

General Information



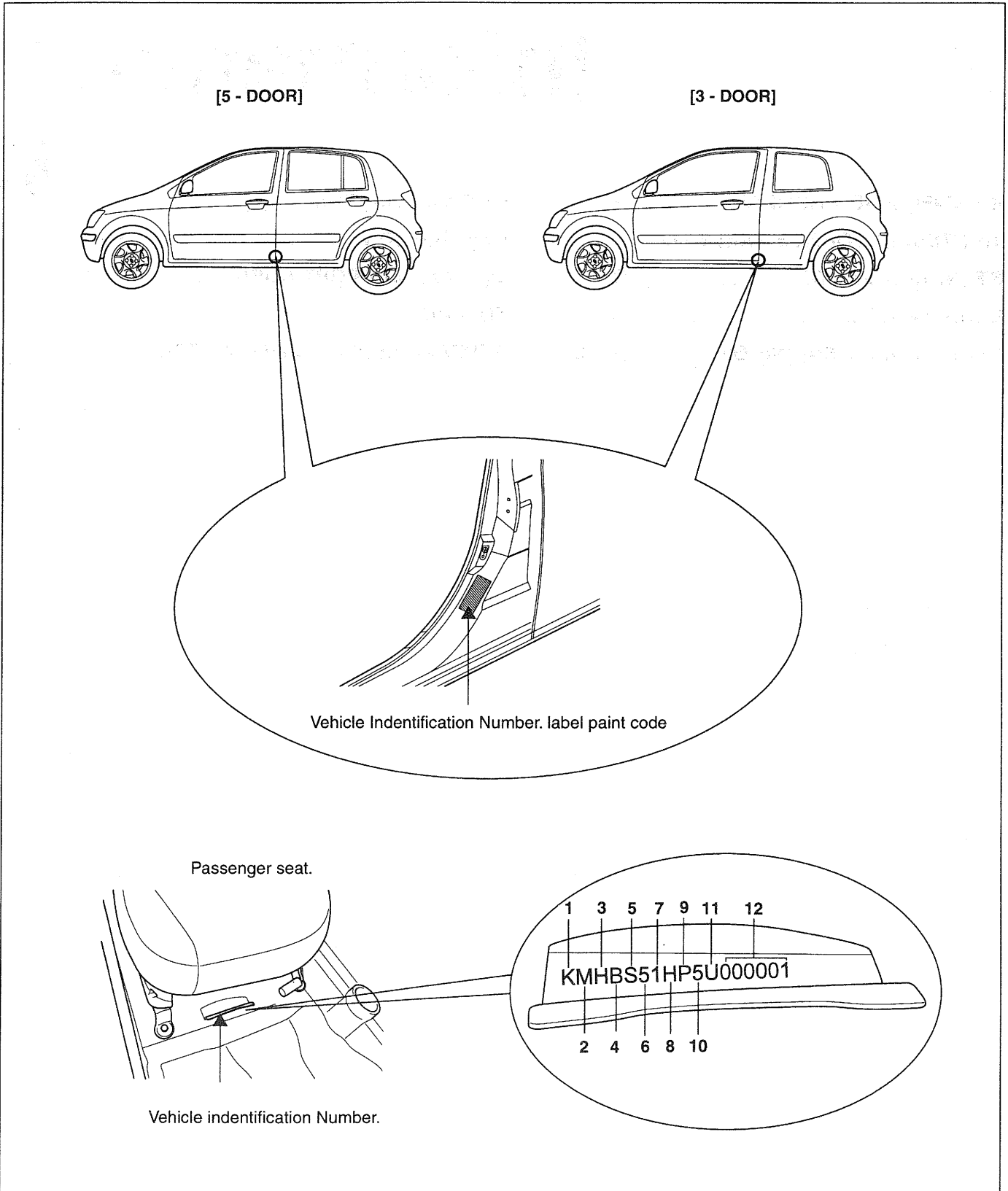
IDENTIFICATION NUMBER GI - 2
TIGHTENING TORQUE TABLE OF
STANDARD PARTS GI - 6
LUBRICANTS GI - 7
SELECTION OF ENGINE OIL GI - 8

BATTERY CAUTION LABEL
DESCRIPTION GI - 11
LIFT AND SUPPORT POINT GI - 12
TOWING GI - 14
GENERAL SERVICE INFORMATION .. GI - 15

GENERAL

IDENTIFICATION NUMBER

LOCATIONS E62CB69D



IDENTIFICATION NUMBER DESCRIPTION

VEHICLE IDENTIFICATION NUMBER

K M H B U 5 2 B P 5 U 000001
 1 2 3 4 5 6 7 8 9 10 11 12

EAPG002A

12. Vehicle production sequence number
 - 000001 ~ 999999

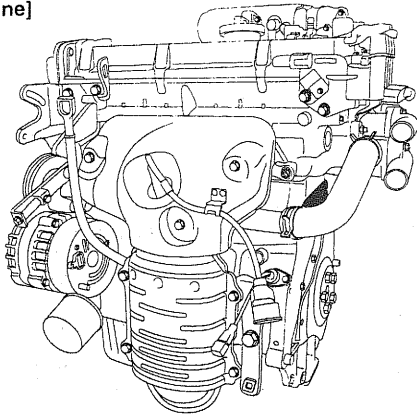
PAINT CODE

CODE	COLOR
NW	Noble White
EB	Ebony Black
HL	Hiphop Red
3E	Bule Onyx
5S	Space Silver
9G	Gold Beige
3W	Sheer Yellow
N8	Orange
G8	Light Green
2B	Sky Blue
2M	Midnight Gray
8N	Leaf Green

1. Geographic zone
 - K : Korea
2. Manufacturer
 - M : Hyundai motor company
3. Vehicle type
 - H : Passenger
4. Vehicle line
 - B : GETS
5. Model & Series
 - S : STANDAD (L)
 - T : DELUXE (GL)
 - U : SUPER DELUXE (GLS)
6. Body type
 - 3 : Sedan 3-door
 - 5 : Sedan 5-door
7. Restraint system
 - 0 : None
 - 1 : Both side - Active belt
 - 2 : Both side - Passive belt
 - 3 : Driver side - Active belt & Air bag
 - 4 : Driver side & Passenger side - Active belt + Air bag
 Passenger side - Active belt or passive belt
8. Engine type
 - B : Gasoline 1.6 CVVT
 - G : Gasoline 1.1 SOHC
 - D : Gasoline 1.4 DOHC
 - V : Diesel 1.5
9. Check digit or others
 - P : LHD
 - R : RHD
10. Production year
 - 5 : 2005, 6 : 2006
11. Plant of production
 - U : Ulsan (korea)

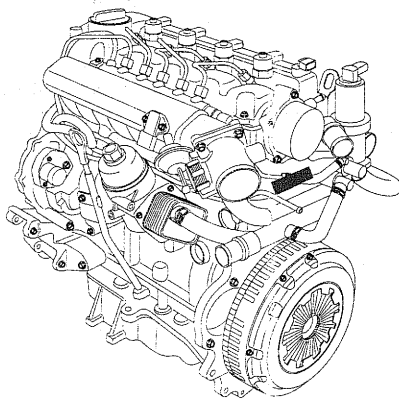
ENGINE IDENTIFICATION NUMBER

[Gasoline]



EAPG001B

[Diesel]



EAPG001C

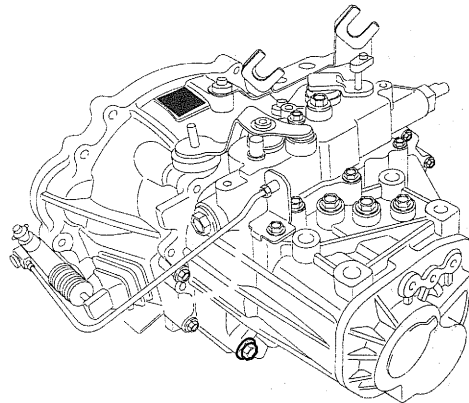
G	4	E	C	5	000001
1	2	3	4	5	6

1. Engine fuel
 - G : Gasoline
 - D : Diesel
2. Engine range
 - 4 : 4 cycle 6 cylinder
3. Engine development order
 - E : Alpha engine
 - F : U-engine
 - H : Epsilon engine

