

# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1989 ACCORD. Refer to following shop manuals for service procedures.

Description	Code No.
ACCORD Maintenance and Repair 86	62SE300
ACCORD Supplement 87	62SE320
ACCORD Supplement 88	62SE321

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information

 **WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda Motor, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda Motor investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda Motor, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

\*(Asterisk) marked sections are not included in this manual.

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HONDA MOTOR CO., LTD.  
Service Publication Office

General Info



Special Tools



Specifications

specs

Maintenance



Engine



Cooling\*



Fuel and  
Emission Controls



Transaxle



Steering\*



Suspension\*



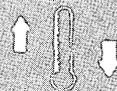
Brakes



Body\*



Heating and  
Air Conditioning\*



Electrical



# Outline of Model Changes

ITEM	87 MODEL	88 MODEL	89 MODEL	DESCRIPTION	REFERENCE SECTION
Engine	○			Modified	—
		○		Modified	—
			○	Modified	5, 6, 7
Distributor	○			Changed	—
Intake and Exhaust Manifolds		○		Changed	—
Water Pump		○		Changed	—
Oil Filter			○	Changed	8
Exhaust Muffler			○	Modified	9
PGM-FI	○			Modified	—
		○		Modified	—
Carburetion	○			Modified	—
		○		Modified	—
			○	Modified	12
Clutch	○			Modified	—
Manual Transmission	○			Modified	—
Automatic Transmission		○		Modified	—
			○	Modified	15
Intermediate Shaft	○			Added for some types	—
Power Steering Gearbox		○		Modified	—
Front Brake Caliper and Discs	○			Modified	—
ALB		○		3 channel ALB system adopted	—
			○	Master cylinder changed	20
Rear Wheel Cylinder			○	Modified	20
Rear Wheel House	○			Modified due to change in rear suspension	—
Heater		○		Modified	—
Air Conditioner		○		Modified	—
Combination Meter	○			Modified	—
Headlights	○			Added with Dim-Dip lighting system for some types	—
Headlight Washer			○	Circuit modified	25
Cruise Control			○	Clutch switch modified	25
High Mount Brake Light			○	Adopted for some type	25

## **General Information**

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# Chassis and Engine Numbers

## Vehicle Identification Number

JHMCA53400C300001

**Manufacture, Make and Type of vehicle**

JHM: HONDA MOTOR CO., LTD., JAPAN.  
HONDA Passenger car

**Line/Body and Engine Type**

CA4: Accord 1600  
CA5: Accord 2000

**Transmission and Body Type**

3: Manual (3D)  
4: Automatic (3D)  
5: Manual (4D)  
6: Automatic (4D)

**Vehicle Grade**

2: STD, GL, LX  
3: EX  
4: EXi  
5: EXSi  
6: EXR, LXC  
7: EXC  
8: EXCi  
9: EXSCi

**Fixed Code**

**Auxiliary Number**

**Factory Code**

C: Saitama Factory Sayama Plant

**Model Year**

3: 1989

**Serial Number**

## Engine Serial Number (SOHC Engine)

A20A2-4000001

**Engine Type**

A20A1: 2000 Carbureted engine for KG, KS, KW models  
A20A2: 2000 Carbureted engine for KG, KW, KF, KE, KP, KT, KU, KY, KQ models  
A20A3: 2000 Fuel-Injected engine for KG, KW, KX, KS models  
A20A4: 2000 Fuel-Injected engine for KG, KW, KF, KE, KQ models  
A16A1: 1600 Carbureted engine for KF, KG, KW, KT, KZ models

**Model Year**

4: 1989

**Transmission/Emission Group**

0: Manual/without catalytic converter  
3: Manual and Automatic/with catalytic converter for KQ model  
5: Automatic/without catalytic converter  
9\*: Manual and Automatic/with catalytic converter for KG, KW, KX models

**Serial Number**

9\* with Automatic starting 50001.

## Engine Serial Number (DOHC Engine)

B20A2-2000001

**Engine Type**

B20A2: 2000 Fuel-Injected engine for KF, KG, KE, KW models  
B20A8: 2000 Fuel-Injected engine for KG, KX, KS models

**Model Year**

2: 1989 with catalytic converter  
3: 1989 without catalytic converter

**Serial Number**

## Transmission Number (Manual)

E2K5-2000001

**Transmission Type**

E1M5: for A16A engine  
E2K5: for A20A engine except KS, KX models  
E2L5: for KX model with A20A engine  
E2S5: for KS model with A20A engine  
F2K5: for B20A engine except KX model  
F2X5: for KX model with B20A engine

**Model Year**

2: 1989

**Serial Number**

## Transmission Number (Automatic)

F4-9000001

**Transmission Type**

F4: for A20A Engine  
C9: for A16A Engine

**Model Year**

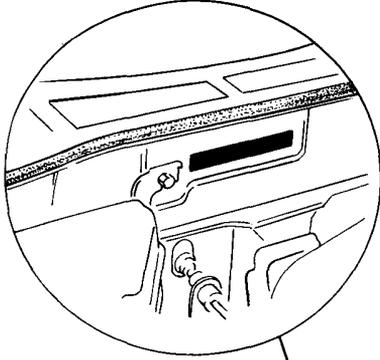
9: 1989

**Serial Number**

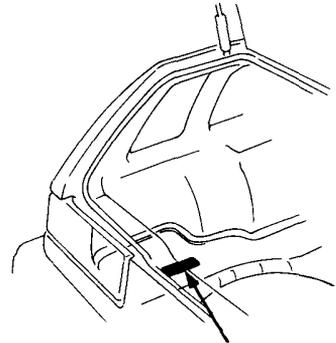
# Identification Number Locations



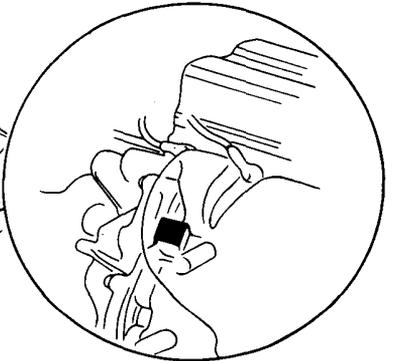
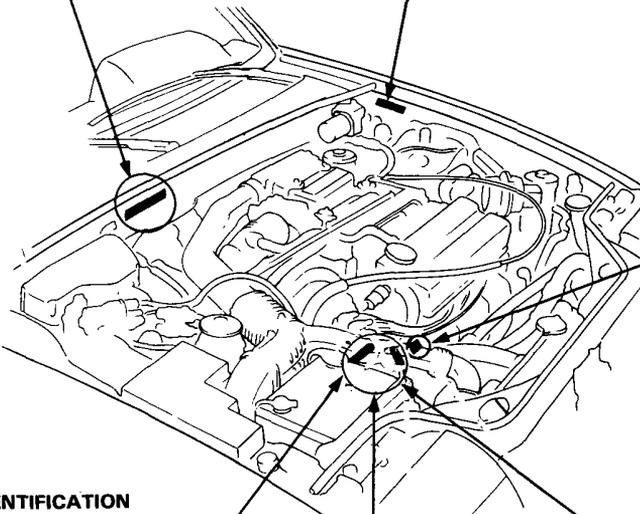
Chassis Number (All Models)



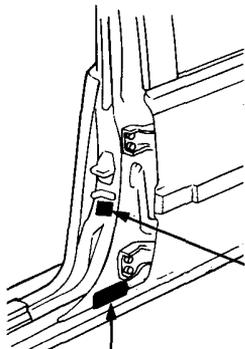
IDENTIFICATION  
PLATE  
(Ex. EC)



IDENTIFICATION PLATE  
(KS)

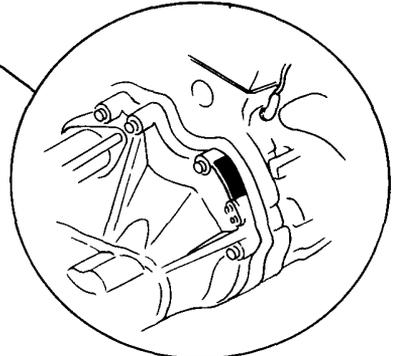


Engine Number

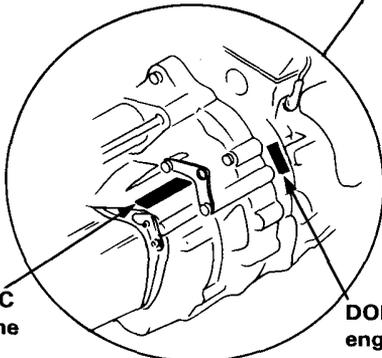


IDENTIFICATION  
PLATE  
(KY: 3D)

IDENTIFICATION PLATE  
(KY: 4D)



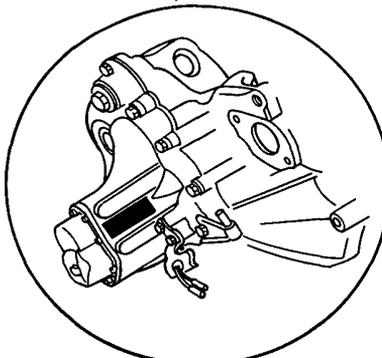
Transmission Number  
(Manual/DOHC engine)



SOHC  
engine

DOHC  
engine

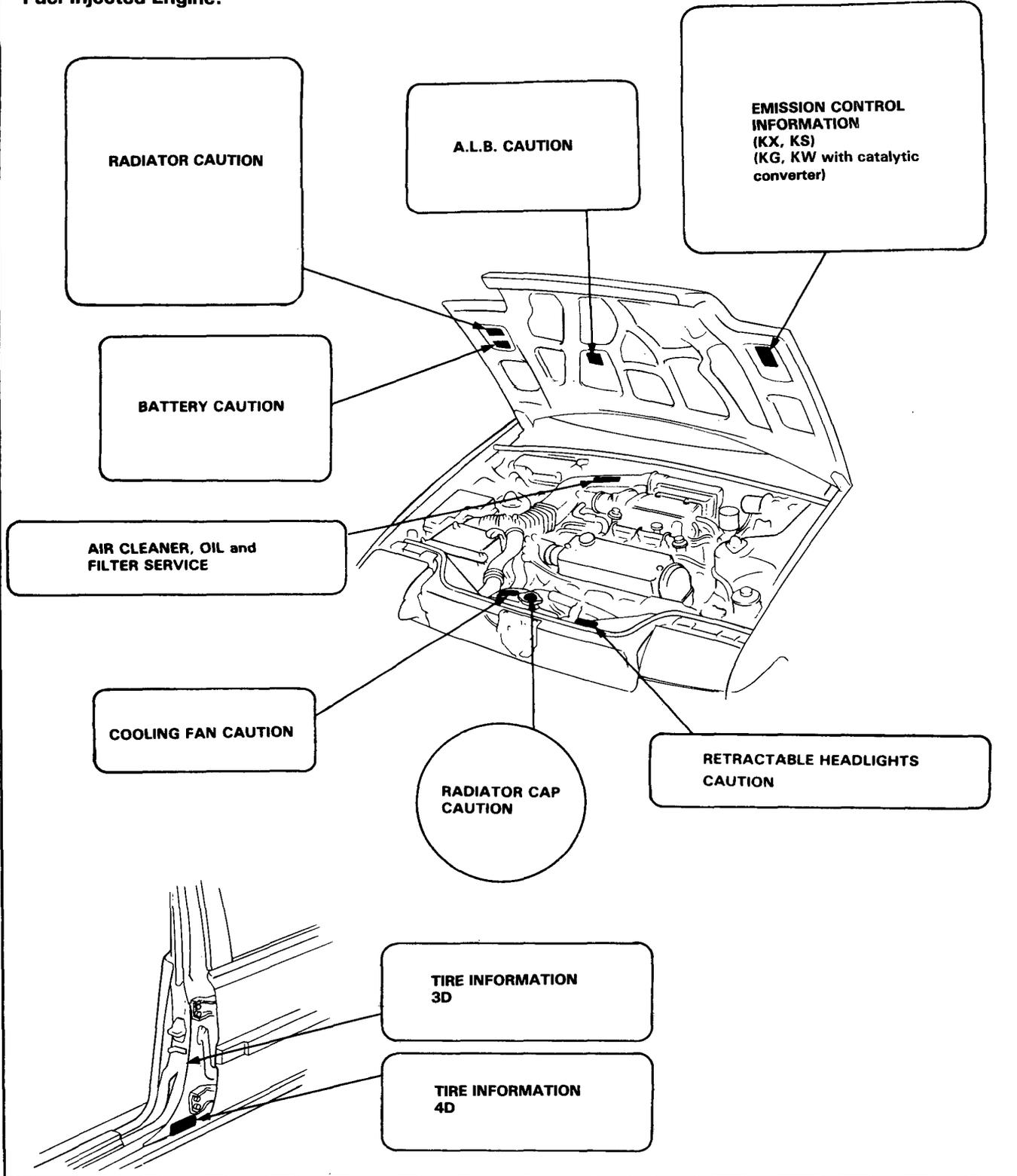
Transmission Number  
(Automatic)



Transmission Number  
(Manual/SOHC engine)

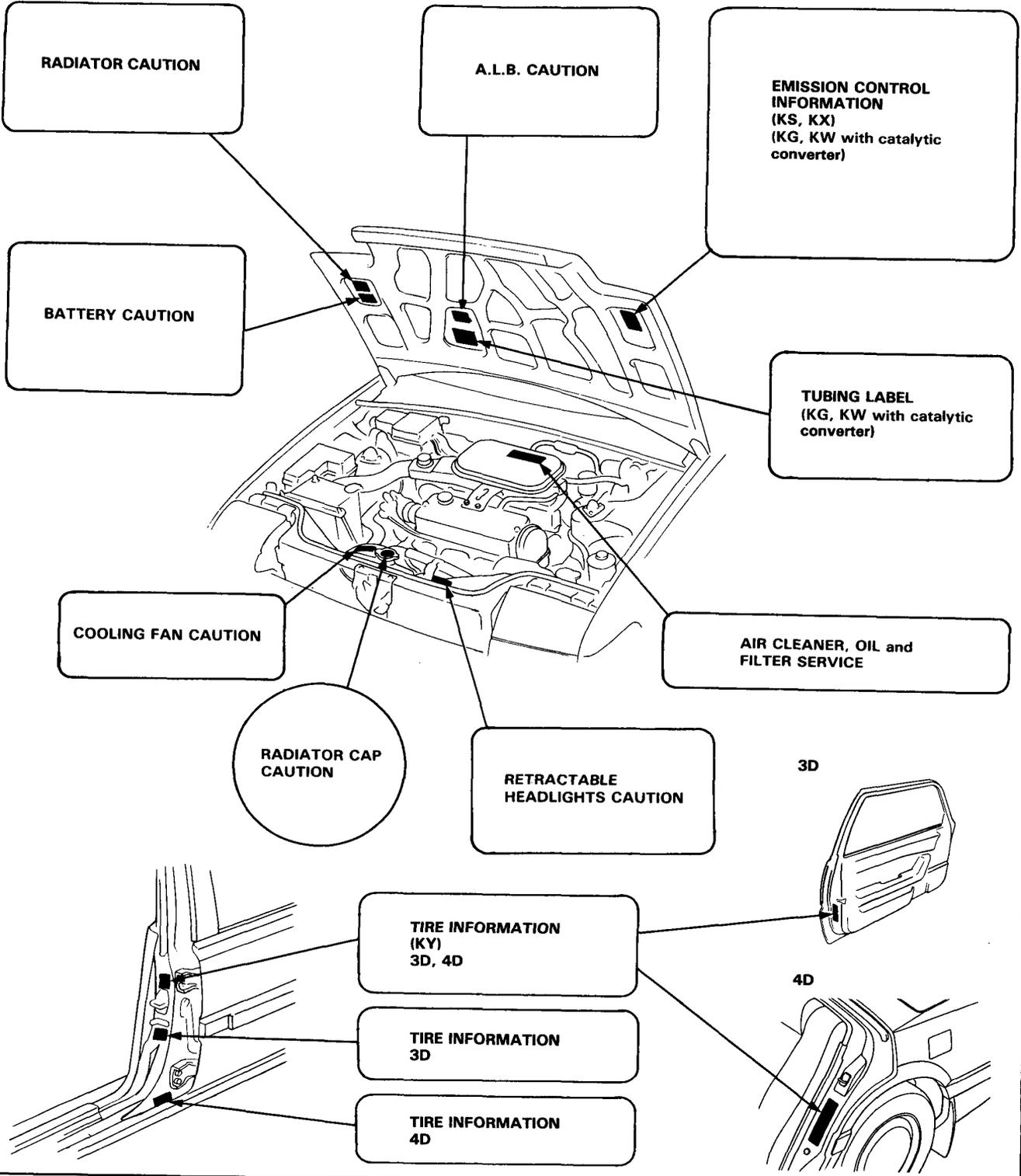
# Label Locations

## Fuel-Injected Engine:





**Carbureted Engine:**



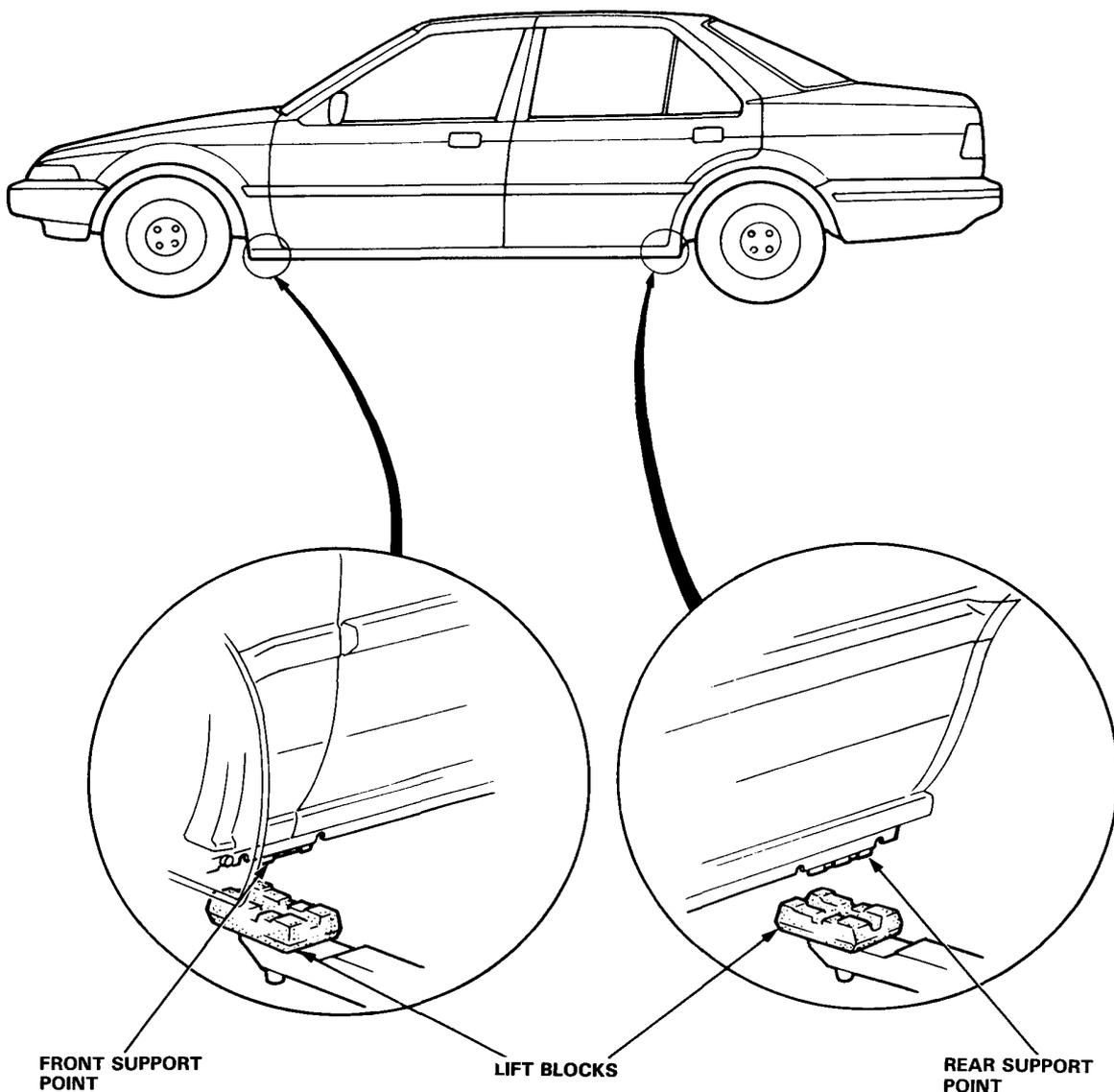
# Lift and Support Points

## Hoist

1. Place the lift blocks as shown.
2. Raise the hoist a few inches and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.

**WARNING** When heavy rear components such as suspension, fuel tank, spare tire and trunk lid/hatch are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

NOTE: Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk can assist with the weight transfer.





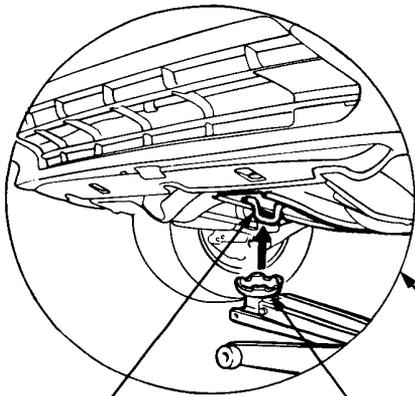
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic in PARK).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-8 so the car will be approximately level, then lower the car onto them.

### WARNING

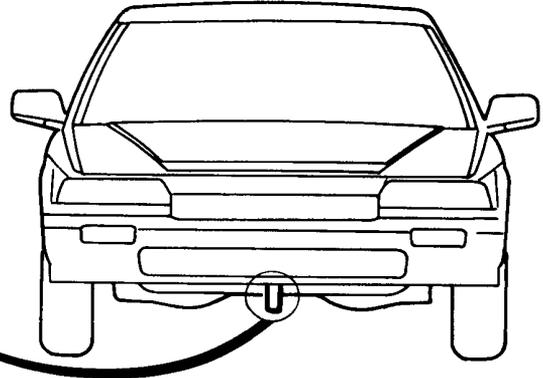
- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front

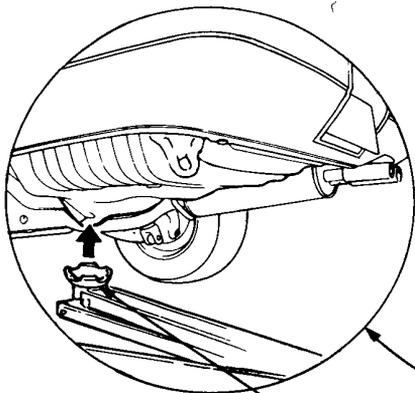


Center the jacking bracket in the middle of the jack lift platform.

LIFT PLATFORM

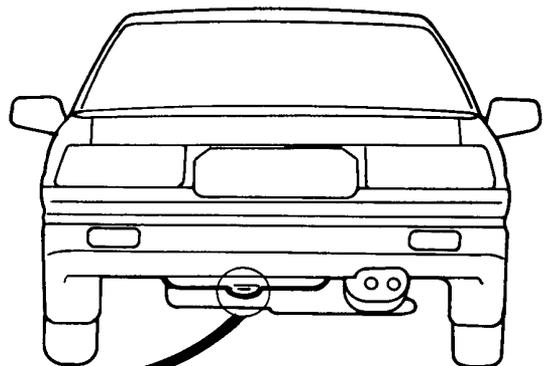


### Rear



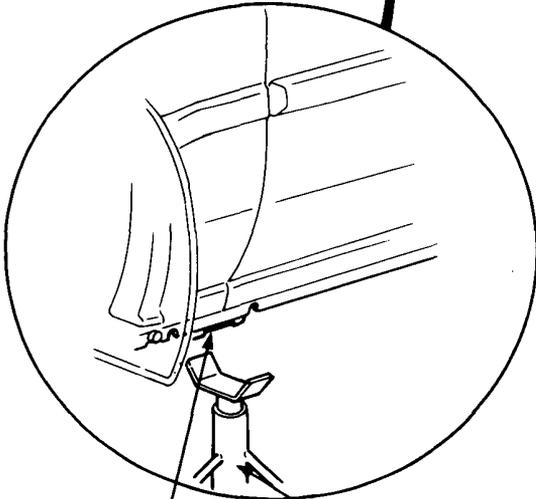
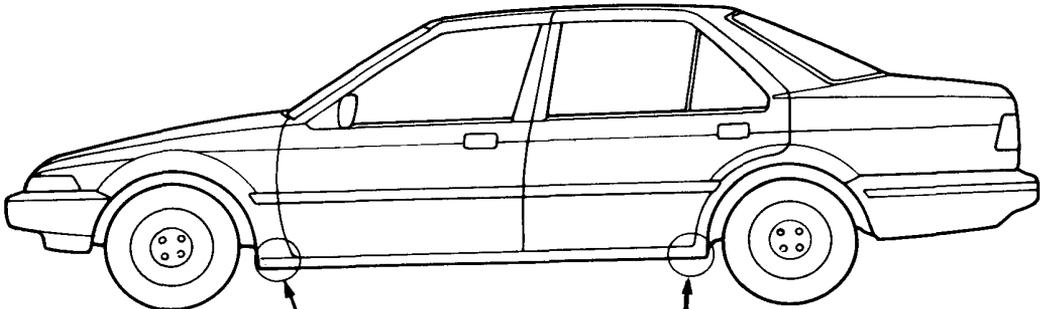
Center the jacking bracket in the middle of the jack lift platform.

LIFT PLATFORM



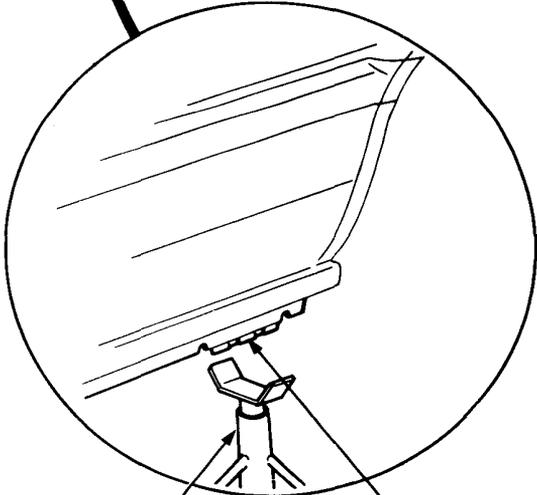
# Lift and Support Points (cont'd)

## Safety Stands



FRONT SUPPORT POINT

SAFETY STAND



SAFETY STAND

REAR SUPPORT POINT

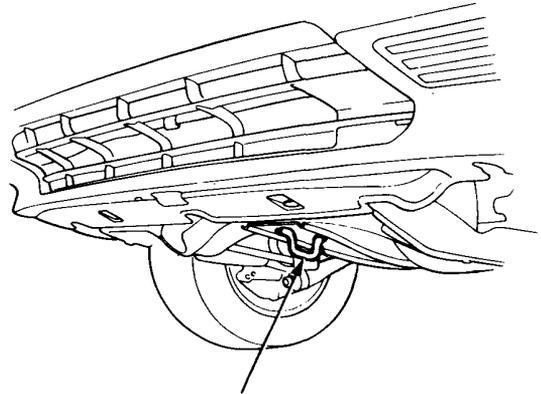
# Towing



If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps to avoid damaging the bumper and the body under it. Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing with a chain or frame-mounted tow bar. A chain may be attached to the hook shown in the illustration. Do not attach a tow bar to either bumper.

If the car is to be towed with four wheels on the ground, observe the following precautions:

1. Wheels and axles must not be touching the body or frame.
2. Turn the ignition key to the "I" position and make sure the steering wheel turns freely.
3. Place the transmission in NEUTRAL.
4. Release the parking brake.
5. DO NOT exceed 55 km/h (35 MPH) for distances of more than 80 km (50 miles).



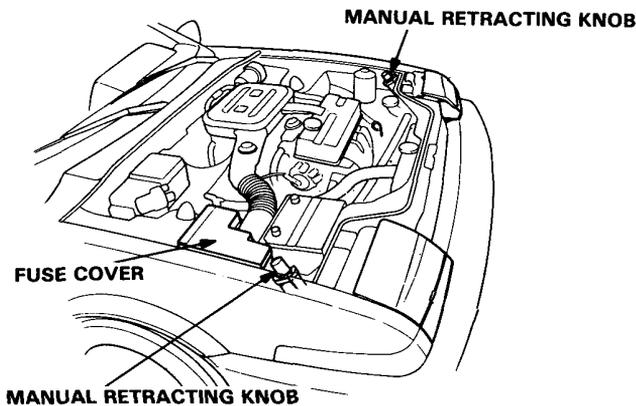
TOWING HOOK

**WARNING** DO NOT push or tow a car to start it. The forward surge when the engine starts could cause a collision. Also, under some conditions, the catalytic converter (on some types) could be damaged. A car equipped with automatic transmission cannot be started by pushing or towing.

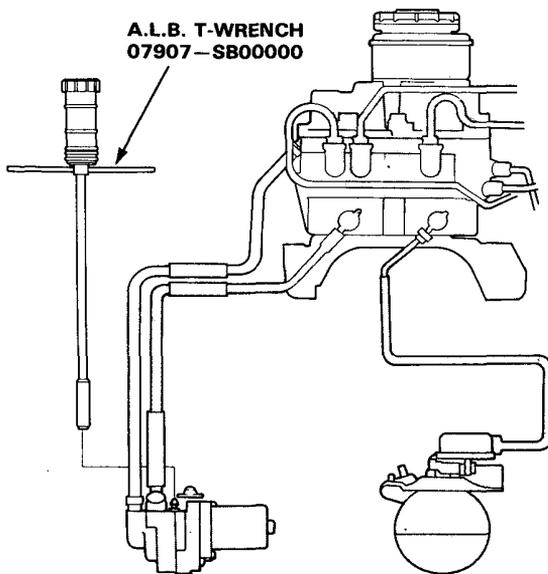
# Preparation of Work

## Special Caution Items For This Car

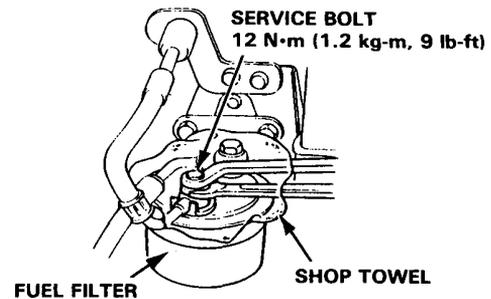
1. Retractable headlights are installed. Before manual raising and lowering, the fuse must be removed. When raising and lowering is executed without removing the fuse, injury may be caused by rapid turning of the manual retracting knob, if the motors accidentally start running.



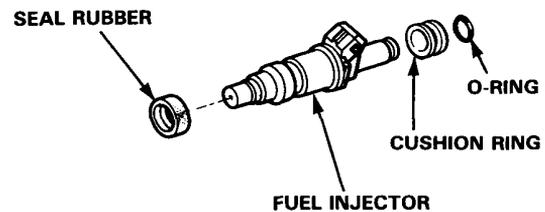
2. For cars equipped with A.L.B., the high-pressure brake fluid must be drained before disassembly of the A.L.B. piping system. When this is not done danger may be caused by brake fluid squirting out under high pressure. For draining of the high-pressure brake fluid, refer to base shop manual.



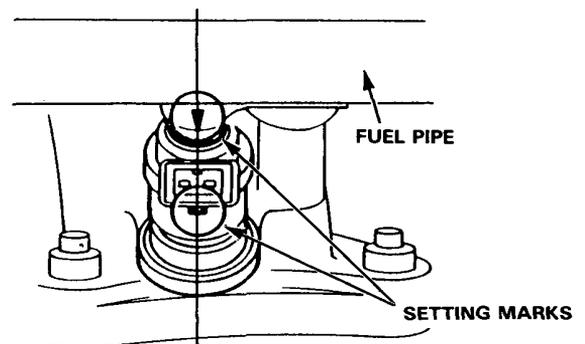
3. Fuel Line Servicing (Fuel-Injected Engine)
  - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.



- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.





4. Inspection for fuel leakage
  - After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.
5. Installation of an amateur radio for cars equipped with PGM-FI, CRUISE CONTROL and A.L.B.
 

Care has been taken for the control units of the PGM-FI, CRUISE CONTROL and A.L.B. and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

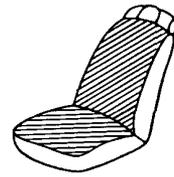
  - The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the control units.

The control unit locations:

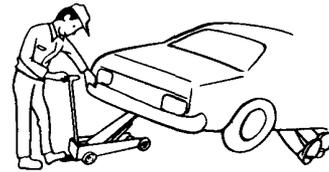
- PGM-FI ECU: Under the left side seat.
  - CRUISE CONTROL: Under the driver's side dashboard.
  - A.L.B.: Under the passenger's side dashboard.
  - Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
  - Do not install a radio with a large output (max. 10 W).
6. Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use Honda Genuine liquid gasket, PART No. OY740-99986.
    - Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
    - Apply liquid gasket evenly, being careful to cover all the mating surface.
    - To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
    - Do not install the parts if 20 minutes or more have passed after applying liquid gasket. In that case, reapply liquid gasket after removing old one.
    - After assembly, wait at least 30 minutes before filling with the appropriate liquid (engine oil, coolant and other similar fluid).

**CAUTION: Observe all safety precautions and notes while working.**

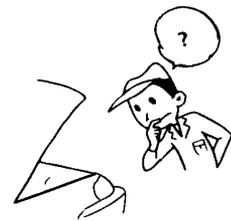
1. Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



2. Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate at frequently as possible when work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



3. Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



4. Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.

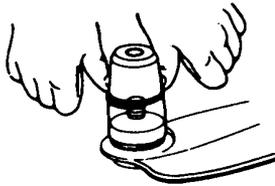


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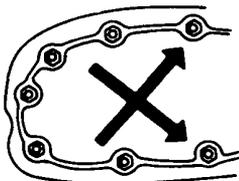
# Preparation of Work

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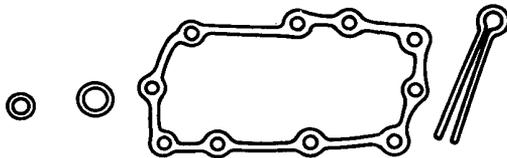
5. Use the special tools when use of such is specified.



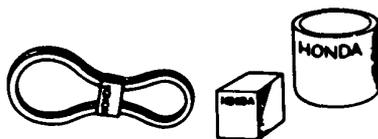
6. Parts must be assembled with the proper torque according to the maintenance standards established.
7. When tightening a series bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.



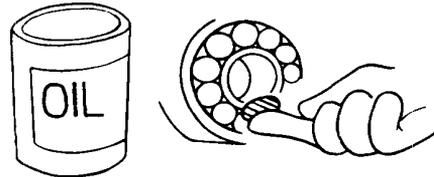
8. Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



9. Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.



10. Coat or fill parts with specified grease as specified (page 4-2). Clean all removed parts with solvent upon disassembly.



11. Brake fluid and hydraulic components

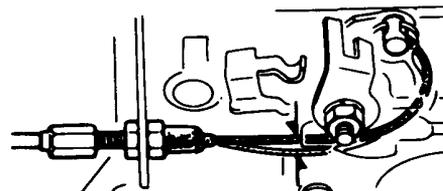
- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
- Do not mix different brands of fluid as they may not be compatible.
- Do not reuse drained brake fluid.
- Brake fluid can cause damage to painted surfaces. Wipe up spilled fluid at once.
- After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
- Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.



- Keep disassembled parts from air-borne dust and abrasives.
- Check that parts are clean before assembly.

12. Avoid oil or grease getting on rubber parts and tubes, unless specified.

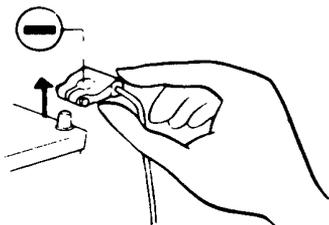
13. Upon assembling, check every part for proper installation and operation.



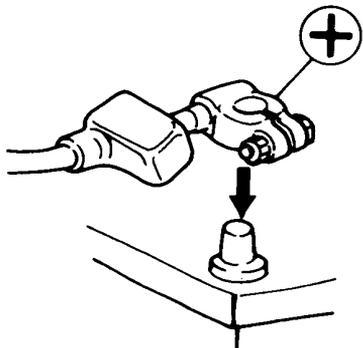


## Electrical

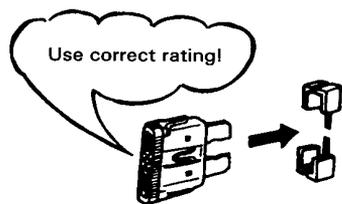
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



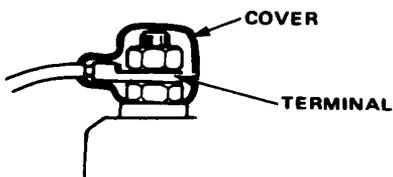
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.

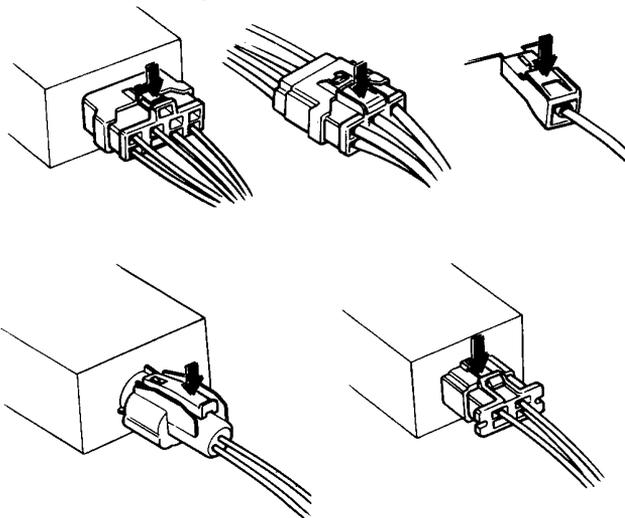


- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.

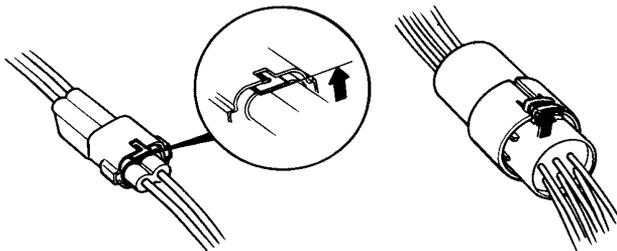


- When removing locking couplers, be sure to disengage the lock before disconnecting.
- Couplers may be of two types, those in which the lock is pressed to remove, and those in which the lock is pulled up to remove. Be sure to ascertain the type of locking device before beginning work. The following is a depiction of the means of disconnecting various typical couplers.

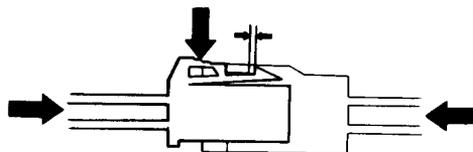
**Press to disengage:**



**Pull up to disengage:**



- When disconnecting locks, first press in the coupler tightly (to provide clearance to the locking device), then operated the tab fully and remove the coupler in the designated manner.

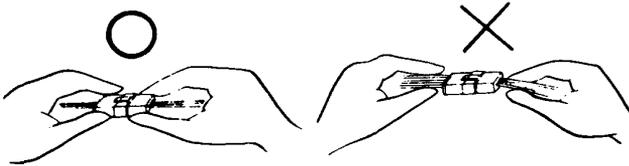


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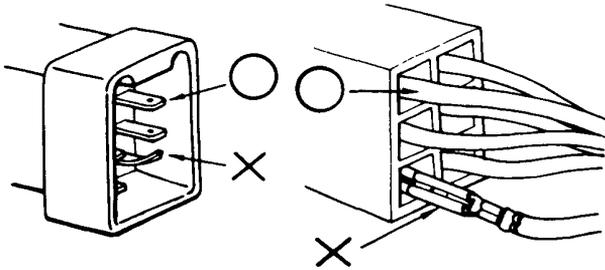
# Preparation of Work

## Electrical (cont'd)

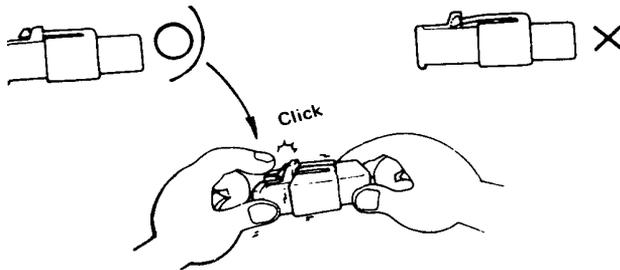
- When disconnecting a coupler, pull it off from the mating coupler by holding on both couplers.
- Never try to disconnect couplers by pulling on their wires.



