# General Information

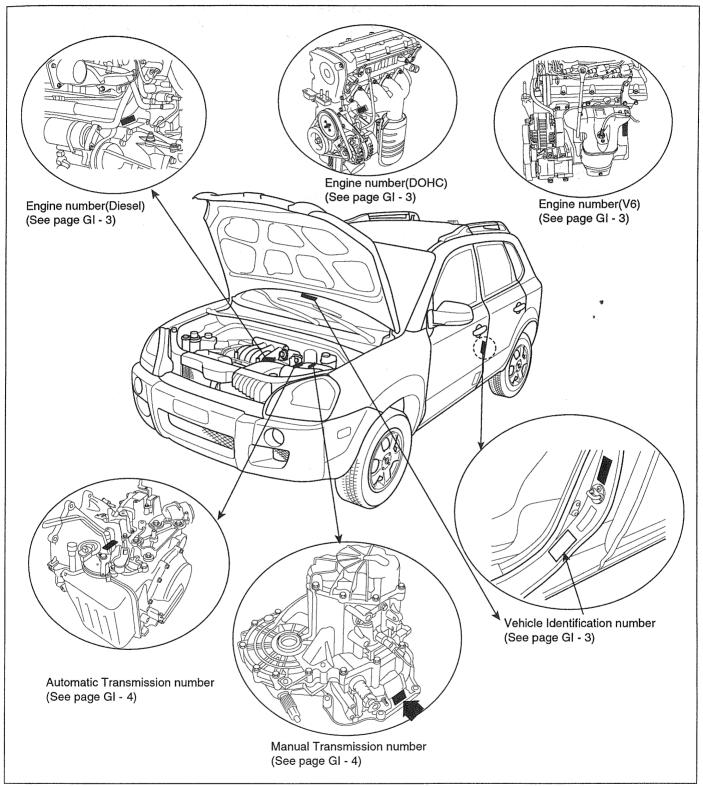
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# **GENERAL**

# IDENTIFICATION NUMBER

LOCATIONS EFAD3205



EAQF100A

# IDENTIFICATION NUMBER DESCRIPTION VEHICLE IDENTIFICATION NUMBER



EAQF101A

1. Geographic zone

- K : Korea

2. Manufacturer

- M: Hyundai motor company

Vehicle type

- H: Passenger

4. Vehicle line

- J: TUCSON

5. Model & Series

- L : STANDAD (L) - M : DELUXE (GL)

- N : SUPER DELUXE (GLS)

- P: GRAND SALON (GDS)

- R: SUPPER GRAND SALON (HGS)
- 6. Body type

- 8 : WAGON

7. Restraint system

- 0 : Both side - None

- 1 : Both side - Active belt

- 2 : Both side - Passive belt

8. Engine type

- B: Gosoline 2.0 DOHC

- D: Gosoline 2.7 DOHC

- V: Diesel 2.0 TCI

9. Check digit

- Check digit: 0 ~ 9, x

- P : Left hand driver

- R : Right hand driver

10. Production year

- 4: 2004, 5: 2005, 6: 2006

11. Plant of production

- U: Ulsan (korea)

12. Vehicle production sequence number - 000001 ~ 999999

#### PAINT CODE

CODE	COLOR
NW	Noble White
EB	Ebony Black
VA	Red Land
NS	Deep Green
OL	Marine Blue
VN	Golden Sand
YK	Warm Silver
JQ	Light Chardonna
HE	Teal Blue
BW	New Mild Silver
BU	Aqua Silver

## ENGINE IDENTIFICATION NUMBER



EAQF102A

1. Engine fuel

- G : Gasoline

- D : Diesel

2. Engine range

- 4: 4 cycle 4 cylinder

- 6: 4 cycle 6 cylinder

3. Engine development order

- B : DELTA Engine

- E: D-engine

- G : BETA Engine

4. Engine capacity

- A: 1991cc (Diesel), 2656cc (Gosoline)

- C: 1975 cc (Gasoline)