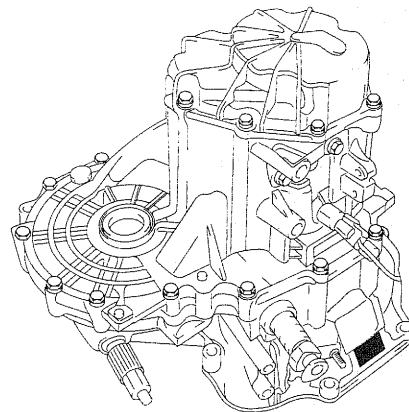
4. Engine capacity
 - D : 1,085 cc (Epsilon), 1,599cc (Alpha)
 - E : 1,399 cc (Epsilon)
 - A : 1,493cc (U-engine)
5. Production year
 - 5 : 2005, 6 : 2006
6. Engine production sequence number
 - 000001 ~ 999999

TRANSMISSION IDENTIFICATION NUMBER

MANUAL



KAPF001D



EAPG003A

KAPF001E

P	5	1767	000001
1	2	3	4

KAPF004B

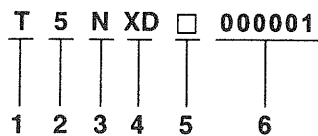
- 1 : Model
- P : M5CF2
- M : M5AF3

- 2 : Production year
- 5 : 2005, 6 : 2006, 7 : 2007

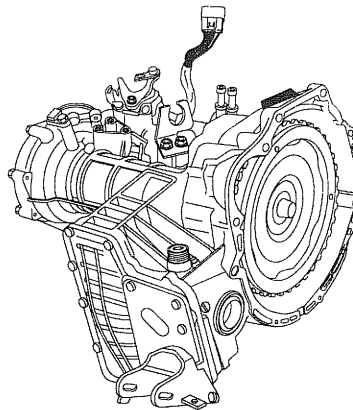
- 3 : Gear ratio
- 1767 : 3.941
- 2073 : 3.650

- 4 : Transaxle production sequence number
- 000001 ~ 999999

AUTOMATIC



KAPF005A



KAPF001F

- 1 : Model
- T : A4AF3

- 2 : Production year
- 5 : 2005, 6 : 2006, 7 : 2007

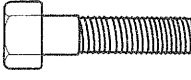
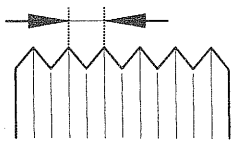
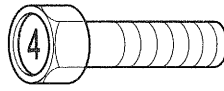
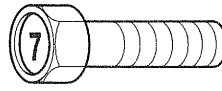
- 3 : Gear ratio
- N : 4.041

- 4 : Detailed classification
- XD : 1.4 DOHC
- YD : 1.6 CVVT

- 5 : Spare

- 6 : Transaxle production sequence number
- 000001 ~ 999999

TIGHTENING TORQUE TABLE OF STANDARD PARTS

Bolt nominal diameter (mm)	Pitch (mm)	Torque Nm (kg.cm, lb.ft)	
		Head Mark 4	Head Mark 7
 AAIE006A	 AAIE007A	 AAIE008A	 AAIE009A
M5	0.8	3 ~ 4 (30 ~ 40, 2.2 ~ 2.9)	5 ~ 6 (50 ~ 60, 3.6 ~ 4.3)
M6	1.0	5 ~ 6 (50 ~ 50, 3.6 ~ 4.3)	9 ~ 11 (90 ~ 110, 6.5 ~ 8.0)
M8	1.25	12 ~ 15 (120 ~ 150, 9 ~ 11)	20 ~ 25 (200 ~ 250, 14.5 ~ 18.0)
M10	1.25	25 ~ 30 (250 ~ 300, 18 ~ 22)	30 ~ 50 (300 ~ 500, 22 ~ 36)
M12	1.25	35 ~ 45 (350 ~ 450, 25 ~ 33)	60 ~ 80 (600 ~ 800, 43 ~ 58)
M14	1.5	75 ~ 85 (750 ~ 850, 54 ~ 61)	120 ~ 140 (1,200 ~ 1,400, 85 ~ 100)
M16	1.5	110 ~ 130 (1,100 ~ 1,300, 80 ~ 94)	180 ~ 210 (1,800 ~ 2,100, 130 ~ 150)
M18	1.5	160 ~ 180 (1,600 ~ 1,800, 116 ~ 130)	260 ~ 300 (2,600 ~ 3,000, 190 ~ 215)
M20	1.5	220 ~ 250 (2,200 ~ 2,500, 160 ~ 180)	360 ~ 420 (3,600 ~ 4,200, 260 ~ 300)
M22	1.5	290 ~ 330 (2,900 ~ 3,300, 210 ~ 240)	480 ~ 550 (4,800 ~ 5,500, 350 ~ 400)
M24	1.5	360 ~ 420 (3,600 ~ 4,200, 260 ~ 300)	610 ~ 700 (6,100 ~ 7,000, 440 ~ 505)

 NOTE

- The torques shown in the table are standard values under the following conditions :
 - Nuts and bolts are made of galvanized steel bar.
 - Galvanized plain steel washers are inserted.
 - All nuts, bolts and plain washers are dry.
- The torques shown in the table are not applicable :
 - When spring washers, toothed washers and the like are inserted.
 - If plastic parts are fastened.
 - If self-tapping screws or self-locking nuts are used.
 - If threads and surfaces are coated with oil.
- If you reduce the torques in the table to the percentage indicated below, under the following conditions, it will be the standard value.
 - If spring washers are used : 85%
 - If threads and bearing surfaces are stained with oil : 85%

LUBRICANTS

RECOMMENDED LUBRICANTS

Parts	Specifications
Engine oil	API Classification SH OR Above - 1.1 (Gasoline) API Classification SJ/SL OR Above - 1.4/1.6 (Gasoline) API Classification CH OR Above - 1.5 (Diesel)
Manual transaxle	API Classification GL - 4 (SAE 75W/90 : Gasoline, SAE 75W/85W : Diesel)
Automatic transaxle	DIAMOND ATF SP - 3, SK ATF SP - 3
Brake	DOT 3 or DOT 4
Cooling system	High quality ethylene glycol - Concentration level 40% (tropical) - Concentration level 50% (tropical)
Power steering	PSF - 3
Transaxle linkage, parking brake cable mechanism, hood lock and hook, door latch, seat adjuster, tailgate latch, door hinges, tailgate hinges	Multipurpose grease NLGI grade #2

⊗ WARNING

Always use Genuine Hyundai parts and recommended fluid.

Using any other type of parts and fluid can cause serious damaged if the vehicle.

