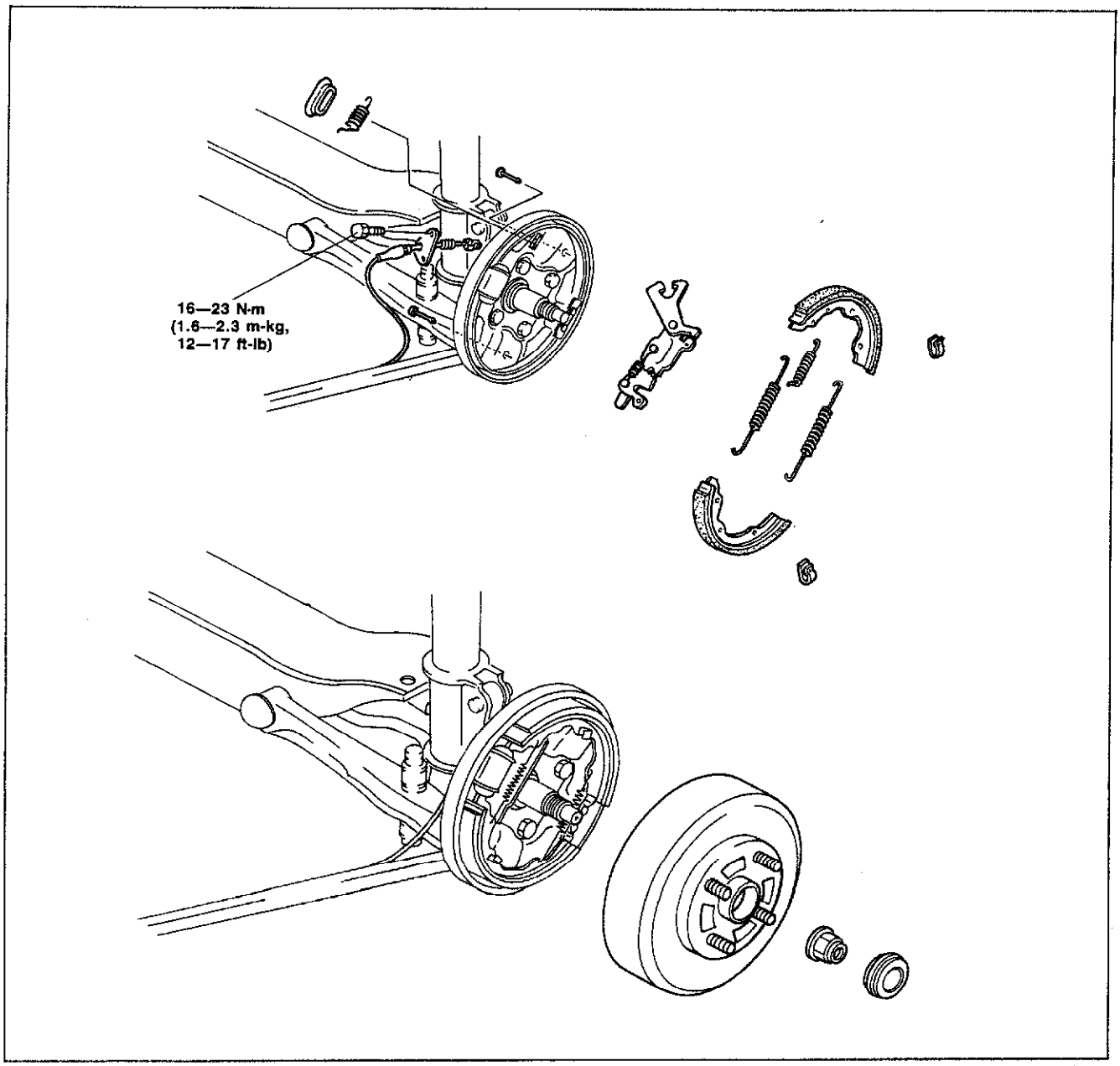
1. Install in the reverse order of removal.
2. After installation:
   (1) Add brake fluid and bleed air. (Refer to page 11—11.)
   (2) Adjust the parking brake lever stroke. (Refer page to 11—8.)
   (3) Depress the brake pedal a few times and check that the rear brakes do not drag while rotating the wheel.

Torque specification

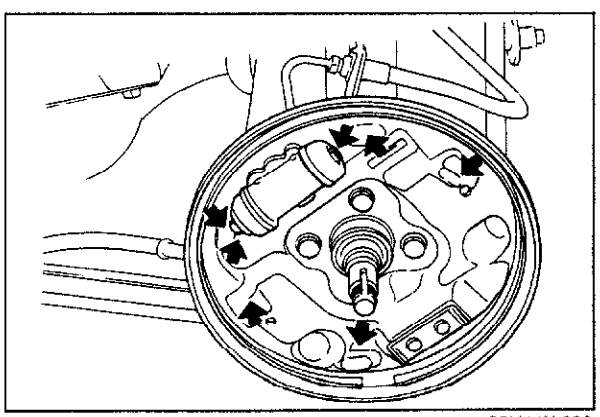


83U11X-073

Torque specification



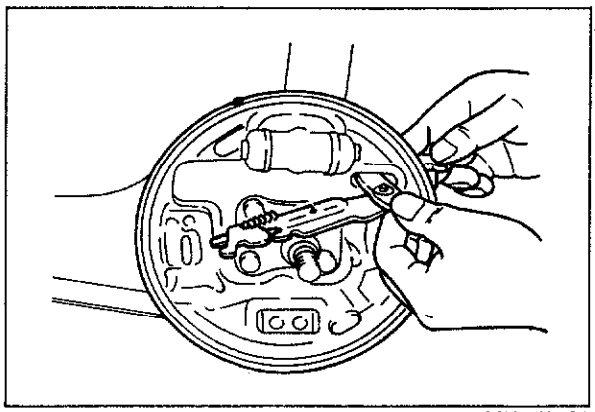
86U11X-122



83U11X-098

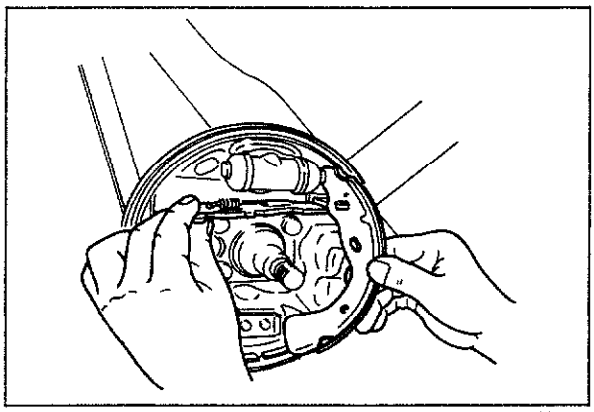
Brake Shoe

1. Apply grease to the following points:
   (1) Shoe and cylinder contact points
   (2) Shoe anchor points
   (3) Projections of backing plate



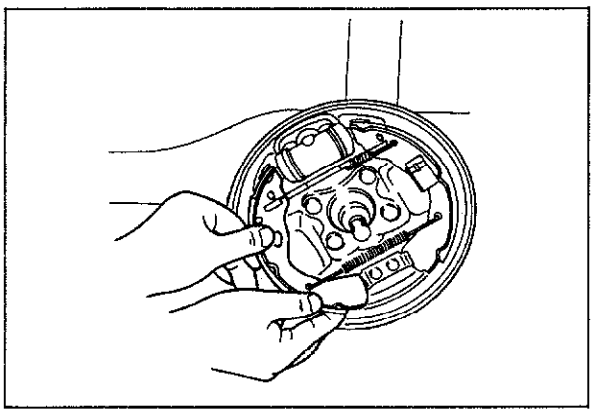
86U11X-124

2. Install the operating lever assembly through the backing plate.
3. Install the return spring to the back plate (reverse side) and the operating lever.



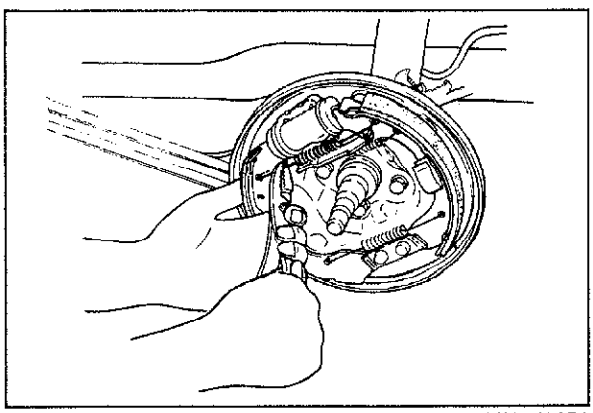
86U11X-125

4. Install the shoe (trailing side) to the operating lever, then to the wheel cylinder and anchor plate.
5. Fix the shoe with the hold spring and hold pin.
6. Install the anti-rattle spring.



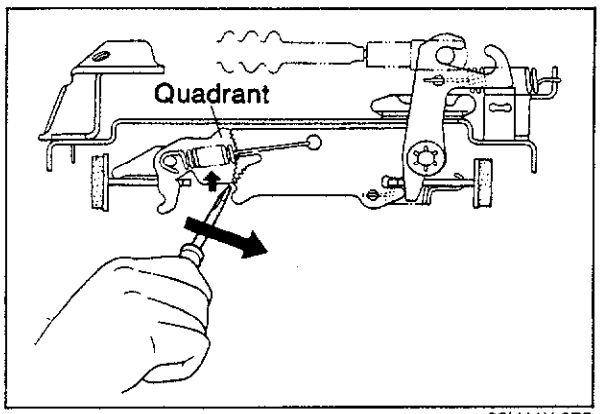
86U11X-126

7. Install the return spring (lower) to the shoes (trailing side and leading side).
8. Install the shoe leading side) to the operating lever, then to the wheel cylinder and anchor plate.
9. Fix the shoe with the hold spring and hold pin.



83U11X-074

10. Install the return spring (upper).

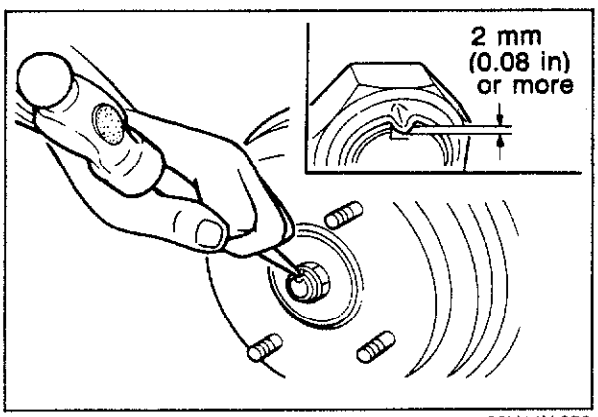


83U11X-075

Brake Drum

Move the quadrant against the backing plate with a screwdriver to increase the shoe clearance.

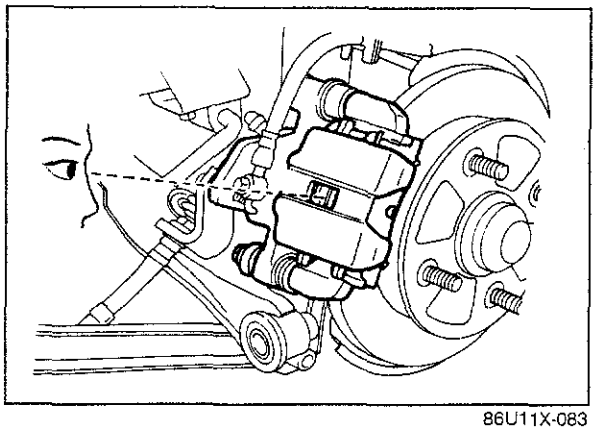
Note
The shoe clearance will be automatically adjusted by applying parking brakes.



83U11X-076

Locknut

1. Temporarily tighten a new locknut.
2. Adjust the bearing preload. (Refer to Section 9)
3. Securely stake the locknut to the spindle groove.

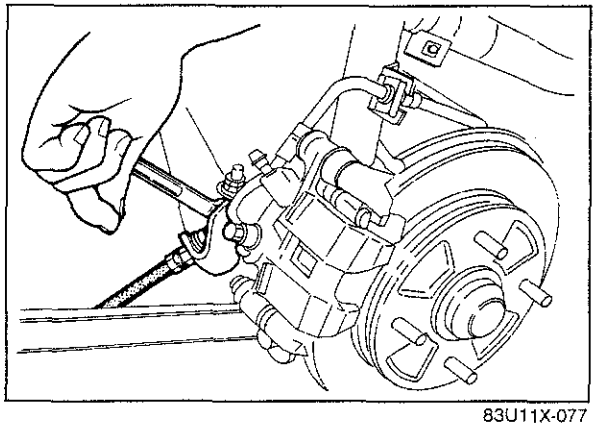


86U11X-083

REAR DISC BRAKE

SIMPLE INSPECTION OF DISC PAD WEAR

1. Loosen the rear wheel lug nuts.
2. Jack up the rear of the vehicle and support it with safety stands.
3. Remove the wheels.
4. Lock through the caliper inspection hole and check that the remaining thickness of the pad is **1 mm (0.04 in) min.**

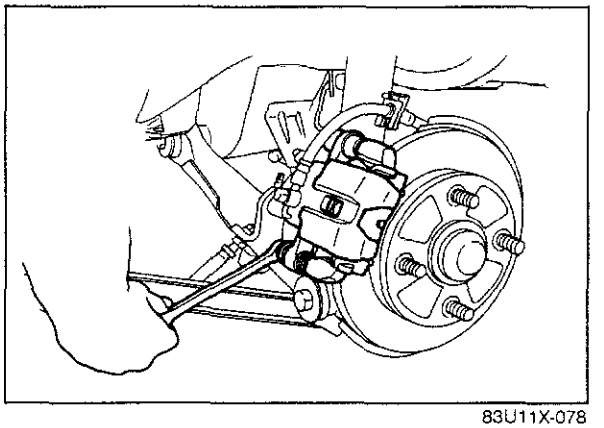


83U11X-077

REPLACEMENT OF DISC PAD

Caution
Replace the left and right pads at the same time.

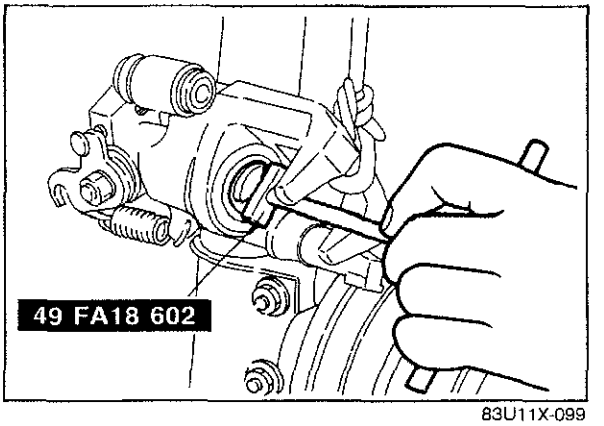
1. Loosen the wheel lug nuts.
2. Release the parking brakes.
3. Jack up the rear of the vehicle and support it with safety stands.
4. Remove the wheels.
5. Remove the parking brake cable and bracket.



83U11X-078

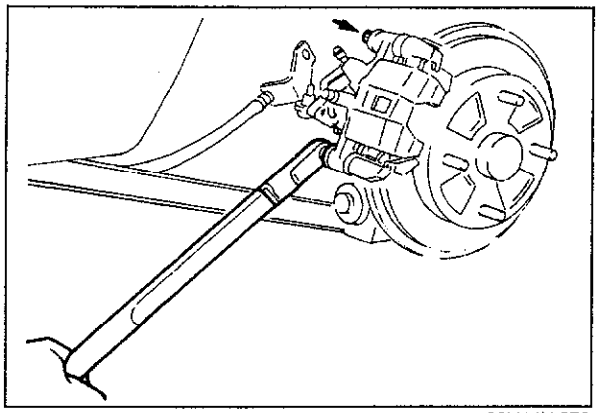
6. Remove the lower mounting bolt, then pivot the caliper and support it.
7. Remove the V-spring.
8. Remove the pads and shims.

Warning
Asbestos dust is hazardous to one's health. Do not blow away brake dust with compressed air.



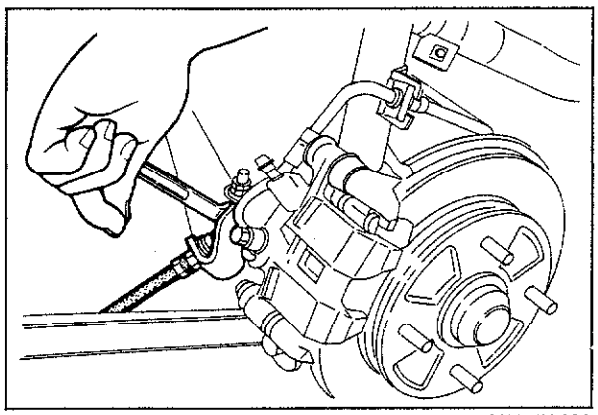
83U11X-099

9. Apply the grease supplied in the pad attachment set to the new shims; then attach them to the new pads.
10. Turn the piston fully inward by rotating the **SST** clockwise. Align the piston groove with the pad pin of the inner pad.
11. Install the pads and shims to the mounting support.
12. Install the pad clip.


83U11X-079

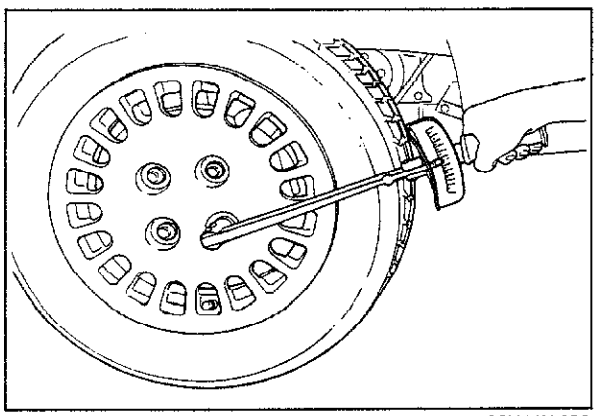
13. Lower the caliper assembly onto the mounting support.
14. Tighten the mounting bolt to the specified torque.

Tightening torque:
16—24 N·m
(1.6—2.4 m-kg, 12—17 ft-lb)


83U11X-080

15. Connect the parking cable and bracket.

Tightening torque:
45—67 N·m (4.6—6.8 m-kg, 33—49 ft-lb)


86U11X-089

16. Mount the wheels.
17. Apply the brakes a few times; then check that the brakes do not drag excessive while turning the wheels.
18. Lower the vehicles.
19. Tighten the wheel lug nuts.

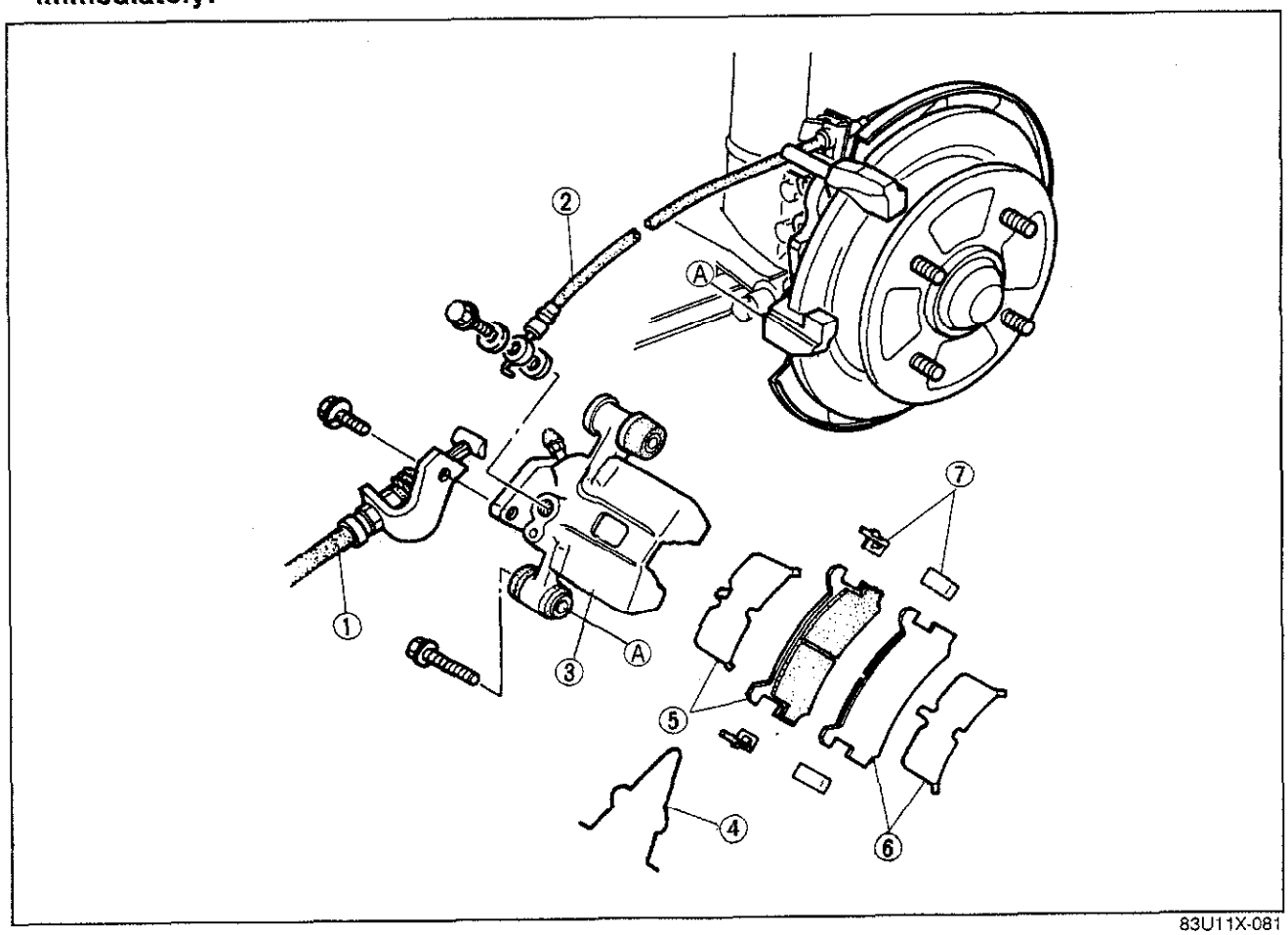
Tightening torque:
88—118 N·m (9—12 m-kg, 65—87 ft-lb)

REMOVAL

1. Loosen the wheel lug nuts.
2. Release the parking brakes.
3. Jack up the rear of the vehicle and support it with safety stands.
4. Remove the wheels.
5. Remove in the sequence shown in the figure.

Warning
Asbestos dust is hazardous to one's health. Do not blow away brake dust with compressed air.

Caution
Brake fluid will damage painted surfaces. If it does get or a painted surface, wipe it off immediately.

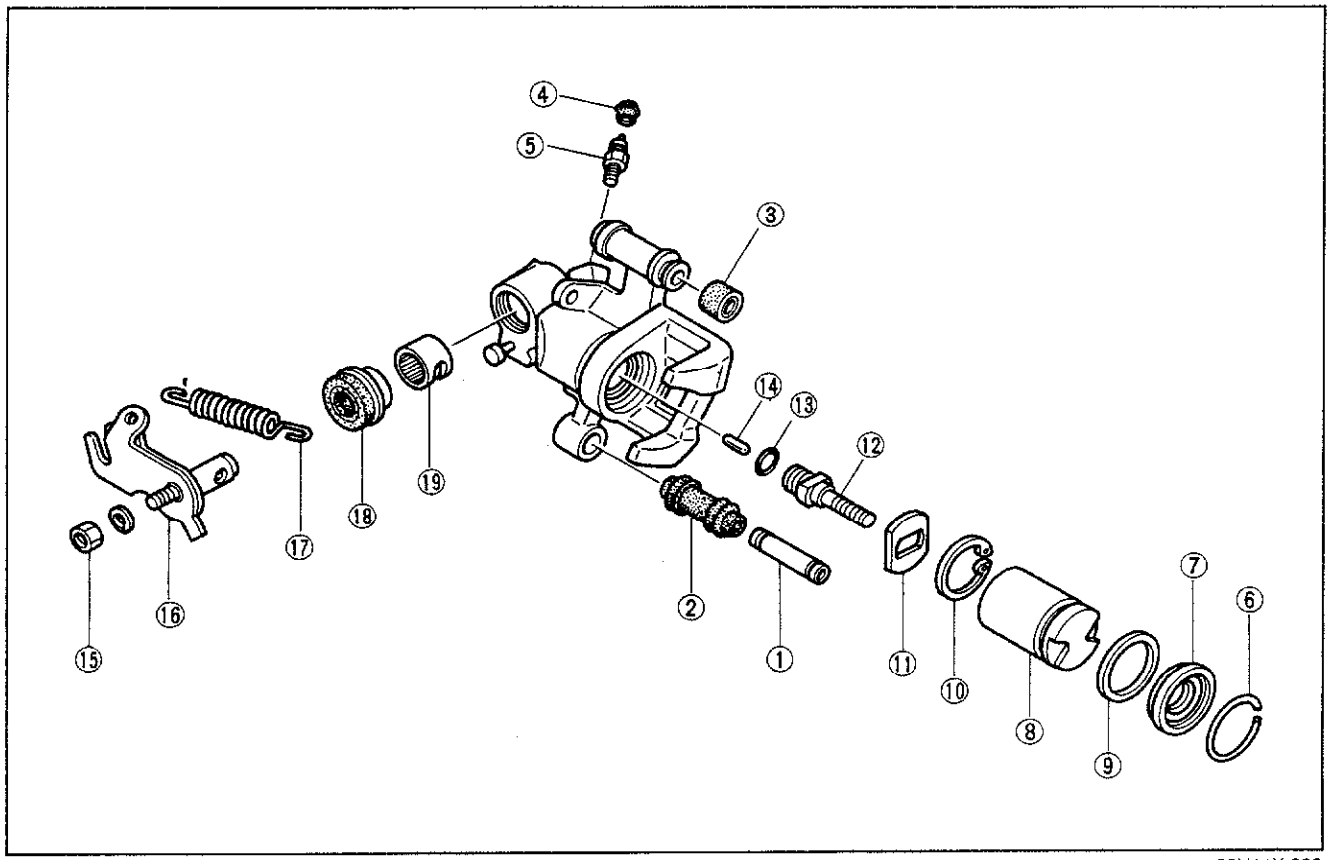


83U11X-081

1. Parking cable and bracket
2. Flexible hose
3. Caliper
4. V-spring
5. Inner pad and shim
6. Outer pad and shim
7. Guide plate

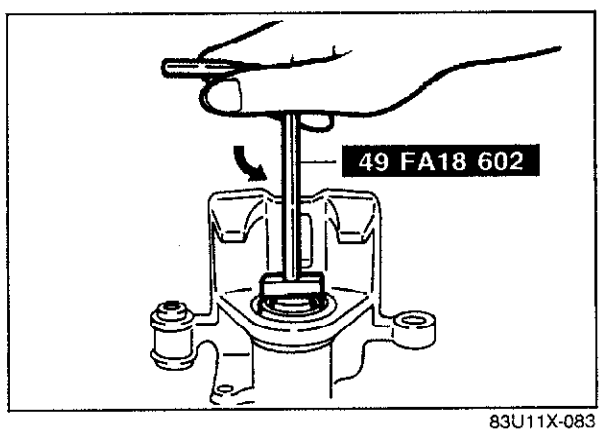
DISASSEMBLY AND ASSEMBLY

1. Disassemble the caliper in the sequence shown in the figure.
2. Assemble in the reverse order of disassembly.



83U11X-082

1. Sleeve pin
2. Boot
3. Bushing
4. Cap
5. Bleeder screw
6. Retaining ring
7. Dust seal
8. Piston
9. Piston seal
10. Snap ring
11. Stopper
12. Adjuster spindle
13. "O" ring
14. Connecting link
15. Nut
16. Operating lever
17. Return spring
18. Boot
19. Needle bearing



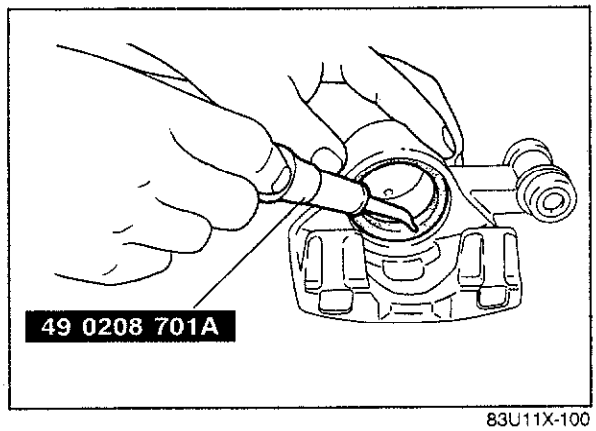
83U11X-083

Piston

Remove the piston with the **SST**.

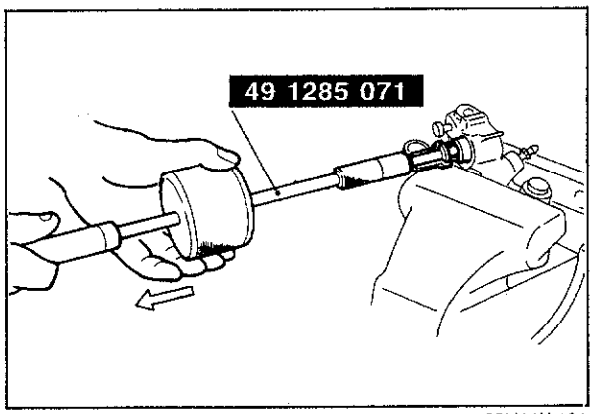
Note

The piston can be removed by turning the SST counterclockwise.



83U11X-100

Piston Seal
Remove the piston seal with the **SST**.

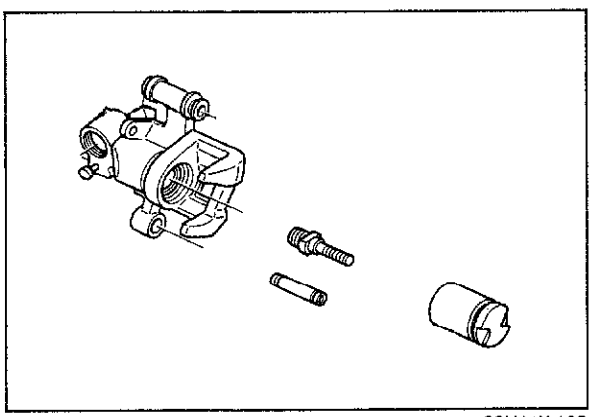


83U11X-101

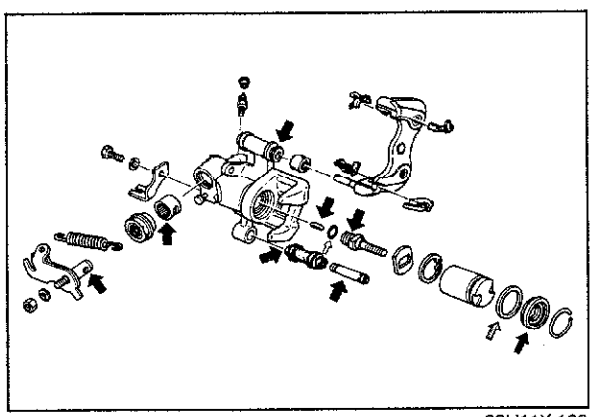
Needle Bearing
1. Secure the caliper in a vise.

Caution
Insert a soft, protective material (such as copper plates) in the jaws of the vise.

2. Remove the needle bearing from the caliper with the **SST**.

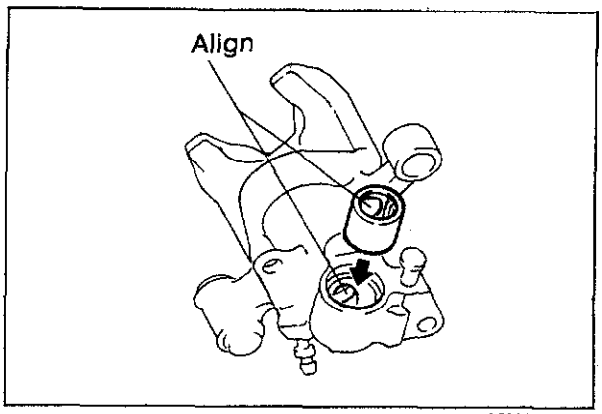

83U11X-102

Inspection of Caliper Assembly
Check the following and repair or replace any faulty parts.
1. Cylinder and piston for wear and rust
2. Caliper body for damage and cracks
3. Mounting support for damage and cracks
4. Sleeve bolt and sleeve for damage and wear
5. Guide pin for damage and rust
6. Adjuster spindle threads for damage


83U11X-103

Application of Grease
Before assembly, apply the grease supplied in the seal kit to the parts indicated by the arrows.

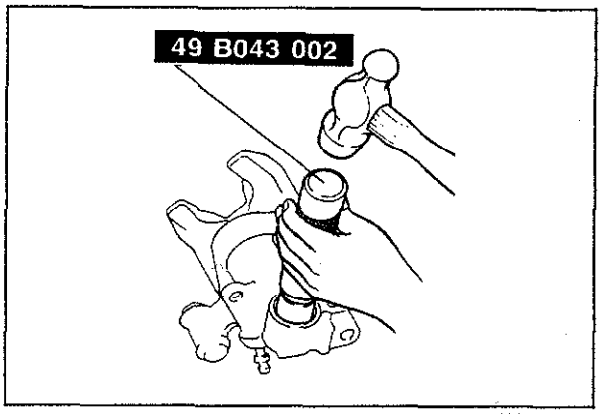
➡ : Orange grease
⇨ : White grease
⇨ : Red grease



83U11X-104

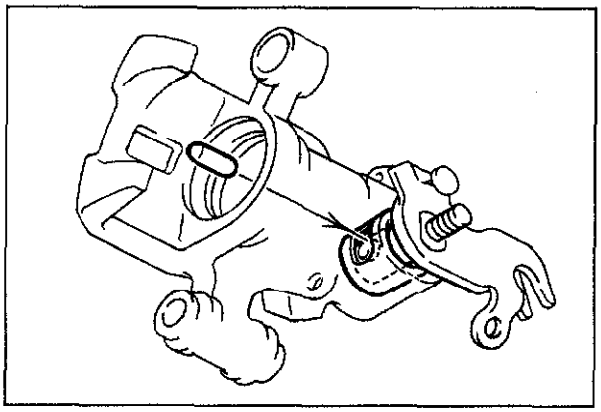
Needle Bearing

1. Align the needle bearing hole with the caliper hole, and set the needle bearing in the caliper.



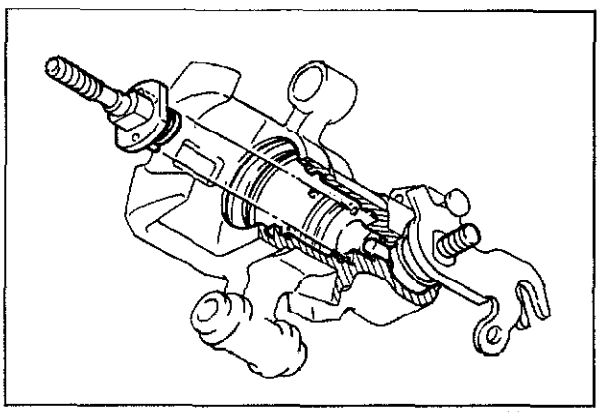
86U11X-098

2. Press the needle bearing into the caliper with the **SST** until the **SST** bottoms against the caliper.


83U11X-105

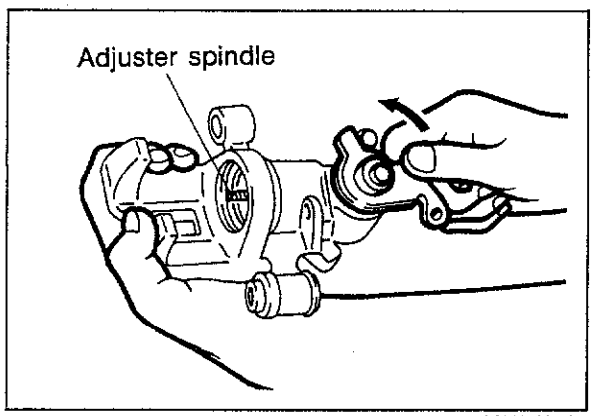
Connecting Link

Install the connecting link into the operating lever.


83U11X-106

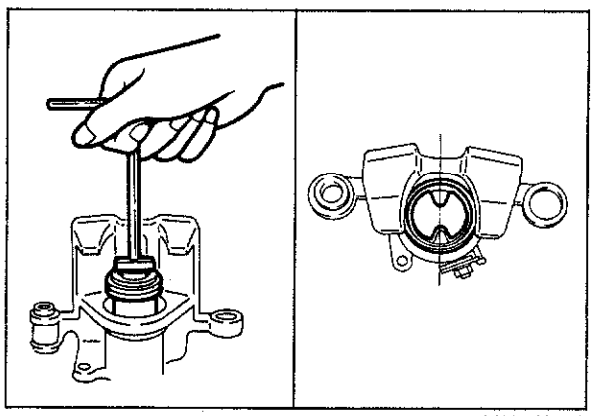
Adjuster Spindle

1. Assemble the adjuster spindle and the stopper.
2. Install the adjuster and stopper straight into the caliper cylinder with the two stopper pins fit into the caliper.
3. Install the snap ring.



86U11X-101

4. Move the operating lever and check that the adjuster spindle moves smoothly.



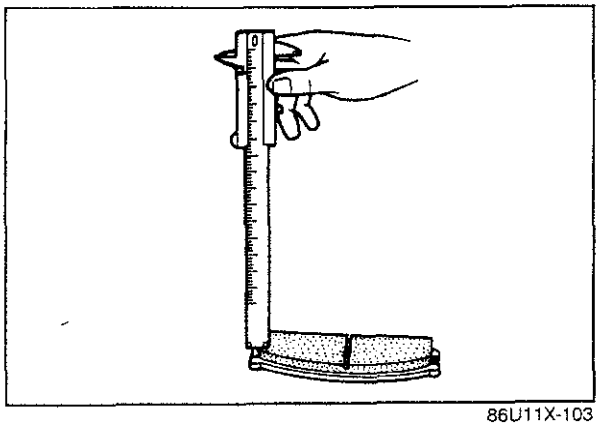
83U11X-110

Piston

1. Clean the piston.
2. Install the dust seal in the piston groove.
3. Turn the piston into the caliper cylinder while rotating the **SST** clockwise.

Note
Turn the piston in fully, and align the piston grooves as shown in the illustration.

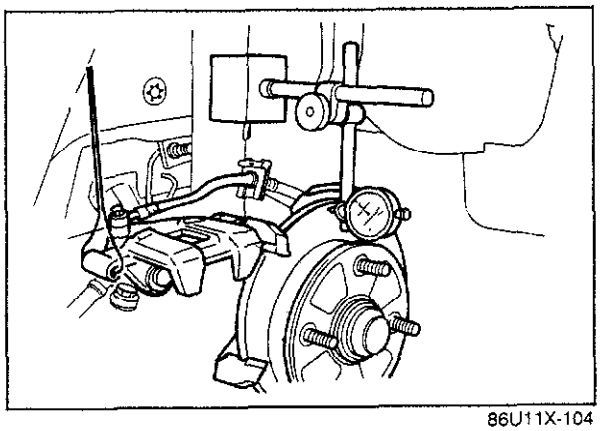
4. Fit the dust seal into the caliper cylinder.


86U11X-103

INSPECTION
Check the following and replace or repair any faulty parts.

Disc Pad
1. Oil or grease on facing
2. Abnormal wear or cracks
3. Deterioration or heat damage
4. Remaining liming thickness

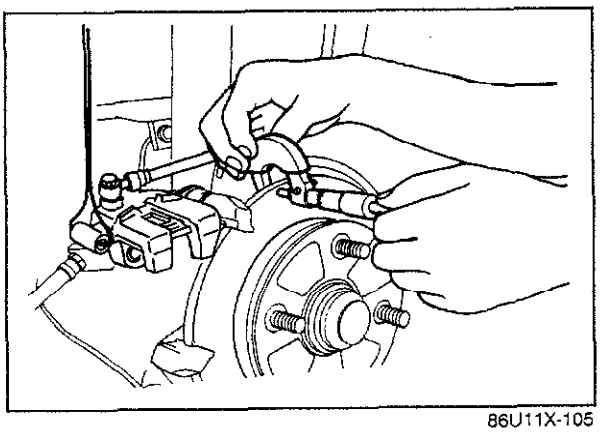
Thickness: 1 mm (0.04 in) min.


86U11X-104

Disc Plate
1. Runout

Runout: 0.1 mm (0.004 in) max.

Caution
a) There must be no wheel bearing loseness.
b) Measure at the outer edge of the disc plate surface.


86U11X-105

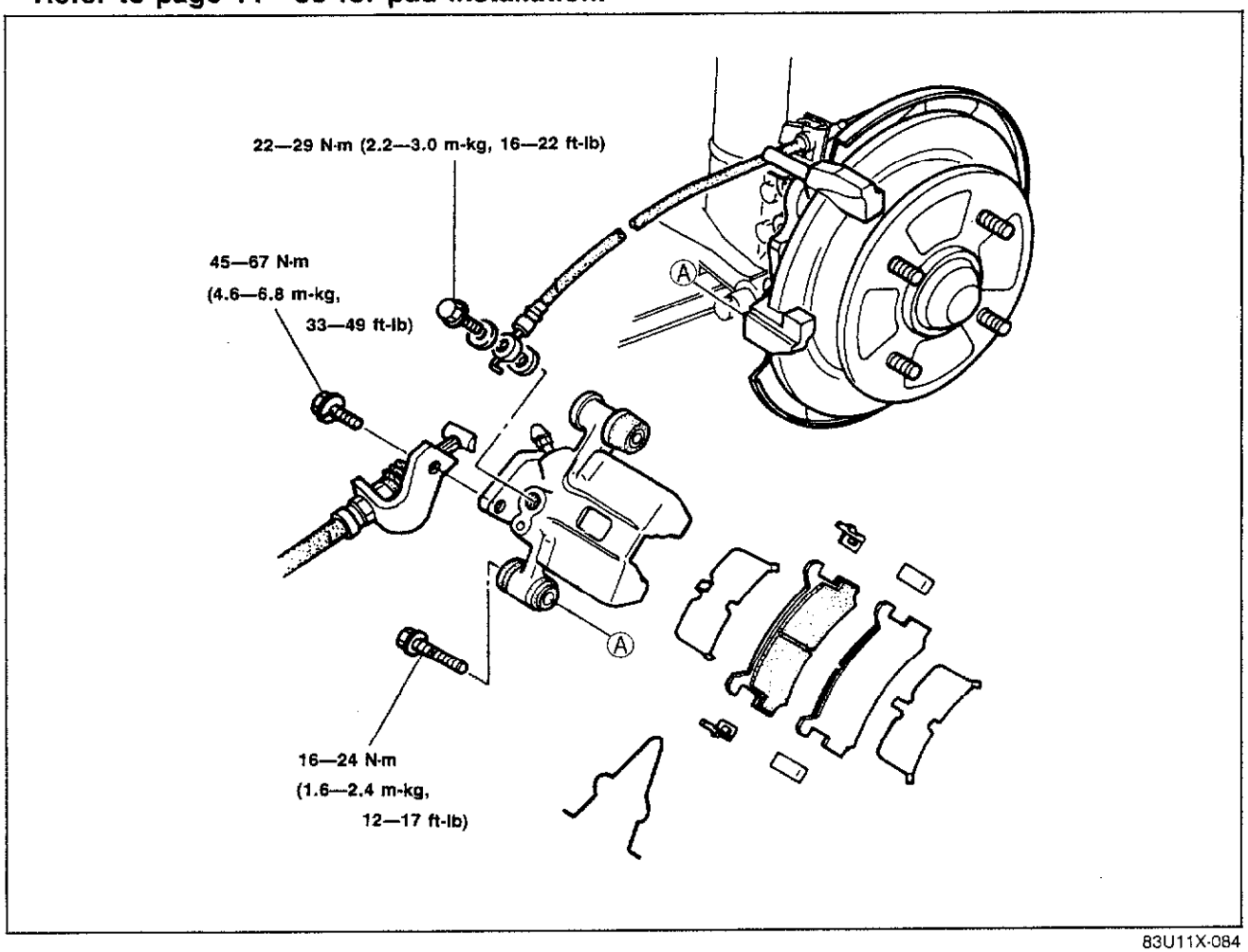
2. Wear or damage

Thickness
Standard: 10 mm (0.39 in)
Minimum: 8 mm (0.31 in)

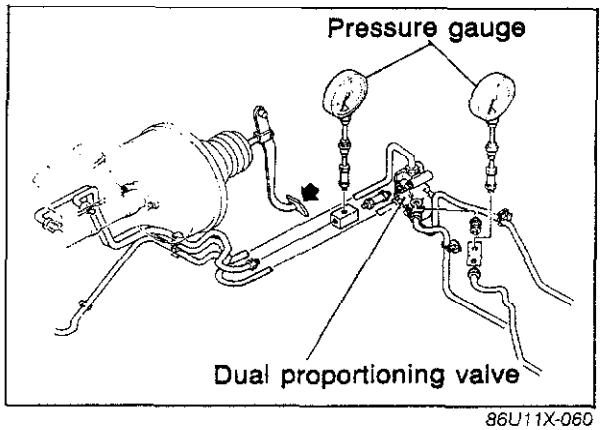
INSTALLATION

1. Install in the reverse order of removal.
2. After installation:
   (1) Add brake fluid and bleed air (Refer to page 11—11.)
   (2) Adjust the parking brake lever stroke. (Refer to page 11—8.)
   (3) Depress the brake pedal a few times and check that the rear brakes do not drag excessively while rotating the wheel.

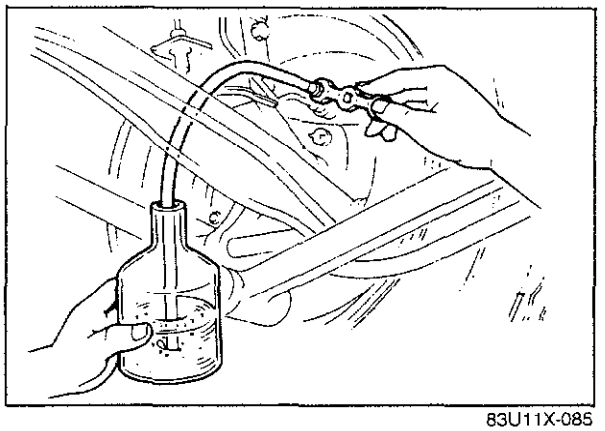
Note
Refer to page 11—38 for pad installation.



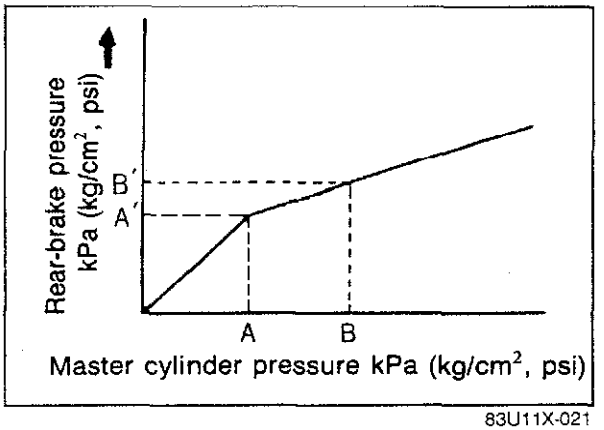
83U11X-084



86U11X-060



83U11X-085



83U11X-021

DUAL PROPORTIONING VALVE

FUNCTION CHECK

1. Connect two pressure gauges [9,810 kPa (100 kg/cm², 1,422 psi)] to the brake pipes and adaptors as shown in the figure.

   Adaptor and flare nut tightening torque: 13—22 N·m (1.3—2.2 m-kg, 9—16 ft-lb)

   Note
   Disconnect and connect the brake pipes with the SST.

2. Bleed air from the brake system. (Refer to page 11—11.)

3. Depress the brake pedal until the master cylinder pressure equals A; then measure rear brake pressure A'.
4. Depress the brake pedal again, apply additional pressure until A equals B; then measure pressure B'.

Specification

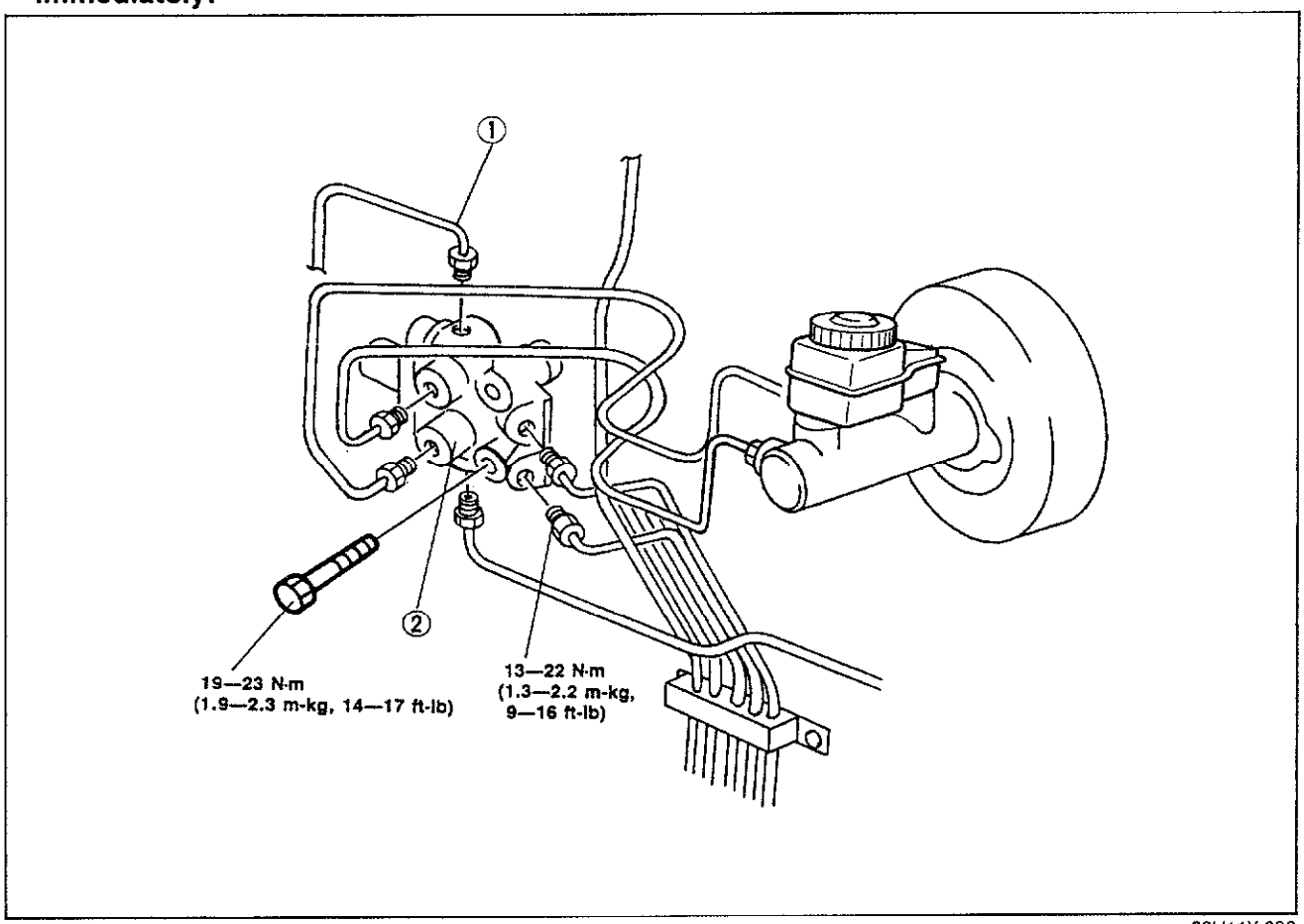
	Fluid pressure kPa (kg/cm², psi)			
	A	A'	B	B'
1600 cc (EGI)	2,943 (30, 427)	2,943 ± 196 (30 ± 2, 427 ± 28)	5,886 (60, 853)	3,826 ± 294 (39 ± 3, 555 ± 43)
1600 cc (DOHC, 2WD)	3,434 (35, 498)	3,434 ± 294 (35 ± 3, 498 ± 43)	5,886 (60, 853)	4,415 ± 392 (45 ± 4, 640 ± 57)
1600 cc (DHOC, 4WD)	2,943 (30, 427)	2,943 ± 196 (30 ± 2, 427 ± 28)	5,886 (60, 853)	4,120 ± 392 (42 ± 4, 597 ± 57)

5. If the measurements are not within specification, replace the valve assembly.
6. Install the brake pipes to the valve, and bleed air from the brake system.

REMOVAL AND INSTALLATION

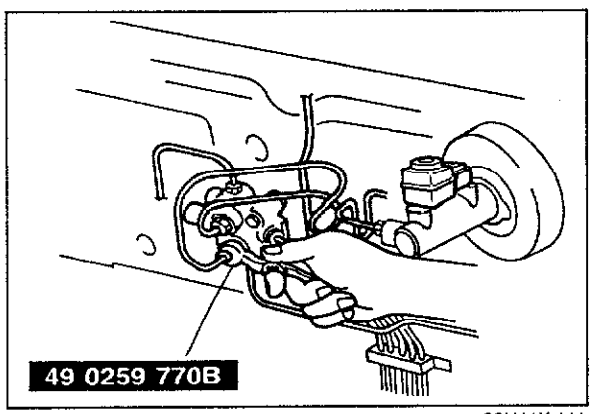
1. Remove in the sequence shown in the figure.
2. Install in the reverse order of removal.
3. After installation:
   (1) Add brake fluid and bleed the air (Refer to page 11—11.)
   (2) Check the brake lines for fluid leakage.

Caution
Brake fluid will damage painted surfaces. If it does get on a painted surface, wipe it off immediately.



83U11X-086

1. Brake pipe
2. Dual proportioning valve



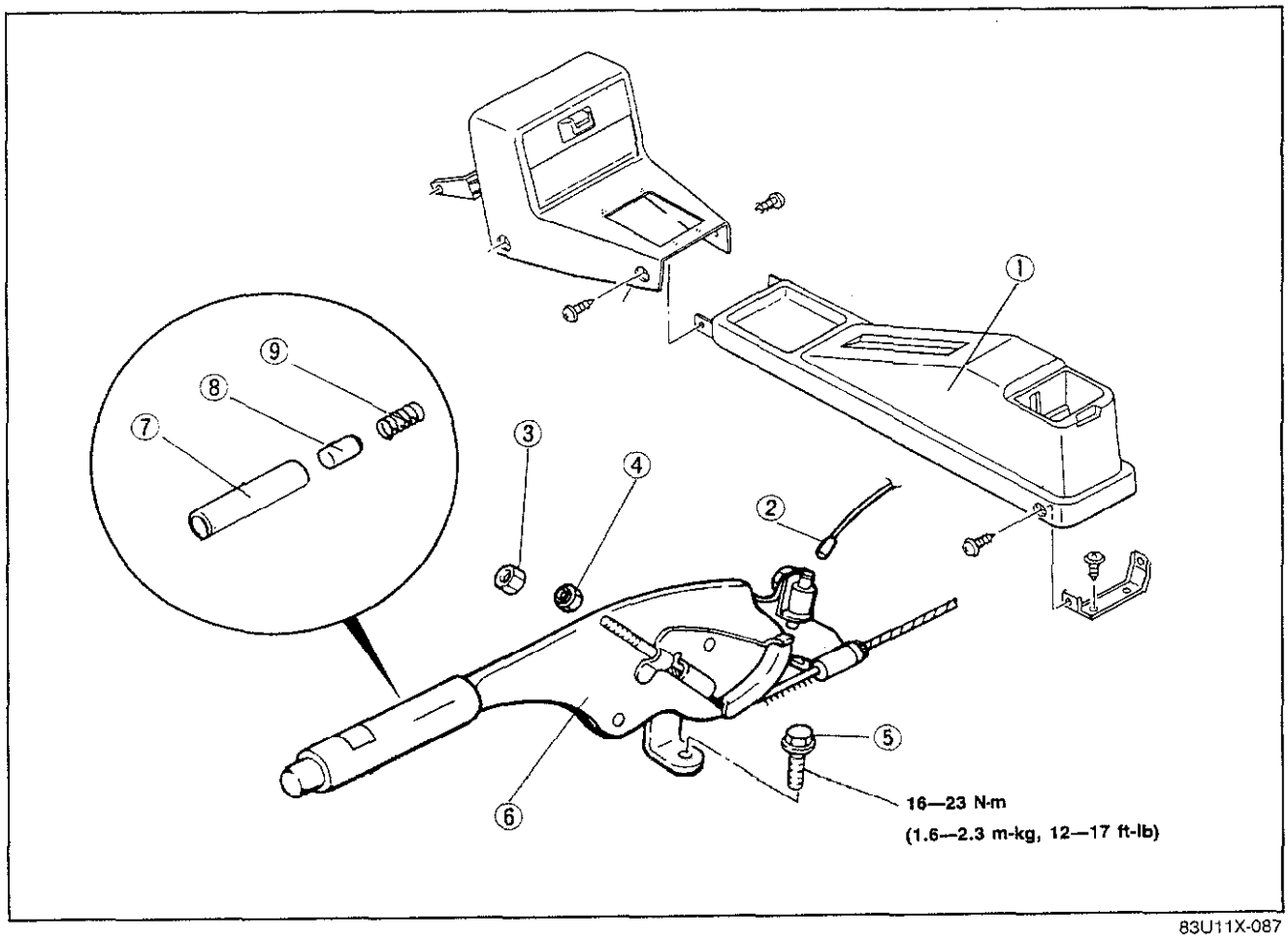
83U11X-111

Brake Pipe
Disconnect or connect the brake pipes with the **SST**.

PARKING BRAKE LEVER

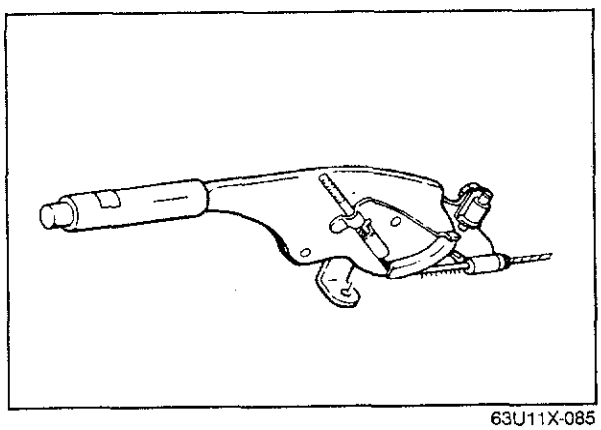
REMOVAL AND INSTALLATION

1. Block the wheels firmly.
2. Remove in the numbered sequence shown in the figure.
3. Install in the reverse order of removal.
4. After installation, adjust the stroke. (See page 11—8).



83U11X-087

1. Rear console
2. Coupler
3. Locknut
4. Adjust nut
5. Bolt
6. Parking brake lever
7. Grip
8. Release button
9. Return spring



63U11X-085

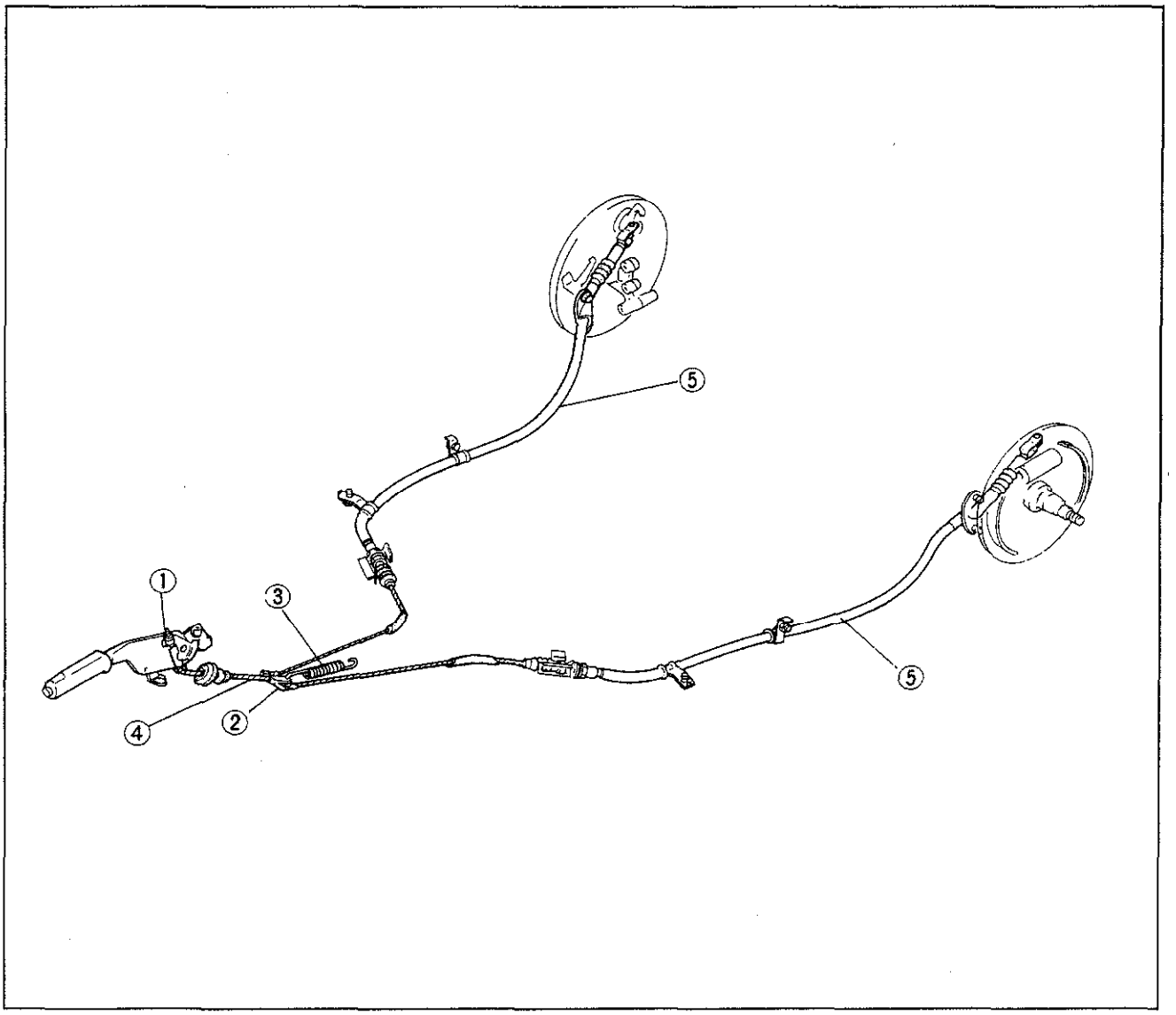
INSPECTION

1. Sector and ratchet pawl for wear or damage
2. Spring for weakness or breakage

PARKING BRAKE CABLE

REMOVAL AND INSTALLATION

1. Jack up the vehicle and support it with safety stands.
2. Remove in the numbered sequence shown in the figure.
3. Install in the reverse order of removal.



63U11X-086

1. Adjusting nut
2. Equalizer
3. Return spring
4. Front parking brake cable
5. Rear parking brake cable

WHEELS AND TIRES

86U12X-001

OUTLINE

SPECIFICATIONS

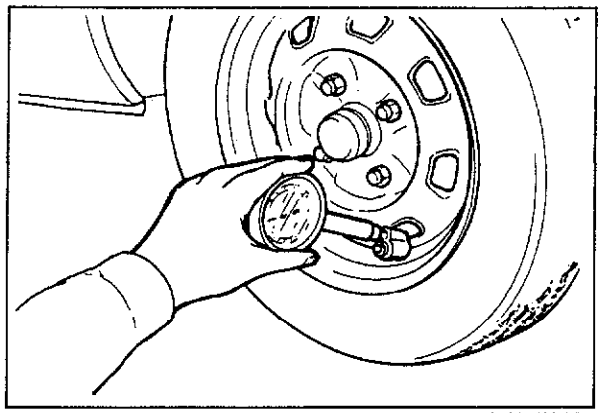
Item \ Type			Standard	Temporary spare
Wheels	Size		4 1/2-J x 13, 5-J x 13 5 1/2-JJ x 14	4-T x 14
	Offset mm (in)		45 (1.77)	50 (1.97)
	Diameter of pitch circle mm (in)		114.3 (4.5)	
	Material		Steel or aluminum alloy	Steel
Tires	Size	4 1/2-J x 13	155SR13, P155/80R13	T105/70D14
		5-J x 13	175/70SR13, P175/70R13	
		5 1/2-JJ x 14	185/60R14 82H	
	Air pressure kPa (kgf/cm^2, psi)	Front	196 (2.0, 28)	412 (4.2, 60)
		Rear	177 (1.8, 26)	

83U12X-001

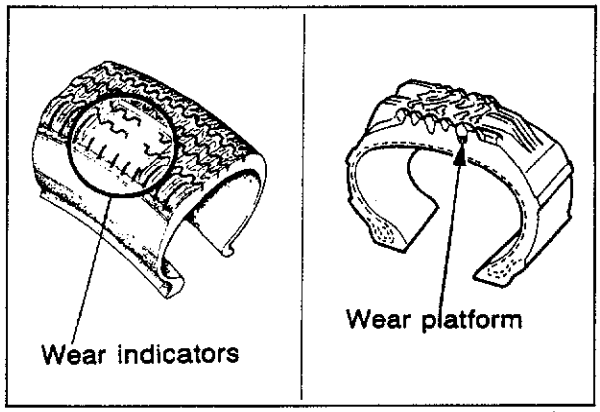
TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Excessive or irregular tire wear	Refer to page 12— 3 for details.		
Premature tire wear	Incorrect tire pressure	Adjust	12— 2
Tire squeal	Incorrect tire pressure Tire deterioration	Adjust Replace	12— 2 —
Road noise or body vibration	Insufficient tire pressure Unbalanced wheel(s) Deformed wheel(s) or tire(s) Irregular tire wear	Adjust Adjust Repair or replace Replace	12— 2 12— 5 — —
Steering wheel vibration	Irregular tire wear Right and left tread depths different Deformed or unbalanced wheel(s) Deformed tire(s) Unequal tire pressures Loose lug nuts	Replace Replace Replace or adjust Replace Adjust Tighten	— — 12— 5 — 12— 2 12— 5
Uneven (one-sided) braking	Unequal tire pressures	Adjust	12— 2
Steering wheel doesn't return properly, or pulls to either left or right while vehicle moving on level road surface	Incorrect tire pressure Irregular tire wear (left and right are different) Unequal tire pressures Different types or brands of tires mixed (right/left) Improperly tightened lug nuts	Adjust Replace Adjust Replace Tighten	12— 2 — 12— 2 — 12— 5
General driving instability	Unequal tire pressures Deformed or unbalanced wheel(s) Loose lug nuts	Adjust Replace or adjust Tighten	12— 2 12— 5 12— 5
Excessive steering wheel play	Loose lug nuts	Tighten	12— 5

86U12X-003



86U12X-004



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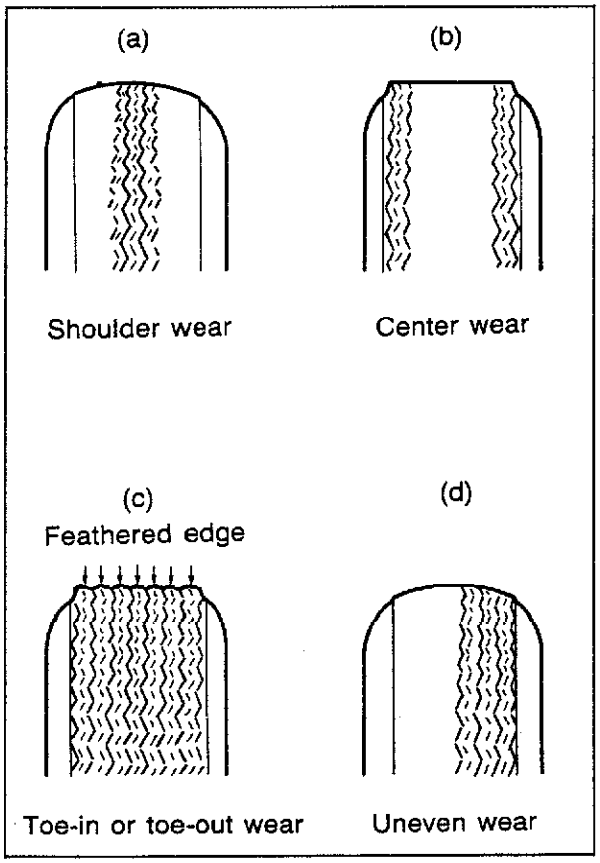


86U12X-006

WHEELS AND TIRES

INSPECTION AND ADJUSTMENTS

Check the following, and adjust or replace as necessary.

1. Air pressure
   Check the air pressure of all tires, including the spare tire, with an air pressure gauge.
   (Refer to page 12—2.)

   Caution
   The air pressure must be measured when the tire is cold.

2. Tire wear

Specifications

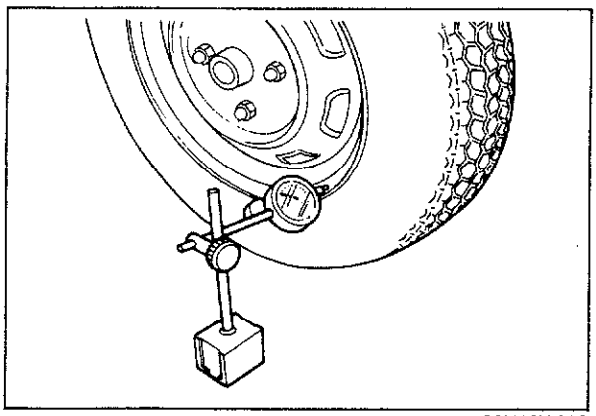
Remaining tread
Ordinary tires: 1.6 mm (0.063 in) min.
(Tire should be replaced if wear indicators are exposed.)

Snow tires: 50% of tread
(Tire should be replaced if wear indicators are exposed.)

Troubleshooting guide

Abnormal tire wear patterns shown in the illustration can occur. Refer to the chart for the probable causes and remedies.

	Probable cause	Remedy
(a)	• Underinflation (both sides worn) • Incorrect camber (one side wear) • Hard cornering • Lack of rotation	• Measure and adjust pressure • Repair, or replace axle and suspension parts • Reduce speed • Rotate tires
(b)	• Overinflation • Lack of rotation	• Measure and adjust pressure • Rotate tires
(c)	• Incorrect toe-in	• Adjust toe-in
(d)	• Incorrect camber or caster • Malfunctioning suspension • Unbalanced wheel • Out-of-round brake drum or disc • Other mechanical conditions • Lack of rotation	• Repair, or replace axle and suspension parts • Repair or replace • Balance or replace • Correct or replace • Correct or replace • Rotate tires

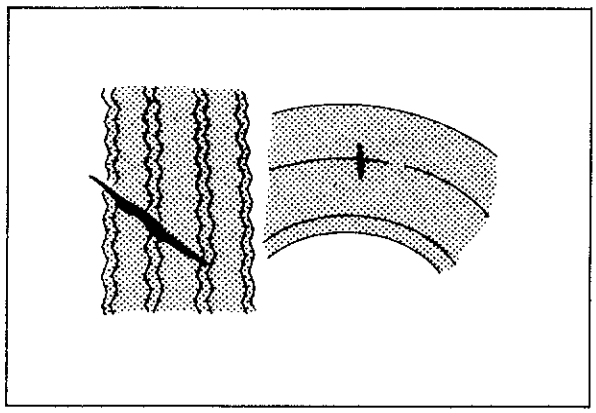


83U12X-002

3. Wheel deflection
   Set the probe of a dial indicator against the wheel, and turn the wheel one full revolution.

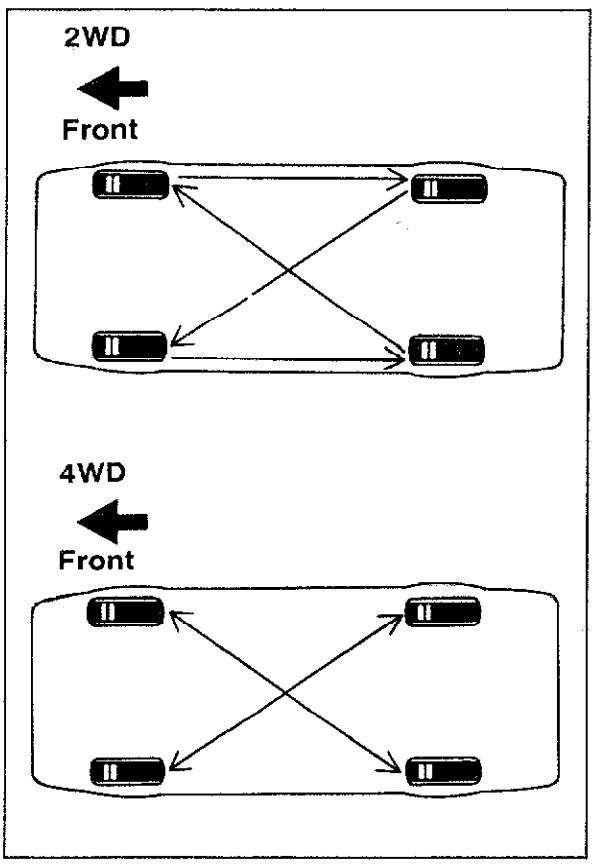
Wheel deflection limit mm (in)

	Horizontal	Vertical
Steel wheel	2.5 (0.098)	1.5 (0.059)
Aluminum wheel	2.0 (0.079)	



86U12X-008

4. Cracks, damage, or foreign matter (such as metal pieces, nails, and stones) in the tire and cracks, deformation, and damage to the wheel
5. Loose wheel lug nut(s)
6. Air leaking from the valve stem



83U12X-003

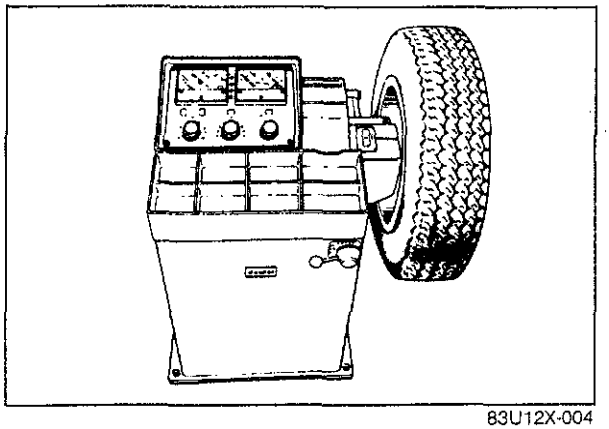
TIRE ROTATION

To prolong tire life and assure uniform wear, rotate the tires every 6,000 km (3,750 miles) or sooner if irregular wear develops.

Caution

a) Do not include "TEMPORARY USE ONLY" spare tire in rotation.

b) After rotating the tires, adjust each tire to the specified air pressure (Refer to page 12—2.)



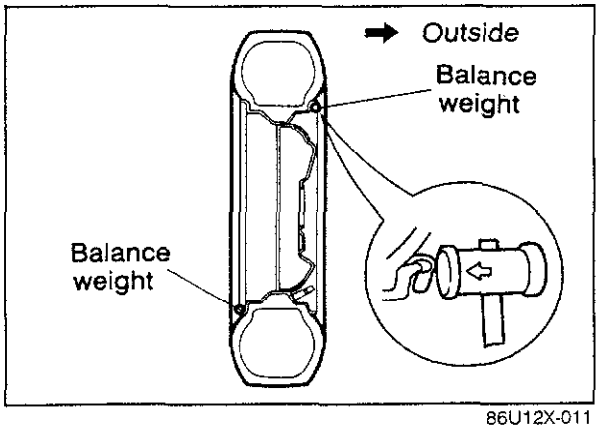
83U12X-004

WHEEL BALANCE

If a wheel becomes unbalanced or if a tire is replaced or repaired, the wheel must once again be balanced to within specification.

Maximum unbalance (at rim edge):

13 inch-wheel	11g (0.39 oz)
14 inch-wheel	10g (0.35 oz)



86U12X-011

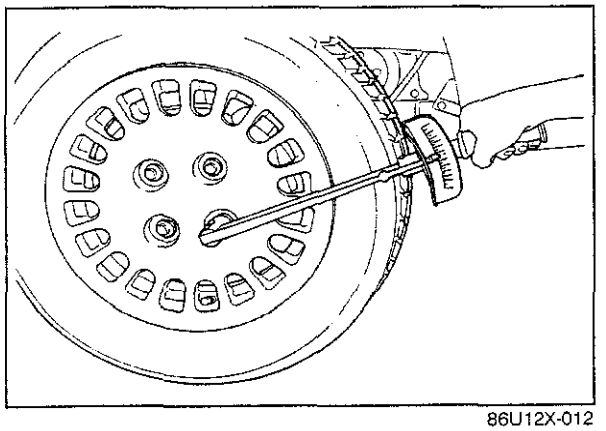
Caution

a) Do not use more than two balance weights on the inner or outer side of the wheel. if the total weight exceeds 100 g (3.5 oz), re-balance after moving the tire around on the rim.

b) Attach the balance weights tightly so that they do not protrude more than 3 mm (0.12 in) beyond the wheel edge.

c) Select suitable balance weights for steel or aluminum alloy wheels.

d) Do not use an on-car balancer on ATX models. Use of this type of balancer may cause clutch damage.



86U12X-012

WHEEL MOUNTING

Tighten the lug nuts to the specified torque in a criss-cross fashion.

Tightening torque:
88—118 N·m (9—12 m-kg, 65—87 ft-lb)

Caution

a) The wheel-to-hub contact surfaces must be clean.

b) Never apply oil to the nuts, bolts, or wheels; doing so might cause looseness or seizure of the lug nuts.

SPECIAL NOTE

Regarding wheels and tires:

1. Do not use wheels or tires other than the specified types.
2. Aluminum wheels are easily scratched. When washing them, use a soft cloth, never a wire brush. If the vehicle is steam cleaned, do not allow boiling water to contact the wheels.
3. If alkaline compounds (such as salt water or road salts), get on aluminum wheels, wash them as soon as possible to prevent damage. Use only a neutral detergent.

86U12X-013

Regarding tire replacement:
Note the following points when tires are to be removed from or mounted onto the wheels.
1. Be careful not to scratch the tire bead, the rim bead, or the edge of the rim.
2. Apply a soapy solution to the tire bead and the edge of the rim.
3. Use a wire brush, sandpaper, or a cloth to clean and remove all rust, dirt, etc., from the rim edge and the rim bead. For aluminum wheels, use only a cloth for this purpose; never use a wire brush or sandpaper.
4. Remove any pebbles, glass, nails, etc., embedded in the tire tread.
5. Be sure the air valve is installed correctly.
6. After mounting a tire onto a wheel, inflate the tire to 250—300 kPa (2.55—3.06 kg/cm^2, 35.55—42.66 psi). Check to be sure that the bead is seated correctly onto the rim, and that there are no air leaks. Then reduce the pressure to the specified level.
7. If a tire iron is used to change a tire on an aluminum wheel, be sure to use a piece of rubber between the iron lever and the wheel in order to avoid damage to the wheel. Work should be done on a rubber mat, not on a hard or rough surface.

86U12X-014

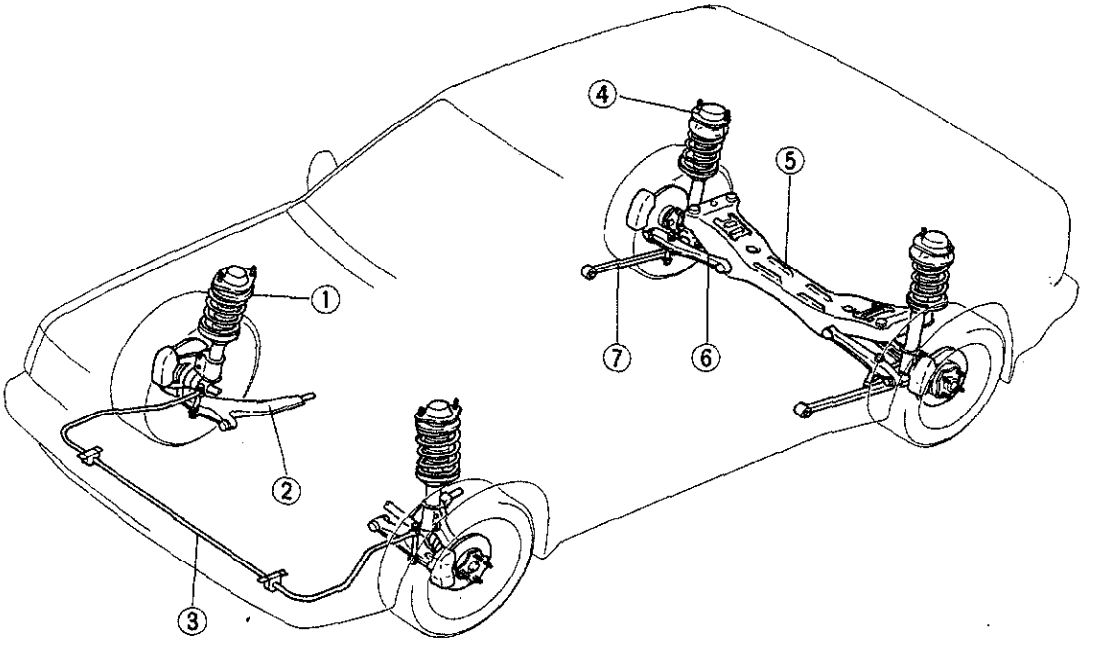
SUSPENSION

83U13X-001

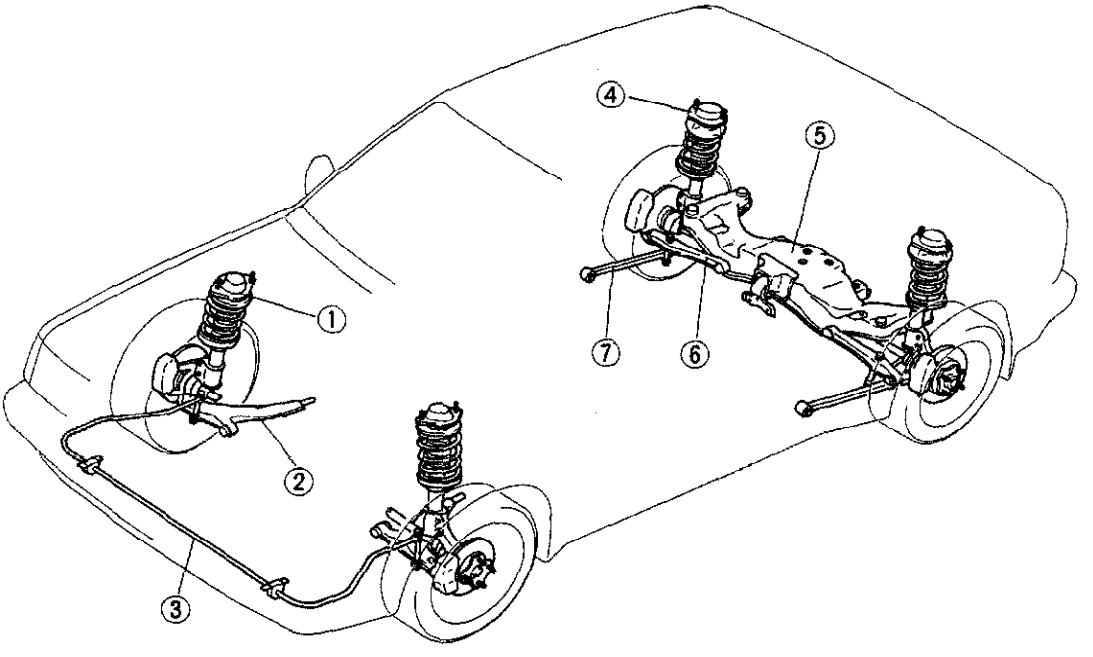
OUTLINE

STRUCTURAL VIEW

2WD



4WD



83U13X-002

1. Front shock absorber
2. Lower arm
3. Front stabilizer
4. Rear shock absorber
5. Crossmember
6. Lateral link
7. Trailing link

SPECIFICATIONS
2WD (B6 EGI)

Item \ Model			MTX	ATX
Front suspension				
Suspension			Strut type	
Spring			Coil spring	
Spring dimensions	Wire diameter	mm (in)	12.5 (0.49)	12.8 (0.50)
	Coil diameter	mm (in)	132.5—134.7 (5.22—5.30)	134.3—136.4 (5.29—5.37)
	Free length	mm (in)	391 (15.4)	372 (14.6)
	Coil number (active)		4.96	5.60
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	27.2 (1.07)	

Item \ Model			Hatchback	Sedan
Rear suspension				
Suspension			Strut type	
Spring			Coil spring	
Spring dimensions	Wire diameter	mm (in)	10.2 (0.40)	10.5 (0.41)
	Coil diameter	mm (in)	112.5 (4.43)	113.2 (4.46)
	Free length	mm (in)	351 (13.8)	376 (14.8)
	Coil number (active)		4.62	5.62
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	15.9 (0.63)	

83U13X-003

2WD (B6 DOHC)

Item \ Model			Hard	ASA
Front suspension				
Suspension			Strut type	
Spring			Coil spring	
Spring dimensions	Wire diameter	mm (in)	12.8 (0.50)	12.5 (0.49)
	Coil diameter	mm (in)	134.3—136.4 (5.29—5.37)	133.0—135.5 (5.24—5.33)
	Free length	mm (in)	372 (14.6)	393 (15.5)
	Coil number (active)		5.60	4.07
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	29.2 (1.15)	
Rear suspension				
Suspension			Strut type	
Spring			Coil spring	
Spring dimensions	Wire diameter	mm (in)	10.2 (0.40)	10.0 (0.39)
	Coil diameter	mm (in)	113.2 (4.46)	113.0 (4.45)
	Free length	mm (in)	351 (13.8)	394.6 (15.54)
	Coil number (active)		4.62	4.62
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	Hatchback: 15.9 (0.63) Sedan: 17.3 (0.68)	17.3 (0.68)

ASA: Adjustable Shock Absorber

83U13X-004

4WD (B6 DOHC)

Item \ Model			Hard
Front suspension			
Suspension			Strut type
Spring			Coil spring
Spring dimensions	Wire diameter	mm (in)	11.25 (0.44)
	Coil diameter	mm (in)	135 (5.31)
	Free length	mm (in)	436 (17.16)
	Coil number (active)		5.2
Shock absorber			Cylindrical double-acting
Stabilizer	Type		Torsion bar
	Diameter	mm (in)	29.2 (1.15)
Rear suspension			
Suspension			Strut type
Spring			Coil spring
Spring dimensions	Wire diameter	mm (in)	10.5 (0.41)
	Coil diameter	mm (in)	128 (5.04)
	Free length	mm (in)	356.8 (14.05)
	Coil number (active)		3.65
Shock absorber			Cylindrical double-acting
Stabilizer	Type		Torsion bar
	Diameter	mm (in)	15.9 (0.63)

83U13X-005

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Body "rolls"	Weak stabilizer	Replace	13—13, 20
	Worn or deteriorated stabilizer or lower arm bushing	Replace	13—10,13,20
	Malfunction of shock absorbers	Replace	13—6, 15
Poor riding comfort	Weak coil springs	Replace	13—7, 16
	Malfunction of shock absorbers	Replace	13—6, 15
Body tilt	Worn coil springs	Replace	13—7, 16
	Worn stabilizer or lower arm bushing	13—10,13,20	
Abnormal noise from suspension system	Poor lubrication or wear of lower arm ball joint	Replace	13—10
	Looseness of peripheral connections	Tighten	—
	Malfunction of shock absorbers	Replace	13—6, 15
	Worn or deteriorated stabilizer or lower arm bushing	Replace	13—10,13,20
	Wear or damage of front strut bearing	Replace	13—7
"Heavy" steering wheel operation	Lower arm ball joint stuck	Replace	13—10
	Ball joints stuck or damaged	Replace	—
	Ball joints insufficiently lubricated; foreign material; abnormal wear	Lubricate or replace	—
	Improperly adjusted wheel alignment (toe-in)	Adjust	—
	Worn or damaged steering gear bushing	Replace	—
	Improperly adjusted pinion pre-load	Adjust	—
	Damaged steering gear	Replace	—
	Insufficient grease on steering gear	Add grease	—
	Malfunction of steering shaft universal joint	Repair or replace	—
	Low tire pressure	Adjust	—
	Abnormal tire wear	Replace	—
Steering wheel pulls to one side	Weak coil spring	Replace	13—7, 16
	Worn or damaged stabilizer or lower arm bushing	Replace	13—10,13,20
	Damaged knuckle arm	Replace	—
	Lower arm damaged or loose	Replace or tighten	13—10
	Improperly adjusted wheel alignment (toe-in)	Adjust	—
	Damaged steering linkage	Replace	—

83U13X-006

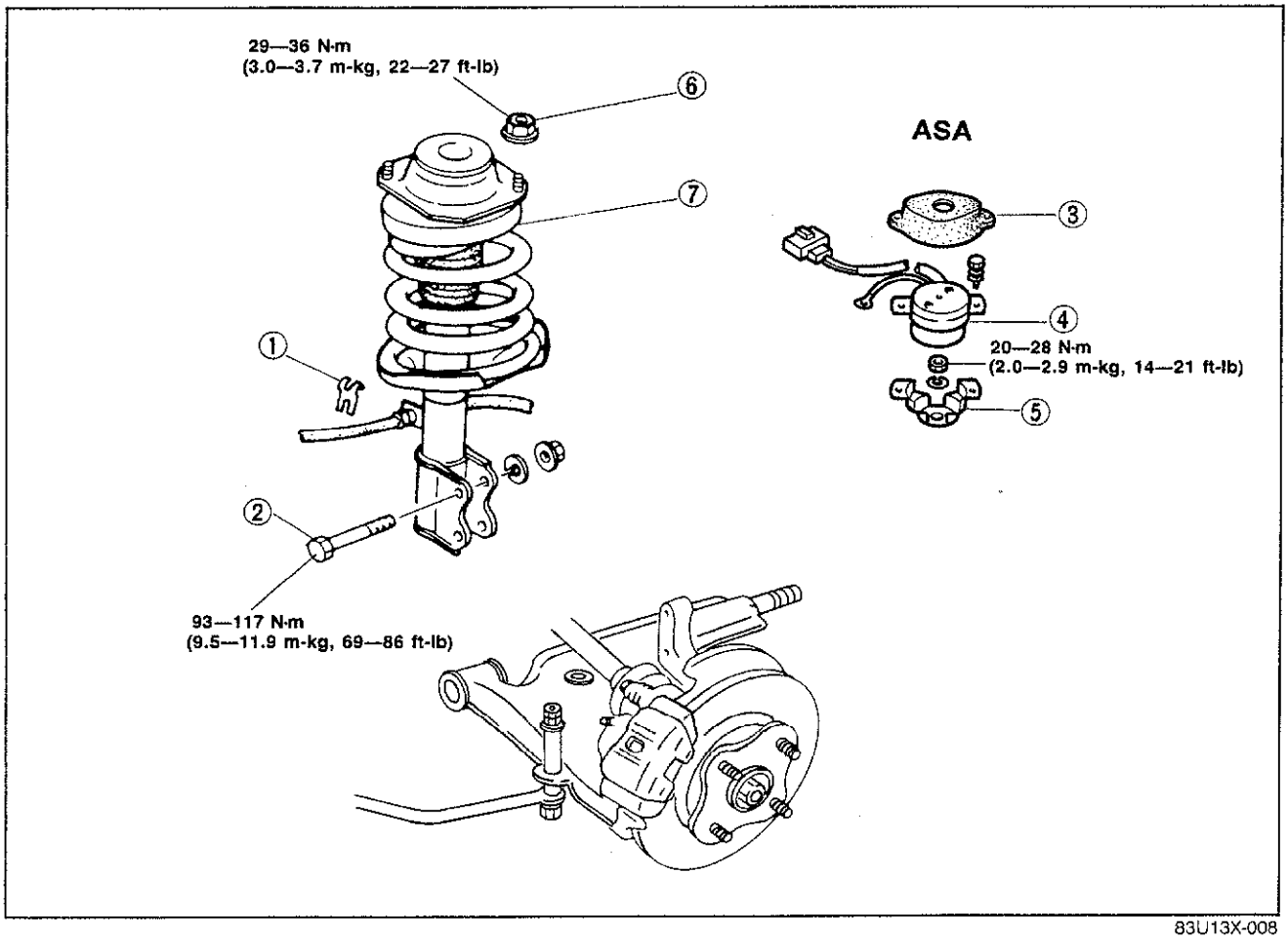
Problem	Possible Cause	Remedy	Page
Steering wheel pulls to one side	Damaged wheel bearing	Replace	—
	Uneven tire pressure	Adjust	—
	Abnormal tire wear (left and right worn differently)	Replace	—
	Brakes dragging	Repair	—
Steering wheel vibrates	Worn or deteriorated stabilizer or lower arm bushing	Replace	13—10,13,20
	Worn lower arm ball joint	Replace	13—10
	Malfunction or looseness of shock absorber	Replace or tighten	13—6, 15
	Improperly adjusted wheel alignment (toe-in)	Adjust	—
	Damaged linkage	Replace	—
	Worn or damaged joints	Replace	—
	Improperly adjusted pinion preload	Adjust	—
	Worn steering gear bushing	Replace	—
	Loose steering shaft universal joint	Replace	—
	Malfunction of wheel bearing	Replace	—
	Abnormal tire wear	Replace	—
	Tie tread depth different (left/right)	Replace	—
	Damaged or unbalanced wheel	Replace or repair	—
Excessive steering wheel play	Worn or damaged lower arm bushing	Replace	13—10
	Improperly adjusted pinion preload	Adjust	—
	Work rack and pinion	Replace	—
	Worn or damaged joints	Replace	—
	Loose steering shaft universal joint	Replace	—
General instability	Weakened coil springs	Replace	13—7, 16
	Malfunction of shock absorbers	Replace	13—6, 15
	Wear or deterioration of lower arm of stabilizer bushing	Replace	13—10,13,20
	Improperly adjusted wheel alignment	Adjust	—
	Damaged linkage	Replace	—
	Worn or damaged joints	Replace	—
	Improperly adjusted pinion preload	Adjust	—
	Loose steering shaft universal joint	Replace	—
	Incorrect tire pressure	Adjust	—
	Damaged or unbalanced wheel	Repair or replace	—
	Malfunction of wheel bearing	Replace	—

83U13X-007

FRONT SHOCK ABSORBER AND SPRING

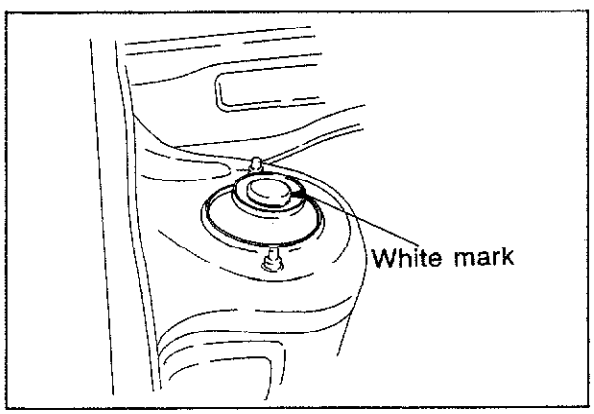
REMOVAL AND INSTALLATION

1. Jack up the front of the vehicle and support it with safety stands.
2. Remove in the sequence shown in the figure.
3. Install in the reverse order of removal.



83U13X-008

1. Brake hose clip
2. Bolt
3. Rubber cap (ASA)
4. Actuator (ASA)
5. Bracket (ASA)
6. Nut
7. Shock absorber



83U13X-009

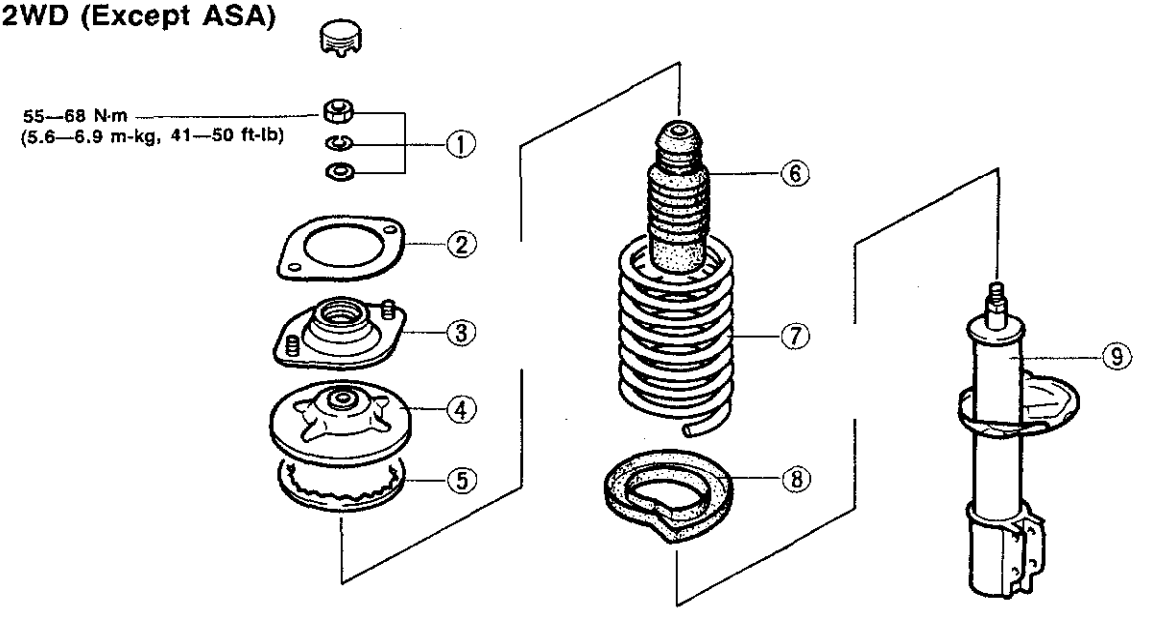
Shock Absorber

Install the shock absorber to the suspension tower so that the white mark on the mounting block faces the inside of the vehicle.

DISASSEMBLY AND ASSEMBLY

1. Disassemble in the sequence shown in the figure.
2. Assemble in the reverse order of removal.

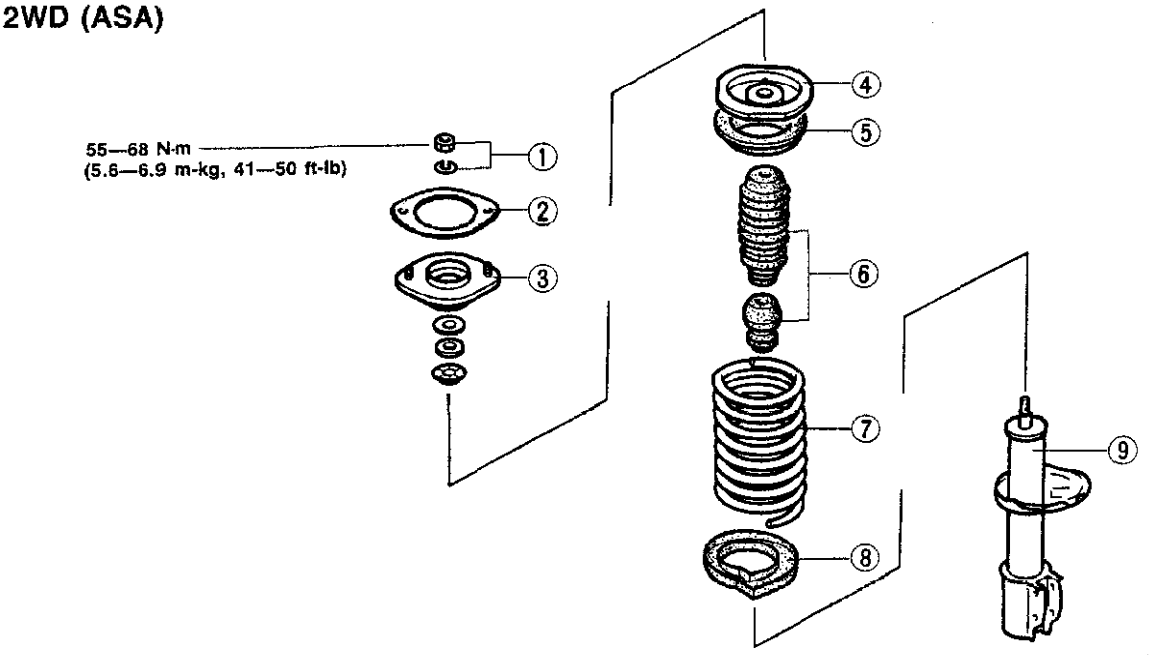
2WD (Except ASA)



83U13X-010

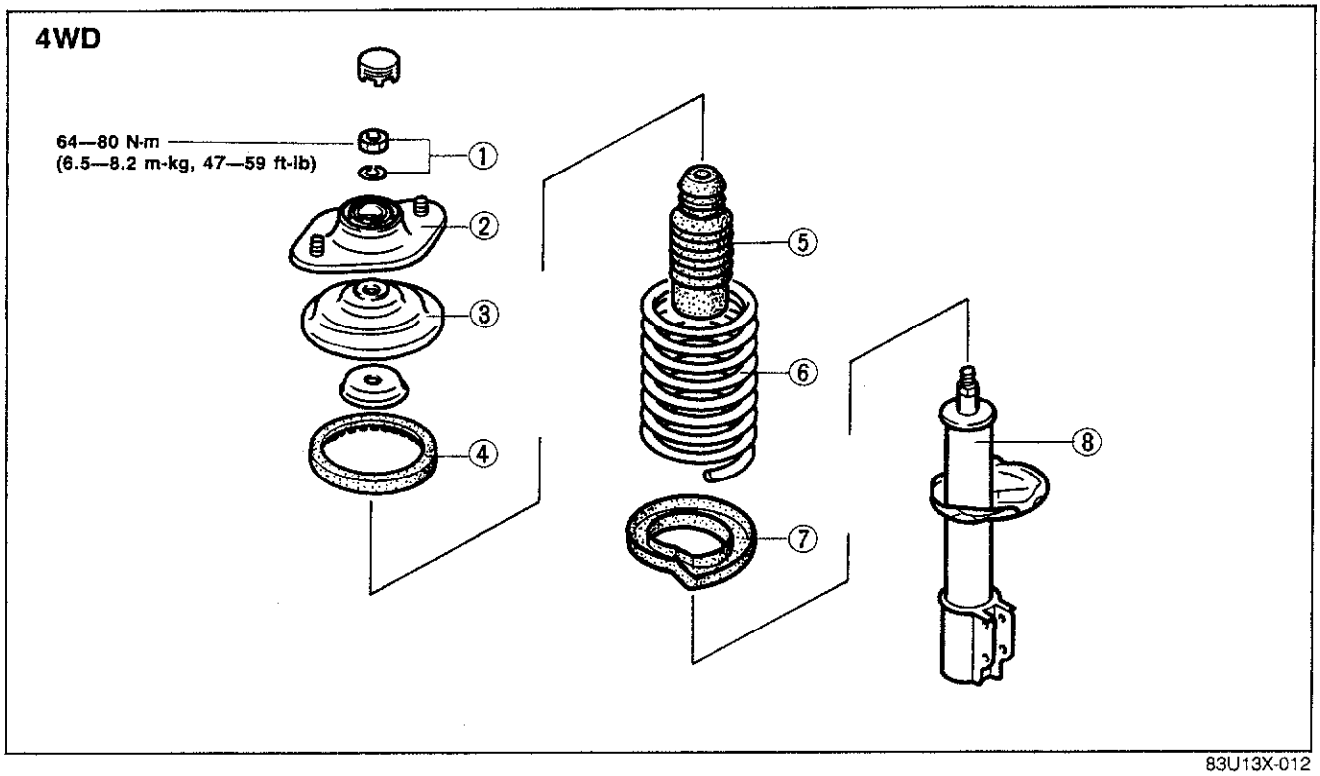
1. Nut and washer
2. Rubber sheet
3. Mounting block
4. Upper spring seat
5. Spring seat
6. Bound stopper
7. Coil spring
8. Lower spring seat
9. Shock absorber

2WD (ASA)



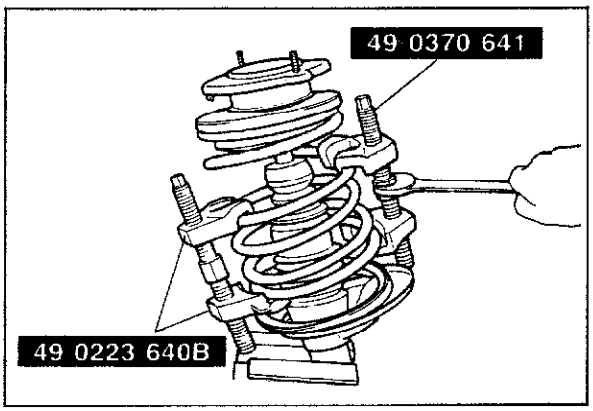
83U13X-011

1. Nut and washer
2. Rubber sheet
3. Mounting block
4. Upper spring seat
5. Spring seat
6. Bound stopper
7. Coil spring
8. Lower spring seat
9. Shock absorber

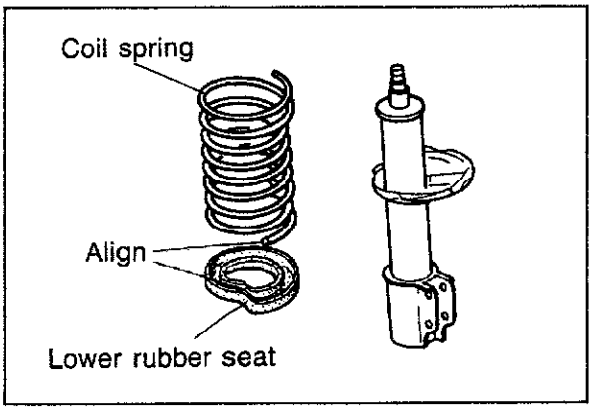


83U13X-012

1. Nut and washer
2. Mounting block
3. Upper spring seat
4. Spring seat
5. Bound stopper
6. Coil spring
7. Lower spring seat
8. Shock absorber



83U13X-013



83U13X-014

Coil Spring
Removal:

1. Position the shock absorber mount in a vice.

Caution
Insert copper or aluminum plates between the part and the jaws of the vise.

2. Loosen the piston rod upper nut several turns, but do not remove.

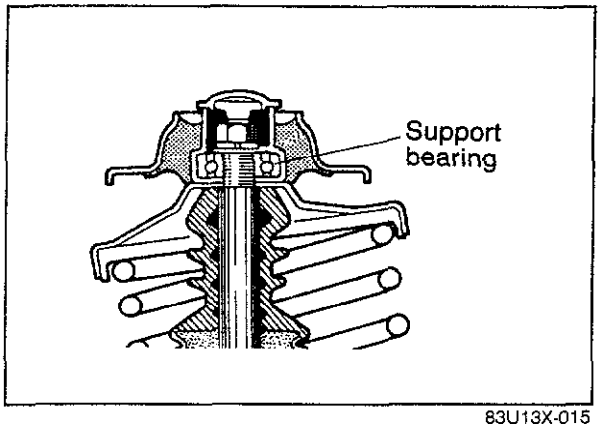
Caution
Do not remove the nut.

3. Compress the coil spring with the **SST** and then remove the nut.
4. Remove the coil spring.

Installation:

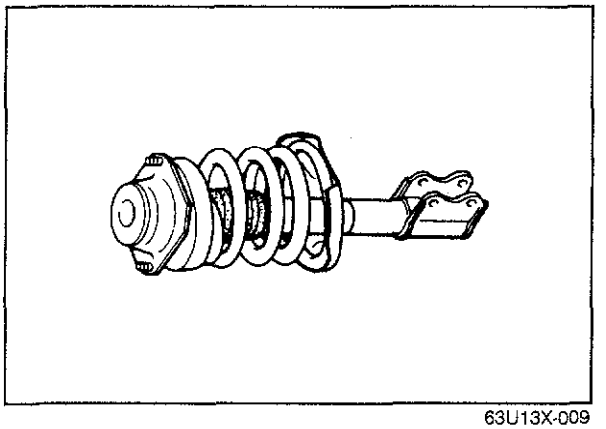
1. Compress the coil spring using **SST**.
2. Install the mounting block in the vise.
3. Tighten the piston rod upper nut.
4. Remove the **SST**.

Caution
Check that the spring is well seated in the upper spring seat and lower spring seat.



83U13X-015

Mounting Block
Apply grease to the support bearing of the mounting block before installation.



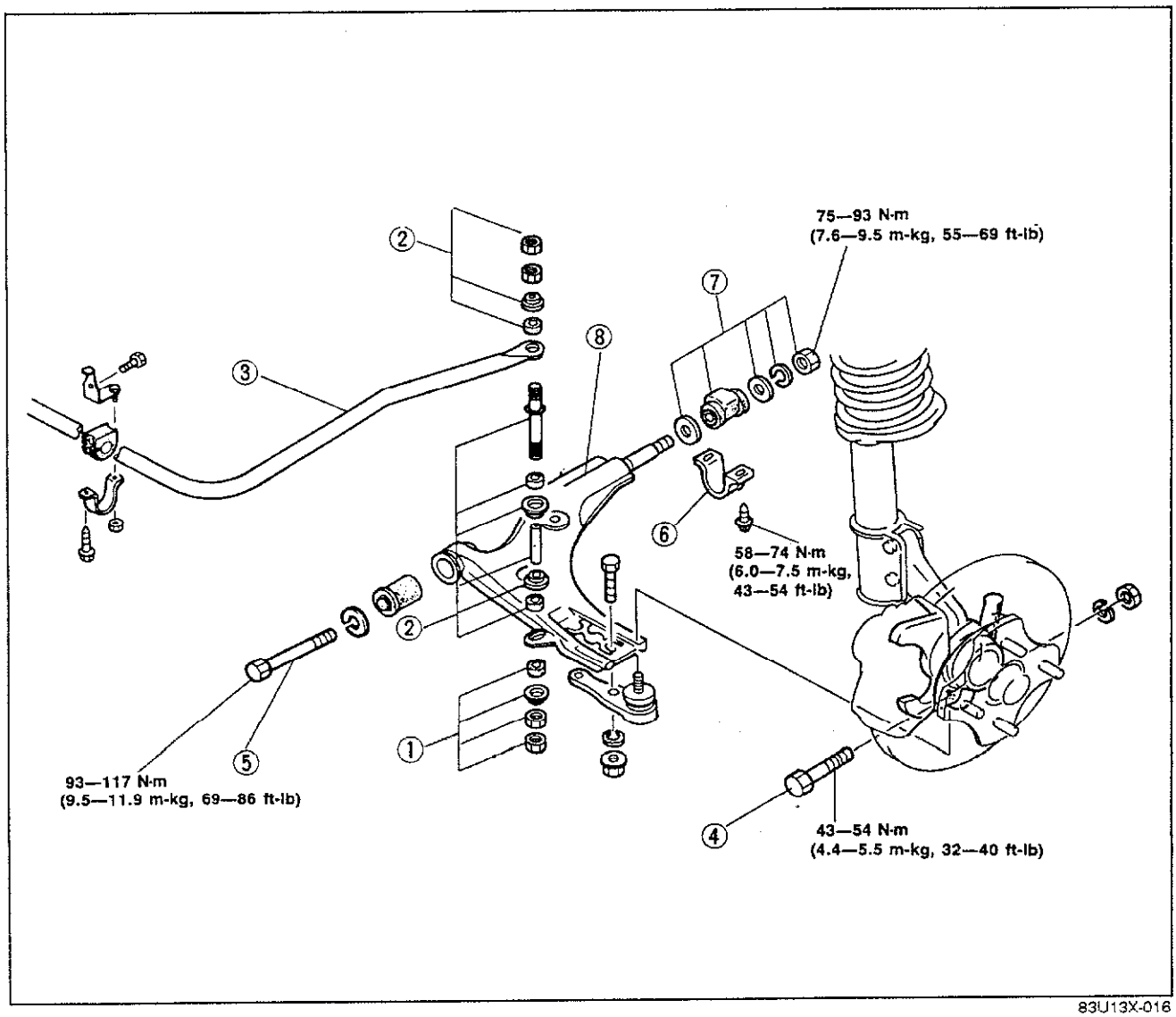
63U13X-009

INSPECTION
Check the following points, repair or replace if necessary.
1. Oil leakage or abnormal noise from the shock absorbers.
2. Loose installation nuts or bolts of the shock absorbers.
3. Deterioration or damage of the mounting block, bearing looseness.
4. Wear or damage of the bound stopper.

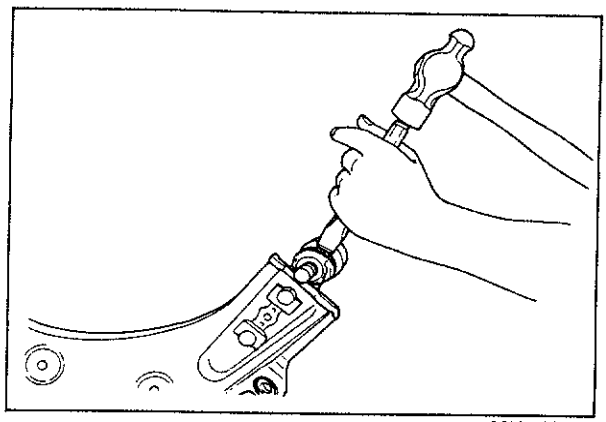
FRONT LOWER ARM

REMOVAL AND INSTALLATION

1. Jack up the front of the vehicle and support it with safety stands.
2. Remove the parts in the numbered sequence shown in the figure.
3. Install in the reverse order of removal.

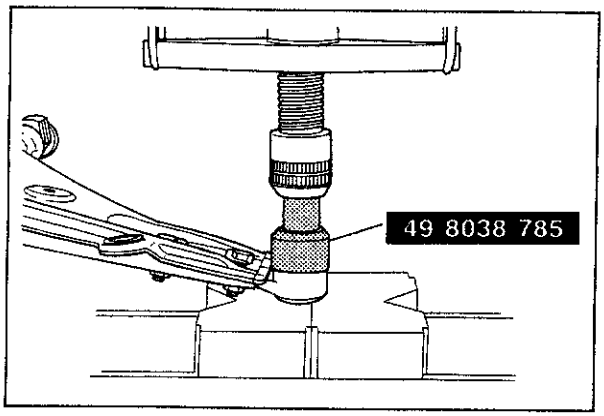


1. Bolt, bushing and retainer
2. Nut, retainer and bushing
3. Stabilizer (if equipped)
4. Bolt
5. Bolt
6. Bracket
7. Nut, washer and bushing
8. Lower arm


63U13X-013

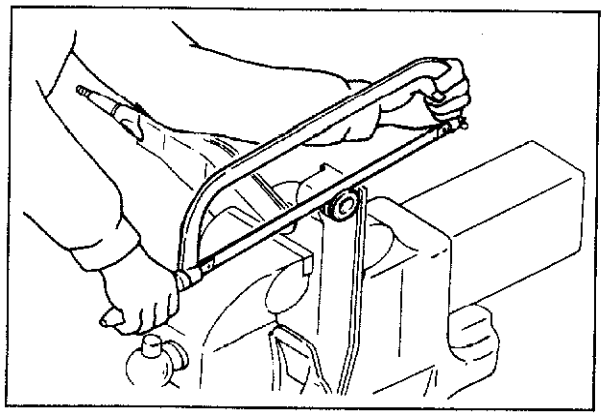
Dust boot

Removal
Use a chisel to remove the dust boot.

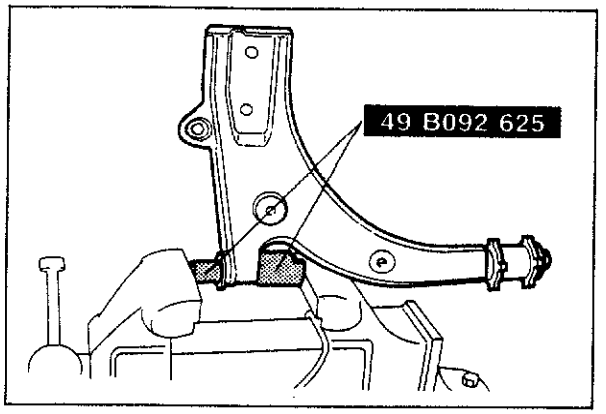


63U13X-014

Installation
Apply lithium grease to the inside of the new dust boot, and then install it with **SST**.

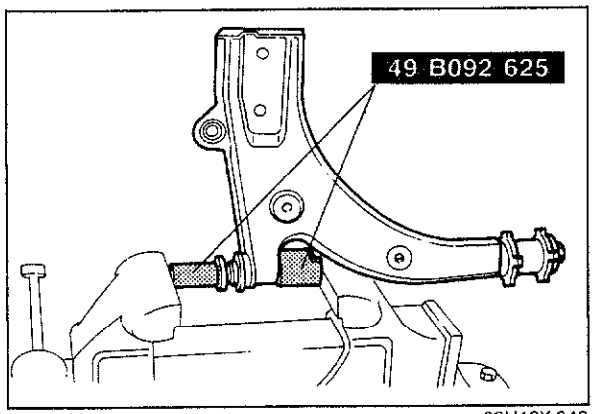

63U13-015

Lower arm bushing
Removal
1. Cut away the exposed part of the lower arm bushing.



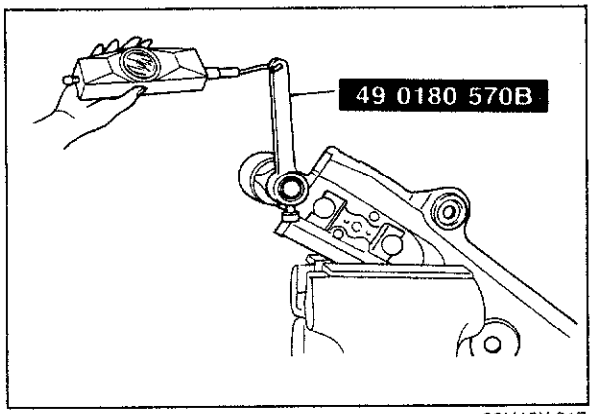
63U13X-016

2. Use **SST** as shown in the figure, and remove the bushing.



83U13X-042

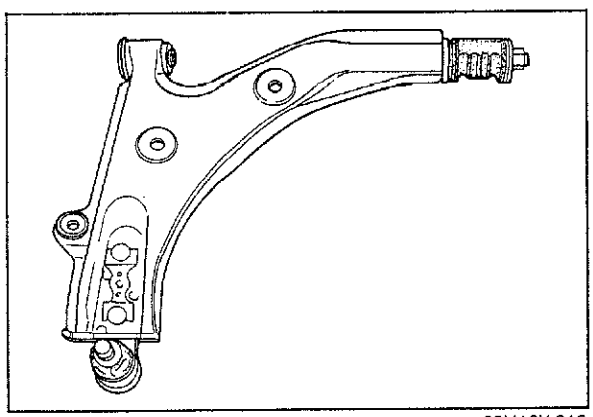
Installation
Use **SST** as shown in the figure, and install the bushing.



83U13X-017

Measurement of ball joint rotation torque
Install the **SST** to the ball stud, and then measure by using a pull scale.

Rotation torque: 1.8—3.1 N·m
(18—31 cm-kg, 15.6—26.9 in-lb)
Pull scale reading:
1,800—3,100 kg (3.96—6.82 lb)

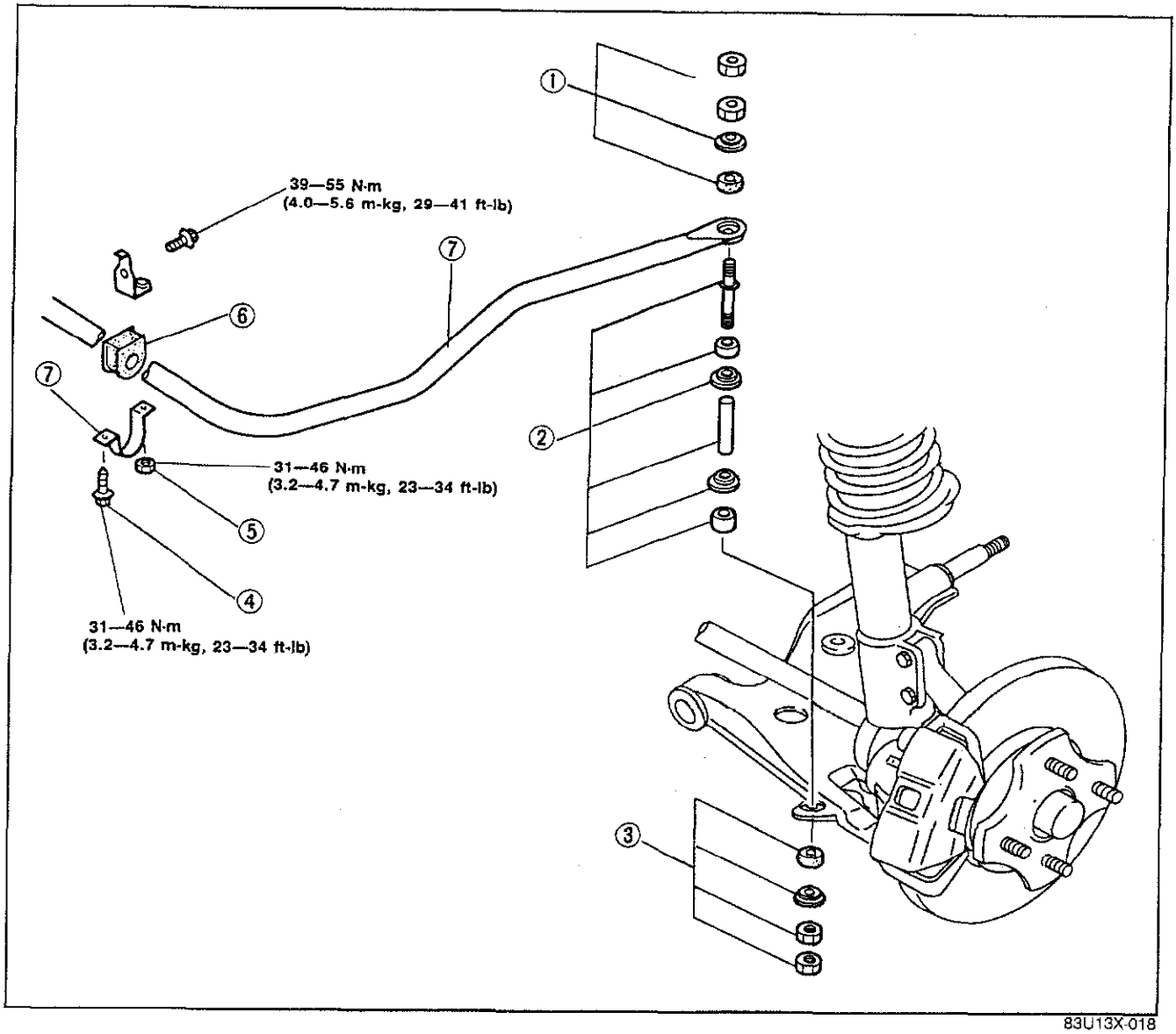

63U13X-018

INSPECTION
Check the following points, replace if necessary.
1. Deformation or cracks in the lower arm.
2. Deformation or wear of the bushing.
3. Rotation torque of the ball joint.

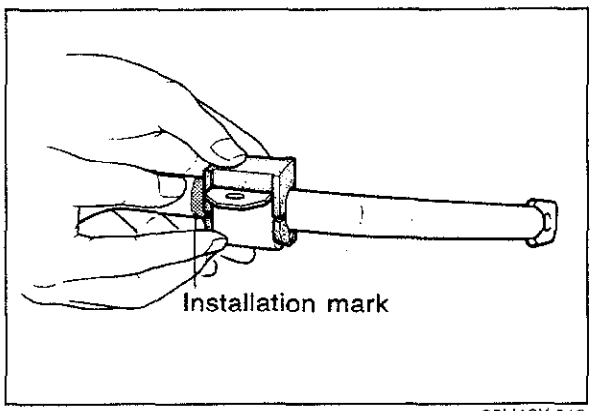
FRONT STABILIZER

REMOVAL AND INSTALLATION

1. Jack up the front of the vehicle and support it with safety stands.
2. Remove the under cover.
3. Remove in the sequence shown in the figure.
4. Install in the reverse order of removal.



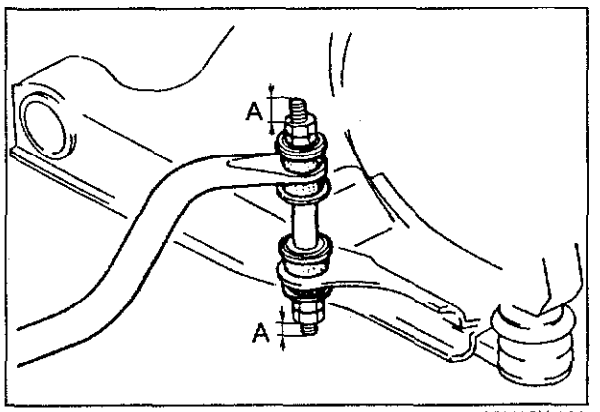
1. Nut, retainer and bushing
2. Bushing, retainer and spacer
3. Bolt, retainer and bushing
4. Bolt
5. Nut
6. Bushing and bracket
7. Stabilizer



83U13X-019

Stabilizer Bushing and Bracket

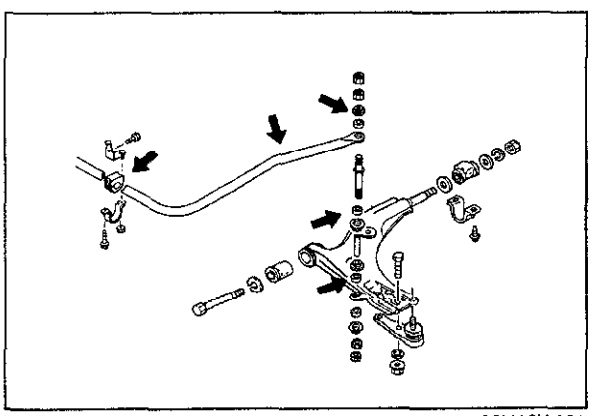
1. Install the bushing with the seam facing forward.
2. Align the bushing with the installation mark painted on the stabilizer.
3. Install the stabilizer bracket and temporarily tighten the bolt.
4. Lower the vehicle and tighten the bolts to the specified torque with the vehicle unloaded.



83U13X-020

Control Link

1. Install the control link to the stabilizer and temporarily tighten the bolts.
2. Lower the vehicle and tighten the nut so that there is **8.5 mm (0.33 in)** of thread (A) exposed at the top or bottom of the control link.



83U13X-021

INSPECTION

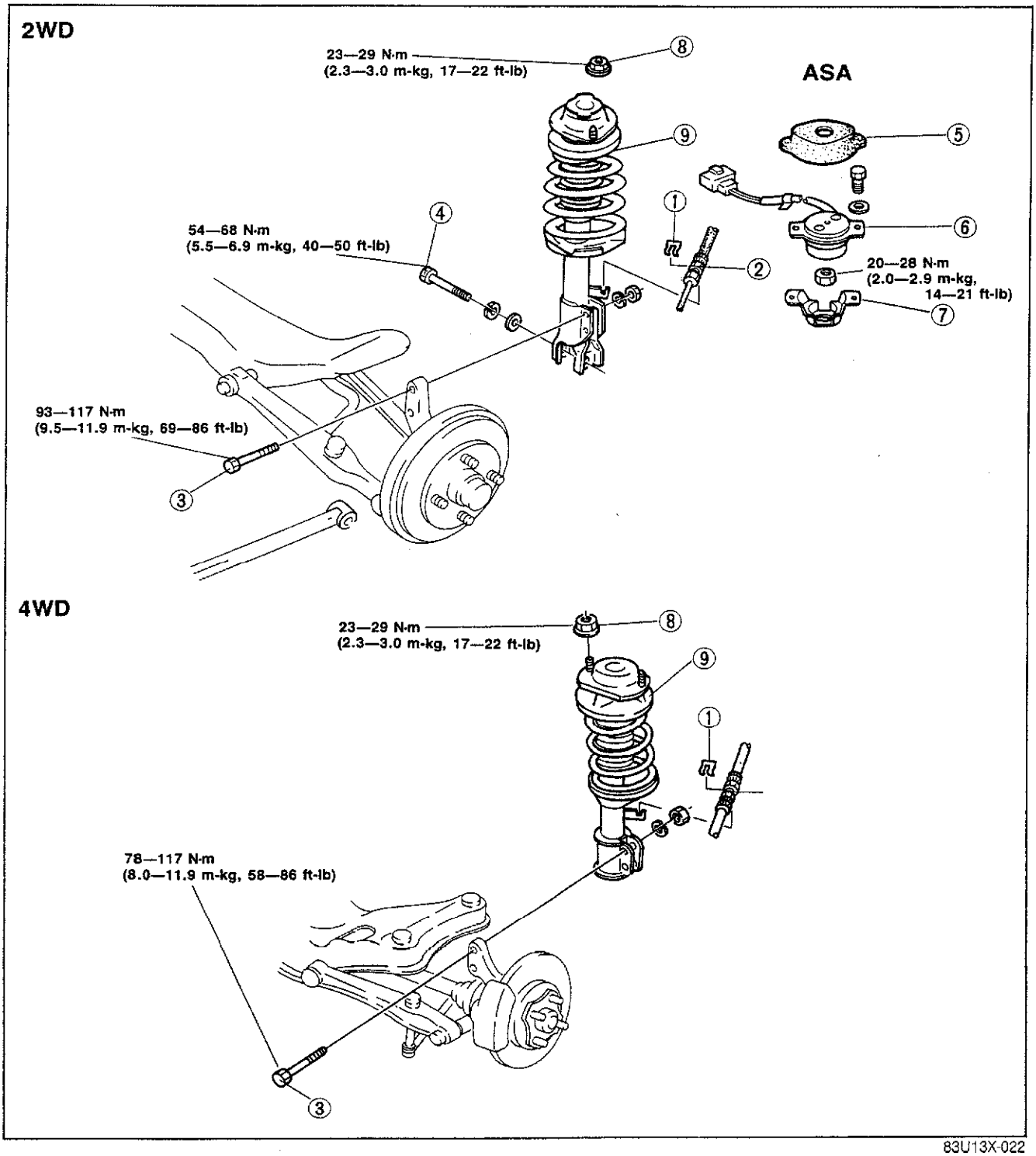
Check the following points. Replace the parts if necessary.

1. Stabilizer for bending or damgage.
2. Stabilizer bushing for deterioration or wear.

REAR SHOCK ABSORBER AND SPRING

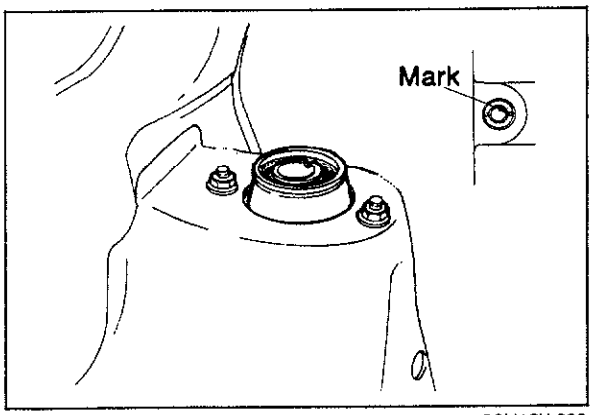
REMOVAL AND INSTALLATION

1. Jack up the rear of the vehicle and support it with safety stands.
2. Remove in the sequence shown in the figure.
3. Install in the reverse order of removal.



83U13X-022

1. Clip
2. Flexible hose
3. Bolt
4. Bolt (2WD)
5. Rubber cap (ASA)
6. Actuator (ASA)
7. Bracket (ASA)
8. Nut
9. Shock absorber



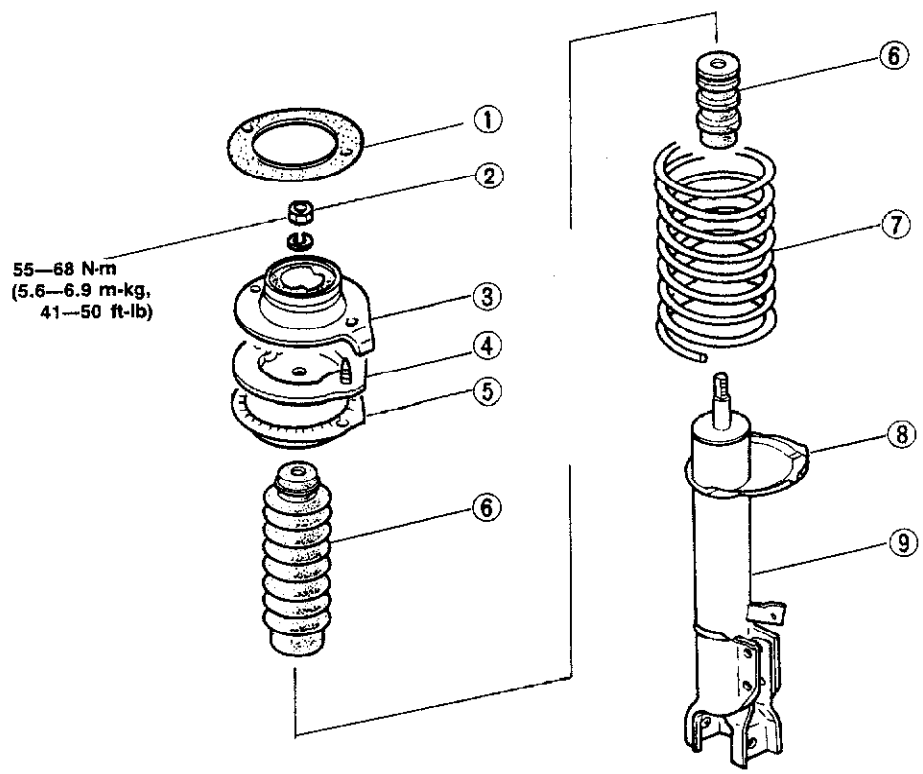
83U13X-009

Shock Absorber
Install the shock absorber to the suspension tower so that the white mark on the mounting block faces the inside of the vehicle.

DISASSEMBLY AND ASSEMBLY

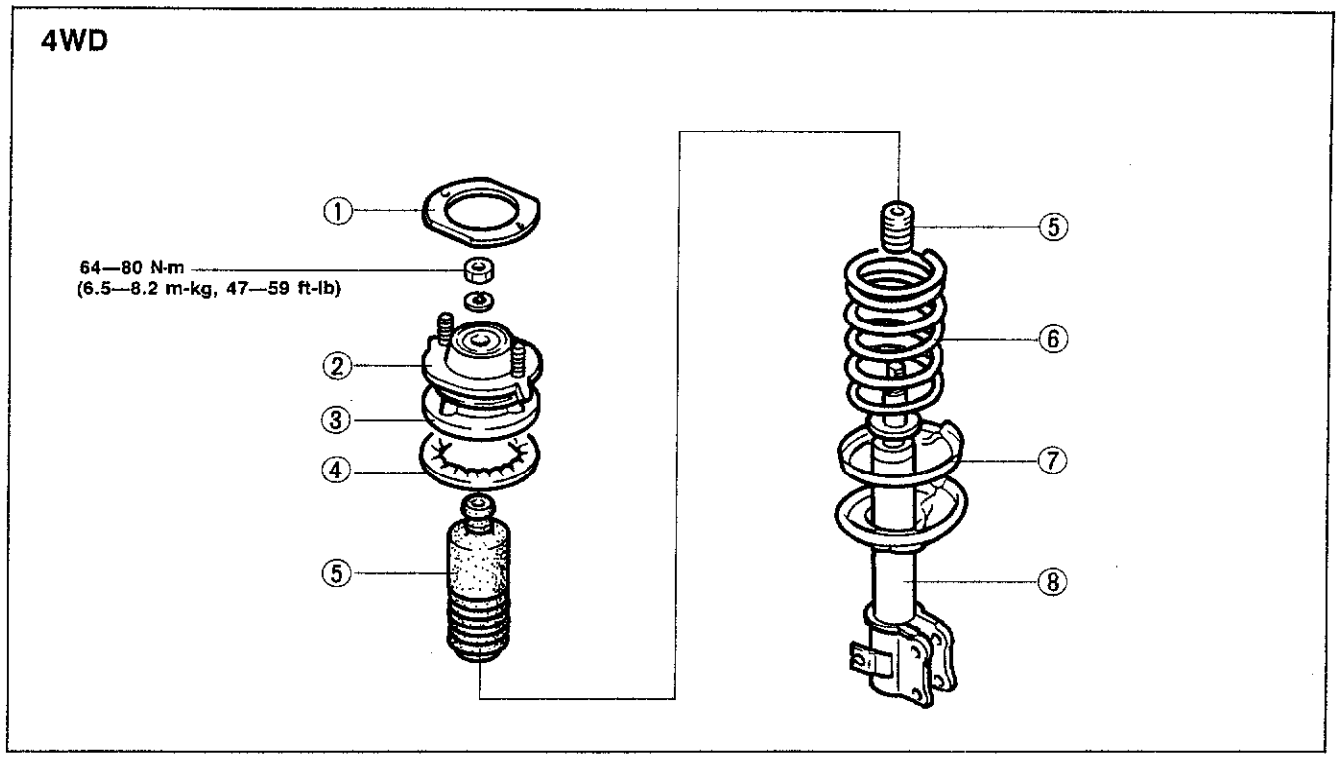
1. Disassemble in the sequence shown in the figure.
2. Assemble in the reverse order of removal.

2WD (including ASA)



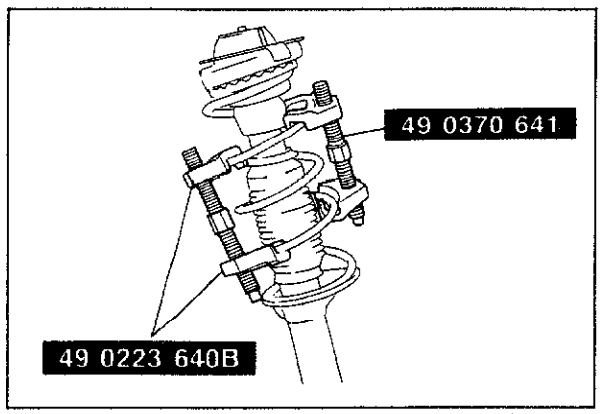
83U13X-023

1. Rubber sheet
2. Nut
3. Mounting block
4. Upper spring seat
5. Spring seat
6. Bound stopper
7. Coil spring
8. Lower spring seat
9. Shock absorber

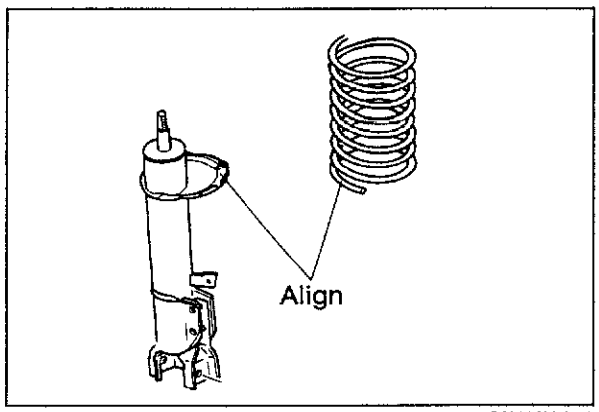


83U13X-024

1. Rubber sheet
2. Mounting block
3. Upper spring seat
4. Spring seat
5. Bound stopper
6. Coil spring
7. Lower spring seat
8. Shock absorber



83U13X-013



83U13X-014

Coil Spring
Removal:

1. Position the shock absorber mount in a vice.

Caution
Insert copper or aluminum plates between the part and the jaws of the vise.

2. Loosen the piston rod upper nut several turns, but do not remove.

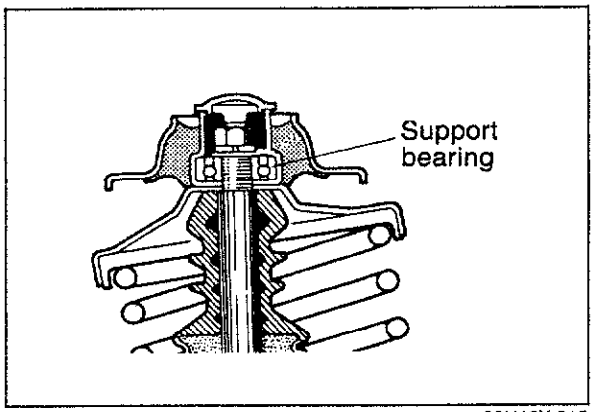
Caution
Do not remove the nut.

3. Compress the coil spring with the **SST** and then remove the nut.
4. Remove the coil spring.

Installation:

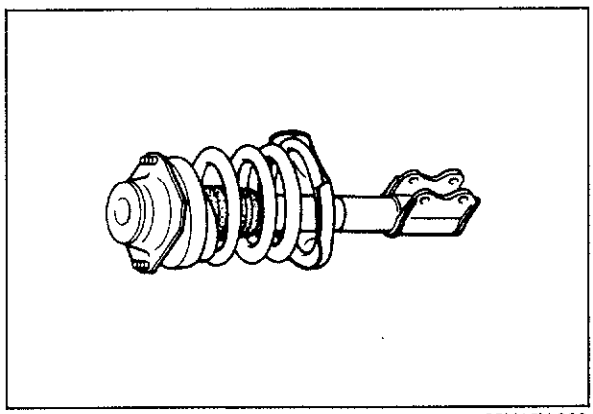
1. Compress the coil spring using **SST**.
2. Install the mounting block in the vise.
3. Tighten the piston rod upper nut.
4. Remove the **SST**.

Caution
Check that the spring is well seated in the upper seat and lower seat.



83U13X-015

Mounting Block
Apply grease to the support bearing of the mounting block before installation.



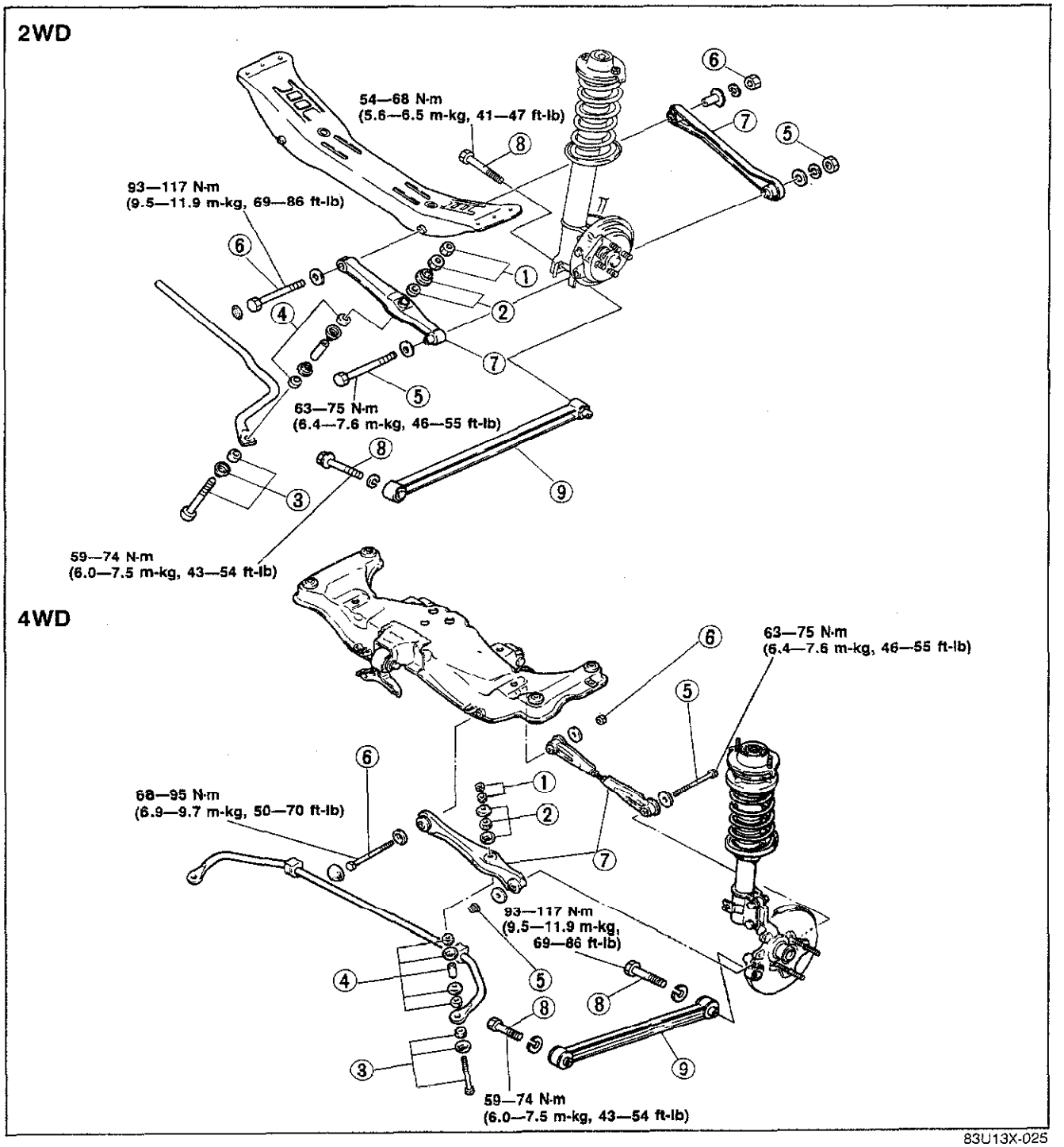
63U13X-009

INSPECTION
Check the following points, repair or replace if necessary.
1. Oil leakage or abnormal noise from the shock absorbers.
2. Loose installation nuts or bolts of the shock absorbers.
3. Deterioration or damage of the mounting block; bearing looseness.
4. Wear or damage of the bound stopper.

LATERAL LINK AND TRAILING LINK

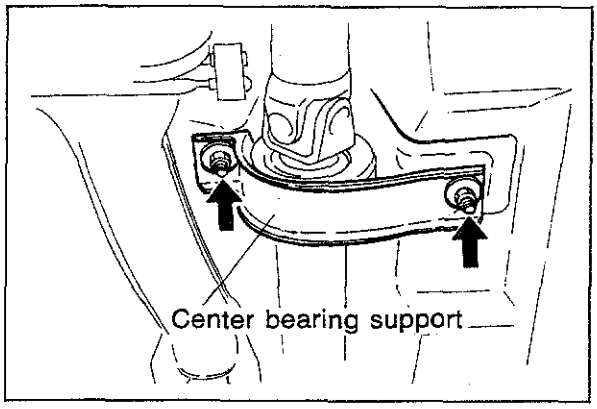
REMOVAL AND INSTALLATION

1. Jack up the rear of the vehicle and support it with safety stands.
2. Remove the parts in the numbered sequence shown in the figure.
3. Install in the reverse order of removal.



83U13X-025

1. Nut
2. Bushing and retainer
3. Retainer, bushing and bolt
4. Retainer, bushing and spacer
5. Bolt and nut
6. Bolt, nut and spacer
7. Lateral link
8. Bolt
9. Trailing link



83U13X-026

Crossmember

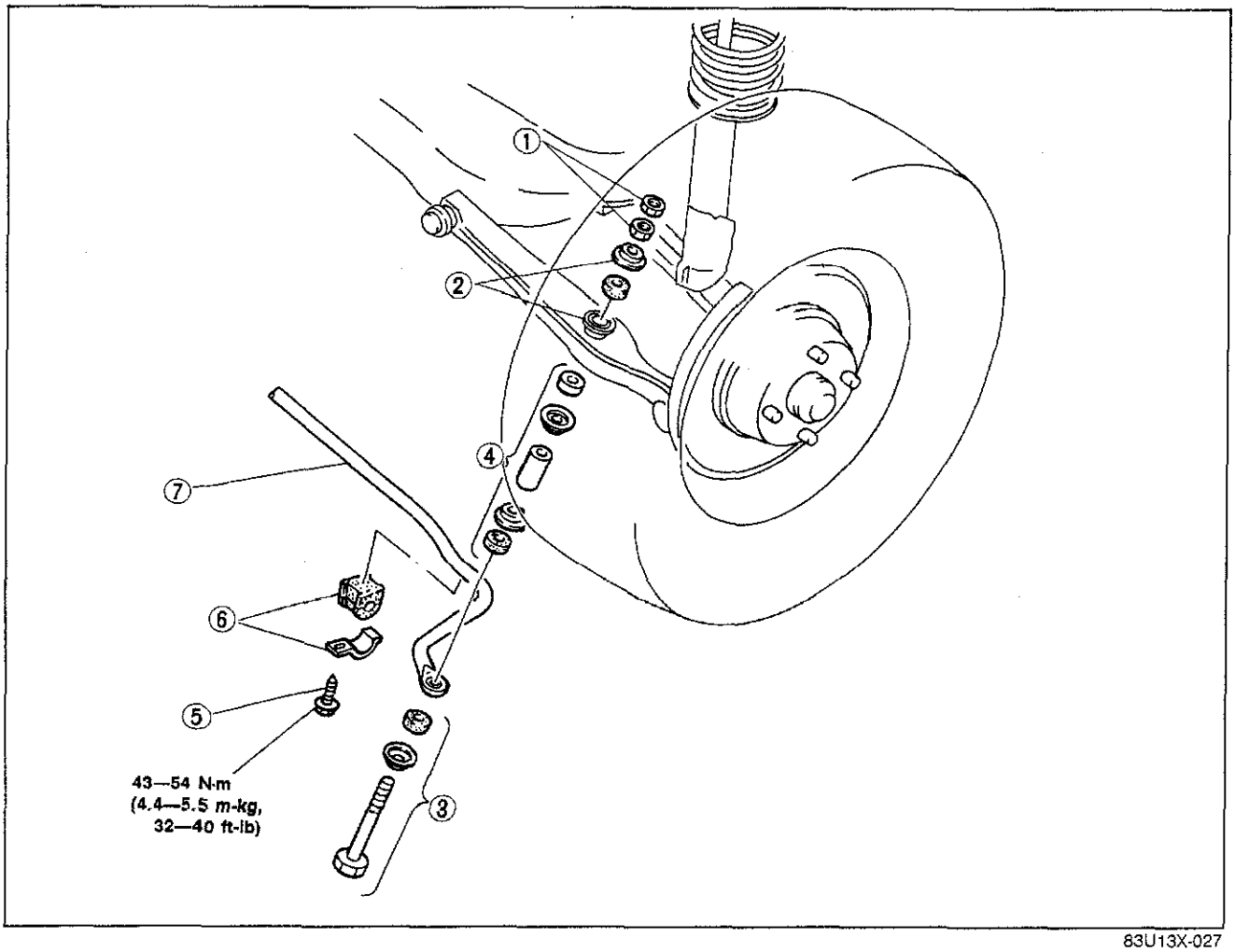
Before lowering the crossmember, remove the following parts.

1. Brake pipe clips
2. Center bearing support (4WD)
3. Main silencer hanger (4WD)

REAR STABILIZER

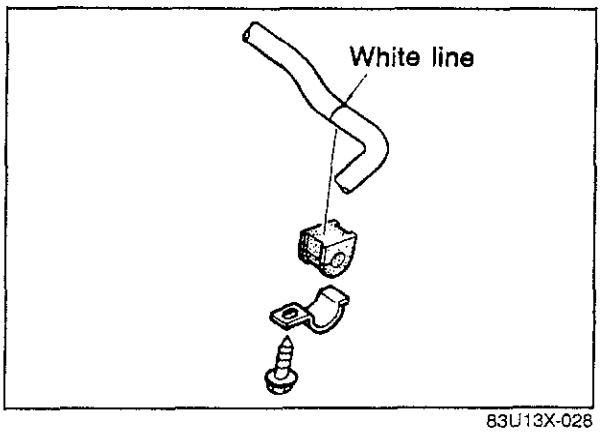
REMOVAL AND INSTALLATION

1. Jack up the rear of the vehicle and support it with safety stands.
2. Remove the parts in the numbered sequence shown in the figure.
3. Install in the reverse order of removal.



83U13X-027

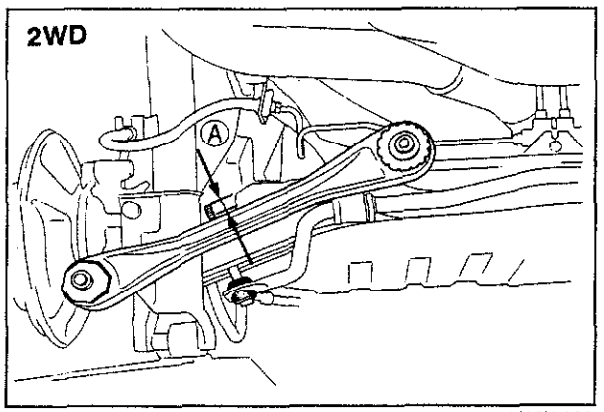
1. Nut
2. Bushing and retainer
3. Retainer, bushing and bolt
4. Retainers, bushing and spacer
5. Bolt
6. Bushing and bracket
7. Stabilizer



83U13X-028

Stabilizer Bushing and Braket

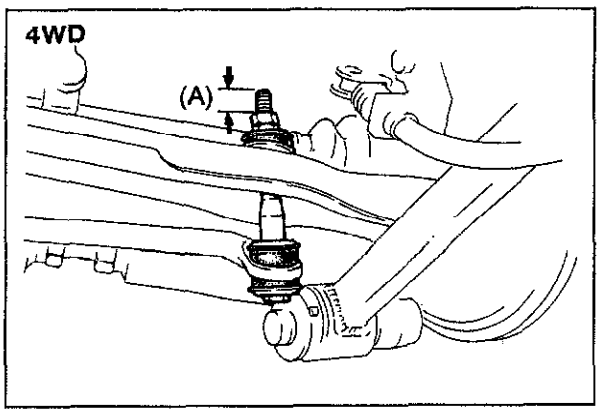
1. Install so that the bushing seam faces toward the front.
2. Align the bushing with the stabilizer painted installation mark.
3. Install the stabilizer bracket and temporarily tighten the bolt.
4. Lower the vehicle and tighten the bolts to the specified torque with the vehicle unloaded.

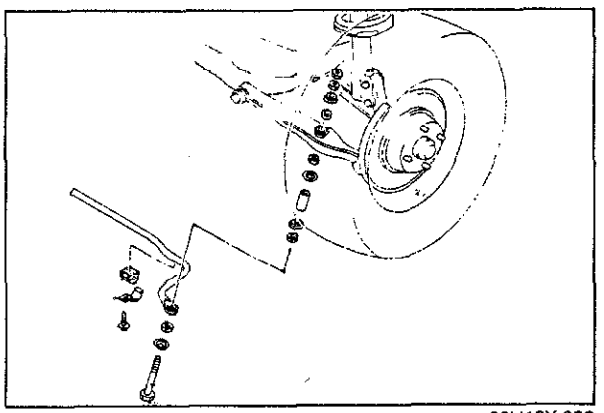


83U13X-029

Control Link

1. Install the control link to the stabilizer and temporarily tighten the bolts.
2. Lower the vehicle and tighten the nut on the stabilizer bolt so that there is **15 mm (0.59 in)....2WD, 13.4 mm (0.53 in)....4WD** of thread (A) exposed at the top of the bolt.



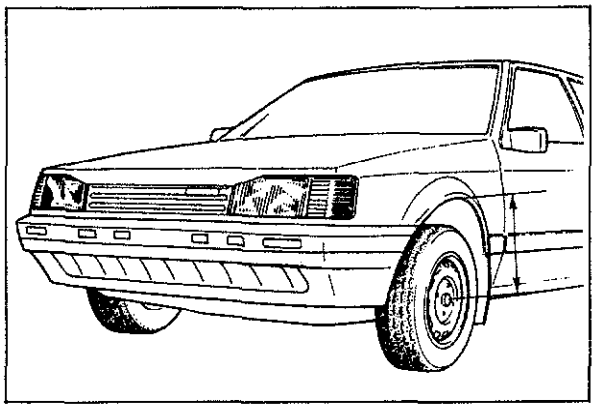


63U13X-036

INSPECTION

Check the following points, replace if necessary.

1. Worn or deteriorated rubber bushing
2. Bent, deteriorated, or damaged stabilizer

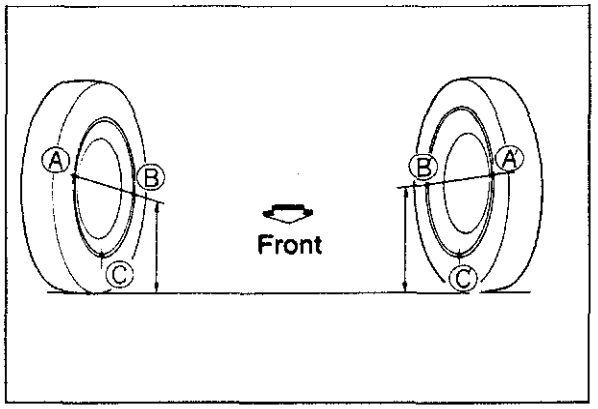


83U13X-030

REAR WHEEL ALIGNMENT

PRE-INSPECTION

1. Check the tire inflation and bring to the recommended pressure.
2. Inspect the wheel and tire runout.
3. The vehicle must be on level ground and have no luggage or passenger load.
4. Check that the suspension is correctly adjusted.
5. The difference in height from the center of the wheel to the fender brim between the left and right sides should be **15 mm (0.59 in)** max.

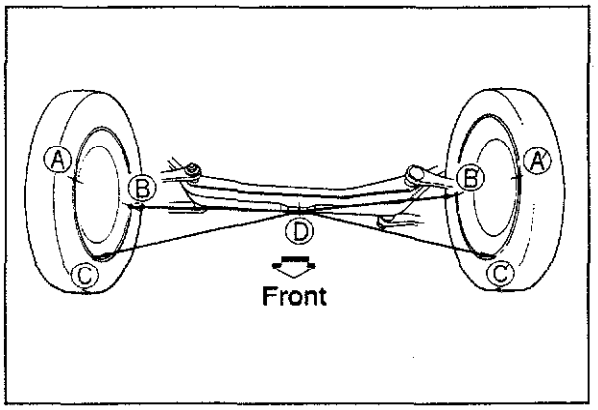


83U13X-031

TOE-IN

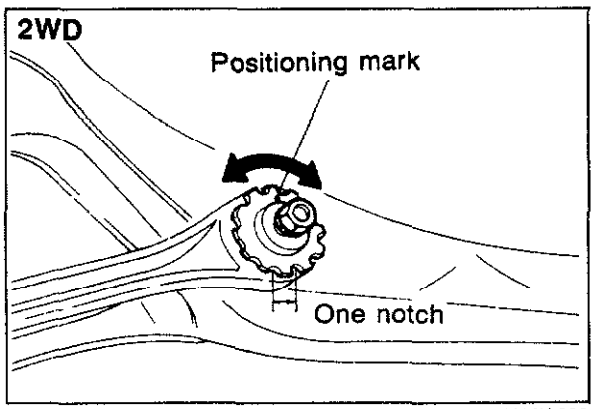
a) Pre-inspection and adjustment

1. Place the vehicle on a 4 point or over a pit.
2. Mark the AB and A'B' positions (horizontal, wheel center) of the left and right wheels, and then mark the CC' positions (vertical, center of horizontal).