5. Production year

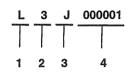
-4:2004, 5:2005, 6:2006

6. Engine production sequence number

- 000001 ~ 999999

# TRANSMISSION IDENTIFICATION NUMBER

#### MANUAL



#### **AUTOMATIC**



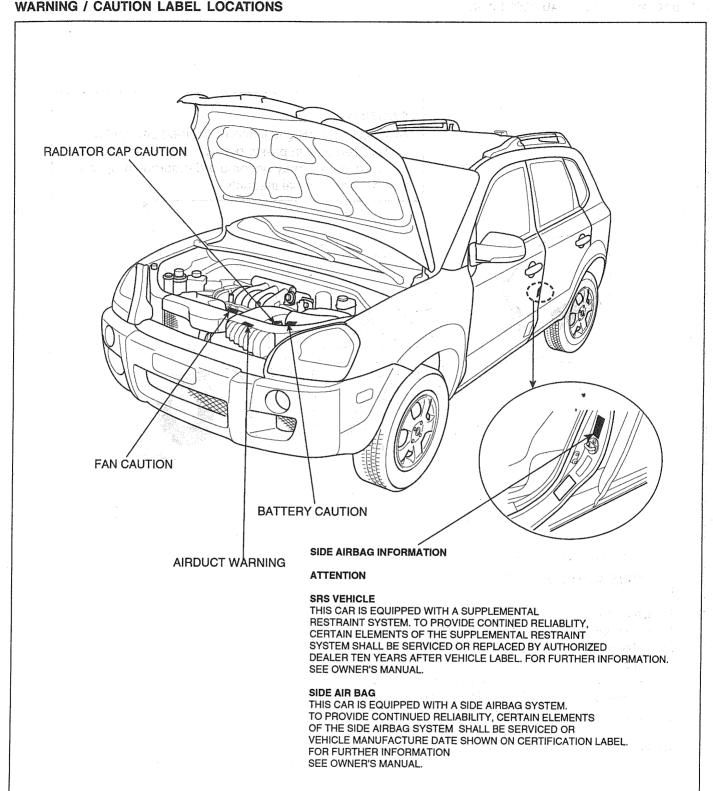
EAQF104A

EAQF103A

- 1. Model
  - L: M5GF1
- 2. Production year
  - 4: 2004, 5: 2005, 6: 2006, 7: 2007
- 3. Gear ratio
  - H: 4.063
  - J: 4.533
- 4. Transaxle production sequence number
  - 000001 ~ 999999

- 1. Modle
  - N: F4A42-2
- 2. Production year
  - -4:2004, 5:2005, 6:2006, 7:2007
- 3. Gear ratio
  - N: 4.042
  - O: 4.407
  - R: 4.626
- 4. Detailed chassification
  - AD: 2.0 2WD
  - BD: 2.0 4WD
  - FD : 2.7 4WD
  - HD: 2.7 2WD
  - ID: 2.0 DSL 2WD + LSD
  - JD: 2.0 DSL 4WD
  - KD: 2.0 DSL 2WD
- 5. Spare
- 6. Transaxle production sequence number
  - 000001 ~ 999999

#### **WARNING / CAUTION LABEL LOCATIONS**

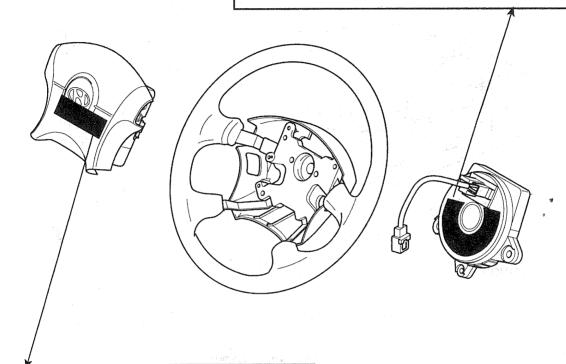


EAQF200A

#### AIR BAG WARNING / CAUTION LABEL

#### CAUTION

**AIRBAG:** Handing is limited to trained personnel. To be used only in prescribed vehicles. If not propely installed, device may become a dangerous projectile. See serivce manual instruction