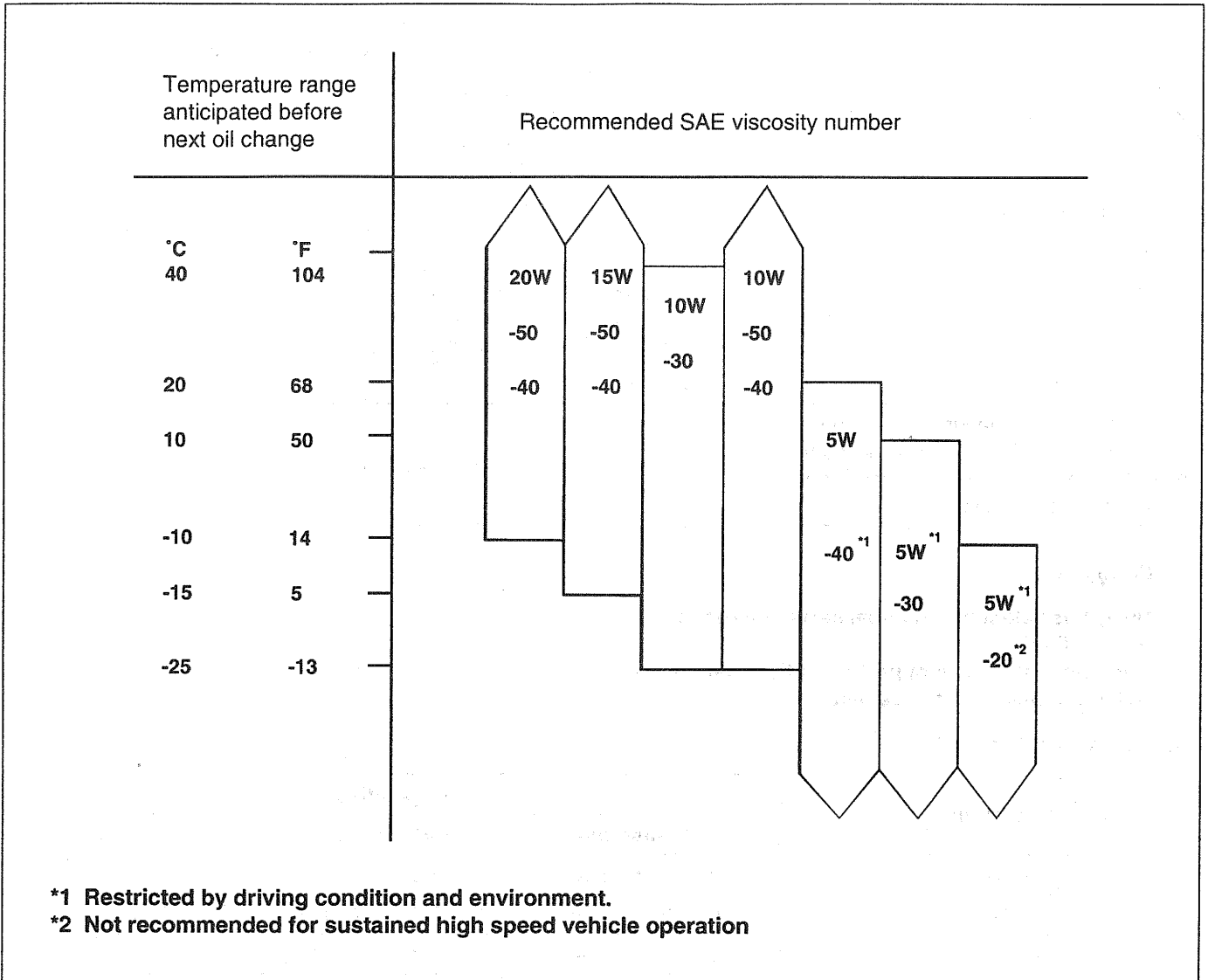
LUBRICANTS CAPACITIES

Description		Capacities		
		1.1(Gasoline)	1.4/1.6(Gasoline)	1.5(Diesel)
Engine oil	Oil pan	2.8 (2.96, 2.46)	3.0 (3.17, 2.64)	4.0 (4.23, 3.52)
	Oil filter	0.2 (0.21, 0.18)	0.3 (0.32, 0.26)	0.5 (0.53, 0.44)
	Total	3.0 (3.17, 2.64)	3.3 (3.49, 2.90)	5.3 (5.60, 4.66)
Cooling system		6.0 (6.34, 5.28)	6.2 (6.55, 5.46)	6.5 (6.87, 5.72)
Manual transaxle		2.15 (2.27, 1.89)	2.15 (2.27, 1.89)	2.0 (2.11, 1.76)
Automatic transaxle		-	6.1 (6.45, 5.37)	-
Power steering		0.9 (0.95, 0.79)	0.9 (0.95, 0.79)	
liter (U.S. qus., Imp.qts.)				

SELECTION OF ENGINE OIL

Recommended API classification : SH OR ABOVE - 1.1(Gasoline)

Recommended SAE viscosity grades :

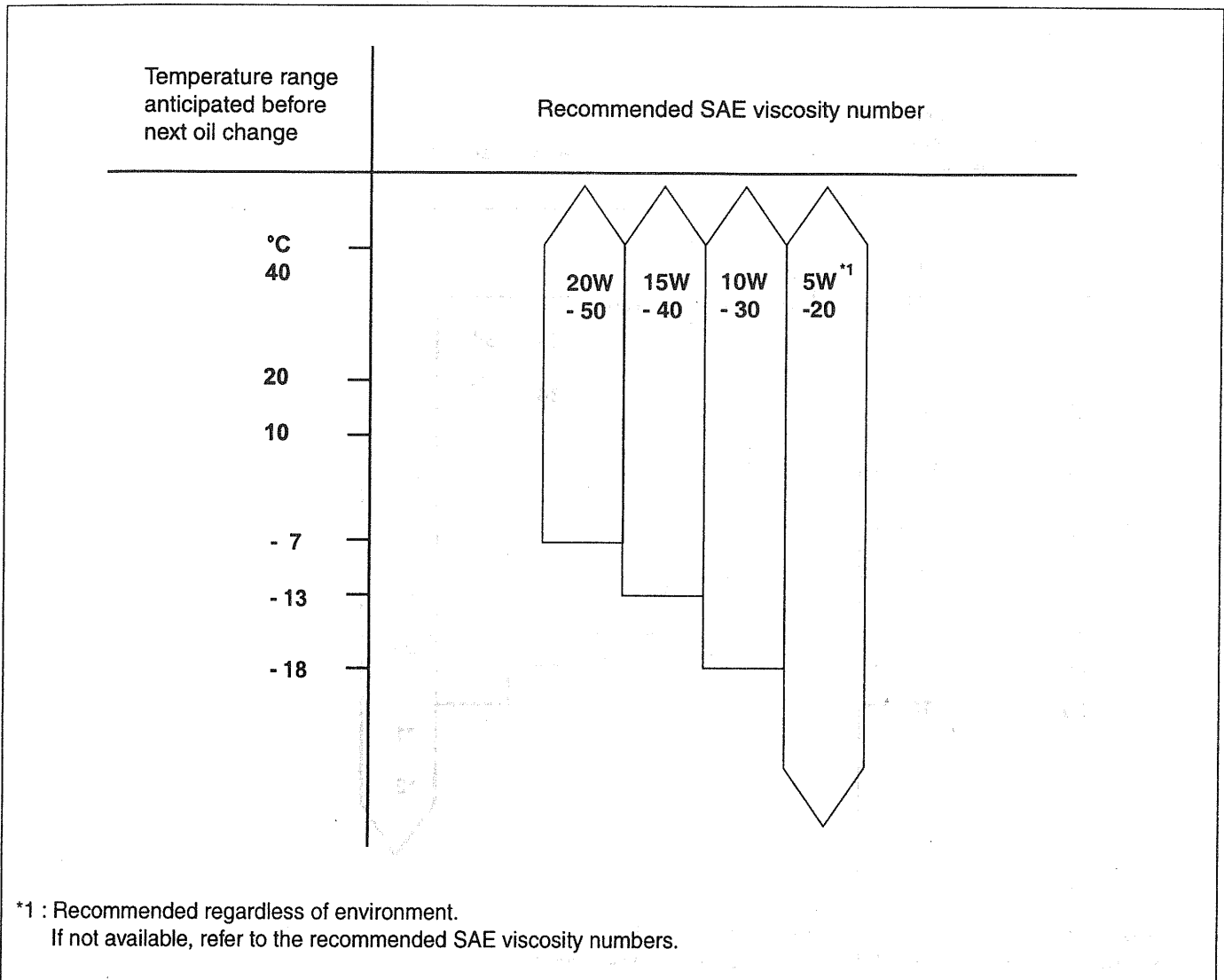


*1 Restricted by driving condition and environment.