83U13X-032

3. Punch marks to represent D (equidistant from C and C') on the lower part of the crossmember.
4. Measure B-D and B'-D.



83U13X-033

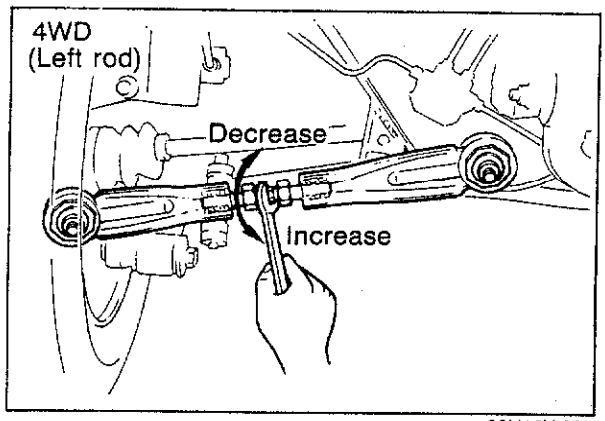
5. If the difference between B-D and B'-D is not less than 5 mm (0.2 in), adjust as follows:

2WD:

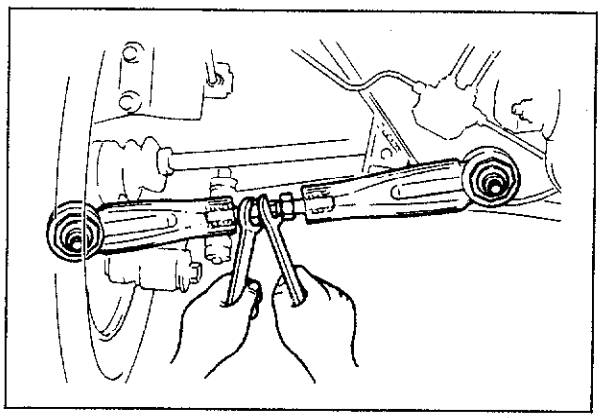
(1) Loosen the lateral link installation nut.
(2) Turn either the left or right star wheel.

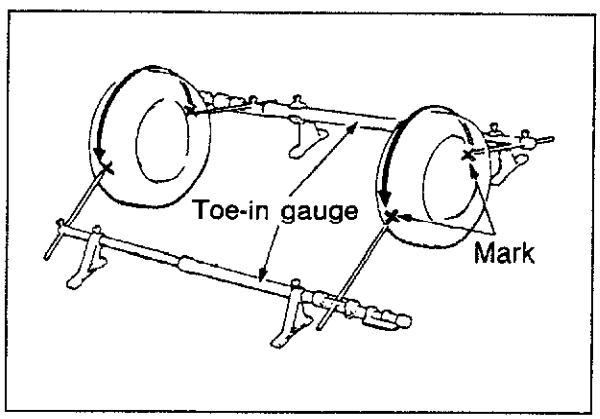
Note
The distance B-D or B'-D changes as follows.
One notch.....2.1 mm (0.083 in)
Two notches.....4.0 mm (0.157 in)
Three notches.....5.2 mm (0.205 in)

(3) After adjustment, temporarily tighten the lateral link installation nut and tighten it to the specified torque after toe-in adjustment.

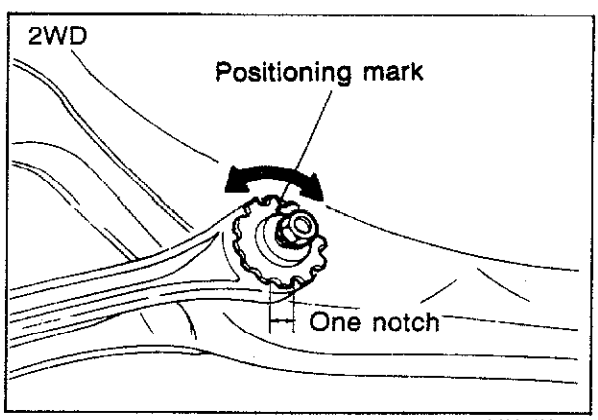


83U13X-034


83U13X-035



83U13X-036



83U13X-037

4WD

(1) Turn the right adjusting rod lock nuts clockwise and turn the left adjusting rod lock nuts counterclockwise to loosen them.

(2) To increase B—D or B'—D, turn the adjusting rods as follows:
Right rod — Turn clockwise
Left rod — Turn counterclockwise
To decrease B—D or B'—D, turn the adjusting rods as follows:
Right rod — Turn counterclockwise
Left rod — Turn clockwise

Caution
Both the left and right rods must be adjusted by the same amount.

Note
One turn of the adjusting rod (both sides) changes the B—D or B'—D by about 5.6 mm (0.22 in)

(3) Temporarily tighten the adjusting locknuts and tighten them after adjusting the toe-in.

Inspection

1. Raise the rear of the vehicle until the wheels clear the ground.
2. Turn the wheels by hand, and mark a line in the center of each tire tread using a scribing block.
3. Lower the vehicle.
4. Measure the distance between the marked lines at the front and rear of the wheels.

Toe-in: 0 $^{+5}_{0}$ (0 $^{+0.20}_{0}$ in)

Adjustment

If the toe-in amount is not within specification, adjust as follows:

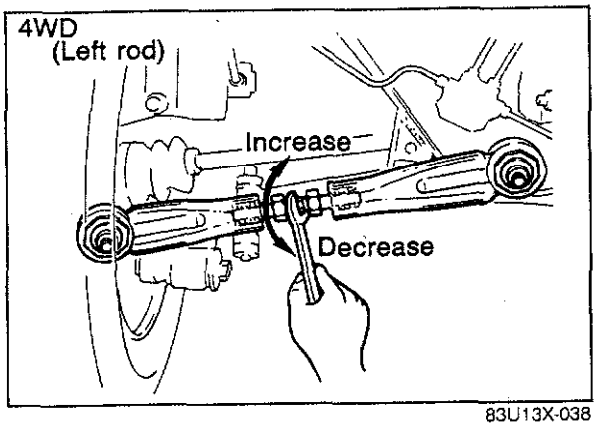
2WD:

(1) Loosen the lateral link installation nut.

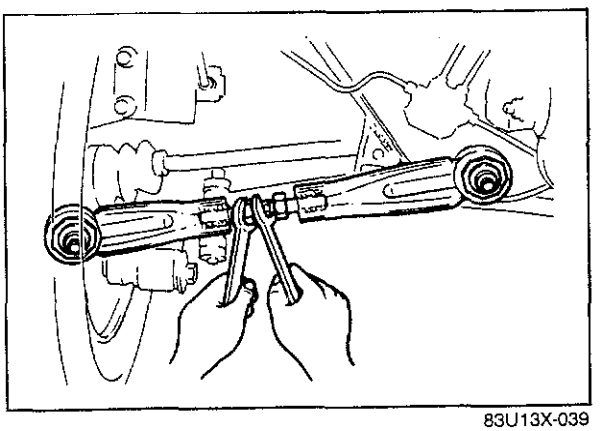
(2) Turn the left and right star wheels in the same direction.

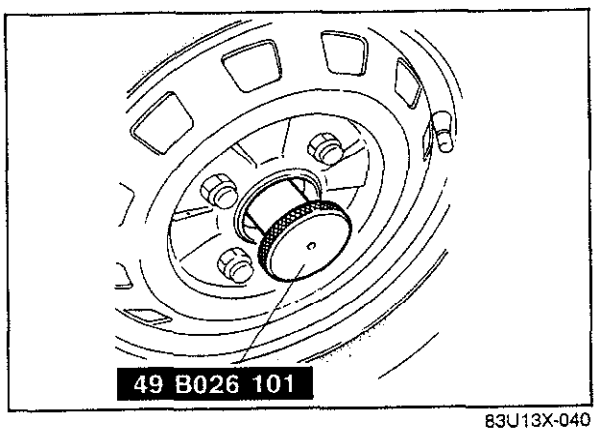
Note
The toe-in amount changes as follows:
One notch.....2.1 mm (0.083in)
Two notches.....4.0 mm (0.157 in)
Three notches.....5.2 mm (0.205 in)

(3) After adjustment, tighten the lateral link installation nut to the specified torque (See page 13—19).



83U13X-038


83U13X-039



83U13X-040

4WD:

(1) Loosen the adjusting rod lock nuts, then adjust the toe-in.

(2) To increase the toe-in, turn the adjusting rods as follows:
Right rod — Turn counterclockwise
Left rod — Turn clockwise
To decrease the toe-in, turn the adjusting rods as follows:
Right rod — Turn clockwise
Left rod — Turn the rod counterclockwise

Caution
Both the left and right rods must be adjusted by the same amount.

Note
One turn of the adjusting rod (both sides) changes the toe-in by about 5.6 mm (0.22 in).

(3) Tighten the adjusting rod lock nuts to the specified torque.

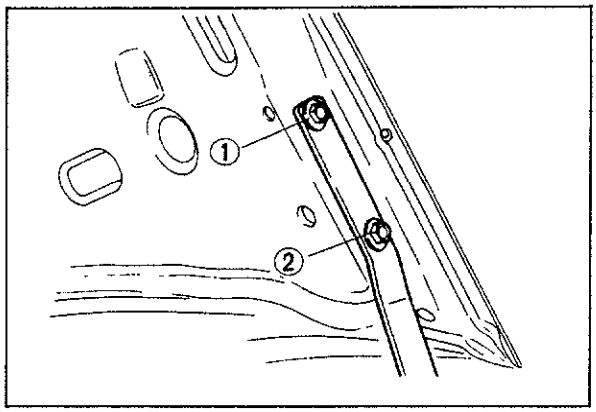
Tightening torque:
55—64 N·m (5.6—6.5 m-kg, 41—47 ft-lb)

CAMBER
Inspection
The right rear hub spindle nut is a left-hand thread, thus **SST** (49 B026 101) is used for the right side. Use **SST** (49 8531 605) for the left side.

Camber angle: 2WD: 0° $\pm^{70'}_{20'}$
4WD: -0°26' ± 45'

BODY

83U14X-001

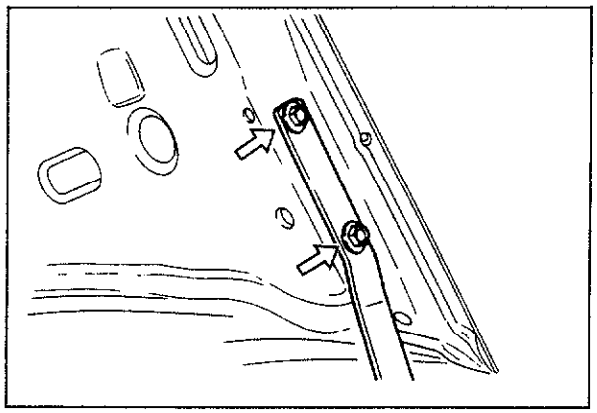


63U14X-002

HOOD

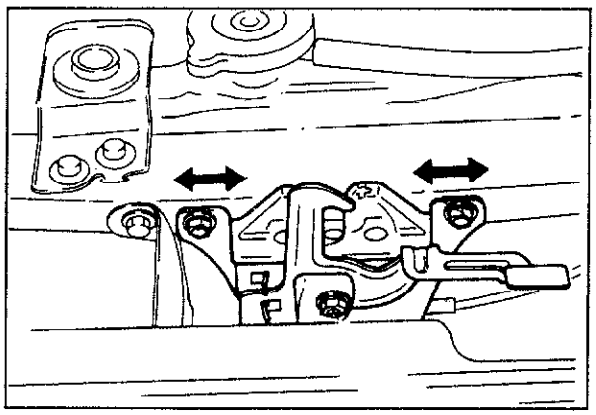
REMOVAL AND INSTALLATION

1. Remove the hood following the numbered order.
2. Mark the hood hinge locations on the hood for proper reinstallation.
3. Install the hood in the reverse order of removal. Adjust the hood if necessary.

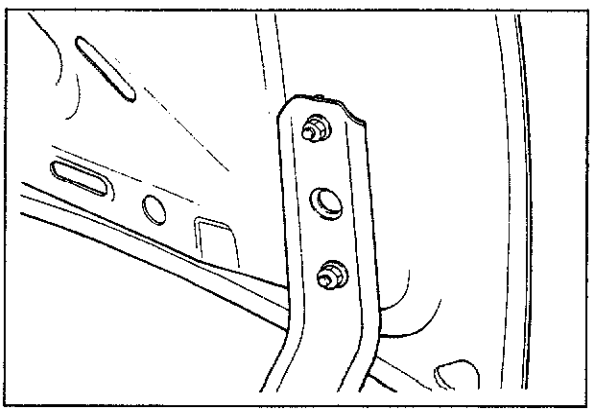

63U14X-003

ADJUSTMENT

1. Adjust the hood fore-and-aft and side-to side by loosening the nuts attaching the hood to the hinge and repositioning the hood


63U14X-004

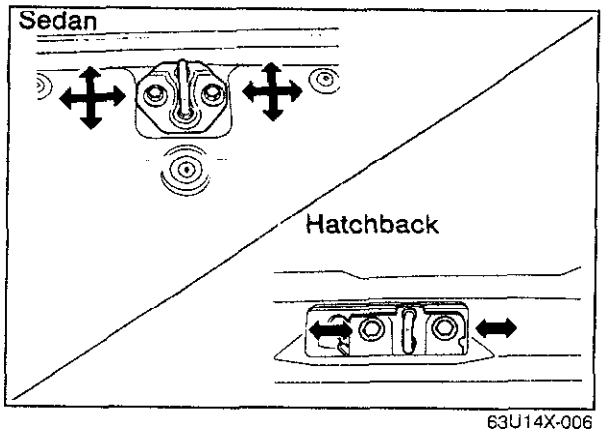
2. Adjust the hood lock after the hood has been aligned. The hood lock can be moved up-and-down and side-to-side. Align it with the striker on the hood by loosening the attaching bolts.


63U14X-005

TRUNK LID

REMOVAL AND INSTALLATION

1. Remove the trunk lid installation nuts, and then remove the trunk lid.
2. Installation is the reverse order of removal.
3. When installing, first temporarily tighten the nuts, and then tighten fully after adjusting the alignment with the body.

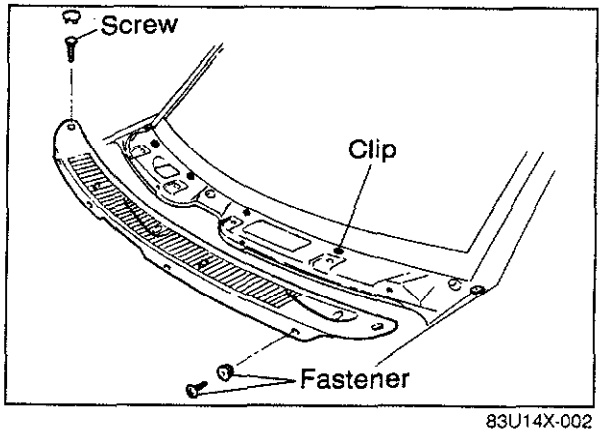


63U14X-006

TRUNK LID STRIKER

ADJUSTMENT

Adjust the striker by loosening the installation bolts.

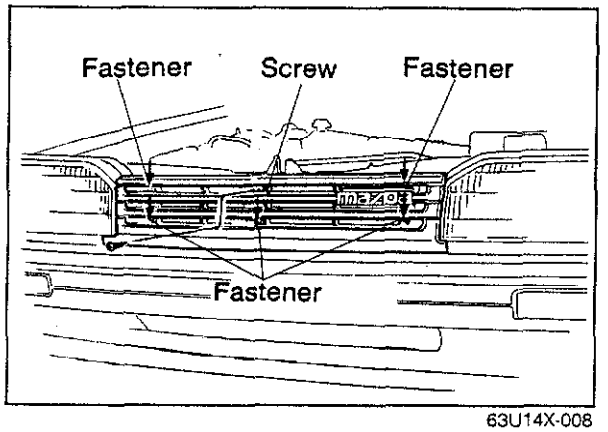


83U14X-002

COWL PLATE

REMOVAL AND INSTALLATION

1. Remove the windshield wiper arms.
2. Remove the cowl plate installation screws and fasteners.
3. Open the tabs of the clips with a small screwdrivers: then remove the cowl plate.
4. Install in the reverse order of removal.

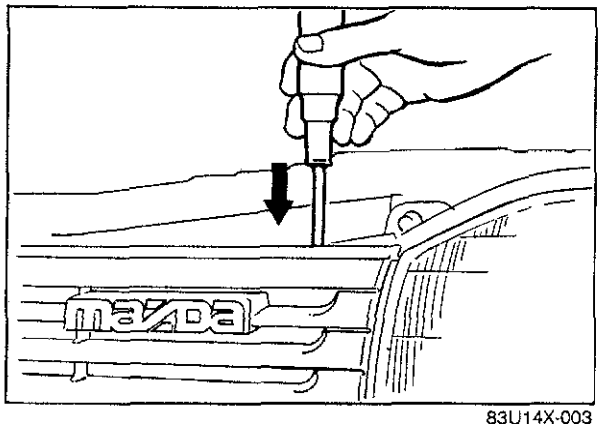


63U14X-008

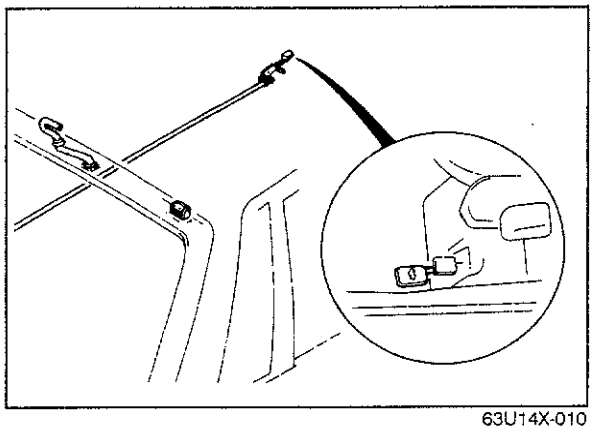
RADIATOR GRILLE

REMOVAL AND INSTALLATION

1. Remove the radiator grille installation screw.


83U14X-003

2. Open the tabs of the fasteners with a small screwdriver; and then remove the radiator grille.
3. When installing, insert the fasteners into the grille, and then press them in after aligning them with the installation holes on the body.

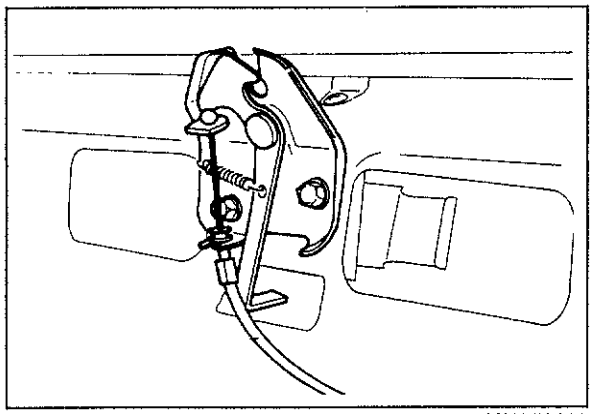


63U14X-010

TRUNK LID REMOTE RELEASE, FUEL FILLER LID REMOTE RELEASE

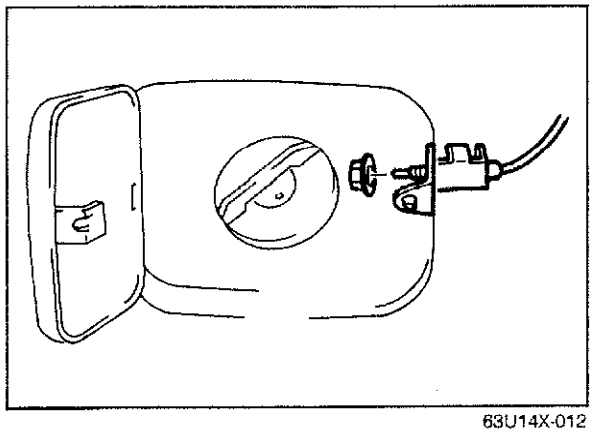
REMOVAL AND INSTALLATION

1. Remove the installation bolt, and then disconnect the trunk lid and fuel lid release wires.



63U14X-011

2. Disconnect the release wire from the trunk lid lock.



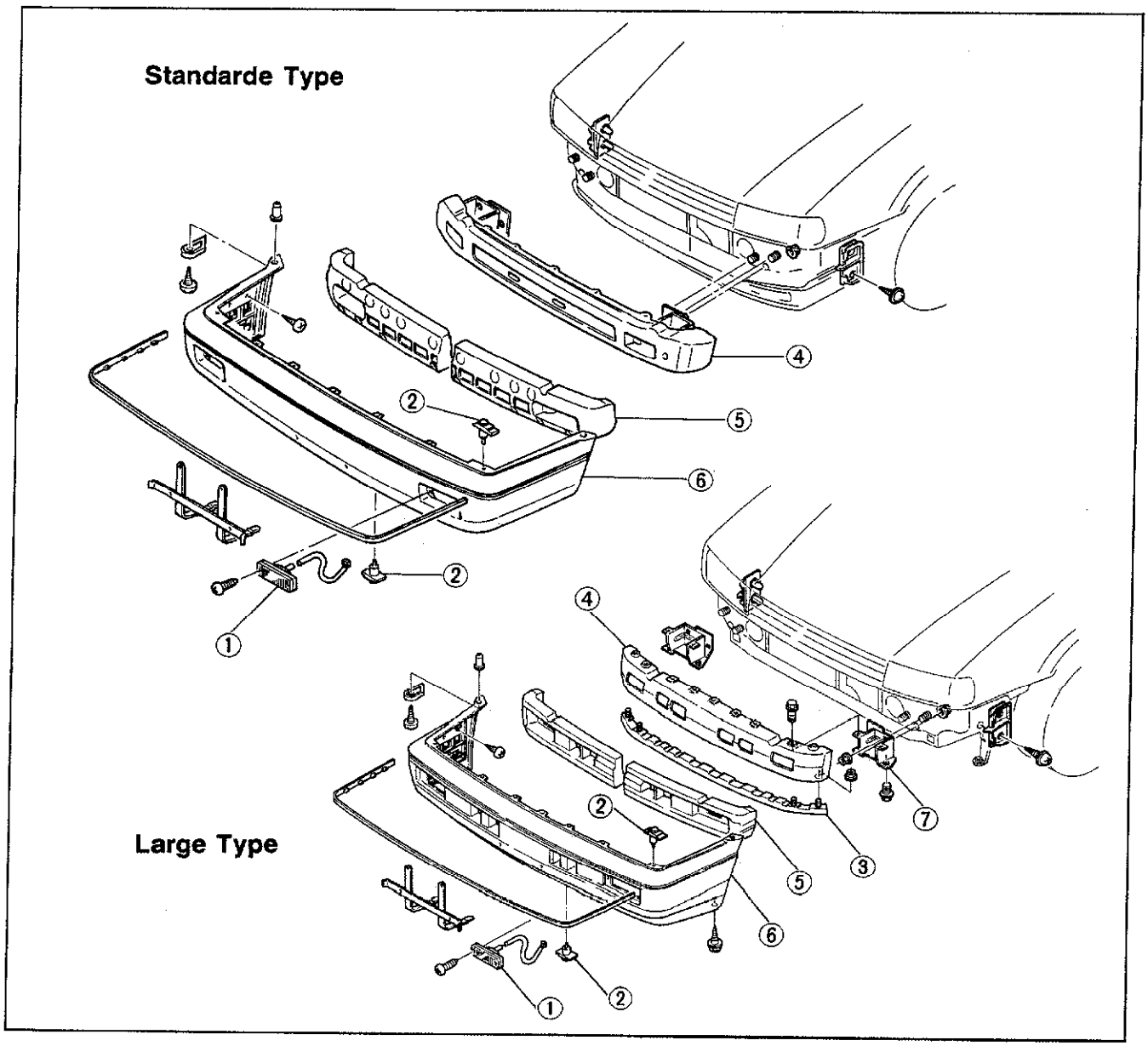
63U14X-012

3. Open the fuel filler lid, remove the installation nut, and then remove the fuel lid opener assembly. Disconnect the release wire from the opener assembly.
4. Install in the reverse order of removal.

FRONT BUMPER

REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure, referring to the removal note.
3. Install in the reverse order of removal.



83U14X-004

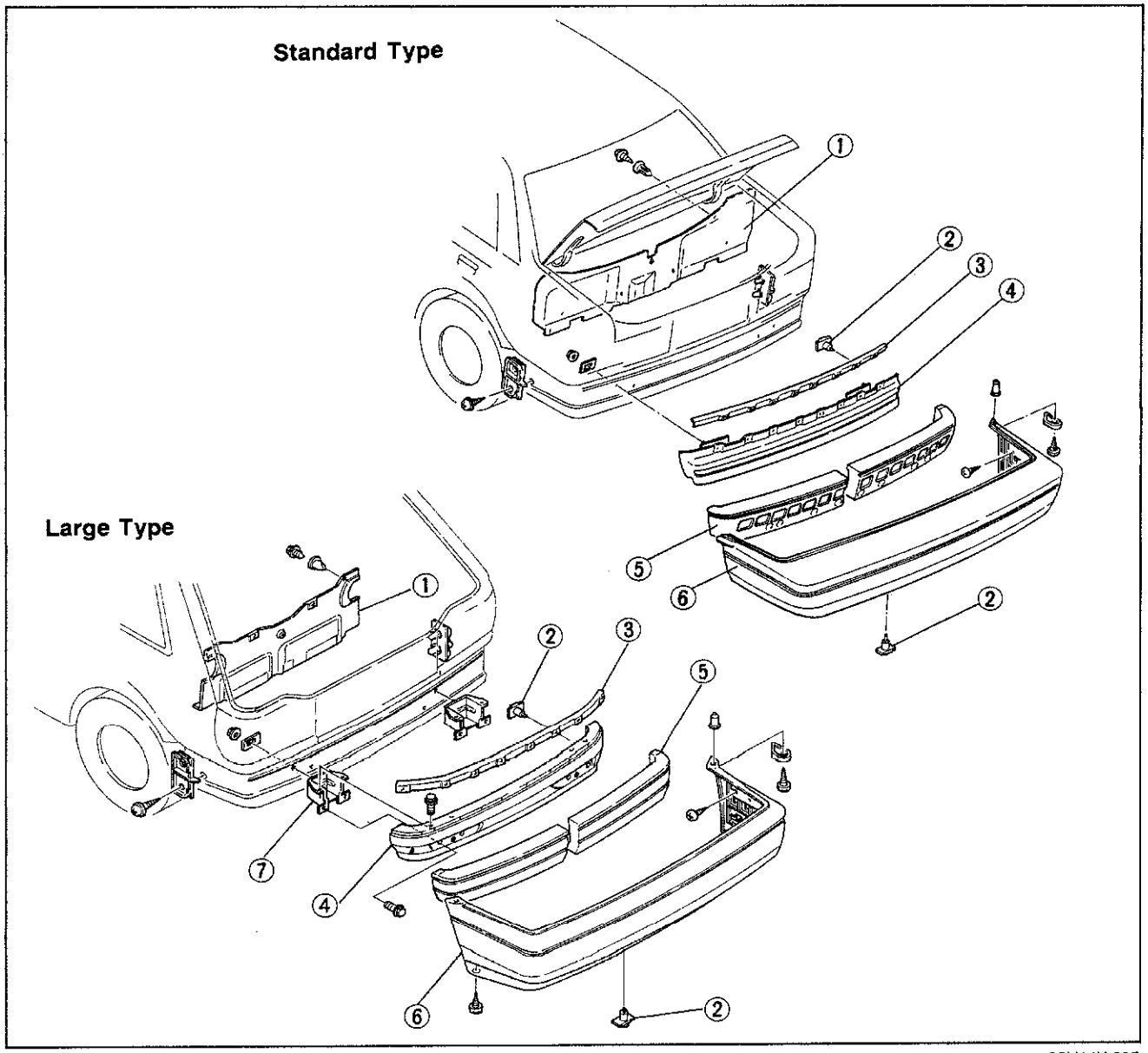
1. Front turn signal light
2. Fastener
3. Retainer
4. Bumper reinforcement
5. Energy absorbing foam
6. Bumper face
7. Bumper stay

Removal Note
When removing the front bumper, remove the headlight first. (Refer to page 14—7)

REAR BUMPER

REMOVAL AND INSTALLATION

1. Remove the parts in the sequence shown in the figure.
2. Install in the reverse order of removal.



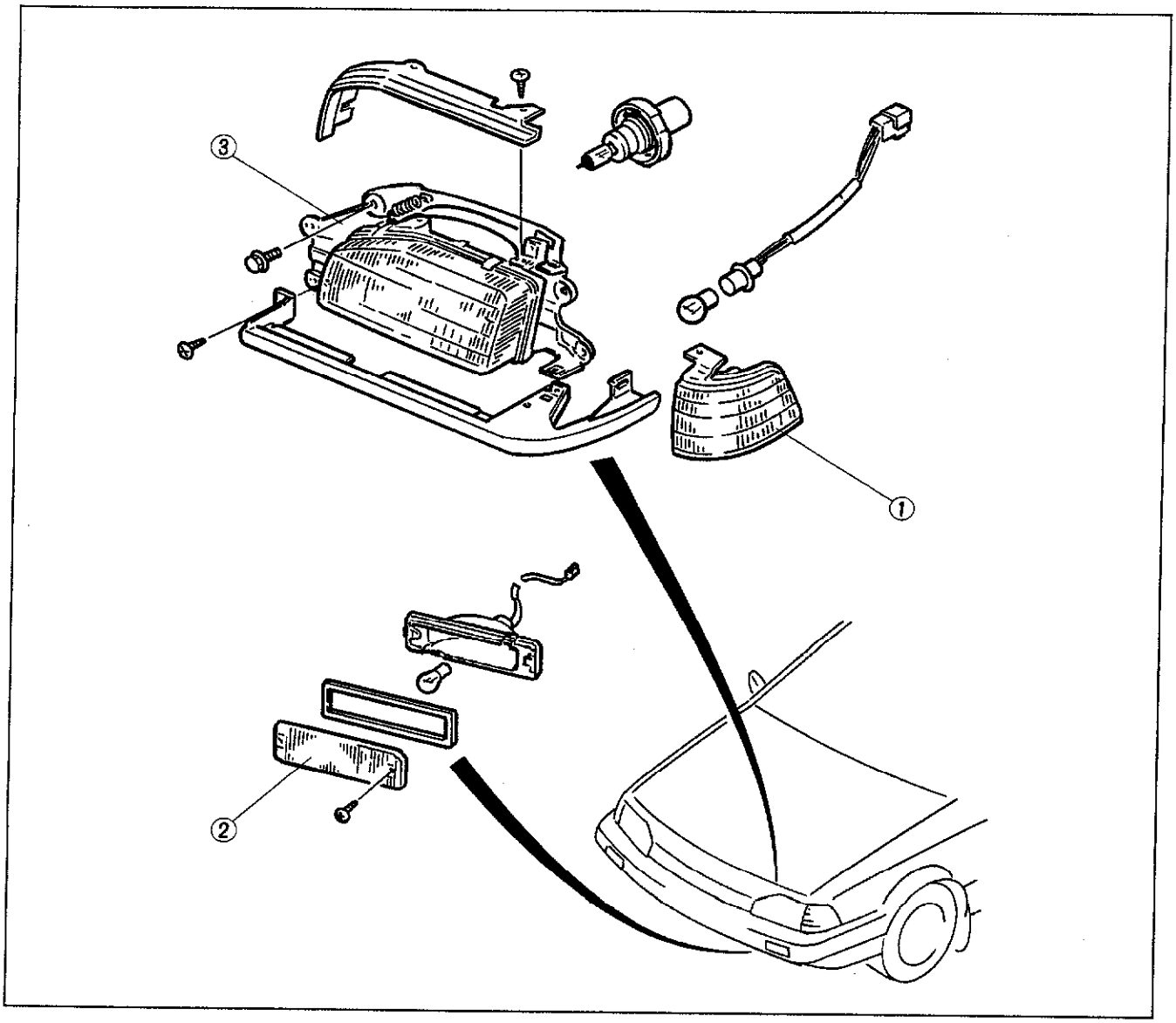
83U14X-005

1. Trim
2. Fastener
3. Retainer
4. Bumper reinforcement
5. Energy absorbing foam
6. Bumper face
7. Bumper stay

HEADLIGHT AND COMBINATION LIGHT

REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure, referring to the removal note.
3. Install in the reverse order of removal



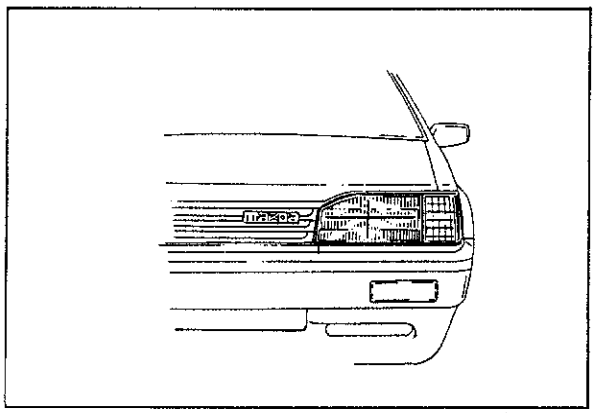
83U14X-006

1. Combination light 2. Turn and hazard light 3. Headlight

Light	Wattage (Bulb Trade Number)
Headlight (Halogen)	65/45 (9004)
Front turn signal light	27 (1156)
Front side marker and parking light	8 (67)

Removal Note

When removing the headlight, remove the radiator grille first. (Refer to page 14—3)

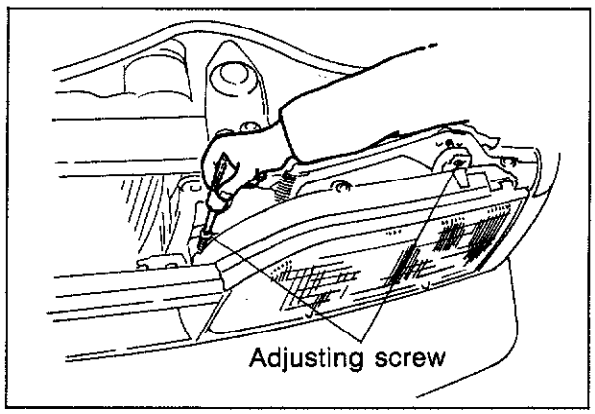


73U14X-003

HEADLIGHT AIMING

Preparation

1. Adjust the tires to the standard pressure.
2. Position the vehicle on a flat level surface (unloaded condition).



73U14X-004

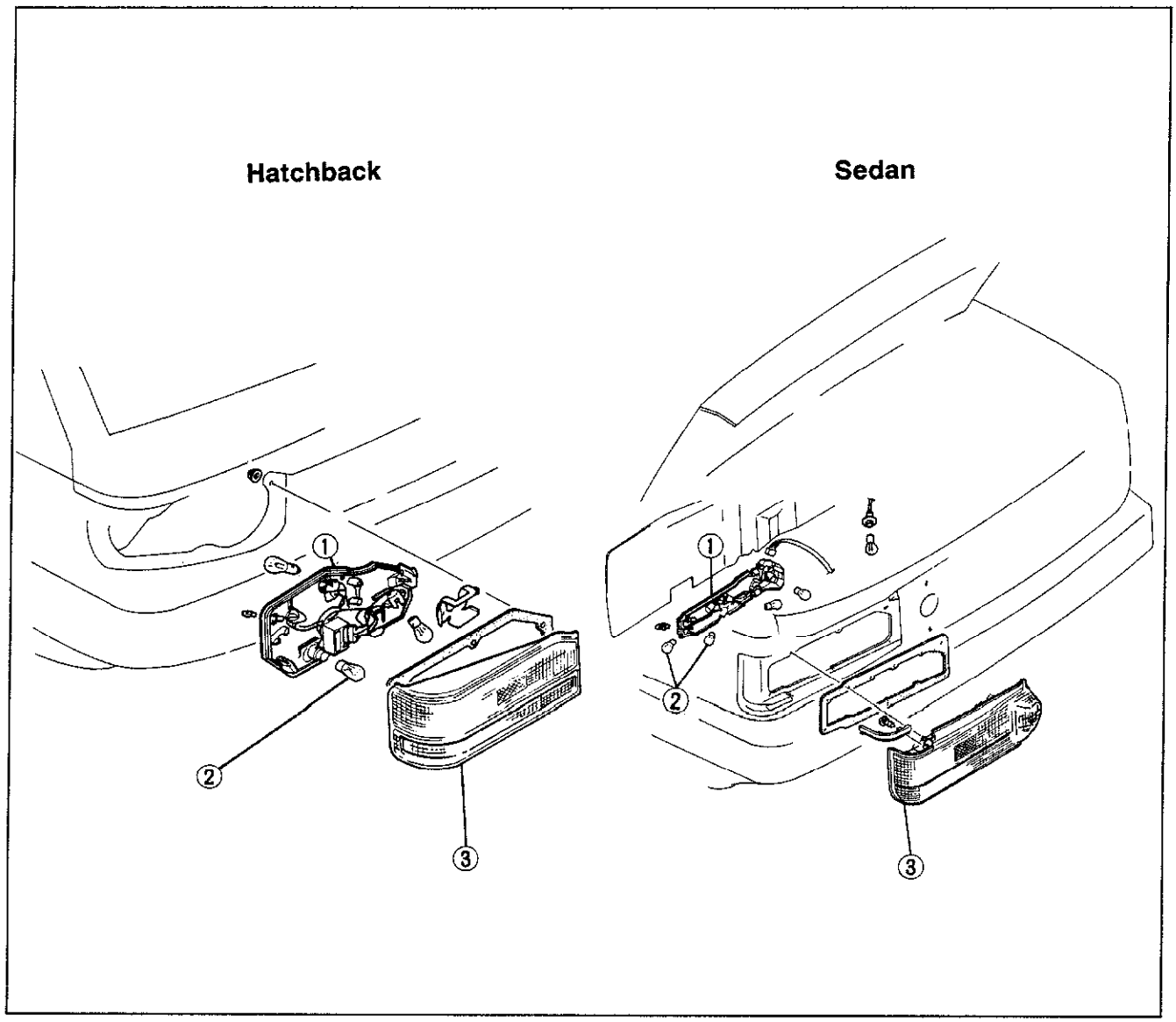
Adjustment

Adjust the headlights to meet the local regulations. To adjust, turn the two adjusting screws.

REAR COMBINATION LIGHT

REMOVAL AND INSTALLATION

1. Disconnect the negative battery cable.
2. Remove the parts in the sequence shown in the figure, referring to the removal note.
3. Install in the reveres order of removal.



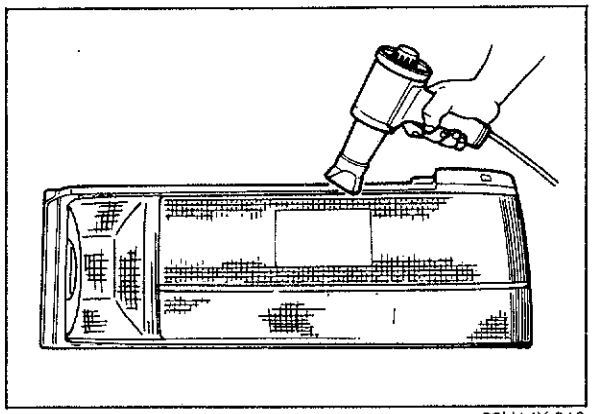
83U14X-007

1. Cover 2. Bulb 3. Lens

Light	Wattage (Bulb Trade Number)
Turn signal lights	27 (1157 NA)
Stop and tail lights	27/8 (1157)
Side marker lights	4.9 (168)
Back-up lights	27 (1156)
License plate lights (For sedan)	8 (67)

Removal Note

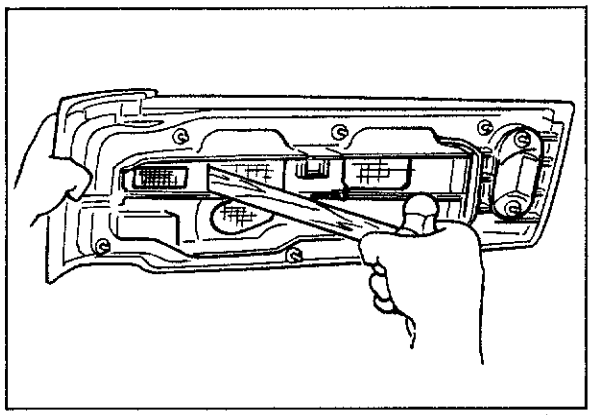
When removing the combination light from the hatchback model, remove the license plate light first. (Refer to page 14—13)



63U14X-018

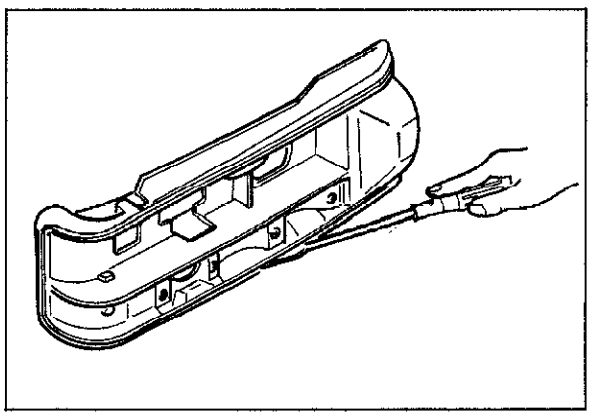
REPLACEMENT OF COMBINATION LIGHT LENS

1. Use a blow dryer to soften the "hot melt" (bonding agent) around the lens to be replaced.



63U14X-019

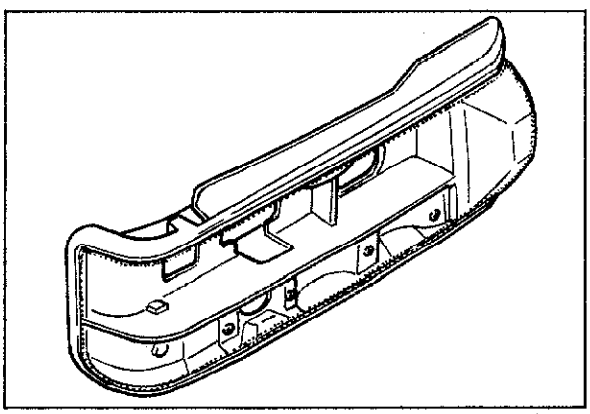
2. Remove the lens from the light housing by pushing the rear of the lens with a hammer handle or round bar.



63U14X-020

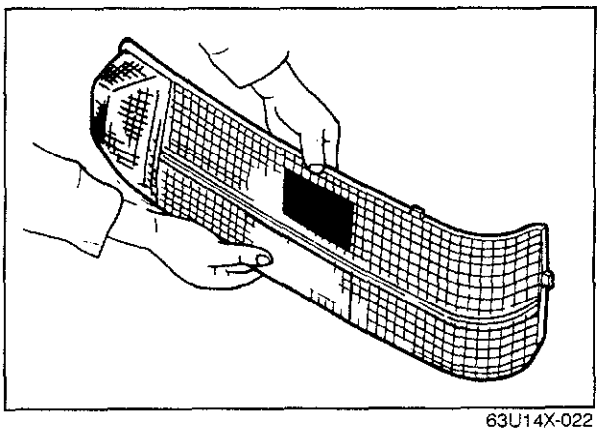
3. While heating the light housing, remove the "hot melt" and any remaining fragments of the lens.

Note
The "hot melt" should be reused if possible.



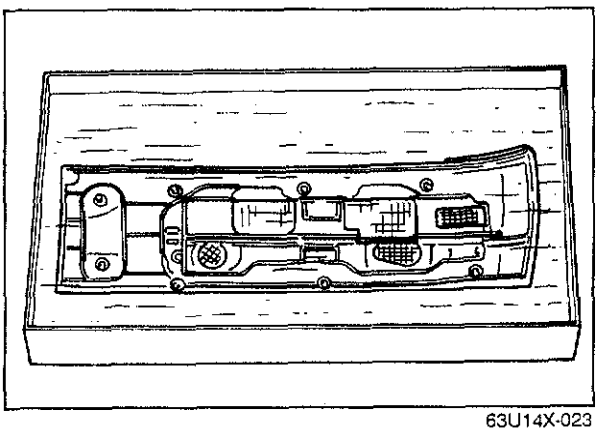
63U14X-021

4. If the hot melt is not being reused, put **Uni-sealer** (8531 77 739) in the light housing groove for adhesive, and press the light housing in gently.



63U14X-022

5. Fit the new lens to the light housing, and press the lens firmly so that it will adhere.



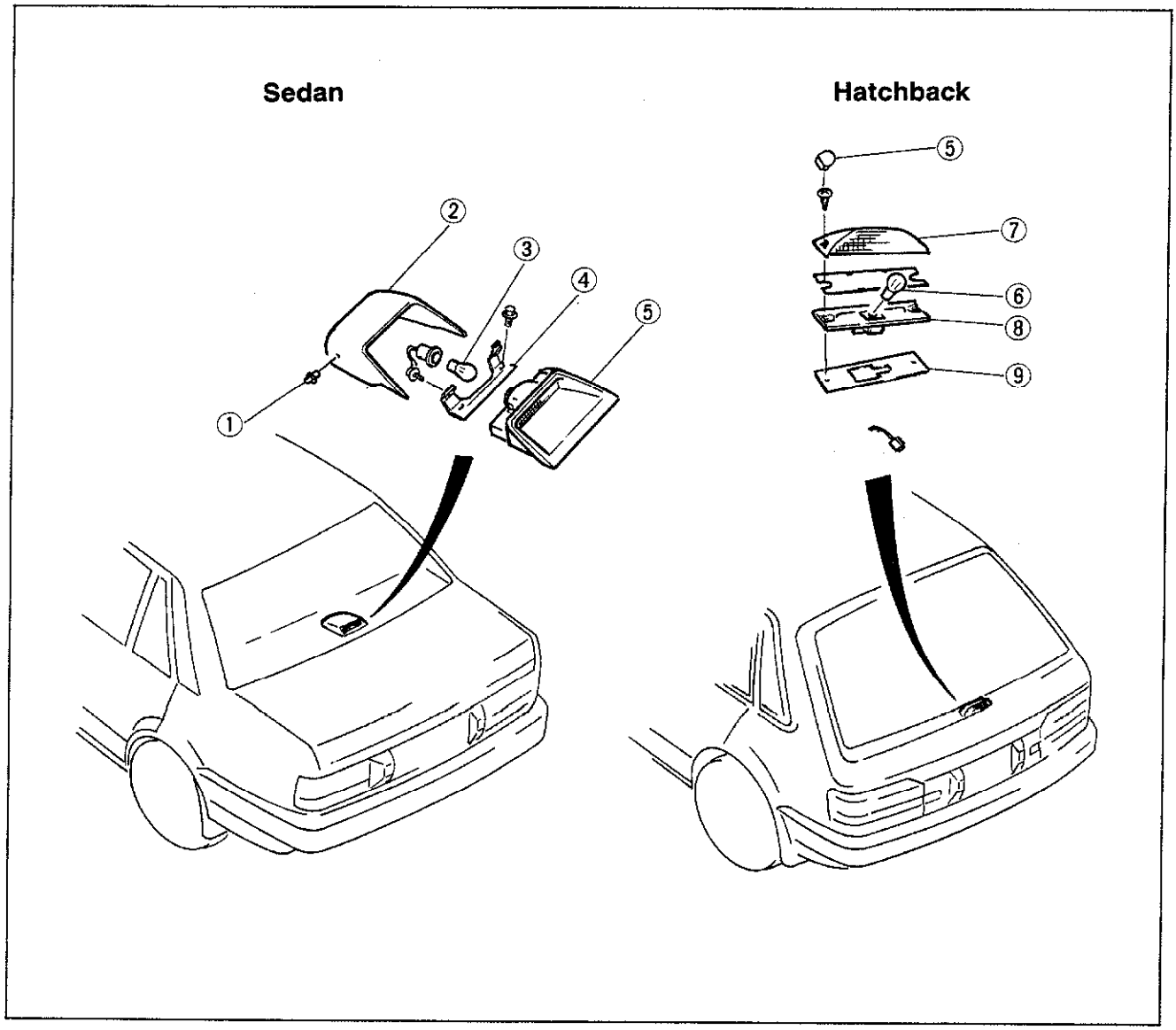
63U14X-023

6. Immerse the combination light in water to check for leaks.

HIGH MOUNTED STOP LIGHT

REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reveres order of removal.



83U14X-008

1. Clip
2. Cover
3. Bulb (Sedan)
4. Bracket
5. Lens
6. Bulb (Hatchback)
7. Gasket
8. Housing
9. Protector

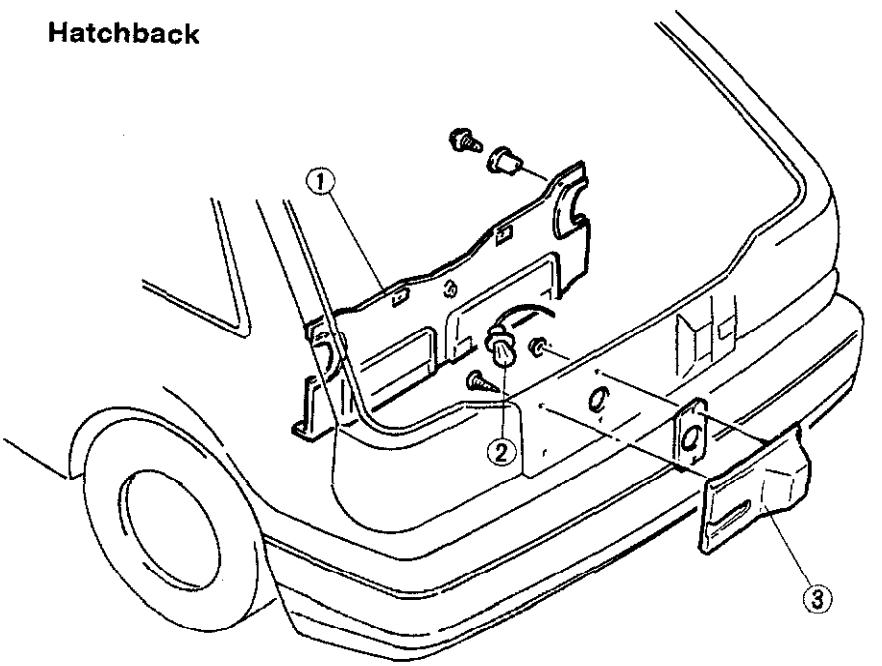
Light	Wattage (Bulb Trade Number)
High mounted stop light	18.4 (1141)

LICENSE PLATE LIGHT

REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reveres order of removal.

Hatchback



Sedan (in rear combination light)
Refer to page 14—9

83U14X-009

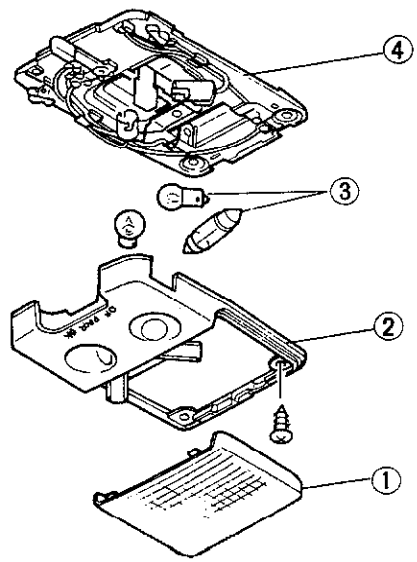
1. Trim
2. Bulb
3. Housing

Light	Wattage (Bulb Trade Number)
License plate light	8 (67)

INTERIOR LIGHT

REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reveres order of removal.



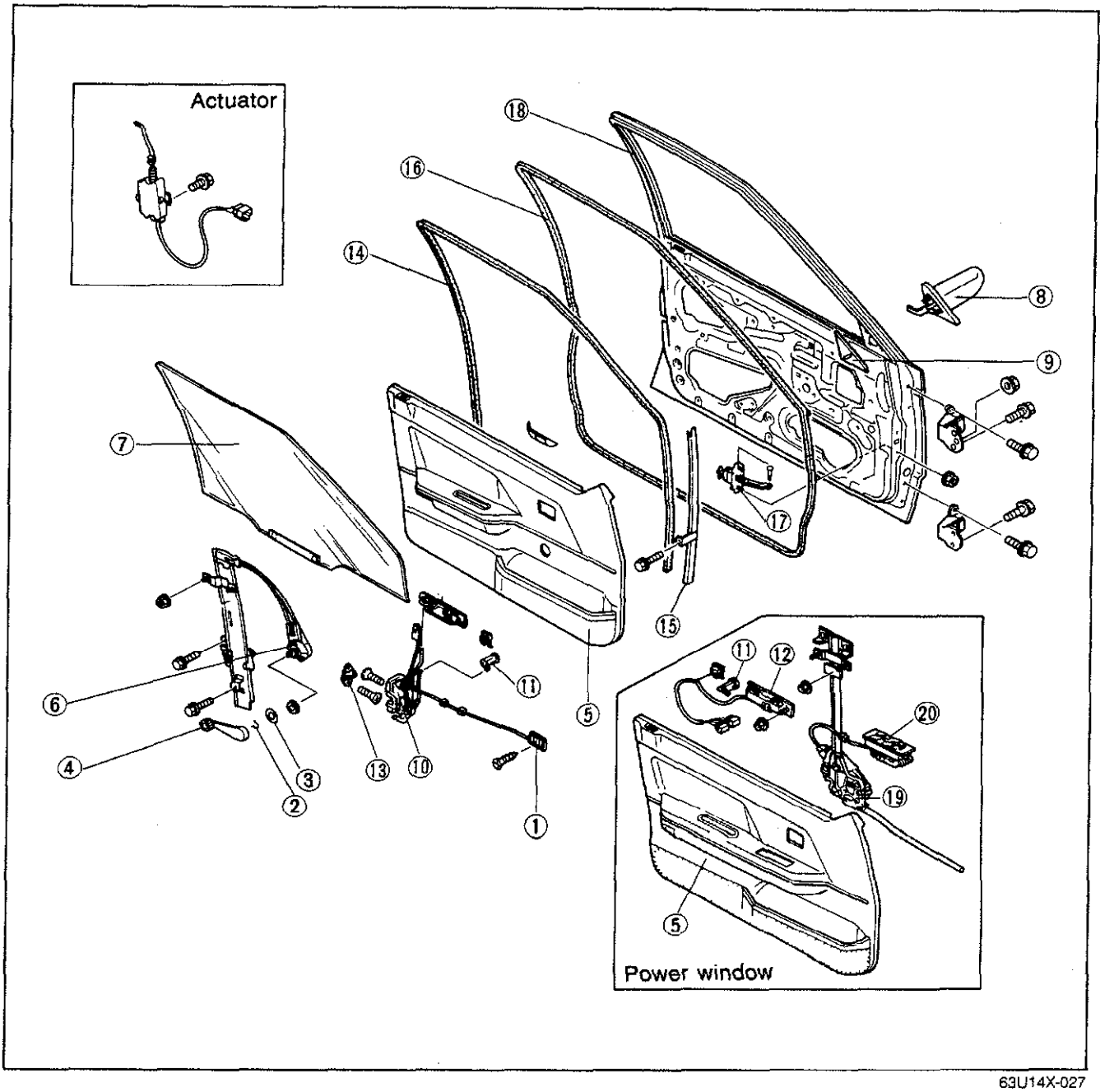
83U14X-010

1. Lens
2. Cover
3. Bulb
4. Body

Light	Wattage
Interior light	10
Map light	6

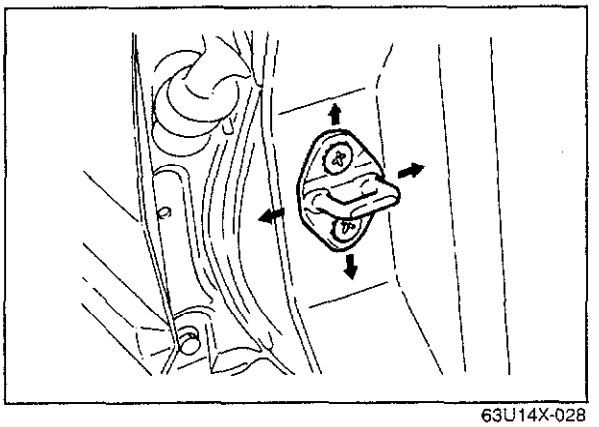
FRONT DOOR

STRUCTURAL VIEW



63U14X-027

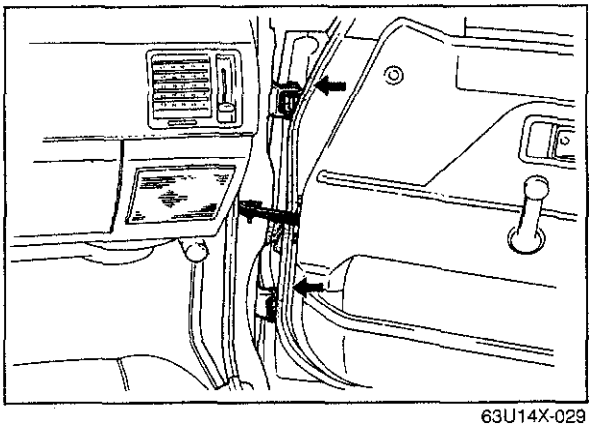
1. Inner handle cover
2. Snap ring
3. Escutcheon
4. Regulator handle
5. Door trim
6. Regulator
7. Glass
8. Mirror
9. Sail inner garnish
10. Door lock
11. Key cylinder
12. Outer handle
13. Striker
14. Glass channel
15. Glass guide
16. Weatherstrip
17. Door checker
18. Door
19. Power window regulator
20. Power window switch


63U14X-028

ADJUSTMENT

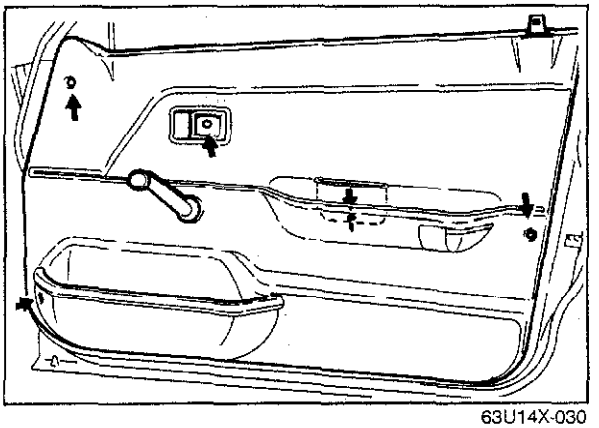
Door Lock Striker

1. Check whether the door can be closed easily and whether there is any play. If there is a problem loosen the striker installation screws and adjust it by moving the striker up and down or side to side.
2. Check the rear offset of the door to the body. If there is a problem adjust it by moving the door lock striker side to side.


63U14X-029

Door Hinges

1. Open the door. If there is play in the hinges, tighten the door hinge installation bolts (arrows).
2. To adjust the door-to-body offset, loosen the door hinge installation bolts and make the adjustment.

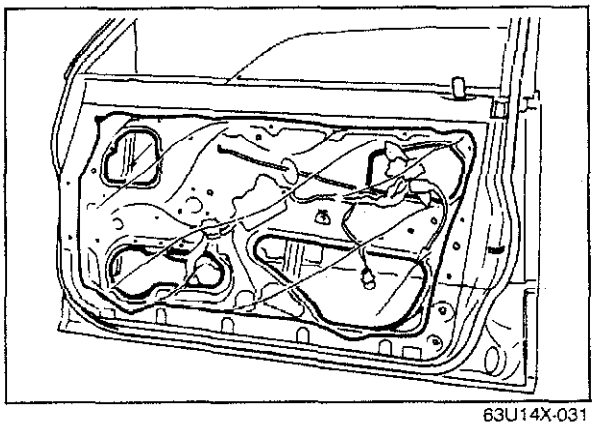

63U14X-030

FRONT DOOR GLASS AND REGULATOR

REMOVAL

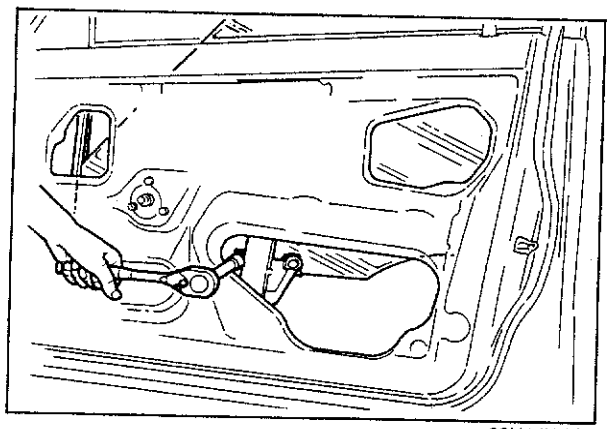
1. Remove the inner handle cover, the regulator handle, and the door trim (arrows).

Note
For vehicles with power windows, disconnect the power window connector.

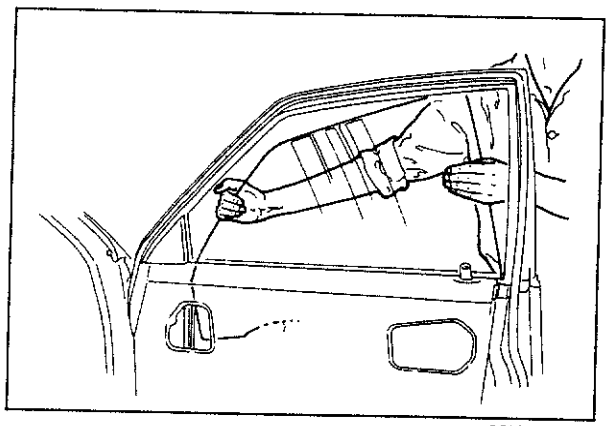

63U14X-031

2. Peel off the door screen.

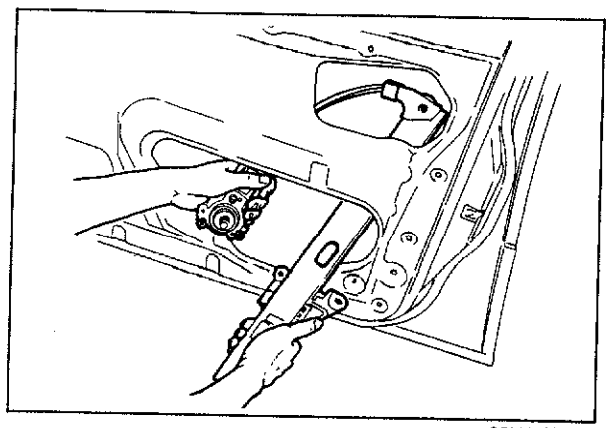
Caution
Peel the screen off carefully so that it can be reused.


63U14X-032

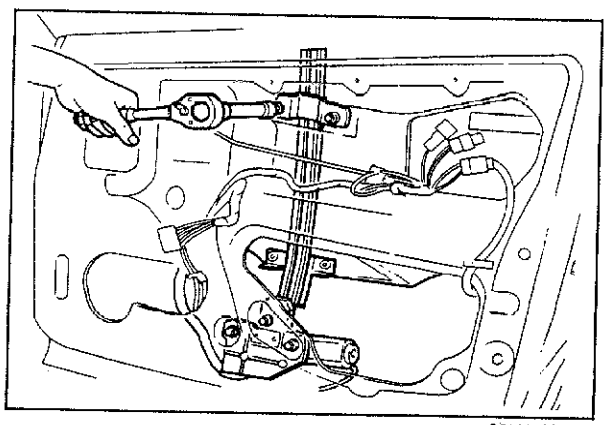
3. Position the door glass so that the installation bolts can be removed from the service hole.
4. Remove the door glass installation bolts.


63U14X-033

5. Remove the door glass upward.


63U14X-034

6. Remove the regulator installation bolts, and then remove the regulator through the service hole.
7. Remove the window motor mounting bolts, then remove the motor from the regulator (power window).


63U14X-035

INSTALLATION

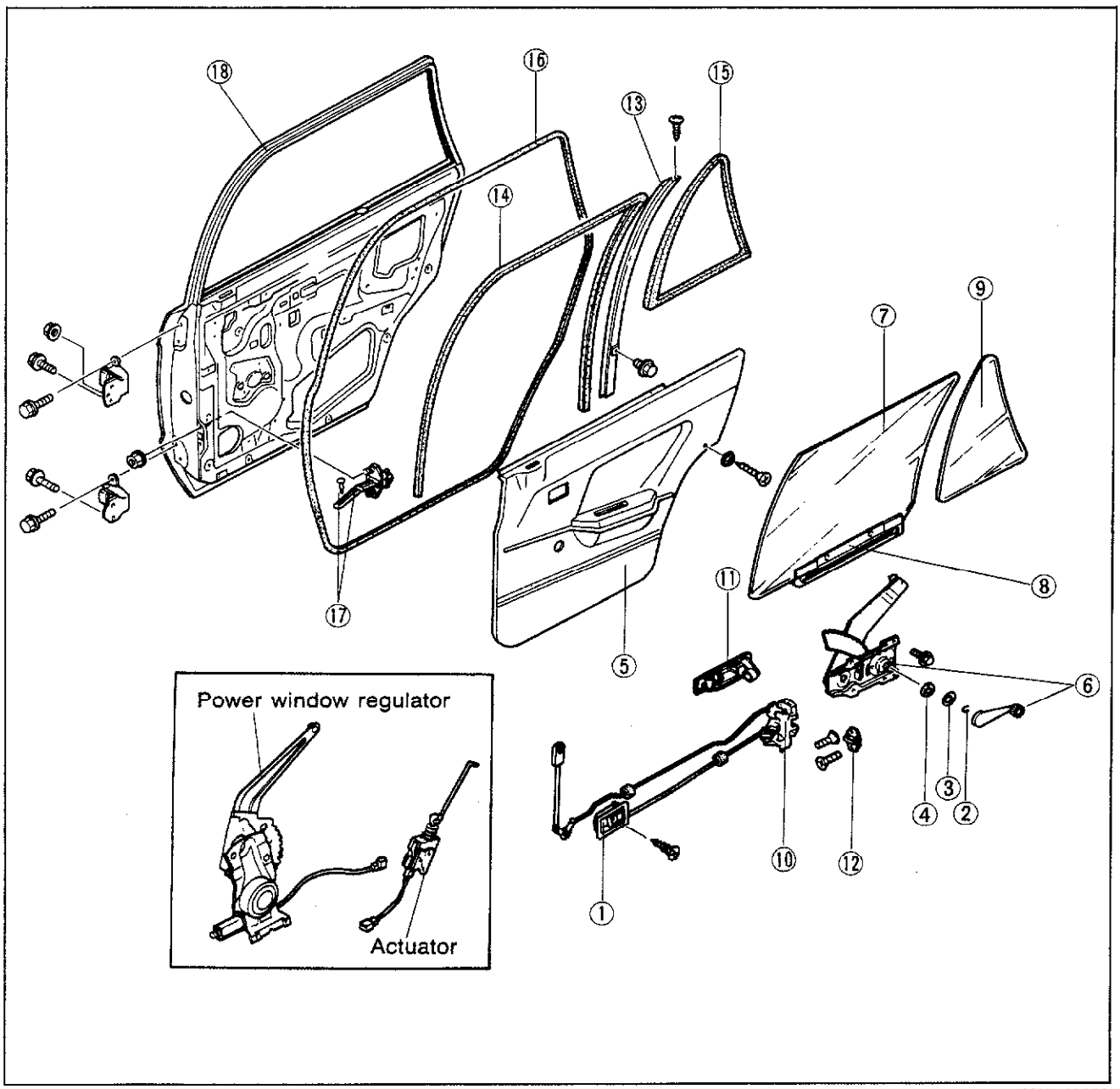
Install in the reverse order of removal, noting the following:

Power Window

Before installing the motor, connect the leads to a battery and run the regulator down to the position shown.

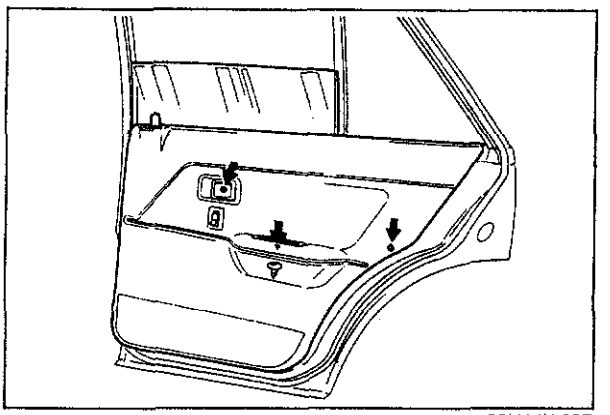
REAR DOOR

STRUCTURAL VIEW



63U14X-036

1. Inner handle cover
2. Snap ring
3. Escutcheon
4. Regulator handle bezel
5. Door trim
6. Regulator and regulator handle
7. Glass
8. Lift bracket
9. Quarter window glass
10. Door lock
11. Outer handle
12. Striker
13. Center channel
14. Glass channel
15. Weatherstrip (quarter window)
16. Weatherstrip
17. Door checker
18. Door



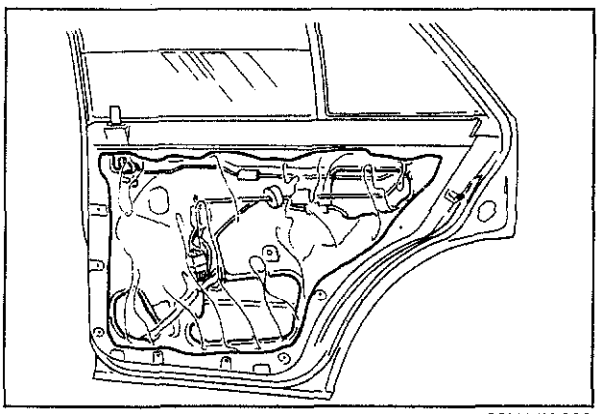
63U14X-037

REAR DOOR GLASS AND REGULATOR, QUARTER WINDOW GLASS

REMOVAL

1. Lower the door glass all the way.
2. Remove the inner handle cover and the regulator handle.
3. Remove the door trim.

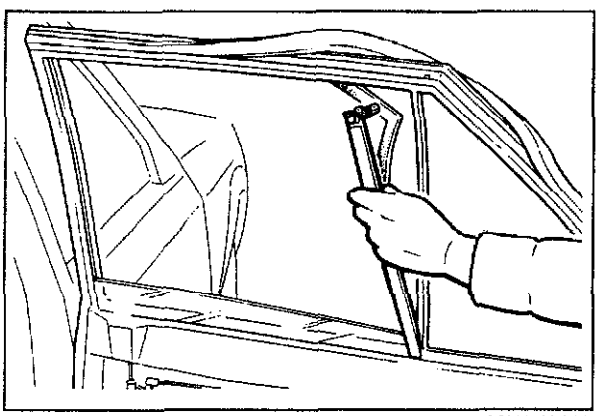
Note
For vehicles with power windows, disconnect the power window connector.



63U14X-038

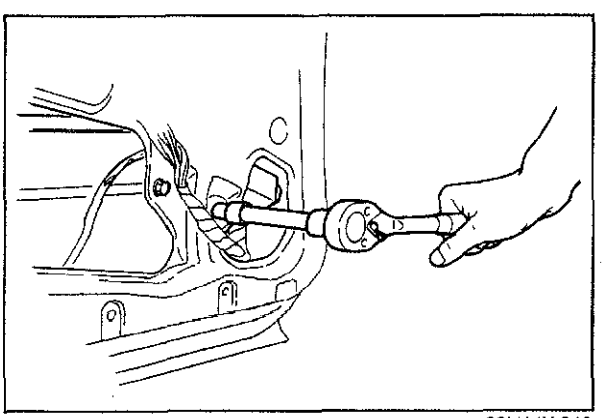
4. Remove the door screen.

Caution
Remove the screen carefully so that it can be reused.



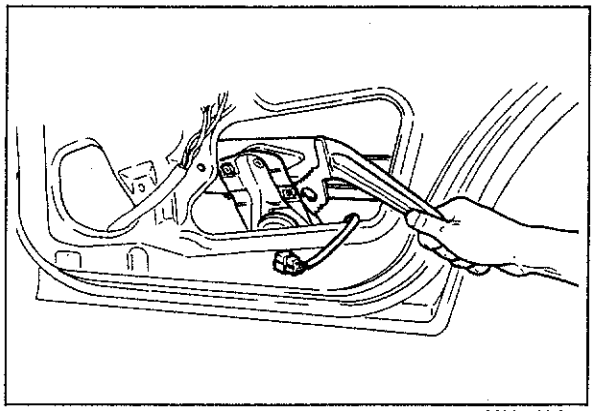
63U14X-039

5. Remove the screw and bolt, and remove the center channel.
6. Remove the quarter window glass.



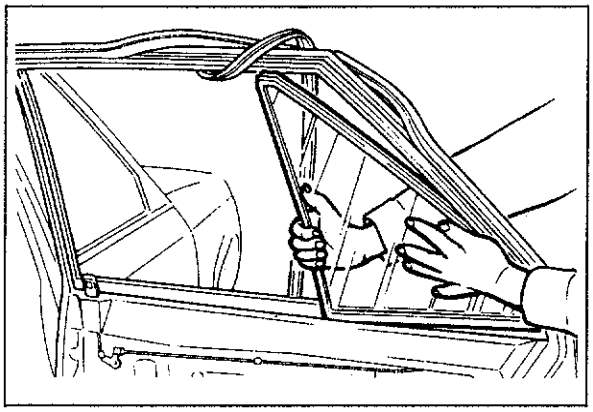
63U14X-040

7. Roll the door glass down and remove the lift bracket from the roller. Remove the door glass up and out.



63U14X-041

8. Remove the window regulator installation bolts, and remove the regulator through the service hole.
9. Remove the window motor mounting bolts, then remove the motor from regulator (power window).

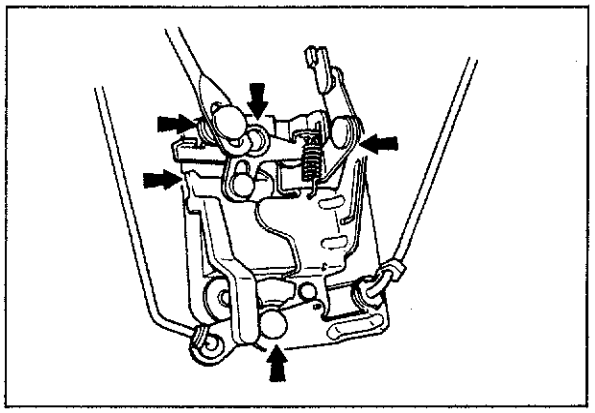


63U14X-042

INSTALLATION

Install in the reverse order of removal, noting the following:

1. Apply soapy water to the outer circumference of the weatherstrip when installing the quarter window.
2. Before installing the motor, connect the leads to a battery and run regulator down to the position shown (power window).



63U14X-043

INSTALLATION OF DOOR LOCK AND OUTER HANDLE

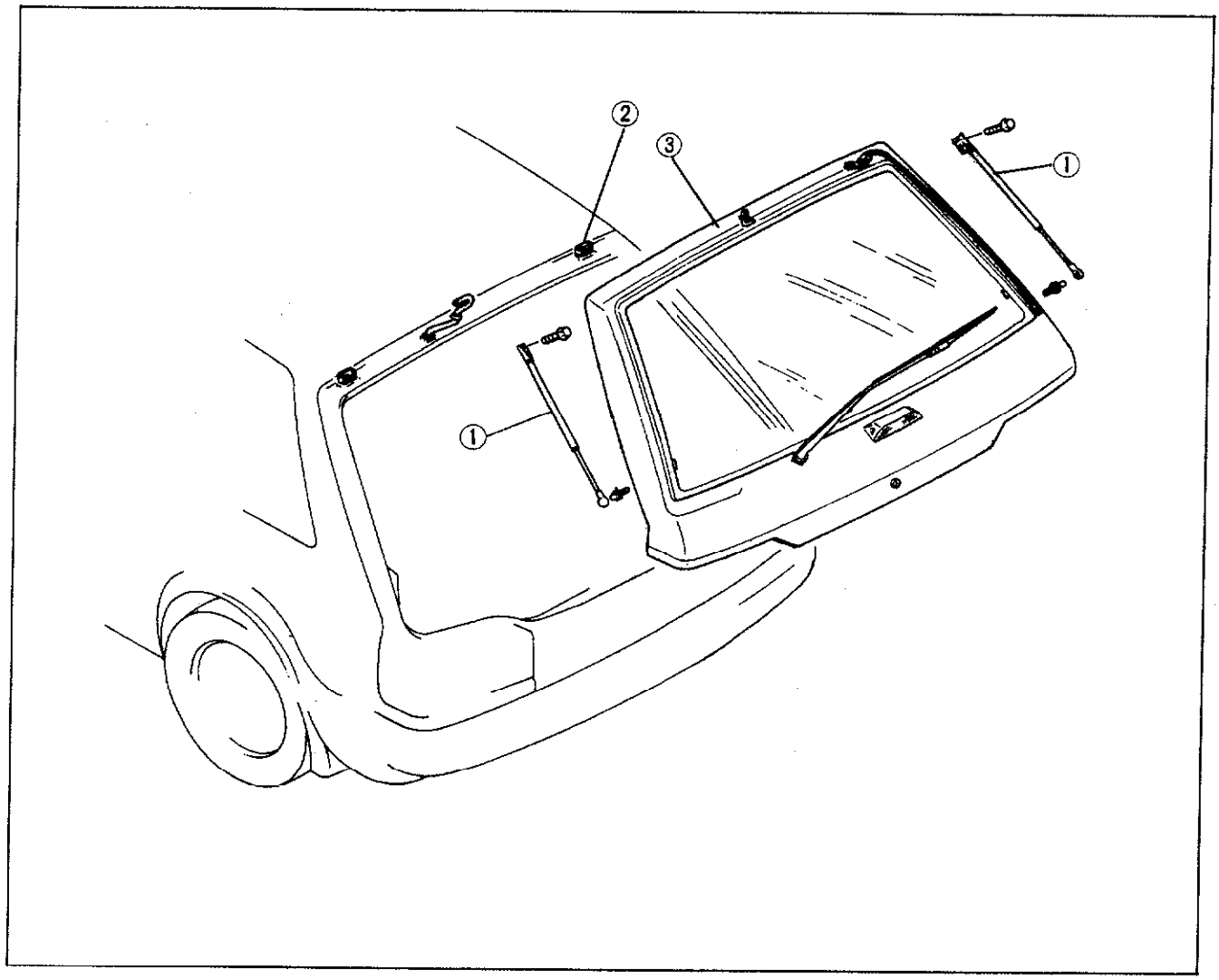
Note the following for installation, which is in the reverse order of removal.

1. Before installing the door lock, apply grease to the places shown in the figure.
2. After installation, check that the door opens smoothly, and that the operation of the lock is correct when using the key and the door lock knob.

BACK DOOR

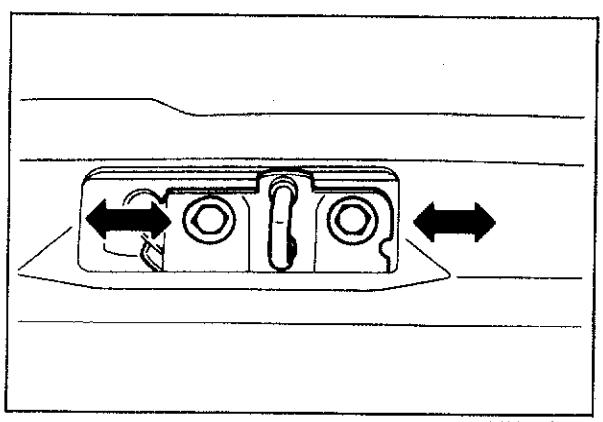
REMOVAL AND INSTALLATION

1. Remove the parts in the sequence shown in the figure.
2. Install in the reverse order of removal.



63U14X-044

1. Stay damper
2. Back door hinge
3. Back door

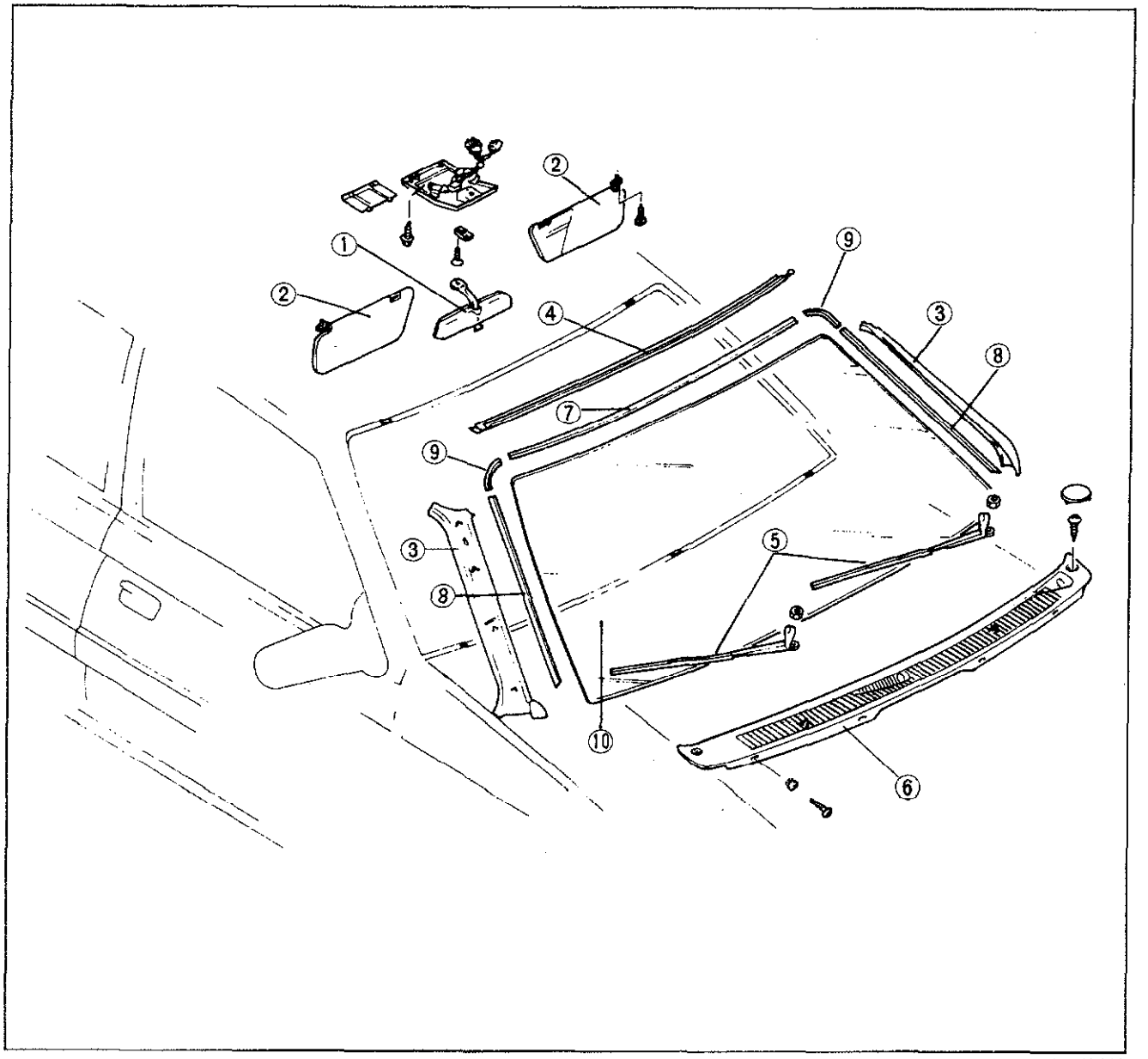


63U14X-045

Adjustment of Striker and Hinge.
Adjust the striker hinge with the mounting bolts.

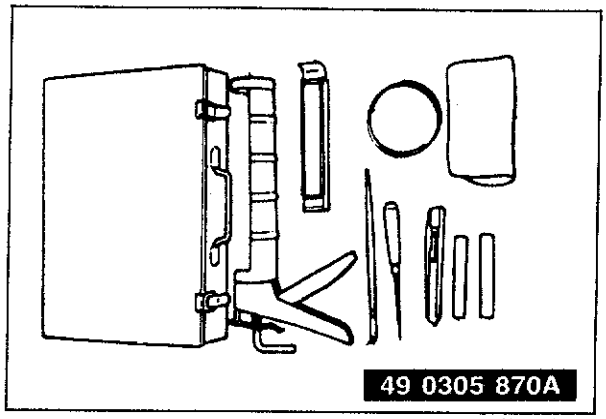
FRONT WINDOW GLASS

STRUCTURAL VIEW



63U14X-046

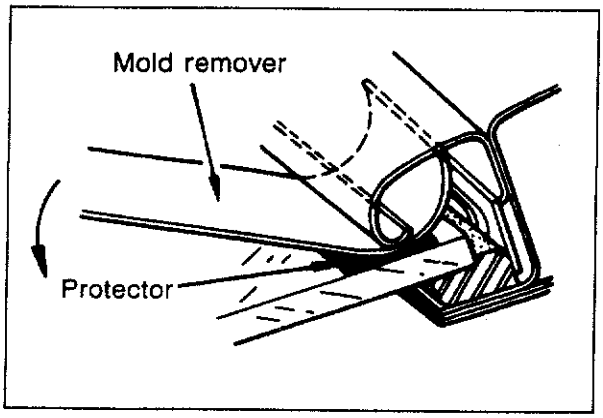
1. Interior mirror
2. Sun visor
3. Front pillar garnish
4. Front header trim
5. Wiper arm
6. Cowl grille
7. Front upper molding
8. Front side molding
9. Molding joint
10. Glass



83U14X-019

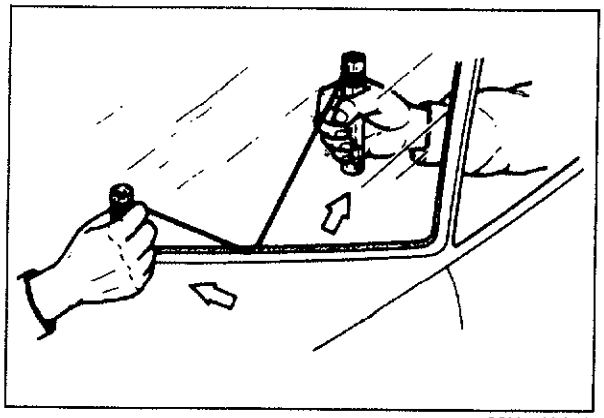
REMOVAL

Use **SST** to remove and install the glass.



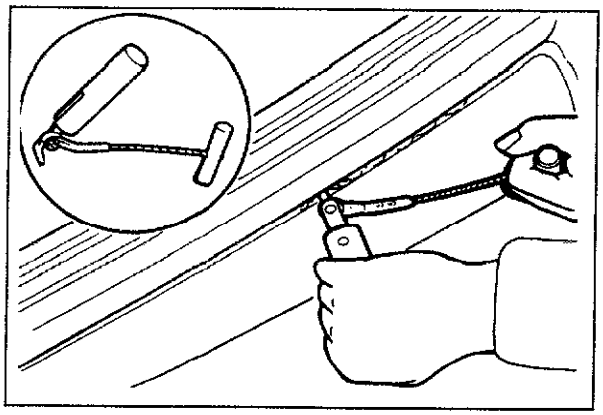
63U14X-048

1. Remove the interior mirror, sunvisors, front pillar trim, and front header trim.
2. Remove the wiper arms and cowl grill.
3. Remove the front window molding.



63U14X-049

4. Remove the glass by separating the glass from the sealant using a commecial power or manually operated remover tool, or use the following procedure.
   Use an awl to make a hole in the sealant.
   Pass the end of a piece of the piano wire (about 40 cm, 15.7 in) through the hole, and attach bars to both ends.
5. Two people should hold the bars, one inside and one outside the vehicle, and then "saw" the sealant from around the glass.
6. Remove the glass from the body.



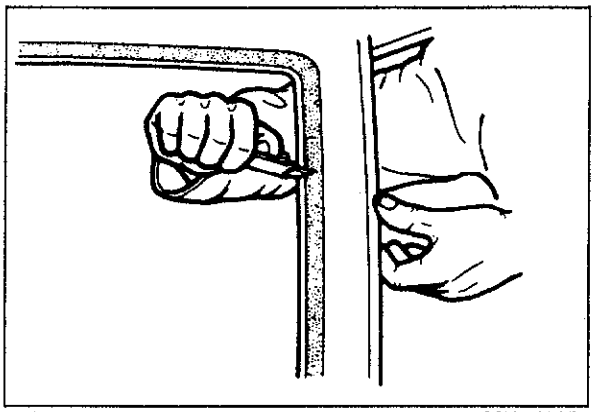
63U14X-050

Caution

a) Cut along the border between the glass and the sealant.

b) If too much heat develops, the piano wire may break, so cool it occasionally or don't work on one place too long.

c) If the glass is not to be reused, a tool like that shown in the figure is faster than piano wire.

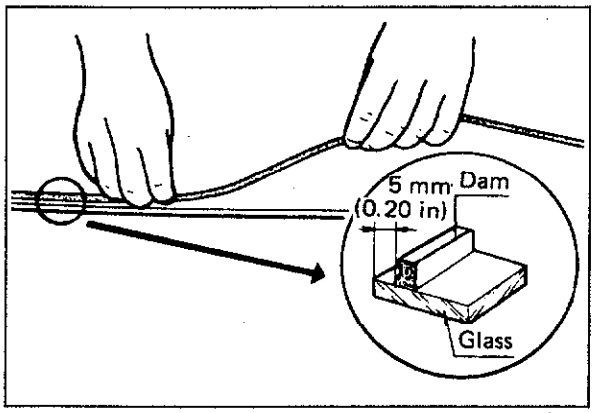


63U14X-051

INSTALLATION

1. Use a knife to smoothly trim the sealant on the body. Leave a layer about **1 or 2 mm (0.04 to 0.08 in)** thick.

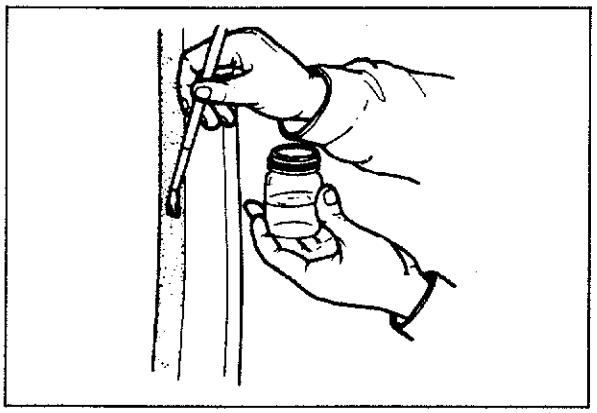
Caution
If some sealant flakes off, use new sealant to patch it.



63U14X-052

2. Carefully clean and remove any grease from a **5 cm (1.97 in)** wide area around the circumference of the glass and the remaining bond on the body.
3. Bond a dam along the circumference of the glass **5 mm (0.20 in)** from the edge.

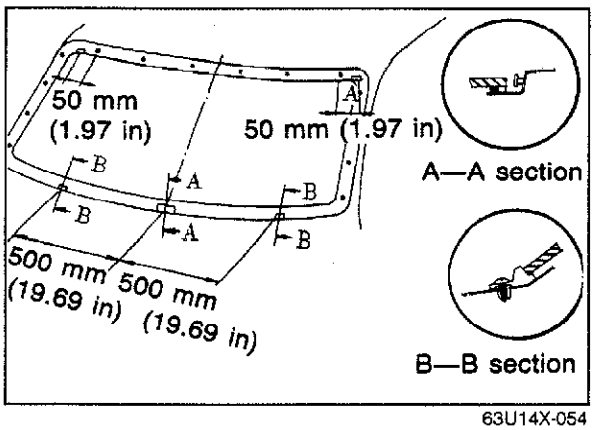
Caution
Securely bond the dam and let it dry.



83U14X-020

4. Apply primer with a brush to the circumferences of the glass and the body, and allow it to naturally dry for 20 to 30 minutes.

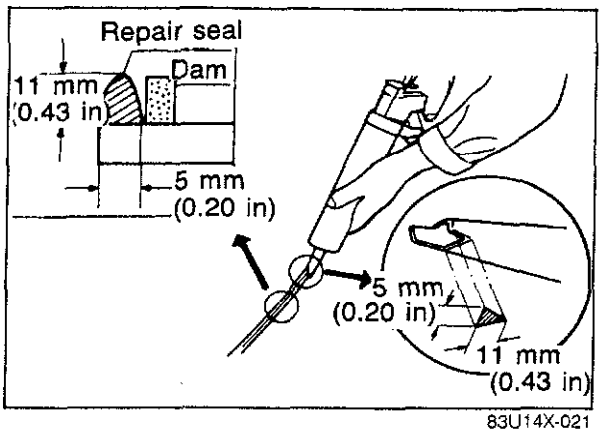
Caution
Be sure not to allow dirt, water, oil etc. to come in contact with the coated surfaces and do not touch it with your hand.



63U14X-054

5. Install the spacers at the positions shown in the figure.

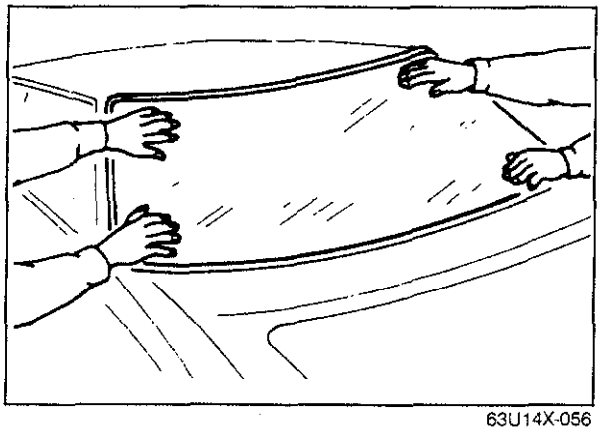
Caution
Clips with flaws must be replaced.



83U14X-021

6. When the primer has dried, apply an **11 mm (0.43 in)** thick bead of **repair seal** (B001 77 739) 5 mm (0.20 in) from the periphery of the glass using a sealant gun.

Caution
a) Cut the nozzle of the repair seal cartridge as illustrated in the figure.
b) If necessary, smooth the repair seal to correct any irregularities.


63U14X-056

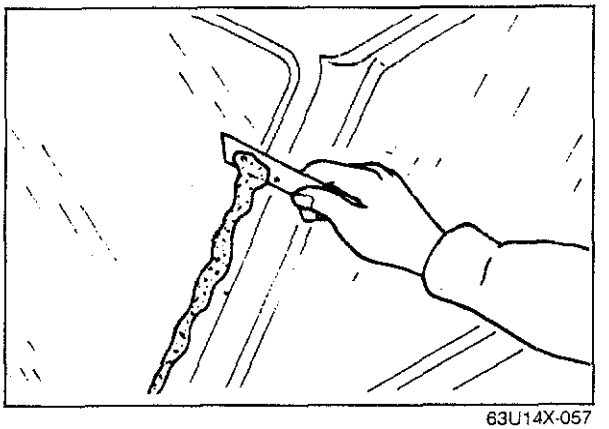
7. Attach the front glass to the body.

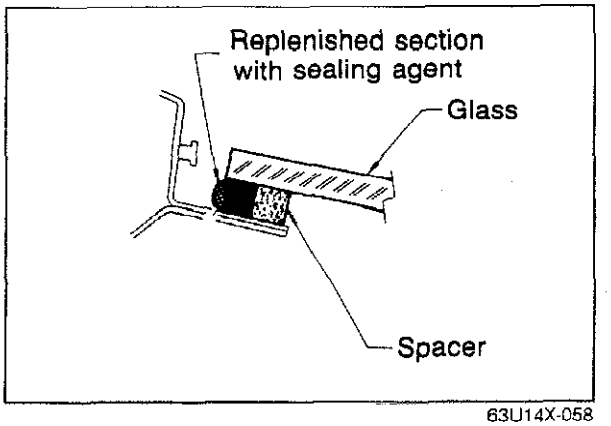
Caution
Keep the door glass open until the repair seal hardens to some degree to prevent pressure from being exerted on the front glass. if the door is closed quickly.

Hardening time of repair seal

Temperature	Surface hardening time	Time required until vehicle can be put in service
5°C (41°F)	Approx. 1.5 hrs	12 hrs
20°C (68°F)	Approx. 1 hr	4 hrs
35°C (95°F)	Approx. 10 min.	2 hrs

8. Remove any excess, or add repair seal where necessary.


63U14X-057

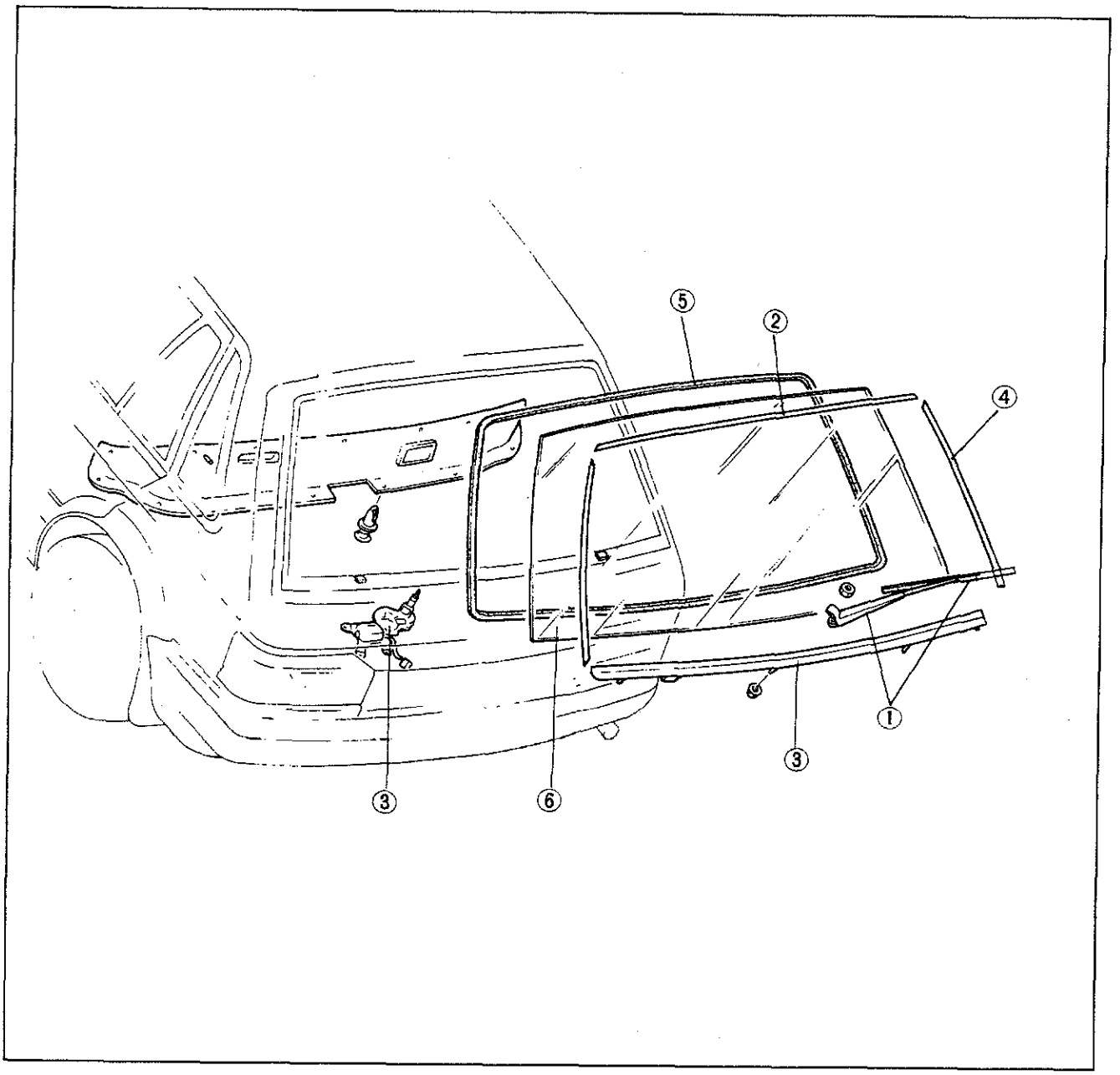


63U14X-058

9. Check for water leaks. If a leak is found, wipe the water off well and add **repair seal** (B 001 77 739).
10. After checking for water leakage, mount the pillar garnish, cowl panel, cowl grill, wiper, etc.
11. Attach the front header trim, pillar trim, sun visors, interior mirror, etc.

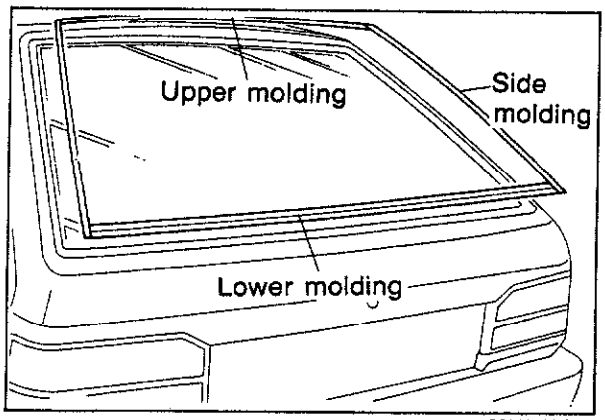
BACK DOOR GLASS (HATCHBACK)

STRUCTURAL VIEW



63U14X-059

1. Wiper arm
2. Rear upper molding
3. Rear lower molding
4. Rear side molding
5. Weatherstrip
6. Glass

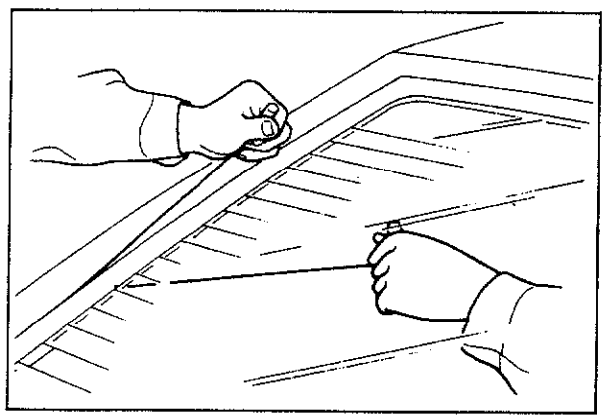


83U14X-021

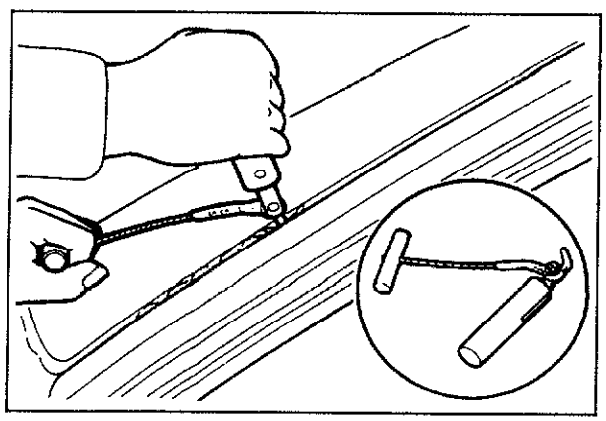
REMOVAL

Use the **SST** to remove and install the glass.

1. Remove the wiper arm, wiper motor, back door trim and defogger connector.
2. Remove the rear window molding.


63U14X-061

3. Use an awl to make a hole in the sealant. Pass the end of a piece of the piano wire (about 40 cm 15.7 in) through the hole, and attach bars to both ends.
4. Two people should hold the bars, one inside and one outside the vehicle, and then "saw" the sealant from around the glass.
5. Remove the glass from the body.

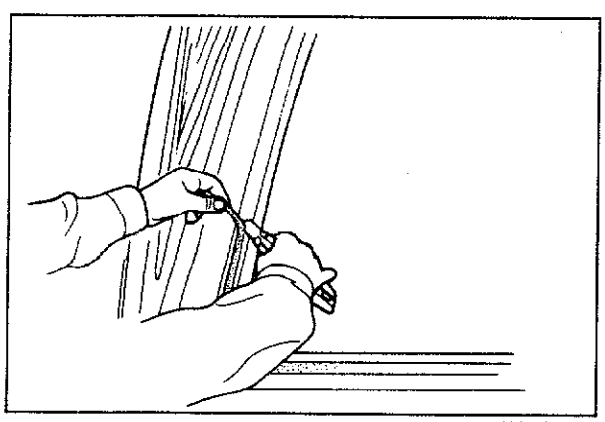

63U14X-062

Caution

a) Cut along the border between the glass and the sealant.

b) If too much heat develops, the piano wire may break, so cool it occasionally or don't work on one place too long.

c) If the glass is not to be reused, a tool like that shown in the figure is faster than piano wire.

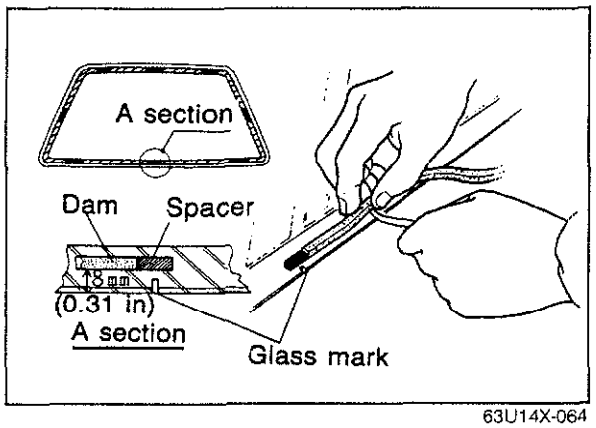

63U14X-063

INSTALLATION

1. Use a knife to smoothly trim the sealant on the body. Leave a layer about **1 or 2 mm (0.04 to 0.08 in)** thick.

Caution

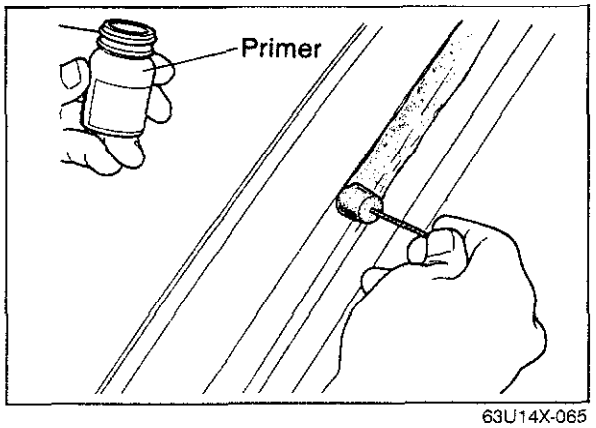
If some sealant flakes off, use new sealant to patch it.



63U14X-064

2. Carefully clean and remove any grease from a **5 cm (1.97 in)** wide area around the circumference of the glass and the remaining bond on the body.
3. Bond a dam along the circumference of the glass **8 mm (0.31 in)** from the edge.

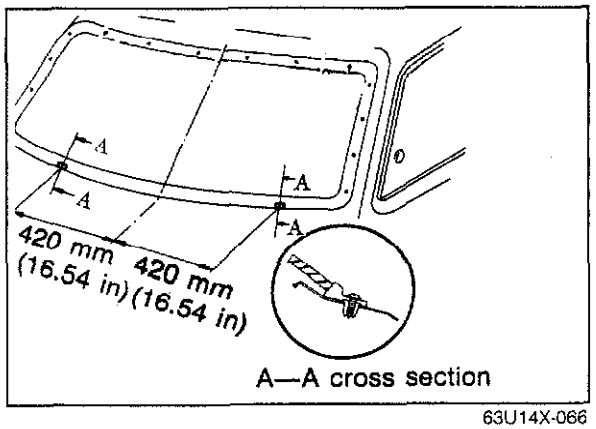
Caution
Securely bond the dam and let it dry.



63U14X-065

4. Apply primer with a brush to the circumference of the glass and the body and it them to naturally dry for 20 to 30 minutes.

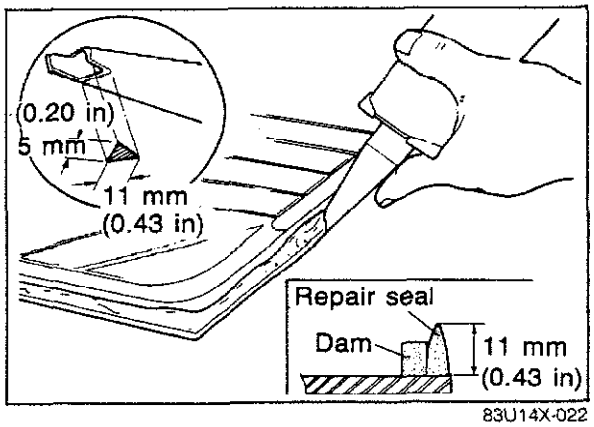
Caution
Be sure not to allow dirt, water, oil, etc. to come in contact with the coated surfaces and do not touch it with your hand.



63U14X-066

5. Install the spacers at the positions shown in the figure.

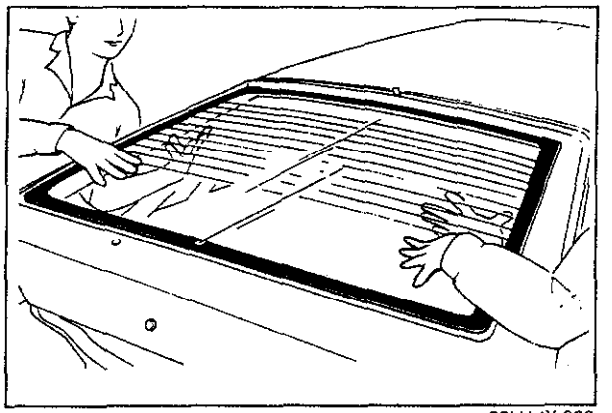
Caution
Clips, with flaws, must be replaced.

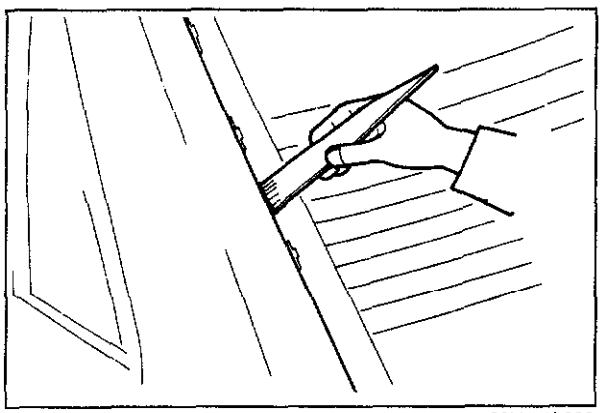


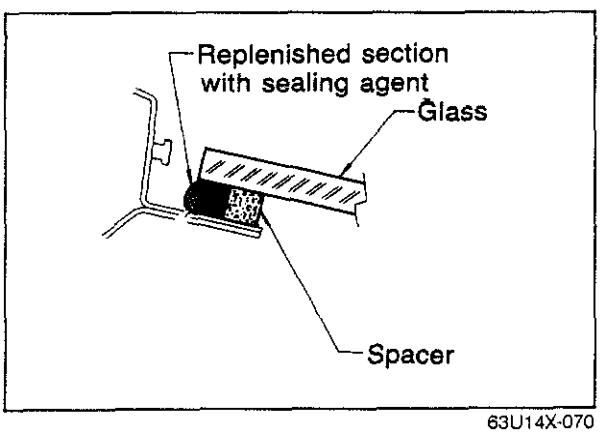
83U14X-022

6. When the primer has dried, apply an 11 mm (0.43 in) thick bead of **repair seal** (B001 77 739) **5 mm (0.20 in)** from the periphery of the window glass using a sealant gun.

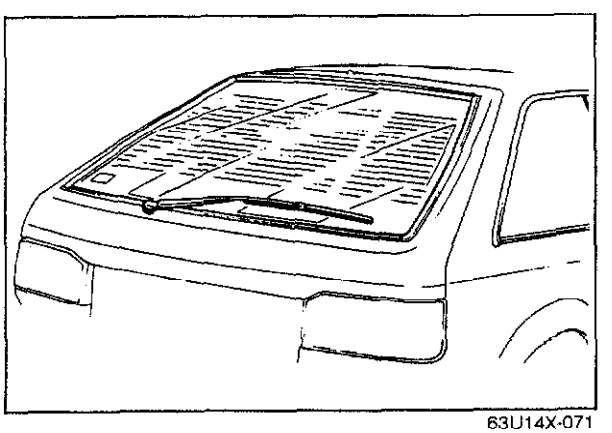
Caution
Cut the nozzle of the repair seal cartridge as illustrated in the figure.
If necessary, smooth the repair seal to correct any irregularities.


83U14X-023


63U14X-069



63U14X-070


63U14X-071

7. Attach the back door glass to the body.

Caution
Keep the door glass open until the repair seal hardens to some degree to prevent pressure from being exerted on the back door glass. If the door is closed quickly etc.

Hardening time of repair seal

Temperature	Surface hardening time	Time required until vehicle can be put in service
5°C (41°F)	Approx. 1.5 hrs	12 hrs
20°C (68°F)	Approx. 1 hr	4 hrs
35°C (95°F)	Approx. 10 min.	2 hrs

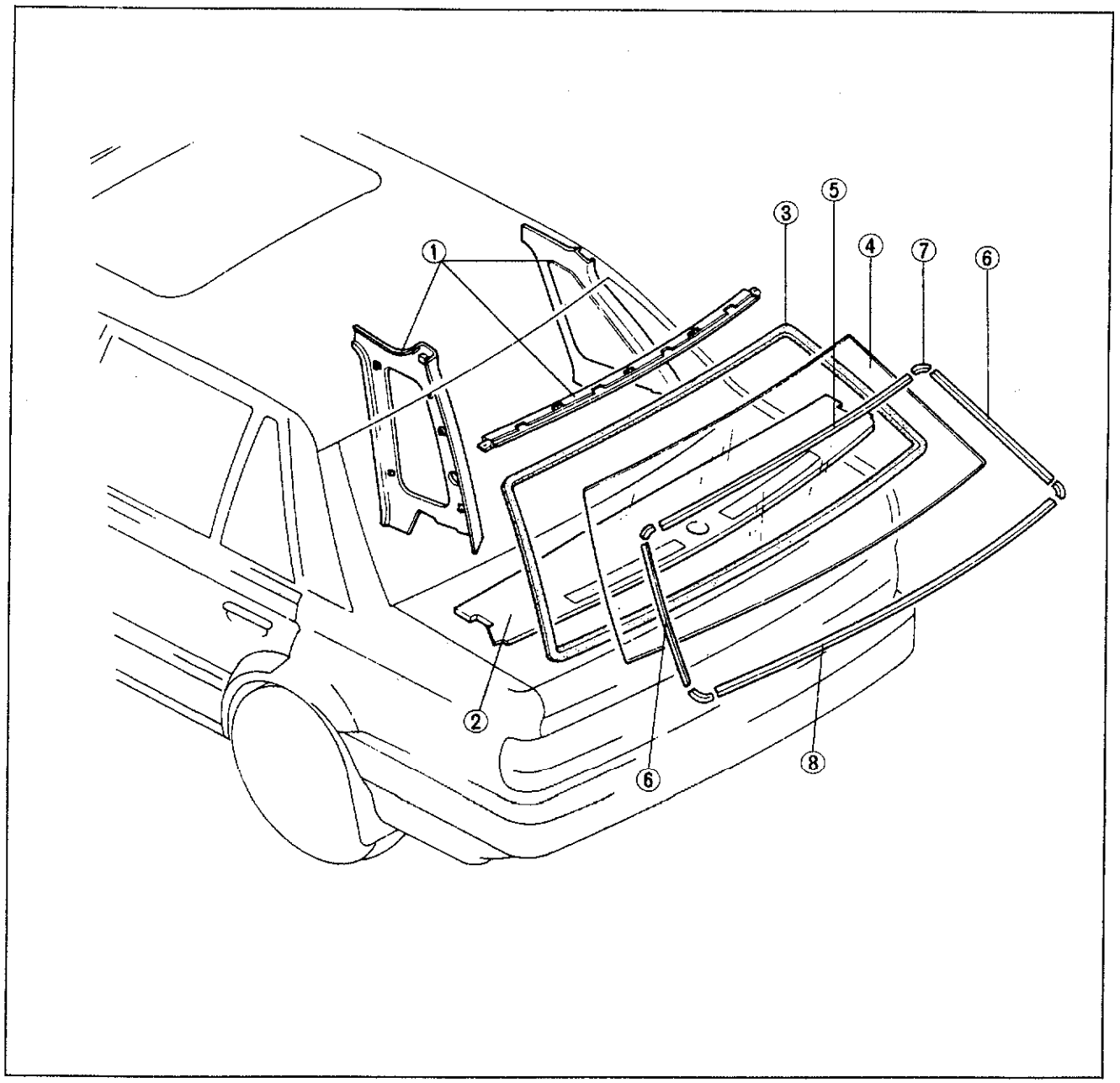
8. Remove any excess or add repair seal where necessary.

9. Check for water leaks. If a leak is found, wipe the water off well and add **repair seal** (B001 77 739).

10. After checking for water leakage, install the mold.
11. Install the wiper arm, wiper motor door trim and defogger connector.

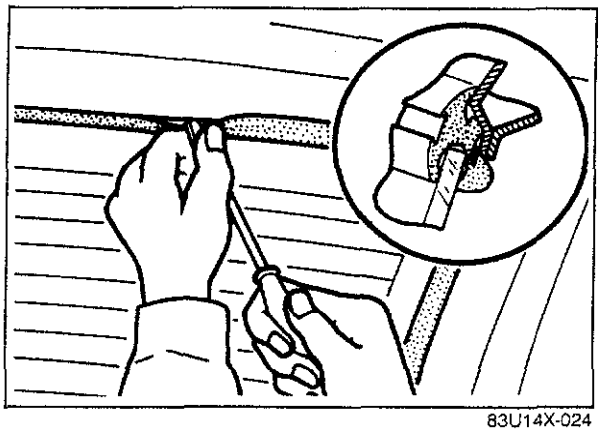
REAR WINDOW GLASS

STRUCTURAL VIEW



83U14X-011

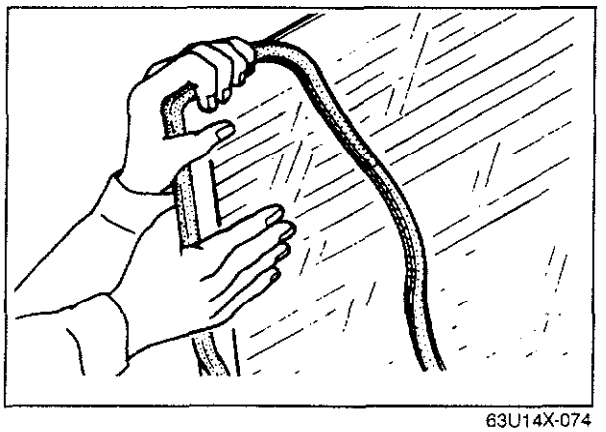
1. Pillar trim
2. Package tray trim
3. Weatherstrip
4. Glass
5. Upper molding
6. Side molding
7. Molding joints
8. Lower molding


83U14X-024

REMOVAL

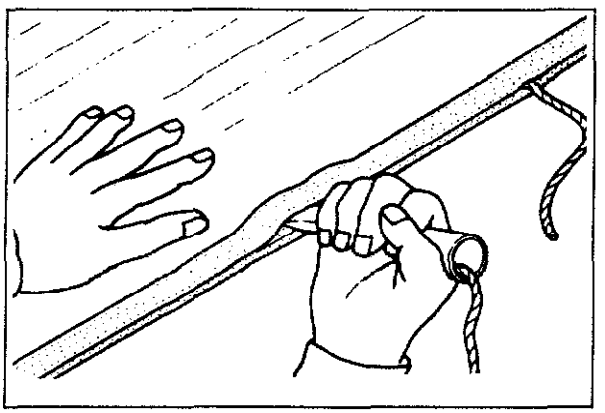
Use **SST** to remove and install the glass.

1. Disconnect the defroster connector, remove the pillar trim, wiper motor and package tray trim.
2. From inside the vehicle, lift the weatherstrip toward the interior, and remove the glass with the weatherstrip attached.
3. Remove the molding.

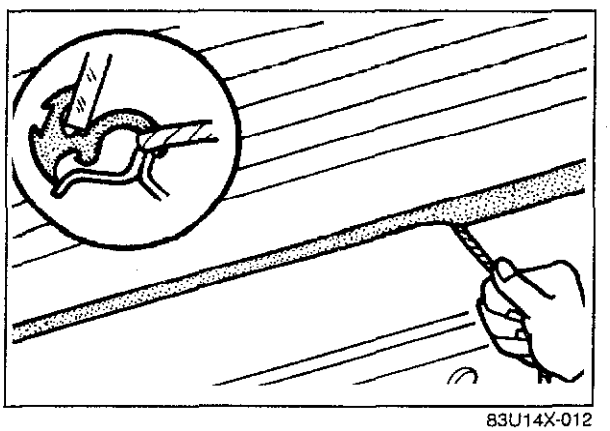

63U14X-074

INSTALLATION

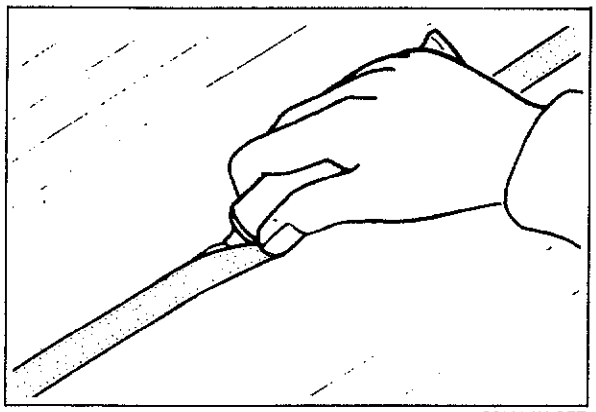
1. Remove any filler remaining on the body surface.
2. Attach the weatherstrip to the glass.


63U14X-075

3. Fit string into the weatherstrip on the interior side of the glass, and overlap it about **50 mm (2.0 in)** at the bottom center.
4. Coat the weatherstrip with soapy water so that the weatherstrip will slide easily into the window frame.
5. Align the glass and weatherstrip to the body.

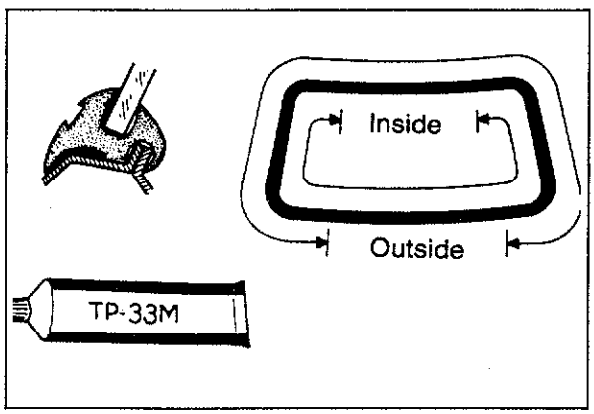

83U14X-012

6. While gently tapping around the weatherstrip at the outer side of the glass, pull one end of the string and fit the glass to the body.
7. Tap the glass from inside and outside with the palm of your hand. Strike the same place inside and out simultaneously, in order to seat the glass.
8. Install the molding (Refer to page 14—39).



63U14X-077

9. Put filler **(TP-33M)** or equivalent sealant between the body and glass and the weatherstrip.



63U14X-078

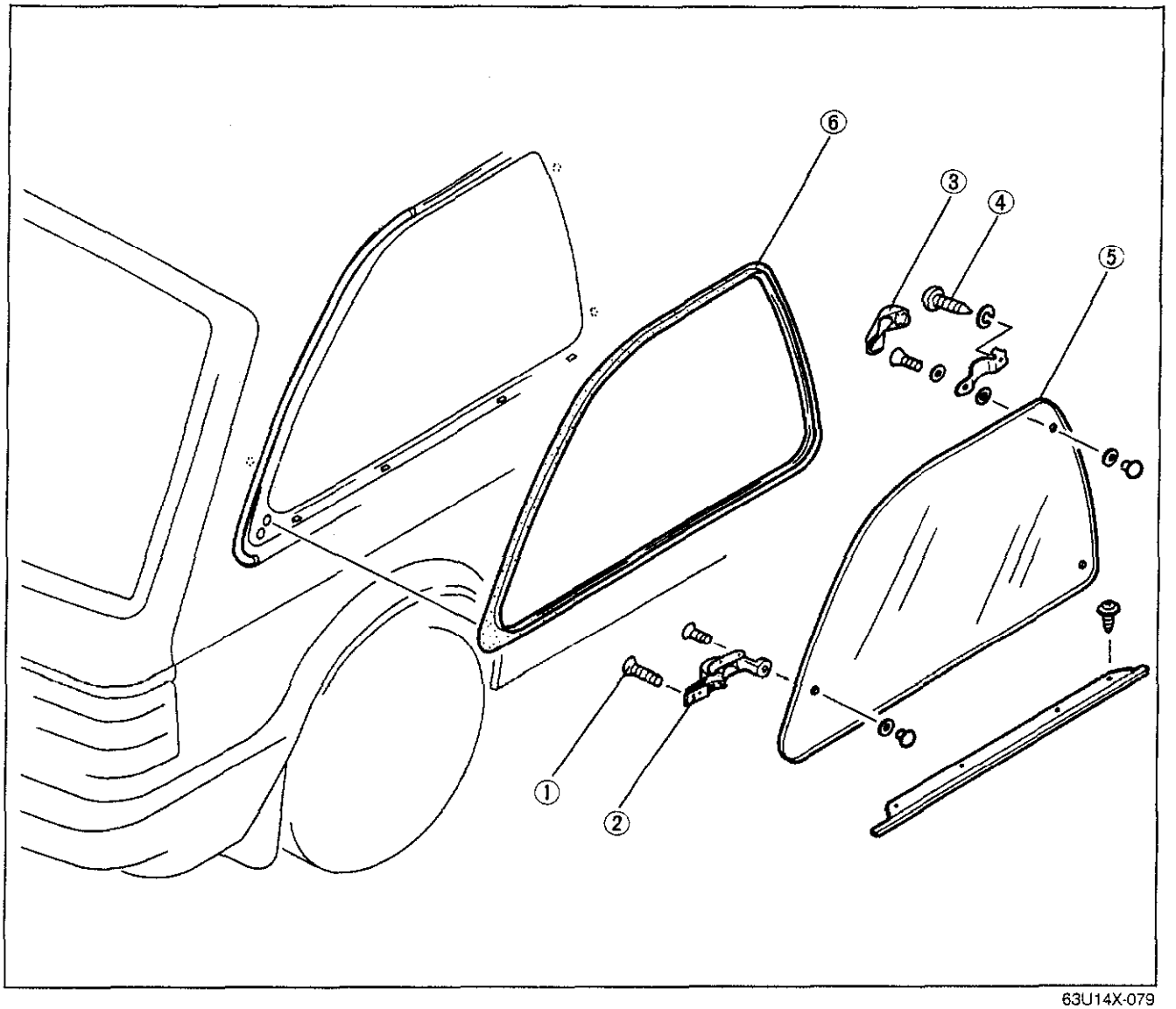
10. Install the filler as shown in the figure.

Note
Mask the body with tape so that excess filler can be easily removed.

QUARTER WINDOW GLASS (3 DOOR HATCHBACK)

REMOVAL AND INSTALLATION

1. Remove the parts in the sequence shown in the figure.
2. Install in the reverse order of removal.



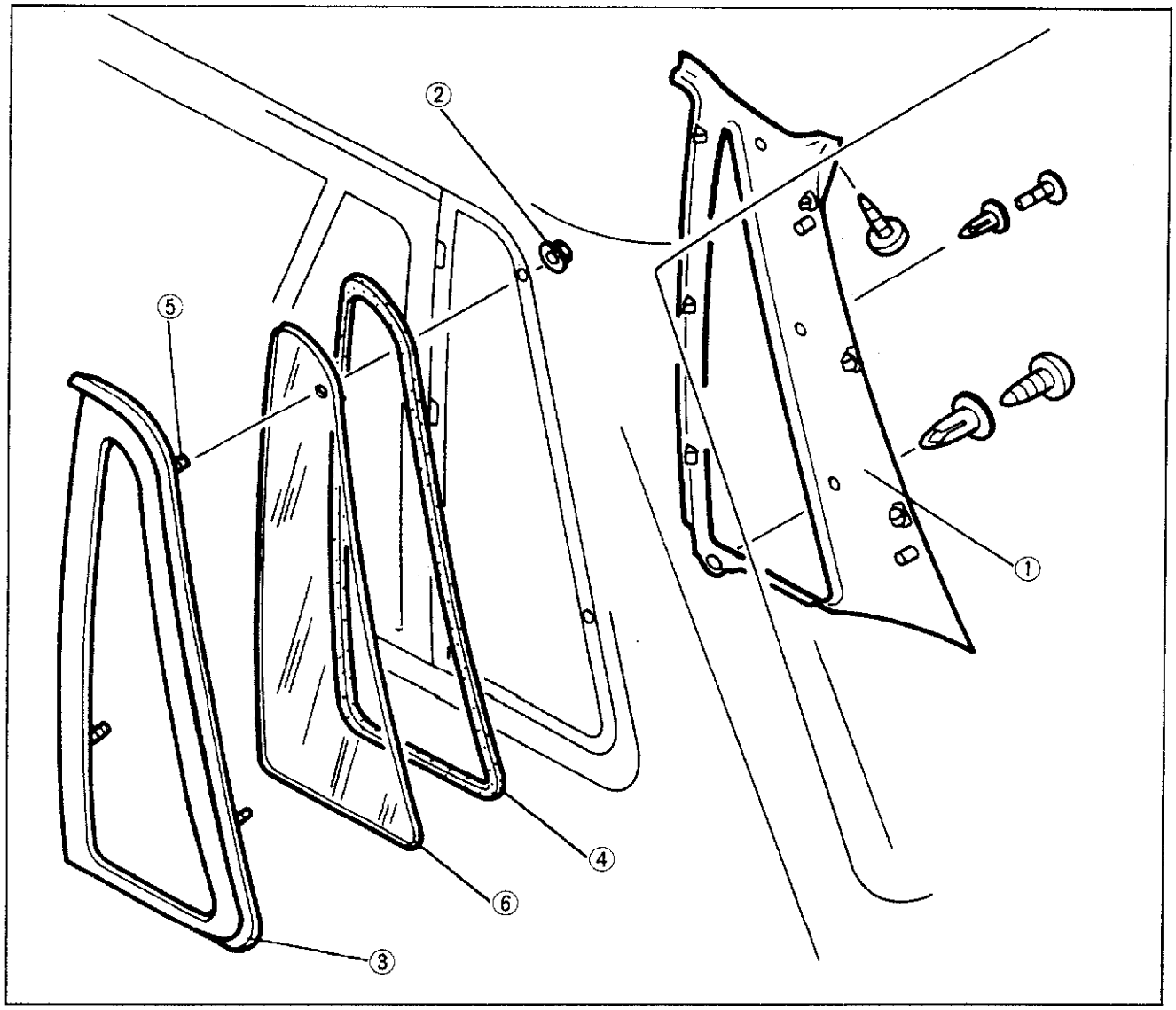
63U14X-079

1. Screw
2. Lock
3. Hinge cover
4. Screw
5. Glass
6. Weatherstrip

QUARTER WINDOW GLASS (5 DOOR HATCHBACK)

REMOVAL AND INSTALLATION

1. Remove the parts in the sequence shown in the figure.
2. Install in the reverse order of removal.

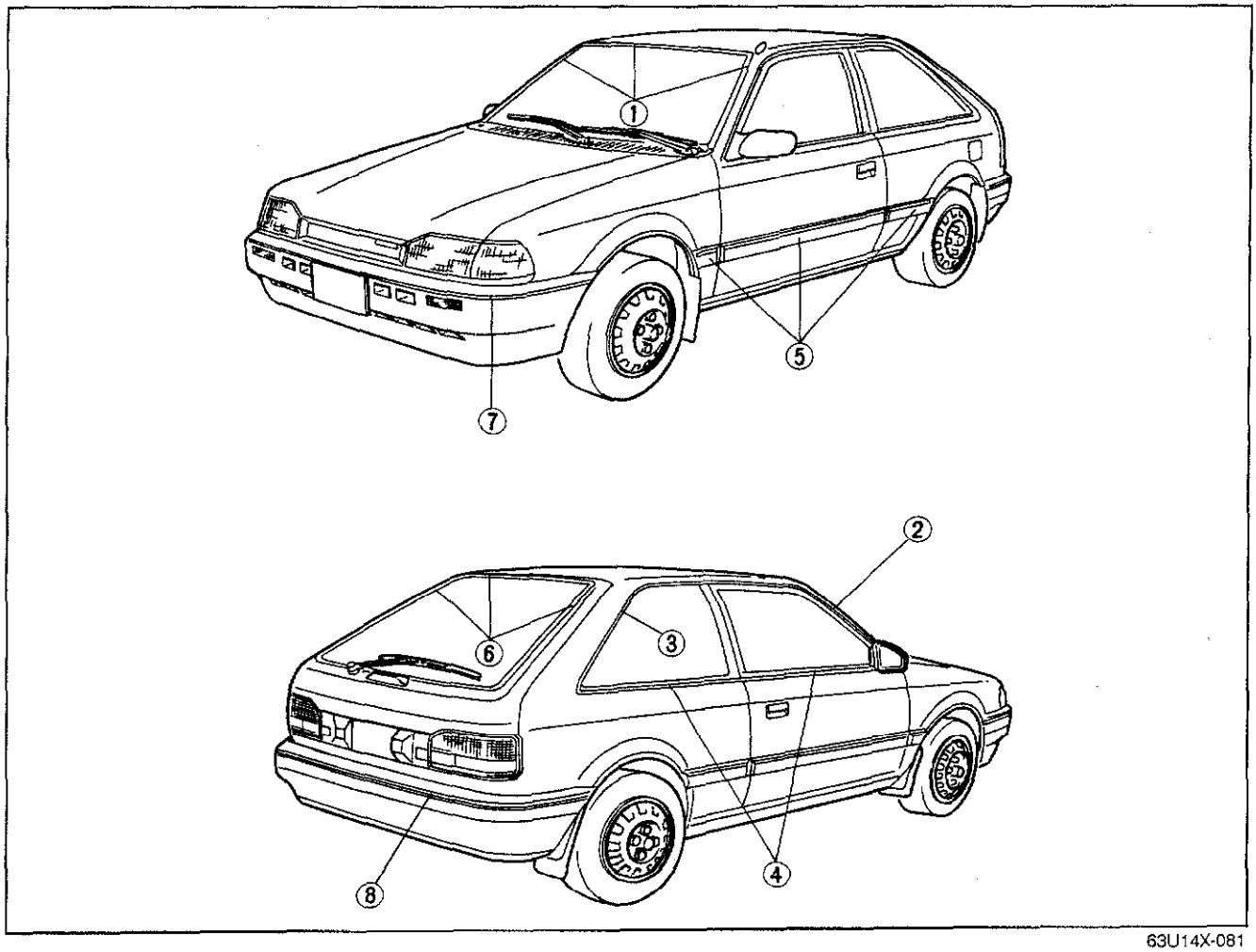


63U14X-080

1. Rear side trim
2. Nut
3. Pillar trim
4. Seal rubber
5. Stud
6. Glass

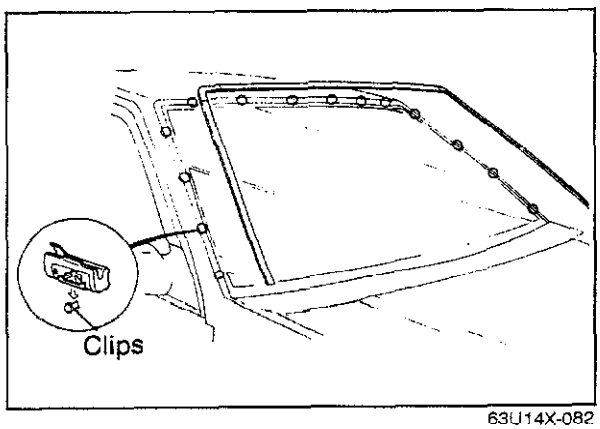
MOLDING

STRUCTURAL VIEW



63U14X-081

1. Front window upper molding and side molding
2. Front drip molding
3. Rear drip molding
4. Belt-line molding
5. Side protector molding
6. Back door window molding
7. Front bumper molding
8. Rear bumper molding

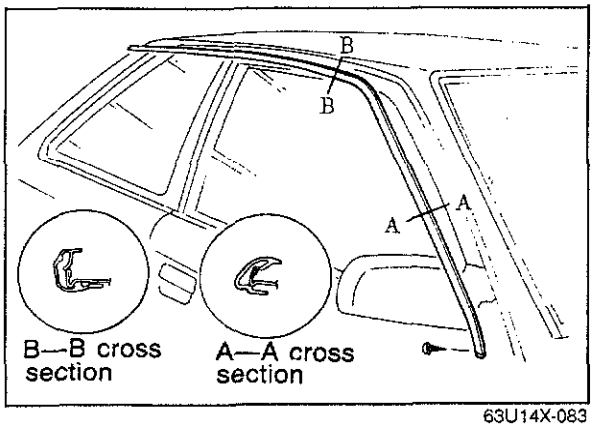


63U14X-082

FRONT WINDOW UPPER MOLDING AND SIDE MOLDING

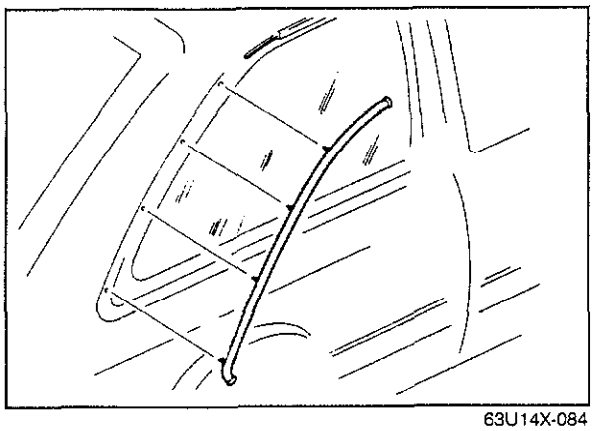
Removal and Installation

1. Using a molding remover, remove the side molding from one side first.
2. Remove the upper molding.
3. Check that all the molding clips are in place and are in good condition when reinstalling the moldings.

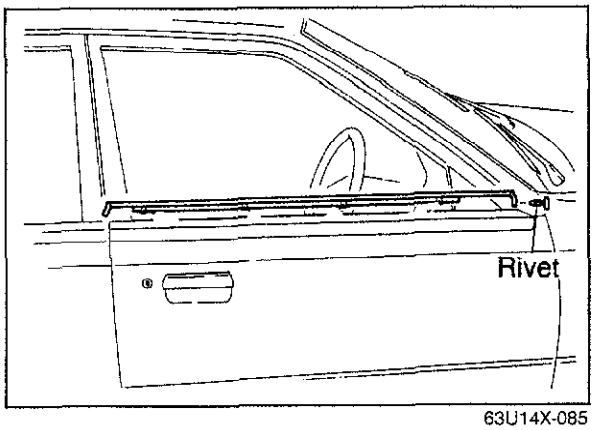


63U14X-083

FRONT DRIP MOLDING
Removal and Installation
1. Remove the attaching screw of the front pillar.
2. Remove the ends of the roof rail and molding.
3. Remove the molding by twisting it so that the lower part of the molding is removed first. (Do not damage the molding)
4. Install in the reverse order of removal.

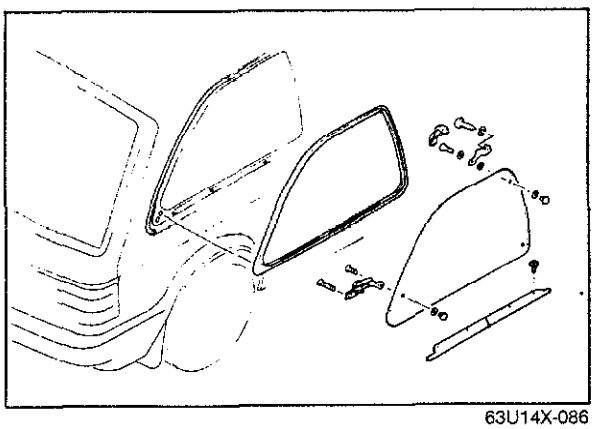

63U14X-084

REAR DRIP MOLDING
Removal and Installation
1. Insert the tip of a standard screwdriver between the roof rail and drip molding and lift the end of the molding.
   (Be careful not to scratch the molding)
2. Remove the molding by twisting with both hands, beginning at the lower side.
3. Install in the reverse order of removal.

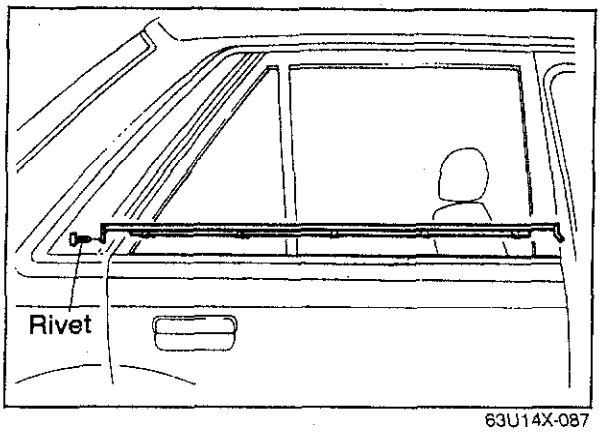


63U14X-085

BELTLINE MOLDING
Removal and Installation
1. Pry up the clip at the end of the beltline molding.
2. Remove the sail outer garnish.
3. Remove the beltline molding mounting screw and mounting rivet.
4. Lift the molding up to remove it.
5. Install in the reverse order of removal.


63U14X-086

BELTLINE MOLDING (3 DOOR HATCHBACK)
Removal and Installation
1. Remove the quarter window glass.
2. Remove the weatherstrip.
3. Remove the beltline molding mounting screw, and remove the molding.
4. Install in the reverse order of removal.

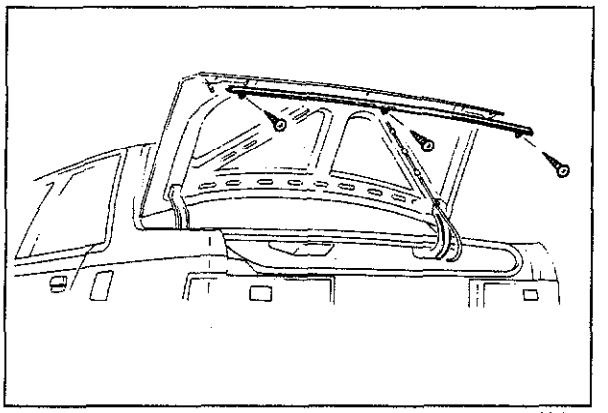


63U14X-087

BELTLINE MOLDING (5 DOOR HATCHBACK)

Removal and Installation

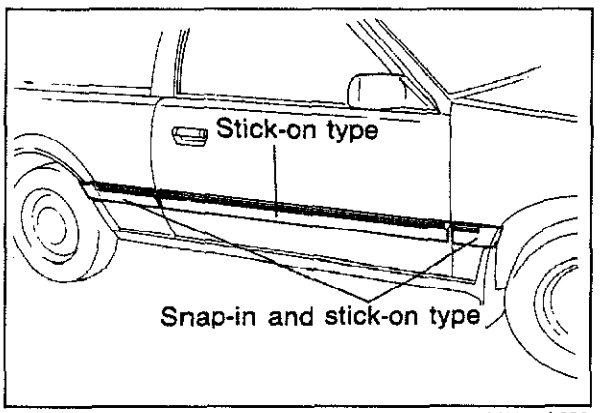
1. Pry up the clip at the end of the beltline molding.
2. Remove the sail outer garnish.
3. Remove the beltline molding mounting screw and mounting rivet.
4. Lift the molding up to remove it.
5. Install in the reverse order of removal.


63U14X-088

TRUNK LID MOLDING

Removal and Installation

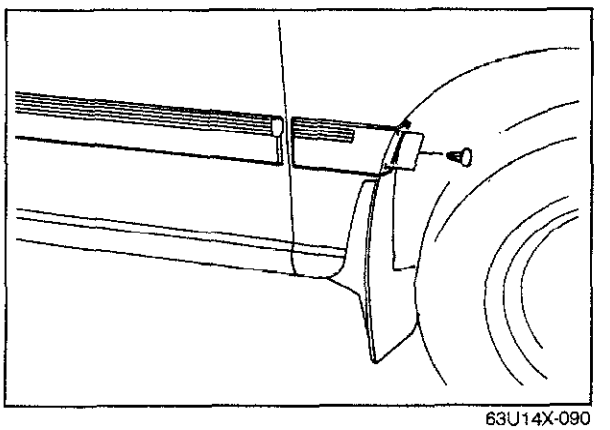
1. Remove the trunk lid molding mounting screws.
2. Install in the reverse order of removal.



63U14X-089

SIDE PROTECTOR MOLDING (SNAP-IN AND STICK-ON TYPE)

Note
As shown in the figure, the method of installation varies according to the installation location.

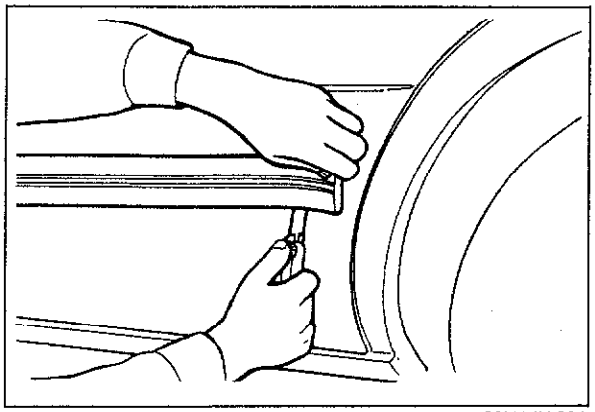

63U14X-090

Removal and Installation

1. Remove the rivets and cut the molding free from the body.

Note
a) Wide molding is a snap-on type. Do not cut the pins off when removing the glue.
b) Do not damage the painted surface.

2. Install in the reverse order of removal.

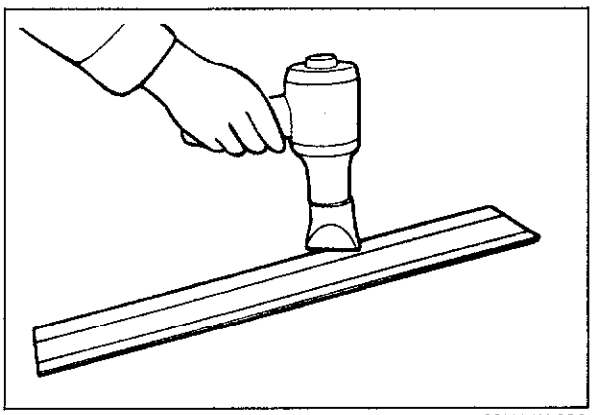

63U14X-091

SIDE PROTECTOR MOLDING (STICK-ON TYPE)

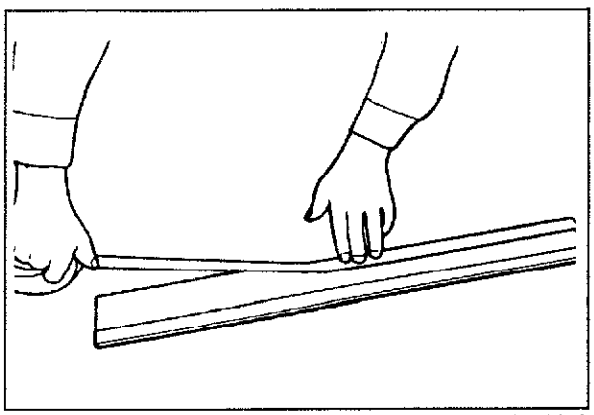
Removal

1. Being careful not to scratch the painted surface, use a knife to cut away the adhesive from the molding.
2. Remove any adhesive remaining on the body or the molding.

Note
Remove as much adhesive as possible without damaging the surface.

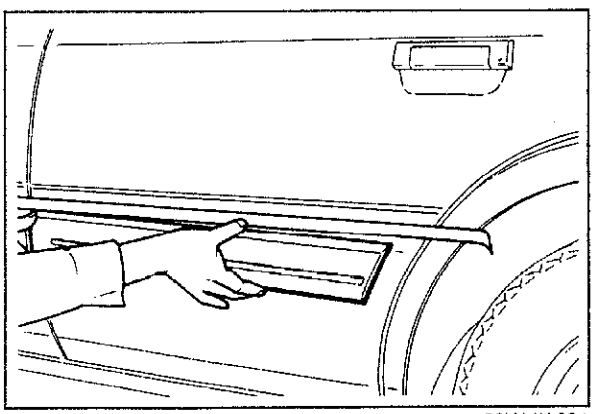

63U14X-092

3. If the adhesive is hard to remove, use a blow dryer to soften it.


63U14X-093

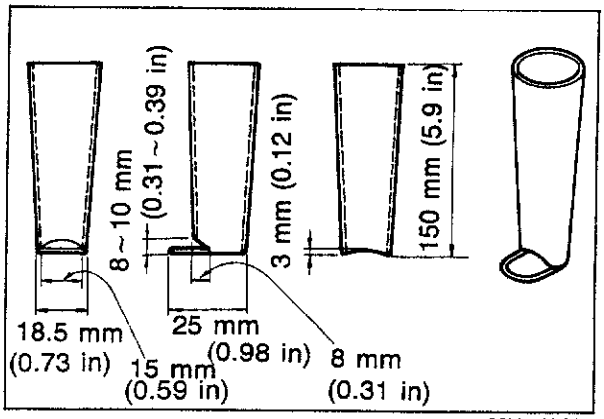
Installation

1. Remove any grease from the body and molding surfaces.
2. Use masking tape to mark the location of installation on the body.
3. Attach two-sided molding tape to the molding.


63U14X-094

4. Align the molding to the body and attach it securely.

Note
The adhesion strength is decreased below 20°C (68°F), so it is best to warm the body surface before installing.

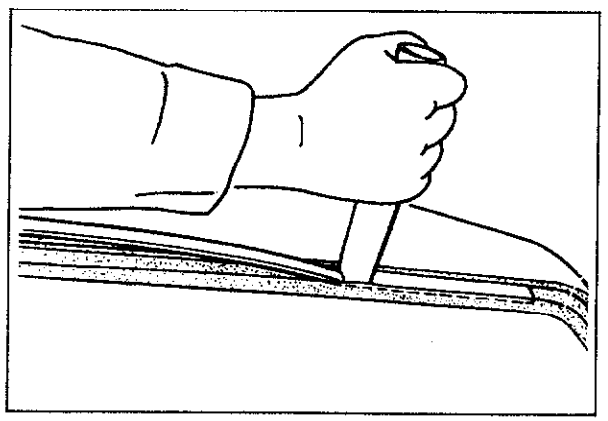


83U14X-025

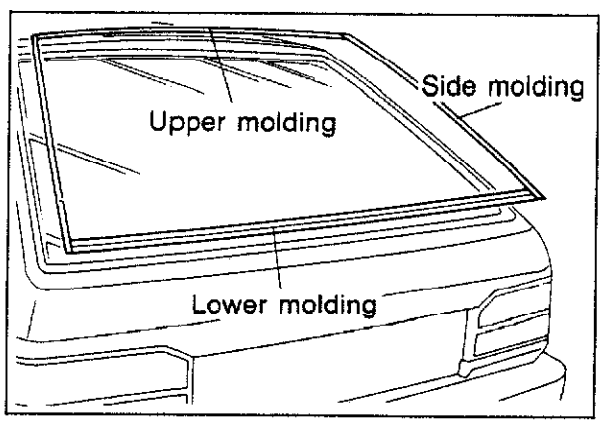
REAR WINDOW MOLDING (SEDAN)

Removal and Installation

1. Use a suitable tool to remove and install the molding.


63U14X-096

2. Install the molding after installing the window glass onto the body.
3. Coat the surface of the weatherstrip that contacts the molding with soapy water.
4. Wedge the tool into the groove in the weatherstrip to mount the molding.
5. After pressing bout 10 cm (0.39 in) of the molding into the weatherstrip, gradually press in the rest of the molding by moving the tool without removing it from the groove.

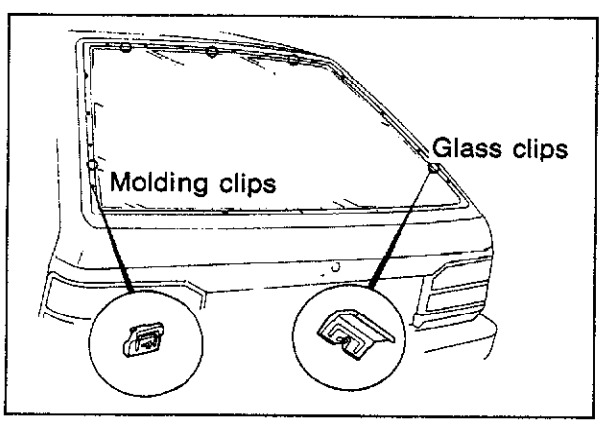


63U14X-097

BACK DOOR GLASS WINDOW MOLDING (HATCHBACK)

Removal

1. Remove the wiper arm with blade, luggage compartment light assembly, back door trim, and the wiper motor.
2. Remove the back door side moldings.
3. Remove the grommets and nuts, and remove the back door lower molding.
4. Remove the back door upper molding.

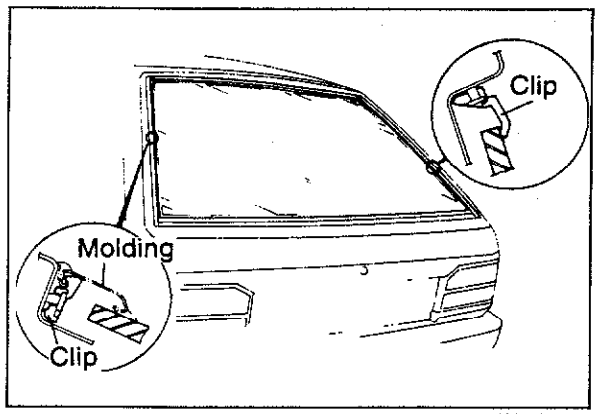


63U14X-098

Installation

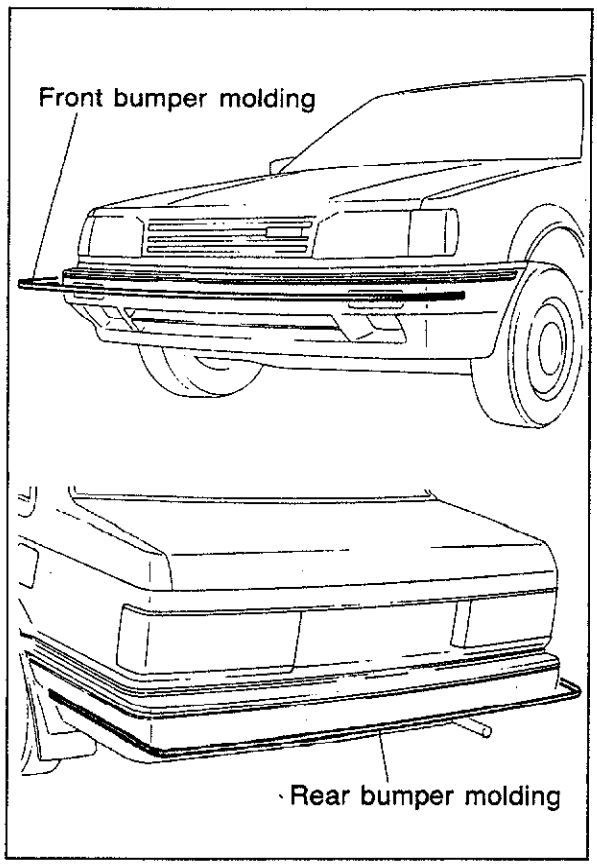
1. Attach the molding clips.

Caution
Do not mix the molding clips with glass clips their positions are as shown.



63U14X-099

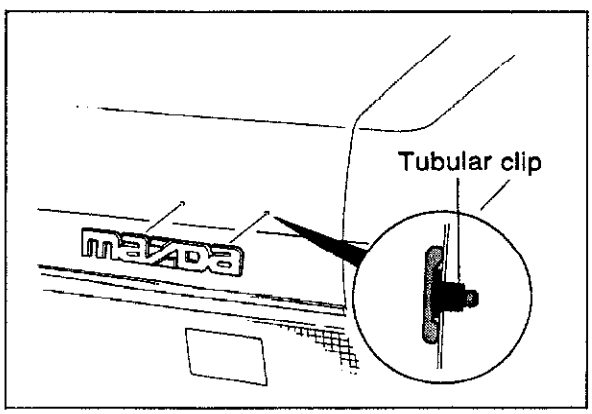
2. Install the lower, upper and side moldings.
3. Install the wiper motor, back door trim, luggage compartment light assembly, and wiper arm with blade.



63U14X-100

BUMPER MOLDING
Removal and Installation

1. Remove the bumper molding by prying it with a protected screwdriver.
   (start removing it at the molding end.)
2. Snap the molding in starting at one end and proceed step by step toward the other end.