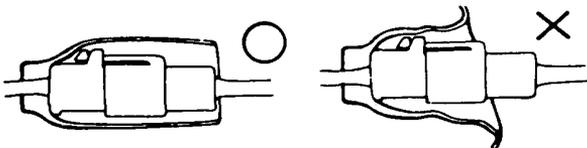
- Before connecting couplers, check to see that the terminals are in place and are not bent or distorted.



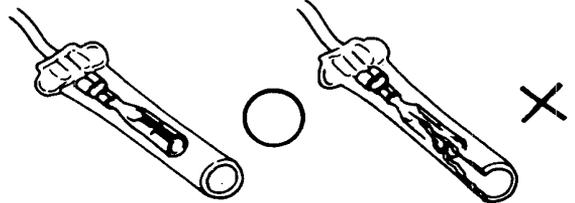
- Insert couplers fully until they will no longer go.
- Some couplers have locking tabs that must be aligned and engaged securely.
- Don't use wire harnesses with a loose wire or coupler.



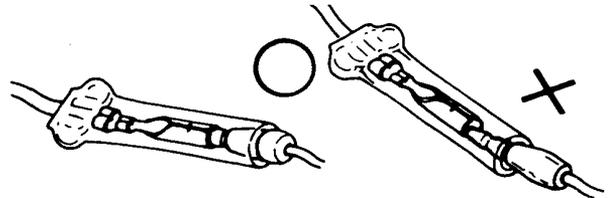
- Place the plastic cover over the mating coupler after reconnecting. Also check that the cover is not distorted.



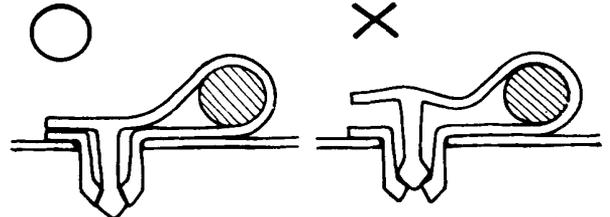
- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover is not facing upward.



- Secure wires and wire harnesses to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or wire harnesses.



- A loose wire harness or cable can be a hazard to safety. After clamping, check each wire for security in its clamp.

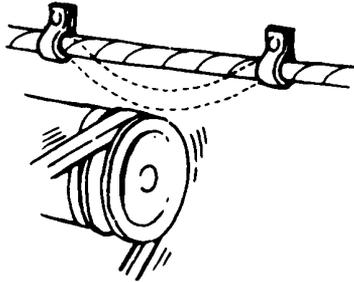


- Do not squeeze wires against the weld when a weld-on clamp is used.

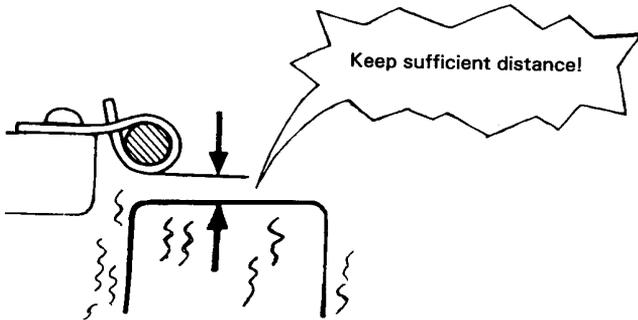




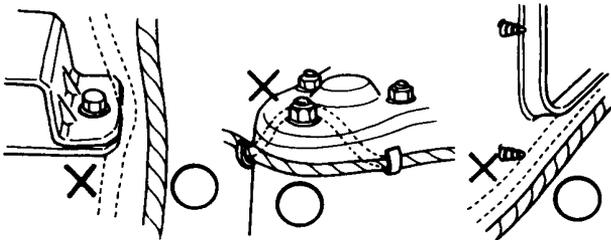
- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



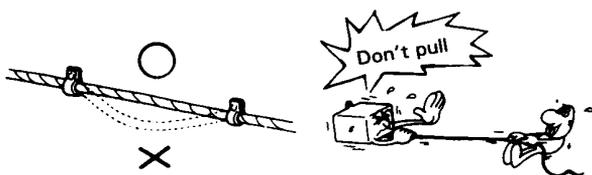
- Always keep a safe distance between wire harnesses and any heated parts.



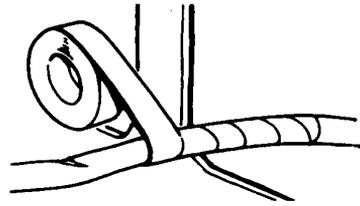
- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends of bolts, screws and other fasteners.



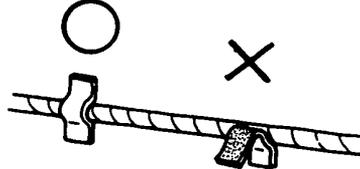
- Route harnesses so they are not pulled taut or slackened excessively.



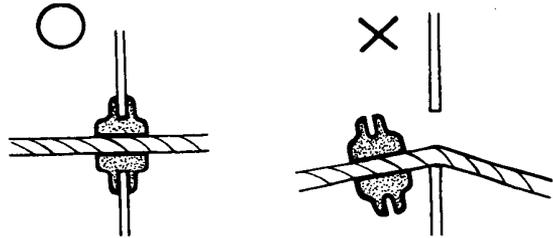
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



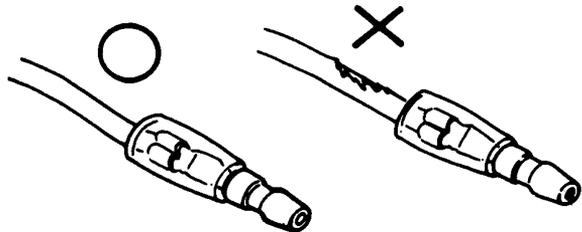
- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.



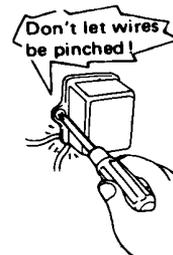
- Seat grommets in their grooves properly.



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.



- After installing parts, make sure that wire harnesses are not pinched.



(cont'd)

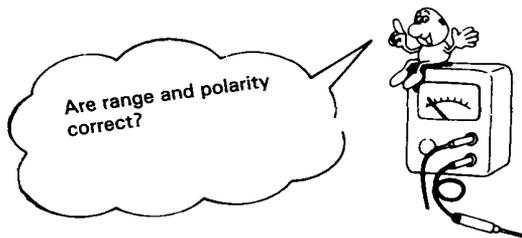
# Preparation of Work

## Electrical (cont'd)

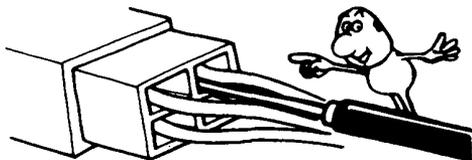
- After routing, check that the wire harnesses are not twisted or kinked.



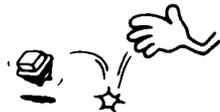
- Wire harnesses should be routed so that they are not pulled taut, slackened excessively, pinched, or interfering with adjacent or surrounding parts in all steering positions.



- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.



- Do not drop parts.



- Rust is the enemy of all finished surfaces. Before connecting connectors and couplers, check the terminals and remove, if any, rust using a fine sand paper or emery cloth.



# Symbol Marks

The following symbols stand for:



:Apply engine oil.



:Apply brake fluid.



:Apply grease.



:Apply Automatic Transmission Fluid.



:Apply Power Steering Fluid.

①, ②, ③, ... } Sequence for removal or installation  
①, ②, ③, ... }

# Abbreviation



A/C	Air Conditioner
ALB	Anti Lock Brake
Assy	Assembly
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
ATT	Attachment
EACV	Electronic Air Control Valve
ECU	Electronic Control Unit for Fuel-Injection System
EGR	Exhaust Gas Recirculation
Ex.	Except
EX	Exhaust
GND	Ground
IG	Ignition
IN	Intake
INT	Intermittent operation
L.	Left
LHD	Left Hand Drive
M/T	Manual Transmission
PCV Valve	Positive Crankcase Ventilation Valve
PGM-FI	Programed Fuel Injection
P/S	Power Steering
R.	Right
RHD	Right Hand Drive
ST	Starter
SW	Switch
TA Sensor	Intake Air Temperature Sensor

## Automatic Transmission

<b>P</b>	Parking
<b>R</b>	Reverse
<b>N</b>	Neutral
<b>D<sub>4</sub></b>	Drive Position (1st-4th)
<b>D<sub>3</sub></b>	Drive Position (1st-3rd)
<b>2</b>	Second



## Special Tools

<b>Engine Removal/Installation .....</b>	<b>2-2</b>
<b>Cylinder Head/Valve Train .....</b>	<b>2-2</b>
<b>Engine Block .....</b>	<b>2-2</b>
<b>Engine Lubrication .....</b>	<b>2-2</b>
<b>Fuel and Emission Controls .....</b>	<b>2-3</b>
<b>Clutch .....</b>	<b>2-3</b>
<b>Manual Transmission .....</b>	<b>2-3</b>
<b>Automatic Transmission .....</b>	<b>2-4</b>
<b>Differential .....</b>	<b>2-4</b>
<b>Driveshafts .....</b>	<b>2-4</b>
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<b>Body .....</b>	<b>2-6</b>
<b>Air Conditioner .....</b>	<b>2-6</b>
<b>Optional Tools .....</b>	<b>2-6</b>

# Special Tools

## 5. Engine Removal/Installation

Number	Tool Number	Description	Q'ty	Remarks
①	07KAK—SJ40100	Engine Tilt Hanger Set	1	
②	07941—6920002	Ball Joint Remover	1	

## 6. Cylinder Head/Valve Train

Number	Tool Number	Description	Q'ty	Remarks
①	07JAB—0010000	Crank Pulley Holder Set	1	Component tools
①-1	07JAA—0010200	Socket Wrench, 19 mm	(1)	
①-2	07JAB—0010100	Pulley Holder Attachment	(1)	
①-3	07JAB—0010200	Handle	(1)	
②	07743—0020000	Valve Guide Driver	1	
③	07757—PJ10100	Valve Spring Compressor Attachment	1	B20A engine
④	07757—0010000	Valve Spring Compressor	1	07957—3290001 may also be used.
⑤	07942—SA50000	Valve Guide Driver/Remover	1	07942—8230000 may also be used.
⑥	07942—6110000	Valve Guide Driver/Remover	1	07942—6570100 may also be used.
⑦	07947—SB00100	Oil Seal Driver	1	Camshaft
⑧	07984—SA50001	Valve Guide Reamer, 7.0 mm	1	07984—6890100 may also be used.
⑨	07984—6110000	Valve Guide Reamer, 6.6 mm	1	07984—6570100 may also be used.

## 7. Engine Block

Number	Tool Number	Description	Q'ty	Remarks
①	07749—0010000	Driver	1	07949—6110000 may also be used.
②	07924—PD20003	Ring Gear Holder	1	07924—PD20002 may also be used.
③	07947—SB00200	Oil Seal Driver	1	Crankshaft Oil Seal (SOHC engine)
④	07948—SB00101	Driver Attachment	1	Crankshaft Oil Seal (DOHC engine)
⑤	07973—PE00302	Piston Pin Pilot Collar	1	
⑥	07973—SB00100	Piston Pilot	1	Not included in base set. Use each with the base set.
⑦	07973—SB00200	Piston Pin Insert Attachment A	1	
⑧	07973—SB00400	Piston Pin Insert Attachment B	1	
⑨	07973—6570002	Piston Pin Insert Base Set	1	

## 8. Engine Lubrication

Number	Tool Number	Description	Q'ty	Remarks
①	07406—0030000	Oil Pressure Gauge Adaptor	1	
②	07746—0010100	Attachment, 32 x 35 mm	1	A20A and A16A engines
③	07746—0010400	Attachment, 52 x 55 mm	1	B20A engine
④	07749—0010000	Driver	1	07949—6110000 may also be used.
⑤	07912—6110001	Oil Filter Socket Wrench	1	Used for Japan-Made Oil Filter
⑥	—	Oil Filter Wrench (Apply from LABINAL S.A.)	1	Used for France-Made Oil Filter



### 11, 12. Fuel and Emission Controls

Number	Tool Number	Description	Q'ty	Remarks
①	07GAC—SE00200	Fuel Sender Wrench	1	
②	07GAZ—SE00300	R.P.M. Connecting Adaptor	1	
③	07GMJ—ML80100	Test Harness	1	
④	07406—0040001	Fuel Pressure Gauge Set	1	Fuel-Injected engine Component tools
④-1	07406—0040100	Pressure Gauge	(1)	
④-2	07406—0040201	Hose Assembly	(1)	
⑤	07411—0020000	Digital Circuit Tester	1	Fuel-Injected engine
⑥	07614—0050100	Fuel Line Clamp	1	Carbureted engine
⑦	07999—PD6000A	PGM-FI Test Harness	1	Fuel-Injected engine

### 13. Clutch

Number	Tool Number	Description	Q'ty	Remarks
①	07GAG—PF50100	Clutch Disc Alignment Tool	1	B20A engine
②	07708—0010102	10 mm T-Wrench	1	
③	07924—PD20003	Ring Gear Holder	1	07924—PD20002 may also be used.
④	07974—6890101	Clutch Disc Alignment Tool	1	A20A and A16A engines

### 14. Manual Transmission <B2>

Number	Tool Number	Description	Q'ty	Remarks
①	07744—0010200	Pin Driver, 3.0 mm	1	
②	07744—0010400	Pin Driver, 5.0 mm	1	07944—6110100 may also be used.
③	07746—0010200	Attachment, 37 x 40 mm	1	
④	07746—0010400	Attachment, 52 x 55 mm	1	07949—6340200 may also be used.
⑤	07746—0010500	Attachment, 62 x 68 mm	1	
⑥	07749—0010000	Driver	1	07949—6110000 may also be used.
⑦	07936—6340000	Bearing Remover Set	1	
⑧	07936—6890101	Bearing Remover Attachment	1	

### 14. Manual Transmission <A1/A2>

Number	Tool Number	Description	Q'ty	Remarks
①	07GAC—PG40100	Transmission Housing Puller	1	
②	07744—0010200	Pin Driver, 3.0 mm	1	
③	07744—0010400	Pin Driver, 5.0 mm	1	07944—6110100 may also be used.
④	07746—0010400	Attachment, 52 x 55 mm	1	
⑤	07749—0010000	Driver	1	07949—6110000 may also be used.
⑥	07907—PD10000	Socket Wrench, 30 mm	1	
⑦	07923—6890101	Mainshaft Holder	1	
⑧	07936—6340000	Bearing Remover Set	1	
⑨	07936—6890101	Bearing Remover Attachment	1	
⑩	07947—6110500	Oil Seal Driver Attachment	1	Differential Oil seal
⑪	07947—6340000	Oil Seal Driver	1	
⑫	07947—6340500	Driver Attachment, E	1	

# Special Tools

## 15. Automatic Transmission

Number	Tool Number	Description	Q'ty	Remarks
①	07GAB—PF50100	Mainshaft Holder	1	F4 transmission
②	07GAC—PG40100	Transmission Housing Puller	1	
③	07GAC—PF40210	Bearing Remover Attachment	1	
④	07GAE—PG40000	Clutch Spring Compressor Set	1	07960—689000 may also be used.
④-1	07GAE—PG40100	Compressor Attachment	(1)	Component tools
④-2	07GAE—PG40200	Compressor Bolt Assembly	(1)	
④-3	07960—6120100	Compressor Attachment	(1)	
⑤	07406—0020003	Oil Pressure Gauge Set	1	Component tools
⑤-1	07406—0020201	Oil Pressure Hose	(3)	
⑥	07406—0070000	Low Pressure Gauge	1	
⑦	07746—0010500	Attachment, 62 x 68 mm	1	
⑧	07749—0010000	Driver	1	07949—6110000 may also be used.
⑨	07907—PD10000	Socket Wrench, 30 mm	1	07907—6890100 may also be used.
⑩	07923—6890202	Mainshaft Holder	1	C9 transmission
⑪	07936—6340000	Bearing Remover Set	1	
⑫	07936—6890101	Bearing Remover Attachment	1	
⑬	07947—6110500	Oil Seal Driver Attachment	1	
⑭	07947—6340201	Oil Seal Driver	1	
⑮	07947—6340500	Driver Attachment, E	1	
⑯	07960—6890100	Clutch Spring Compressor Attachment	1	
⑰	07974—6890300	Throttle Cable Adjustment Gauge	1	Carbureted engine
⑱	07998—SA50000	Accelerator Pedal Weight Set	1	
⑱-1	07998—SA50100	Main Pedal Weight (1.0 kg)	(1)	Component tools
⑱-2	07998—SA50200	Sub Pedal Weight (0.5 kg)	(1)	

## 16. Differential

Number	Tool Number	Description	Q'ty	Remarks
①	07746—0030100	Driver, C	1	
②	07749—0010000	Driver	1	07949—6110000 may also be used.
③	07944—SA00000	Pin Driver, 4.0 mm	1	
④	07947—6110500	Seal Driver Attachment	1	
⑤	07947—6340500	Driver Attachment, E	1	

## 17. Drivershafts

Number	Tool Number	Description	Q'ty	Remarks
①	07GAD—SE00100	Oil Seal Driver Attachment	1	
②	07746—0010400	Attachment, 52 x 55 mm	1	
③	07746—0010500	Attachment, 62 x 68 mm	1	
④	07746—0040900	Pilot, 40 mm	1	
⑤	07749—0010000	Driver	1	
⑥	07947—SD90200	Oil Seal Driver Attachment	1	
⑦	07965—SD90100	Support Base	1	
⑧	07965—SD90200	Support Collar	1	

## 18. Manual Steering

Number	Tool Number	Description	Q'ty	Remarks
①	07746—0010300	Attachment, 42 x 47 mm	1	
②	07916—SA50001	Steering Gearbox Locknut Wrench, 40 mm	1	
③	07941—6920003	Ball Joint Remover	1	
④	07965—6340301	Hub Dis/Assembly Tool, Base A	1	
⑤	07974—SA50800	Clip Guide, B	1	



### 18. Power Steering

Number	Tool Number	Description	Q'ty	Remarks
①	07GAK—SE00100	P/S Joint Adaptor Set	1	
①-1	07GAK—SE00110	P/S Pump Joint Adaptor	(1)	Component tools
①-2	07GAK—SE00120	P/S Hose Joint Adaptor	(1)	
②	07406—0010001	P/S Pressure Gauge Set	1	
②-1	07406—0010101	Bypass Tube Joint	(1)	Component tools
②-2	07406—0010200	P/S Pressure Gauge Assy	(1)	
②-3	07406—0010300	Oil Pressure Valve	(1)	
②-4	07406—0010400	Pressure Gauge	(1)	
③	07725—0030000	Universal Holder	1	07725—0010101 may also be used.
④	07746—0010300	Attachment, 42 X 47 mm	1	
⑤	07749—0010000	Driver	1	07949—6110000 may also be used.
⑥	07900—SA50000	P/S Seal Replacement Tool Set	1	
⑥-1	07974—SA50100	Piston Seal Ring Guide	(1)	Component tools
⑥-2	07974—SA50200	Piston Seal Ring Sizing Tool	(1)	
⑥-3	07974—SA50300	Cylinder End Packing Slider	(1)	
⑥-4	07974—SA50400	End Seal Guide	(1)	
⑥-5	07974—SA50600	Dust Seal Guide	(1)	
⑥-6	07974—SA50900	P/S Tool Set Case	(1)	
⑦	07916—SA50001	Steering Gearbox Locknut Wrench, 40 mm	1	
⑧	07941—6920003	Ball Joint Remover	1	
⑨	07947—6340300	Driver Attachment	1	
⑩	07953—7190000	Collar Driver	1	

### 19. Suspension

Number	Tool Number	Description	Q'ty	Remarks
①	07GAE—SE00100	Shock Absorber Spring Compressor	1	
②	07GAF—SE00100	Hub Assembly Pin	1	
③	07GAF—SE00200	Hub Assembly Driver Attachment	1	
④	07GAF—SE00401	Front Hub Driver Base	1	
⑤	07410—0010200	Wheel Alignment Gauge ATT., B	1	
⑥	07746—0010100	Attachment, 32 x 35 mm	1	
⑦	07746—0010400	Attachment, 52 x 55 mm	1	
⑧	07746—0010600	Attachment, 72 x 75 mm	1	
⑨	07749—0010000	Driver	1	07949—6110000 may also be used.
⑩	07941—6920003	Ball Joint Remover	1	
⑪	07965—SB00000	Ball Joint Dis/Assembly Tool Set	1	
⑪-1	07965—SB00100	Ball Joint Remover/Installer	(1)	Component tools
⑪-2	07965—SB00200	Ball Joint Remover Base	(1)	
⑪-3	07965—SB00300	Ball Joint Installer Base	(1)	
⑫	07965—6340301	Front Wheel Bearing Dis/Assembly Tool Base, A	2	
⑬	07965—6920201	Front Hub Dis/Assembly Tool, B	1	
⑭	07974—SA50700	Clip Guide, A	1	
⑮	07974—SA50800	Clip Guide, B	1	

# Special Tools

## 20. Brake

Number	Tool Number	Description	Q'ty	Remarks	
①	07GAF—SE00300	Pulser Driver Attachment	1	Short parts of the Brake Booster Set 07504—6340100	
②	07GAG—SE00100	Brake Booster Adjustment Gauge	1		
③	07HAJ—SG00300	Frequency Convert Adaptor	1		
④	07HAK—SG00110	Pressure Gauge Joint Pipe	1		
⑤	07504—6340100	Brake Booster Tool Set	1		
⑤-1	07404—5790300	Vacuum Gauge	(1)		
⑤-2	07406—5790200	Oil Pressure Gauge	(2)		
⑤-3	07410—5790100	Pressure Gauge Attachment, C	(1)		
⑤-4	07410—5790500	Tube Joint Attachment, I	(2)		
⑤-5	07510—6340100	Pressure Gauge Joint Pipe	(2)		
⑤-6	07510—6340300	Vacuum Joint Tube, A	(1)		
⑥	07508—SB00000	A.L.B. Checker	1		07494—611000 may also be used.
⑦	07749—0010000	Driver	1		
⑧	07907—SB00000	A.L.B. T-Wrench	1		
⑨	07914—SA50001	Snap-ring Pliers	1		
⑩	07921—0010001	Flare Nut Wrench	1		
⑪	07947—6890300	Driver Attachment, C	1		
⑫	07960—SA50002	Brake Spring Compressor	1		
⑬	07965—5790300	Cup Guide	1		
⑭	07965—6340301	Front Wheel Bearing Dis/Assembly Tool Base, A	2		
⑮	07967—SB00000	Pulser Driver	1		
⑯	07973—SA50000	Rear Caliper Guide	1		

## 21. Body

Number	Tool Number	Description	Q'ty	Remarks
①	07GAZ—SE30100	Torsion Rod Assembly Tool	1	

## 23. Air Conditioner

Number	Tool Number	Description	Q'ty	Remarks
①	07GAB—PJ60100	A/C Clutch Holder	1	07923—PB80001 may also be used.
②	07703—0010200	Torx Driver Bit, T-30	1	07949—6110000 may also be used.
③	07749—0010000	Driver	1	
④	07934—PB80001	A/C Clutch Puller	1	
⑤	07934—SB20000	Shaft Seal Remover	1	
⑥	07947—6340300	Driver Attachment, A	1	

## Optional Tools

Number	Tool Number	Description	Q'ty	Remarks
①	07780—0010300	Valve Seat Cutter 45°	1	EX (B20A)
②	07780—0010400	Valve Seat Cutter 45°	1	IN (B20A)
③	07780—0010500	Valve Seat Cutter 45°	1	EX (A16A, A20A)
④	07780—0010800	Valve Seat Cutter 45°	1	IN (A16A, A20A)
⑤	07780—0012300	Valve Seat Cutter 30°	1	IN (B20A)
⑥	07780—0012400	Valve Seat Cutter 30°	1	EX (A16A, A20A)
⑦	07780—0012900	Valve Seat Cutter 30°	1	EX (B20A), IN (A16A, A20A)
⑧	07780—0014000	Valve Seat Cutter 60°	1	EX (B20A)
⑨	07780—0014100	Valve Seat Cutter 60°	1	IN (ALL), EX (A16A, A20A)
⑩	07781—0010201	Valve Seat Cutter Holder, 6.6 mm	1	
⑪	07781—0010301	Valve Seat Cutter Holder, 7.0 mm	1	

## **Specifications**

<b>Standards and Service Limits.....</b>	<b>3-2</b>
<b>Design Specifications.....</b>	<b>3-13</b>
<b>Body Specifications.....</b>	<b>3-24</b>
<b>Frame Repair Chart.....</b>	<b>3-27</b>

# Standards and Service Limits

## Cylinder Head/Valve Train <Except B20A Engine> — Section 6

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT	
Compression	300 min <sup>-1</sup> (rpm) and wide-open throttle		Nominal A20A3, A20A4 Engines (Except KS) Other Engines Minimum A20A3, A20A4 Engines (Except KS) Other Engines Maximum variation	1,226 kPa (12.5 kg/cm <sup>2</sup> , 178 psi) 1,176 kPa (12.0 kg/cm <sup>2</sup> , 171 psi) 1,030 kPa (10.5 kg/cm <sup>2</sup> , 149 psi) 980 kPa (10.0 kg/cm <sup>2</sup> , 142 psi) 196 kPa (2 kg/cm <sup>2</sup> , 28 psi)	
Cylinder head	Warpage Height		90 (3.54)	0.05 (0.002) 89.8 (3.54)	
Camshaft	End play		0.05–0.15 (0.002–0.006)	0.5 (0.02)	
	Oil clearance	No. 1,3 and 5 Journals	0.050–0.089 (0.002–0.004)	0.15 (0.006)	
		No. 2 and 4 Journals	0.130–0.169 (0.005–0.007)	0.23 (0.009)	
	Runout		0.03 (0.001) max.	0.06 (0.002)	
	Cam lobe height				
		A20A1 (KG, KW, KX)	IN	38.477 (1.5148)	—
			EX	38.353 (1.5100)	—
		A20A1, A20A2	IN	38.541 (1.5174)	—
			EX	38.607 (1.5200)	—
		A20A3	IN	38.731 (1.5248)	—
			EX	38.796 (1.5274)	—
		A20A4	IN	38.858 (1.5300)	—
			EX	38.607 (1.5200)	—
A16A1		IN	38.157 (1.5029)	—	
		EX	37.776 (1.4872)	—	
Other Engines		IN	38.541 (1.5174)	—	
	EX	38.607 (1.5200)	—		
Valve	Valve clearance	IN	0.12–0.17 (0.005–0.007)	—	
		EX	0.25–0.30 (0.010–0.012)	—	
	Valve stem O.D.	IN	6.58–6.59 (0.2591–0.2594)	6.55 (0.258)	
		EX	6.94–6.95 (0.2732–0.2736)	6.91 (0.272)	
	Stem-to-guide clearance	IN	0.02–0.05 (0.001–0.002)	0.08 (0.003)	
		EX	0.06–0.09 (0.002–0.004)	0.12 (0.005)	
Stem installed height	IN	48.59 (1.913)	49.34 (1.943)		
	EX	47.66 (1.876)	48.41 (1.906)		
Valve seat	Width	IN and EX	1.25–1.55 (0.049–0.061)	2.0 (0.08)	
Valve spring	Free length	IN	48.54 (1.91)	47.54 (1.87)	
		EX Inner	42.42 (1.67)	41.42 (1.63)	
	Outer	49.07 (1.93)	48.07 (1.89)		
	Squareness Inner and Outer		—	1.75 (0.068)	
Valve guide	I.D.	IN	6.61–6.63 (0.260–0.261)	6.65 (0.262)	
		EX	7.01–7.03 (0.276–0.277)	7.05 (0.278)	
Rocker arm	Arm-to-shaft clearance		0.008–0.054 (0.0003–0.0021)	0.08 (0.003)	

## Cylinder Head/Valve Train <B20A Engine> — Section 6

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	300 min <sup>-1</sup> (rpm) and wide-open throttle		Nominal Minimum Maximum variation	1,226 kPa (12.5 kg/cm <sup>2</sup> , 178 psi) 1,030 kPa (10.5 kg/cm <sup>2</sup> , 149 psi) 196 kPa (2 kg/cm <sup>2</sup> , 28 psi)
Cylinder head	Warpage Height		— 132 (5.20)	0.05 (0.002) 131.8 (5.19)
Camshaft	End play		0.05–0.15 (0.002–0.006)	0.5 (0.02)
	Oil clearance		0.050–0.089 (0.002–0.004)	0.15 (0.006)
	Runout		0.03 (0.001) max.	0.06 (0.002)
	Cam lobe height	IN	37.716 (1.4849)	—
EX		37.781 (1.4874)	—	
Valve	Valve clearance	IN	0.08–0.12 (0.003–0.005)	—
		EX	0.16–0.20 (0.006–0.008)	—
	Valve stem O.D.	IN	6.58–6.59 (0.2591–0.2594)	6.55 (0.258)
		EX	6.55–6.56 (0.2579–0.2583)	6.52 (0.257)
	Stem-to-guide clearance	IN	0.02–0.05 (0.001–0.002)	0.08 (0.003)
		EX	0.05–0.08 (0.002–0.003)	0.11 (0.04)
Stem installed height	IN and EX	42.75 (1.683)	43.54 (1.714)	
Valve seat	Width	IN and EX	1.25–1.55 (0.049–0.061)	2.0 (0.08)
Valve spring	Free length	Inner	43.50 (1.713)	42.50 (1.673)
		Outer	47.45 (1.868)	46.45 (1.829)
	Squareness	Inner and Outer	—	1.6 (0.063)
Valve guide	I.D.	IN and EX	6.61–6.63 (0.260–0.261)	6.65 (0.262)

**Engine Block <Except B20A Engine> – Section 7**

\*A16A1 Engine only Unit: mm (in.)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.08 (0.003) max.	0.10 (0.004)
	Bore diameter	82.70–82.71 (3.2559–3.2563)	82.74 (3.2575)
		82.69–82.70 (3.2555–3.2559)	82.73 (3.2571)
		*80.01–80.02 (3.1500–3.1504)	80.05 (3.1516)
		*80.00–80.01 (3.1496–3.1500)	80.04 (3.1512)
	Bore taper	0.007–0.012 (0.0003–0.0005)	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt)	82.675–82.685 (3.2549–3.2553)	79.97 (3.148)
		82.665–82.675 (3.2545–3.2549)	79.96 (3.148)
		*79.98–79.998 (3.1488–3.1495)	0.08 (0.003)
		*79.97–79.98 (3.1484–3.1500)	0.13 (0.005)
	Clearance in cylinder	0.02–0.04 (0.0008–0.0016)	0.13 (0.005)
	Piston-to-ring clearance	0.030–0.060 (0.0012–0.0024)	0.13 (0.005)
		0.030–0.055 (0.0012–0.0022)	0.13 (0.005)
		*0.02–0.05 (0.0008–0.0020)	0.13 (0.005)
Piston ring	Ring end gap	0.20–0.35 (0.008–0.014)	0.6 (0.02)
		0.25–0.40 (0.01–0.016)	0.6 (0.02)
		0.30–0.45 (0.012–0.018)	0.6 (0.02)
		0.30–0.90 (0.012–0.035)	1.0 (0.04)
		0.20–0.70 (0.008–0.028)	0.8 (0.03)
Connecting rod	Pin-to-rod interference	0.013–0.032 (0.0005–0.0013)	0.013 (0.0005)
	Large end bore diameter	Nominal 48 (1.89) *45 (1.77)	—
	End play installed on crankshaft	0.15–0.30 (0.006–0.012)	0.40 (0.016)
Crankshaft	Main journal diameter	49.970–49.994 (1.9673–1.9683)	0.010 (0.0004)
	Taper/out-of-round, main journal	0.005 (0.0002) max.	—
	Rod journal diameter	44.976–45.000 (1.7707–1.7717)	—
		*41.976–42.000 (1.6530–1.6535)	0.010 (0.0004)
	Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.45 (0.018)
	End play	0.10–0.35 (0.004–0.014)	0.04 (0.0016)
	Runout	0.024 (0.0009) max.	—
Bearings	Main bearing-to-journal oil clearance	0.026–0.055 (0.0010–0.0022)	0.07 (0.003)
		0.032–0.061 (0.0013–0.0024)	0.07 (0.003)
		0.020–0.038 (0.0008–0.0015)	0.07 (0.003)

**Engine Block <B20A Engine> – Section 7**

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	81.01–81.02 (3.1894–3.1898)	81.05 (3.1909)
		81.00–81.01 (3.1890–3.1894)	81.04 (3.1905)
	Bore taper	0.007–0.012 (0.0003–0.0005)	0.05 (0.002)
	Reboring limit	—	0.05 (0.002)
Piston	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt)	79.99–81.02 (3.1492–3.1898)	80.97 (3.188)
		79.97–81.02 (3.1484–3.1898)	80.96 (3.187)
	Clearance in cylinder	0.02–0.04 (0.0008–0.0016)	0.08 (0.003)
	Piston-to-ring clearance	0.035–0.060 (0.0014–0.0024)	0.13 (0.005)
		0.030–0.055 (0.0012–0.0022)	0.13 (0.005)
Piston ring	Ring end gap	0.20–0.35 (0.008–0.014)	0.6 (0.02)
		0.40–0.55 (0.016–0.022)	0.7 (0.03)
		0.30–0.90 (0.012–0.035)	1.0 (0.04)
		0.20–0.70 (0.008–0.028)	0.8 (0.03)
Connecting rod	Pin-to-rod interference	0.013–0.032 (0.0005–0.0013)	0.013 (0.0005)
	Large end bore diameter	Nominal 51 (2.01)	—
	End play installed on crankshaft	0.15–0.30 (0.006–0.012)	0.40 (0.016)
Crankshaft	Main journal diameter	54.976–55.000 (2.1644–2.1654)	0.010 (0.0004)
	Taper/out-of-round, main journal	0.005 (0.0002) max.	—
	Rod journal diameter	47.976–48.000 (1.8888–1.8900)	—
	Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)
	End play	0.10–0.35 (0.004–0.014)	0.45 (0.018)
	Runout	0.02 (0.0003) max.	0.030 (0.0012)
Bearings	Main bearing-to-journal oil clearance	0.024–0.042 (0.0010–0.0017)	0.05 (0.002)
		0.030–0.048 (0.0012–0.0019)	0.05 (0.002)
		0.026–0.044 (0.0010–0.0017)	0.05 (0.002)

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# Standards and Service Limits (cont'd)

## Engine Lubrication <Except B20A Engine> – Section 8

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)	4.0 (4.2, 3.5) After engine disassembly 3.5 (3.7, 3.1) After oil change, including oil filter	
Oil pump	Displacement	40.3 ℓ (10.6 US. gal., 8.9 Imp. gal.) 5,500 min <sup>-1</sup> (rpm)	
	Inner-to-outer rotor radial clearance	0.15 (0.006) max.	0.2 (0.008)
	Pump body-to-rotor radial clearance	0.10–0.18 (0.004–0.007)	0.2 (0.008)
	Pump body-to-rotor side clearance	0.30–0.108 (0.001–0.004)	0.15 (0.006)
Relief valve	Pressure setting 80°C (176°F)	Idle	98 kPa (1.0 kg/cm <sup>2</sup> , 14 psi) min.
		3,000 min <sup>-1</sup> (rpm)	373–451 kPa (3.8–4.6 kg/cm <sup>2</sup> , 54–65 psi)

## Engine Lubrication <B20A Engine> – Section 8

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)	5.0 (5.3, 4.4) After engine disassembly 4.0 (4.2, 3.5) After oil change, including oil filter	
Oil pump	Displacement	54 ℓ (10.6 US. gal., 8.9 Imp. gal.) 5,000 min <sup>-1</sup> (rpm)	
	Inner-to-outer rotor radial clearance	0.04–0.16 (0.002–0.006)	0.2 (0.008)
	Pump body-to-rotor radial clearance	0.10–0.19 (0.004–0.007)	0.21 (0.008)
	Pump body-to-rotor side clearance	0.02–0.071 (0.001–0.003)	0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F)	Idle	137 kPa (1.4 kg/cm <sup>2</sup> , 20 psi) min.
		3,000 min <sup>-1</sup> (rpm)	470–559 kPa (4.8–5.7 kg/cm <sup>2</sup> , 67–80 psi)

## Cooling – Section 10

	MEASUREMENT	STANDARD (NEW)
Cooling fan belt	Deflection midway between pulleys/load	6–9 (0.24–0.35) /98N (10 kg, 22 lb) for used belt 5 (0.20) /98N (10 kg, 22 lb) after replacement of belt
Radiator	Capacity (includes heater) ℓ (US. Gal., Imp. Gal.)  (Includes reservoir tank 0.8 (0.21, 0.18))	A20A3, A20A4 Engines Manual 6.4 (1.7, 1.4) Automatic 7.0 (1.8, 1.5) A20A1, A20A2 Engines Manual 6.3 (1.7, 1.4) Automatic 6.9 (1.8, 1.5) B20A2, B20A8 Engine Manual 7.1 (1.9, 1.6) A16A1 Engine Manual 6.3 (1.7, 1.4) Automatic 6.2 (1.6, 1.4)
	Pressure cap opening pressure	74–103 kPa (0.75–1.05 kg/cm <sup>2</sup> , 11–15 psi)
	Thermostat	Starts to open  Full open Valve lift at full open
Water pump	Gear ratio (crankshaft) Capacity: ℓ per min/at min <sup>-1</sup> (rpm)	1.34 124/5,000 (32.7 US. gal/5,000 min <sup>-1</sup> (rpm))
Cooling fan	Fan-to-core clearance Thermoswitch "ON" temperature Thermoswitch "OFF" temperature	26.0 (1.02) 87°–93°C (188°–199°F) 83°C (181°F) or more (hysteresis 2°C (35°F) or more)

## Fuel and Emissions – Section 11

	MEASUREMENT	STANDARD (NEW)
Fuel pump (Fuel-injected engine)	Delivery pressure	230–270 kPa (2.35–2.75 kg/cm <sup>2</sup> , 33–39 psi)
	Displacement	230 cc/min in 10 seconds
	Relief valve opening pressure	441–588 kPa (4.5–6.0 kg/cm <sup>2</sup> , 64–85 psi)
Pressure regulator (Fuel-injected engine)	Pressure	230–270 kPa (2.35–2.75 kg/cm <sup>2</sup> , 33–39 psi)
Fuel pump (Carbureted engine)	Delivery pressure Displacement	17.6–22.5 kPa (0.18–0.23 kg/cm <sup>2</sup> , 2.6–3.3 psi) 760 cc at 12V (46 cu. in./12V)
Fuel Tank	Capacity	60ℓ (15.9 US. Gal., 13.2 Imp. Gal.)
Fuel injected engine	Fast idle	1,000–1,800 min <sup>-1</sup> (rpm)
	Idle Speed	with headlights and cooling fan off Manual A20A3 750 ± 50 min <sup>-1</sup> (rpm) A20A4, B20A2 800 ± 50 min <sup>-1</sup> (rpm) Automatic A20A3 750 ± 50 min <sup>-1</sup> (rpm) (in "N" or "P") A20A4 800 ± 50 min <sup>-1</sup> (rpm) KQ: 750 ± 50 min <sup>-1</sup> (rpm)
	idle CO	with catalytic converter: 0.1%, without catalytic converter: 2%
	Carbureted engine	Choke fast idle
Carbureted engine	Idle Speed	with headlights and cooling fan off Manual A16A1, A20A2 750 ± 50 min <sup>-1</sup> (rpm) A20A1 800 ± 50 min <sup>-1</sup> (rpm) Automatic A16A1, A20A2 700 ± 50 min <sup>-1</sup> (rpm) (in gear) KS: 750 ± 50 min <sup>-1</sup> (rpm) A20A1 730 ± 50 min <sup>-1</sup> (rpm)
		Idle CO