*2 Not recommended for sustained high speed vehicle operation

Recommended API classification : SJ/SL OR ABOVE - 1.4/1.6(Gasoline)

Recommended SAE viscosity grades :

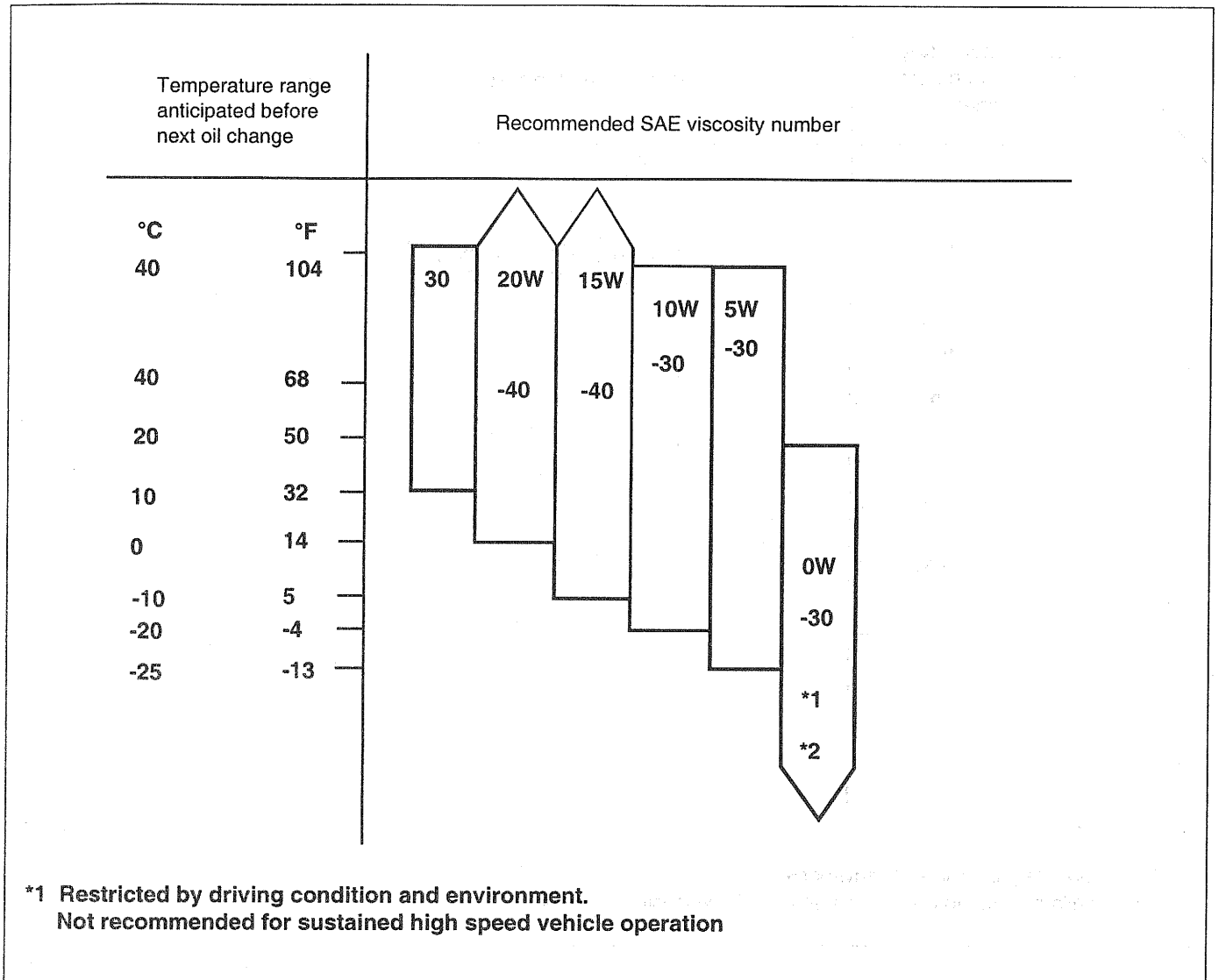


*1 : Recommended regardless of environment.
 If not available, refer to the recommended SAE viscosity numbers.

Recommended API classification : CH-4 or ABOVE - 1.5(Diesel)

Recommended ACEA classification : B4 OR ABOVE

Recommended SAE viscosity grades :



LDJF007A

NOTE

For best performance and maximum protection of all types of operation, select only those lubricants which :

1. Satisfy the requirements of the API classification.
2. Have the proper SAE grade number for expected ambient temperature range.

Lubricants which do not have both an SAE grade number and an API service classification on the container should not be used.

BATTERY CAUTION LABEL

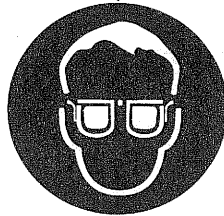
DESCRIPTION E5CEFD7F

Wear eye protection when charging or working near a battery.

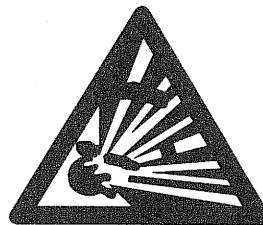
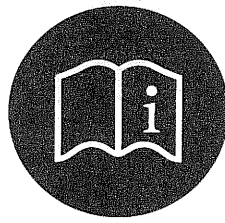
Always provide ventilation when working in an enclosed space.

- When lifting a plastic-cased battery, excessive pressure on acid to leak resulting in personal injury. Lift with a battery carrier or with your hands on opposite corners.
- Never attempt to change the battery when the battery cables are connected.
- The electrical ignition system works with high voltage. Never touch these components with the engine running or the ignition switched on.

Keep lighted cigarettes and all other flames or sparks away from the battery.



Keep batteries out of the reach of children because batteries contain highly corrosive SULFURIC ACID. Do not allow battery acid to contact your skin, eyes, clothing or paint finish.



If any electrolyte gets into your eyes, flush your eyes with clean water for at least 15 minutes and get immediate medical attention. If possible, continue to apply water with a sponge or cloth until medical attention is received. If electrolyte gets on your skin, thoroughly wash the contacted area. If you feel a pain or a burning sensation, get medical attention immediately.

Always read the following instructions carefully when handling a battery.

Hydrogen, which is a highly combustible gas, is always presents in battery cells and may explode if ignited.