63U14X-101

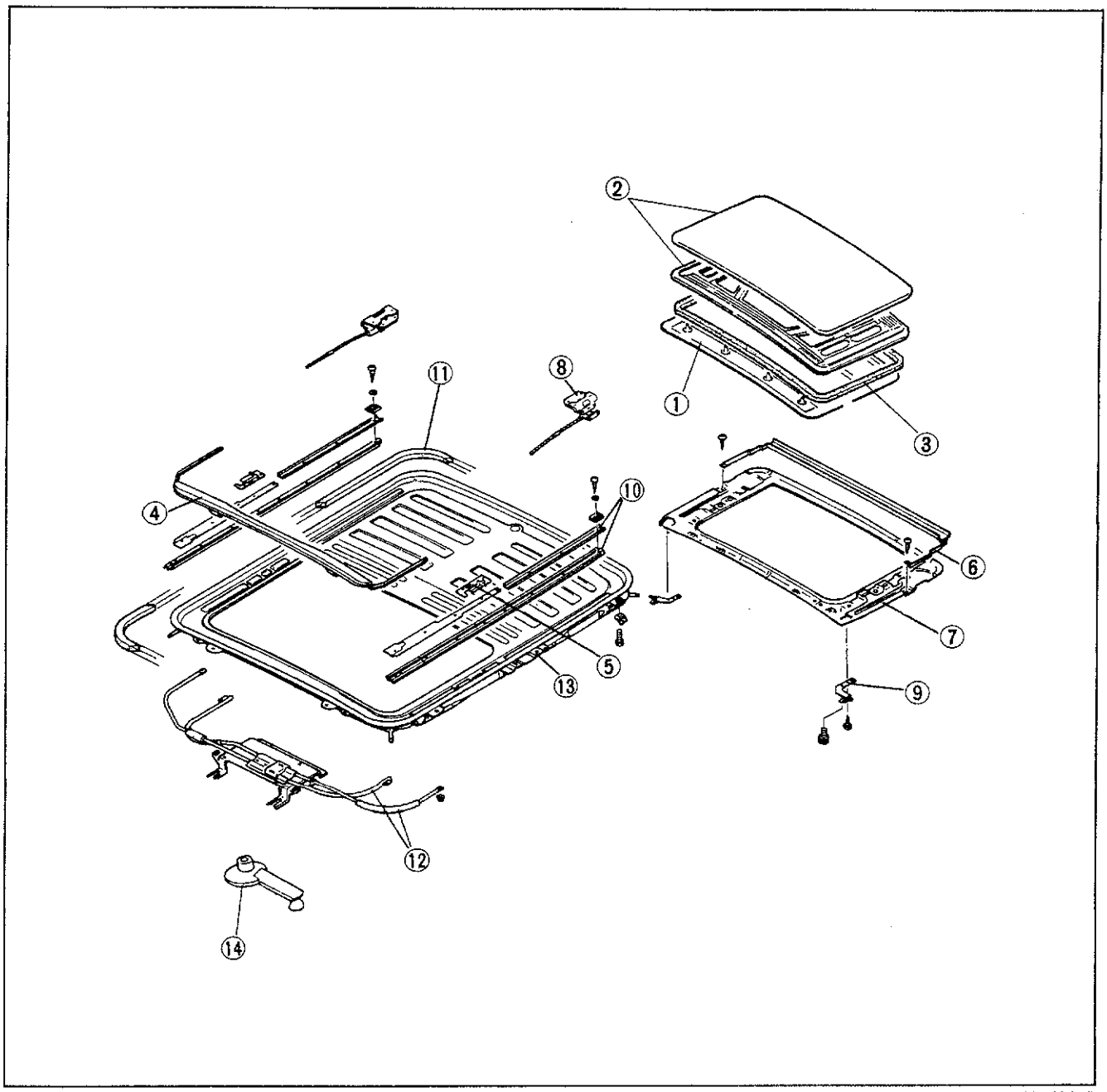
EMBLEM

MAZDA ORNAMENT
Removal and Installation

1. Remove the ornament by compressing the tubular clip and pushing the emblem out from inside the trunk.
2. To install, insert the tubular clip into the trunk lid, and then insert the ornament.

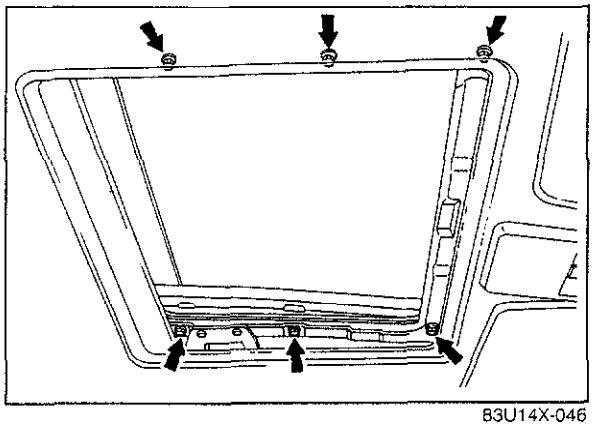
SLIDING SUNROOF

STRUCTURAL VIEW



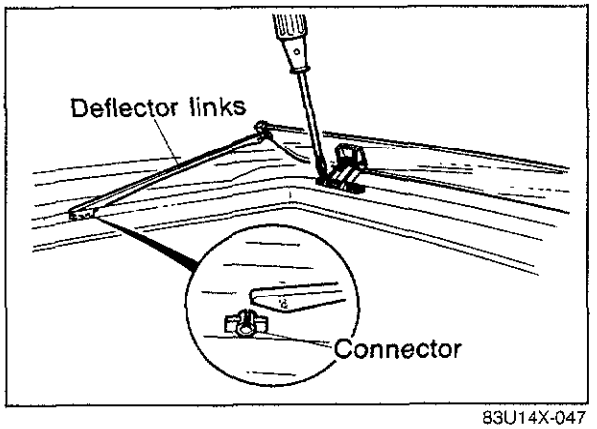
83U14X-045

1. Sunroof trim
2. Sliding panel
3. Weatherstrip
4. Deflector
5. Stopper
6. Rail assembly
7. Lower panel
8. Guide bracket (rear)
9. Guide bracket (front)
10. Guide rail assembly
11. Packing
12. Tube assembly
13. Frame assembly
14. Regulator


83U14X-046

REMOVAL

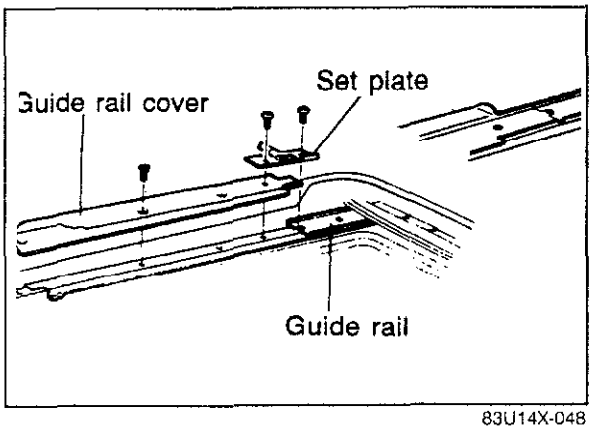
1. Remove the sunroof trim.
2. Remove the installation nuts for the sliding panel and lower panel.
3. Remove the sliding panel by pushing it upward from inside the vehicle.
4. Completely open the lower panel.



83U14X-047

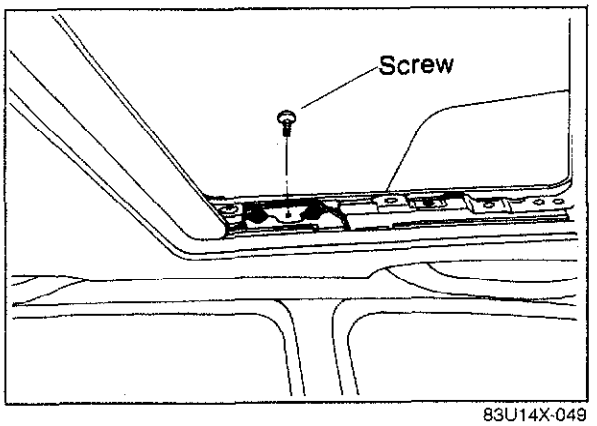
5. Disconnect the deflector links from the connectors remove the deflector.

Note
Hold the deflector down while disconnecting the deflector links.



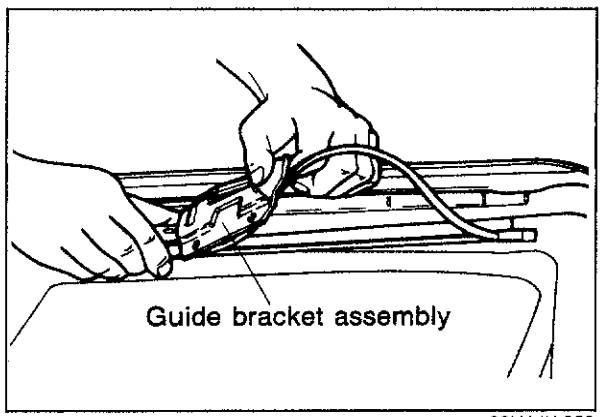
83U14X-048

6. Remove the screws and the set plate.
7. Remove the screw and remove the guide rail cover.



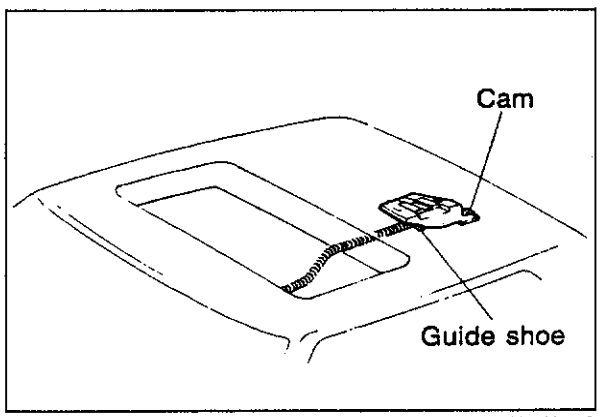
83U14X-049

8. Remove the screws and the bracket assembly, remove the screws from the drip rail link, and then remove the lower panel upward.



83U14X-050

9. Remove the guide bracket assembly from the rail, and then pull the driving cable out.

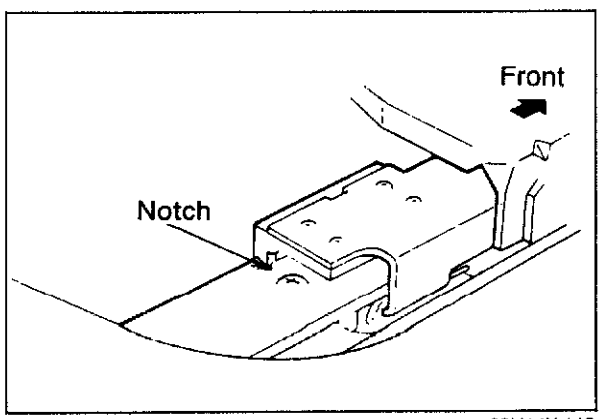


63U14X-112

INSTALLATION

1. Insert the driving cable into the tube assembly.

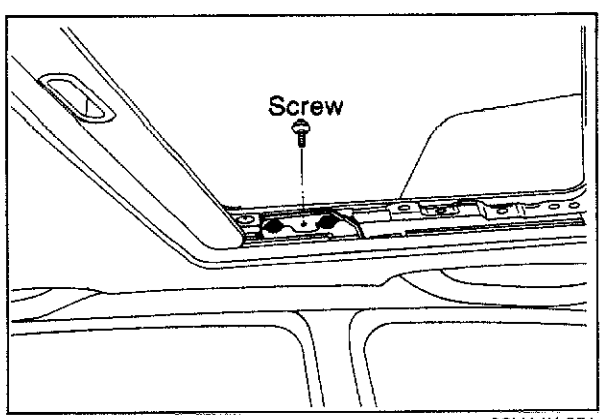
Note
Apply an ample amount of grease to the driving cable and insert the cable through the end of the assembly. Apply an ample amount of grease on the sliding surfaces of the cam and guide shoe.



63U14X-113

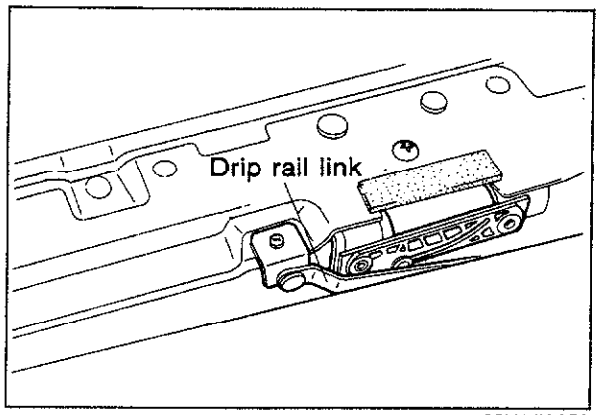
2. Properly adjust the left and right positions of the driving cable.

Note
Insert the guide rail into its bracket and insert the rear end of the bracket into the notch at the rear of the rail.



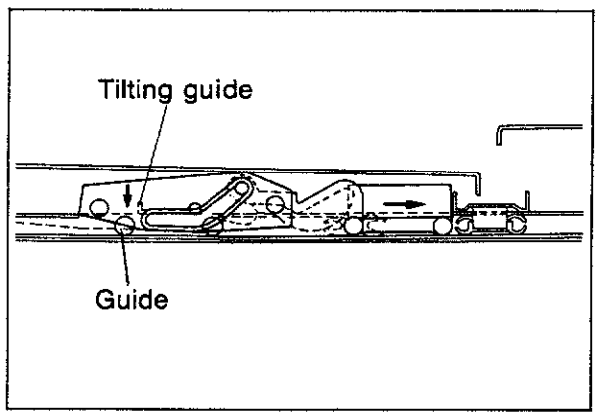
83U14X-051

3. Install the lower panel to the guide bracket assembly screw(s).



83U14X-052

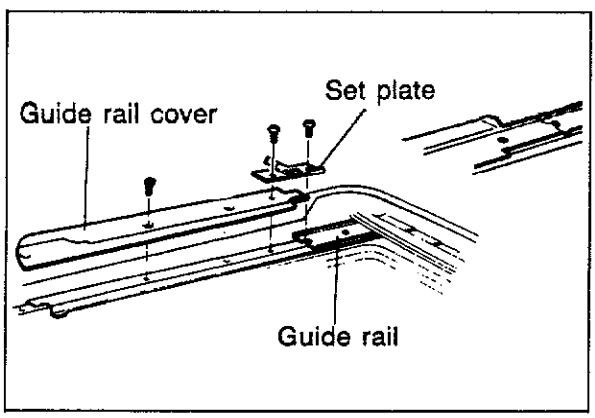
4. Pull out the drip rail from the rear, and tighten the link.



83U14X-053

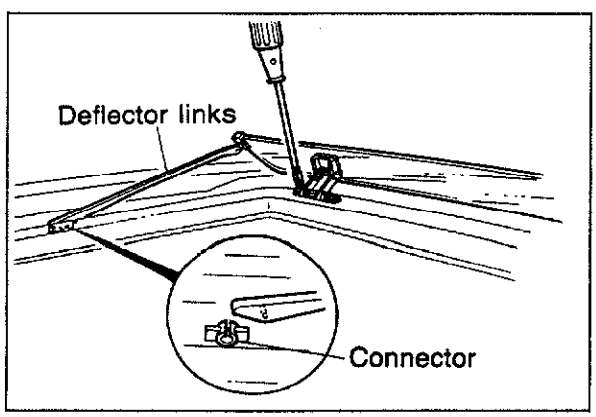
5. Turn the regulator and open the lower panel fully.

Note
Because the lower panel and roof panel might interfere with each other when the lower panel is opened, check that the guide roller is completely fitted into the guide rail, as shown in the figure.
Turn the regulator while pushing the cable.



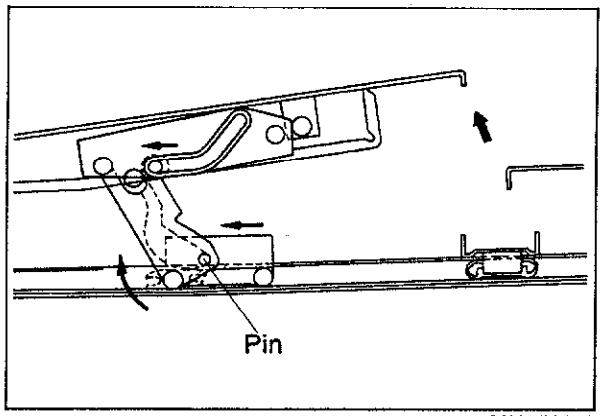
83U14X-054

6. Install the guide rail cover, and the set plate.



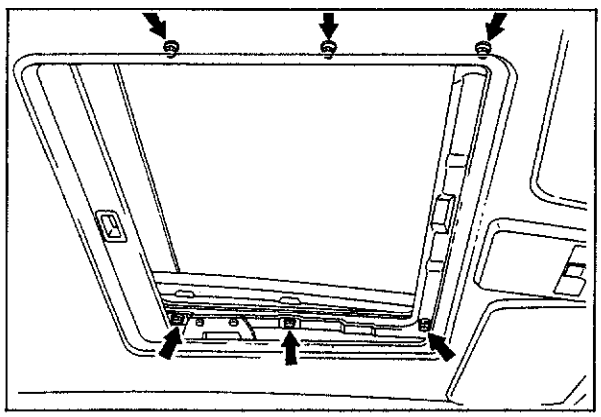
83U14X-055

7. Install the deflector and connect the deflector links.



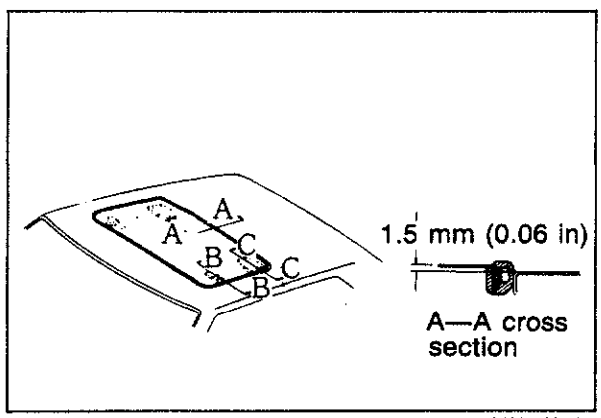
83U14X-056

8. Use the regulator and check the sliding operation of the sunroof, also check the tilt up and tilt down operations.



83U14X-057

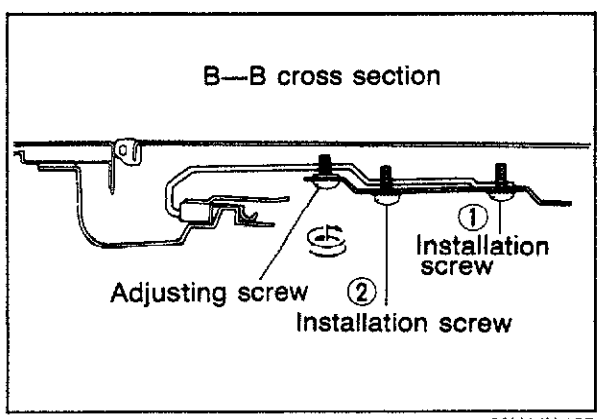
9. Install the sliding panel.



83U14X-026

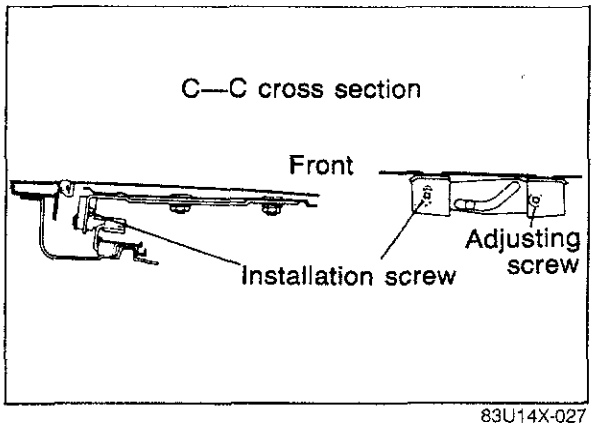
10. Adjust the height of the slide panel.

(Cross-section A-A)
Adjust so that the height difference between the outer panel and roof panel is **1.5 mm (0.06 in)** or less.



63U14X-125

(Cross-section B-B adjustment)
(1) Loosen installation screws (1) and (2).
If the adjustment is only about **2 mm (0.08 in)** don't loosen screw (1).
(2) Turn the adjusting screws to adjust.
Turning to the right raises, and to the left lowers.
(3) Tighten installation screws (1) and (2).

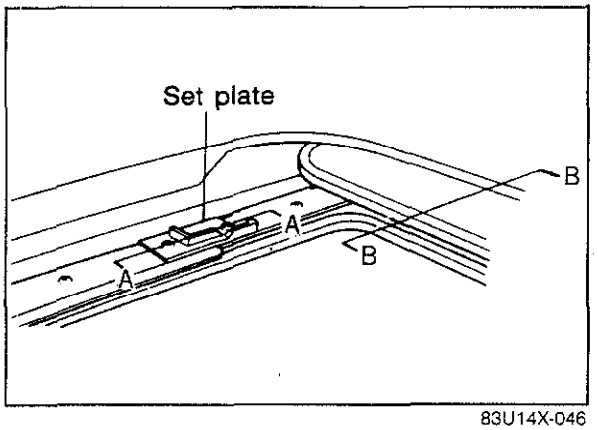


83U14X-027

(Cross-section C-C adjustment)

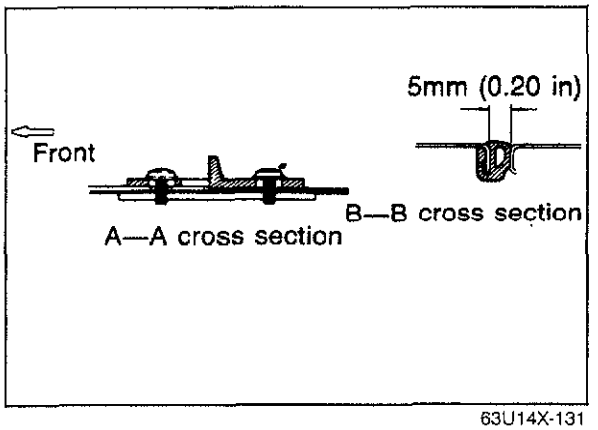
(1) Loosen the installation screw and the adjusting screw.
The adjustment will be easier if the installation screw is not loosened too much.
(2) Adjust by moving the outer panel from the inside or outside.
(3) Tighten the adjusting screw first, and then the installation screw.

Caution
If the outer panel operation seems "heavy", make the following adjustments.



83U14X-046

11. Install the sunroof trim.
12. After installation is completed, check the operation and following points:
(1) Is there any foreign material on the sliding parts of the sunroof?
(2) When the sliding panel is opened, does the roof panel interfere with the rear part? If so, open the outer panel fully and move the stopper forward.



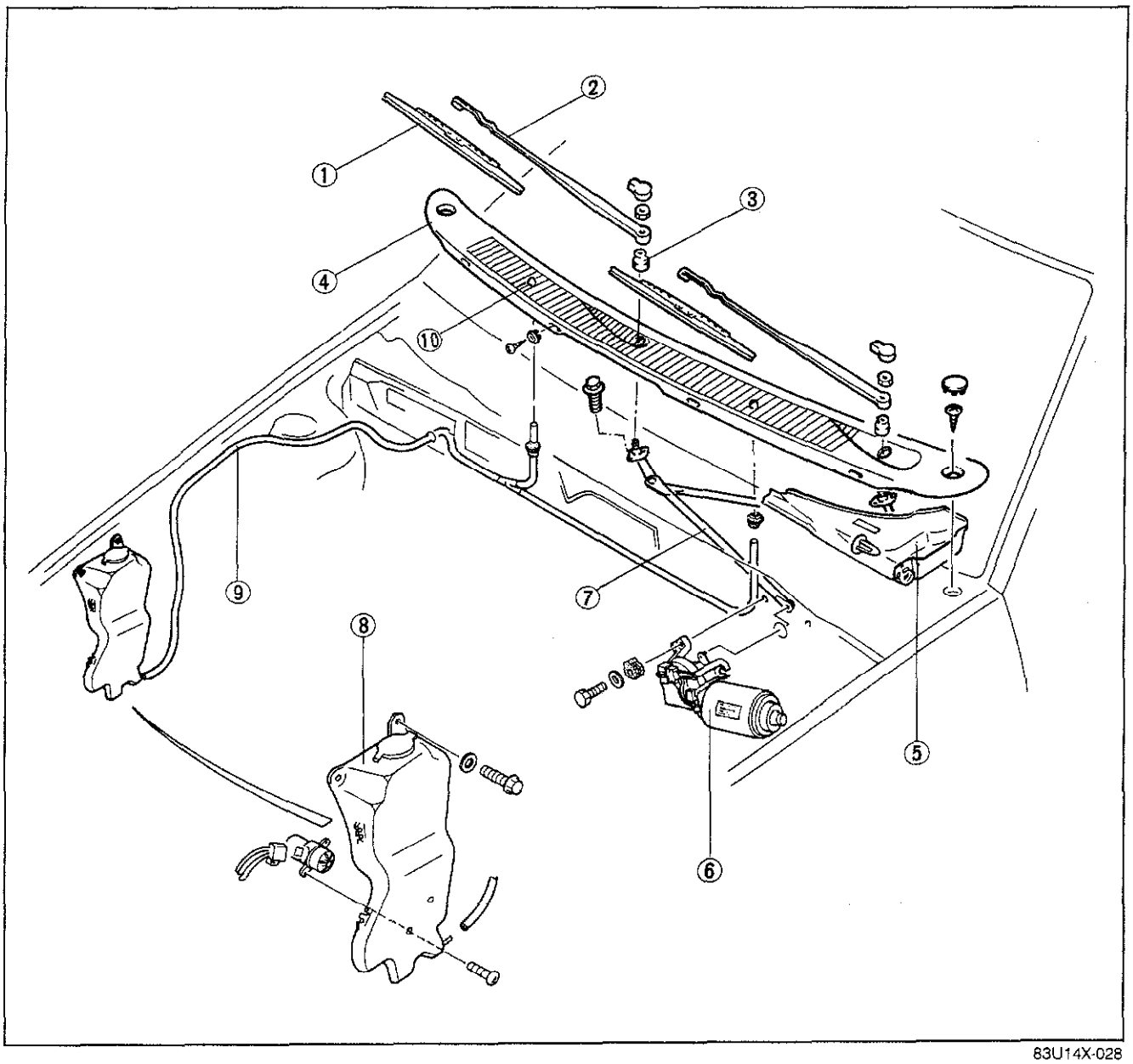
63U14X-131

Caution
If the stopper is moved too far forward, there might be a malfunction or leaking. Do not leave a gap of more than 5 mm (0.2 in) between the outer panel and roof panel.

WINDSHIELD WIPER

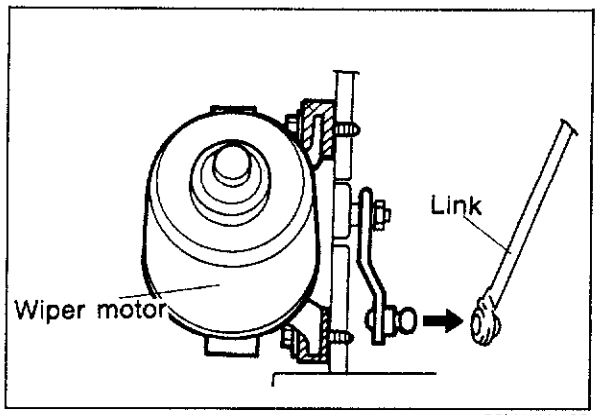
REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reverse order of removal.



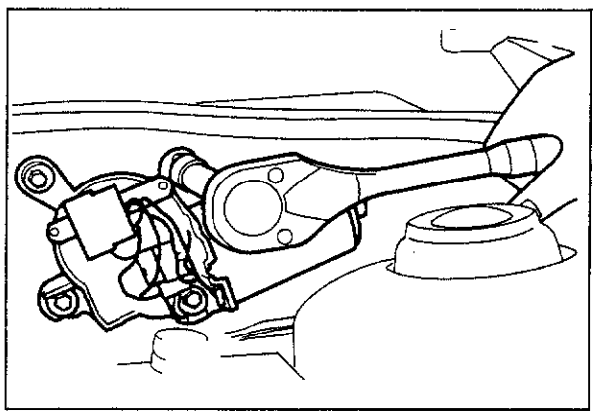
83U14X-028

1. Wiper blade
2. Wiper arm
3. Seal rubber
4. Cowl grill
5. Cover
6. Wiper motor
7. Link assembly
8. Washer tank
9. Nozzle hose
10. Washer nozzle



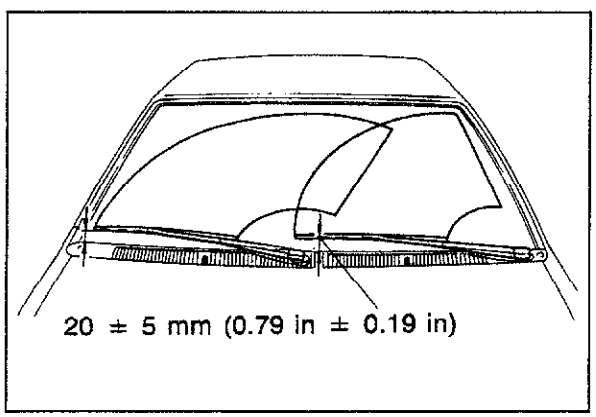
63U14X-133

Wiper motor
To remove the wiper motor, insert a large standard screwdriver between the crank arm and the linkage and pry the linkage to separate it from the crank arm.



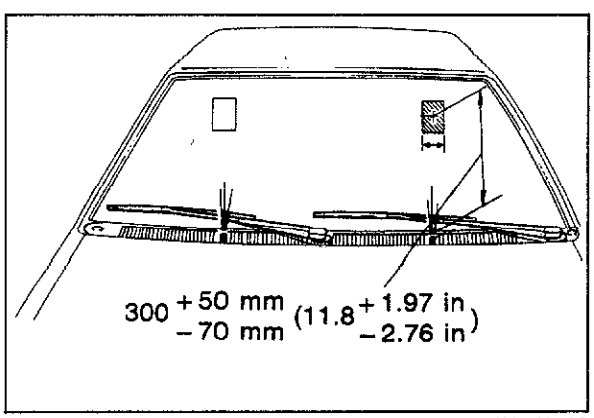
63U14X-134

Do not remove the motor and crank arm unless necessary, because the automatic-stop angle is fixed.



63U14X-135

Adjustment of arm height
Adjust the arm height as shown in the figure.



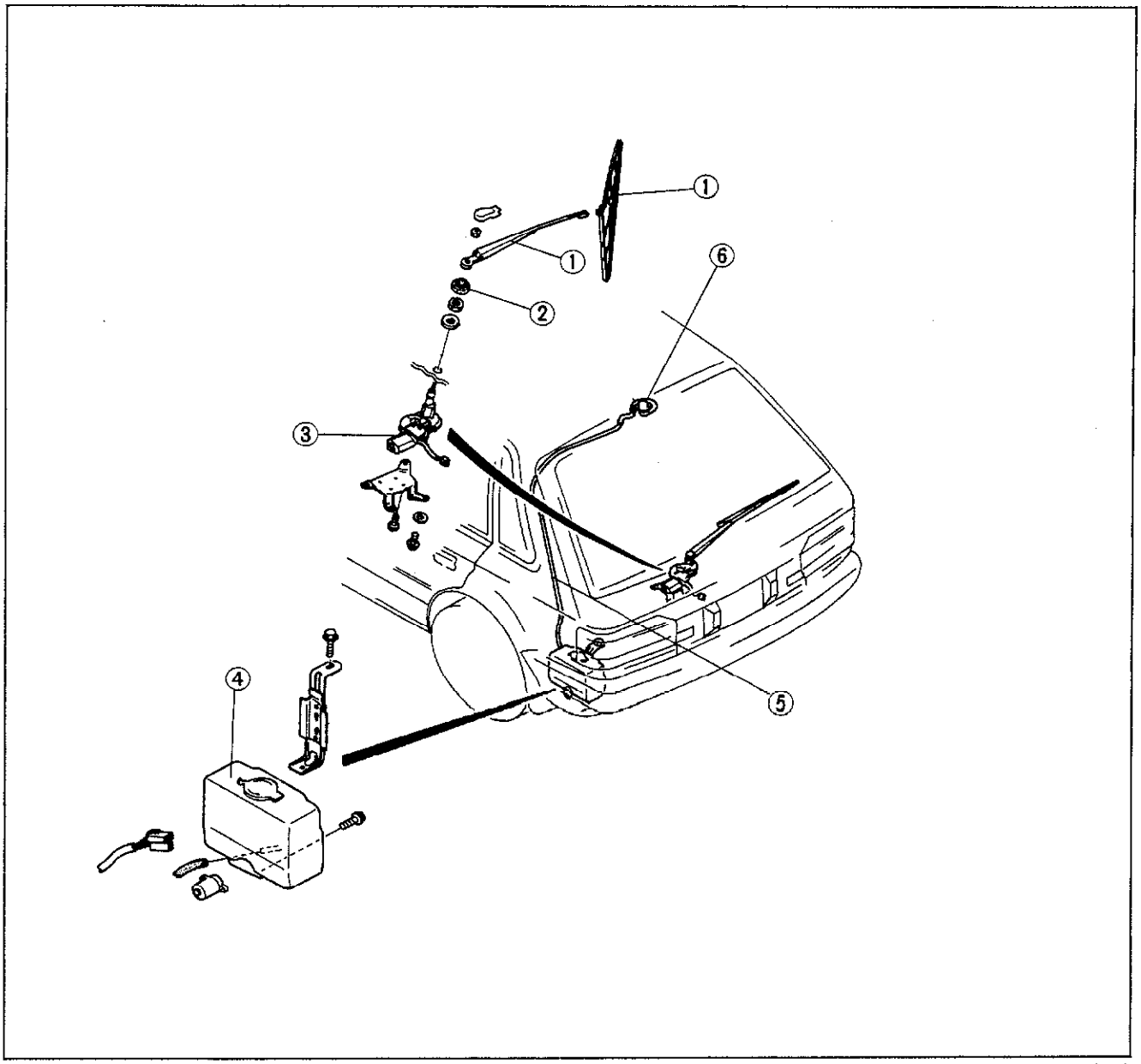
63U14X-136

Adjustment of washer spray
Adjust the washer spray by inserting a needle or similar object into the spray hole of the nozzle and bend to adjust.

REAR WINDOW WIPER

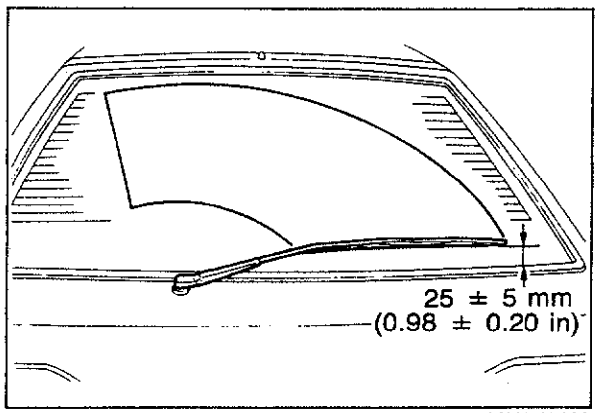
REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reverse order of removal.



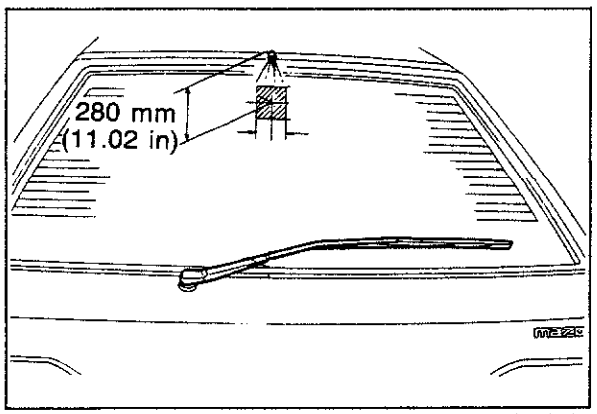
83U14X-029

1. Wiper arm and wiper blade
2. Seal cap
3. Wiper motor
4. Washer tank
5. Nozzle hose
6. Washer nozzle



83U14X-030

Adjustment of Arm Height
Adjust the height as shown in the figure.



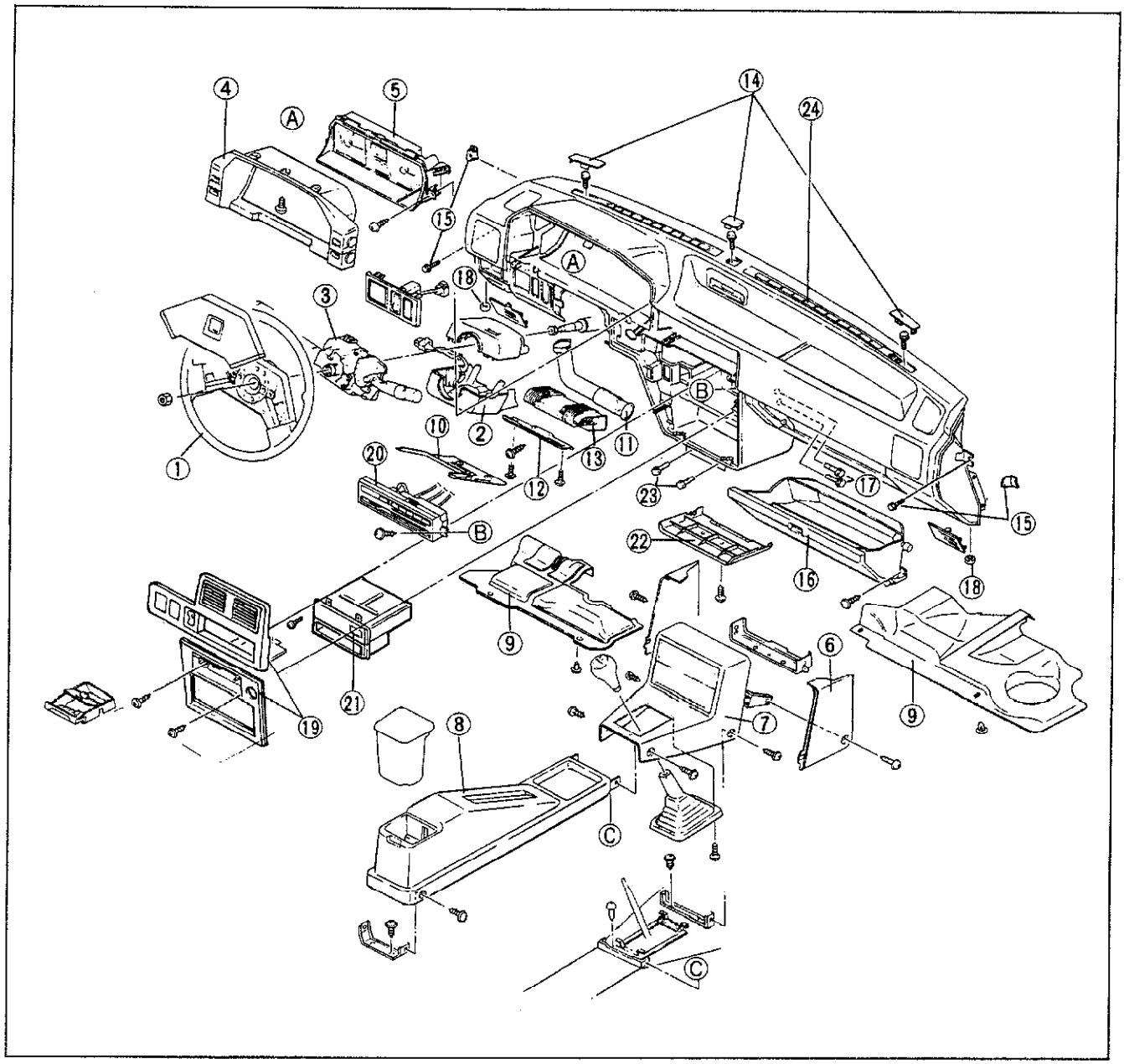
63U14X-139

Adjustment of Washer Spray
Adjust the washer spray by inserting a needle or similar object into the spray hole of the nozzle and bend to adjust.

INSTRUMENT PANEL

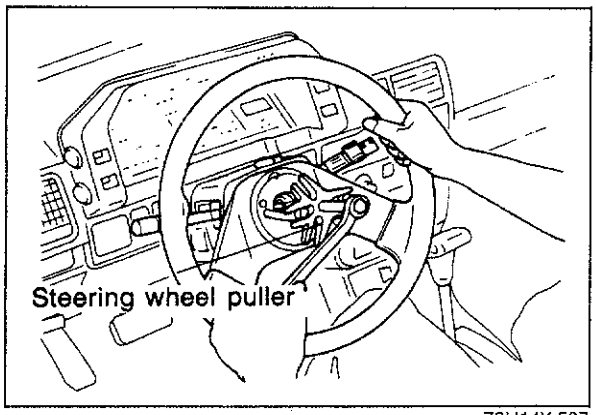
REMOVAL AND INSTALLATION

1. Disconnect the battery negative cable.
2. Remove the parts in the sequence shown in the figure.
3. Install in the reverse order of removal.



83U14X-013

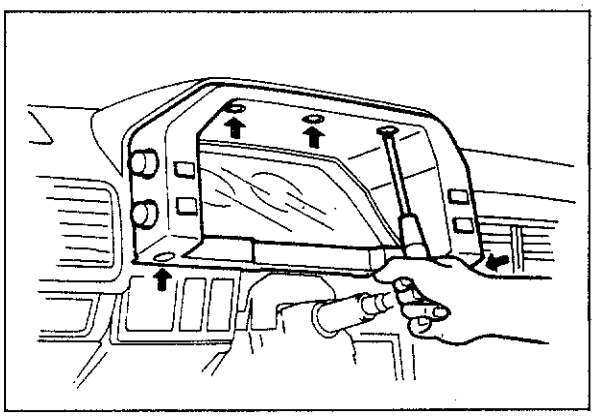
1. Steering wheel
2. Column cover (upper and lower)
3. Combination switch
4. Meter hood
5. Meter
6. Side wall
7. Front console
8. Rear console
9. Under cover
10. Lower panel
11. Duct
12. Reinforcement
13. Lower louver
14. Bolts (3)
15. Bolts (2)
16. Glove box
17. Bolts (2)
18. Nuts (2)
19. Center panel
20. Heater control
21. Center differential lock switch
22. Lower cover
23. Bolts (2)
24. Instrument panel



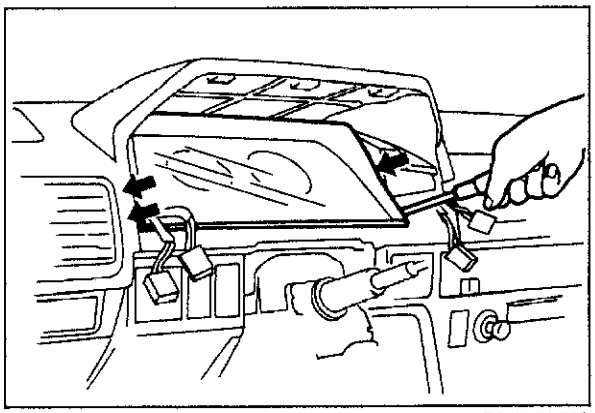
73U14X-507

Removal

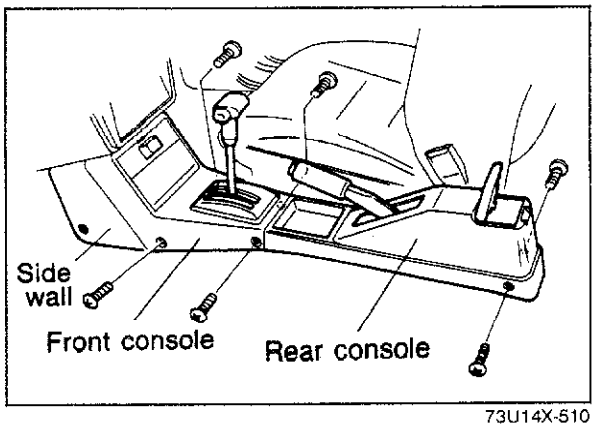
1. Remove the steering wheel.
2. Remove the column cover.
3. Remove the combination switch assembly.


73U14X-508

4. Remove the attaching screws and remove the meter hood.

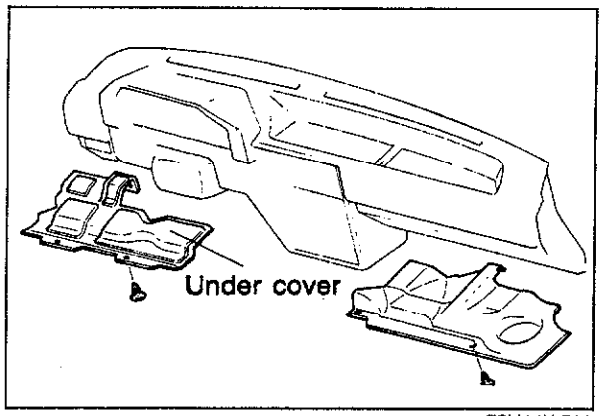

73U14X-509

5. Remove the attaching screws.
6. Disconnect the speedometer cable and the meter connector.
7. Remove the meter assembly.



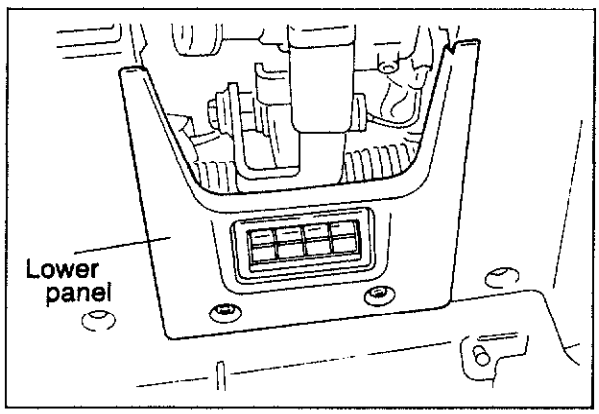
73U14X-510

8. Remove the attaching screws and remove the side wall on both sides.
9. Remove the rear console.
10. Remove the front console and slide it rearward.
11. Disconnect the antenna feeder from the radio.



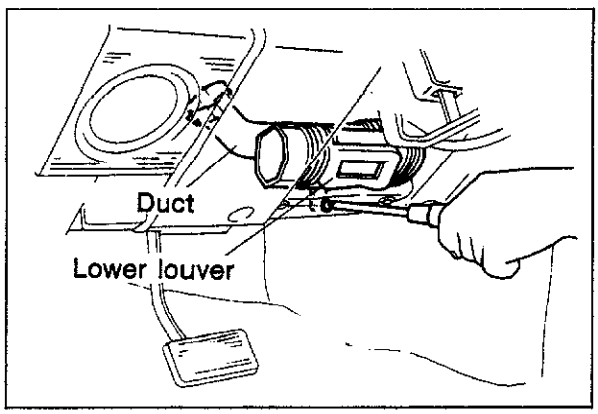
73U14X-511

12. Remove the fasteners and remove the under cover on both sides.



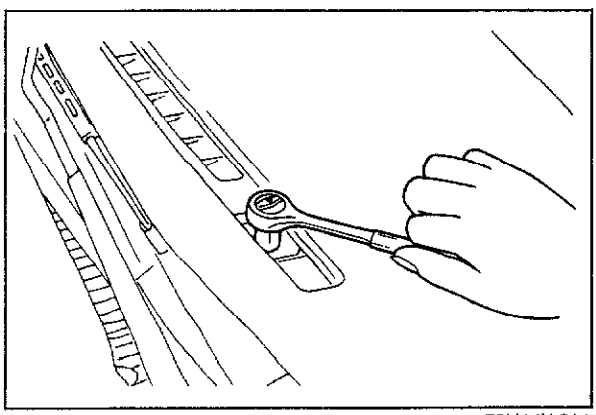
73U14X-512

13. Remove the screws and remove the lower panel.

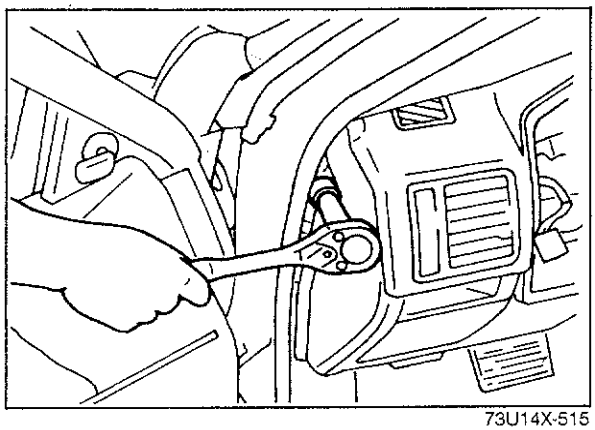


73U14X-513

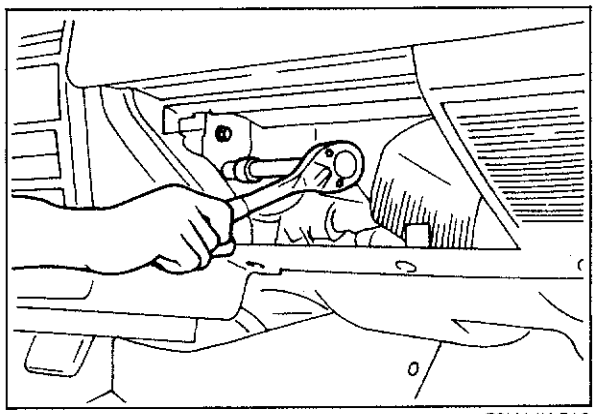
14. Remove the screws and remove the lower louver and reinforcement.
15. Remove the duct.
16. Remove the hood release wire.


73U14X-514

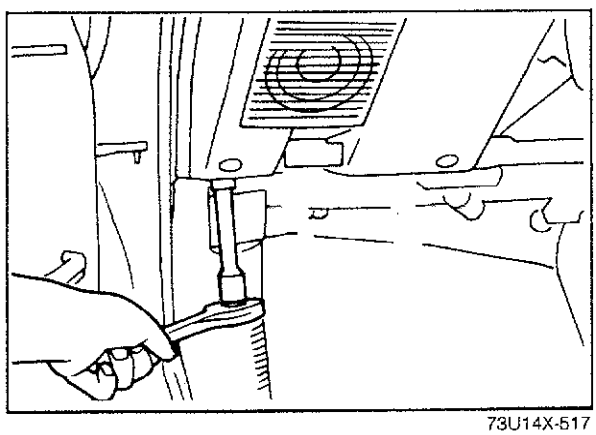
17. Remove the center and side hole covers and remove the bolts.


73U14X-515

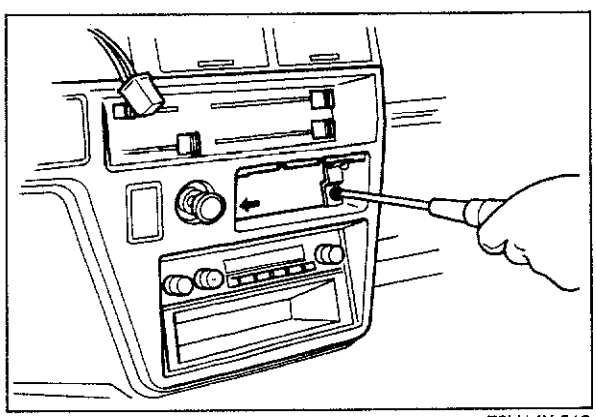
18. Remove the side cover on both sides and remove the bolts.


73U14X-516

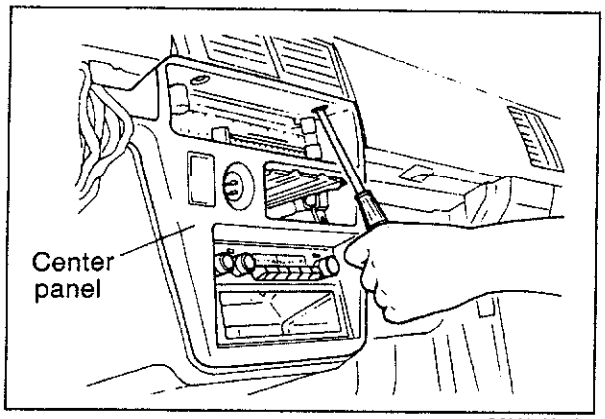
19. Remove the screws and remove the center bracket attaching bolts after removing the glove box.


73U14X-517

20. Remove the side bracket attaching nut on both sides.

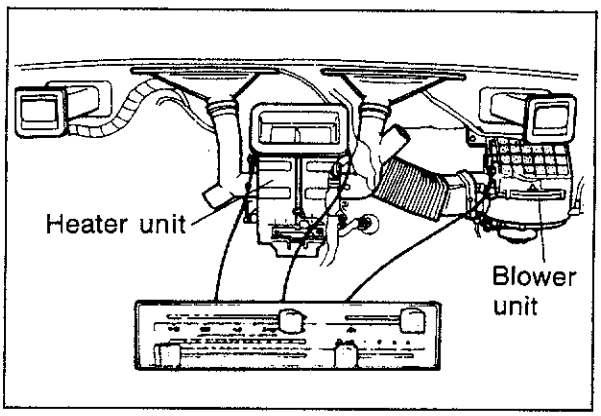

73U14X-518

21. Remove the ashtray and remove the screws.



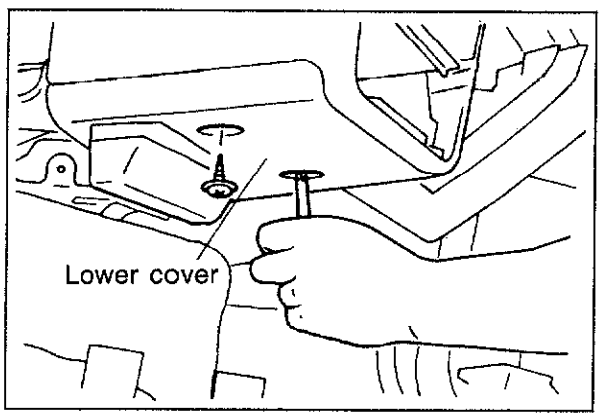
83U14X-031

22. Remove the screws and remove the center panel with the protected standard screw driver.
23. Disconnect the cigarette lighter connector and remove the light for illumination.



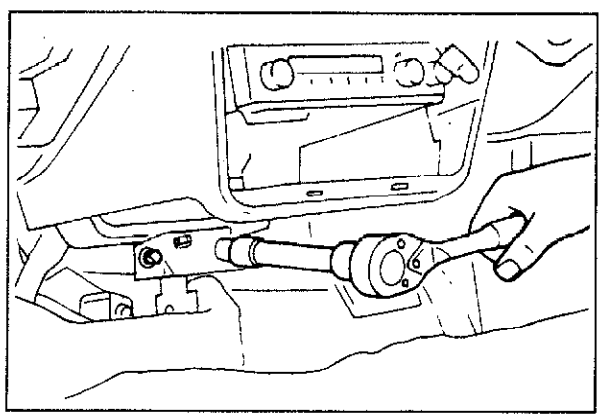
73U14X-520

24. Remove the heater control wires.

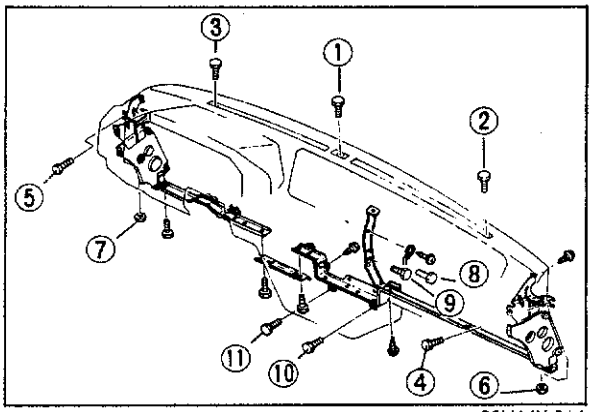


73U14X-521

25. Remove the screws and remove the lower cover.


73U14X-522

26. Remove the instrument panel support bracket attaching bolts.
27. Disconnect the connectors between instrument panel harness and front harness.
28. Remove the instrument panel.



83U14X-014

Installation
Install in the reverse order of removal.

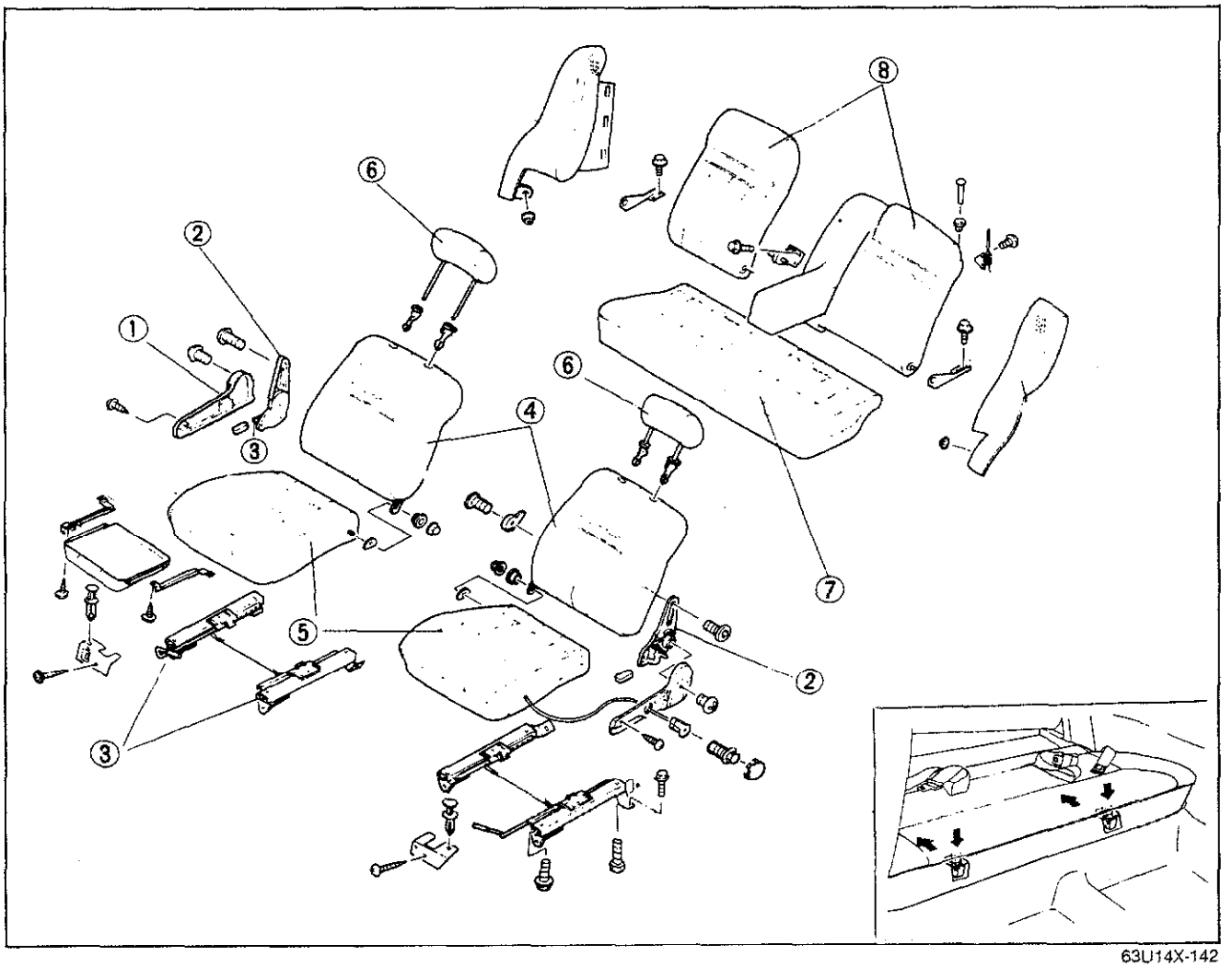
Note
1. Tightening torque
   ① ② ③.....4.2—6.2 N·m
   (0.43—0.63 m-kg, 3.1—4.6 ft-lb)
   ④ ⑤.....8.8—12.8 N·m
   (0.9—1.3 m-kg, 6.5—9.4 ft-lb)
   ⑥ ⑦.....7.8—10.8 N·m
   (0.8—1.1 m-kg, 5.8—8.0 ft-lb)
   ⑧ ⑨.....8.8—12.8 N·m
   (0.9—1.3 m-kg, 6.5—9.4 ft-lb)
   ⑩ ⑪.....8.8—12.8 N·m
   (0.9—1.3 m-kg, 6.5—9.4 ft-lb)

2. Adjustment of heater control wires
   (Refer to page 15—119 and 120)

SEAT

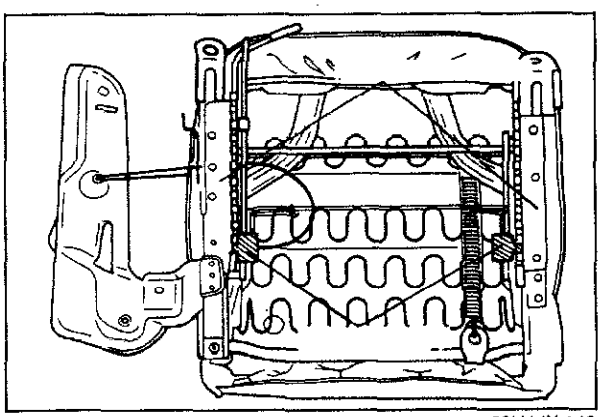
DISASSEMBLY AND ASSEMBLY

1. Disassemble the parts in the sequence shown in the figure.
2. Assemble in the reverse order of disassembly.



63U14X-142

1. Cover
2. Reclining knuckle
3. Seat adjuster
4. Front seat back
5. Front seat cushion
6. Head restraint
7. Rear seat cushion
8. Rear seatback



63U14X-143

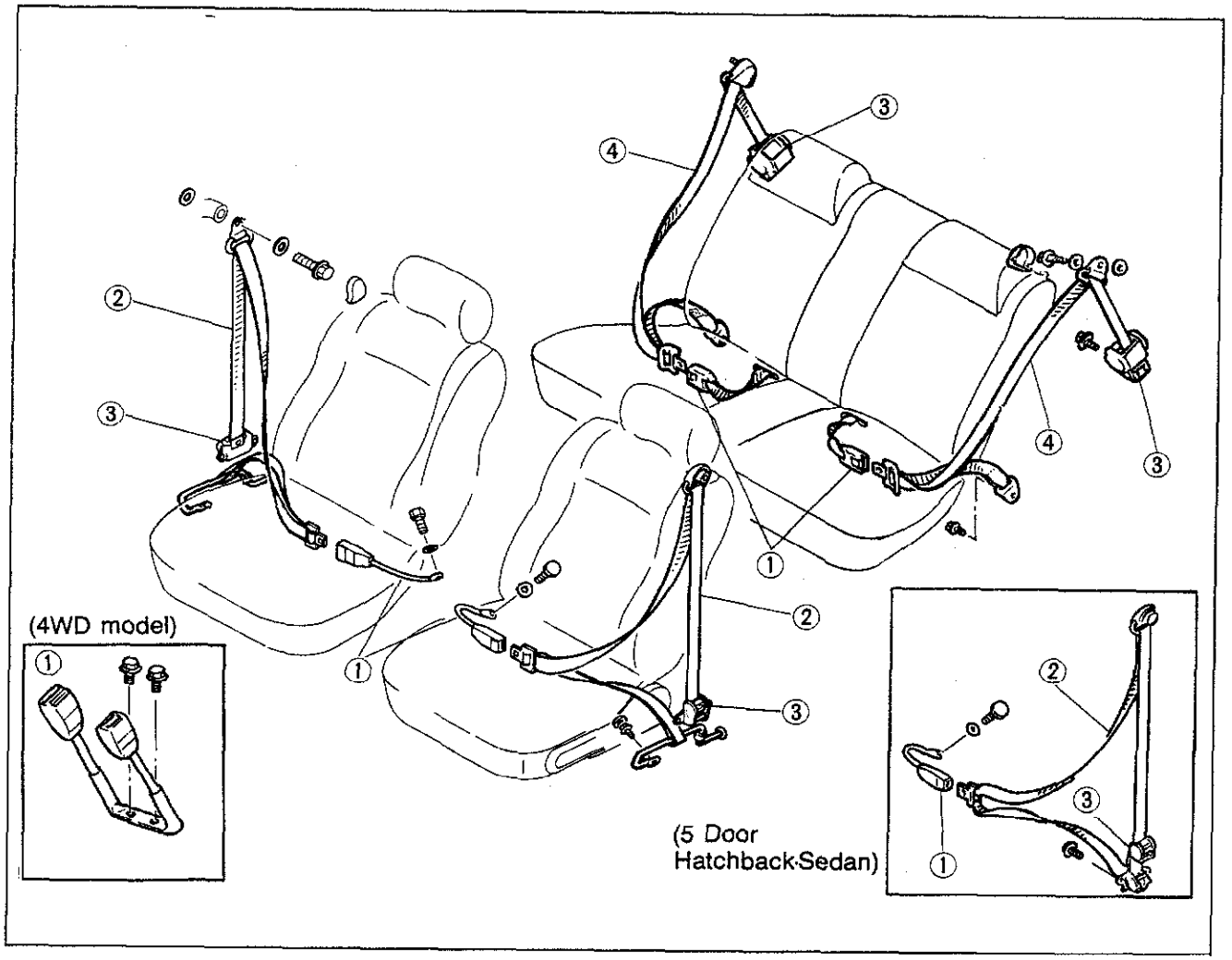
INSPECTION

a) Check that the seat adjuster lever and reclining knuckle move smoothly. Apply grease to the moving parts.
b) Check the adjustment lever for wear.
c) Check the seat mounting bolts for looseness.

SEAT BELT

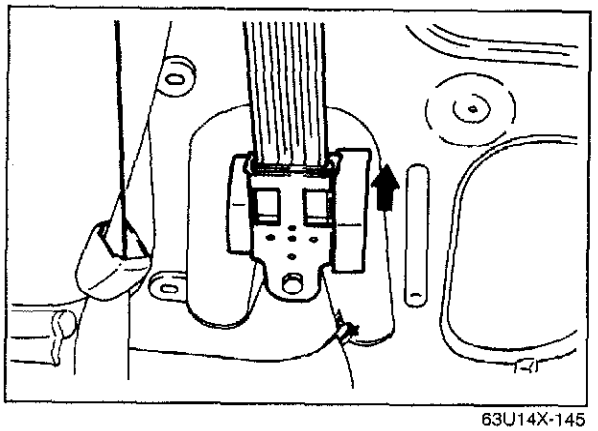
REMOVAL AND INSTALLATION

1. Remove the parts in the sequence shown in the figure.
2. Install in the reverse order of removal.



83U14X-015

1. Buckle
2. Front seat belt
3. Retractor (ELR)
4. Rear seat belt



63U14X-145

INSPECTION

1. Check that the belt can be pulled out smoothly and that it moves smoothly when worn.
2. Check the webbing for scars, tears or wear, and for deformation of the fittings.

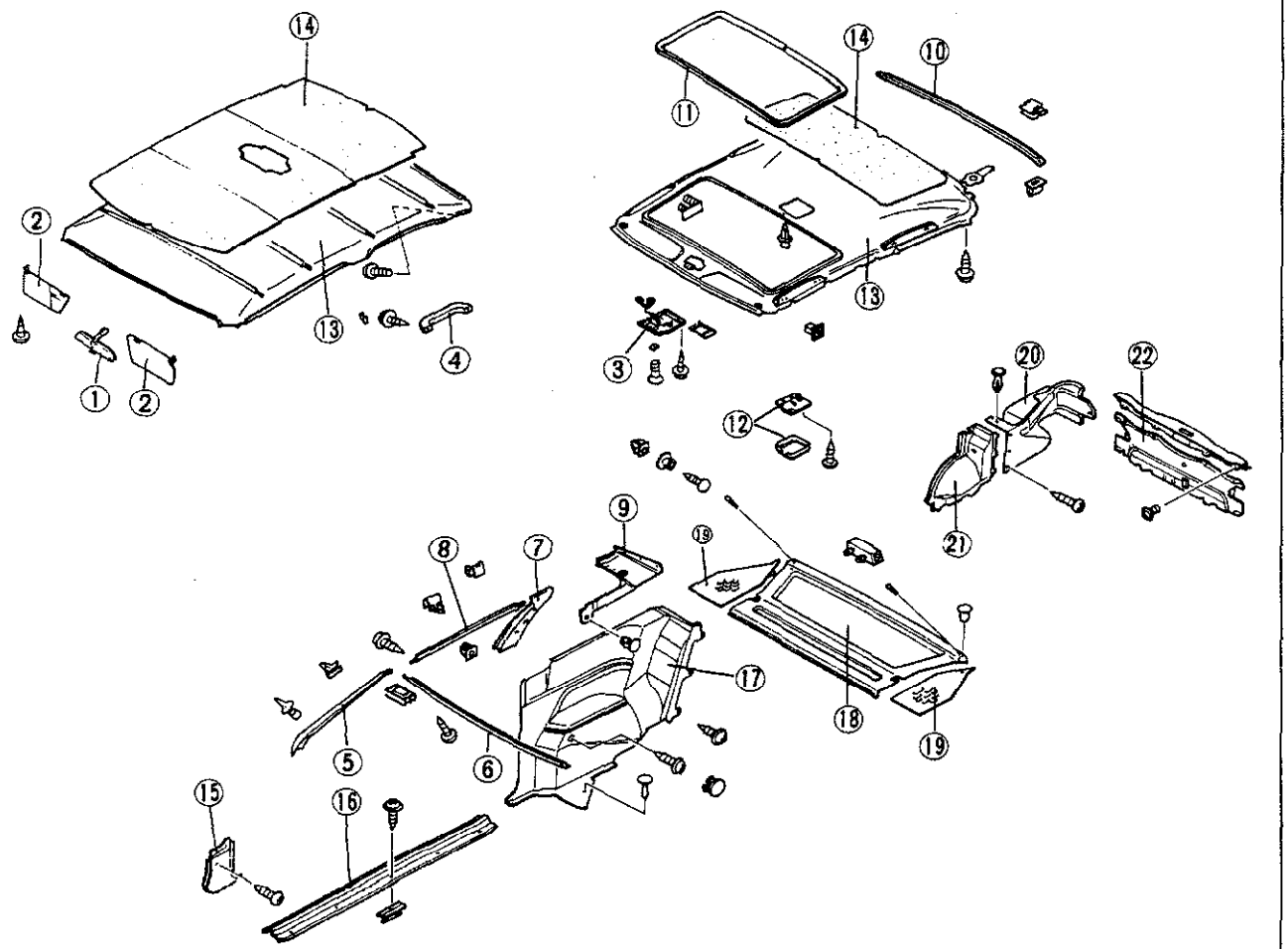
Warning
Do not disassemble the buckle or ELR assembly.

3. Check that the anchor works in the circumferential direction after the shoulder anchor bolt is tightened.

HEAD LINER

STRUCTURAL VIEW

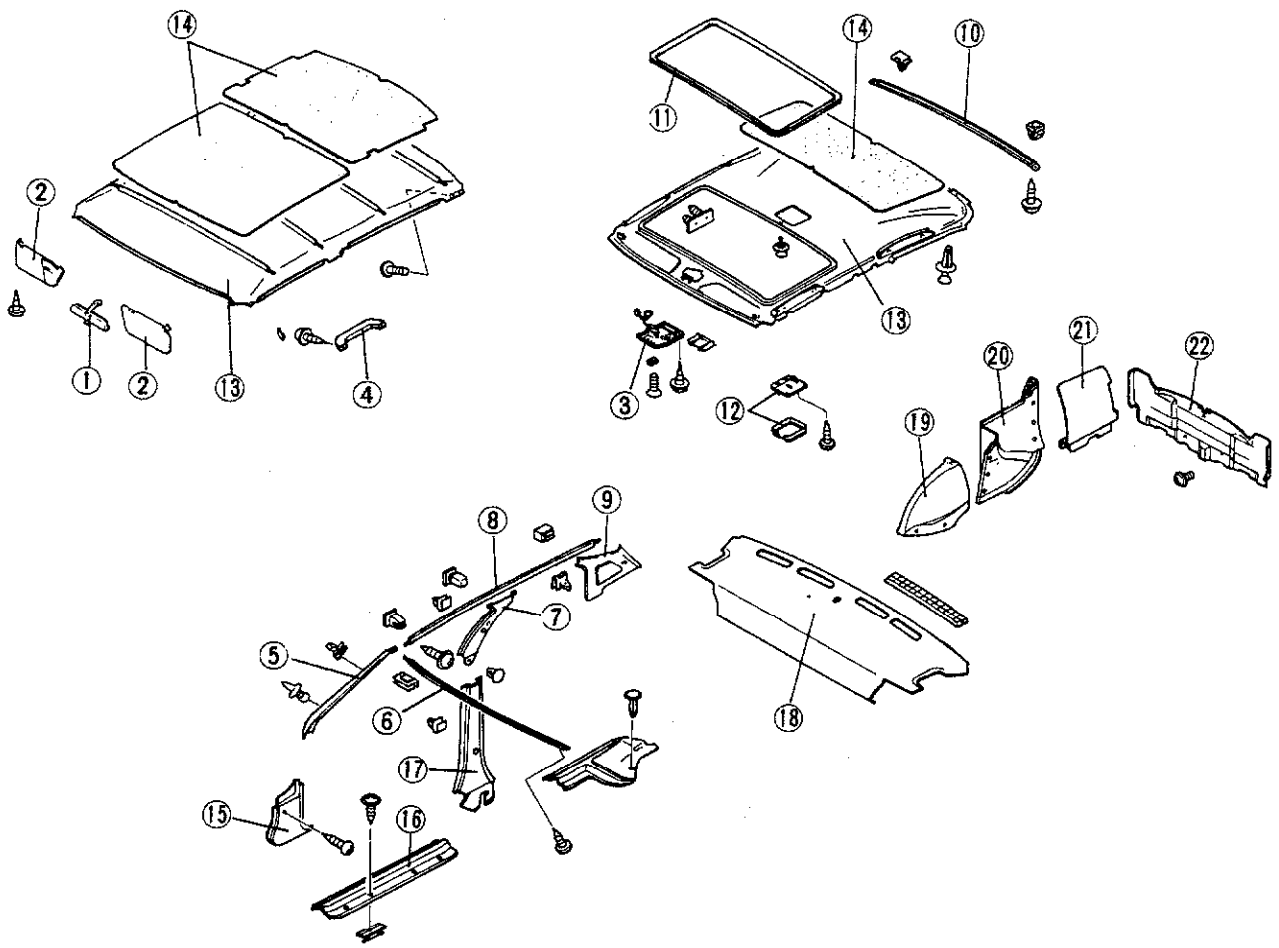
Hatchback



83U14X-032

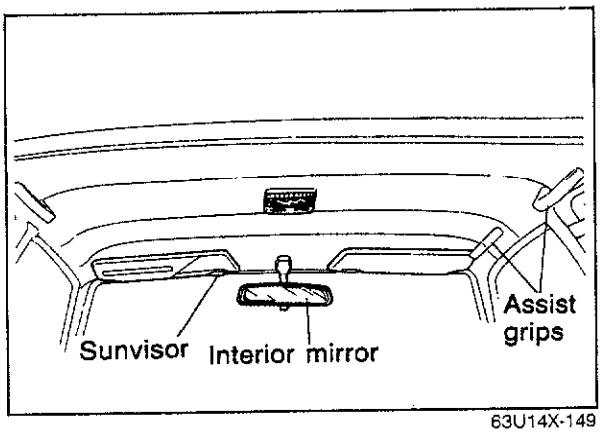
1. Interior mirror
2. Sunvisor
3. Overhead console
4. Assist grip
5. Front pillar trim
6. Front header trim
7. Center pillar trim
8. Side garnish
9. Rear pillar trim
10. Rear garnish
11. Seaming welt
12. Interior light
13. Head liner
14. Insulation
15. Front side trim
16. Front scuff plate
17. Quarter trim
18. Package tray trim
19. Package side shelf
20. Trunk side trim
21. Tire house trim
22. Trunk room end trim

Sedan



83U14X-033

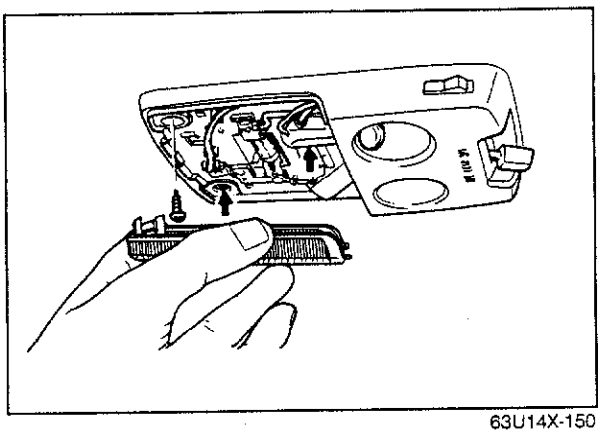
1. Interior mirror
2. Sunvisor
3. Overhead console
4. Assist grip
5. Front pillar trim
6. Front header trim
7. Center pillar trim (upper)
8. Side garnish
9. Rear pillar trim
10. Rear garnish
11. Seaming welt
12. Interior light
13. Head liner
14. Insulation
15. Front side trim
16. Front scuff plate
17. Center pillar trim (lower)
18. Package tray trim
19. Tire house trim
20. Trunk room front trim
21. Trunk room end trim
22. Trunk side trim



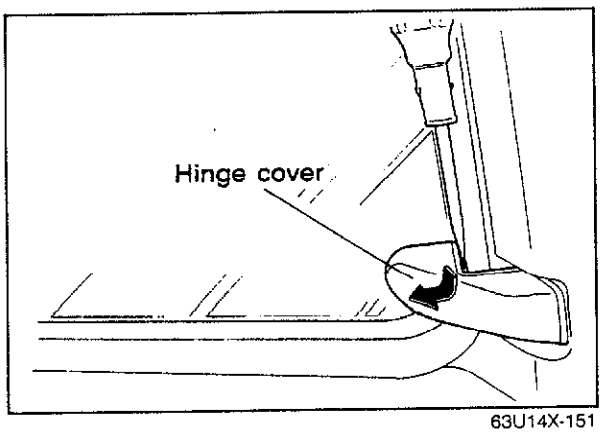
63U14X-149

REMOVAL (VEHICLE WITHOUT SUNROOF)

1. Remove the interior mirror, sunvisors, sunvisor holders and the assist grips.

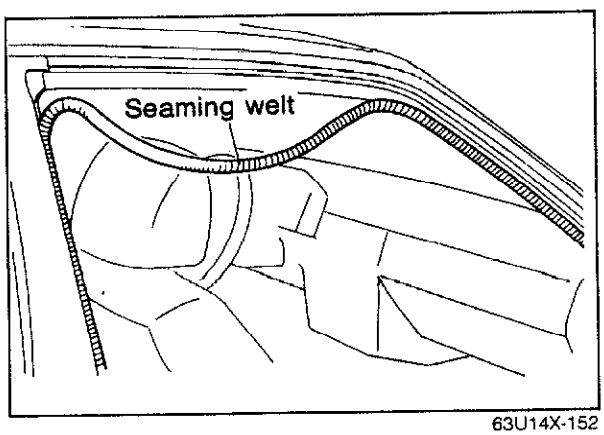

63U14X-150

2. Remove the lens of the interior light and remove the screws.
3. Disconnect the interior light connector.



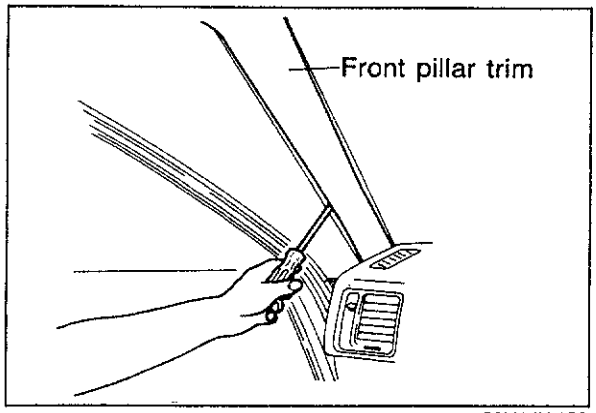
63U14X-151

4. Remove the hinge cover and the screws, then remove the side glass.
   (3 door hatchback vehicle only)



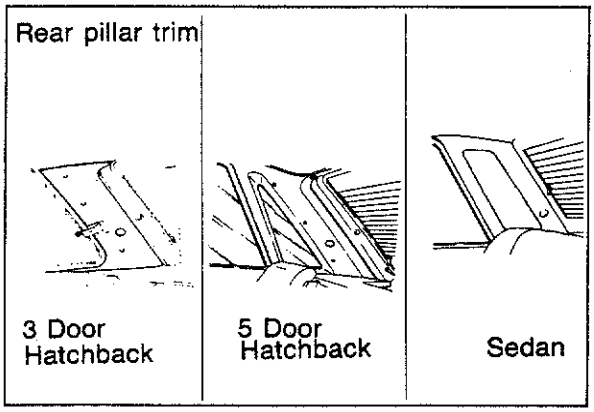
63U14X-152

5. Remove the weatherstrip.
6. Remove the seaming welt.



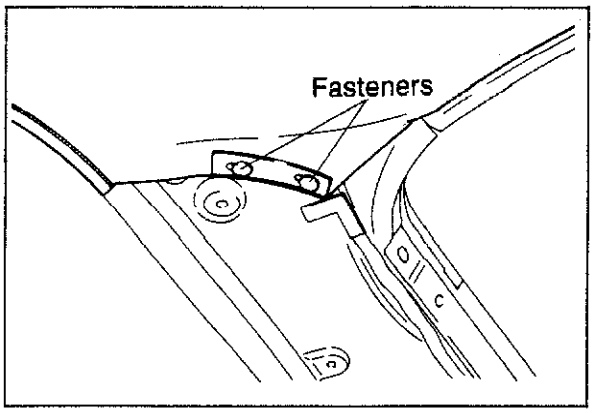
63U14X-153

7. Remove the front door trim by prying with a screwdriver.
8. Remove the center pillar trim.



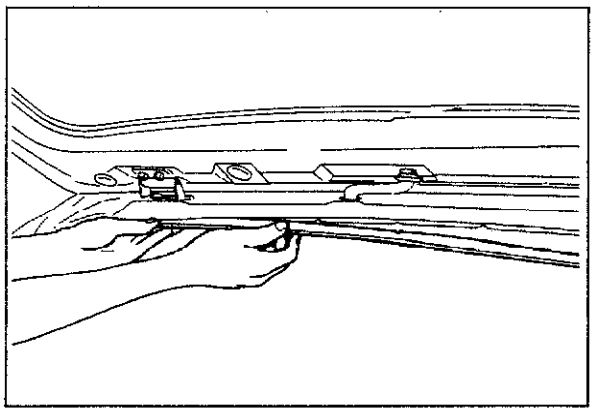
63U14X-154

9. Remove the weatherstrip, fasteners and then remove the rear pillar trim.



83U14X-034

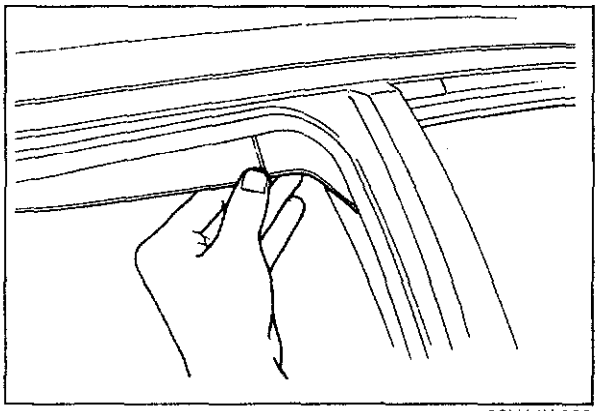
10. Remove the fasteners from the head liner.



83U14X-035

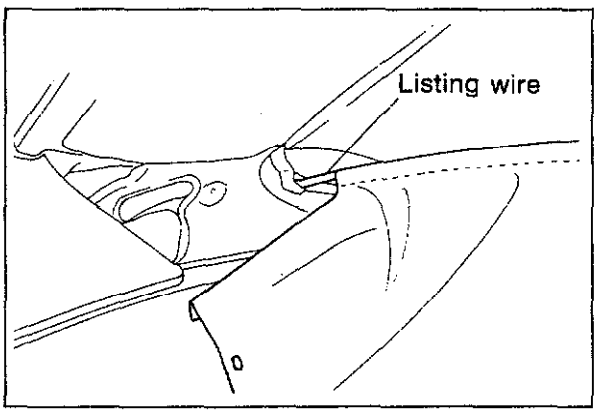
11. Remove the head liner rear end plate.

Note
For a sedan vehicle, remove the plate while pushing the weatherstrip away from the end plate.



83U14X-036

12. Remove the rear of the head liner by pulling if free at the corners.

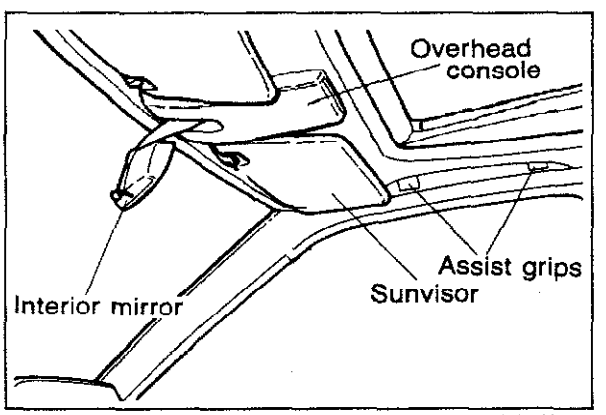


83U14X-037

13. *Remove the listing wire forward.*
14. Remove the front part of the head liner.

INSTALLATION

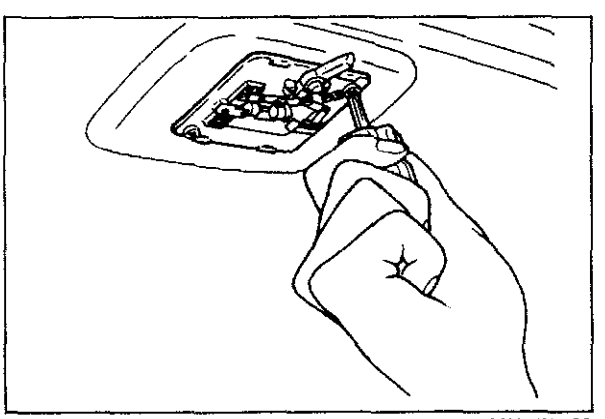
Follow the reverse order of removal.



63U14X-159

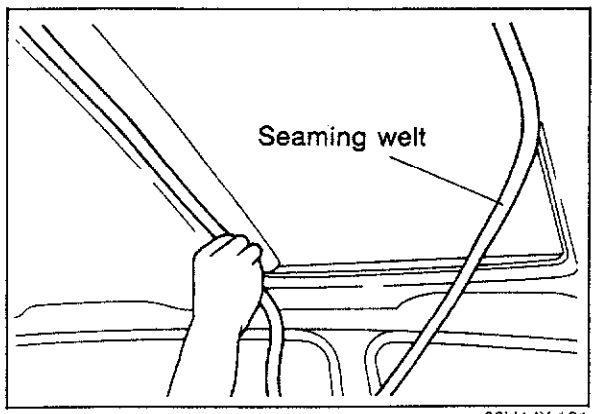
REMOVAL (VEHICLE WITH SUNROOF)

1. Remove the overhead console, interior mirror, sunvisors, sunvisor holders and the assist grips.



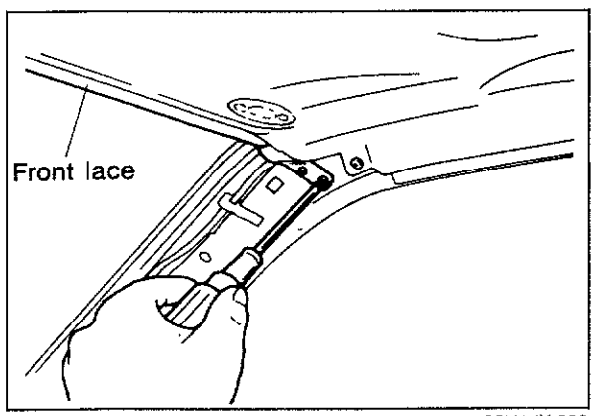
63U14X-160

2. Remove the lens of the interior light, and remove the screws.
3. Disconnect the harness connector, and remove the interior light.



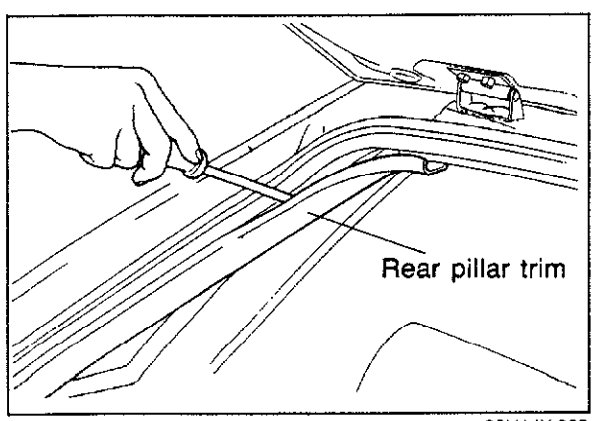
63U14X-161

4. Remove the seaming welt from the sunroof opening.



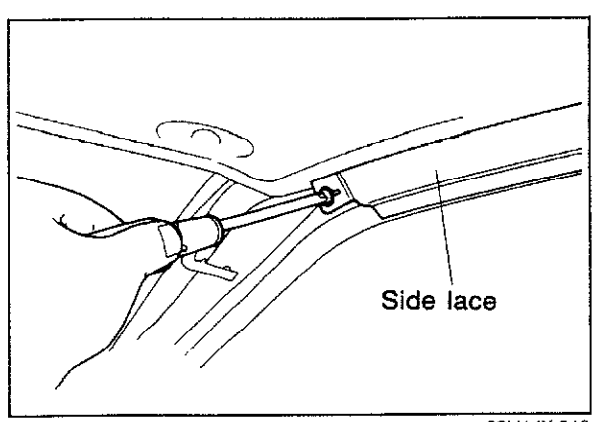
83U14X-038

5. Remove the front of the door opening seaming welts.
6. Remove the front pillar trims.
7. Remove the head liner front lace.



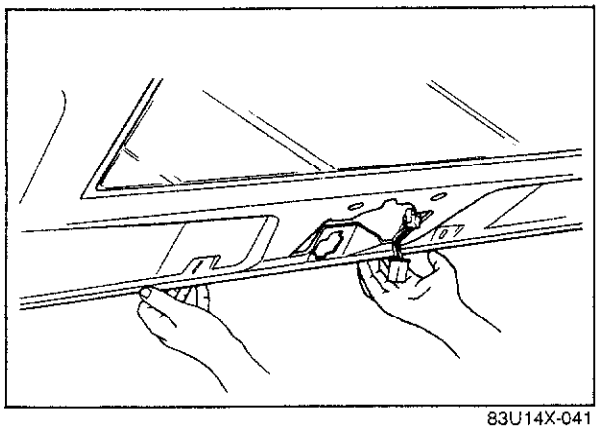
83U14X-039

8. Remove the rear of the door opening seaming welts.
9. Remove the rear pillar trim.
10. Remove the head liner rear lace.



83U14X-040

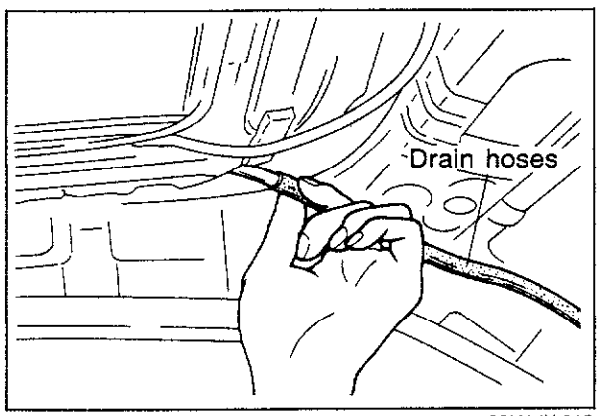
11. Remove the side pillar trim.
12. Remove the attaching screws of the head liner side lace and remove the side lace.



83U14X-041

13. Remove the fasteners at side of the head liner and remove the head liner.

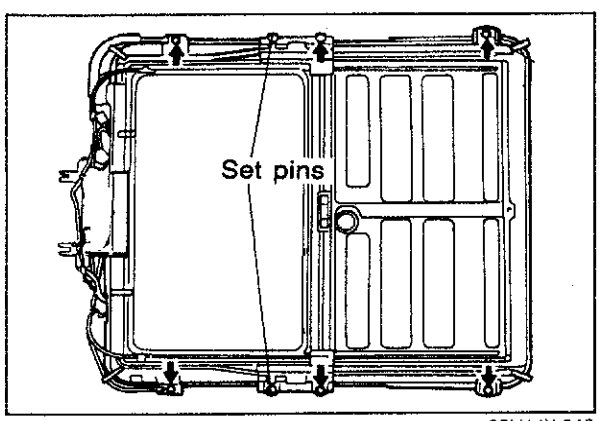
INSTALLATION
Follow the reverse order of removal.



83U14X-019

FRAME ASSEMBLY OF SLIDING SUNROOF

REMOVAL
1. Remove the head liner.
2. Disconnect the drain hoses (4) from the frame assembly.
3. Remove the interior light harness.



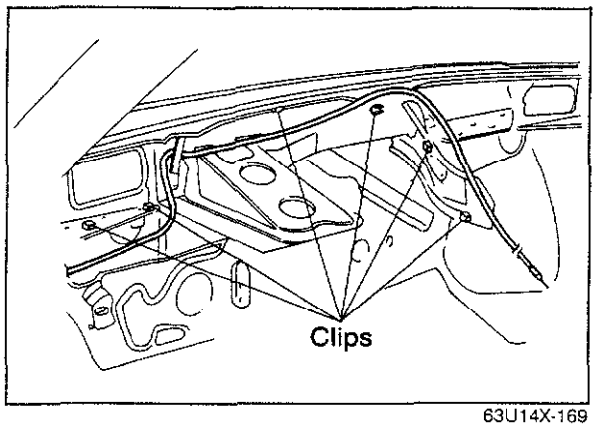
83U14X-042

4. Remove the set bracket attaching bolts.
5. Lower the sunroof frame assembly slowly and remove it.

INSTALLATION
Follow the reverse order of removal.

Tightening torque:
Set bracket attaching bolt
8.8—12.8 N·m
(0.9—1.3 m-kg, 6.5—9.4 ft-lb)

Note
When installing the frame assembly, set the set holes of the frame assembly to the set pins of the body roof, and then install the set bracket attaching bolts.

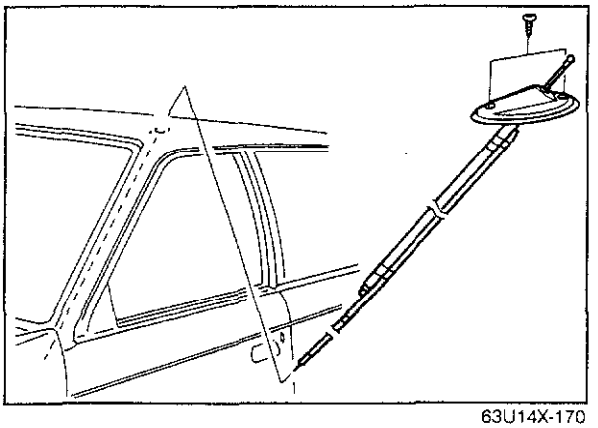


63U14X-169

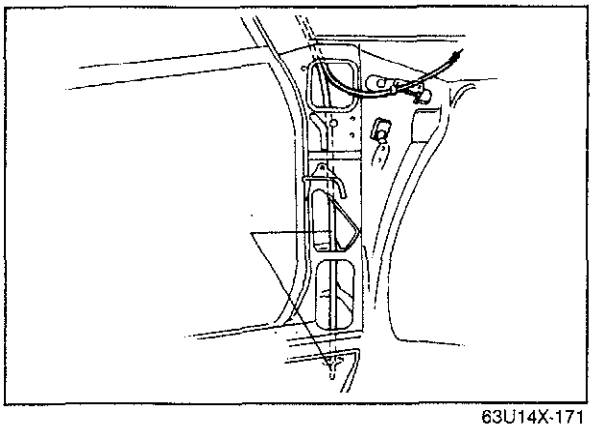
ANTENNA FEEDER

REMOVAL

1. Remove the instrument panel
2. Remove the kick panel.
3. Detach the antenna feeder from the clips.

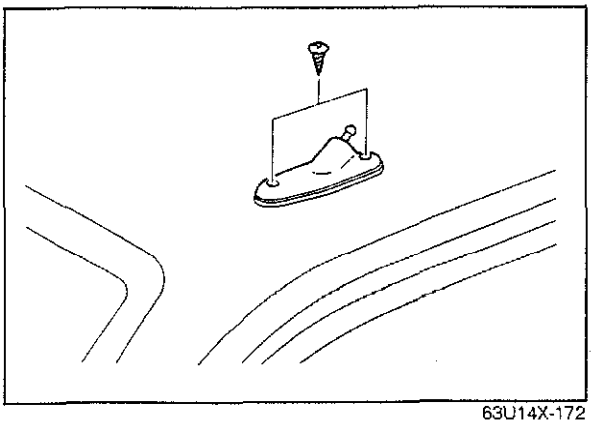

63U14X-170

4. Remove the attaching screws, and then pull out the antenna assembly.
   (The sunroof drain pipe will come out with it.)


63U14X-171

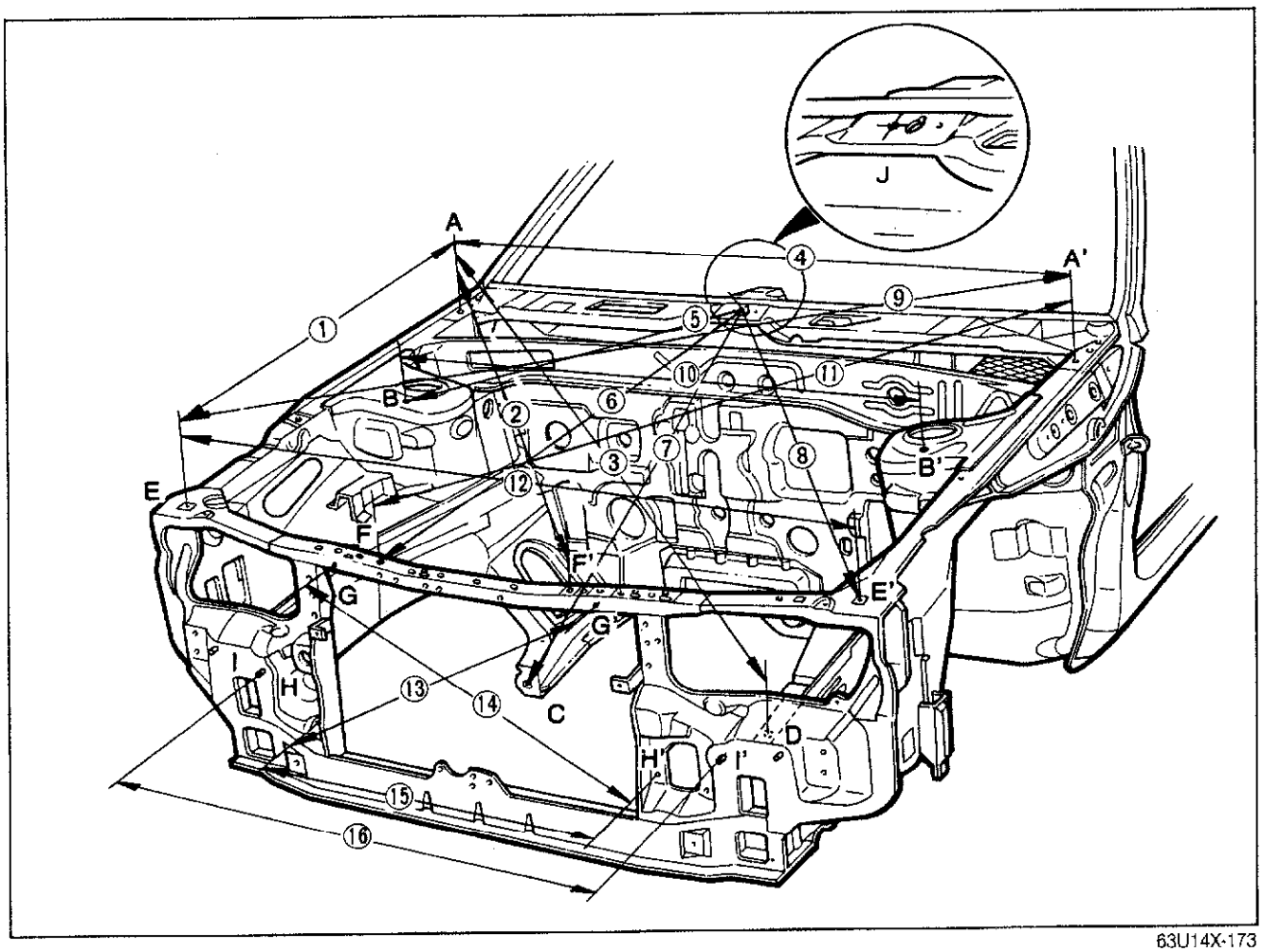
INSTALLATION

1. Install the antenna feeder and the sunroof drain pipe into the front pillar.
2. Attach the antenna feeder to the clips.


63U14X-172

3. Fix the antenna base.

FRONT BODY DIMENSIONS



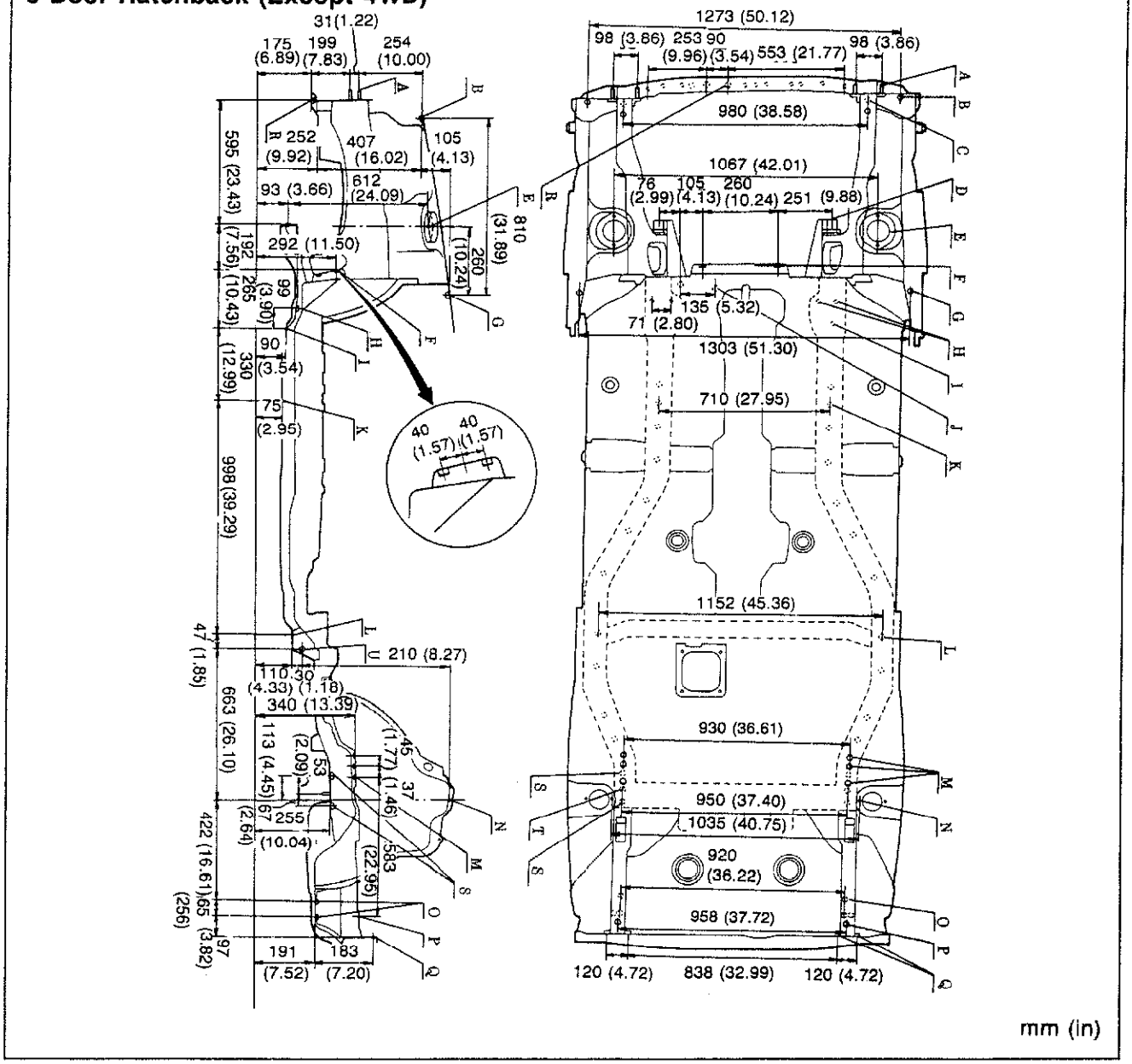
63U14X-173

A, A' : Front fender mounting nut
B, B' : Front suspension mounting block mounting hole
C : Front lower arm attaching nut
D : Ground mounting nut
E, E' : Front fender mounting nut
F, F' : Wiring harness clip mounting hole
G, G' : Condenser mounting nut
H, H' : Front skirt mounting nut
I, I' : Front bumper mounting nut
J : Wiper mounting nut

Measurement	Length mm (in)	
	Right side	Left side
1	817 (32.17)	817 (32.17)
2	1,208 (47.56)	1,211 (4.768)
3	1,408 (55.43)	1,416 (55.75)
4	1,303 (51.30)	—
5	655 (25.79)	671 (26.42)
6	960 (37.80)	962 (37.87)
7	874 (34.41)	882 (34.72)
8	1.083 (42.64)	1.095 (43.11)
9	1,525 (60.04)	1.525 (60.04)
10	1.067 (42.01)	—
11	1,208 (47.56)	1,211 (47.68)
12	1,273 (50.12)	—
13	621 (24.45)	—
14	645 (25.39)	
15	640 (25.20)	—
16	894 (35.20)	—

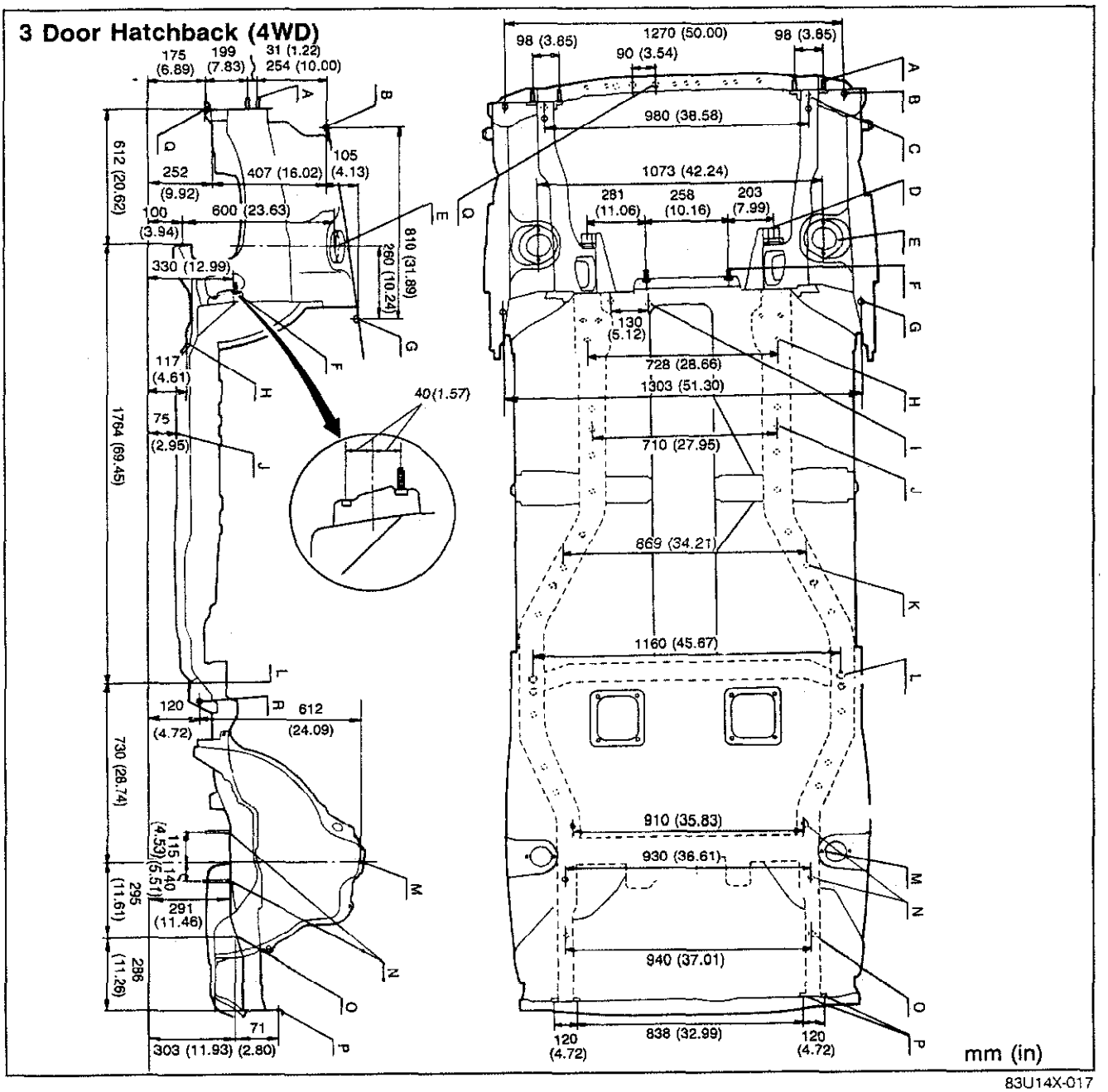
UNDERBODY PROJECTED DIMENSIONS

5 Door Hatchback
3 Door Hatchback (Except 4WD)



63U14X-174

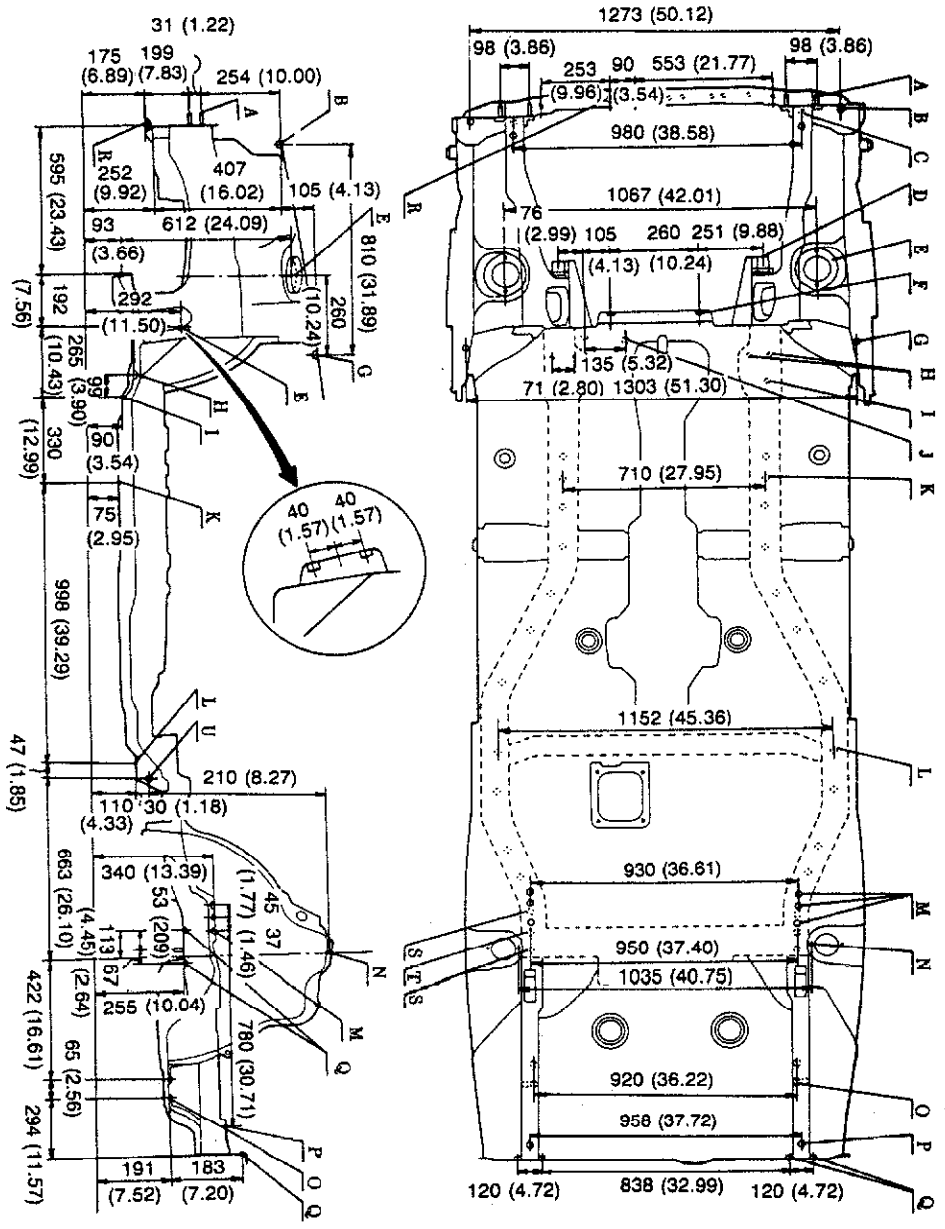
A: Front bumper mounting nut
B: Front fender mounting nut
C: Front frame reference hole
D: Front lower arm reference hole
E: Front suspension mounting block mounting surface
F: Steering bracket mounting nut
G: Front fender mounting nut
H: Front lower arm mounting nut
I: Front frame lower reference hole
J: Engine member mounting nut
K: Front frame reference hole
L: Parking brake cable mounting nut
M: Rear seat back hinge mounting nut
N: Rear suspension mounting block mounting hole
O: Hook mounting nut
P: Rear frame reference hole
Q: Rear bumper mounting hole
R: Engine member mounting nut
S: Rear crossmember mounting nut
T: Rear crossmember reference bolt
U: Trailing link mounting nut



83U14X-017

A: Front bumper mounting nut
B: Front fender mounting nut
C: Front frame reference hole
D: Front lower arm reference hole
E: Front suspension mounting block mounting surface
F: Steering bracket mounting nut
G: Front fender mounting nut
H: Front frame lower reference hole
I: Engine member mounting nut
J: Front frame reference hole
K: Front frame reference hole
L: Trailing link mounting bracket reference hole
M: Rear suspension mounting block mounting hole
N: Rear crossmember mounting bolt
O: Rear frame reference hole
P: Rear bumper mounting hole
Q: Engine member mounting nut
R: Rear crossmember mounting nut

Sedan

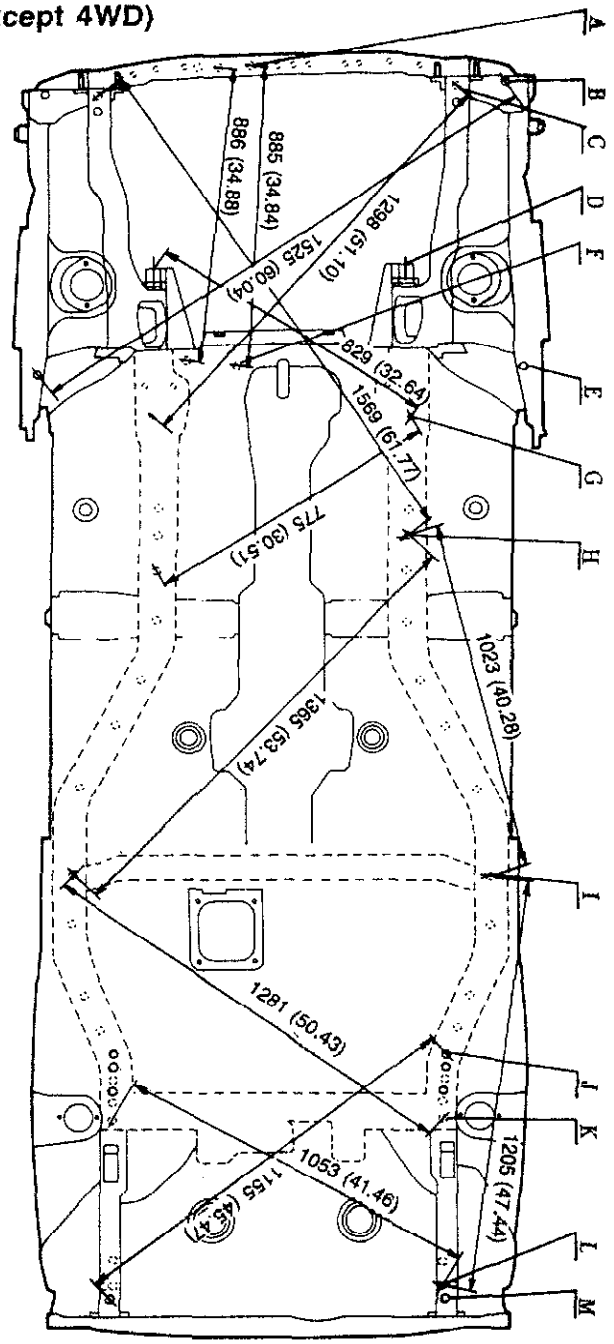


83U14X-043

A: Front bumper mounting nut
B: Front fender mounting nut
C: Front frame reference hole
D: Front lower arm reference hole
E: Front suspension mounting block mounting surface
F: Steering bracket mounting nut
G: Front fender mounting nut
H: Front lower arm mounting nut
I: Front frame lower reference hole
J: Engine member mounting nut
K: Front frame reference hole
L: Parking brake cable mounting nut
M: Rear seatback hinge mounting nut
N: Rear suspension mounting block mounting hole
O: Hook mounting nut
P: Rear frame reference hole
Q: Rear bumper mounting hole
R: Engine member mounting nut
S: Rear crossmember mounting nut
T: Rear crossmember reference bolt
U: Trailing link mounting nut

UNDERBODY STRAIGHT-LINE DIMENSIONS

5 Door Hatchback
3 Door Hatchback (Except 4WD)

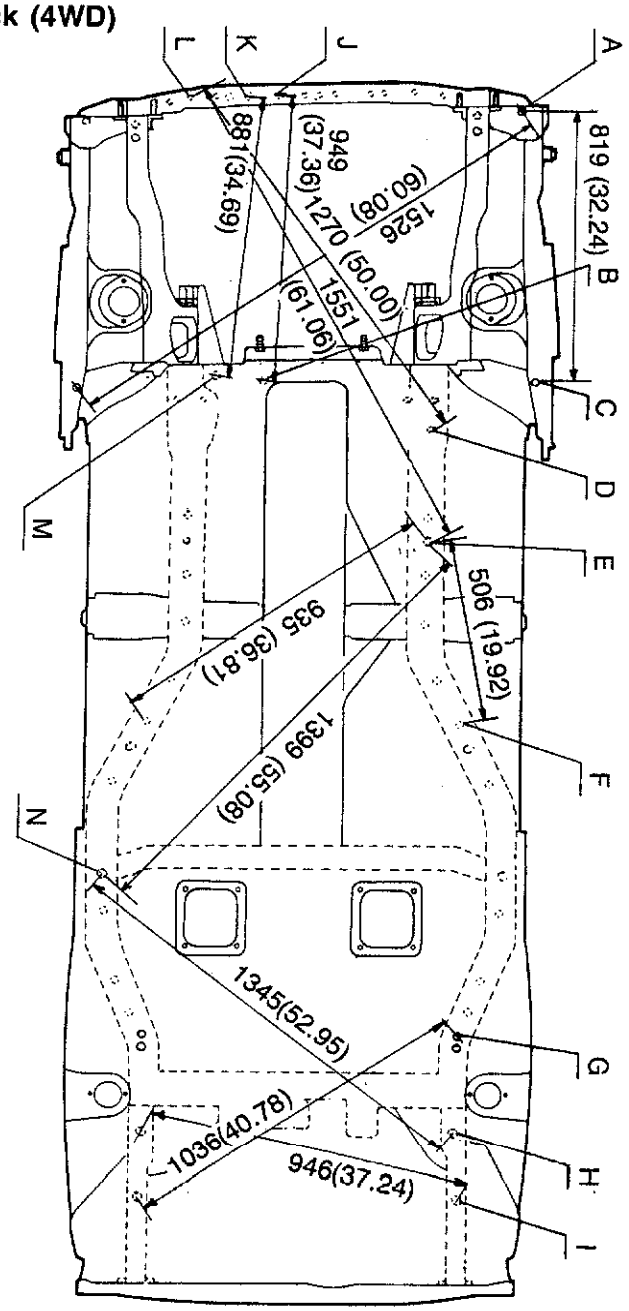


mm (in)

63U14X-176

A: Engine member mounting nut
B: Front fender mounting nut
C: Front frame reference hole
D: Front lower arm reference hole
E: Front fender mounting nut
F: Engine member mounting nut
G: Front frame lower reference hole
H: Front frame reference hole
I: Parking brake cable mounting nut
J: Rear seat back hinge mounting nut
K: Rear crossmember mounting nut
L: Hook mounting nut
M: Rear frame reference hole

3 Door Hatchback (4WD)

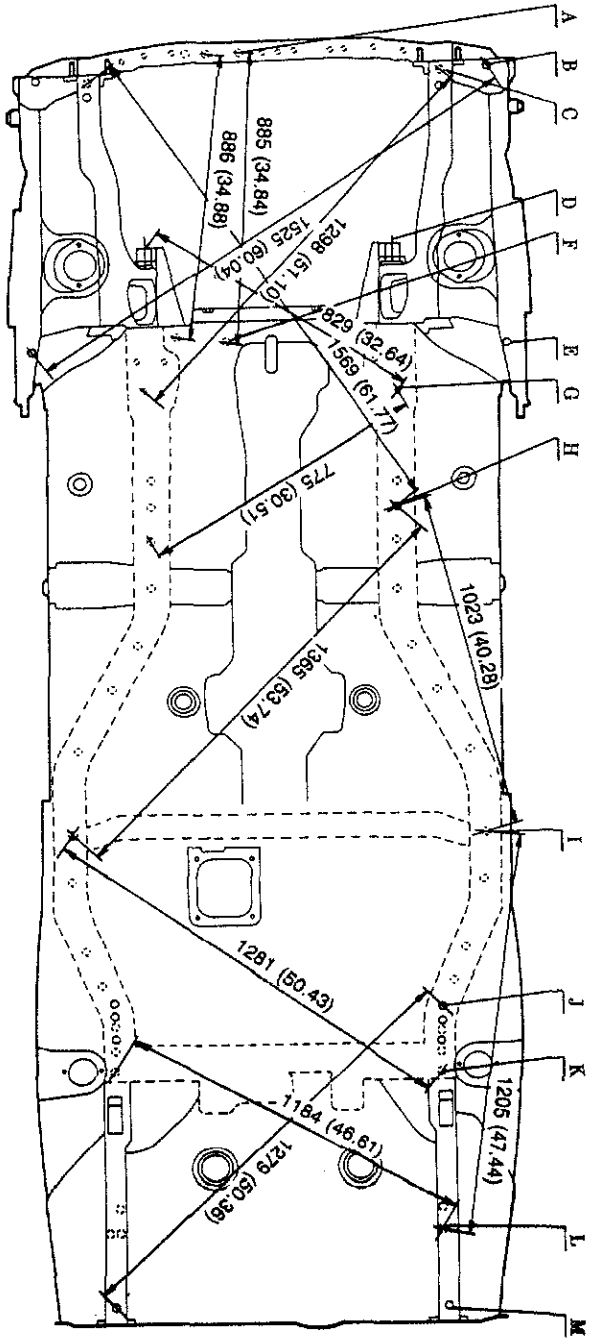


mm (in)

83U14X-018

A: Front fender mounting nut
B: Engine member mounting nut
C: Front fender mounting nut
D: Front frame lower reference hole
E: Front frame reference hole
F: Front frame reference hole
G: Rear seat back hinge mounting nut
H: Rear crossmember mounting bolt
I: Rear frame reference hole
J: Engine member mounting nut
K: Engine member mounting nut
L: Front stabilizer mounting nut
M: Engine member mounting nut
N: Parking brake cable mounting nut

Sedan



mm (in)

83U14X-044

A: Engine member mounting nut
B: Front fender mounting nut
C: Front frame reference hole
D: Front lower arm reference hole
E: Front fender mounting nut
F: Engine member mounting nut
G: Front frame lower reference hole
H: Front frame reference hole
I: Parking brake cable mounting nut
J: Rear seat back hinge mounting nut
K: Rear crossmember mounting nut
L: Hook mounting nut
M: Rear frame reference hole

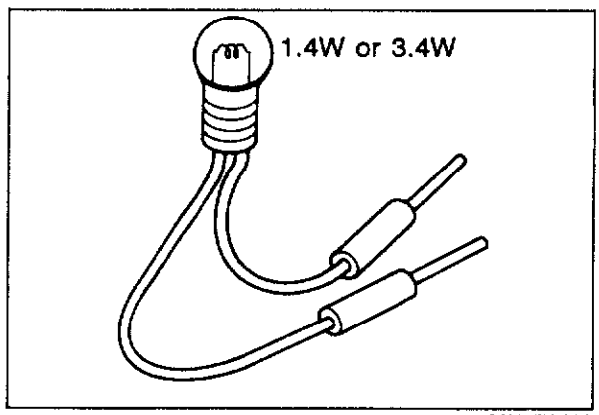
BODY ELECTRICAL SYSTEM

INTRODUCTION

HOW TO USE THIS SECTION

Information regarding removal and installation of electrical equipment is given in **SECTION 14.** Understanding will be easier if this section is used in conjunction with the **WIRING DIAGRAMS.**

63U15X-002



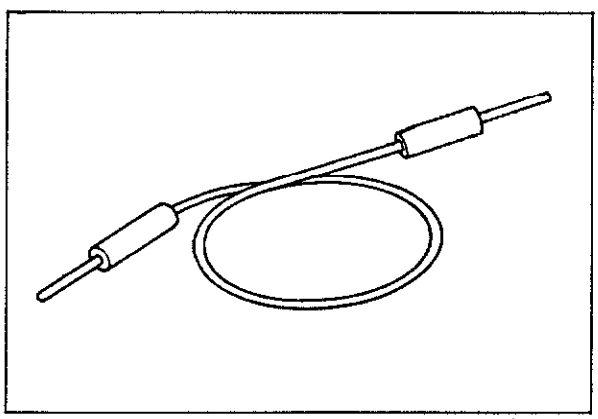
63U15X-003

ELECTRICAL TROUBLESHOOTING TOOLS

Test Light

The test light, as shown in the figure, uses a 12-V bulb. The two lead wires should be connected to probes. The test light is used for simple voltage checks and to check for short circuits.

Caution
When checking the control unit, never use a bulb over 3.4 W.

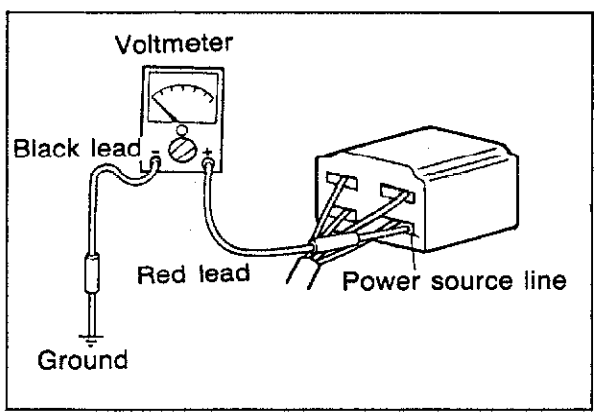


63G15X-002

Jumper Wire

The jumper wire is used for testing by short-circuiting switch terminals and to verify the condition of ground connections.

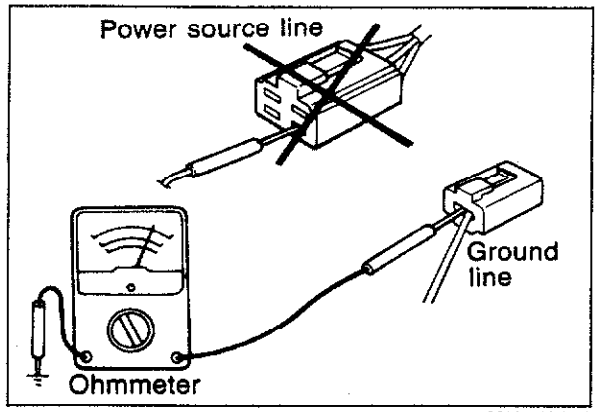
Caution
Do not connect the jumper wire between the power source line and the body ground, because doing so may cause burning or other damage to harnesses or electronic components etc.



47U15X-006

Voltmeter

The DC voltmeter is used for measurement of circuit voltage. A voltmeter with a range of 15 V or more is used. It is used by connecting the positive (+) probe (the red lead wire) to the point where voltage is to be measured and connecting the negative (–) probe (the black lead wire) to the body ground.

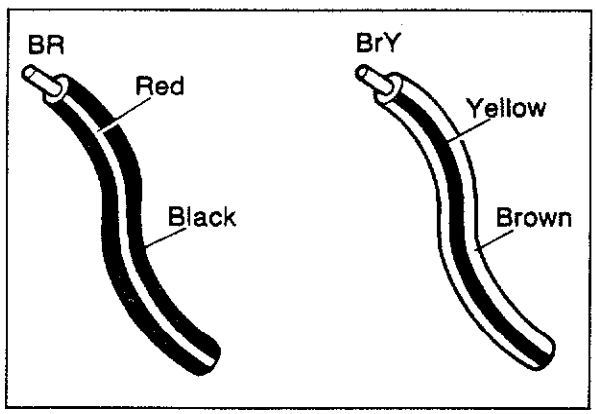


63U15X-005

Ohmmeter

The ohmmeter is used to measure the resistance between two points in a circuit, and is also used to check for continuity and diagnosis of short circuits.

Caution
Do not attempt to connect the ohmmeter to any circuit to which voltage is applied, because doing so may burn or otherwise damage the ohmmeter.

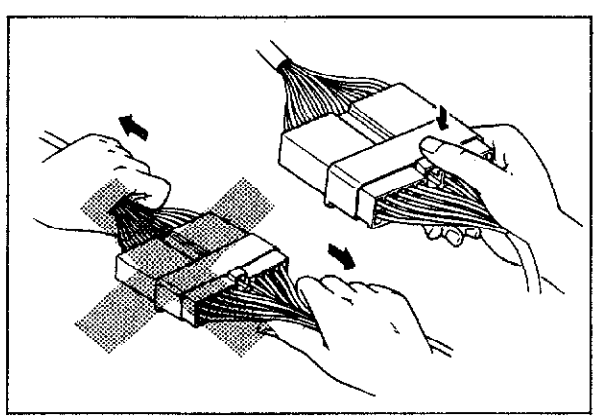


47U15X-008

PRECAUTION
Wiring Color Code

Two-color wires are indicated by a 2-letter symbol. The first letter indicates the base color of the wire and the second indicates the color of the stripe.

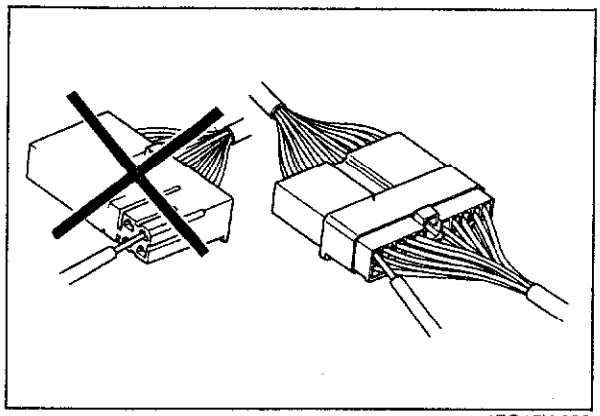
CODE	COLOR
B	BLACK
Br	BROWN
G	GREEN
L	BLUE
Lb	LIGHT BLUE
Lg	LIGHT GREEN
O	ORANGE
R	RED
Y	YELLOW
W	WHITE



47U15X-009

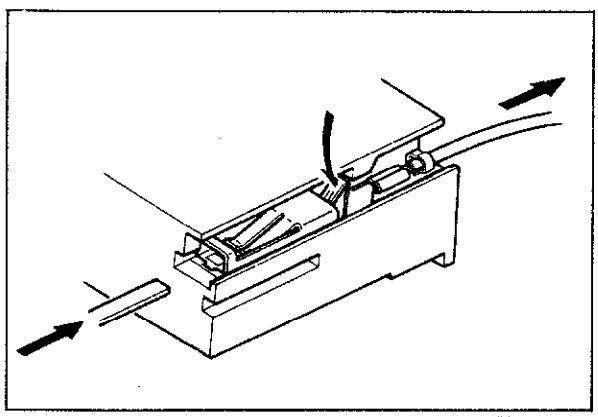
Bulkhead-Type Connector

The connector can be removed by pressing the lock lever.
Do not pull the wire when removing the connector; be careful to hold the connector itself when disconnecting.



4EG15X-088

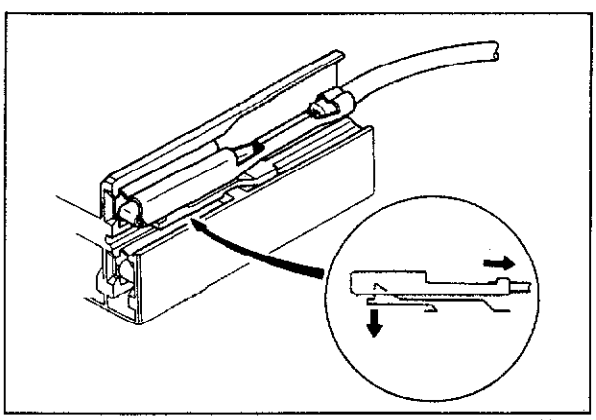
Inspection note
When checking the continuity or voltage with a circuit tester, insertion of the test probe into the receptacle connector may open the fitting of the connector and result in poor contact.
Therefore, ensure that the test probe is inserted from the wire harness side.



5BU15X-003

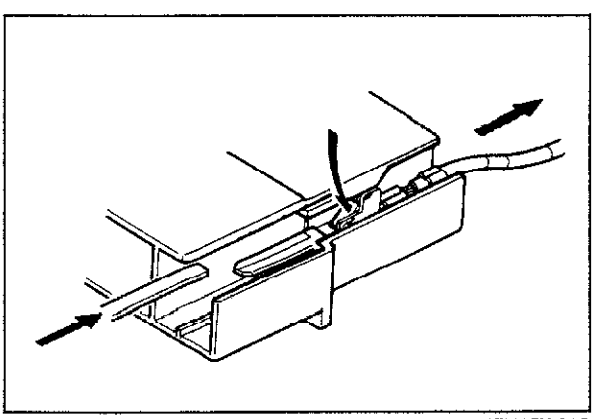
Replacement of Terminal
Use the appropriate tools to remove the terminal, as shown in the figure.
When installing a terminal, be sure to press it in until it locks securely.

<Female Type No.1>
Insert a push-tool or thin piece of metal from the terminal side of the connector, and then, with the locking tabs of the terminal pressed down, pull the terminal out from the rear side.



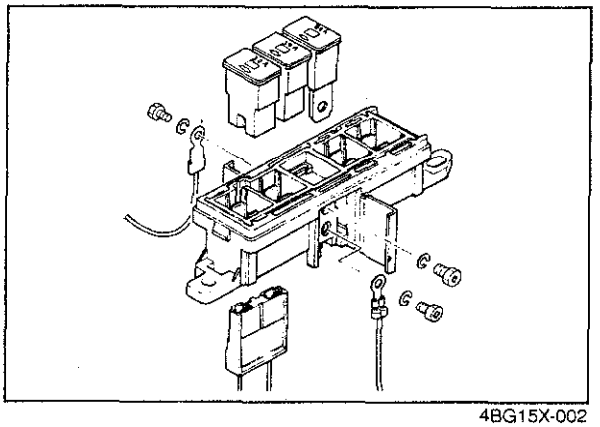
5BU15X-004

<Female Type No.2>



47U15X-012

<Male Type>
Same as the female type.

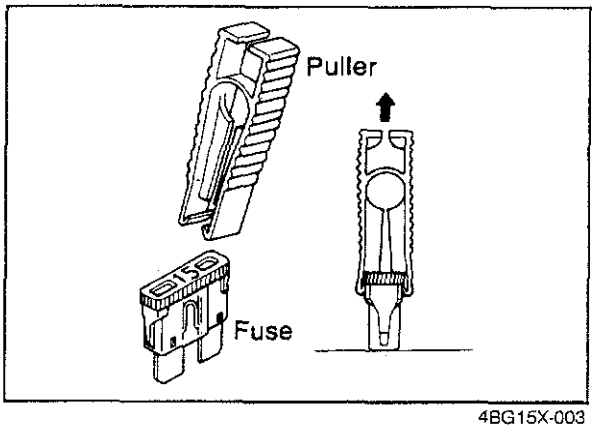


4BG15X-002

Replacement of Fuse

1. When replacing a fuse, be sure to replace it with one of the specified capacity.
   If, after a fuse has been replaced, it fails again, there is probably a short circuit in the circuit, and the wiring should be checked.

2. Be sure the battery (—) terminal is disconnected before replacing a main fuse (80A).



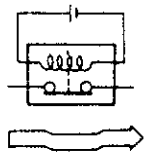
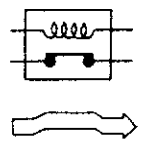
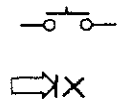
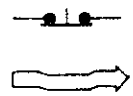
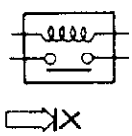
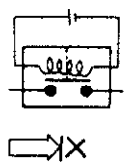
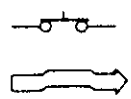
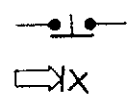
4BG15X-003

3. When replacing a fuse, use the supplied fuse puller in the fuse box cover.

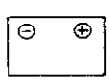
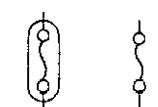
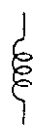
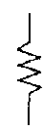
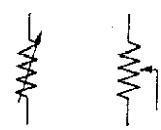
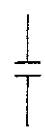
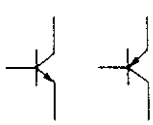
ELECTRICAL SYMBOLS

Switches and Relays

There is an NC (normally closed) and NO (normally open) indication for switches and relays; this indicates when there has been no change of operation conditions.

	Relay		Switch	
	NO type relay	NC type relay	NO switch	NC switch
Not in operation (No power supply)	 Stop	 Flow	 Stop	 Flow
In operation (Power supply)	 Flow	 Stop	 Flow	 Stop

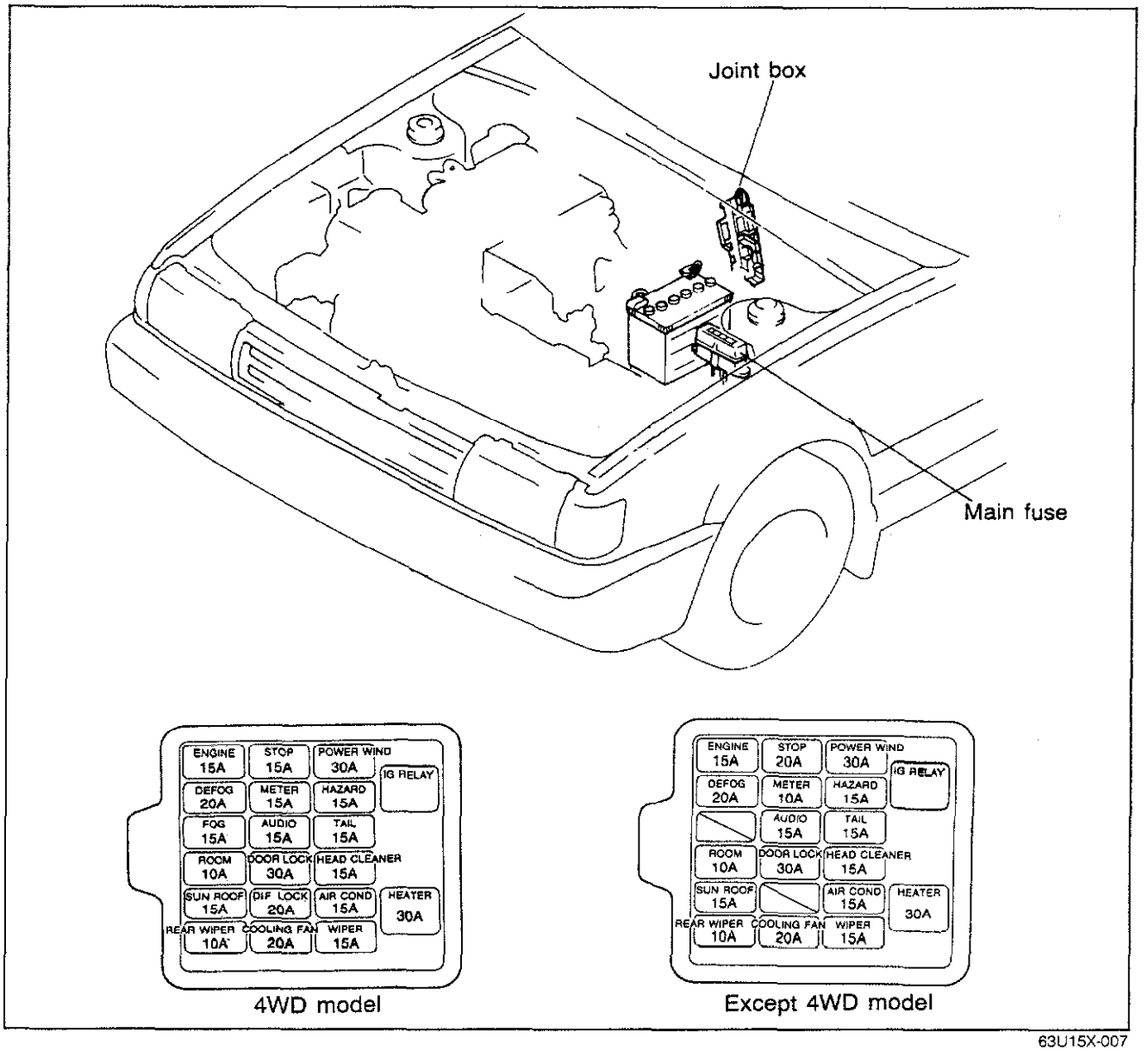
Other Electrical Symbols

		 Holder Box	
BATTERY	BODY GROUND	FUSIBLE	FUSIBLE LINK
			
MOTOR	COIL, SOLENOID	RESISTOR	VARIABLE RESISTOR
			 3.4
THERMISTER	DIODE	CONDENSER	LIGHT
			
TRANSISTOR	SPEAKER	CIGARETTE LIGHTER	HEATER

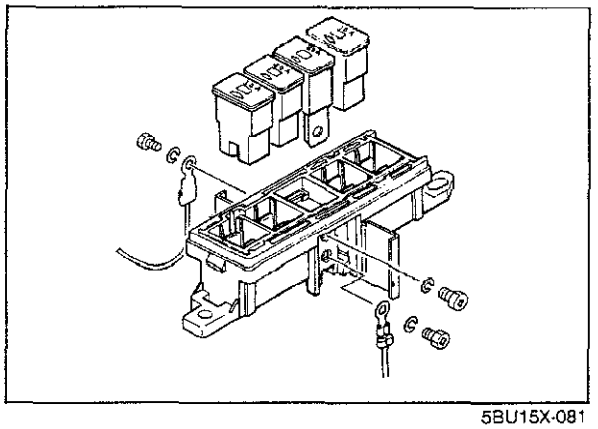
47U15X-013

MAIN FUSE AND JOINT BOX (INCL. FUSE BOX)

STRUCTURAL VIEW



63U15X-007



5BU15X-081

Replacement of Main Fuse

Disconnect the battery (–) terminal

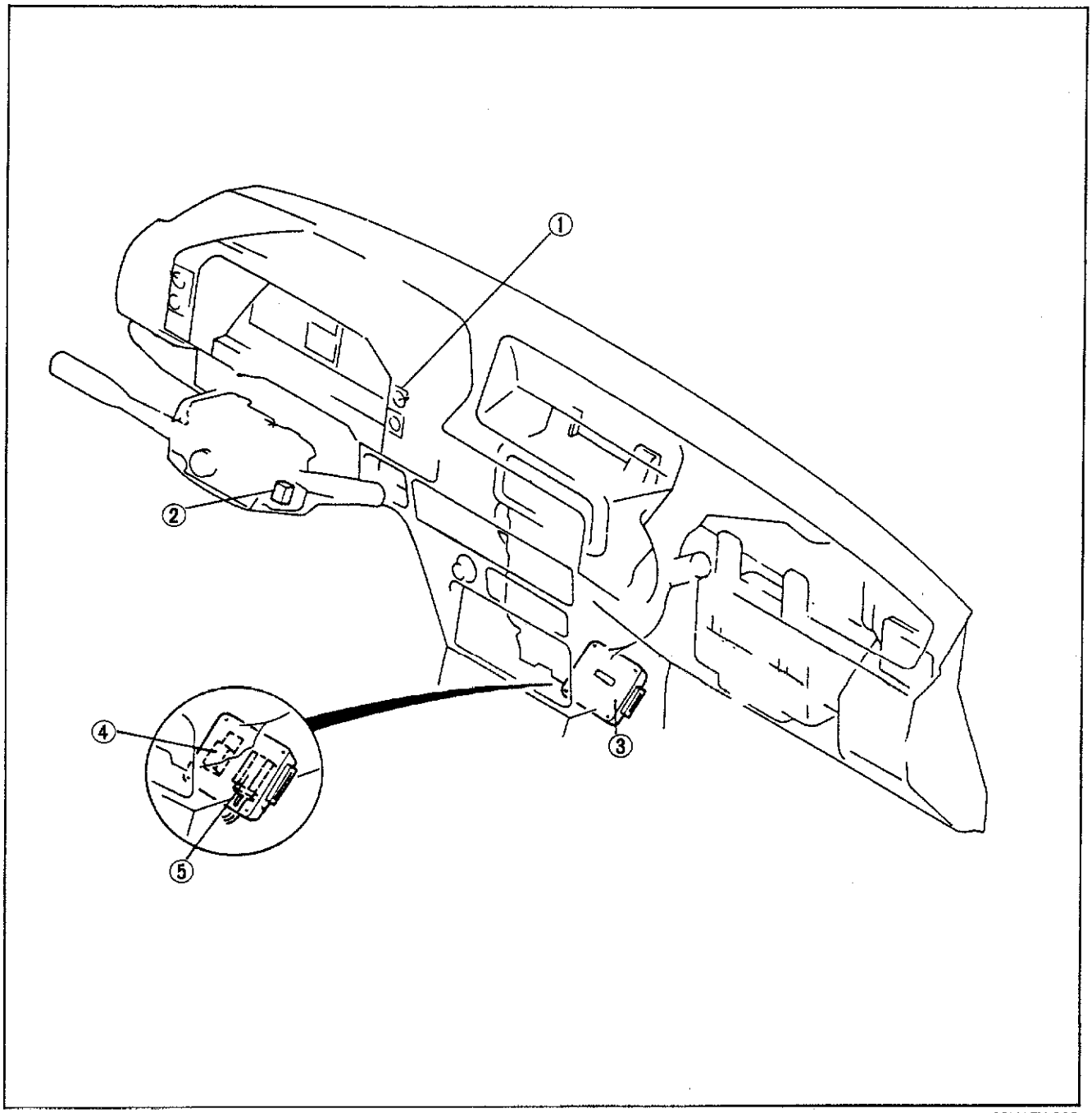
30A fuse: pull out and push in a new one.

80A fuse:

1. Remove the main fuse box.
2. Open the cover.
3. Remove the terminal.
4. Pull out and push in a new fuse.

SWITCHES, RELAYS AND CONTROL UNITS

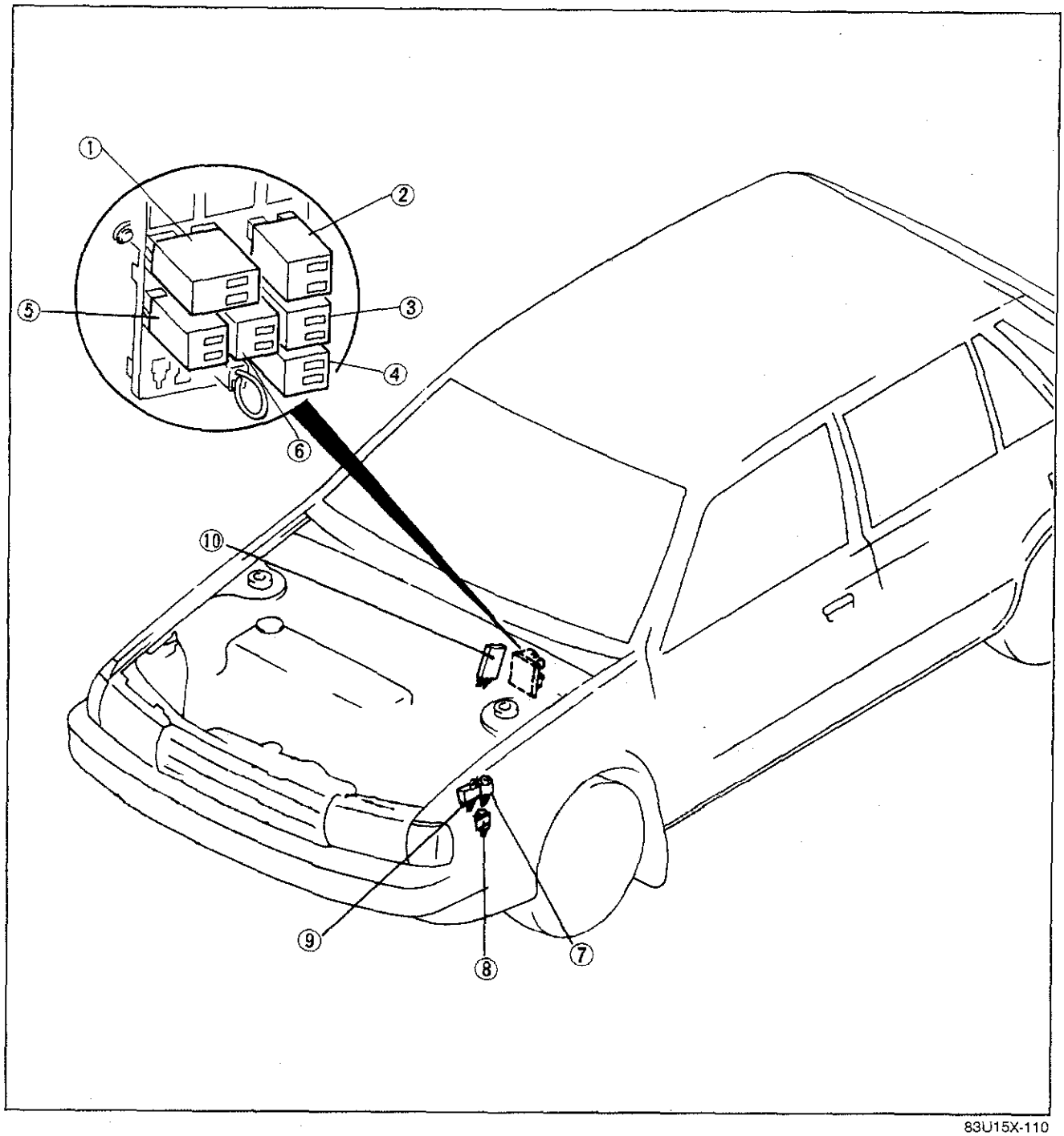
STRUCTURAL VIEW



83U15X-003

1. Panel light control switch
2. Intermittent wiper unit
3. Engine control unit
4. Control unit (Idle up)
5. Circuit open relay

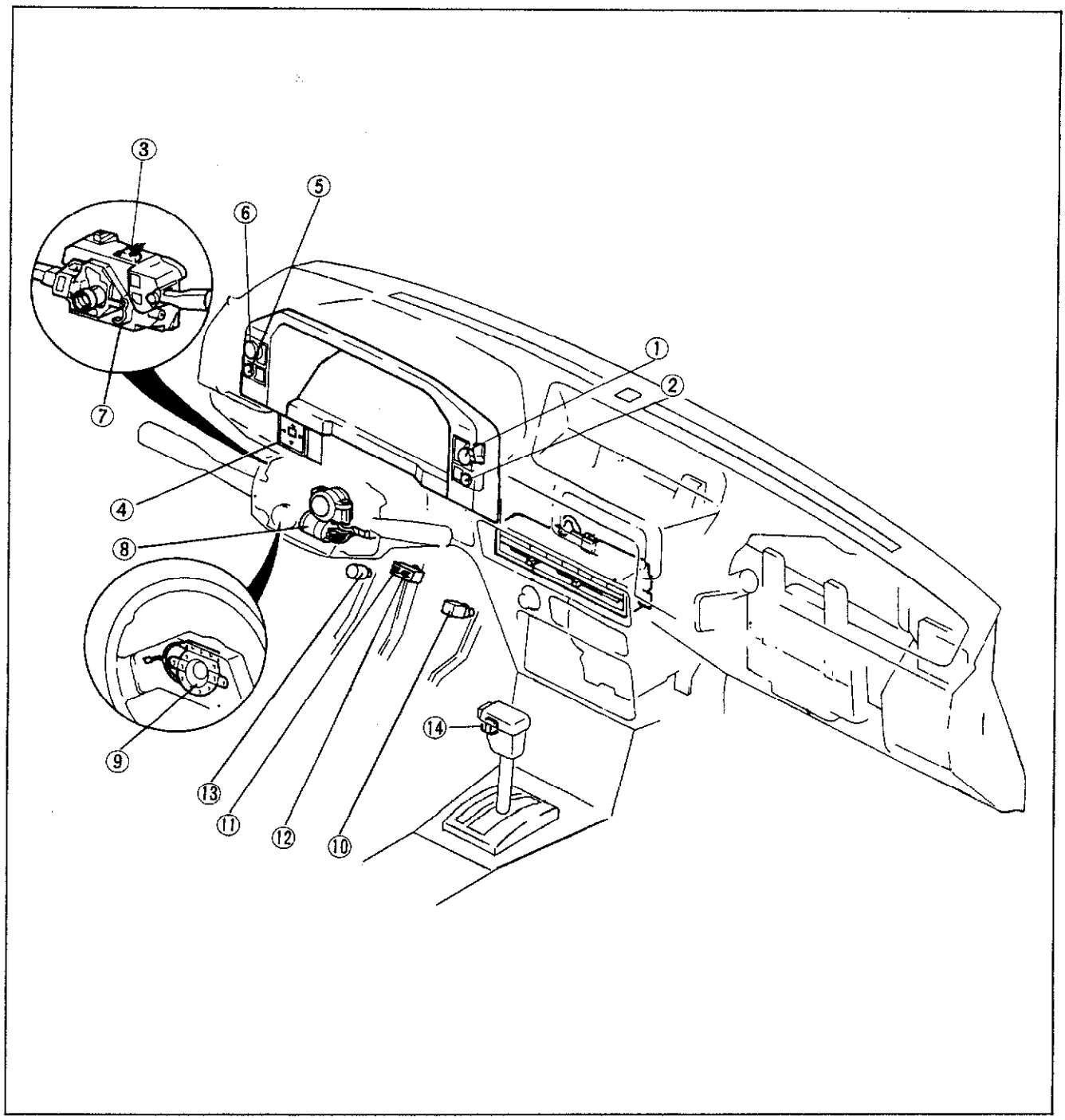
STRUCTURAL VIEW



83U15X-110

1. Door lock relay
2. Flasher unit
3. Entry timer unit
4. Stop light checker
5. Oscillator
6. Timer & buzzer unit
7. Electrical fan relay
8. EGI main relay
9. Horn relay
10. Cruise control unit

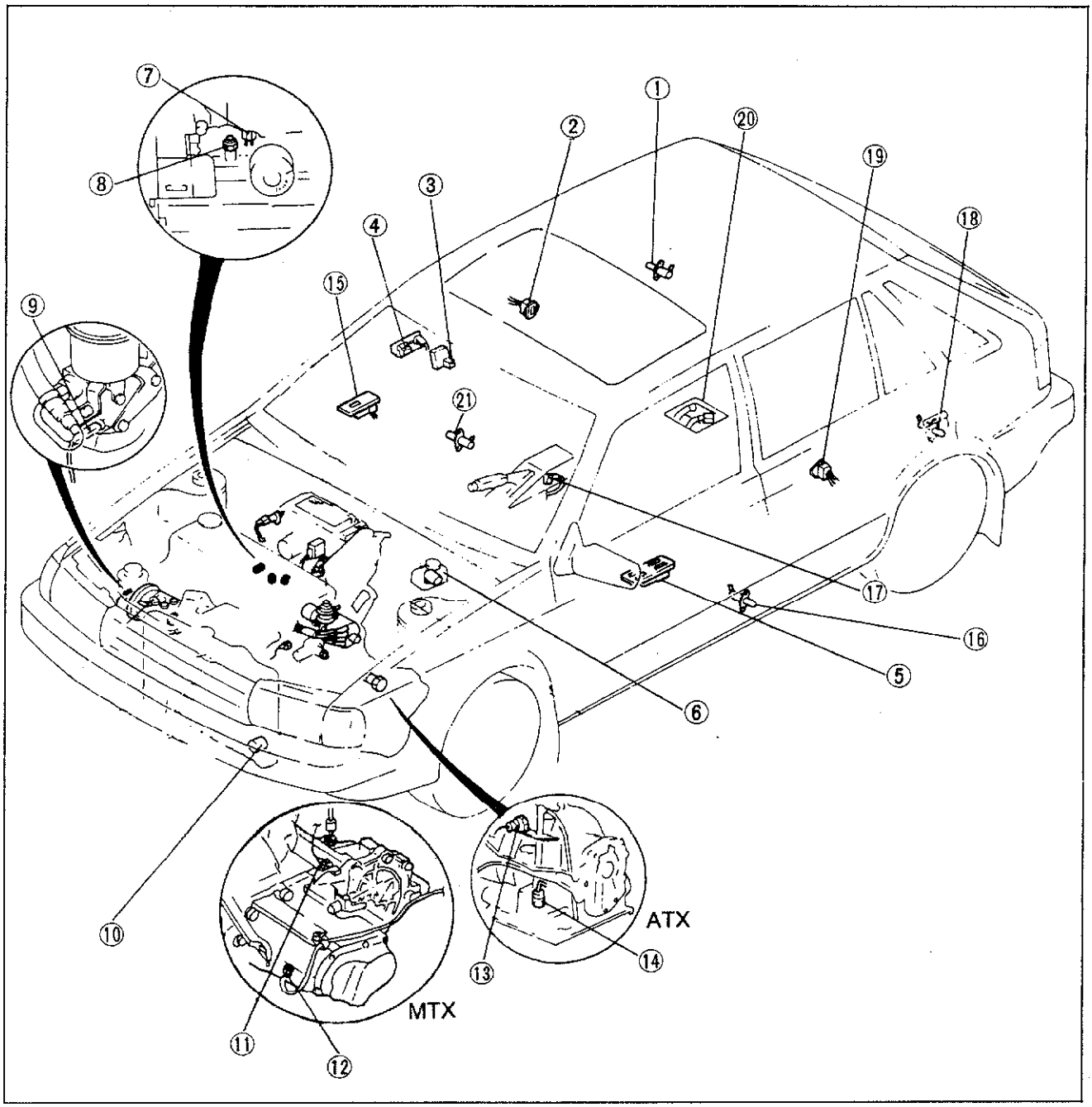
STRUCTURAL VIEW



83U15X-004

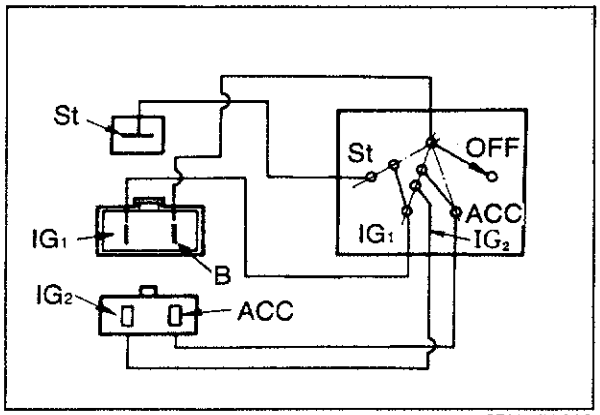
1. Panel light controller
2. Cruise control main switch
3. Hazard switch
4. Remote mirror switch
5. Rear window defroster switch
6. Rear wiper and washer switch
7. Combination switch
8. Ignition key switch
9. Horn switch
10. Kickdown switch (ATX)
11. Stop switch (for cruise control)
12. Stop light switch
13. Clutch switch (MTX)
14. O/D off switch (ATX)

STRUCTURAL VIEW

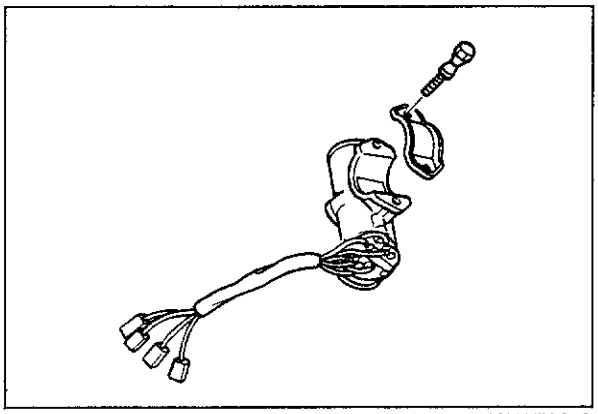


83U15X-111

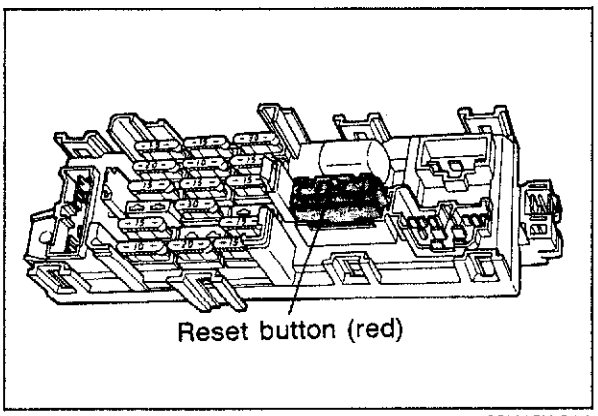
1. Door switch
2. Power window switch
3. Door lock switch
4. Door handle switch
5. Power window main switch
6. Brake fluid level switch
7. Water temperature switch (engine side)
8. Oil pressure switch
9. Power steering switch
10. Water temperature switch (radiator)
11. Neutral switch (MTX)
12. Back lamp switch
13. Neutral switch (ATX)
14. Inhibitor switch (ATX)
15. Power window switch
16. Door switch
17. Parking brake switch
18. Door switch
19. Power window switch
20. Fuel gauge unit
21. Door switch



5BU15X-008



63U15X-013



63U15X-014

IGNITION KEY SWITCH

INSPECTION

1. Use an ohmmeter to check the continuity of the terminals of the switch.
   If the continuity is not as specified, replace the switch.