## Clutch — Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal Height	208 (8.2) to floor 181 (7.1) to carpet	— —
	Stroke	145–150 (5.7–5.9)	—
	Pedal play	15–25 (0.6–1.0)	—
	Disengagement height	73 (2.9) min. to floor 49 (1.9) min. to carpet	— —
Clutch arm	Release arm adjustment	5.2–6.4 (0.20–0.25)	—
Flywheel	Clutch surface runout I.D. of pilot bushing	0.05 (0.002) max. 19.000–19.071 (0.7480–0.7508)	0.15 (0.006)
Clutch plate	Rivet head depth	1.3 (0.05) min.	0.2 (0.008)
	Surface runout	0.8 (0.03) max.	1.0 (0.04)
	Radial play in splines	0.7–2.1 (0.028–0.083)	4.0 (0.16)
	Thickness	8.1–8.8 (0.32–0.35)	5.7 (0.22)
Clutch release bearing holder	I.D.	31.00–31.059 (1.220–1.223)	31.09 (1.224)
	Holder-to-guide sleeve clearance	0.05–0.15 (0.002–0.006)	0.22 (0.009)
Clutch cover	Unevenness of diaphragm spring	0.8 (0.03) max.	1.0 (0.04)

## Manual Transmission (A1/A2) — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US. qt., Imp. qt)	2.4 (2.5, 2.1) at assembly 2.3 (2.4, 2.0) at oil change	
Mainshaft	End play	0.10–0.35 (0.004–0.014)	0.5 (0.02)
	Diameter of pilot bushing contact area	18.80–18.85 (0.7402–0.7421)	—
	Diameter of needle bearing contact area	28.002–28.015 (1.1024–1.1030)	27.95 (1.100)
	Diameter of third gear contact area	31.984–32.000 (1.2592–1.2598)	31.93 (1.2571)
	Diameter of ball bearing contact area Runout	24.980–24.993 (0.9835–0.9840) 0.04 (0.0016) max.	24.93 (0.981) 0.10 (0.004)
Mainshaft third and fourth gears	I.D.	37.009–37.025 (1.4570–1.4577)	37.07 (1.459)
	End play Thickness	0.03–0.18 (0.0012–0.0071) 30.42–30.47 (1.1976–1.1996)	0.3 (0.012) 30.3 (1.193)
Mainshaft fifth gear	I.D.	37.009–37.025 (1.4570–1.4577)	37.07 (1.459)
	End play Thickness	0.03–0.13 (0.0012–0.0051) 29.92–29.97 (1.1780–1.1799)	0.3 (0.012) 29.8 (1.173)
Countershaft	End play	0.10–0.35 (0.004–0.014)	0.5 (0.02)
	Diameter of needle bearing contact area	33.000–33.015 (1.2992–1.2998)	32.95 (1.297)
	Diameter of ball bearing contact area	24.980–24.993 (0.9835–0.9840)	24.93 (0.981)
	Diameter of low gear contact area Runout	33.984–34.000 (1.3380–1.3386) 0.04 (0.0016)	33.93 (1.336) 0.10 (0.004)
Countershaft low gear	I.D.	39.008–39.025 (1.5357–1.5364)	39.07 (1.538)
	End play	0.03–0.08 (0.0012–0.0031)	0.18 (0.007)
Countershaft second gear	I.D.	43.008–43.025 (1.6932–1.6939)	43.07 (1.696)
	End play Thickness	0.03–0.10 (0.0012–0.0039) 30.42–30.47 (1.1976–1.1996)	0.18 (0.007) 30.3 (1.193)
Spacer collar (Countershaft second gear)	I.D.	30.98–30.99 (1.2197–1.2201)	31.4 (1.236)
	O.D. Length	37.989–38.000 (1.4956–1.4961) 30.53–30.55 (1.2020–1.2028)	37.93 (1.493) 30.51 (1.201)
Spacer collar (Mainshaft fourth and fifth gears)	I.D.	25.002–25.012 (0.9843–0.9847)	25.06 (0.987)
	O.D. Length	31.989–32.000 (1.2594–1.2598) 27.03–27.08 (1.0642–1.0661)	31.93 (1.257) 27.01 (1.063)
Reverse idler gear	I.D.	17.016–17.043 (0.6699–0.6710)	17.09 (0.673)
	Gear-to-reverse gear shaft clearance	0.032–0.077 (0.0013–0.0030)	0.15 (0.006)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.73–1.18 (0.031–0.046)	0.4 (0.016)
Shift fork	Synchro sleeve gear	6.75–6.85 (0.266–0.270)	6.0 (0.24)
	Fork-to-synchro sleeve clearance	0.35–0.65 (0.014–0.026)	1.0 (0.04)
Reverse shift fork	End gap	11.8–12.1 (0.46–0.48)	—
	Fork-to-reverse idler gear clearance	0.2–1.0 (0.008–0.039)	1.7 (0.07)
	Groove width	7.05–7.25 (0.278–0.285)	—
	Fork-to-fifth/reverse shift shaft clearance	0.05–0.35 (0.002–0.014)	0.5 (0.02)
Shift arm	Width of groove in shift rod guide	11.8–12.0 (0.46–0.47)	—
	Shift arm-to-shift rod guide clearance	0.05–0.35 (0.002–0.014)	0.8 (0.03)
	Width in shift guide	7.9–8.0 (0.311–0.315)	—
	Shift arm-to-shift guide clearance	0.1–0.3 (0.004–0.012)	0.6 (0.02)
Shift rod guide	I.D.	14.000–14.068 (0.5512–0.5539)	—
	Guide-to-shaft clearance	0.011–0.092 (0.0004–0.0036)	0.15 (0.006)
	O.D. Guide-to-fifth/reverse shift shaft clearance	11.9–12.0 (0.469–0.472) 0.2–0.5 (0.008–0.020)	— 0.8 (0.03)
Selector arm	Width	11.9–12.0 (0.469–0.472)	—
	Arm-to-shift rod guide clearance	0.05–0.25 (0.002–0.010)	0.5 (0.02)
	End gap	10.05–10.15 (0.396–0.400)	—
	Arm-to-interlock clearance	0.05–0.25 (0.002–0.010)	0.7 (0.03)
	Arm-to-holder clearance	0.01–0.20 (0.0004–0.0079)	Adjust with a shim

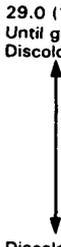
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# Standards and Service Limits (cont'd)

## Manual Transmission<B2>- Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US. qt., Imp. qt)	1.9 (2.0, 1.7) at assembly 2.0 (2.1, 1.8) at oil change	
Mainshaft	End play Diameter of needle bearing contact area Diameter of third gear contact area Diameter of ball bearing contact area Runout	0.14–0.21 (0.006–0.008) 27.987–28.000 (1.1018–1.1024) 37.984–38.000 (1.4954–1.4961) 27.987–28.000 (1.1018–1.1024) 0.04 (0.0016) max.	Adjust with a shim. 27.94 (1.100) 37.93 (1.493) 27.94 (1.100) 0.10 (0.004)
Mainshaft third and fourth gears	I.D.  End play Thickness 3rd 4th	43.009–43.025 (1.6933–1.6939)  0.06–0.21 (0.0024–0.0083) 32.42–32.47 (1.2764–1.2783) 30.92–30.97 (1.2173–1.2193)	43.08 (1.696)  0.3 (0.012) 32.3 (1.272) 30.8 (1.213)
Mainshaft fifth gear	I.D. End play Thickness	43.009–43.025 (1.6933–1.6939) 0.06–0.21 (0.0024–0.0083) 30.42–30.47 (1.1976–1.1996)	43.08 (1.696) 0.3 (0.0012) 30.3 (1.193)
Countershaft	End play Diameter of needle bearing contact area Diameter of ball bearing contact area Diameter of low gear contact area Runout	0.10–0.35 (0.004–0.014) 33.000–33.015 (1.2992–1.2998) 24.987–25.000 (0.9837–0.9843) 33.984–40.000 (1.3380–1.5748) 0.04 (0.0016)	0.5 (0.02) 32.95 (1.297) 24.94 (0.982) 33.93 (1.336) 0.10 (0.004)
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.03–0.08 (0.0012–0.0031)	46.08 (1.814) Adjust with a shim
Countershaft Second gear	I.D. End play Thickness	50.009–50.025 (1.9689–1.9695) 0.03–0.08 (0.0012–0.0031) 32.92–32.97 (1.2961–1.2980)	50.08 (1.972) Adjust with a collar. 32.8 (1.291)
Spacer collar (Countershaft second gear)	I.D. O.D. Length A B	36.48–36.49 (1.4362–1.4366) 43.989–44.000 (1.7318–1.7323) 28.98–29.00 (1.1409–1.1417) 29.03–29.05 (1.1429–1.1437)	36.5 (1.437) 43.94 (1.730) – –
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length A B	28.002–28.012 (1.1024–1.1028) 34.989–35.000 (1.3775–1.3780) 55.95–56.05 (2.2028–2.2067) 26.03–26.08 (1.0248–1.0268)	28.06 (1.105) 34.94 (1.376) – –
Reverse Idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.791) 0.16 (0.006)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.033–0.043)	0.4 (0.016)
Shift fork	Synchro sleeve gear 1, 2, 3 and 4th 5th Fork-to-synchro sleeve 1, 2, 3 and 4th 5th	7.95–8.05 (0.313–0.317) 5.75–5.85 (0.226–0.230) 0.45–0.65 (0.018–0.026) 0.25–0.45 (0.010–0.018)	– – 1.0 (0.04) 0.8 (0.03)
Reverse shift fork	End gap Fork-to-reverse idler gear clearance Groove width Fork-to-fifth/reverse shift shaft clearance	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.020–0.043) 7.05–7.25 (0.278–0.285) 0.05–0.35 (0.002–0.014)	– 1.8 (0.07) – 0.5 (0.02)
Shift arm	Width of groove in shift rod guide Shift arm-to-shift rod guide clearance Width in shift guide Shift arm-to-shift guide clearance	12.8–13.0 (0.50–0.51) 0.05–0.35 (0.002–0.014) 7.9–8.0 (0.311–0.315) 0.1–0.3 (0.004–0.012)	– 0.8 (0.03) – 0.6 (0.02)
Shift rod guide	I.D. Guide-to-shaft clearance O.D. Guide-to-fifth/reverse shift shaft clearance	14.000–14.068 (0.5512–0.5539) 0.011–0.092 (0.0004–0.0036) 11.9–12.0 (0.469–0.472) 0.2–0.5 (0.008–0.020)	– 0.15 (0.006) – 0.8 (0.03)
Selector arm	Width Arm-to-shift rod guide clearance End gap Arm-to-interlock clearance	11.9–12.0 (0.469–0.472) 0.05–0.25 (0.002–0.010) 9.9–10.0 (0.390–0.394) 0.05–0.20 (0.002–0.008)	– 0.5 (0.02) – 0.45 (0.018)

## Automatic Transmission (F4) – Section 15

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT	
Transmission oil	Capacity <sup>l</sup> (US. qt., Imp.qt)	2.4 (2.5, 2.1) at oil change 5.4 (5.7, 4.8) at assembly		
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm)	*834–883 kPa (8.5–9.0 kg/cm <sup>2</sup> , 121–128 psi) 785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	785 kPa (8.0 kg/cm <sup>2</sup> , 114 psi) 736 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)	
	4th, 3rd, 2nd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	*441–883 kPa (4.5–9.0 kg/cm <sup>2</sup> , 64–128 psi) 441–834 kPa (4.5–8.5 kg/cm <sup>2</sup> , 64–121 psi)	392 kPa (4.0 kg/cm <sup>2</sup> , 57 psi) with lever released 785 kPa (8.0 kg/cm <sup>2</sup> , 114 psi) with lever in throttle position (3/8–8/8)	
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm)	*834–883 kPa (8.5–9.0 kg/cm <sup>2</sup> , 121–128 psi) 785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	*785 kPa (8.0 kg/cm <sup>2</sup> , 114 psi) 736 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)	
	Governor pressure at 60 km/h	181–191 kPa (1.85–1.95 kg/cm <sup>2</sup> , 26–28 psi)	177 kPa (1.80 kg/cm <sup>2</sup> , 26 psi)	
	Throttle pressure A	Fully closed	0	—
		Fully opened	485–500 kPa (4.95–5.1 kg/cm <sup>2</sup> , 70–73 psi)	481 kPa (4.9 kg/cm <sup>2</sup> , 70 psi)
	Throttle pressure B	Fully closed	0	—
Fully opened		834–883 kPa (8.5–9.0 kg/cm <sup>2</sup> , 121–128 psi)	785 kPa (8.0 kg/cm <sup>2</sup> , 114 psi)	
Stall speed	Check with car on level ground	*2,500–2,800 min <sup>-1</sup> (rpm) 2,650–2,950 min <sup>-1</sup> (rpm)	— —	
Clutch	Clutch initial clearance	1st	0.65–0.85 (0.026–0.033)	—
		2nd	0.50–0.70 (0.020–0.028)	—
	Clutch return spring free length	3rd, 4th	0.40–0.60 (0.016–0.024)	—
			31.0 (1.22)	29.0 (1.14)
	Clutch disc thickness		1.88–2.0 (0.074–0.079)	Until grooves worn out Discoloration 
	Clutch plate thickness		1.95–2.05 (0.077–0.081)	
	Clutch end plate thickness	Mark 1	2.05–2.10 (0.081–0.083)	
		Mark 2	2.15–2.20 (0.085–0.087)	
		Mark 3	2.25–2.30 (0.089–0.091)	
		Mark 4	2.35–2.40 (0.093–0.094)	
Mark 5		2.45–2.50 (0.096–0.098)		
Mark 6		2.55–2.60 (0.100–0.102)		
Mark 7		2.65–2.70 (0.104–0.106)		
Mark 8		2.75–2.80 (0.108–0.110)		
Mark 9	2.85–2.90 (0.112–0.114)			
Mark 10	2.95–3.00 (0.116–0.118)			
Transmission	Diameter of needle bearing contact area on main and stator shaft	22.980–22.993 (0.9047–0.9052)	Wear or damage 	
	Diameter of needle bearing contact area on mainshaft 2nd gear	35.975–35.991 (1.4163–1.4170)		
	Diameter of needle bearing contact area on mainshaft 4th gear collar	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on mainshaft 1st gear collar	30.975–30.991 (1.2195–1.2201)		
	Diameter of needle bearing contact area on countershaft (L side)	38.505–38.515 (1.5159–1.5163)		
	Diameter of needle bearing contact area on countershaft 3rd gear	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on countershaft 4th gear	27.980–27.993 (1.1016–1.1021)		
	Diameter of needle bearing contact area on countershaft reverse gear collar	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on countershaft 1st gear collar	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on reverse idle gear	13.990–14.000 (0.5508–0.5512)		
	Reverse idler shaft holder diameter	14.416–14.434 (0.5676–0.5683)		
	Mainshaft 2nd gear I.D.	41.000–41.016 (1.6142–1.6148)		
	Mainshaft 1st gear I.D.	36.000–36.016 (1.4173–1.4179)		
	Countershaft 4th gear I.D.	33.000–33.016 (1.2992–1.2998)		
	Countershaft 3rd gear I.D.	38.000–38.016 (1.4961–1.4967)		
	Countershaft 2nd gear I.D.	31.000–31.016 (1.2205–1.2211)		
	Countershaft 1st gear I.D.	38.000–38.016 (1.4961–1.4967)		
	Countershaft reverse gear I.D.	38.000–38.016 (1.4961–1.4967)		
	Reverse idle gear I.D.	18.006–18.017 (0.7089–0.7093)		
	Mainshaft 4th gear end play	0.07–0.12 (0.003–0.005)		
	Mainshaft 2nd gear end play	0.07–0.12 (0.003–0.005)		
	Mainshaft 1st gear end play	0.08–0.24 (0.003–0.009)		
	Countershaft 3rd gear end play	0.07–0.12 (0.003–0.005)		
	Countershaft 2nd gear end play	0.07–0.12 (0.003–0.005)		
	Reverse idler gear end play	0.05–0.18 (0.002–0.007)		
	Reverse gear hub O.D.	51.87–51.90 (2.0421–2.0433)		Wear or damage

\*Fuel Injected Engine

(cont'd)

# Standards and Service Limits (cont'd)

## Automatic Transmission (F4) — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Transmission (cont'd)	Thrust washer thickness			
	Mainshaft 2nd gear	A 3.97–4.00 (0.156–0.157) B 4.02–4.05 (0.158–0.159) C 4.07–4.10 (0.160–0.161) D 4.12–4.15 (0.162–0.163) E 4.17–4.20 (0.164–0.165) F 4.22–4.25 (0.166–0.167) G 4.27–4.30 (0.168–0.169) H 4.32–4.35 (0.170–0.171) I 4.37–4.40 (0.172–0.173)	— — — — — — — — — —	
	Mainshaft bearing contact area (R side)	2.95–3.05 (0.116–0.120)	Wear or damage	
	Mainshaft 1st gear	2.43–2.50 (0.096–0.098)	Wear or damage	
	Countershaft 3rd gear	A 2.97–3.00 (0.1169–0.1181) B 3.02–3.05 (0.1189–0.1201) C 3.07–3.10 (0.1209–0.1220) D 3.12–3.15 (0.1228–0.1240) E 3.17–3.20 (0.1248–0.1260) F 3.22–3.25 (0.1268–0.1280) G 3.27–3.30 (0.1287–0.1299) H 3.32–3.35 (0.1307–0.1319) I 3.37–3.40 (0.1327–0.1339)	— — — — — — — — — —	
	Countershaft 4th gear collar thickness	A 38.97–39.00 (1.5342–1.5354) B 39.02–39.05 (1.5362–1.5374) C 39.07–39.10 (1.5382–1.5394) D 39.12–39.15 (1.5402–1.5413) E 39.17–39.20 (1.5421–1.5433) F 39.22–39.25 (1.5441–1.5453) G 39.27–39.30 (1.5461–1.5472)	— — — — — — —	
	Thrust washer thickness (mainshaft 1st gear L side)	1.45–1.50 (0.057–0.059)	1.4 (0.055)	
	Mainshaft 1st gear collar length	24.50–24.55 (0.9646–0.9665)	—	
	Mainshaft 1st gear collar flange thickness	2.5–2.6 (0.098–0.102)	Wear or damage	
	Countershaft reverse gear collar length	12.0–12.1 (0.472–0.476)	—	
	Countershaft reverse gear collar flange thickness	2.4–2.6 (0.094–0.102)	Wear or damage	
	Countershaft 1st gear collar length	12.0–12.1 (0.472–0.476)	—	
	Countershaft 1st gear collar flange thickness	2.4–2.6 (0.094–0.102)	Wear or damage	
	Diameter of countershaft one-way clutch contact area	83.339–83.365 (3.2811–3.2821)	Wear or damage	
	Diameter of parking gear one-way clutch contact area	66.685–66.695 (2.6254–2.6258)	Wear or damage	
	Mainshaft feed pipe O.D. (at 20 mm front end)	6.97–6.98 (0.2744–0.2748)	6.95 (0.2736)	
	Countershaft feed pipe O.D. (at 20 mm from end)	7.97–7.98 (0.3138–0.3142)	7.95 (0.31)	
	Mainshaft sealing ring 32 mm Thickness	1.980–1.995 (0.0780–0.0785)	1.8 (0.071)	
	Mainshaft bushing I.D.	6.018–6.030 (0.2369–0.2374)	6.045 (0.238)	
	Mainshaft bushing I.D.	9.000–9.015 (0.3543–0.3549)	9.03 (0.356)	
	Counter shaft bushing I.D.	8.000–8.015 (0.3150–0.3156)	8.03 (0.3161)	
	Mainshaft sealing ring groove width	2.025–2.060 (0.0797–0.0811)	2.08 (0.082)	
	Regulator valve body	Sealing ring contact area diameter	35.000–35.025 (1.3780–1.3789)	35.05 (1.38)
	Shifting device and parking brake control	Reverse shift fork thickness	5.9–6.0 (0.232–0.236)	5.4 (0.21)
		Parking brake ratchet pawl	—	Wear or other defect
		Parking gear	—	Wear or other defect
		Throttle cam stopper	18.5–18.6 (0.728–0.732)	—
Servo body	Shift fork shaft bore I.D.	A 14.000–14.005 (0.5512–0.5514) B 14.006–14.010 (0.5514–0.5516) C 14.011–14.015 (0.5516–0.5518)	— — —	
	Shift fork shaft valve bore I.D.	37.000–37.039 (1.4567–1.4582)	37.045 (1.4585)	
	Oil pump gear side clearance	0.03–0.05 (0.0012–0.0020)	0.05 (0.002)	
Valve body	Oil pump gear-to-body clearance	Drive: 0.240–0.265 (0.009–0.010) Driven: 0.125–0.175 (0.005–0.007)	— —	
	Stator camshaft needle bearing bore I.D.	27.000–27.021 (1.0630–1.0638)	Wear or damage	
	Stator camshaft needle bearing contact and O.D.	29.000–29.013 (1.1417–1.1422)	Wear or damage	
	Oil pump driven gear I.D.	14.016–14.034 (0.5518–0.5525)	Wear or damage	
	Oil pump shaft O.D.	13.980–13.990 (0.5504–0.5508)	Wear or damage	

**Automatic Transmission (F4) — Section 15**

Springs	MEASUREMENT	STANDARD (NEW)		SERVICE LIMIT	
		Wire Diameter	O.D.	Free Length	Number of coils
	Low one-way ball spring	0.29 (0.01)	4.0 (0.16)	14.0 (0.55)	13
	Regulator valve outer spring	*1.8 (0.07)	*14.7 (0.58)	*88.6 (3.49)	*17
	Regulator valve inner spring	1.8 (0.07)	14.7 (0.58)	86.5 (3.41)	17
	Stator reaction spring	1.8 (0.07)	9.6 (0.38)	44.0 (1.73)	7.5
	Throttle modulator valve spring	6.0 (0.24)	38.4 (1.51)	30.3 (1.19)	2
	Torque converter check valve spring A—E	1.2 (0.05)	9.4 (0.37)	26.3 (1.04)	8
	Relief valve spring	1.2 (0.05)	8.4 (0.33)	37.0 (1.46)	15
	Governor spring A	0.8 (0.03)	8.4 (0.33)	47.7 (1.88)	15
	Governor spring B	1.0 (0.04)	18.8 (0.74)	33.4 (1.31)	4
	2nd orifice control valve spring	0.9 (0.04)	11.8 (0.46)	27.1 (1.07)	6.2
	Servo orifice control valve spring	*0.8 (0.03)	*6.6 (0.26)	*48.5 (1.91)	*27.6
	Throttle control valve A outer spring	0.8 (0.03)	6.6 (0.26)	45 (1.77)	27.6
	Throttle adjust spring A (Throttle B pressure)	0.9 (0.04)	6.1 (0.24)	35.9 (1.41)	20
	Throttle control valve B inner spring	1.0 (0.04)	8.5 (0.33)	21.0 (0.83)	5.8 and 5.4
	1—2 shift spring	0.8 (0.03)	6.2 (0.24)	27.0 (1.06)	8.5
	1—2 shift spring Main	0.8 (0.03)	6.2 (0.24)	30.0 (1.18)	8
	1—2 shift ball spring Secondary	1.4 (0.06)	8.5 (0.33)	41.4 (1.63)	8.4
	2—3 shift spring	0.6 (0.02)	6.1 (0.24)	38 (1.50)	21
	2—3 shift ball spring	0.45 (0.02)	4.5 (0.18)	10.7 (0.42)	12.7
	2—3 shift ball spring	0.45 (0.02)	4.5 (0.18)	12.7 (0.50)	11
	3—4 shift spring	0.9 (0.04)	7.6 (0.30)	55.8 (2.20)	30
	3—4 shift ball spring	0.5 (0.02)	4.5 (0.18)	13.5 (0.53)	10.5
	Low accumulator A spring	0.9 (0.04)	9.6 (0.38)	25.5 (1.00)	10.3
	Low accumulator B spring	0.5 (0.02)	4.5 (0.18)	10.8 (0.43)	7.4
	4th accumulator spring	2.8 (0.11)	21.5 (0.85)	55.4 (2.18)	6.2
	2nd accumulator spring	2.8 (0.11)	13.1 (0.52)	39 (1.54)	7.9
	3rd accumulator spring	2.9 (0.11)	18.6 (0.73)	76.8 (3.02)	6.6
	L/C shift valve spring	3.5 (0.14)	20.0 (0.80)	77.1 (3.06)	12.5
	L/C control spring	2.8 (0.11)	15.5 (0.61)	79.0 (3.11)	18.6
	L/C timing valve A spring	1.1 (0.04)	8.1 (0.32)	51.8 (2.04)	22.3
	L/C timing valve B spring	0.8 (0.03)	6.6 (0.26)	47.0 (1.85)	22
	CPC valve spring A, B	0.9 (0.04)	8.6 (0.34)	51.6 (2.03)	18.7
	Shift timing valve spring	1.0 (0.04)	6.6 (0.26)	56.5 (2.22)	31.6
	Kick down valve spring	1.4 (0.06)	9.4 (0.32)	31.6 (1.24)	10.9
	REV control spring	0.9 (0.04)	8.6 (0.34)	50.1 (1.97)	18.7
	L/C cut valve spring	1.0 (0.04)	6.6 (0.26)	58.5 (2.3)	33.4
	Accumulator control spring	0.8 (0.03)	7.6 (0.30)	33.4 (1.31)	17
	Timing accumulator spring	0.7 (0.03)	7.6 (0.30)	29.0 (1.14)	18
	2—1 timing spring	1.2 (0.05)	7.7 (0.30)	45.6 (1.80)	21.8
	Servo return spring	1.1 (0.04)	11.7 (0.46)	28.2 (1.11)	6.6
	Servo control spring	1.1 (0.04)	6.6 (0.26)	52.4 (2.06)	26.5
		2.6 (0.10)	28.8 (1.13)	40.3 (1.59)	3.3
		0.8 (0.03)	6.6 (0.26)	55.3 (2.18)	22

\*: Fuel-Injected Engine

# Standards and Service Limits (cont'd)

## Automatic Transmission (C9) — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Transmission oil	Capacity ℓ (US. qt., Imp.qt.)	2.2 (2.3, 1.9) at oil change 5.2 (5.5, 4.6) at assembly		
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm)	785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	736 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)	
	4th, 3rd, 2nd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	412–834 kPa (4.2–8.5 kg/cm <sup>2</sup> , 60–121 psi)	392 kPa (4.0 kg/cm <sup>2</sup> , 57 psi) with lever released 785 kPa (8.0 kg/cm <sup>2</sup> , 114 psi) with lever in throttle position (3/8–8/8)	
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm)	785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	736 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)	
	Governor pressure at 60 km/h	198–208 kPa (2.02–2.12 kg/cm <sup>2</sup> , 29–30 psi)	193 kPa (1.97 kg/cm <sup>2</sup> , 28 psi)	
	Throttle pressure A	Fully closed	0	—
		Fully opened	495–510 kPa (5.05–5.20 kg/cm <sup>2</sup> , 72–74 psi)	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi)
	Throttle pressure B	Fully closed	0	—
Fully opened		735–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	736 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)	
Stall speed	Check with car on level ground	2,600–2,900 min <sup>-1</sup> (rpm)	—	
Clutch	Clutch initial clearance	1st	0.65–0.85 (0.026–0.033)	—
		2nd	0.60–0.80 (0.024–0.031)	—
		3rd, 4th	0.4–0.6 (0.016–0.024)	—
	Clutch return spring free length	1st	31.0 (1.22)	28.5 (1.12)
		2nd–4th	30.5 (1.20)	28.5 (1.12)
	Clutch disc thickness		1.88–2.0 (0.074–0.079)	Until grooves worn out
	Clutch plate thickness		1.95–2.05 (0.077–0.081)	Discoloration
	Clutch end plate thickness	Mark 1	2.3–2.4 (0.091–0.094)	↑ Discoloration ↓
		Mark 2	2.4–2.5 (0.094–0.098)	
		Mark 3	2.5–2.6 (0.098–0.102)	
		Mark 4	2.6–2.7 (0.102–0.106)	
		Mark 5	2.7–2.8 (0.106–0.110)	
		Mark 6	2.8–2.9 (0.110–0.114)	
		Mark 7	2.9–3.0 (0.114–0.118)	
Mark 8		3.0–3.1 (0.118–0.122)		
Mark 9		3.1–3.2 (0.122–0.126)		
Mark 10		3.2–3.3 (0.126–0.130)		
Mark 11		2.0–2.1 (0.079–0.082)		
Mark 12	2.1–2.2 (0.082–0.086)			
Mark 13	2.2–2.3 (0.086–0.090)			
Transmission	Diameter of needle bearing contact area on main and stator shaft	19.980–19.993 (0.7866–0.7871)	↑ Wear or damage ↓ Wear or damage	
	Diameter of needle bearing contact area on mainshaft 2nd gear	35.975–35.991 (1.4163–1.4170)		
	Diameter of needle bearing contact area on mainshaft 4th gear collar	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on mainshaft 1st gear collar	30.975–30.991 (1.2195–1.2201)		
	Diameter of needle bearing contact area on countershaft (L side)	38.505–38.515 (1.5159–1.5163)		
	Diameter of needle bearing contact area on countershaft 3rd gear	31.975–31.991 (1.2589–1.2595)		
	Diameter of needle bearing contact area on countershaft 4th gear	27.980–27.993 (1.1016–1.1021)		
	Diameter of needle bearing contact area on countershaft reverse gear collar	29.980–29.993 (1.1803–1.1808)		
	Diameter of needle bearing contact area on countershaft 1st gear collar	29.980–29.993 (1.1803–1.1808)		
	Diameter of needle bearing contact area on reverse idle gear	13.990–14.000 (0.5508–0.5512)		
	Reverse idler shaft holder diameter	14.416–14.434 (0.5676–0.5683)		
	Mainshaft 2nd gear I.D.	41.000–41.016 (1.6142–1.6148)		
	Mainshaft 1st gear I.D.	36.000–36.016 (1.4173–1.4179)		
	Countershaft 4th gear I.D.	33.000–33.016 (1.2992–1.2998)		
	Countershaft 3rd gear I.D.	38.000–38.016 (1.4961–1.4967)		
	Countershaft 2nd gear I.D.	31.000–31.016 (1.2205–1.2211)		
	Countershaft 1st gear I.D.	35.000–35.016 (1.3779–1.3786)		
	Countershaft reverse gear I.D.	36.000–36.016 (1.4173–1.4179)		
	Reverse idle gear I.D.	18.007–18.020 (0.7089–0.7094)		
	Mainshaft 4th gear end play	0.07–0.12 (0.003–0.005)		
	Mainshaft 2nd gear end play	0.07–0.12 (0.003–0.005)		
	Mainshaft 1st gear end play	0.08–0.24 (0.003–0.009)		
	Countershaft 3rd gear end play	0.07–0.12 (0.003–0.005)		
	Countershaft 2nd gear end play	0.07–0.12 (0.003–0.005)		
	Reverse idler gear end play	0.05–0.18 (0.002–0.007)		
	Countershaft reverse gear end play	0.10–0.20 (0.004–0.008)		
	Reverse gear hub O.D.	51.87–51.90 (2.0421–2.0433)		

**Automatic Transmission (C9) — Section 15**

Unit: mm (in.)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Thrust washer thickness		
	Mainshaft 2nd gear		
	A	3.47—3.50 (0.137—0.138)	—
	B	3.52—3.55 (0.139—0.140)	—
	C	3.57—3.60 (0.141—0.142)	—
	D	3.62—3.65 (0.143—0.144)	—
	E	3.67—3.70 (0.144—0.146)	—
	F	3.72—3.75 (0.146—0.148)	—
	G	3.77—3.80 (0.148—0.150)	—
	H	3.82—3.85 (0.150—0.152)	—
	I	3.87—3.90 (0.152—0.154)	—
	Mainshaft bearing contact area (R side)	2.95—3.05 (0.116—0.120)	Wear or damage
	Mainshaft 1st gear	2.43—2.50 (0.096—0.098)	Wear or damage
	Countershaft 3rd gear		
	A	2.97—3.00 (0.1169—0.1181)	—
	B	3.02—3.05 (0.1189—0.1201)	—
	C	3.07—3.10 (0.1209—0.1220)	—
	D	3.12—3.15 (0.1228—0.1240)	—
	E	3.17—3.20 (0.1248—0.1260)	—
	F	3.22—3.25 (0.1268—0.1280)	—
	G	3.27—3.30 (0.1287—0.1299)	—
	H	3.32—3.35 (0.1307—0.1319)	—
	I	3.37—3.40 (0.1327—0.1339)	—
	Countershaft 4th gear collar thickness		
	A	38.97—39.00 (1.5342—1.5354)	—
	B	39.02—39.05 (1.5362—1.5374)	—
	C	39.07—39.10 (1.5382—1.5394)	—
	D	39.12—39.15 (1.5402—1.5413)	—
	E	39.17—39.20 (1.5421—1.5433)	—
	F	39.22—39.25 (1.5441—1.5453)	—
G	39.27—39.30 (1.5461—1.5472)	—	
Thrust washer thickness (mainshaft 1st gear L side)	1.45—1.50 (0.057—0.059)	1.4 (0.055)	
Mainshaft 1st gear collar length	22.50—22.55 (0.886—0.888)	—	
Mainshaft 1st gear collar flange thickness	2.5—2.6 (0.098—0.102)	Wear or damage	
Countershaft reverse gear collar length	12.00—12.05 (0.472—0.474)	—	
Countershaft reverse gear collar flange thickness			
Countershaft 1st gear collar length	2.45—2.55 (0.096—0.100)	Wear or damage	
Countershaft 1st gear collar flange thickness	11.0—11.1 (0.433—0.437)	—	
Diameter of countershaft one-way clutch contact area	2.4—2.6 (0.094—0.102)	Wear or damage	
Diameter of parking gear one-way clutch contact area	74.414—74.444 (2.9298—2.9309)	Wear or damage	
Mainshaft feed pipe O.D. (at 20 mm front end)	57.755—57.768 (2.2738—2.2743)	Wear or damage	
Countershaft feed pipe O.D. (at 20 mm from end)	6.97—6.98 (0.2744—0.2748)	6.95 (0.2736)	
Mainshaft sealing ring 32 mm Thickness	7.97—7.98 (0.3138—0.3142)	7.95 (0.31)	
Mainshaft bushing I.D.	1.980—1.995 (0.0780—0.0785)	1.8 (0.071)	
Mainshaft bushing I.D.	6.018—6.030 (0.2369—0.2374)	6.045 (0.238)	
Countershaft bushing I.D.	9.000—9.015 (0.3543—0.3549)	9.03 (0.356)	
Mainshaft sealing ring groove width	8.000—8.015 (0.3150—0.3156)	8.03 (0.316)	
	2.025—2.060 (0.0797—0.0811)	2.08 (0.082)	
Regulator valve body	Sealing ring contact area diameter	32.000—32.025 (1.2598—1.2608)	32.05 (1.262)
Shifting device and parking brake control	Reverse shift fork thickness	5.90—6.00 (0.232—0.236)	5.4 (0.21)
	Parking brake ratchet pawl	—	Wear or other defect
	Throttle cam stopper	18.5—18.6 (0.728—0.732)	Wear or other defect
Servo body	Shift fork shaft bore I.D.		
	A	14.000—14.005 (0.5512—0.5514)	—
	B	14.006—14.010 (0.5514—0.5516)	—
	C	14.011—14.015 (0.5516—0.5518)	—
	Shift fork shaft valve bore I.D.	37.000—37.039 (1.4567—1.4582)	37.045 (1.4585)
Valve body	Oil pump gear side clearance	0.03—0.05 (0.0012—0.0020)	0.05 (0.002)
	Oil pump gear-to-body clearance	Drive: 0.240—0.265 (0.009—0.010) Driven: 0.125—0.175 (0.005—0.007)	—
	Stator camshaft needle bearing bore I.D.	24.000—24.021 (0.9449—0.9457)	Wear or damage
	Stator camshaft needle bearing contact and O.D.		
	Oil pump driven gear I.D.	26.000—26.013 (1.0236—1.0241)	Wear or damage
	Oil pump shaft O.D.	14.016—14.034 (0.5518—0.5525) 13.980—13.990 (0.5504—0.5508)	Wear or damage Wear or damage

# Standards and Service Limits (cont'd)

## Automatic Transmission (C9) — Section 15

Springs	MEASUREMENT	STANDARD (NEW)		SERVICE LIMIT	
		Wire Diameter	O.D.	Free Length	Number of coils
	Low one-way ball spring	0.29 (0.01)	4.0 (0.16)	14.0 (0.55)	13
	Regulator valve outer spring	1.8 (0.07)	14.7 (0.58)	86.5 (3.41)	17
	Regulator valve inner spring	1.8 (0.07)	9.6 (0.38)	44.0 (1.73)	7.5
	Stator reaction spring	6.0 (0.24)	38.4 (1.51)	30.3 (1.19)	2
	Throttle modulator valve spring	1.2 (0.05)	9.4 (0.37)	26.3 (1.04)	8
	Torque converter check valve spring A—D	1.1 (0.04)	8.4 (0.33)	36.4 (1.43)	12
	Relief valve spring	0.8 (0.03)	8.4 (0.33)	47.7 (1.88)	15
	Governor spring A	1.0 (0.04)	18.8 (0.74)	38.1 (1.50)	4
	Governor spring B	0.9 (0.04)	11.8 (0.46)	25.8 (1.02)	6.2
	2nd orifice control valve spring	0.8 (0.03)	6.6 (0.26)	45 (1.77)	27.6
	Servo orifice control valve spring	0.8 (0.03)	6.1 (0.24)	39.4 (1.55)	20.7
	Throttle control valve A outer spring	1.0 (0.04)	8.5 (0.33)	21.0 (0.83)	7.5 and 6.8
	Throttle/adjust spring A (Throttle B pressure)	0.8 (0.03)	6.2 (0.24)	27.0 (1.06)	8.5
		0.8 (0.08)	6.2 (0.24)	30.0 (1.18)	8
	Throttle control valve B inner spring	1.4 (0.06)	8.5 (0.33)	41.4 (1.63)	8.4
	1—2 shift spring	0.6 (0.02)	6.1 (0.24)	38 (1.50)	21
	1—2 shift ball spring Main	0.45 (0.02)	4.5 (0.18)	10.7 (0.42)	12.7
	1—2 shift ball spring Secondary	0.45 (0.02)	4.5 (0.18)	12.7 (0.50)	11
	2—3 shift spring	0.9 (0.04)	7.6 (0.30)	55.8 (2.20)	30
	2—3 shift ball spring	0.5 (0.02)	4.5 (0.18)	13.5 (0.53)	10.5
	3—4 shift spring	0.9 (0.04)	9.6 (0.38)	26.2 (1.03)	10.3
	3—4 shift ball spring	0.5 (0.02)	4.5 (0.18)	11.2 (0.44)	7
	Low accumulator A spring	1.71 x 3.5 (0.046 x 0.14)	22.5 (0.89)	69.2 (2.72)	10.3
	Low accumulator B spring	2.3 (0.09)	12.8 (0.50)	29.4 (1.16)	7.8
	4th accumulator spring	2.9 (0.11)	18.6 (0.73)	76.8 (3.02)	6.6
	2nd accumulator spring	3.5 (0.14)	20.0 (0.80)	75.8 (2.98)	11.8
	3rd accumulator spring	2.8 (0.11)	15.5 (0.61)	79.0 (3.11)	18.6
	L/C shift valve spring	1.1 (0.04)	8.1 (0.32)	51.8 (2.04)	22.3
	L/C control spring	0.8 (0.03)	6.6 (0.26)	46.3 (1.82)	36.9
	L/C timing valve A spring	0.9 (0.04)	8.6 (0.34)	51.6 (2.03)	18.7
	L/C timing valve B spring	1.0 (0.04)	6.6 (0.26)	57.2 (2.25)	31.6
	CPC valve spring A, B	1.4 (0.06)	9.4 (0.32)	31.2 (1.23)	10.9
	Shift timing valve spring	0.9 (0.04)	8.6 (0.34)	50.1 (1.97)	18.7
	Kick down valve spring	1.0 (0.04)	6.6 (0.26)	58.5 (2.3)	33.4
	REV control spring	0.8 (0.03)	7.6 (0.30)	33.4 (1.31)	17
	L/C cut valve spring	0.7 (0.03)	7.6 (0.30)	29.0 (1.14)	18
	Accumulator control spring	1.2 (0.05)	7.7 (0.30)	45.6 (1.80)	21.8
	Timing accumulator spring	1.1 (0.04)	11.7 (0.46)	28.2 (1.11)	6.6
	Servo return spring	2.6 (0.10)	28.8 (1.13)	40.3 (1.59)	3.3
	Servo control spring	0.8 (0.03)	6.6 (0.26)	55.3 (2.18)	22

## Differential — Section 16

Unit: mm (in.)