LIFT AND SUPPORT POINTS

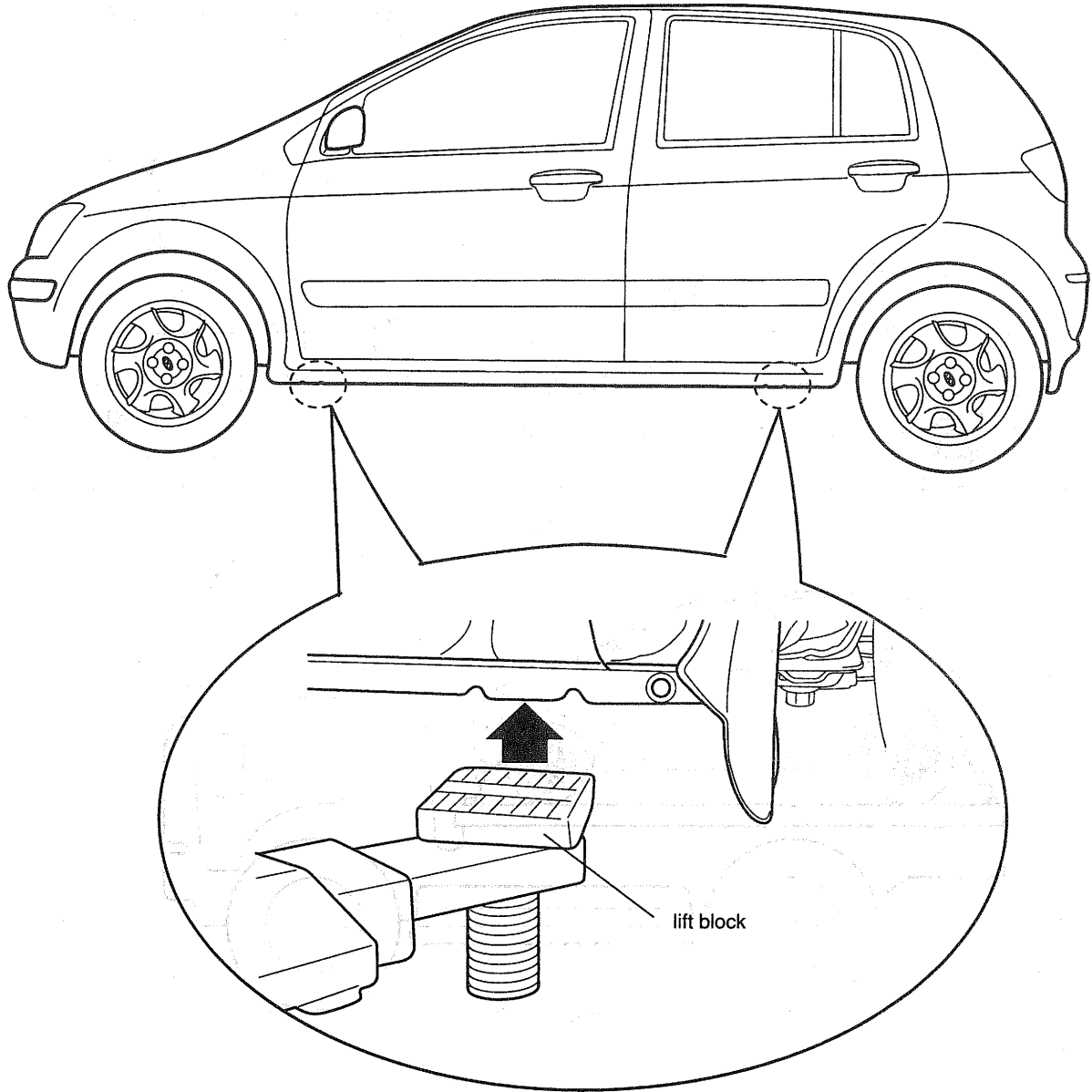
 **WARNING**

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

 **NOTE**

- Since each tire/wheel assembly weights approximately 30lbs (14kg), placing the front wheels in the luggage area can assist with the weight distribution.
- Use the same support points to support the vehicle on safety stands.

1. Place the lift blocks under the support points as shown in the illustration.
2. Raise the hoist a few inches (centimeters) and rock the vehicle to be sure it is firmly supported.
3. Raise the hoist to full height to inspect the lift points for secure support.

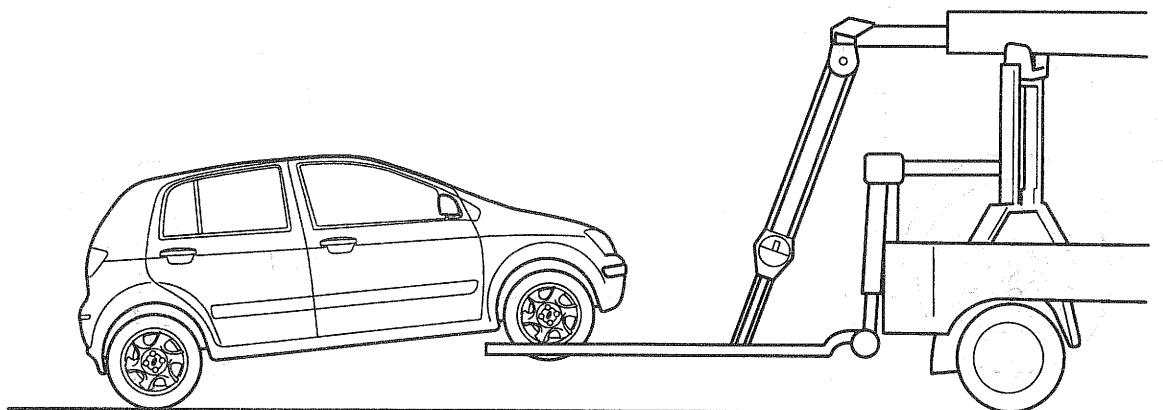


TOWING

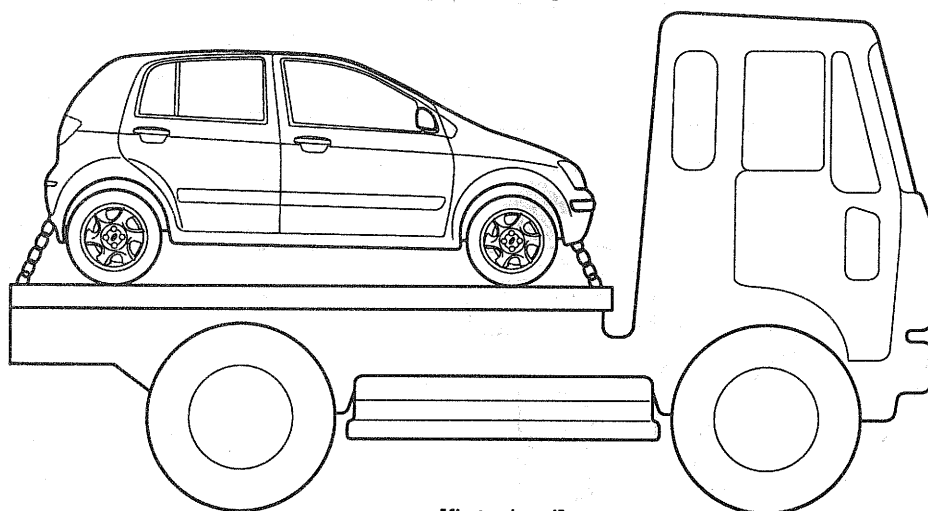
If the vehicle needs to be towed, a wheel lift or as flat-bed method is recommended.

⚠ CAUTION

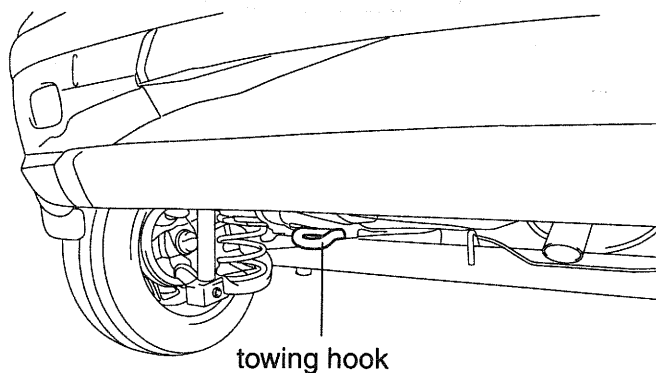
Never tow the vehicle by the method of a suspension (front or rear) lift.



[Wheel lift]



[flat - bed]



IF THE VEHICLE IS TOWED WITH A SLING - TYPE METHOD

1. The radiator lower member is not equipped to the vehicle. So, the vehicle's cooling system including radiator and condenser, under cover and front bumper can be damaged.
2. The towing hook is located in the right inside of the front bumper. There is no support point for a sling - type equipment.
3. There is no engine center member and suspension frame in the vehicle.

NOTE

With manual transaxle

- Release the parking brake.
- Shift the transaxle in neutral.

With automatic transaxle

- Release the parking brake.
- Start the engine.
- Shift to P position, then N position.
- Turn off the engine.
- Front wheel - lift towing is required.
- It is best way to tow the vehicle no farther than 25 Km / h, and keep the speed below 40Km / h.

If you cannot shift the transaxle or start the engine, the vehicle must be transported on a flat - bed truck.

CAUTION

Trying to lift or tow the vehicle by the bumpers will cause serious damage.

GENERAL SERVICE INFORMATION

E2F2DA35

PROTECTION OF THE VEHICLE

Always be sure to cover fenders, seats, and floor areas before starting work.

CAUTION

The support rod must be inserted into the hole near the edge of the hood whenever you inspect the engine compartment to prevent the hood from falling and causing possible injury.