Position \ Terminal	B	ACC	IG1	IG2	ST
LOCK (OFF)					
ACC	○—○				
ON	○—○	○—○	○—○		
START	○—○		○—○		○—○

○—○ :Indicates continuity

REPLACE

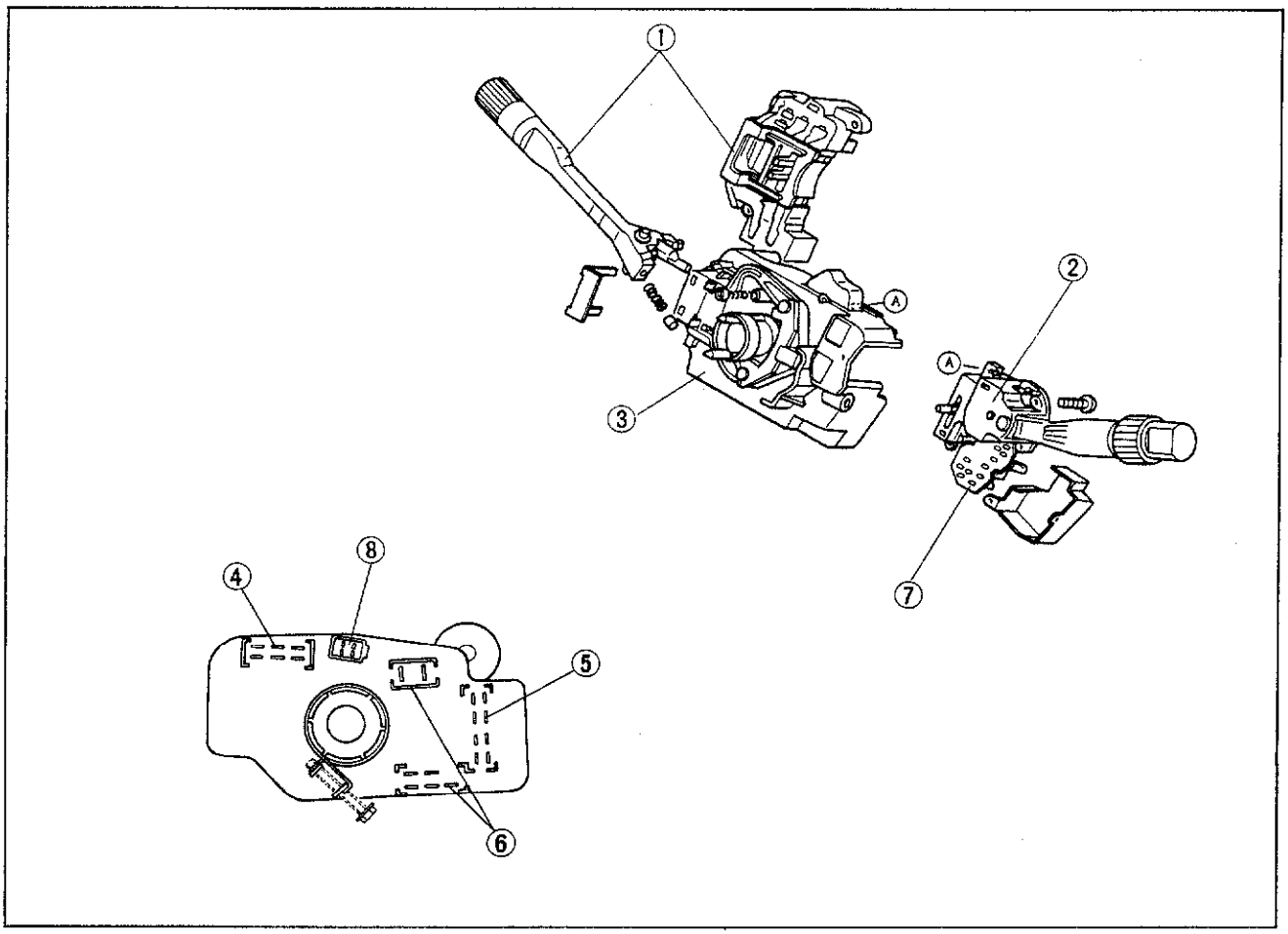
See section 10.

CIRCUIT BREAKER (In the joint box)

When the circuit breaker is open, check and repair the heater blower circuit, and then reset the breaker by pushing the reset button (red).

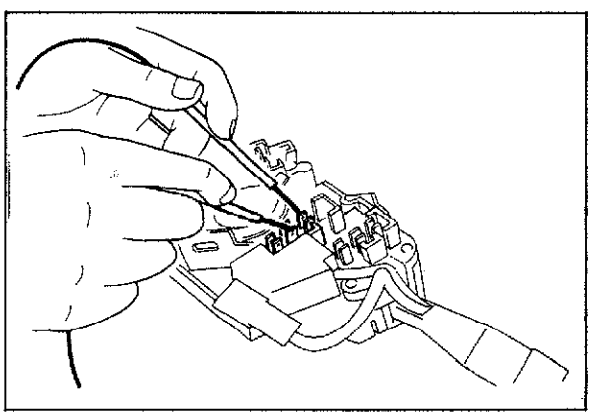
COMBINATION SWITCH

STRUCTURAL VIEW



83U15X-005

1. Light switch assembly
2. Wiper unit assembly
3. Combination switch body
4. Wiper and washer switch
5. Turn and hazard switch
6. Light switch
7. Intermittent wiper unit
8. Cruise control switch

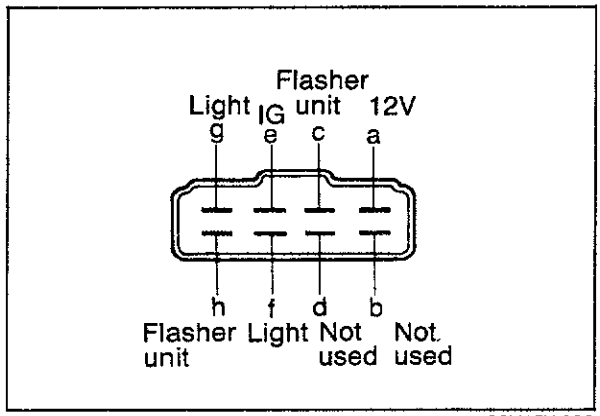


63U15X-016

INSPECTION

Use an ohmmeter to check the continuity of the terminals of the switch.

If continuity is not as specified, replace the switch.

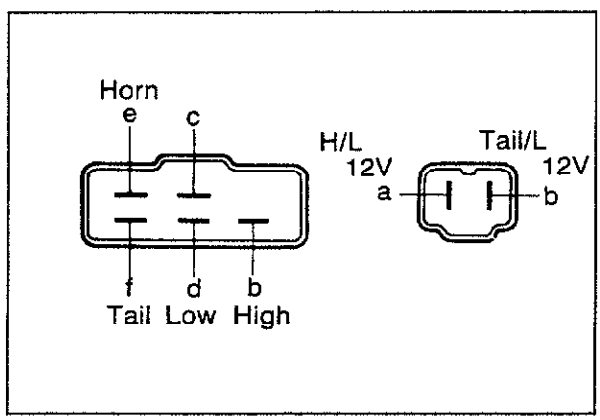


83U15X-006

Turn Signal and Hazard Switch

Turn switch	Hazard switch	a	c	e	f	g	h
OFF	OFF		○—○				
Right	OFF		○—○		○—		—○
Left			○—○			○—	—○
OFF	ON	○—	—○		○—	—○	—○

○—○: Indicates conductive

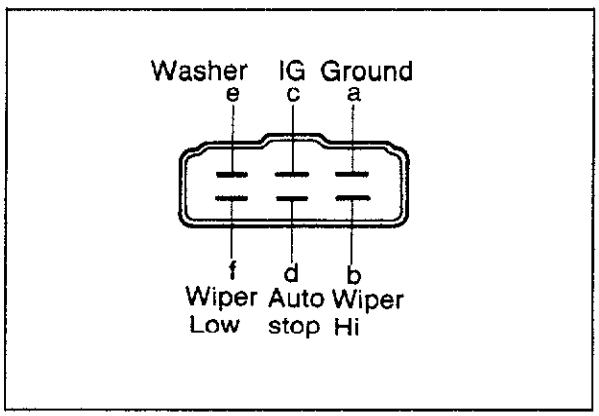


83U15X-007

Light Passing Switch and Horn Switch

Position \ Terminal		6P b	6P c	6P d	6P f	2P a	2P b
OFF							
First and second					○—		—○
Second	Lo		○—	—○		—○	
	Hi	○—	—○			—○	
Passing		○—				—○	

○—○: Indicates conductive
• "e" terminal is conductive to the plate when the horn switch is ON.

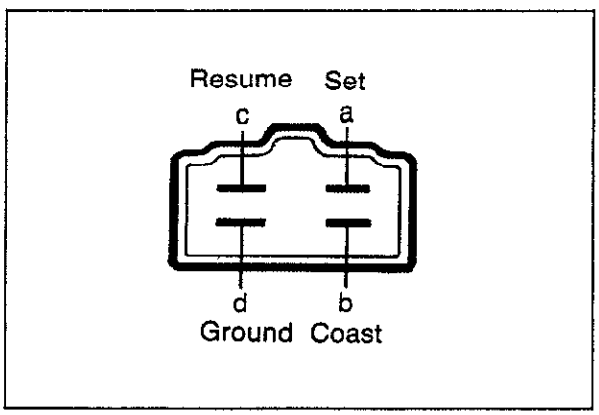


83U15X-008

Windshield Wiper and Washer Switch

Position \ Terminal			a	b	d	e	f
Wiper switch	OFF	One touch OFF			○—		—○
		One touch ON	○—				—○
	INT		○—				—○
	I		○—				—○
	II		○—	—○			
Washer ON			○—			—○	

○—○: Indicates conductive

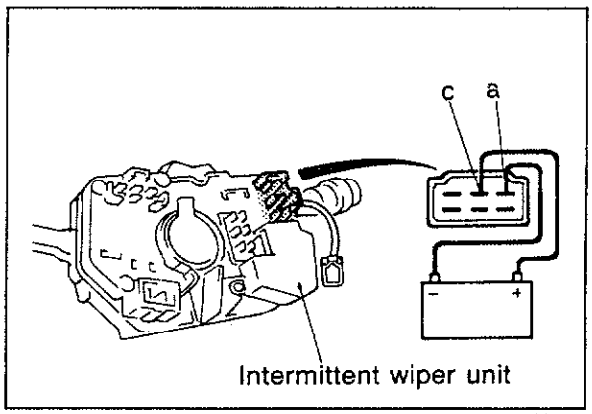


83U15X-009

Cruise control switch

Position \ Terminal	a	b	c	d
OFF				
SET	○—			—○
RESUME			○—	—○
COAST		○—		—○

○—○: Indicates conductive



83U15X-010

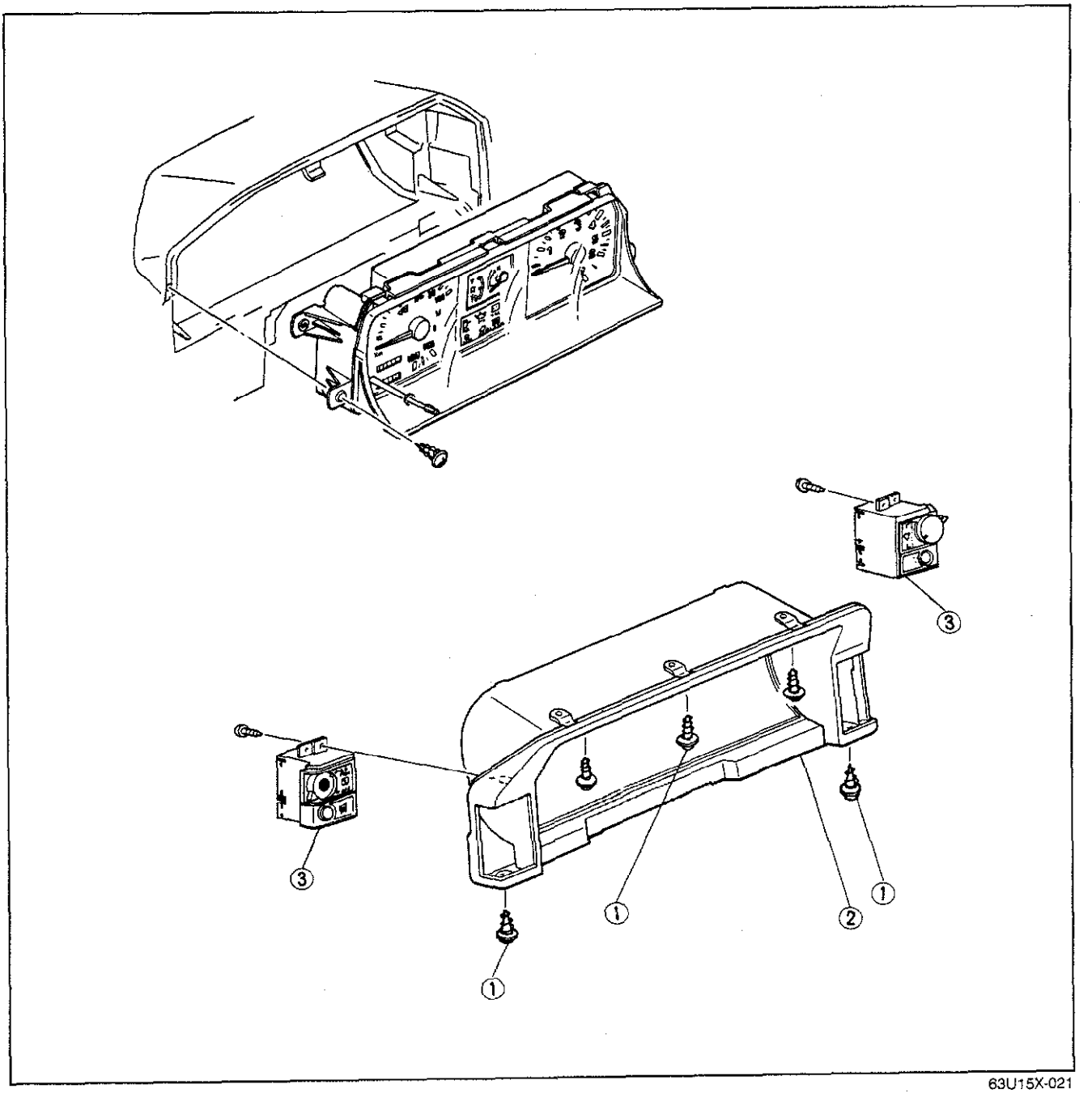
INTERMITTENT WIPER UNIT

1. With the switch in the INT position, check for the clicking sound of the relay by connecting the 12V lead to the "c" terminal and the ground to the "a" terminal.
2. With the switch in the OFF position, connect 12V to the "c" terminal and ground the "a" terminal. Then check for the relay clicking sound when the switch is turned ON, and for another clicking sound about 3 seconds after the switch is returned to OFF.

Caution
Do not reverse connect the electrical source to the terminals.

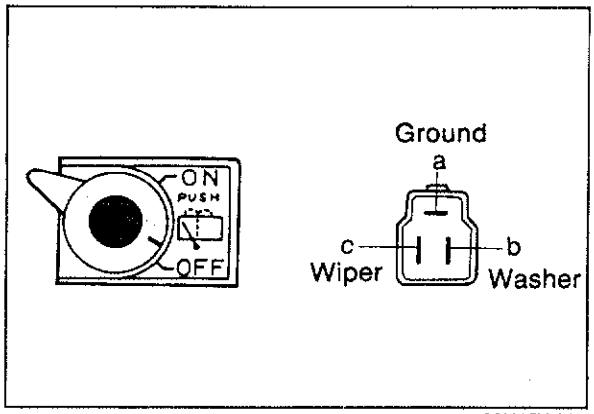
CLUSTER SWITCH

STRUCTURAL VIEW



63U15X-021

1. Bolts
2. Meter hood
3. Cluster switch



83U15X-011

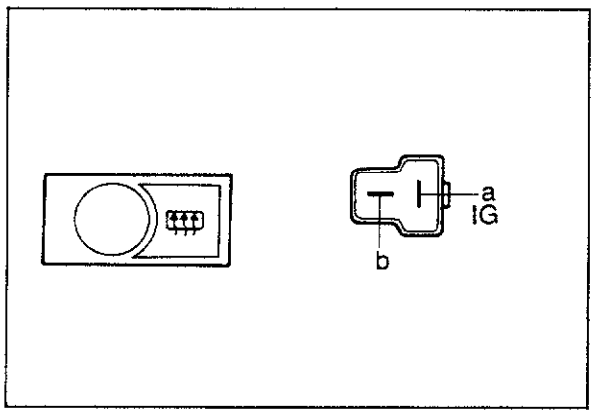
INSPECTION

Check for continuity between the terminals by using a circuit tester or ohmmeter.

Rear Wiper and Washer Switch

	a	b	c
OFF			
Wiper: ON	○		○
Washer: ON	○	○	

○——○: Indicates continuity

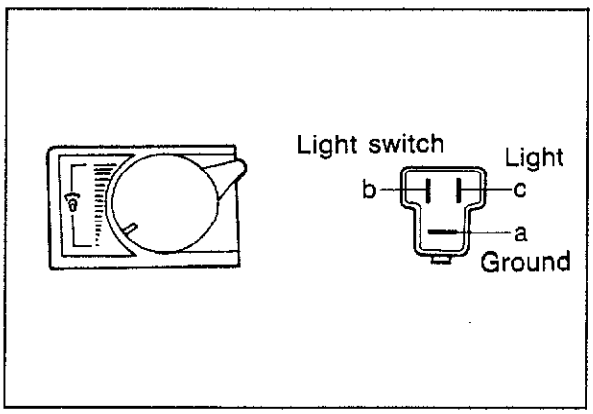


83U15X-012

Rear Defroster Switch

	a	b
OFF		
ON	○	○

○——○: Indicates continuity



83U15X-013

Panel Light Control Switch

Connect the 12V probe to the "b" terminal and the ground to the "a" terminal.
Check that the "c" terminal voltage to the ground changes with the turning angle of the control knob.

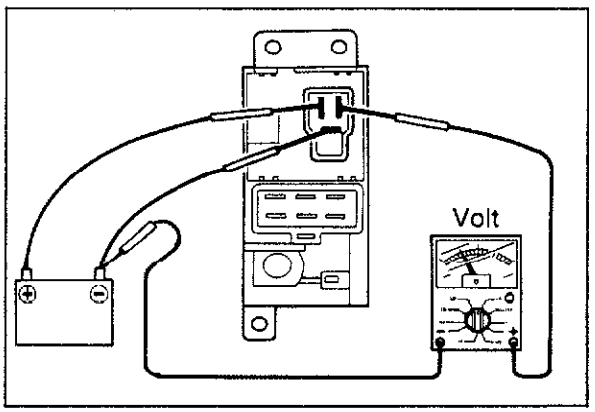
Control knob Minimum ↔ Maximum

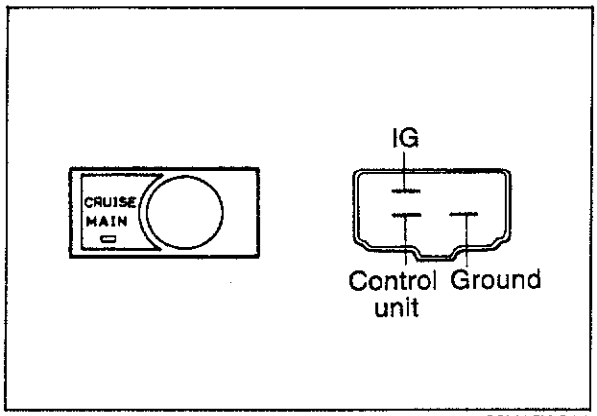
Voltage 0V ↔ 12V

Caution

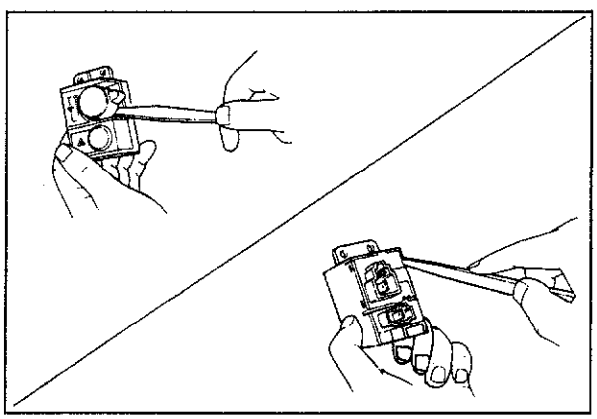
a) Do not misconnect the electrical source to the terminals.

b) Never supply 12V to the "c" terminal. (Controller will burn out instantly.)





83U15X-014



83U15X-015

Cruise Control Main Switch

	a	b	c	d
OFF				
ON	○——	——○	○	

Indicator

○——○: Indicates conductive

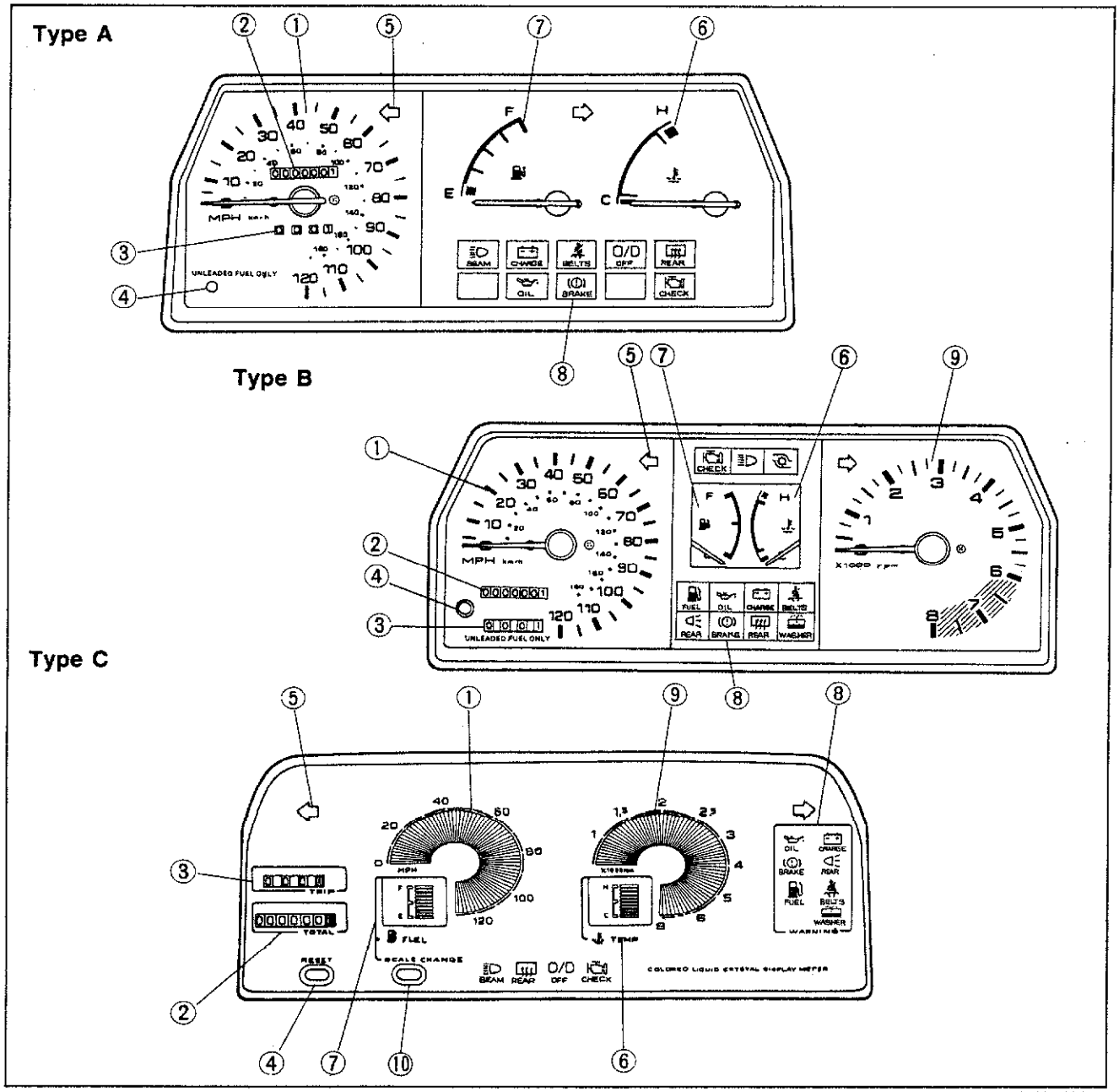
DISASSEMBLY & ASSEMBLY

1. Pry off the switch knob.
2. Release the lock pins, and remove the switch from the rear side.
3. Assemble in the reverse order of disassembly.

Caution
Do not damage the switch body.

METER

STRUCTURAL VIEW



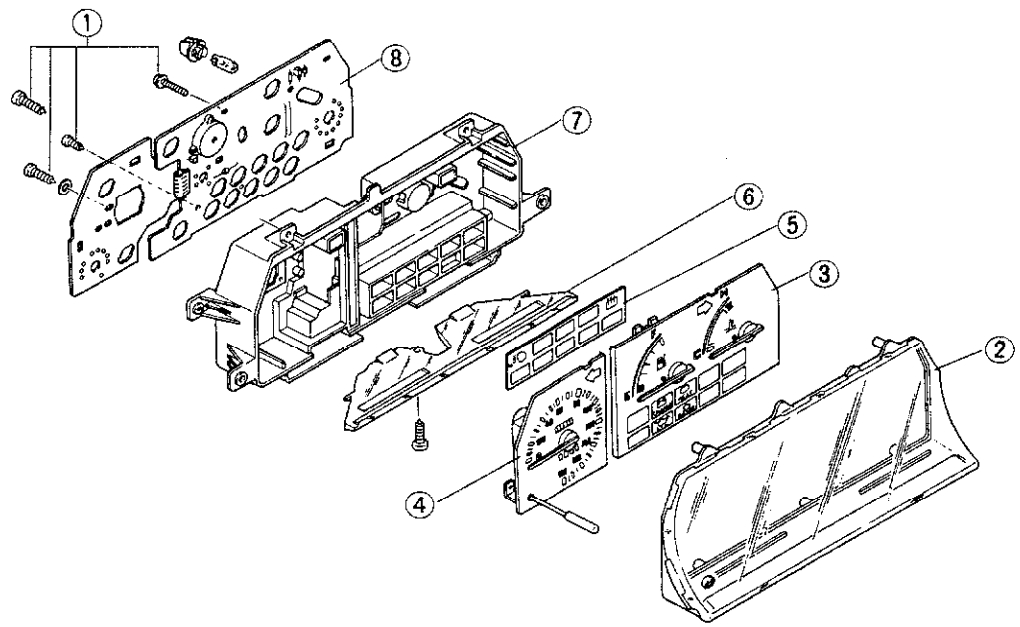
83U15X-016

1. Speedometer
2. Odometer
3. Tripmeter
4. Tripmeter reset knob
5. Turn-signal/hazard warning flasher light
6. Water temp. gauge
7. Fuel gauge
8. Warning and indicator lights
9. Tachometer
10. Fuel gauge scale change knob

DISASSEMBLY AND ASSEMBLY

1. Disassemble in the numbered sequence shown in the figure.
2. Assembly is in the reverse order of disassembly.

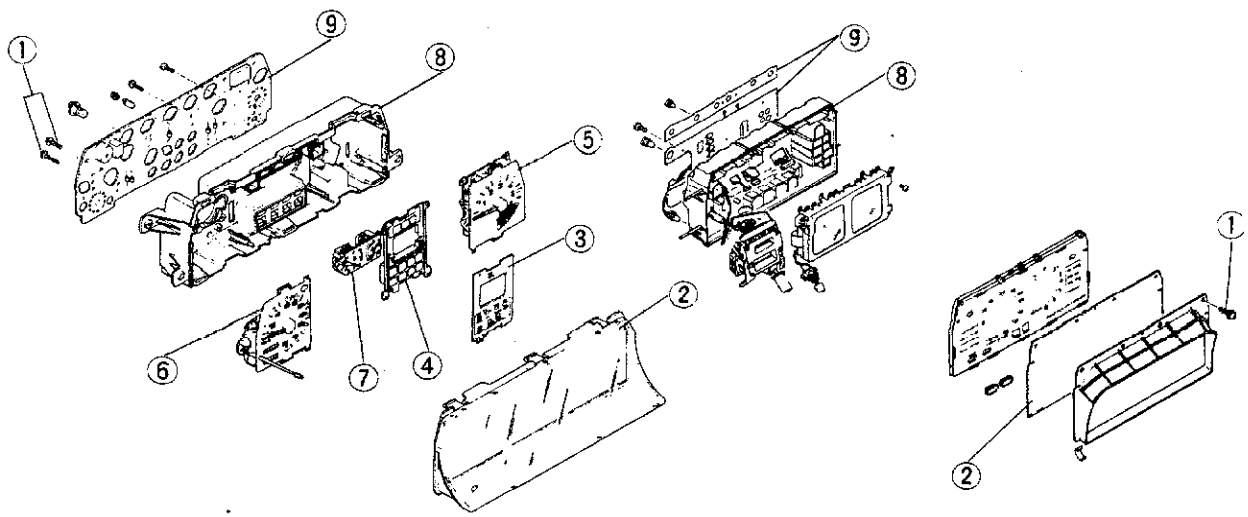
TYPE A



63U15X-036

1. Screws
2. Front lens and window plate
3. Water temp. gauge and fuel gauge
4. Speedometer
5. Warning plate
6. Illumination panel
7. Meter case
8. Printed circuit board

TYPE B **TYPE C**



63U15X-037

1. Screws
2. Front lens and window plate
3. Warning plate
4. Warning case
5. Tachometer
6. Speedometer
7. Water temp gauge and fuel gauge
8. Meter case
9. Printed circuit board

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Speedometer does not work	Speedometer cable and connection Speedometer Speedometer drive gear	Replace or repair Replace speedometer Replace speedometer drive gear	15—21
Speedometer fluctuation	Speedometer cable Speedometer Loose cable connection	Replace speedometer cable Replace speedometer Repair	15—21
Tachometer does not work	METER fuse blown Short circuit Tachometer Wiring	Replace fuse and check for short Repair Check or replace tachometer Repair as necessary	15—21
Fuel gauge does not work	METER fuse blown Short circuit Fuel gauge Fuel tank unit Ground or wiring	Replace fuse and check for short Repair Replace fuel gauge Replace fuel tank unit Repair as necessary	15—21
Water temperature gauge does not work	METER fuse blown Short circuit Water temperature gauge Water temperature gauge unit Wiring	Replace fuse and check for short Repair Replace water temperature gauge unit Replace water temperature gauge unit Repair as necessary	15—24

83U15X-017

Analog meter

Standard indication (km/h)	Allowable range (km/h)
40	37— 40
80	76— 80
120	114—120

Standard indication (mph)	Allowable range (mph)
30	28.0—30.0
60	57.0—60.0
90	85.5—90.0

83U15X-018

Digital meter

Standard indication (mph)	Allowable range (mph)
30	26.0— 37.5
60	52.5— 75.0
90	79.0—112.5

83U15X-019

ON-VEHICLE INSPECTION

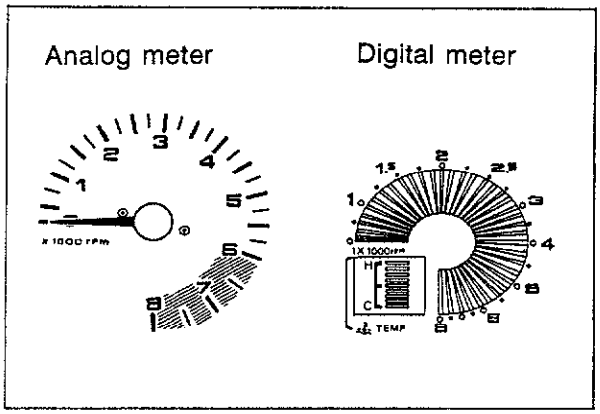
Speedometer

1. Using a speedometer tester, test the speedometer for allowable indication error, and check the operation of the odometer.
2. Check the speedometer for fluctuation and/or abnormal noise.

Caution

a) If significant fluctuation occurs or the speedometer does not move at all, remove the speedometer cable. If normal, replace the speedometer assembly.

b) Tire wear and improper inflation will increase speedometer error.

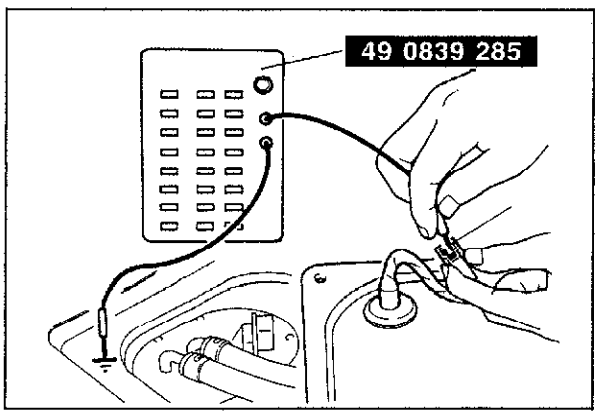


83U15X-020

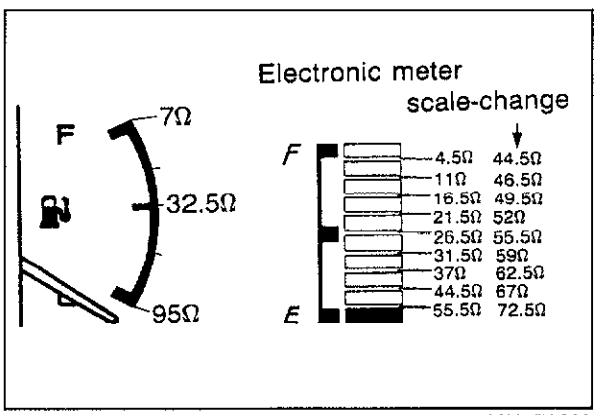
Analog meter rpm display

Standard indication (rpm)	Allowable range (rpm)
1000	910—1090
2000	1910—2090
3000	2910—3090
4000	3880—4120
5000	4850—5150
6000	5640—6360

83U15X-021



83U15X-022



83U15X-023

Tachometer

Compare the tester and tachometer indications. If there is significant error, replace the tachometer.

Caution
When removing or installing the tachometer, be careful not to drop it or subject it to sharp impact.

Checking for indication error

1. Connect an tester to the negative (–) terminal of the ignition coil and start the engine.
2. Compare the indication of the tester with that of the tachometer, replace the tachometer if the error is significant. (For a digital meter, replace the meter unit assembly.)

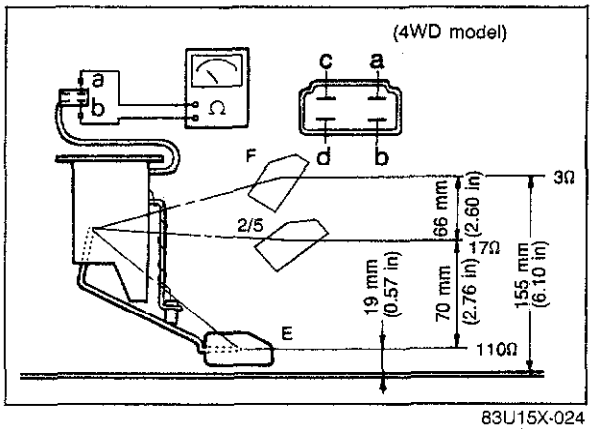
Digital meter rpm display

Display range (rpm)	Segment	Color
0	1	Amber
1—600	2—5	Amber
601—1000	6—9	Amber
1001—3000	10—49	Amber
3001—5000	50—69	Amber
5001—6000	70—77	Amber
6001—6500	78—79	Red
6501—7500	80—83	Red
7501—8000	84—87	Red

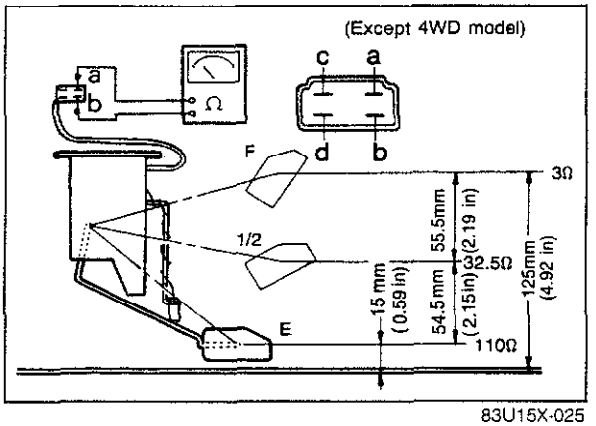
Fuel Gauge

1. Disconnect the connector from the fuel tank unit.
2. Connect the red lead wire of the **SST** to the connector, and the black lead wire to the body ground.
3. Set the checker to the resistance values shown in the figure.
4. Turn on the ignition switch and check to confirm that the needle indicator displays the correct values.
   If the needle displays the correct values, the trouble is in the gauge unit; if not, the trouble is in the meter.

Caution
a) Continue the above inspections for at least two minutes each to correctly judge the condition.
b) The allowable indication error is twice the width of the needle.



83U15X-024

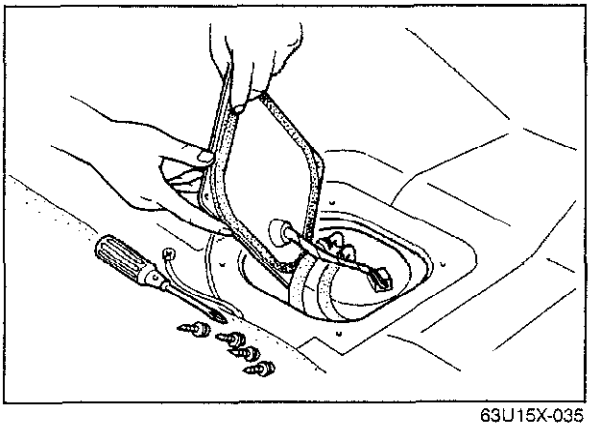


83U15X-025

Fuel Tank Unit

1. Connect an ohmmeter to the tank unit.
2. Move the unit arm slowly from point (E) to point (F) and read the resistance value. If this value is outside the standard range, replace the unit.

Note
To inspect the fuel tank unit, remove the fuel tank.



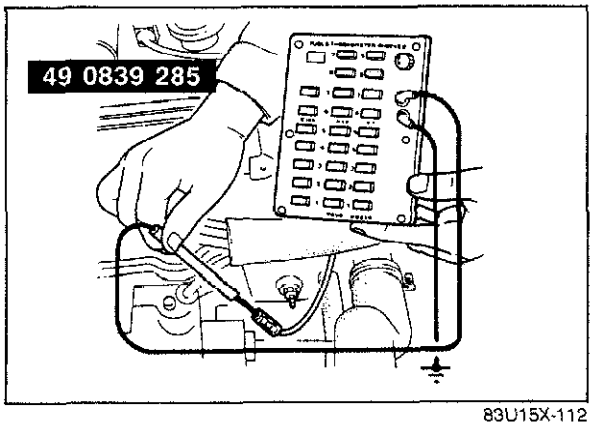
63U15X-035

Remove as follows.

1. Disconnect the main fuel hose, fuel return hose and evaporation hoses from the fuel tank.
2. Remove the fixing bolts and fuel tank.
3. Remove the fuel tank unit.

Installation is in the reverse order of removal.

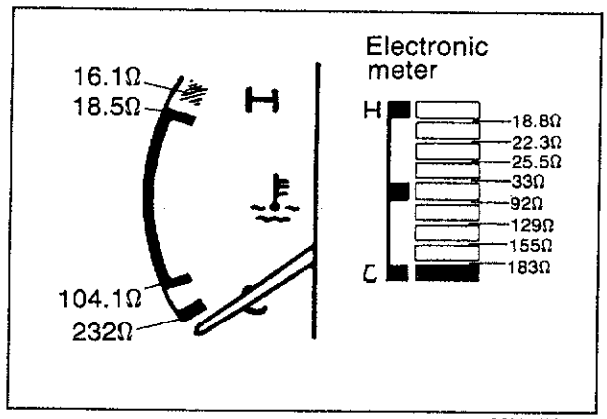
Warning
When removing the fuel tank, keep sparks, cigarettes and open flames away from the fuel tank.



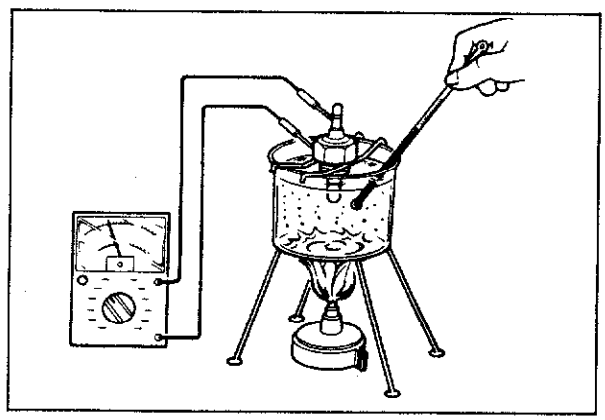
83U15X-112

Water Temperature Gauge

1. Remove the connector from the gauge unit.
2. Connect the red lead wire of the **SST** to the connector, and the black lead wire to body ground.



83U15X-026



47U15X-027

3. Set the checker to the resistance values shown in the figure.
4. Turn on the ignition switch and check to confirm that the needle indicator displays the correct values. If the needle displays the correct values, the trouble is in the gauge unit; if not, the trouble is in the meter.
5. When the meter indicates 18.8 ± 3.0 ohms or less, the segments will start flashing.

Note

a) Continue the above inspections for at least two minutes each to correctly judge the condition.

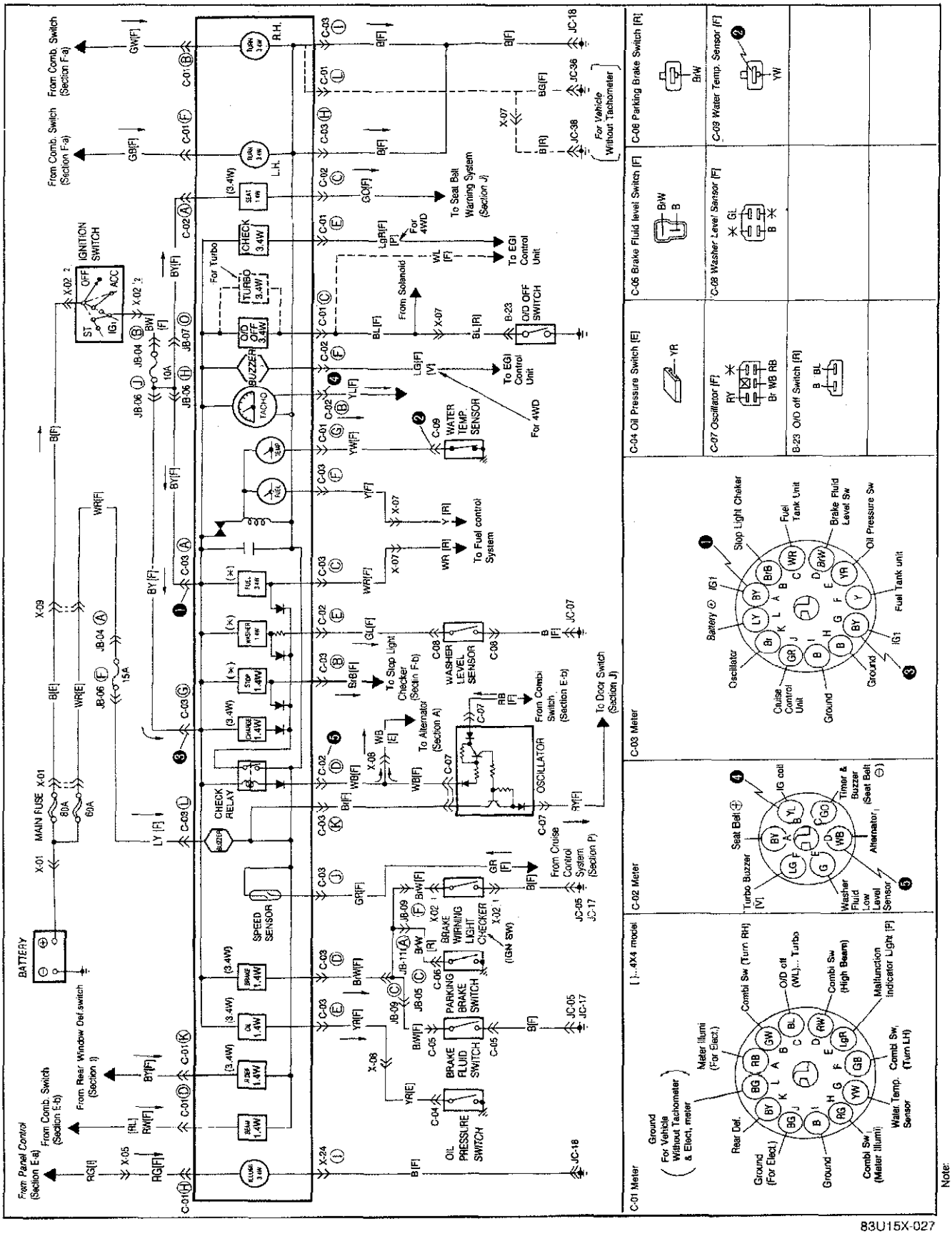
b) The allowable indication error is twice the width of the needle.

Water Temperature Gauge Unit

1. Remove the gauge unit.
2. Place the gauge unit in a container of water, and heat the water to **80°C (176°F)**.
3. Use an ohmmeter to measure the resistance.

Resistance: 57.7—49.3 Ω

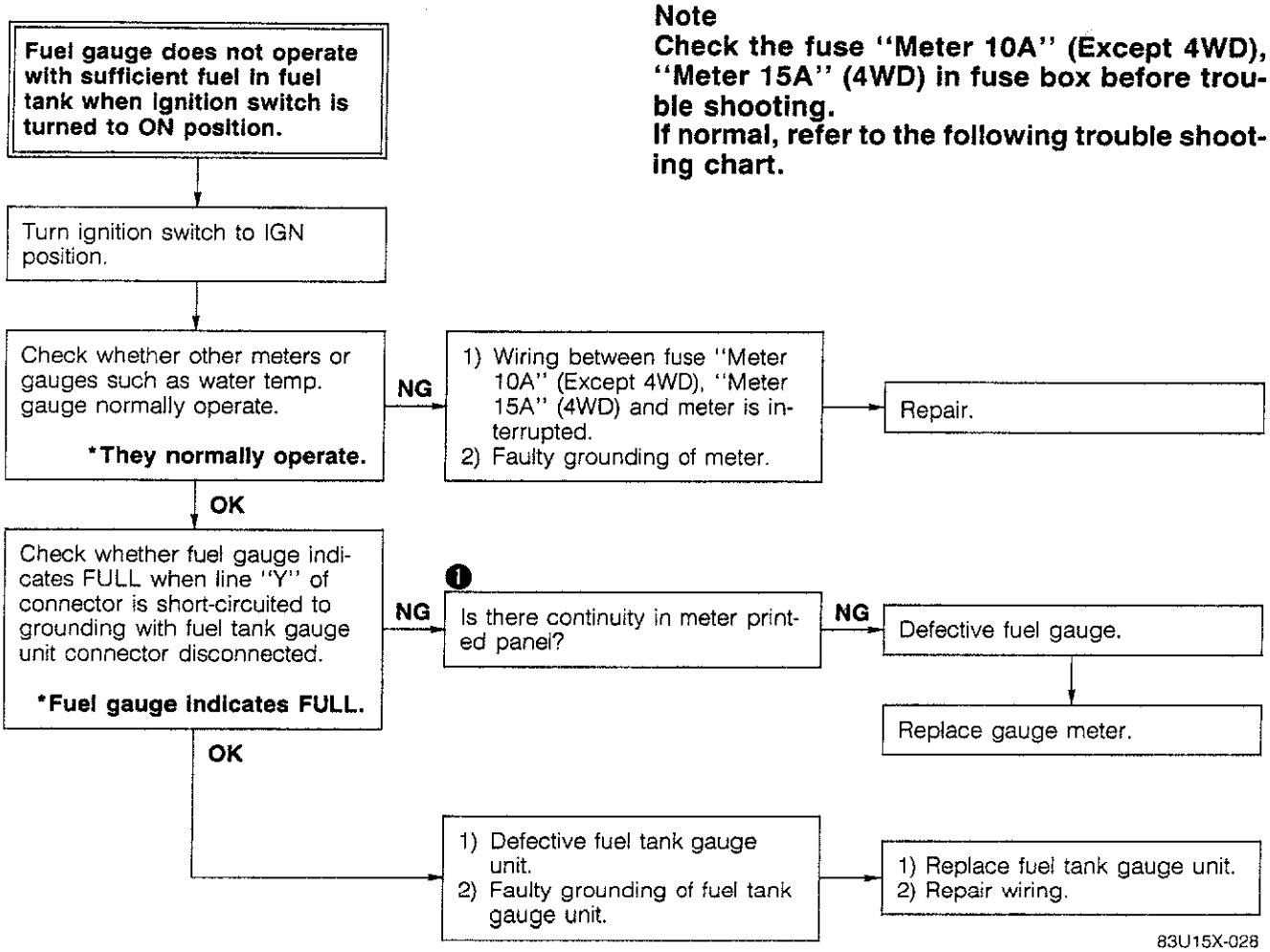
METER PRINTED CIRCUIT BOARD INSPECTION



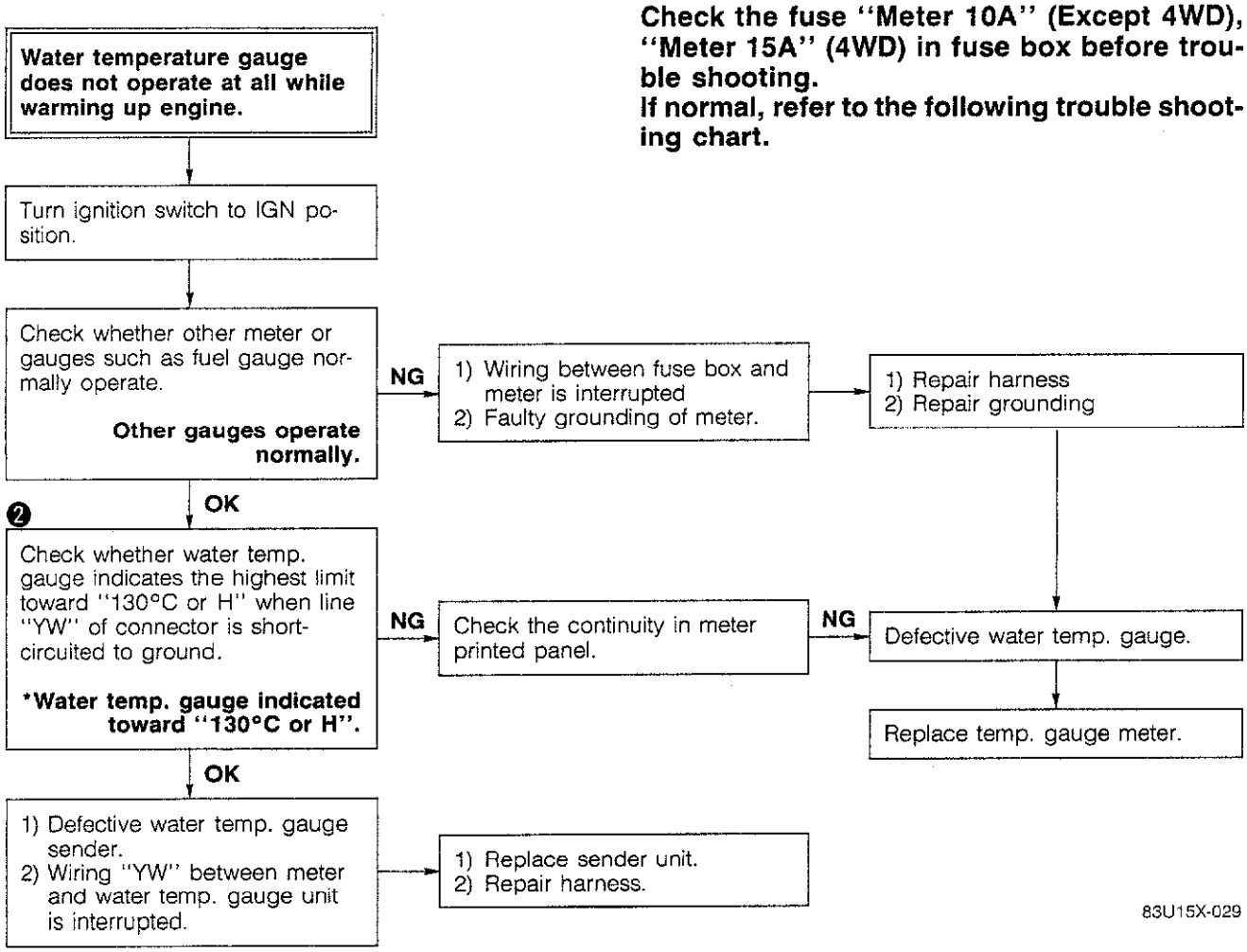
83U15X-027

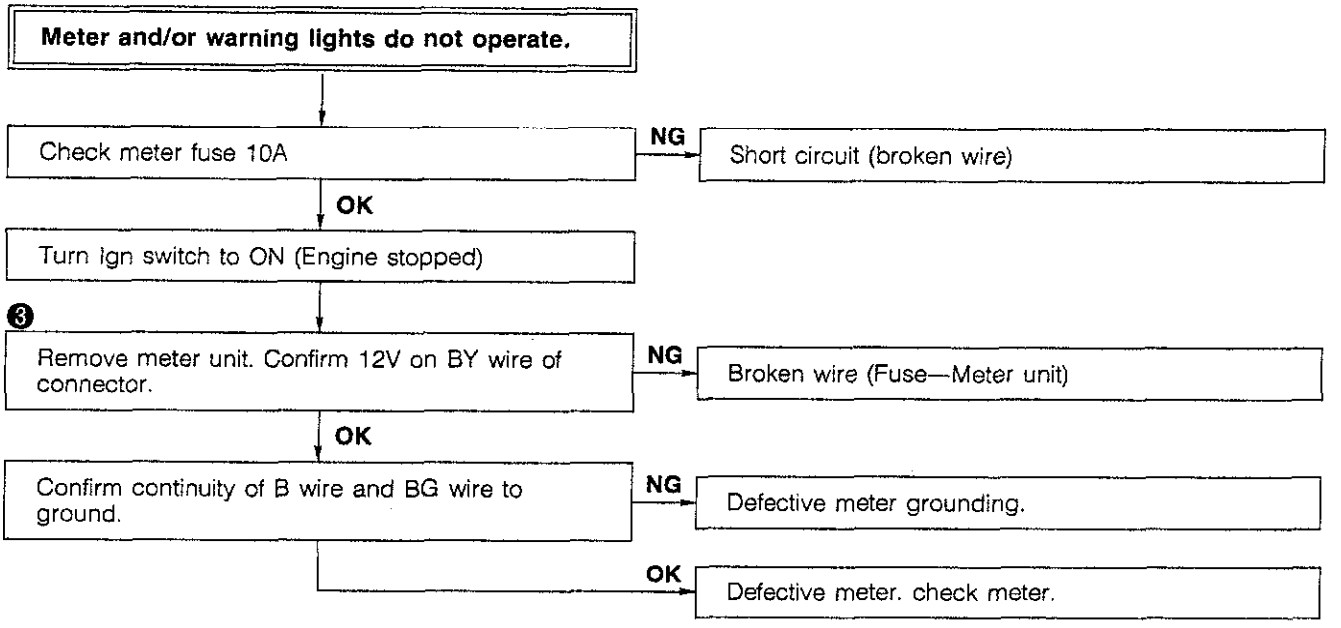
TROUBLESHOOTING

Note
Check the fuse "Meter 10A" (Except 4WD), "Meter 15A" (4WD) in fuse box before trouble shooting.
If normal, refer to the following trouble shooting chart.

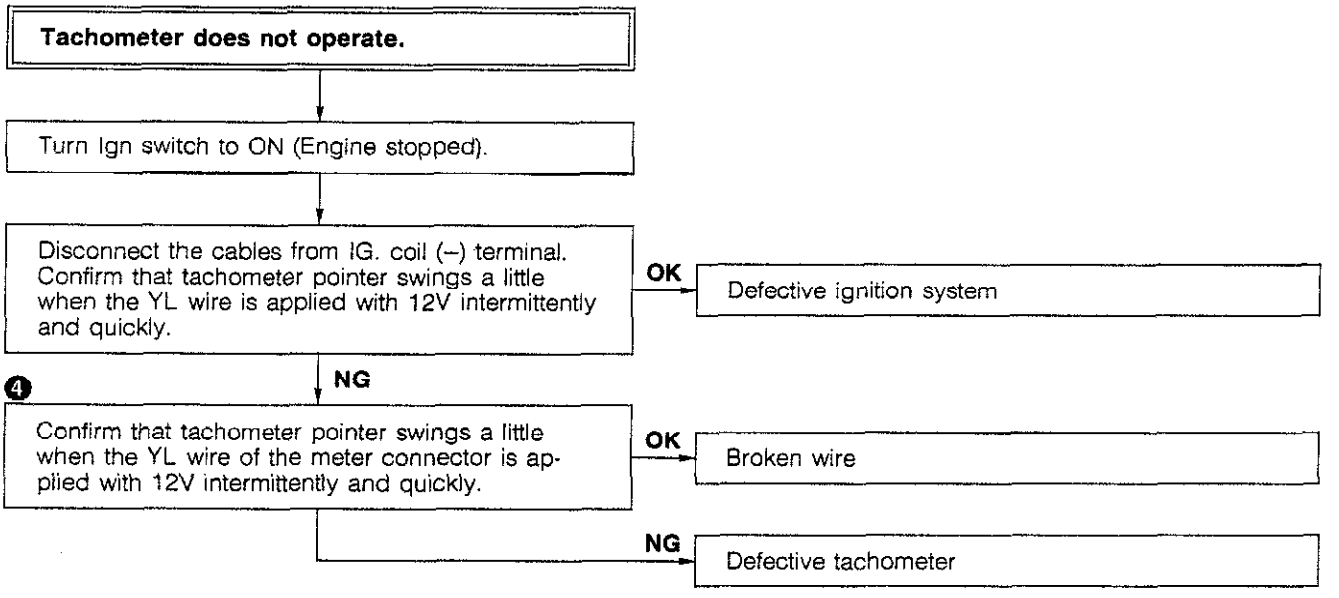


Note
Check the fuse "Meter 10A" (Except 4WD), "Meter 15A" (4WD) in fuse box before trouble shooting.
If normal, refer to the following trouble shooting chart.





83U15X-030



83U15X-031

All the warning lights remain on (with engine running).

Turn ignition switch to IGN position (with engine running).

❺

Check voltage of line "WB" of warning readout connector with alternator connectors.

***12V is indicated.**

NG

1. Wiring (WB) between warning readout and alternator is short-circuited to ground.
2) Defective alternator.

1) Replace wiring.
2) Replace alternator.

OK

Defective warning readout.

Replace warning readout.

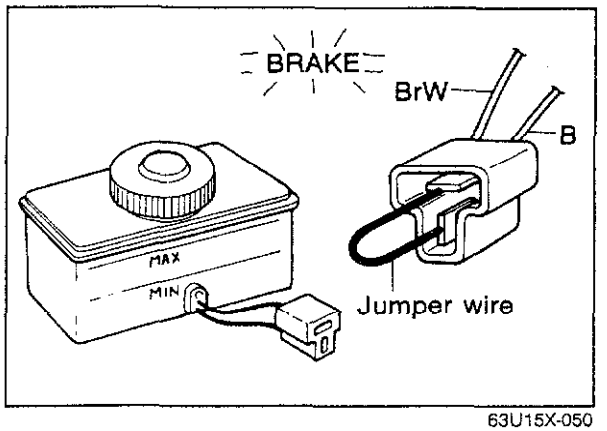
83U15X-032

One of warning lights does not illuminate when turning ignition switch to IGN position (with engine stalled).

1) Bulb is burn out.
2) Defective warning readout.
3) Check circuit (see following)

1) Replace bulb.
2) Replace warning readout.
3) Repair as necessary.

83U15X-033



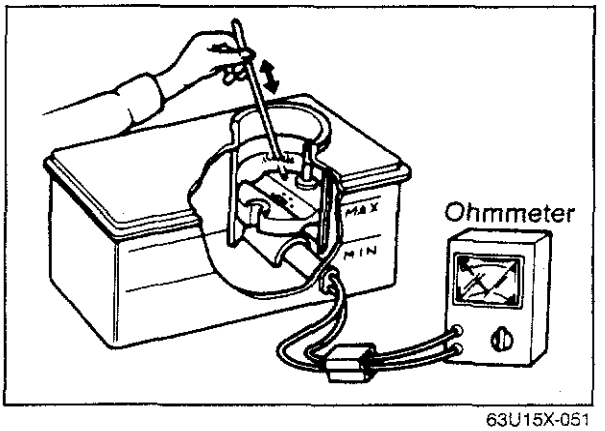
63U15X-050

INSPECTION OF CIRCUIT AND PARTS

Brake System Warning Light

1. Disconnect the connector from the brake fluid level sensor.
2. Connect a jumper wire between "BrW" and "B" terminal (body ground).
3. Start the engine and check that the BRAKE warning light illuminates.

Caution
Be sure that the parking brake is fully released before checking.

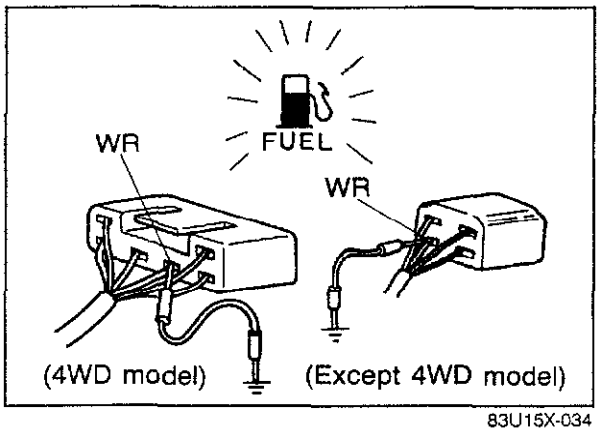


63U15X-051

4. If there is no illumination, check the fuse, bulb and wiring harness.

Brake Fluid Level Sensor

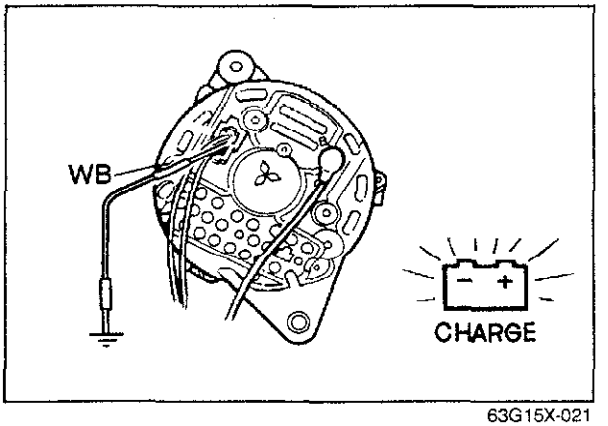
Connect an ohmmeter to each terminal of the brake fluid level sensor connector.
Check for continuity when the float is moved up and down. The sensor is good if there is continuity when the float is below the "MIN" mark, and if there is no continuity when the float is above the "MAX" mark. If the sensor does not pass this test, replace it.



83U15X-034

Fuel-Level Warning Light

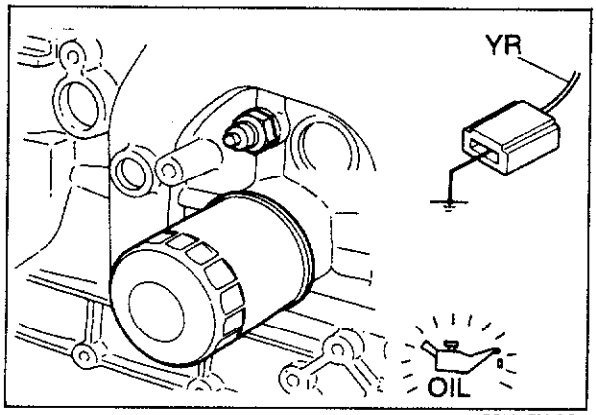
1. Disconnect the connector from the fuel tank unit.
2. Connect the connector terminal "WR" to the body ground.
3. Start the engine and check that the FUEL warning light illuminates.
4. If there is no illumination, check the fuse, warning light and wiring harness.



63G15X-021

Generator Warning Light

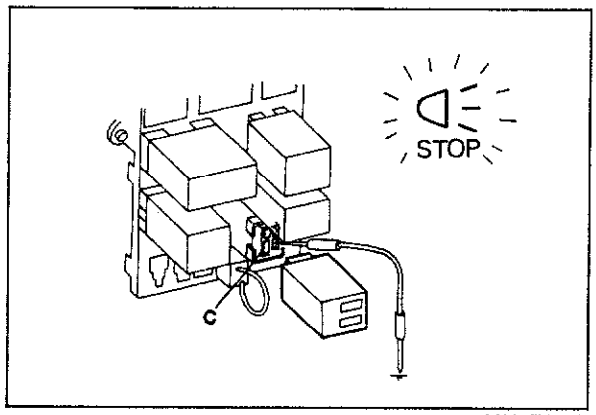
1. Start the engine, connect the connector terminal "WB" to a body ground.
2. Check that the generator warning light illuminates.
3. If there is no illumination, check the warning lights wiring harness and alternator. Replace or repair as necessary.



63U15X-054

Engine Oil Pressure Warning Light

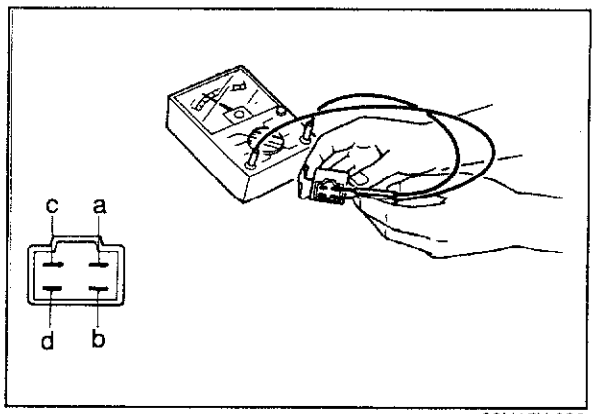
1. Disconnect the connector from the oil pressure switch.
2. Start the engine, connect the connector terminal "YR" to a body ground.
3. Check that the "OIL" warning light illuminates. If it does not illuminate replace sender switch or repair wiring harness, if bulb is not burnt out.



83U15X-035

Stop Light Malfunction Warning Light

1. Disconnect the connector from the light checker relay.
2. Connect the connector terminal "C" to body ground.
3. Start the engine and check that the STOP LIGHT warning light illuminates If it does not illuminate and bulb is not burned out, replace switch, or stop light checker, or repair wiring harness. (Also refer to page 15—11, 15—43)



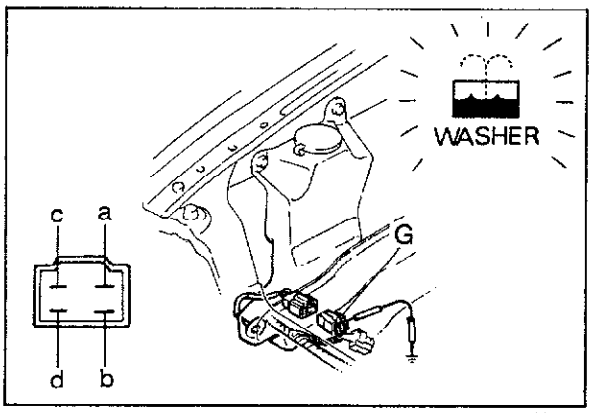
83U15X-036

Stop Light Checker

1. Check the conductivity between the terminals by using an ohmmeter.

Apply tester red lead to the first mentioned terminal and black lead to the second terminal			
a—b	Conductive	b—a	Conductive
a—c	Non-conductive	c—a	Conductive
a—d	Conductive	d—a	Conductive
b—c	Non-conductive	c—b	Conductive
b—d	Conductive	d—b	Conductive
c—d	Conductive	d—c	Non-conductive

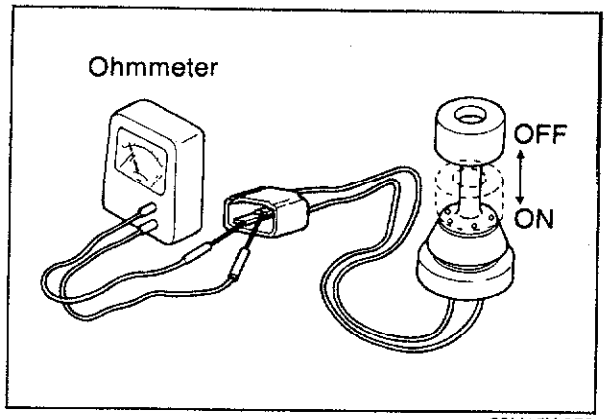
Note
a) Set the tester to X1000Ω range.
b) "Conductive" includes state with resistance and "Non conductive" means insulated.



83U15X-037

Washer Fluid Warning Light

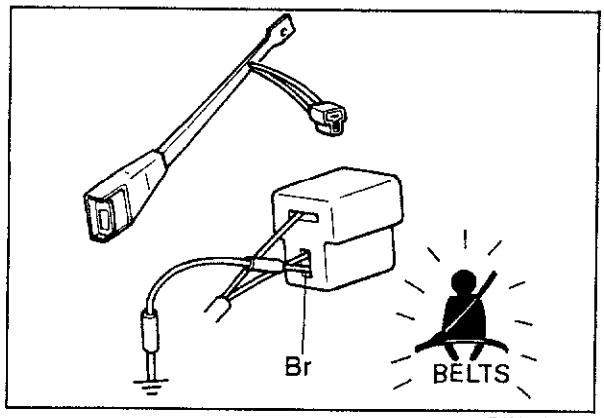
1. Disconnect the connector from the washer fluid level sensor.
2. Start the engine, with a jumper wire connect the connector terminal a (G) to a body ground.
3. Check that the washer fluid warning light illuminates.
   If it does not illuminate and bulb is not burnt out, replace fluid level sensor or repair wiring harness.



63U15X-058

Washer Fluid Level Sensor

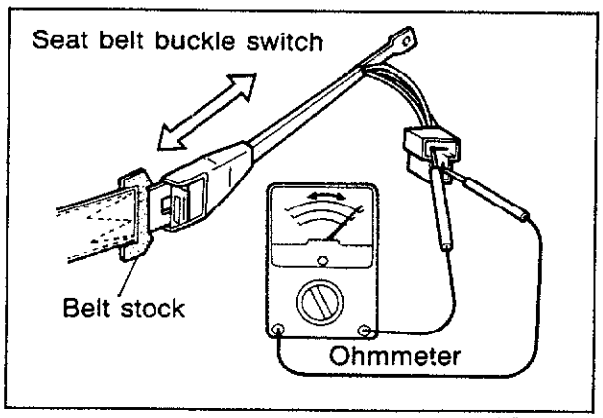
1. Connect the sensor connector to an ohmmeter.
2. Move the sensor float up and down.
3. Check that there is continuity when the float is at the lowest point.



73U15X-022

Seat Belt Warning Light

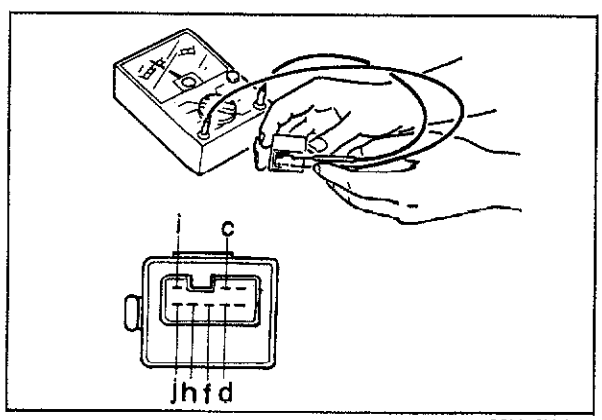
1. Disconnect the connector from the seat belt buckle switch (driver's side).
2. Connect the connector terminal "Br" to a body ground.
3. Start the engine and check that the BELT warning light illuminates for about 6 seconds.
4. If there is no illumination, check the fuse, warning readout and wiring harness.
   Check bulb, control unit and wiring harness and switch repair or replace as necessary.



4BG15X-022

Buckle Switch (driver's belt)

Insert the seat belt stock into the buckle, and use an ohmmeter to check for continuity of the switch.
Belt inserted....no continuity
Belt not inserted....continuity



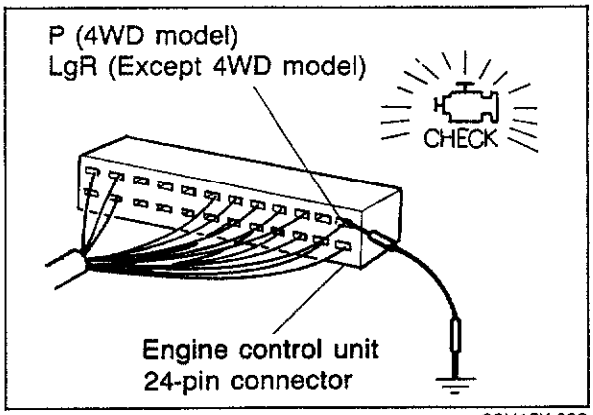
83U15X-038

Timer and buzzer unit

Check the conductive between the terminals by using an ohmmeter.

Apply tester red lead to the first mentioned terminal and black lead to the second terminal			
c—d	Conductive	h—c	Non-conductive
c—f	Non-conductive	h—d	Non-conductive
c—h	Conductive	h—f	Non-conductive
c—i	Conductive	h—i	Non-conductive
c—d	Conductive	h—j	Non-conductive
d—c	Non-conductive	i—c	Non-conductive
d—f	Non-conductive	i—d	Non-conductive
d—h	Non-conductive	i—f	Non-conductive
d—i	Conductive	i—h	Non-conductive
d—j	Conductive	i—j	Non-conductive
f—c	Non-conductive	j—c	Non-conductive
f—d	Conductive	j—d	Conductive
f—h	Non-conductive	j—f	Non-conductive
f—i	Conductive	j—h	Non-conductive
f—j	Conductive	j—i	Conductive

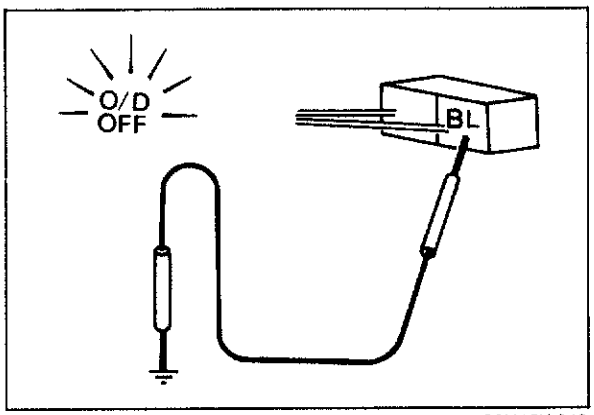
Note
a) Set the tester to x1000Ω range.
b) "Conductive" includes state with resistance and "Non-conductive" means insulated.



83U15X-039

Malfunction Indicator Light

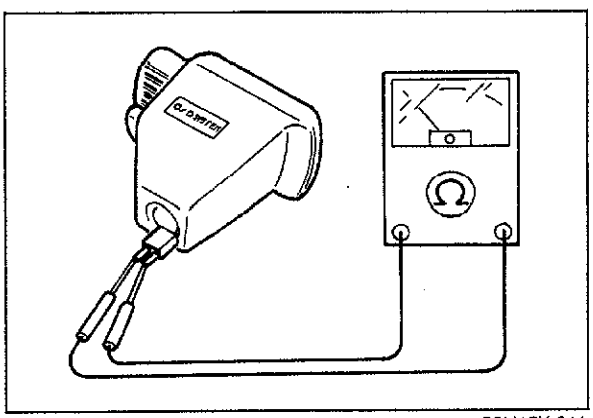
1. Connect the "P" (4WD model), "LgR" (Except 4WD model) wire to a body ground.
2. Start the engine and check that the warning light illuminates.
3. If there is no illumination, check meter fuse, bulb and wiring harness between meter and EGI control unit.



83U15X-040

Overdrive Off Indicator Light

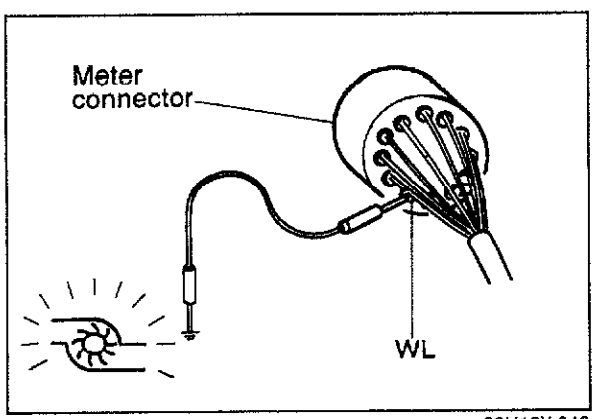
1. Turn the IGN switch to ON and check that O/D OFF indicator light illuminates when "BL" wire is connected to a body ground.
2. If there is no illumination, check the fuse, warning light, O/D switch and wiring harness. Replace or repair as necessary.


83U15X-041

O/D Switch

1. Connect an ohmmeter to terminals of the O/D OFF switch.
2. Check for continuity of the switch.

O/D switch	Continuity
Depressed	No
Released	Yes



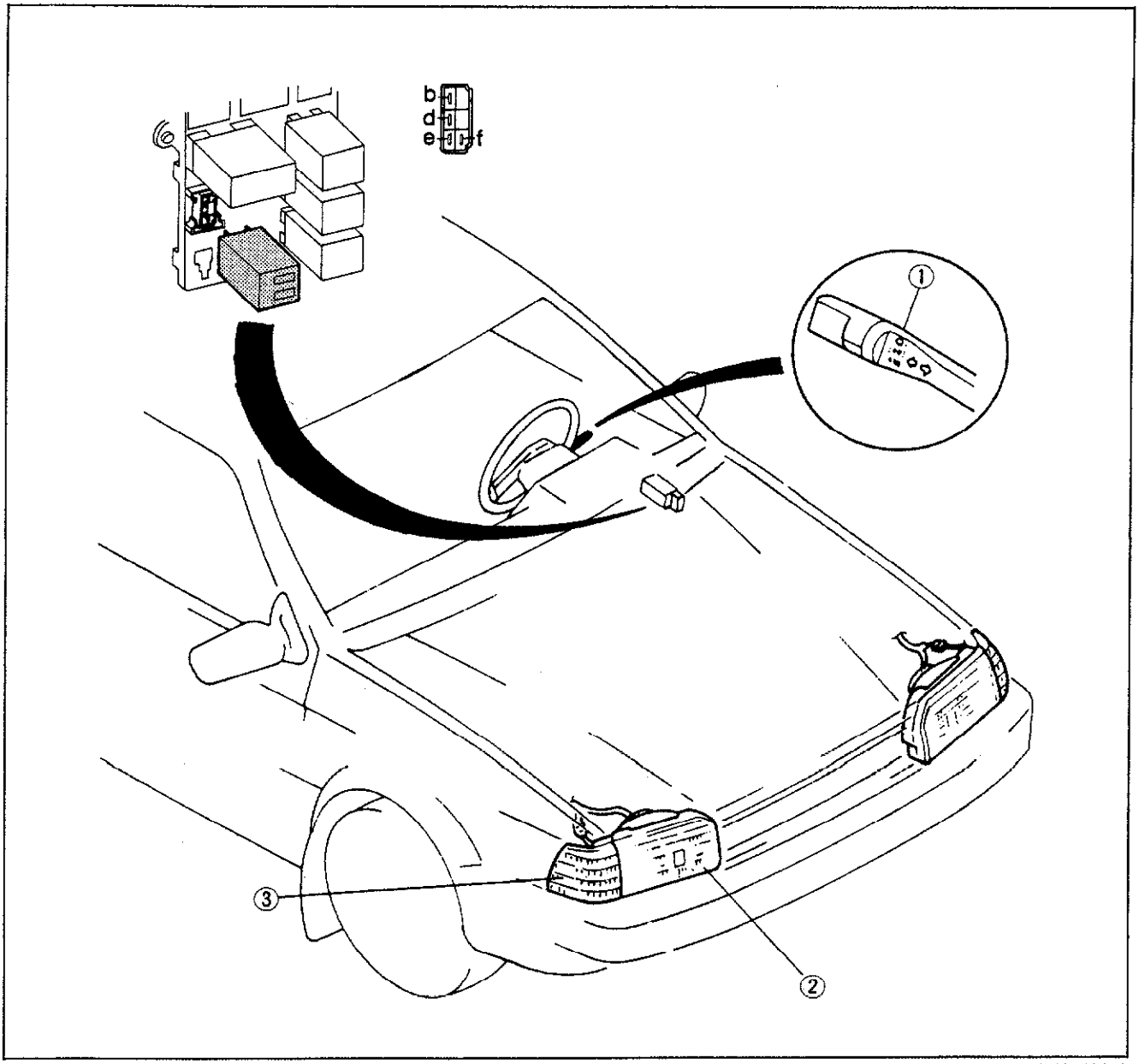
83U15X-042

Turbo Indicator Light (Turbo Model)

1. Turn the ignition switch to ON.
2. Ground WL wire terminal of meter connector and check that the turbo indicator light illuminates.
3. If it does not illuminates, bulb is burnt out, or faulty printed circuit board.

LIGHTS REMINDER WARNING

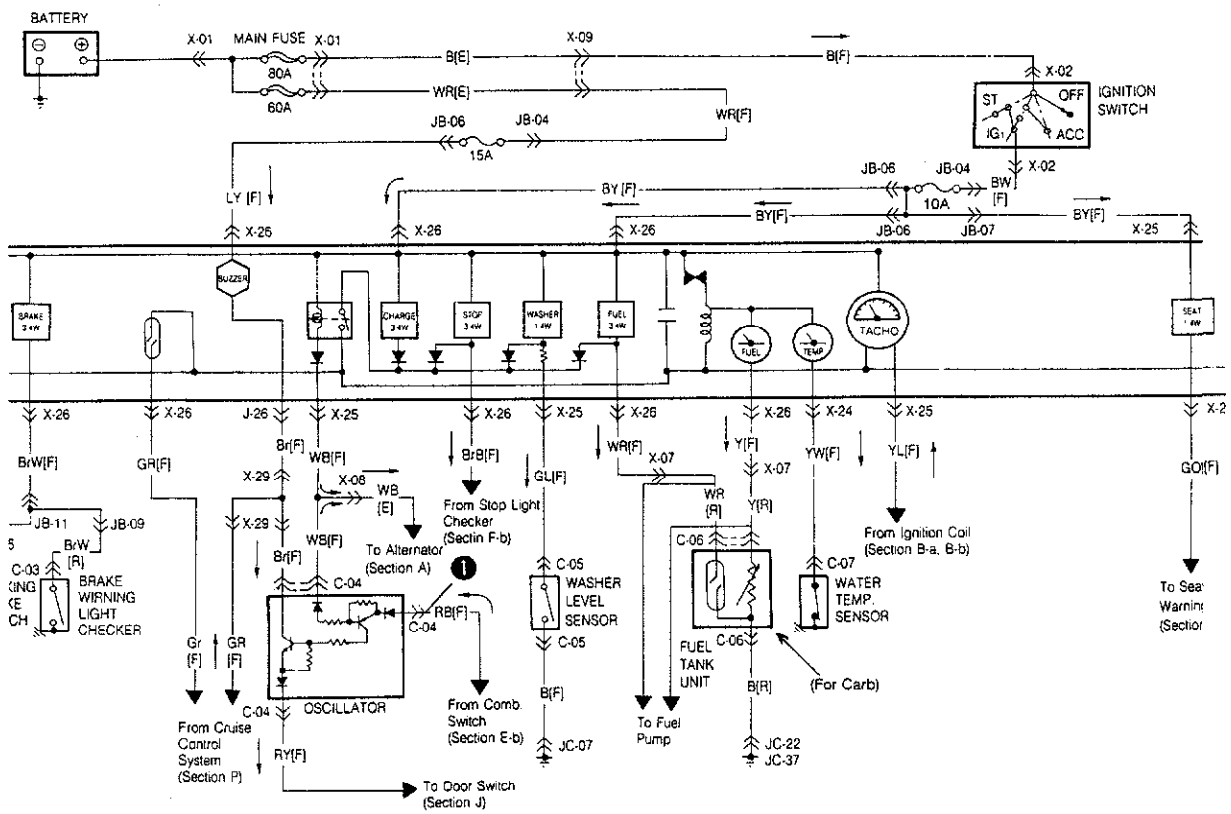
STRUCTURAL VIEW



83U15X-043

1. Combination switch
2. Head light
3. Front combination light

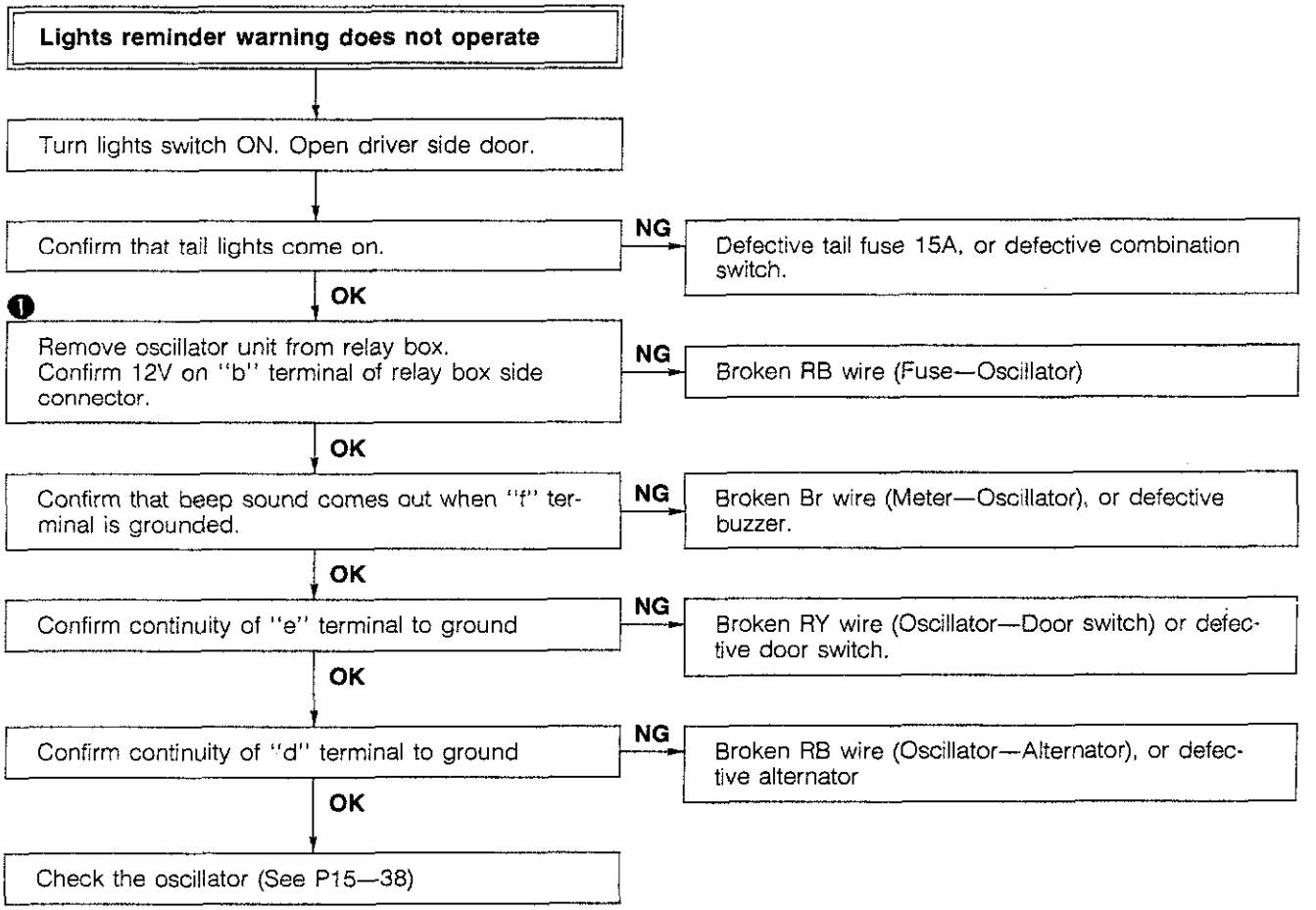
CIRCUIT DIAGRAM



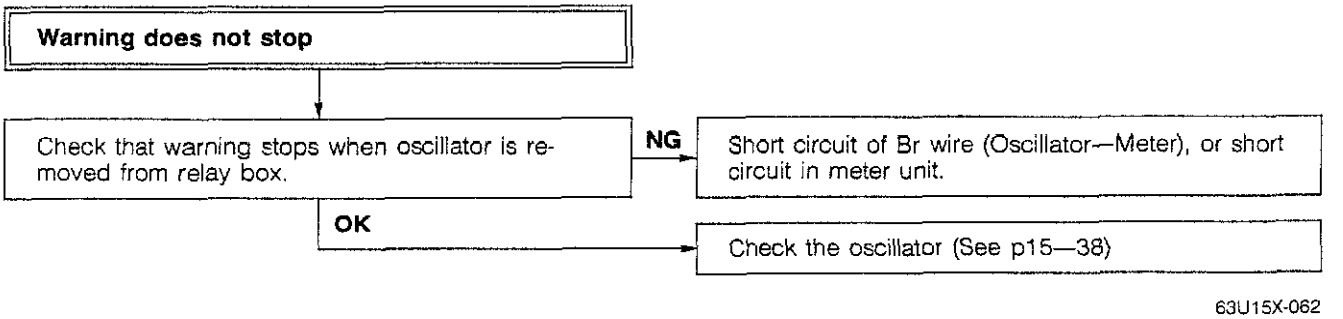
C-01 Oil Pressure Switch [E] YR	C-02 Brake Fluid Level Switch [F] BrW B	C-03 Parking Brake Switch [R] BrW	C-04 Oscillator [F] RY Br WB RB ❶
C-05 Washer Fluid Low Level Sensor [F] GL B	C-06 Fuel Tank Unit [R] Y WR B (For Carb)	C-07 Water Temp. Sensor [F] YW	

83U15X-044

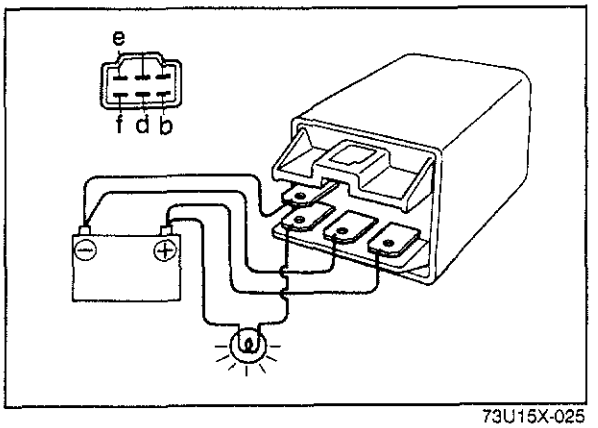
TROUBLESHOOTING



73U15X-024



63U15X-062



73U15X-025

OSCILLATOR UNIT

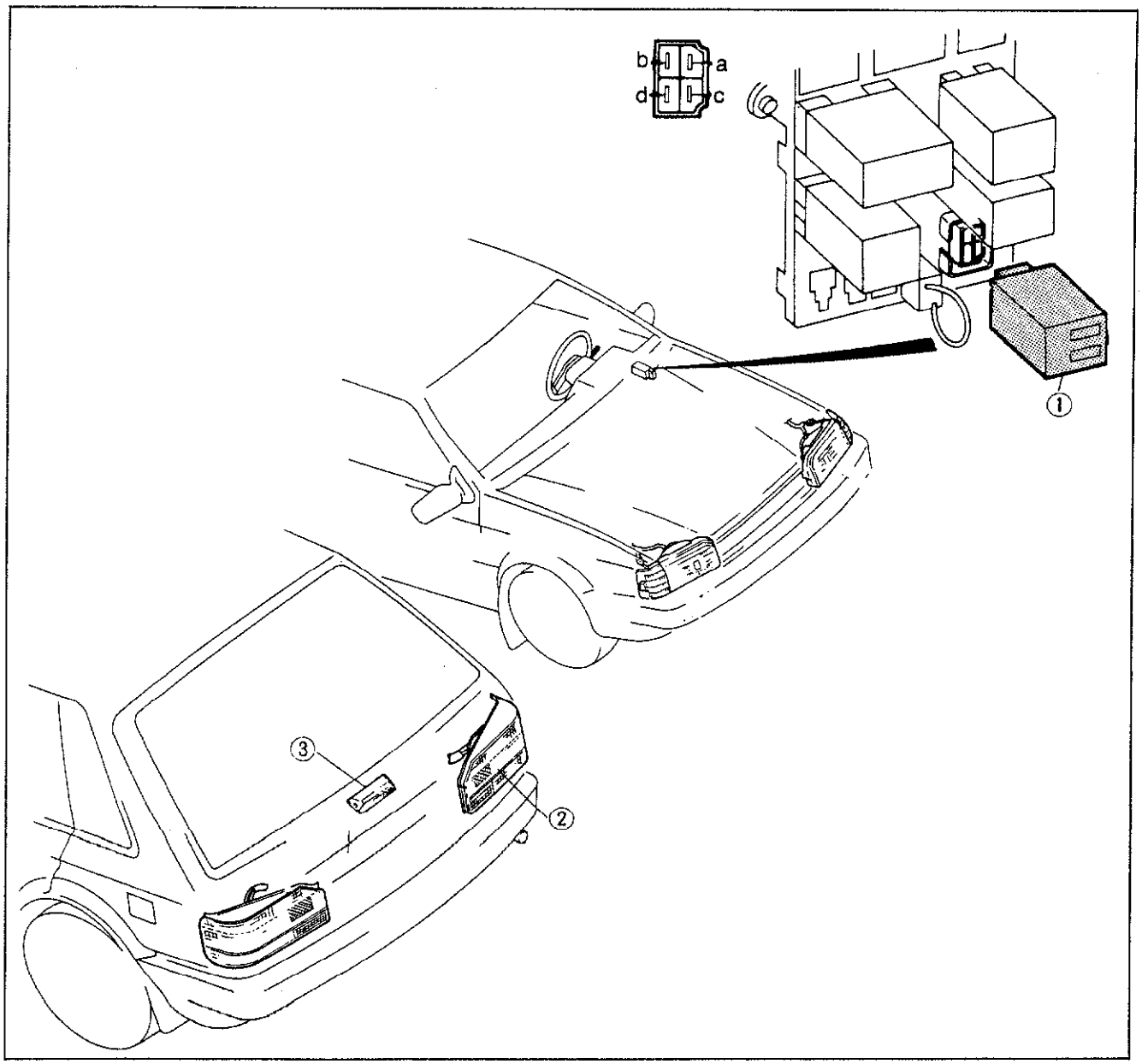
Operation check

1. Apply 12V to the "b" terminal, and connect "e", "d" terminals to the ground.
2. Confirm that test light comes on when it is connected between the 12V and "f" terminals.
   Replace oscillator if light does not illuminate.

Caution
Do not reverse the polarity (12V power) to the terminals.

STOP LIGHT

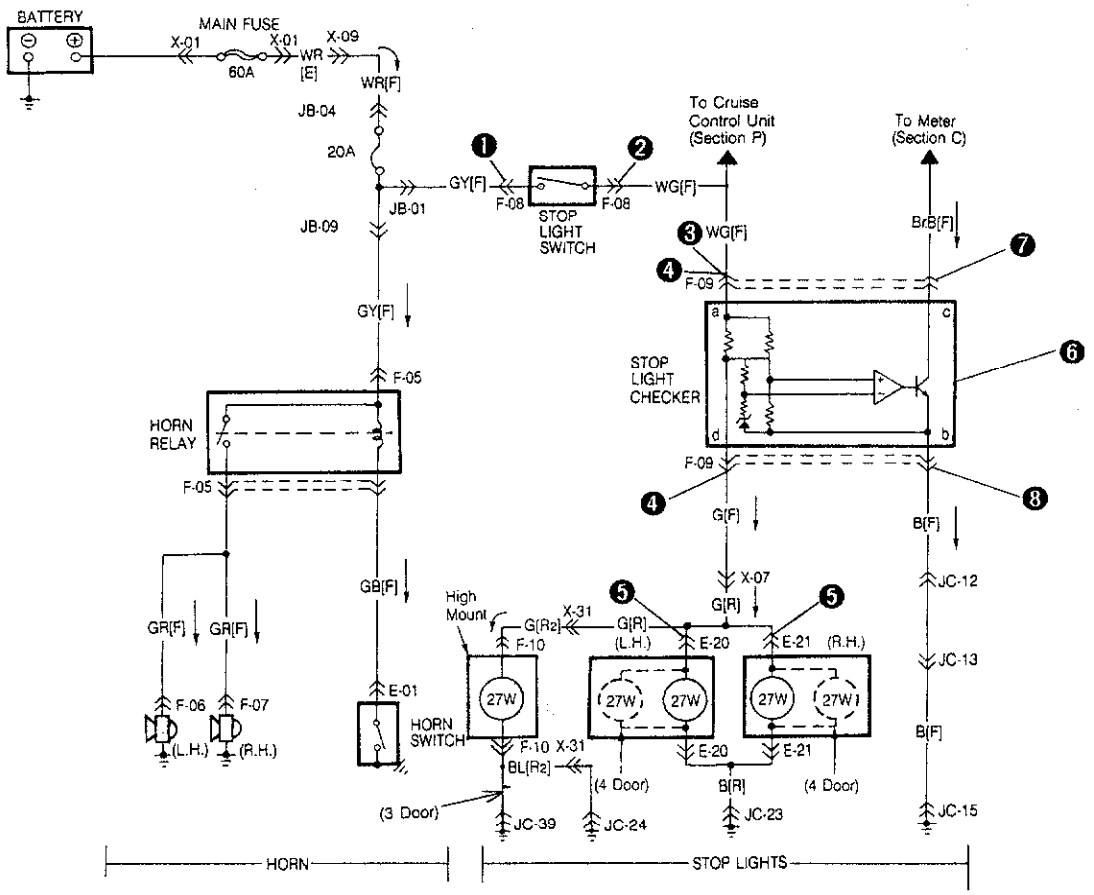
STRUCTURAL VIEW

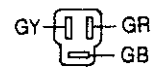
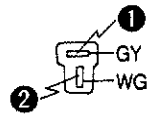
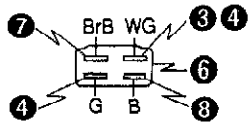
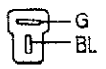
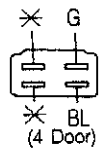
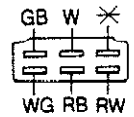
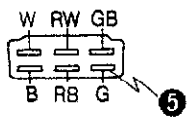
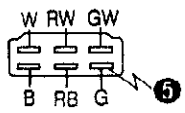


83U15X-045

1. Stop light checker relay
2. Stop light
3. High mounted stop light

CIRCUIT DIAGRAM



F-05 Horn Relay [F]  	F-06 Horn L.H. [F]  	F-07 Horn R.H. [F]  	F-08 Stop Light Switch [F] 
F-09 Stop Light Checker [F]  	F-10 High Mounted Stop Light [R2]  (3 and 5 Door)	 (4 Door)	E-01 Combination Switch [F] 
E-20 R. Combi. Light (R.L.)[R]  	E-21 R. Combi. Light (R.R.)[R]  		

83U15X-046

TROUBLESHOOTING

Both stop lights do not operate when brake pedal is depressed.

Note
Carry out troubleshooting with brake pedal depressed.

Check stop fuse 20A (Except 4WD), 15A (4WD).
- NG → Short circuit (Broken wire)
- OK ↓

❶ Confirm 12V on GY wire of stop light switch.
- NG → Broken GY wire (Fuse—Switch)
- OK ↓

❷ Confirm 12V on WG wire of stop light switch
- NG → Defective switch, or poor installing condition.
- OK ↓

❸ Remove stop light checker relay from relay box. Confirm 12V on "a" terminal of relay box side connector (4P).
- NG → Broken WG wire (Switch—Relay box)
- OK ↓

❹ Confirm that stop lights come on when "a" and "d" terminals of 4p connector are shorted together.
- OK → Check stop light checker (See p15—43)
- NG ↓

❺ Confirm 12V on G wire of rear combination lights while above terminals are shorted.
- NG → Broken G wire (Relay box—Rear combination lights)
- OK → Burnt out bulbs or faulty grounding of rear combination lights.

83U15X-047

One stop light does not come on → Burnt out bulb, or faulty grounding of rear combination light.

73U15X-028

Warning light in meter unit remains on while stop lights operate normally.

⑥ With brake pedal depressed, remove light checker unit and confirm that warning light goes off.

NG → Short circuit (Broken wire) of BrB wire (Meter—Light checker), or defective meter unit.

OK ↓

Check light checker (See P15—43).

83U15X-048

Warning light does not come on when stop light bulb is burned out.

⑦ Remove light checker from relay box. Confirm that warning light comes on when "c" terminal of relay box side connector is grounded.

NG → Broken BrB wire (Meter unit—Light checker), defective meter, or burnt out bulb.

OK ↓

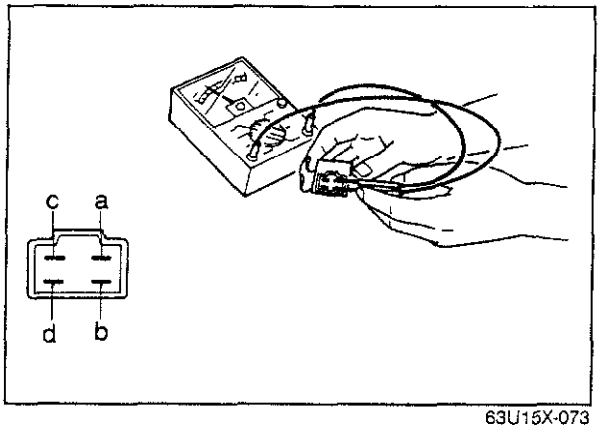
⑧ Confirm continuity of connector "b" terminal to ground.

NG → Faulty grounding of light checker

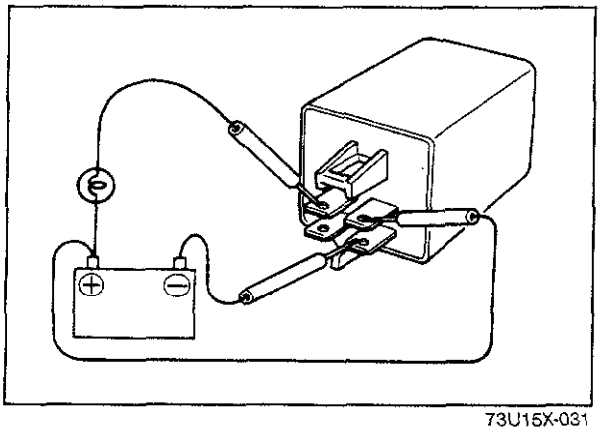
OK ↓

Defective light checker.

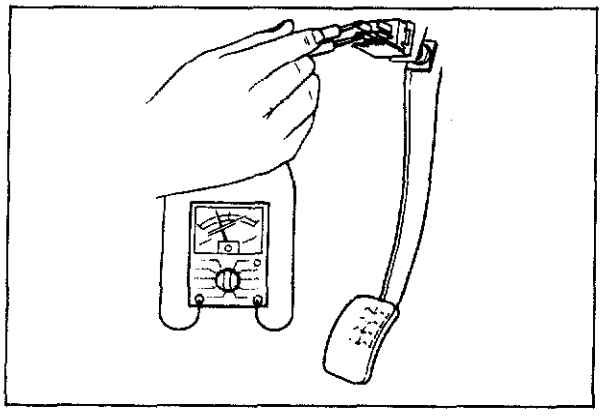
83U15X-049



63U15X-073



73U15X-031



STOP LIGHT CHECKER

1. Check the conductivity between the terminals by using an ohmmeter.

Apply tester red lead to the first mentioned terminal and black lead to the second terminal			
a—b	Conductive	b—a	Conductive
a—c	Non-conductive	c—a	Conductive
a—d	Conductive	d—a	Conductive
b—c	Non-conductive	c—b	Conductive
b—d	Conductive	d—b	Conductive
c—d	Conductive	d—c	Non-conductive

Note
a) Set the tester to X1000Ω range.
b) "Conductive" includes state with resistance and "Non conductive" means insulated.

2. Connect 12V to the "a" terminal and the ground to the "b" terminal. Connect a test light between the 12V and the "c" terminal, and confirm that the test light comes on.
3. Next, confirm that the test light goes off when the 12V is removed from the "a" terminal.

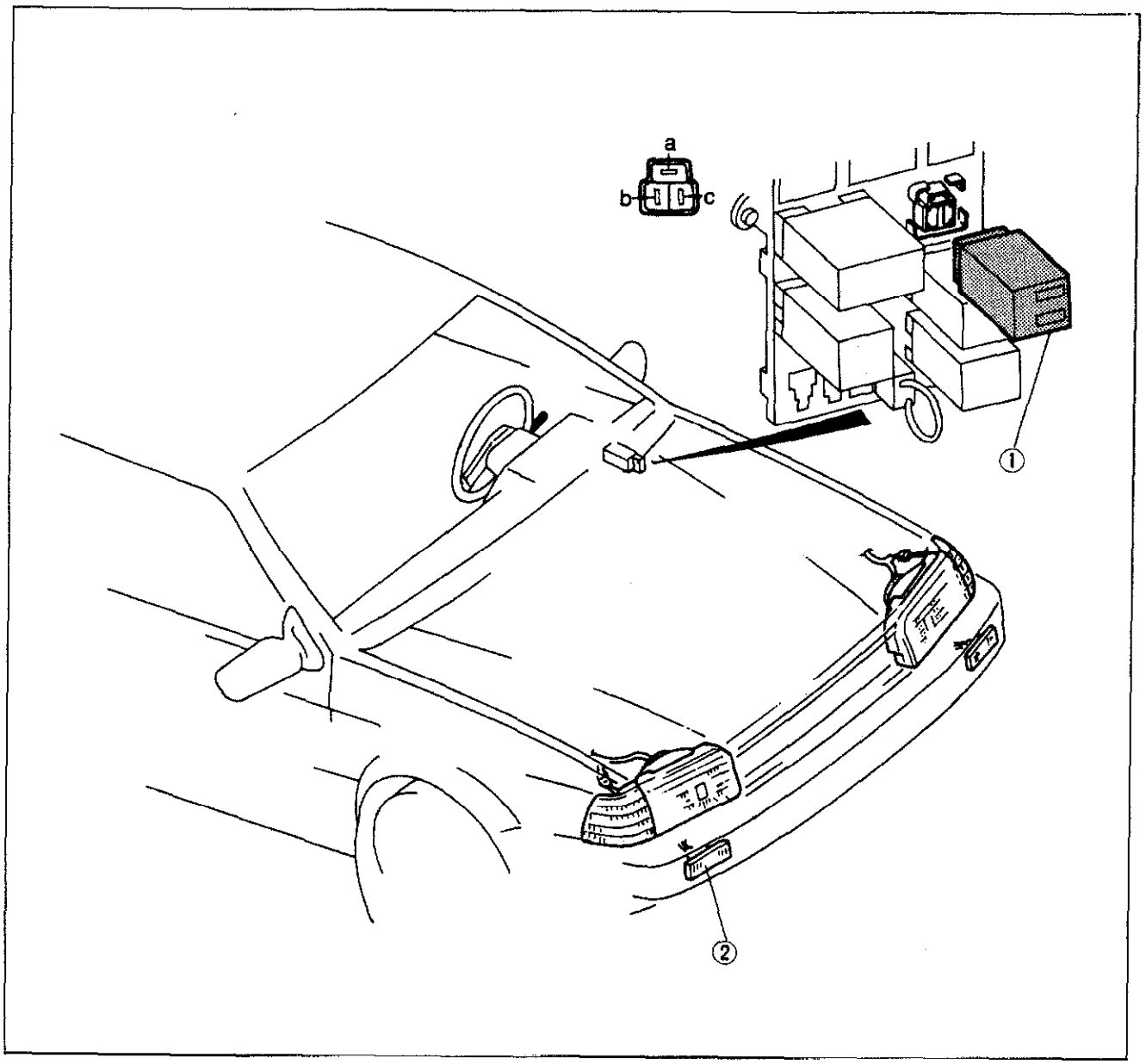
Note
Do not misconnect or reveres the polarity of the power source to the terminals.

STOP LIGHT SWITCH

1. Disconnect the 2 Pin connector from the switch.
2. Confirm the conductivity between the two terminals of the stop light switch.

TURN AND HAZARD SIGNAL LIGHT

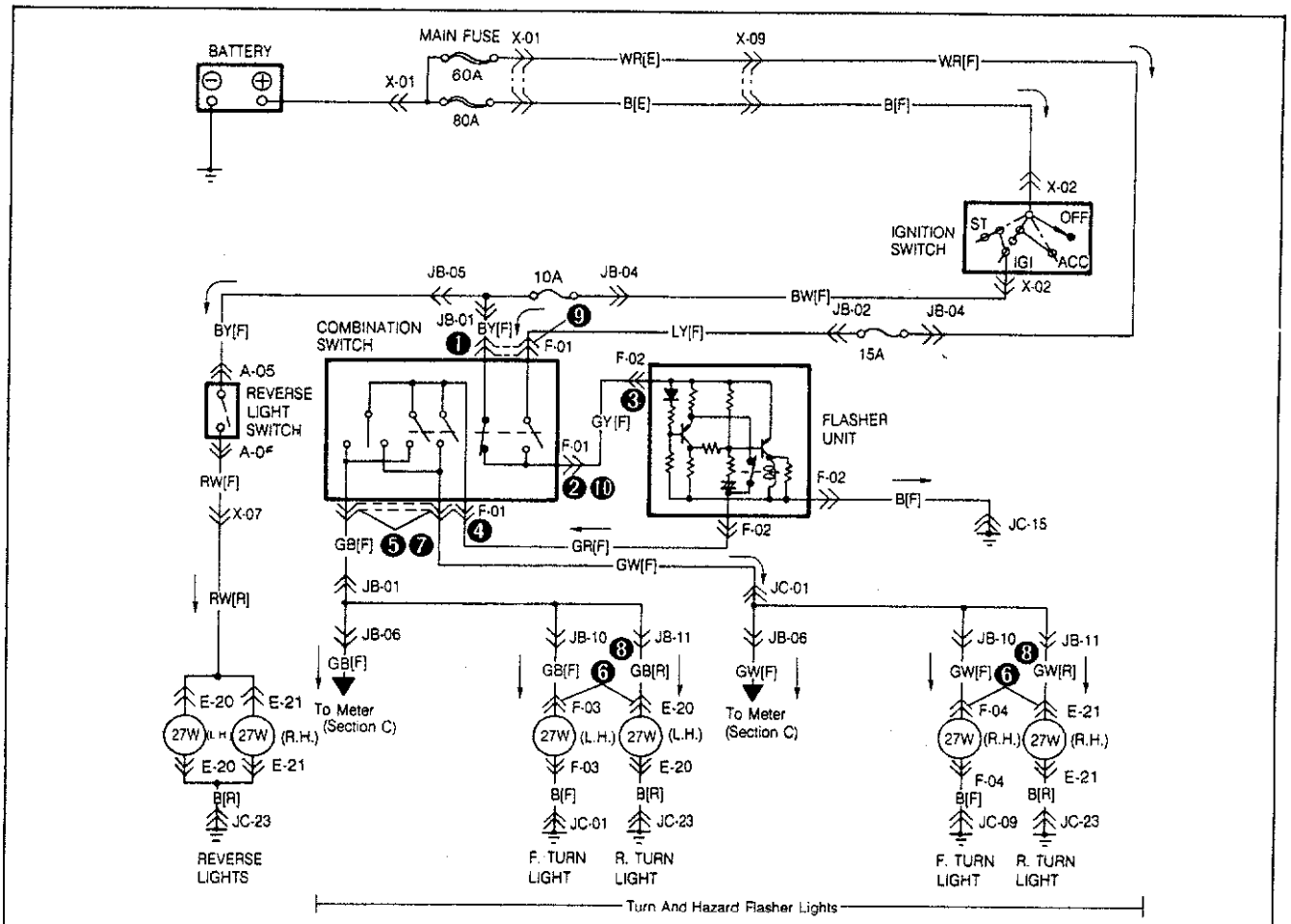
STRUCTURAL VIEW

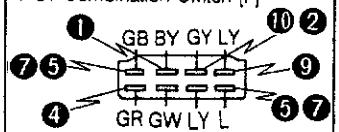
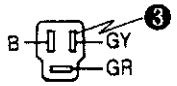
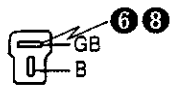
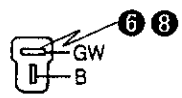
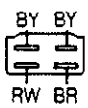
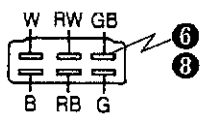
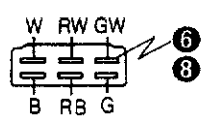


83U15X-050

1. Flasher unit
2. Turn and hazard signal light

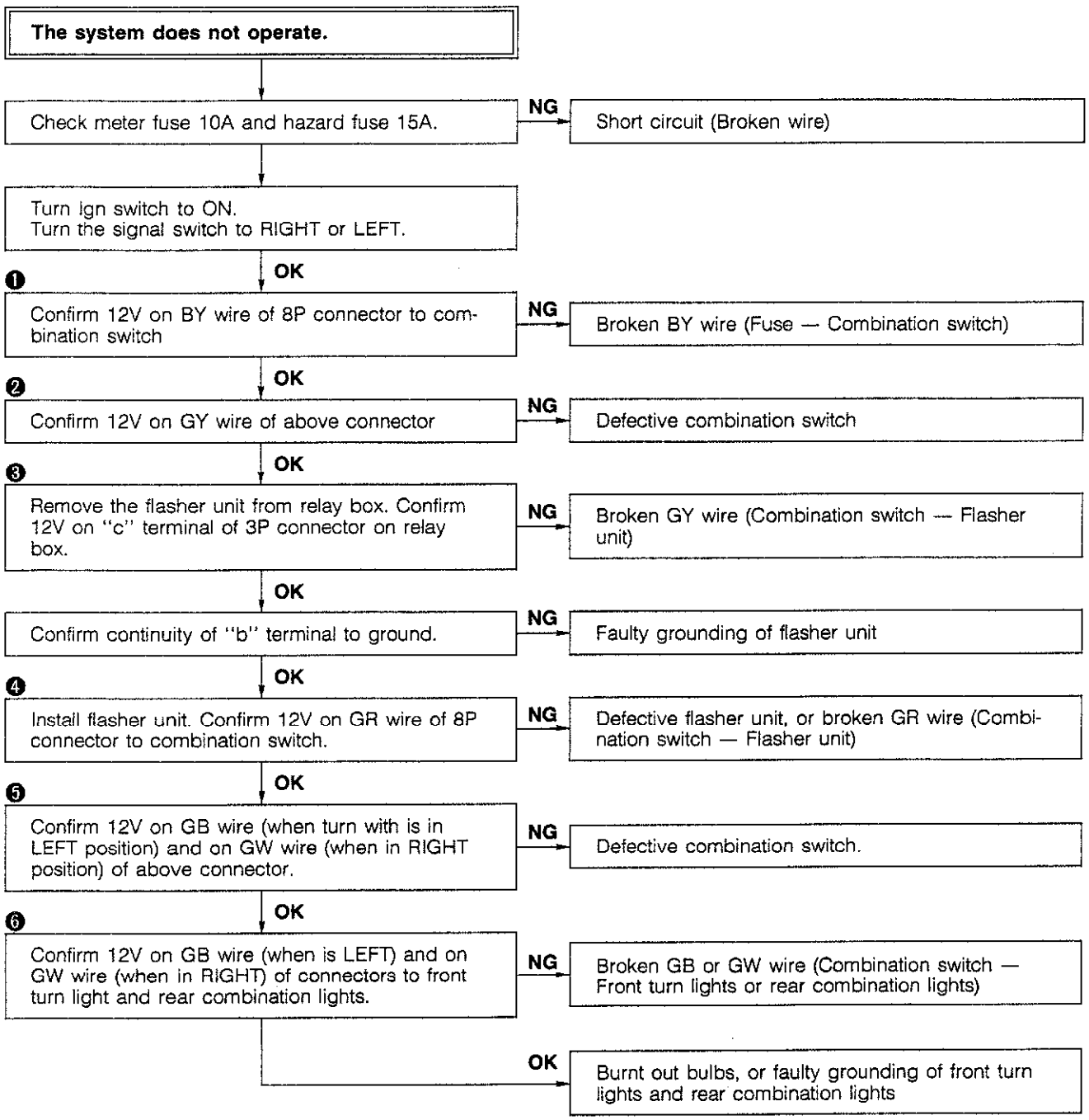
CIRCUIT DIAGRAM



F-01 Combination Switch [F]  	F-02 Flasher Unit [F]  	F-03 Front Turn F.L. [F]  	F-04 Front Turn F.R. [F] 
A-05 Reverse Light Switch [F]  	E-20 Rear Combi. Light R.L. [R]  	E-21 Rear Combi. Light R.R. [R]  	

83U15X-051

TROUBLESHOOTING



83U15X-052

Only one side of signal operates.

Turn Ign switch to ON.
Turn the turn signal switch to defective side.

❼ Confirm 12V on GB wire (when LEFT) or GW wire (when RIGHT) of 8P connector to combination switch.

NG → Defective combination switch.

OK

❽ Confirm 12V on GB wire (when LEFT) or GW wire (when RIGHT) of connectors to front turn lights and rear combination lights.

NG → Broken GB or GW wire (Combination switch - Front turn lights or rear combination lights).

OK → Burnt out bulb, or faulty grounding of front turn light and combination light.

83U15X-053

Only hazard function does not operate.

Check hazard fuse 15A.

NG → Short circuit (Broken wire)

OK

Turn hazard switch to ON.

❾ Confirm 12V on LY wire of 8P connector to combination switch

NG → Broken LY wire (Fuse — Combination switch)

OK

❿ Confirm 12V on GY wire of above connector

NG → Defective combination switch.

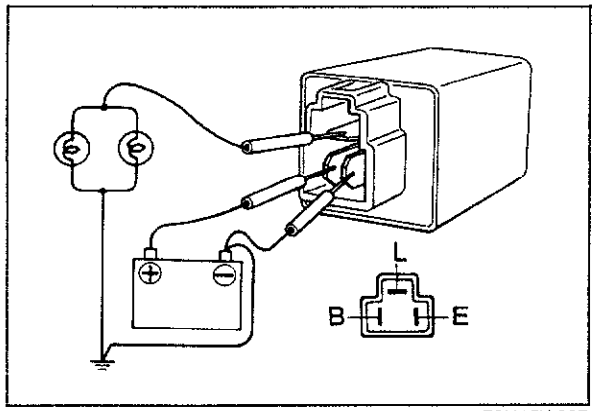
OK

Normal

83U15X-054

Indicator lamp on meter unit does not come on. → Burnt out bulb, or broken wire (Combination switch — Meter unit)

73U15X-036



73U15X-037

FLASHER UNIT

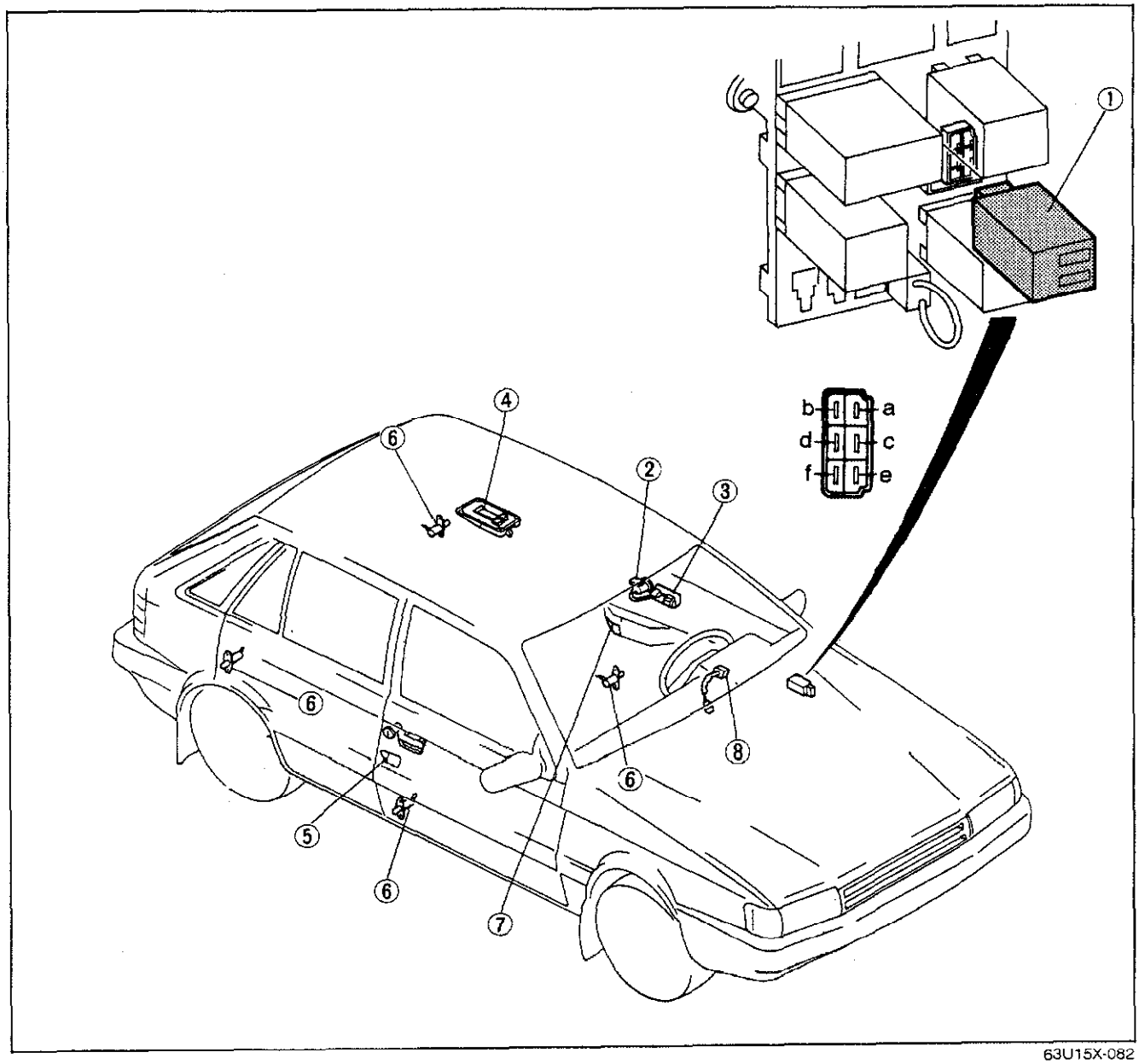
Operation check

1. Apply 12V to the "B" terminal of the unit and connect "E" terminal to the ground.
2. Confirm that the two paralleled lamps come on when connected between the "L" terminal and the ground.

Caution
Do no reverse the polarity of the electrical source to the terminals.

ILLUMINATED ENTRY SYSTEM

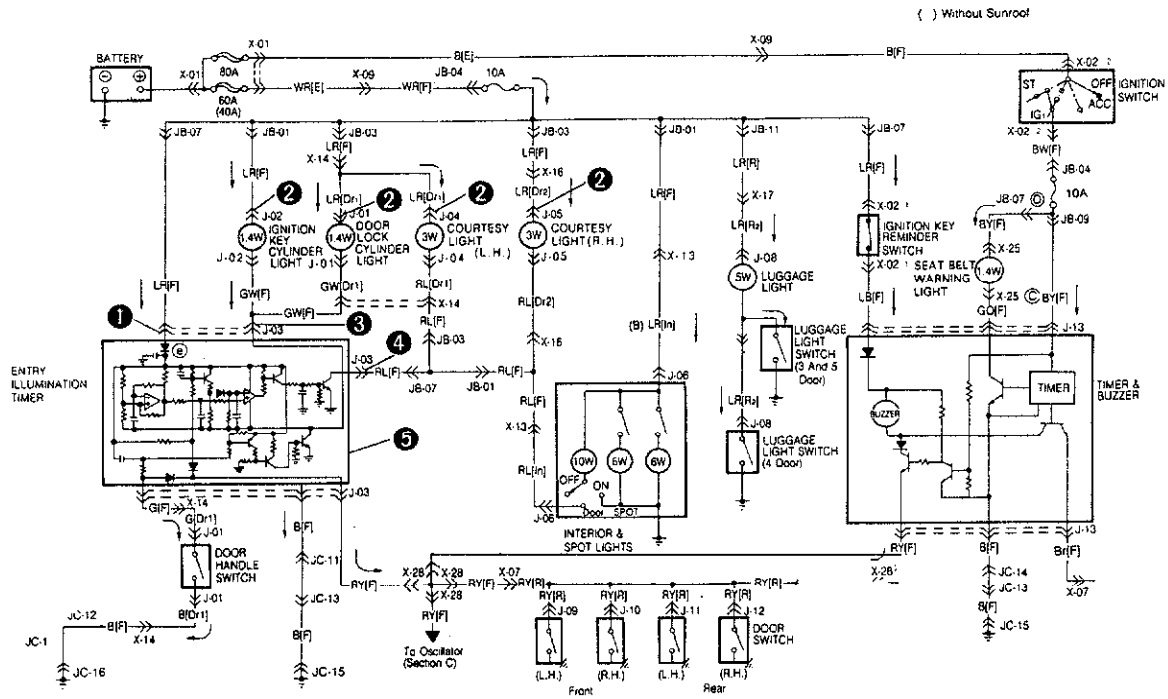
STRUCTURAL VIEW



63U15X-082

1. Entry timer unit
2. Door key illumination
3. Door handle
4. Interior light
5. Courtesy light
6. Door switch
7. Courtesy light
8. IG. key illumination

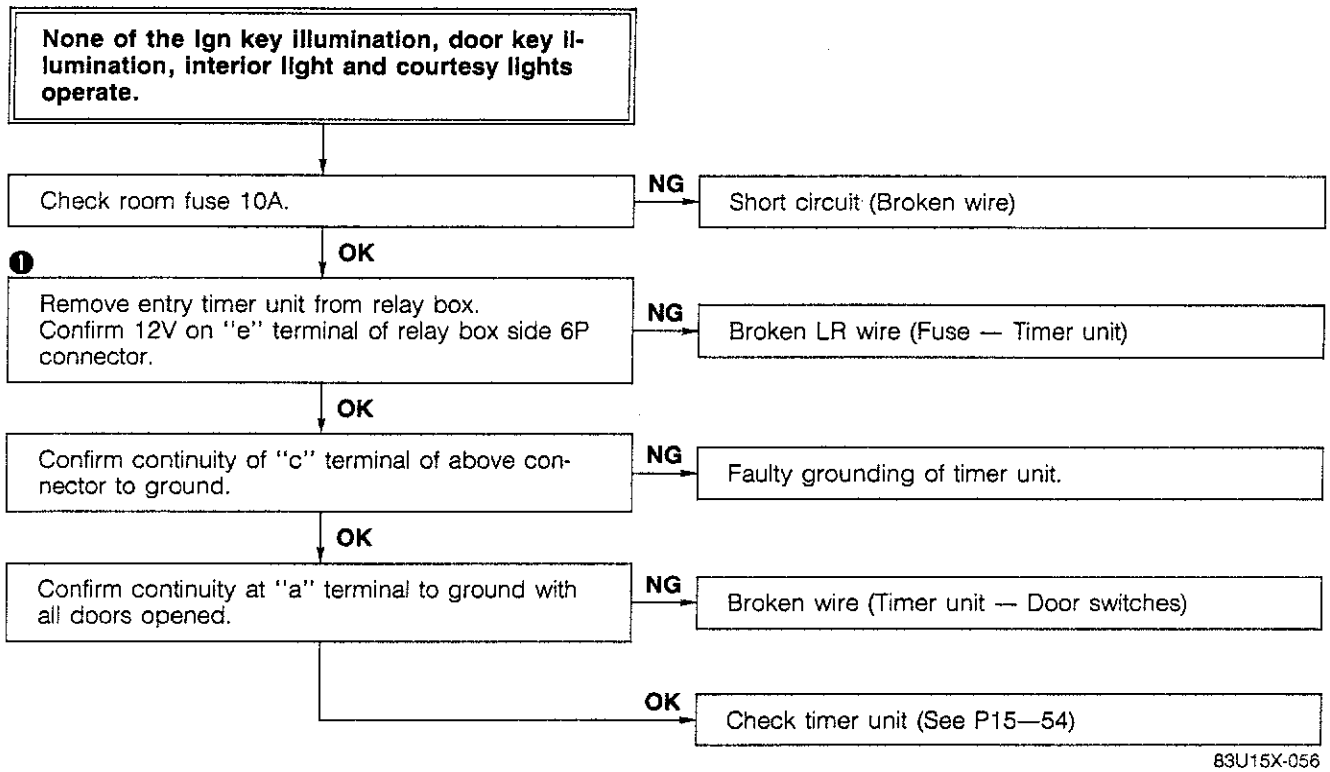
CIRCUIT DIAGRAM



J-01 Door Lock Cylinder Light And Door Handle Switch [Dr1] GW, B, LR, G	J-02 IG Key Cylinder Light [F] GW, LR	J-03 Entry Illumination Timer [F] LR, B, RY; GW, RL, G	J-04 Courtesy Light L.H. [Dr1] LR, RL
J-05 Courtesy Light R.H. [Dr2] LR, RL	J-06 Interior And Spot Lights [In] RL(B), LR(BW)	J-07 Luggage Compartment Light [R2] LR, LR 3 And 5 Door; LR, LR 4 Door	
J-08 Luggage Compartment Light Switch [R2] LR, LR, 4 Door	J-09 Door Switch F.L. [R] RY	J-10 Door Switch F.R. [R] RY	J-11 Door Switch R.L. [R] RY
J-12 Door Switch R.R. [R] RY	J-13 Timer And Buzzer [F] BY, RY; B, LB, GO, Br	J-14 Seat Belt Switch [R] B, Br	

83U15X-055

TROUBLESHOOTING



One of illuminated entry system lights does not operate.

❷

Open all doors.
Confirm 12V on electrical source wire of defective light.

NG → Broken wire (Fuse — Light)

OK

Confirm that light operates when GW or RL wire of the light to timer unit is directly grounded.

NG → Burnt out bulb.

OK → Broken wire (Light — Timer unit)

83U15X-057

Only Ign key illumination and door key illumination do not operate.

❸

Remove timer unit from relay box. Confirm that light operates when "f" terminal of relay box side 6P connector is grounded.

NG → Broken LR wire (Fuse — Light), burnt out bulb, or broken GW wire (Light — Timer unit)

OK

Confirm continuity of "b" terminal of above connector to ground with door handle switch ON.

NG → Broken G wire (Door handle switch — Timer unit), defective door handle switch, or faulty grounding of door handle switch.

OK

Defective timer unit.

83U15X-058

Only interior light and courtesy lights do not operate.

❹

Remove timer unit from relay box. Confirm that light operate when "d" terminal of relay box side 6P connector is grounded.

NG → Broken LR wire (Fuse — Light), burnt out bulb, or broken RL wire (Light — Timer unit)

OK → Defective timer unit

83U15X-059

All the illuminated entry system. Lights remain on.

Close all doors.
Remove timer unit from relay box.
Confirm NO continuity of "a" terminal of relay box side 6P connector to ground.

NG → Short circuit (Broken wire) of RY wire.

OK → Defective timer unit

73U15X-042

Ign key illumination and door key illumination remain on.

❺

Confirm that lights go off when timer unit is removed from relay box.

NG → Short circuit (Broken wire) of GW wire (Light — Timer unit)

OK ↓

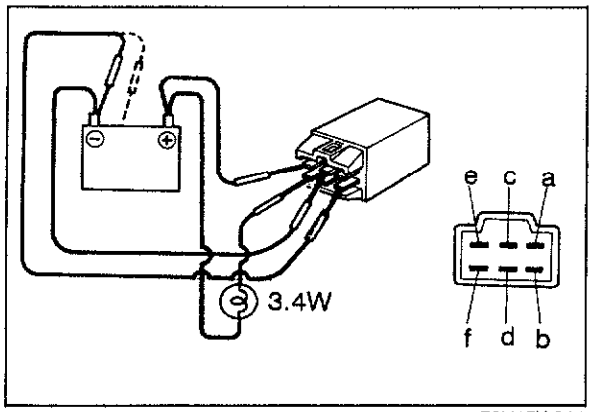
Confirm NO continuity of "b" terminal of relay box side 6P connector to ground.

NG → Short circuit (Broken wire) of G wire (Timer unit — Door handle switch), or defective door handle.

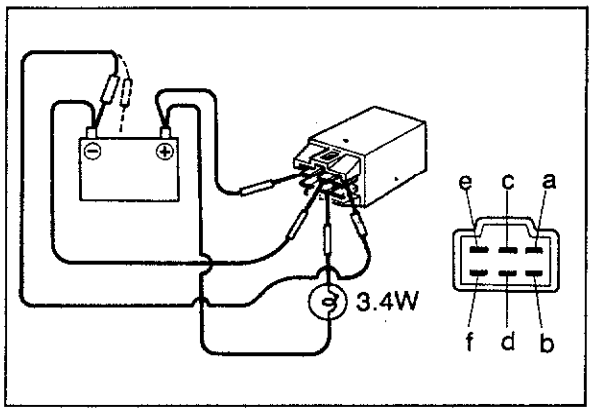
OK ↓

Defective timer unit

83U15X-060



73U15X-044



73U15X-045

TIMER UNIT

Checking the operation of key illumination control

1. Connect the 12V to the "e" terminal and the ground to the "c" terminal.
2. Connect a 3.4W test light between the 12V and the "f" terminal.
3. Confirm that the test light glows when the "b" terminal is grounded and goes off about 5 seconds after the "b" terminal is separated from the ground.

Note
Do not connect the electrical source to other terminals.

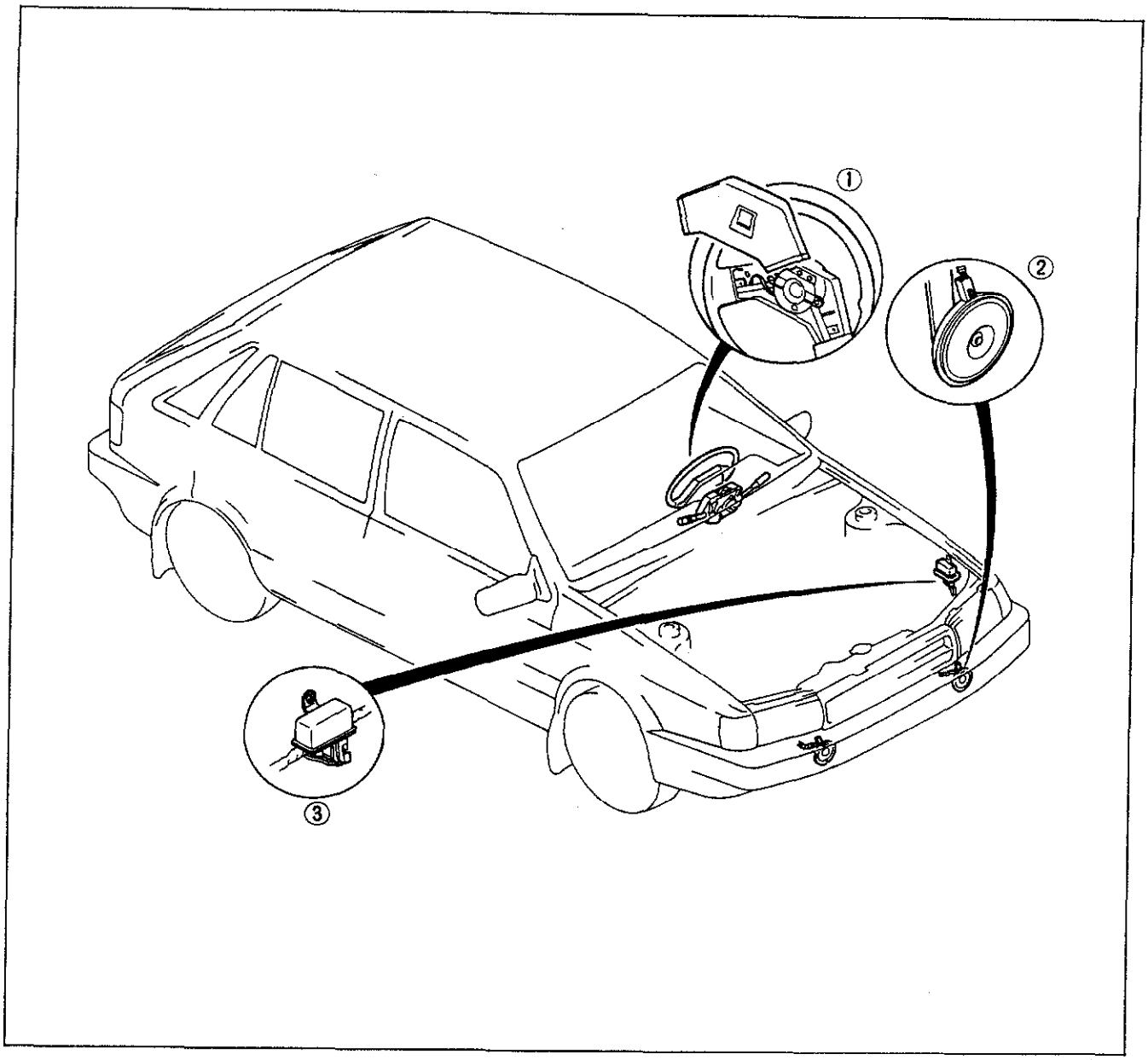
Checking the operation of interior light control

1. Connect the 12V to the "e" terminal and the ground to the "c" terminal.
2. Connect a 3.4W test light between the 12V and the "d" terminal.
3. Confirm that the test light glows when the "a" terminal is grounded and gradually goes off when the "b" terminal is separated from the ground.

Note
Do not connect the electrical source to other terminals.

HORN

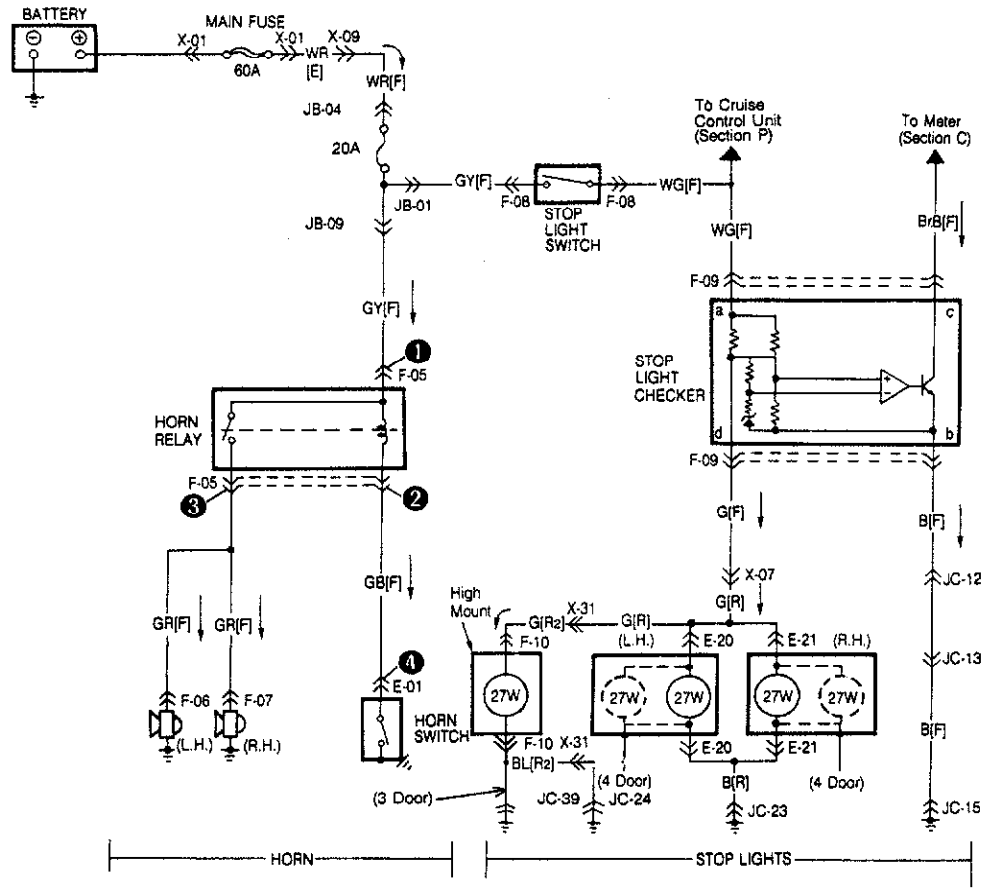
STRUCTURAL VIEW



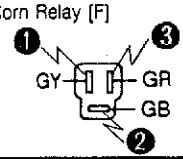
63U15X-094

1. Horn switch
2. Horn
3. Horn relay

CIRCUIT DIAGRAM



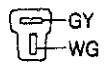
F-05 Horn Relay [F]



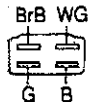
F-06 Horn L.H. [F]

F-07 Horn R.H. [F]

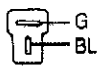
F-08 Stop Light Switch [F]



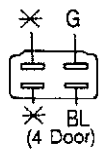
F-09 Stop Light Checker [F]



F-10 High Mounted Stop Light [R2]

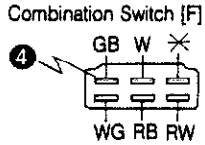


(3 and 5 Door)

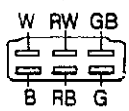


(4 Door)

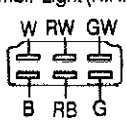
E-01 Combination Switch [F]



E-20 R. Combi. Light (R.L.)[R]

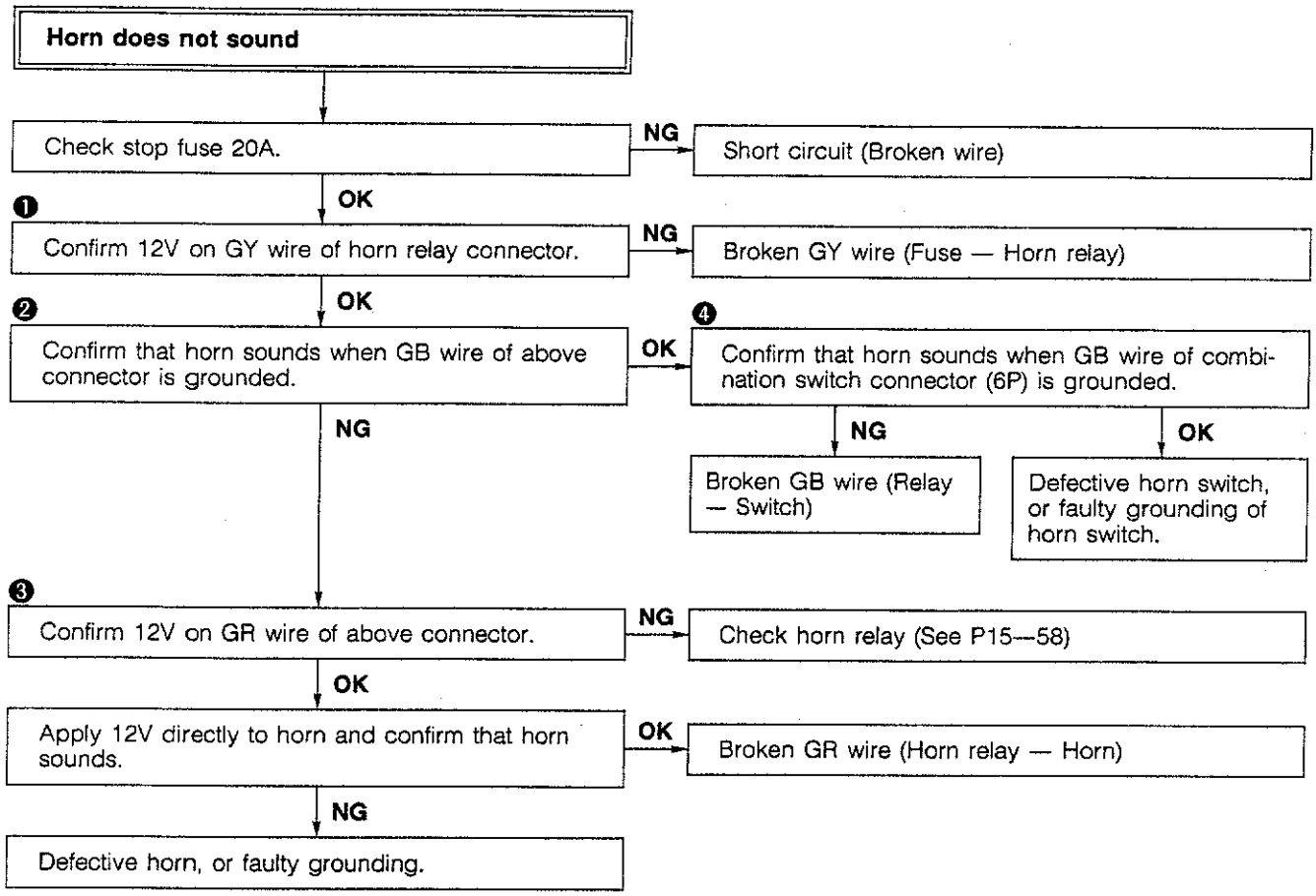


E-21 R. Combi. Light (R.R.)[R]

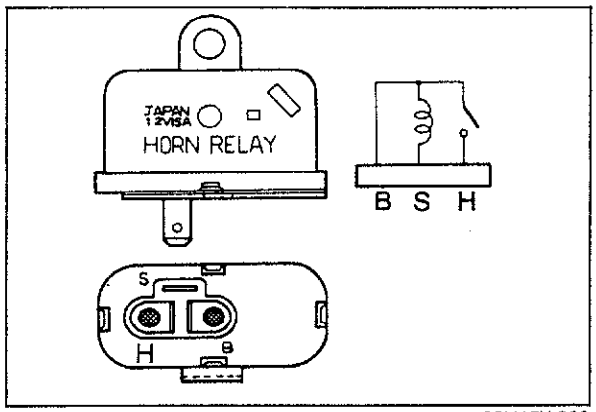


83U15X-061

TROUBLESHOOTING



83U15X-062

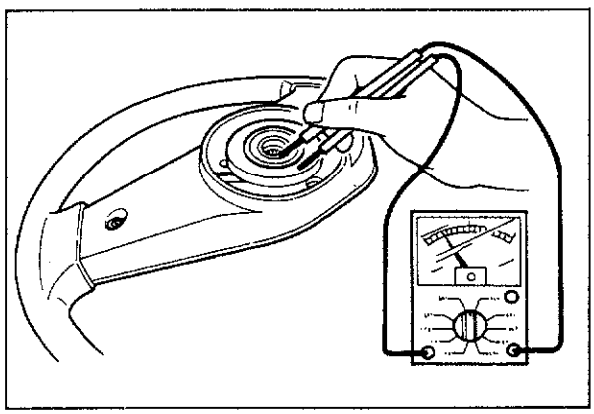


83U15X-063

INSPECTION

Horn Relay

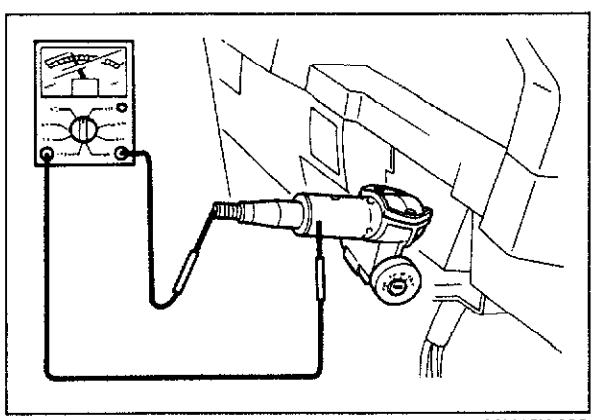
1. Confirm the continuity between the B and S terminals.
2. Connect the 12V to the B terminal and the ground to the S terminal, and then confirm 12V on R terminal.



83U15X-064

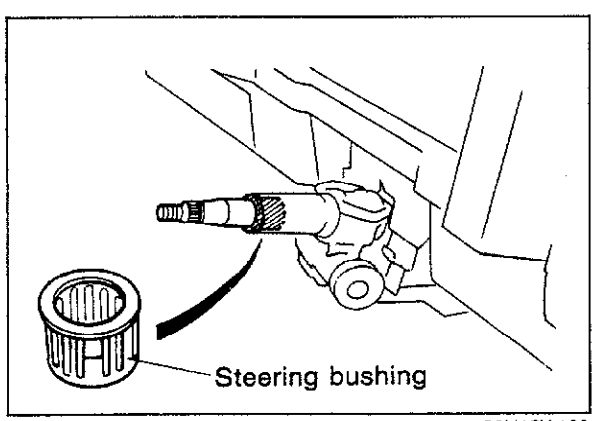
Horn Switch

1. Confirm the continuity between the horn conductor plate and the serration gear part when the horn switch is pushed ON.



63U15X-099

2. Confirm the continuity between the steering shaft and the shaft case.

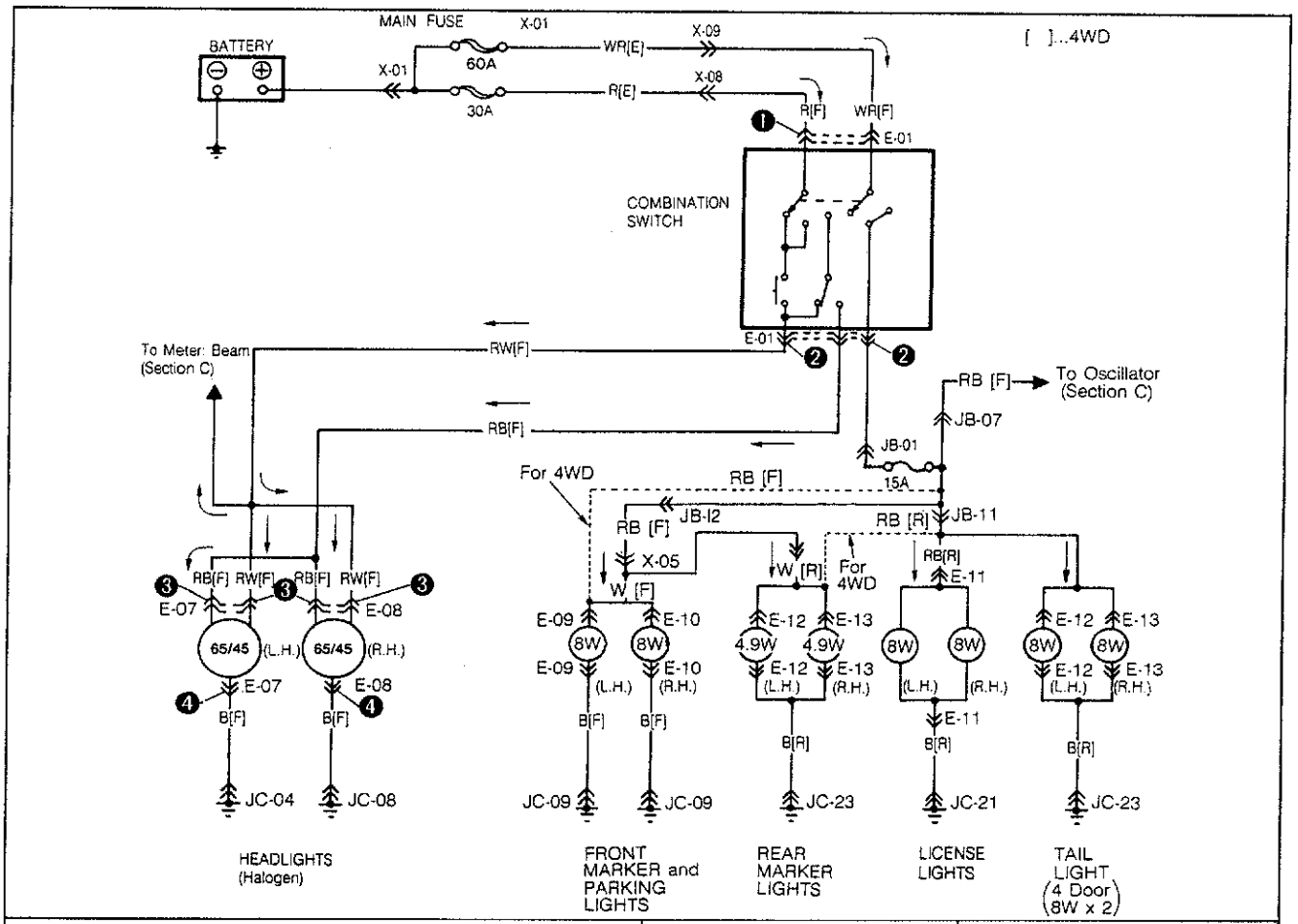


63U15X-100

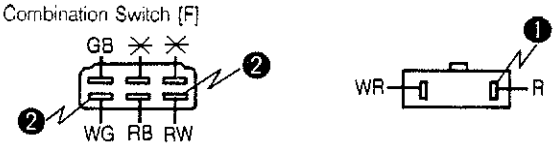
3. If there is no continuity in above check, replace the steering bushing.