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ring gear		Backlash	0.085–0.149 (0.0033–0.0059)	0.2 (0.0079)
Differential carrier		Pinion shaft bore diameter	18.000–18.018 (0.7087–0.7094)	18.1 (0.71)
		Carrier-to-pinion shaft clearance	0.016–0.052 (0.0006–0.0020)	0.1 (0.004)
		Driveshaft bore diameter	28.000–28.021 (1.1024–1.1032) *1 26.000–26.021 (1.0236–1.0244)	— —
Differential pinion gear		Carrier-to-driveshaft clearance	0.025–0.066 (0.0010–0.0026)	0.12 (0.005)
		Side clearance	0.10–0.20 (0.004–0.008)	0.15 (0.006)
Differential pinion gear		Backlash	0.05–0.15 (0.002–0.006)	Adjust with a washer
		Pinion gear bore diameter	18.041–18.061 (0.7103–0.7111)	—
		Pinion gear-to-pinion shaft clearance	0.057–0.093 (0.0022–0.0037)	0.15 (0.006)

\*1 A1 Transmission only

## Driveshaft — Section 17

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot	As installed	506.0–510.5 (19.9–20.1)	—
	Left boot	As installed	805.0–809.5 (31.7–31.9)	—
		MT	AT	812.0–816.5 (32.0–32.1)

## Steering — Section 18

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Steering wheel		Play	10 (0.39) Max.	—
		Steering assist N (kg, lb)	15 (1.5, 3.31) Max	—
		P/S	18 (1.8, 3.97) Max	—
Power steering		Pump pressure with valve closed (Oil temp./ speed: 40°C (104°F) min/idle. Do not run for more than 5 seconds) kPa (kg/cm <sup>2</sup> , psi)	7845–8826 (80–90, 1138–1280)	—
		Fluid capacity Reservoir At change	0.5ℓ (0.53 US. qt., 0.44 Imp. qt.) approx 1.7ℓ (1.8 US. qt., 1.5 Imp. qt.)	—

## Suspension — Section 19

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Wheel alignment		Camber	Front 0° 00' ± 1°	Rear 0° 00' ± 1°
		Caster	0° 31' ± 1°	
		Toe-in	0 ± 3 (0 ± 0.118)	0 ± 2 (0 ± 0.079)
		Kingpin inclination	6° 50'	
Wheel alignment		Steering angle	R/L	Inside Outside
				39° 30' 30° 30'
Wheel	Rim runout	Steel	Axial	0–1.0 (0–0.039)
			Radial	0–1.0 (0–0.039)
	Aluminum	Axial	0–0.7 (0–0.028)	—
		Radial	0–0.07 (0–0.003)	—
Wheel bearing	Front wheel bearing axial play		0–0.05 (0–0.002)	—
	Rear wheel bearing axial play		0–0.05 (0–0.002)	—

(cont'd)

# Standards and Service Limits (cont'd)

Unit: mm (in.)

## Brake — Section 20

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Parking brake lever		Play in stroke 200N (20 kg, 44 lbs)	To be locked when pulled 7–11 notches	
Foot brake pedal		Pedal Height Free play	171 (6.73) from floor 1–5 (0.04–0.20)	5 (0.20)
Master cylinder		Piston-to-push rod clearance with ALB	0–0.4 (0.016) 0–0.6 (0–0.024)	—
Brake drum		I.D.	200.0 (7.87)	201.0 (7.91)
Lining		Thickness	4.5 (0.18)	2.0 (0.08)
Disc brake	Disc thickness	Front Rear	19.0 (0.75) *21 (0.83) 10.0 (0.39)	17.0 (0.67) *19 (0.75) 8 (0.31)
	Disc runout	Front/Rear	—	0.1 (0.004)/0.15 (0.006)
	Disc parallelism	—	—	0.015 (0.0006)
	Pad thickness	Front Rear	9.0 (0.35) *11.5 (0.45) 8.0 (0.31)	3.0 (0.12) 3.0 (0.12)
Brake booster	Characteristics	Vacuum (mm Hg)	Pedal Pressure kg (lbs)	Line Pressure kPa (kg/cm <sup>2</sup> , psi) 9" Booster
		0	20 (44)	1.177 (12.0, 170.6) min
		300	20 (44)	4.766 (48.6, 691.1) min
		500	20 (44)	7.149 (72.9, 1,036.6) min

\* EXSi model and cars equipped with ALB (Except KS type)

## Engine Electrical — Section 24

		MEASUREMENT	STANDARD (NEW)		
Ignition coil	Rated voltage		12 Volts		
	Insulation resistance		10,000 ohms min.		
	Performance: Make sure strong sparks jump across electrodes (3-point tester)				
	Voltage	Camshaft	Secondary Voltage	3-point gap	Condition
	6 V 12 V	75 min <sup>-1</sup> (rpm) 3,000 min <sup>-1</sup> (rpm)	30±4 kV 22±4 kV	15–21 mm (0.59–0.83) 13–19 mm (0.51–0.75)	At 80°C (176°F)
Ignition wire	Resistance		25,000 ohms max.		
Spark plug	Type	Standard	B20A	BCPR6E-11 (NGK), Q20PR-U11 (ND)	
			Others	BPR5EY-11 (NGK)* <sup>1</sup> , W16EXR-U11 (ND)* <sup>1</sup> BCPR6EY-11 (NGK)* <sup>2</sup> , W20EXR-U11 (ND)* <sup>2</sup>	
	Gap			1.0–1.1 (0.039–0.043)	
Ignition timing	At idling	Carbureted Engine	Manual Automatic (in gear)	*1 24±2° BTDC *2 20±2° BTDC 15±2° BTDC	
	At idling	Fuel-injected Engine	Manual Automatic (in gear)	15±2° BTDC 15±2° BTDC	
Battery	Lighting capacity (20-hour ratio) Starting capacity (5-second ratio)		47 Ampere Hours 8.4 V minimum at 300 Ampere draw		
Alternator	Output at no-load		14 V at 1,000 rpm max.		
	Output		14 V/65 A at 5,500 rpm max.		
	Coil resistance (rotor)		2.8–3.0 ohms		±0.1 ohms
	Slip ring O.D. Brush length Brush spring tension		32.5 (1.28) 10.5 (0.41) 300–500 g (10.6–18.6 oz)		32.1 (1.26) 5.5 (0.22)
Starting motor	MEASUREMENT	ND 1.0 kW, 1.4 kW		MITSUBA 1.0 kW, 1.4 kW	
		STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT
	Mica depth	0.5–0.8 (0.020–0.031)	0.2 (0.008)	0.4–0.5 (0.016–0.020)	0.15 (0.006)
	Commutator runout	0–0.02 (0.0008)	0.05 (0.020)	0–0.02 (0.0008)	0.05 (0.020)
	Commutator O.D.	30.0 (1.18)	29.0 (1.14)	28.0 (1.10)	27.5 (1.08)
	Brush length	12.5–13.5 (0.49–0.53)	8.5 (0.33)	14.3–14.7 (0.56–0.58)	9.3 (0.37)
	Spring pressure (new)	1.75 kg (3.8 lb)	—	2.1 kg (4.6 lb)	—

\* 1: For cars used unleaded gasoline. \* 2: For cars used leaded gasoline.

# Design Specifications

## European Model

	ITEMS	METRIC	ENGLISH	NOTE
<b>DIMENSION</b>	Overall length 3D	4,335 mm	170.7 in	KW: 4,365 mm (171.9 in) KW: 4,565 mm (179.7 in)
	4D	4,535 mm	178.5 in	
	Overall width	1,695 mm	66.7 in	
	Overall height 3D	1,335 mm	52.6 in	
	4D	1,355 mm	53.3 in	
	Wheel base	2,600 mm	102.4 in	
	Thread Front	1,480 mm	58.3 in	
	Rear	1,475 mm	58.1 in	
	Ground clearance	160 mm	6.3 in	
	Seating capacity (F/R)	5 (2/3)		
<b>WEIGHT</b> On cars equipped with sunroof (S/R) ALB or air conditioner (A/C), add S/R: 18 kg (40 lb) ALB: KE 19 kg (42 lb) except KE 14 kg (31 lb) A/C: 22 kg (49 lb) P/S: 12 kg (26.5 lb)	Curb weight (M/T) 3D EX (A20A2)	1,075 kg	2,370 lb	Holland KG, KB KF, KG, KB KW Finland KE Holland KF KG, KB, KW Finland KE KG Holland KG Austria Holland KG KX, Austria Holland KG, KB, KW, Finland Holland KG, KB KW, Finland Holland KG, KB KE KF, KW, Finland
		1,095 kg *	2,414 lb*	
		1,110 kg	2,447 lb	
		1,110 kg	2,447 lb	
		1,110 kg	2,447 lb	
		1,110 kg	2,447 lb	
	EXi (A20A4)	1,110 kg	2,447 lb	
		1,130 kg	2,491 lb	
		1,130 kg	2,491 lb	
		1,135 kg	2,502 lb	
		1,135 kg	2,502 lb	
	EXC (A20A1)	1,105 kg *	2,436 lb*	
		1,085 kg	2,392 lb	
		1,115 kg	2,458 lb	
		1,120 kg	2,469 lb	
	EXCi (A20A3)	1,110 kg	2,447 lb	
		1,135 kg	2,502 lb	
		1,140 kg	2,513 lb	
	4D LX (A16A1)	1,055 kg	2,326 lb	
		1,075 kg	2,370 lb	
	LX (A20A2)	1,070 kg	2,359 lb	
		1,090 kg	2,403 lb	
		1,095 kg	2,414 lb	
	EX (A20A2)	1,110 kg	2,425 lb	
		1,120 kg	2,469 lb	
	1,120 kg	2,469 lb		
	1,125 kg	2,480 lb		

\* Cars equipped with manual steering.

# Design Specifications (cont'd)

## European Model (cont'd)

	ITEMS	METRIC	ENGLISH	NOTE		
<b>WEIGHT (cont'd)</b> On cars equipped with sunroof (S/R) ALB or air conditioner (A/C), add S/R: 18 kg (40 lb) ALB: KE 19 kg (42 lb) except KE 14 kg (31 lb) A/C: 22 kg (49 lb) P/S: 12 kg (26.5 lb)	(M/T) 3D EXi (A20A4)	1,110 kg	2,447 lb	Holland		
		1,130 kg	2,491 lb	KG, KB		
		1,130 kg	2,491 lb	KF		
		EXC (A20A1)	1,135 kg	2,502 lb	KW, KE, Finland	
			1,085 kg	2,391 lb	Holland	
			1,105 kg	2,436 lb	KG	
		EXCi (A20A3)	1,115 kg	2,458 lb	Holland	
			1,135 kg	2,502 lb	KG	
			1,140 kg	2,513 lb	Austria	
		EXSi (B20A2)	1,140 kg	2,513 lb	KX	
			1,145 kg	2,524 lb	Holland	
			1,165 kg	2,568 lb	KG, KB	
		EXCSi (B20A8)	1,180 kg	2,601 lb	KF	
			1,180 kg	2,601 lb	KW, KE, Finland	
			1,150 kg	2,535 lb	Holland	
			1,170 kg	2,579 lb	KG	
			1,180 kg	2,601 lb	Austria	
			1,180 kg	2,601 lb	KX	
			1,180 kg	2,601 lb	KS	
			1,095 kg	2,414 lb	Holland	
			1,115 kg*	2,458 lb*	KG, KB	
			1,130 kg	2,491 lb	KG, KB, KF	
		EXi (A20A4)	1,130 kg	2,491 lb	KW	
			1,130 kg	2,491 lb	Finland	
			1,130 kg	2,491 lb	KE	
			1,150 kg*	2,535 lb*	KG	
			1,150 kg	2,535 lb	KF	
			1,155 kg	2,546 lb	KW	
			1,155 kg	2,546 lb	Finland	
			1,155 kg	2,546 lb	KE	
			EXC (A20A1)	1,105 kg	2,436 lb	Holland
				1,125 kg	2,480 lb	KG
		1,140 kg		2,513 lb	Austria	
EXCi (A20A3)	1,135 kg	2,502 lb	Holland			
	1,155 kg	2,546 lb	KG			
	1,160 kg	2,557 lb	KX, Austria			
(A/T) 4D LX (A16A1)	1,160 kg	2,557 lb	KS			
	1,065 kg	2,348 lb	Holland			
	1,085 kg	2,392 lb	KG, KB, KW, Finland			
LX (A20A2)	1,070 kg	2,359 lb	Holland			

\*Cars equipped with manual steering.

	ITEMS	METRIC	ENGLISH	NOTE
<b>WEIGHT</b> On cars equipped with Sunroof (S/R) ALB or air conditioner (A/C), add S/R: 18 kg (40 lb) ALB: KE 19 kg (42 lb) except KE 14 kg (31 lb) A/C: 22 kg (49 lb)	(A/T) 4D LX (A20A2)	1,110 kg	2,425 lb	KG, KB
		1,115 kg	2,458 lb	Finland
	EX (A20A2)	1,115 kg	2,458 lb	KW, KS
		1,120 kg	2,469 lb	Holland
		1,140 kg	2,513 lb	KG, KB
		1,145 kg	2,524 lb	KE
	EXi (A20A4)	1,145 kg	2,524 lb	KF, KW, Finland
		1,160 kg	2,557 lb	KG, KB
		1,160 kg	2,557 lb	KF
		1,165 kg	2,568 lb	KW, Finland
	LXC (A20A1)	1,170 kg	2,579 lb	KE
	EXC (A20A1)	1,125 kg	2,480 lb	Austria
		1,120 kg	2,469 lb	Holland
		1,150 kg	2,535 lb	KG
	EXCi (A20A3)	1,155 kg	2,546 lb	KX, Austria
		1,140 kg	2,513 lb	Holland
		1,165 kg	2,568 lb	KG
		1,170 kg	2,579 lb	Austria
		1,170 kg	2,579 lb	KS
		1,175 kg	2,590 lb	KX
On cars equipped with sunroof (S/R) ALB or air conditioner (A/C), add S/R: 9/9 kg (20/20 lb) ALB: KE 12/7 kg (26/15 lb) except KE 12/2 kg (26/4 lb) A/C: 24/-2kg (53/-4 lb) P/S: 12/0 kg (26.5/0 lb)	Weight Distribution (Fr/Rr) (M/T) 3DEX (A20A2)	660/435 kg*	1,445/959 lb*	KG, KB
		670/440 kg	1,447/970 lb	KF, KG, KB
		670/440 kg	1,447/970 lb	KW
		670/440 kg	1,447/970 lb	Finland
	EXi (A20A4)	670/440 kg	1,447/970 lb	KE
		685/445 kg	1,510/981 lb	KF
		685/445 kg	1,510/981 lb	KG, KB, KW
		690/440 kg	1,521/970 lb	Finland
	EXC (A20A2)	715/445 kg	1,576/981 lb	KE
		665/440 kg*	1,466/970 lb*	KG
		675/440 kg	1,488/970 lb	KG
	EXCi (A20A3)	680/440 kg	1,499/970 lb	Austria
		690/445 kg	1,521/981 lb	KG
	4DLX (A16A1)	695/445 kg	1,532/981 lb	KX, Austria
	LX (A20A2)	635/440 kg	1,399/970 lb	KG, KB, KW, Finland
	650/440 kg	1,432/970 lb	KG, KB	

\* Cars equipped with manual steering.

# Design Specifications (cont'd)

## European Model (cont'd)

	ITEMS	METRIC	ENGLISH	NOTE
<b>WEIGHT (cont'd)</b> On cars equipped with sunroof (S/R) ALB or air conditioner (A/C), add S/R: 9/9 kg (20/20 lb) ALB: KE 12/7 kg (26/15 lb) except KE 12/2 kg (26/4 lb) A/C: 24/-2 kg (53/-4 lb) P/S: 12/0 kg (26.5/0 lb)	(M/T) 4D LX (A20A2)	655/440 kg	1,444/970 lb	KW, Finland
	EX (A20A2)	670/450 kg	1,477/992 lb	KG, KB
		670/455 kg	1,477/1,003 lb	KE
		670/455 kg	1,477/1,003 lb	KF
		675/450 kg	1,488/992 lb	KW, Finland
	EXi (A20A4)	680/460 kg	1,499/1,014 lb	KG, KB
		680/460 kg	1,499/1,014 lb	KF
		685/460 kg	1,510/1,014 lb	KW, Finland
		685/465 kg	1,510/1,025 lb	KE
	LXC (A20A1)	665/440 kg	1,466/970 lb	Austria
	EXC (A20A1)	680/450 kg	1,499/992 lb	KG
		685/450 kg	1,510/992 lb	Austria
	EXCi (A20A3)	685/460 kg	1,510/1,014 lb	KG
		690/460 kg	1,521/1,014 lb	Austria
		695/460 kg	1,532/1,014 lb	KX
	EXSi (B20A2)	705/465 kg	1,554/1,025 lb	KG, KB
		710/470 kg	1,565/1,036 lb	KF
		710/470 kg	1,565/1,036 lb	KW, KE, Finland
		705/465 kg	1,554/1,025 lb	KG
	EXCSi (B20A8)	710/470 kg	1,565/1,036 lb	Austria
		710/470 kg	1,565/1,036 lb	KX
		710/470 kg	1,565/1,036 lb	KS
	(A/T) 3D EX (A20A2)	680/435 kg*	1,499/959 lb*	KG, KB
		690/440 kg	1,521/970 lb	Finland
		690/435 kg	1,521/959 lb	KG, KB, KF
		690/440 kg	1,521/970 lb	KW
		690/440 kg	1,591/970 lb	Finland
		690/440 kg	1,591/970 lb	KE
	EXi (A20A4)	705/445 kg	1,554/981 lb	KF
		705/445 kg	1,554/981 lb	KG, KB, KW
		710/445 kg	1,565/981 lb	Finland
		710/445 kg	1,565/981 lb	KE
EXC (A20A1)	685/440 kg	1,510/970 lb	KG	
	700/440 kg	1,543/970 lb	Austria	
EXCi (A20A3)	705/445 kg	1,554/981 lb	KG	
	715/445 kg	1,576/981 lb	KX, Austria	
	715/445 kg	1,576/981 lb	KS	

\* Cars equipped with manual steering.

	ITEMS	METRIC	ENGLISH	NOTE	
<b>WEIGHT</b> On cars equipped with sunroof (S/R) ALB or air conditioner (A/C), add S/R: 9/9 kg (20/20 lb) ALB: KE 12/7 kg (26/15 lb) except KE 12/2 kg (26/4 lb) A/C: 24/-2 kg (53/-4 lb) P/S: 12/0 kg (26.5/0 lb)	(A/T) 4D LX (A16A1)	645/440 kg	1,421/970 lb	KG, KB, KW, KS	
	LX (A20A2)	670/440 kg	1,477/970 lb	KG, KB	
	EX (A20A2)	675/440 kg	1,488/970 lb	KW, Finland	
		690/450 kg	1,521/992 lb	KG, KB	
	EXi (A20A4)	690/455 kg	1,521/1,003 lb	KE	
		690/450 kg	1,521/1,003 lb	KF	
	LXC (A20A1)	700/460 kg	1,532/992 lb	KW, Finland	
		700/460 kg	1,543/1,014 lb	KG, KB	
	EXC (A20A1)	700/460 kg	1,543/1,014 lb	KF	
		705/460 kg	1,554/1,014 lb	KW, Finland	
	EXCi (A20A3)	705/460 kg	1,554/1,025 lb	KE	
		685/440 kg	1,510/970 lb	Austria	
		680/440 kg	1,499/970 lb	KG	
		685/440 kg	1,510/970 lb	Austria	
		705/460 kg	1,554/1,014 lb	KG	
		710/460 kg	1,565/1,014 lb	Austria	
		710/460 kg	1,565/1,014 lb	KS	
		715/460 kg	1,576/1,014 lb	KX	
		Max. permissible Weight (EC)			
		2000	1,660 kg	3,660 lb	
	1600	1,580 kg	3,484 lb		

# Design Specifications (cont'd)

## European Model (cont'd)

		ITEMS	METRIC	ENGLISH	NOTE			
<b>ENGINE</b> (Except B20A)	Type		Water cooled, gasoline fueled, 4-cycle OHC 4 cylinder in-line transverse					
	Cylinder arrangement		80.0 x 79.5 mm   3.15 x 3.13 in					
	Bore and Stroke	1600 2000	82.7 x 91.0 mm	3.25 x 3.58 in				
	Displacement	1600 2000	1,598 cm <sup>3</sup> 1,955 cm <sup>3</sup>	97.8 cuin 119 cuin				
	Compression Ratio	1600 2000	9.0 : 1 9.1 : 1 (A20A1) 9.2 : 1 (A20A2) 8.8 : 1 (A20A3) 9.4 : 1 (A20A4)					
	Valve Train		Belt driven, single overhead camshaft					
	Lubrication System		Pressure feed					
	Fuel Required	1600 2000	Leaded regular 91RON or higher (A16A1) Unleaded regular 91RON or higher (A20A1, A20A3) Leaded regular 91 RON or higher (A20A2, A20A4)					
<b>ENGINE</b> (B20A)	Type		Water cooled 4-cycle D.O.H.C. 4-cylinder in-line, transverse					
	Cylinder arrangement		81.0 x 95 mm   3.18 x 3.74 in					
	Bore and stroke		1,958 cm <sup>3</sup>	120 cu in				
	Displacement		9.5 : 1 (B20A2), 9.4 : 1 (B20A8)					
	Compression Ratio		Belt driven, double overhead camshaft					
	Valve Train		Pressure feed					
	Lubrication System		Leaded premium 97RON or higher (B20A2) Unleaded premium 95RON or higher (B20A8)					
	Fuel Required							
<b>TRANSMISSION</b>	Clutch	A/T M/T	Three element, one stage, two phase Single dry plate, diaphragm spring					
	Transmission	A/T M/T	Torque converter with lock up clutch Synchromesh 5 forward speed, 1 reverse					
			A16A A20A	A16A1	A20A2 A20A3 A20A4	A20A1 B20A		
			5MT	AT	AT	AT MT		
		Primary Reduction	1.000	1.000	1.000	1.000		
		Gear Ratio I	3.181	2.421	2.529	2.529	3.166	*1 1.208
		II	1.842	1.560	1.481 <sup>*2</sup>	1.481	1.857 <sup>*3</sup>	A20A3 KX *2 1.428
		III	1.250 <sup>*1</sup>	0.969	1.060	1.030	1.259 <sup>*4</sup>	*3 1.772
		IV	0.937	0.729	0.743	0.700	0.967	B20A8 KX
		V	0.771	—	—	—	0.794	*4 1.185
	Reverse	3.000	1.954	1.904	1.904	3.000		
	Final	4.066	3.933	4.066	4.066	4.066		
	Clutch Facing Area	1600 2000	160 cm <sup>2</sup> 176 cm <sup>2</sup>		24.8 sq. in 27.3 sq. in			

	ITEMS	METRIC	ENGLISH	NOTE	
<b>STEERING SYSTEM</b>	Type Manual Steering Power Steering Overall Ratio Manual Steering Power Steering Turns, lock-to-lock Manual Steering Power Steering Steering Wheel Dia. Power Steering Oil Tank Capacity Reservoir At change Power Steering Oil		Rack and Pinion Power assisted Rack and Pinion integral 19.4 18.1 3.78 3.52 375 mm 14.76 0.5 ℓ 0.53 US. qt., 0.44 Imp. qt. approx. 1.7 ℓ 1.8 US. qt., 1.5 Imp. qt. Honda Genuine power steering fluid		
<b>SUSPENSION SYSTEM</b>	Type, Front Type, Rear Shock Absorber F/R		Double wishbone Double wishbone Telescopic hydraulic		
<b>WHEEL ALIGNMENT</b>	Wheel Alignment Camber Front Rear Caster Front Toe Front Rear		0° 0° 0°30' 0 mm 0 mm	0.0 in. 0.0 in.	
<b>BRAKE SYSTEM</b>	Type, Front Type, Rear Pad Surface Area (Front) 1.6 ℓ and 2.0 ℓ (EX.EC) 2.0 ℓ (EC) Pad/Lining Surface Area (Rear) 1.6 ℓ/2.0 ℓ Effective Disc Dia. Effective Brake Drum I.D. Parking Brake Type		Self-adjusting power assisted disc brake type Drum *1 50.0 cm² 43.3 cm² 21 (disc)/ 67.2 (drum) cm² 194/214 mm 200 mm Mechanical expanding, Rear two wheel brakes*2	7.8 sq in 6.7 sq in 13.3 (disc)/ 10.4 (drum) sq in 7.6/8.4 in 7.9 in	*1 Disc for EX 2.0i and cans equipped with Anti-Lock Brake.  *2 Mechanical to rear disc for equipped with Disc Brake.
<b>TIRES</b>	Front, Rear  Spare		165SR13, 165R13 82S, 185/70R13 85S, 185/65R14 85H, 195/60R14 85H, 195/60VR14 T135/70D15*	* Standard for some types.	
<b>ELECTRICAL SYSTEM</b>	Battery Starting Motor Generator Fuses Main Fuse Headlights Turn signal lights Front Rear Side License Plate Lights Back-up Lights Stop Lights Tail Lights Rear Fog Light		12V-50AH (Cold cranking current) -17.7°C (0°F) 410A) 12V-1.0/1.4KW 12V-65AH 7.5A, 10A, 15A, 20A, 30A 70A, 40A 12V-60/55W 12V-21W 12V-21W 12V-5W 12V-5W 12V-21W 12V-21W 12V-5W 12V-21W		

# Design Specifications (cont'd)

## KQ and KY Models

NOTE: Only the design specifications for models below different from those of the European model are listed. For the other items not given here, refer to the European Model design specification.

	ITEMS	METRIC	ENGLISH	NOTE
<b>DIMENSION</b>	Ground Clearance	170 mm	6.7 in.	KY
<b>WEIGHT</b> On cars equipped with air conditioner, add 22 kg (49 lb)	Curb weight KQ Model			
	(M/T) 3D EX (A20A2)	1,129 kg	2,489 lb	
	2.0Si (A20A4)	1,134 kg	2,500 lb	
	4D EX (A20A2)	1,139 kg	2,511 lb	S/R
		1,157 kg	2,551 lb	
	2.0Si (A20A4)	1,148 kg	2,531 lb	
		1,166 kg	2,571 lb	S/R
	(A/T) 3D EX (A20A2)	1,149 kg	2,533 lb	
	2.0Si (A20A4)	1,154 kg	2,544 lb	
	4D EX (A20A2)	1,159 kg	2,555 lb	
		1,177 kg	2,595 lb	S/R
	2.0Si (A20A4)	1,168 kg	2,575 lb	
		1,186 kg	2,615 lb	S/R
	Curb weight KY Model			
	(M/T) 3D (A20A2)	EX 1,150 kg	2,535 lb.	A/C
		EXR 1,155 kg	2,546 lb.	A/C
	4D (A20A2)	GL 1,140 kg	2,513 lb.	A/C
		EX 1,150 kg	2,535 lb.	A/C
		EXR 1,168 kg	2,575 lb.	S/R, A/C
		EXR 1,170 kg	2,579 lb.	S/R, A/C
(A/T) 3D (A20A2)	EX 1,170 kg	2,579 lb.	A/C	
	EXR 1,175 kg	2,590 lb.	A/C	
4D (A20A2)	GL 1,160 kg	2,557 lb.	A/C	
	EX 1,170 kg	2,579 lb.	A/C	
	EXR 1,188 kg	2,619 lb.	S/R, A/C	
	EXR 1,190 kg	2,623 lb.	S/R, A/C	
On cars equipped with air conditioner, add 24/-2 kg (53/-4 lb)	Weight Distribution (F/R) KQ Model			
	(M/T) 3D EX (A20A2)	675/454 kg	1,488/1,001 lb	
	2.0Si (A20A4)	681/453 kg	1,501/999 lb	
	4D EX (A20A2)	678/461 kg	1,495/1,016 lb	S/R
		687/470 kg	1,515/1,036 lb	
	2.0Si (A20A4)	685/463 kg	1,510/1,021 lb	
		694/472 kg	1,530/1,041 lb	S/R
	(A/T) 3D EX (A20A2)	695/454 kg	1,532/1,001 lb	
	2.0Si (A20A4)	701/453 kg	1,545/999 lb	
	4D EX (A20A2)	698/461 kg	1,539/1,016 lb	
		707/470 kg	1,559/1,036 lb	S/R
	2.0Si (A20A4)	705/463 kg	1,554/1,021 lb	
		714/472 kg	1,574/1,042 lb	S/R
	Weight Distribution (F/R) KY Model			
	(M/T) 3D (A20A2)	EX 700/450 kg	1,543/992 lb.	A/C
		EXR 705/450 kg	1,554/992 lb.	A/C
	4D (A20A2)	GL 695/445 kg	1,532/981 lb.	A/C
		EX 700/450 kg	1,543/992 lb.	A/C
		EXR 709/459 kg	1,563/1,012 lb.	S/R, A/C
		EXR 710/460 kg	1,565/1,014 lb.	S/R, A/C
(A/T) 3D (A20A2)	EX 720/450 kg	1,587/992 lb.	A/C	
	EXR 725/450 kg	1,598/992 lb.	A/C	
4D (A20A2)	GL 715/445 kg	1,576/981 lb.	A/C	
	EX 720/450 kg	1,587/992 lb.	A/C	
	EXR 729/459 kg	1,607/1,012 lb.	S/R, A/C	
	EXR 730/460 kg	1,609/1,014 lb.	S/R, A/C	
	Max Loaded Vehicle Weight (ADR)			
	M/T	1,590 kg	3,505 lb.	KQ Model
	A/T	1,610 kg	3,549 lb.	
	Gross Vehicle Weight Rating (G.V.W.R.)	1,680 kg	3,704 lb.	KY Model

## KQ and KY Models

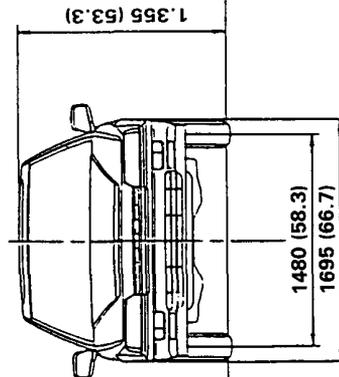
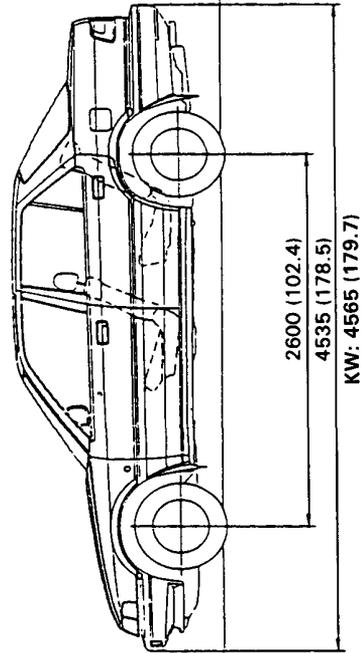
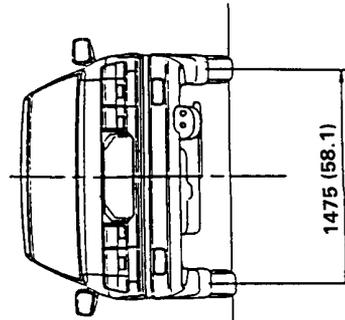
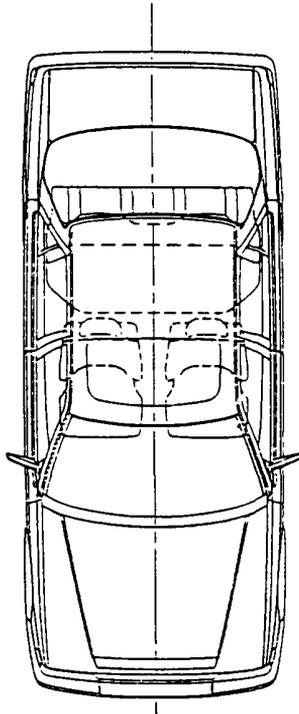
NOTE: Only the design specifications for models below different from those of the European model are listed. For the other items not given here, refer to the European Model design specification.

	ITEMS	SPECIFICATION	NOTE
<b>ENGINE</b>	Compression ratio	KQ: A20A2 9.1, A20A4 8.8 KY: A20A2 9.2	
<b>TRANSMISSION</b>	Clutch A/T M/T Transmission A/T M/T  Primary Reduction Gear Ratio I < >: A/T II III IV V Reverse Final	Three element one stage two phase. Single dry plate, diaphragm spring. Torque converter with lock up clutch. Synchromesh 5 forward speed. 1 reverse 1.000 3.181 <2.529> 1.842 <1.481> 1.250 <1.060> 0.937 <0.743> 0.771 3.000 <1.904> 4.066 <4.066>	
<b>TIRES</b>	Tire size	EX 185/70 R13 86T 2.0Si 185/70 R13 86H Optional 185/70 HR13	KQ Model
		GL 165 R13 82S EX, EXR 185 R13 85S	KY Model
<b>ELECTRICAL SYSTEM</b>	Starting Motor Battery	12 V—1.0 kW 12 V—40 AH	

# Body Specifications

## 4D Sedan

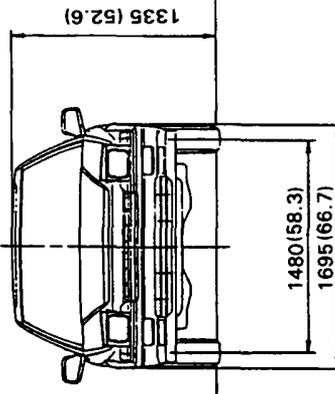
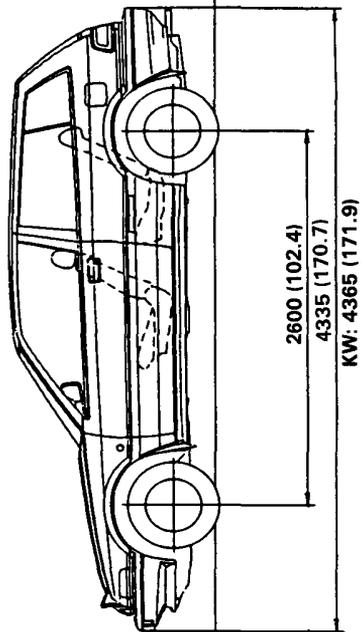
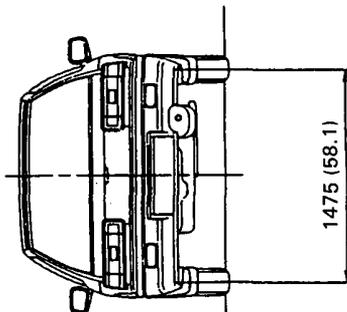
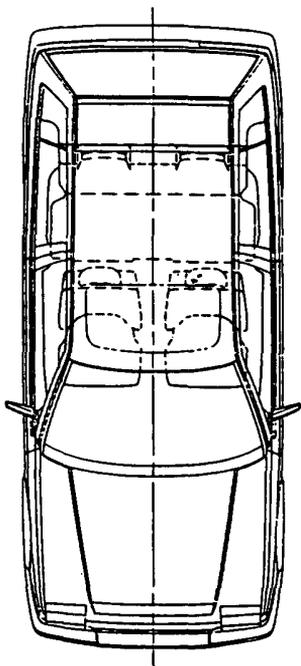
Unit: mm (in.)



1,355 (53.3)

Aerodeck

Unit: mm (in.)

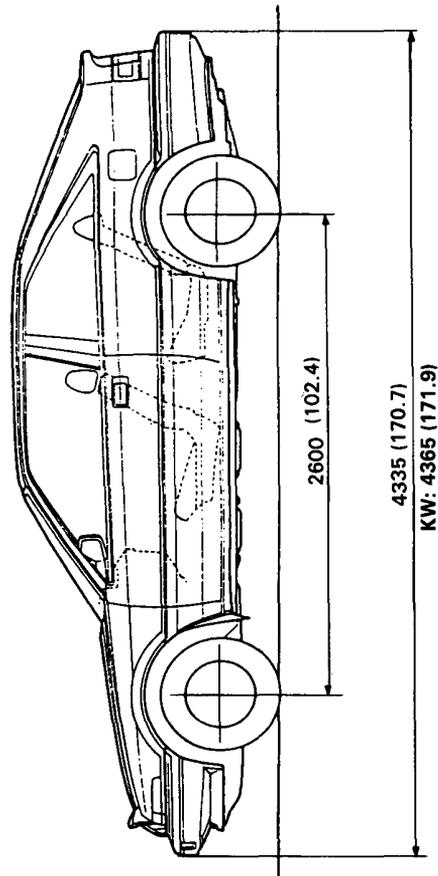
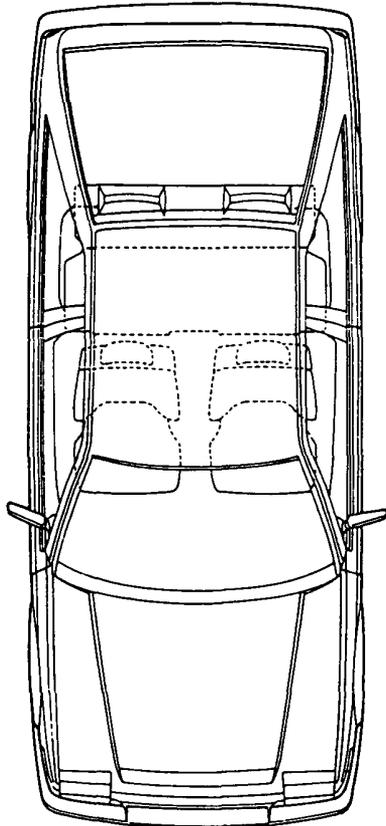
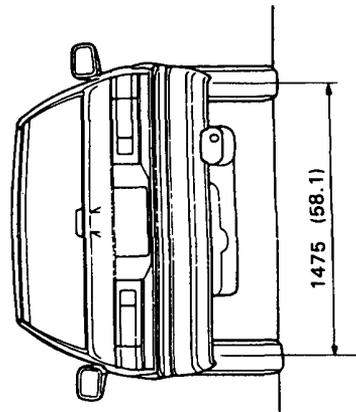
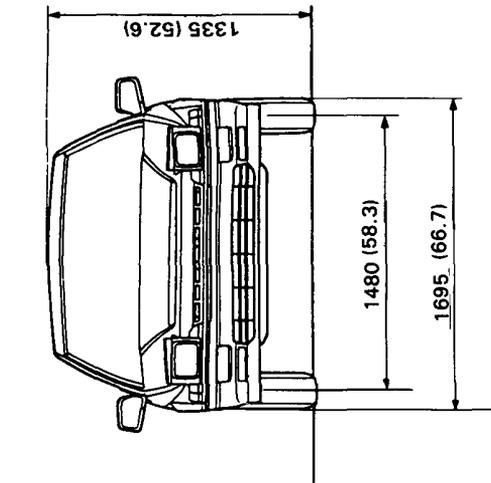


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# Body Specifications (cont'd)

## Glass Back

Unit: mm (in.)