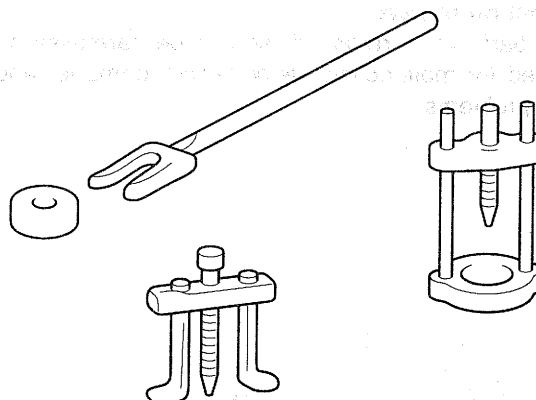
Make sure that the support rod has been released prior to closing the hood. Always check to be sure the hood is firmly latched before driving the vehicle.

PREPARATION OF TOOLS AND MEASURING EQUIPMENT

Be sure that all necessary tools and measuring equipment are available starting work.

SPECIAL TOOLS

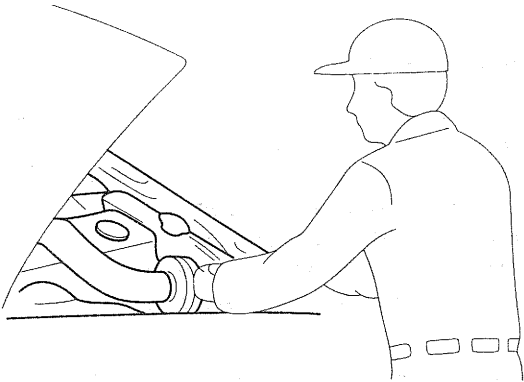
Use special tools when they are required.



EAKE005A

REMOVAL OF PARTS

First find the cause of the problem and then determine whether removal or disassembly before starting the job.

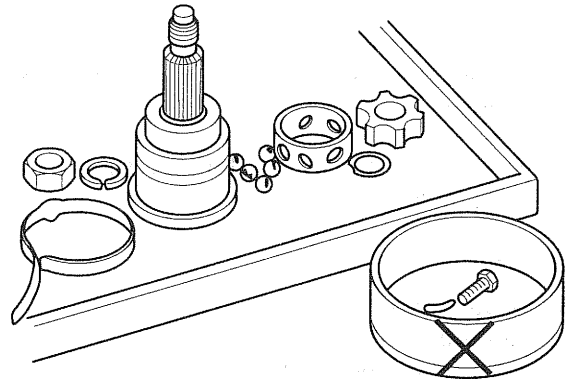


EAKE005B

2. Arrangement of parts

All disassembled parts should be carefully arranged for effective reassembly.

Be sure to separate and correctly identify the parts to be replaced from those that will be used again.



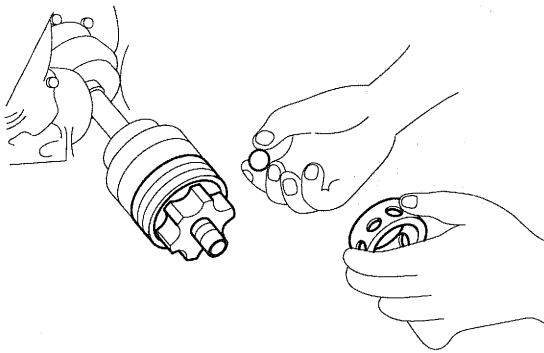
EAKE005D

DISASSEMBLY

If the disassembly procedure is complex, requiring many parts to be disassembled, all parts should be disassembled in a way that will not affect their performance or external appearance.

1. Inspection of parts

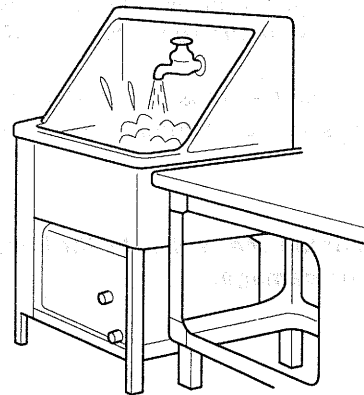
Each part, when removed, should be carefully inspected for malfunction, deformation, damage, and other problems.



EAKE005C

3. Cleaning parts for reuse

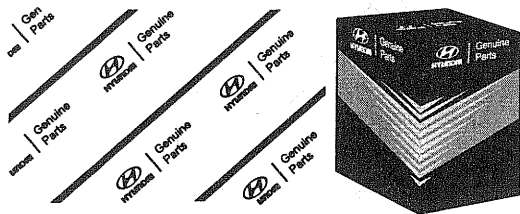
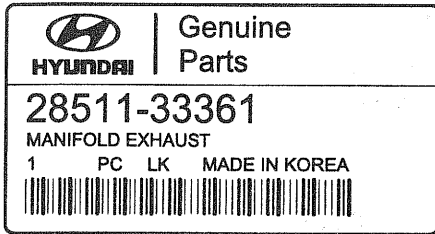
All parts to be used again should be carefully and thoroughly cleaned by an appropriate method.



EAKE005E

PARTS

When replacing parts, use HYUNDAI genuine parts.



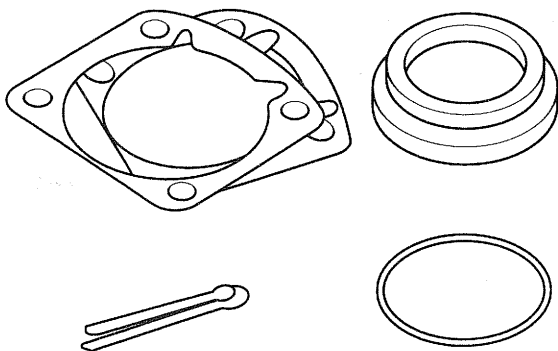
EAKE005F

REPLACEMENT

Standard values, such as torques and certain adjustments, must be strictly observed in the reassembly of all parts.

If removed, the following parts should always be replaced with new ones.

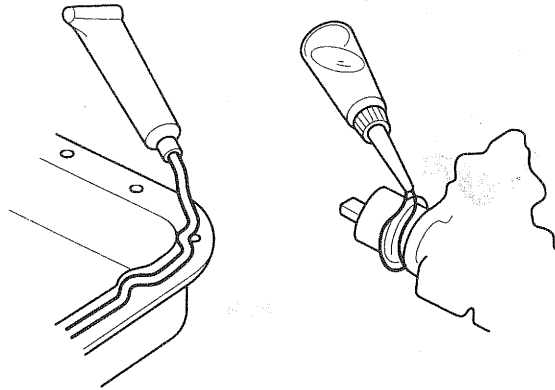
1. Oil seals
2. Gaskets
3. O-rings
4. Lock washers
5. Cotter pins (split pins)
6. Plastic nuts



EAKE005G

Depending on their location.

7. Selalant should be applied to gaskets.
8. Oil should be applied to the moving components of parts.
9. Specified oil or grease should be applied to the prescribed locations (oil seals, etc) before assembly.



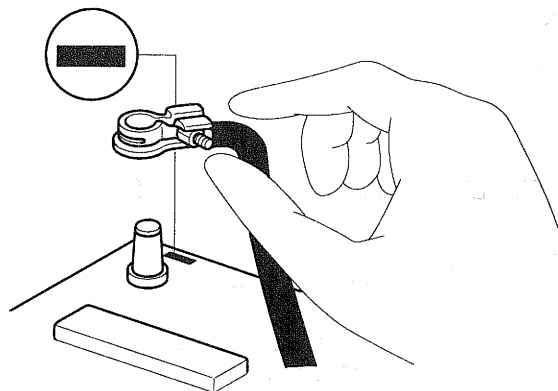
EAKE005H

ADJUSTMENT

Use gauges and testers to adjust correctly the parts to standard values correctly.