HEADLIGHT

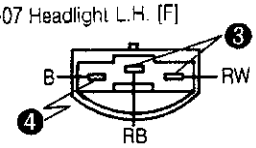
CIRCUIT DIAGRAM



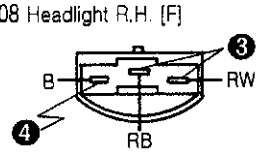
E-01 Combination Switch [F]



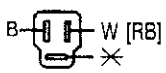
E-07 Headlight L.H. [F]



E-08 Headlight R.H. [F]



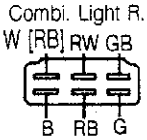
E-09 F. Combi. Light F.L. [F]



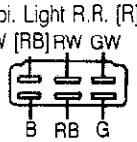
E-10 F. Combi. Light F.R. [F]

E-11 License Light [R]

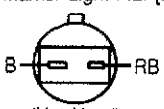
E-12 R. Combi. Light R.L. [R]



E-13 Combi. Light R.R. [R]



E-22 F. Marker Light F.L. [F]



(Not Used)

E-23 F. Marker Light F.R. [F]

(Not Used)

83U15X-065

TROUBLESHOOTING

Headlights do not operate (Low and/ or High)

- Check main fuse "HEAD 30A". — NG → Short circuit (broken wire)
- OK
- Turn ON light switch (second position)
- ❶ Confirm 12V on R wire of combination switch connector — NG → Broken wire (Main fuse — Combination switch)
- OK
- ❷ Confirm 12V on RB wire (when Low) and/or RW wire (when High) of combination switch connector. — NG → Defective combination switch.
- OK
- ❸ Disconnect headlight connector. Confirm 12V on RB wire (when Low) and/or on RW wire (when High) of connector. — NG → Broken wire
- OK
- ❹ Confirm continuity of B wire of the connector to the ground — NG → Faulty grounding
- OK → Burnt out bulbs

83U15X-066

Headlight is dim

- Poor grounding

73U15X-049

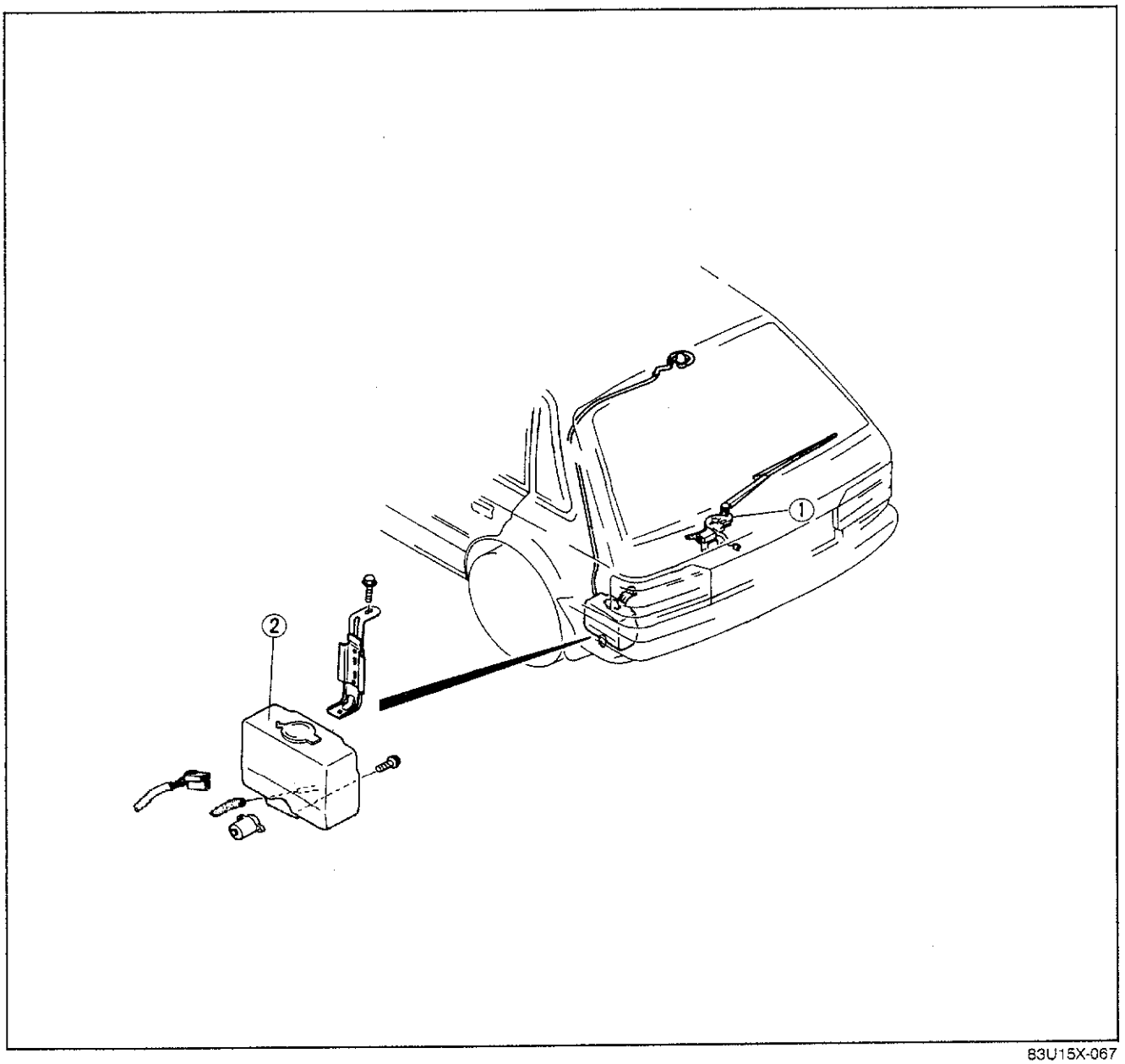
Low-High beam or Passing flasher does not operate.

- Defective combination switch.

73U15X-050

REAR WINDOW WIPER

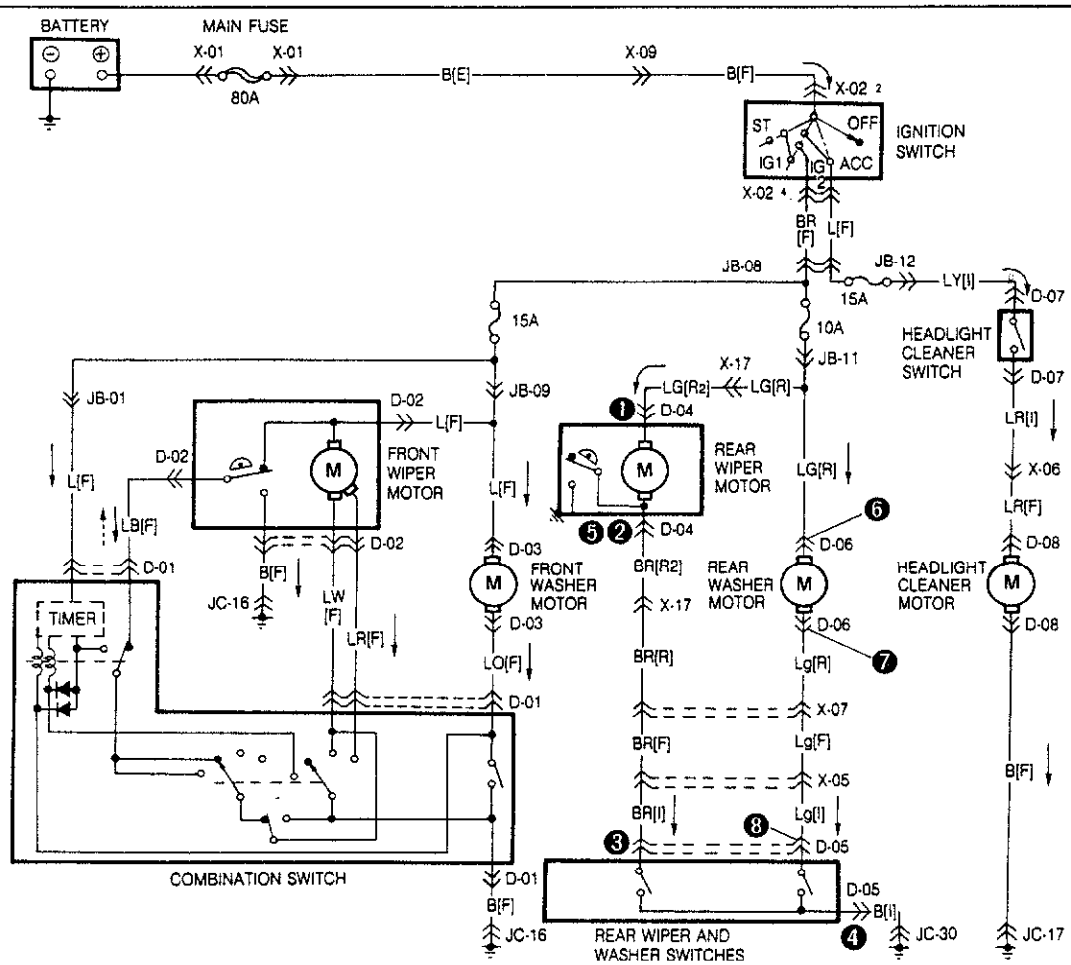
STRUCTURAL VIEW



83U15X-067

1. Rear wiper motor
2. Rear washer

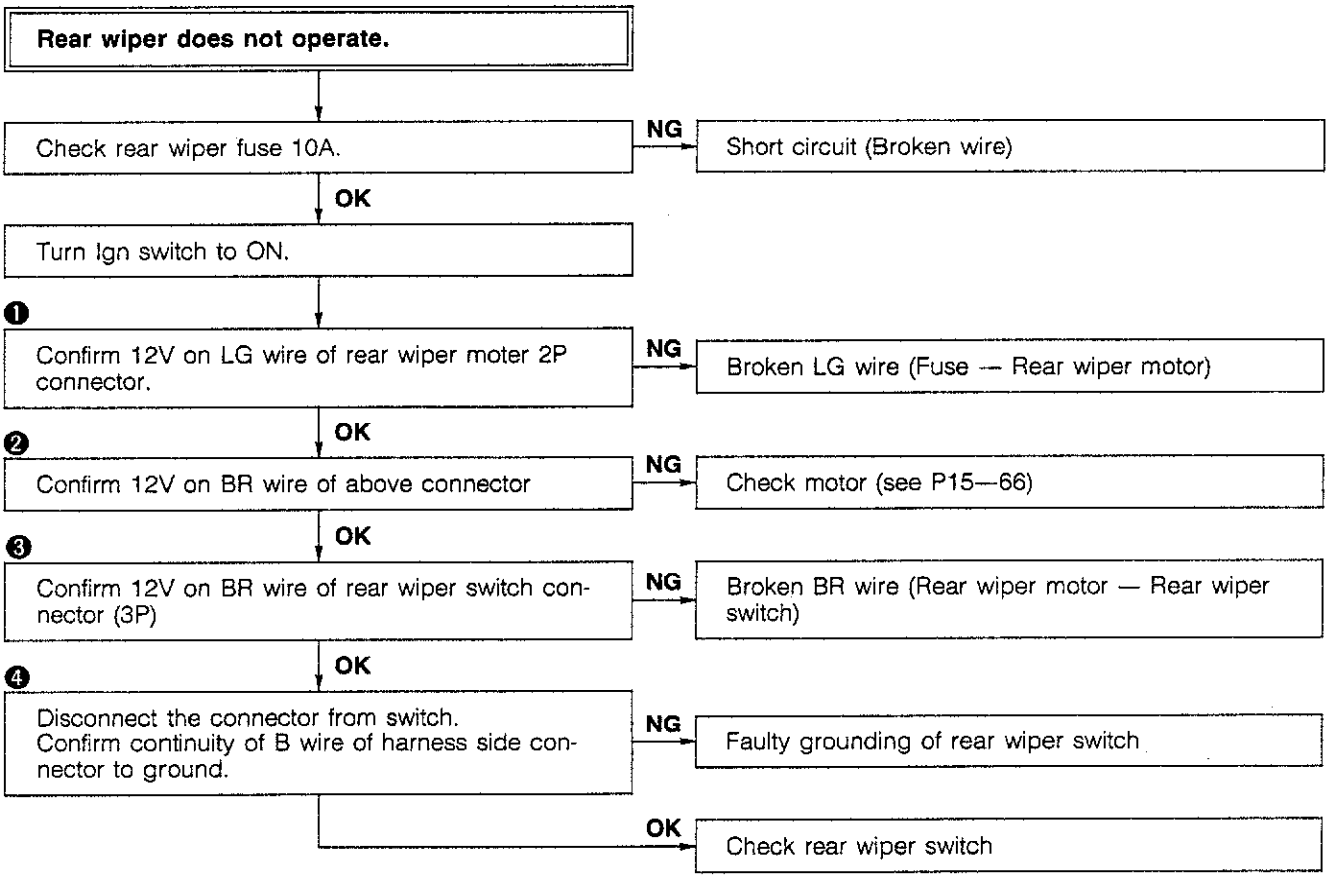
CIRCUIT DIAGRAM



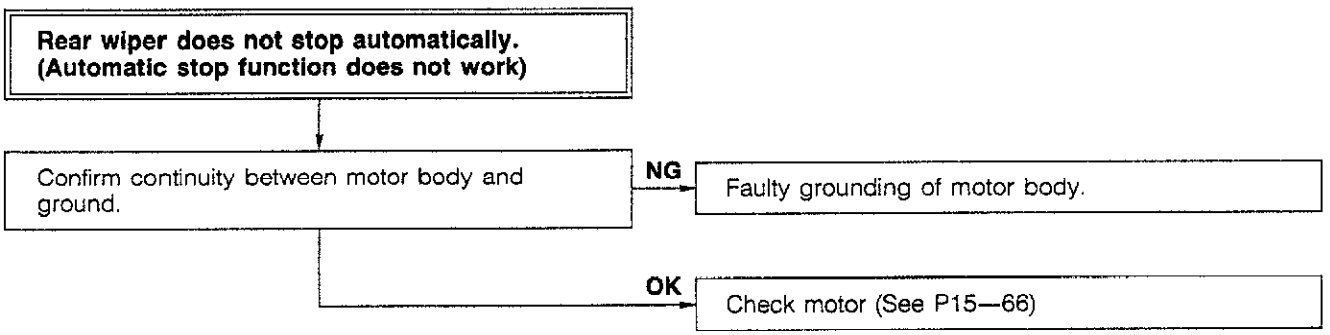
D-01 Combination Switch [F] LO L B LW LB LR	D-02 Front Wiper Motor [F] B LR LW LB L	D-03 Front Washer Motor [F] LO L	D-04 Rear Wiper Motor [R2] LG BR
D-05 Rear Wiper And Washer Switches [I] Lg BR B	D-06 Rear Washer Motor [R] Lg LG	D-07 Headlight Cleaner Switch [I] (E-03) B LR RG LY	D-08 Headlight Cleaner Motor [F] LR B

83U15X-068

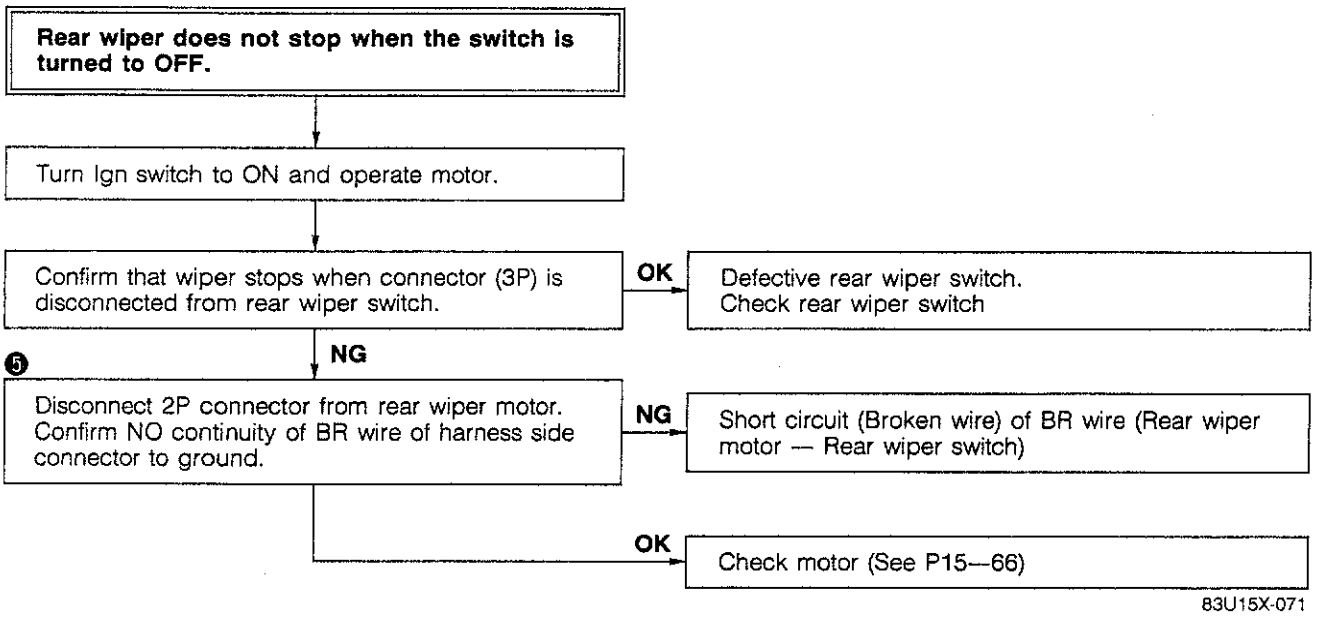
TROUBLESHOOTING

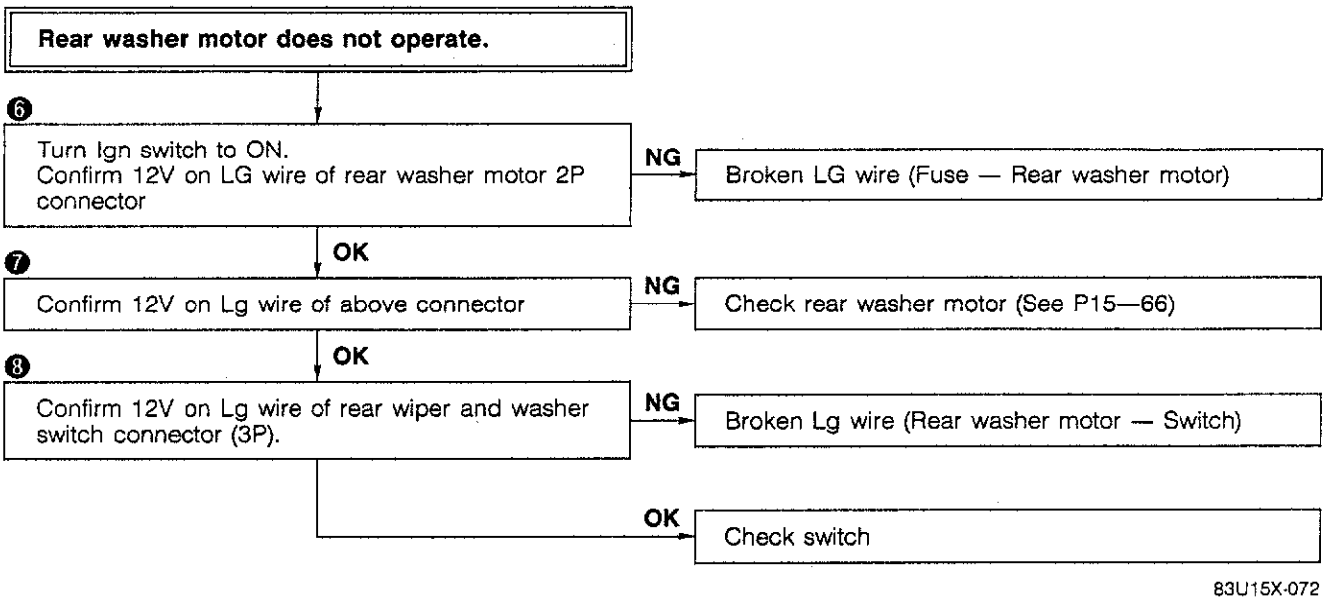


83U15X-069

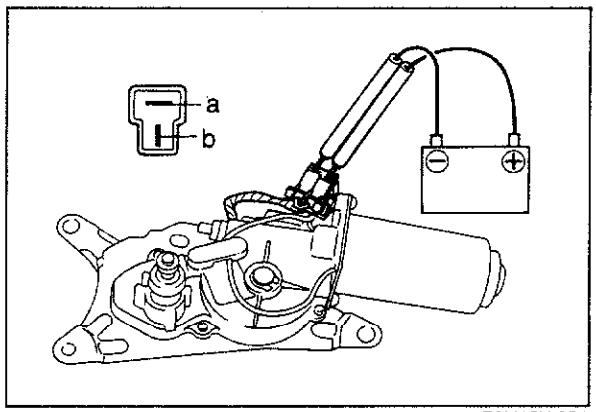


83U15X-070


Rear wiper does not stop when the switch is turned to OFF.
Turn Ign switch to ON and operate motor.
Confirm that wiper stops when connector (3P) is disconnected from rear wiper switch.
OK
Defective rear wiper switch. Check rear wiper switch
NG
5
Disconnect 2P connector from rear wiper motor. Confirm NO continuity of BR wire of harness side connector to ground.
NG
Short circuit (Broken wire) of BR wire (Rear wiper motor — Rear wiper switch)
OK
Check motor (See P15—66)
83U15X-071


Rear washer motor does not operate.
❻
Turn Ign switch to ON.
Confirm 12V on LG wire of rear washer motor 2P connector
NG
Broken LG wire (Fuse — Rear washer motor)
OK
❼
Confirm 12V on Lg wire of above connector
NG
Check rear washer motor (See P15—66)
OK
❽
Confirm 12V on Lg wire of rear wiper and washer switch connector (3P).
NG
Broken Lg wire (Rear washer motor — Switch)
OK
Check switch

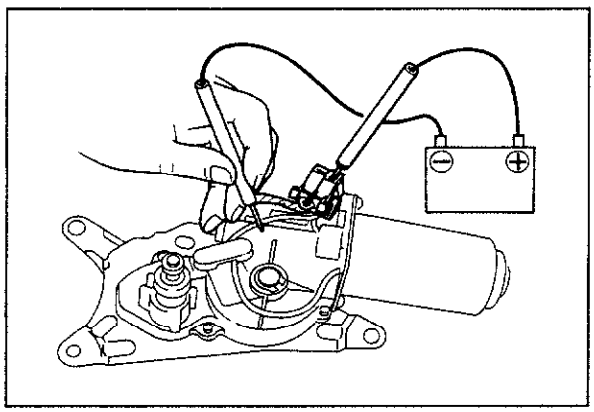
83U15X-072



73U15X-054

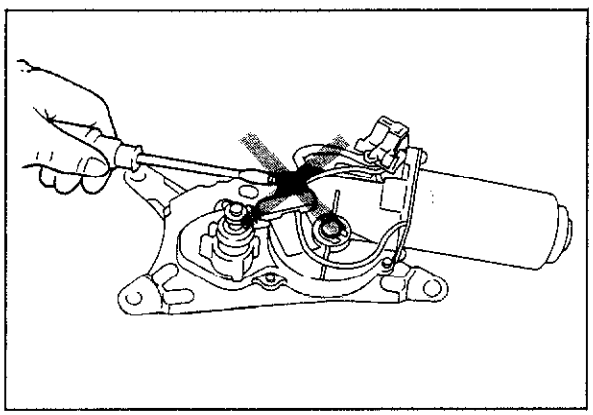
OPERATION CHECK OF REAR WIPER MOTOR

1. Confirm that the motor operates continuously when 12V is connected to the "a" terminal and ground is connected to the "b" terminal of the motor.



63U15X-113

2. Start the motor again.
   Disconnect the ground from the "b" terminal, and then connect the ground to the motor body immediately. Confirm that the motor shaft reaches the auto-stop position, and that there is conductivity through the grounding of the motor body.

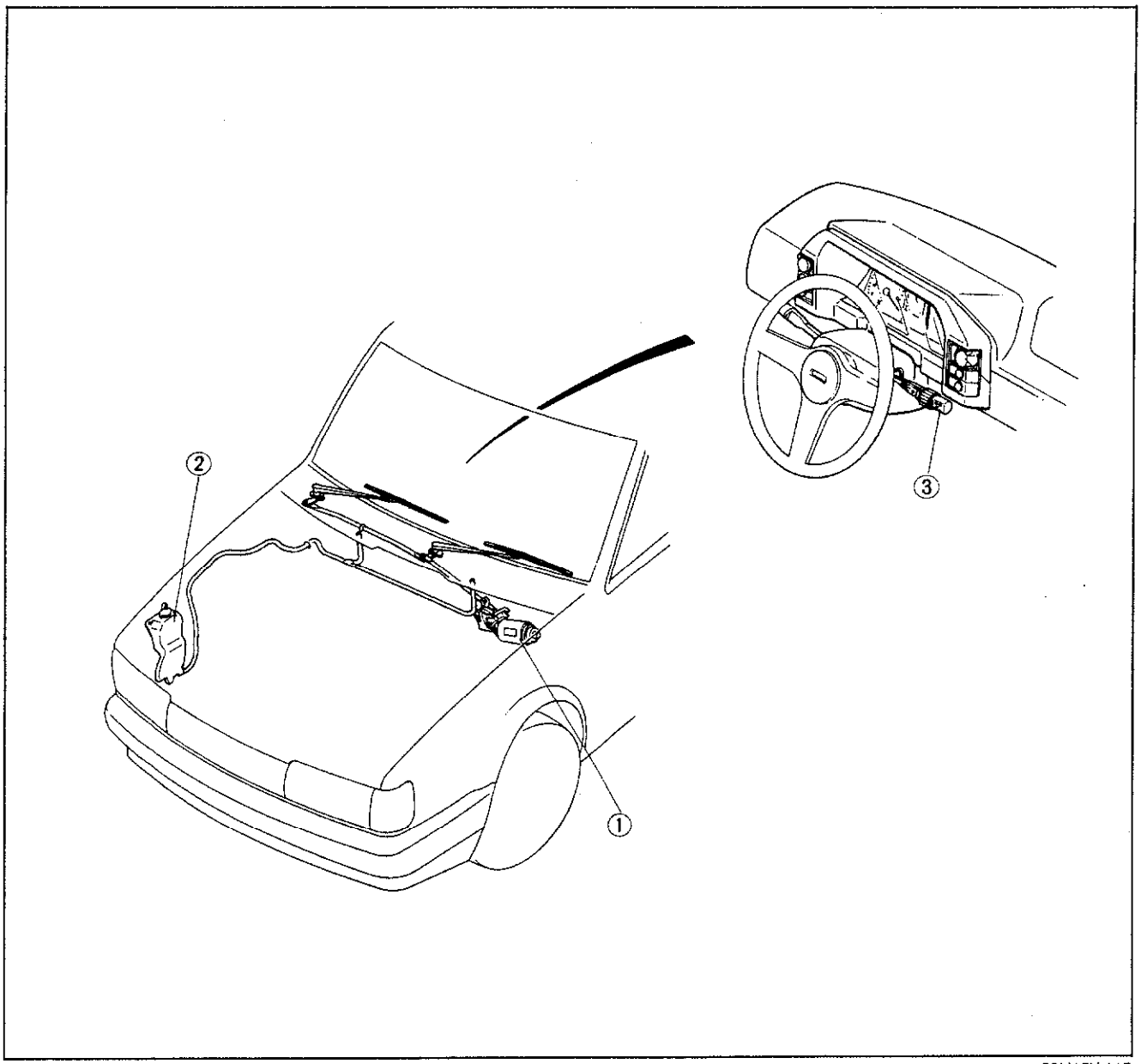


63U15X-114

Caution
Do not turn the worm gear adjusting lock nut.

WINDSHIELD WIPER

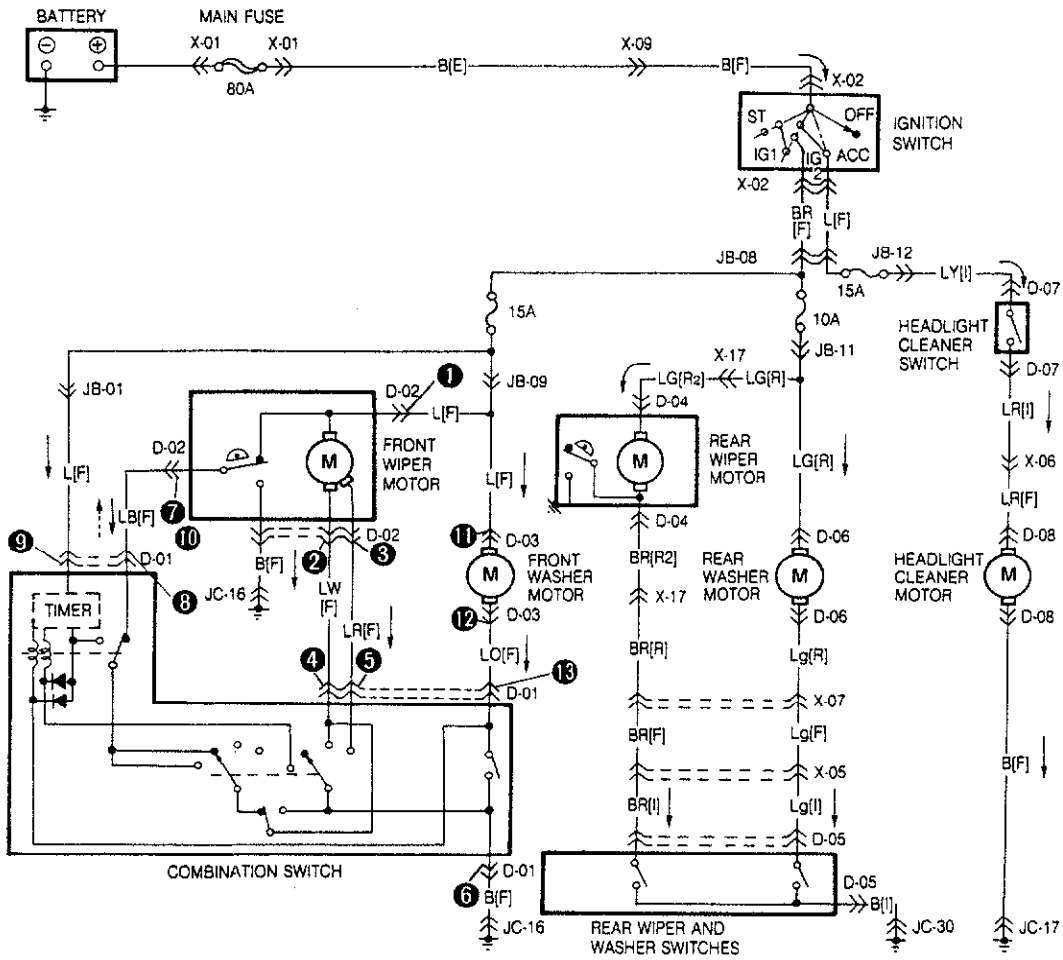
STRUCTURAL VIEW

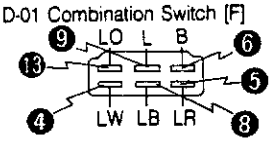
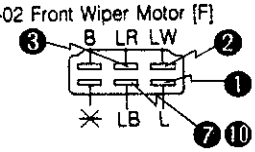
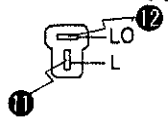
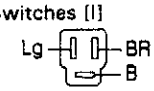
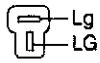
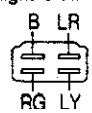
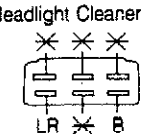


63U15X-115

1. Wiper motor
2. Washer tank
3. Washer switch

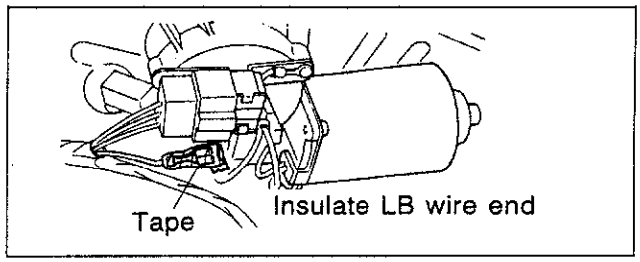
CIRCUIT DIAGRAM



D-01 Combination Switch [F] 	D-02 Front Wiper Motor [F] 	D-03 Front Washer Motor [F] 	D-04 Rear Wiper Motor [R2] 
D-05 Rear Wiper And Washer Switches [I] 	D-06 Rear Washer Motor [R] 	D-07 Headlight Cleaner Switch [I] (E-03) 	D-08 Headlight Cleaner Motor [F] 

83U15X-073

TROUBLESHOOTING



Wiper does not operate in Lo or Hi position.

Check wiper fuse 15A
- NG → Short circuit (Broken wire)
- OK ↓

Turn Ign switch to ON.

❶ Check for 12V on L wire of wiper motor connector.
- NG → Broken wire (Fuse — Wiper motor)
- OK ↓

❷ Pull out LB wire pin from wiper motor connector, and check that motor operates in low speed when LW wire is grounded.
- NG → Check wiper motor (See P15—73)
- OK ↓

❸ Pull out LB wire pin from wiper motor connector, and check that motor operates in high speed when LR wire is grounded.
- NG → Check wiper motor (See P15—73)
- OK ↓

❹ Disconnect 6P connector from combination switch. Check that motor operates in low speed when harness side LW wire is grounded.
- NG → Broken wire (Combination switch — Wiper motor)
- OK ↓

❺ Check that motor operates in high speed when harness side LR wire of above connector is grounded.
- NG → Broken wire (Combination switch — Wiper motor)
- OK ↓

❻ Check for conductivity of B wire of above connector to ground.
- NG → Faulty grounding of combination switch.
- OK → Check combination switch (See P15—15)

83U15X-074

Wiper automatic function does not work

Turn ign switch to ON

❼ Set wiper arms to the park, or off position, and disconnect combination switch connector. Check for 12V on LB wire of wiper motor connector.

NG → Check automatic stop mechanism in motor (See P15—73)

OK

❽ Check for 12V on LB wire of combination switch connector.

NG → Broken LB wire (Combination switch — Wiper motor)

OK

Check intermittent wiper unit in combination switch (See P15—15)

83U15X-075

Intermittent function does not operate.

❾ Disconnect 6P connector from combination switch and check for 12V on L wire of harness side connector.

NG → Broke L wire (Fuse — Combination switch)

OK

Check combination switch (See P15—15)

83U15X-154

One touch function does not operate.
Wiper does not operate when washer is in operation.

→ Check combination switch (See P15—15)

83U15X-076

Wiper continues to operate of low speed while switch is OFF.

⑩

Check that wiper stops when LB wire pin is pulled out from wiper motor connector.

OK → Check automatic stop mechanism in wiper motor (See P15—73)

NG

Check that wiper stops when combination switch connector is disconnected

OK → Defective intermittent wiper.Check intermittent wiper unit in combination unit (See P15—15)

NG → Short circuit (Broken LW wire) (Combination switch — Wiper motor)

83U15X-077

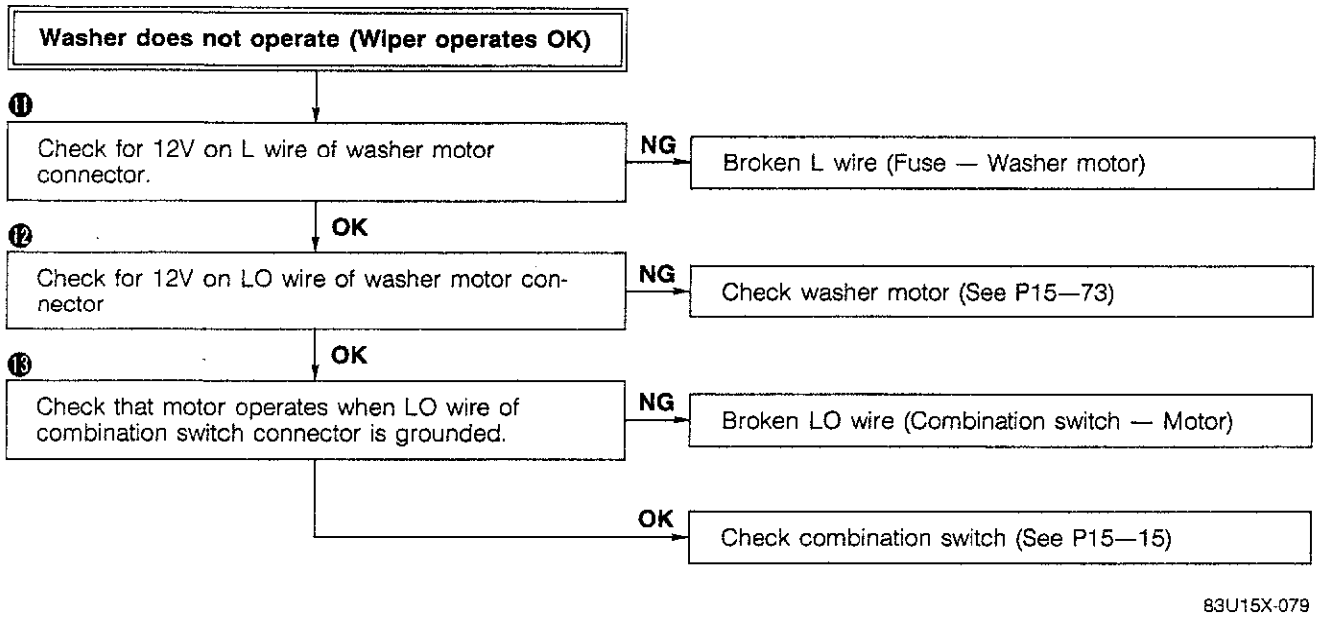
Wiper continues to operate in high speed while switch is OFF.

Check that wiper stops when combination switch connector is disconnected.

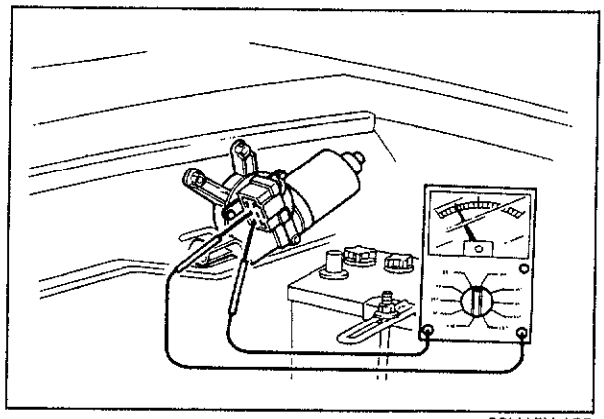
OK → Check combination switch (P15—15)

NG → Short circuit (Broken LR wire) (Combination switch — Wiper motor)

83U15X-078


Washer does not operate (Wiper operates OK)
⓫
Check for 12V on L wire of washer motor connector.
NG
Broken L wire (Fuse — Washer motor)
OK
⓬
Check for 12V on LO wire of washer motor connector
NG
Check washer motor (See P15—73)
OK
⓭
Check that motor operates when LO wire of combination switch connector is grounded.
NG
Broken LO wire (Combination switch — Motor)
OK
Check combination switch (See P15—15)

83U15X-079

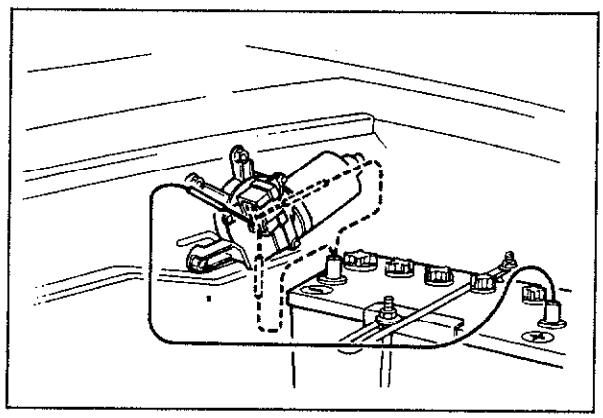

63U15X-125

WIPER MOTOR

Conductivity Check

1. Check for conductivity between the terminals.

Terminals	Conductivity	Note
b—a	Conductive	—
b—c	Conductive	—
b—d	Conductive	Normal resting position
e—d	Conductive	Except for normal resting position

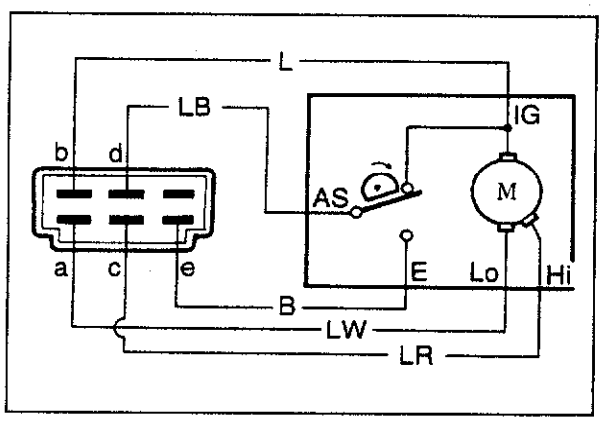

83U15X-080

Operation check

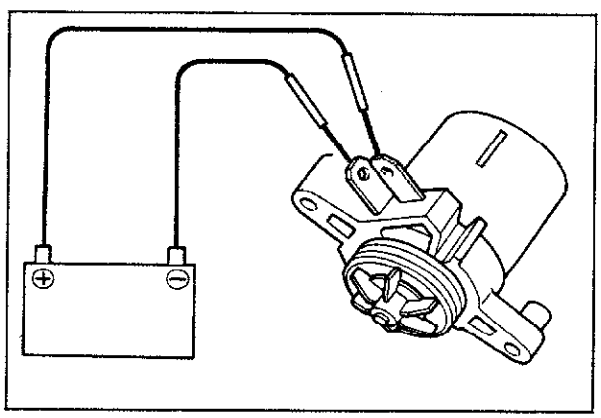
1. Check the operation by applying an electrical source to the motor.

Terminal		Operation speed
12V	Ground	
b	a	Low
	c	High

2. Check for conductivity between the "b" and "d" terminals and between the "d" and "e" terminals while operating the motor in low speed.



Terminals	Conductivity
b—d	Non-conductive most of the time, and becomes conductive once per turn
d—e	Conductive most of the time, and becomes non-conductive once per turn


83U15X-081

WASHER MOTOR

Conductivity Check

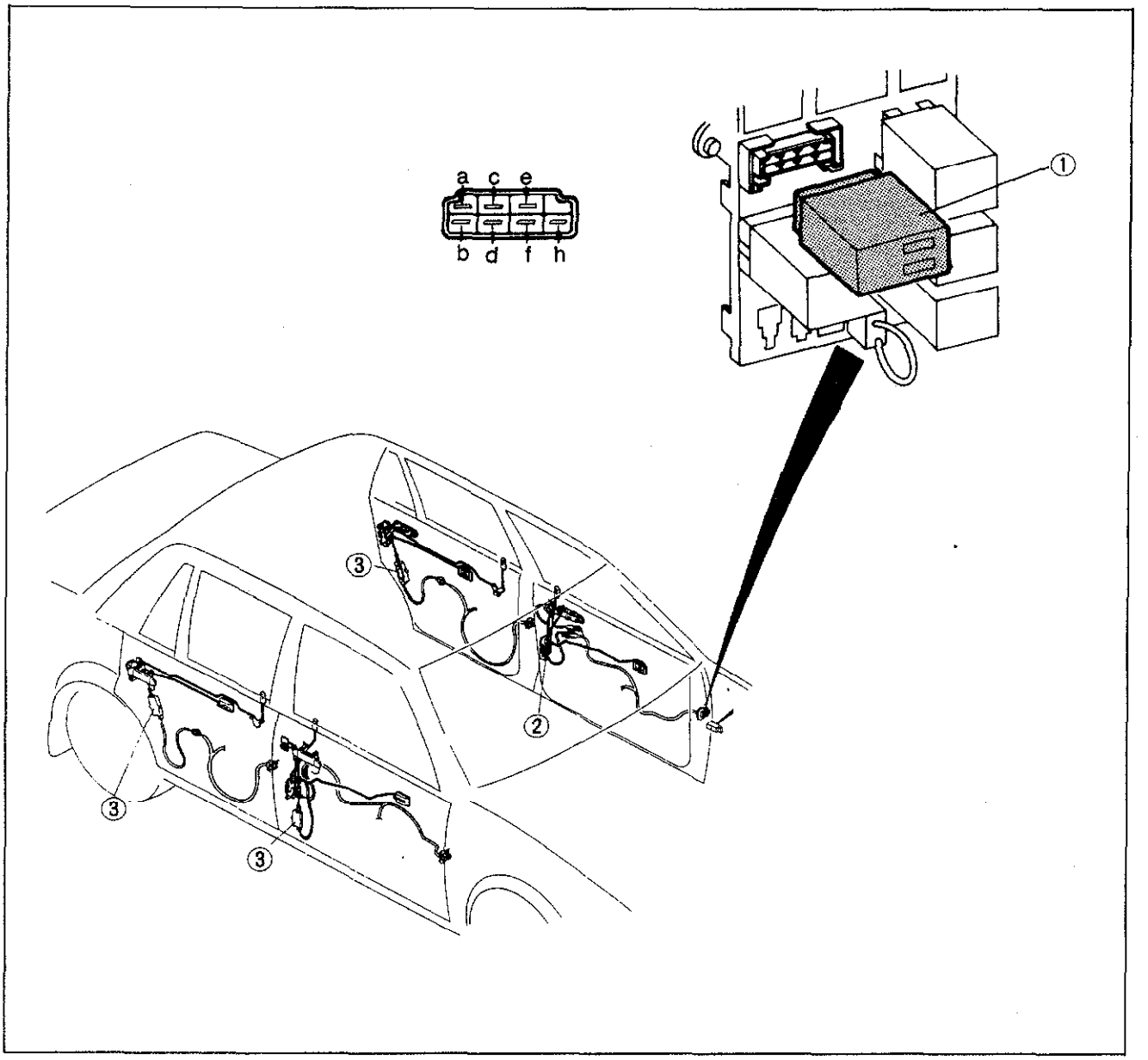
Check for conductivity between the "a" and "b" terminals.

Operation check

Connect the 12V to the "a" terminal and the ground to the "b" terminal, and check that the motor operates.

POWER DOOR LOCK

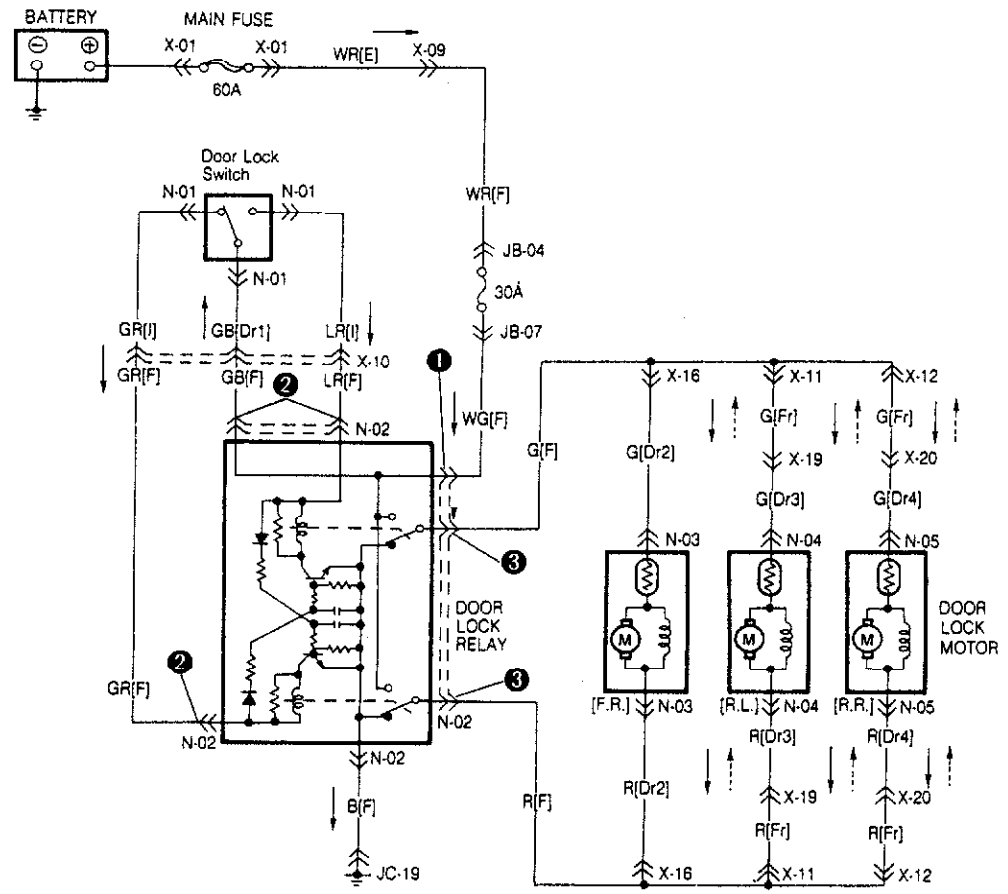
STRUCTURAL VIEW

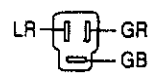
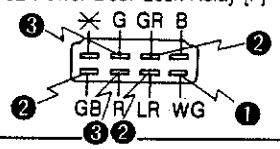


73U15X-063

1. Door lock relay
2. Door lock switch
3. Door lock actuator

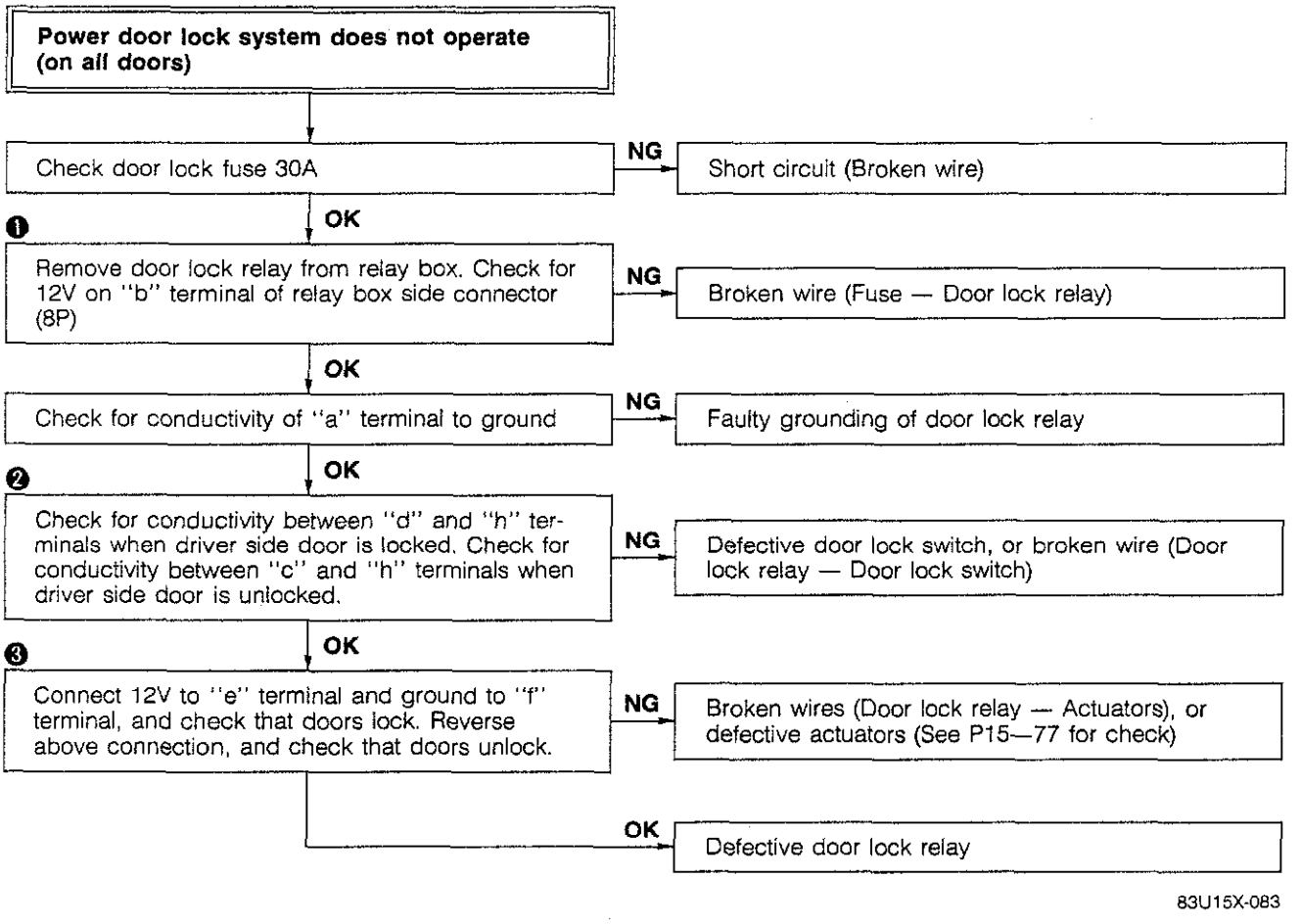
CIRCUIT DIAGRAM



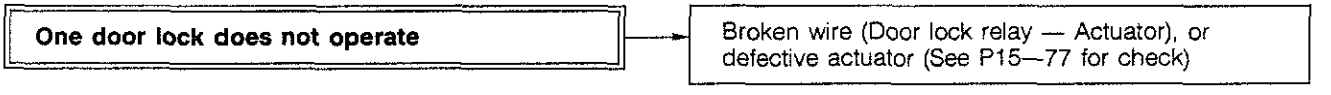
N-01 Power Door Lock Switch [Dr1] 	N-02 Power Door Lock Relay [F] 	N-03 Power Door Lock Motor F.R. [Dr2] 	N-04 Power Door Lock Motor R.L. [Dr3] 
N-05 Power Door Lock Motor R.R. [Dr4] 			

83U15X-082

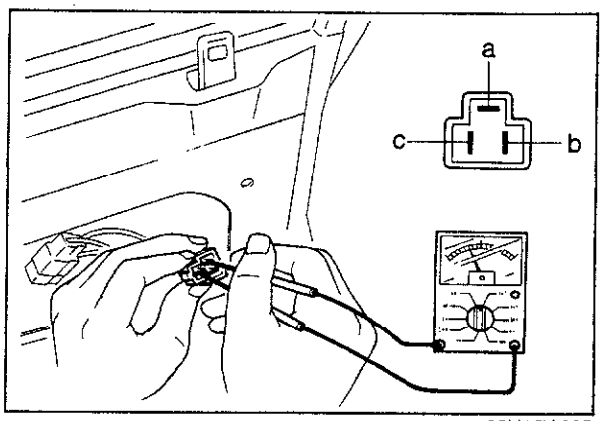
TROUBLESHOOTING



83U15X-083



83U15X-084



83U15X-085

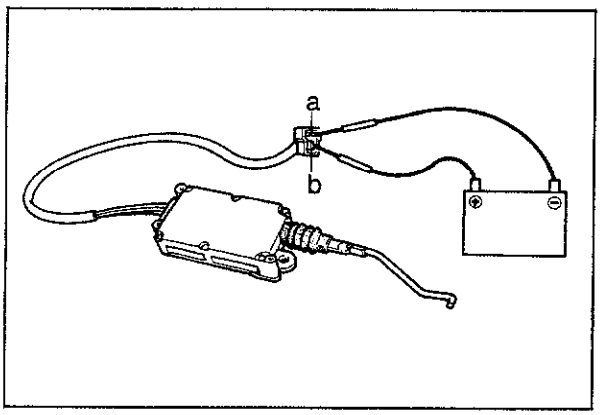
INSPECTION

Door Lock Switch

Check for conductivity between the terminals.

	a	b	c
Locked	○	○	
Unlocked	○		○

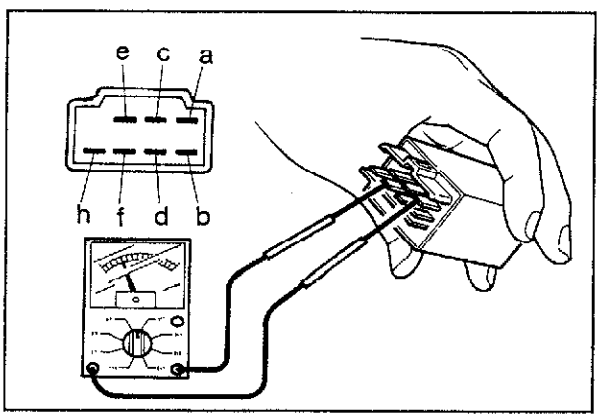
○—○ : Indicates conductive



83U15X-086

Actuator

1. Connect the 12V to the "b" terminal and the ground to the "a" terminal, and check that the actuator locks.
2. Reverse the above connections, and check that the actuator unlocks.



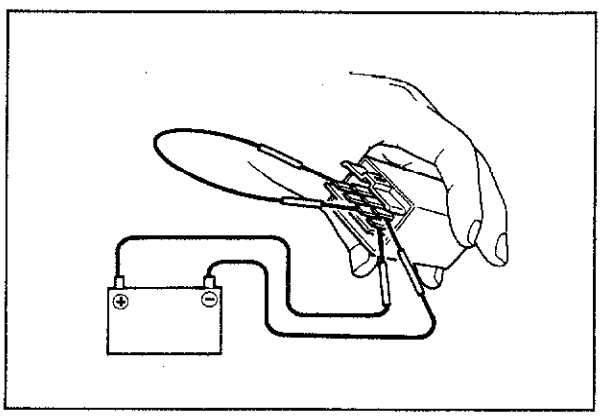
83U15X-087

Door Lock Timer Unit

1. Check the conductivity between the terminals.

Terminals	Conductivity	Terminals	Conductivity	Terminals	Conductivity
a—b	X	b—d	X	c—h	X
a—c	○	b—e	X	d—e	○
a—d	○	b—f	X	d—f	○
a—e	○	b—h	○	d—h	X
a—f	○	c—d	○	e—f	○
a—h	X	c—e	○	e—h	○
b—c	X	c—f	○	f—h	X

○...Conductive, X...Non-conductive


73U15X-067

Note

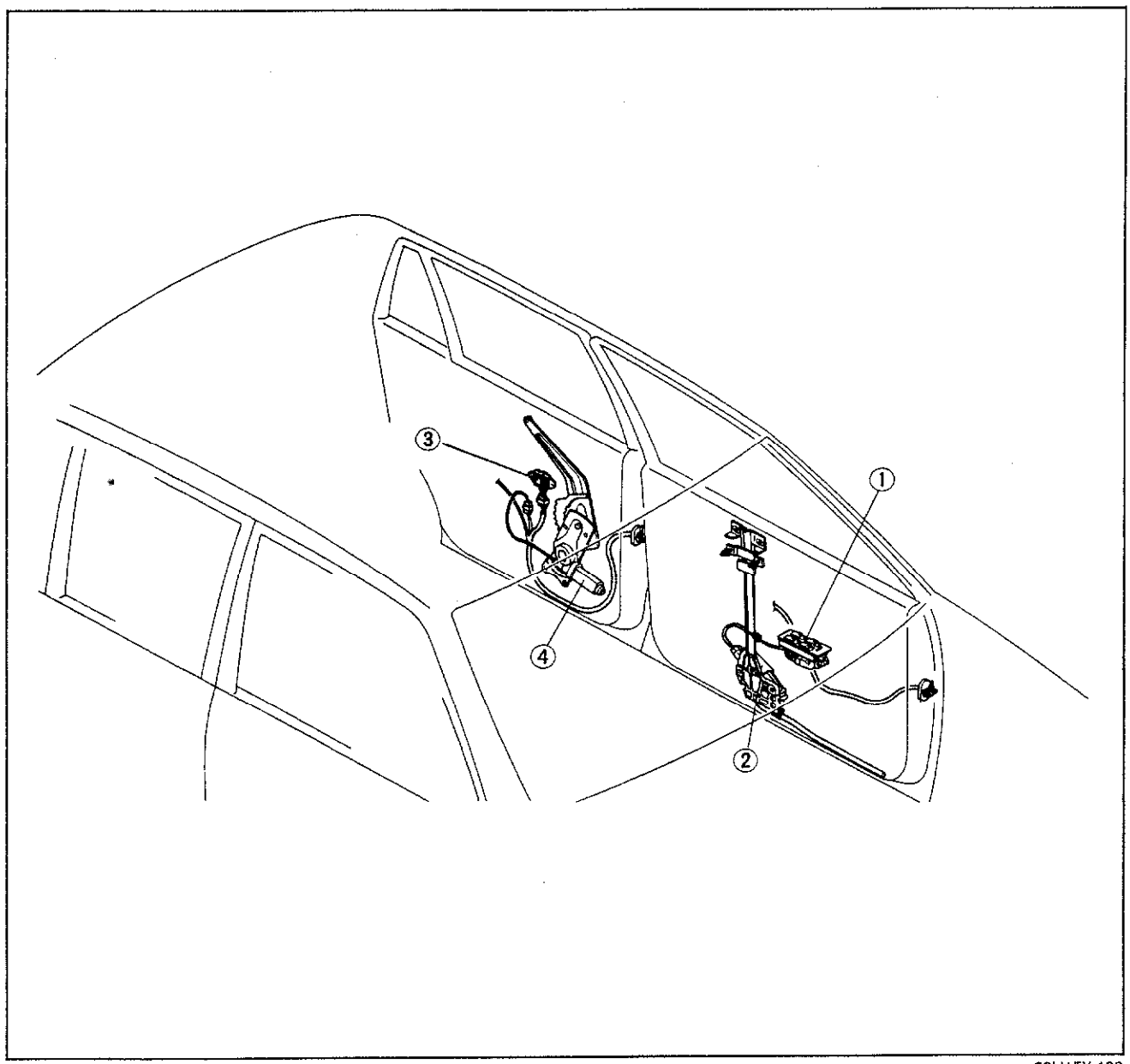
a) Set the tester to x1000Ω range.

b) Conductive includes the state with resistance, and Non-conductive means insulated.

2. Connect the 12V to the "b" terminal and the ground to the "a" terminal. Then, short circuit the "h" and "d" terminals between the "h" and "c" terminals, and check that the relay clicks.

POWER WINDOW

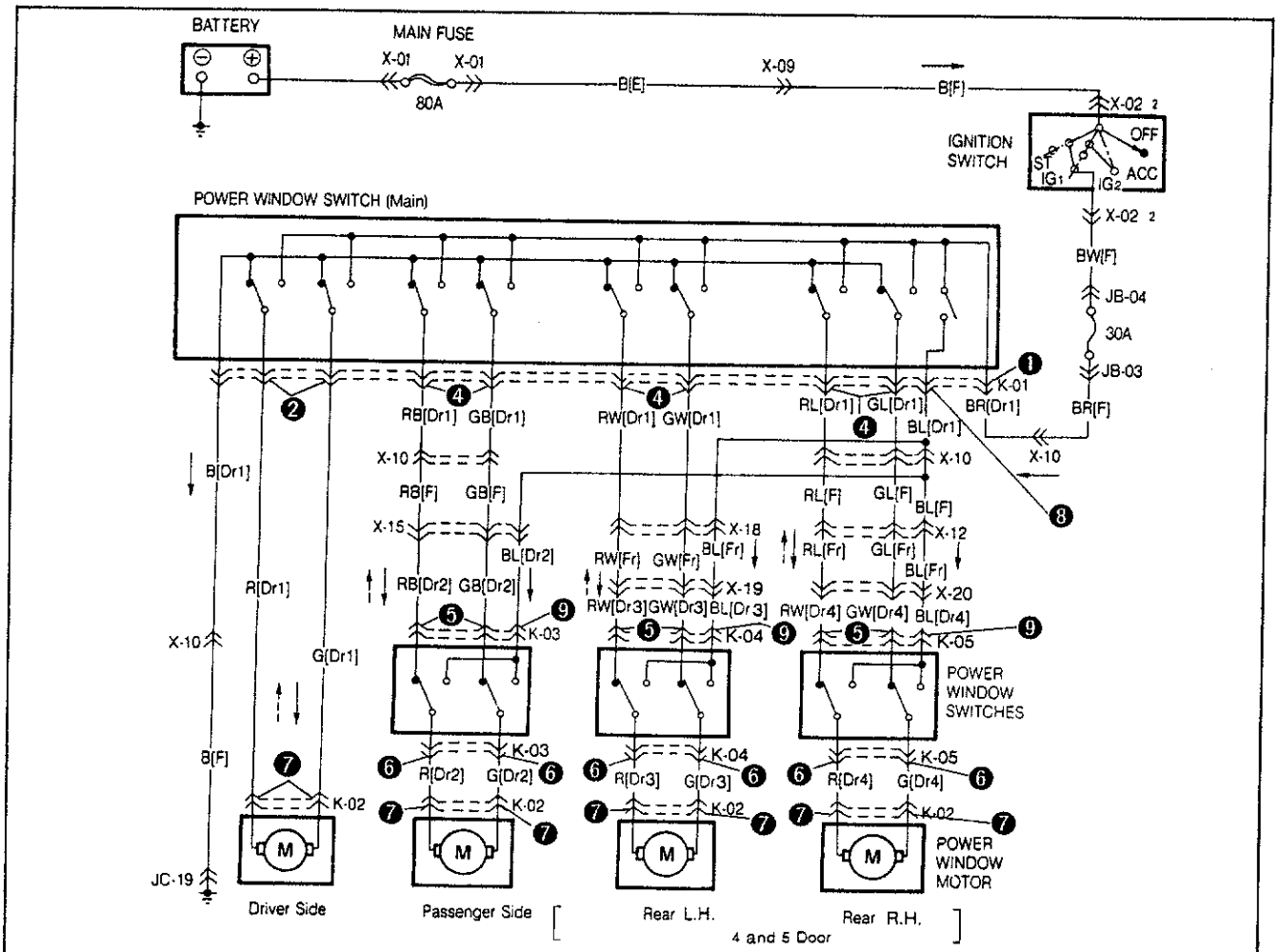
STRUCTURAL VIEW

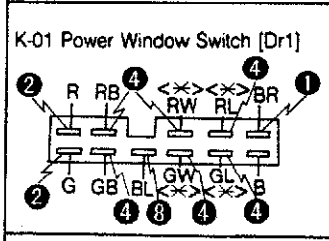


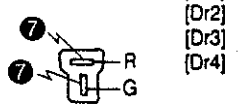
63U15X-136

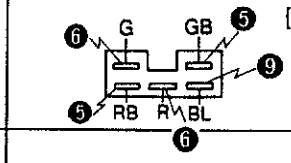
1. Power window main switch (Driver side)
2. Front power window motor
3. Power window switch (Rear)
4. Rear power window motor

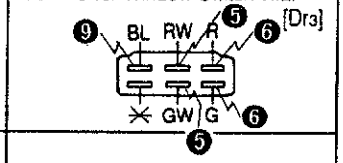
CIRCUIT DIAGRAM

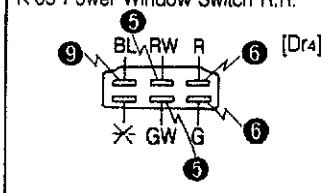






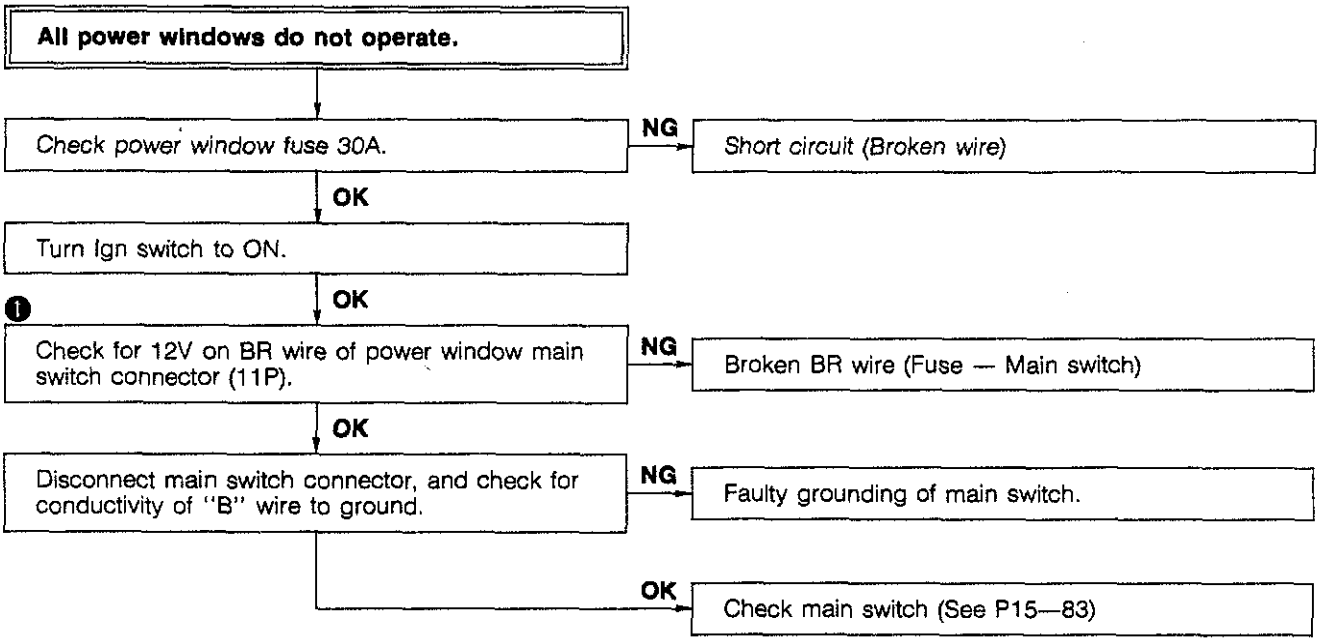




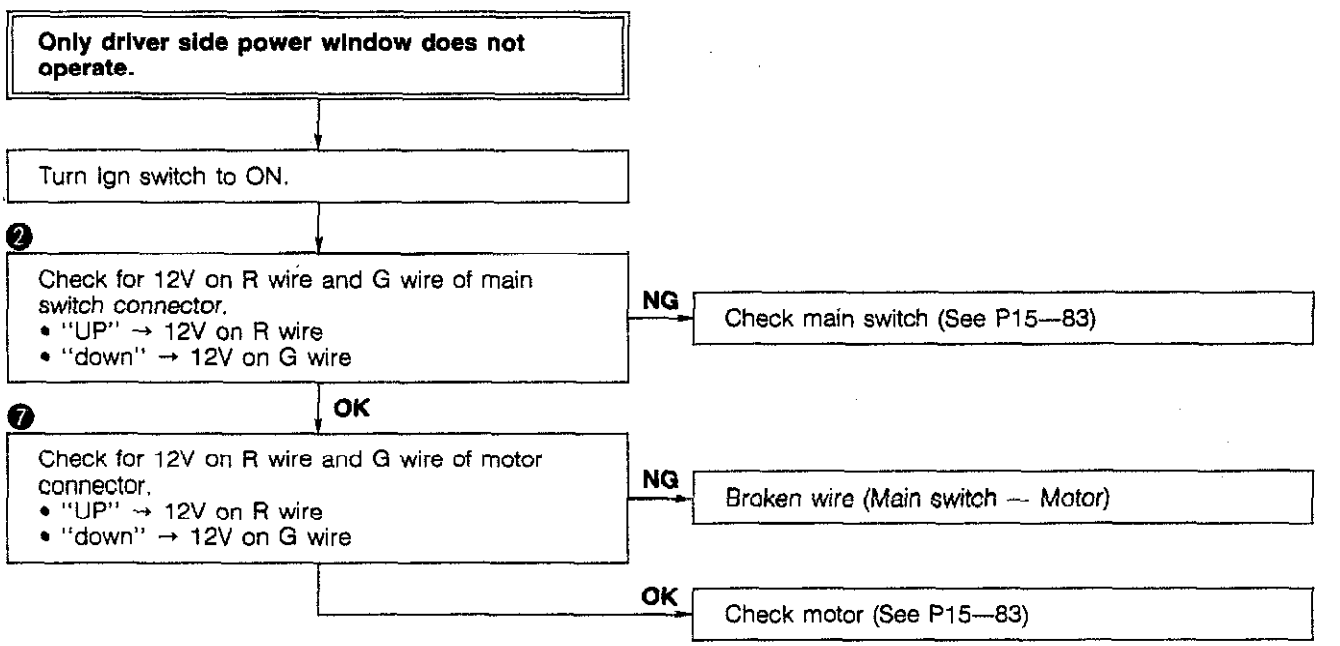


83U15X-088

TROUBLESHOOTING



83U15X-089



83U15X-090

Power windows (except for driver side) cannot be operated by main switch.

Turn Ign switch to ON

Note
Use only the main switch during the checking operation.

❹ Check for 12V on wires of main switch connector while operating the main switch (driver side)

Door switch	Operation	Wire to check
Passenger side	up	12V on RB
	down	12V on GB
Rear left side	up	12V on RW
	down	12V on GW
Rear right side	up	12V on RL
	down	12V on GL

NG → Check main switch (See P15—83)

OK

❺ Check for 12V on wires to each door switch connector (6P or 5P) while operating the main switch (driver side)

Door switch	Operation	Wire to check
Passenger side switch	up	12V on RB
	down	12V on GB
Rear switch	up	12V on RW
	down	12V on GW

NG → Broken wire (Main switch — Switch on each door)

OK

❻ Check for 12V on R wire and G wire of each door switch connector (6P or 5P) while operating the main switch (driver side)
- "up" → 12V on R wire
- "down" → 12V on G wire

NG → Check the switch on each door. (See P15—83)

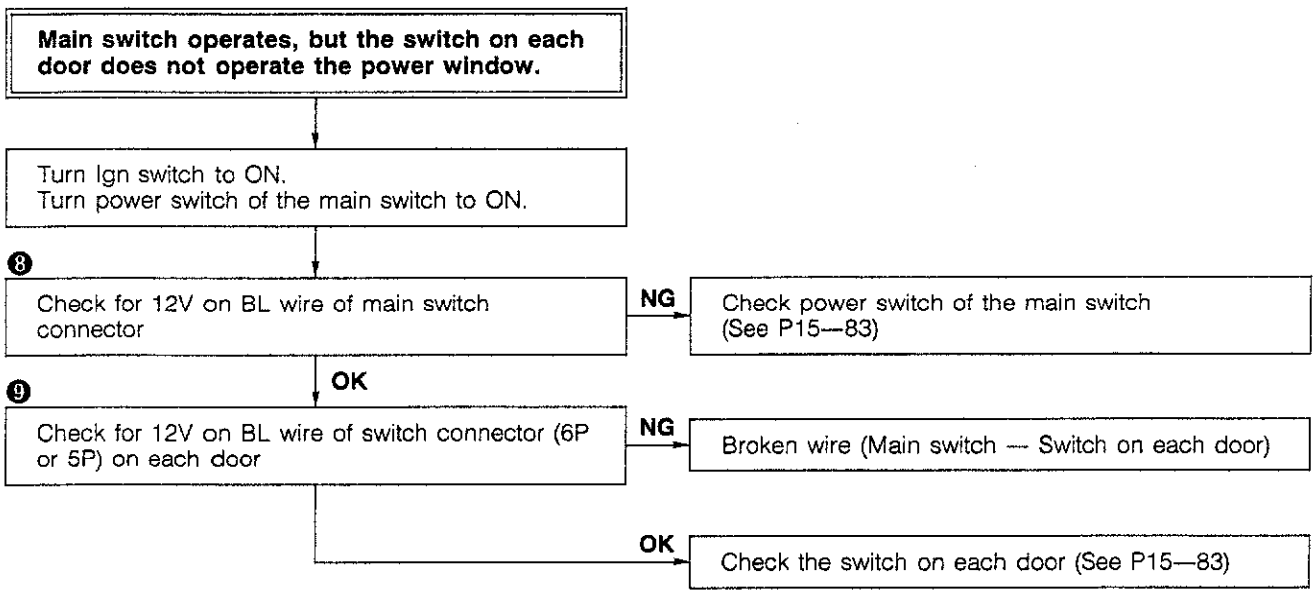
OK

❼ Check for 12V on R wire and G wire of each motor connector (2P) while operating the main switch (driver side)
- "up" → 12V on R wire
- "down" → 12V on G wire

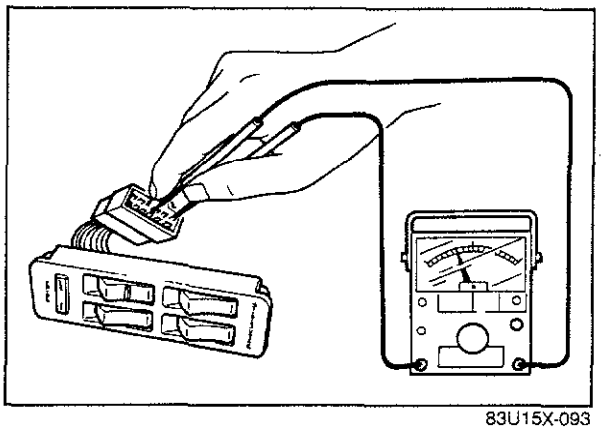
NG → Broken wire (Switch on each door — Motor)

OK → Check motor (See P15—83)

83U15X-091


Main switch operates, but the switch on each door does not operate the power window.
Turn Ign switch to ON.
Turn power switch of the main switch to ON.
8
Check for 12V on BL wire of main switch connector
NG
Check power switch of the main switch (See P15—83)
OK
9
Check for 12V on BL wire of switch connector (6P or 5P) on each door
NG
Broken wire (Main switch — Switch on each door)
OK
Check the switch on each door (See P15—83)

83U15X-092


83U15X-093

INSPECTION

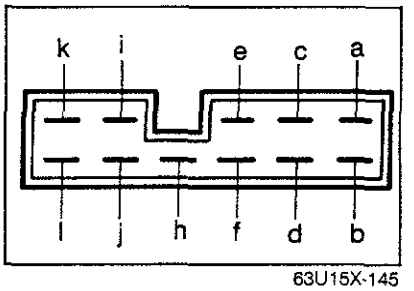
Main Switch (Driver Side)

Check for conductivity between the terminals of the switch.

Power switch

	a	h
OFF		
ON	○—○	

○—○ : Indicates conductive

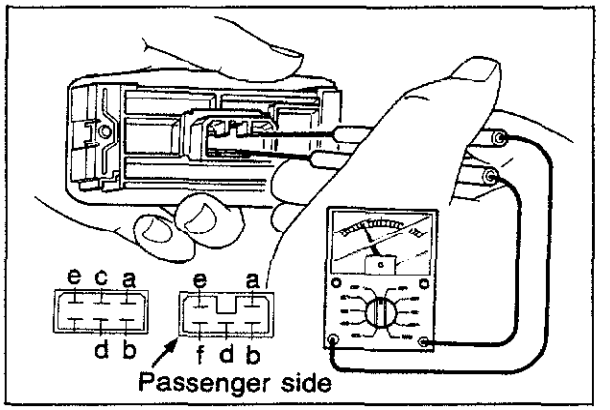


63U15X-145

Switch	Driver side				Passenger side				Rear-right				Rear-left			
terminal	a	b	k	l	a	b	i	j	a	b	e	f	a	b	c	d
wire position	BR	B	RL	G	RB	B	RB	GB	RB	B	RL	GL	RB	B	RW	GW
UP	○—○		○—○		○—○		○—○		○—○		○—○		○—○		○—○	
	○—○			○—○		○—○		○—○		○—○		○—○		○—○		○—○
OFF	○—○				○—○				○—○				○—○			
	○—○			○—○		○—○		○—○		○—○		○—○		○—○		○—○
DOWN		○—○	○—○			○—○	○—○			○—○	○—○			○—○	○—○	
	○—○			○—○	○—○			○—○	○—○			○—○	○—○			○—○

* c,d,e and f terminals for 3HB model are not in use

○—○ : Indicates conductive



83U15X-094

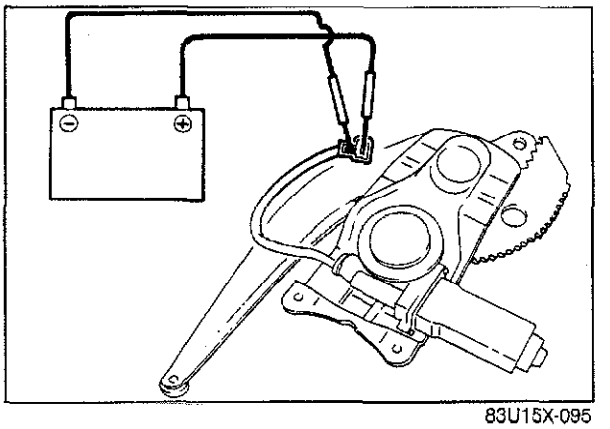
Switch on Each Door

Check the conductivity between the terminals.

terminal	a(d)	b(e)	c(f)	d(a)	e(b)
wire position	R	G	RW (RB)	GW (GB)	BL
UP	○				○
		○		○	
OFF	○		○		
		○		○	
DOWN	○		○		
		○			○

( ) indicates wire color passenger side.

○—○ : Indicates conductive

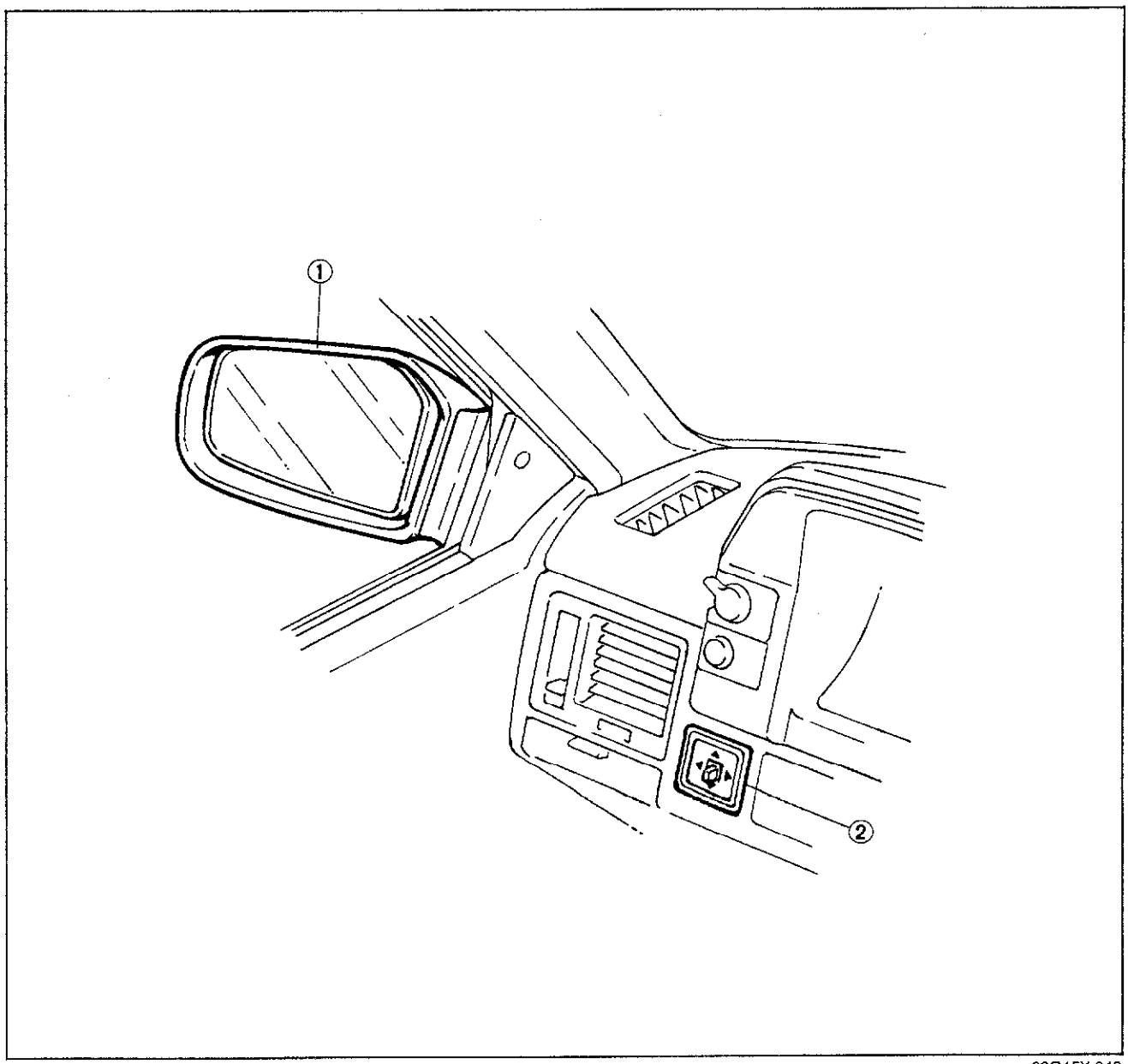

83U15X-095

Power Window Motor

1. Connect 12V to the "a" terminal and the ground to the "b" terminal of the motor connector, and check that motor operates.
2. Reverse the above connections and check the reverse direction of the motor.

REMOTE CONTROL MIRROR

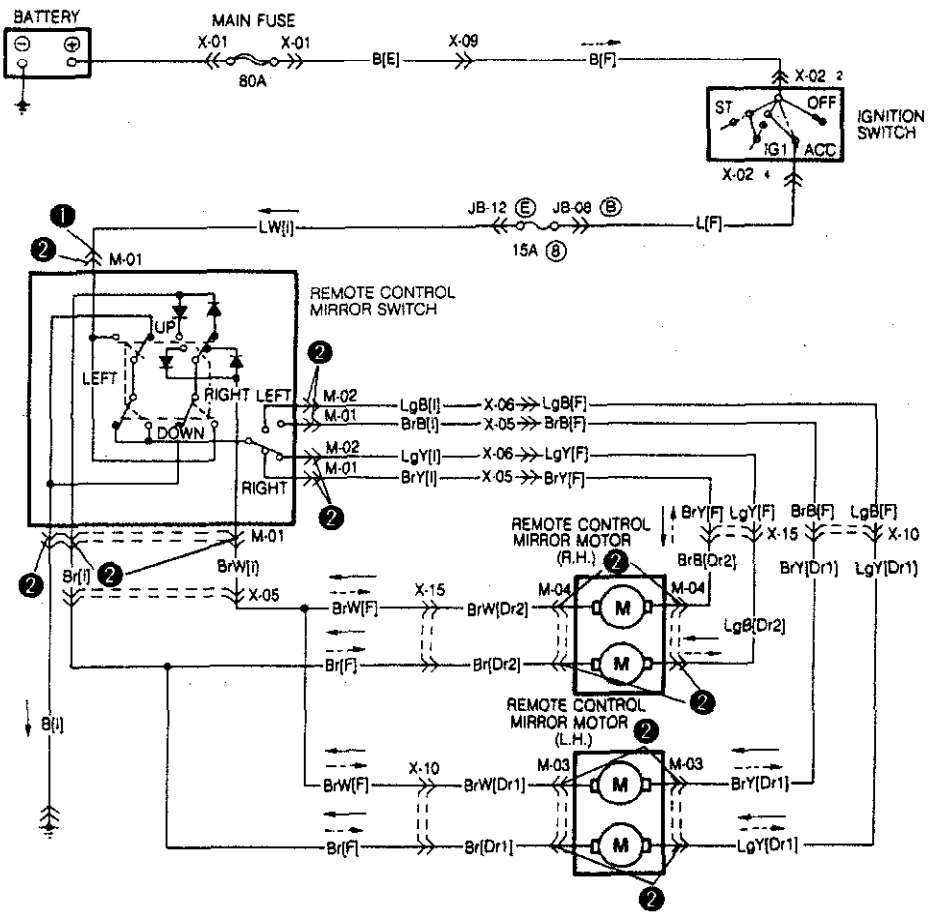
STRUCTURAL VIEW

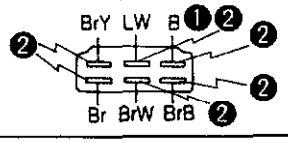
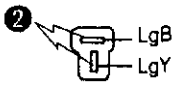
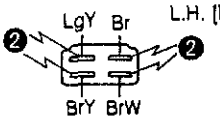
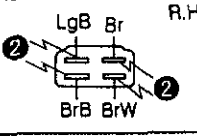


63G15X-048

1. Door mirror
2. Remote control mirror switch

CIRCUIT DIAGRAM



M-01 Remote Control Mirror Switch [I]	M-02 Remote Control Mirror Switch [I]	M-03 Remote Control Mirror Motor L.H. [Dr1]	M-04 Remote Control Mirror Motor R.H. [Dr2]
			

83U15X-096

TROUBLESHOOTING

Remote control mirror does not operate

Check audio fuse 15A → NG → Short circuit (Broken wire)

OK ↓

❶ Turn Ign switch to ACC. Check for 12V on LW wire of remote control mirror switch connector. → NG → Broken LW wire (Fuse-Remote control mirror switch)

OK ↓

❷ Check conductivity of the terminals of remote control mirror switch and remote control mirror motor.

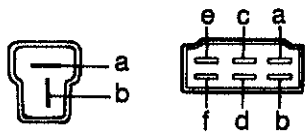
REMOTE CONTROL MIRROR

CLASS	DIRECTION	2 PIN		6 PIN					
		a	b	a	b	c	d	e	f
LEFT	UP	○		○	○	○			
	DOWN	○		○	○	○	○		○
	LEFT	○		○	○	○			○
	RIGHT	○		○	○	○	○		
RIGHT	UP		○	○		○	○		○
	DOWN		○	○		○	○		○
	LEFT		○	○		○			
	RIGHT		○	○		○	○		

REMOTE CONTROL MOTOR

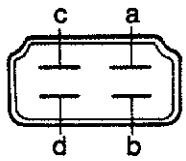
Terminal	Conductivity
a — c	Yes
b — d	Yes

Remote control mirror



NG → Defective remote control mirror switch or remote control mirror motor.

Remote control motor

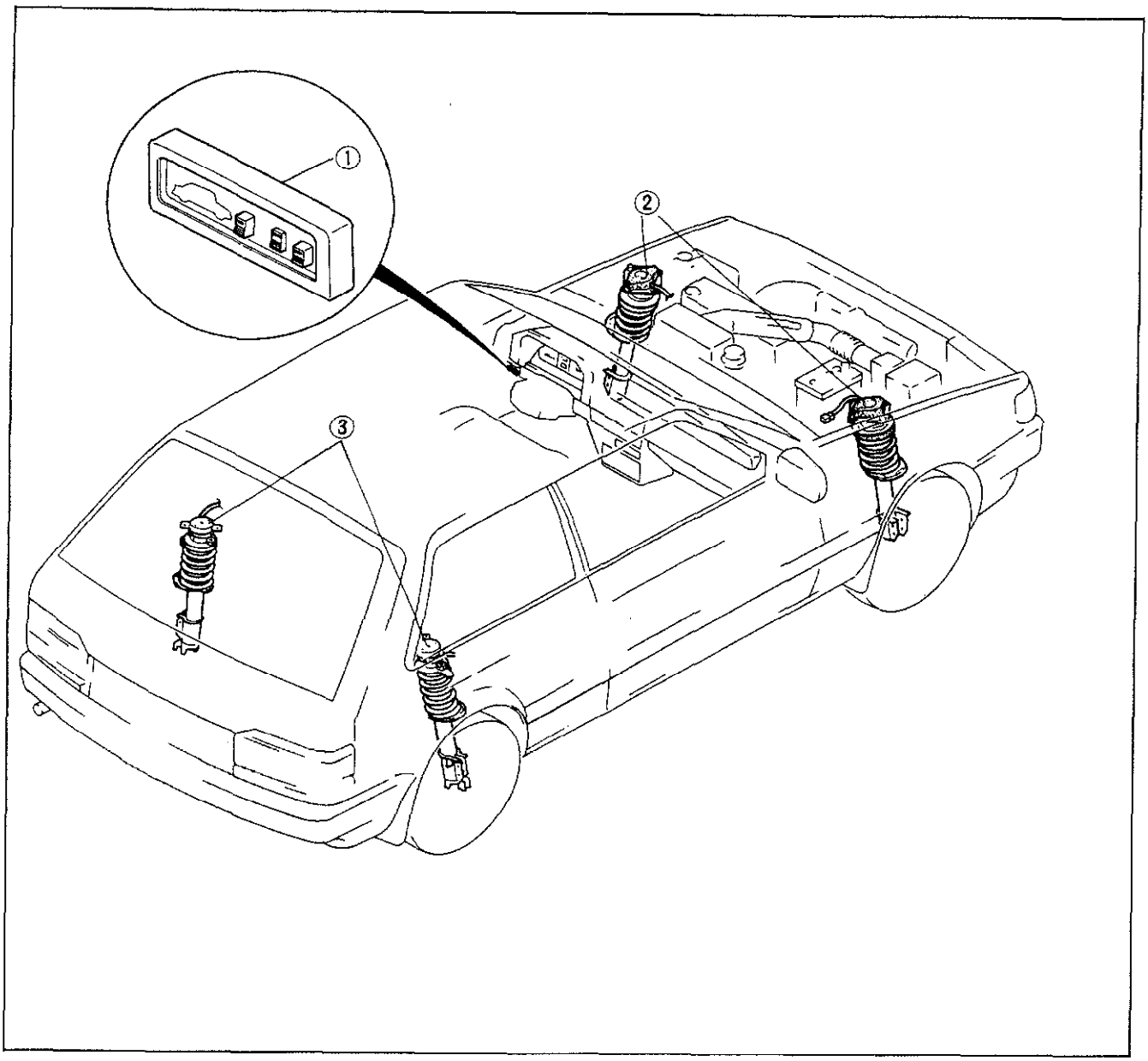


OK → Check for wiring between remote control mirror switch and the motor

83U15X-097

ADJUSTABLE SHOCK ABSORBER

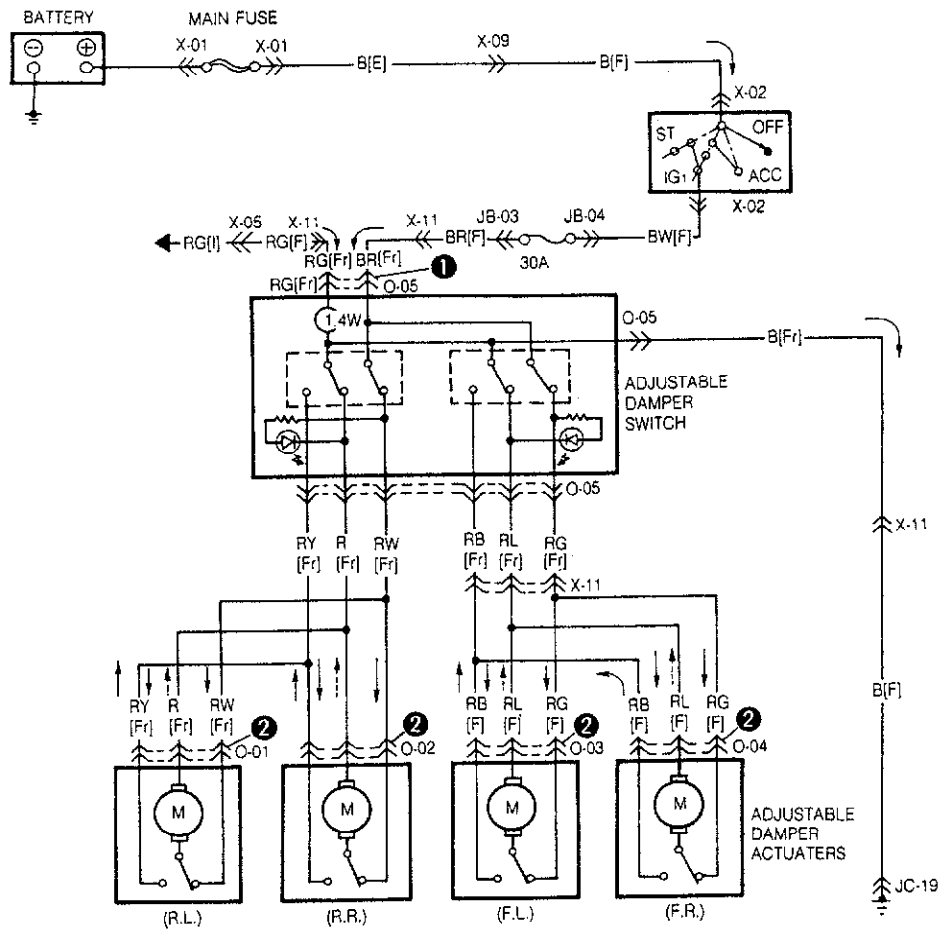
STRUCTURAL VIEW



63U15X-148

1. Adjustable shock absorber switch
2. Front actuator
3. Rear actuator

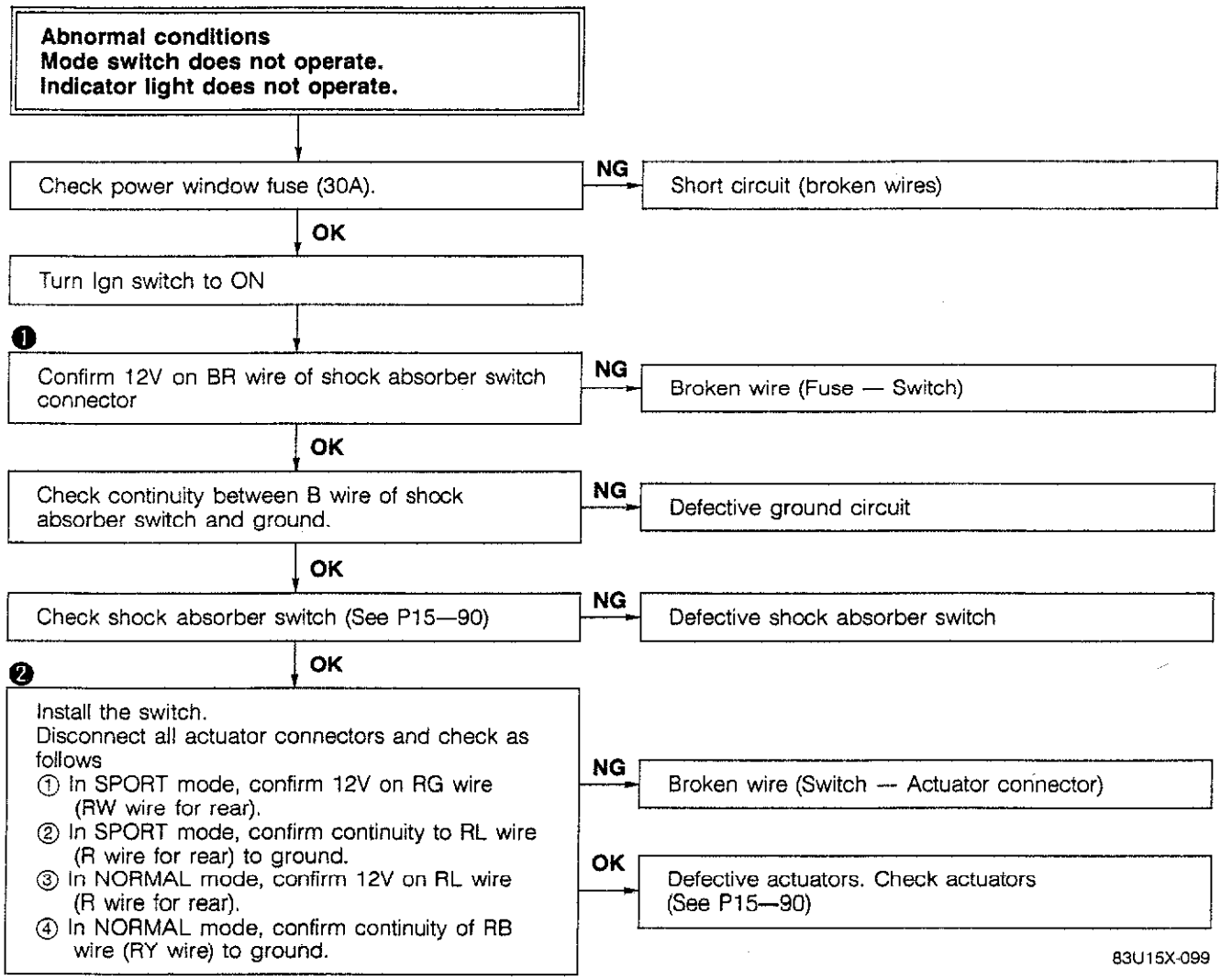
CIRCUIT DIAGRAM

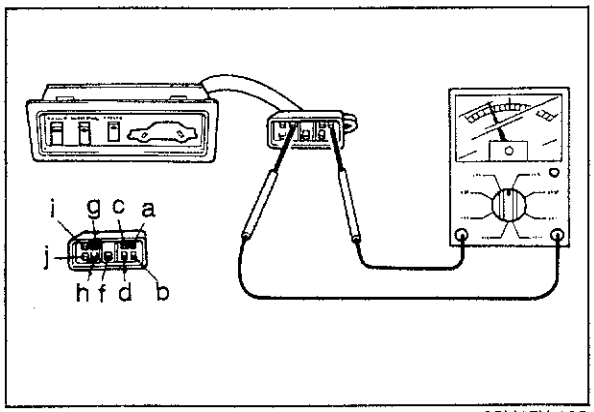


O-01 Adjustable Damper Actuater R.L. [Fr] RY R RW ❷	O-02 Adjustable Damper Actuater R.R. [Fr] RY R RW ❷	O-03 Adjustable Damper Actuater F.L. [F] RB RL RG ❷	O-04 Adjustable Damper Actuater F.R. [F] RB RL RG ❷
O-05 Adjustable Damper Switch [Fr] RG RG RW BR ❶ RB RL RY R B			

83U15X-098

TROUBLESHOOTING





83U15X-100

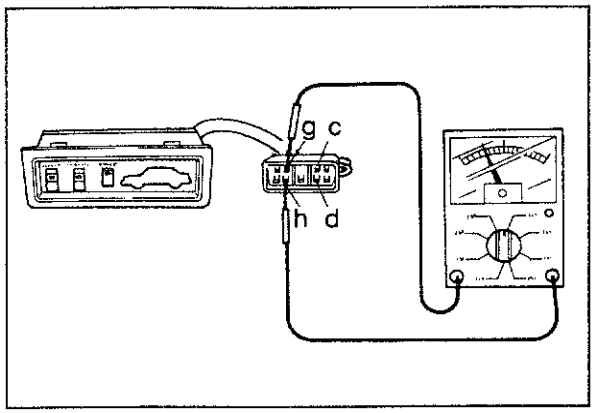
INSPECTION

Adjustable Shock Absorber Switch

1. Confirm continuity between terminals in the three modes.

	a	b	c	d	f	g	h	i	j
SPORT	○	○	○	○		○	○		
NORMAL	○	○	○	○	○		○		○
CRUISE	○	○		○	○	○	○		

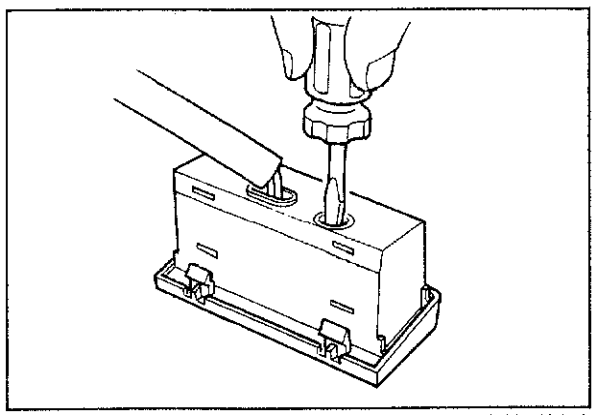
○——○ : Indicates continuity



63U15X-152

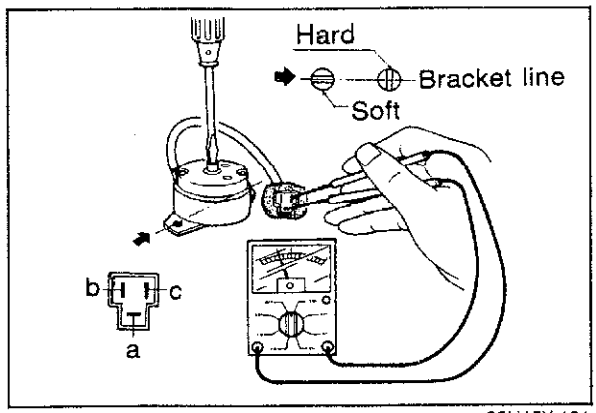
2. Check the indicator by using an ohmmeter. Confirm that the tester pointer swings when Tester (—) lead to "g" terminal ("c" terminal for rear) and Tester (+) lead to "h" terminal ("d" terminal for rear) are applied.
   Confirm that the tester pointer does not swing when above connection is reversed.

Note
Set the tester to x1000Ω range.



63U15X-153

Note
a) Do not disassemble the switch as it is difficult to assemble.
b) Illumination lamp bulb can be removed by pushing it by a small screwdriver (—) through the rear hole.

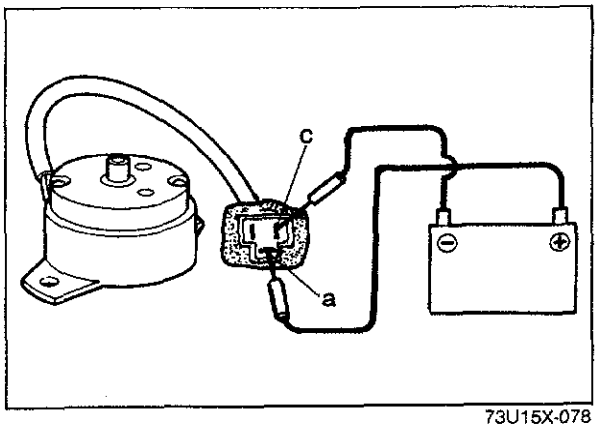


83U15X-101

Actuator

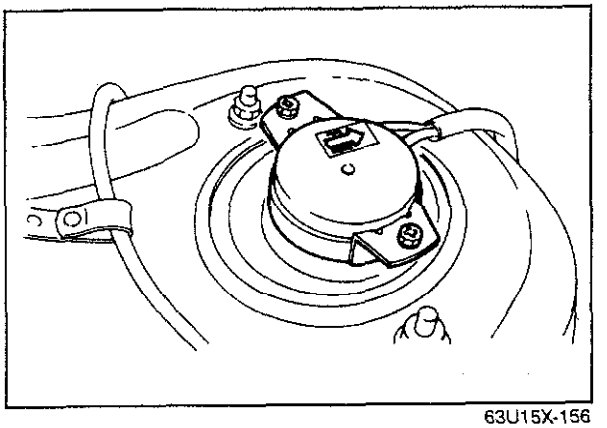
1. Check that the continuity of "a"—"c" terminals and "b"—"c" terminals while turning the actuator rod are as indicated in the following table:

Mode	Rod slit position	a—c	b—c
Soft	Parallel with bracket line	Conductive	Not conductive
Hard	Perpendicular to bracket line	Not conductive	Conductive



73U15X-078

2. Confirm that in the SOFT mode, the actuator operates when 12V is applied to the "a" terminal and the "c" terminal is grounded.
3. Confirm that in the HARD mode, the actuator operates when 12V is applied to the "c" terminal and the "b" terminal is grounded.



63U15X-156

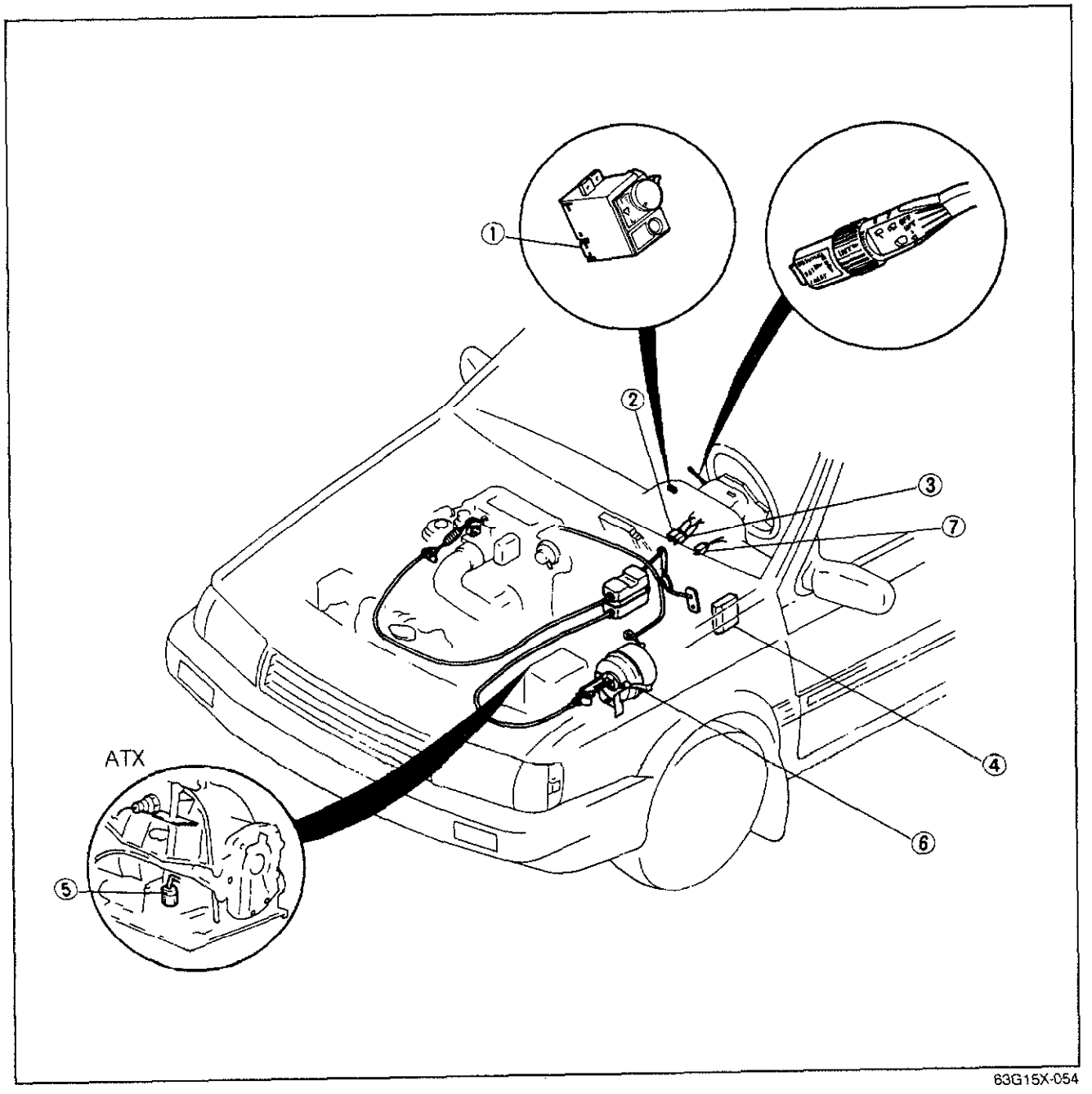
Caution

a) Observe the installation direction of the actuators.

b) Do not disassemble the actuators.

CRUISE CONTROL SYSTEM

STRUCTURAL VIEW



63G15X-054

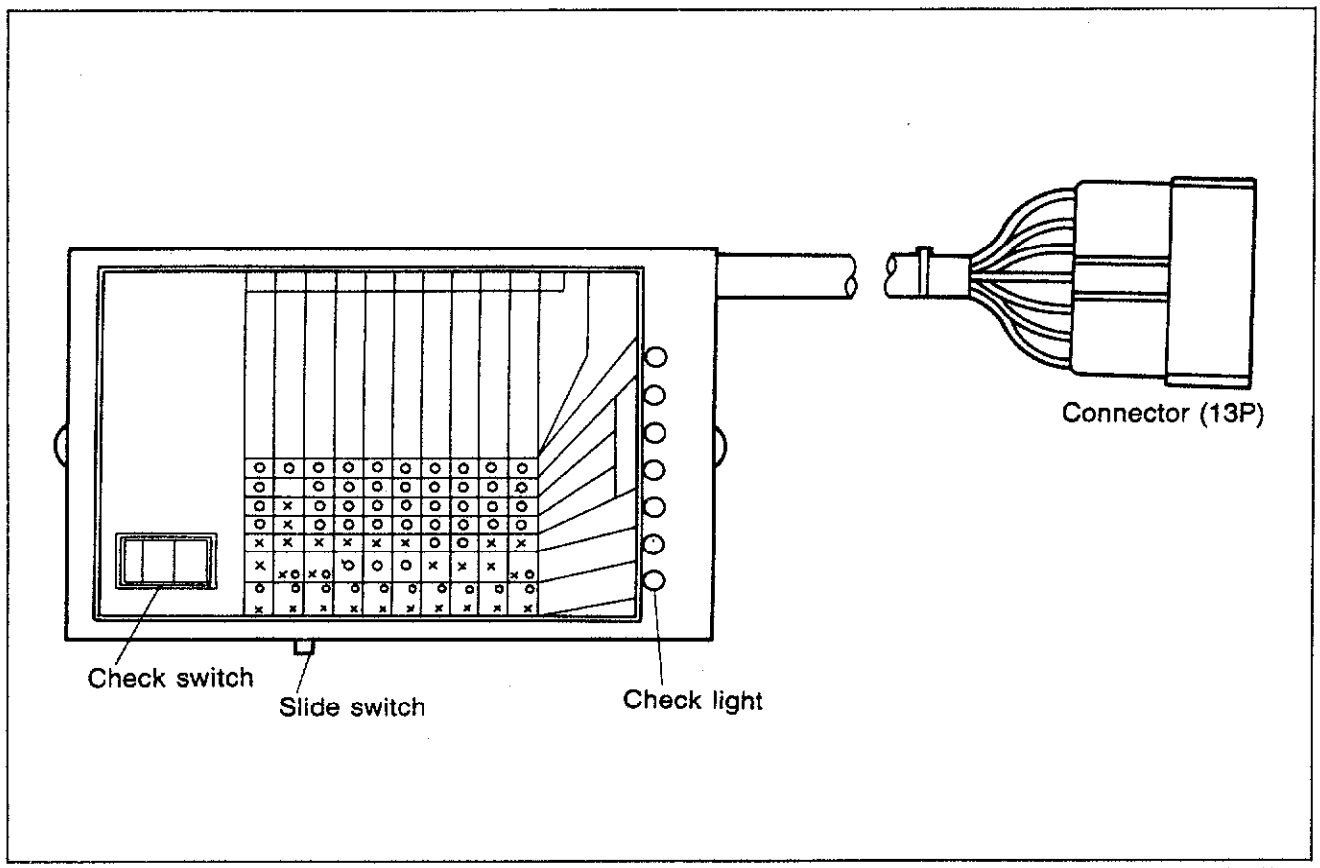
1. Main switch
2. Stop light switch
3. Stop switch
4. Control unit
5. Inhibitor switch (ATX)
6. Actuator
7. Clutch switch (MTX)

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Remedy	Page
Cruise control system does not work	Meter circuit board open circuit	Replace fuse and check for short	
	Defective main switch	Check main switch	
	Defective control unit	Check control unit	
	Defective actuator	Check actuator	15—97
	Defective control switch	Check control switch	
	Defective speed sensor	Check speed sensor	15—96
	Defective clutch switch	Adjust or replace clutch switch	15—96
	Defective stop switch	Adjust or replace stop switch	15—96
	Faulty wiring or ground	Repair as necessary	
Speed setting can not be cancelled	Defective control unit	Check control unit	
	Defective clutch switch	Adjust or replace clutch switch	15—96
	Defective stop switch	Adjust or replace stop switch	15—96
The set speed is not held	Defective actuator	Check actuator	15—97
	Defective actuator control cable	Adjust or replace control cable	15—97
	Defective control unit	Check control unit	
	Defective speed sensor	Check speed sensor	
Cruise control system does not function immediately	Defective actuator	Check actuator	15—97
	Defective actuator control cable	Adjust or replace control cable	15—95
	Defective control switch	Check control switch	
	Defective control unit	Check control unit	

83U15X-102

ON-VEHICLE INSPECTION (USING ACC CHECKER)
Acc Checker (49 9200 010)



83U15X-103

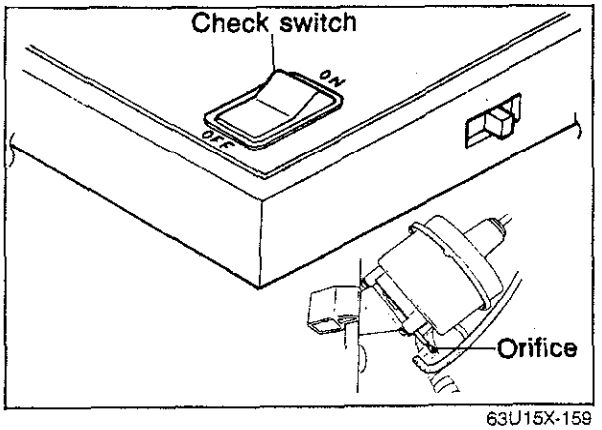
Function of the ACC CHECKER

A. Check Lights

Each item is verified by a check light, as described below.

Check light	Check items
MAIN SW.	Ignition switch, fuse, main switch and associated wiring harness terminals and connectors.
ACTUATOR—VAC	VAC coil continuity in the actuator and associated harness.
ACTUATOR— VENT 2	VENT 2 coil continuity in the actuator and associated harness.
ACTUATOR-VENT 1	VENT 1 coil continuity in the actuator and associated harness.
CLUTCH/BRAKE SW.	Clutch switch, brake switch and associated harness.
COMBINATION SW.	"SET", "COAST" and "RESUME" position in the combination switch, and associated harness.
GENERATOR	Speed sensor output and associated harness.

73U15X-081



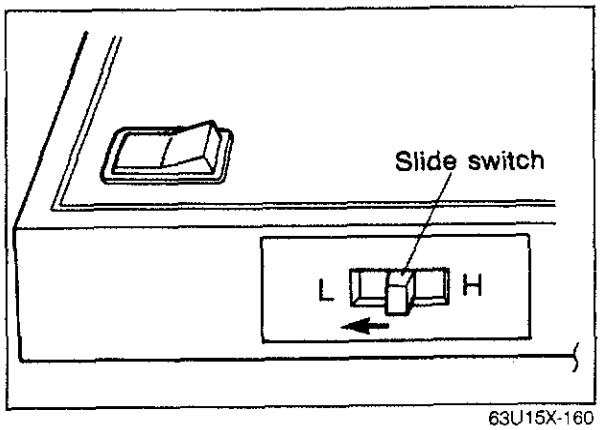
63U15X-159

B. Check switch

The check switch is provided in the ACC checker to check the actuator operation while the engine is running. When the check switch is held on after the engine is started, the engine speed increases to approximately 2,000 to 3,000 rpm and is maintained at that level. When the check switch is then released, the engine speed decreases to idle speed.

Note

Before checking the actuator operation, remove the orifice from the actuator as shown in the figure and reconnect the vacuum hose. Replace the orifice after tests are completed.



63U15X-160

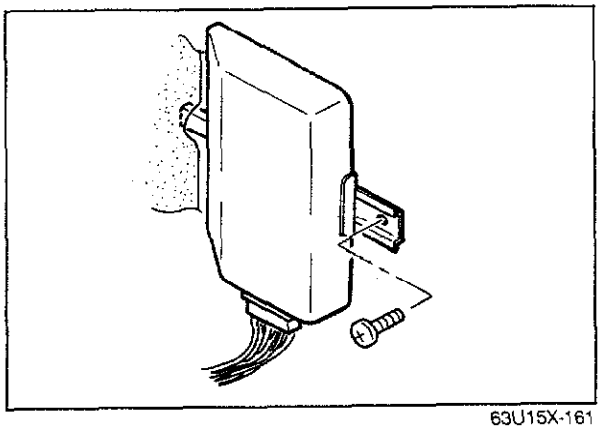
C. Slide switch

Set the slide switch in the L position before the check switch is used.

Then engine rpm will increase to approximately 2,000 to 3,000 rpm, and will hold steady.

Note

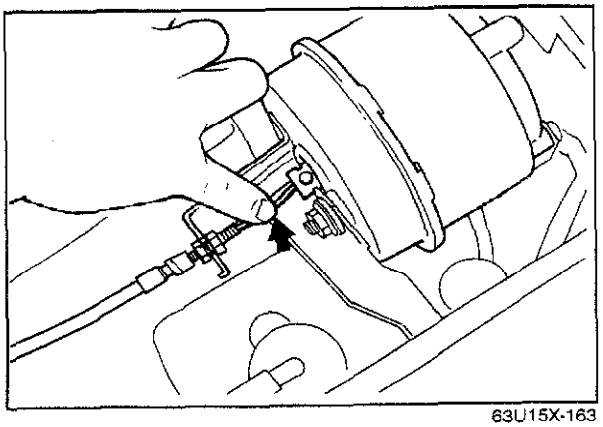
If engine rpm does not reach, and remain in the 2,000 to 3,000 rpm range, adjust the freeplay of the actuator inner cable.


63U15X-161

Preparation

1. ACC checker installation

Depress the lock hook of the harness connector. Remove the connector from the ACC control unit after the ignition switch and main switch are turned off, and connect the harness connector to the ACC checker.


63U15X-163

2. Checking the freeplay of the actuator inner cable

Remove the clip and adjust the nut so that the actuator control cable play is as follows when the cable is pressed lightly.

1—3 mm (0.04—0.12 in)

Checking the System

Check table

○: Light OFF
X: Light ON

CHECK ITEMS AND CONDITIONS	CHECK LIGHTS (correct response)							TROUBLESHOOTING (INCORRECT RESPONSE)
	MAIN SW.	ACTUATOR			CLUTCH/BRAKE SW.	COMBINATION/INH. SW.	GENERATOR	
		VAC	VENT 2	VENT 1				
1. MAIN SW. CONTINUITY: • Ignition switch ON • Main switch ON	○	○	○	○	X	X	○ or X	ALL LIGHTS OFF: Check ignition switch, main switch, fuse, and associated harness terminals and connectors.
2. BRAKE SW. CONTINUITY: • Ignition switch ON • Main switch ON • Depress brake pedal	○	○	○	○	X	X	○ or X	CLUTCH/BRAKE SW. LIGHT OFF: Check brake switch and associated harness.
3. CLUTCH SW. CONTINUITY: • Ignition switch ON • Main switch ON • Depress clutch pedal	○	○	○	○	X	X	○ or X	CLUTCH/BRAKE SW. LIGHT OFF: Check clutch switch and associated harness.
4. "SET" POSITION OF COMBINATION SWITCH: • Ignition switch ON • Main switch ON • Push to "SET" position of combination switch	○	○	○	○	X	X	○ or X	COMBINATION/SW. LIGHT OFF Check "SET" position of combination switch and associated harness.
5. "COAST" POSITION OF COMBINATION SWITCH: • Ignition switch ON • Main switch ON • Turn to "COAST" position of combination switch	○	○	○	○	X	X	○ or X	COMBINATION/SW. LIGHT OFF: Check "COAST" position in combination switch and associated harness.
6. "RESUME" POSITION OF COMBINATION SWITCH: • Ignition switch ON • Main switch ON • Turn to "RESUME" position of combination switch	○	○	○	○	X	X	○ or X	COMBINATION/SW. LIGHT OFF: Check "RESUME" position of combination switch and associated harness.

5BU15X-052

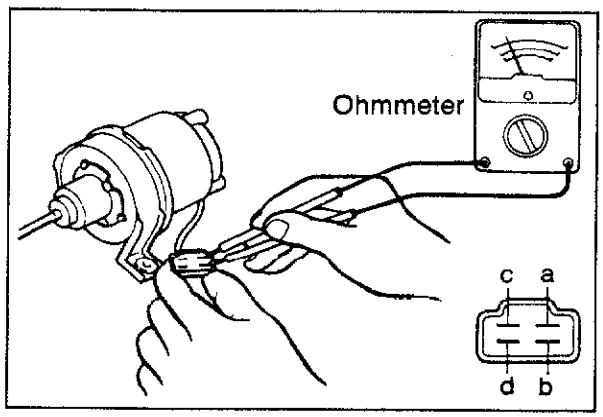
CHECK ITEMS AND CONDITIONS	CHECK LIGHTS (correct response)							TROUBLESHOOTING (INCORRECT RESPONSE)
	MAIN SW.	ACTUATOR			CLUTCH/BRAKE SW.	COMBINATION/INH. SW.	GENERATOR	
		VAC	VENT 2	VENT 1				
7. START THE ENGINE • Shift lever in "N" position	○	○	○	○	X	X	○ or X	—
8. ACTUATOR OPERATION: • After engine is started, set the slide switch "L". Then turn "ON" check to switch, and keep in "ON" position **Note:** **Make sure engine speed increases. If over 4,000 rpm release the switch immediately.**	○	X ○	X	X	X	X	○ or X	If engine speed does not reach and remain in the 2,000 to 3,000 rpm range, defect may be in actuator and associated harness.
9. SPEED SENSOR OUTPUT Jack up front of vehicle and support with stands. Let engine idle in 1st gear.	○	○	○	○	X	X	○ or X	If GENERATOR LIGHT does not flash, defect may be in speed sensor and associated harness.

73U15X-082

CRUISE CONTROL UNIT

If there is malfunction of the cruise control system, and no abnormal condition is found when ACC checker is used to check items 1 to 9, replace the cruise control unit.

63U15X-164

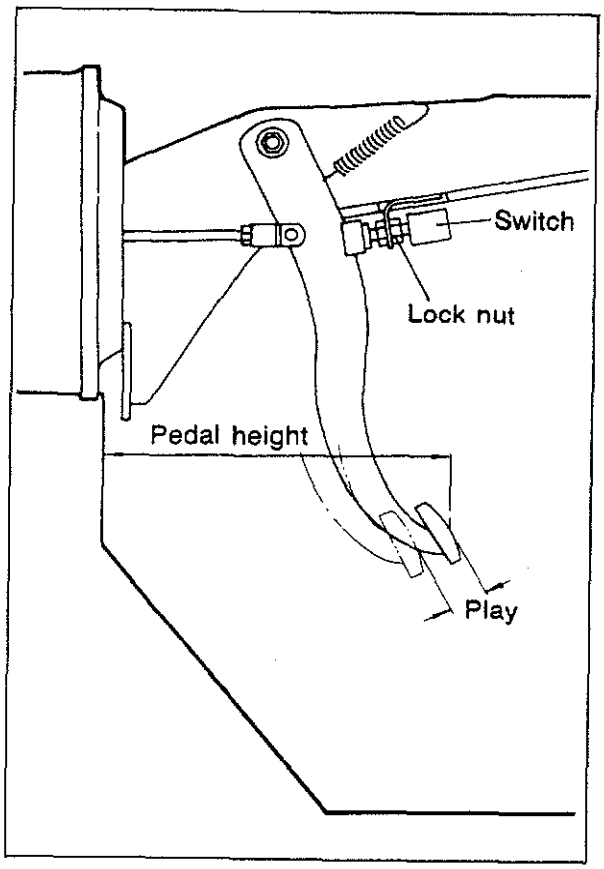


73U15X-083

Inspection of actuator solenoid

Measure the actuator solenoid resistance using an ohmmeter.

Check terminals	Resistance
c—a	Approx. 25 to 35 ohms
c—b	
c—d	



83U15X-104

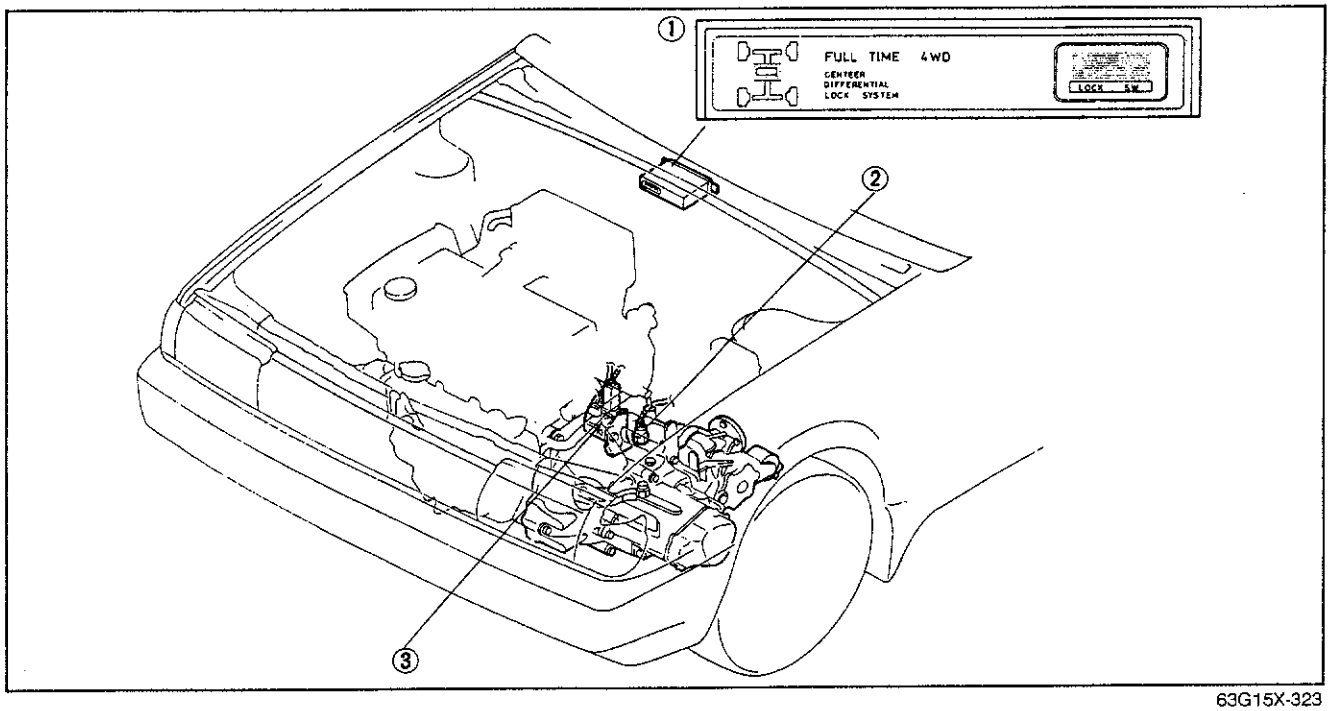
CLUTCH SWITCH, BRAKE SWITCH

When replacing these switches, adjust them so that the corresponding pedal height agrees with the standard value.

Clutch pedal height:
229 $^{+5}_{0}$ mm (9.02 $^{+0.2}_{0}$ in).....4WD
214.5 $^{+5}_{0}$ mm (8.45 $^{+0.2}_{0}$ in).....Except 4WD
Brake pedal height:
214 $^{+5}_{0}$ mm (8.43 $^{+0.2}_{0}$ in)

CENTER DIFFERENTIAL LOCK SYSTEM

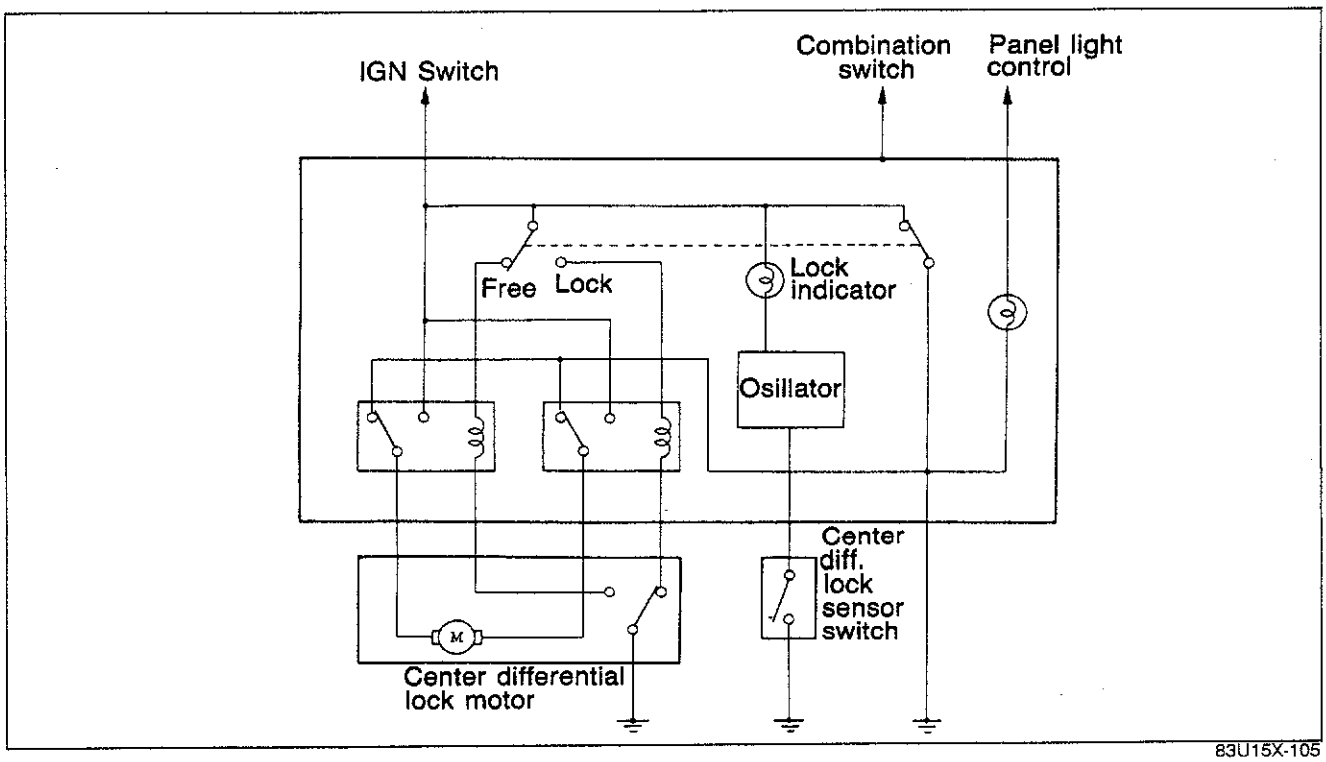
STRUCTURAL VIEW



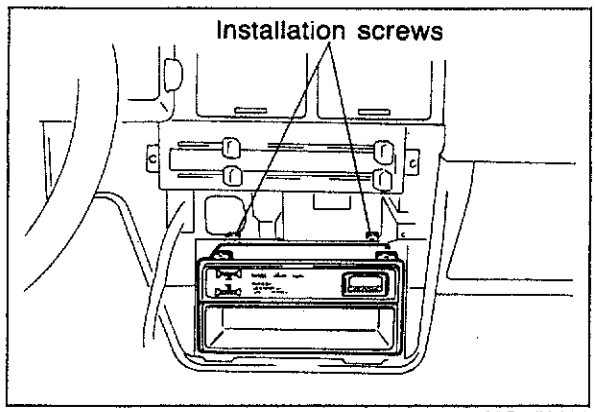
63G15X-323

1. Center differential lock control switch
2. Center differential lock sensor switch
3. Center differential lock sensor

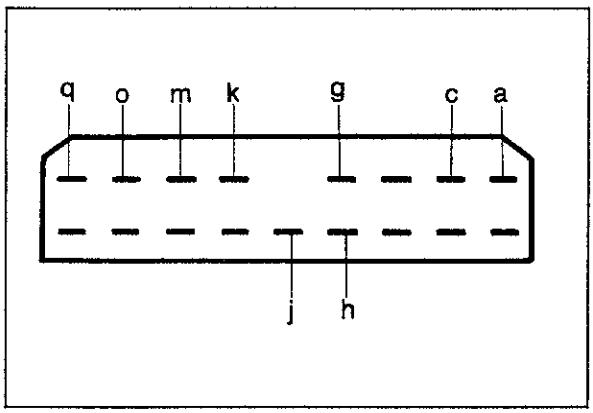
CIRCUIT DIAGRAM



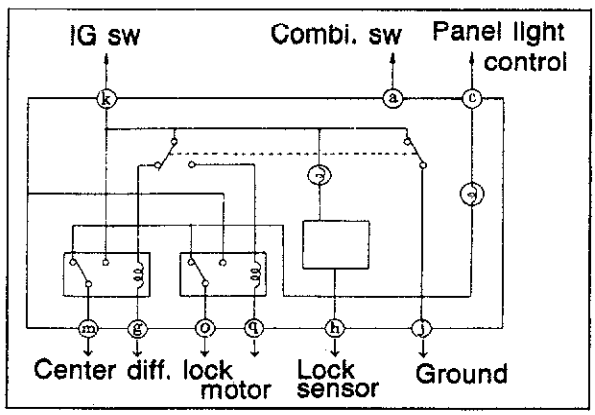
83U15X-105



63G15X-325



83U15X-106



63G15X-327

CENTER DIFFERENTIAL LOCK CONTROL SWITCH

Removal

1. Disconnect the negative battery cable.
2. Remove the ashtray and cigarette lighter.
3. Remove the fixing screws.
4. Remove the center panel.
5. Remove the fixing bolts.
6. Remove the center differential lock switch.

Checking the center differential lock control switch

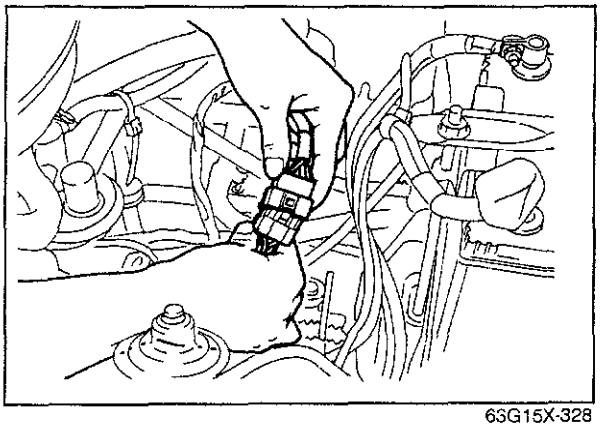
1. Remove the center differential lock control switch.
2. Turn the IGN switch to ON.
3. Using a voltmeter, check the voltage of each terminal when switching from FREE to LOCK and back.

Unit Volt

	a	c	g	h	j	k	m	o	q
	RB	RG	BG	LO	B	LB	BR	BW	BY
FREE to LOCK			0	6→0	0	12	0	12→0	0→12
LOCK to FREE			0→12	0	0	12	12→0	0	0

Installation

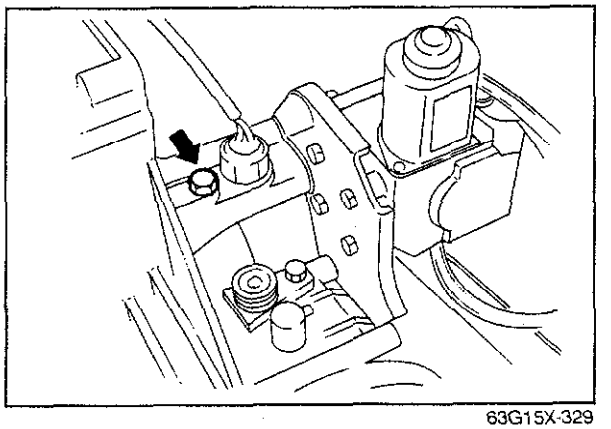
Install in the reverse order of removal.


63G15X-328

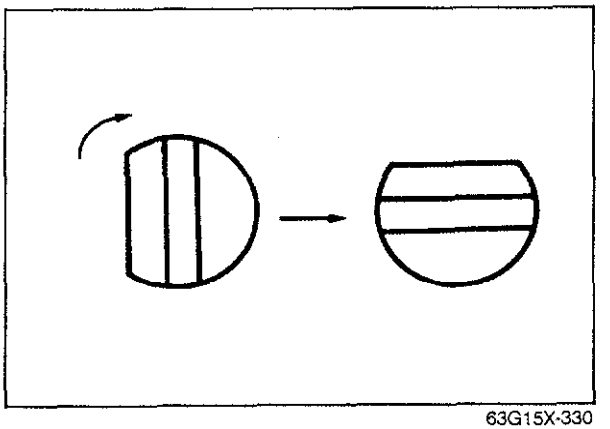
CENTER DIFFERENTIAL LOCK MOTOR

Removal

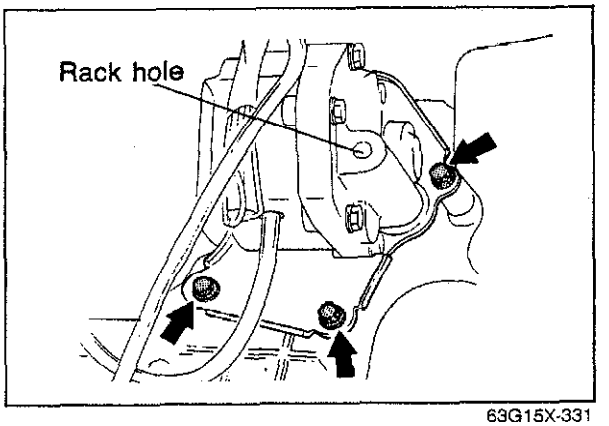
1. Disconnect the negative battery cable.
2. Disconnect the lock motor connector and bleezer hose.


63G15X-329

3. Remove the lock bolt of the rack.
4. Remove the pad of the motor side.

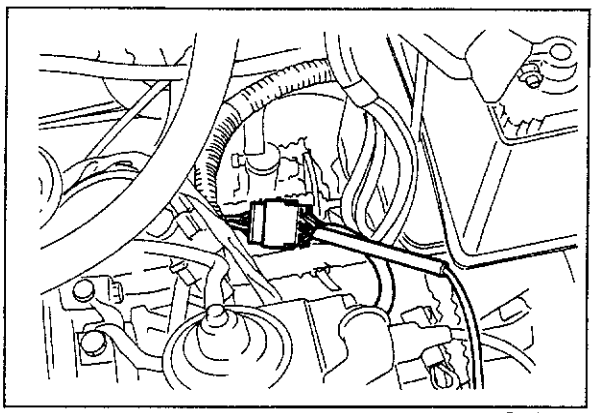

63G15X-330

5. Turn rack to the right using standard screw driver.



63G15X-331

6. Remove the lock bolts and then remove the lock motor.
7. Remove the O ring from the lock motor.



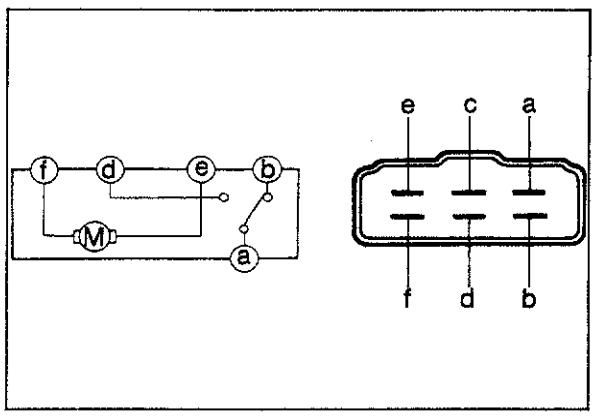
63G15X-331

System check the motor

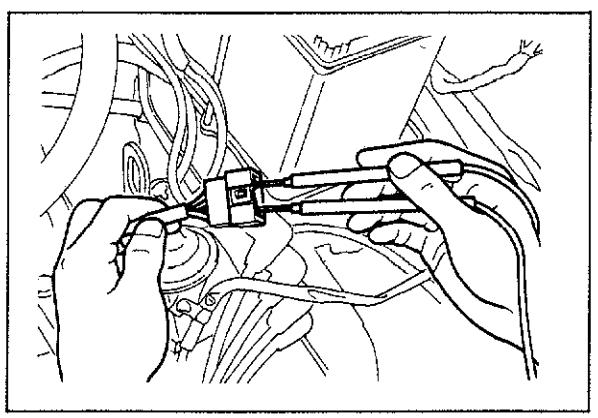
1. Using a voltmeter, check the voltage of each terminal at the motor connector side when switching from FREE to LOCK and back.

Unit: Volt

	a	b	d	e	f
	G	O	B	W	L
FREE to LOCK	0	0→12	0	12→0	0
LOCK to FREE	0	0	0→12	0	12→0



63G15X-333



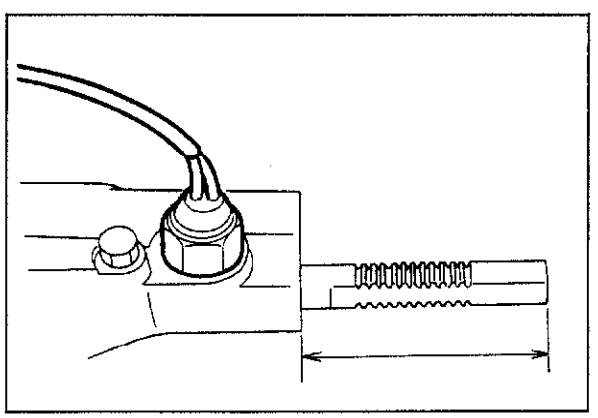
63G15X-334

Checking the motor

1. Disconnect the negative battery cable.
2. Disconnect the connector of the center differential lock motor.
3. Using an ohmmeter, check the resistance between the terminals at the motor connector side in FREE and LOCK position.

Unit: Ω (ohm)

Motor	a—b	a—b	e—f
FREE	(∞)	0	Approx. 1
LOCK	0	(∞)	



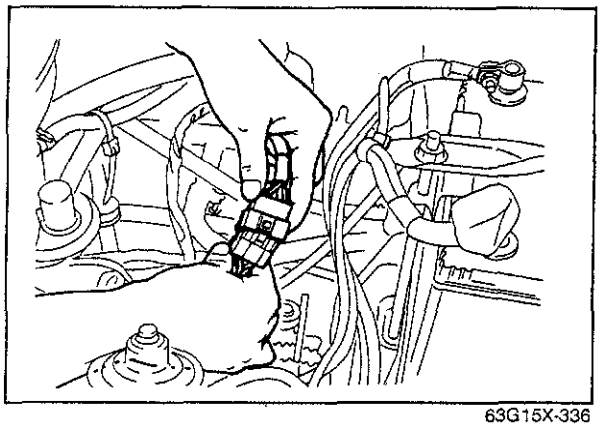
63G15X-335

Installation

1. Measure the rack length in FREE and LOCK position.

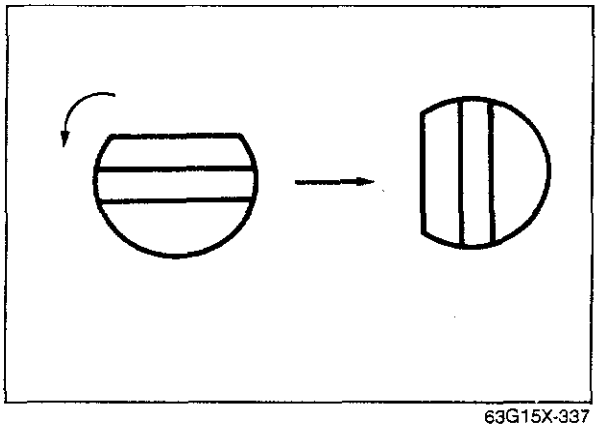
Standard length
72 mm (2.83 in) in FREE
78 mm (3.07 in) in LOCK

Note
In case of LOCK position, change in FREE position depressing the rack.

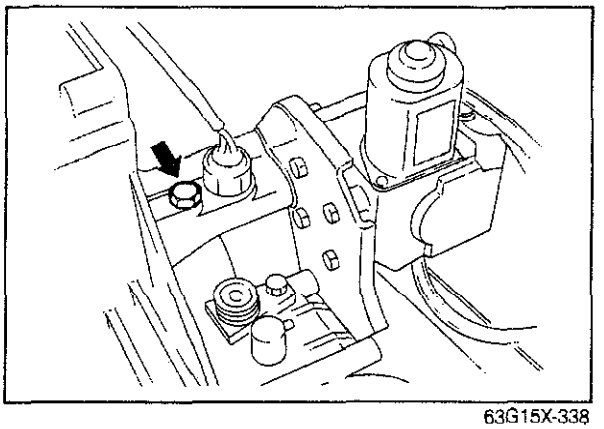

63G15X-336

2. Connect the lock motor connector to the body harness and change in FREE position switching the control switch.

Note
Confirm that the motor rotates when switching the control switch.

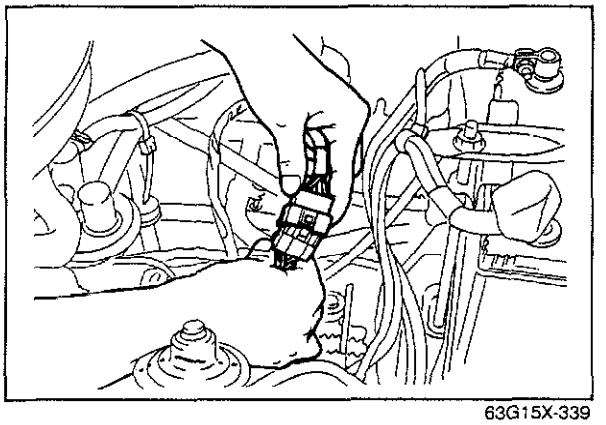

63G15X-337

3. Confirm that the flat edge of the rack locates on the top face.
4. Install the lock motor after applying genuine gear oil to the O ring.
5. Tighten the lock bolts.

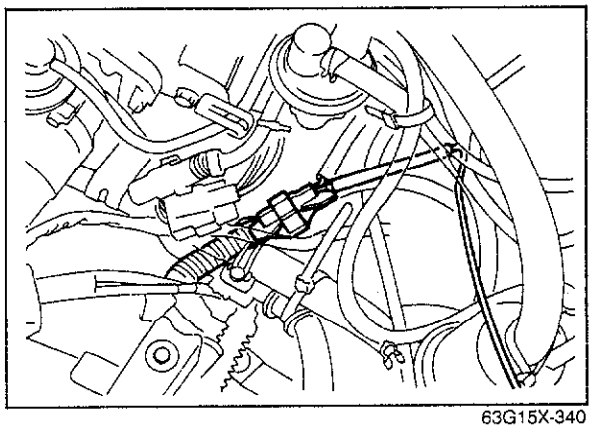

63G15X-338

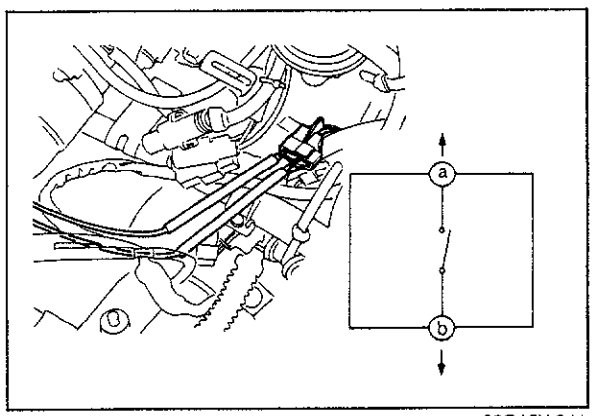
6. Turn rack to the left using standard screw driver.
7. Install the pad to the motor side.
8. Install the lock bolt.

Note
When the lock bolt can not be installed, adjust the rack position with rotation.

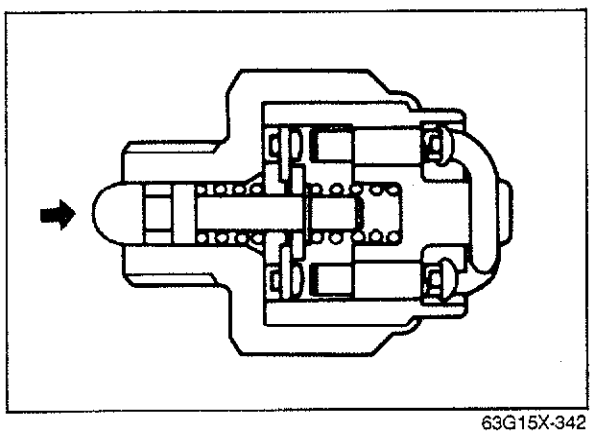

63G15X-339

9. Connect the lock motor connector and bleeder hose.
10. Connect the negative battery cable.


63G15X-340



63G15X-341


63G15X-342

CENTER DIFFERENTIAL LOCK SENSOR SWITCH

System check the sensor switch

Using a voltmeter, check the voltage of each terminal at the switch connector side in FREE and LOCK position.

Unit: Volt

	a	b
	LO	B
FREE	0	0
LOCK	*6 → 0	0

* When switching, there is a case that transaxle does not change from FREE to LOCK at once.

Checking the sensor switch

1. Disconnect the negative battery cable.
2. Disconnect the connector of the switch.
3. Using an ohmmeter, check continuity between (a) and (b) terminals at the FREE and LOCK position.

	a	b
	LO	B
FREE		
LOCK	○——○	

○——○ Indicates continuity

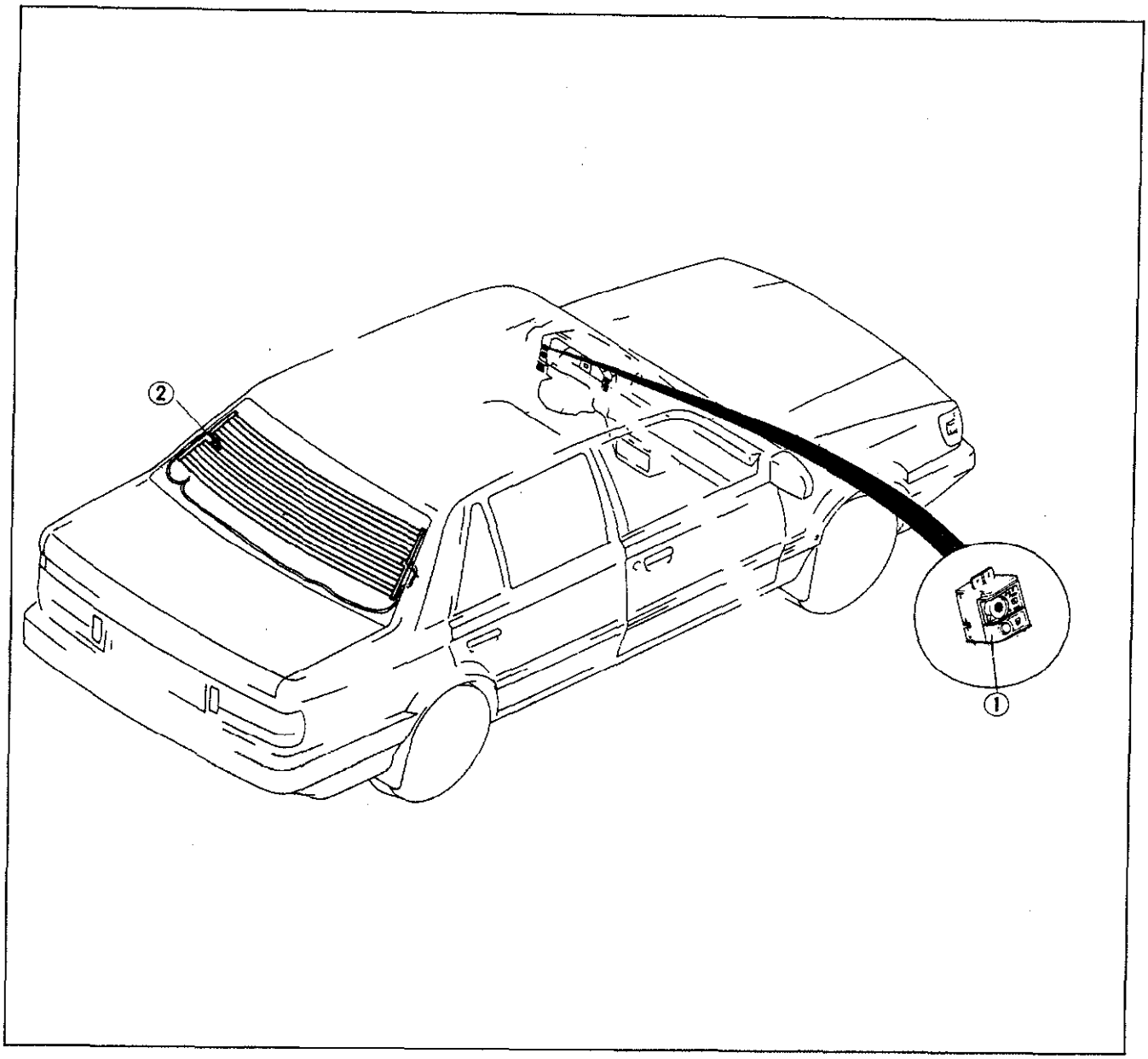
4. Disconnect the connector of the sensor switch.
5. Remove the sensor switch.
6. Using an ohmmeter, check continuity between (a) and (b) terminals when the rod is the extended or depressed position.

	a	b
Rod	LO	B
Extended		
Depressed	○——○	

○——○ Indicates continuity

REAR WINDOW DEFROSTER

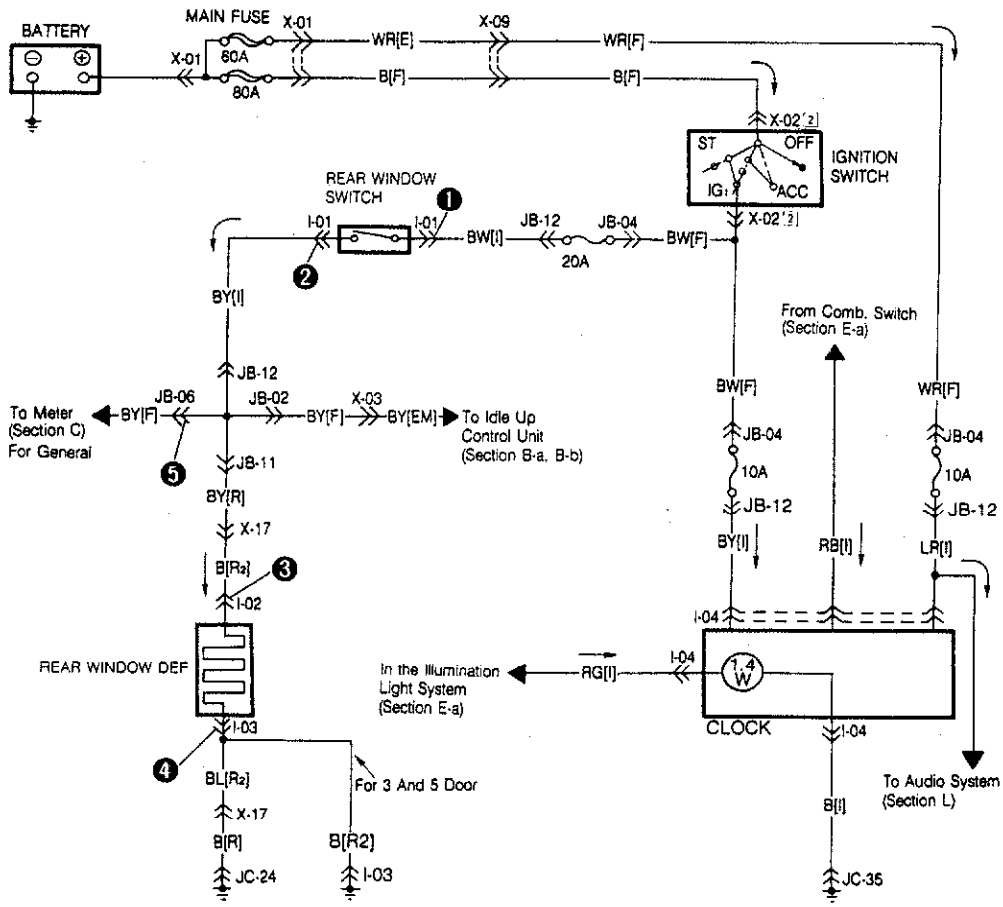
STRUCTURAL VIEW

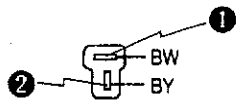
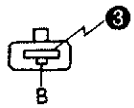
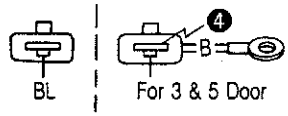
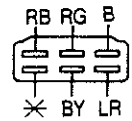
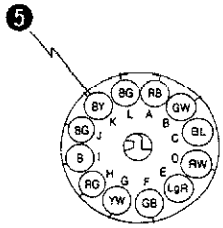


63U15X-167

1. Rear window defroster switch
2. Rear window defroster

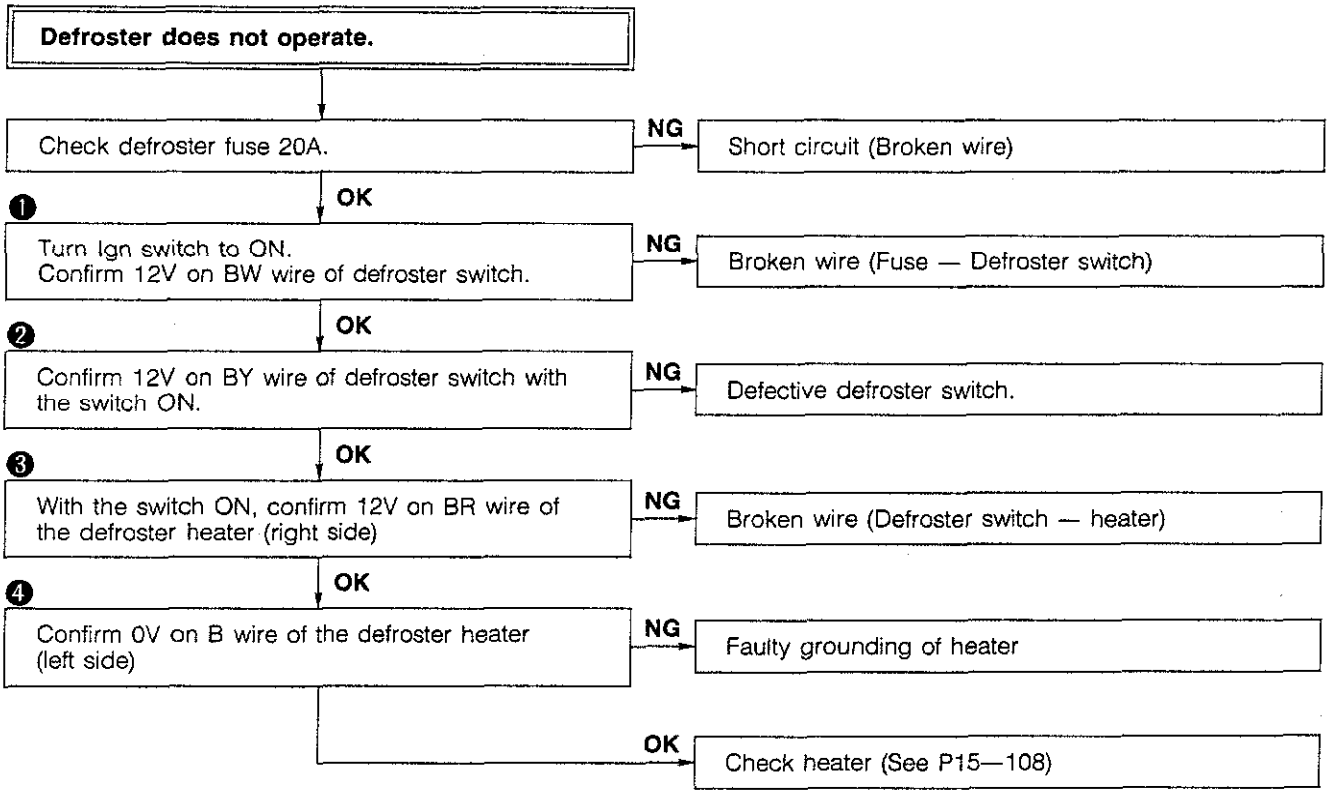
CIRCUIT DIAGRAM



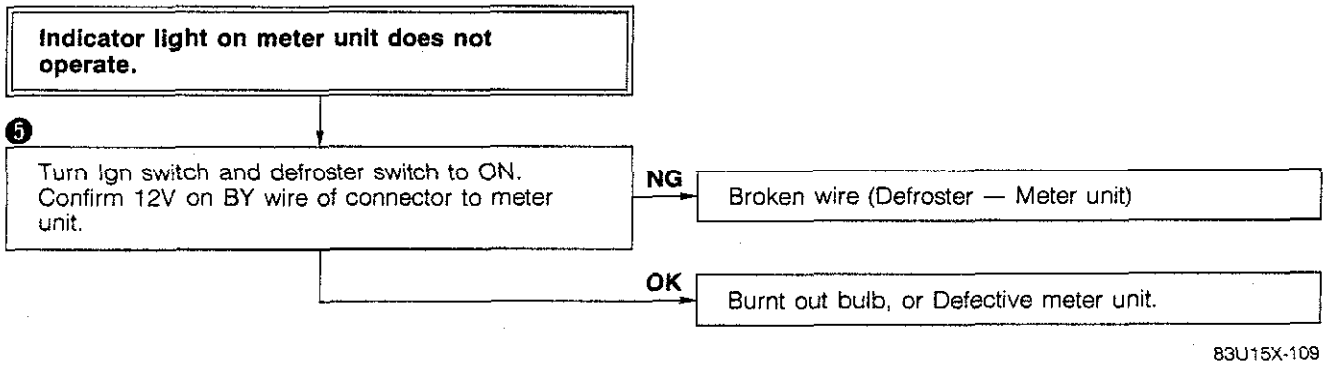
I-01 Rear Window Defroster Sw [I]	I-02 Rear Window Defroster [R2]	I-03 Rear Window Defroster [R2]	I-04 Clock [I] (E-06)
			
X-24 Meter [F]			
			

83U15X-107

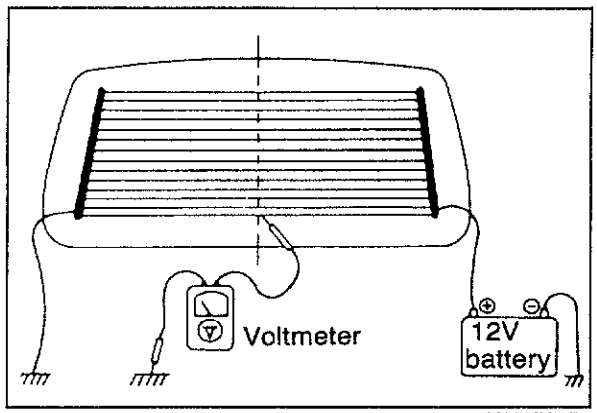
TROUBLESHOOTING



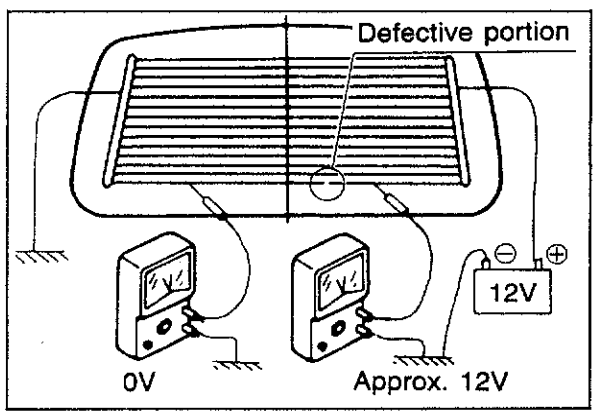
83U15X-108

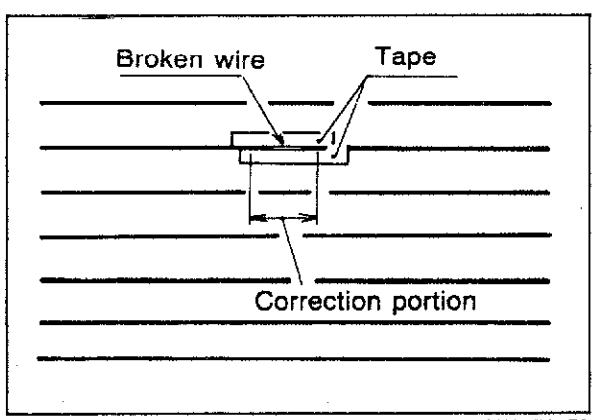


83U15X-109



63U15X-171





63U15X-172

INSPECTION

1. Turn the rear-window defroster switch ON.
2. Connect the + terminal of the voltmeter to the center of each filament and the — terminal to the body. The standard voltage at the center of each filament is approximately 6V. If the meter indication is high, there is a short circuit between the center and the grounded side of the filament.
   If the indication is low or zero, the malfunction is between the center and positive side.