## **Maintenance**

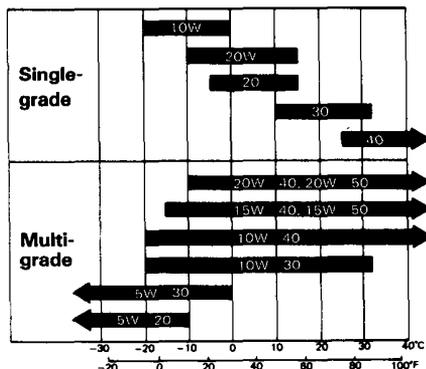
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<b>Maintenance Schedule .....</b>	<b>4-4</b>



# Lubrication Points

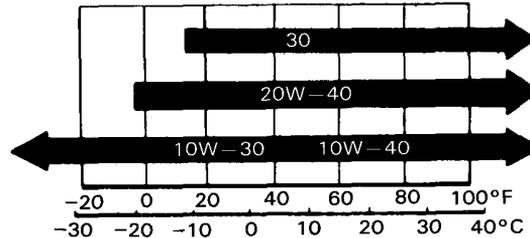
No	LUBRICATION POINTS	LUBRICANT
1	Engine	API Service Grade: SE or SF SAE Viscosity: See chart below
2	Transmission Manual Automatic	API Service Grade: SE or SF SAE Viscosity: See chart below DEXRON® or DEXRON®II Automatic transmission fluid
3	Brake reservoir	Brake fluid DOT 3
4	Steering gearbox (Power steering)	Honda power steering grease P/N 08733-B070E
4	Steering gearbox (Manual steering)	Multipurpose Grease
5	Steering ball joint	
6	Suspension ball joints	
7	Front upper arm	
8	Steering Boot	
9	Shift lever pivot (Manual transmission)	
10	Steering column bushings	
11	Horn contact	
12	Shift rod clevis bushings	
13	Select lever (Automatic transmission)	
14	Pedal linkage	
15	Throttle cable end	
16	Brake master cylinder push rod	
17	Rear caliper	
18	Tailgate hinges (Hatchback)	
19	Trunk hinges (Sedan)	
20	Door hinges upper and lower	
21	Door opening detents	
22	Fuel filler lid	
23	Engine hood hinges	
24	Engine hood latch	
25	Tilt lever	
26	Select lever (Automatic)	
27	Retractable headlight mechanism	
28	Rear brake shoe linkage	Silicone Grease
29	Caliper	
30	Piston seal Dust seal Caliper pin Piston	
31	Power steering reservoir	Honda power steering fluid P/N 08208-99961

Recommended Engine Oil (SE or SF Grade only)



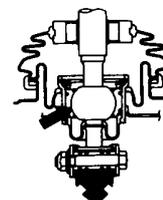
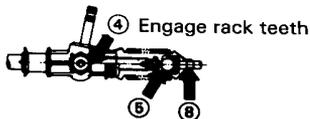
Engine oil viscosity for ambient temperature ranges.

Recommended Manual Transmission Oil



Transmission oil viscosity for ambient temperature ranges.

**CAUTION:** Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

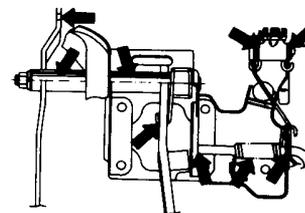
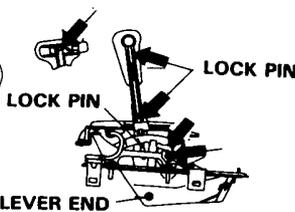
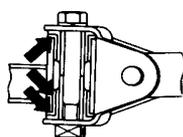
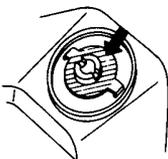
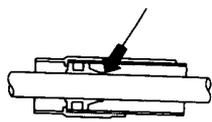


- ④ STEERING GEARBOX
- ⑤ STEERING BALL JOINT
- ⑧ STEERING BOOT

- ⑥ FRONT SUSPENSION BALL JOINTS
- ⑥ REAR SUSPENSION BALL JOINTS

- ⑦ FRONT UPPER ARM

- ⑨ SHIFT LEVER PIVOT



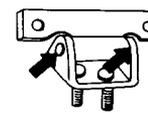
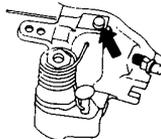
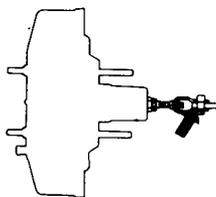
- ⑩ STEERING COLUMN BUSHING

- ⑪ HORN CONTACT

- ⑫ SHIFT ROD CLEVIS BUSHINGS

- ⑬ SELECT LEVER

- ⑭ PEDAL LINKAGE

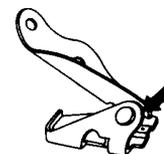
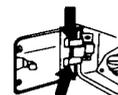
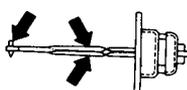
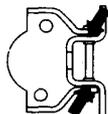


- ⑮ THROTTLE CABLE END

- ⑯ BRAKE MASTER CYLINDER PUSH ROD

- ⑰ REAR CALIPER

- ⑱ TAILGATE HINGES



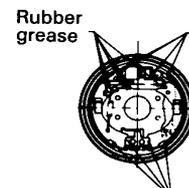
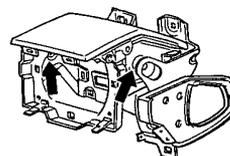
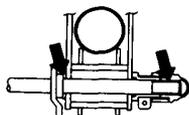
- ⑲ TRUNK HINGES

- ⑳ DOOR HINGES

- ㉑ DOOR OPENING DETENTS

- ㉒ FUEL FILLER LID

- ㉓ ENGINE HOOD HINGES



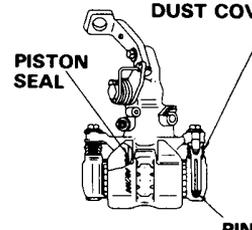
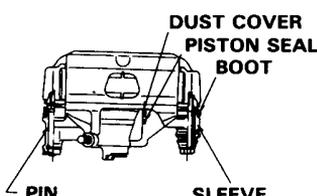
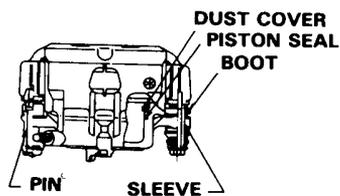
- ㉔ ENGINE HOOD LATCH

- ㉕ TILT LEVER

- ㉖ SERECT LEVER

- ㉗ RETRACTABLE HEADLIGHT MECHANISM

- ㉘ REAR BRAKE DUST COVER



- ㉙ FRONT CALIPER

- ㉙ FRONT CALIPER

- ㉙ FRONT CALIPER

- ㉚ REAR CALIPER

# Maintenance Schedule

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.		R—Replace I—Inspect. After inspection, clean, adjust, repair or replace if necessary				
ITEM	x 1,000 km	20	40	60	80	100
	x 1,000 miles	12	24	36	48	60
	months	12	24	36	48	60
Idle speed and idle CO (except KS, KX types)		I	I	I	I	I
Idle speed and idle CO (KS, KX types)						I
Valve clearance		I	I	I	I	I
Alternator drive belt			I		I	
■ Engine oil and oil filter	Replace every 10,000 km (6,000 miles) or 6 months					
■ Transmission oil			R		R	
■ Radiator coolant					R <sup>*1</sup>	
Cooling system hoses and connections			I		I	
E.G.R. system (for cars using unleaded gasoline, except KQ fuel-injection type)						I
Secondary air supply system (for carburetor type)						I
Air cleaner element (Viscous type, European and KQ types)			R		R	
Air cleaner element (Dry type, except European and KQ types)	R	R	R	R	R	R
Fuel filter (including aux. filter for carburetor type)			R		R	
Tank, fuel line and connections			I		I	
Intake air temp. control system (for carburetor type)						I
Throttle control system (for carburetor type, except KS, KX types)			I		I	
Throttle control system (for carburetor type, KS, KX types)						I
Choke mechanism (for carburetor type)			I		I	
Choke opener operation (for carburetor type with automatic choke)						I
Evaporative emission control system (for cars using unleaded gasoline and KY type)						I
Ignition timing and control system (except KS, KX types)			I		I	
Ignition timing and control system (KS, KX types)						I
Spark plugs (for cars using unleaded gasoline)			R <sup>*2</sup>		R <sup>*2</sup>	
Spark plugs (for cars using leaded gasoline)	R	R	R	R	R	R
Distributor cap and rotor (except KS, KX types)			I		I	
Distributor cap and rotor (KS, KX types)						I
Ignition wiring (except KS, KX types)			I		I	
Ignition wiring (KS, KX types)						I
Positive crankcase ventilation valve (except KS, KX types)			I		I	
Positive crankcase ventilation valve (KS, KX types)						I
Blow-by filter (for carburetor type)			I		I	

■ **REMARK:** These service intervals assume routine checking and replenishment has been done, as needed, by the customer.

\*<sup>1</sup> Thereafter, replace every 2 years or 40,000 km (24,000 miles), whichever comes first.

\*<sup>2</sup> For KS type, replace every 2 years or 40,000 km (24,000 miles) whichever comes first after 30,000 km (18,000 miles).

**CAUTION:** Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

# Maintenance Schedule



Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.		R—Replace I—Inspect. After inspection, clean, adjust, repair or replace if necessary				
ITEM	x 1,000 km	20	40	60	80	100
	x 1,000 miles	12	24	36	48	60
	months	12	24	36	48	60
Brake hoses and lines (including ALB hoses and pipes for ALB equipped models)	I	I	I	I	I	I
Brake fluid (including ALB fluid for ALB equipped models)			R		R	
Front brake discs and calipers	I	I	I	I	I	I
Front brake pads		Inspect every 10,000 km (6,000 miles) or 6 months				
Rear brake discs, calipers and pads (standard for some types)		I		I		
Rear brake drums, wheel cylinders and linings (standard for some types)		I		I		
Parking brake	I	I		I		
Clutch release arm travel	I	I	I	I	I	I
Exhaust pipe and muffler	I	I	I	I	I	I
Suspension mounting bolts	I	I	I	I	I	I
Front wheel alignment	I	I	I	I	I	I
Steering operation, tie rod ends, steering gear box and boots	I	I		I		
ALB high pressure hose (for ALB equipped models)					R	
ALB operation (for ALB equipped models)	I	I		I		
Power steering system (standard for some types)	I	I	I	I	I	I
Power steering pump belt (standard for some types)		I		I		
Catalytic converter heat shield (standard for some types)						I

**CAUTION:** The following items must be serviced more frequently on cars normally used under severe driving conditions. Refer to the chart below for the appropriate maintenance intervals.

Severe driving conditions include:

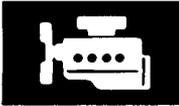
- A: Repeated short distance driving
- B: Driving in dusty conditions
- C: Driving in severe cold weather
- D: Driving in areas using road salt or other corrosive materials
- E: Driving on rough and/or muddy roads
- F: Towing a trailer

R—Replace  
I—Inspect. After inspection, clean, adjust, repair or replace if necessary.

Condition	Maintenance item	Maintenance operation	Interval
A B • • • F	Engine oil and oil filter	R	Every 5,000 km (3,000 miles) or 3 months
• • • • • F	Transmission oil	R	Every 20,000 km (12,000 miles) or 12 months
A B • D E F	Front brake discs and calipers	I	Every 10,000 km (6,000 miles) or 6 months
A B • D E F	Rear brake discs, calipers and pads	I	Every 20,000 km (12,000 miles) or 12 months
A B C • E F	Clutch release arm travel	I	Every 10,000 km (6,000 miles) or 6 months
• B C • E •	Power steering system	I	Every 10,000 km (6,000 miles) or 6 months

## **Engine**

<b>Engine Removal/Installation .....</b>	<b>5-1</b>
<b>Cylinder Head/Valve Train .....</b>	<b>6-1</b>
<b>Engine Block .....</b>	<b>7-1</b>
<b>Engine Lubrication .....</b>	<b>8-1</b>
<b>Intake Manifold/Exhaust System .....</b>	<b>9-1</b>



# Engine Removal/Installation



## Outline of Model Change

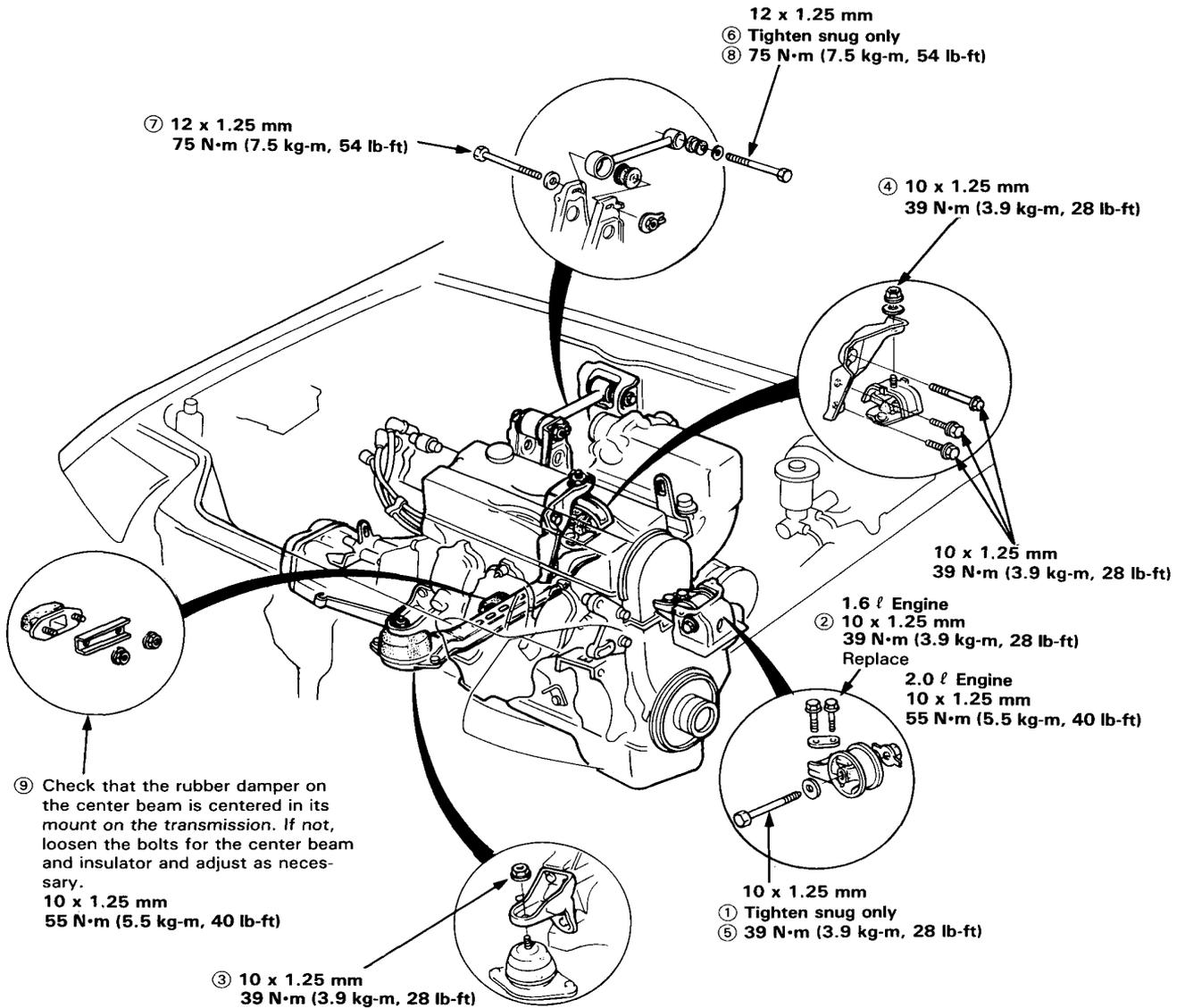
The torque values of the engine mounting bolts and sub frame bolts have been changed.

# Engine Removal/Installation

## ENGINE MOUNT TORQUE SEQUENCE:

### NOTE:

- For proper suppression of noise and vibration, and maximum bushing life, tighten the bolts in the sequence shown with the bushings centered in their mounts.
- From step 5 on, the car must be sitting level; make sure that the engine hoist is not holding up the engine and car.

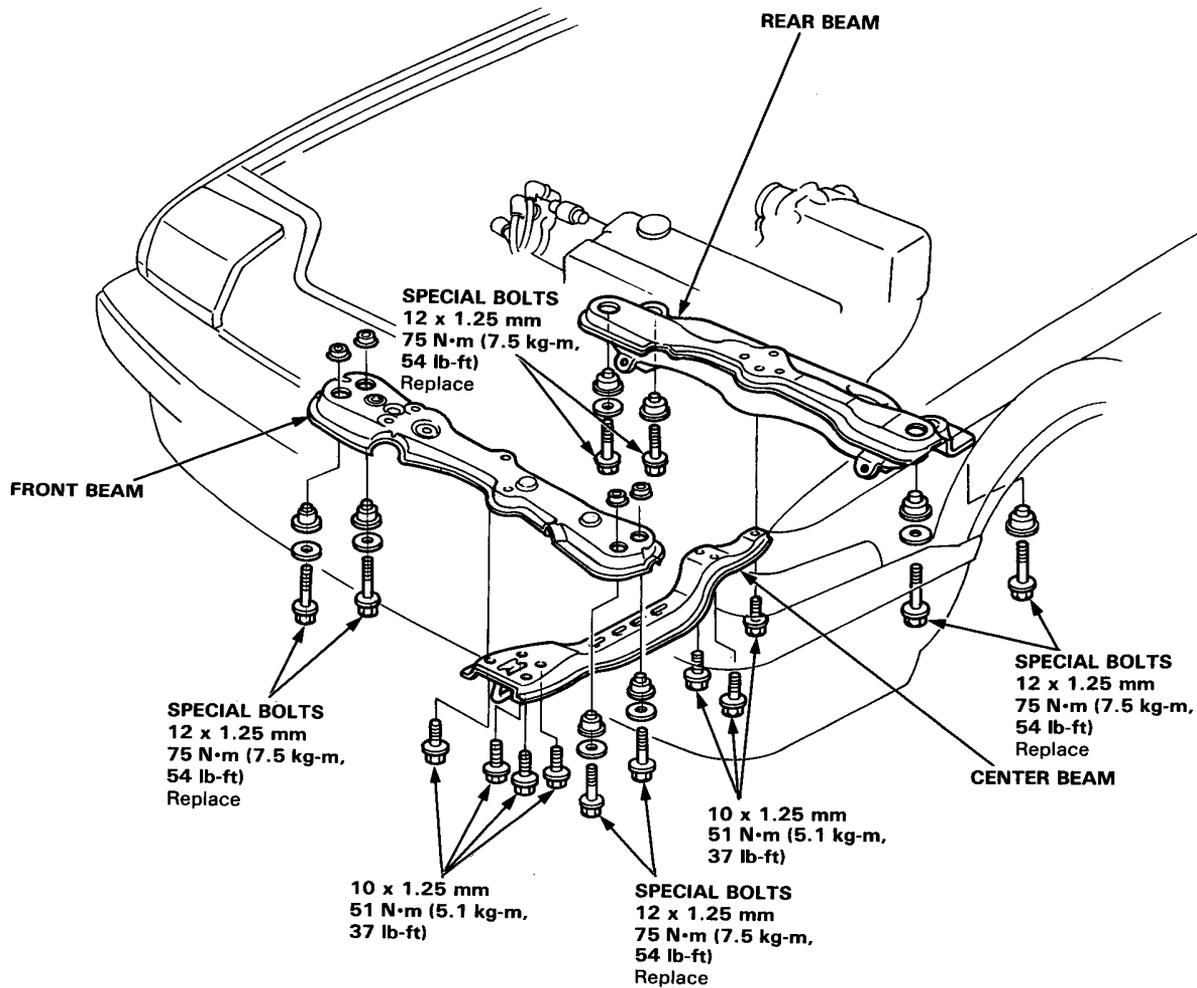




### SUB FRAME TORQUE SPECIFICATIONS:

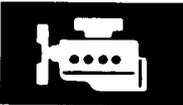
#### NOTE:

- Do not loosen the bolts when remove the engine.
- If the Special bolts are loosend, replace the bolts.



## Cylinder Head/Valve Train

Special Tools .....	6-2
Crankshaft Pulley Bolt Replacement ...	6-3



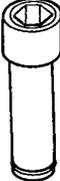
### Outline of Model Change

The crankshaft pulley bolt has been changed.

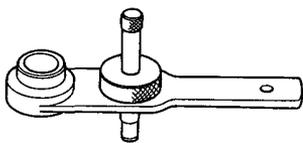
# Special Tools

No.	Tool Number	Description	Q'ty	Remarks
①	07JAB-0010000	Crank Pulley Holder Set	1	for cranshaft pulley bolt
①-1	07JAA-0010200	Socket Wrench, 19 mm	(1)	Component Tools
①-2	07JAB-0010100	Pulley Holder Attachment	(1)	
①-3	07JAB-0010200	Handle	(1)	



①-1



①-2



①-3

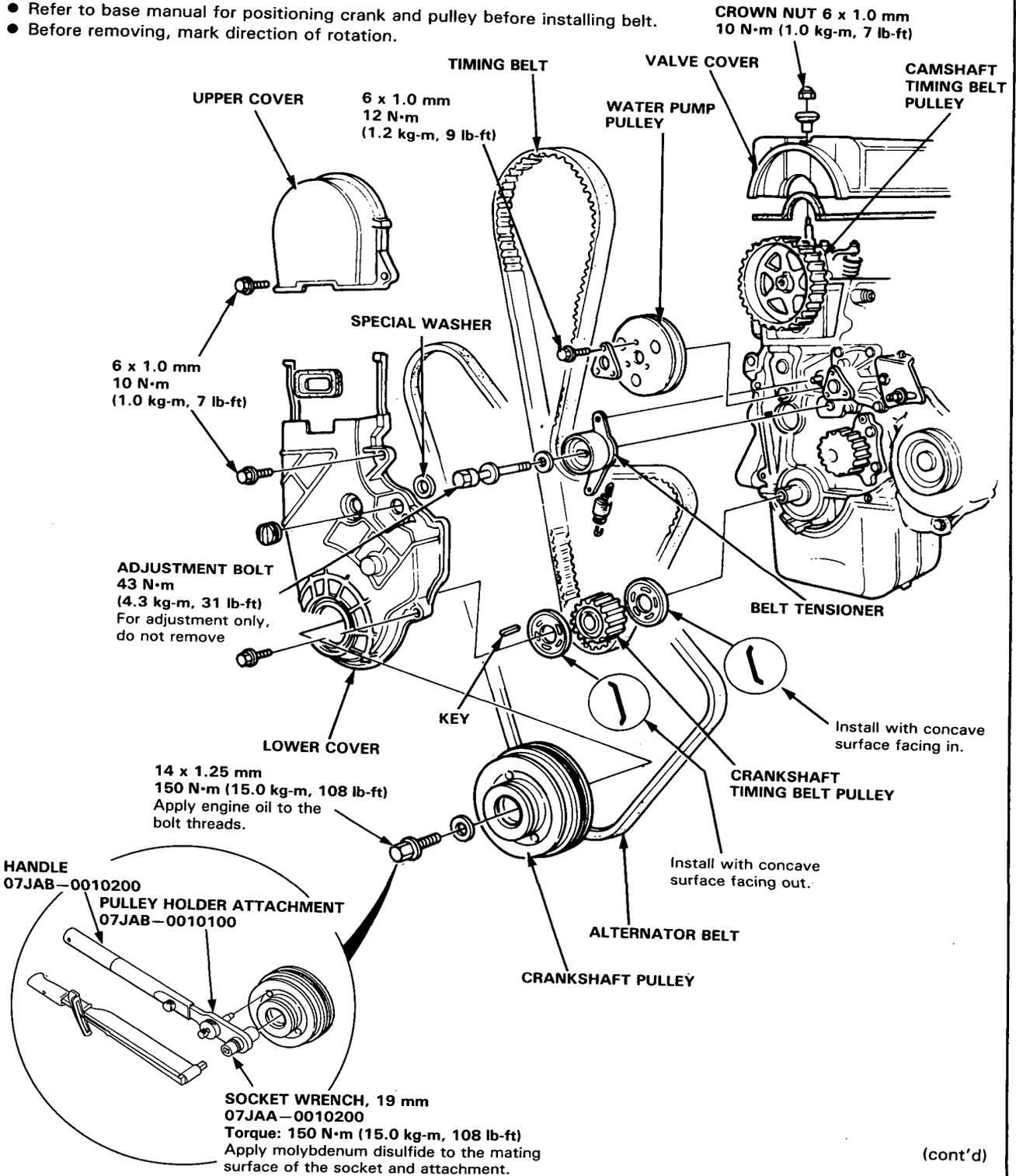
# Crankshaft Pully Bolt



## Replacement

**NOTE:**

- Refer to base manual for positioning crank and pulley before installing belt.
- Before removing, mark direction of rotation.



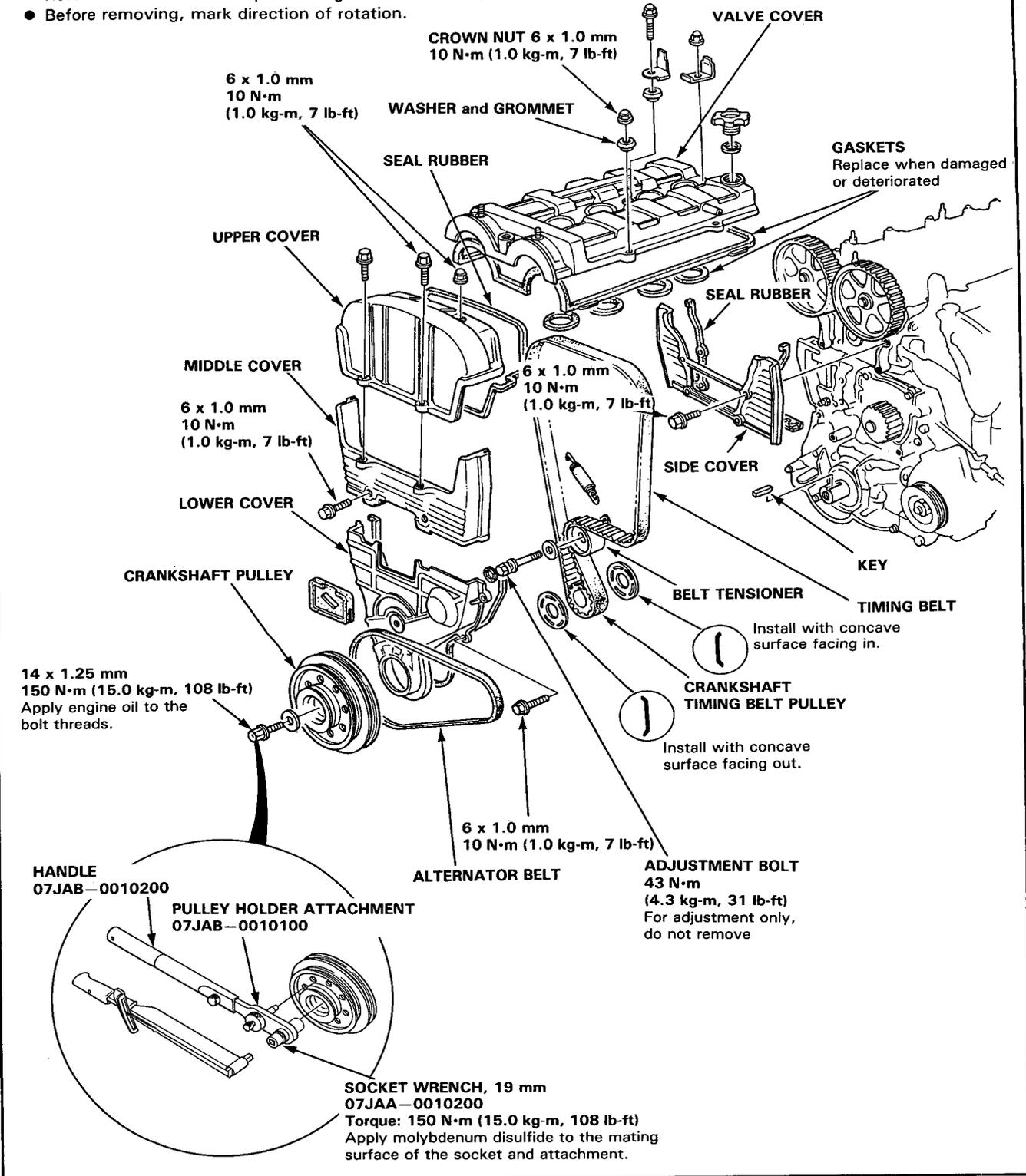
(cont'd)

# Crankshaft Pulley Bolt

## Replacement (cont'd)

**NOTE:**

- Refer to base manual for positioning crankshaft and pulley before installing belt.
- Before removing, mark direction of rotation.



# Engine Block

Illustrated Index ..... 7-2



## Outline of Model Changes

- The torque value of the main bearing cap bolts has been changed.
- The torque value of the connecting rod bearing capnut has been changed.

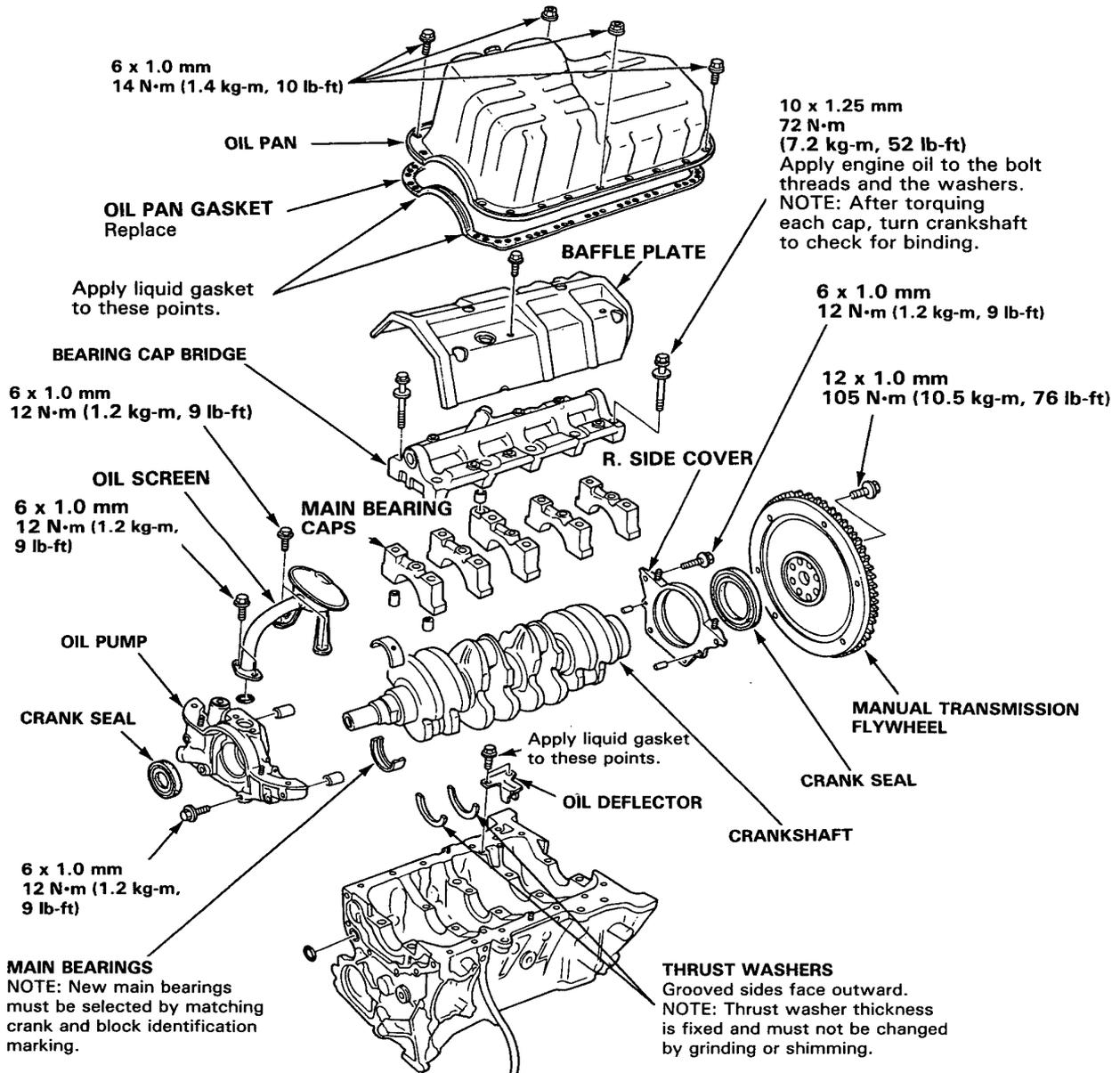
# Engine Block

## Illustrated Index

 Lubricate all internal parts with engine oil during reassembly.

### NOTE:

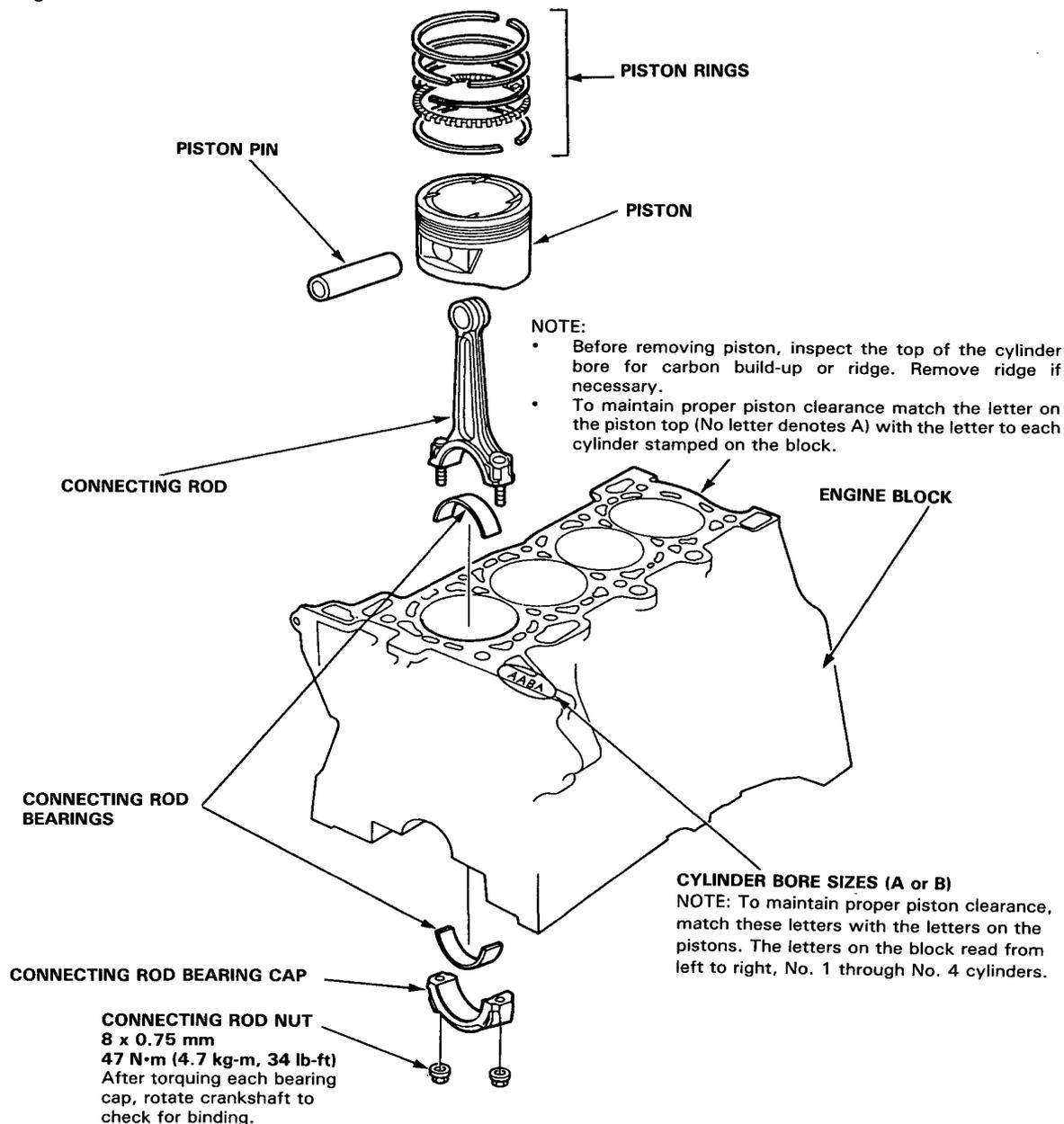
- Apply non-hardening liquid gasket to the mating surfaces of the right side cover and oil pump case, before installing them.
- Use Honda Genuine liquid gasket. PART NO. 08718-550000E.





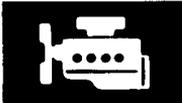
**NOTE:** New rod bearings must be selected by matching connecting rod and crankshaft identification markings.

**CAUTION:** The piston skirts is coated with molybdenum; handle the piston carefully to prevent any damage.



## Engine Lubrication

Special Tools .....	8-2
Engine Oil Replacement .....	8-3
Oil Filter Replacement .....	8-4

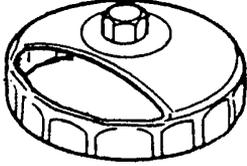


### Outline of Model Change

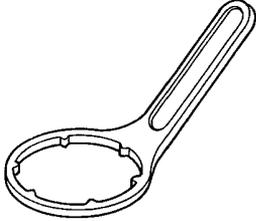
The oil filter has been changed.

# Special Tools

No.	Tool Number	Description	Q'ty	Remarks
①	07912-6110001	Oil Filter Socket	1	Used for FRANCE-MADE Oil Filter
②		Oil Filter wrench (Apply from LABINAL S.A.)	1	

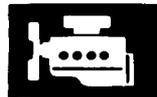


①



②

# Engine Oil

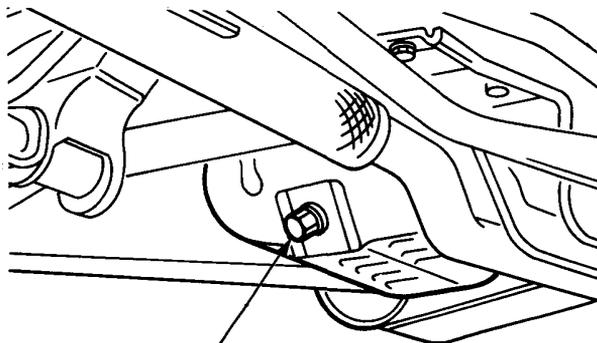


## Replacement

1. Warm up the engine.
2. Drain the engine oil.

**CAUTION:** Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

NOTE: Remove the filler cap to speed draining.



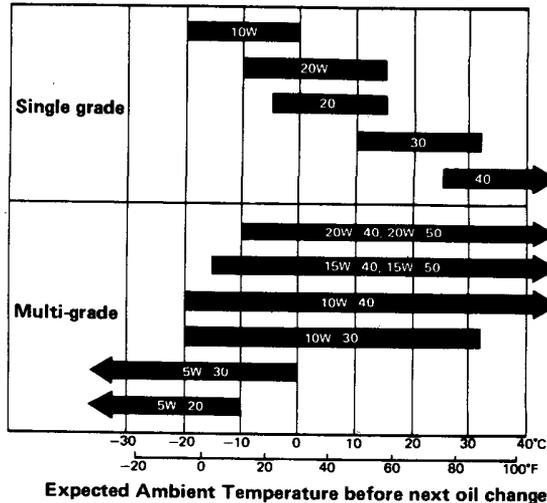
**OIL PAN DRAIN PLUG**  
45 N·m (4.5 kg-m, 33 lb-ft)

3. Reinstall the drain plug with a new washer, and refill with the recommended oil.

<b>Capacity (Except DOHC)</b>	3.0 lit (3.2 US qt, 2.6 Imp. qt) Exclude Oil filter 3.5 lit (3.7 US qt, 3.1 Imp. qt) Adding replace oil filter 4.0 lit (4.2 US qt, 3.5 Imp. qt) Means designed value
<b>(DOHC)</b>	3.5 lit (3.7 US qt, 3.1 Imp. qt) Exclude oil filter 4.0 lit (4.2 US qt, 3.5 Imp. qt) Adding replace oil filter 5.0 lit (5.3 US qt, 4.4 Imp. qt) Means designed value
<b>Change</b>	Every 10,000 km (6,000 miles) or 6 months.

NOTE: Oil filter should be replaced at each oil change.

### Recommended Engine Oil (SE or SF Grade only)



# Oil Filter

## Replacement

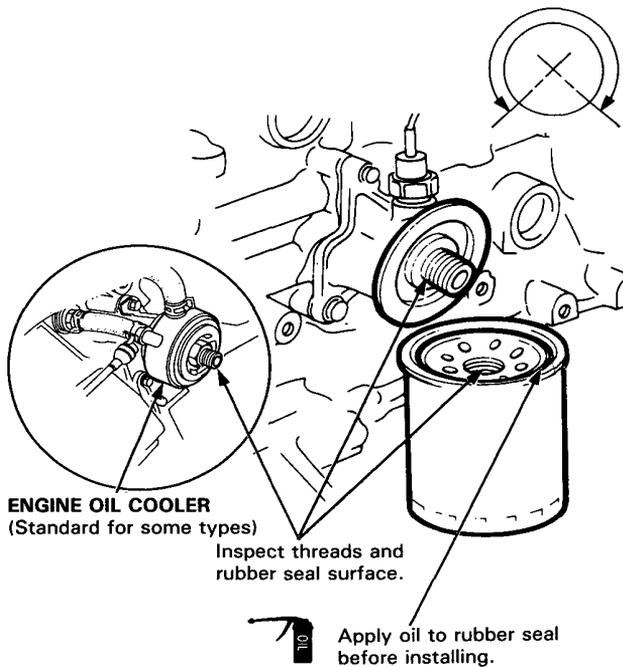
**WARNING** After the engine has been run, the exhaust pipes will be hot; be careful when working around the exhaust manifold.