ELECTRICAL SYSTEM

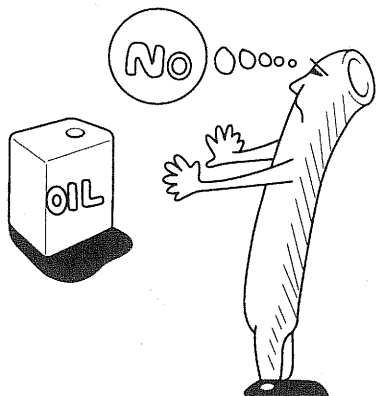
1. Be sure to disconnect the battery cable from the negative (-) terminal of the battery.
2. Never pull on the wires when disconnecting connectors.
3. Locking connectors will click when the connector is secure.
4. Handle sensors and relays carefully. Be careful not to drop them against other parts.



EAKE005I

RUBER PARTS AND TUBES

Always prevent gasoline or from touching rubber parts or tubing.



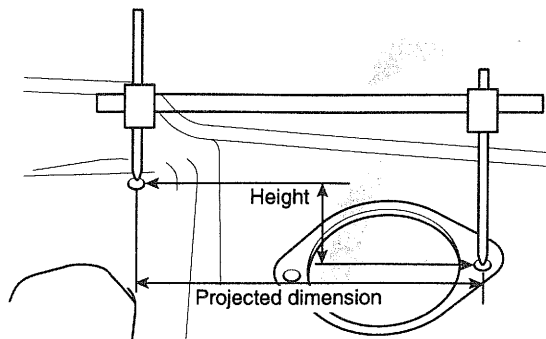
EAKE005J

MEASURING BODY DIMENSIONINGS

1. Basically, all measurements in this manual are taken with a tracking gauge.
2. When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
3. For measuring dimensions, both projected dimensions and actual - measurement dimensions are used in this manual.

DIMENSIONS PROJECTED

1. These are the dimensions measured when the measurement points are projected from the vehicle's surface, and are the reference dimensions used for used for body alterations.
2. If the length of the tracking gauge probes is adjustable, measure it by lengthening one of two probes as long as the different value in height of the two surface.



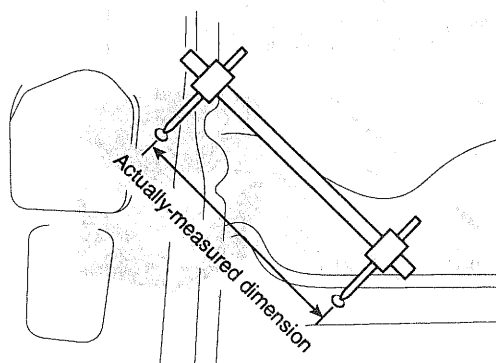
EAKE005K

MEASURING ACTUAL DIMENSIONS

1. These dimensions indicate the actual linear distance between measurement points, and are used as the reference dimensions when a tracking gauge is used for measurement.
2. First adjust both probes to the same length ($A=A'$) before measurement.

NOTE

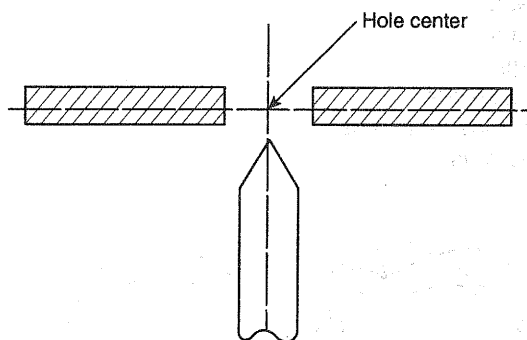
Check the probes and gauge itself to make sure there is no free play.



EAKE005L

MEASUREMENT POINT

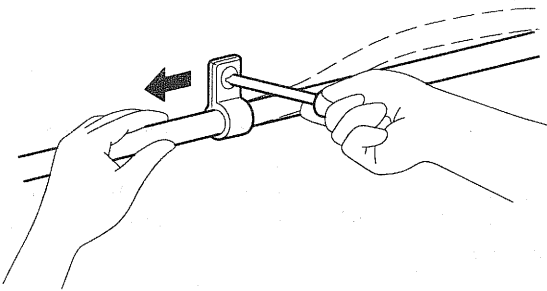
Measurements should be taken at the center fo the hole.



EAKE005M

CHECKING CABLES AND WIRES

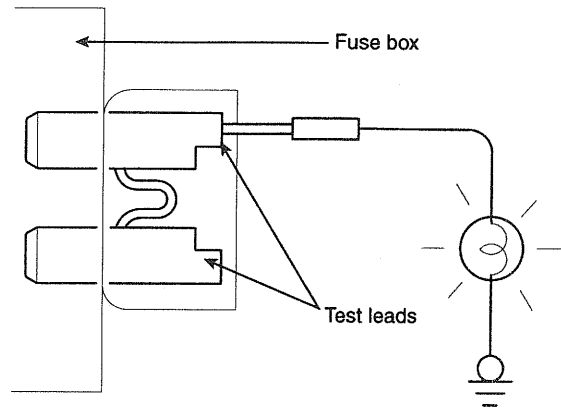
1. Check the terminal for tightness.
2. Check terminals and wires for corrosion from battery electrolyte, etc.
3. Check terminals and wires for open circuits.
4. Check wire insulation and coating for damage, cracks and degrading.
5. Check the conductive parts of terminals for contact with other metallic parts (vehicle body and other parts).
6. Check grounded parts to verify that there is complete continuity between their attaching bolt(s) and the vehicle's body.
7. Check for incorrect wiring.
8. Check that the wiring is so clamped to prevent contact with sharp corners of the vehicle body, etc. or hot parts (exhaust manifold, etc.)
9. Check that the wiring is clamped firmly to provide enough clearance from the fan pulley, fan belt and other rotating or moving parts.
10. Check that the wiring has a little space so that it can vibrate between fixed and moving parts such as the vehicle body and the engine.



EAKE005R

CHECK FUSES

A blade type fuse test taps provided to allow checking the fuse itself without removing it from the fuse box. The fuse is good if the test lamp lights up when one lead is connected to the test taps (one at a time) and the other lead is grounded. (Turn the ignition switch so that the fuse circuit becomes operative)



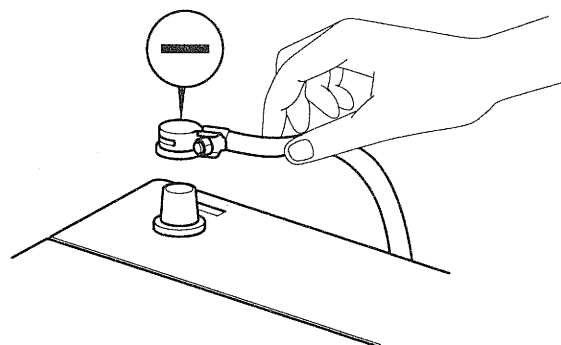
EAKE005O

SERVICING THE ELECTRICAL SYSTEM

1. Prior to servicing the electrical system, be sure to turn off the ignition switch and disconnect the battery ground cable.

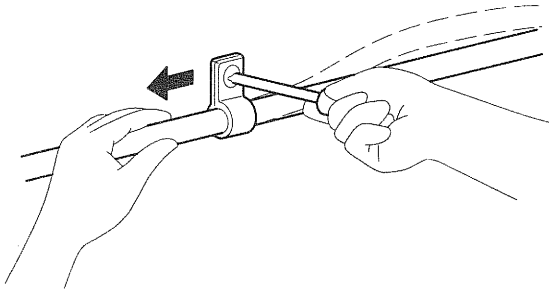
 **NOTE**

When the battery cable is removed, any diagnostic trouble code retained by the computer will be cleared. Therefore, if necessary, read the diagnostic before removing the battery cable.