Repairing the Filament

1. Use paint thinner or ethyl alcohol to clean the damaged part of the filament.
2. Attach tape to both sides of the damaged part of the filament.
3. Using a small brush or marking pen, coat the damaged part with silver paint (part no. 2835 77 600) or equivalent.
4. Let paint set for 24 hours at 20°C (68°F) to let it dry completely. (If a blow dryer is used to heat it to 60°C (140°F), it can be dried in about 30 minutes.)

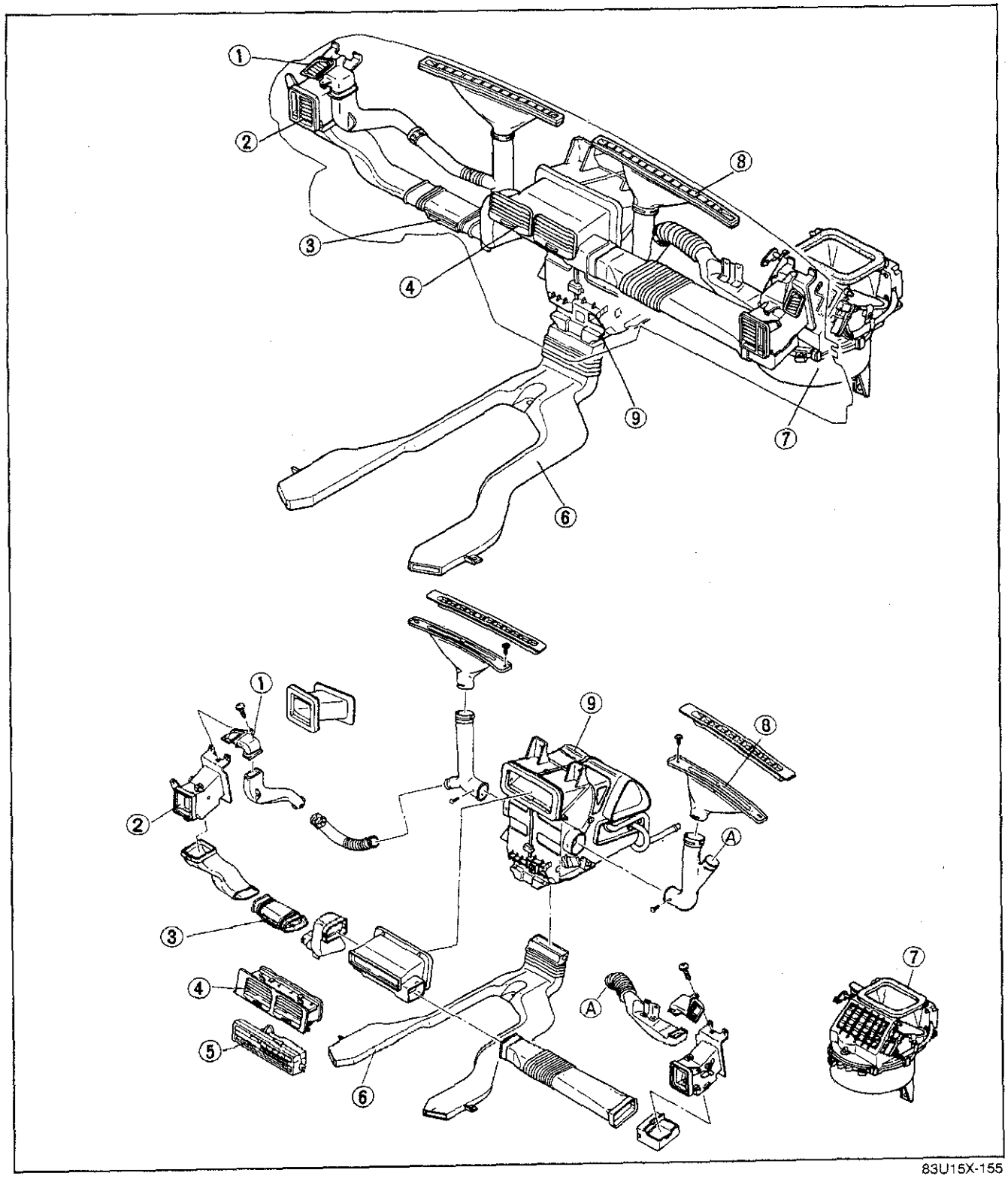
Note

a) Do not use the rear-window defroster until the paint is dry.

b) Do not use gasoline or similar solvents to clean the damaged part.

HEATER

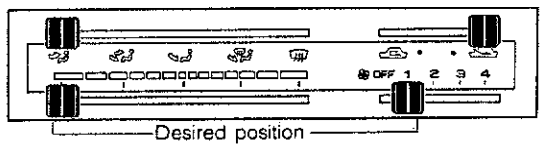
STRUCTURAL VIEW

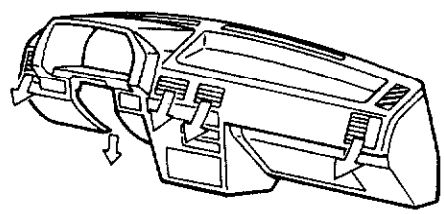


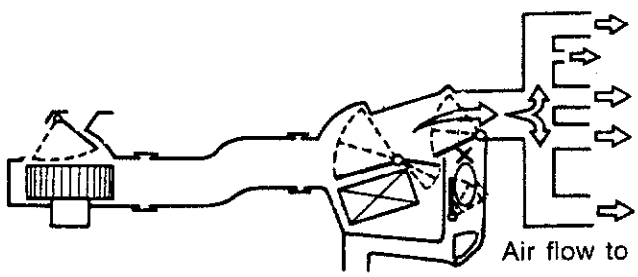
83U15X-155

1. Side defroster outlet
2. Side louver air outlet
3. Lower louver
4. Center louver air outlet
5. Heater control switch
6. Rear heater duct
7. Blower unit
8. Front defroster air outlet
9. Heater unit

VENT

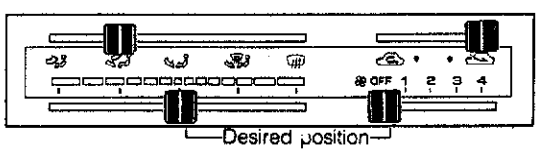


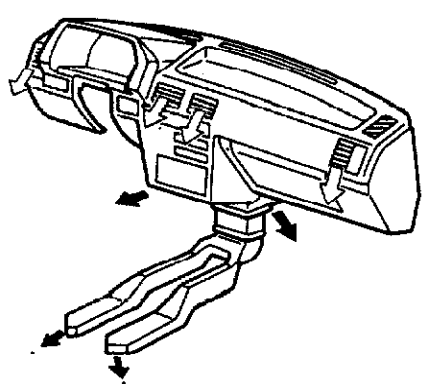


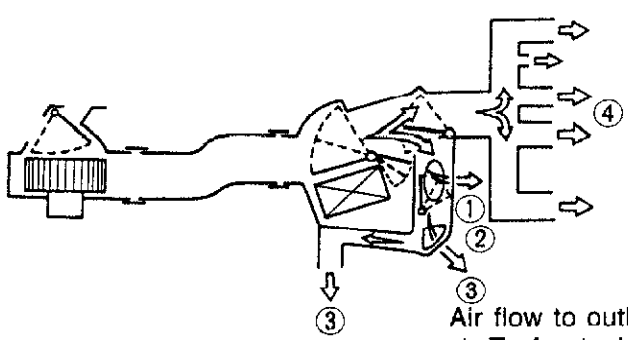


Air flow to outlets:
4. to face

BI-LEVEL



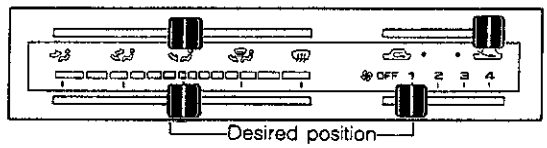


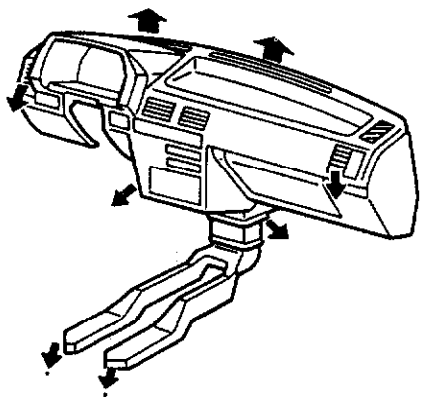


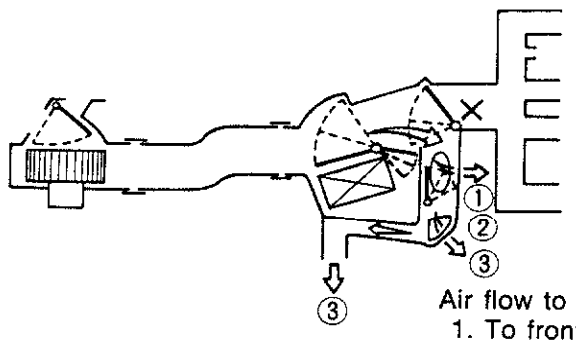
Air flow to outlets:
1. To front window
2. To side window
3. To floor
4. To face

83U15X-117

HEAT

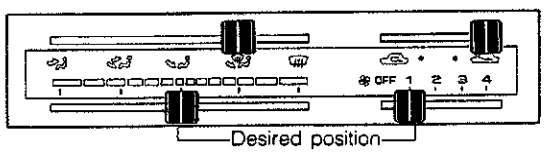


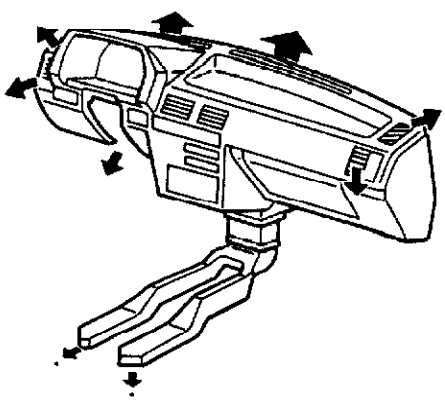


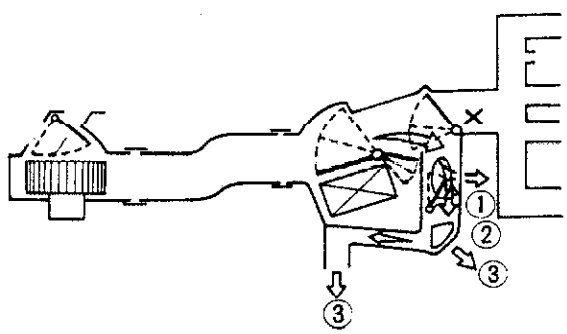


Air flow to outlets:
1. To front window
2. To side window
3. To floor

HEAT/DEF



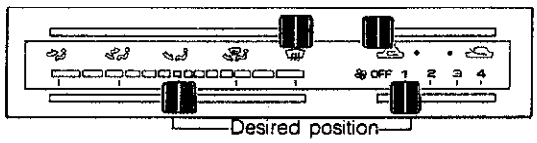


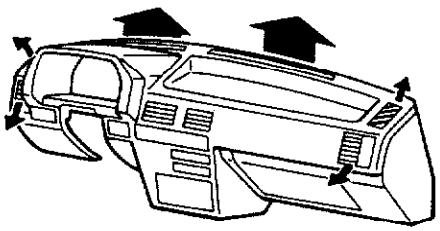


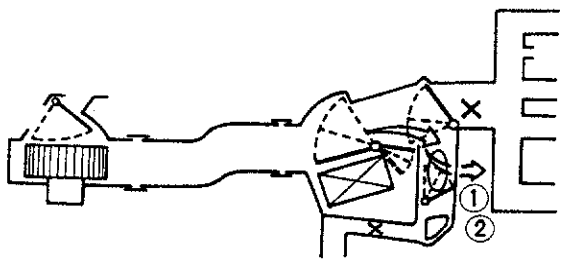
Air flow to outlets:
1. To front window
2. To side window
3. To floor

83U15X-118

DEF



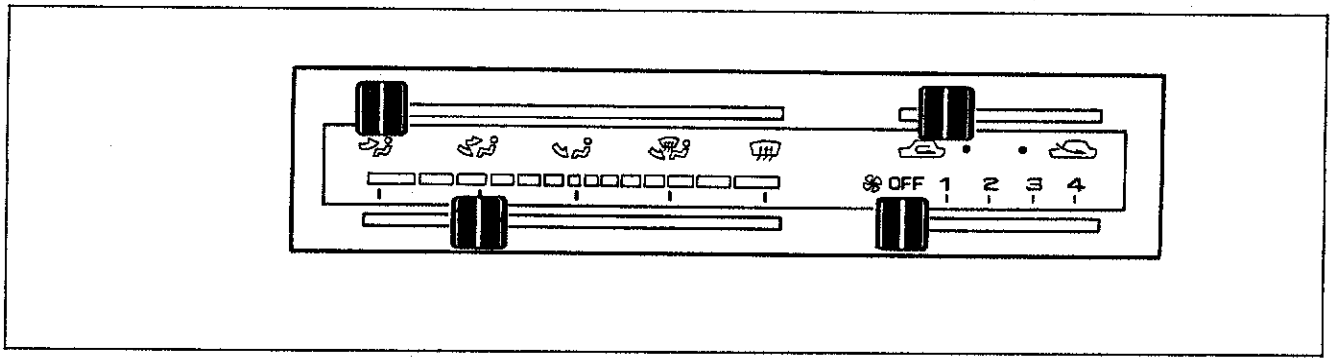




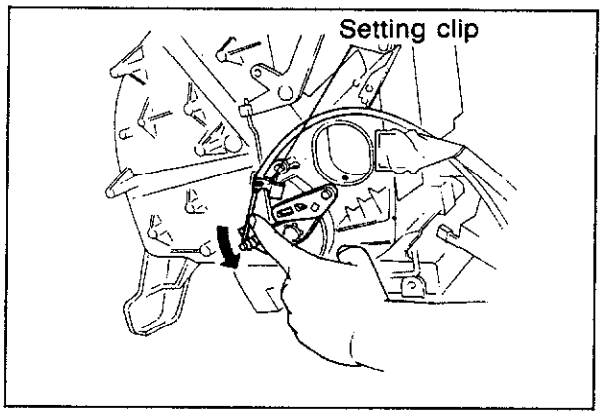
Air flow to outlets:
1. To front window
2. To side window

83U15X-119

HEATER CONTROL SWITCH



83U15X-120

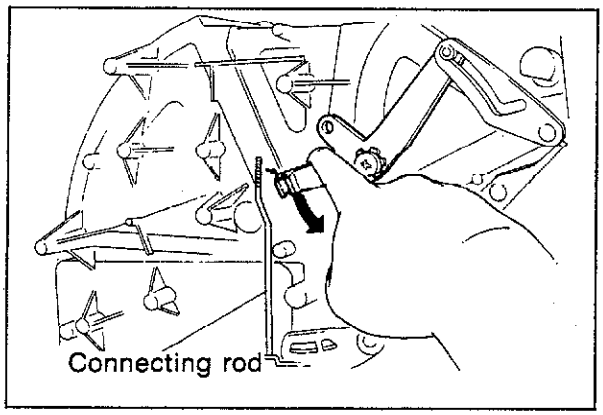


63U15X-206

ADJUSTMENTS

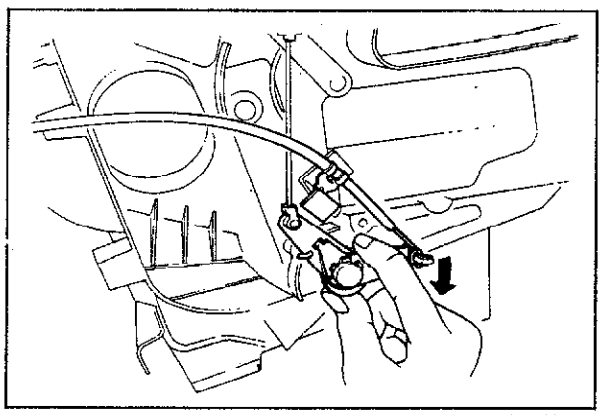
Mode Control Wire

1. Set mode control knob to DEF position.
2. Pull wire lever downward to its extreme stop, then install loop of wire onto lever.



63U15X-207

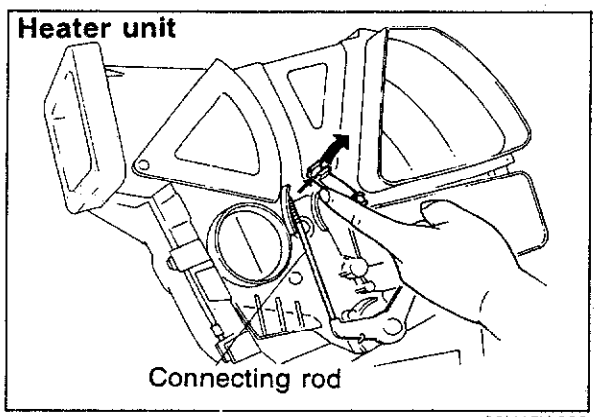
3. Pull connecting rod downward to its extreme stop, then install connecting rod to fastener.
4. Use clip to clamp rod in position.
5. Set fan speed at "4" to insure proper air circulation.



63U15X-208

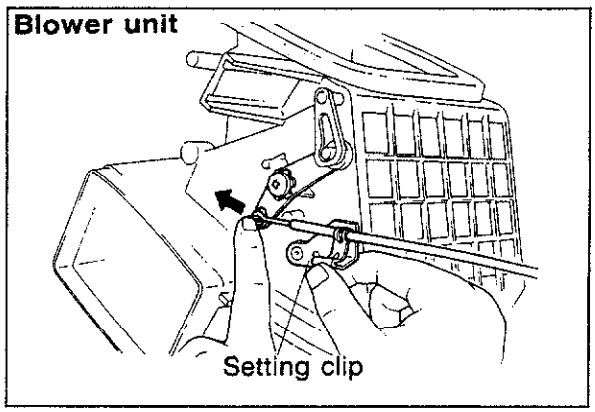
Air-Mix Door Control Wire

1. Set TEMP lever at MAX-COLD position.
2. Pull wire lever downward to its extreme stop, then fix Air-Mix wire loop onto lever.



63U15X-209

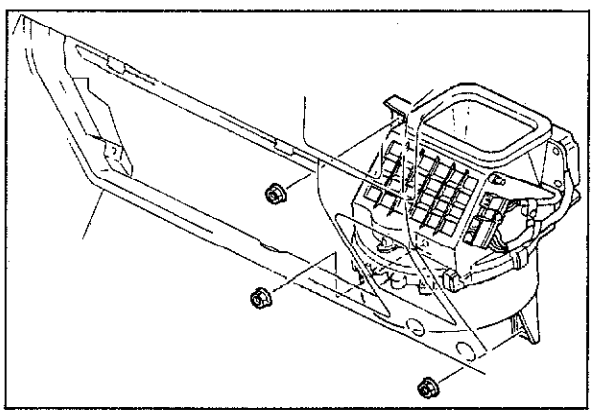
3. Pull connecting rod lever upward to its extreme stop, then install connecting rod to fastener.
4. Use clip to secure rod.
5. Assure proper operation of temperature control.



63U15X-210

REC-FRESH Air Selector Wire

1. Set selector lever at fresh air intake position.
2. Push lever forward to its extreme stop, then fix wire loop to lever.
3. Assure proper operation of REC-FRESH Air Selector Control.

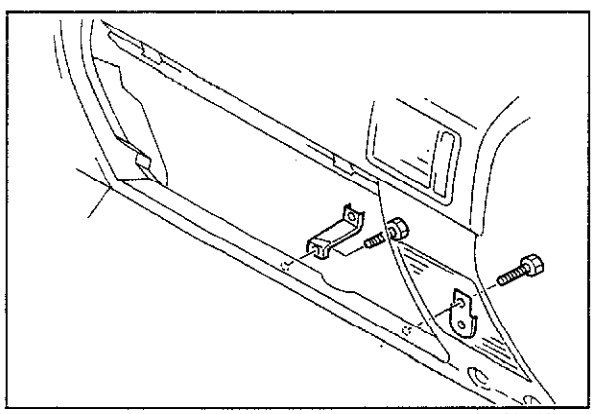


83U15X-113

BLOWER UNIT REMOVAL

Blower unit can be removed as per following procedures without removal of the instrument panel.

1. Remove under cover of instrument panel located in passenger side.
2. Remove glove box.
3. Remove stay of steel plate (black) provided in upper part of glove box.
4. Remove duct in between blower unit and heater unit.

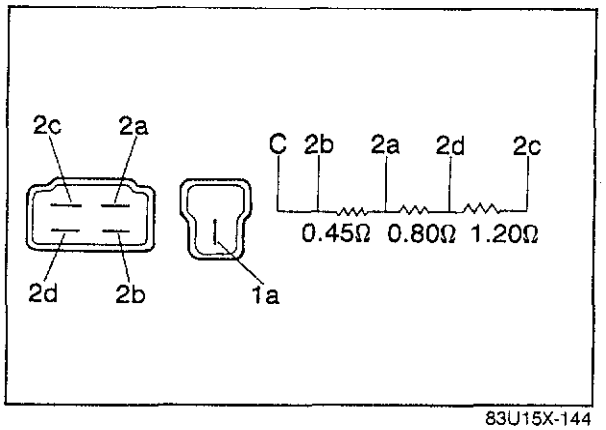


83U15X-114

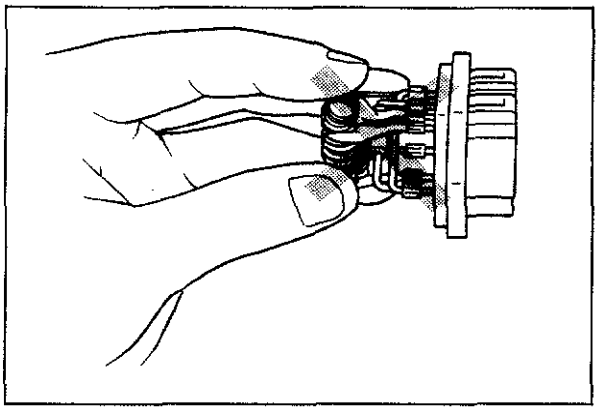
5. Unfasten 3 mounting nuts of blower unit.
6. Remove FRESH-REC air selector wire and harness connector.
7. Remove blower unit.

Caution

* **For vehicle models with Air-conditioner, remove instrument panel bracket for ease of blower unit removal.**



83U15X-144



BLOWER CONTROL RESISTOR

(1) Remove resistor provided underneath the blower unit.

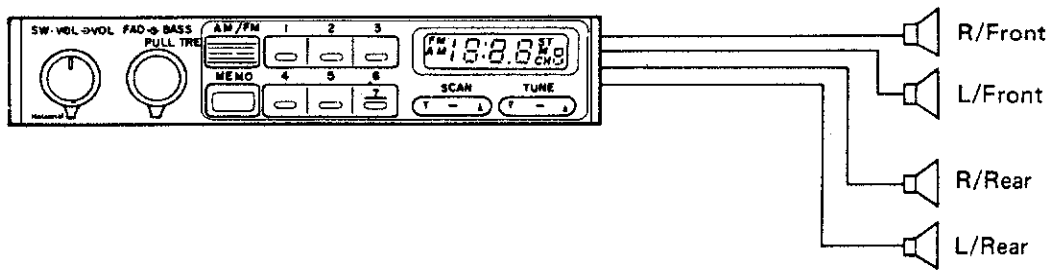
Note
Resistance level, max. about 4 Ω of synthetic resistance degree is normal.
If fuse is blown, replace resistor.
Do not touch resistor surface as it may cause faulty fan speed control.

AUDIO SYSTEM

OUTLINE OF AUDIO SYSTEM

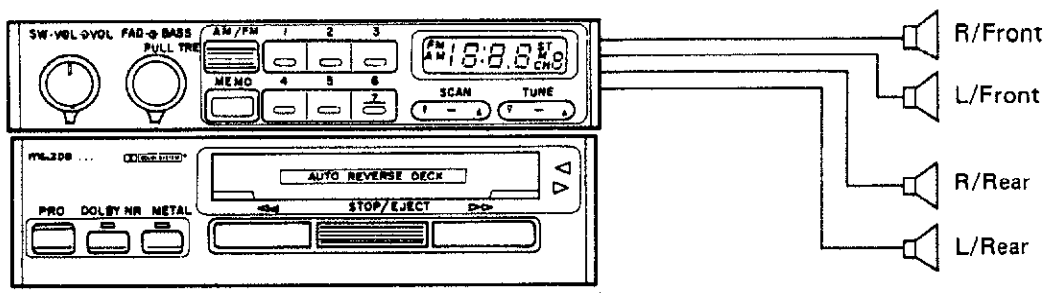
SYSTEM 1

AM/FM MPX ELECTRONIC TUNING RADIO



SYSTEM 2

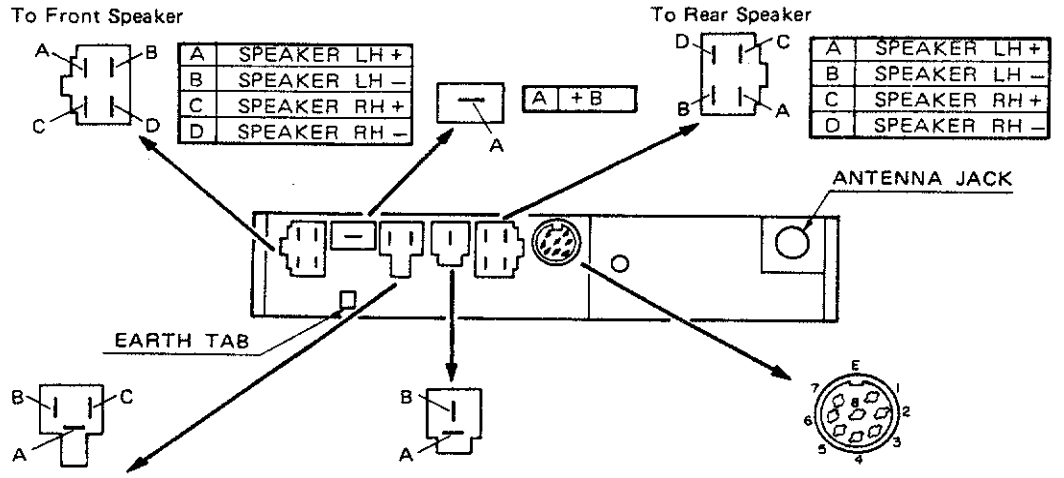
AM/FM MPX ELECTRONIC TUNING RADIO
AUTO REVERSE CASSETTE DECK



63U15X-182

REAR VIEW AND CONNECTORS

AM/FM MPX ELECTRONIC TUNING RADIO



A	SPEAKER LH +
B	SPEAKER LH –
C	SPEAKER RH +
D	SPEAKER RH –

A	+ B

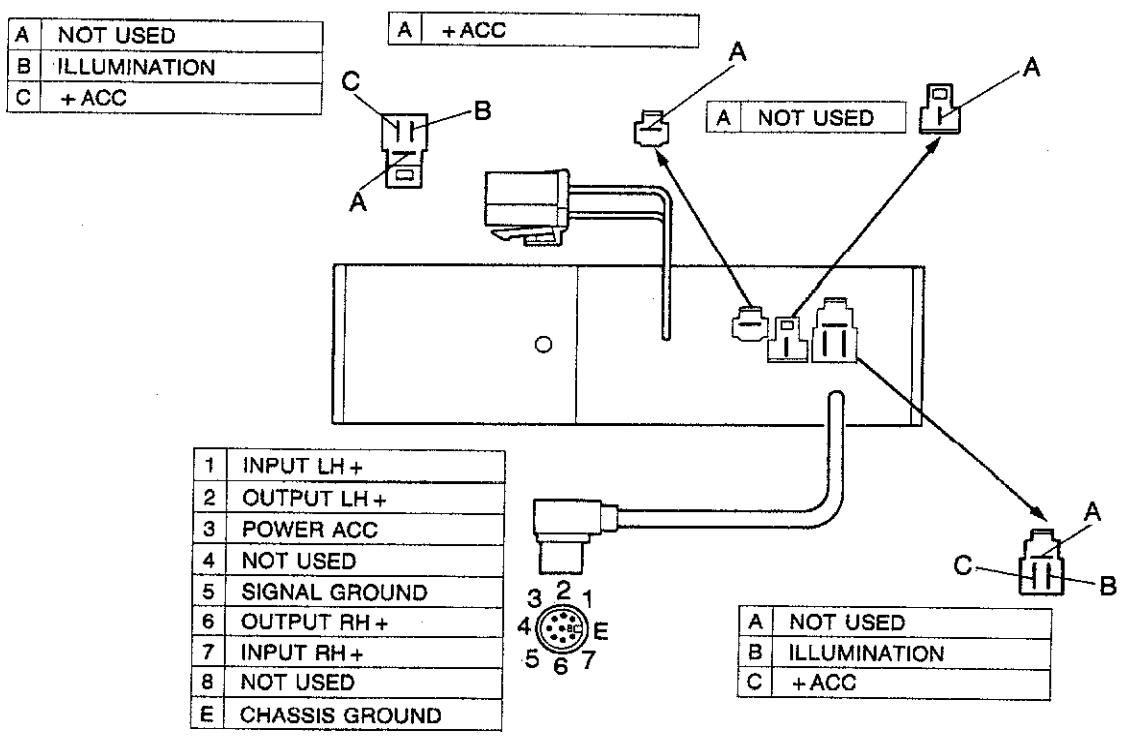
A	SPEAKER LH +
B	SPEAKER LH –
C	SPEAKER RH +
D	SPEAKER RH –

A	VACANT (ANTENNA SW)
B	ILLUMINATION
C	+ ACC

A	CONTROL SIGNAL + 13.2V
B	NOT USED

1	OUTPUT LH +
2	INPUT LH +
3	POWER ACC
4	NOT USED
5	SIGNAL GROUND
6	INPUT RH +
7	OUTPUT RH +
8	NOT USED
E	CHASSIS GROUND

AUTO REVERSE CASSETTE DECK



A	NOT USED
B	ILLUMINATION
C	+ ACC

A	+ ACC

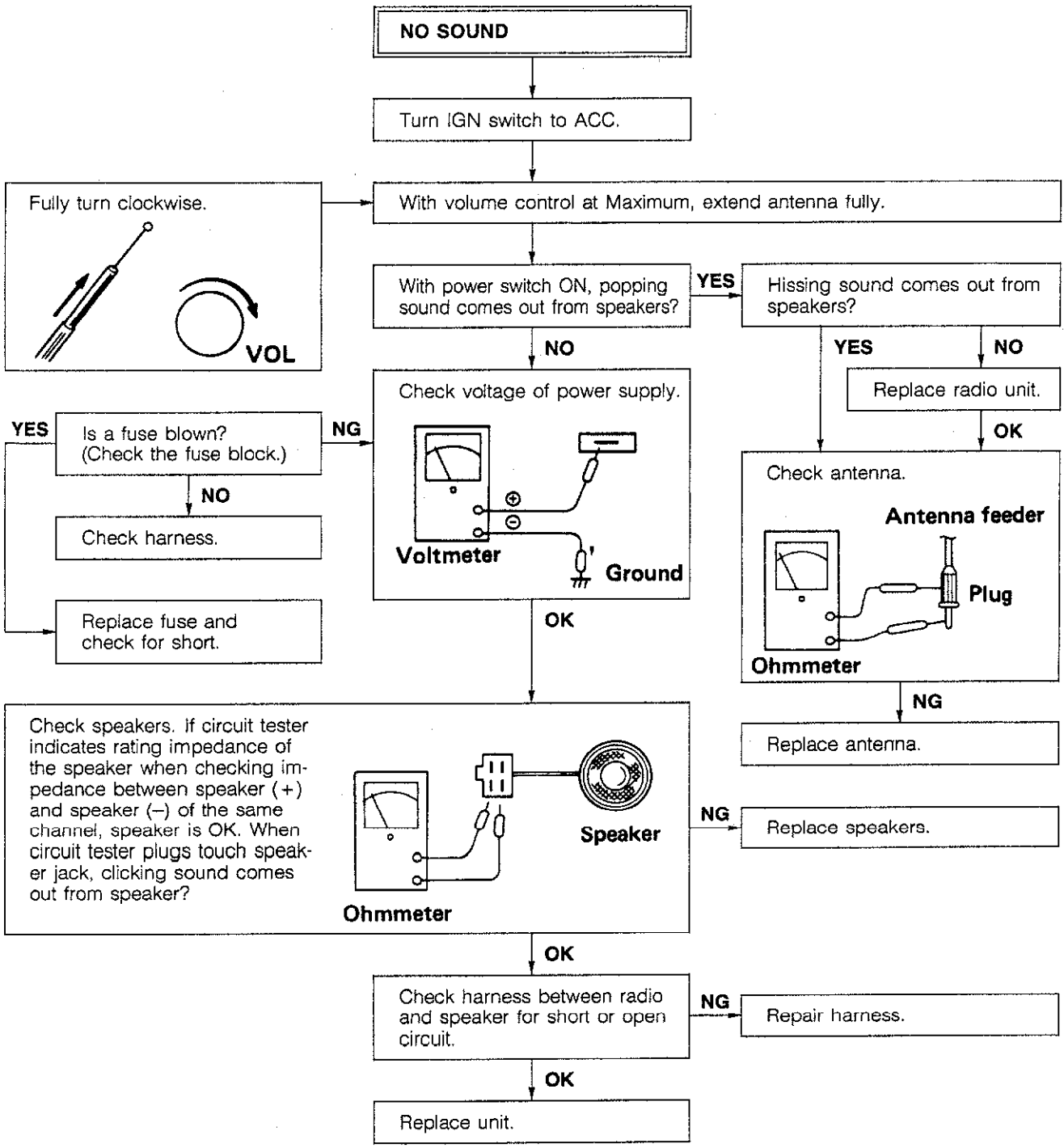
A	NOT USED

1	INPUT LH +
2	OUTPUT LH +
3	POWER ACC
4	NOT USED
5	SIGNAL GROUND
6	OUTPUT RH +
7	INPUT RH +
8	NOT USED
E	CHASSIS GROUND

A	NOT USED
B	ILLUMINATION
C	+ ACC

83U15X-146

TROUBLESHOOTING
RADIO

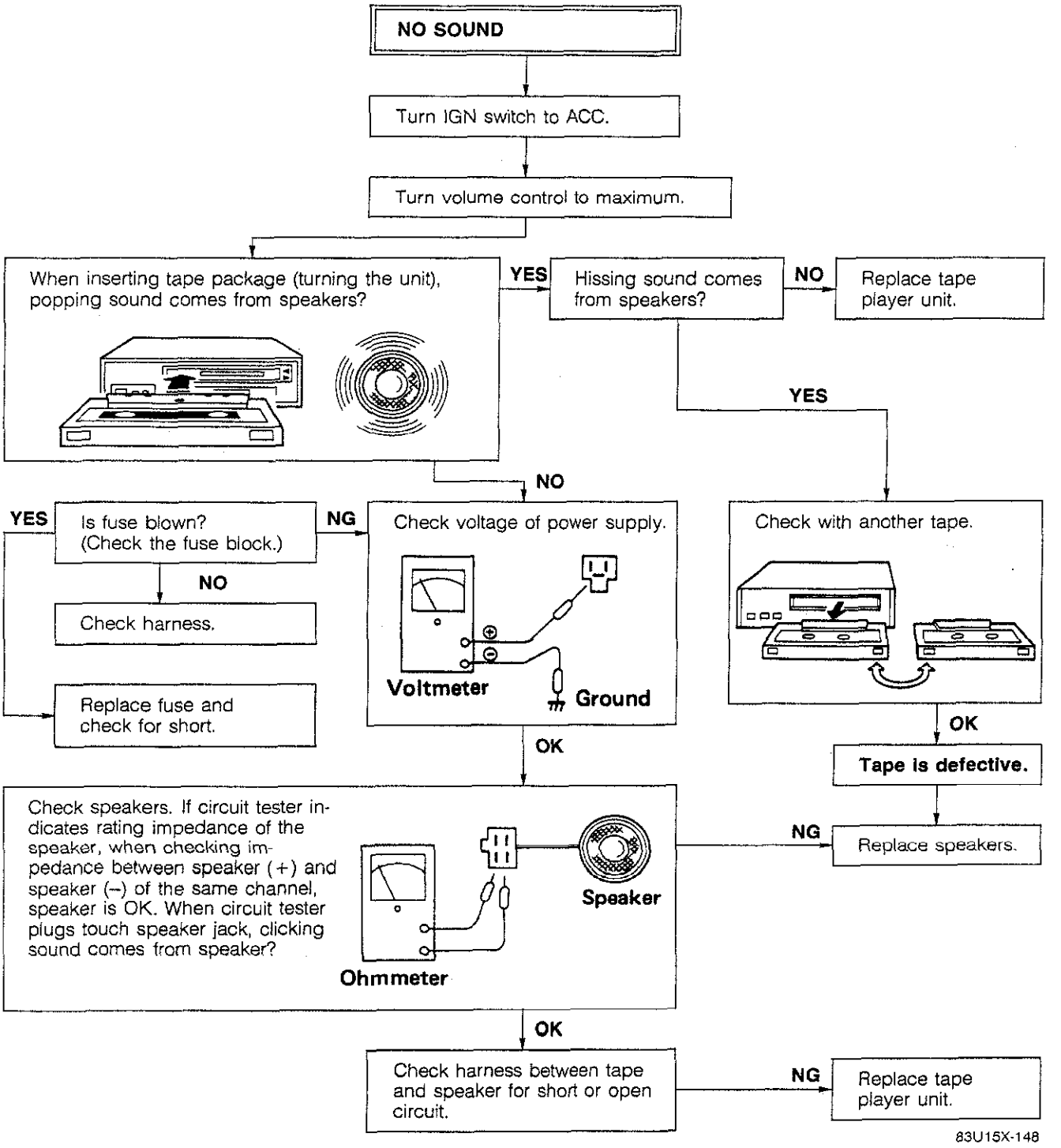


Caution

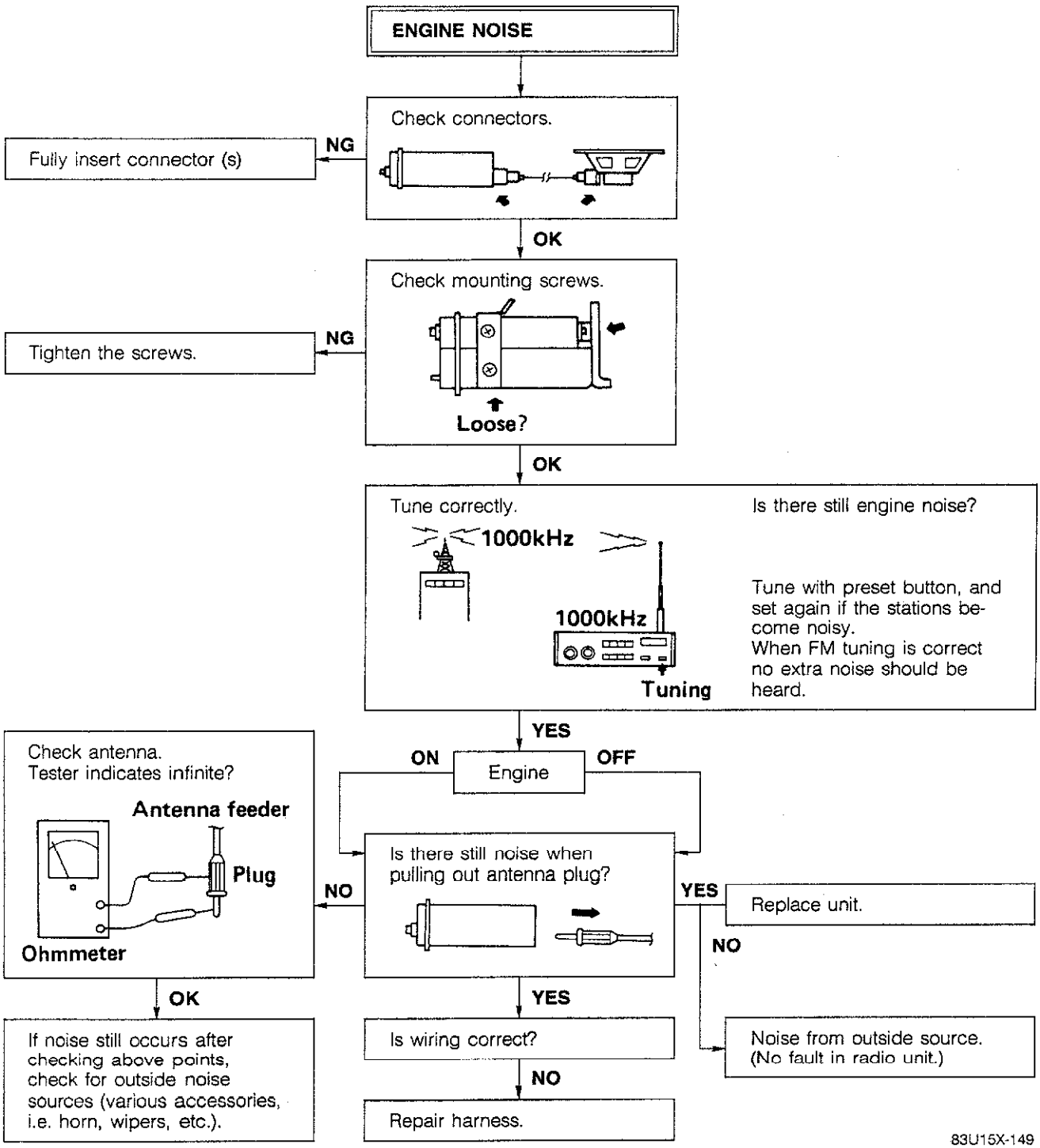
a) When no sound comes out from any of the front, rear, right, left speakers, or volume level is too low, or sound is distorted, set fader and balance control of tuner at center position.

83U15X-147

TAPE


NO SOUND
Turn IGN switch to ACC.
Turn volume control to maximum.
When inserting tape package (turning the unit), popping sound comes from speakers?
YES
Hissing sound comes from speakers?
NO
Replace tape player unit.
YES
NO
YES
Is fuse blown? (Check the fuse block.)
NG
NO
Check harness.
Replace fuse and check for short.
Check voltage of power supply.
Voltmeter
Ground
OK
Check with another tape.
OK
Tape is defective.
Check speakers. If circuit tester indicates rating impedance of the speaker, when checking impedance between speaker (+) and speaker (–) of the same channel, speaker is OK. When circuit tester plugs touch speaker jack, clicking sound comes from speaker?
Ohmmeter
Speaker
NG
Replace speakers.
OK
Check harness between tape and speaker for short or open circuit.
NG
Replace tape player unit.
83U15X-148

RADIO

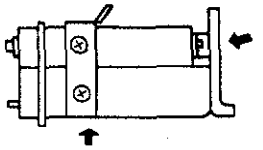

ENGINE NOISE
Check connectors.
NG
Fully insert connector (s)
OK
Check mounting screws.
NG
Tighten the screws.
Loose?
OK
Tune correctly.
1000kHz
1000kHz
Tuning
Is there still engine noise?
Tune with preset button, and set again if the stations become noisy.
When FM tuning is correct no extra noise should be heard.
YES
ON
Engine
OFF
Check antenna.
Tester indicates infinite?
Antenna feeder
Plug
Ohmmeter
NO
Is there still noise when pulling out antenna plug?
YES
Replace unit.
NO
OK
YES
Is wiring correct?
NO
Repair harness.
If noise still occurs after checking above points, check for outside noise sources (various accessories, i.e. horn, wipers, etc.).
Noise from outside source. (No fault in radio unit.)
83U15X-149

TAPE

ENGINE NOISE

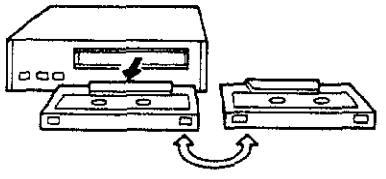
Check grounding.
- NG → Ground completely.
- OK ↓

Check mounting screws.



Loose?
- NG → Tighten the screws.
- OK ↓

Check with another tape.



- OK → Tape is defective.
- NG ↓

Is wiring correct?
- OK → Replace tape player unit.
- NG ↓

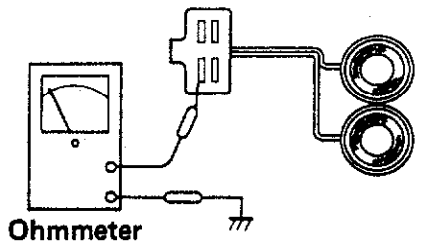
Repair harness.

63U15X-187

RADIO

POOR TONE QUALITY

Check for shorts in speaker harness.



If circuit tester indicates infinite ohm when checking valve of resistance between each speaker jack and car body, speaker harness is OK.

NG → Repair harness.

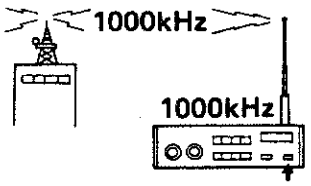
OK

Check for objects lying on speaker and rattling.

NG → Repair speakers.

OK

Tune correct. Is tone quality still poor?



Tune with preset button, and set again if the stations become noisy.

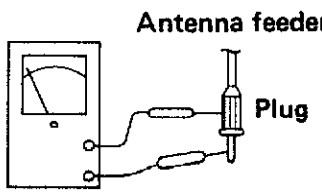
When FM tuning is correct, no extra noise should be heard.

YES

Extend antenna.
Is tone quality still poor?

YES

Check antenna and lead-in for broken connectors.
Tester indicates infinite?



AM:
With engine off, touch antenna, while receiving a station in mid-range whose signal is not weak or strong. (Other parts of body must not touch the car.)
Volume increases — Antenna is defective.
Volume decreases — Antenna OK.

NG → Replace antenna.

OK → Is propagation cause of poor tone quality?

NO → Replace radio unit.

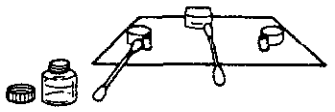
83U15X-150

TAPE

POOR TONE QUALITY

Check head, capstan and pinchroller for oxide and dirt buildup.

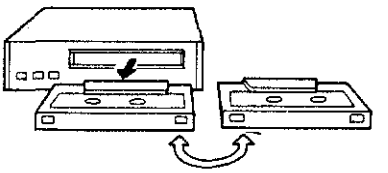
NG → Clean head, capstan and pinchroller.



Use Allsop Head cleaner or equivalent.

OK ↓

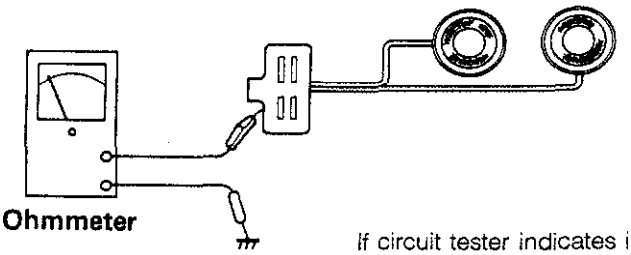
Check with another tape.



OK → Tape is defective. Change tapes.

NG ↓

Check for shorts in speaker harness.



Ohmmeter Ground

If circuit tester indicates infinite ohm when checking valve of resistance between each speaker jack and car body, speaker harness is OK.

NG → Repair harness.

OK ↓

Check damage to speakers or for objects lying on speaker and rattling etc.

NG → Repair speakers.

OK ↓

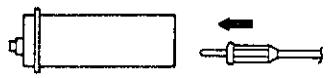
Replace tape player unit.

63U15X-189

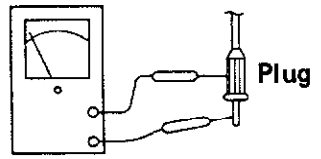
RADIO

ELECTRONIC SEARCH/SEEK TUNING DOES NOT STOP (IF EQUIPPED)

Check antenna plug is inserted completely into antenna receptacle.



Check antenna and lead-in for broken connectors.
Tester indicates infinite?



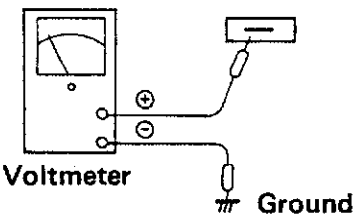
AM:
With engine off, touch antenna, while receiving a station in mid range whose signal is not weak or strong. (Other parts of body must not touch the car.)
Volume increases — Antenna is defective.
Volume decreases — Antenna OK.

NG → Replace antenna.

OK → Replace radio unit.

NO DISPLAY OF FREQUENCY/PRESET MEMORY IS CANCELED (IF EQUIPPED)

Check voltage between back-up lead and ground while tuning, when engine on and off.
If the voltage is higher than about 8 volt, back-up circuit is OK.



NG → Repair back-up circuit.

OK → Check connection between output connector of power source and radio.

OK → Replace radio unit.

Note
When battery is discharged or disconnected, or radio is disconnected from battery during repair etc., all memory is cancelled. Preset stations must be reset again.

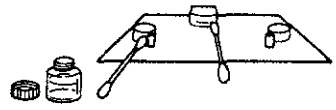
83U15X-151

TAPE

UNIT DAMAGING TAPE OR MARKING TAPE (OR "EATING" TAPE)

Check capstan and pinchroller for oxide and dirt buildup

NG → Clean head, capstan and pinchroller.

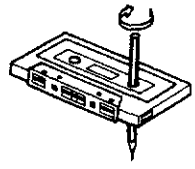


Use Allsop Head-cleaner or equivalent.

OK

Check for tape looseness in cassette.

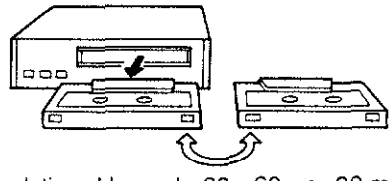
NG → Tighten tape using a pen or pencil.



OK

Check that C-120 or longer tape is not used.

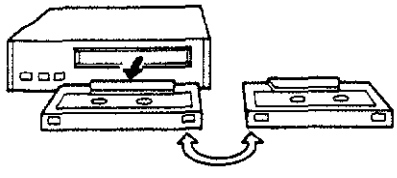
USED → Use 30-, 60- or 90-minute tapes.



Recommendation: Use only 30-, 60-, or 90-minute cassette tapes, (because 120-minute cassette tape is very thin and delicate.)

OK

Check with another tape.

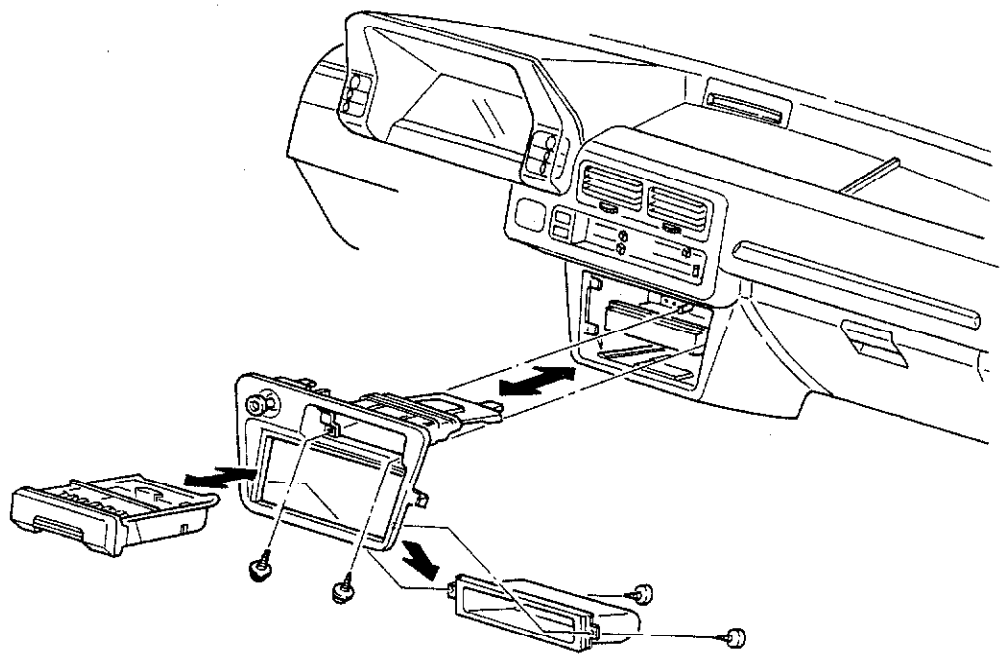


NG → Replace tape unit.

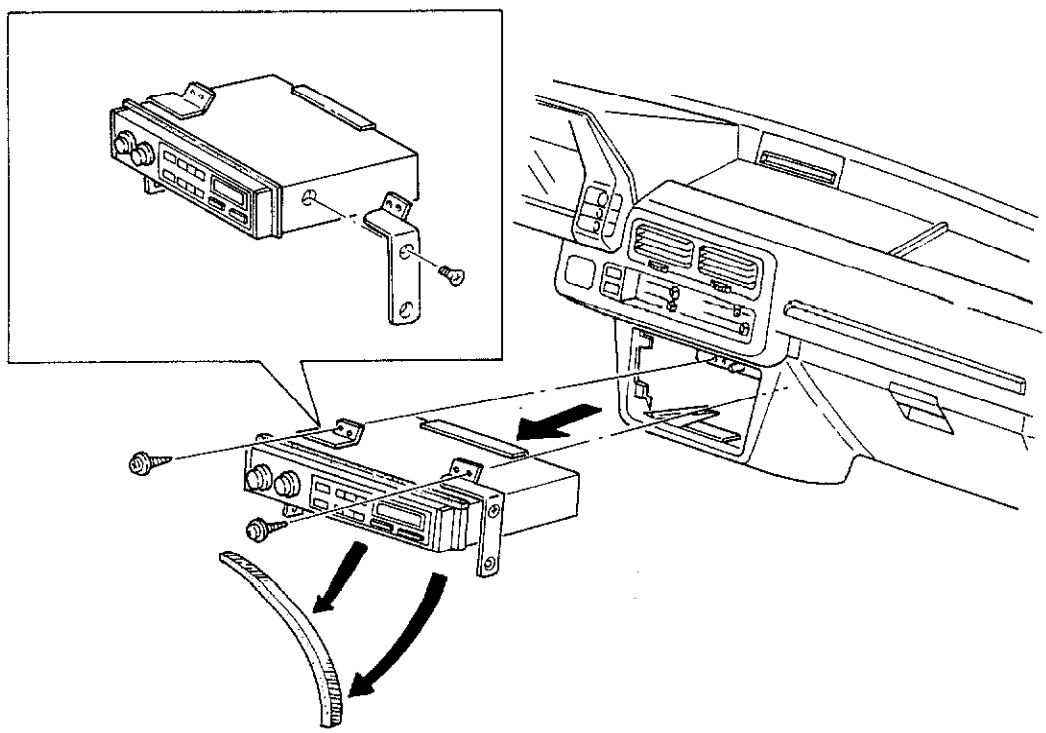
OK → Tape is defective. Change tapes.

63U15X-191

INSTALLATION
Radio



2.



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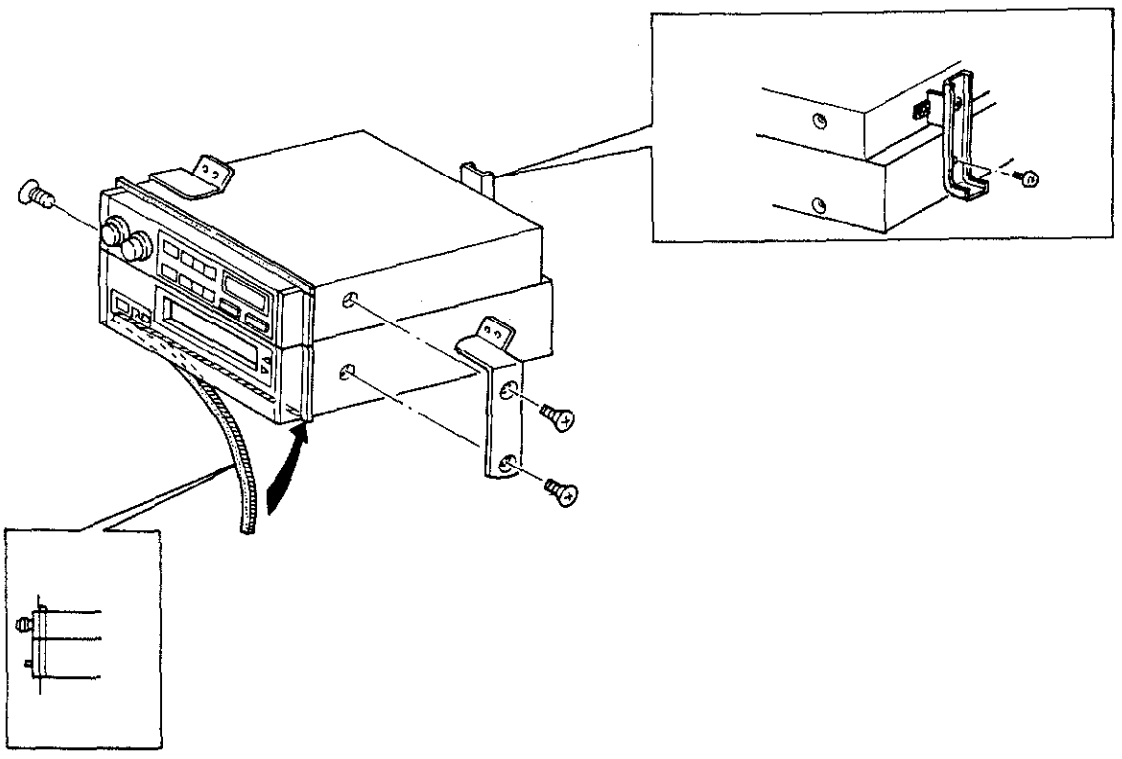
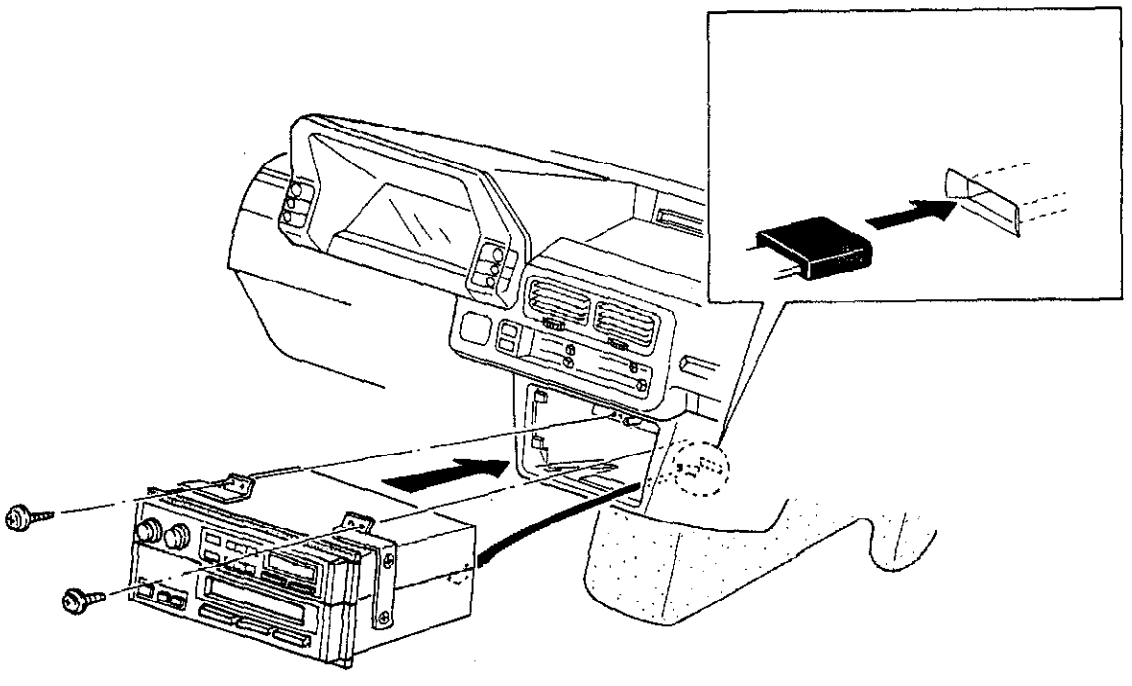
Radio and Cassette Deck

3.



4.



83U15X-153

TECHNICAL DATA

83U30X-001

0. MEASUREMENTS

Item \ Type		Sedan	Hatchback	
			2WD	4WD
Overall length	mm (in)	4,310 (169.7)	4,110 (161.8)	4,110 (161.8)
Overall width	mm (in)	1,645 (64.8)	1,645 (64.8)	1,645 (64.8)
Overall height	mm (in)	1,390 (54.7)	1,390 (54.7)	1,395 (54.9)
Wheel base	mm (in)	2,400 (94.5)	2,400 (94.5)	2,400 (94.5)
Front tread	mm (in)	1,390 (54.7)	1,390 (54.7)	1,400 (55.1)
Rear tread	mm (in)	1,415 (55.7)	1,415 (55.7)	1,425 (56.1)

1A. ENGINE (B6 EGI)

Item \ Engine model			B6 EGI
Type			Gasoline, 4-cycle
Number and arrangement of cylinders			4-cylinder, in-line
Type of combustion chamber			Multi-spherical
Valve system			OHC, belt-driven
Bore x Stroke		mm (in)	78 x 83.6 (3.07 x 3.29)
Total piston displacement		cc (cu-in)	1,597 (97.4)
Compression ratio			9.3
Compression pressure kPa (kg/cm², psi)-rpm	Standard		1,324 (13.5, 192)-300
	Minimum		932 (9.5, 135)-300
	Maximum difference between cylinders		196 (2.0, 28)
Valve timing	IN	Open BTDC	14°
		Close ABDC	50°
	EX	Open BBDC	52°
		Close ATDC	12°
Valve clearance mm (in) (Warm engine)	Valve side	IN	0. Maintenance free
		EX	0. Maintenance free
	Cam side	IN	0. Maintenance free
		EX	0. Maintenance free
Cylinder head			
Height		mm (in)	107.4—107.6 (4.228—4.236)
Distortion		mm (in)	0.15 (0.006) max.
Grinding		mm (in)	0.20 (0.008) max.
Valve and valve guide			
Valve head diameter		mm (in)	IN: 37.9—38.1 (1.492—1.500)
			EX: 31.9—32.1 (1.256—1.264)
Valve head thickness (margin)		mm (in)	IN: 1.0 (0.039)
			EX: 1.3 (0.051)
Valve face angle			IN: 45°
			EX: 45°
Valve length mm (in)	IN	Standard	103.77 (4.085)
		Minimum	103.3 (4.067)
	EX	Standard	102.67 (4.042)
		Minimum	102.2 (4.024)
Valve stem diameter mm (in)	IN	Standard	6.970—6.985 (0.274—0.275)
	EX	Standard	6.965—6.980 (0.274—0.275)
Guide inner diameter		mm (in)	7.01—7.03 (0.2760—0.2768)
Valve stem to guide clearance		mm (in)	IN: 0.025—0.060 (0.0010—0.0024)
			EX: 0.030—0.065 (0.0011—0.0026)
			Maximum: 0.20 (0.0079)
Valve seat			
Seat angle			IN: 45°
			EX: 45°

Item			Engine model: B6 EGI
Seat contact width mm (in)		IN	1.1—1.7 (0.0433—0.0669)
		EX	1.1—1.7 (0.0433—0.0669)
Seat sinking mm (in)	IN	Standard	39.0 (1.535)
		Maximum	40.5 (1.594)
	EX	Standard	39.0 (1.535)
		Maximum	40.5 (1.594)
Valve spring			
Free length of valve spring mm (in)		Standard	43.7 (1.720)
		Minimum	42.3 (1.665)
Out-of-square mm (in)		Maximum	1.5 (0.059)
Setting load/height N (kg, lb)/mm (in)			235 (24.0, 52.8)/35.5 (1.398)
Camshaft			
Cam height mm (in)	IN	Standard	36.376—36.526 (1.4321—1.4380)
		Wear limit	36.23 (1.426)
	EX	Standard	36.376—36.526 (1.4321—1.4380)
		Wear limit	36.23 (1.426)
Journal diameter mm (in)		Front	43.440—43.465 (1.710—1.711)
		Center	43.410—43.435 (1.709—1.710)
		Rear	43.440—43.465 (1.710—1.711)
		Out-of-round	0.05 (0.002) max.
Camshaft bearing oil clearance mm (in)		Front	0.035—0.085 (0.001—0.003)
		Center	0.065—0.115 (0.003—0.005)
		Rear	0.035—0.085 (0.001—0.003)
		Maximum	0.15 (0.0059)
Camshaft runout mm (in)			0.03 (0.0012) max.
Camshaft end play mm (in)		Standard	0.05—0.18 (0.002—0.007)
		Maximum	0.2 (0.008)
Rocker arm and rocker arm shaft			
Rocker arm inner diameter mm (in)			18.000—18.027 (0.7087—0.7097)
Rocker arm shaft diameter mm (in)			17.959—17.980 (0.7070—0.7078)
Rocker arm to shaft clearance mm (in)		Standard	0.020—0.068 (0.0008—0.0027)
		Maximum	0.10 (0.0039)
Cylinder block			
Height mm (in)			206.5 (8.130)
Distortion mm (in)			0.15 (0.006) max.
Grinding mm (in)			0.20 (0.008) max.
Cylinder bore diameter mm (in)	Standard size		78.000—78.019 (3.0709—3.0717)
	0.25 (0.010) oversize		78.250—78.269 (3.0807—3.0815)
	0.50 (0.020) oversize		78.500—78.519 (3.0905—3.0913)
Cylinder bore taper and out-of-round mm (in)			0.019 (0.0007) max.
Piston			
Piston diameter Measured at 90° to pin bore axis and 16.5 mm (0.6496 in) below oil ring groove mm (in)	Standard size		77.954—77.974 (3.0690—3.0698)
	0.25 (0.010) oversize		78.204—78.224 (3.0789—3.0797)
	0.50 (0.020) oversize		78.454—78.474 (3.0887—3.0895)
Piston and cylinder clearance mm (in)		Standard	0.026—0.065 (0.0010—0.0026)
		Maximum	0.15 (0.0059)

Item \ Engine model			B6 EGI
Piston ring			
Thickness mm (in)		Top	1.47—1.49 (0.0579—0.0587)
		Second	1.47—1.49 (0.0579—0.0587)
End gap Measured in the cylinder mm (in)		Top	0.20—0.40 (0.0079—0.0157)
		Second	0.15—0.30 (0.0059—0.0118)
		Oil (rail)	0.20—0.70 (0.008—0.028)
		Maximum	1.0 (0.0394)
Ring groove width in piston mm (in)		Top	1.520—1.535 (0.0598—0.0604)
		Second	1.520—1.535 (0.0598—0.0604)
		Oil	4.020—4.040 (0.1583—0.1591)
Clearance of piston ring to groove mm (in)		Top	0.030—0.065 (0.0012—0.0026)
		Second	0.030—0.065 (0.0012—0.0026)
		Maximum	0.15 (0.0059)
Piston pin			
Diameter mm (in)			19.974—19.980 (0.7864—0.7866)
Interference in connecting rod mm (in)			0.013—0.032 (0.0005—0.0013)
Installing pressure N (kg, lb)			4,905—14,715 (500—1,500, 1,100—3,300)
Connecting rod and connecting rod bearing			
Length (Center to center) mm (in)			132.85—132.95 (5.2303—5.2342)
Maximum twisting and bending mm (in)			0.04 (0.002)
Small end bore mm (in)			19.948—19.961 (0.7854—0.7859)
Big end bore mm (in)			48.000—48.016 (1.8898—1.8904)
Big end width mm (in)			21.838—21.890 (0.8598—0.8618)
Connecting rod side clearance mm (in)		Standard	0.110—0.262 (0.0043—0.0103)
		Maximum	0.30 (0.012)
Crankshaft			
Crankshaft run out mm (in)			0.04 (0.0016) max.
Main journal diameter mm (in)	Standard size	Standard	49.938—49.956 (1.9661—1.9668)
		Minimum	49.89 (1.964)
	0.25 (0.010) undersize	Standard	49.688—49.706 (1.9562—1.9569)
		Minimum	49.64 (1.954)
	0.50 (0.020) undersize	Standard	49.438—49.456 (1.9464—1.9471)
		Minimum	49.39 (1.944)
Main journal taper and out-of-round mm (in)			0.05 (0.020) max.
Crankpin diameter mm (in)	Standard size	Standard	44.940—44.956 (1.7693—1.7699)
		Minimum	44.89 (1.767)
	0.25 (0.010) undersize	Standard	44.690—44.706 (1.7594—1.7601)
		Minimum	44.64 (1.757)
	0.50 (0.020) undersize	Standard	44.440—44.456 (1.7496—1.7502)
		Minimum	44.39 (1.748)
Crankpintaper and out-of-round mm (in)			0.05 (0.020) max.
Main bearing			
Main journal bearing oil clearance mm (in)		Standard	0.024—0.042 (0.0009—0.0017)
		Maximum	0.10 (0.0039)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020)
Crankpin bearing			
Crankpin bearing oil clearance mm (in)		Standard	0.028—0.068 (0.0011—0.0027)
		Maximum	0.10 (0.0039)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020)
Thrust bearing			
Crankshaft end play mm (in)		Standard	0.08—0.282 (0.0031—0.0111)
		Maximum	0.30 (0.0118)
Bearing width mm (in)	Standard size		2,500—2,550 (0.0984—0.1004)
	0.25 (0.010) oversize		2,625—2,675 (0.1033—0.1053)
	0.50 (0.020) oversize		2,750—2,800 (0.1083—0.1102)

TIGHTENING TORQUE		N·m	m-kg	ft-lb
Main bearing cap		54—59	5.5—6.0	40—43
Connecting rod cap		47—52	4.8—5.3	35—38
Rear cover assembly		8—11	0.8—1.1	69—95 (in-lb)
End plate		8—11	0.8—1.1	69—95 (in-lb)
Oil pump assembly		19—26	1.9—2.6	14—19
Oil strainer		8—11	0.8—1.1	69—95 (in-lb)
Oil pan		6—9	0.6—0.9	52—78 (in-lb)
Flywheel		96—103	9.8—10.5	71—76
Clutch cover		18—26	1.8—2.7	13—20
Water pump		19—26	1.9—2.6	14—19
Cylinder head bolt		76—81	7.7—8.3	56—60
Cam thrust plate		8—11	0.8—1.1	69—95 (in-lb)
Rocker arm and shaft assembly		22—28	2.2—2.9	16—21
Timing belt pulley		108—128	11.0—13.0	80—94
Camshaft pulley		49—61	5.0—6.2	36—45
Timing belt tensioner		19—26	1.9—2.6	14—19
Timing belt cover		8—11	0.8—1.1	69—95 (in-lb)
Crankshaft pulley		12—17	1.25—1.75	109—152 (in-lb)
Cylinder head cover		5—9	0.5—0.9	43—78 (in-lb)
Oil pressure switch		12—18	1.2—1.8	104—156 (in-lb)
Engine hanger	Front	37—63	3.8—6.4	27—46
	Rear	19—30	1.9—3.1	14—22
Coolant outlet pipe (Thermostat cover)		19—26	1.9—2.6	14—19
Oil level gauge stay		8—11	0.8—1.1	69—95 (in-lb)
Distributor		19—26	1.9—2.6	14—19
Spark plug		15—23	1.5—2.3	11—17
Intake manifold		19—26	1.9—2.6	14—19
Exhaust manifold		16—23	1.6—2.3	12—17
Heat gauge unit		6.4—9.3	0.65—0.95	56—82 (in-lb)
Coolant inlet pipe (Water pump inlet)		19—26	1.9—2.6	14—19
Coolant bypass pipe bracket (Bypass pipe)		16—23	1.6—2.3	12—17
Water pump pulley		8—11	0.8—1.1	69—95 (in-lb)
Alternator strap		37—52	3.8—5.3	27—38
Alternator	Short bolt	19—26	1.9—2.6	14—19
	Long bolt	37—52	3.8—5.3	27—38
Engine mount		37—52	3.8—5.3	27—38
A/C idle pulley		37—52	3.8—5.3	27—38
A/C compressor bracket		37—52	3.8—5.3	27—38
P/S oil pump bracket		47—66	4.8—6.7	35—48
No. 3 engine bracket		93—113	9.5—11.5	69—83
Exhaust pipe		31—46	3.2—4.7	23—34

1B. ENGINE (B6 DOHC TURBO)

Item \ Engine model			B6 DOHC TURBO
Type			Gasoline, 4-cycle
Number and arrangement of cylinders			4-cylinders, in-line
Type of combustion chamber			Pent-roof
Valve system			DOHC, belt-driven 16 valves
Bore x Stroke mm (in)			78 x 83.6 (3.07 x 3.29)
Total piston displacement cc (cu-in)			1,597 (97.4)
Compression ratio			7.9
Compression pressure kPa (kg/cm², psi)-rpm	Standard		1,079 (11.0, 156)-300
	Minimum		755 (7.7, 109)-300
	Maximum difference between		196 (2.0, 28)
Valve timing	IN	Open BTDC	5°
		Close ABDC	51°
	EX	Open BBDC	69°
		Close BTDC	1°
Valve clearance mm (in) (Warm engine)	Valve side	IN	0. Maintenance free
		EX	0. Maintenance free
	Cam side	IN	0. Maintenance free
		EX	0. Maintenance free
Cylinder head			
Height mm (in)			133.8—134.0 (5.268—5.276)
Distortion mm (in)			0.15 (0.006) max.
Grinding mm (in)			0.20 (0.008) max.
Cylinder head to HLA clearance mm (in)		Standard	0.025—0.066 (0.0010—0.0026)
		Maximum	0.18 (0.0071)
Valve and valve guide			
Valve head diameter mm (in)		IN	30.9—31.1 (1.217—1.224)
		EX	26.1—26.3 (1.028—1.035)
Valve head thickness (margin) mm (in)		IN	0.5 (0.020) min.
		EX	0.5 (0.020) min.
Valve face angle		IN	45°
		EX	45°
Valve length mm (in)	IN	Standard	105.29 (4.1452)
		Minimum	104.8 (4.126)
	EX	Standard	105.39 (4.1492)
		Minimum	104.9 (4.130)
Valve stem diameter mm (in)	IN	Standard	5.970—5.985 (0.2350—0.2356)
	EX	Standard	5.965—5.980 (0.2348—0.2354)
Guide inner diameter mm (in)			6.01—6.03 (0.2366—0.2374)
Valve stem to guide clearance mm (in)		IN	0.025—0.060 (0.0010—0.0024)
		EX	0.030—0.065 (0.0012—0.0026)
		Maximum	0.20 (0.0079)
Valve seat			
Seat angle		IN	45°
		EX	45°
Seat contact width mm (in)		IN	0.8—1.4 (0.0315—0.0551)
		EX	0.8—1.4 (0.0315—0.0551)
Seat sinking mm (in)	IN	Standard	43.5 (1.713)
		Maximum	45.0 (1.772)
	EX	Standard	43.5 (1.713)
		Maximum	45.0 (1.772)
Valve spring			
Free length of valve spring mm (in)		Standard	47.2 (1.858)
		Minimum	45.8 (1.803)

Item \ Engine model			B6 DOHC TURBO
Out-of-square		mm (in)	1.6 (0.062) max.
Setting load/height		N (kg, lb)/mm (in)	196 (20.0, 44.0)/40.0 (1.574)
Camshaft			
Cam height mm (in)	IN	Standard	40.888 (1.6098)
		Wear limit	40.688 (1.6019)
	EX	Standard	40.889 (1.6098)
		Wear limit	40.689 (1.6019)
Journal diameter		mm (in)	Standard (No. 1—No. 5) 25.940—25.965 (1.0213—1.0222)
			Out-of-round 0.05 (0.002) max.
Camshaft bearing oil clearance		mm (in)	Standard (No. 1—No. 5) 0.035—0.081 (0.0014—0.0032)
			Maximum 0.15 (0.0059)
Camshaft runout		mm (in)	0.03 (0.0012) max.
Camshaft end play		mm (in)	Standard 0.07—0.19 (0.0028—0.0075)
			Maximum 0.2 (0.008)
Cylinder block			
Height		mm (in)	206.5 (8.130)
Distortion		mm (in)	0.15 (0.006) max.
Grinding		mm (in)	0.20 (0.008) max.
Cylinder bore diameter mm (in)	Standard size		78.000—78.019 (3.0709—3.0717)
	0.25 (0.010) oversize		78.250—78.269 (3.0807—3.0815)
	0.50 (0.020) oversize		78.500—78.519 (3.0905—3.0913)
Cylinder bore taper and out-of-round		mm (in)	0.019 (0.0007) max.
Piston			
Piston diameter Measured at 90° to pin bore axis and 16.5 mm (0.6496 in) below oil ring groove mm (in)	Standard size		77.954—77.974 (3.0690—3.0698)
	0.25 (0.010) oversize		78.204—78.224 (3.0789—3.0797)
	0.50 (0.020) oversize		78.454—78.474 (3.0887—3.0895)
Piston and cylinder clearance		mm (in)	Standard 0.026—0.065 (0.0010—0.0026)
			Maximum 0.15 (0.0059)
Piston ring			
Thickness		mm (in)	Top 1.47—1.49 (0.0579—0.0587)
			Second 1.47—1.49 (0.0579—0.0587)
End gap Measured in the cylinder		mm (in)	Top 0.20—0.40 (0.0079—0.0157)
			Second 0.15—0.30 (0.0059—0.0118)
			Oil (rail) 0.20—0.70 (0.008—0.028)
			Maximum 1.0 (0.0394)
Ring groove width in piston		mm (in)	Top 1.520—1.535 (0.0598—0.0604)
			Second 1.520—1.535 (0.0598—0.0604)
			Oil 4.020—4.040 (0.1583—0.1591)
Clearance of piston ring to ring groove		mm (in)	Top 0.030—0.065 (0.0012—0.0026)
			Second 0.030—0.065 (0.0012—0.0026)
			Maximum 0.15 (0.0059)
Piston pin			
Diameter		mm (in)	19.987—19.993 (0.7869—0.7871)
Interference in piston		mm (in)	0.010—0.027 (0.0004—0.0012)
Connecting rod and connecting rod bearing			
Length (Center to center)		mm (in)	132.85—132.95 (5.230—5.234)
Maximum twisting and bending		mm (in)	0.04 (0.002)
Small end bore		mm (in)	20.003—20.014 (0.7875—0.7880)
Big end bore		mm (in)	48.000—48.016 (1.8898—1.8904)
Big end width		mm (in)	21.838—21.890 (0.8598—0.8618)

Item \ Engine model			B6 DOHC TURBO
Connecting rod side clearance mm (in)		Standard	0.110—0.262 (0.0043—0.0103)
		Maximum	0.30 (0.012)
Crankshaft			
Crankshaft run out mm (in)			0.04 (0.0016) max.
Main journal diameter mm (in)	Standard size	Standard	49.938—49.956 (1.9661—1.9668)
		Minimum	49.89 (1.964)
	0.25 (0.010) undersize	Standard	49.688—49.706 (1.9562—1.9569)
		Minimum	49.64 (1.954)
	0.50 (0.020) undersize	Standard	49.438—49.456 (1.9464—1.9471)
		Minimum	49.39 (1.944)
Main journal taper and out-of-round mm (in)			0.05 (0.020) max.
Crankpin diameter mm (in)	Standard size	Standard	44.940—44.956 (1.7693—1.7699)
		Minimum	44.89 (1.767)
	0.25 (0.010) undersize	Standard	44.690—44.706 (1.7594—1.7601)
		Minimum	44.64 (1.757)
	0.50 (0.020) undersize	Standard	44.440—44.456 (1.7496—1.7502)
		Minimum	44.39 (1.748)
Crankpin taper and out-of-round mm (in)			0.05 (0.020) max.
Main bearing			
Main journal bearing oil clearance mm (in)		Standard	0.024—0.042 (0.0010—0.0017)
		Maximum	0.08 (0.0031)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020)
Crankpin bearing			
Crankpin bearing oil clearance mm (in)		Standard	0.028—0.068 (0.0011—0.0027)
		Maximum	0.10 (0.0039)
Available undersize bearing mm (in)			0.25 (0.010), 0.50 (0.020)
Thrust bearing			
Crankshaft end play mm (in)		Standard	0.080—0.282 (0.0031—0.011)
		Maximum	0.30 (0.0118)
Bearing width mm (in)	Standard size		2,500—2,550 (0.0984—0.1004)
	0.25 (0.010) oversize		2,625—2,675 (0.1033—0.1053)
	0.50 (0.020) oversize		2,750—2,800 (0.1083—0.1102)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Oil jet	12—18	1.2—1.8	104—156 (in-lb)
Main bearing cap	54—59	5.5—6.0	40—43
Connecting rod cap	65—69	6.6—7.0	48—51
Rear cover assembly	8—11	0.8—1.1	69—95 (in-lb)
End plate	8—11	0.8—1.1	69—95 (in-lb)
Oil pump assembly	19—26	1.9—2.6	14—19
Oil strainer	8—11	0.8—1.1	69—95 (in-lb)
Oil pan	8—11	0.8—1.1	69—95 (in-lb)
Fly wheel	96—103	9.8—10.5	71—76
Clutch cover	18—26	1.8—2.7	13—20
Water pump	19—26	1.9—2.6	14—19
Cylinder head bolt	76—81	7.7—8.3	56—60
Camshaft cap	11—14	1.15—1.45	100—126 (in-lb)
Engine bracket and mount arm	93—113	9.5—11.5	69—83
Cylinder head cover	3—4	0.3—0.4	26—35 (in-lb)
Timing belt pulley	108—128	11.0—13.0	80—94
Seal plate	8—11	0.8—1.1	69—95 (in-lb)
Camshaft pulley	49—61	5.0—6.2	36—45
Timing belt tensioner and idler pulley	37—52	3.8—5.3	27—38

TIGHTENING TORQUE		N·m	m-kg	ft-lb
Timing belt cover		8—11	0.8—1.1	69—95 (in-lb)
Crankshaft pulley		12—17	1.25—1.75	109—152 (in-lb)
Oil pressure switch		12—18	1.2—1.8	104—156 (in-lb)
Oil cooler		29—39	3.0—4.0	22—29
Knock sensor		20—34	2.0—3.5	14—25
Engine hanger	Front	37—52	3.8—5.3	27—38
	Rear	37—52	3.8—5.3	27—38
Coolant outlet pipe (Thermostat cover)		19—26	1.9—2.6	14—19
Oil level gauge stay		8—11	0.8—1.1	69—95 (in-lb)
Distributor		19—26	1.9—2.6	14—19
Spark plug		15—23	1.5—2.3	11—17
Intake manifold		19—26	1.9—2.6	14—19
Exhaust manifold		39—57	4.0—5.8	29—42
Turbocharger		27—33	2.8—3.4	20—25
Turbocharger bracket		43—61	4.4—6.2	32—45
Exhaust manifold insulator		19—26	1.9—2.6	14—19
Heat gauge unit		6.4—9.3	0.65—0.95	56—82 (in-lb)
Coolant inlet pipe (Water pump inlet)		19—26	1.9—2.6	14—19
Coolant bypass pipe bracket (Bypass pipe)		39—57	4.0—5.8	29—42
Water pump pulley		8—11	0.8—1.1	69—95 (in-lb)
Alternator strap		37—52	3.8—5.3	27—38
Alternator	Short bolt	19—26	1.9—2.6	14—19
	Long bolt	37—52	3.8—5.3	27—38
Air intake pipe		8—11	0.8—1.1	69—95 (in-lb)
Engine mount		37—52	3.8—5.3	27—38
A/C idle pulley		37—52	3.8—5.3	27—38
A/C compressor bracket		37—52	3.8—5.3	27—38
P/S oil pump braket		47—66	4.8—6.7	35—48
Exhaust pipe		31—46	3.2—4.7	23—34

2A. LUBRICATION SYSTEM (B6 EGI)

Item \ Engine model		B6 EGI
Lubricating method		Force-fed type
Oil pump		
Type		Trochoid gear
Regulating pressure at 3,000 rpm of engine kPa (kg/cm², psi)		343—441 (3.5—4.5, 50—64)
Inner rotor tooth tip and outer rotor clearance mm (in)	Standard	0.02—0.16 (0.0008—0.0063)
	Maximum	0.2 (0.0078)
Outer rotor and body clearance mm (in)	Standard	0.09—0.18 (0.0035—0.0071)
	Maximum	0.22 (0.0087)
Side clearance mm (in)	Standard	0.03—0.11 (0.0012—0.0043)
	Maximum	0.14 (0.0055)
Oil filter		
Type		Full flow paper element
Relief pressure differential kPa (kg/cm², psi)		98 (1.0, 14)
Oil pressure switch		
Activation pressure kPa (kg/cm², psi)		29 (0.3, 4.3)
Engine oil		
Capacity Liters (US qt, Imp qt)	Total (dry engine)	3.4 (3.6, 3.0)
	Oil pan	3.0 (3.2, 2.6)
	Oil filter	0.3 (0.32, 0.26)
Grade		API Service SD, SE, or SF

Item \ Engine model		B6 EGI
Classification	30°C (85°F) or over	SAE 40
	0°C—40°C (32°F—100°F)	SAE 30
	–10°C—20°C (15°F—68°F)	SAE 20W-20
	–10°C—50°C (15°F—120°F) or over	SAE 20W-40 or 20W-50
	–25°C—30°C (–18°F—86°F)	SAE 10W-30
	–25°C—50°C (–18°F—120°F) or over	SAE 10W-40 or 10W-50
	0°C—–30°C (32°F—–22°F) or below	SAE 5W-30
	–20°C (4°F) or below	SAE 5W-20

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Oil filter	By hand		
Oil pan	6—9	0.6—0.9	52—78 (in-lb)
Oil pump	19—26	1.9—2.6	14—19
Oil pressure switch	12—18	1.2—1.8	104—156 (in-lb)
Oil strainer	8—11	0.8—1.1	69—95 (in-lb)
Oil drain plug	29—41	3.0—4.2	22—30

2B. LUBRICATION SYSTEM (B6 DOHC TURBO)

Item \ Engine model			B6 DOHC TURBO
Lubricating method			Force-fed type
Oil pump			
Type			Trochoid gear
Regulating pressure at 3,000 rpm of engine	kPa (kg/cm², psi)		343—441 (3.5—4.5, 50—64)
Inner rotor tooth tip and outer rotor clearance	mm (in)	Standard	0.02—0.16 (0.0008—0.0063)
		Maximum	0.2 (0.0078)
Outer rotor and body clearance	mm (in)	Standard	0.09—0.18 (0.0035—0.0071)
		Maximum	0.22 (0.0087)
Side clearance	mm (in)	Standard	0.03—0.11 (0.0012—0.0043)
		Maximum	0.14 (0.0055)
Oil filter			
Type			Full flow paper element
Relief pressure differential	kPa (kg/cm², psi)		98 (1.0, 14)
Oil pressure switch			
Activation pressure	kPa (kg/cm², psi)		29 (0.3, 4.3)
Engine oil			
Capacity	Liters (US qt, Imp qt)	Total (dry engine)	3.6 (3.8, 3.2)
		Oil pan	3.2 (3.4, 2.8)
		Oil filter	0.3 (0.32, 0.26)
Grade			API Service SF
Classification	30°F (85°F) or over		SAE 40
	0°C—40°C (32°F—100°F)		SAE 30
	–10°C—20°C (15°F—68°F)		SAE 20W-20
	–10°C—50°C (15°F—120°F) or over		SAE 20W-40 or 20W-50
	–25°C—30°C (–18°F—86°F)		SAE 10W-30
	–25°C—50°C (–18°F—120°F) or over		SAE 10W-40 or 10W-50
	0°C—–30°C (32°F—–22°F) or below		SAE 5W-30
	–20°C (4°F) or below		SAE 5W-20

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Oil filter	By hand		
Oil pan	8—11	0.8—1.1	69—95 (in-lb)
Oil pump assembly	19—26	1.9—2.6	14—19
Oil pressure switch	12—18	1.2—1.8	104—156 (in-lb)
Oil strainer	8—11	0.8—1.1	69—95 (in-lb)
Oil drain plug	29—41	3.0—4.2	22—30
Oil cooler	29—39	3.0—4.0	22—29

3A. COOLING SYSTEM (B6 EGI)

Item \ Engine model		B6 EGI	
Cooling method		Water-cooled, forced circulation	
Water pump			
Type		Centrifugal, V belt driven	
Impeller diameter	mm (in)	72 (2.83)	
Number of impeller		6	
Speed ratio		1 : 1.05	
Water seal type		Unified mechanical seal	
Thermostat			
Start to open	°C (°F)	SUB: 85 (185), MAIN: 88 (190)	
Full-open	°C (°F)	100 (212)	
Lift	mm (in)	SUB: 1.5 (0.06) or more, MAIN: 8.0 (0.31) or more	
Radiator			
Type		Corrugated fin	
Cap opening valve pressure	kPa (kg/cm², psi)	74—103 (0.73—1.05, 11—15)	
Cooling circuit checking pressure	kPa (kg/cm², psi)	103 (1.05, 15)	
Electric fan			
Type		Electric type	
Number of blades		4	
Outer diameter	mm (in)	MTX: 300 (11.81)	ATX: 320 (12.60)
Switching temperature OFF → ON	°C (°F)	91 (196)	
Capacity	W-V	MTX: 80-12	ATX: 120-12
Standard current	A	MTX: 5.6—7.6	ATX: 10.0—11.0
Coolant			
Capacity	liters (US qt, Imp qt)	MTX 5.0 (5.3, 4.4)	ATX 6.0 (6.3, 5.3)

	Protection	Mixture percentage (volume) %		Specific gravity of mixture at 20°C (68°F)
		Water	Solution	
Antifreeze solution	Above −16°C (3°F)	65	35	1.054
	Above −26°C (−15°F)	55	45	1.066
	Above −40°C (−40°F)	45	55	1.078

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Temperature gauge sensor (meter)	6—9	0.65—0.95	56—82 (in-lb)
Thermostat cover (Coolant outlet pipe)	19—26	1.9—2.6	14—19
Water pump	19—26	1.9—2.6	14—19
Water thermo switch	6—9	0.6—0.9	52—78 (in-lb)

3B. COOLING SYSTEM (B6 DOHC TURBO)

Item \ Engine model		B6 DOHC TURBO
Cooling method		Water-cooled, forced circulation
Water pump		
Type		Centrifugal, V belt driven
Impeller diameter	mm (in)	75 (2.95)
Number of impeller		6
Speed ratio		1 : 1.05
Water seal type		Unified mechanical seal
Thermostat		
Start to open	°C (°F)	SUB: 85 (185), MAIN: 88 (190)
Full-open	°C (°F)	100 (212)
Lift	mm (in)	SUB: 1.5 (0.06) or more, MAIN: 8.0 (0.31) or more
Radiator		
Type		Corrugated fin
Cap opening valve pressure	kPa (kg/cm², psi)	74—103 (0.75—1.05, 11—15)
Cooling circuit checking pressure	kPa (kg/cm², psi)	103 (1.05, 15)
Electric fan		
Type		Electric type
Number of blades		4
Outer diameter	mm (in)	320 (12.6)
Switching temperature OFF → ON	°C (°F)	97 (207)
Capacity	W-V	4WD: Hi 160-12, Low 106-12, 2WD: 120-12
Standard current	A	4WD: Hi 13.3—14.6, Low 8.8—9.7, 2WD: 10.0—11.0
Coolant		
Capacity	liters (US qt, Imp qt)	6.0 (6.3, 5.3)

	Protection	Mixture percentage (volume) %		Specific gravity of mixture at 20°C (68°F)
		Water	Solution	
Antifreeze solution	Above –16°C (3°F)	65	35	1.054
	Above –26°C (–15°F)	55	45	1.066
	Above –40°C (–40°F)	45	55	1.078

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Temperature gauge sensor (meter)	6—9	0.65—0.95	56—82 (in-lb)
Thermostat cover (Coolant outlet pipe)	19—26	1.9—2.6	14—19
Water pump	19—26	1.9—2.6	14—19
Water thermo switch	6—9	0.6—0.9	52—78 (in-lb)

4A. FUEL AND EMISSION CONTROL SYSTEM (B6 EGI)

Item \ Transaxle type		Manual Transaxle	Automatic Transaxle
Idle speed	rpm	850 ± 50 in Neutral	850 ± 50 in P range
Throttle body			
Type		Horizontal draft (1-barrel)	
Throttle diameter	mm (in)	50 (1.9)	
Air flow meter			
Resistor	E_2—V_S	Fully closed: 20—400	Fully open: 20—1,000
	E_2—V_C	100—300	
	E_2—V_B	200—400	
	E_2—THA	–20°C (–4°F): 10,000—20,000 20°C (68°F): 2,000—3,000 60°C (140°F): 400—700	

Item \ Transaxle type		Manual Transaxle	Automatic Transaxle
Fuel pump			
Type		Impeller (in tank)	
Output pressure	kPa (kg/cm², psi)	441—588 (4.5—6.0, 64—85)	
Feeding capacity	cc (cu-in)/10 sec	220—380 (13.4—23.2) when fuel pressure at 250 kPa (2.55 kg/cm², 36.3 psi)	
Fuel filter			
Type	Low pressure side	Nylon 6 (250 mesh) element	
	High pressure side	Paper element	
Pressure regulator			
Type		Diaphragm	
Regulating pressure	kPa (kg/cm², psi)	240—279 (2.45—2.85, 34.8—40.5) (Vacuum hose disconnected)	
Injector			
Type		High-ohmic	
Type of drive		Voltage	
Resistance	Ω	11—15	
Injection amount	cc (cc in)/15 sec	32—41 (1.95—2.50)	
Idle speed control valve			
Solenoid resistance	Ω	5—20	
Fuel tank			
Capacity	liters (US gal, Imp gal)	48 (12.7, 10.6)	
Air cleaner			
Element type		Wet	
Accelerator cable			
Free play	mm (in)	1—3 (0.039—0.118)	
Fuel			
Specification		Unleaded gasoline	

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Intake manifold	19—26	1.9—2.6	14—19
Exhaust manifold	16—23	1.6—2.3	12—17

4B. FUEL AND EMISSION CONTROL SYSTEM (B6 DOHC TURBO)

Item \ Engine model		B6 DOHC TURBO	
Idle speed	rpm	850 ± 50 in Neutral	
Throttle body			
Type		Horizontal draft (1-barrel)	
Throttle diameter	mm (in)	50 (1.9)	
Air flow meter			
Resistance Ω	E_2 — Vs	Fully closed: 20—400	Fully open: 20—1,000
	E_2 — Vc	100—300	
	E_2 — V_B	200—400	
	E_2 — THA	−20°C (−4°F)	10,000—20,000
		20°C (68°F)	2,000—3,000
		60°C (140°F)	400—700
Fuel pump			
Type		Impeller (intank)	
Output pressure	kPa (kg/cm², psi)	441—588 (4.5—6.0, 64—85)	
Feeding capacity	cc (cu-in)/10 sec	220—380 (13.42—22.18)	
Transfer pump			
Feeding capacity	cc (cu-in)/10 sec	278—388 (16.95—23.7) when fuel pump pressure is at 196 kPa (kg/cm²)	

Item \ Engine model		B6 DOHC TURBO
Fuel filter		
Type	Low pressure side	Nylon 6 (250 mesh) element
	High pressure side	Paper element
Pressure regulator		
Type		Diaphragm
Regulating pressure kPa (kg/cm², psi)		245—279 (2.5—2.85, 35.6—40.5)
Injector		
Type		High-ohmic
Type of drive		Voltage
Resistance Ω		12—16
Injection amount cc (cu-in)/15 sec		66—82 (4.0—5.0)
Turbocharger		
Type		Water cooled
Lubrication		Engine oil
Boost pressure (Max) kPa (kg/cm², psi)		55—59 (0.56—0.60, 8.0—8.6)
Water gate valve		
Operating pressure kPa (kg/cm², psi)		48.1—58.9 (0.49—0.54, 7.0—7.7)
Idle speed control valve		
Solenoid resistance Ω		5—20
Fuel tank		
Capacity liters (US gal, Imp gal)		50 (13.2, 11)
Air cleaner		
Element type		Oil permeated
Accelerator cable		
Free play		1—3 (0.039—0.118)
Fuel		
Specification		Unleaded gasoline

TIGHTENING TORQUE		N·m	m-kg	ft-lb
Intake manifold		19—26	1.9—2.6	14—19
Exhaust manifold		39—57	4.0—5.8	29—42
Turbocharger	Connect to exhaust manifold	27.5—33.4	2.8—3.4	20.3—24.6
	Connect to exhaust pipe	24.5—32.4	2.5—3.3	18.1—23.9

5. ENGINE ELECTRICAL SYSTEM

Item \ Engine model		B6 EGI	B6 DOHC TURBO
Charging system			
Battery 20 hour rate	Type	NS40ZAL, 50D20L, 55D23L	
	Voltage V	12	
	Capacity Ah	35 (NS40ZAL), 50 (50D20L), 60 (55D23L)	
Level of electrolyte		between "Upper" to "Lower"	
Safety gravity at 20°C (68°F)	Recharge at	1.20	
	Full charge	1.25—1.27 (NS40ZAL, 50D20L), 1.27—1.29 (55D23L)	
Charging current A		3.3 (NS40ZAL), 5.0 (50D20L), 6.0 (55D23L)	
Alternator	Type	A.C	
	Voltage-Capacity V-A	12-60	
Pulley ratio		1 : 2.2	

Item \ Engine model			B6 EGI	B6 DOHC TURBO
Regulator voltage	No load test/ Engine revolution		14.1—14.7V/2,500 rpm	
Brush	Number		2	
	Length mm (in)	Standard	16.5 (0.650)	
		Wear limit	8.0 (0.315)	
Starting system				
Starting motor	Type		Electromagnetic, pull in	
	Voltage	V	12	
	Output	kw	0.85	
Free running test	Voltage	V	11.5	
	Current	A	60 or less	
	Speed	rpm	6,500	
Brush length mm (in)	Standard		17 (0.669)	
	Wear limit		11.5 (0.453)	
Ignition system				
Spark plug	DENSO		W16EXR-U11	Q20PR-U11
	NGK		BPR5ES-11	BCPR6E11
	CHAMPION		RN11YC4	—
Plug gap		mm (in)	1.0—1.1 (0.039—0.043)	
Ignition advance	Ignition timing BTDC (at idle)		2 ± 1° (Vacuum hose: disconnected)	12 ± 1°
			Approx 7° (Vacuum hose: connected)	—
	Centrifugal spark advance (Crank angle/Engine speed)		0°/1,300 rpm 19°/3,500 rpm 19°/5,000 rpm	0°/1,200 rpm 12°/3,500 rpm 12°/5,000 rpm 18°/5,500 rpm
	Vacuum spark advance (Crank angle/vacuum)		A chamber 0°/75 mmHg (2.95 inHg) 28°/450 mmHg (17.72 inHg)	B chamber 0°/75 mmHg (2.95 inHg) 5°/150 mmHg (5.91 inHg)	0°/60 mmHg (2.36 inHg) 15°/450 mmHg (17.72 inHg)
	Positive pressure spark advance (Crank angle/positive pressure)		—	0°/10.64 kPa (0.11 kg/cm², 1.54 psi) −5°/53.2 kPa (0.54 kg/cm², 7.7 psi)
Timing mark location			Timing belt cover	
Firing order			1-3-4-2	
Ignition coil				
Secondary coil resistance		kΩ	6—30	
High tension lead resistance		kΩ	16 per 1 m (3.28 ft)	
Distributor				
Type			Full transistor (HEI)	

6. CLUTCH

Item \ Engine model		B6 DOHC TURBO 4WD	B6 DOHC TURBO 2WD	B6 EGI
Clutch control		Hydraulic	Cable	
Clutch pedal				
Type		Suspended		
Pedal ratio		5.96	6.2	
Full stroke	mm (in)	145 (5.71)		
Height	mm (in)	229^{+5}_{0} ($9.02^{+0.20}_{0}$)	214.5^{+5}_{0} ($8.44^{+0.20}_{0}$)	
Free play	mm (in)	0.6—3.0 (0.02—0.12)	9—15 (0.35—0.59)	
Distance to floor when clutch is fully disengaged	mm (in)	82 (3.23) min.	85 (3.3) min.	
Flywheel				
Runout limit	mm (in)	0.2 (0.008)		
Grinding limit	mm (in)	0.5 (0.020)		
Clutch disc				
Type		Single dry plate		
Runout limit	mm (in)	1.00 (0.039)		
Wear limit	mm (in)	0.3 from rivet head (0.012)		
Outer diameter	mm (in)	225 (8.86)		190 (7.48)
Inner diameter	mm (in)	150 (5.91)		132 (5.20)
Facing thickness mm (in)	Flywheel side	4.1 (0.16)		3.5 (0.14)
	Pressure plate side	3.5 (0.14)		
Clutch cover				
Set load	N (kg, lb)	4316 (440, 968)		3277 (334, 735)
Grinding limit	mm (in)	0.5 (0.020)		

TIGHTENING TORQUE		
Clutch cover	N·m (m-kg, ft-lb)	18—26 (1.8—2.7, 13—20)
Flywheel	N·m (m-kg, ft-lb)	96—103 (9.8—10.5, 71—76)
Release lever and fork	N·m (m-kg, ft-lb)	7.8—10.8 (0.8—1.1, 5.8—8.0)

7A. MANUAL TRANSAXLE (F-type)

Item \ Engine model			B6 EGI
Transaxle			
Shift lever position			Floor shift
Gear ratio		First	3.416
		Second	1.842
		Third	1.290
		Fourth	0.918
		Fifth	0.731
		Reverse	3.214
Fluid capacity	Liters (US qt, Imp qt)		3.2 (3.4, 2.8)
Fluid type	Above −18°C (0°F)		API service GL-4 or GL-5 (SAE90 or 80W-90)
	Below −18°C (0°F)		ATF (M2C33-F or DEXRON-II)
Clearance of lever and reverse idle gear	mm (in)	Standard	0.095—0.318 (0.004—0.013)
		Wear limit	0.5 (0.020)
Clearance of shift fork and clutch hub sleeve	mm (in)	Standard	0.2—0.458 (0.008—0.018)
		Wear limit	0.5 (0.020)
Clearance of synchronizer ring and gear	mm (in)	Standard	1.5 (0.059)
		Wear limit	0.8 (0.031)

Item \ Engine model			B6 EGI
Thrust clearance mm (in)	First	Standard	0.14—0.37 (0.006—0.015)
		limit	0.42 (0.017)
	Second	Standard	0.245—0.58 (0.010—0.023)
		limit	0.63 (0.025)
	Third	Standard	0.095—0.38 (0.004—0.015)
		limit	0.43 (0.017)
	Fourth	Standard	0.09—0.4 (0.004—0.016)
		limit	0.45 (0.018)
	Fifth	Standard	0.15—0.262 (0.006—0.010)
		limit	0.31 (0.012)
Bearing preload of primary shaft gear N·m (cm-kg, in-lb)			0.10—0.34 (1.0—3.5, 0.87—3.0)
Bearing preload adjustment shim mm (in)			0.20 (0.008), 0.25 (0.010), 0.30 (0.012), 0.35 (0.014), 0.40 (0.016), 0.45 (0.018), 0.50 (0.020), 0.55 (0.022)
Differential			
Final gear		Type	Helical gear
		Reduction ratio	3.850
Side bearing preload N·m (cm-kg, in-lb)			0.03—0.75 (0.3—7.6, 0.26—6.6)
Bearing preload adjustment shim mm (in)			0.10 (0.004), 0.15 (0.006), 0.20 (0.008), 0.25 (0.010), 0.30 (0.012), 0.35 (0.014), 0.40 (0.016), 0.45 (0.018), 0.50 (0.020), 0.55 (0.022), 0.60 (0.024), 0.65 (0.026), 0.70 (0.028), 0.75 (0.030), 0.80 (0.031), 0.85 (0.033), 0.90 (0.035)
Backlash of side gear and pinion gear mm (in)			0—0.1 (0—0.004)

TIGHTENING TORQUE		N·m	m-kg	ft-lb
Change arm		12—16	1.2—1.6	8.7—11.6
Guide plate	M6	8—11	0.8—1.1	5.8—8.0
	M10	19—28	1.9—2.9	13.7—21.0
Guide pin		8—12	0.8—1.2	5.8—8.7
Gate lock bolt		12—16	1.2—1.6	8.7—11.6
Transaxle case		19—26	1.9—2.6	13.7—18.8
Reverse idle shaft lock bolt		19—26	1.9—2.6	13.7—18.8
Interlock sleeve guide bolt		9—12	0.9—1.2	6.5—8.7
Gear shaft lock nut		128—206	13—21	94—152
Rear cover		8—11	0.8—1.1	5.8—8.0
Drain plug		39—54	4.0—5.5	29—40
Ring gear		69—83	7.0—8.5	51—61
Back-up light switch		25—34	2.5—3.5	18.1—25.3
Neutral switch		25—34	2.5—3.5	18.1—25.3

7A. MANUAL TRANSAXLE (G-type)

Item \ Engine model		B6 DOHC TURBO
Transaxle		
Shift lever position		Floor shift
Gear ratio	First	3.307
	Second	1.833
	Third	1.233
	Fourth	0.970
	Fifth	0.795
	Reverse	3.166
Fluid capacity Liters (US qt, Imp qt)		3.4 (3.6, 3.0)
Fluid type		ATF: DEXRON-II API: GL-4 or GL-5 (Above −18°C/0°F) SAE 80W-90 or SAE 90

Item \ Engine model			B6 DOHC TURBO
Clearance			
Clearance of lever and reverse idle gear mm (in)	Standard		0.1—0.32 (0.004—0.013)
	Wear limit		0.5 (0.020)
Clearance of shift fork and clutch sleeve mm (in)	Standard		0.2—0.46 (0.008—0.018)
	Wear limit		0.5 (0.020)
Clearance of synchronizer ring and gear mm (in)	Standard		1.5 (0.059)
	Wear limit		0.8 (0.021)
Each gear thrust clearance mm (in)	First	Standard	0.05—0.53 (0.002—0.021)
		Limit	0.6 (0.024)
	Second	Standard	0.5—0.98 (0.020—0.039)
		Limit	1.0 (0.039)
	Third	Standard	0.05—0.425 (0.002—0.017)
		Limit	0.5 (0.020)
	Fourth	Standard	0.002—0.365 (0.0001—0.014)
		Limit	0.5 (0.020)
Bearing preload of primary shaft gear N·m (in-lb)			0.05—0.2 (0.4—1.7)
Bearing preload adjusting shim mm (in)			0.20 (0.008), 0.30 (0.012), 0.40 (0.016), 0.50 (0.020), 0.25 (0.010), 0.35 (0.014), 0.45 (0.020), 0.55 (0.022), 0.60 (0.023), 0.65 (0.025), 0.70 (0.227)
Differential			
Final gear	Type		Helical gear
	Reduction ratio		4.105
Side bearing preload N·m (in-lb)			0.8—1.8 (6.9—15.6)
Bearing preload adjust shim mm (in)			0.1 (0.004), 0.2 (0.008), 0.3 (0.012), 0.4 (0.016), 0.5 (0.020), 0.6 (0.224), 0.8 (0.032), 0.15 (0.006), 0.25 (0.010), 0.35 (0.014), 0.45 (0.018), 0.55 (0.022), 0.65 (0.026), 0.75 (0.030, 0.85 (0.034)
Backlash of side gear and pinion gear mm (in)			0—0.1 (0.004)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Gate lock bolt	12—16	1.3—1.6	8.7—11.6
Transaxle case	18—26	1.8—2.6	13.0—18.8
Rear cover	8—11	0.8—1.1	5.8—8.0
Gear shaft lock nut	128—206	13.0—21.0	94—152
Guide bolt	9—14	0.9—1.4	6.5—10.1
Reverse idle shaft lock bolt	21—30	2.1—3.0	15.2—22.4

7B. AUTOMATIC TRANSAXLE

Item \ Transaxle model		FU 56
Model		FU 56
Gear ratio	First	2.800
	Second	1.540
	Third	1.000
	Overdrive (OD)	0.700
	Reverse	2.333
Fluid capacity Liters (US qt, Imp qt)		6.3 (6.7, 5.5)
Fluid type		ATF Dexron II
Fluid level with the engine idling at P		Between F and L marks on gauge
Stall revolution		
After brake in rpm		2,300—2,600

Item \ Transaxle model				FU 56
Line pressure				
D range	Idle	kpa (kg/cm², psi)		350—490 (3.6—5.0, 51—71)
	Stall	kpa (kg/cm², psi)		980—1230 (10.0—12.5, 142—178)
2 and 1 range	Idle	kpa (kg/cm², psi)		590—790 (6.0—8.0, 85—114)
	Stall	kpa (kg/cm², psi)		980—1230 (10.0—12.5, 142—178)
R range	Idle	kpa (kg/cm², psi)		600—830 (6.1—8.5, 87—121)
	Stall	kpa (kg/cm², psi)		1470—1960 (15.0—20.0, 213—284)
Throttle pressure				
P range	Idle	kpa (kg/cm², psi)		83—113 (0.85—1.15, 12—16)
	Stall	kpa (kg/cm², psi)		540—610 (5.5—6.2, 5.5—6.2)
Governor pressure				
D range	30 km/h (19 mph)	kpa (kg/cm², psi)		83—118 (0.85—1.20, 12—17)
	50 km/h (31 mph)	kpa (kg/cm², psi)		162—206 (1.65—2.10, 23—30)
	85 km/h (53 mph)	kpa (kg/cm², psi)		314—378 (3.2—3.85, 46—55)
Shift point				
Range	Throttle condition	Shifting		Shift point speed km/h (mph)
D	Fully opened	1st → 2nd		42—57 (26—35)
		2nd → 3rd		90—105 (56—65)
	Half throttle (1/2)	1st → 2nd		15—30 (9—19)
		2nd → 3rd		47—62 (29—38)
		3rd → OD		93—108 (58—67)
		Lock-up		93—108 (58—67)
	Kick-down	OD → 3rd		More than 75 (47)
		OD → 2nd		30—90 (19—56)
		OD → 1st		28—50 (17—31)
		3rd → 2nd		30—90 (19—56)
		3rd → 1st		12—50 (7—31)
		2nd → 1st		7—50 (4—31)
1	Fully opened	1st → 2nd		51—66 (32—41)
	Half throttle	1st → 2nd		51—66 (32—41)
	Kick-down	2nd — 1st		42—57 (26—35)
Time lag				
N → D range			sec.	0.4—1.2
N → R range			sec.	0.4—1.5
Torque converter				
Stall torque ratio				2.100—2.300: 1
Bushing inner diameter			mm (in)	Standard 53.030 (2.088)
				Maximum 53.076 (2.090)
Oil pump				
Clearance				
Cam ring and oil pump cover			mm (in)	Standard 0.005—0.020 (0.0002—0.0008)
				Maximum 0.080 (0.003)
Rotor and oil pump cover			mm (in)	Standard 0.005—0.020 (0.0002—0.0008)
				Maximum 0.030 (0.0012)
Vane and oil pump cover			mm (in)	Standard 0.015—0.050 (0.0006—0.0020)
				Maximum 0.080 (0.003)
Seal pin and oil pump cover			mm (in)	Standard 0.005—0.020 (0.0002—0.0008)
				Maximum 0.060 (0.002)
Vane and rotor groove			mm (in)	Standard 0.010—0.045 (0.0004—0.0018)
				Maximum 0.065 (0.0026)

Item \ Transaxle model			FU 56
Sleeve outer diameter	mm (in)	Standard	28.00 (1.102)
Rotor bushing inner diameter	mm (in)	Standard	28.00 (1.102)
		Maximum	28.05 (1.104)
Seal pin outer diameter	mm (in)	Standard	5.00 (0.197)
		Minimum	4.90 (0.193)
Guide ring outer diameter	mm (in)	Standard	57.85 (2.278)
		Minimum	57.70 (2.272)
Valve outer diameter	mm (in)	Standard	12.00 (0.472)
		Minimum	11.86 (0.467)
Forward clutch			
Number of driven and drive plates			3
Drive plate thickness	mm (in)	Standard	1.6 (0.063)
		Minimum	1.4 (0.055)
Forward clutch clearance		mm (in)	1.0—1.2 (0.039—0.047)
Retaining plate sizes		mm (in)	5.9 (0.232), 6.1 (0.240), 6.3 (0.248), 6.5 (0.256), 6.7 (0.264), 8.9 (0.350)
Coasting clutch			
Number of driven and drive plates			2
Drive plate thickness	mm (in)	Standard	1.6 (0.063)
		Minimum	1.4 (0.055)
Coasting clutch clearance		mm (in)	1.0—1.2 (0.039—0.047)
Retaining plate sizes		mm (in)	4.6 (0.181), 4.8 (0.189), 5.0 (0.197), 5.2 (0.205) 5.4 (0.213), 5.6 (0.220)
Return spring free length		mm (in)	29.8 (1.173)
Reverse clutch			
Number of driven and drive plates			2
Drive plate thickness	mm (in)	Standard	1.6 (0.063)
		Minimum	1.4 (0.055)
Reverse clutch clearance		mm (in)	2.1—2.4 (0.083—0.094)
Retaining plate sizes		mm (in)	6.8 (0.268), 7.0 (0.276), 7.2 (0.283) 7.4 (0.291), 6.6 (0.260), 7.6 (0.299)
3-4 clutch			
Number of driven and drive plates			4
Drive plate thickness	mm (in)	Standard	1.6 (0.063)
		Minimum	1.4 (0.055)
3-4 clutch clearance		mm (in)	1.3—1.5 (0.051—0.059)
Retaining plate sizes		mm (in)	4.8 (0.189), 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.220)
Return spring free length		mm (in)	33.2 (1.307)
Low and reverse brake			
Number of driven and drive plates			3
Drive plate thickness	mm (in)	Standard	1.6 (0.063)
		Minimum	1.4 (0.055)
Low and reverse brake clearance		mm (in)	2.1—2.4 (0.083—0.094)
Retaining plate sizes		mm (in)	10.2 (0.402), 10.4 (0.409), 10.6 (0.417), 10.8 (0.425), 10.0 (0.394)
Return spring free length		mm (in)	20.5 (0.807)
Sun gear drum bush	mm (in)	Maximum	33.425 (1.316)
Small sun gear bush	mm (in)	Maximum	24.021 (0.946)
Carrier hub			
Clearance between pinion washer and planetary carrier		mm (in)	0.2—0.7 (0.008—0.028)
Servo			
Free length of return spring		mm (in)	43.25 (1.703)
2-3 accumulator valve			
2-3 accumulator valve spring	mm (in)	Outer dia.	8.9 (0.350)
		Free length	76 (2.992)

Spring name	Outer dia. mm (in)	Free length mm (in)	Wire dia. mm (in)	Spring color
1-2 accumulator small spring	9.9 (0.400)	84.7 (3.335)	1.2 (0.047)	Red
1-2 accumulator large spring	16.0 (0.630)	78.0 (3.071)	2.0 (0.079)	Blue
Bypass spring	5.0 (0.197)	25.1 (0.988)	0.7 (0.028)	Yellow
Servo control spring	4.9 (0.193)	27.1 (1.067)	0.5 (0.020)	—
2-3 timing spring	8.3 (0.327)	26.5 (1.043)	0.8 (0.031)	—
N-R accumulator rear spring	11.1 (0.437)	68.2 (2.685)	1.0 (0.039)	Blue
N-D accumulator front spring	9.8 (0.386)	99.9 (3.933)	1.2 (0.047)	Silver
Low reducing spring	8.7 (0.343)	38.3 (1.508)	0.9 (0.035)	Black
OD release spring	6.0 (0.236)	32.6 (1.283)	0.6 (0.024)	—
Coasting bypass spring	5.8 (0.228)	31.3 (1.232)	0.6 (0.024)	—
3-2 timing spring	8.2 (0.323)	28.55 (1.124)	0.8 (0.031)	Maroon
3-2 capacity spring	5.55 (0.219)	30.5 (1.201)	0.55 (0.022)	—
Throttle relief ball spring	6.6 (0.260)	20.3 (0.799)	0.8 (0.031)	—
1-2 shift control spring	5.5 (0.217)	46.0 (1.811)	0.5 (0.020)	—
1-2 shift spring	5.0 (0.197)	30.9 (1.217)	0.5 (0.020)	—
2-3 shift spring	6.1 (0.240)	45.4 (1.787)	0.65 (0.026)	Maroon
3-4 shift spring	6.4 (0.252)	37.0 (1.457)	0.6 (0.024)	—
Throttle backup spring	6.4 (0.252)	33.5 (1.319)	0.6 (0.024)	—
Throttle modulator front spring	5.0 (0.197)	27.8 (1.094)	0.6 (0.024)	Red
Throttle modulator rear spring	7.15 (0.281)	30.8 (1.213)	0.85 (0.033)	Red
1 range control spring	6.15 (0.242)	39.2 (1.543)	0.65 (0.026)	—
2 range control spring	3.95 (0.156)	32.1 (1.264)	0.45 (0.018)	—
Kick-down spring	5.4 (0.213)	38.1 (1.500)	0.8 (0.031)	—
Throttle assist spring	5.15 (0.203)	32.3 (1.272)	0.55 (0.022)	Dark green
Throttle spring	5.4 (0.213)	48.3 (1.902)	0.8 (0.031)	—
Converter relief ball spring	6.9 (0.272)	24.1 (0.949)	0.9 (0.035)	Maroon
Orifice check valve spring	5.0 (0.197)	12.5 (0.492)	0.23 (0.009)	—
Pressure regulator spring	9.5 (0.374)	30.7 (1.209)	0.7 (0.028)	—
Lock-up control spring	6.8 (0.268)	46.5 (1.831)	0.9 (0.035)	—
Lock-up support spring	6.1 (0.240)	43.5 (1.713)	0.65 (0.026)	Blue
OD lock-up spring	7.1 (0.280)	69.2 (2.724)	0.8 (0.031)	Red

Item \ Transaxle model		FU 56
Gear assembly		
Total end play	mm (in)	0.25—0.50 (0.010—0.020)
End play adjusting races	mm (in)	1.2 (0.047), 1.4 (0.055), 1.6 (0.063), 1.8 (0.071), 2.0 (0.079), 2.2 (0.087)
Idle gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.81)
Preload adjusting shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.50 (0.020)
Output gear bearing preload	N·m (cm-kg, in-lb)	0.03—0.9 (0.3—9.0, 0.26—7.81)
Preload adjusting shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.50 (0.020)
Drive and differential		
Final gear	Type	Helical gear
	Reduction ratio	3,842
Side bearing preload	N·m (cm-kg, in-lb)	2.9—3.9 (30—40, 26—35)
Preload adjusting shims	mm (in)	0.10 (0.004), 0.12 (0.005), 0.14 (0.006), 0.16 (0.0063), 0.18 (0.007), 0.20 (0.008), 0.30 (0.012), 0.40 (0.016), 0.50 (0.020), 0.60 (0.024), 0.70 (0.028), 0.80 (0.031), 0.90 (0.035)
Backlash of side gear and pinion	mm (in)	0.025—0.1 (0.001—0.004)
Torque converter distance "A" (Refer to 7B—160)	mm (in)	25 (0.98)

7C. MANUAL TRANSAXLE (4WD)

Item \ Engine model			B6 DOHC TURBO
Transaxle			
Shift lever position			Floor shift
Gear ratio	First		3.307
	Second		1.833
	Third		1.233
	Fourth		0.970
	Fifth		0.795
	Reverse		3.106
Clearance of lever and reverse idle gear mm (in)		Standard	0.1—0.32 (0.004—0.013)
		Wear limit	0.5 (0.02)
Clearance of shift fork and clutch hub sleeve mm (in)		Standard	0.2—0.46 (0.008—0.018)
		Wear limit	0.5 (0.02)
Clearance of synchronizer ring and gear mm (in)		Standard	1.5 (0.059)
		Wear limit	0.8
Thrust clearance mm (in)	First	Standard	0.050—0.280 (0.002—0.011)
		Limit	0.330 (0.013)
	Second	Standard	0.175—0.455 (0.007—0.018)
		Limit	0.505 (0.020)
	Third	Standard	0.050—0.200 (0.002—0.008)
		Limit	0.250 (0.039)
	Fourth	Standard	0.165—0.365 (0.065—0.144)
		Limit	0.415 (0.016)
	Fifth	Standard	0.050—0.175 (0.002—0.007)
		Limit	0.225 (0.010)
Bearing preload	Primary shaft gear N·m (cm-kg, in-lb)		0.1—0.34 N·m (1.0—3.5, 0.87—3.00)
	Adjustment shim mm (in)		0.20 (0.008), 0.30 (0.012), 0.40 (0.0160, 0.50 (0.020), 0.25 (0.010), 0.35 (0.014), 0.45 (0.020), 0.55 (0.022), 0.60 (0.023), 0.65 (0.025), 0.70 (0.227)
Fluid	Type		ATF: DEXRON-II API: GL-4 or GL-5 (Above −18°C/0°F) SAE 80W-90 or SAE 90
	Capacity		3.6 liters (3.8 US qt, 3.2 Imp qt)
Center differential			
Type			Planetary carrier
Number of ring gear teeth	Outer		78
	Inner		66
Number of pinion gear teeth	Outer		14
	Inner		14
Number of sun gear teeth	Pinion gear side		33
	Idle gear side		50
Number of idle gear teeth			43
Bearing preload N·m (cm-kg, in-lb)			0.3—1.2 (3—12, 2.6—10.4)
Bearing preload adjustment shim mm (in)			0.1 (0.004), 0.2 (0.008), 0.3 (0.012), 0.4 (0.016), 0.5 (0.020), 0.6 (0.024), 0.7 (0.028), 0.8 (0.032), 0.9 (0.036), 1.0 (0.040), 1.1 (0.044), 1.2 (0.048)
End play of ring gear mm (in)			0.15—0.30 (0.006—0.012)
Ring gear end play adjustment washer mm (in)			1.20 (0.047), 1.35 (0.053), 1.50 (0.059), 1.65 (0.065), 1.80 (0.071)
End play of sun gear mm (in)			0.10—0.30 (0.004—0.012)
Sun gear adjustment washer mm (in)			3.5 (0.138), 3.7 (0.146), 3.9 (0.154), 4.1 (0.162), 4.3 (0.170)

Item \ Engine model		B6 DOHC TURBO
Transfer Carrier		
Final gear reduction ratio		4.105
Number of teeth	Ring gear	78
	Secondary shaft final gear	19
Fluid	Type	API: GL-5 Above −18°C (0°F): SAE 90 Below −18°C (0°F): SAE 80W
	Capacity	0.5 liter (0.5 US qt, 0.4 Imp qt)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Transaxle case	37—52	3.8—5.3	27—38
Gear shaft lock nut	127—206	12.9—21	94—152
Rear cover	7.8—11	0.8—1.1	5.8—8.3
Transfer carrier	25—30	2.5—3.1	18.1—22.4
Center differential lock motor	18.6—25.5	1.9—2.6	13.7—18.8
Gate lock bolt	12—16	1.2—1.6	10.4—13.9
Reverse idle shaft lock bolt	19—26	1.9—2.7	13.7—18.8
Switches	19.6—29.4	2.0—3.0	14.5—21.7
Inter lock sleeve guide bolt	8.8—13.7	0.9—1.4	6.5—10.1
Drain plug	39—59	4.0—6.0	29—43

8. PROPELLER SHAFT

Item		Front propeller shaft	Rear propeller shaft
Length	mm (in)	857.3 (33.75)	965 (37.99)
Shaft outer diameter	mm (in)	57 (2.24)	65 (2.56)
Deflection limit	mm (in)	0.4 (0.016)	
Starting torque of the universal joint	N·m (cm-kg, in-lb)	0.294—0.784 (3—8, 2.6—6.9)	

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Companion flange (front)	27—30	2.8—3.1	20—22
Companion flange (rear)	27—30	2.8—3.1	20—22
Center bearing support	37—52	3.8—5.3	27—38

9. FRONT AND REAR AXLES

Item			
Driveshaft			
Joint type		Inside	Double offset joint
		Outside	Bell joint
Shaft length mm (in)	front	Right side	564 (22.20)
		Left side	629 (24.76)
	rear	Right side	681.2 (26.82)
		Left side	651.3 (25.64)
Shaft diameter mm (in)			20.0 (0.787)
Front axle			
Bearing play—axial direction mm (in)			0
Bearing preload	Pull scale reading N (kg, lb)		2.0—8.8 (0.2—0.9, 0.4—2.0)
Preload adjustment spacer mm (in)			6.285 (0.2474), 6.325 (0.2490), 6.365 (0.2506), 6.405 (0.2522), 6.445 (0.2538), 6.485 (0.2554), 6.525 (0.2569), 6.565 (0.2585), 6.605 (0.2600), 6.645 (0.2616), 6.685 (0.2631), 6.725 (0.2648), 6.765 (0.2663), 6.805 (0.2679), 6.845 (0.2695), 6.885 (0.2711), 6.925 (0.2726), 6.965 (0.2742), 7.005 (0.2758), 7.045 (0.2774), 7.085 (0.2789)
Rear axle			
Bearing end play mm (in)			0
Rear differential			
Reduction gear			Hypoid gear
Differential gear			Straight bevel gear
Reduction ratio			3.909 : 1
Number of teeth	Ring gear		43
	Drive pinion gear		11
Fluid	Grade		API Service GL-5
	Viscosity		SAE 90 or 80W-90
	Capacity: liter (US qt, Imp qt)		0.65 (0.69, 0.57)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Knuckle to shock absorber	93—117	9.5—11.9	69—86
Knuckle to lower arm ball joint	43—54	4.4—5.5	32—40
Lower arm to lower ram ball joint	93—117	9.5—11.9	69—86
Knuckle to brake assembly	39—49	4.0—5.0	29—36
Knuckle to tie rod end	29—44	3.0—4.5	22—35
Disc plate to wheel hub	44—54	4.5—5.5	33—40
Hub spindle to shock absorber	93—117	9.5—11.9	69—86
Lateral link through bolt	63—75	6.4—7.6	46—55
Hub spindle to backing plate	45—67	4.6—6.8	33—49

10. STEERING SYSTEM

Item \ Model	4WD	2WD
Steering wheel		
Outer diameter mm (in)	380 (14.96)	
Free play mm (in)	0—30 (0—1.18)	
Operating force N (kg, lb)	M/S : 5—20 (0.5—2.0, 1—5) P/S : 40 (4.1, 9)	

Item \ Model		4WD	2WD
Lock to lock		P/S : 2.9	M/S : 3.6 (C.G.R.) 4.2 (V.G.R.) P/S : 3.2
Max. steering angle	Inner	39°00' ± 2°	40°00' ± 2°
	Outer	31°00' ± 2°	33°00' ± 2°
Front wheel alignment			
King-pin inclination angle		12°05'	12°20'
Camber angle		1°00' ± 30'	0°50' ± 30'
Caster angle		1°45' ± 45'	1°35' ± 45'
Caster trail	mm (in)	8.3 (0.33)	10.0 (0.39)
Toe-in	mm (in)	2 ± 3 (0.08 ± 0.12)	
Steering gear			
Type		Rack and pinion	
Total gear ratio		P/S : 17.0	M/S : 19.84 (C.G.R.), P/S : 17.6 M/S : 20.1—23 (V.G.R.)
Back lash between rack and pinion	mm (in)	0 (0)	
Pinion preload	N·m (cm-kg, in-lb) Preload measured by torque wrench	M/S : 1.0—1.4 (10—14, 8.68—12.15) P/S : 0.6—1.5 (6—15, 5.2—13.02)	
	N (kg, lb) Preload measured by pull scale with attachment	M/S : 10—14 (1—1.4, 2.2—3.1) P/S : 6—15 (0.6—1.5, 1.3—3.3)	
Limit of rack housing movement	mm (in)	1.5 (0.06)	
Distance between left and right brackets	mm (in)	257.5 (10.14)	260 (10.24)
Rack stroke	mm (in)	140 (5.51)	136 (5.35)
Lubricant type (power steering)		ATF DEXRON-II	ATF M2C33-F or Dexron-II
Oil capacity (power steering)	Liter (US qt, Imp qt)	0.6 (0.63 , 0.53)	
Drive belt			
Deflection with force of 98 N (10 kg, 22 lb)	mm (in)	New belt 8—9 (0.31—0.35) Used belt 9—10 (0.35—0.39)	

C.G.R.: Constant Gear Ratio
V.G.R.: Variable Gear Ratio

TIGHTENING TORQUE			N·m	m-kg	ft-lb
Steering wheel nut			40—50	4.0—5.0	29—36
Steering housing to body	4WD	Upper	37—52	3.8—5.3	27—38
		Lower	31—46	3.2—4.7	23—34
	2WD	Upper	31—46	3.2—4.7	23—34
		Lower	31—46	3.2—4.7	23—34
Tie-rod end			29—44	3.0—4.5	29—33
Tie-rod locknut	4WD		34—50	3.5—5.1	25—37
	2WD		34—29	3.5—4.0	25—29
Pinion shaft to intermediate shaft			18—26	1.8—2.7	13—20
Steering shaft to master cylinder bracket	Steering wheel side		8.8—14	0.9—1.4	6.5—10
	Intermediate shaft side		16—23	1.6—2.3	12—17
Steering shaft to intermediate shaft			18—26	1.8—2.7	13—20

11. BRAKING SYSTEM

Item \ Model		4WD & 2WD
Brake type		Front ..... disc, Rear ..... disc or drum
Brake pedal		
Height	mm (in)	214 $^{+5}_{0}$ (8.43 $^{+0.2}_{0}$)
Free play	mm (in)	4—7 (0.16—0.28)
Reserve travel	mm (in)	83 (3.27) or more
Clearance when pedal is depressed at 589 N (60 kg, 132 lb)		

Item \ Model			4WD & 2WD
Master cylinder			
Master cylinder	Type		Tandem
	Bore diameter	mm (in)	22.22 (0.875)
Fluid capacity of reserve tank		cc (cu in)	195 (11.90)
Front disc brake			
Type			Ventilated
Thickness of pad	mm (in)	Standard	10 (0.39)
		Minimum	2 (0.08)
Thickness of disc plate	mm (in)	Standard	18 (0.71)
		Minimum	16 (0.63)
Run-out of disc plate		mm (in)	0.1 (0.003)
Wheel cylinder bore		mm (in)	51.1 (2.01)
Rear brake (disc)			
Type			Solid
Thickness of pad	mm (in)	Standard	8 (0.31)
		Minimum	1 (0.04)
Thickness of disc plate	mm (in)	Standard	10 (0.39)
		Minimum	8 (0.31)
Run-out of disc plate		mm (in)	0.1 (0.003)
Wheel cylinder bore		mm (in)	30.2 (1.19)
Rear brake (drum)			
Type			Leading & trailing
Thickness of lining	mm (in)	Standard	5 (0.20)
		Minimum	1 (0.04)
Drum inside diameter	mm (in)	Standard	200 (7.87)
		Minimum	201 (7.91)
Wheel cylinder bore		mm (in)	17.46 (0.687)
Parking brake			
Type			Mechanical two rear wheel control
Parking lever notches When lever is pulled at 98N (10 kg, 22 lb)			5—7
Power brake unit			
Diameter		mm (in)	213 (8.39)
Clearance between master cylinder piston and push rod		mm (in)	0 (0)
Fluid pressure per treading force Pedal force 196N (20 kg, 44 lb), during non-booster action		kPa (kg/cm^2, psi)	1,373 (14,199)
Rear wheel hydraulic control system			
Type			Dual proportioning valve
Switching point (Master cylinder pressure)		kPa (kg/cm^2, psi)	B6 EGI, B6 DOHC 4WD: 2,943 (30, 427) B6 DOHC 2WD : 3,434 (35, 498)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Master cylinder to power brake unit	19—25	1.9—2.6	14—19
Power brake unit to body	9.8—16	1.0—1.6	7.2—12
Brake pedal to master cylinder bracket	20—34	2.0—3.5	14—25
Front caliper to knuckle	49—59	5.0—6.0	36—43
Back plate to hub spindle	45—59	4.6—6.0	33—43
Mounting support to adaptor (2WD)	49—69	5.0—7.0	36—51
Mounting support to knuckle (4WD)	49—69	5.0—7.0	36—51
Rear caliper to mounting support	16—24	1.6—2.4	12—17
Wheel cylinder to back plate	9.8—13	1.0—1.3	7.2—9.4
Flexible hose to caliper	22—29	2.2—3.0	16—22
Flare nut	13—22	1.3—2.2	9—16

12. WHEEL AND TIRE

Item \ Model			4WD & 2WD
Wheel			
Size			Standard: 4 1/2-Jx13, 5-Jx13, 5 1/2-JJx14 Temporary spare: 4-T x 14
Offset		mm (in)	Standard: 45 (1.77) Temporary spare: 50 (1.97)
Diameter of pitch circle		mm (in)	114.3 (4.5)
Tire			
Size			Standard: 155SR13, P155/80R13, 175/70SR13, P175/70R13, 185/60R14 82H Temporary spare: T105/70D14
Inflation pressure	kPa (kg/cm², psi)	Front	Standard: 196 (2.0, 29) Temporary spare: 412 (4.2, 60)
		Rear	Standard: 177 (1.8, 26) Temporary spare: 412 (4.2, 60)
Wheel and tire			
Runout limit	mm (in)	Horizontal	Steel wheel: 2.5 (0.098) Aluminum wheel: 2.0 (0.079)
		Vertical	1.5 (0.059)
Unbalance limit		g (oz)	13 inch: 11 (0.39), 14 inch: 10 (0.35)

TIGHTENING TORQUE	N·m	m-kg	ft-lb
Wheel lug nut	88—118	9—12	65—87

13. SUSPENSION
2WD (B6 EGI)

Item \ Model			M/T	A/T
Front suspension				
Type			Strut	
Spring			Coil	
Spring dimensions	Wire diameter	mm (in)	12.5 (0.49)	12.8 (0.50)
	Coil diameter	mm (in)	132.5—134.7 (5.22—5.30)	134.3—136.4 (5.29—5.37)
	Free length	mm (in)	391 (15.4)	372 (14.6)
	Coil number (active)		4.96	5.60
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	27.2 (1.07)	

Item \ Model			Hatchback	Sedan
Rear suspension				
Type			Strut	
Spring			Coil	
Spring dimensions	Wire diameter	mm (in)	10.2 (0.40)	10.5 (0.41)
	Coil diameter	mm (in)	112.5 (4.43)	113.2 (4.46)
	Free length	mm (in)	351 (13.8)	376 (14.8)
	Coil number (active)		4.62	5.62
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	15.9 (0.63)	

2WD (B6 DOHC Turbo)

Item \ Type			Hard	ASA
Front suspension				
Type			Strut	
Spring			Coil	
Spring dimensions	Wire diameter	mm (in)	12.8 (0.50)	12.5 (0.49)
	Coil diameter	mm (in)	134.3—136.4 (5.29—5.37)	133.0—135.5 (5.24—5.33)
	Free length	mm (in)	372 (14.6)	393 (15.5)
	Coil number (active)		5.60	4.07
Shock absorber			Cylindrical double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	29.2 (1.15)	
Rear suspension				
Type			Strut	
Spring			Coil	
Spring dimensions	Wire diameter	mm (in)	10.2 (0.40)	10.0 (0.39)
	Coil diameter	mm (in)	113.2 (4.46)	113.0 (4.45)
	Free length	mm (in)	351 (13.8)	394.6 (15.54)
	Coil number (active)		4.62	
Shock absorber			Cylinder double-acting	
Stabilizer	Type		Torsion bar	
	Diameter	mm (in)	Hatchback: 15.9 (0.63) Sedan: 17.3 (0.68)	17.3 (0.68)

ASA: Adjustable Shock Absorber

4WD (B6 DOHC Turbo)

Item \ Type			Hard
Front suspension			
Type			Strut
Spring			Coil
Spring dimensions	Wire diameter	mm (in)	11.25 (0.44)
	Coil diameter	mm (in)	135 (5.31)
	Free length	mm (in)	436 (17.16)
	Coil number (active)		5.2
Shock absorber			Cylindrical double-acting
Stabilizer	Type		Torsion bar
	Diameter	mm (in)	29.2 (1.15)

Item \ Type			Sporty
Rear suspension			
Type			Strut
Spring			Coil
Spring dimensions	Wire diameter	mm (in)	10.5 (0.41)
	Coil diameter	mm (in)	128 (5.04)
	Free length	mm (in)	356.8 (14.05)
	Coil number (active)		3.65
Shock absorber			Cylindrical double-acting
Stabilizer	Type		Torsion bar
	Diameter	mm (in)	15.9 (0.63)

TIGHTENING TORQUE		N·m	m-kg	ft-lb
Front Suspension				
Piston rod to mounting block	4WD	64—80	6.5—8.2	47—59
	2WD	55—68	5.6—6.9	41—50
Mounting block to suspension tower		29—36	3.0—3.7	22—27
Strut (lower) to knuckle		93—117	9.5—11.9	69—86
Knuckle arm to lower arm		43—54	4.4—5.5	32—40
Lower arm bushing (front)		93—117	9.3—11.9	69—86
Lower arm bushing (rear)		75—93	7.6—9.5	55—69
Lower arm bushing bracket (rear)		58—74	6.0—7.5	43—54
Stabilizer to lower arm		12—18	1.2—1.8	8.7—13
Stabilizer bracket (upper)		39—55	4.0—5.6	29—41
Stabilizer bracket (lower)		31—46	3.2—4.7	23—34
Rear Suspension				
Piston rod to mounting block	4WD	64—80	6.5—8.2	47—59
	2WD	55—68	5.6—6.9	41—50
Mounting block to suspension tower		23—29	2.3—3.0	17—22
Strut (lower) to knuckle (4WD)		78—117	8.0—11.9	58—86
Strut (lower) to hub spindle (2WD)		93—117	9.5—11.9	69—86
Lateral link to crossmember	4WD	68—95	6.9—9.7	50—70
	2WD	93—117	9.5—11.9	69—86
Lateral link to knuckle (4WD)		63—75	6.4—7.6	46—55
Lateral link to hub spindle (2WD)		63—75	6.4—7.6	46—55
Lateral link rod locknut (4WD)		55—64	5.6—6.5	41—47
Trailing link to body		59—74	6.0—7.5	43—54
Trailing link to knuckle (4WD)		93—117	9.5—11.9	69—86
Trailing link to hub spindle (2WD)		54—69	5.5—6.9	40—50
Crossmember to body	4WD	48—95	6.9—9.7	50—70
	2WD	46—57	4.7—5.8	34—42
Stabilizer to lateral link		12—18	1.2—1.8	8.7—13
Stabilizer bracket		43—54	4.4—5.5	32—40

15. BODY ELECTRICAL SYSTEM

Item		Wattage (Bulb Trade number)
Halogen headlights		65/45 (9004)
Turn signal lights	Front	27 (1156)
	Rear	27 (1157 NA)
Stop and tail lights		27/8 (1157)
Parking/Front side marker lights		8 (67)

Item	Wattage (Bulb Trade number)	
License plate lights	8 (67)	
Back-up light	27 (1156)	
High mounted stop light	18.4 (1141)	
Rear side marker lights	4.9 (168)	
Interior light	10	
Map lights	6	
Luggage compartment light	5	
Courtesy lights	3.4	
Indicator and warning lights	With Tachometer	Without Tachometer
Turn signal	3.4 (Analog), 1.4 (Digital)	
High beam	3.4 (Analog), 1.4 (Digital)	
Oil pressure	1.4	3.4
Alternator	1.4	3.4
Hazard	3.4 (Analog), 1.4 (Digital)	
Rear window defroster (if equipped)	1.4	3.4
Brake fluid level	1.4	3.4
Check (MIL)	3.4 (Analog), 1.4 (Digital)	3.4
A/C switch (if equipped)	1.4	
Stop light	1.4	—
Turbo	3.4	—
O/D OFF	1.4	—
Fuel level	3.4 (Analog), 1.4 (Digital)	—
Washer fluid level	1.4	—
Seat belt	1.4	3.4
Illumination lights		
Heater	3.4	
Cigarette lighter	3.4	
Radio	1.4	
Clock	1.4	
Cluster switch	1.4	
Automatic selector lever	3.4	
ASA switch	1.4	
Meter	3.4 (Analog), 1.4 (Digital)	
A/C switch (if equipped)	1.4	

STANDARD BOLT AND NUT TIGHTENING TORQUE

Diameter mm (in)	Pitch mm (in)	4T			6T			8T		
		N·m	m-kg	ft-lb	N·m	m-kg	ft-lb	N·m	m-kg	ft-lb
6 (0.236)	1 (0.039)	4.2—6.2	0.43—0.63	3.1—4.6	6.9—9.8	0.7—1.0	5.0—7.2	7.8—11.8	0.8—1.2	5.8—8.8
8 (0.315)	1.25 (0.049)	9.8—14.7	1.0—1.5	7.2—10.8	16—23	1.6—2.3	12—17	18—26	1.8—2.7	13—20
10 (0.394)	1.25 (0.049)	20—28	2.0—2.9	14—21	31—46	3.2—4.1	23—34	36—54	3.7—5.5	27—40
12 (0.472)	1.5 (0.059)	34—50	3.5—5.1	25—37	55—80	5.6—8.2	41—59	63—93	6.4—9.5	46—69
14 (0.551)	1.5 (0.059)	—	—	—	75—103	7.7—10.5	56—76	102—137	10—14	75—101
16 (0.630)	1.5 (0.059)	—	—	—	116—157	12—16	85—116	156—211	16—22	115—156
18 (0.709)	1.5 (0.059)	—	—	—	167—225	17—23	123—166	221—299	23—31	163—221
20 (0.787)	1.5 (0.059)	—	—	—	231—314	24—32	171—231	308—417	31—43	227—307
22 (0.866)	1.5 (0.059)	—	—	—	314—423	32—43	231—312	417—564	43—58	307—416
24 (0.945)	1.5 (0.059)	—	—	—	475—546	41—56	298—403	536—726	55—74	396—536

SPECIAL TOOLS

73G40X-001

GENERAL INFORMATION

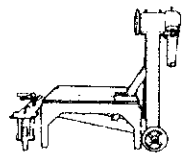
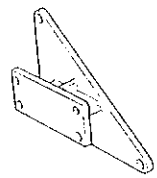
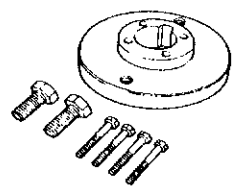
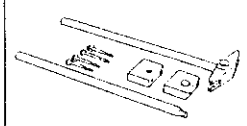
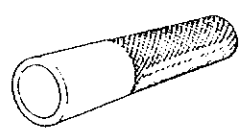
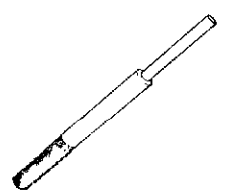
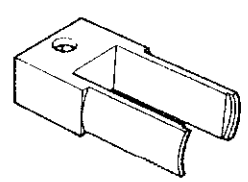
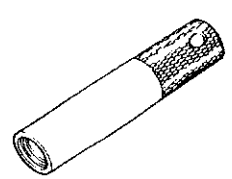
The letters in the Priority Column indicate the degree of importance of each tool.
A ..... Indispensable
The tools ranked "A" in this list are indispensable for performing operations satisfactorily, easily and efficiently and so it is advisable that all service shops have these tools.
B ..... Selective
The tools in this list are not as necessary as tools ranked A, but all service shops should have these tools if possible in order to easily perform operations for efficient repair operations.

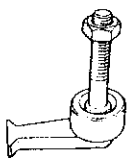
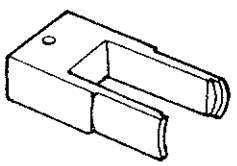
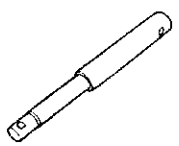
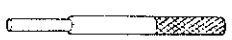
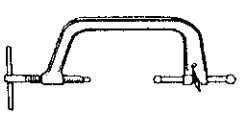
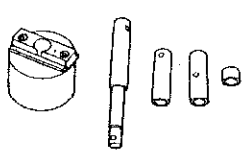
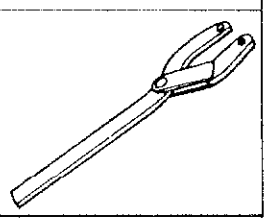
86U40X-002

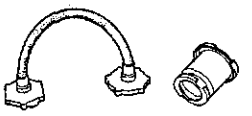
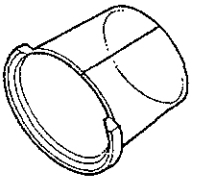
Note
When ordering tool sets which consist of several tools, check the List in the Parts Catalogue or Special Service Tools Booklet (4063-11-85B) etc. to make sure that some tools are duplicated in other sets which may already have been purchased. If so, order only those new tools which are needed.