**CAUTION:** Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

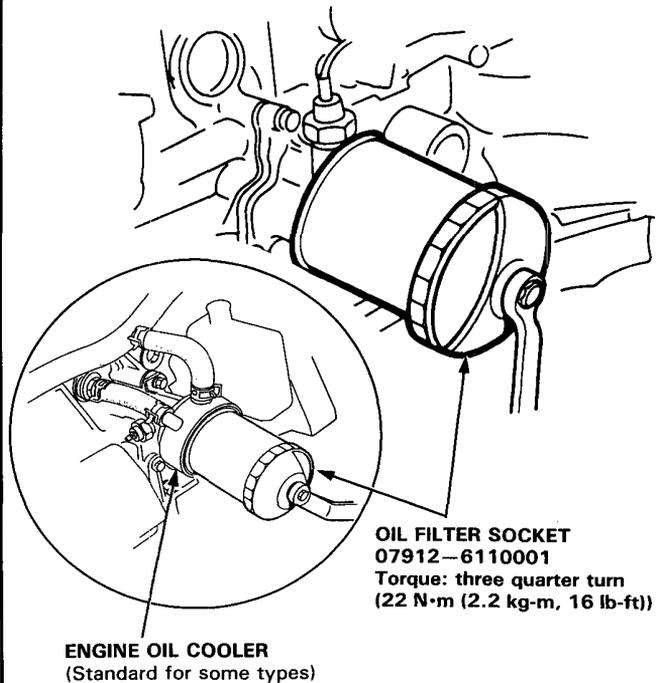
1. Remove the oil filter with the special oil filter socket.
2. Inspect the threads and rubber seal on the new filter. Wipe off seat on engine block, then apply a light coat of oil to the rubber seal, and install filter.
3. After the rubber seal is seated, tighten the oil filter by turning approximately three quarter turn.

**NOTE:** Use only filters with a built-in by pass system.

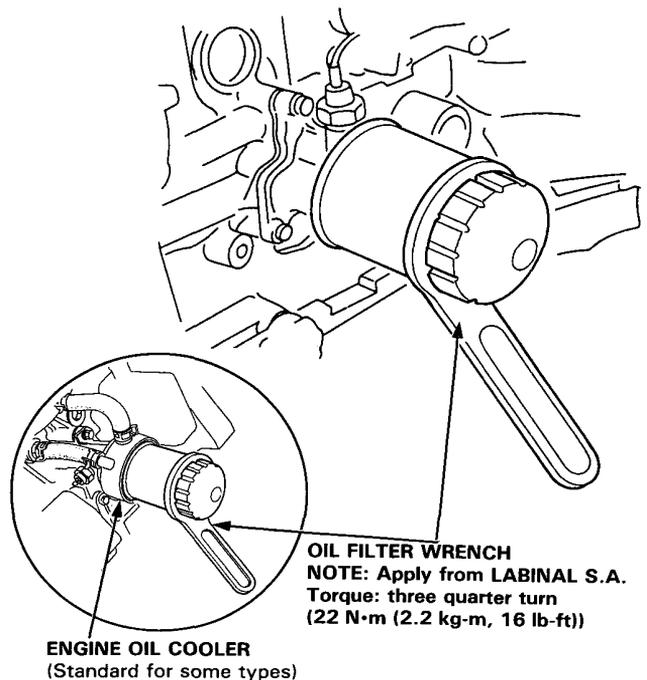
**Torque: three quarter turn  
(22 N·m (2.2 kg-m, 16 lb-ft))**



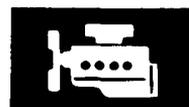
### JAPAN-MADE TYPE (Filter size 80 mm)



### FRANCE-MADE TYPE (Filter size 76.2 mm)



## Intake Manifold/Exhaust System



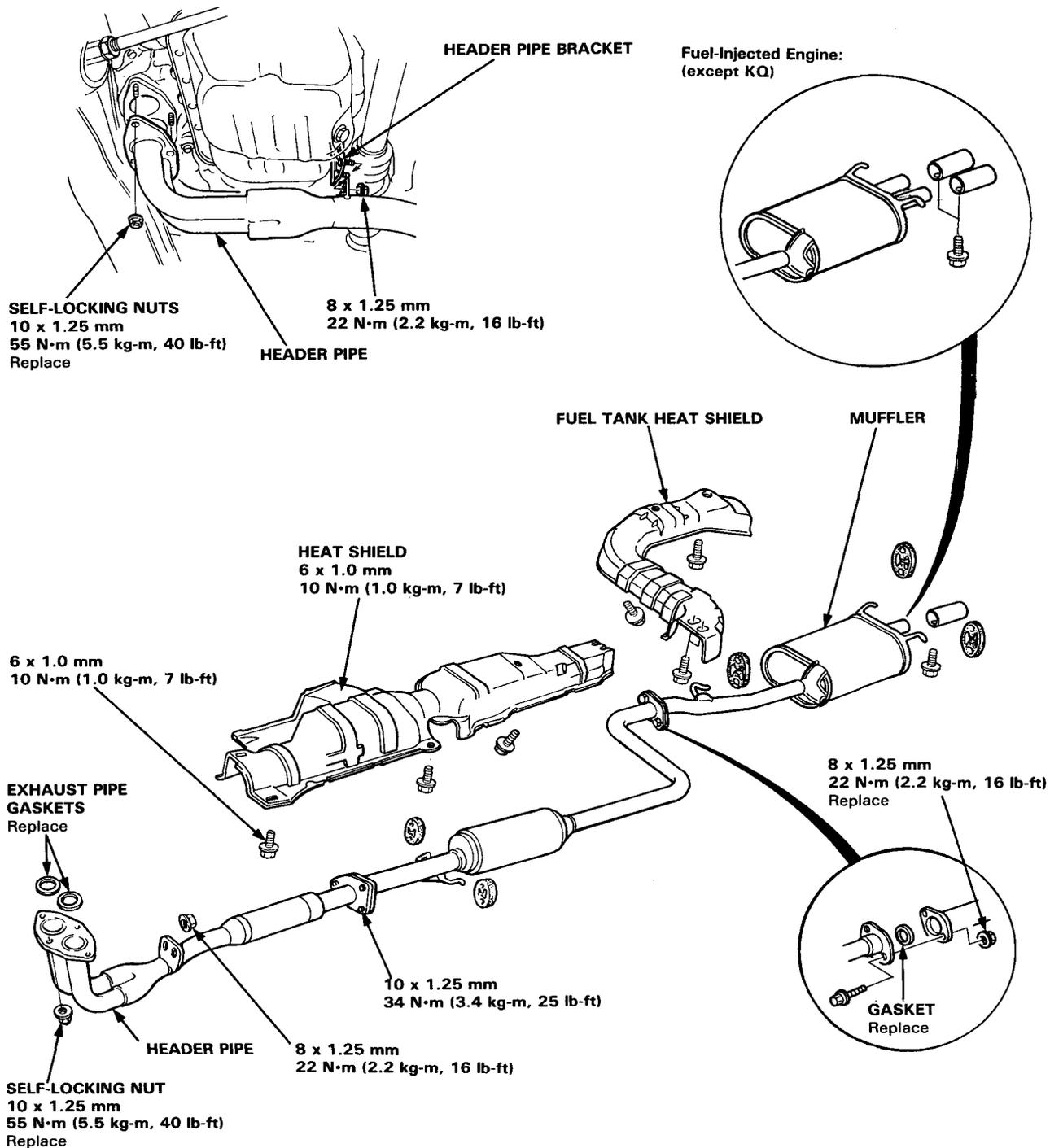
### Outline of Model Change

*The muffler has been changed.*

# Exhaust Pipe and Muffler

## Replacement

2.0 l European and KY model Engine (except KG and KW with catalytic converter engine, KX and KS Model Engine)





### Other Engine Model

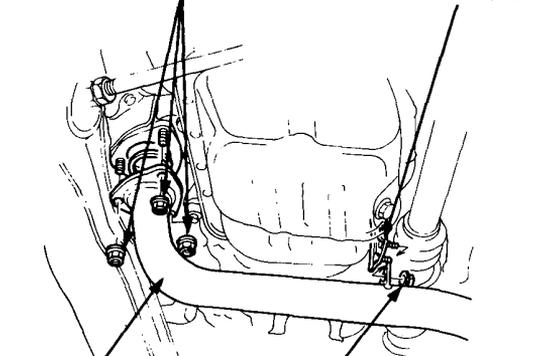
#### SELF-LOCKING NUTS

10 x 1.25 mm

55 N·m (5.5 kg-m, 40 lb-ft)

Replace

#### HEADER PIPE BRACKET



#### HEADER PIPE

8 x 1.25 mm

22 N·m (2.2 kg-m, 16 lb-ft)

#### HEAT SHIELD

6 x 1.0 mm

10 N·m (1.0 kg-m, 7 lb-ft)

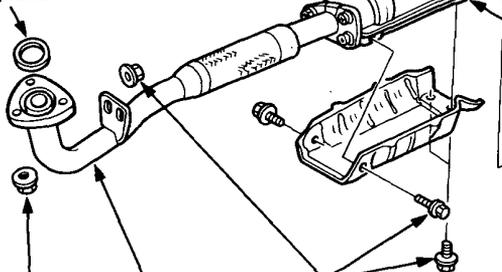
6 x 1.0 mm

10 N·m (1.0 kg-m, 7 lb-ft)

#### EXHAUST PIPE

GASKET

Replace



8 x 1.25 mm

22 N·m (2.2 kg-m, 16 lb-ft)

#### HEADER PIPE

#### SELF-LOCKING NUT

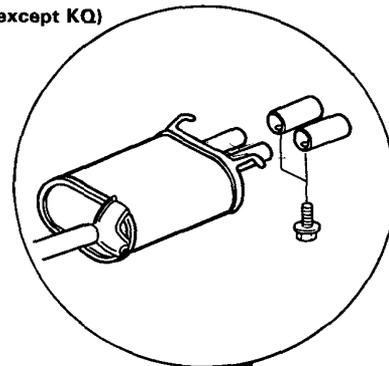
10 x 1.25 mm

55 N·m (5.5 kg-m, 40 lb-ft)

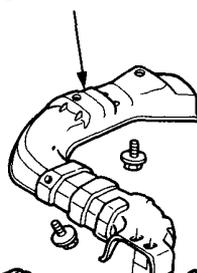
Replace

#### Fuel-Injected Engine:

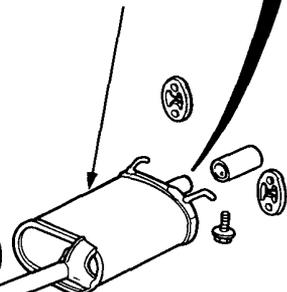
(except KQ)



#### FUEL TANK HEAT SHIELD



#### MUFFLER



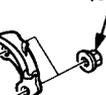
8 x 1.25 mm

22 N·m (2.2 kg-m, 16 lb-ft)

Replace

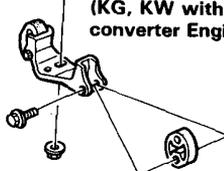
10 x 1.25 mm

34 N·m (3.4 kg-m, 25 lb-ft)



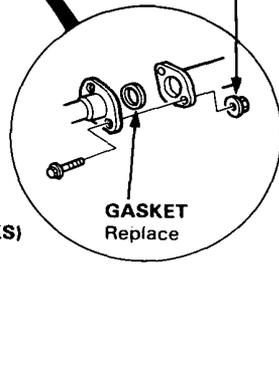
#### CATALYTIC CONVERTER

(KG, KW with Catalytic converter Engine and KX, KS)



#### GASKET

Replace



## Fuel and Emissions

<b>Carbureted Engine (A20A1)</b>	
<b>Component Locations .....</b>	<b>12-2</b>
<b>Vacuum Connections .....</b>	<b>12-4</b>
<b>Electrical Connections .....</b>	<b>12-6</b>
<b>Idle Speed/Mixture .....</b>	<b>12-7</b>
<b>Throttle Cable .....</b>	<b>12-10</b>
<b>Control Unit .....</b>	<b>12-11</b>
<b>Control Unit Output</b>	
<b>Troubleshooting .....</b>	<b>12-12</b>
<b>Frequency Solenoid Valve C .....</b>	<b>12-12</b>
<b>EFE (Early Fuel Evaporator)</b>	
<b>System .....</b>	<b>12-14</b>
<b>Control Unit Input Troubleshooting ....</b>	<b>12-18</b>
<b>Clutch Switch Signal .....</b>	<b>12-19</b>

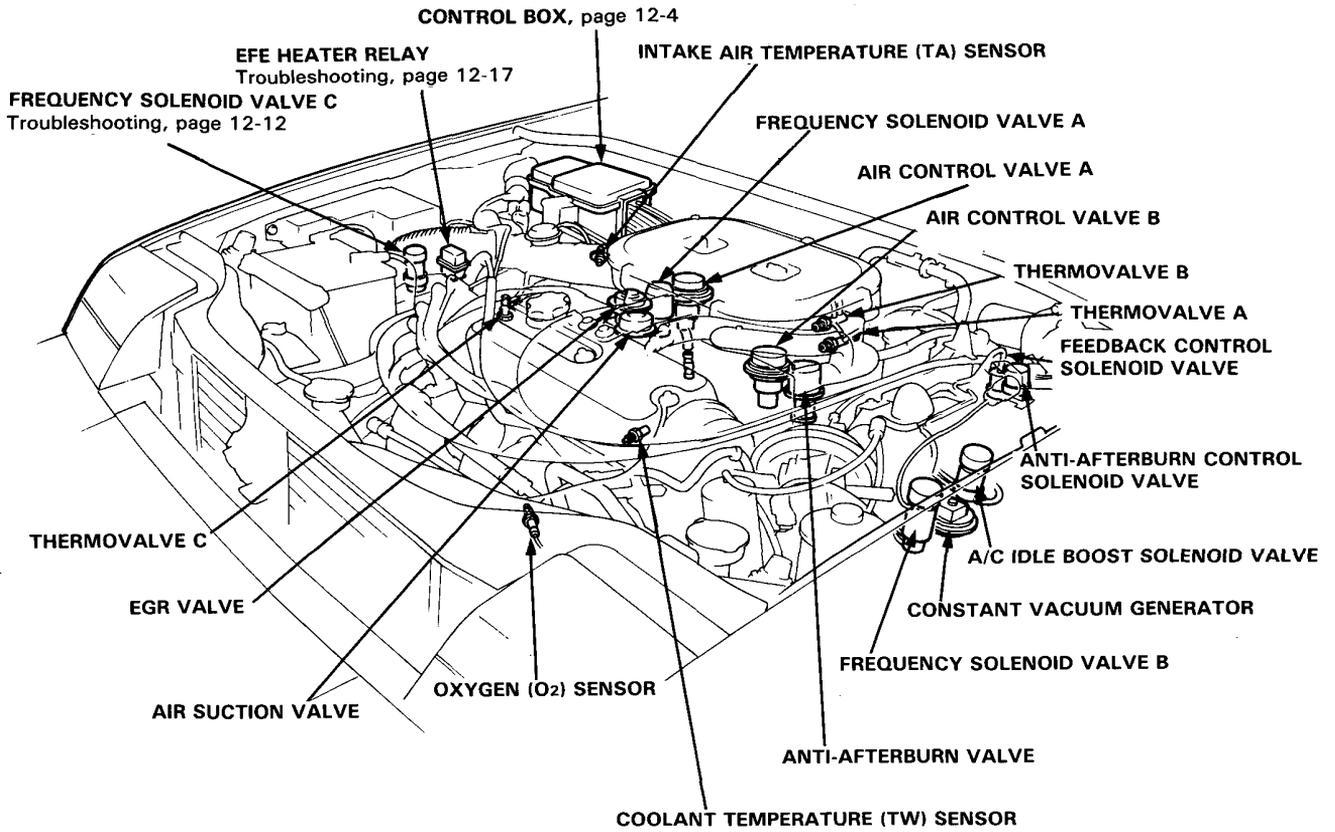


### Outline of Model Changes

#### Carbureted Engine (A20A1)

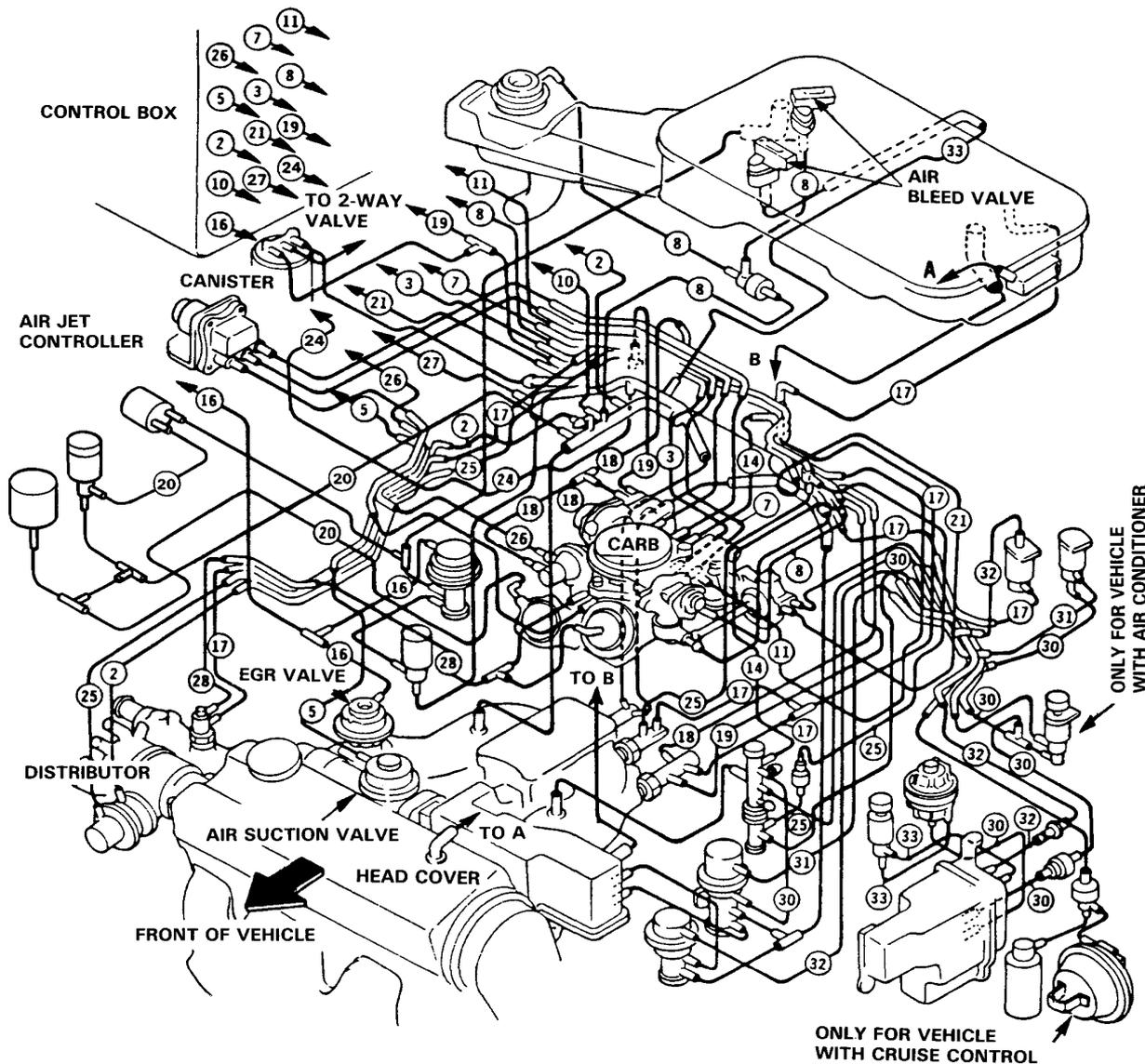
- Throttle cable had been changed.
- Adjustment of the idle speed/mixture had been changed.
- EFE System had been changed.
- Clutch Switch had been changed.

# Component Locations



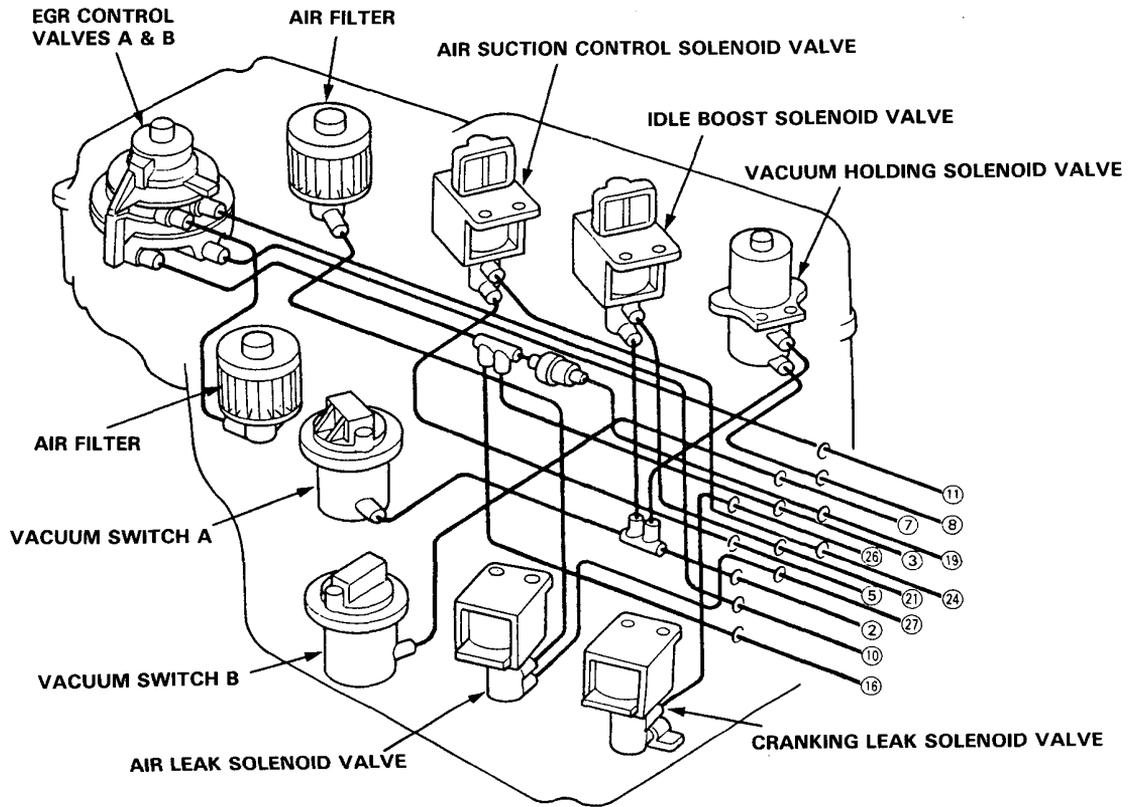


# Automatic



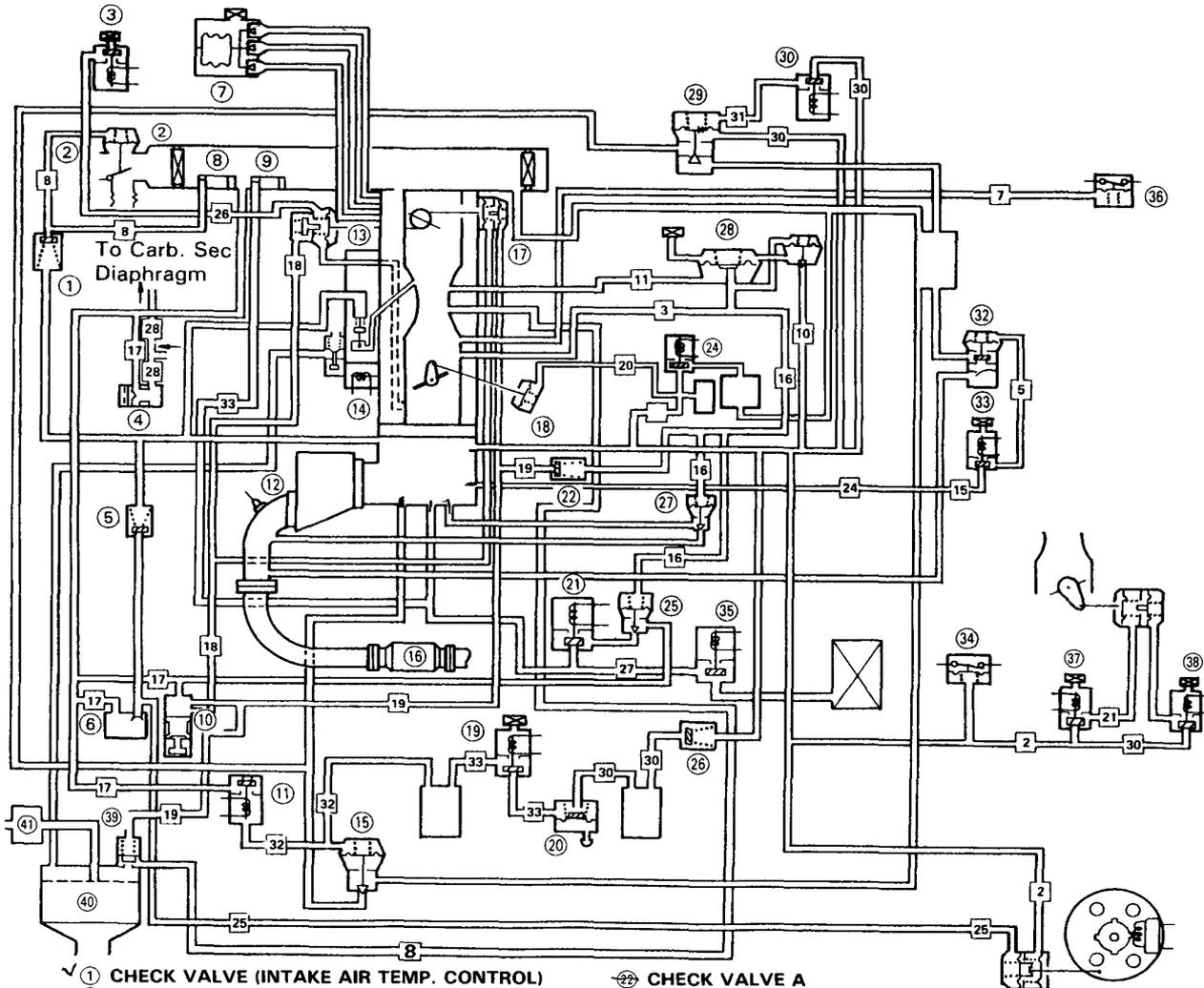
# Vacuum Connections

Control Box (A/T only)



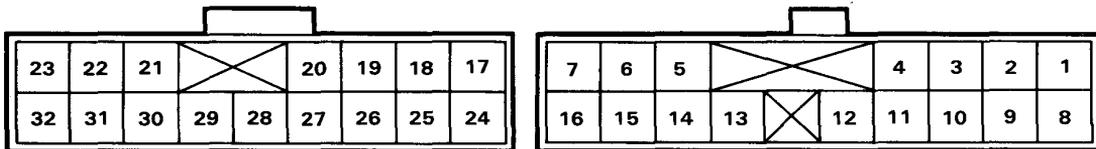
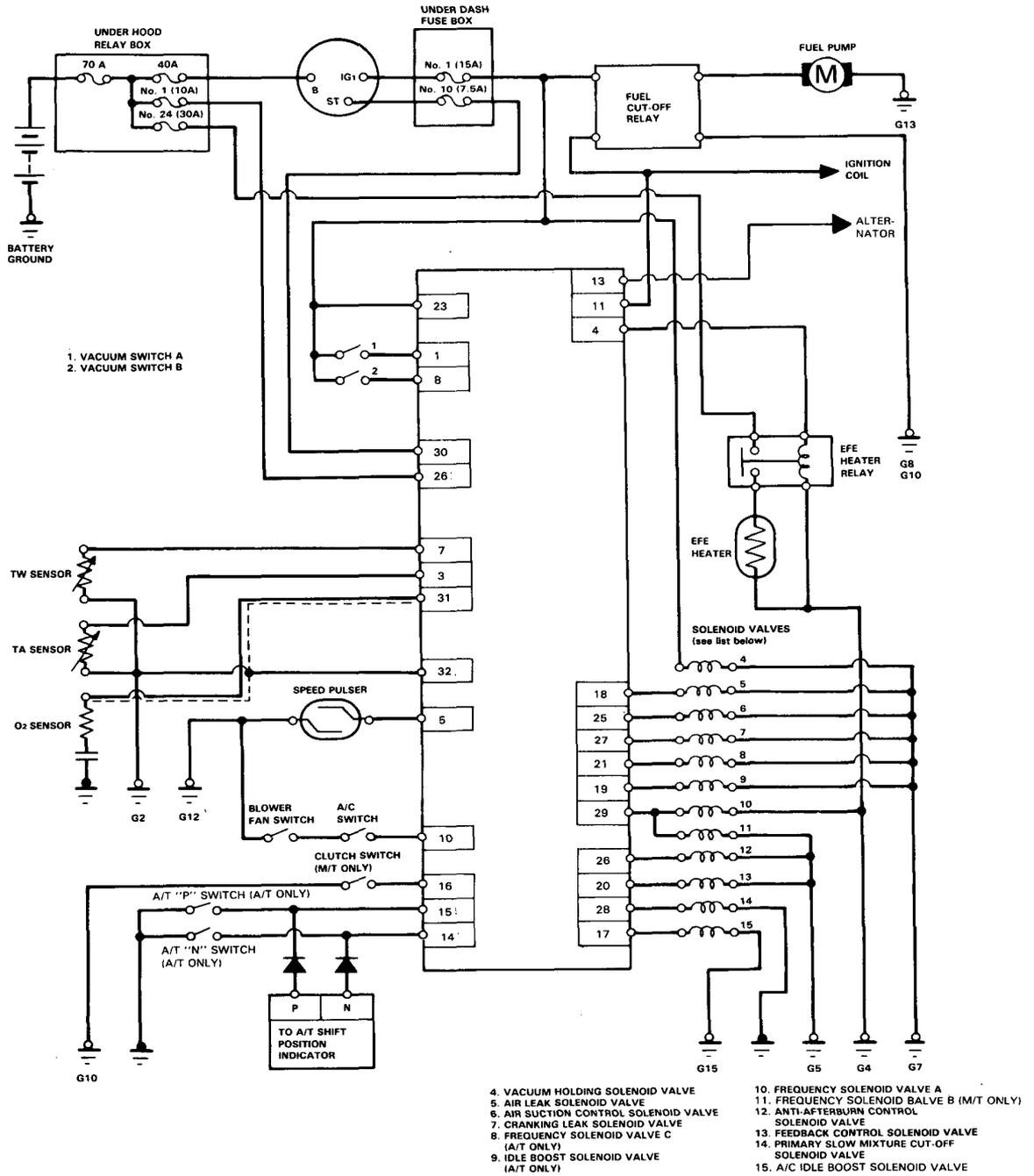


# Automatic



- |  |  |
|--|--|
| ✓ 1 CHECK VALVE (INTAKE AIR TEMP. CONTROL)     | ✓ 27 EGR VALVE                             |
| ✓ 2 INTAKE AIR CONTROL DIAPHRAGM               | ✓ 28 EGR CONTROL VALVES A & B              |
| ✓ 3 CRANKING LEAK SOLENOID VALVE               | ✓ 29 ANTI-AFTERBURN VALVE                  |
| 4 THERMOVALVE C                                | ✓ 30 ANTI-AFTERBURN CONTROL SOLENOID VALVE |
| 5 CHECK VALVE E                                | ✓ 31 VACUUM HOLDING SOLENOID VALVE         |
| 6 THERMOVALVE B                                | ✓ 32 AIR SUCTION VALVE                     |
| 7 AIR JET CONTROLLER                           | ✓ 33 AIR SUCTION CONTROL SOLENOID VALVE    |
| 8 AIR BLEED VALVE A                            | 34 VACUUM SWITCH A                         |
| ✓ 9 AIR BLEED VALVE B                          | 35 AIR LEAK SOLENOID VALVE                 |
| 10 THERMOVALVE A                               | 36 VACUUM SWITCH B                         |
| 11 FEEDBACK CONTROL SOLENOID VALVE             | 37 IDLE BOOST SOLENOID VALVE               |
| 12 OXYGEN SENSOR                               | 38 A/C IDLE BOOST SOLENOID VALVE           |
| 13 CHOKE OPENER                                | 39 PURGE CONTROL VALVE                     |
| 14 PRIMARY SLOW MIXTURE CUT-OFF SOLENOID VALVE | 40 CHARCOAL CANISTER                       |
| ✓ 15 AIR CONTROL VALVE B                       | 41 TWO-WAY VALVE                           |
| 16 CATALYTIC CONVERTER                         |  |
| 17 FAST IDLE UNLOADER                          |  |
| 18 THROTTLE CONTROLLER                         |  |
| 19 FREQUENCY SOLENOID VALVE B                  |  |
| 20 CV GENERATOR                                |  |
| 21 FREQUENCY SOLENOID VALVE A                  |  |
| ✓ 22 CHECK VALVE A                             |  |
| 23 VACUUM CHAMBER                              |  |
| 24 FREQUENCY SOLENOID VALVE C                  |  |
| 25 AIR CONTROL VALVE A                         |  |
| 26 CHECK VALVE B                               |  |

# Electrical Connections



TERMINAL LOCATION

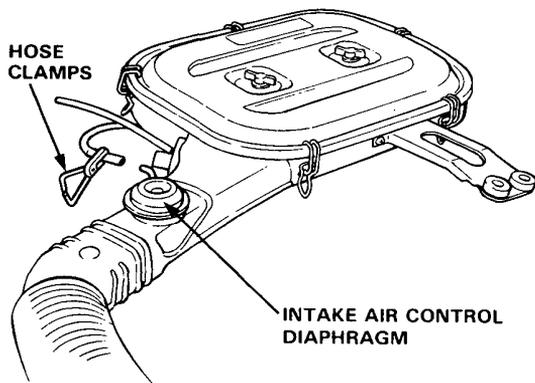


# Idle Speed/Mixture

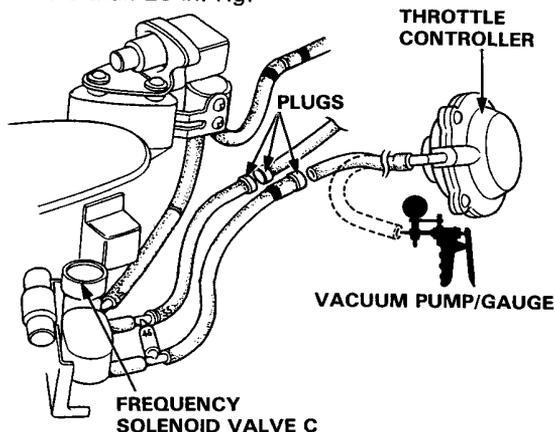
## Inspection/Adjustment

### Automatic Transmission

1. Start engine and warm up to normal operating temperature; the cooling fan will come on.
2. Remove the vacuum hose from the intake air control diaphragm and clamp the hose end.

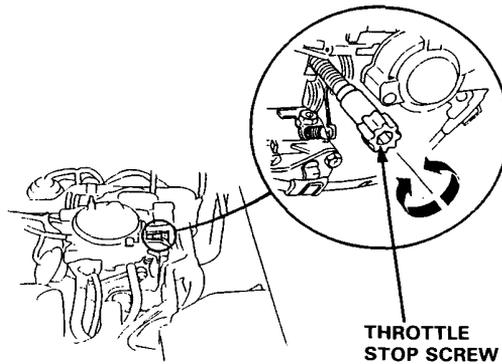
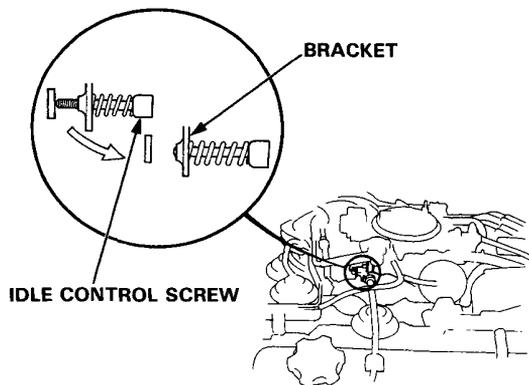


3. Connect a tachometer.
4. Disconnect #20 vacuum hose from 2-way joint between the frequency solenoid valve C and vacuum hose manifold, and plug the vacuum hose as shown.  
Disconnect #20 vacuum hose from 2-way joint between the frequency solenoid valve C and throttle controller, and plug the hose of the frequency solenoid valve side. Connect a vacuum pump to the hose of throttle controller and apply vacuum of more than 20 in. Hg.

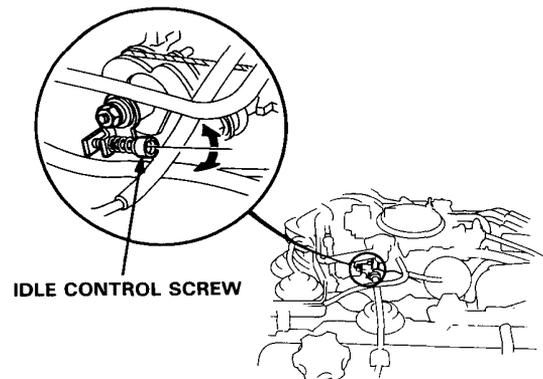


5. Turn back the idle control screw end is flush with the bracket as shown.

With the headlights, heater blower, rear window defogger, cooling fan and air conditioner off, and transmission in "N" or "P", lower the idle speed as much as possible by turning the throttle stop screw.



6. Adjust the idle speed by turning the idle control screw to  $630 \pm 50 \text{ min}^{-1}$  (rpm).



7. Adjust the idle speed by turning the throttle stop screw to  $700 \pm 50 \text{ min}^{-1}$  (rpm).

(cont'd)

# Idle Speed/Mixture

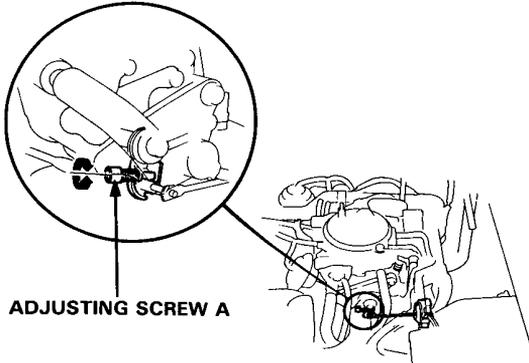
## Inspection/Adjustment (cont'd)

8. With transmission in gear (except "P" or "N"), adjust the idle speed by turning adjusting screw A.

Idle speed should be:

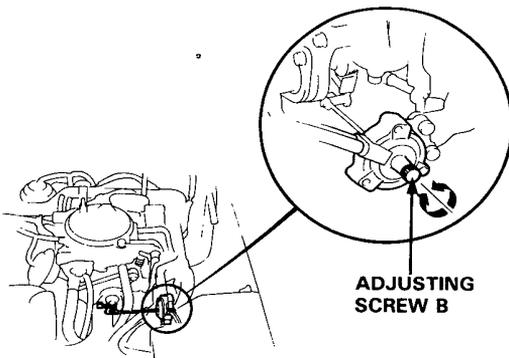
$675 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (at high altitude)

$700 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (at low altitude)



9. Shift transmission to "N" or "P" position.

10. If equipped with air conditioner, adjust the idle speed by turning adjusting screw B to  $700 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  with A/C on.



11. Stop the engine, remove the inside vacuum hose from the idle boost throttle controller and plug the hose.

12. Check the maximum engine speed by the propane enrichment method.

RPM increase should be:  $30 \pm 10 \text{ min}^{-1} \text{ (rpm)}$  (in park)

- If engine speed increases per specification, go to step 13.
- If engine speed does not increase per specification, adjust the enriched speed by turning the mixture screw.