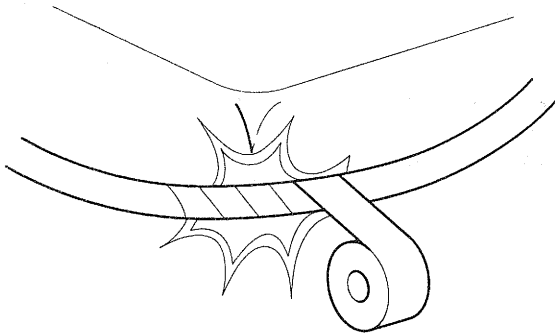
EAKE005P

- Attach the wiring harnesses with clamps so that there is no slack. However, for any harness which passes the engine or other vibrating parts of the vehicle, allow some slack within a range that does not allow the engine vibrations to cause the harness to come into contact with any of the surrounding parts and then secure the harness by using a clamp.



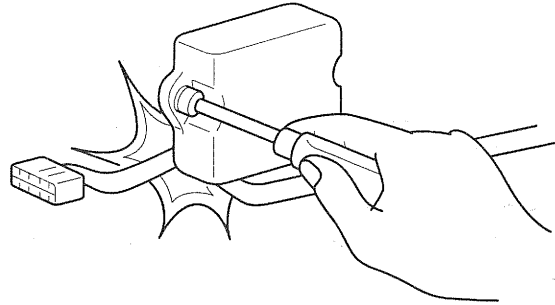
EAKE005R

- If any section of a wiring harness interferes with the edge of a parts, or a corner, wrap the section of the harness with tape or something similar in order to protect it from damage.



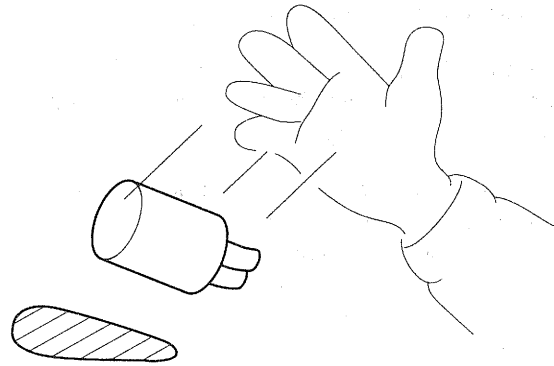
EAKE005S

- When installing any parts, be careful not to pinch or damage any of the wiring harness.



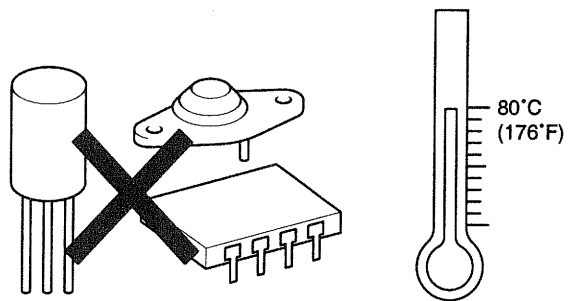
EAKE005T

- Never throw relays, sensors or electrical parts, or expose them to strong shock.



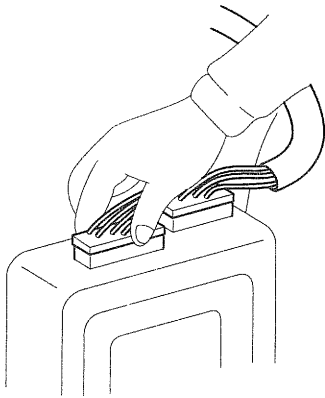
EAKE005U

- The electronic parts used in the computer, relays, etc. are readily damaged by heat. If there is a need for service operations that may cause the temperature to exceed 80°C (176°F), remove the electronic parts before hand.



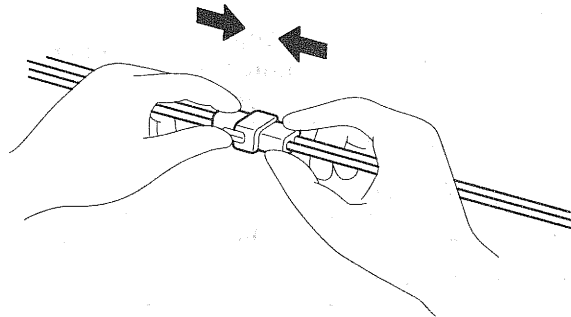
EAKE006A

7. Loose connectors cause problems. Make sure that the connectors are always securely fastened.



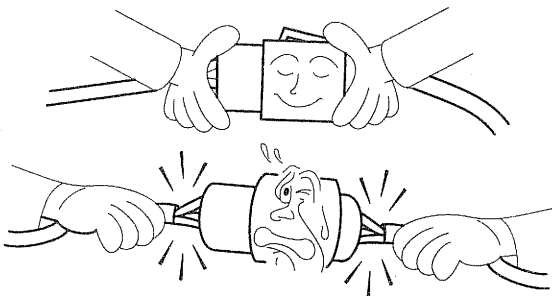
EAKE006B

10. Connect connectors which have catches by inserting the connectors until they make a clicking sound.



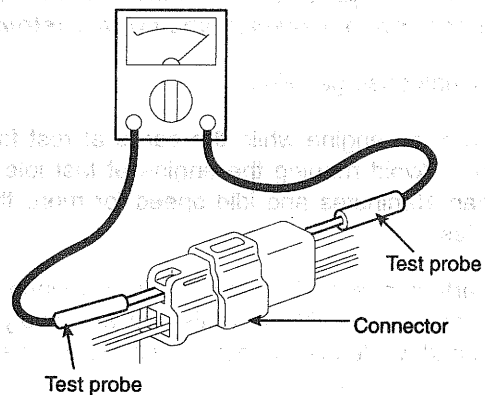
EAKE006E

8. When disconnecting a connector, be sure to grip only the connector, not the wires.



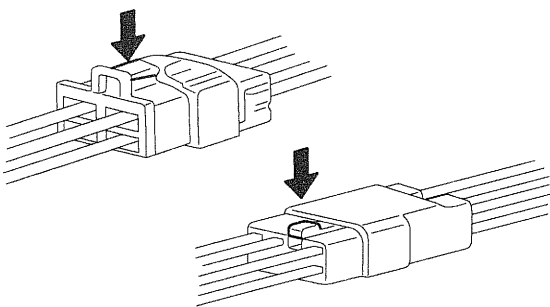
EAKE006C

11. When using a circuit tester to check continuity or voltage on connector terminals, insert the test probe into the harness side. If the connector is a sealed connector, insert the test probe through the hole in the rubber cap until contacts the terminal, being careful not to damage the insulation of the wires.



EAKE006G

9. Disconnect connector which have catches by pressing in the direction of the arrows shown the illustration.



EAKE006D

12. To avoid overloading the wiring, take the electrical current load of the optional equipment into consideration, and determine the appropriate wire size.

Nominal size	SAE gauge No.	Permissible current	
		In engine compartment	Other areas
0.3mm ²	AWG 22	-	5A
0.5mm ²	AWG 20	7A	13A
0.85mm ²	AWG 18	9A	17A
1.25mm ²	AWG 16	12A	22A
2.0mm ²	AWG 14	16A	30A
3.0mm ²	AWG 12	21A	40A
5.0mm ²	AWG 10	31A	54A

PRECAUTIONS FOR CATALYTIC CONVERTER



CAUTION

If a large amount of unburned gasoline flow into the converter, it may overheat and create a fire hazard. To prevent this observe the following precautions and explain them to your customer.

1. Use only unleaded gasoline.
2. Do not run the engine while the car is at rest for a long time. Avoid running the engine at fast idle for more than 10 minutes and idle speed for more than 20 minutes.
3. Avoid start-jump tests. Do start-jumps only when absolutely necessary. Perform this test as rapidly as possible and, while testing, never race the engine.
4. Do not measure engine compression for an extended time. Engine compression tests must be made as rapidly as possible.
5. Avoid coasting with the ignition turned and during prolonged braking.
6. Do not dispose of used catalytic converter together with parts contaminated with gasoline or oil.