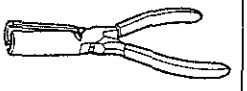
73G40X-002

ENGINE GROUP

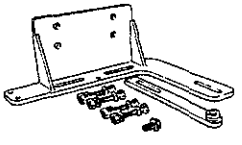
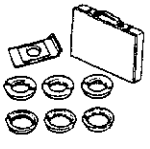
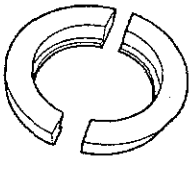
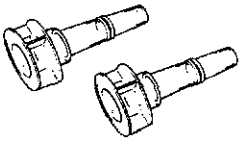
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 0107 680A Engine stand	A	
49 B010 1A0 Hanger, engine stand	A	
49 B011 102 Lock tool, crankshaft	A	
49 B012 0A0 (B6 EGI) Compressor, valve spring	A	
49 B012 001 (B6 EGI) Pusher, valve seal	A	
49 B012 005 (B6 DOHC) Remover & installer, valve guide	A	
49 B012 006 (B6 DOHC) Pivot, valve spring lifter	A	
49 B012 007 (B6 DOHC) Pusher, valve seal	A	

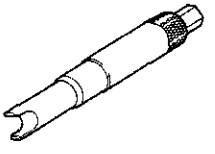
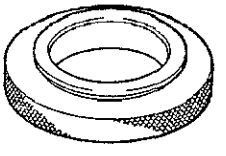
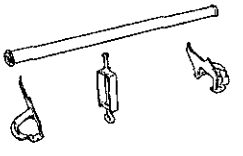
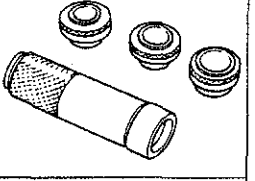
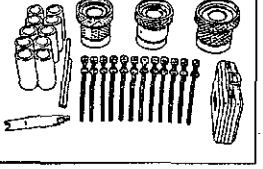
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 E301 060 Brake, ring gear	A	
49 S120 222 (B6 EGI) Pivot, valve spring lifter	A	
49 0221 061A (B6 DOHC) Remover & installer, piston pin	B	
49 0249 010A (B6 EGI) Remover & installer, valve guide	A	
49 0636 100A (B6 EGI) Arm, valve spring lifter	A	
49 8134 040A (B6 EGI) Tool set, piston pin setting	A	
49 S120 710 Holder, coupling flange	A	

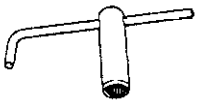
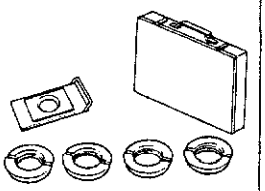
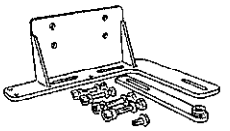
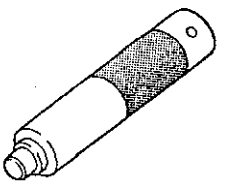
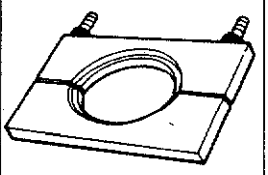
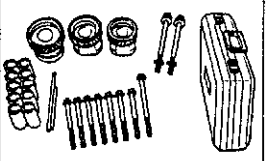
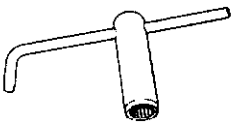
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 9200 145 Adapter, radiator cap tester	A	
49 B012 011 (B6 DOHC) HLA hole protector	B	

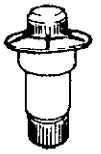
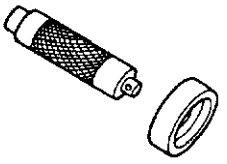
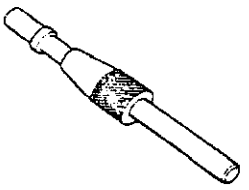
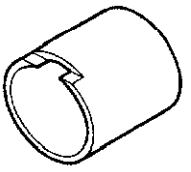
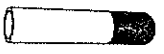
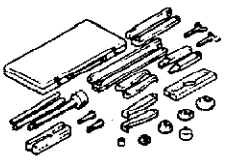
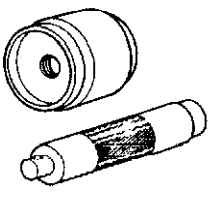
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 S120 170 Remover, valve seal	A	

CLUTCH & MANUAL TRANSAXLE GROUP

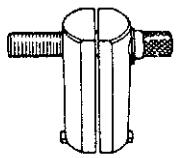
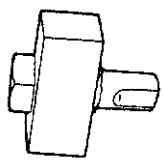
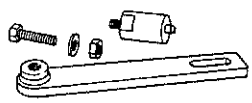
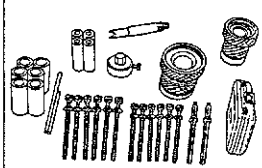
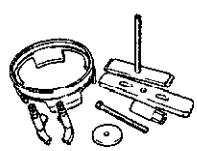
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B017 0A0 (B6 EGI) Hanger, transaxle	A	
49 B017 1A0 (B6 EGI) Remover set, bearing	A	
49 B027 003 (4WD) Attachment M	A	
49 B017 5A0 (4WD) Support, engine	A	
49 B027 001 (4WD) Holder, differential side gear	A	

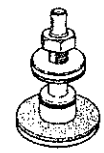
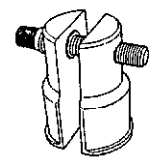
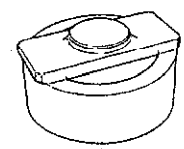
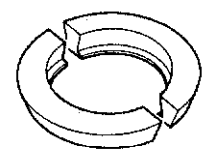
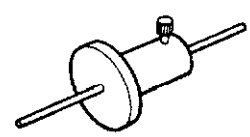
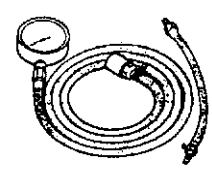
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B027 002 (4WD) Adaptor, preload (Diff. side bearing)	A	
49 B027 004 (4WD) Measuring plate	A	
49 E301 025B (2WD) Support, engine	A	
49 F401 330B Installer set, bearing	A	
49 F401 380C (B6 EGI) Shim selector set	A	

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 F401 440 (B6 EGI) Holder, primary shaft	A	
49 G017 1A0 (B6 DOHC) Remover set, bearing	A	
49 G019 0A0 (B6 DOHC) Hanger, transaxle	A	
49 B043 002 Installer, bearing	A	
49 G030 370 (B6 DOHC) Removing plate	A	
49 G030 380B (B6 DOHC) Shim selector set	A	
49 G030 440 (B6 DOHC) Holder primary shaft	A	

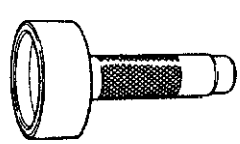
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 G030 455 (B6 DOHC) Holder differential side gear	A	
49 G030 795 (B6 DOHC) Installer, oil seal	A	
49 SE01 310 Centering tool, clutch disc	A	
49 H034 201 Support block	A	
49 0727 415 (4WD) Installer, bearing	A	
49 0839 425C Puller set, bearing	A	
49 B025 0A0 (4WD) Installer, dust seal	A	

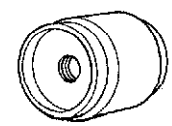
AUTOMATIC TRANSAXLE GROUP

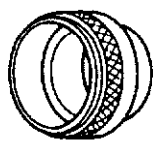
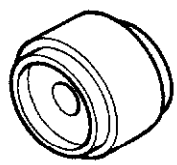
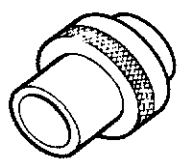
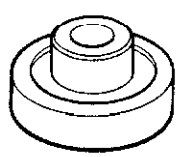
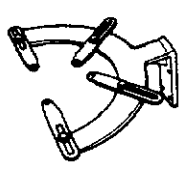
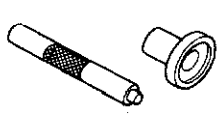
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 FT01 361 Remover, bearing	A	
49 FT01 439 Holder, idle gear shaft	A	
49 G019 0A2 Turbine shaft holder	A	
49 G019 0A5A Shim selector set	A	
49 G019 0A7 Compressor set, return spring	A	
49 G019 011 Bearing installer	A	

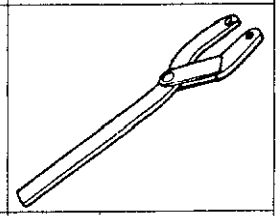
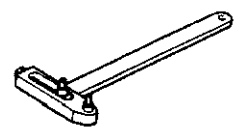
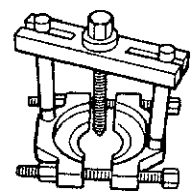
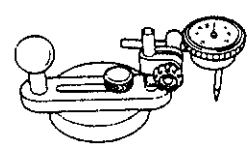
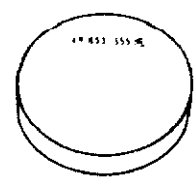
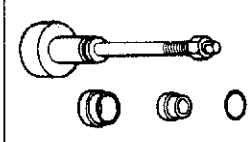
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 G019 012 Leak checker	A	
49 G019 013 Bearing remover	A	
49 G019 017 Oil seal installer	A	
49 G019 022 Attachment K	A	
49 G032 355 Adjust gauge	A	
49 0378 400A Gauge set, oil pressure	A	

PROPELLER SHAFT & DIFFERENTIAL GROUP

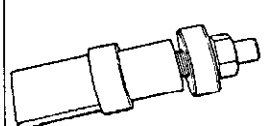
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B001 795 (B6 EGI) Installer, oil seal	A	

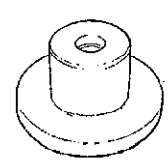
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B025 001 (4WD) Body	A	

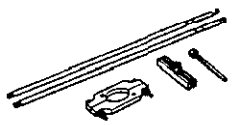
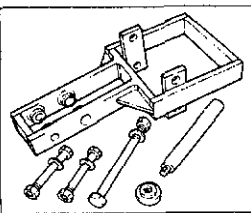
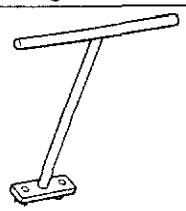
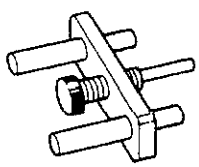
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 G030 338 (B6 DOHC) Attachment E	A	
49 H025 002 (4WD) Installer, dust seal	A	
49 H025 003 (4WD) Installer, bearing	A	
49 H033 101 (4WD) Bearing remover	A	
49 M005 561 (4WD) Hanger, differential carrier	A	
49 M005 795 (4WD) Installer set, oil seal	A	

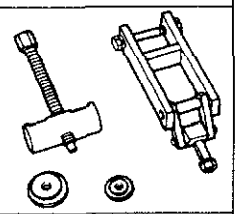
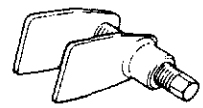
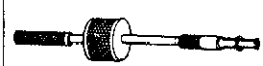
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 S120 710 Holder, coupling flange	A	
49 0259 720 (4WD) Wrench, differential side bearing adjust nut	A	
49 0710 520 (4WD) Puller bearing	A	
49 0727 570 (4WD) Gauge body, pinion height adjust	A	
49 8531 555 (4WD) Gauge block	A	
49 8531 565 (4WD) Pinion model	A	

BRAKE & AXLE GROUP

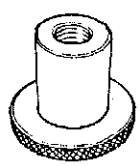
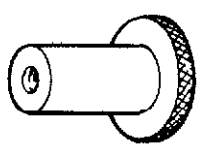
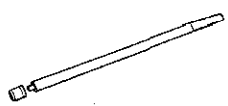
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B001 727 Spacer, selector (Front wheel hub)	A	

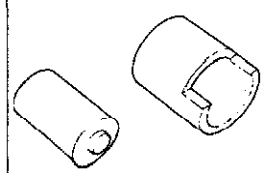
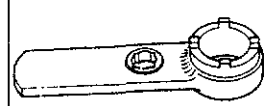
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 F026 102 Installer, bearing	A	

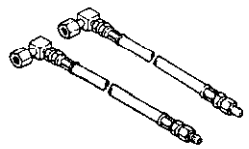
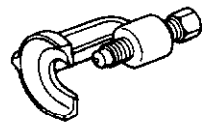
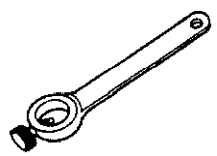
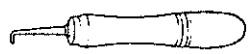
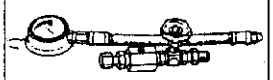
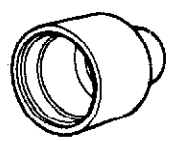
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 0187 520 Puller, rear axle shaft bearing	A	
49 B026 1A0 (4WD) Puller, wheel hub	A	
49 FA18 602 Wrench, disc brake piston	A	
49 F043 001 Adjust gauge	A	

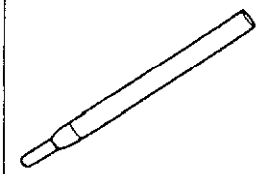
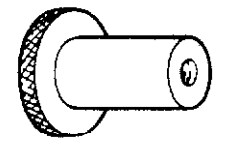
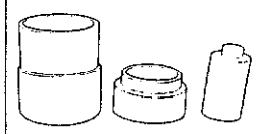
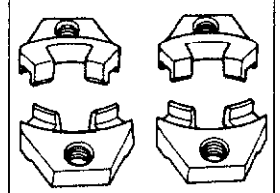
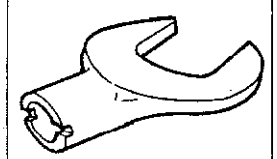
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 G030 725 (2WD) Puller, wheel hub (Front)	A	
49 0221 600C Expand tool, disc brake	A	
49 0259 770B Wrench, flare nut	A	
49 1285 071 Puller, bearing	A	

STEERING & SUSPENSION GROUP

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B001 605 (Front) Adaptor, caster, camber gauge	B	
49 B026 101 (Rear) Adaptor, camber gauge	A	
49 B032 3A0 Remover, oil seal	A	

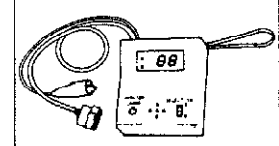
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B032 302 Adaptor, power steering gauge	A	
49 B092 625A Puller & installer set, lower arm bush	A	
49 H001 585 Adjust wrench	A	

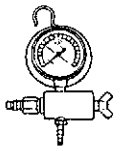
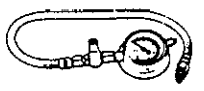
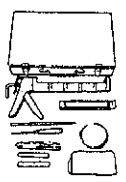
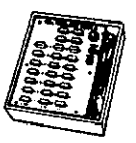
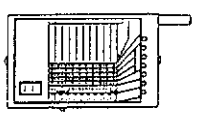
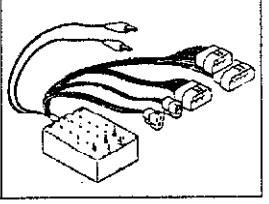
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 H002 671 Adaptor, power steering gauge	A	
49 0118 850C Puller, ball joint	B	
49 0180 510B Attachment, steering worm bearing preload measuring	B	
49 0208 710A Air out tool, boot	B	
49 1232 670A Gauge set, power steering	A	
49 8038 785 Boot installer, ball joint dust cover	A	

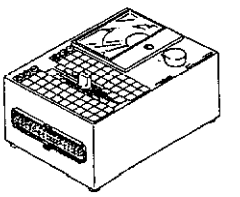
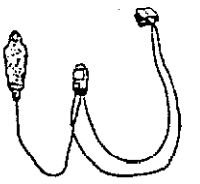
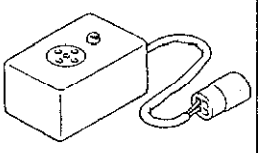
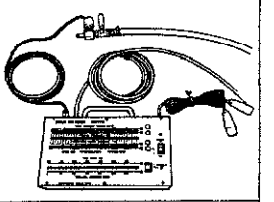
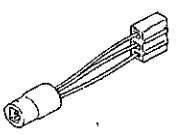
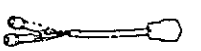
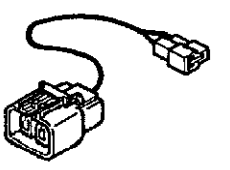
TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 G030 595 Protector	A	
49 8531 605 (Rear) Adaptor, caster, camber gauge	B	
49 G030 625A Puller & installer set, lower arm bush	B	
49 0223 640B Arm, coil spring compressor	A	
49 0370 641 Screw, coil spring compressor	A	
49 B032 303 Wrench	A	

TESTER & OTHER GROUP

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 B092 953 Injector checker	A	

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 H018 9A1 Self-diagnosis checker	A	

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 H080 740 (B6 DOHC) Pressure tester	A	
49 0187 280 Oil pressure gauge	B	
49 0259 866A Installing tool, seal pusher & blade	B	
49 0305 870A Tool set, window (Bond type)	A	
49 0839 285 Checker, fuel thermometer	A	
49 9200 010 Auto cruise control checker	A	
49 9200 030B Logicon checker	A	

TOOL NUMBER & DESCRIPTION	PRIORITY	ILLUSTRATION
49 9200 162 Engine signal monitor	A	
49 U018 003 Adoptor harness	A	
49 9200 165 Tester, throttle sensor	A	
49 9200 750A Multi-pressure tester	A	
49 9200 166 Adaptor, throttle sensor	A	
49 F018 001 Checker lamp	A	
49 G018 001 Adoptor harness	A	

1988 Mazda 323 Wiring Diagram

FOREWORD

This wiring diagram incorporates the wiring schematic for the basic vehicle and its available optional equipment. Actual vehicle wiring may vary slightly depending upon optional equipment and/or local specifications. All information contained in this booklet is based on the latest information available at the time of printing. Mazda Motor Corporation reserves the right to make changes without previous notice.

Mazda Motor Corporation
HIROSHIMA, JAPAN

SECTION INDEX

PRINTED IN JAPAN May '87 K
5099-10-87E

Wiring Diagram

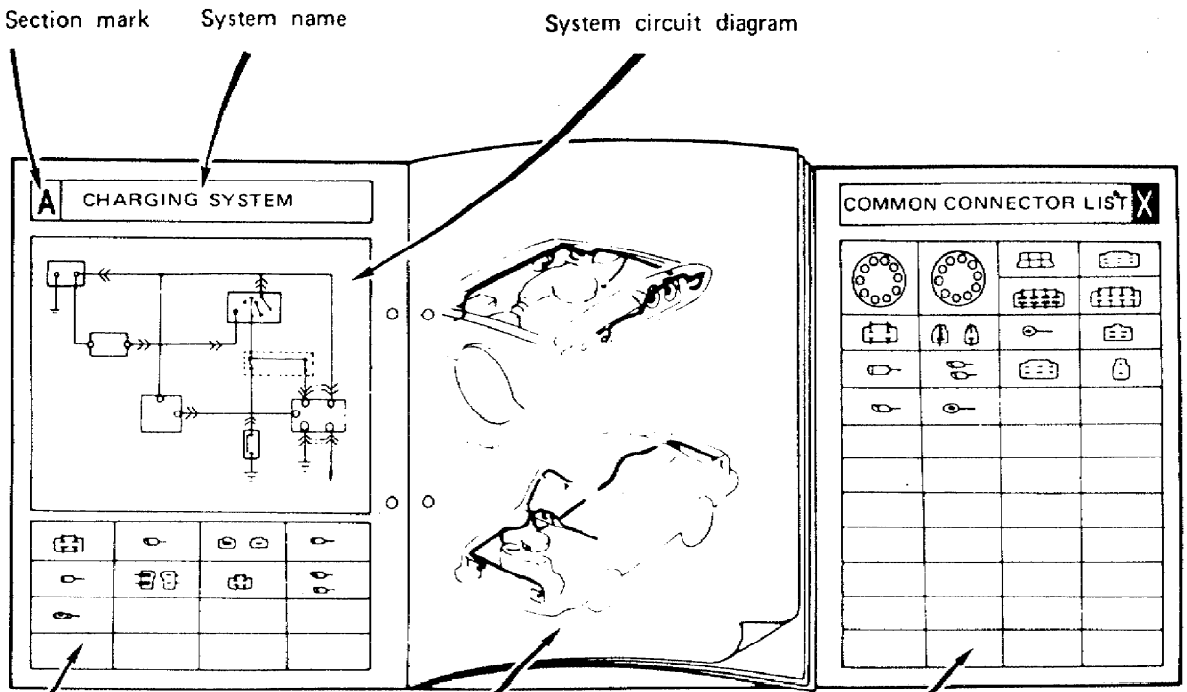
SECTION INDEX

HOW TO USE THIS WIRING DIAGRAM

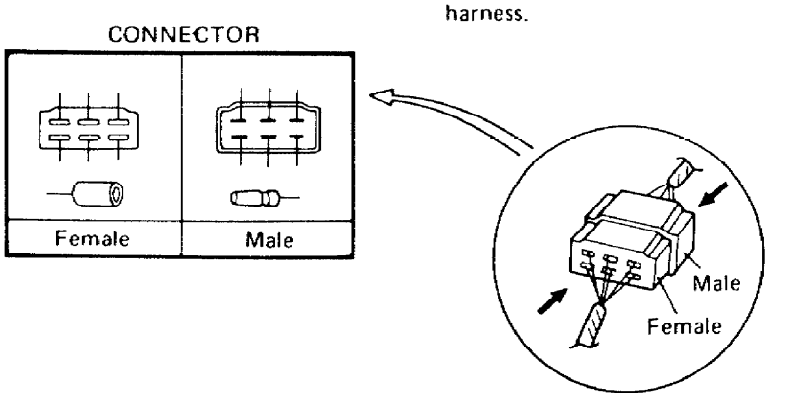
The complete electrical system is divided into charging system, ignition system, etc.

Each system is shown on both right and left pages as described below.

When reading the wiring diagram, following should be noted:



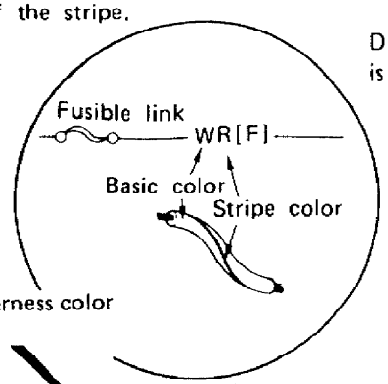
- Connector diagram identifies the exclusive applicable connectors for the circuit.
- Right page illustrates the actual location of each connector and the routing diagram of the harness.
- The last page, "Section X", illustrates common connectors related to each system.



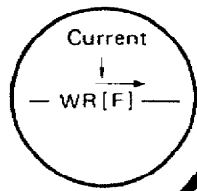
WIRING COLOR CODE

Wiring color code is indicated with alphabetical letter/s. The first letter indicates the basic color of the wire, and second letter (if any) indicates that the color of the stripe.

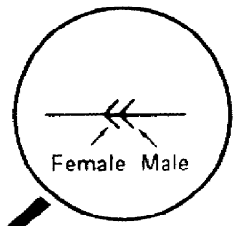
CODE	COLOR	CODE	COLOR
B	Black	Lg	Light green
Br	Brown	O	Orange
G	Green	R	Red
L	Blue	Y	Yellow
Lb	Light blue	W	White
LO	Blue Orange	WR	White Red
LgB	Light green Black		

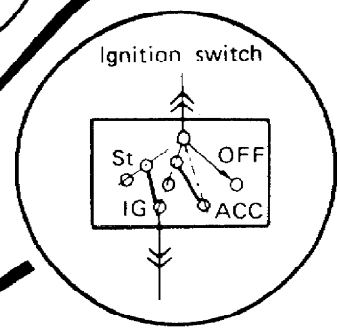


Direction of current is shown by the arrow



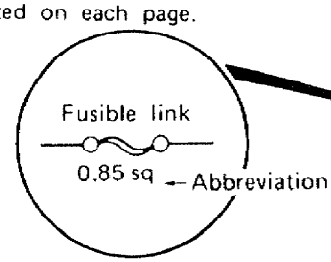
CONNECTOR

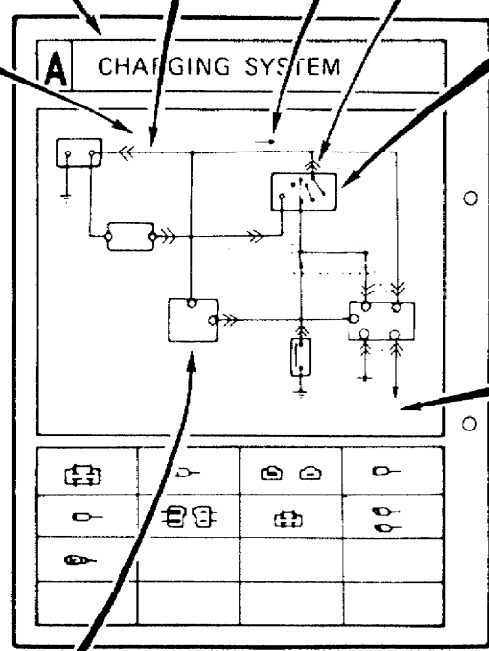


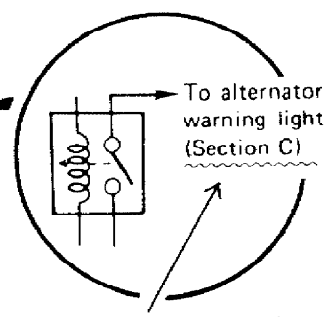


Circuit is shown with the ignition switch off.

The same fusible link and fuses are indicated on each page.



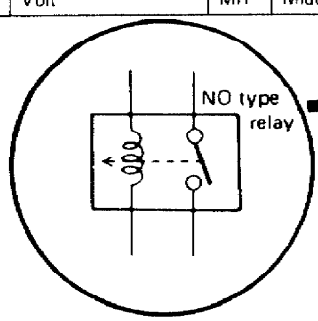




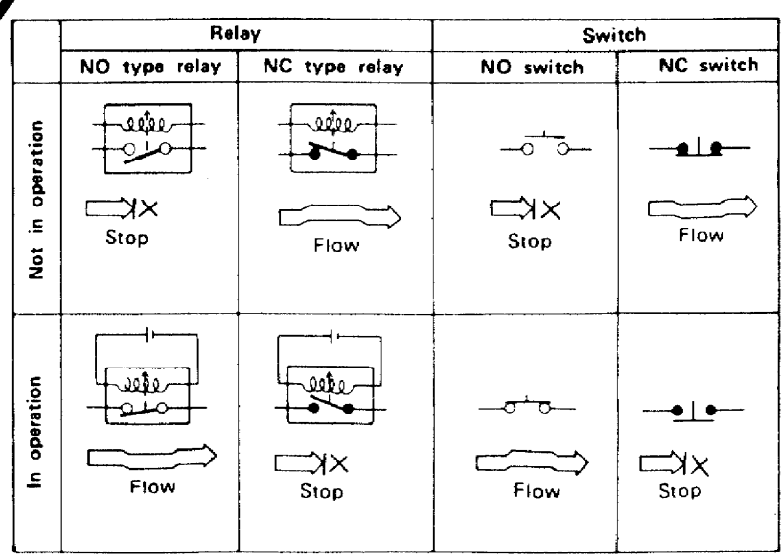
Legend in the parenthesis ( ) indicates the reference section.

ABBREVIATIONS USED IN THIS BOOKLET

Abbr.	Term	Abbr.	Term
St	Start	A	Ampere
IG	Ignition	W	Watt
ACC	Accessary	R	Resistance
AS	Auto stop	Tr	Transistor
INT	Intermittent	M	Motor
Lo	Low	SW	Switch
Mi	Middle	Sq	Square per millimeter
Hi	High		
R.H.	Right hand	A/T	Automatic transmission
L.H.	Left hand		
F.R.	Front right	M/T	Manual transmission
F.L.	Front left		
R.R.	Rear right	NO	Normal opened
R.L.	Rear left	NC	Normal closed
V	Volt	MH	Middle high



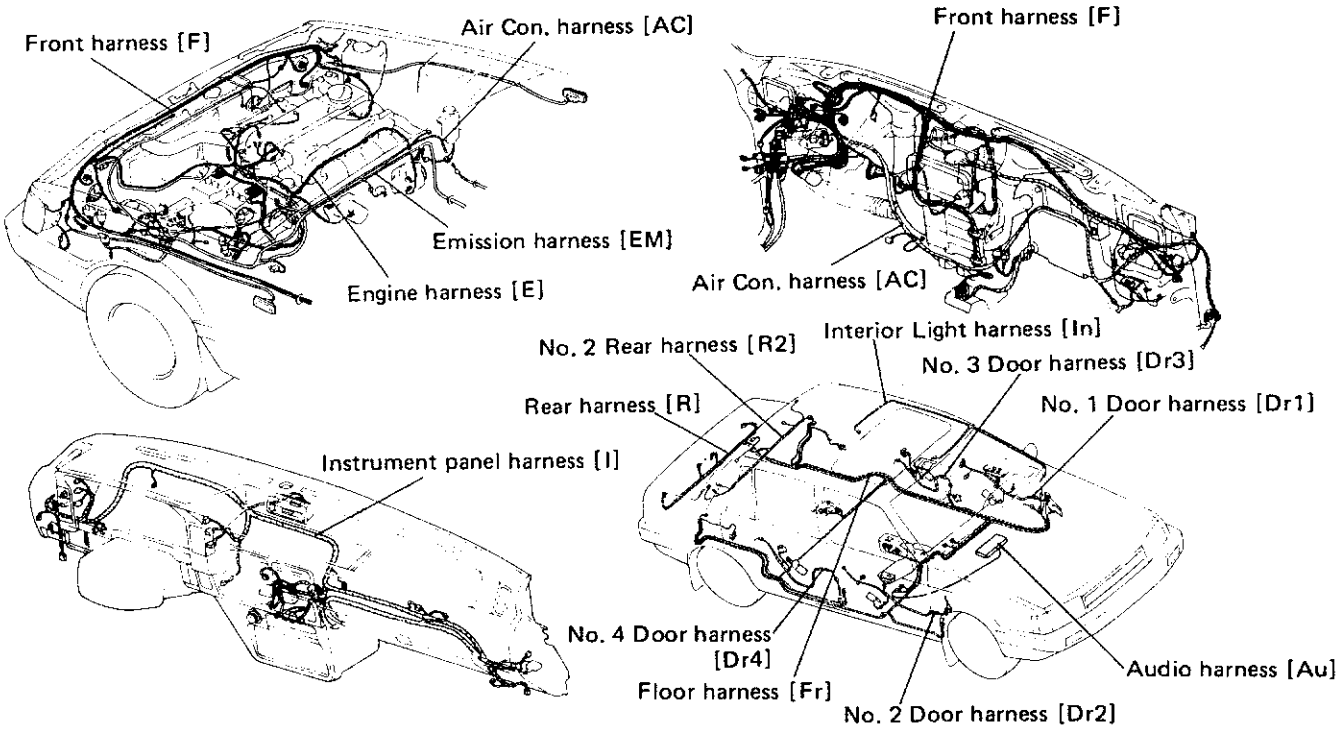
The relays and switches are identified as NC (normal closed), or NO (normal opened), to indicate their normal position when they are not in operation.



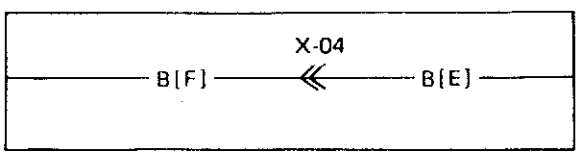
HARNESS SYMBOLS

Each harness is distinguished by a symbol to indicate to which harness belong a wiring and connector in circuit diagrams and connector charts.

DESCRIPTION OF HARNESS	COLOR	SYMBOL	DESCRIPTION OF HARNESS	SYMBOL
Front harness	▬	[F]	No. 1 Door harness	[Dr1]
Engine harness	▬	[E]	No. 2 Door harness	[Dr2]
Instrument panel harness		[I]	No. 3 Door harness	[Dr3]
Rear harness	▬	[R]	No. 4 Door harness	[Dr4]
No. 2 Rear harness		[R2]	Audio harness	[Au]
Emission harness		[EM]	Air Con. harness	[AC]
Interior light harness		[In]		
Floor harness		[Fr]		



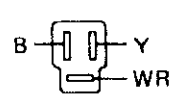
EXAMPLE OF CIRCUIT DIAGRAM



* It is seen from the above that the male-side black line of the X-04 shows the engine harness and the female-side black line shows the front harness.
* It is seen from the above that the X-04 connector is a connector connecting the engine and the front.

EXAMPLE OF CONNECTOR

C-03 Fuel Tank Gauge Unit [R]

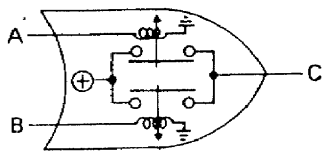
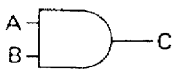
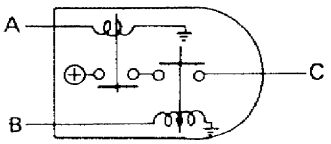
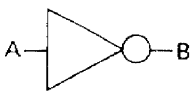
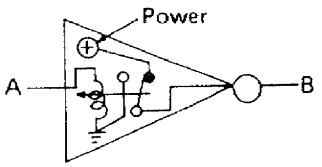
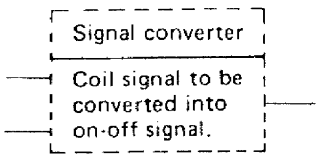


* It is seen from the above that this connector (C-03) is on the Rear harness.

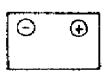
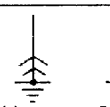
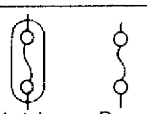
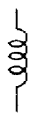
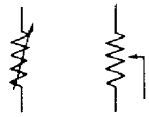
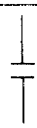
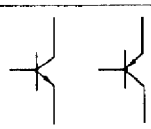
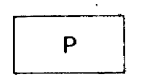
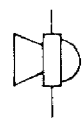
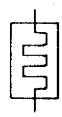
SYMBOLS IN THIS WIRING DIAGRAM

LOGICAL SYMBOLS

The logical symbols are of four kinds: OR, AND, INV. (Inverter), PROCESS.
The circuit operation can be easily read by understanding these symbols.

OR 	In case of input to either A or B, an output comes out from C. When A and B are off (0V), C is off (0V). When either A or B is on (12V), C is on (12V). This can be simply shown in the relay circuit on the right-hand side.	
AND 	In case of input to both A and B, an output comes out from C. When A and B are on (12V), C is on (12V). When either A or B is off (0V), C is off (0V). This can be simply shown in the relay circuit on the right-hand side.	
INV. (Inverter) 	In case of input to A, B is grounded. When A is off (0V), B is on (12V). When A is on (12V), B is off (0V). This can be simply shown in the relay circuit on the right-hand side.	
	PROCESS makes a simplified representation of complicated functions of the circuit. Functions mainly used: 1. Detection of signals 2. Conversion of signals The process of the full transistor ignition control unit is as shown in the right-hand figure.	

GRAPHIC SYMBOLS

				
Battery	Ground	Fuse	Fusible link	Motor
				
Coil solenoid	Resistance	Variabel resistance	Thermister	Diode
				
Condenser	Transistor	Pump	Lamp	Horn
				
Speaker	Cigar lighter	Heater	Illuminated Diode	Zener Diode

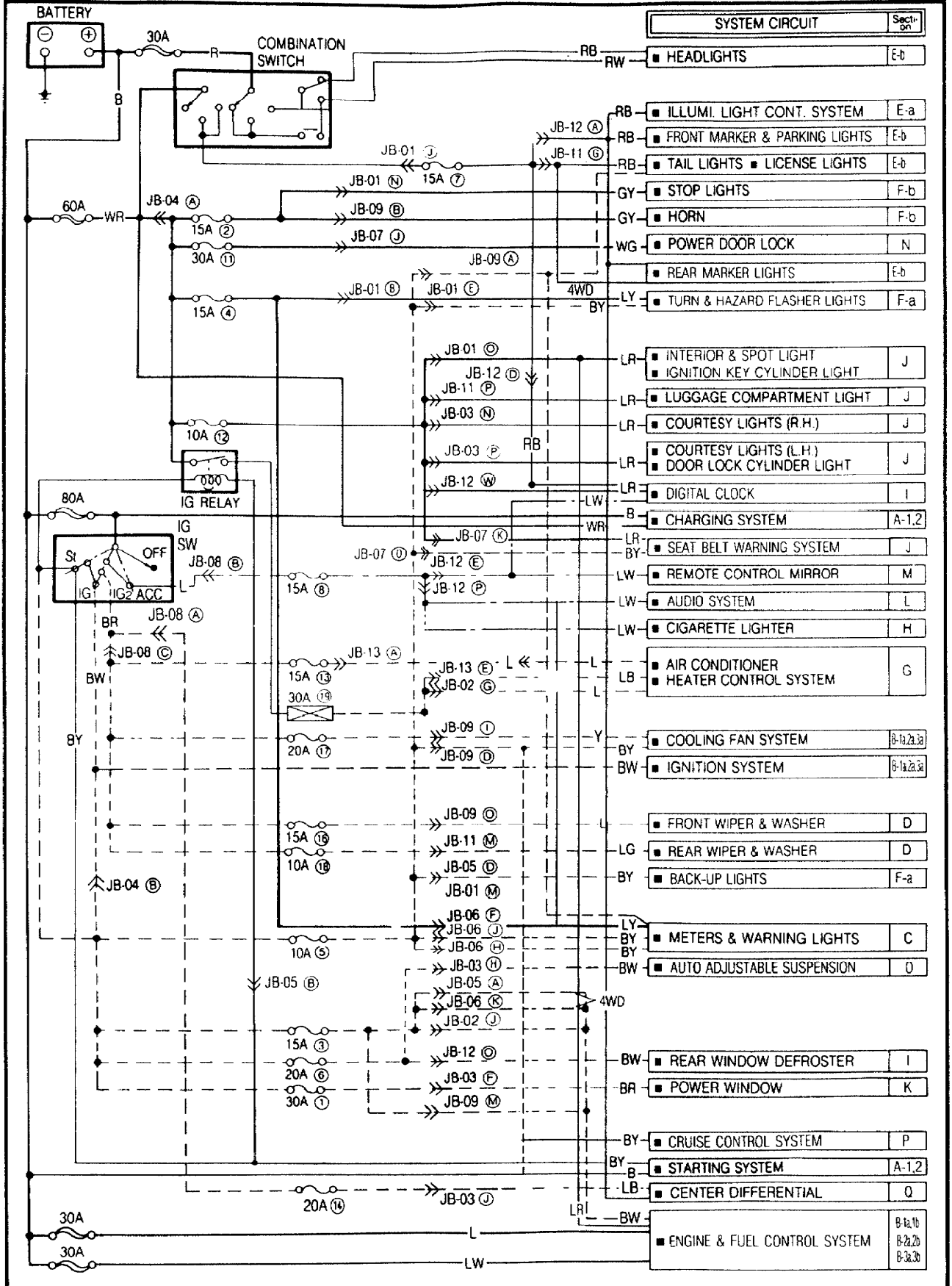
PI PARTS INDEX

PARTS INDEX

PI

W ■ ELECTRICAL WIRING SCHEMATIC

Current From Battery
Current From IG Terminal of Ignition Switch
Current From ACC Terminal of Ignition Switch
Others

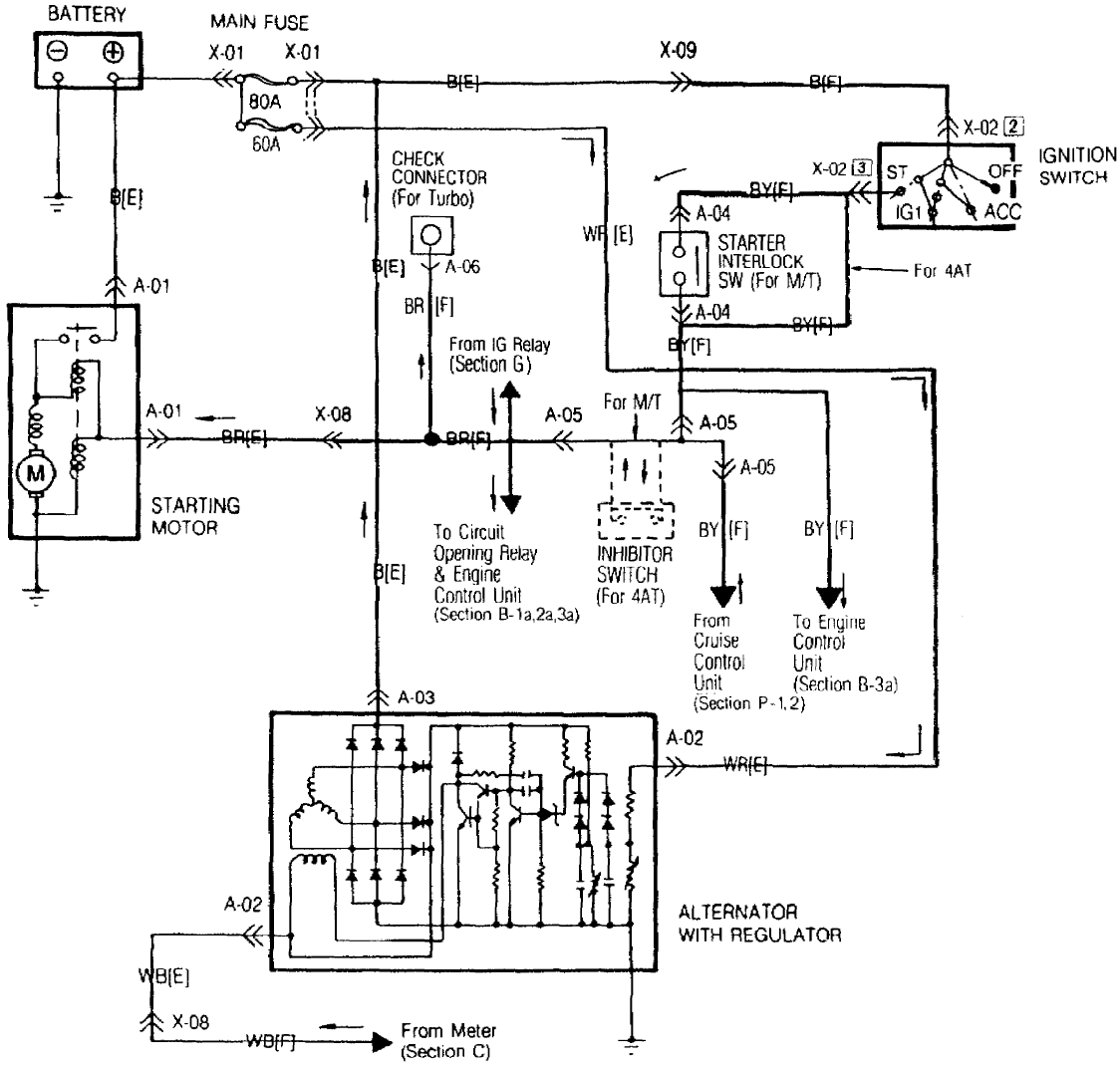


SYSTEM CIRCUIT	Section
■ HEADLIGHTS	E-b
■ ILLUMI. LIGHT CONT. SYSTEM	E-a
■ FRONT MARKER & PARKING LIGHTS	E-b
■ TAIL LIGHTS ■ LICENSE LIGHTS	E-b
■ STOP LIGHTS	F-b
■ HORN	F-b
■ POWER DOOR LOCK	N
■ REAR MARKER LIGHTS	E-b
■ TURN & HAZARD FLASHER LIGHTS	F-a
■ INTERIOR & SPOT LIGHT ■ IGNITION KEY CYLINDER LIGHT	J
■ LUGGAGE COMPARTMENT LIGHT	J
■ COURTESY LIGHTS (R.H.)	J
■ COURTESY LIGHTS (L.H.) ■ DOOR LOCK CYLINDER LIGHT	J
■ DIGITAL CLOCK	I
■ CHARGING SYSTEM	A-1,2
■ SEAT BELT WARNING SYSTEM	J
■ REMOTE CONTROL MIRROR	M
■ AUDIO SYSTEM	L
■ CIGARETTE LIGHTER	H
■ AIR CONDITIONER ■ HEATER CONTROL SYSTEM	G
■ COOLING FAN SYSTEM	B-1a,2a,3a
■ IGNITION SYSTEM	B-1a,2a,3a
■ FRONT WIPER & WASHER	D
■ REAR WIPER & WASHER	D
■ BACK-UP LIGHTS	F-a
■ METERS & WARNING LIGHTS	C
■ AUTO ADJUSTABLE SUSPENSION	Q
■ REAR WINDOW DEFROSTER	I
■ POWER WINDOW	K
■ CRUISE CONTROL SYSTEM	P
■ STARTING SYSTEM	A-1,2
■ CENTER DIFFERENTIAL	Q
■ ENGINE & FUEL CONTROL SYSTEM	B-1a,1b B-2a,2b B-3a,3b

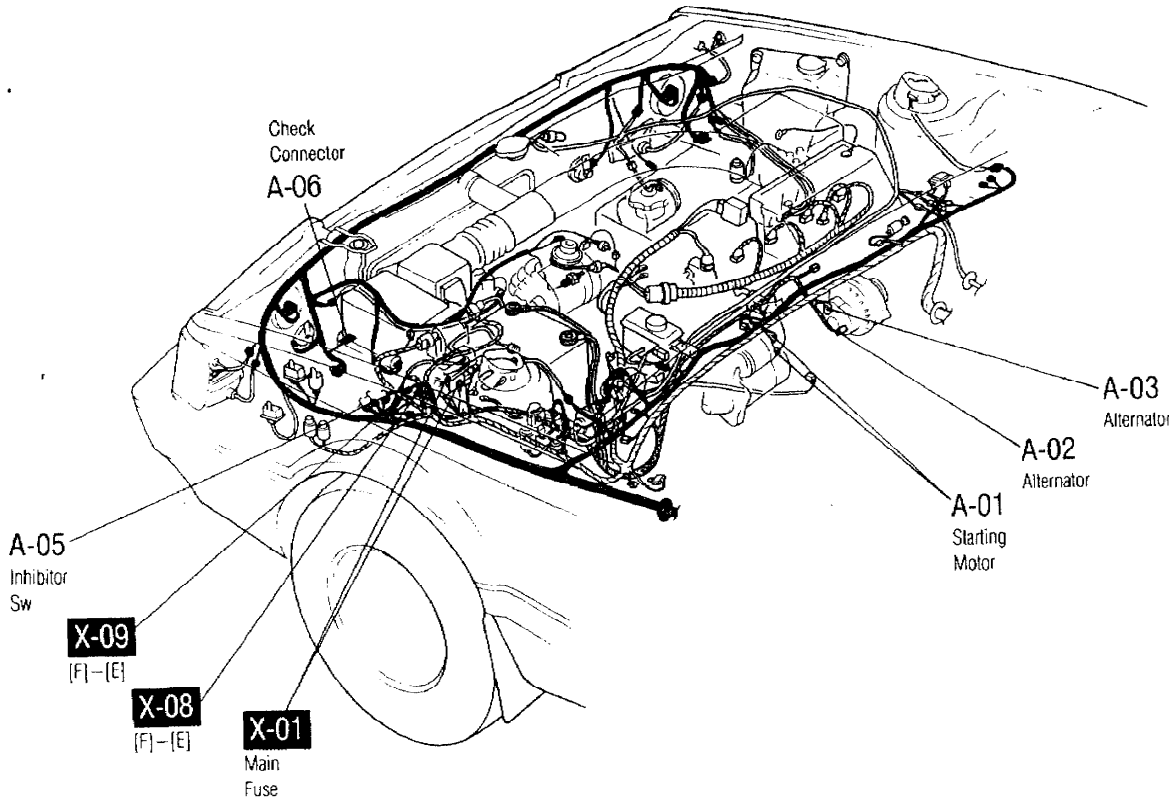
A-1 Except 4WD

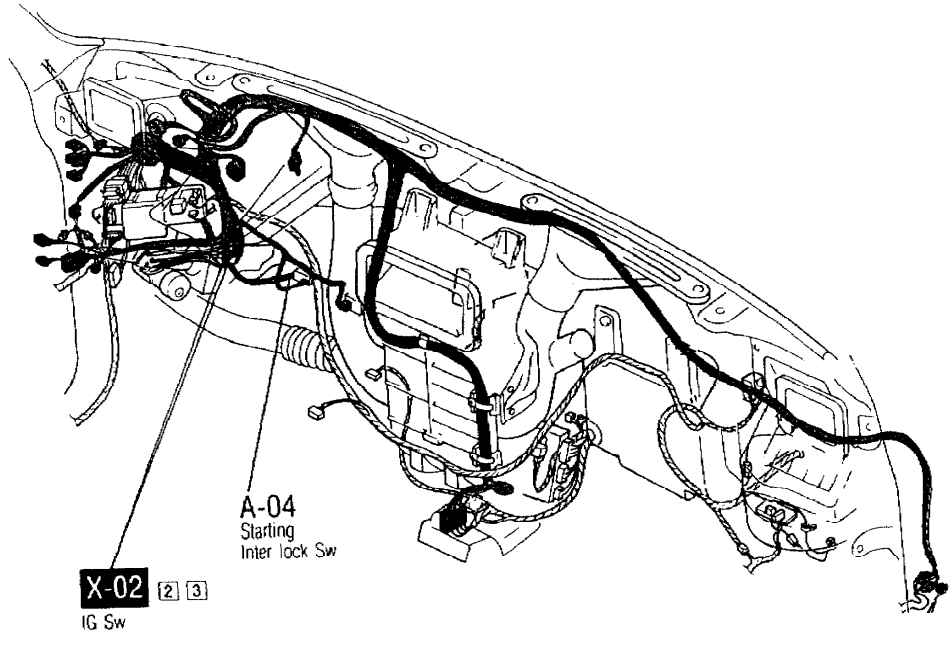
■ CHARGING SYSTEM ■ STARTING SYSTEM ■ STARTER INTERLOCK SYSTEM (M/T) ■ INHIBITOR (4AT)

Note:
* ... Not Used



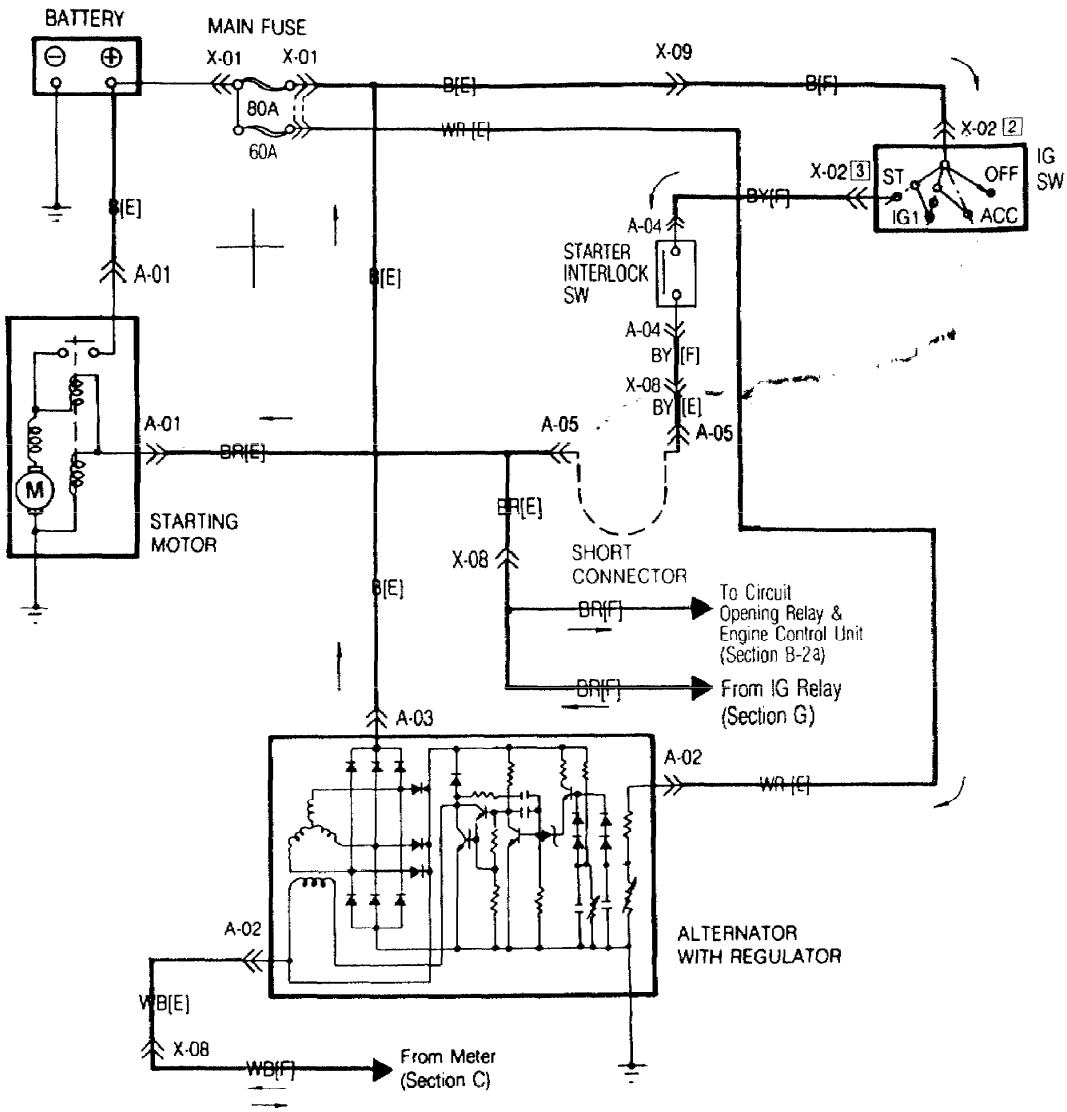
A-01 Starting Motor [E] BR — B	A-02 Alternator With Regulator [E] WR WB	A-03 Alternator With Regulator [E] B	A-04 Starter Interlock Sw [F] BY — BG, * (For M/T)
A-05 Inhibitor Sw [F] BY BY / RW BR (For M/T); BY (For 4AT)	A-06 Check Connector [F] BR (For Turbo)		


Check
Connector
A-06
A-03
Alternator
A-02
Alternator
A-01
Starting
Motor
A-05
Inhibitor
Sw
X-09
(F)-(E)
X-08
(F)-(E)
X-01
Main
Fuse

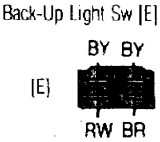

A-04
Starting
Inter lock Sw
X-02 2 3
IG Sw

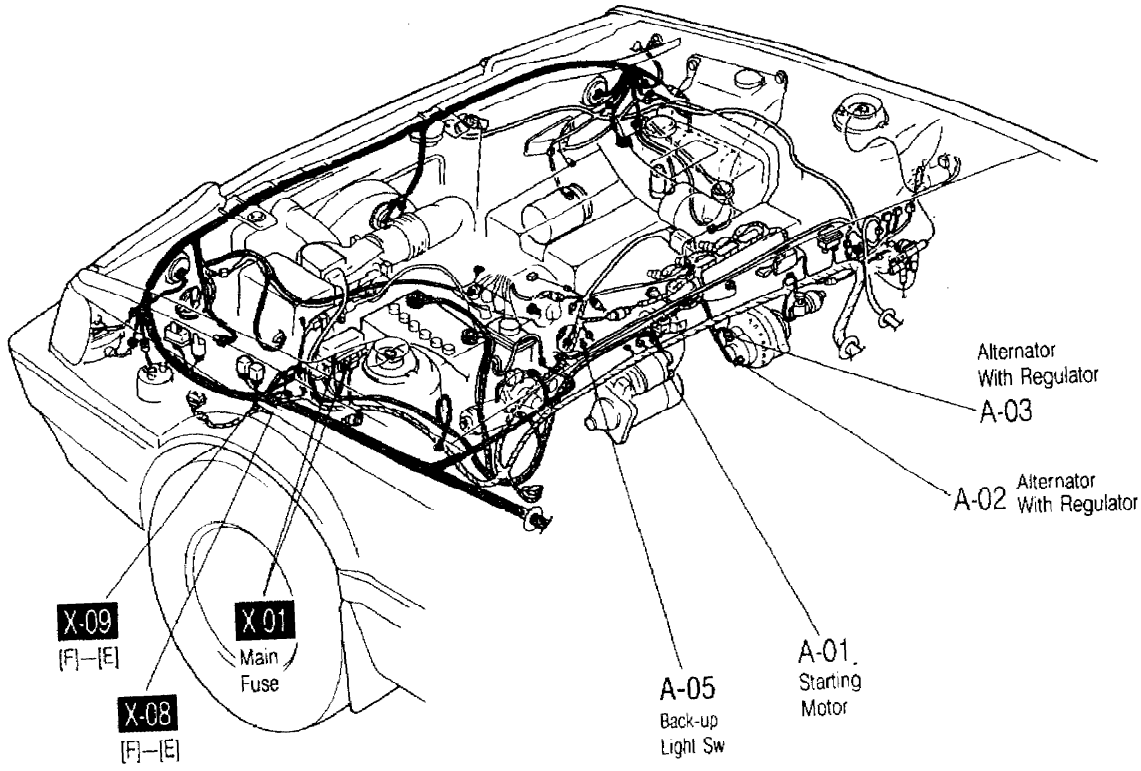
A-2 For 4WD
■ CHARGING SYSTEM ■ STARTING SYSTEM
■ STARTER INTERLOCK SYSTEM

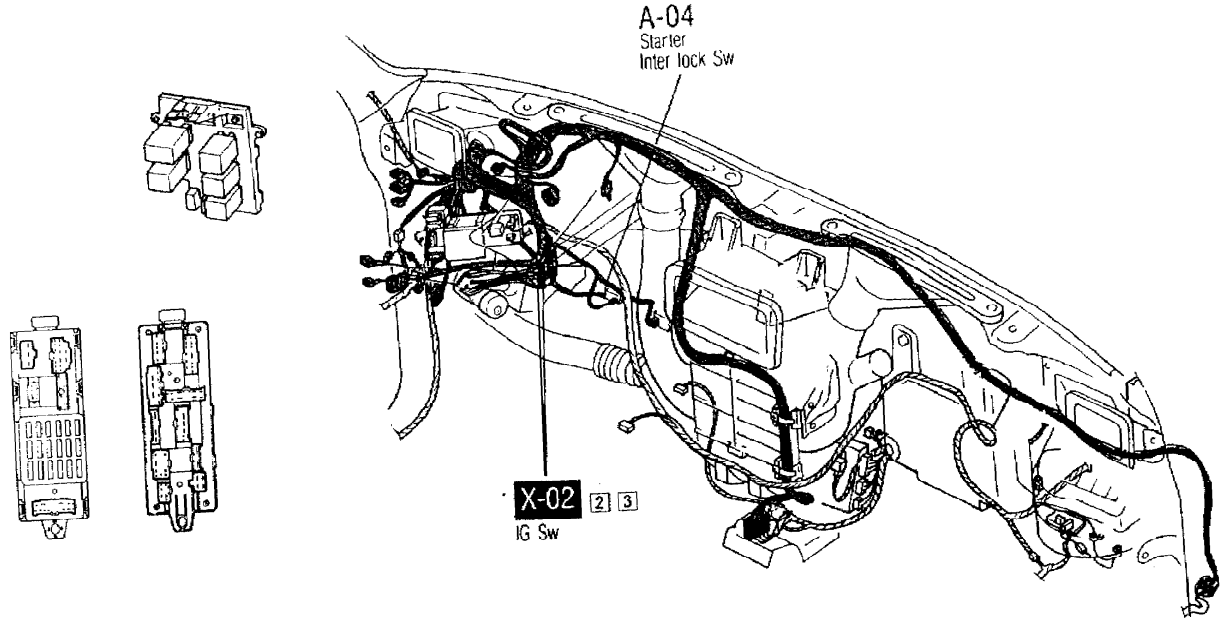
Note:
✕ ... Not Used



A-01 Starting Motor [E]	A-02 Alternator With Regulator [E]	A-03 Alternator With Regulator [E]	A-04 Starter Interlock Sw [F]
			

A-05 Back-Up Light Sw [E]		
	 Short Connector	

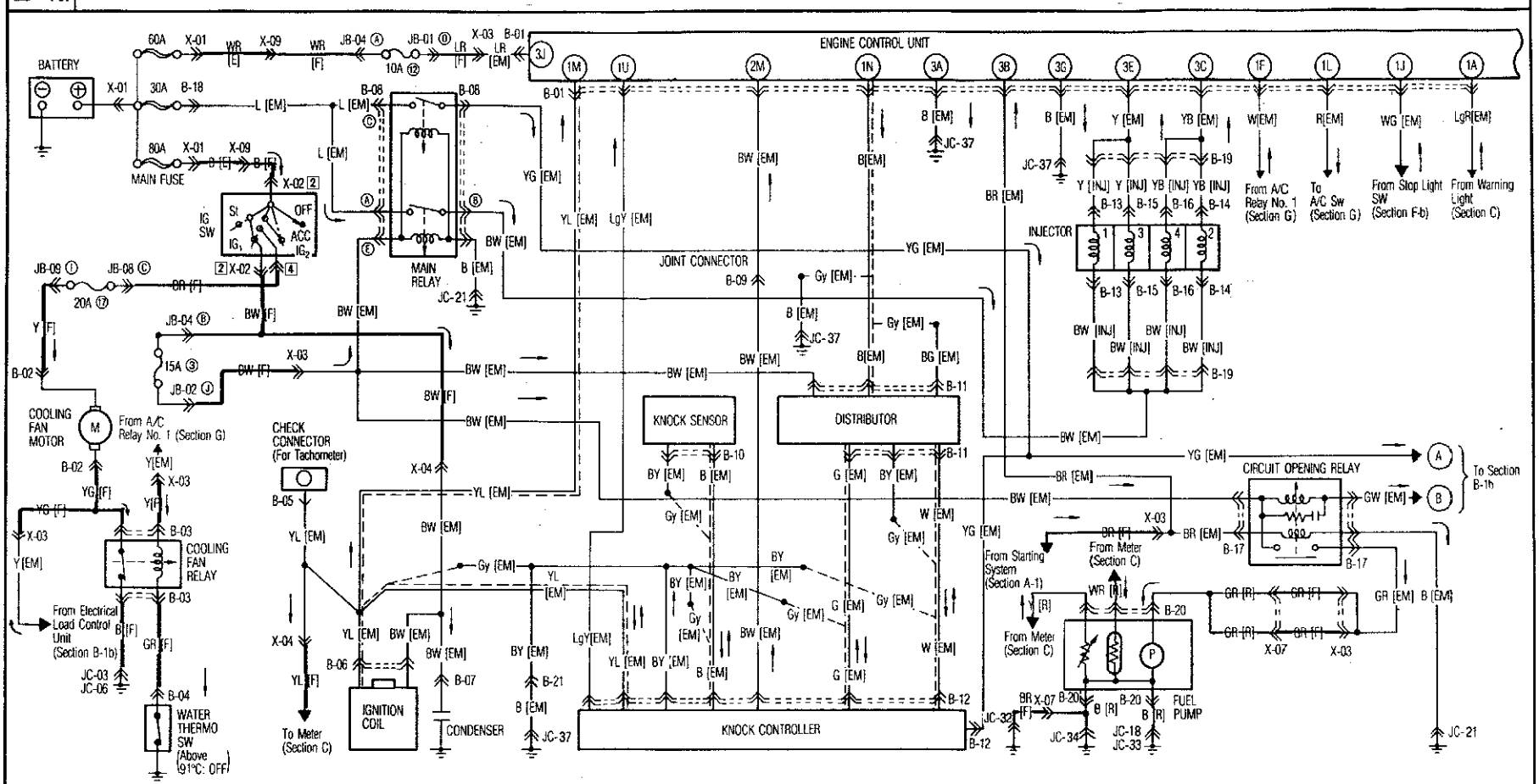

Alternator
With Regulator
A-03
A-02 Alternator
With Regulator
X-09
[F]–[E]
X-01
Main
Fuse
X-08
[F]–[E]
A-05
Back-up
Light Sw
A-01
Starting
Motor

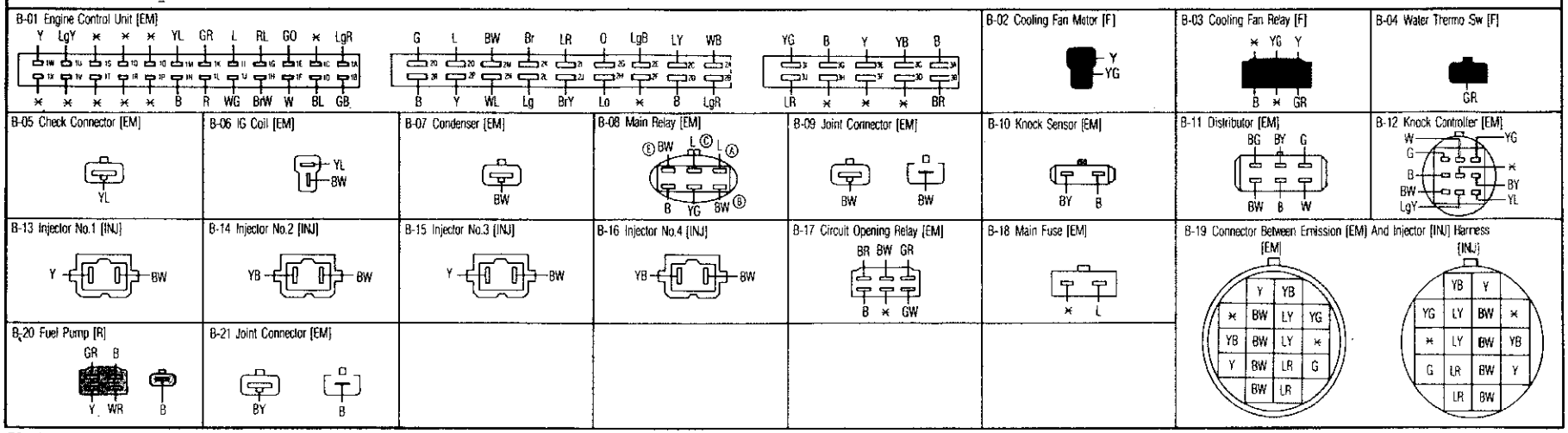

A-04
Starter
Inter lock Sw
X-02 2 3
IG Sw

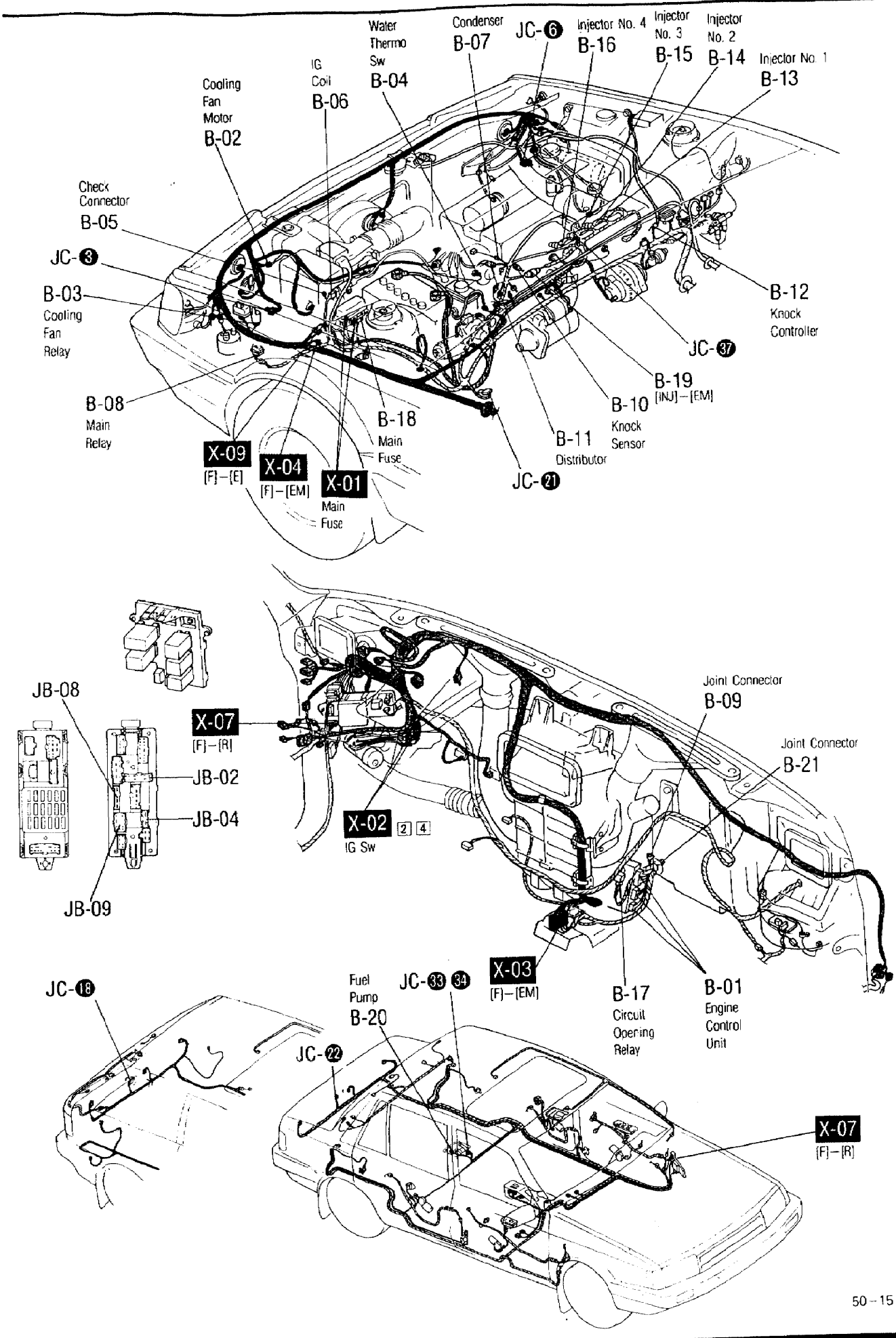
B-1a For Turbo

■ IGNITION SYSTEM ■ ENGINE & FUEL CONTROL SYSTEM
■ COOLING FAN SYSTEM

* ... Not Used

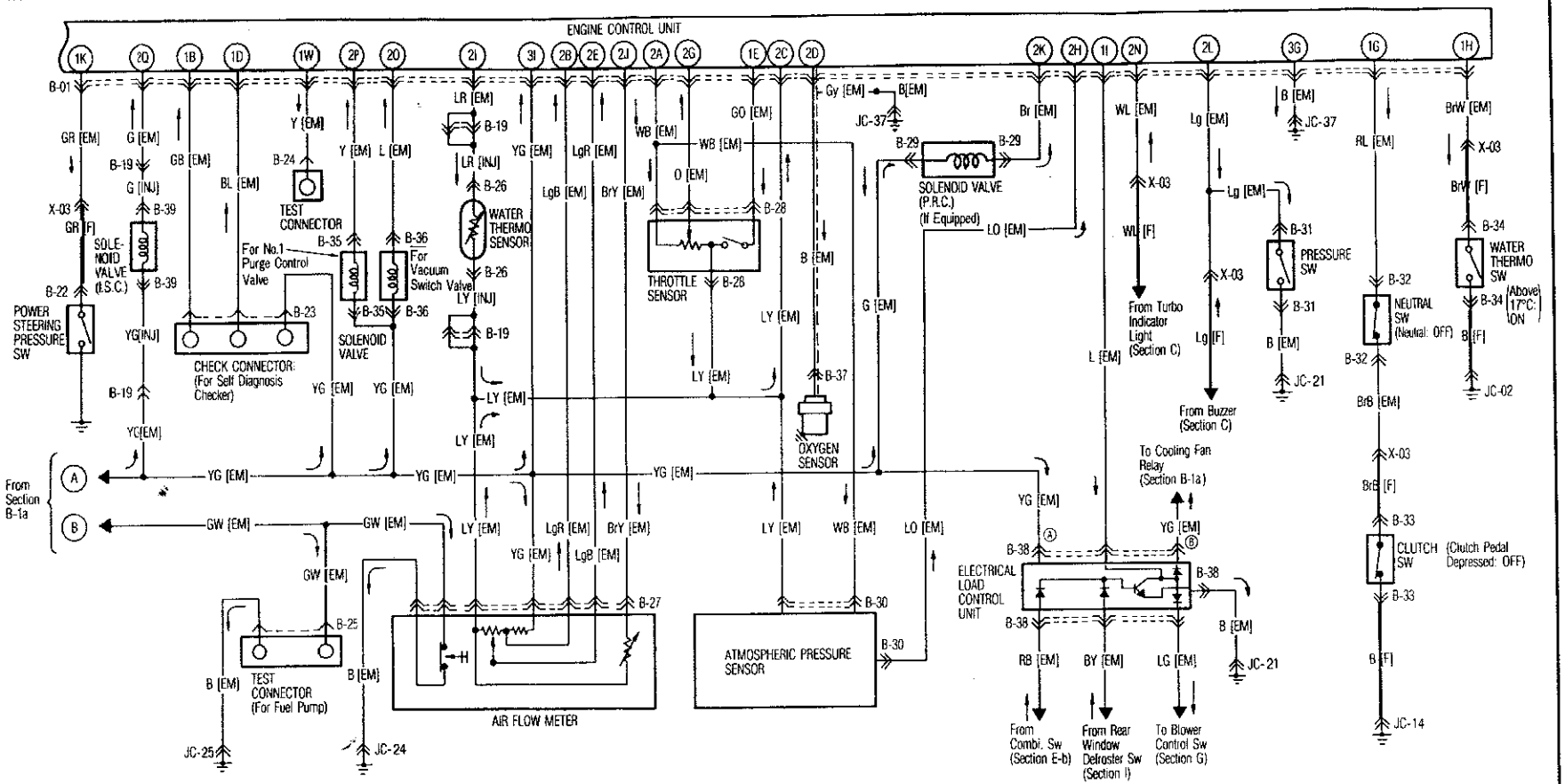




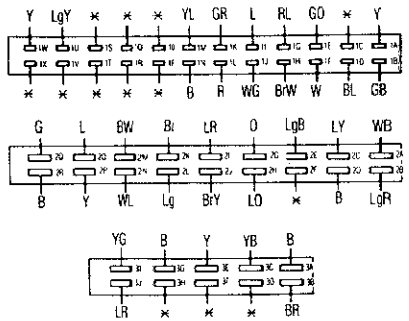

Water Thermo Sw B-04
Condenser B-07
JC-6
Injector No. 4 B-16
Injector No. 3 B-15
Injector No. 2 B-14
Injector No. 1 B-13
IG Coil B-06
Cooling Fan Motor B-02
Check Connector B-05
JC-3
B-03 Cooling Fan Relay
B-12 Knock Controller
JC-37
B-19 [INJ]–[EM]
B-10 Knock Sensor
B-11 Distributor
JC-21
B-08 Main Relay
B-18 Main Fuse
X-09 [F]–[E]
X-04 [F]–[EM]
X-01 Main Fuse
JB-08
JB-02
JB-04
JB-09
X-07 [F]–[R]
X-02 2 4 IG Sw
Joint Connector B-09
Joint Connector B-21
X-03 [F]–[EM]
B-17 Circuit Opening Relay
B-01 Engine Control Unit
JC-18
Fuel Pump B-20
JC-33 34
JC-22
X-07 [F]–[R]

Note: ✕ .. Not Used

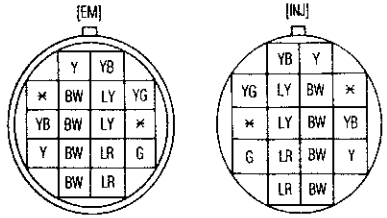
B-1b For Turbo ■ ENGINE & FUEL CONTROL SYSTEM



B-01 Engine Control Unit [EM]



B-19 Connector Between Emission [EM] And Injector [INJ] Harness



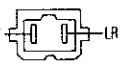
B-22 Power Steering Pressure Sw [F]

B-23 Check Connector [EM]

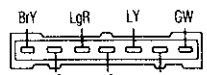
B-24 Test Connector [EM]

B-25 Test Connector [EM]

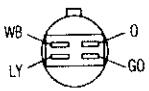
B-26 Water Thermo Sensor [INJ]



B-27 Air Flow Meter [EM]



B-28 Throttle Sensor [EM]



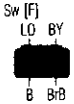
B-29 Solenoid Valve (P.R.C.) [EM]

B-30 Atmospheric Pressure Sensor [EM]

B-31 Pressure Sw [EM]

B-32 Neutral Sw [EM]

B-33 Clutch Sw [F]



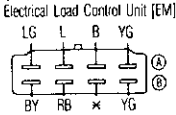
B-34 Water Thermo Sw [F]

B-35 Solenoid Valve [EM] (For No.1 Purge Control Valve)

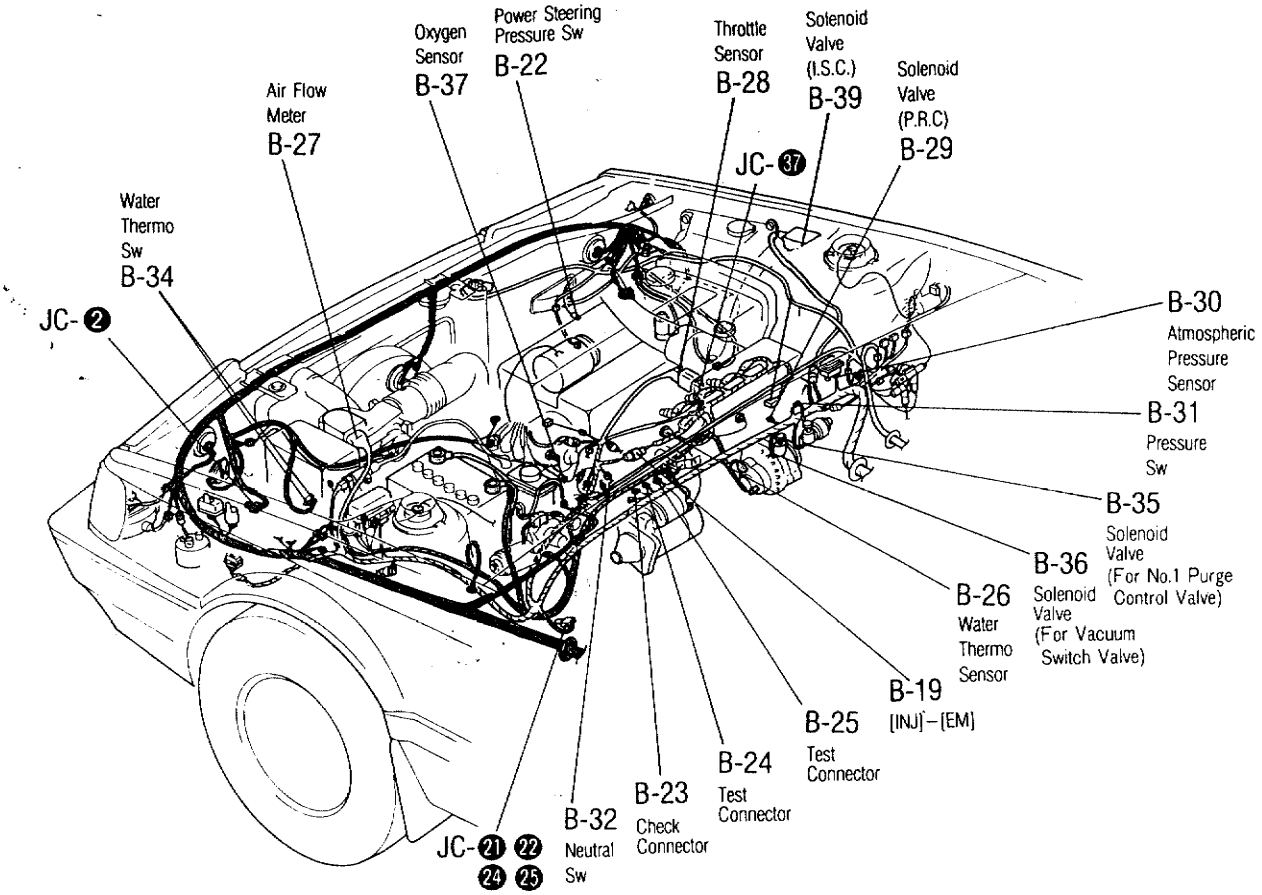
B-36 Solenoid Valve [EM] (For Vacuum Switch Valve)

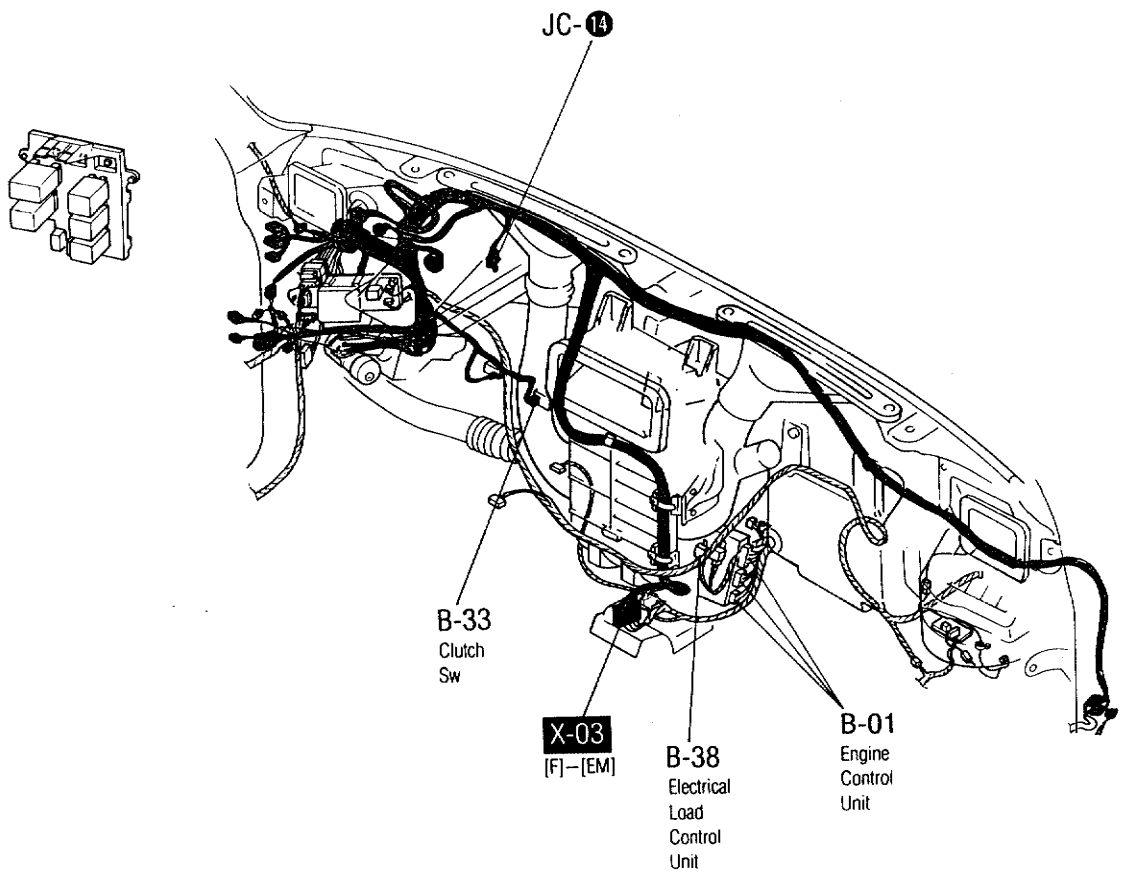
B-37 Oxygen Sensor [EM]

B-38 Electrical Load Control Unit [EM]



B-39 Solenoid Valve (I.S.C.) [INJ]

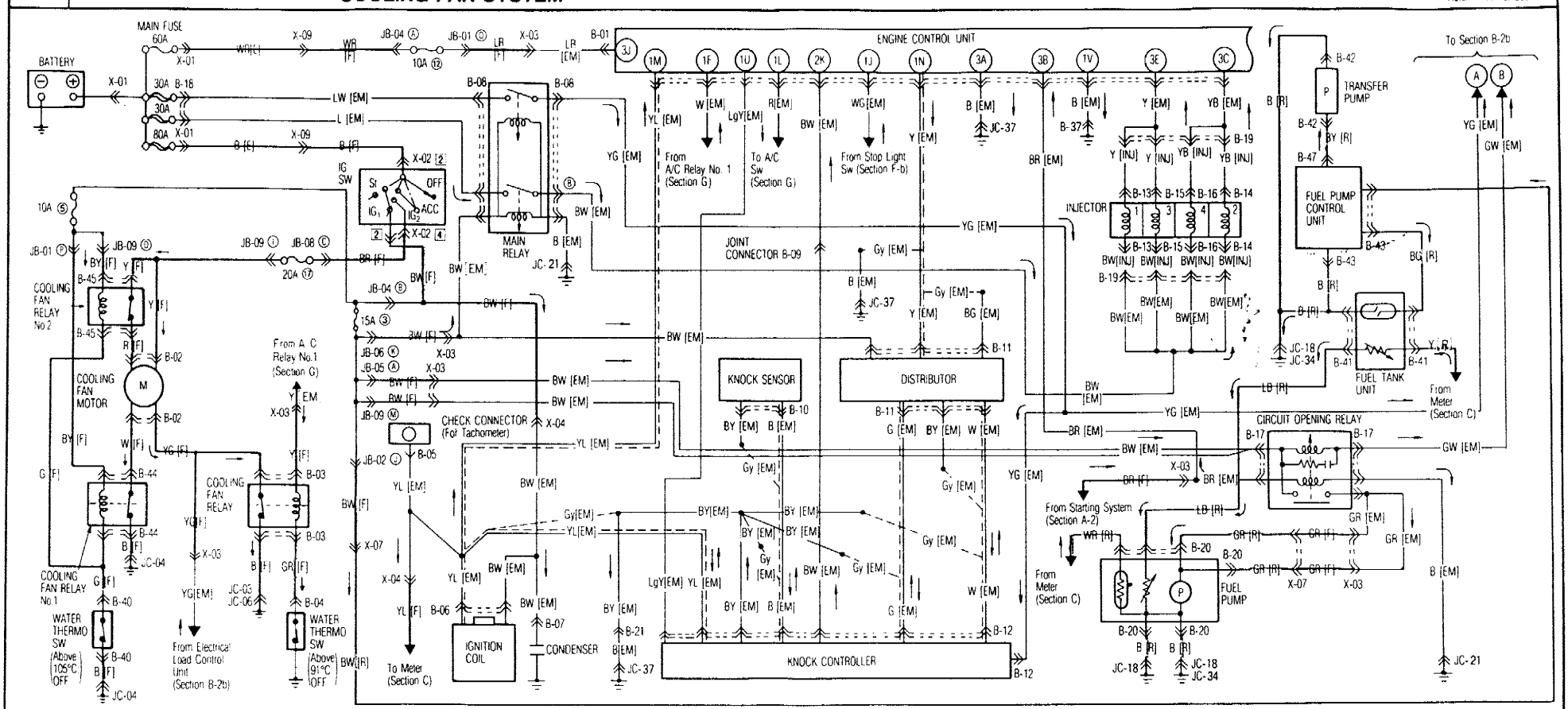

Oxygen Sensor B-37
Power Steering Pressure Sw B-22
Throttle Sensor B-28
Solenoid Valve (I.S.C.) B-39
Solenoid Valve (P.R.C) B-29
Air Flow Meter B-27
JC-37
Water Thermo Sw B-34
JC-2
B-30 Atmospheric Pressure Sensor
B-31 Pressure Sw
B-35 Solenoid Valve (For No.1 Purge Control Valve)
B-36 Solenoid Valve (For Vacuum Switch Valve)
B-26 Water Thermo Sensor
B-19 [INJ]–[EM]
B-25 Test Connector
B-24 Test Connector
B-23 Check Connector
B-32 Neutral Sw
JC-21 22 24 25


JC-14
B-33 Clutch Sw
X-03 [F]–[EM]
B-38 Electrical Load Control Unit
B-01 Engine Control Unit

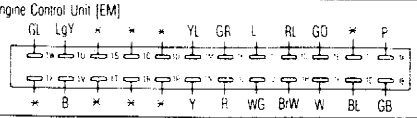
B-2a For Turbo With 4WD

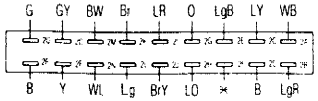
■ IGNITION SYSTEM ■ ENGINE & FUEL CONTROL SYSTEM ■ COOLING FAN SYSTEM

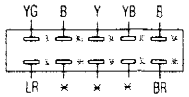
Note: × ... Not Used



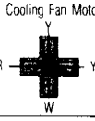
B-01 Engine Control Unit [EM]







B-02 Cooling Fan Motor [F]



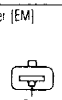
B-03 Cooling Fan Relay [F]

B-04 Water Thermo Sw [F]

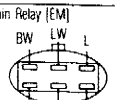
B-05 Check Connector [EM]

B-06 IG Coil [EM]

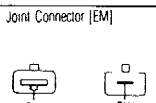
B-07 Condenser [EM]



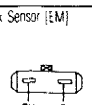
B-08 Main Relay [EM]



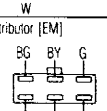
B-09 Joint Connector [EM]



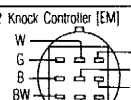
B-10 Knock Sensor [EM]



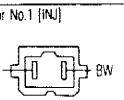
B-11 Distributor [EM]



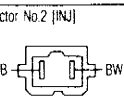
B-12 Knock Controller [EM]



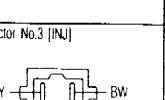
B-13 Injector No.1 [INJ]



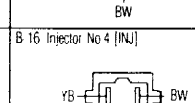
B-14 Injector No.2 [INJ]



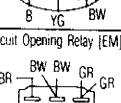
B-15 Injector No.3 [INJ]



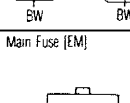
B-16 Injector No.4 [INJ]



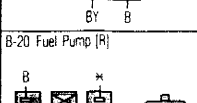
B-17 Circuit Opening Relay [EM]



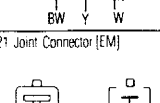
B-18 Main Fuse [EM]



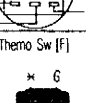
B-20 Fuel Pump [R]



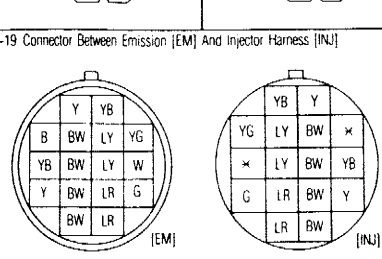
B-21 Joint Connector [EM]



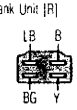
B-40 Water Thermo Sw [F]



B-19 Connector Between Emission [EM] And Injector Harness [INJ]

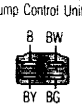


B-41 Fuel Tank Unit [R]

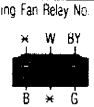


B-42 Transfer Pump [R]

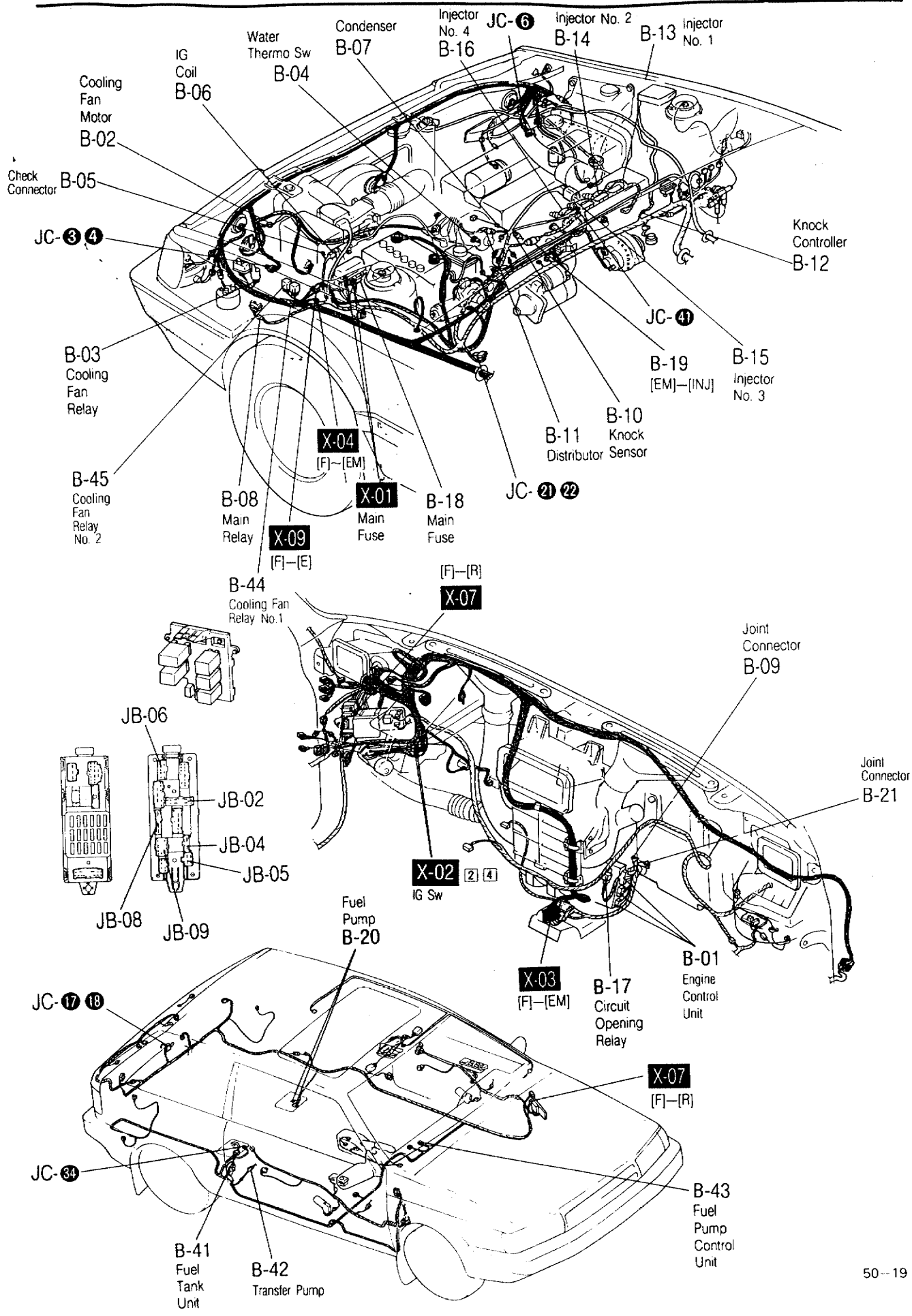
B-43 Fuel Pump Control Unit [R]



B-44 Cooling Fan Relay No. 1 [F]

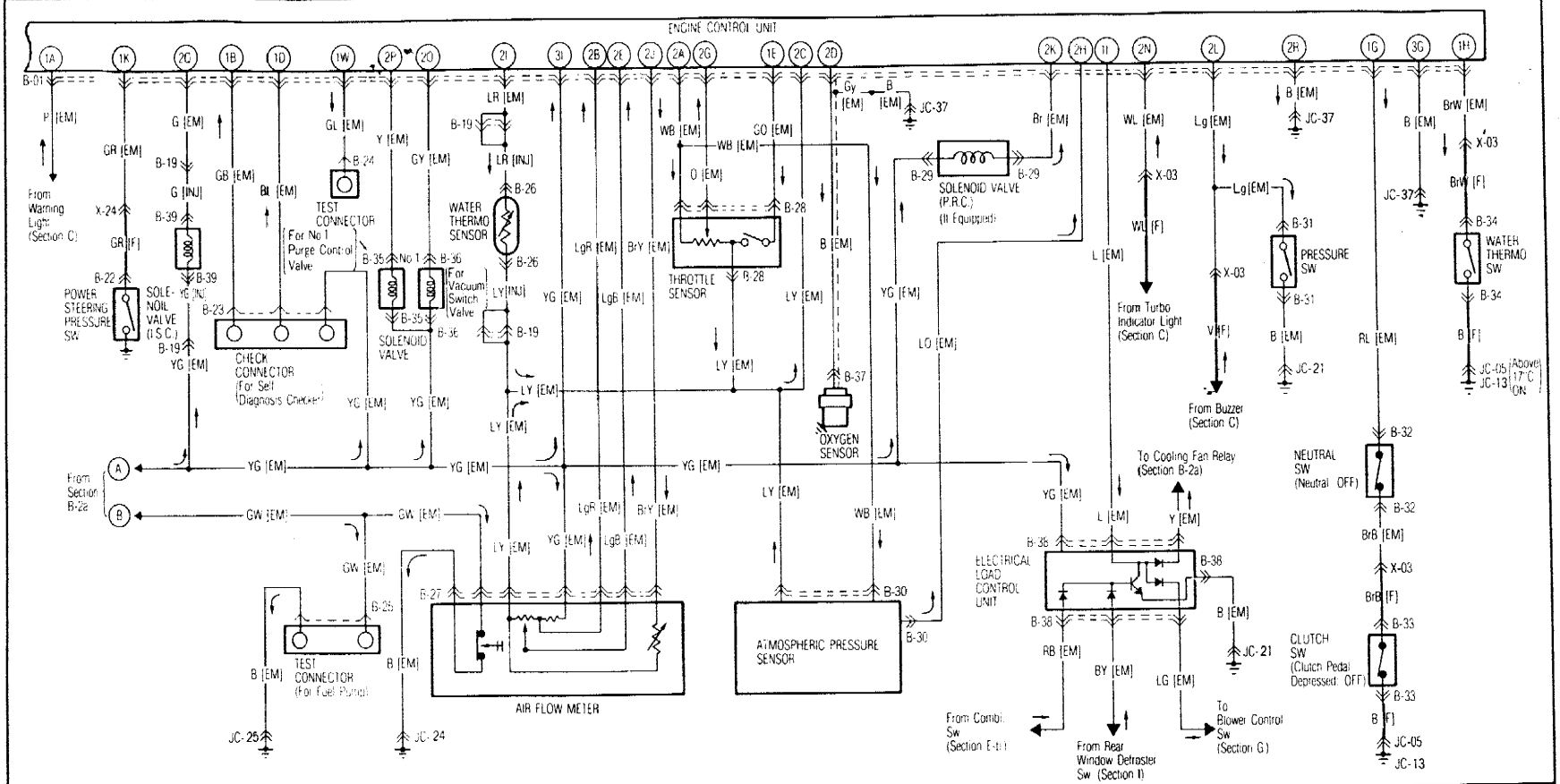


B-45 Cooling Fan Relay No. 2 [F]

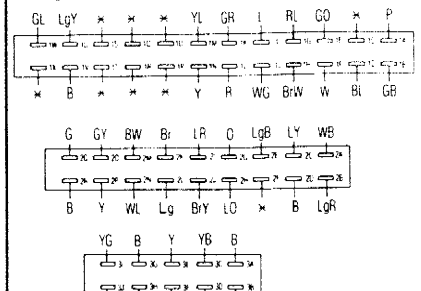

Injector No. 4
B-16
JC-6
Injector No. 2
B-14
B-13 Injector No. 1
Condenser
B-07
Water Thermo Sw
B-04
IG Coil
B-06
Cooling Fan Motor
B-02
Check Connector
B-05
JC-3 4
Knock Controller
B-12
JC-41
B-19
[EM]—[INJ]
B-15
Injector No. 3
B-03
Cooling Fan Relay
B-10
Knock Sensor
B-11
Distributor
X-04
[F]—[EM]
B-45
Cooling Fan Relay No. 2
B-08
Main Relay
X-09
[F]—[E]
X-01
Main Fuse
B-18
Main Fuse
JC-21 22
B-44
Cooling Fan Relay No.1
[F]—[R]
X-07
Joint Connector
B-09
JB-06
JB-02
JB-04
JB-05
JB-08
JB-09
X-02 2 4
IG Sw
Joint Connector
B-21
Fuel Pump
B-20
JC-17 18
X-03
[F]—[EM]
B-17
Circuit Opening Relay
B-01
Engine Control Unit
X-07
[F]—[R]
JC-34
B-43
Fuel Pump Control Unit
B-41
Fuel Tank Unit
B-42
Transfer Pump

B-2b For Turbo With 4WD ■ ENGINE & FUEL CONTROL SYSTEM

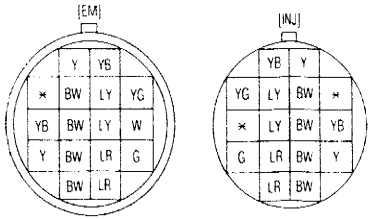
Note: * ... Not Used



B-01 Engine Control Unit [EM]



B-19 Connector Between Emission [EM] And Injector [INJ] Harness



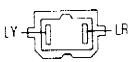
B-22 Power Steering Pressure Sw [F]

B-23 Check Connector [EM]

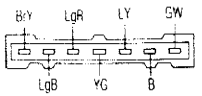
B-24 Test Connector [EM]

B-25 Test Connector [EM]

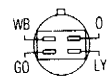
B-26 Water Thermo Sensor [INJ]



B-27 Air Flow Meter [EM]



B-28 Throttle Sensor [EM]



B-29 Solenoid Valve (P.R.C.) [EM]

B-30 Atmospheric Pressure Sensor [EM]

B-31 Pressure Sw [EM]

B-32 Neutral Sw [EM]

B-33 Clutch Sw [F]

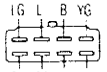
B-34 Water Thermo Sw [F]

B-35 Solenoid Valve [EM] (For No.1 Purge Control Valve)

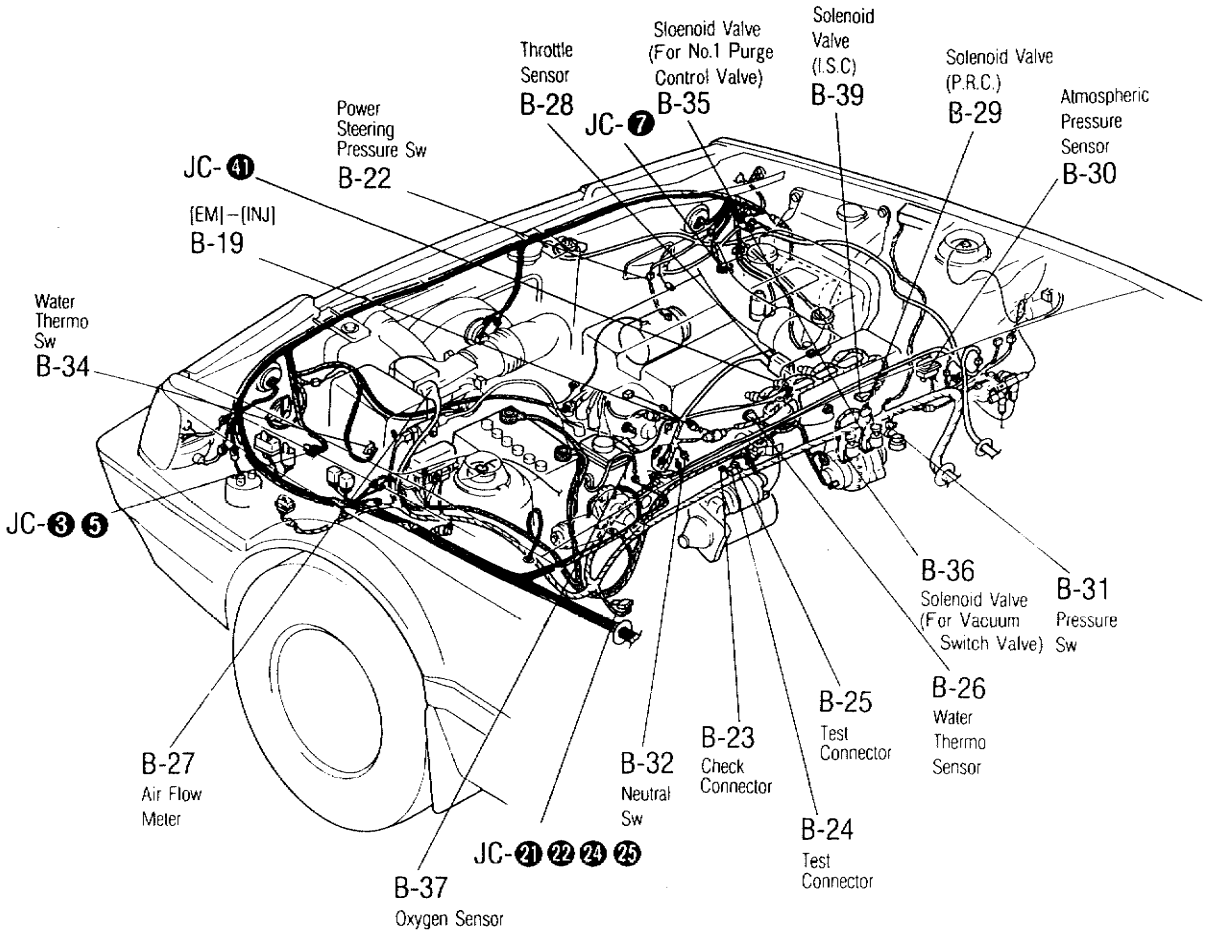
B-36 Solenoid Valve [EM] (For Vacuum Switch Valve)

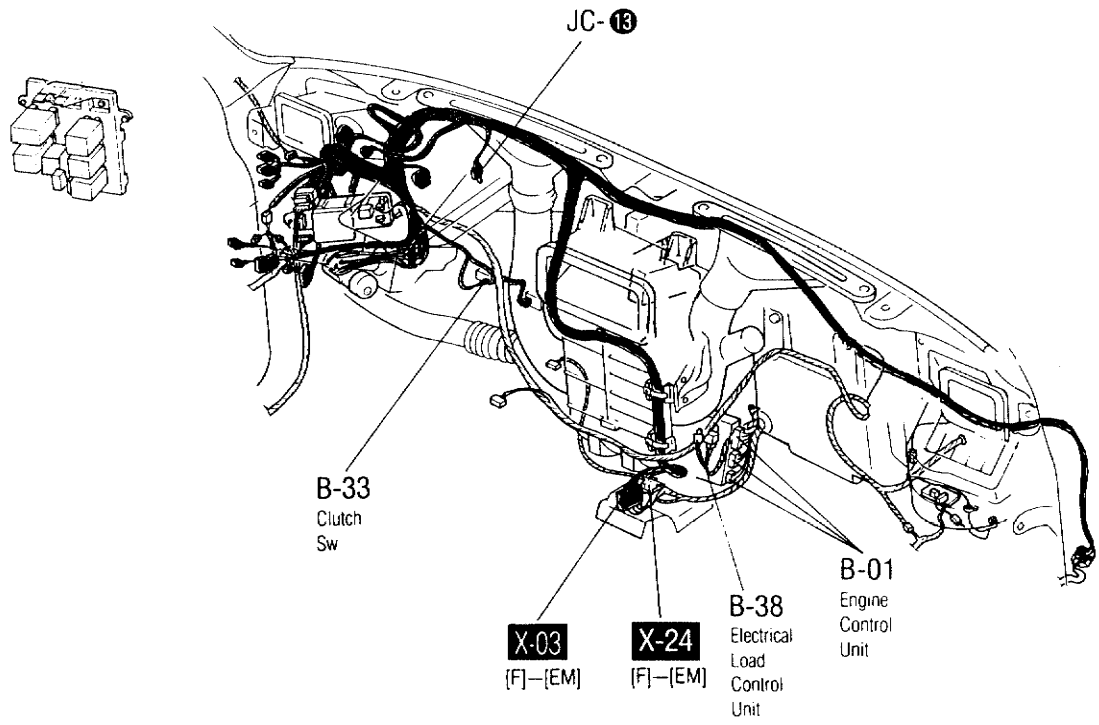
B-37 Oxygen Sensor [EM]

B-38 Electrical Load Control Unit [EM]



B-39 Solenoid Valve (I.S.C.) [INJ]

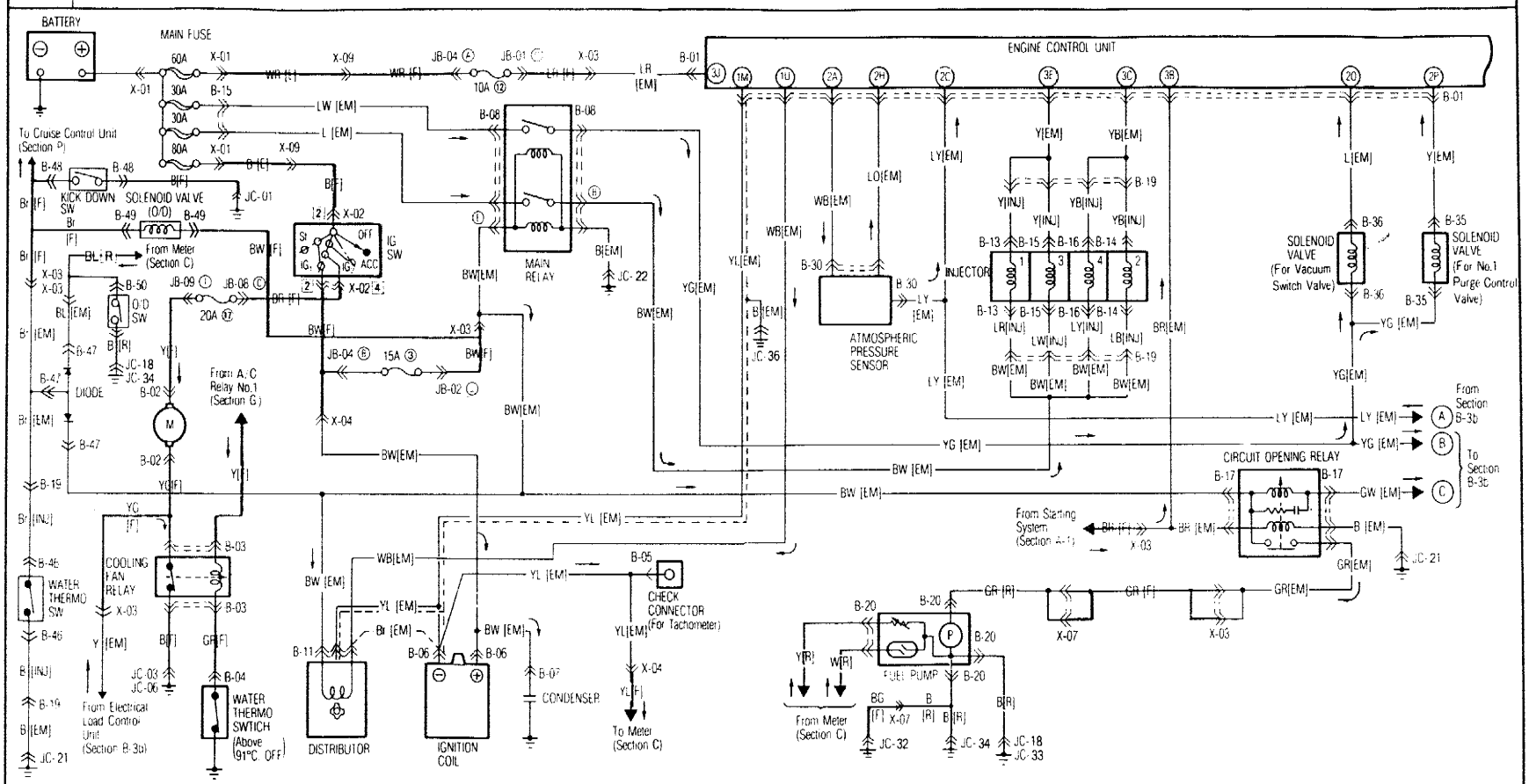

Throttle Sensor B-28
Sloenoid Valve (For No.1 Purge Control Valve) B-35
Solenoid Valve (I.S.C) B-39
Solenoid Valve (P.R.C.) B-29
Atmospheric Pressure Sensor B-30
Power Steering Pressure Sw B-22
JC-41
JC-7
[EM]–[INJ] B-19
Water Thermo Sw B-34
JC-3 5
B-36 Solenoid Valve (For Vacuum Switch Valve)
B-31 Pressure Sw
B-26 Water Thermo Sensor
B-25 Test Connector
B-23 Check Connector
B-32 Neutral Sw
B-27 Air Flow Meter
JC-21 22 24 25
B-24 Test Connector
B-37 Oxygen Sensor

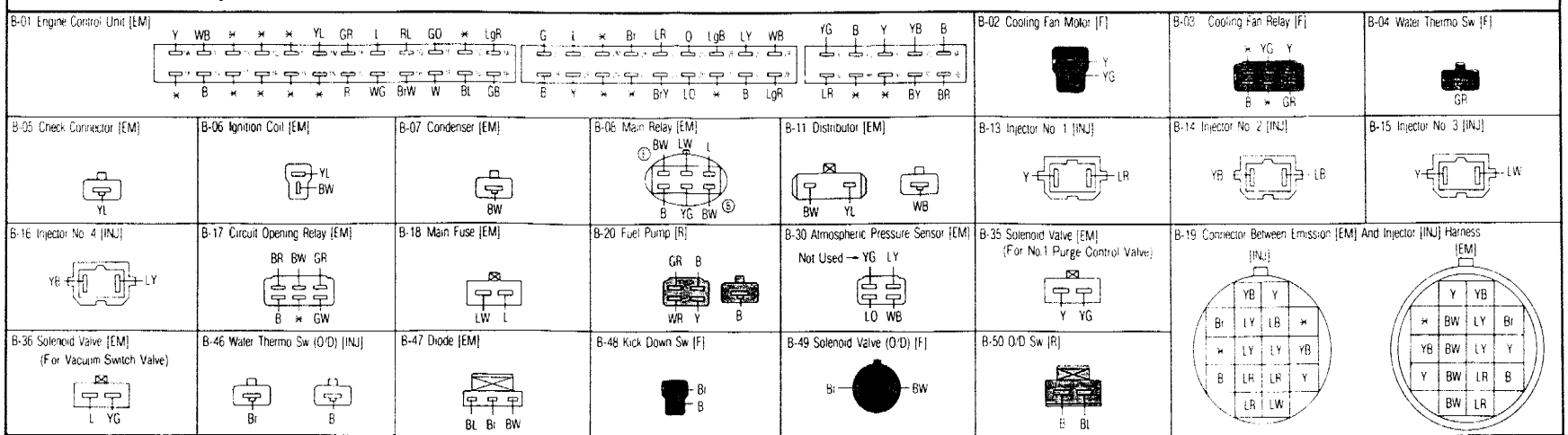

JC-13
B-33 Clutch Sw
B-01 Engine Control Unit
X-03 [F]–[EM]
X-24 [F]–[EM]
B-38 Electrical Load Control Unit

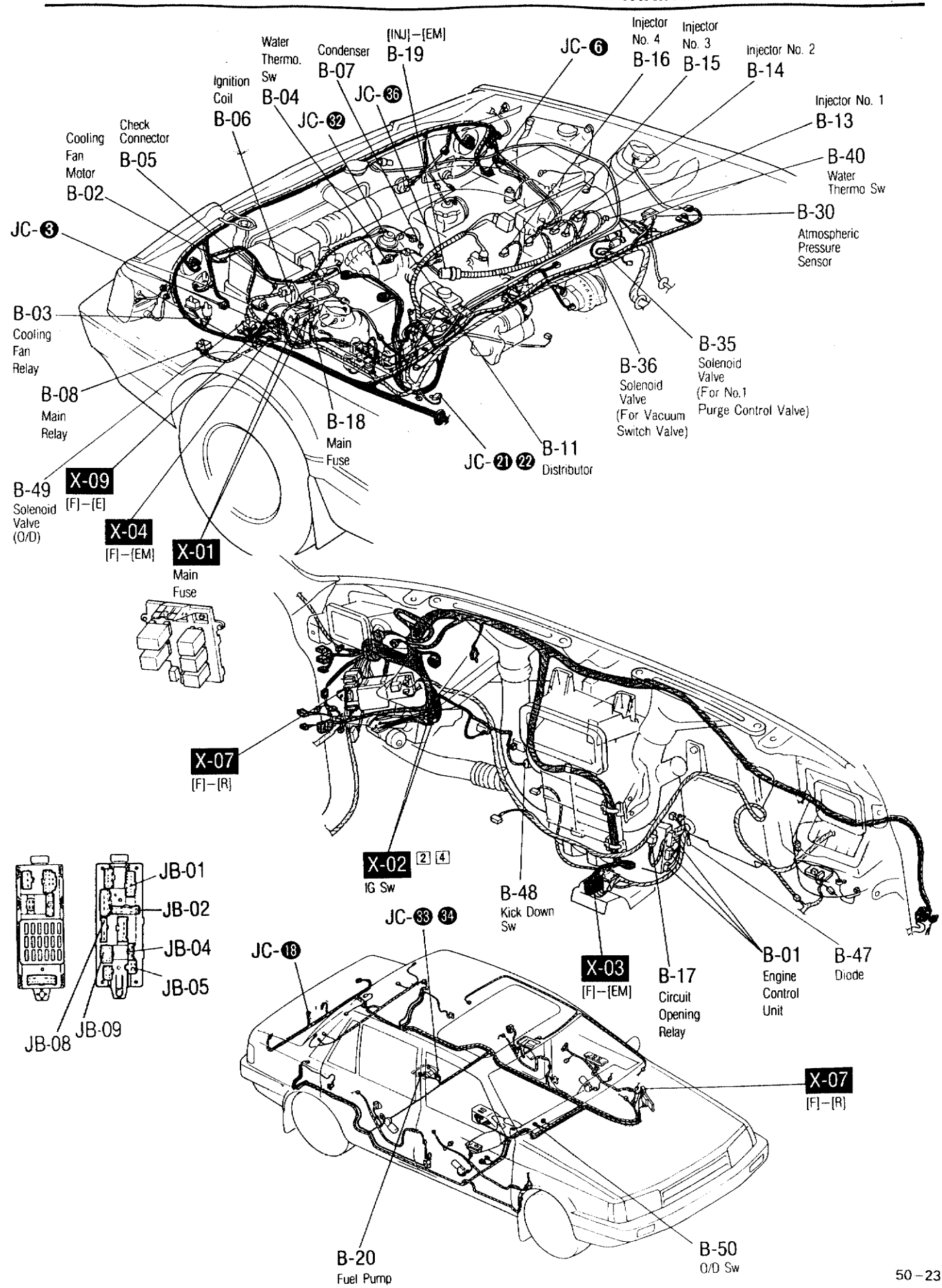
B-3a For Non Turbo

- IGNITION SYSTEM
- COOLING FAN SYSTEM
- ENGINE & FUEL CONTROL SYSTEM
- 4AT CONTROL SYSTEM

Note: × Not Used

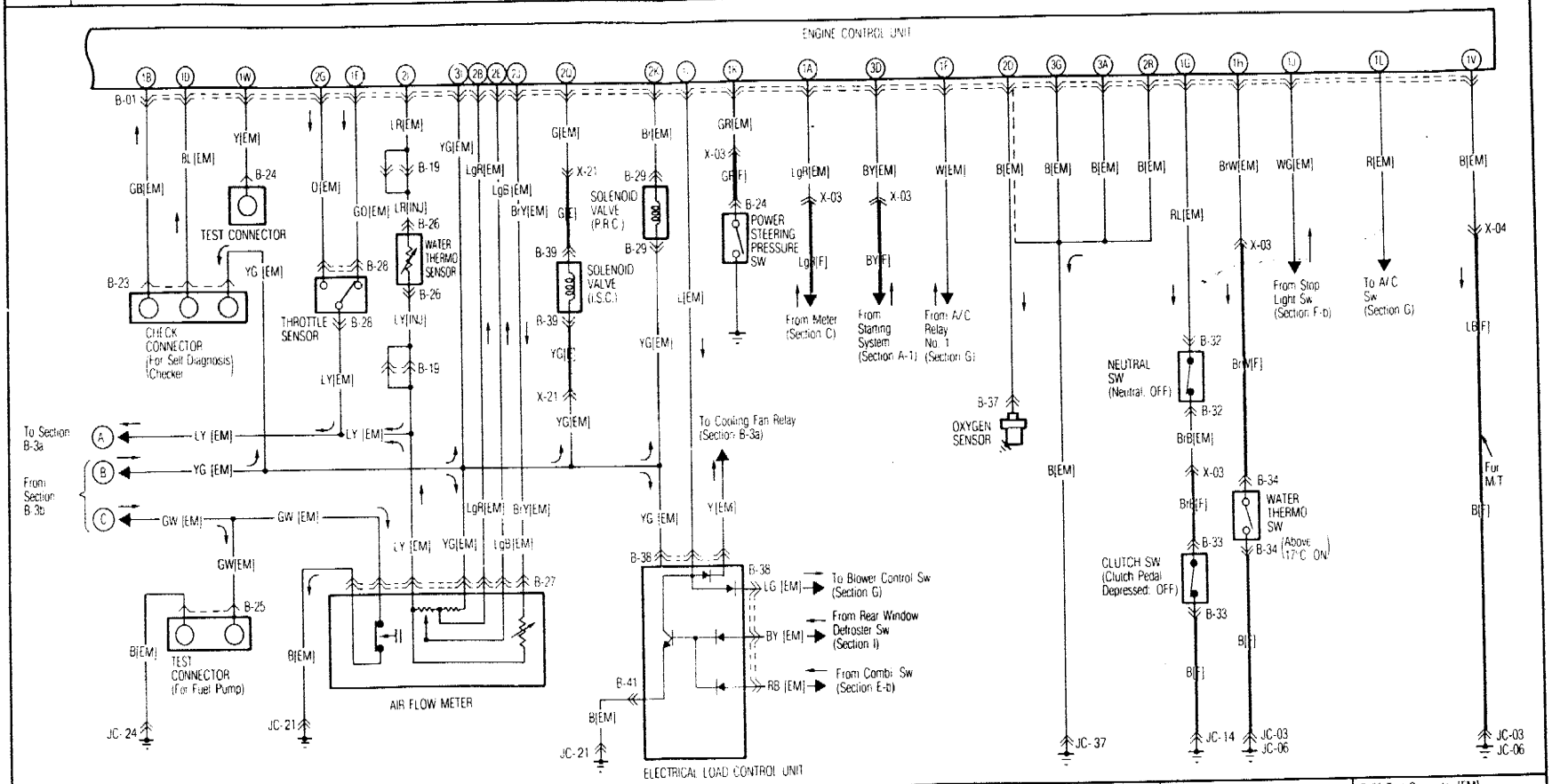




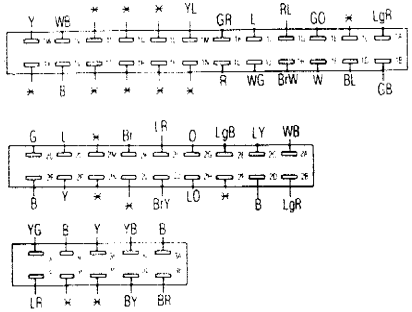

Injector No. 4
B-16
Injector No. 3
B-15
Injector No. 2
B-14
Injector No. 1
B-13
[INJ]–[EM]
B-19
JC-6
Water Thermo. Sw
B-04
Condenser
B-07
Ignition Coil
B-06
JC-36
JC-32
Cooling Fan Motor
B-02
Check Connector
B-05
B-40
Water Thermo Sw
B-30
Atmospheric Pressure Sensor
JC-3
B-03
Cooling Fan Relay
B-08
Main Relay
B-49
Solenoid Valve (O/D)
X-09
[F]–[E]
X-04
[F]–[EM]
X-01
Main Fuse
B-18
Main Fuse
JC-21 22
B-11
Distributor
B-36
Solenoid Valve (For Vacuum Switch Valve)
B-35
Solenoid Valve (For No.1 Purge Control Valve)
X-07
[F]–[R]
X-02 2 4
IG Sw
B-48
Kick Down Sw
JC-33 34
JC-18
X-03
[F]–[EM]
B-17
Circuit Opening Relay
B-01
Engine Control Unit
B-47
Diode
JB-01
JB-02
JB-04
JB-05
JB-08
JB-09
X-07
[F]–[R]
B-20
Fuel Pump
B-50
O/D Sw

B-3b For Non Turbo ■ ENGINE & FUEL CONTROL SYSTEM

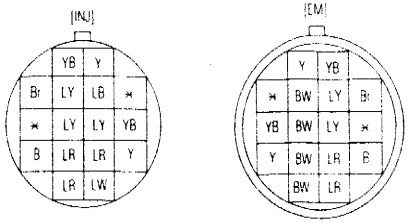
Note: × Not Used



B-01 Engine Control Unit [EM]



B-19 Connector Between Emission [EM] And Injector [INJ] Harness



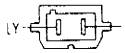
B-22 Power Steering Pressure Sw [F]

B-23 Check Connector [EM]

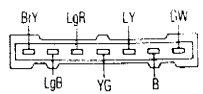
B-24 Test Connector [EM]

B-25 Test Connector [EM]

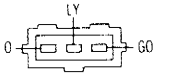
B-26 Water Thermo Sensor [INJ]



B-27 Air Flow Meter [EM]



B-28 Throttle Sensor [EM]



B-29 Solenoid Valve (P.R.C.) [EM]

(If Equipped)

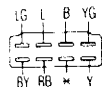
B-32 Neutral Sw [EM]

B-33 Clutch Sw [F]

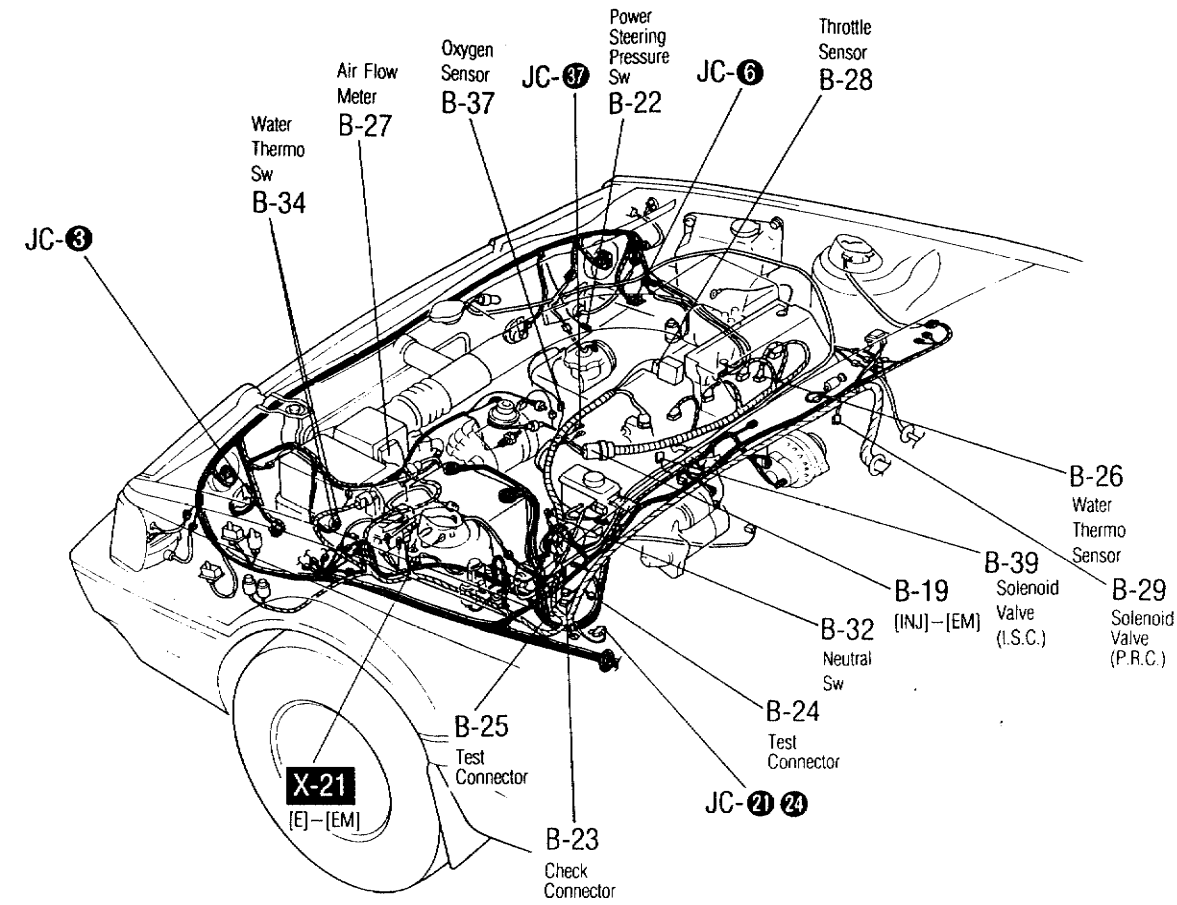
B-34 Water Thermo Sw [F]

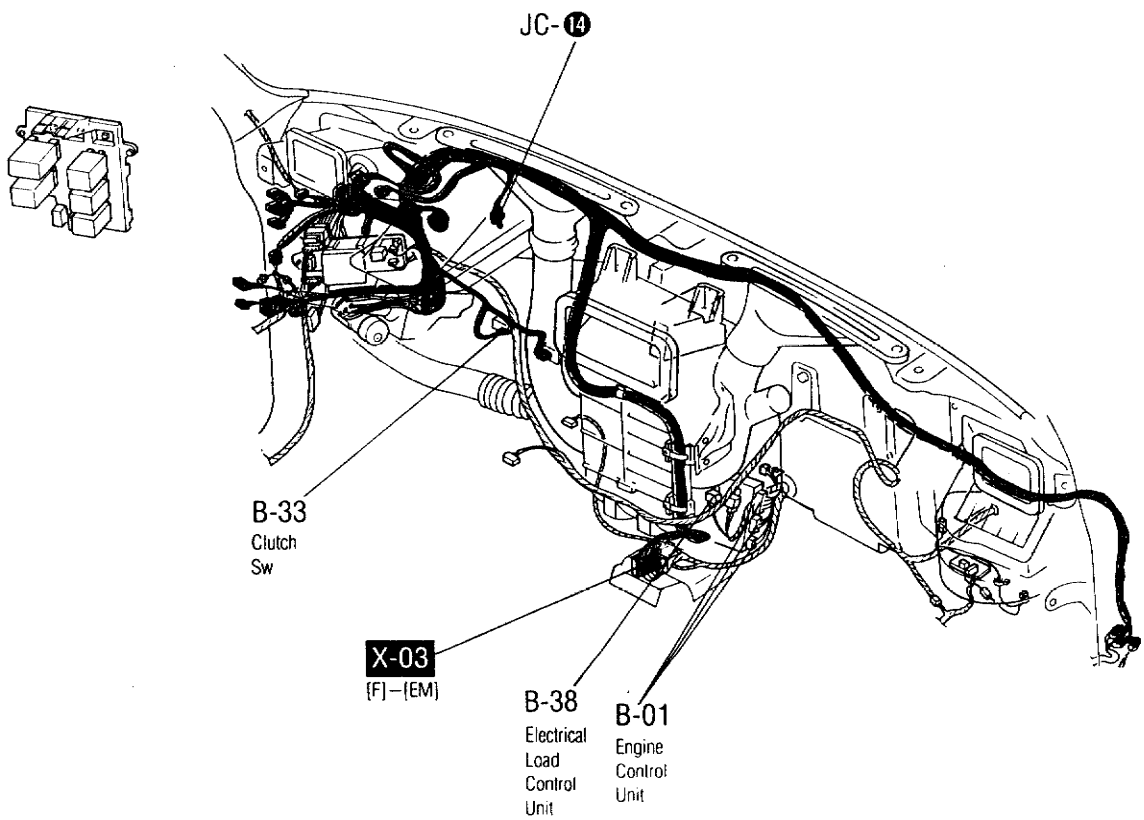
B-37 Oxygen Sensor [EM]

B-38 Electrical Load Control Unit [EM]



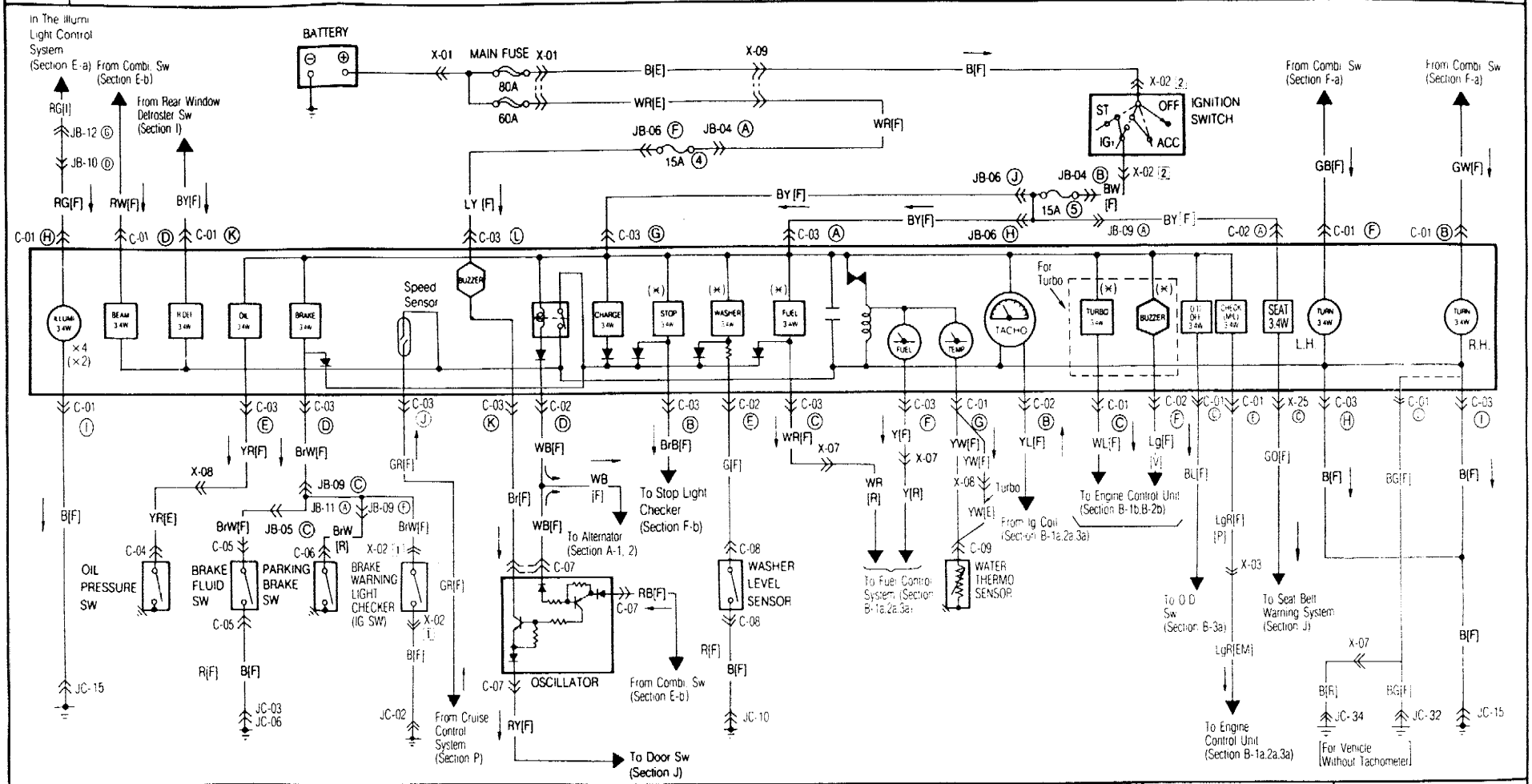
B-39 Solenoid Valve (I.S.C.) [E]


Power Steering Pressure Sw
B-22
Throttle Sensor
B-28
Oxygen Sensor
B-37
Air Flow Meter
B-27
Water Thermo Sw
B-34
JC-37
JC-6
JC-3
B-26
Water Thermo Sensor
B-39
Solenoid Valve (I.S.C.)
B-19
[INJ]–[EM]
B-29
Solenoid Valve (P.R.C.)
B-32
Neutral Sw
B-24
Test Connector
B-25
Test Connector
X-21
[E]–[EM]
JC-21 24
B-23
Check Connector


JC-14
B-33
Clutch Sw
X-03
[F]–[EM]
B-38
Electrical Load Control Unit
B-01
Engine Control Unit

C ■ METERS & WARNING LIGHTS

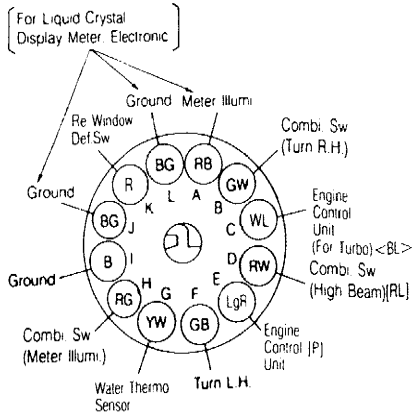
Note ( ) Without Tachometer
[ ] For 4WD
< > For Turbo Without 4WD
* Not Used



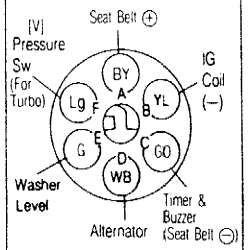
C-01 Meter [F]

< > ... 4AT

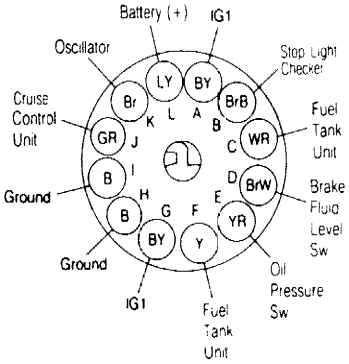
For Liquid Crystal Display Meter Electronic



C-02 Meter [F]



C-03 Meter [F]



C-04 Oil Pressure Sw [E]

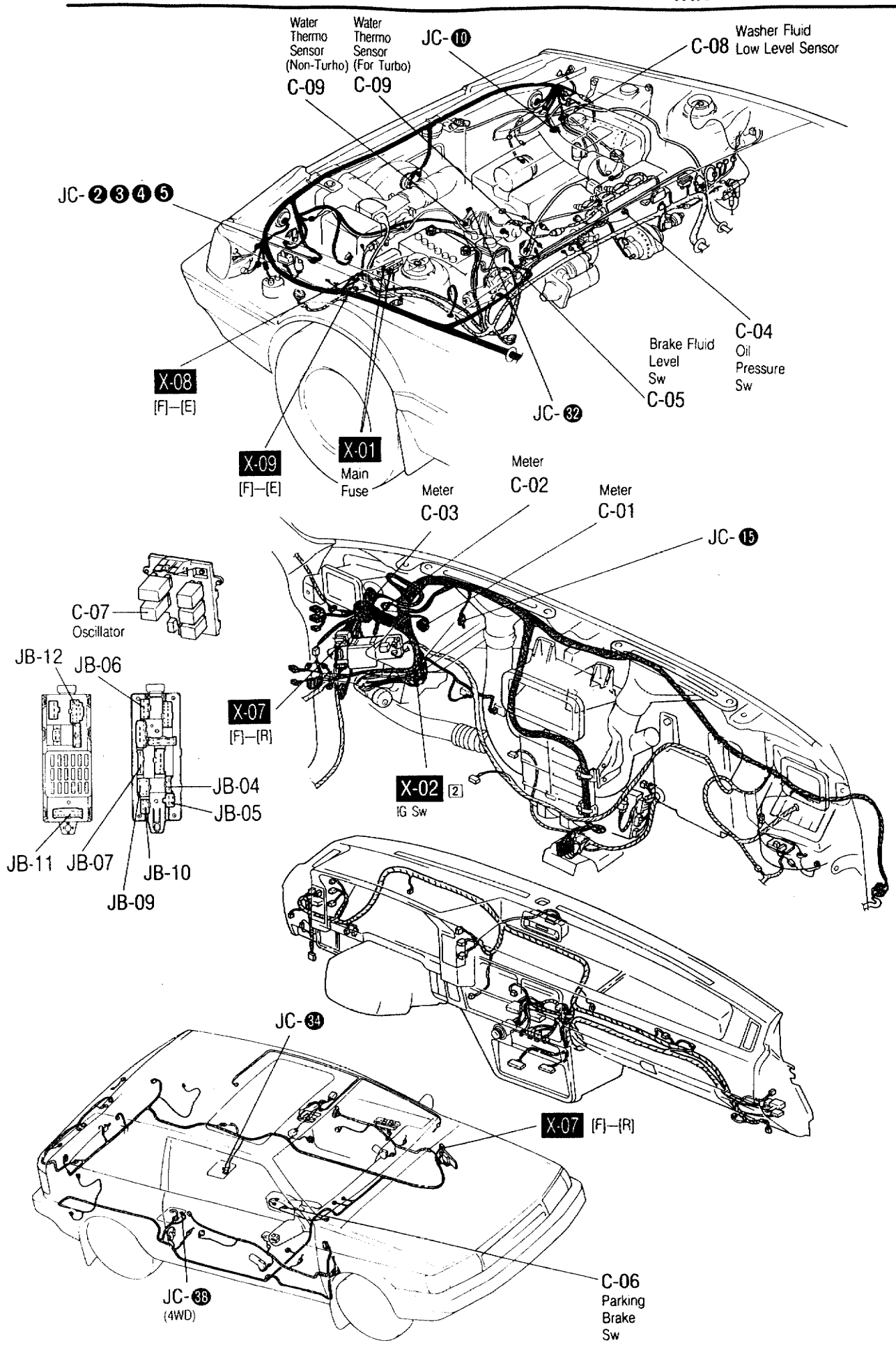
C-05 Brake Fluid Level Sw [F]

C-06 Parking Brake Sw [R]

C-07 Oscillator [F]

C-08 Washer Fluid Low Level Sensor [F]

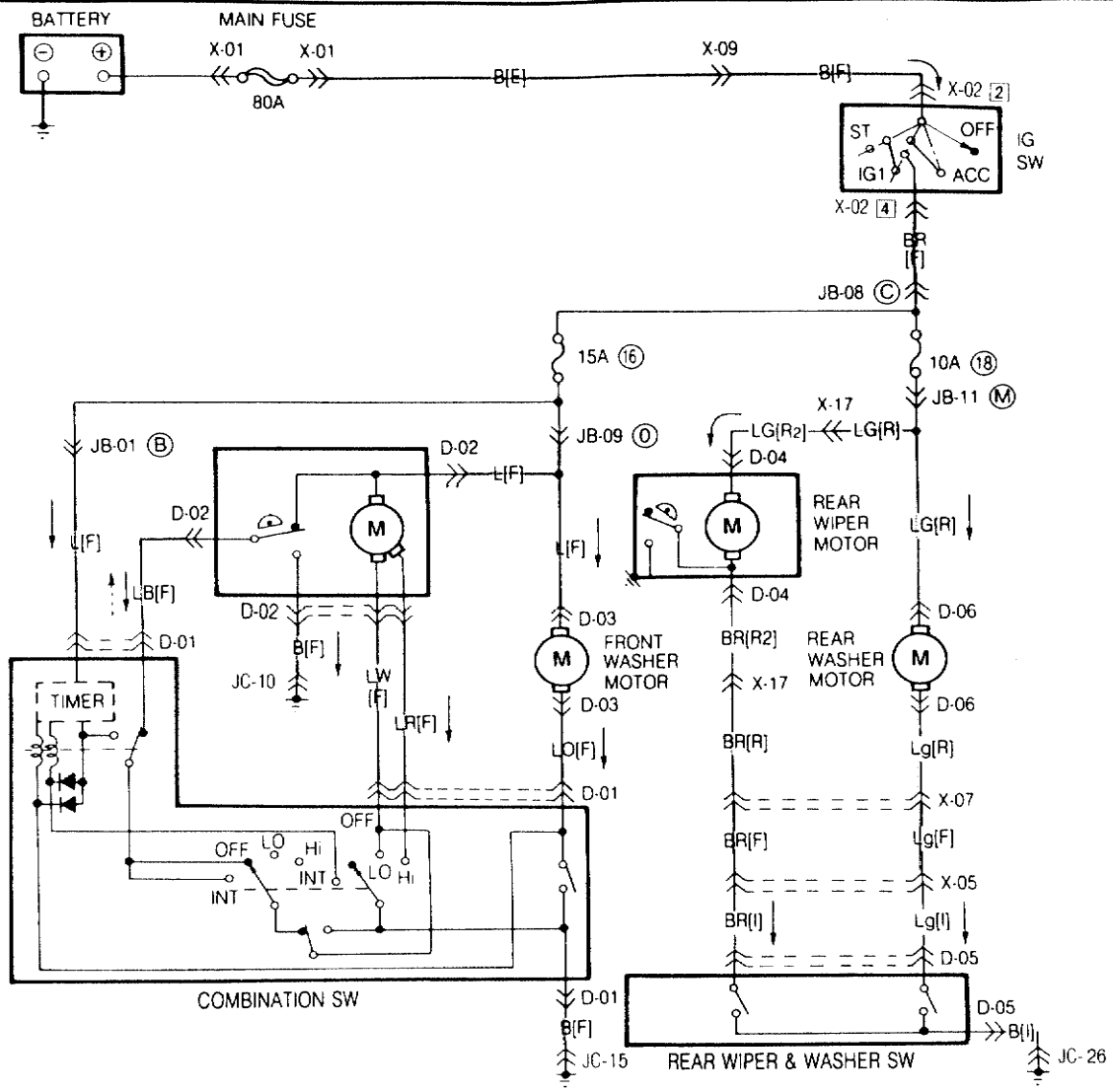
C-09 Water Thermo Sensor [F] [E]


Water Thermo Sensor (Non-Turho)
C-09
Water Thermo Sensor (For Turbo)
C-09
JC-⑩
C-08 Washer Fluid Low Level Sensor
JC-②③④⑤
X-08
[F]—[E]
X-09
[F]—[E]
X-01
Main Fuse
JC-㉜
Brake Fluid Level Sw
C-05
C-04 Oil Pressure Sw
Meter
C-03
Meter
C-02
Meter
C-01
JC-⑮
C-07
Oscillator
JB-12
JB-06
JB-04
JB-05
JB-11
JB-07
JB-10
JB-09
X-07
[F]—[R]
X-02 [2]
IG Sw
JC-㉞
X-07 [F]—[R]
JC-㊳
(4WD)
C-06
Parking Brake Sw

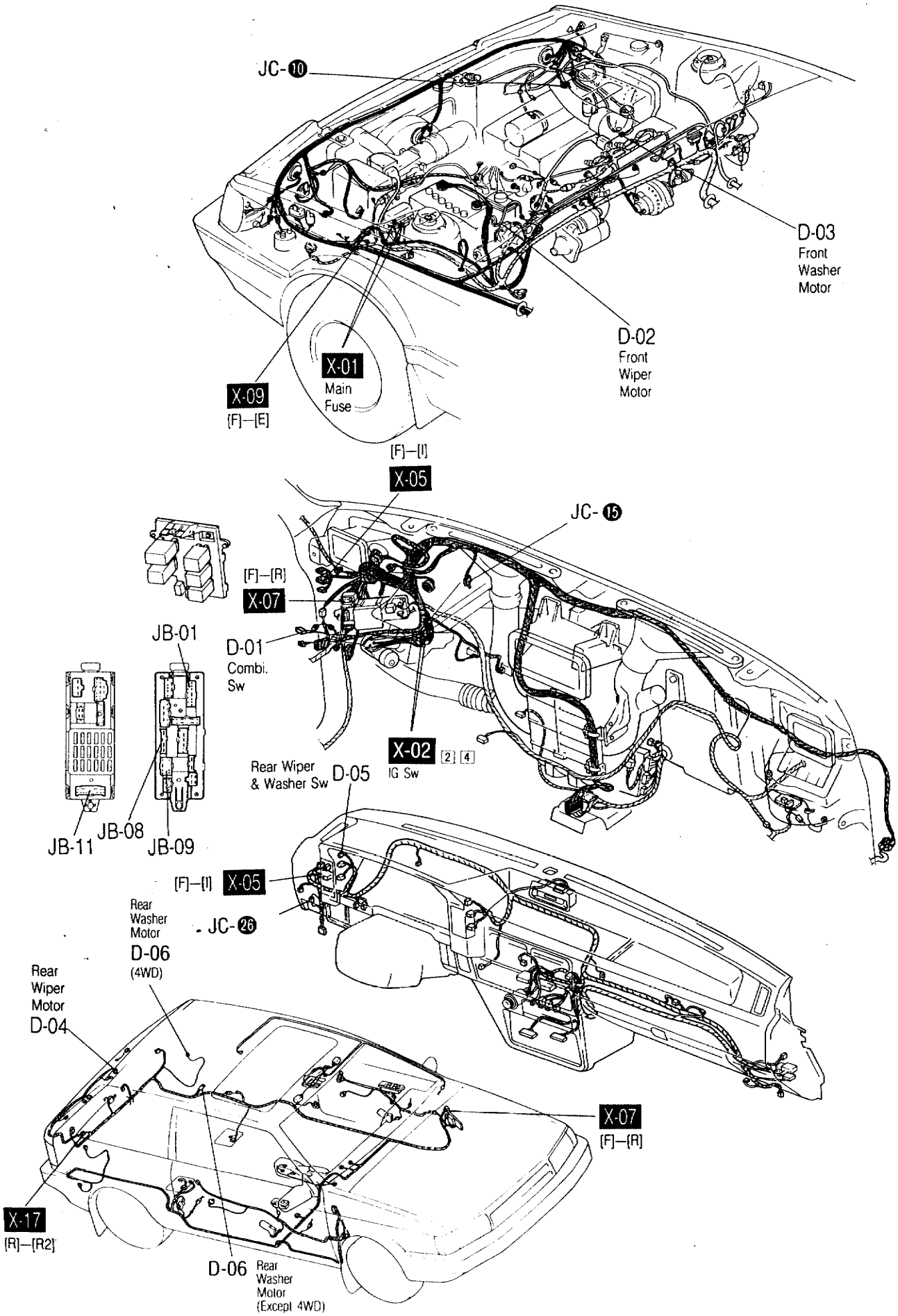
D

■ FRONT WIPER & WASHER
■ REAR WIPER & WASHER (3 & 5 Door)

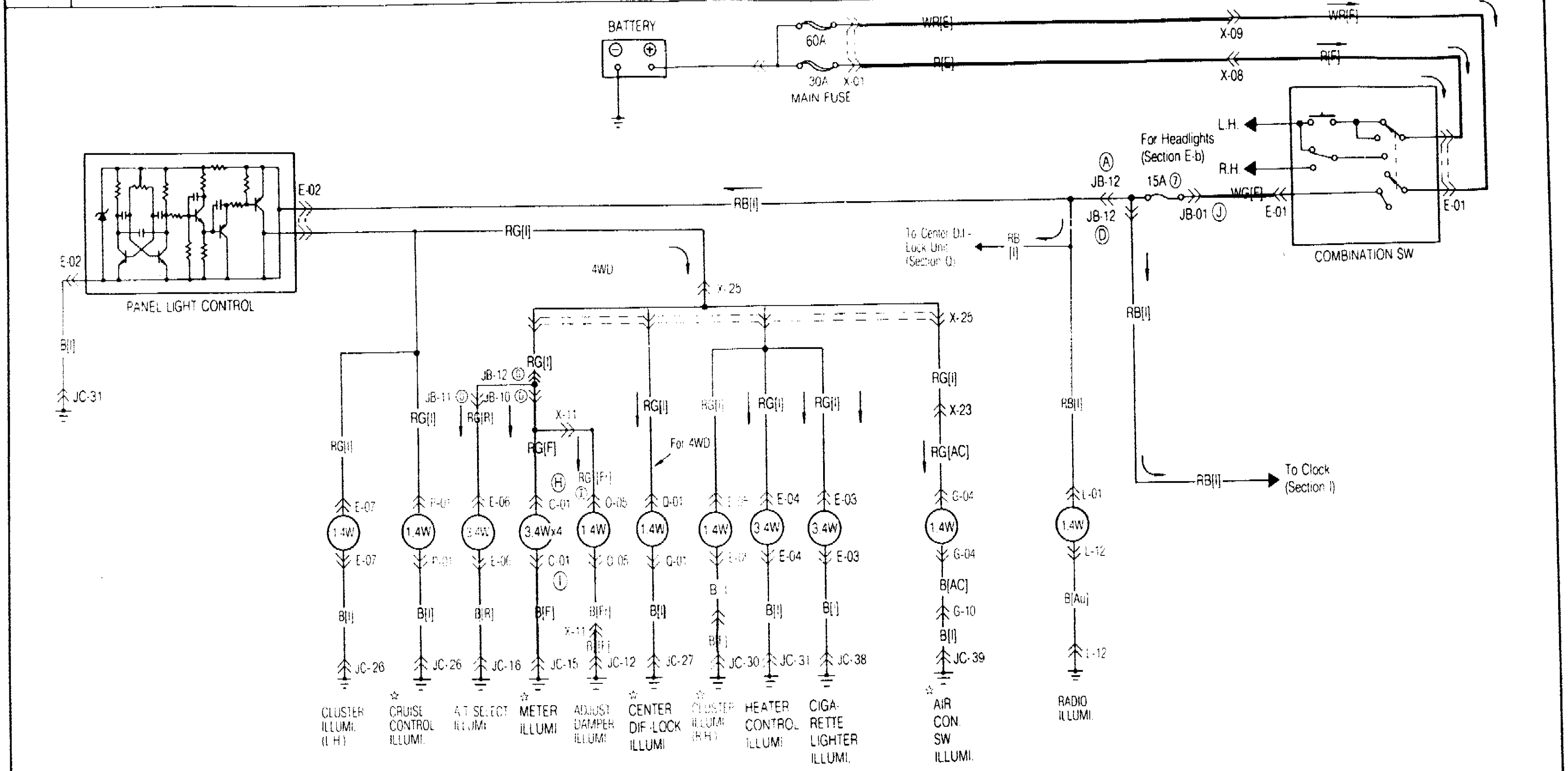
Note: × ... Not Used

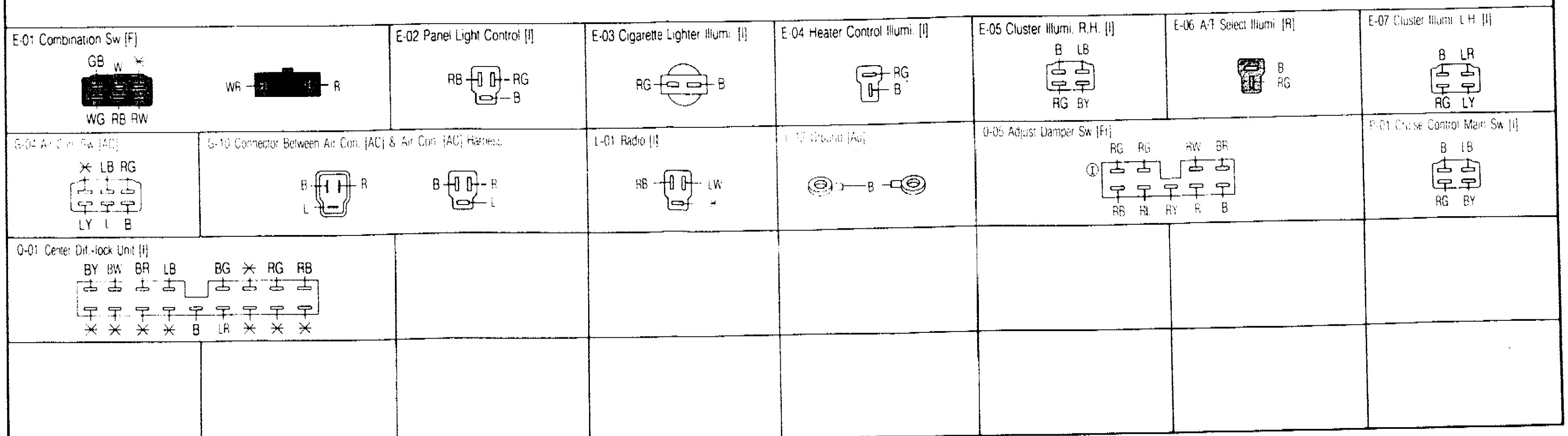


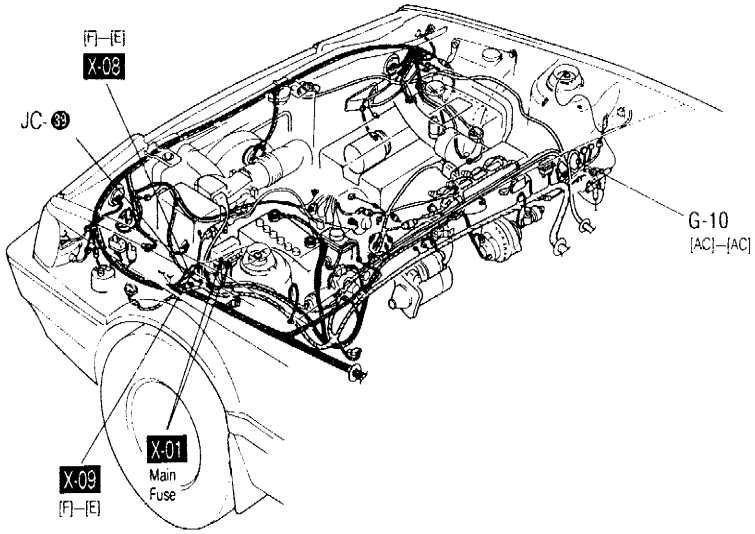
D-01 Combination Sw [F] LO L B LW LB LR	D-02 Front Wiper Motor [F] B LR LW × LB L	D-03 Front Washer Motor [F] LO L	D-04 Rear Wiper Motor [R2] LG BR (3 & 5 Door)
D-05 Rear Wiper & Washer Sw [I] Lg BR B (3 & 5 Door)	D-06 Rear Washer Motor [R] Lg LG (3 & 5 Door)		

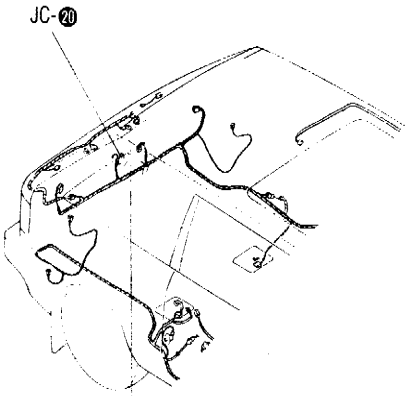

JC-⑩
D-03
Front
Washer
Motor
D-02
Front
Wiper
Motor
X-01
Main
Fuse
X-09
[F]—[E]
[F]—[I]
X-05
JC-⑮
[F]—[R]
X-07
JB-01
D-01
Combi.
Sw
X-02 2 4
IG Sw
Rear Wiper
& Washer Sw
D-05
JB-11
JB-08
JB-09
[F]—[I]
X-05
Rear
Washer
Motor
D-06
(4WD)
JC-㉖
Rear
Wiper
Motor
D-04
X-07
[F]—[R]
X-17
[R]—[R2]
D-06
Rear
Washer
Motor
(Except 4WD)

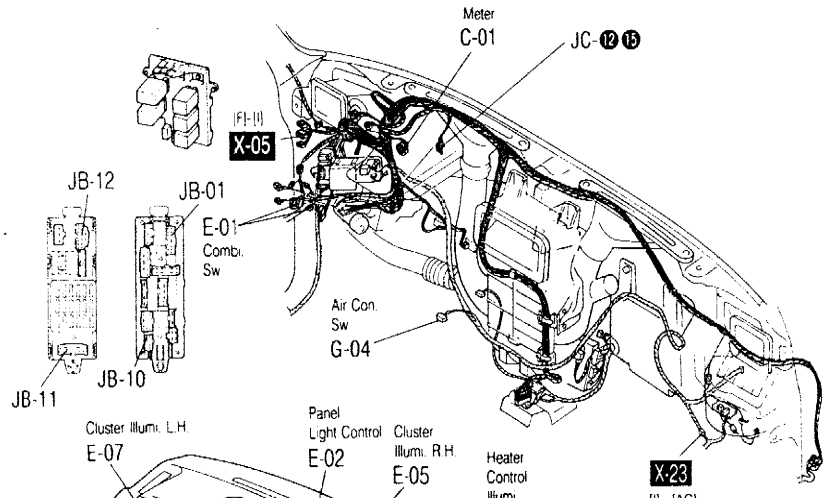
E-a ■ ILLUMINATION LIGHT CONTROL SYSTEM

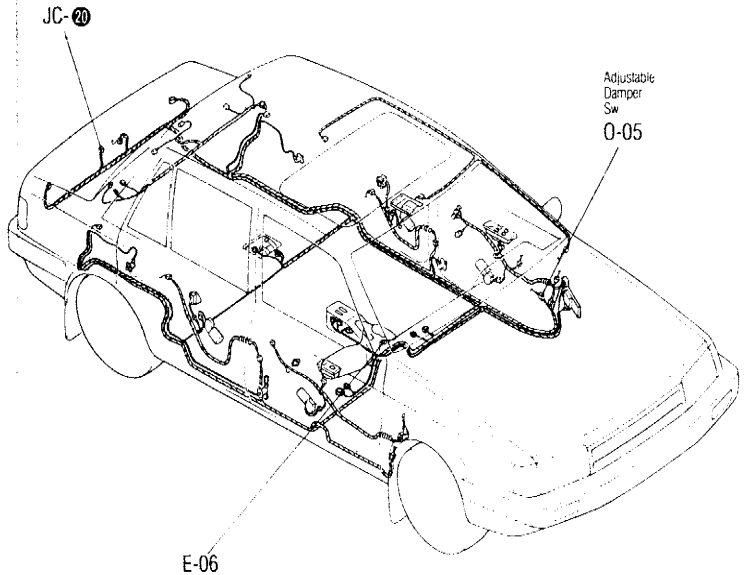


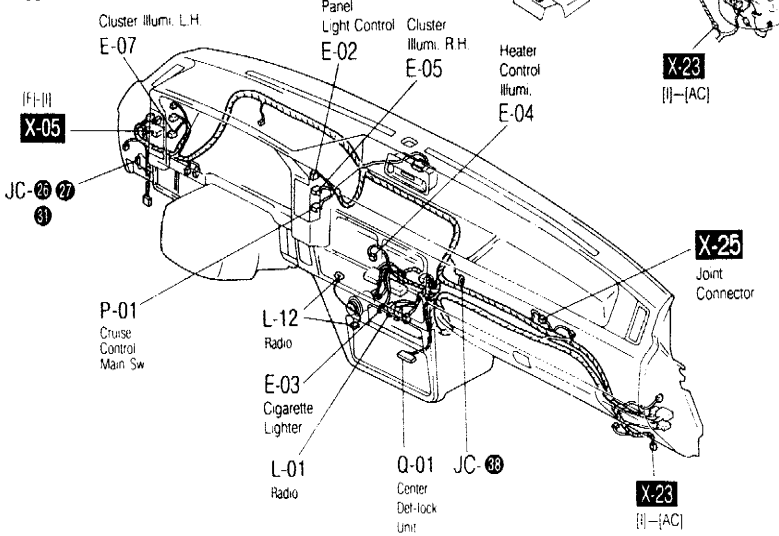



[F]–[E]
X-08
JC-39
G-10
[AC]–[AC]
X-09
[F]–[E]
X-01
Main
Fuse


JC-20


Meter
C-01
JC-12 15
[F]-[I]
X-05
JB-12
JB-01
E-01
Combi.
Sw
Air Con.
Sw
G-04
JB-11
JB-10
X-23
[I]–[AC]

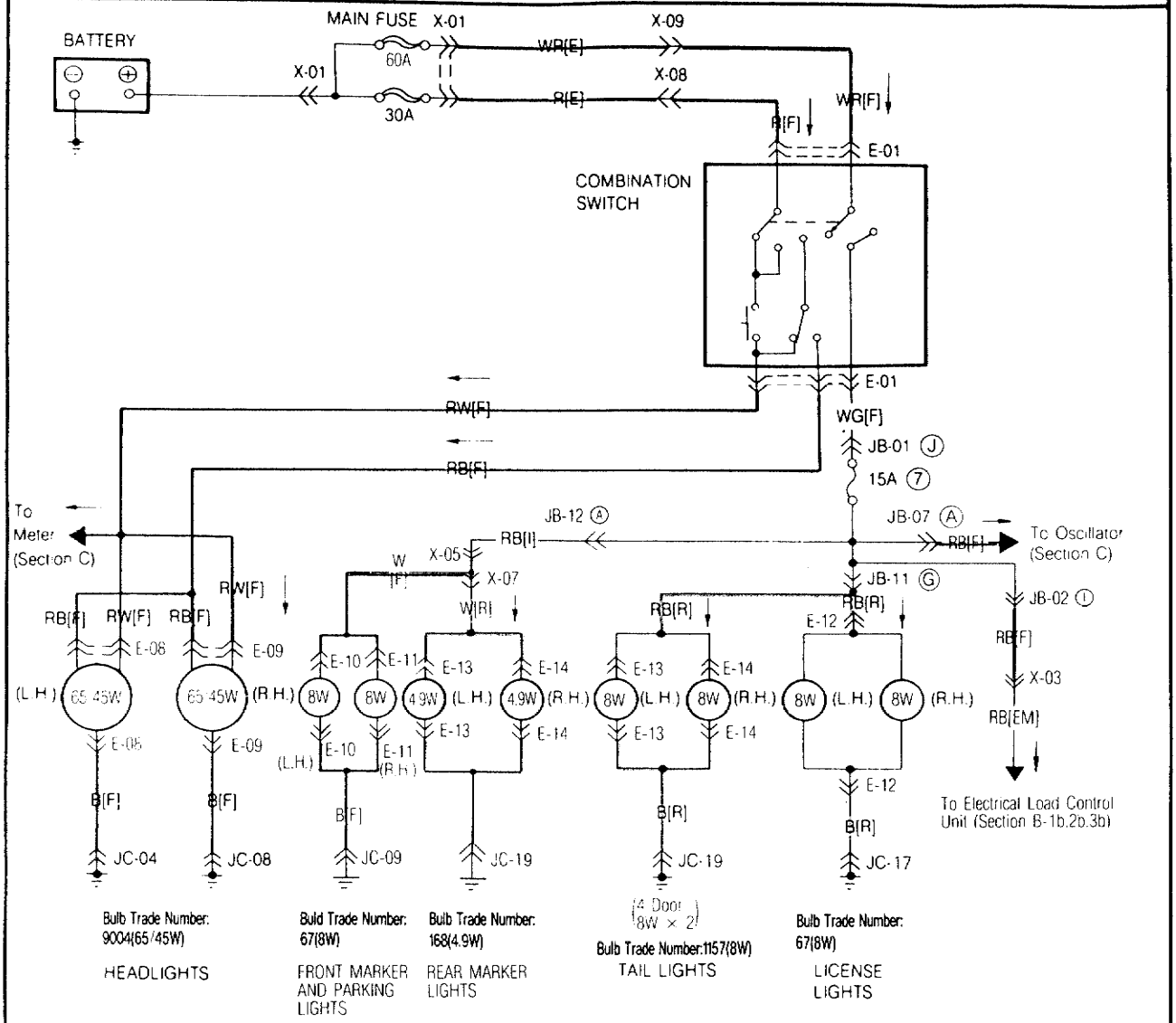

JC-20
Adjustable
Damper
Sw
O-05
E-06
A.T Select
Illumi


Cluster Illumi. L.H.
E-07
Panel
Light Control
E-02
Cluster
Illumi. R.H.
E-05
Heater
Control
Illumi.
E-04
[F]-[I]
X-05
JC-26 27
31
X-25
Joint
Connector
P-01
Cruise
Control
Main Sw
L-12
Radio
E-03
Cigarette
Lighter
L-01
Radio
O-01
Center
Det-lock
Unit
JC-38
X-23
[I]–[AC]