13. Stop engine. Close the propane control valve, remove all plugs, and reconnect all hoses.

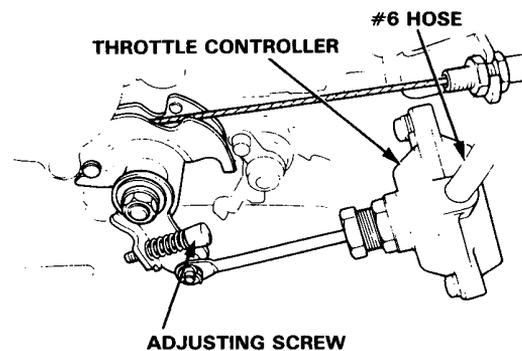
14. Restart the engine and recheck idle speed.

NOTE: Raise the engine speed to  $2,500 \text{ min}^{-1} \text{ (rpm)}$  2 or 3 times in 10 seconds, and then check the idle speed.

Idle speed should be:  $730 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (in "N" or "P")

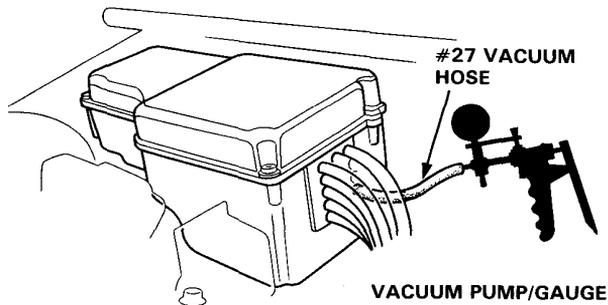
- If the idle speed is as specified, go to step 16.
- If the idle speed is not as specified, return to steps 4 through 12.

15. If the intake air temperature is above  $65^{\circ}\text{C}$  ( $149^{\circ}\text{F}$ ), go on to step 16 through 20.





16. Disconnect #5 vacuum hose from the air suction valve and plug the hose.
17. Disconnect the #27 vacuum hose from the pipe and plug the pipe.  
Attach vacuum pump/gauge to the #27 hose and apply vacuum.



18. With the engine idling, depress the push button on top of the propane device, then slowly open the propane control valve and check for vacuum.

There should be no vacuum.

- If there is no vacuum, check the air leak solenoid valve.

19. Reconnect all hoses.
20. Check the air bleed valve B.
21. Remove propane enrichment kit and reconnect air cleaner intake tube on the air intake duct.
22. Reinstall the mixture adjusting screw hole cap.
23. Recheck the idle speed with the A/T shift lever in gear.

**Idle speed should be:  $730 \pm 50 \text{ min}^{-1}$  (rpm)**

24. Recheck the idle speed with the A/C on and with the shift lever in "P" or "N" position.

**Idle speed should be:  $750 \pm 50 \text{ min}^{-1}$  (rpm)**

25. Recheck the idle speed with the A/C on and in gear.

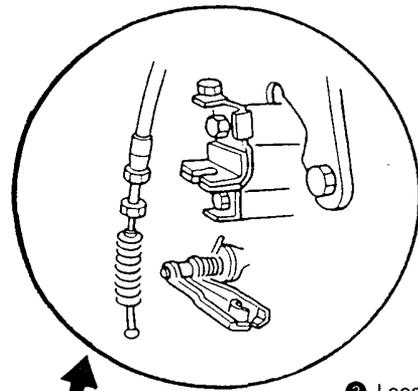
**Idle speed should be:  $750 \pm 50 \text{ min}^{-1}$  (rpm)**

26. If the idle rpm does not reach the specified idle speeds in steps 16 and 25 through 27, inspect the idle control system.

# Throttle Cable

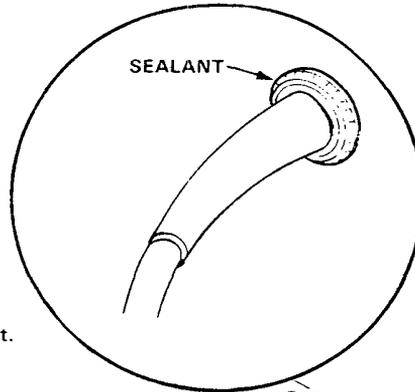
## Replacement

NOTE: Detach parts in the numbered sequence shown.



2 Loosen locknut.

1 Push back the boot.



7 Turn grommet 90°, then pull cable through firewall from engine side.

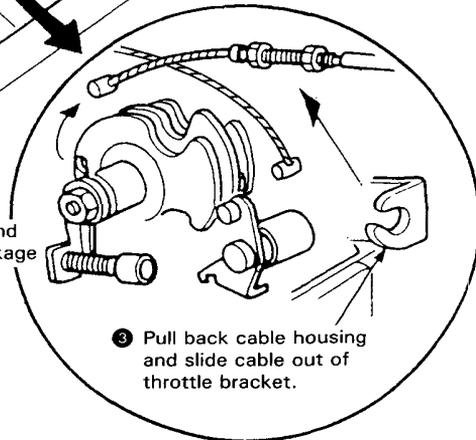
5 Remove cable end from pedal rod arm.

ACCELERATOR PEDAL

A/T THROTTLE CONTROL CABLE  
(Part of the throttle cable on cars  
with automatic transmission)

6 Remove cable from  
bracket on valve cover.

4 Remove cable end  
from throttle linkage



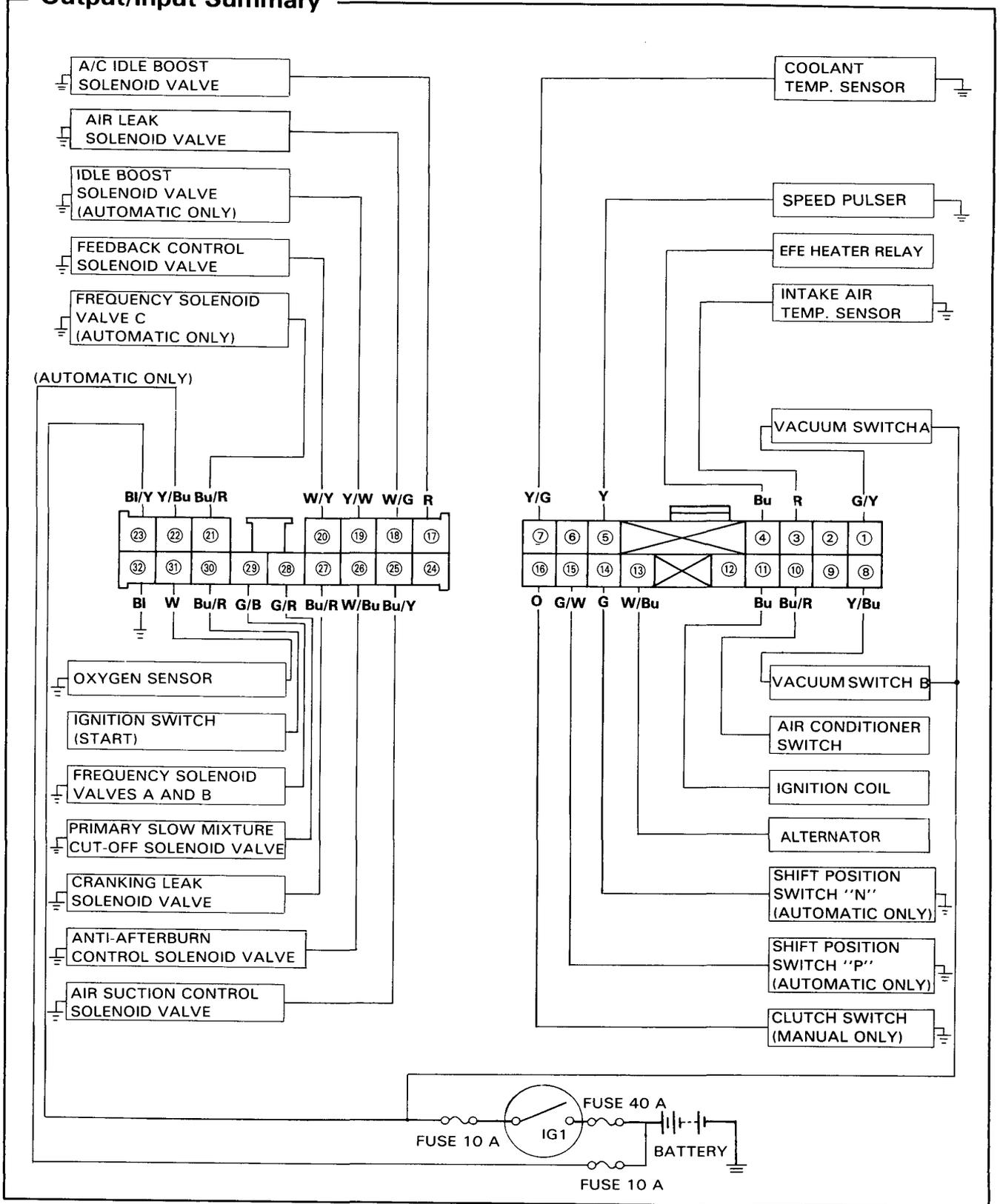
3 Pull back cable housing  
and slide cable out of  
throttle bracket.

8 Install the cable in reverse order of removal.  
Apply sealant to grommet mating surface, when installing  
cable.



# Control Unit

## Output/Input Summary



# Control Unit Output Troubleshooting

## Frequency Solenoid Valve C (A/T Only)

The frequency solenoid valve C is energized when the engine speed is above or below 730 min<sup>-1</sup> (rpm) and the coolant temperature is above 60°C (140°F). It controls the vacuum to the throttle controller.

### Inspection of Frequency Solenoid Valve C

Disconnect the lower vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum pump.

Disconnect the upper vacuum hose of the solenoid valve from the 3-way joint.

Disconnect the 2P connector near the solenoid valve.

Apply vacuum.

Does solenoid valve hold vacuum?

NO

Replace the solenoid valve.

YES

Connect a vacuum gauge to the upper vacuum hose.

Connect the battery positive terminal to the Blue/Red terminal of the 2P connector and the battery negative terminal to the Black terminal.

Apply vacuum.

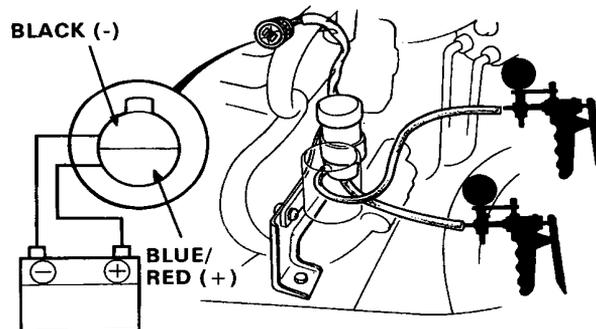
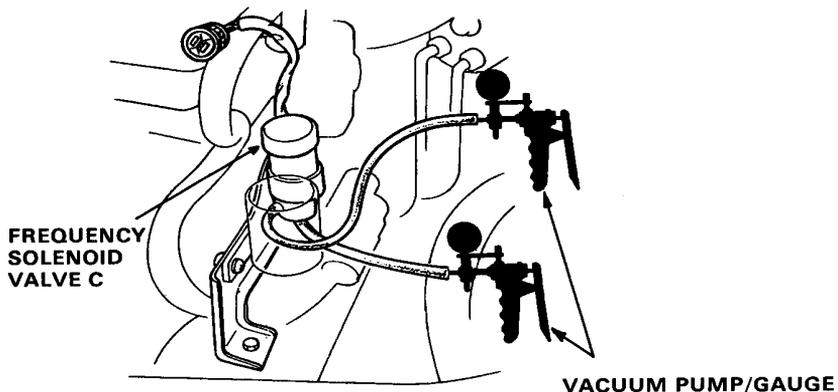
Is vacuum indicated on the gauge?

NO

Replace the solenoid valve.

YES

(To page 12-13)





(From page 12-12)

Disconnect the battery terminals from the 2P connector.

Is vacuum indicated on the gauge?

Replace the solenoid valve.

Reconnect vacuum hose and 2P connector.

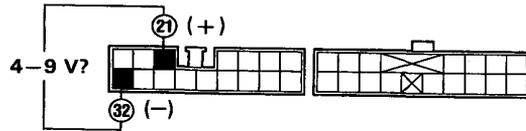
Start engine and warm up to normal operating temperature (cooling fan comes on).

Measure voltage between ① (Blue/Red • +) terminal and ② (Black • -) terminal of the control unit.

Is there 4–9 volts?

Go to Input Troubleshooting (page 12-18).

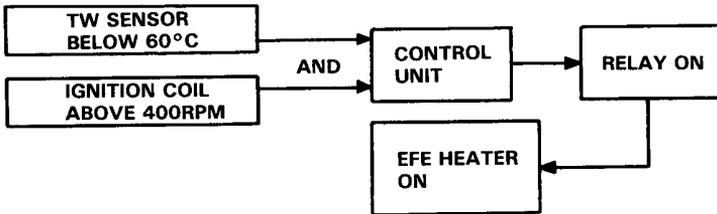
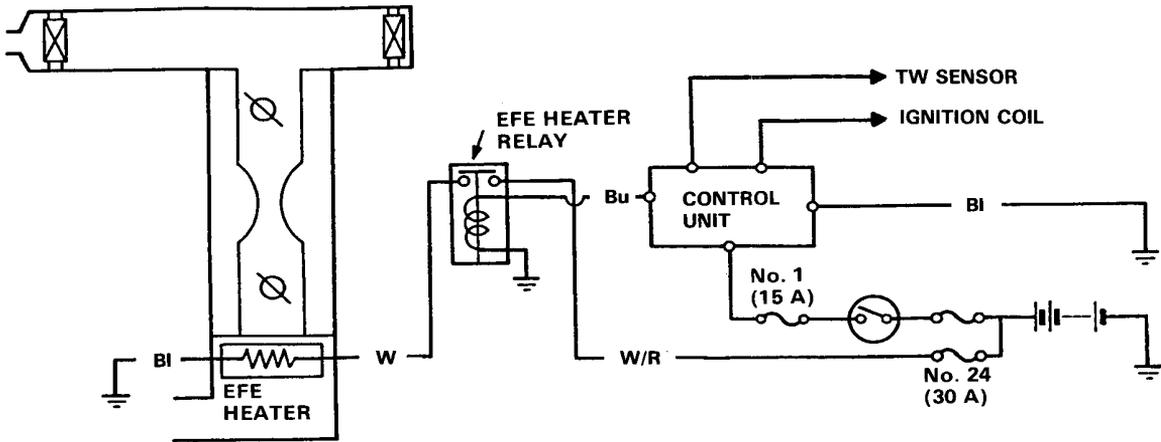
Inspect open in Blue/Red wire between control unit ① and solenoid valve, and Black wire between the solenoid valve and G7.



# Control Unit Output Troubleshooting

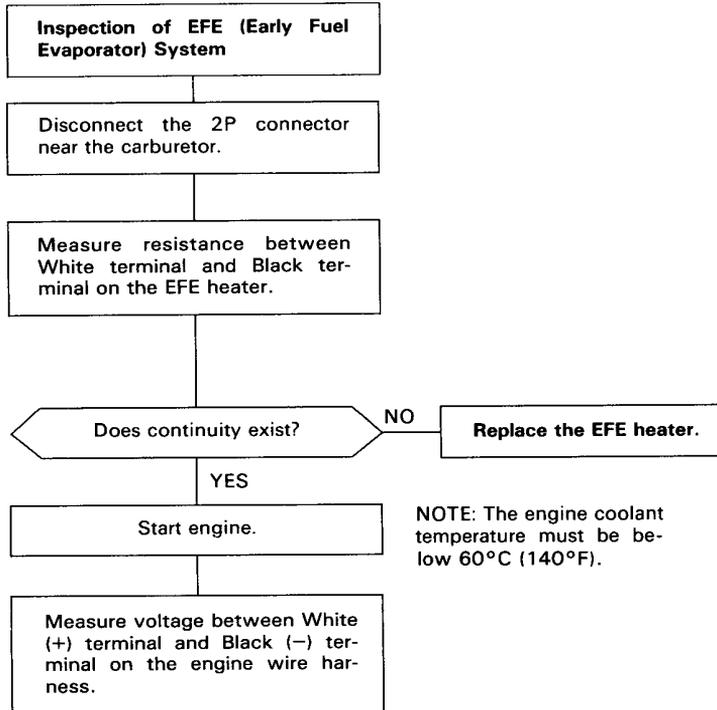
## EFE (Early Fuel Evaporator) System

To promote improved engine operation while the engine is warming up, the carburetor insulator includes a heater in the primary bore. The maximum temperature of the heater is regulated by the electrical resistance of the heating element.

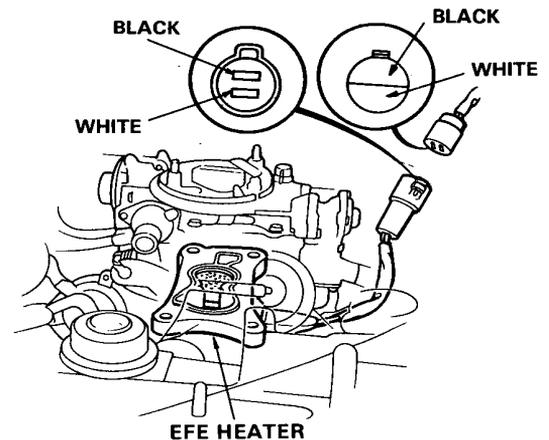


### CAUTION:

- Be careful not to damage the EFE Heater when servicing the carburetor.
- Make sure that there is no foreign matter on the EFE Heater after installing.
- Make sure that the O-ring and seal are properly installed.
- Do not pull the harness while removing/installing the EFE Heater.
- When removing, make sure to disconnect the connector to the engine sub harness.



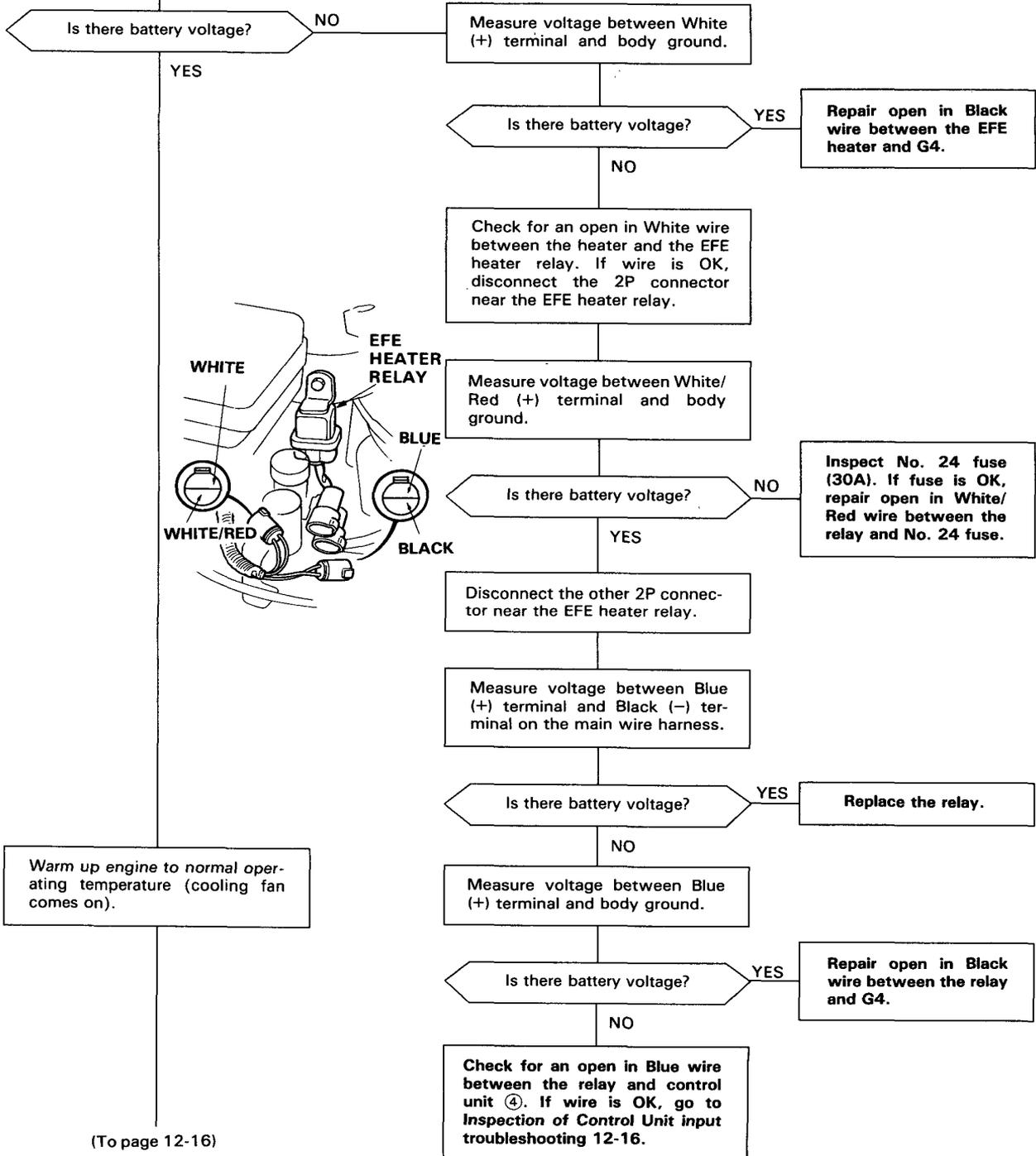
NOTE: The engine coolant temperature must be below 60°C (140°F).



(To page 12-15)



(From page 12-14).

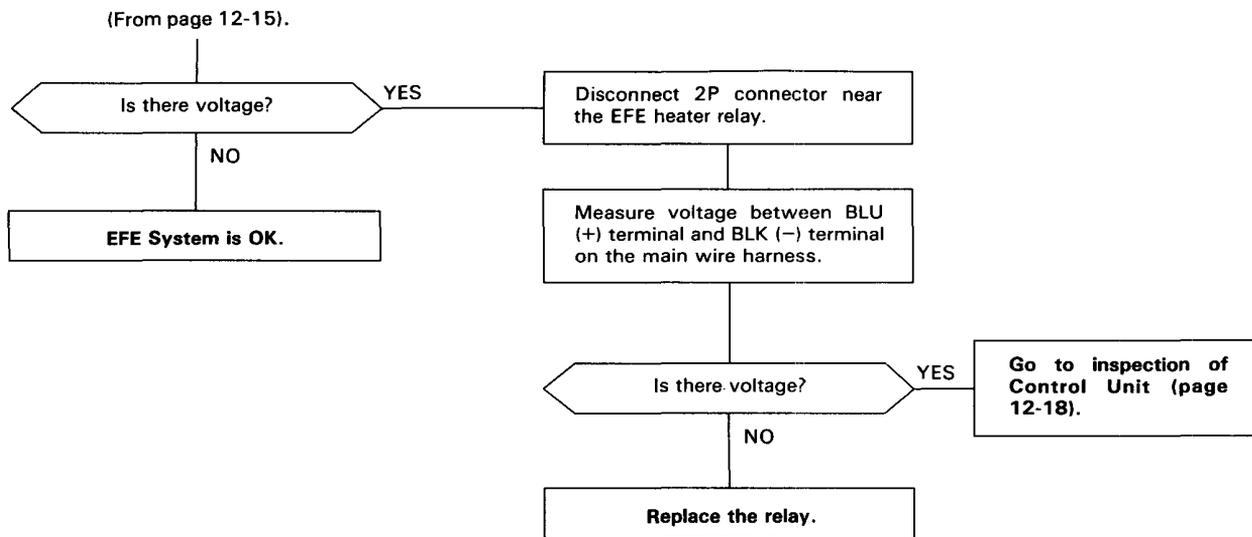


(To page 12-16)

(cont'd)

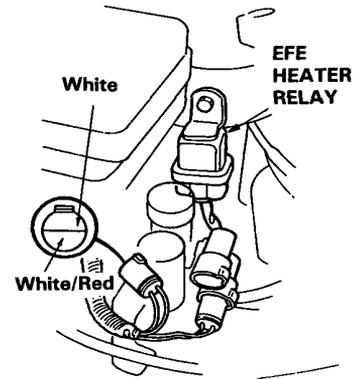
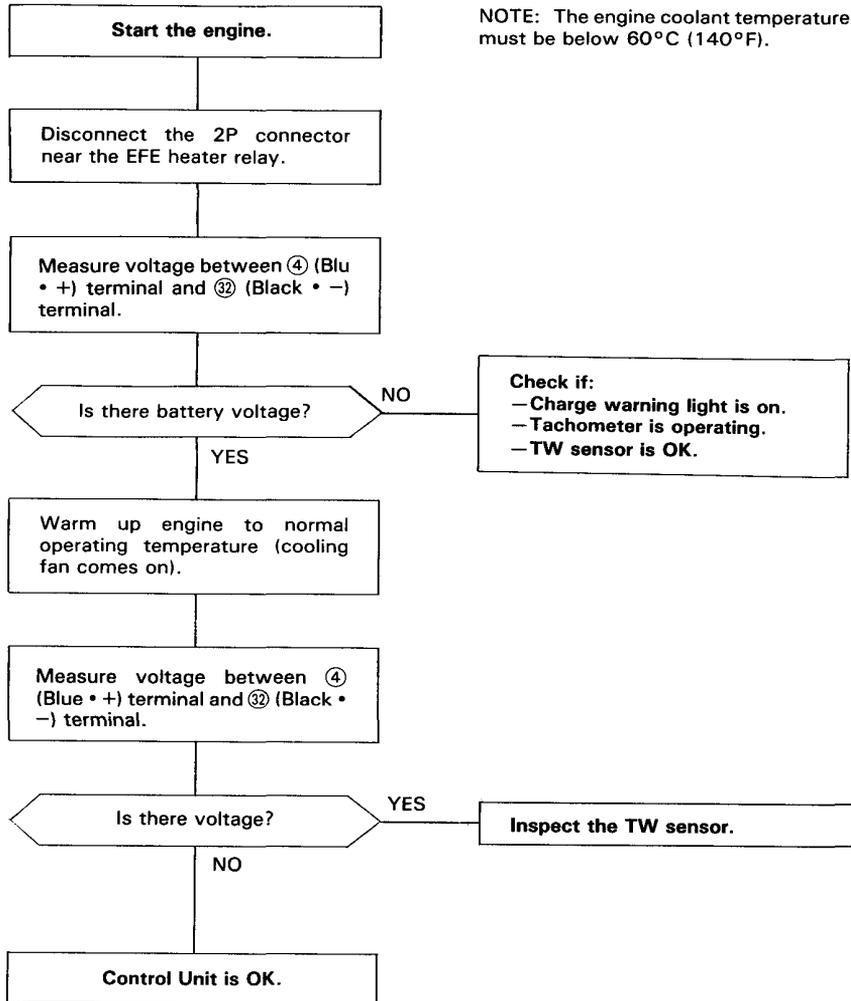
# Control Unit Output Troubleshooting

## EFE (Early Fuel Evaporator) System (cont'd)





## Inspection of Control Unit (output to EFE relay)



# Control Unit Input Troubleshooting

If there is no voltage from the control unit when there should be voltage or if there is voltage from the unit when there shouldn't be voltage, inspect as follows and if no defects can be found, replace the control unit and re-test.

PROBLEMATIC CIRCUIT	REFER TO CHECK		CHECK
To frequency solenoid valves A and B (29 Green/Black)	M/T	1,4,6,7,8,9,10,11,12	<ol style="list-style-type: none"> <li>1. Inspect the power source (IG 1) and ground.</li> <li>2. Inspect the power source.</li> <li>3. Inspect the starter signal.</li> <li>4. Inspect the ignition coil signal.</li> <li>5. Inspect the A/T shift position signal.</li> <li>6. Inspect the clutch switch signal (page 12-19).</li> <li>7. Inspect vacuum switch A (page 12-194).</li> <li>8. Inspect vacuum switch B (page 12-196).</li> <li>9. Inspect the speed pulser.</li> <li>10. Inspect the coolant temperature (TW) sensor.</li> <li>11. Inspect the intake air temperature (TA) sensor.</li> <li>12. Inspect the oxygen (O<sub>2</sub>) sensor.</li> <li>13. Inspect the A/C switch signal.</li> </ol>
	A/T	1,4,5,7,8,9,10,11,12	
To feedback control solenoid valve (20 White/Yellow)	M/T	1,4,6,8,10	
	A/T	1,4,5,8,9,10	
To frequency solenoid valve C (A/T only) (21 Blue/Red)	1,2,4,5,9,10,13		
To idle boost solenoid valve (A/T only) (19 Yellow/White)	1,4,5,7,9,10,13		
To air suction control solenoid valve (25 Blue/Yellow)	M/T	1,4,7,8,9,10,11	
	A/T	1,4,7,9,10,11	
To anti-afterburn control solenoid valve (26 White/Blue)	M/T	1,9,10	
	A/T	1,5,10	
To cranking leak solenoid valve (27 Blue/Red)	1,3,4,9,10,11		
To primary slow mixture cut-off solenoid valve (28 Green/Red)	M/T	1,4,6,7,8,9,10	
	A/T	1,4,5,7,8,9,10	
A/C idle boost solenoid valve (17 Red)	1,4,7,9,10,13		
To EFE heater unit (4 Blue)	1,4,10		



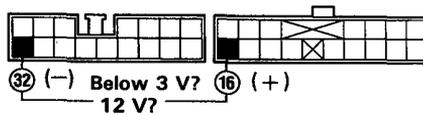
# Clutch Switch Signal

This signals the control unit when the clutch is engaged.

## Inspection of Clutch Switch Signal

Turn the ignition switch ON.

Measure voltage between ⑩ (Pink • +) terminal and ③② (Black • -) terminal.



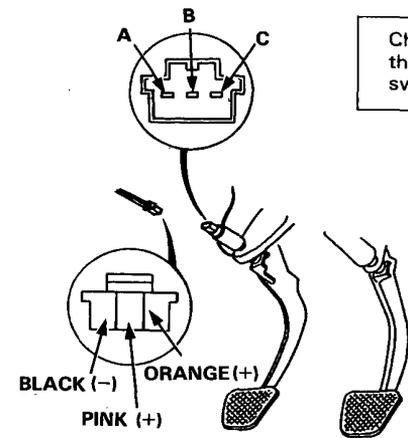
Is there below 3 V?

NO  
Turn the ignition switch OFF.

YES

Disconnect the 3P connector on the clutch switch.

Check for continuity between the 2 terminals on the clutch switch.



Depress the clutch pedal.

Measure voltage between ⑩ (Orange • +) terminal and ③② (Black • -) terminal.

Does continuity exist?

YES  
Replace the clutch switch.

NO

Turn the ignition switch ON.

Measure voltage between Orange (+) terminal and body ground.

Is there battery voltage?

NO  
Repair open in Orange wire between the clutch switch and control unit ⑩.

YES

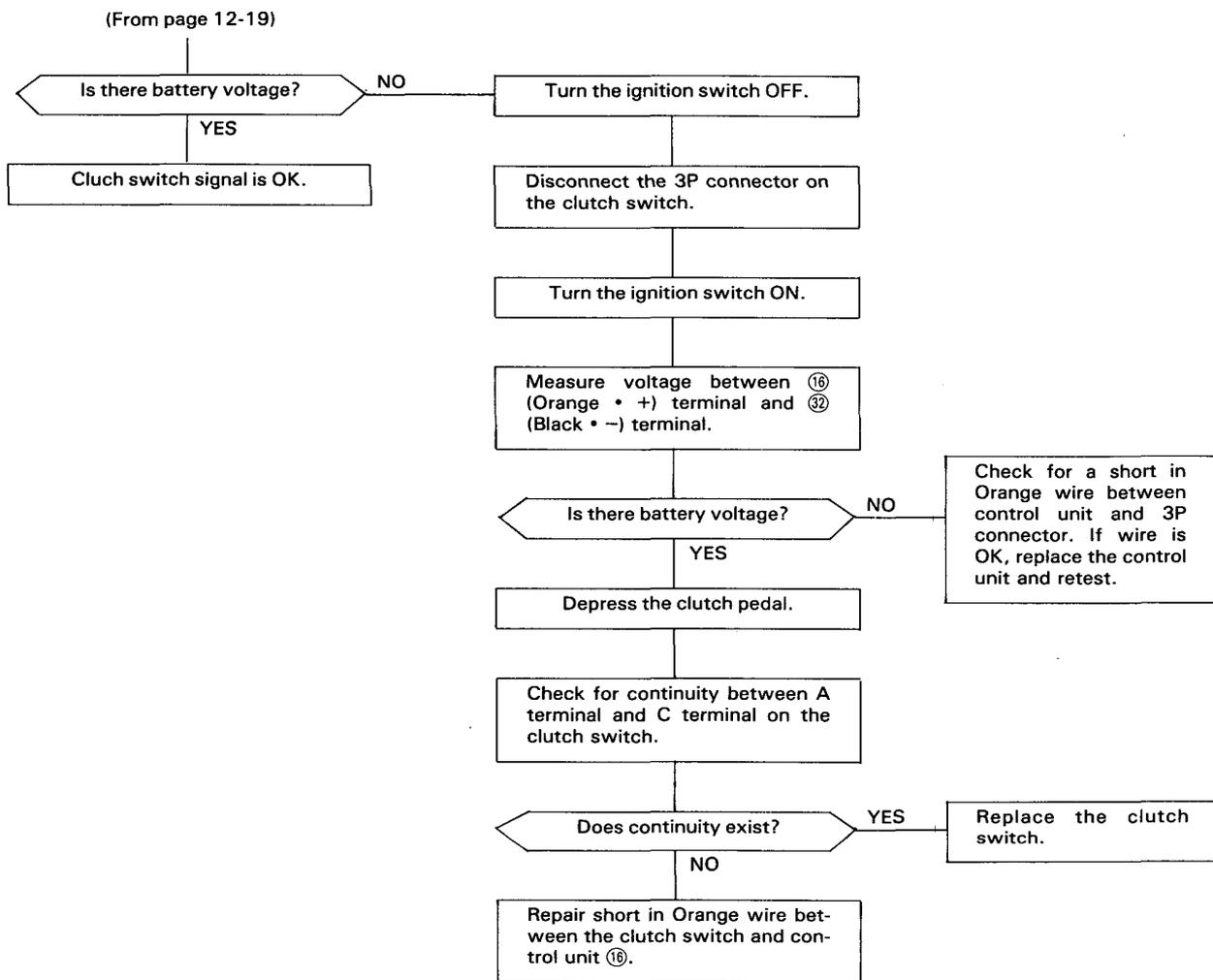
Repair open in Black wire between the clutch switch and G10.

(To page 12-18)

(cont'd)

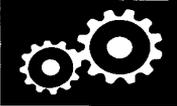
# Control Unit Input Troubleshooting

## Clutch Switch Signal (cont'd)



## Automatic Transmission

<b>Main Valve Body .....</b>	<b>15-2</b>
<b>Secondary Valve Body .....</b>	<b>15-3</b>
<b>Servo Valve Body .....</b>	<b>15-4</b>
<b>Parking Brake Stopper .....</b>	<b>15-5</b>



### Outline of Model Changes

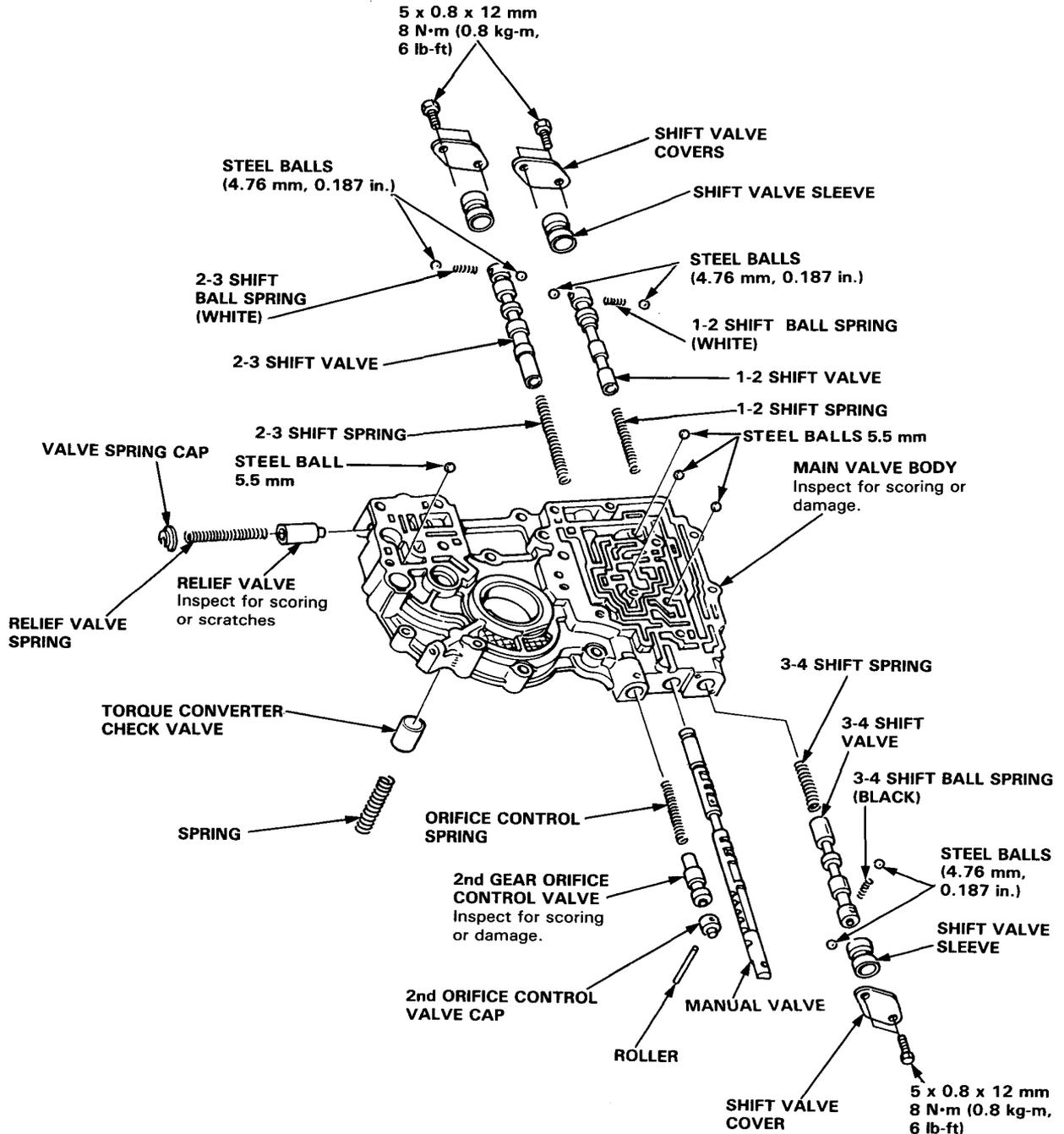
- Main valve body has been changed.
- Servo control valve in secondary valve body has been added.
- 4th exhaust valve in servo body has been added.
- Parking brake stopper adjustment has been added.

# Main Valve Body

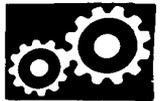
## Disassembly

### NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
- Replace valve body as an assembly if any parts are worn or damaged.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.
- Coat all parts with ATF before reassembly.