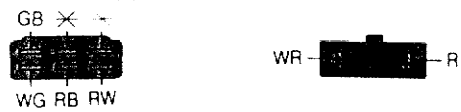
E-b

- FRONT MARKER LIGHTS
- PARKING LIGHTS
- TAIL LIGHTS
- LICENSE LIGHTS
- HEADLIGHTS
- REAR MARKER LIGHTS

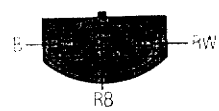
Note: * ... Not Used



E-01 Combination Switch [F]



E-08 Headlight L.H. [F]



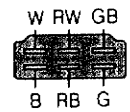
E-09 Headlight R.H. [F]

E-10 F. Comb. Light L.H. [F]

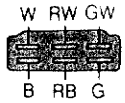
E-11 F. Comb. Light R.H. [F]

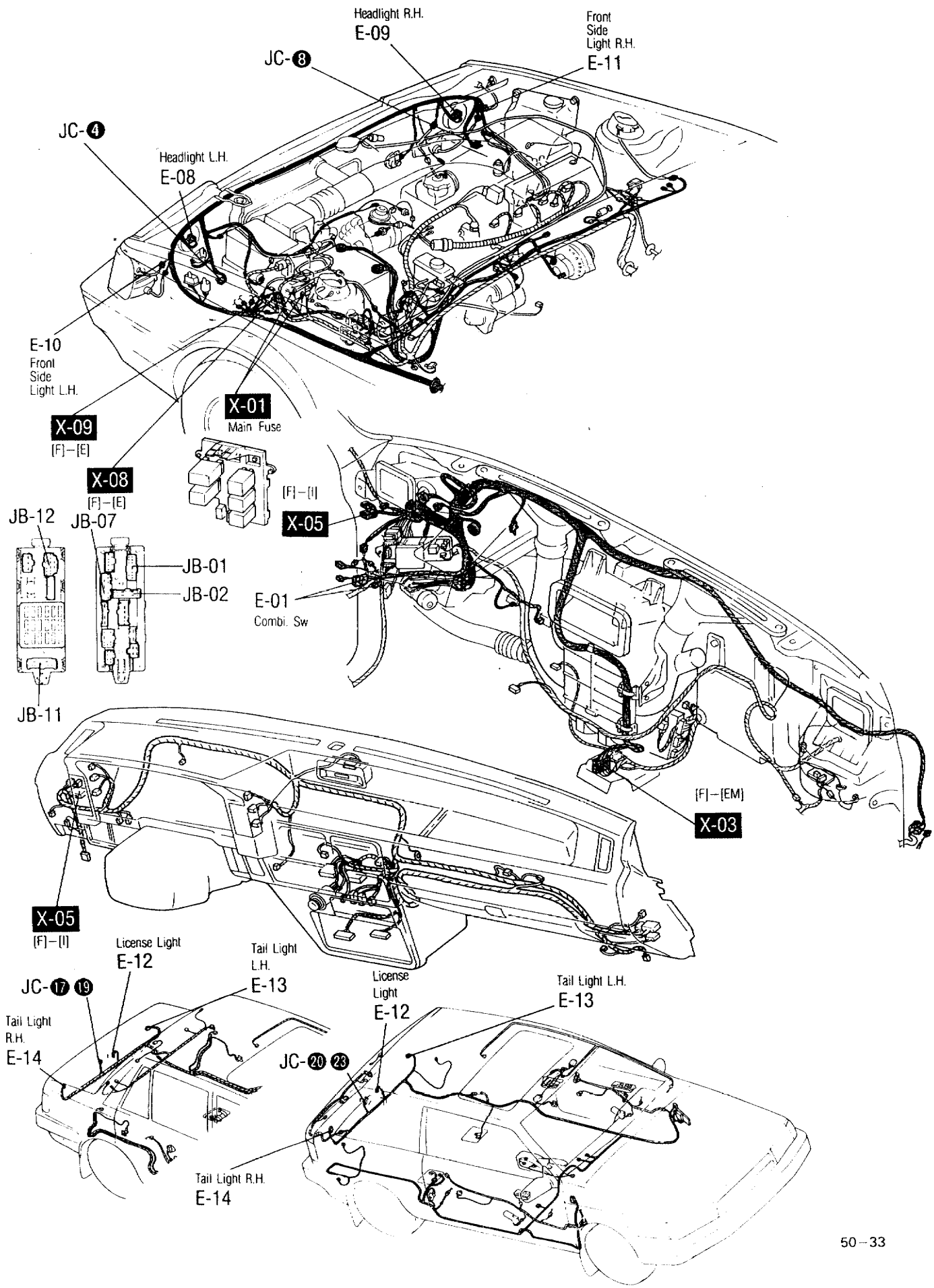
E-12 License Light [R]

E-13 R. Comb. Light L.H. [R]



E-14 R. Comb. Light R.H. [R]

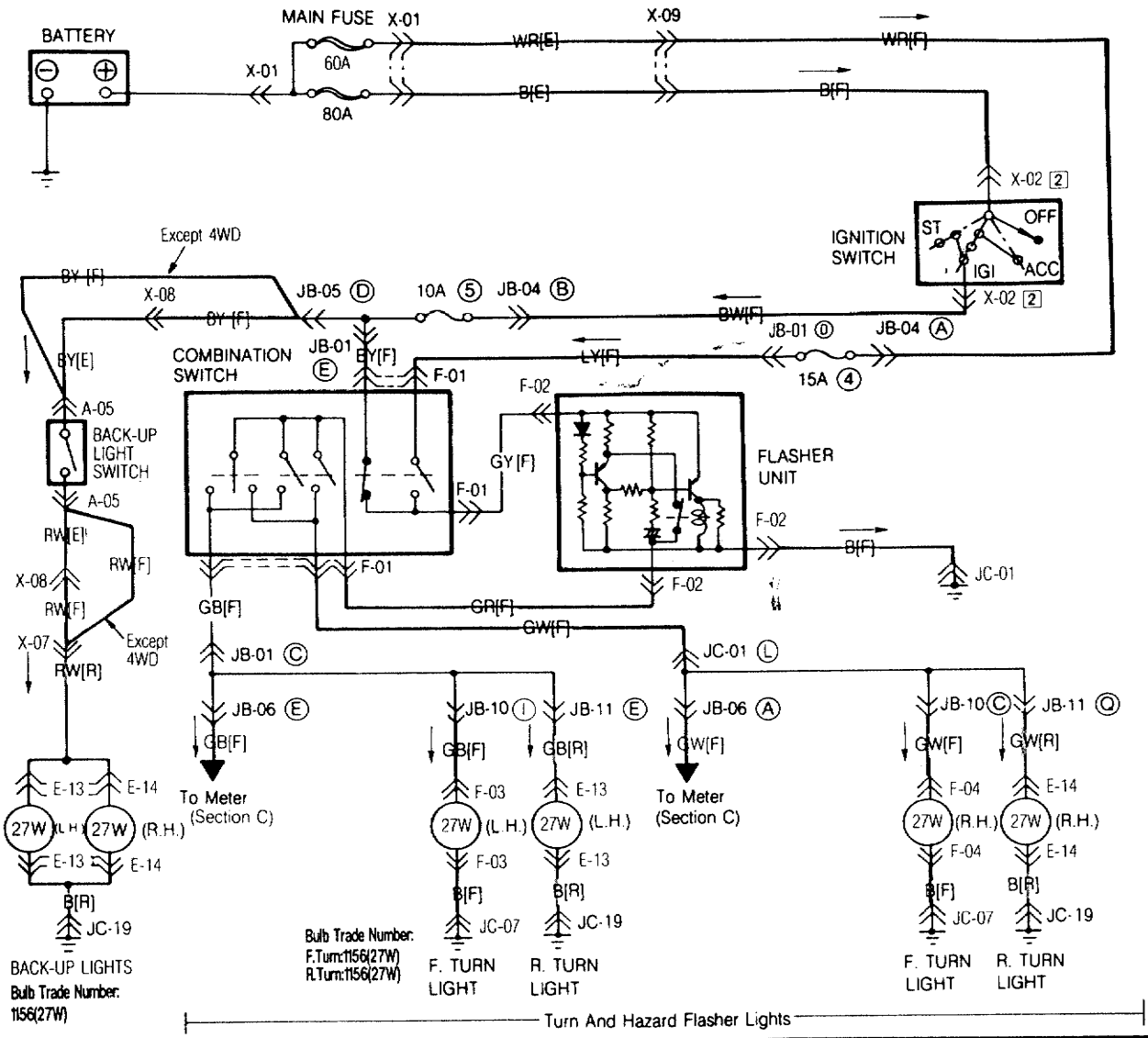



Headlight R.H.
E-09
Front
Side
Light R.H.
E-11
JC-8
JC-4
Headlight L.H.
E-08
E-10
Front
Side
Light L.H.
X-09
[F]–[E]
X-08
[F]–[E]
X-01
Main Fuse
[F]–[I]
X-05
JB-12
JB-07
JB-01
JB-02
JB-11
E-01
Combi. Sw
[F]–[EM]
X-03
X-05
[F]–[I]
License Light
E-12
Tail Light
L.H.
E-13
JC-17 19
Tail Light
R.H.
E-14
License
Light
E-12
Tail Light L.H.
E-13
JC-20 23
Tail Light R.H.
E-14

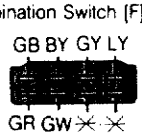
F-a

■ BACK-UP LIGHTS
■ TURN & HAZARD FLASHER LIGHTS

Note: ✕ .... Not Used

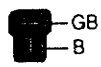


F-01 Combination Switch [F]

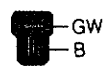


F-02 Flasher Unit [F]

F-03 Front Turn Light L.H. [F]

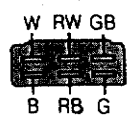


F-04 Front Turn Light R.H. [F]

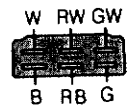


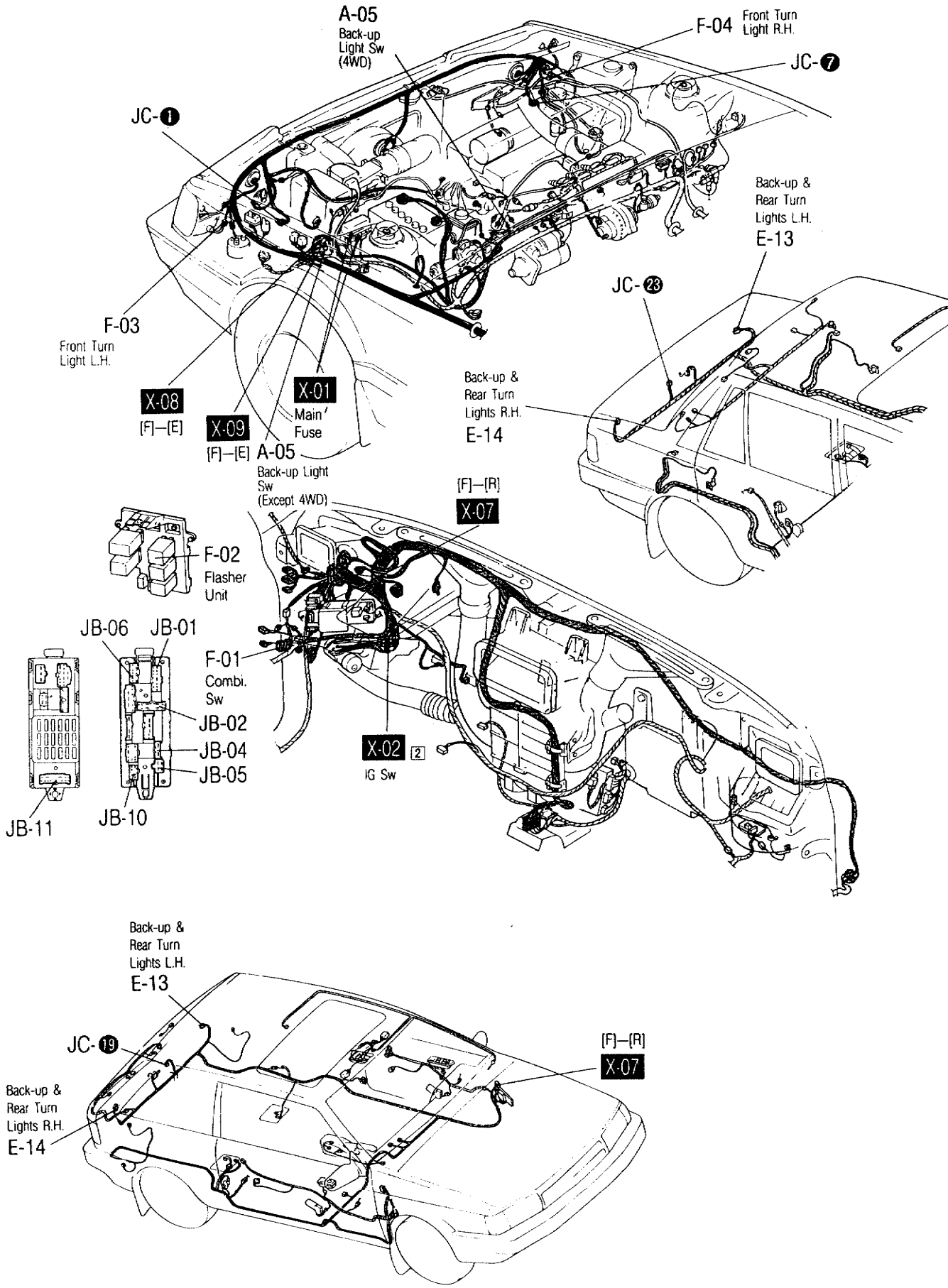
A-05 Back-Up Light Sw [F], [E]

E-13 Rear Combi. Light L.H. [R]



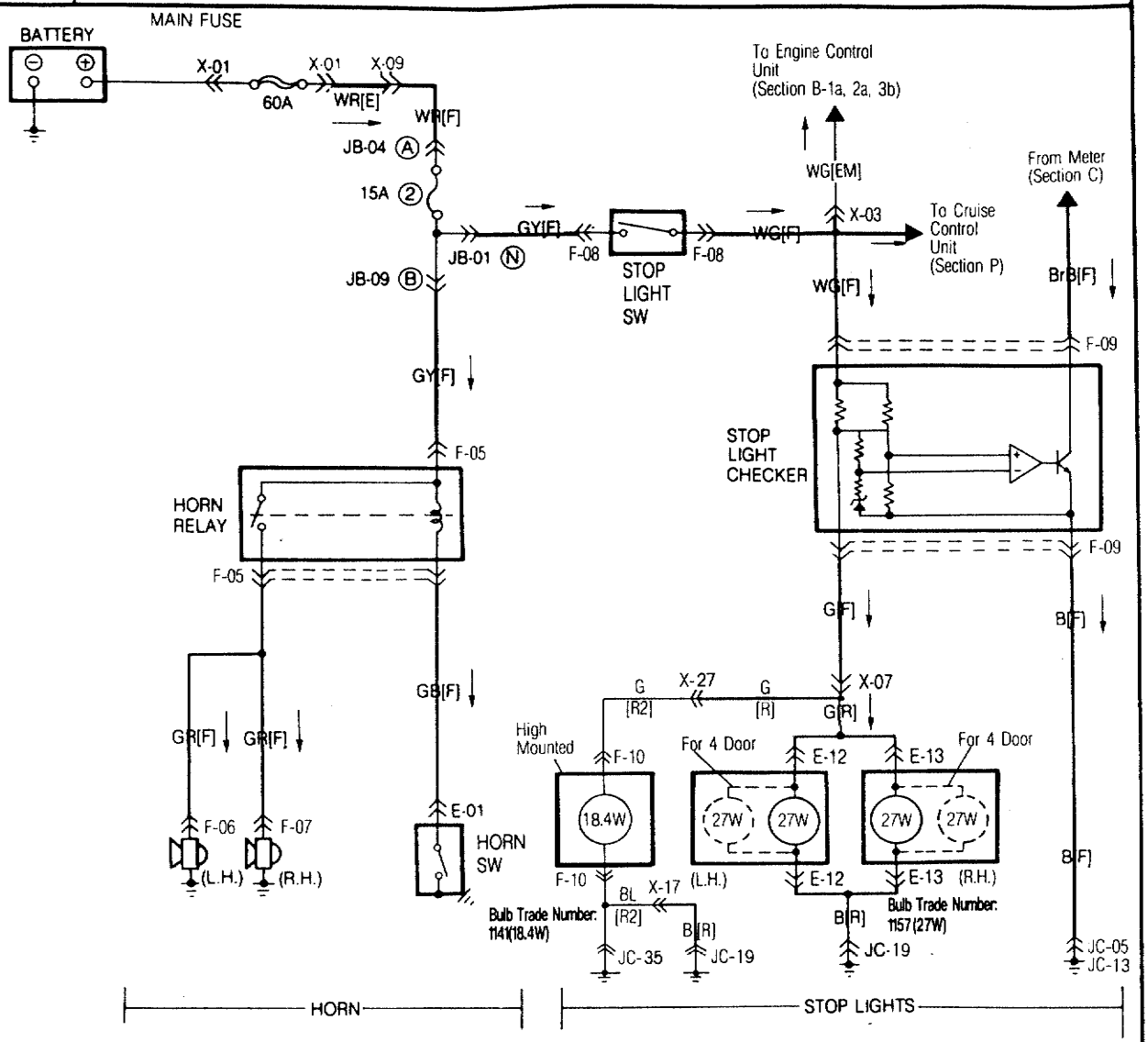
E-14 Rear Combi. Light R.H. [R]



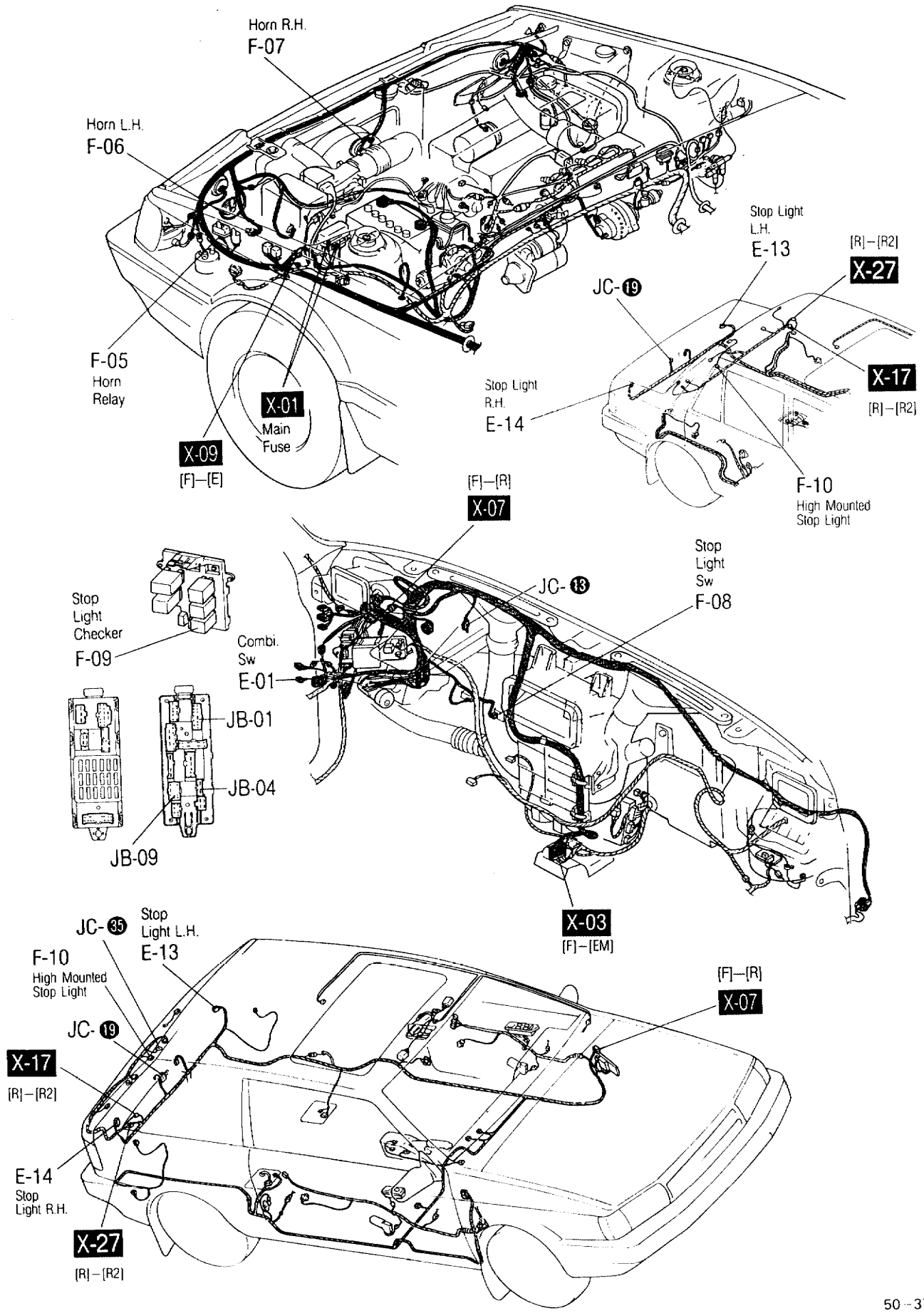

A-05
Back-up Light Sw (4WD)
F-04 Front Turn Light R.H.
JC-7
JC-1
Back-up & Rear Turn Lights L.H.
E-13
JC-23
F-03
Front Turn Light L.H.
X-08
[F]—[E]
X-09
[F]—[E]
X-01
Main Fuse
A-05
Back-up & Rear Turn Lights R.H.
E-14
Back-up Light Sw (Except 4WD)
[F]—[R]
X-07
F-02
Flasher Unit
JB-06
JB-01
F-01
Combi. Sw
JB-02
JB-04
JB-05
X-02 2
IG Sw
JB-11
JB-10
Back-up & Rear Turn Lights L.H.
E-13
JC-19
[F]—[R]
X-07
Back-up & Rear Turn Lights R.H.
E-14

F-b ■ HORN ■ STOP LIGHTS

Note: * ... Not Used

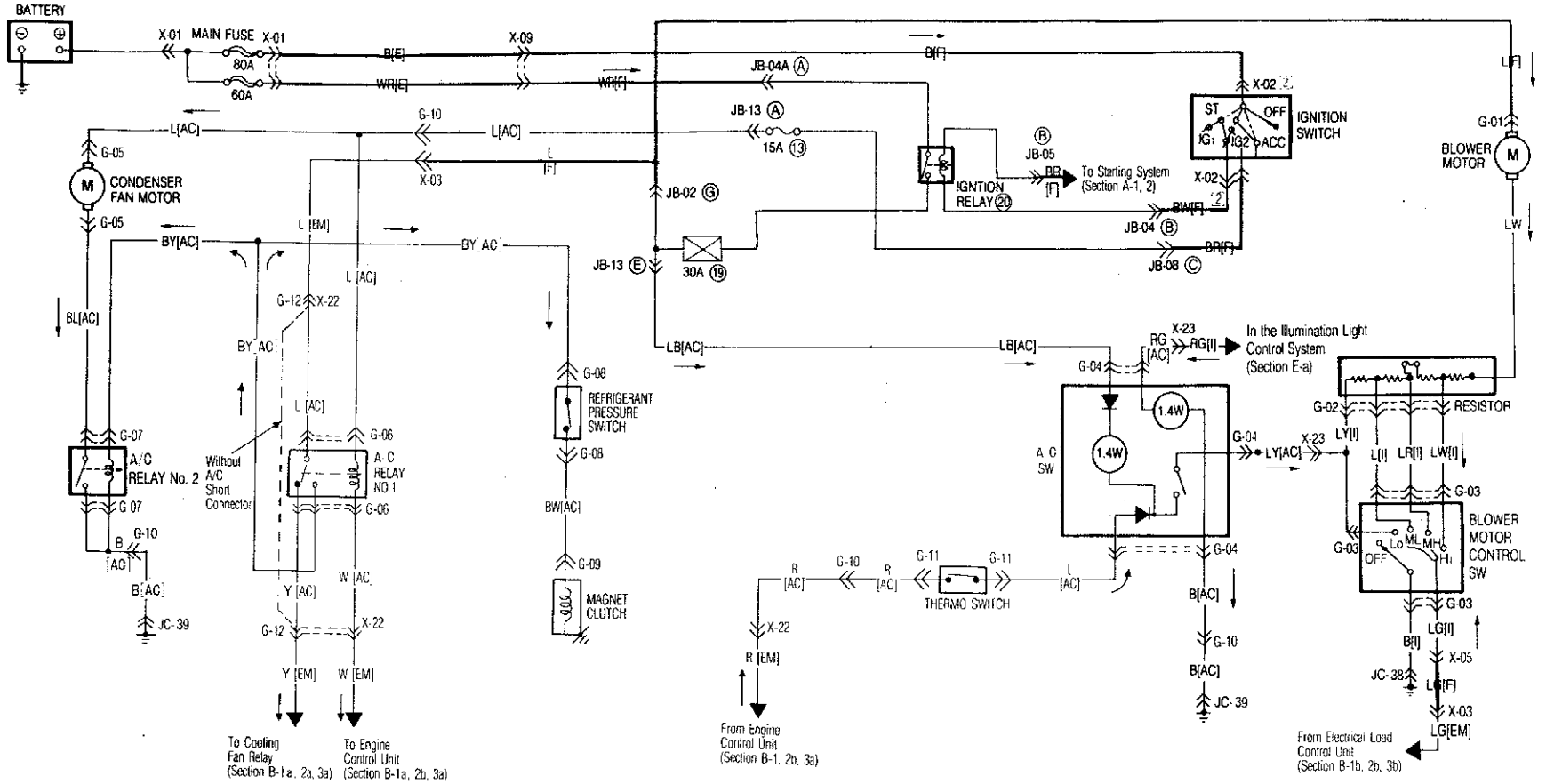


F-05 Horn Relay [F] GY GR GB	F-06 Horn L.H. [F] GR	F-07 Horn R.H. [F] GR	F-08 Stop Light Sw [F] GY WG
F-09 Stop Light Checker [F] BrB WG G B	F-10 High Mounted Stop Light [R2] G BL (3&5 Door) * G * BL (4 Door)	E-01 Combination Sw [F] GB * * WG RB RW	E-13 R. Combi. Light L.H. [R] [RB]W RW GB B RB G
E-14 R. Combi. Light R.H. [R] [RB]W RW GW B RB G			

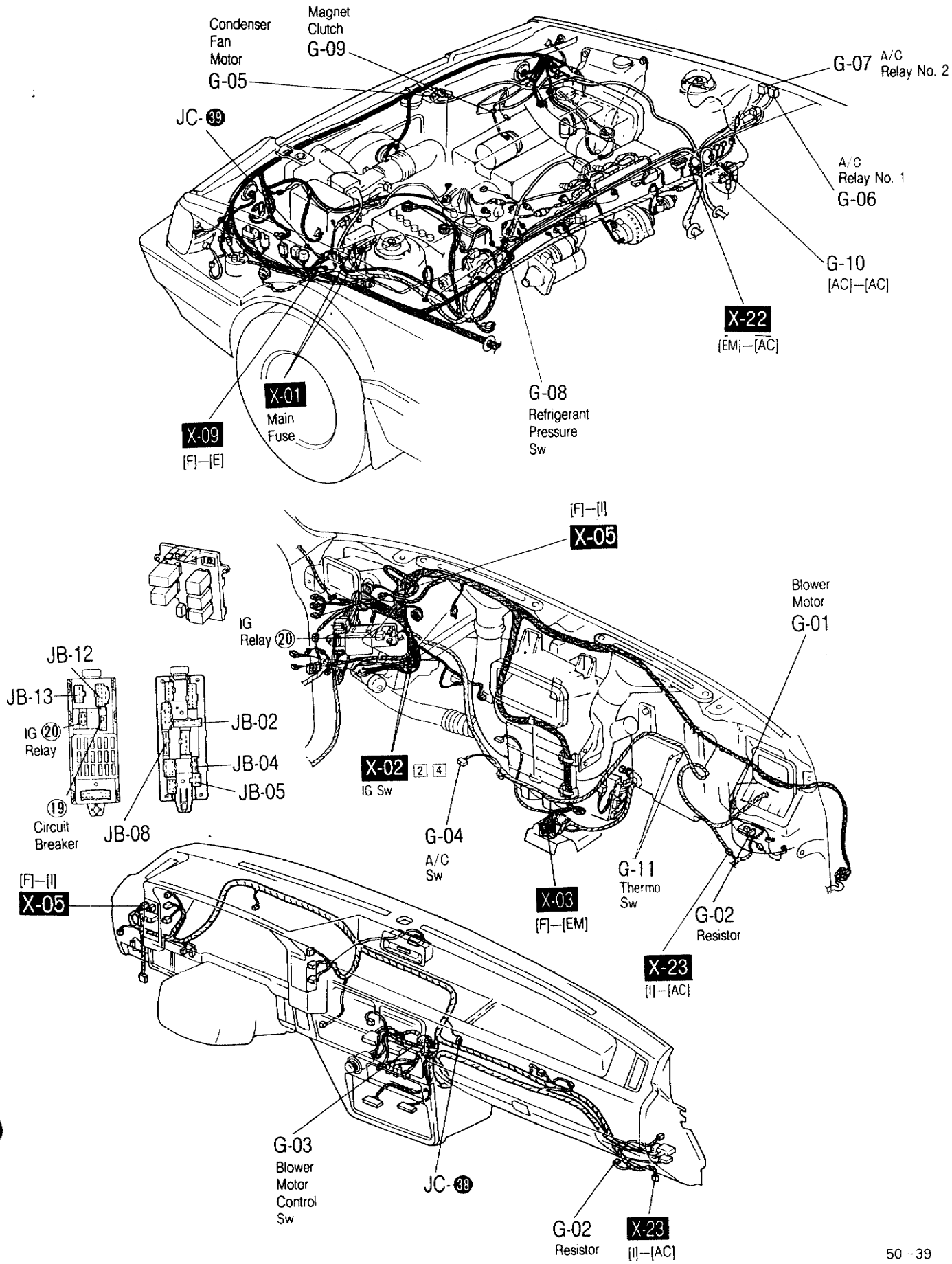

Horn R.H.
F-07
Horn L.H.
F-06
F-05
Horn
Relay
X-01
Main
Fuse
X-09
[F]—[E]
Stop Light
L.H.
E-13
[R]—[R2]
X-27
JC-19
X-17
[R]—[R2]
Stop Light
R.H.
E-14
F-10
High Mounted
Stop Light
[F]—[R]
X-07
Stop
Light
Checker
F-09
Combi.
Sw
E-01
JC-13
Stop
Light
Sw
F-08
JB-01
JB-04
JB-09
X-03
[F]—[EM]
JC-35
Stop
Light L.H.
E-13
F-10
High Mounted
Stop Light
JC-19
X-17
[R]—[R2]
[F]—[R]
X-07
E-14
Stop
Light R.H.
X-27
[R]—[R2]

G ■ AIR CONDITIONER & HEATER

Note: × ... Not Used

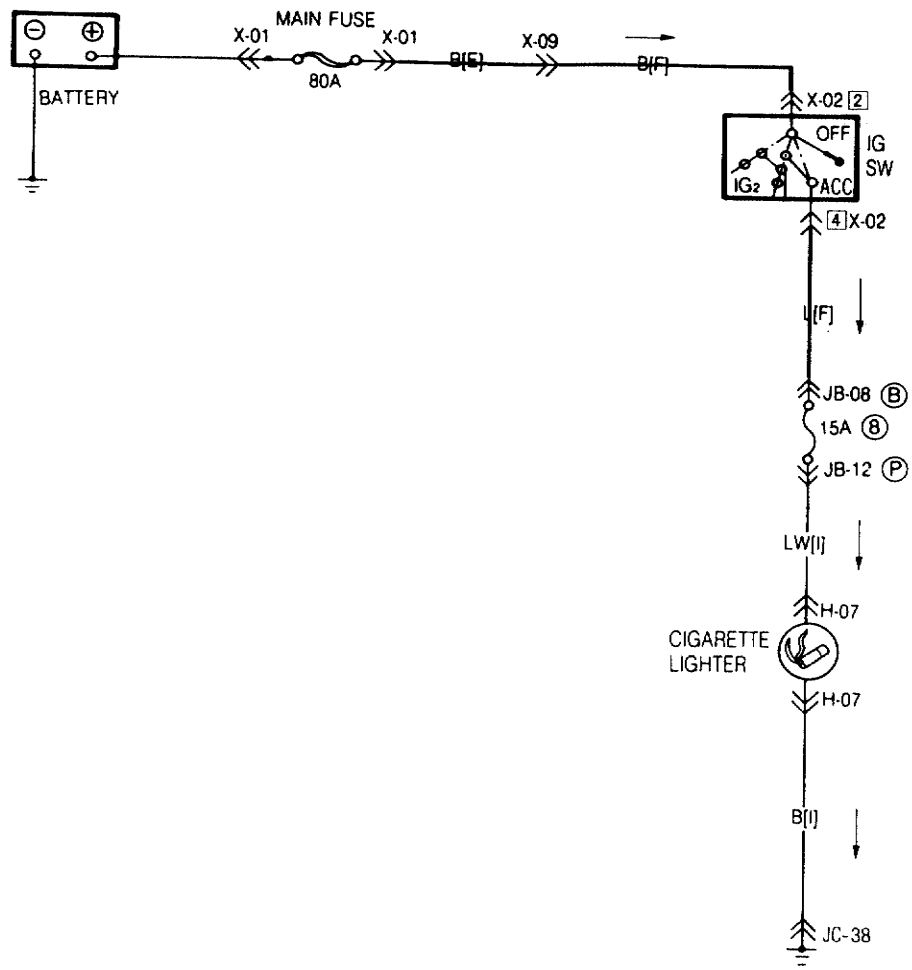


G-01 Blower Motor [F] L	G-02 Resistor [I] L LR LY LW	G-03 Blower Motor Control Sw [I] LW LR L LG B LY	G-04 A/C Switch [AC] LB RG LY G B	G-05 Condenser Fan Motor [AC] L BL	G-06 A/C Relay No.1 [AC] Y BG W L L	G-07 A/C Relay No.2 [AC] B B BG BL	G-08 Refrigerant Pressure Switch BW BG
G-09 Magnet Clutch [AC] BW	G-10 Connector Between Air Con. [AC] And Air Con. [AC] Harness B R L (Eng. Side) R B L (Inst. Side)		G-11 Thermo Switch [AC] L R	G-12 Short Connector Without A/C			

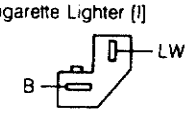

Condenser Fan Motor
G-05
Magnet Clutch
G-09
JC-39
G-07 A/C Relay No. 2
A/C Relay No. 1
G-06
G-10
[AC]—[AC]
X-22
[EM]—[AC]
G-08
Refrigerant Pressure Sw
X-01
Main Fuse
X-09
[F]—[E]
[F]—[I]
X-05
Blower Motor
G-01
IG Relay 20
JB-12
JB-13
IG 20 Relay
19
Circuit Breaker
JB-08
JB-02
JB-04
JB-05
X-02 2 4
IG Sw
G-04
A/C Sw
X-03
[F]—[EM]
G-11
Thermo Sw
G-02
Resistor
X-23
[I]—[AC]
[F]—[I]
X-05
G-03
Blower Motor Control Sw
JC-38
G-02
Resistor
X-23
[I]—[AC]

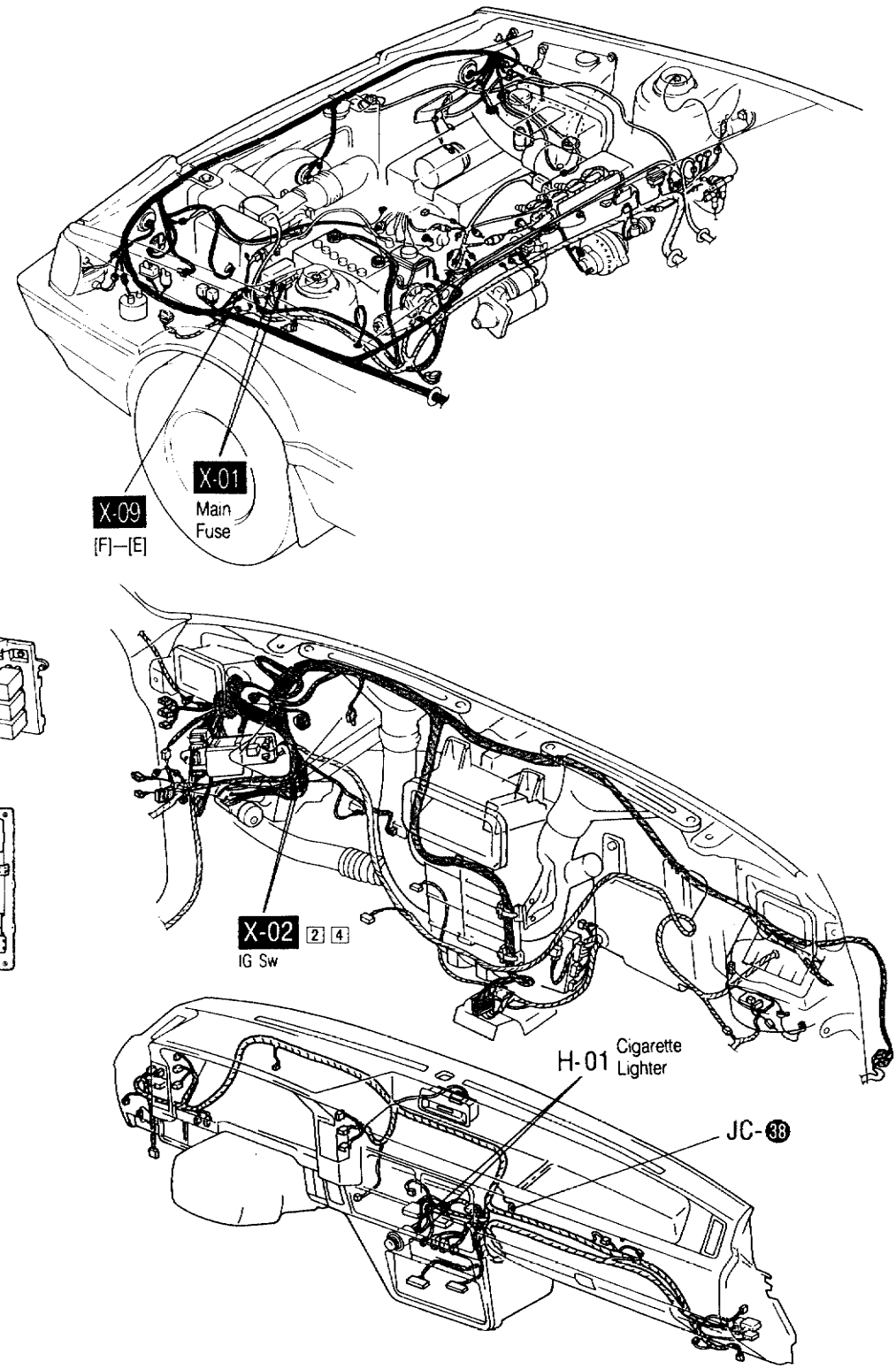
H ■ CIGARETTE LIGHTER

Note:
✕...Not Used



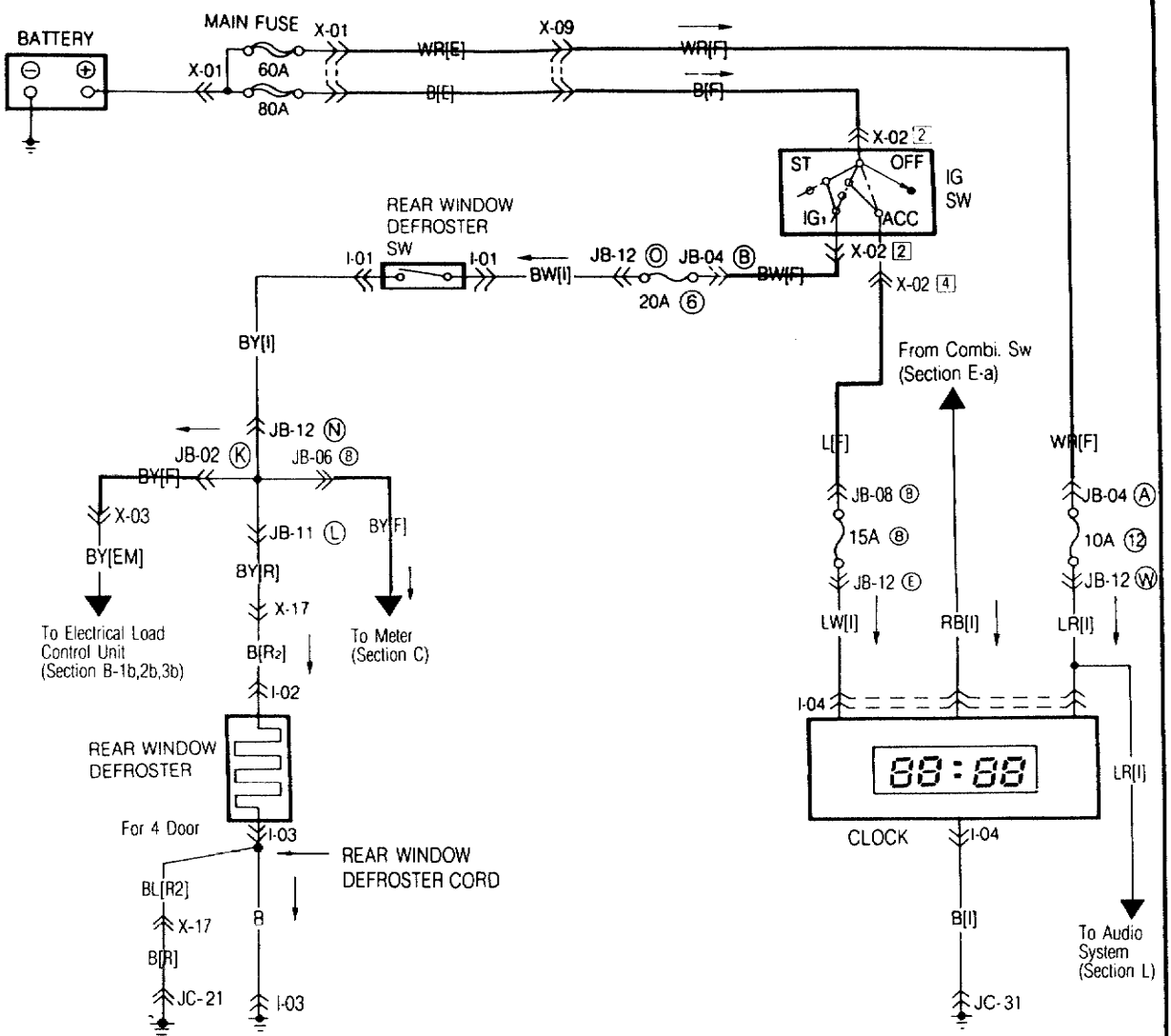
H-01 Cigarette Lighter [I]

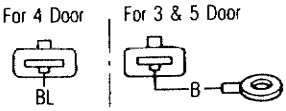
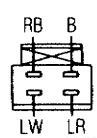


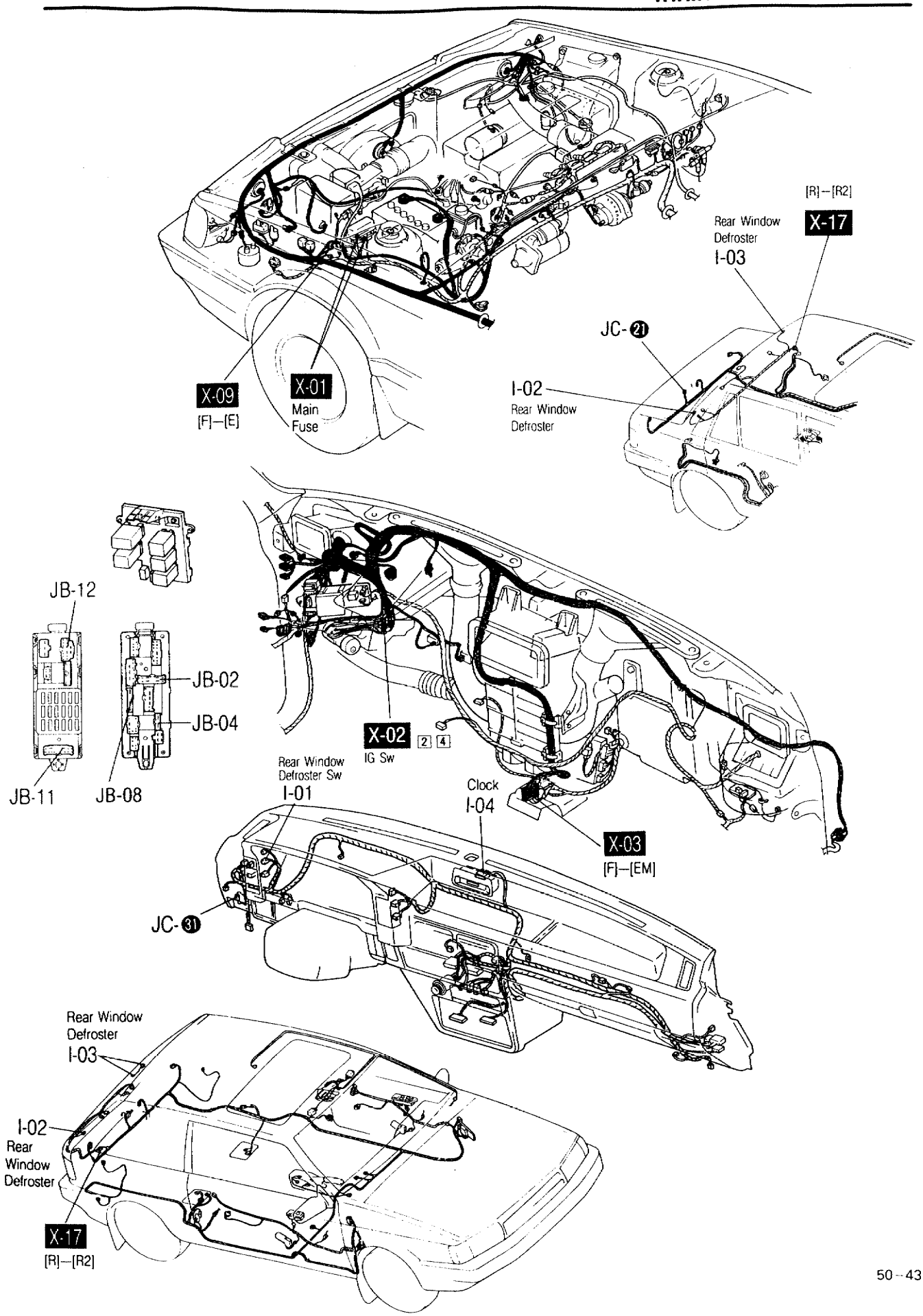

X-01
Main
Fuse
X-09
[F]—[E]
JB-12
JB-08
X-02 2 4
IG Sw
H-01 Cigarette
Lighter
JC-38

I ■ DIGITAL CLOCK ■ REAR WINDOW DEFROSTER

Note:
× ... Not Used



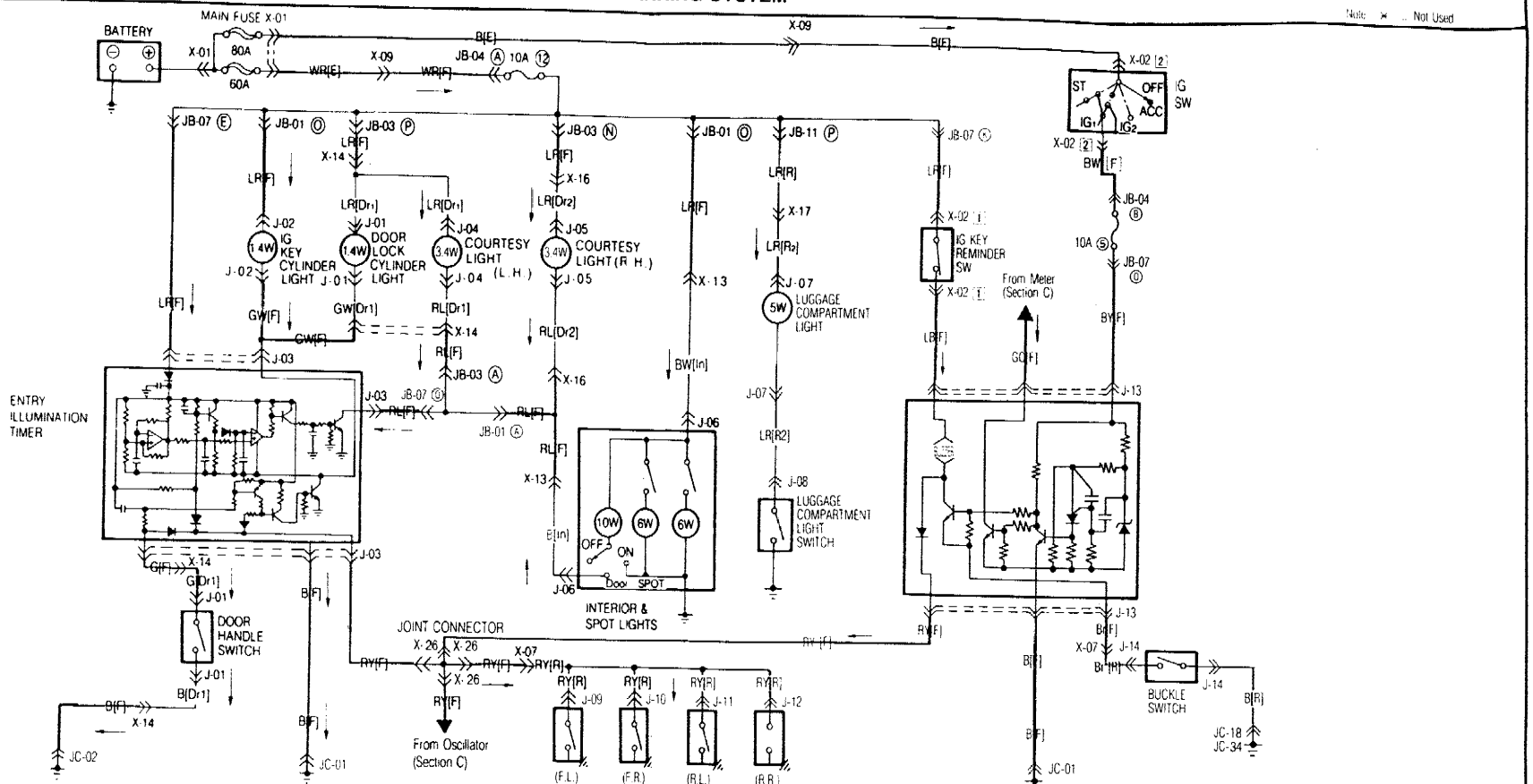
I-01 Rear Window Def. Sw [I]	I-02 Rear Window Def. [R2]	I-03 Rear Window Def. Cord	I-04 Clock [I]
			


X-09
[F]–[E]
X-01
Main
Fuse
[R]–[R2]
Rear Window
Defroster
X-17
I-03
JC-21
I-02
Rear Window
Defroster
JB-12
JB-02
JB-04
JB-11
JB-08
X-02
IG Sw
2
4
Rear Window
Defroster Sw
I-01
Clock
I-04
X-03
[F]–[EM]
JC-31
Rear Window
Defroster
I-03
I-02
Rear
Window
Defroster
X-17
[R]–[R2]

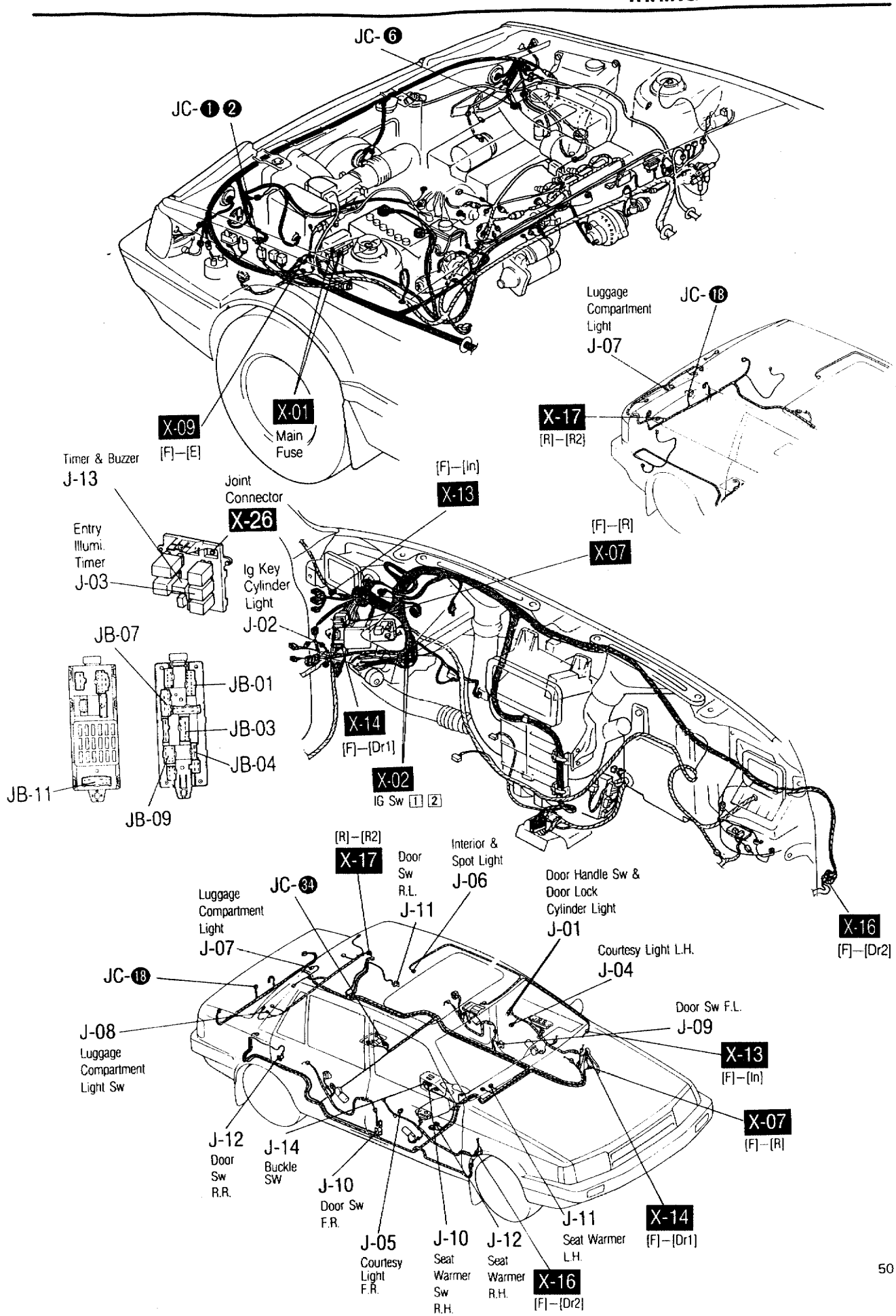
J

■ COURTESY LIGHTS ■ DOOR LOCK CYLINDER LIGHT ■ IGNITION KEY CYLINDER LIGHT ■ INTERIOR & SPOT LIGHTS
■ LUGGAGE COMPARTMENT LIGHT ■ SEAT BELT WARNING SYSTEM

Note: × ... Not Used

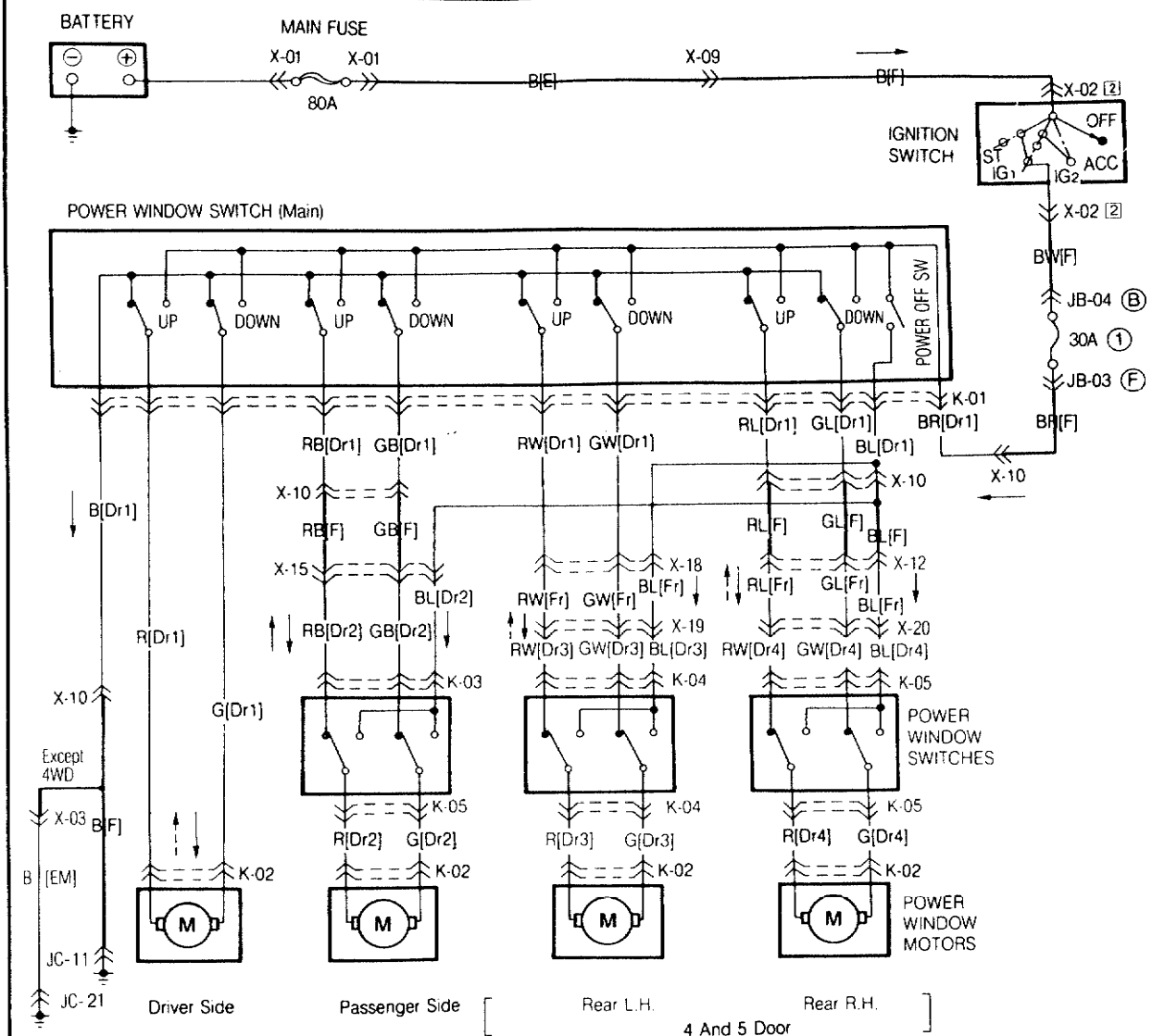


J-01 Door Lock Cylinder Light & Door Handle Sw [Dr1] GW, B, LR, G	J-02 IG Key Cylinder Light [F] GW, LR	J-03 Entry Illumination Timer [F] LR, B, RY; GW, RL, G	J-04 Courtesy Light [Dr1] LR, RL (L.H.)	J-05 Courtesy Light [Dr2] LR, RL (R.H.)	J-06 Interior & Spot Lights [In] RL (B), LR (BW)	J-07 Luggage Compartment Light [R2] LR; LR 3 & 5 Door; LR, LR 4 Door
J-08 Luggage Compartment Light Switch [R2] LR (3 & 5 Door); (4 Door)	J-09 Door Switch F.L. [R] RY	J-10 Door Switch F.R. [R] RY	J-11 Door Switch R.L. [R] RY	J-12 Door Switch R.R. [R] RY	J-13 Timer And Buzzer [F] BY, RY, ×; B, LB, GO, Br, ×	J-14 Buckle Switch [R] B, Br

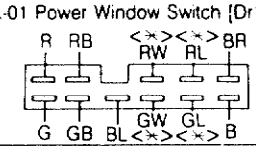

JC-6
JC-1 2
X-09
[F]–[E]
X-01
Main
Fuse
Luggage
Compartment
Light
J-07
JC-18
X-17
[R]–[R2]
Timer & Buzzer
J-13
Joint
Connector
X-26
[F]–[In]
X-13
Entry
Illumi.
Timer
J-03
Ig Key
Cylinder
Light
J-02
[F]–[R]
X-07
JB-07
JB-01
JB-03
JB-04
JB-11
JB-09
X-14
[F]–[Dr1]
X-02
IG Sw 1 2
X-16
[F]–[Dr2]
[R]–[R2]
X-17
Door
Sw
R.L.
Interior &
Spot Light
J-06
JC-34
Luggage
Compartment
Light
J-07
J-11
Door Handle Sw &
Door Lock
Cylinder Light
J-01
Courtesy Light L.H.
J-04
JC-18
J-08
Luggage
Compartment
Light Sw
Door Sw F.L.
J-09
X-13
[F]–[In]
X-07
[F]–[R]
J-12
Door
Sw
R.R.
J-14
Buckle
SW
J-10
Door Sw
F.R.
J-05
Courtesy
Light
F.R.
J-10
Seat
Warmer
Sw
R.H.
J-12
Seat
Warmer
R.H.
J-11
Seat Warmer
L.H.
X-14
[F]–[Dr1]
X-16
[F]–[Dr2]

K ■ POWER WINDOW

Note:
( ) .. For 3 Door
✳ ..Not Used

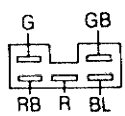


K-01 Power Window Switch [Dr1]

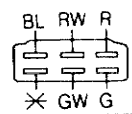


K-02 Power Window Motor [Dr1] [Dr2] [Dr3] [Dr4]

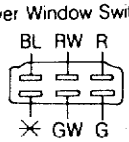
K-03 Power Window Switch [Dr2]

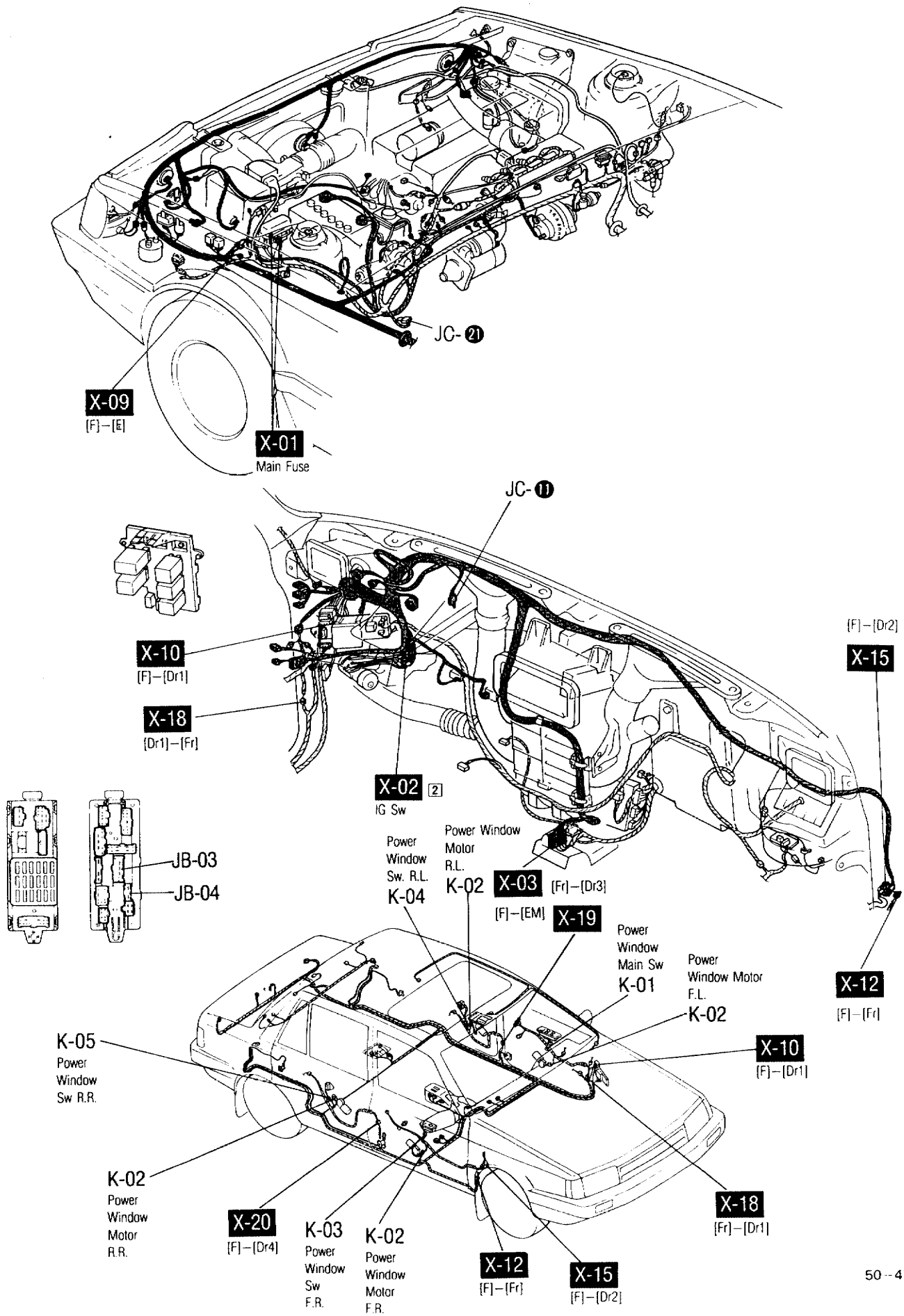


K-04 Power Window Switch [Dr3]



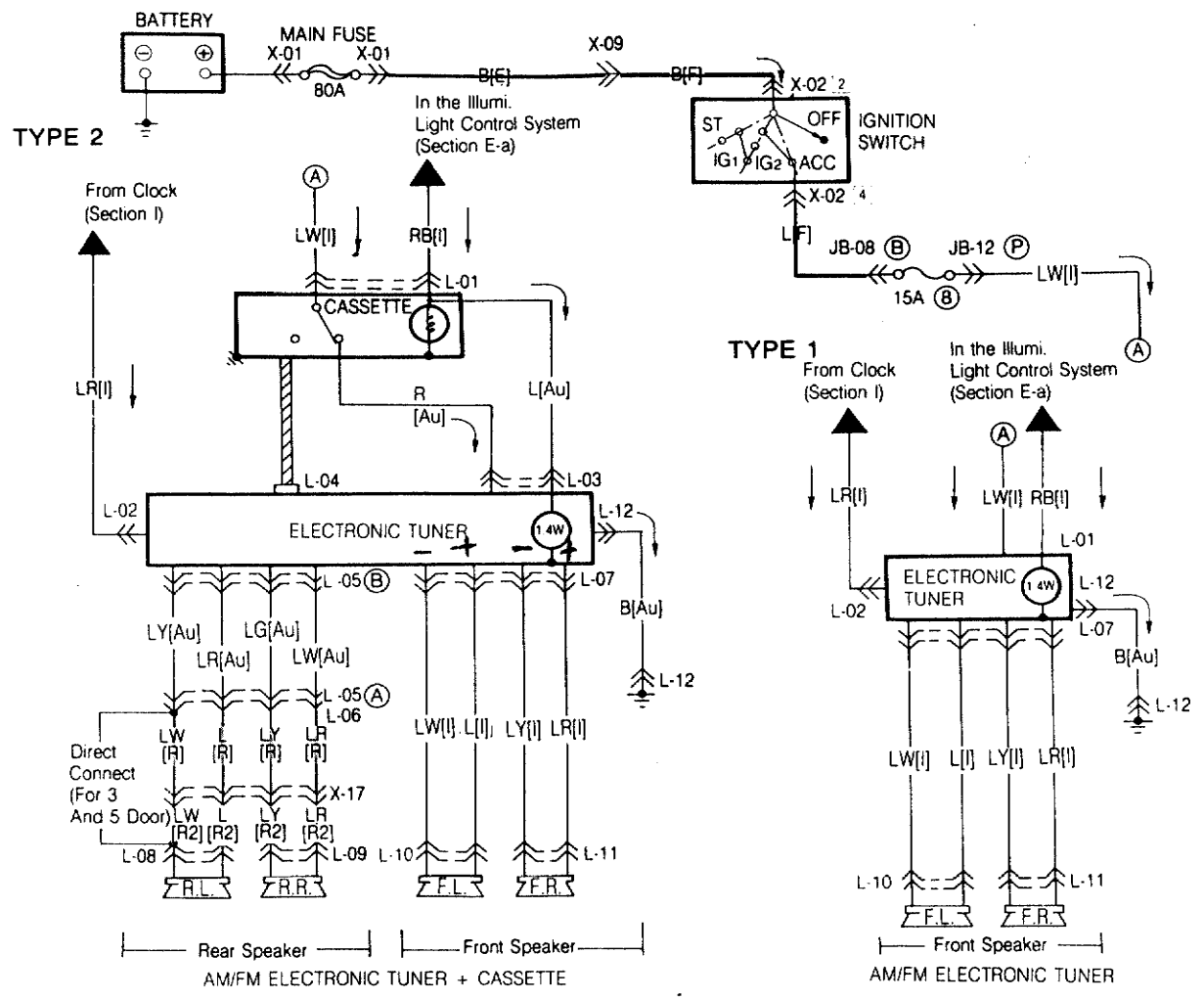
K-05 Power Window Switch [Dr4]




JC-21
X-09
[F]–[E]
X-01
Main Fuse
JC-11
X-10
[F]–[Dr1]
X-18
[Dr1]–[Fr]
X-02 2
IG Sw
[F]–[Dr2]
X-15
JB-03
JB-04
Power Window Sw. R.L.
K-04
Power Window Motor R.L.
K-02
X-03
[Fr]–[Dr3]
[F]–[EM]
X-19
Power Window Main Sw
K-01
Power Window Motor F.L.
K-02
X-12
[F]–[Fr]
K-05
Power Window Sw R.R.
X-10
[F]–[Dr1]
K-02
Power Window Motor R.R.
X-20
[F]–[Dr4]
K-03
Power Window Sw F.R.
K-02
Power Window Motor F.R.
X-12
[F]–[Fr]
X-15
[F]–[Dr2]
X-18
[Fr]–[Dr1]

L ■ AUDIO SYSTEM

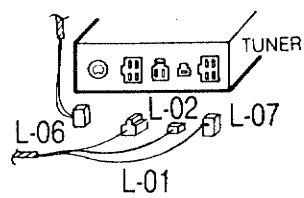
Note:
✕ ...Not Used



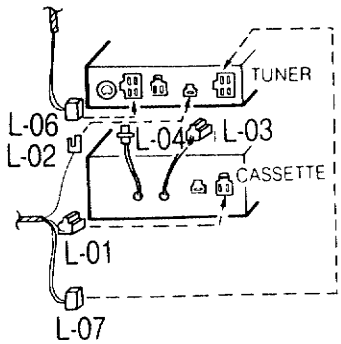
B

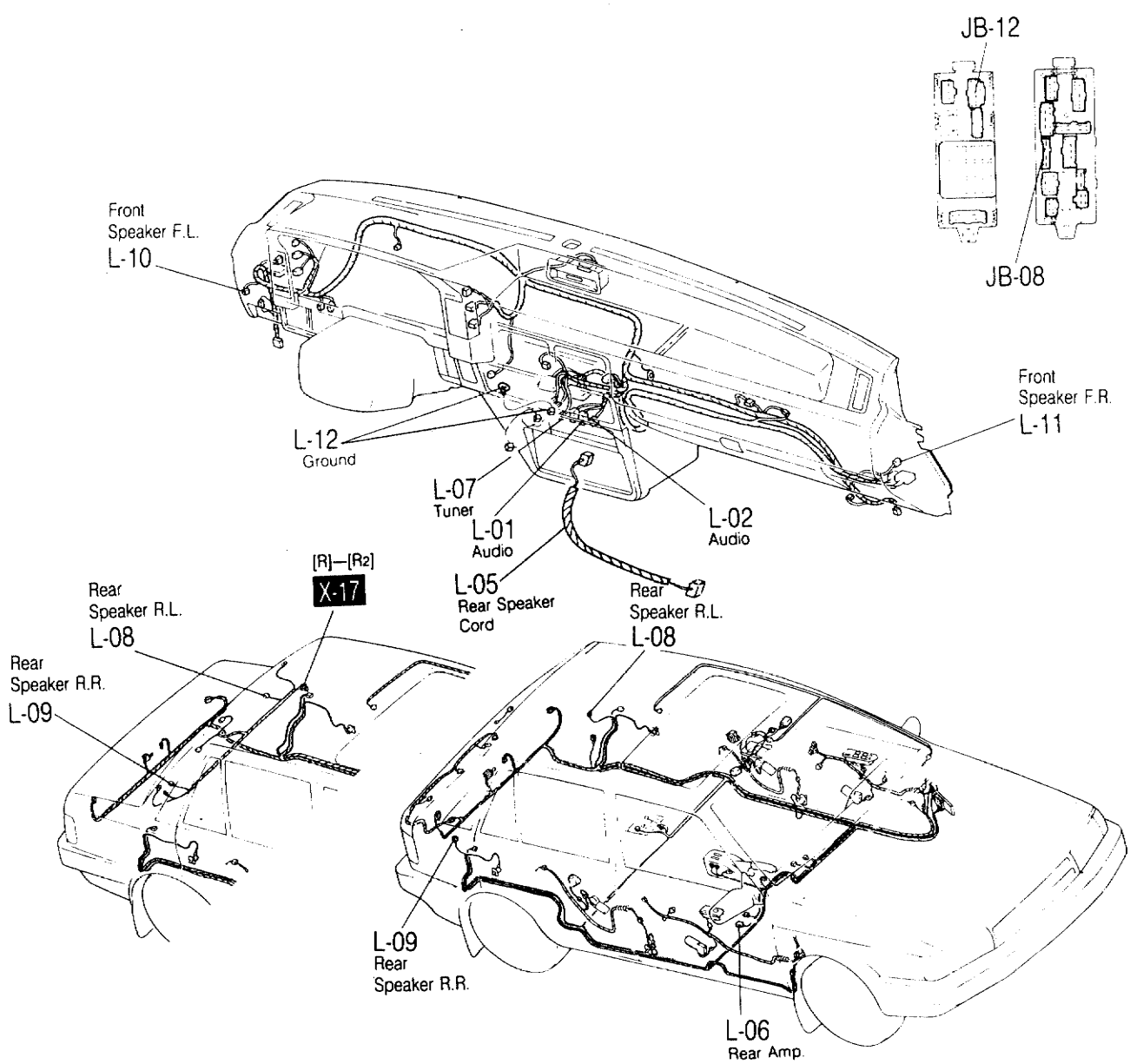
L-01 Connector to Audio System [I] RB LW	L-02 Connector to Audio System [I] LR	L-03 Connector to Audio System [Au] L R From Cassette	L-04 Connector to Audio System [Au] Din Cord 8P From Cassette
L-05 Rear Speaker Cord [Au] A LR LW LY LG — LW LR LG LY B		L-06 Rear Amp. [R] LR L LY LW	L-07 Tuner [I] LR L LY LW
L-08 Rear Speaker R.L. [R], [R2] LW L	L-09 Rear Speaker R.R. [R], [R2] LY LR	L-10 Front Speaker F.L. [I] LW L	L-11 Front Speaker F.R. [I] LY LR
L-12 Ground [Au] B	BLUE CONNECTOR REAR SPKRS. L+ L LR R+ L- LW LB R-		

TYPE 1

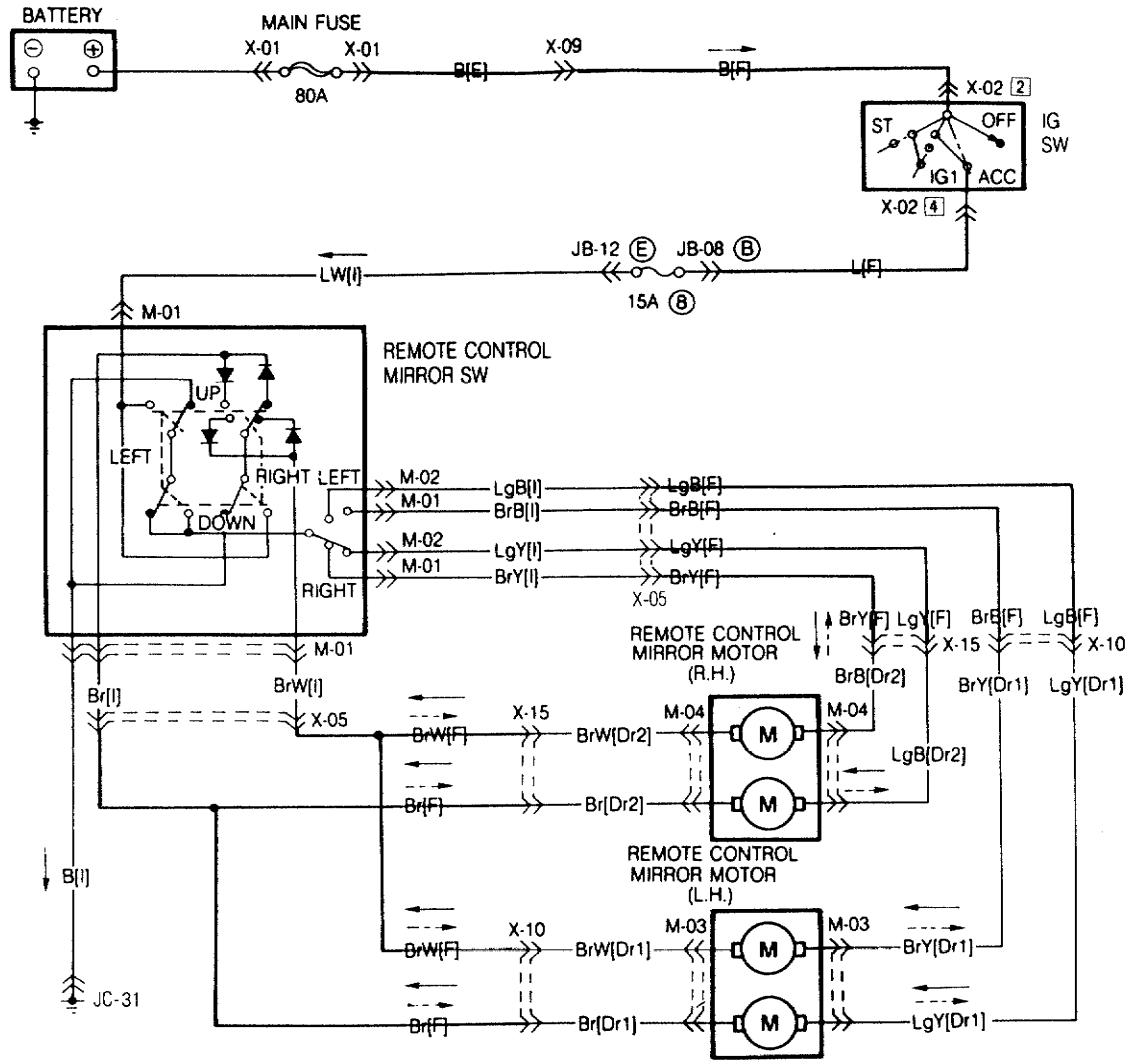

TUNER
L-06
L-02
L-07
L-01

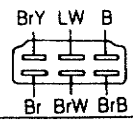
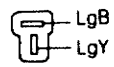
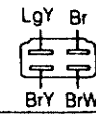
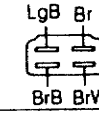
TYPE 2

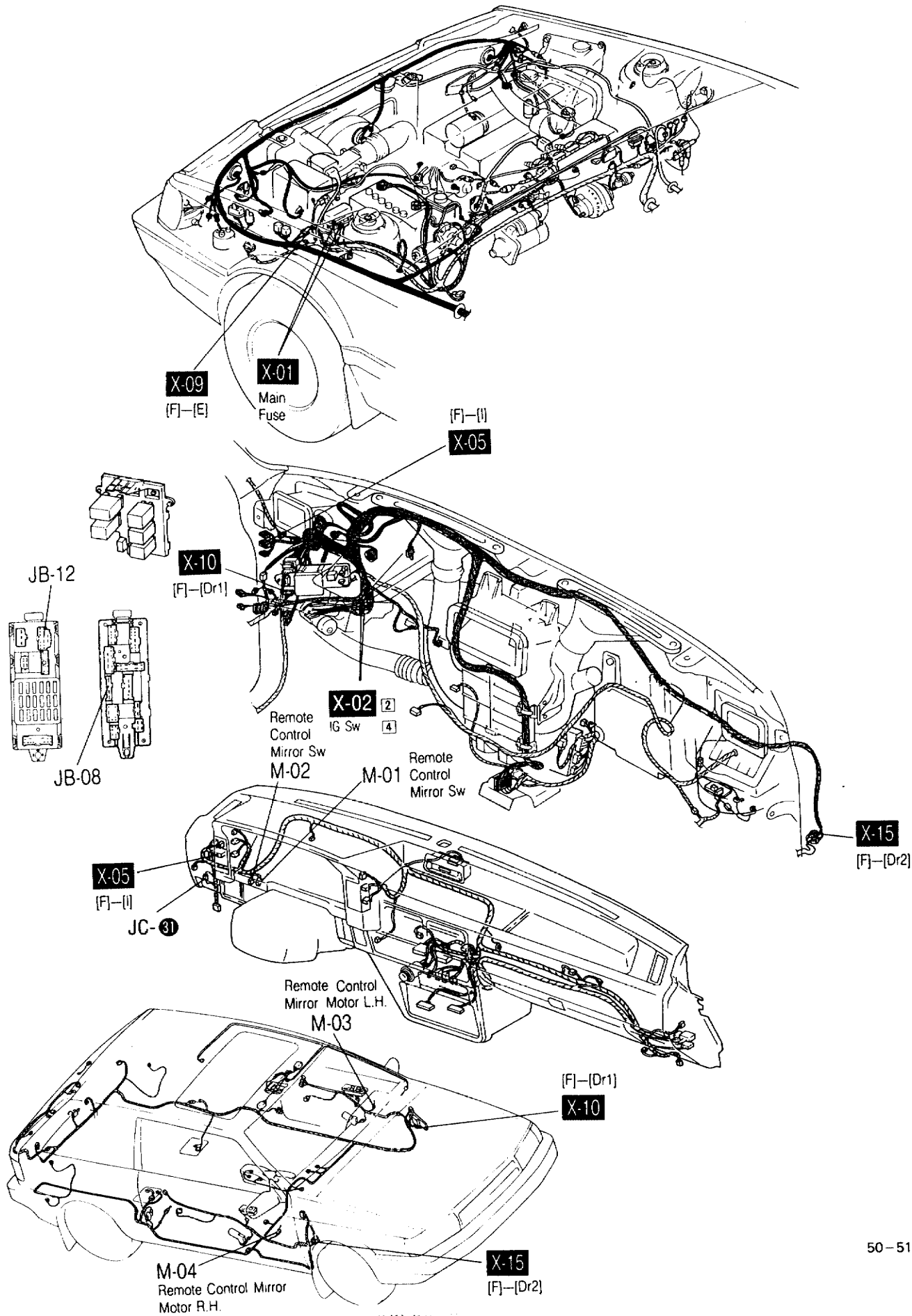

TUNER
L-06
L-02
L-04
L-03
CASSETTE
L-01
L-07


JB-12
JB-08
Front
Speaker F.L.
L-10
Front
Speaker F.R.
L-11
L-12
Ground
L-07
Tuner
L-01
Audio
L-02
Audio
L-05
Rear Speaker
Cord
[R]—[R2]
X-17
Rear
Speaker R.L.
L-08
Rear
Speaker R.R.
L-09
Rear
Speaker R.L.
L-08
L-09
Rear
Speaker R.R.
L-06
Rear Amp.

M ■ REMOTE CONTROL MIRROR

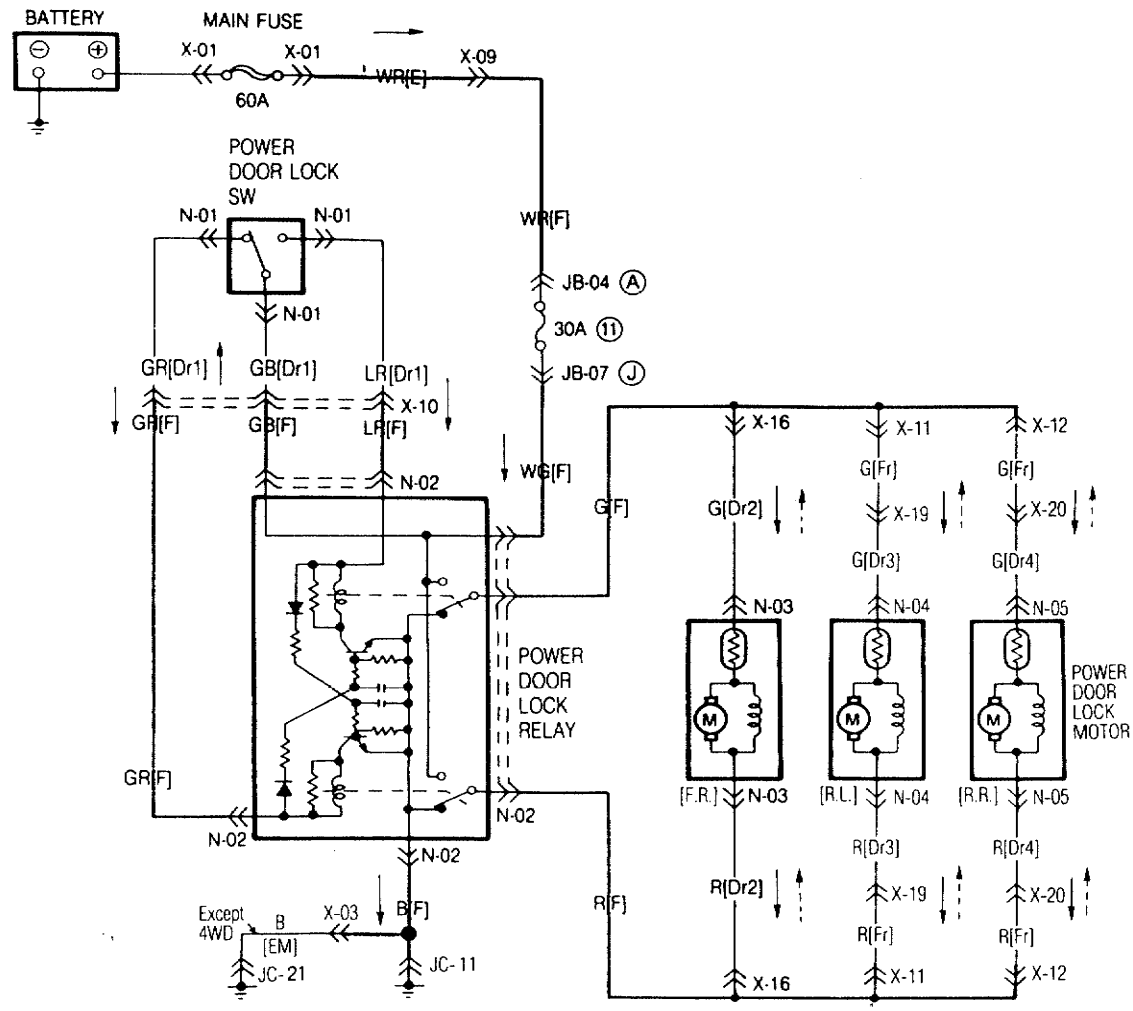


M-01 Remote Control Mirror Sw [I]	M-02 Remote Control Mirror Sw [I]	M-03 Remote Control Mirror Motor L.H. [Dr1]	M-04 Remote Control Mirror Motor R.H. [Dr2]
			

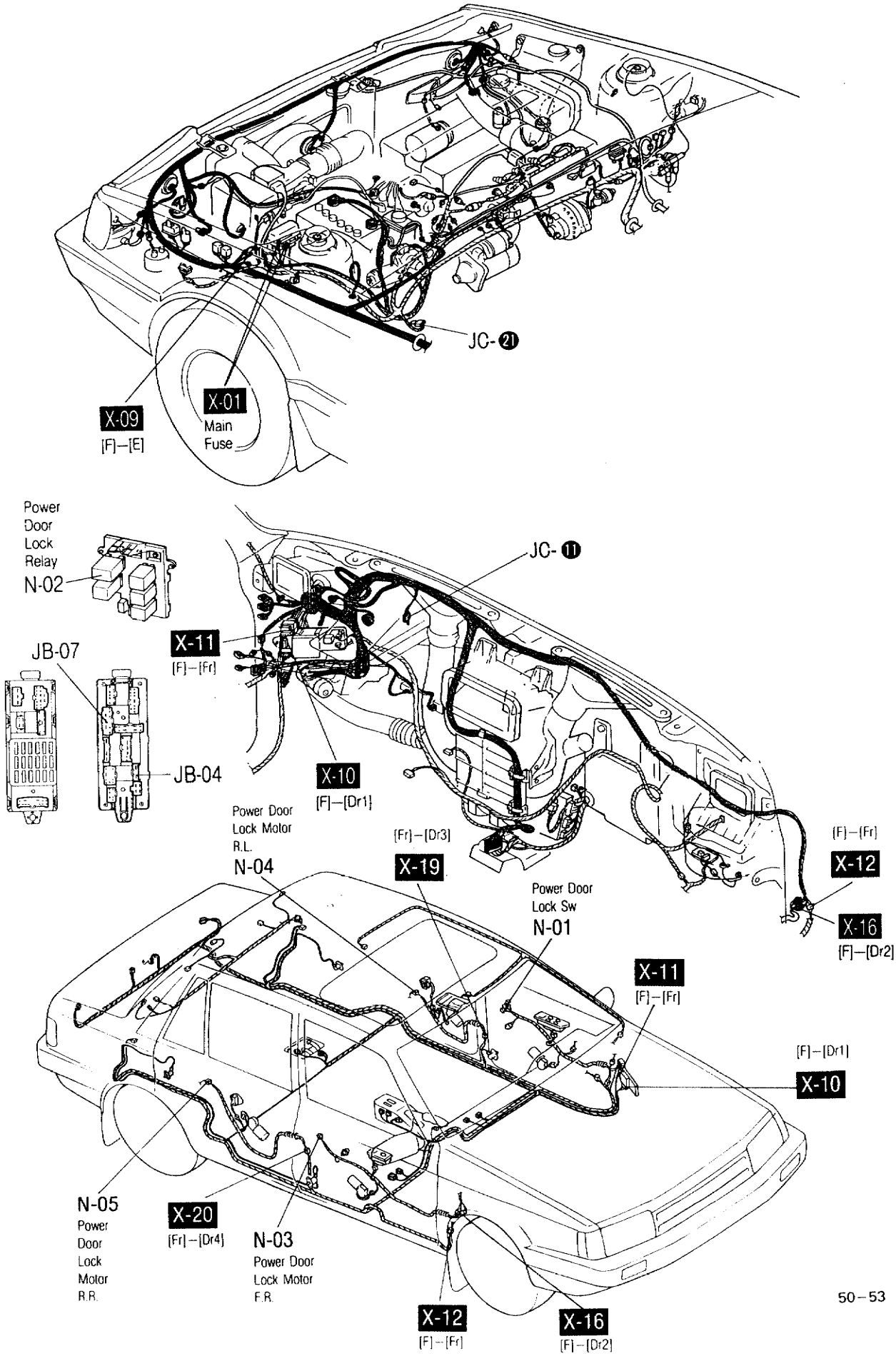

X-09
[F]—[E]
X-01
Main
Fuse
[F]—[I]
X-05
X-10
[F]—[Dr1]
JB-12
JB-08
X-02
2
IG Sw
4
Remote
Control
Mirror Sw
M-02
M-01
Remote
Control
Mirror Sw
X-15
[F]—[Dr2]
X-05
[F]—[I]
JC-31
Remote Control
Mirror Motor L.H.
M-03
[F]—[Dr1]
X-10
X-15
[F]—[Dr2]
M-04
Remote Control Mirror
Motor R.H.

N ■ POWER DOOR LOCK

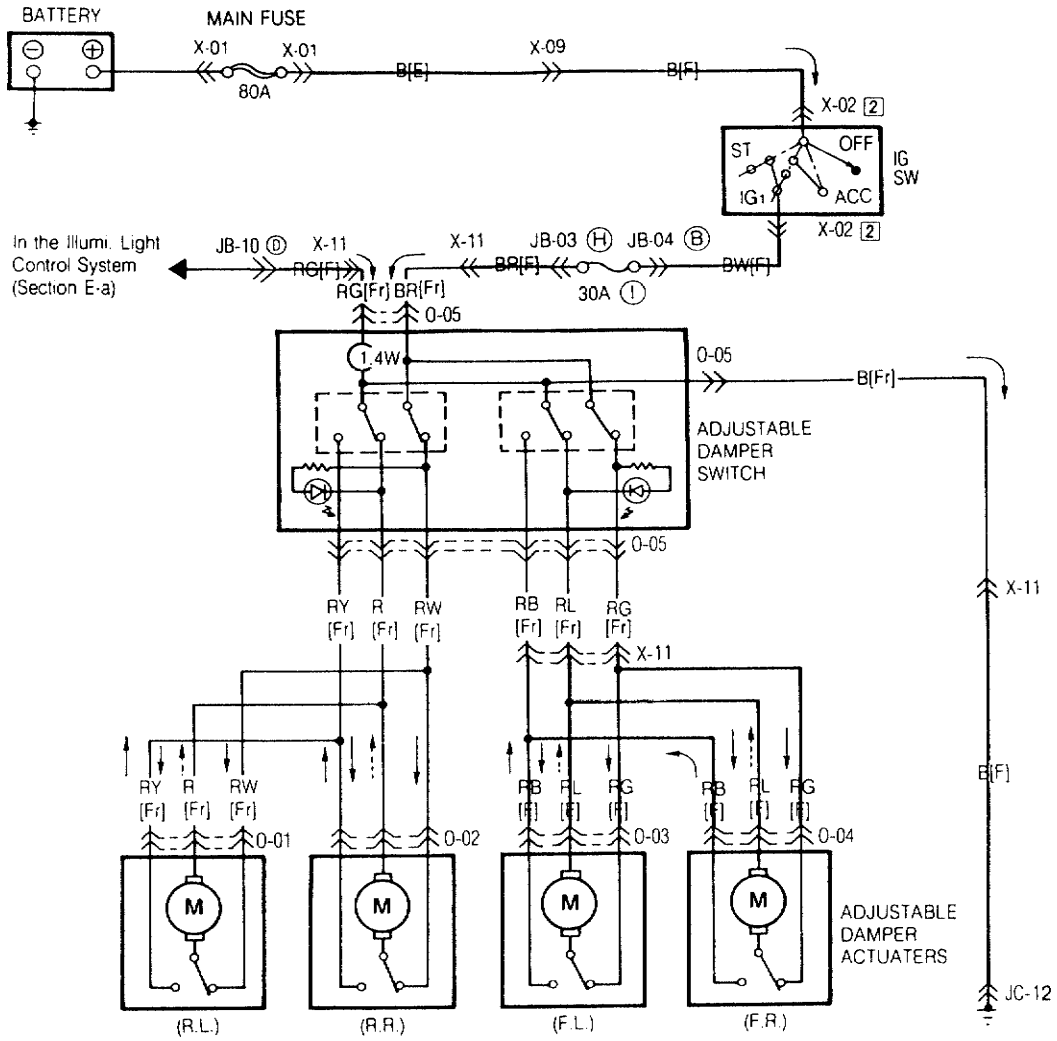
Note: * ... Not Used



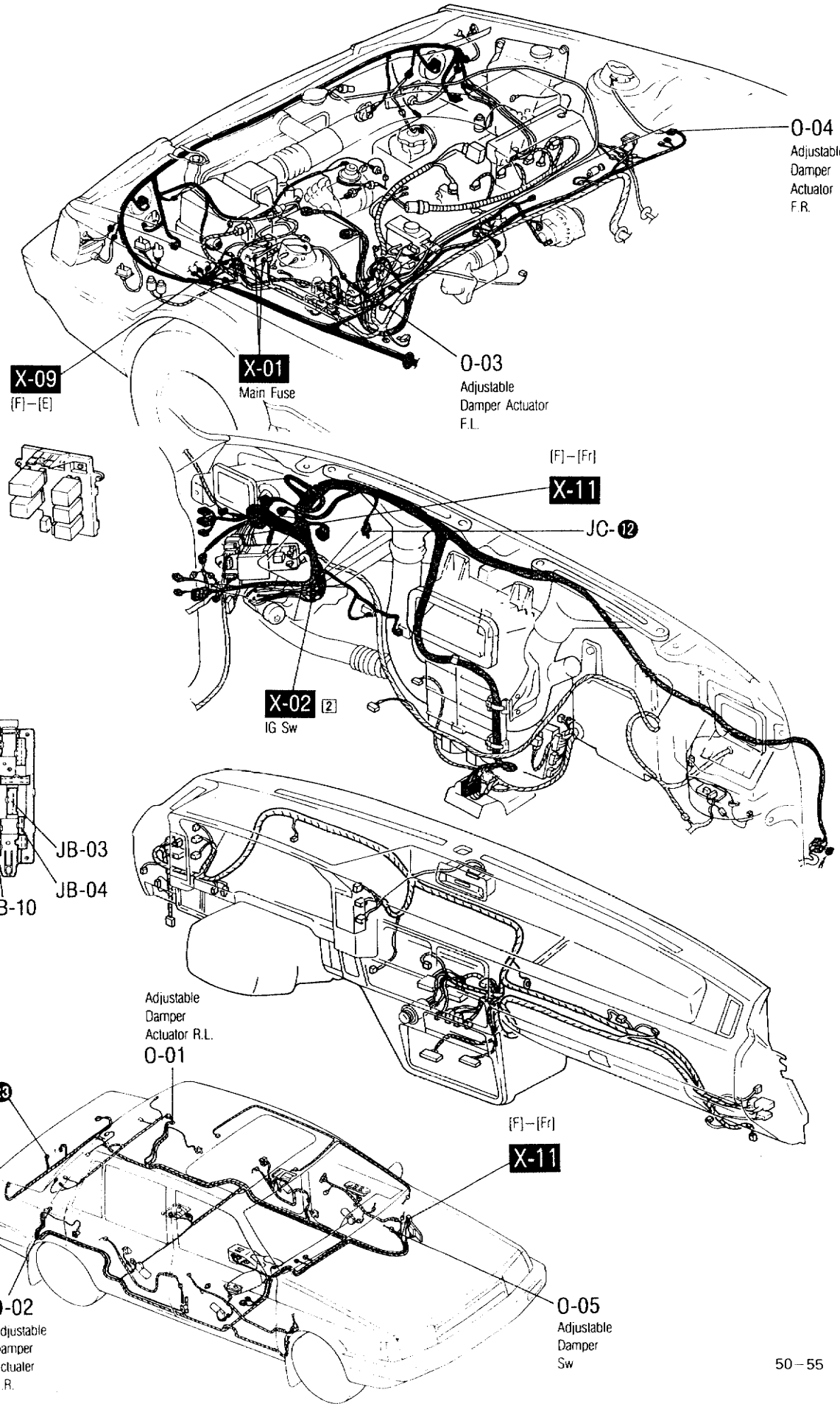
N-01 Power Door Lock Switch [Dr1] LR, GR, GB	N-02 Power Door Lock Relay [F] G GR B GB R LR WG	N-03 Power Door Lock Motor F.R. [Dr2] R, G	N-04 Power Door Lock Motor R.L. [Dr3] R, G
N-05 Power Door Lock Motor R.R. [Dr4] R, G			


JC-21
X-09
[F]—[E]
X-01
Main
Fuse
Power
Door
Lock
Relay
N-02
JB-07
JB-04
JC-11
X-11
[F]—[Fr]
X-10
[F]—[Dr1]
Power Door
Lock Motor
R.L.
N-04
[Fr]—[Dr3]
X-19
Power Door
Lock Sw
N-01
[F]—[Fr]
X-12
X-16
[F]—[Dr2]
X-11
[F]—[Fr]
[F]—[Dr1]
X-10
N-05
Power
Door
Lock
Motor
R.R.
X-20
[Fr]—[Dr4]
N-03
Power Door
Lock Motor
F.R.
X-12
[F]—[Fr]
X-16
[F]—[Dr2]

0 ■ ADJUSTABLE SHOCK ABSORBER

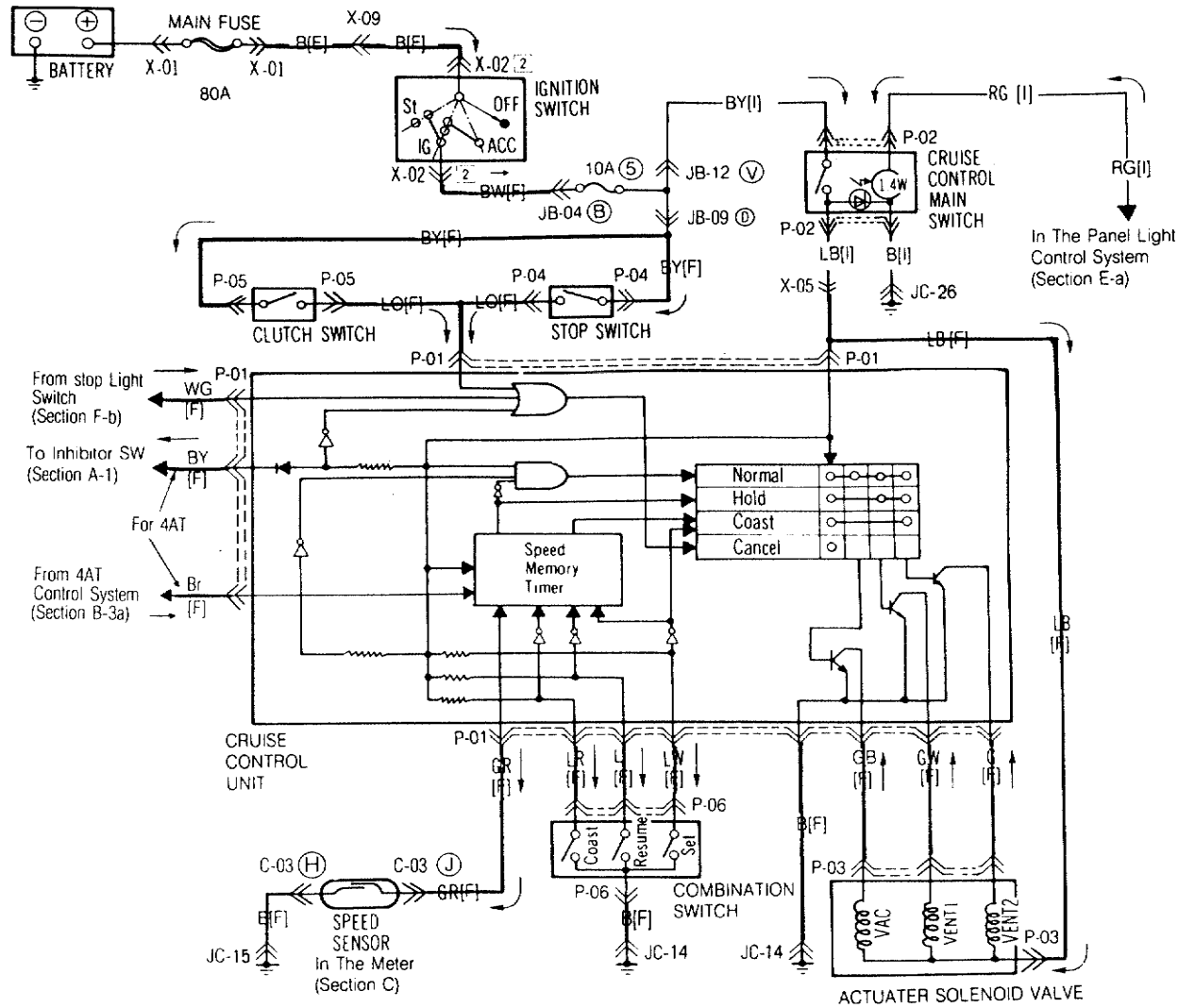


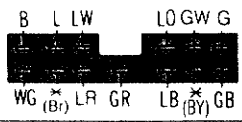
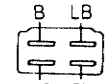
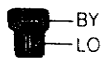
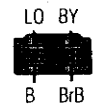
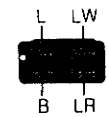
0-01 Adjustable Damper Actuater R.L. [Fr] RY R RW	0-02 Adjustable Damper Actuater R.R. [Fr] RY R RW	0-03 Adjustable Damper Actuater F.L.[F] RB RL RG	0-04 Adjustable Damper Actuater F.R.[F] RB RL RG
0-05 Adjustable Damper Switch [Fr] RG RG RW BR RB RL RY R B			

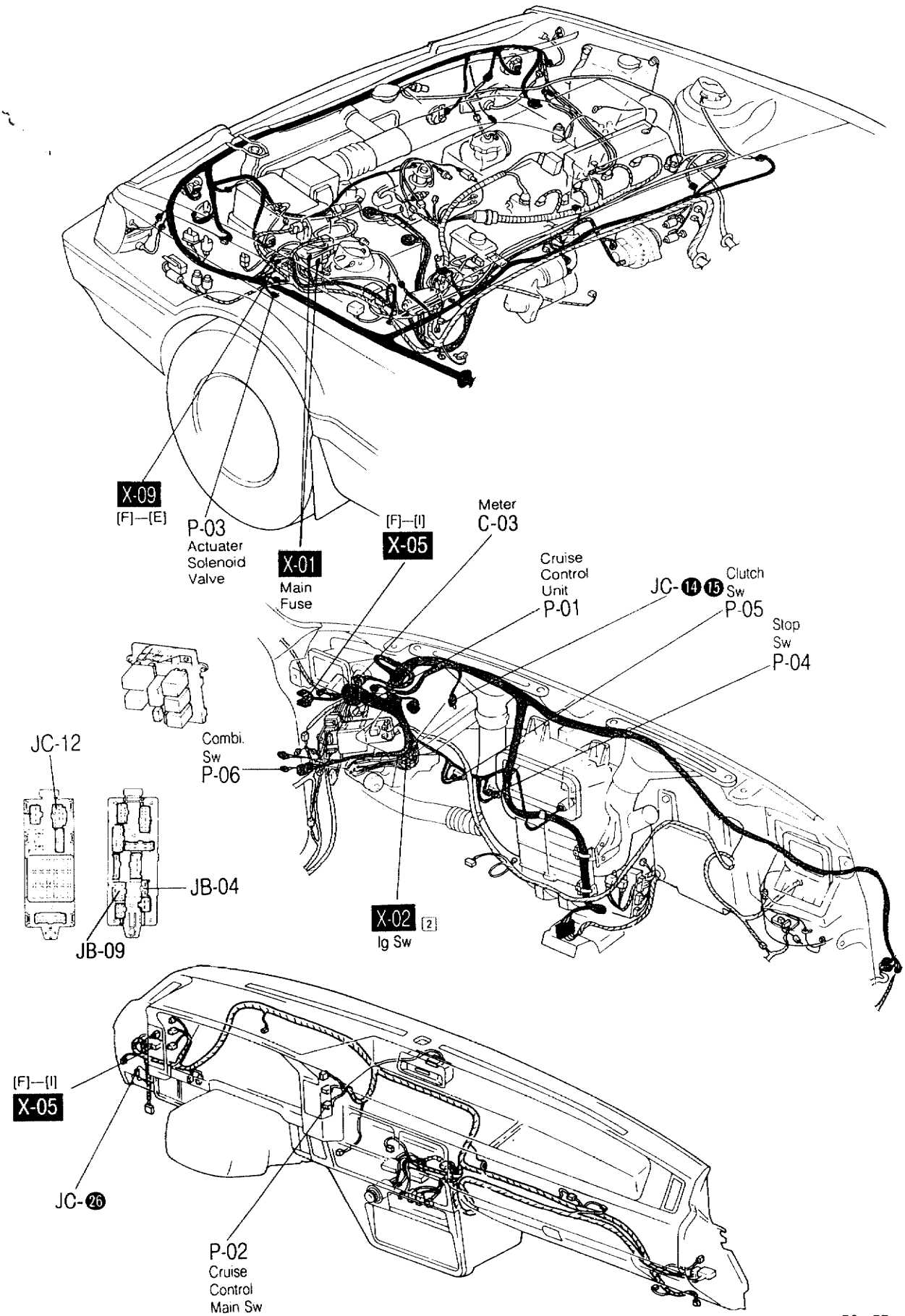

0-04
Adjustable
Damper
Actuator
F.R.
X-09
[F]–[E]
X-01
Main Fuse
0-03
Adjustable
Damper Actuator
F.L.
[F]–[Fr]
X-11
JC-12
X-02 [2]
IG Sw
JB-03
JB-04
JB-10
Adjustable
Damper
Actuator R.L.
0-01
JC-21 23
[F]–[Fr]
X-11
0-02
Adjustable
Damper
Actualer
R.R.
0-05
Adjustable
Damper
Sw

P-1 For Non Turbo ■ CRUISE CONTROL SYSTEM

Note: ...Not Used

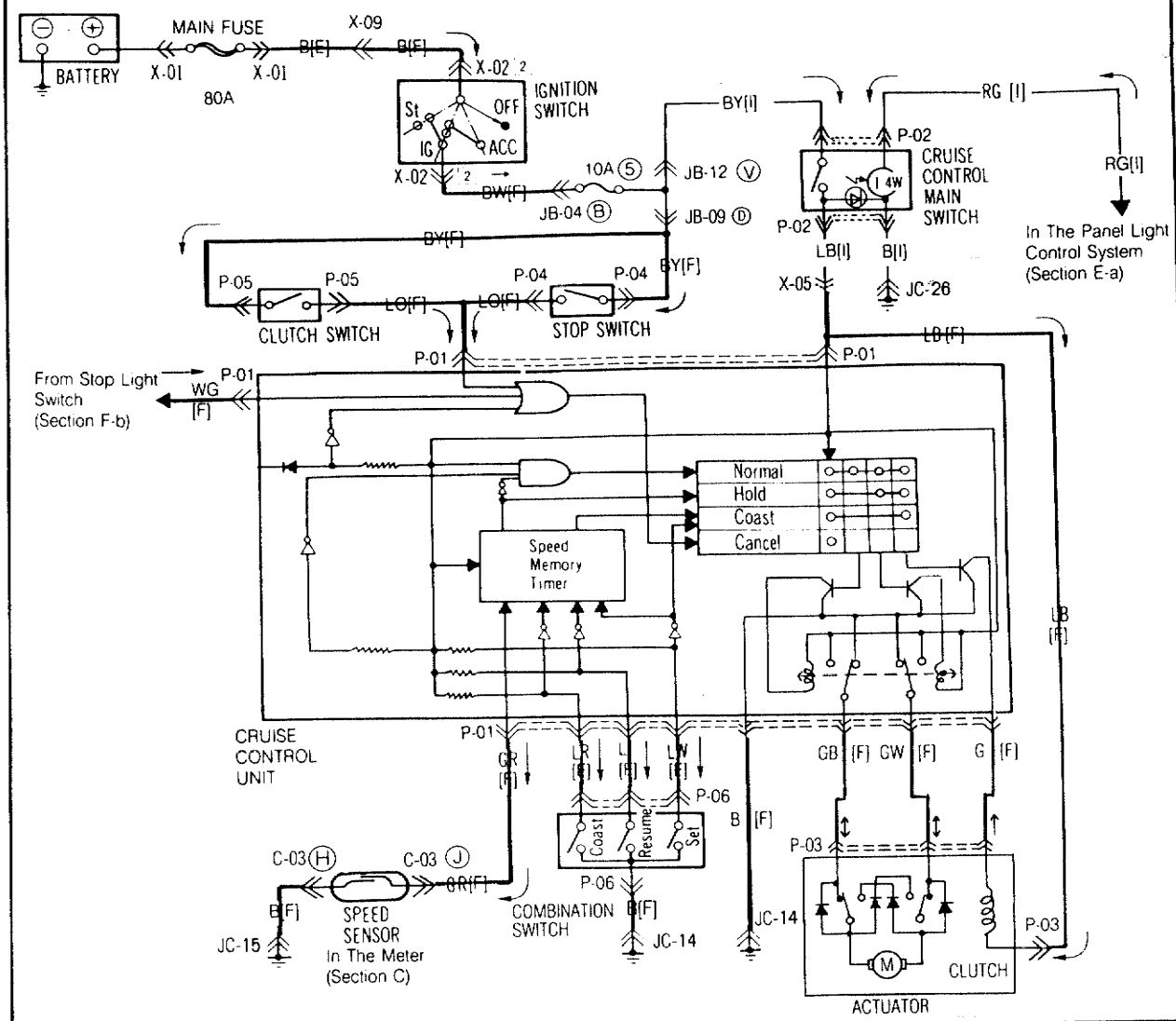


P-01 Cruise Control Unit [F] ( ) ... 4AT	P-02 Cruise Control Main Switch [I]	P-03 Actuater Solenoid Valve [F]
		
P-04 Stop Switch [F]	**P-05 Clutch Switch [F]**	**P-06 Combination Swich [F]**
		

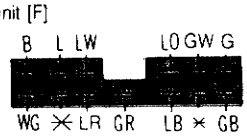

X-09
[F]—[E]
P-03
Actuater
Solenoid
Valve
X-01
Main
Fuse
[F]—[I]
X-05
Meter
C-03
Cruise
Control
Unit
P-01
JC- 14 15 Clutch Sw
P-05
Stop
Sw
P-04
JC-12
Combi.
Sw
P-06
JB-04
JB-09
X-02 2
Ig Sw
[F]—[I]
X-05
JC- 26
P-02
Cruise
Control
Main Sw

P-2 For Turbo without 4WD ■ CRUISE CONTROL SYSTEM

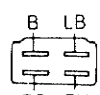
Note: ...Not Used



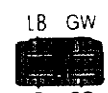
P-01 Cruise Control Unit [F]



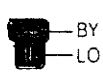
P-02 Cruise Control Main Switch [I] (E-05)



P-03 Actuater [F]

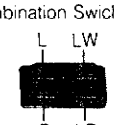


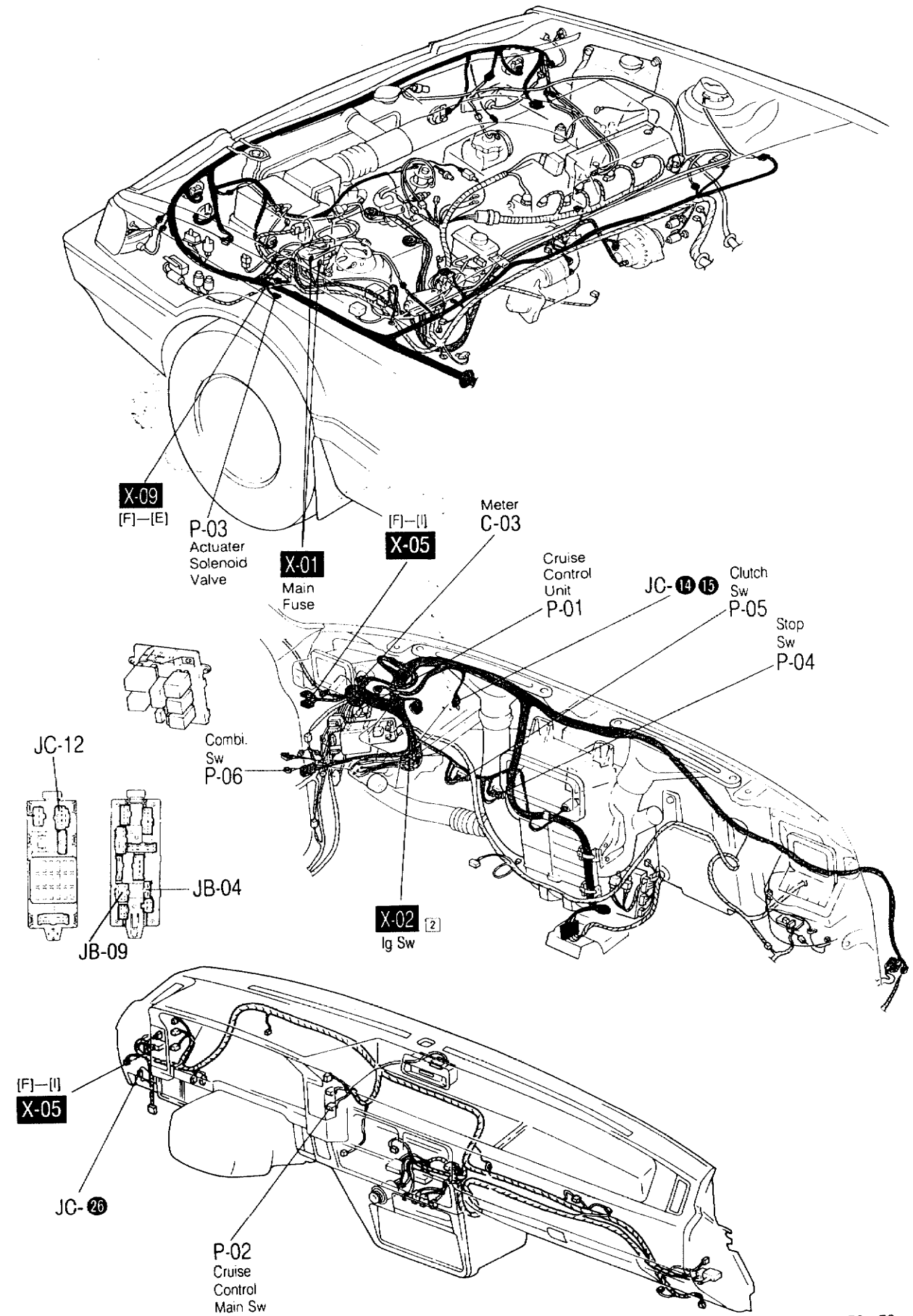
P-04 Stop Switch [F]



P-05 Clutch Switch [F]

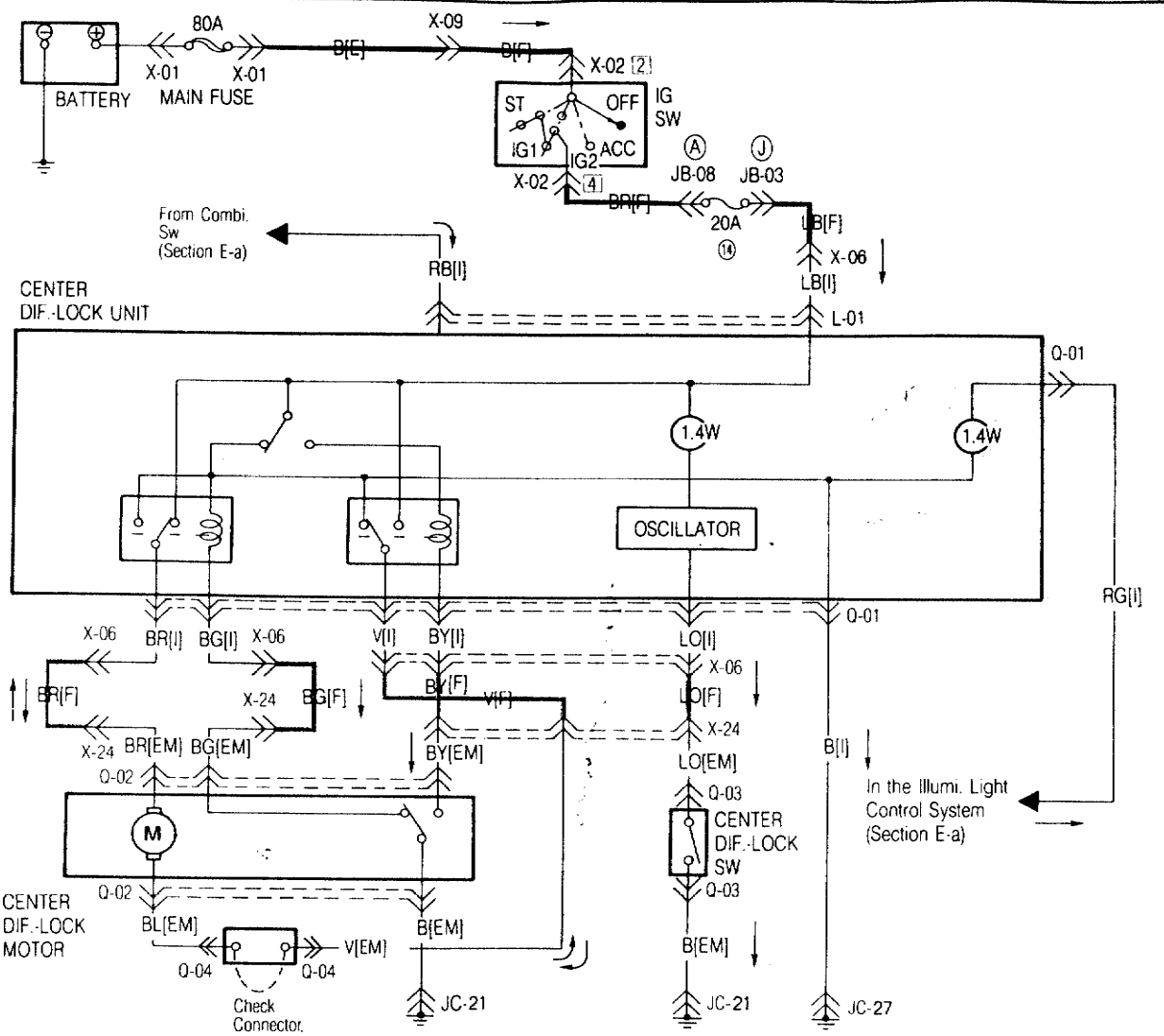
P-06 Combination Swich [F]



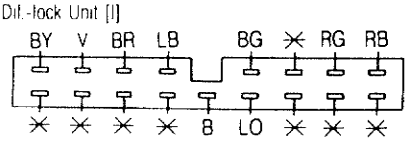

X-09
[F]—[E]
P-03
Actuater
Solenoid
Valve
X-01
Main
Fuse
[F]—[I]
X-05
Meter
C-03
Cruise
Control
Unit
P-01
JC-⓮⓯
Clutch
Sw
P-05
Stop
Sw
P-04
JC-12
Combi.
Sw
P-06
JB-04
JB-09
X-02 [2]
Ig Sw
[F]—[I]
X-05
JC-㉖
P-02
Cruise
Control
Main Sw

Q ■ CENTER DIFFERENTIAL SYSTEM

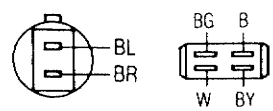
Note:
✳...Not Used



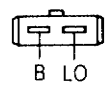
Q-01 Center Dif.-lock Unit [I]



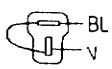
Q-02 Dif.-lock Motor [EM]



Q-03 Center Dif.-lock Sw [EM]



Q-04 Check Connector [EM]



■ COMMON CONNECTOR LIST

Note: ✕ ... No Used

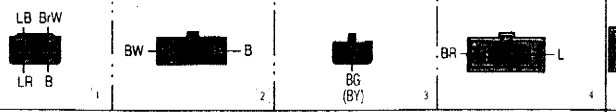
X

X-01 MAIN FUSE [E]

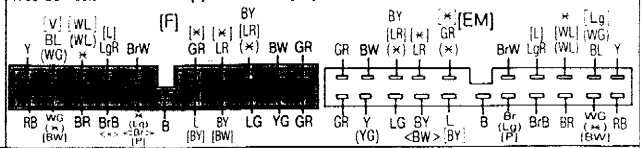
( ) ... Turbo without 4WD

X-02 Ignition Switch [F]

( ) ... 4AT

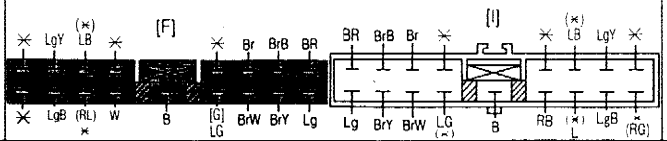


X-03 Connector Between Front [F] And Emission [EM] Harness < > ... 4AT ( ) ... Turbo without 4WD [ ] ... 4WD

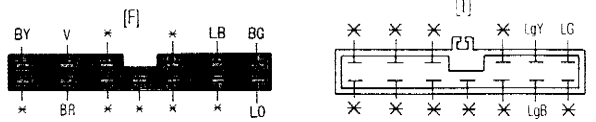


X-04 Connector Between Front [F] And Emission [EM] Harness < > ... 4AT ( ) ... Turbo without 4WD [ ] ... 4WD

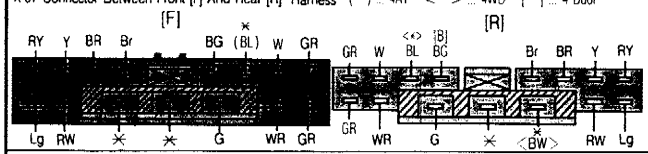
X-05 Connector Between Front [F] And Instrument Panel [I] Harness ( ) ... 4WD



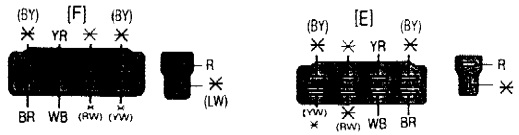
X-06 Connector Between Front [F] And Instrument Panel [I] Harness (For 4WD)



X-07 Connector Between Front [F] And Rear [R] Harness ( ) ... 4AT < > ... 4WD [ ] ... 4 Door

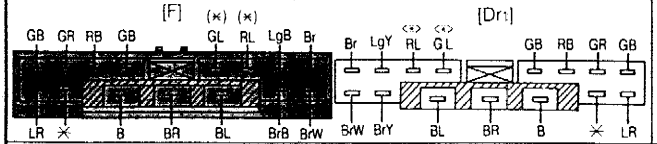


X-08 Connector Between Front [F] And Engine [E] Harness ( ) ... 4WD

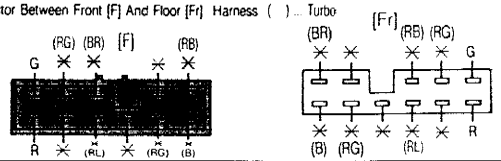


X-09 Connector Between Front [F] And Engine [E] Harness

X-10 Connector Between Front [F] And Door [Dr1] Harness ( ) ... 4WD < > ... 3 Door



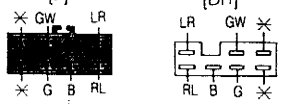
X-11 Connector Between Front [F] And Floor [Fr] Harness ( ) ... Turbo



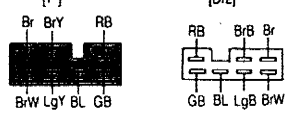
X-12 Connector Between Front [F] And Floor [Fr] Haness

X-13 Connector Between Front [F] And Interior Light [In] Harness

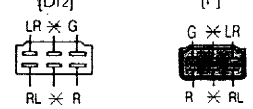
X-14 Connector Between Front [F] And No. 1 Door [Dr1] Harness



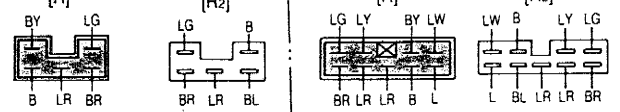
X-15 Connector Between Front [F] And No. 2 Door [Dr2] Harness



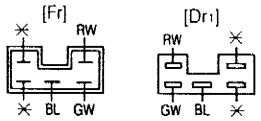
X-16 Connector Between Front [F] And No. 2 Door [Dr2] Harness



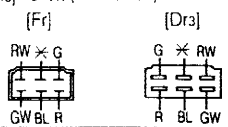
X-17 Connector Between Rear [R] And No. 2 Rear [R2] Harness



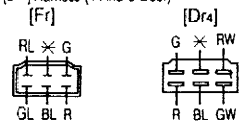
X-18 Connector Between Floor [Fr] And No. 1 Door [Dr1] Harness (4 And 5 Door)



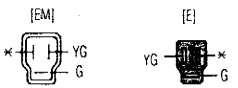
X-19 Connector Between Floor [Fr] And No. 3 Door [Dr3] Harness (4 And 5 Door)



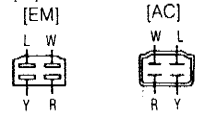
X-20 Connector Between Floor [Fr] And No. 4 Door [Dr4] Harness (4 And 5 Door)



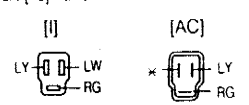
X-21 Connector Between Emission [EM] And Engine [E] Harness



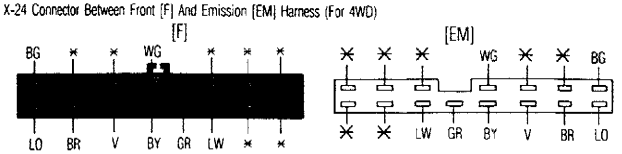
X-22 Connector Between Emission [EM] And Air Con. [AC] Harness



X-23 Connector Between Instrument Panel [I] And Air Con. [AC] Harness



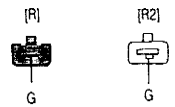
X-24 Connector Between Front [F] And Emission [EM] Harness (For 4WD)

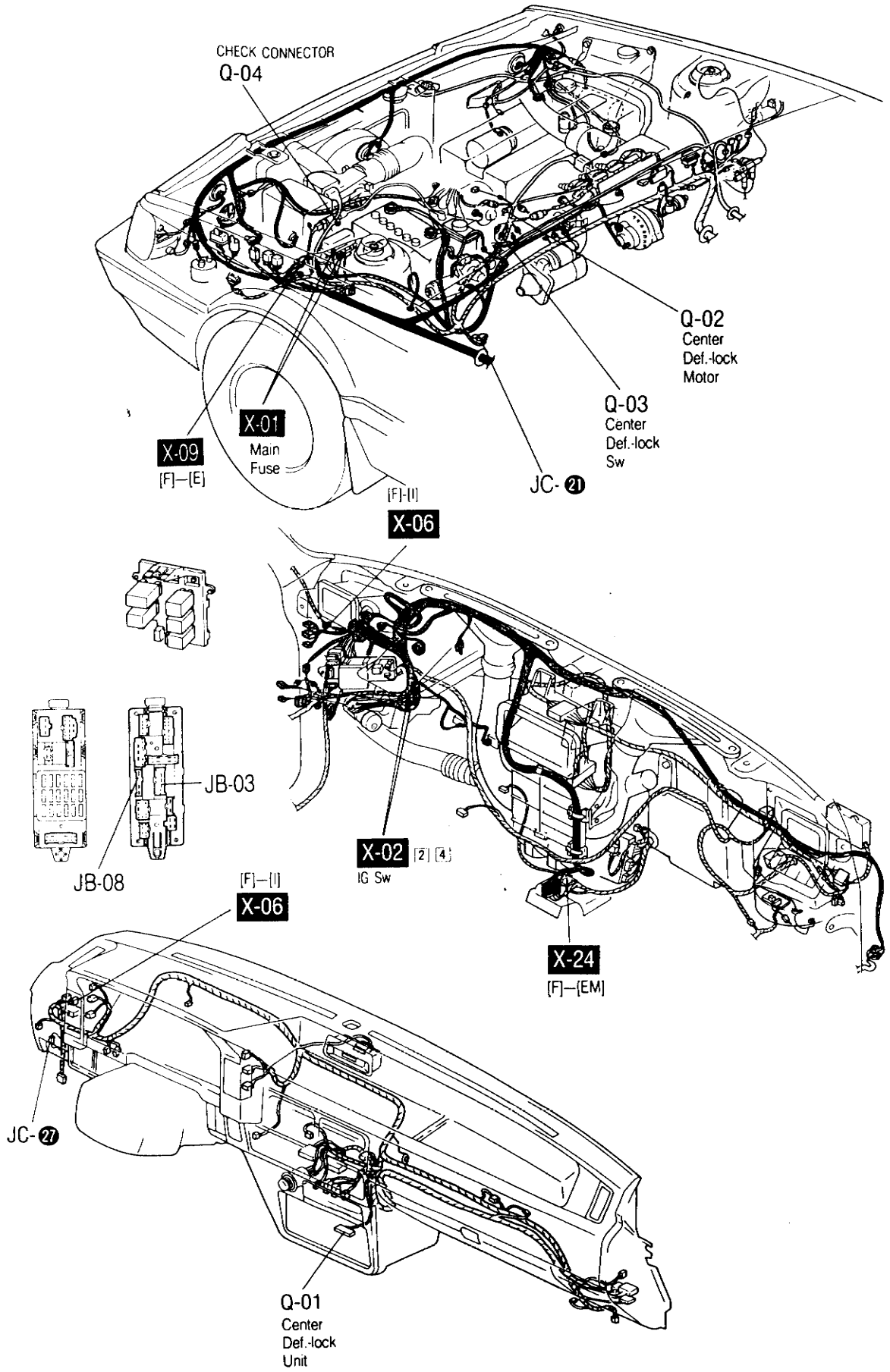


X-25 Joint Connector [I]

X-26 Joint Connector [F]

X-27 Connector Between Rear [R] And No. 2 Rear [R2] Harness

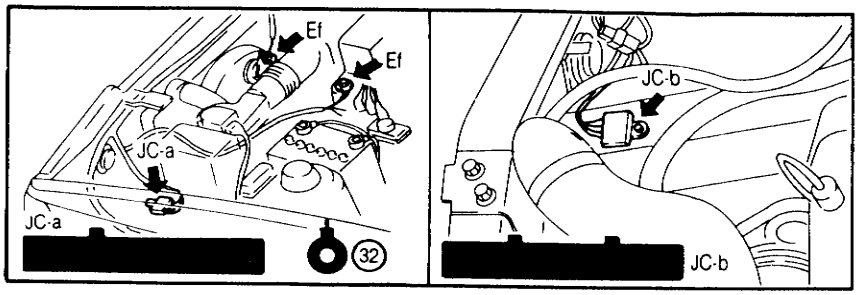



CHECK CONNECTOR
Q-04
Q-02
Center
Def.-lock
Motor
Q-03
Center
Def.-lock
Sw
X-01
Main
Fuse
X-09
[F]—[E]
[F]-[I]
JC-21
X-06
JB-03
JB-08
X-02 [2] [4]
IG Sw
X-24
[F]—[EM]
[F]—[I]
X-06
JC-27
Q-01
Center
Def.-lock
Unit

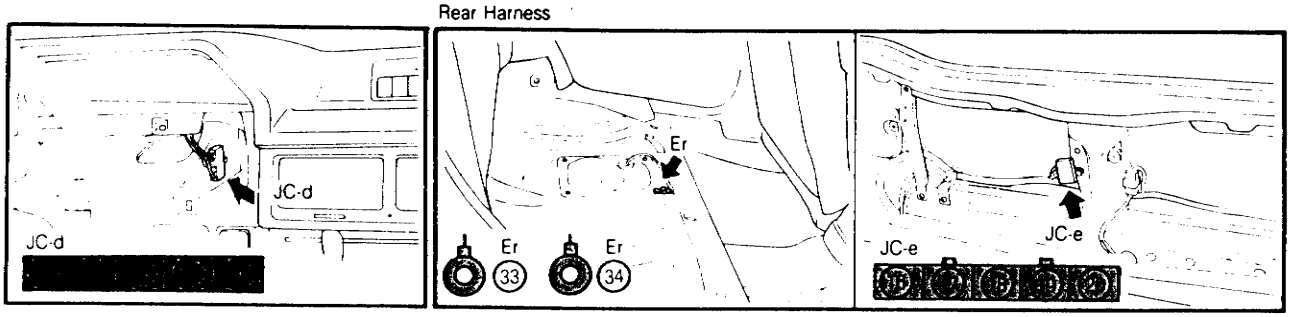
JC ■ GROUND CIRCUIT

Note: Wiring order into the Joint connector may be changed
✳ ...Not Used

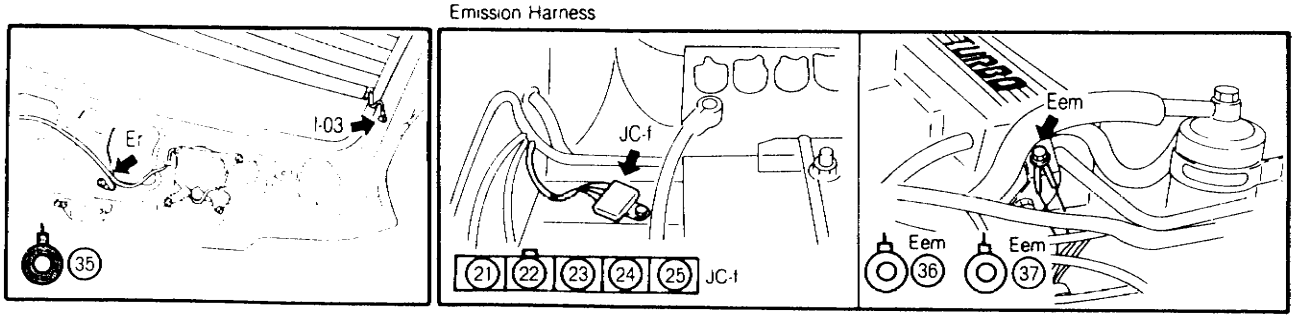
Front Harness



Rear Harness

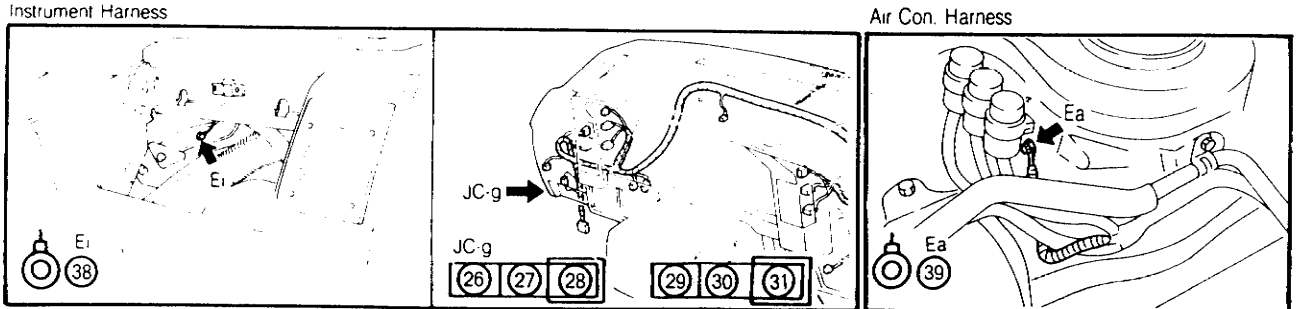


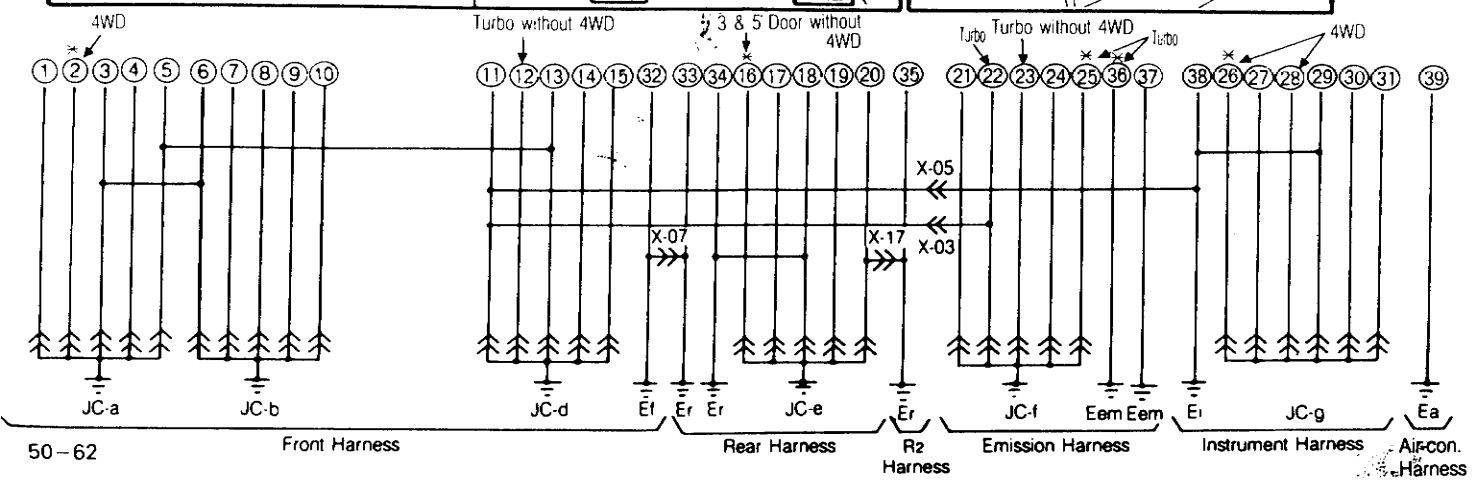
Emission Harness



Instrument Harness

Air Con. Harness

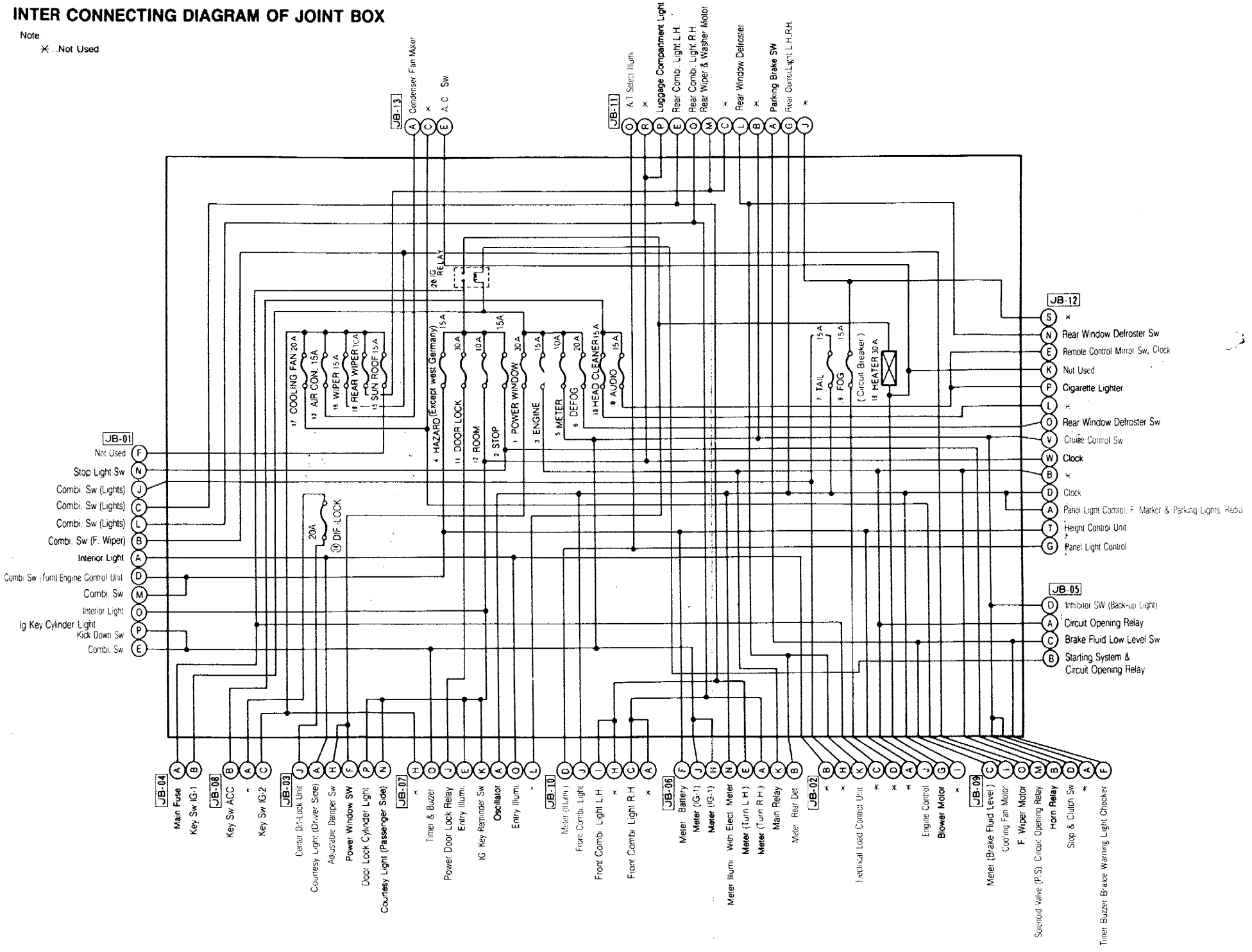




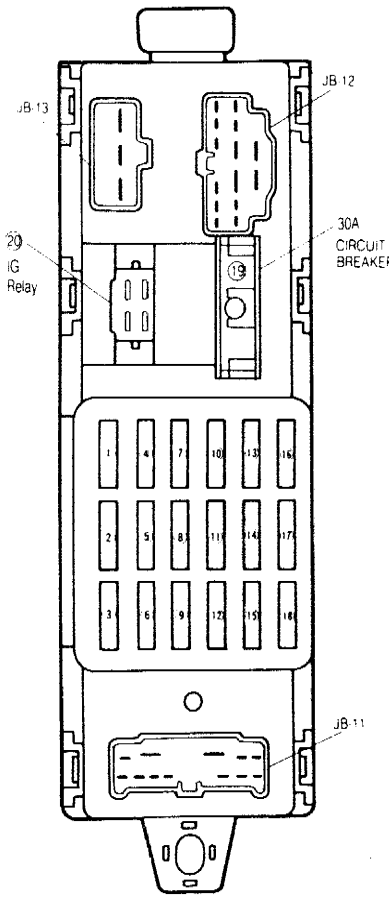
INTER CONNECTING DIAGRAM OF JOINT BOX

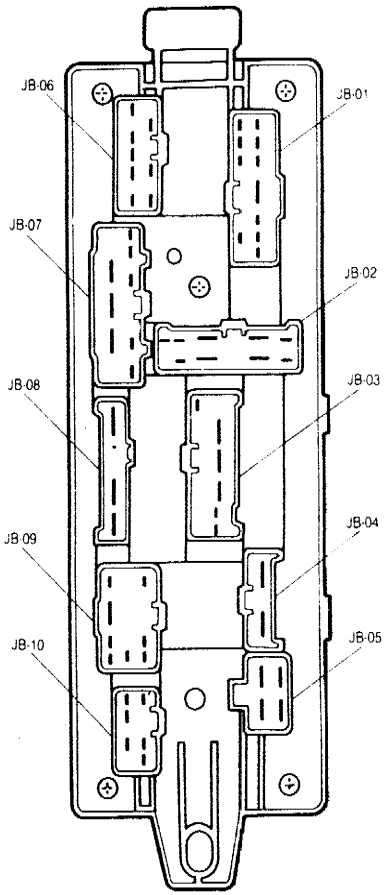
Note

✳ ..Not Used



JB CONNECTOR LOCATION





NO	CIRCUIT NAME	FUSE
①	POWER WINDOW	30A
②	STOP or HORN	15A
③	ENGINE	15A
④	HAZARD	15A
⑤	METER	10A
⑥	REAR WINDOW DEFROSTER	20A
⑦	TAIL	15A
⑧	AUDIO	15A
⑨	Not Used	

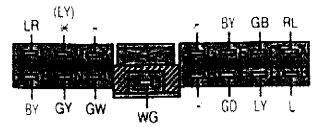
NO	CIRCUIT NAME	FUSE
⑩	Not Used	
⑪	DOOR LOCK	30A
⑫	ROOM	10A
⑬	AIR CONDITIONER	15A
⑭	CENTER DIF LOCK	20A
⑮	SUNROOF	15A
⑯	WIPER	15A
⑰	COOLING FAN	20A
⑱	REAR WIPER	10A

■ JOINT BOX

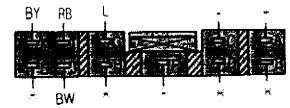
JB

Note:
( ) Turbo with 4WD
< > Turbo without 4WD
* Not Used

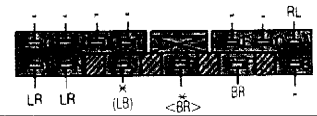
JB-01 Front Harness [F]



JB-02 Front Harness [F]

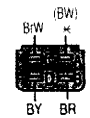


JB-03 Front Harness [F]

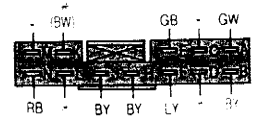


JB-04 Front Harness [F]

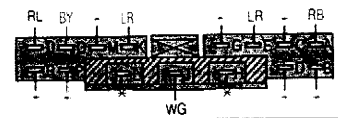
JB-05 Front Harness [F]



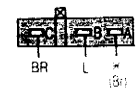
JB-06 Front Harness [F]



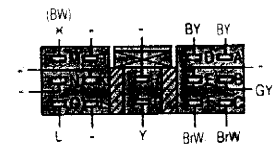
JB-07 Front Harness [F]



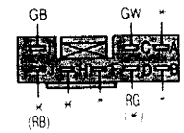
JB-08 Front Harness [F]



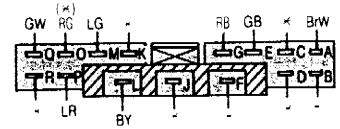
JB-09 Front Harness [F]



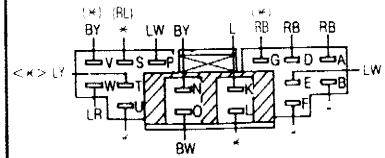
JB-10 Front Harness [F]



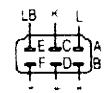
JB-11 Rear Harness [R]



JB-12 Instrument Panel Harness [I]

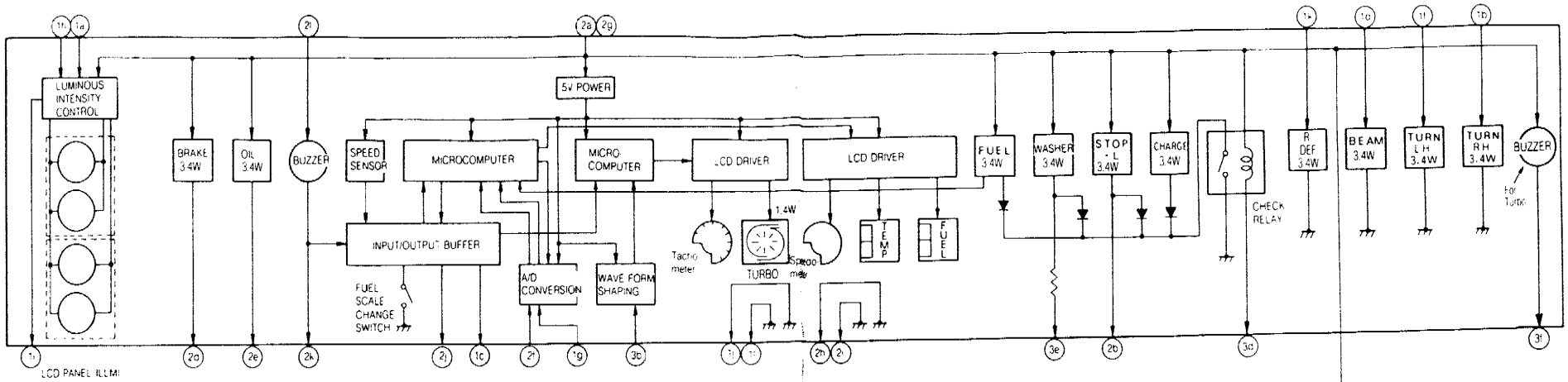


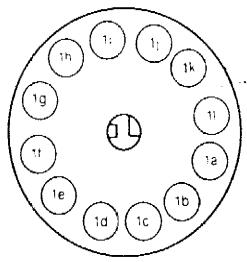
JB-13 Air-Cond. Harness [AC]



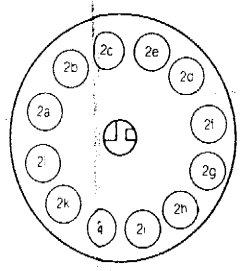
50 WIRING DIAGRAM
LIQUID CRYSTAL DISPLAY (ELECTRONIC) METER

Note
* Not Used

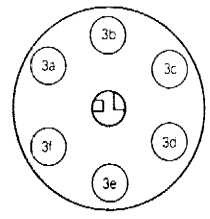




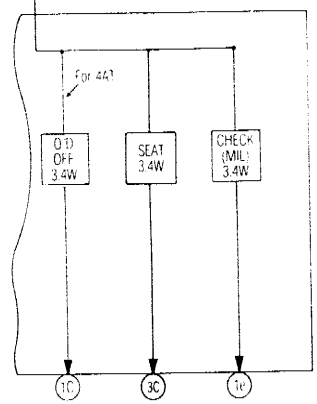
C-01



C-03



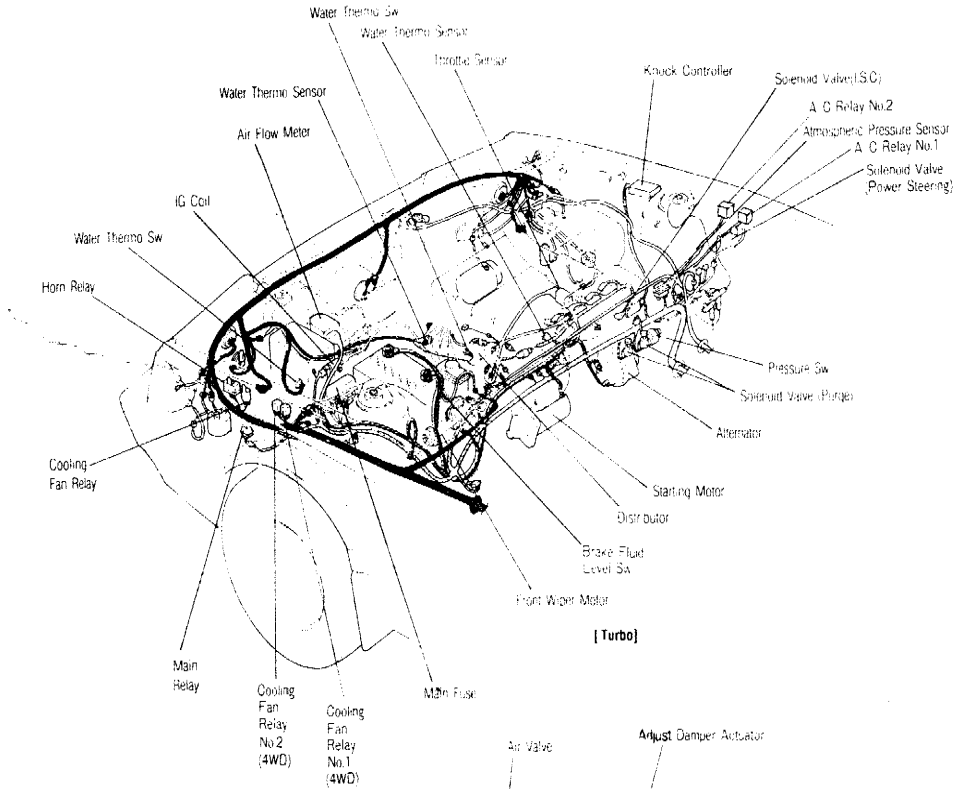
C-02



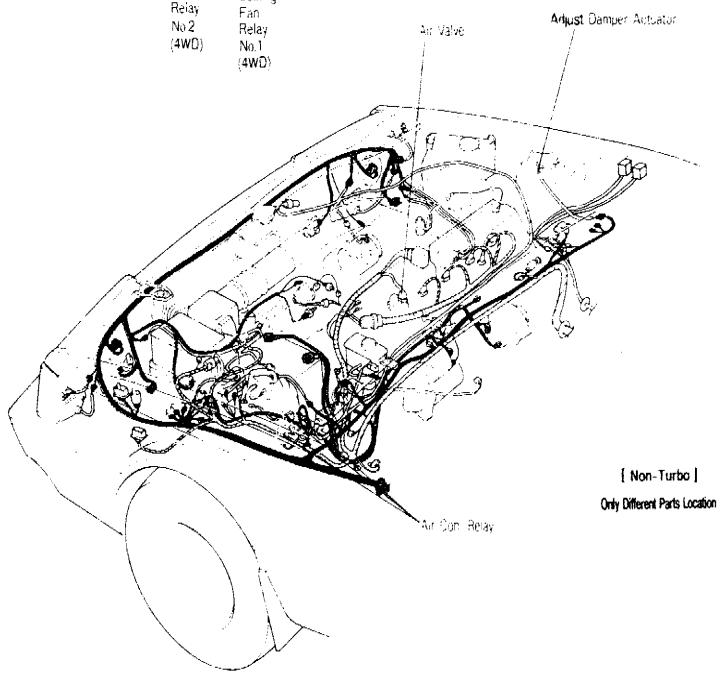
No	Connecting to	Wiring Color
1a	Combi Switch	RB
1b	Combi Switch (Turn R H)	GW
1c	Engine Control Unit (For Turbo)	WL
1d	Combi Switch (High Beam)	RW
1e	Engine Control Unit	LgR
1f	Combi Switch (Turn L H)	GB
1g	Water Temp. Sensor	YW
1h	Panel Light Control	RG
1i	Ground	B
1j	Ground	BG
1k	Rear Window Defroster Sw.	BY
1l	Ground	BG

No.	Connecting to	Wiring Color
2a	Ignition Switch (IG1)	BY
2b	Stop Light Checker	BrB
2c	—	WR
2d	Brake Fluid Level Switch	BrW
2e	Oil Pressure Switch	YR
2f	Fuel Tank Unit	Y
2g	Ignition Switch (IG1)	BY
2h	Ground	B
2i	Ground	B
2j	Height Control Unit (For 4WD)	GR
2k	Oscillator	Br
2l	Battery (+ B)	LY

No	Connecting to	Wiring Color
3a	IG Sw (IG1)	BY
3b	Ignition Coil (—)	YL
3c	Timer & Buzzer (Seat Belt)	GO
3d	Alternator	WB
3e	Washer Level Sensor	G
3f	Pressure Switch (For Turbo)	Lg



[Turbo]



[Non-Turbo]

Only Different Parts Location