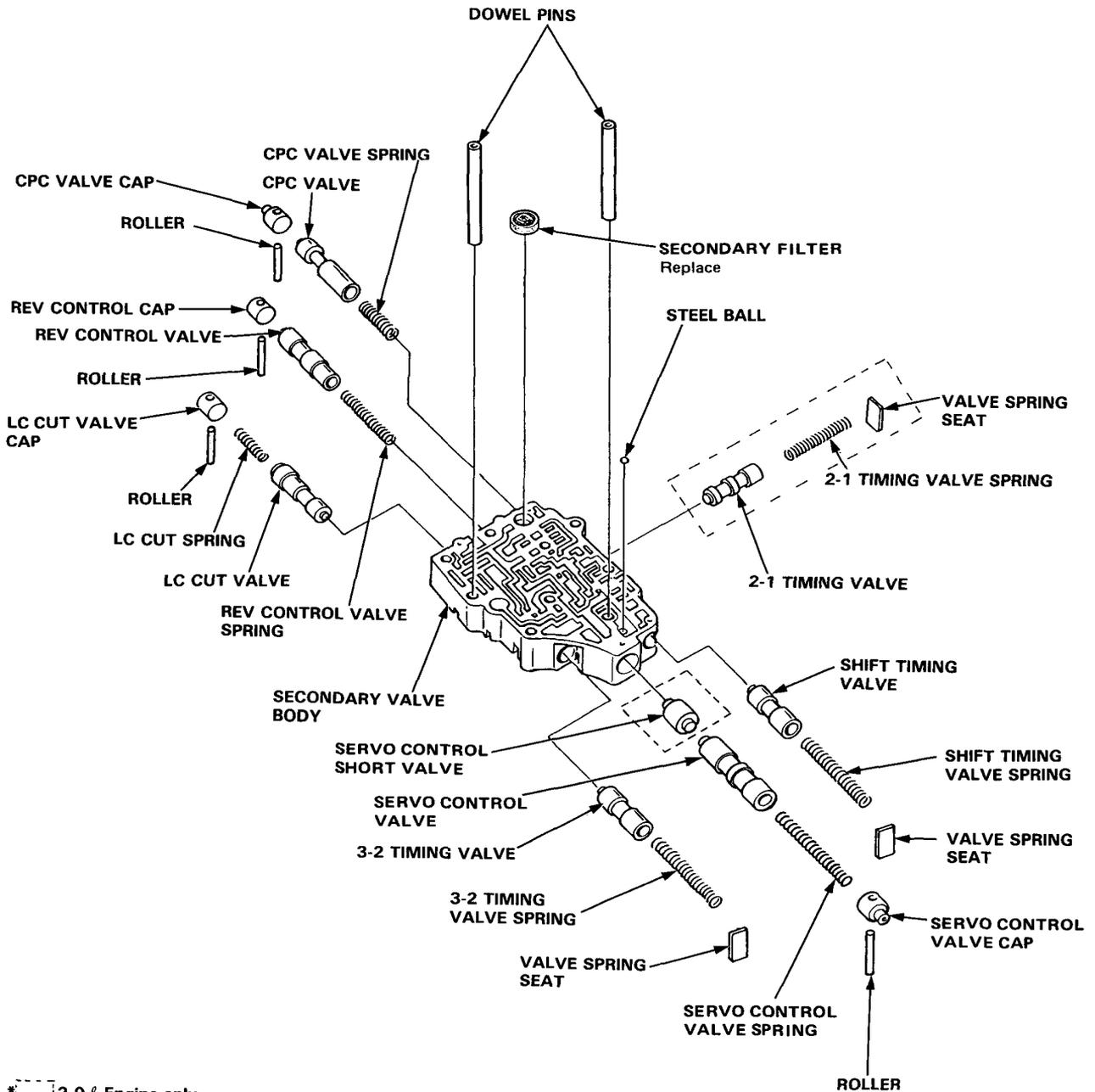
# Secondary Valve Body



## Disassembly/Inspection/Reassembly

**NOTE:**

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.



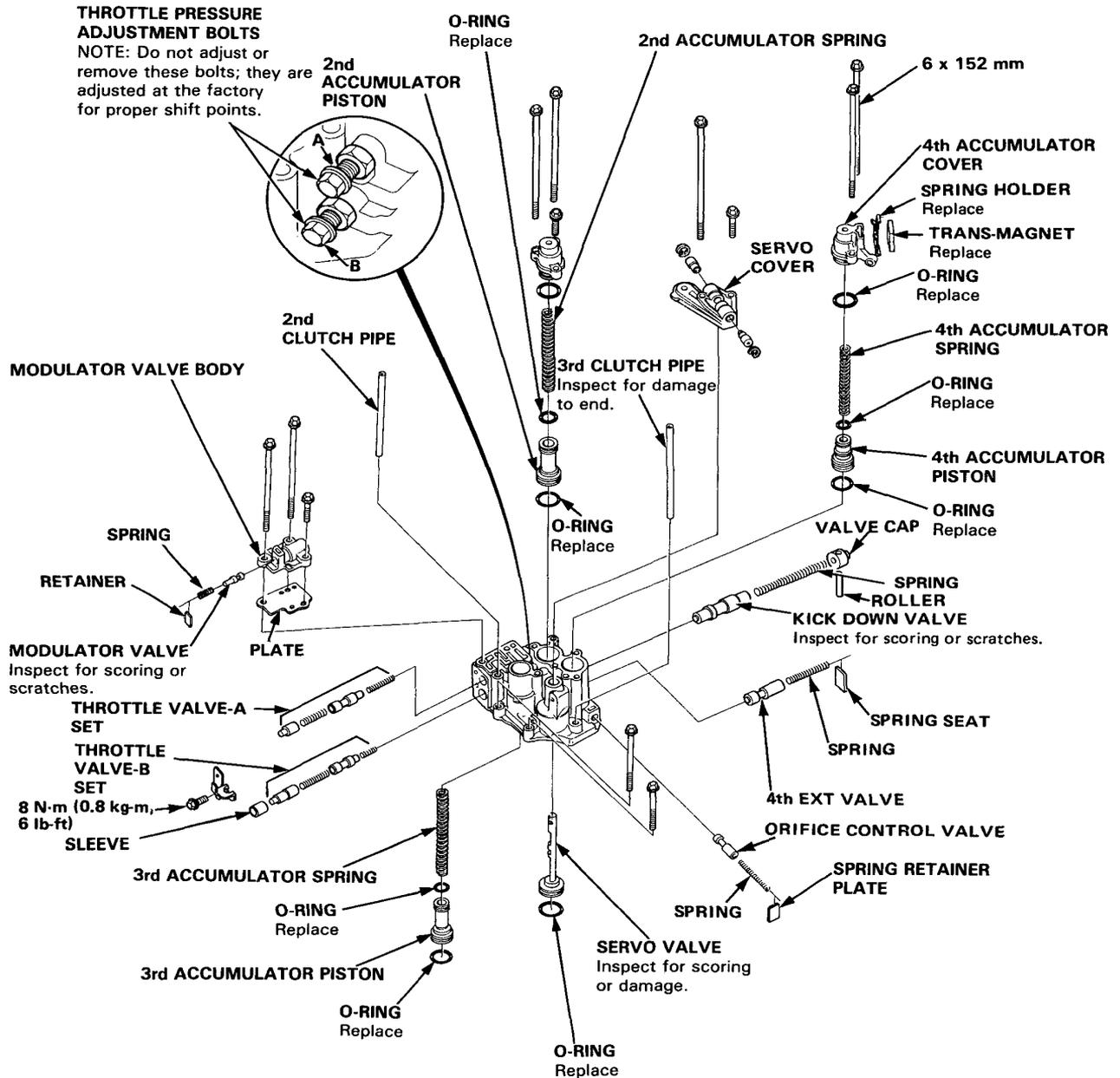
\* 2.0 l Engine only.

# Servo Valve Body

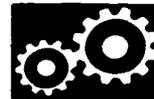
## Disassembly/Inspection/Reassembly

### NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.



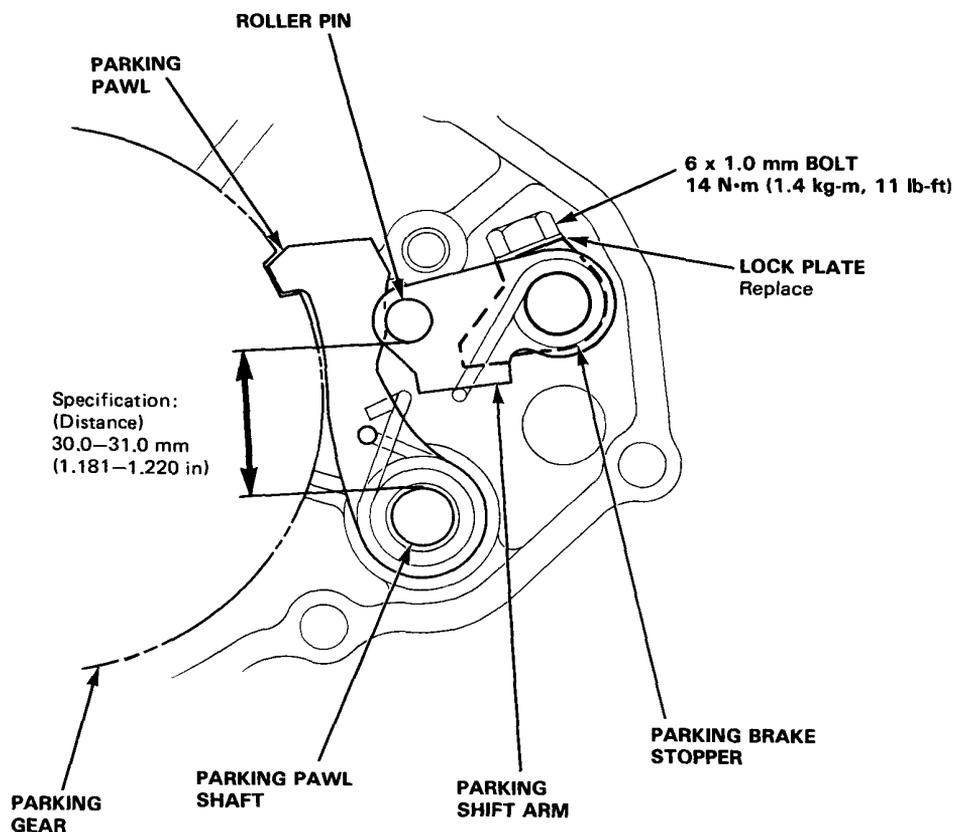
\* All Bolts torque: 12 N·m (1.2 kg-m, 9 lb-ft)



# Parking Brake Stopper

## Inspection/Adjustment

1. Set the parking shift arm in the PARK position.
2. Measure the distance between the outer face of the parking pawl shaft and outer face of the parking shift arm roller pin.



3. If the measurement is out of specification (distance), select the appropriate parking brake stopper using the table below, and install it on the parking shift arm.

No.	PART NUMBER
1	24537-PA9-003
2	24538-PA9-003
3	24539-PA9-003

## **Brakes**

<b>Conventinal Brake .....</b>	<b>20-1</b>
<b>ALB .....</b>	<b>20-5</b>



## **Conventional Brake**

### **Rear Drum Brake**

**Index and Inspection ..... 20-2**

### **Wheel Cylinder**

**Disassembly and Inspection ..... 20-3**



#### **Outline of Model Change**

The wheel cylinder of rear brake has been changed.

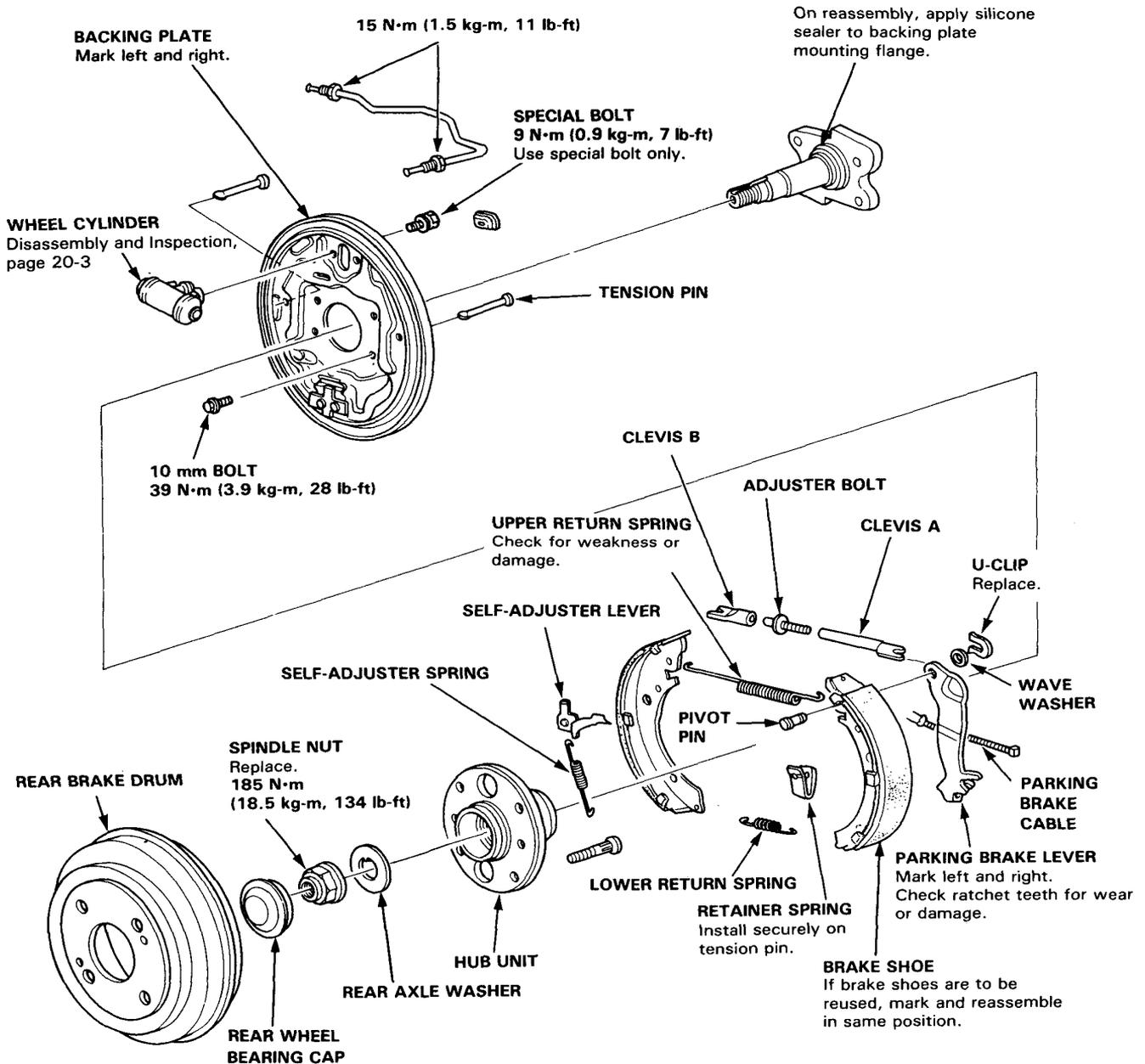
# Rear Drum Brake

## Index and Inspection

**WARNING** Block the front wheels before jacking up the rear of the car.

1. Raise the rear of the car and support with safety stands in proper locations.
2. Loosen the parking brake.
3. Remove the rear wheels and rear brake drum .

**WARNING** Do not use an air hose to blow the brake assembly clean.



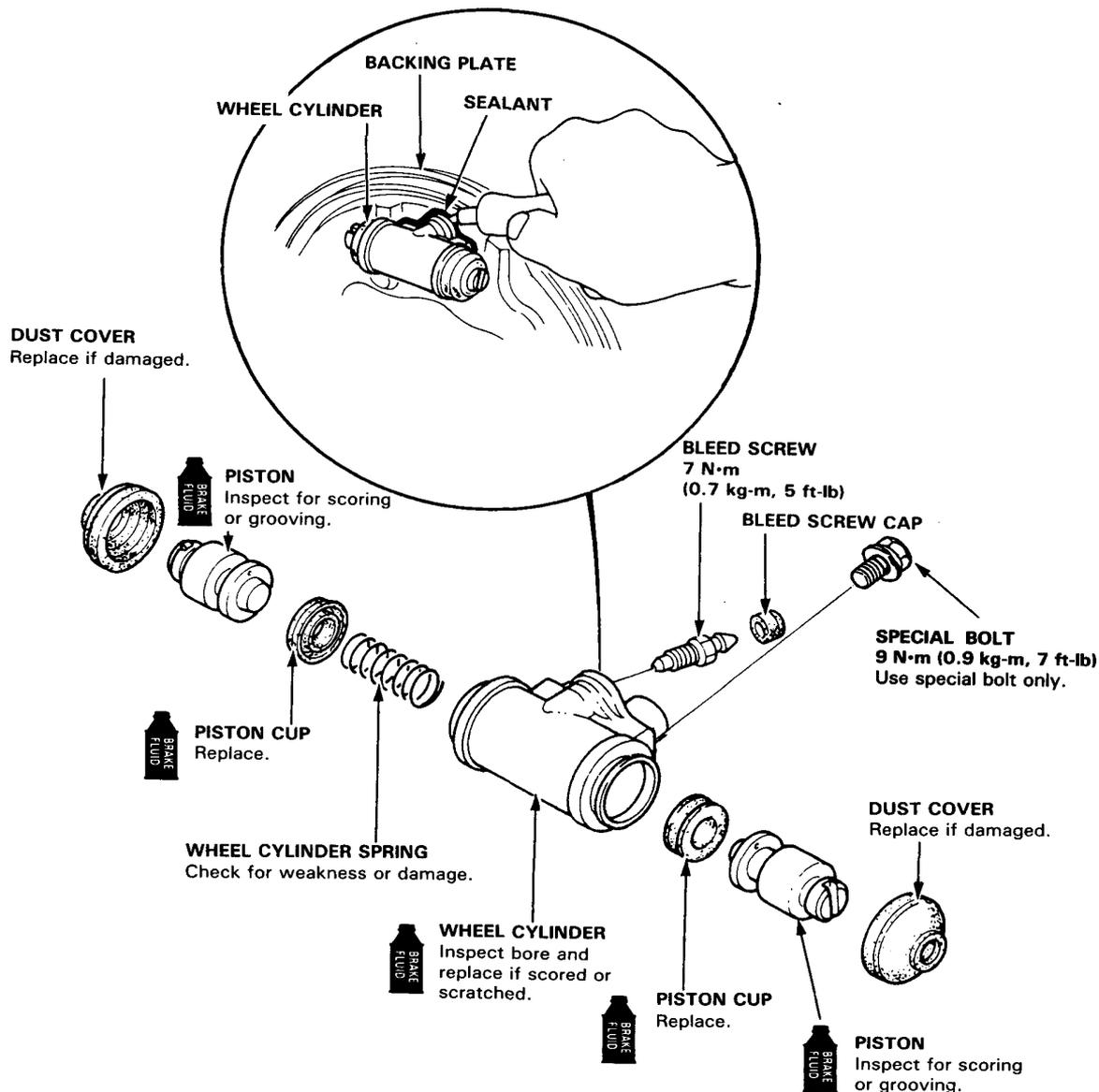
# Wheel Cylinder



## Disassembly and Inspection

### CAUTION:

- Use only clean brake fluid.
- Use only new replacement parts.
- Brake fluid will damage the painted, plastic and rubber parts. Whenever handling brake fluid, protect the painted, plastic or rubber parts by covering with a rag. If fluid does get on these parts, wipe it off with a clean cloth.
- Blow all passages with compressed air before reassembling.
- Clean all parts thoroughly with the clean brake fluid.
- Do not allow dirt or other foreign matter to contaminate the brake fluid.
- Do not mix different types of fluid. They are not compatible.
- Never reuse the brake fluid once it has been drained.
- Lubricate all parts with clean brake fluid during reassembly.
- Apply sealant between the wheel cylinder and backing plate whenever the wheel cylinder has been removed.



# ALB

## Master Cylinder

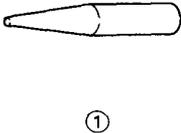
Special Tool .....	20-6
Index/Inspection .....	20-7
Assembly .....	20-8



### Outline of Model Change

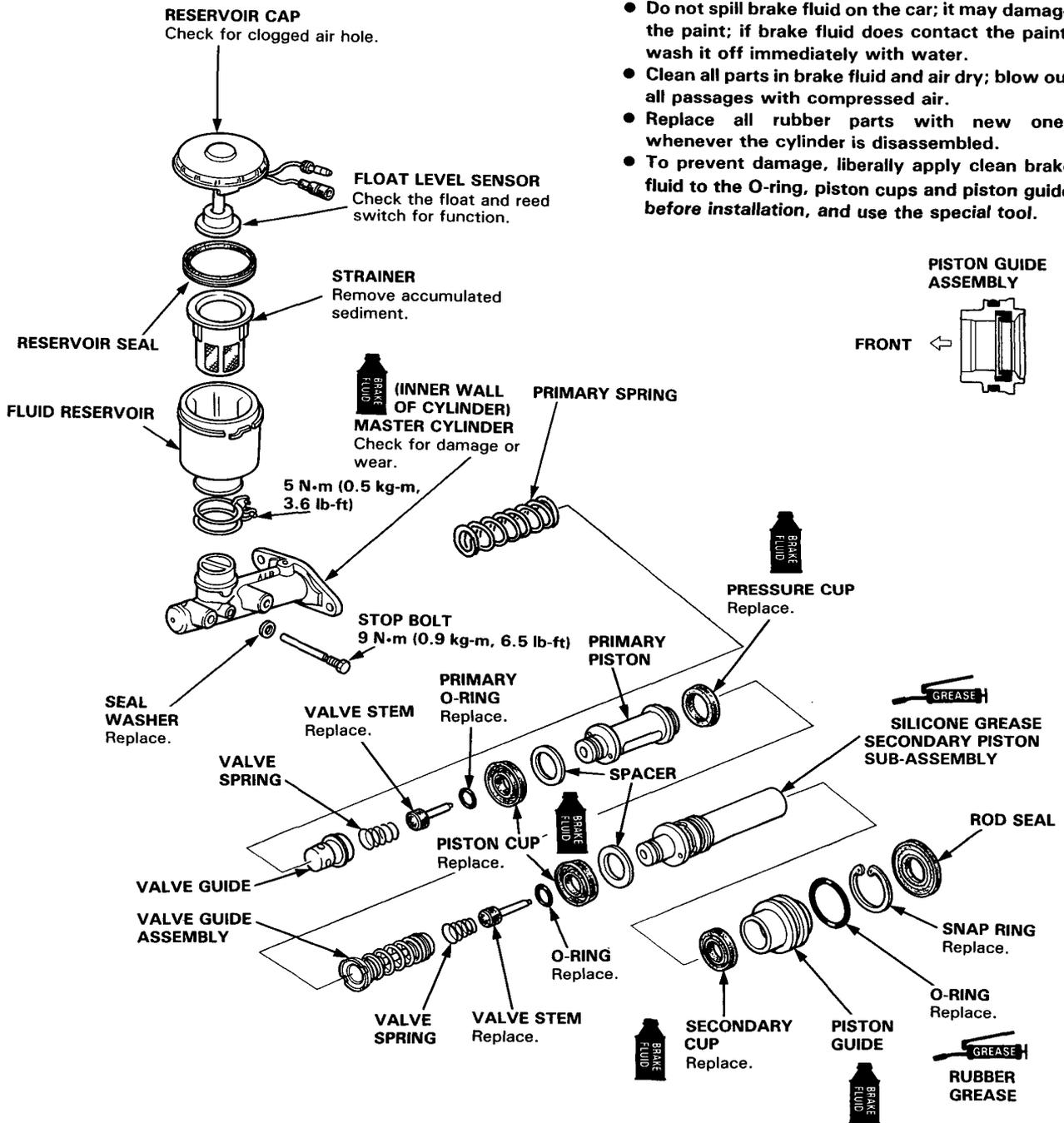
The master cylinder has been changed.

# Special Tool

Ref. No.	Tool Number	Description	Q'ty	Remarks
①	07965-5790300	Cup Guide	1	
				

# Master Cylinder

## Index/Inspection

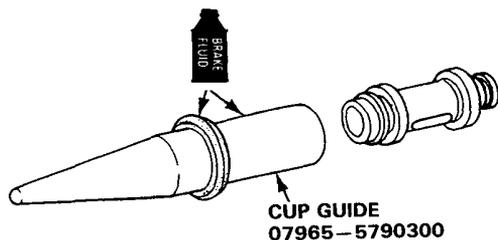


# Master Cylinder

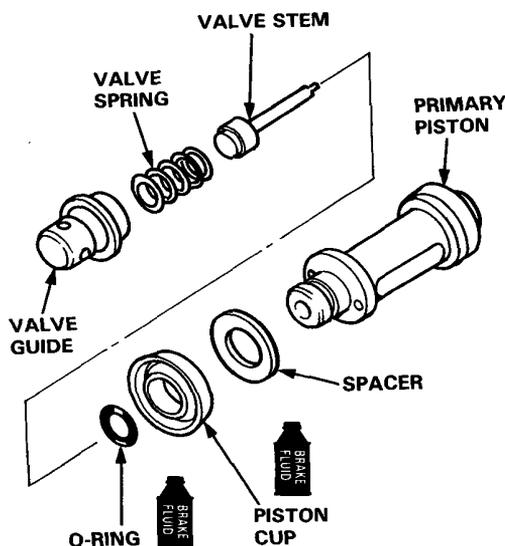
## Assembly

### CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
  - To prevent spills, cover the hose joints with rags or shop towels.
  - Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
  - Use only new clean brake fluid.
  - Before reassembling, check that all parts are free of dust and other foreign particles.
  - Replace parts with new ones whenever specified to do so.
  - Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
  - Do not mix different brands of brake fluid as they may not be compatible.
  - Do not reuse the drained fluid.
1. Coat the Cup Guide (special tool) with brake fluid, install the cup over the Cup Guide, then slide the cup onto the primary piston.

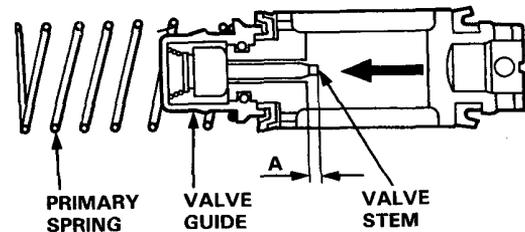


2. Install the spacer, piston cup, O-ring, valve stem and valve spring onto the primary piston.



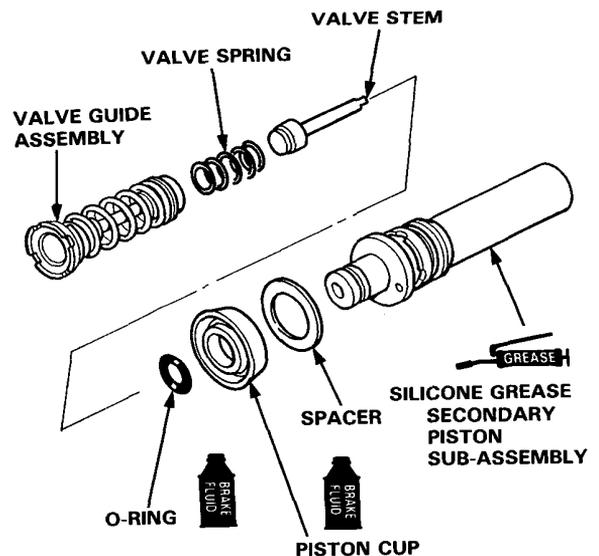
3. Install the valve guide and primary spring to the primary piston.

### PRIMARY PISTON ASSEMBLY



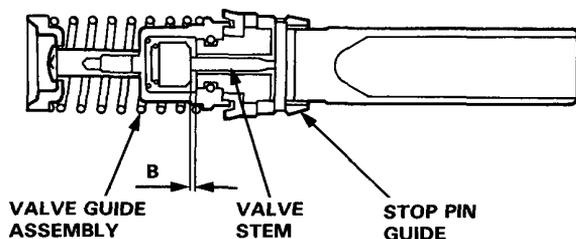
### NOTE:

- Reaching through the primary piston stop bolt hole, lightly press on the valve stem to see if it moves smoothly.
  - Make sure that the dimension A is 1.85–2.45 mm.
4. Install the spacer, piston cup, O-ring, valve stem and valve spring onto the secondary piston sub-assembly.



5. Install the valve guide assembly to the secondary piston sub-assembly.

#### SECONDARY PISTON ASSEMBLY



#### NOTE:

- Install the valve guide assembly after confirming that the dimension B is 0.9–1.5 mm.
- Lightly press the stop pin guide to see if the valve stem moves smoothly.

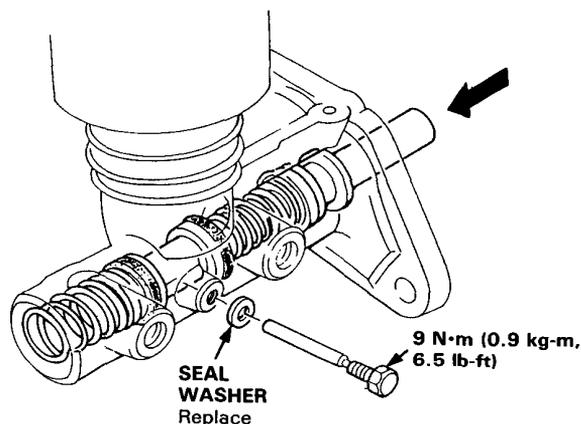
6. Assemble the primary piston assembly, secondary piston assembly and piston guide assembly in the master cylinder body.

NOTE: Install the primary piston with the slot on the cylinder facing the stop bolt hole side.

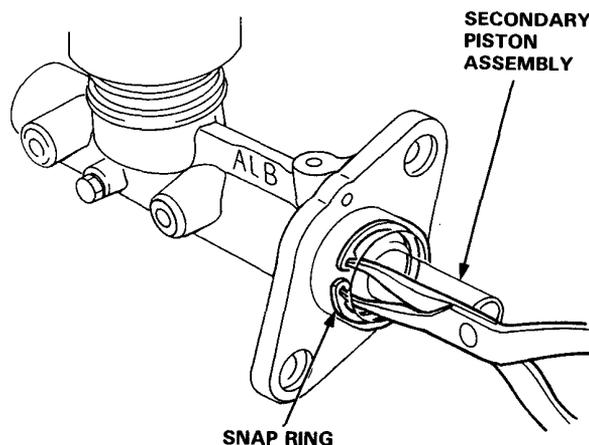
7. Push the secondary piston in until the slot aligns with the stop bolt hole, then install and tighten the stop bolt.

#### CAUTION:

- Replace the stop bolt seal washer with a new one whenever disassembled.
- Apply brake fluid to the inner wall of the cylinder and piston cups, being careful that they are not turned inside out during installation.

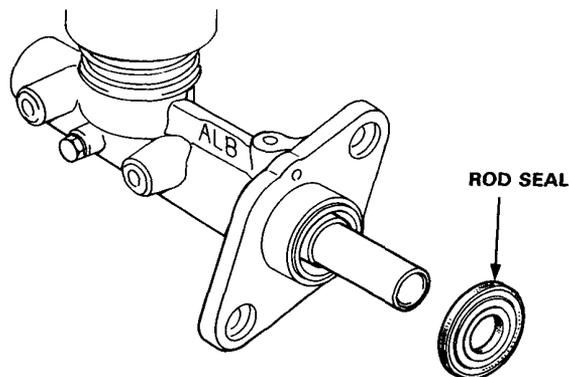


8. Press the secondary piston in and install the snap ring.



CAUTION: Avoid damaging the sliding surface of the secondary piston when installing the snap ring.

9. Install the rod seal.



CAUTION: Make sure that there is no interference between the brake pipes and other parts when installing.

## Body Electrical

### High Mount Brake Light

Replacement ..... 25-2

### Cruise Control

Wiring Diagram ..... 25-3

Control Unit Input Test ..... 25-4

Clutch Switch Test ..... 25-5

### Wipers/Washers

#### Headlight Wiper/Washer

Wiring Diagram ..... 25-6

Control Unit Input Test ..... 25-7

### Outline of Model Changes

- The high mount brake light has been adopted to KQ model.
- The clutch switch of cruise control system has been changed.
- The headlight washer circuit has been modified.

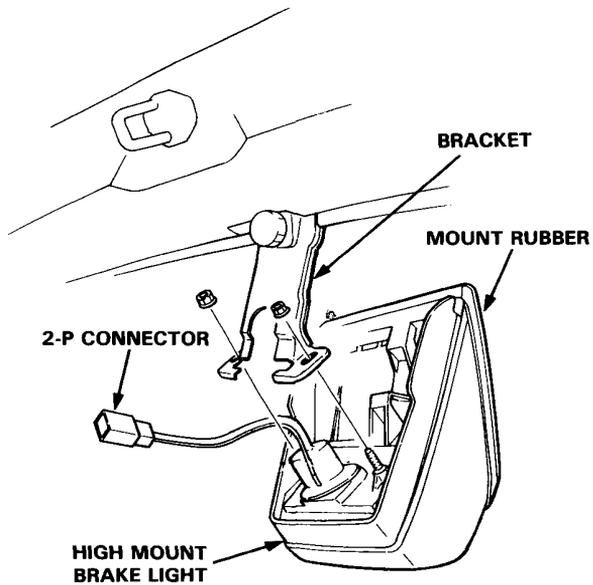


# High Mount Brake Light

## Replacement

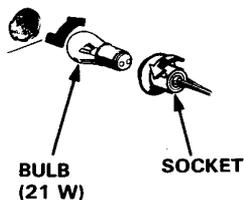
### Hatchback:

1. Open the hatch.
2. Unscrew the 2 nuts and disconnect the 2-P connector, then remove the high mount brake light from the bracket.



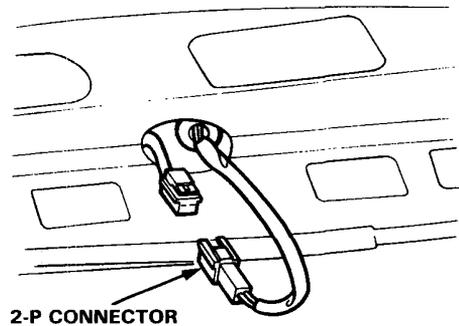
**CAUTION:** When installing the high mount brake light, make sure the mount rubber is sealed evenly to the rear window glass.

3. If necessary, replace the bulb.

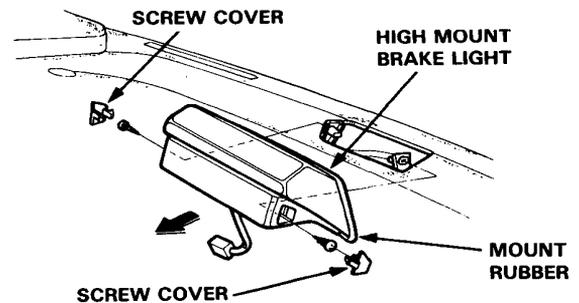


### Sedan:

1. Open the trunk lid.
2. Disconnect the 2-P connector.

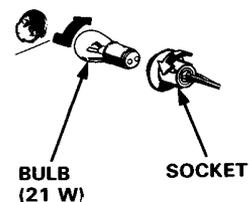


3. Remove the 2 screw covers and screws, then remove the high mount brake light on the rear shelf.



**CAUTION:** When installing the high mount brake light, make sure the mount rubber is sealed evenly to the rear window glass.

4. If necessary, replace the bulb.





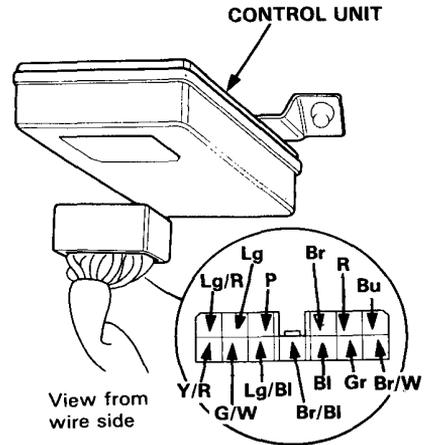
# Cruise Control

## Control Unit Input Test

Lower the fuse box and disconnect the 13-P connector from the control unit.

Make the following tests at the harness pins:

NOTE: Replace the control unit if all input tests prove OK.



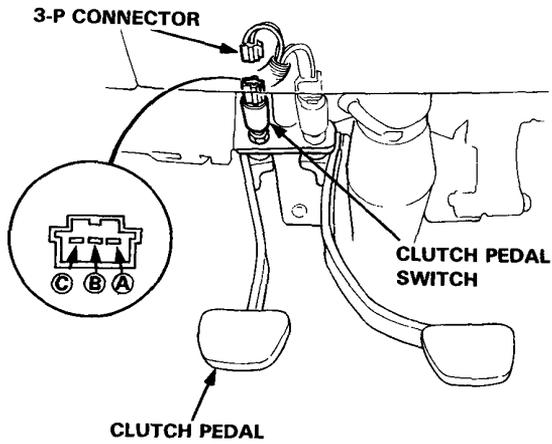
Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
BI	Under all conditions	Check for continuity to ground: should be continuity.	Poor ground. An open in the wire.
Lg	Ignition switch ON and main switch ON	Check for voltage to ground: should have battery voltage.	An open in the wire. Faulty main switch. Blown No. 4 (7.5A) fuse.
Lg/BI	Resume switch pushed	Ground each terminal: Horns should sound as the switch is pushed.	An open in the wire. Faulty SET/RESUME switch Faulty slip ring. Faulty horn. Blown No. 4 (20A) fuse
Lg/R	Set switch pushed		
P	M/T: Clutch pedal not pushed A/T: Shift lever in 2, D <sup>3</sup> or D <sup>4</sup>	Check for continuity to ground: should be continuity.	Poor ground. An open in the wire. Faulty or misadjusted clutch switch (M/T). Faulty shift lever position switch.
Bu	Start the engine	Check for voltage to ground: should have battery voltage	An open in the wire. Faulty ignition system.
Y/R	Raise the front of the car and rotate one wheel. or remove the speedometer cable from the transmission and turn slowly by hand.	Check resistance in both directions between Y/R and BI wires. There should be continuity in only one direction. 4 times per cable revolution or 23 times per 10 wheel revolutions.	Faulty speed pulser in speedometer. An open in the wire. Poor ground.
Gr	Ignition switch ON, main switch ON and brake pedal pushed, then released	Check for voltage to ground: There should be 0 V with the pedal pushed and battery voltage with the pedal released.	An open in Gr wire circuit. Faulty brake light switch.
G/W	Brake pedal pushed, then released	Check for voltage to ground: There should be battery voltage with the pedal pushed, and 0 V with the pedal released.	An open in G/W wire circuit. Blown No. 4 (20A) fuse. Faulty brake light switch.
R	Ignition switch ON	Attach R wire to ground: Indicator light in dash should come on.	Blown bulb. An open in R wire circuit. Faulty dimming circuit in gauges Blown No. 2 (10A) fuse.
Br	Under all conditions	Resistance to ground: should be 80–120 Ω.	Open or short in Br wire. Faulty actuator solenoid.
Br/BI	Under all conditions	Resistance to ground: should be 80–120 Ω.	Open or short in Br/BI wire. Faulty actuator solenoid.
Br/W	Under all conditions	Resistance to ground: should be 40–60 Ω.	Open or short in Br/W wire. Faulty actuator solenoid.



## Clutch Switch Test

1. Disconnect the 3-P connector from the switch.
2. Check for continuity between the terminals according to the table.

Terminal	A	B	C
Clutch Pedal			
RELEASED	○	○	○
PUSHED			



3. If necessary, adjust pedal height (section 13) or replace the switch.





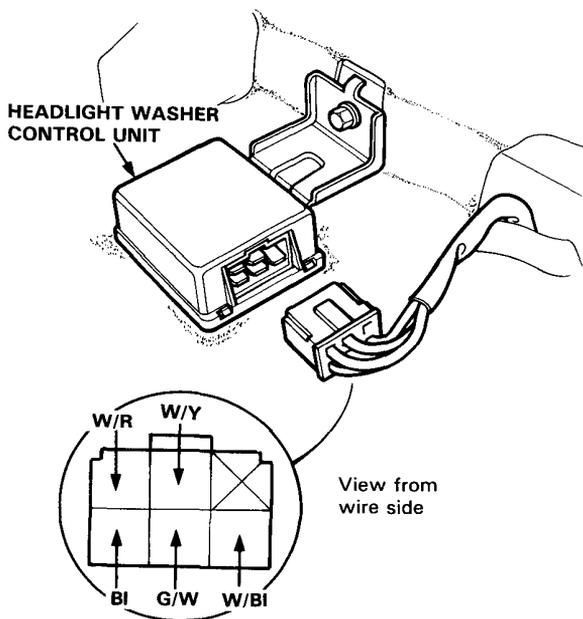
## Headlight Washer Control Unit Input Test

Disconnect the 6-P connector from the control unit under the front passenger's seat.

Make the following input tests at the harness pins.

If all tests prove OK, yet the headlight washer still fails to work, replace the control unit.

**NOTE:** Before testing, check the No. 3 (20A) fuse in the dash fuse box.



No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BI	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground.</li> <li>• An open in the wire.</li> </ul>
2	W/Y	Under all conditions.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown Aux. fuse holder (20A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	G/W	Ignition switch and headlight washer switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty headlight washer switch.</li> <li>• An open in the wire.</li> </ul>
4	W/R	Connect battery positive wire to W/R terminal and negative to ground.	Check pump operation: Pump should run as the battery is connected.	<ul style="list-style-type: none"> <li>• Faulty headlight washer pump.</li> <li>• An open in the wire.</li> <li>• Poor ground.</li> </ul>
5	W/BI	Headlight ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• An open in the wire.</li> <li>• Faulty retractable headlight control unit.</li> </ul>