#### **DRIVE MODULE CAUTION**

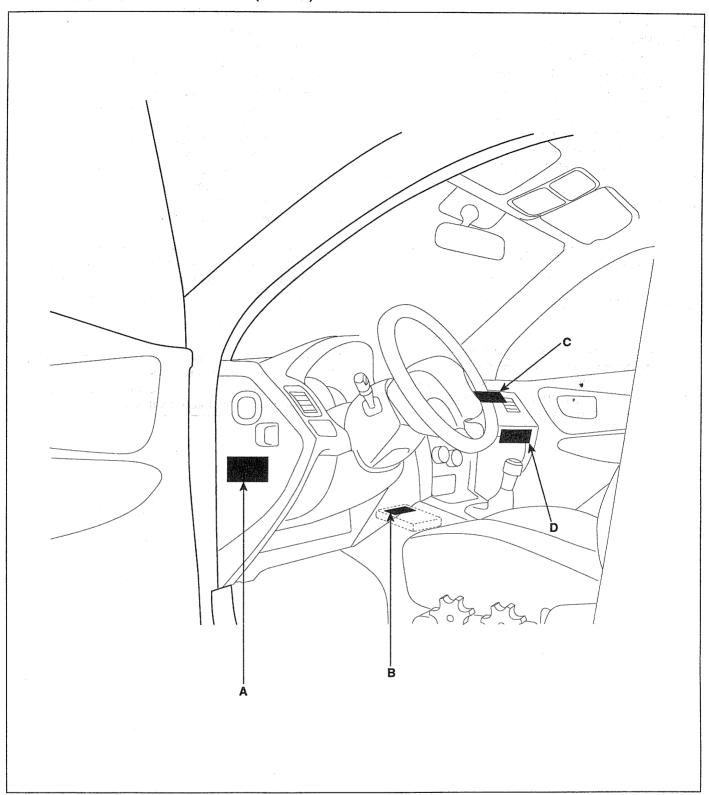
#### Caution

Don't open, remove or transfer to another vehicle. Risk of malfunction and bodily injury!

This unit is to be installed and/or dismantled by trained personnel only. This item contains an explosive to be installed igniter.

EAKE002A

# AIR BAG WARING / CAUTION LABEL (CONT'D)



KAQF400A

#### WARNING / CAUTION LABEL (CONT'D)

#### A: WARNING

#### SEE OWNER'S MANUAL.

This car is equipped a side airbag for each front seat.

- Do not use any accessory seat covers.
- Use of other seat covers could reduce the effect of the system.
- Do not install any accessories on the side or near the side airbag.
- Do not use excessive force on the side of the seal.
- For further information, see the owner's manual.

#### B : CAUTION AIRBAG ESPE UNIT

Detach connector before unmounting. Assemble strictly according to manual instructions.

#### C: PASSENGER MODULE CAUTION

#### CAUTION

Don't open, remove or transfer to another vehicle. Risk of malfunction and bodily injury! This unit is to be installed and/or dismantled by trained personnel only. This item contains an explosive to be installed igniter.

# D: SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAG) INFORMATION

- The airbag is a Supplement Restraint System (SRS).
  - You must always wear the seat belts.
- The airbag system condition is normal when the "SRS" lamp in the cluster flashes approximately 6 times after the ignition key is turned on and then goes off.
- If any of the following condition occur, the system must be serviced.
  - "SRS" lamp does not light up when the key is turned on.
  - "SRS" lamp stays lit or flashes continuously.
  - The airbag has inflated.
- The airbag system must be inspected by an authorized dealer ten years after the vehicle manufacture date shown on the certification label, located on left front door opening area.

#### WARNING

Failure to the above instructions may result in injury to you or other occupants in the vehicle

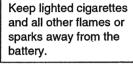
• See the "SRS" section in Owner's Manual for more information about airbags.

#### BATTERY CAUTION LABEL DESCRIBTION

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, excesive 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 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, throughly wash the contacted area.

If you feel a pain or a burning sensation, get medical attention immediately.

Always read the following instructions carefully when handing a battery.

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

EAKE007E

## LIFT AND SUPPORT POINTS

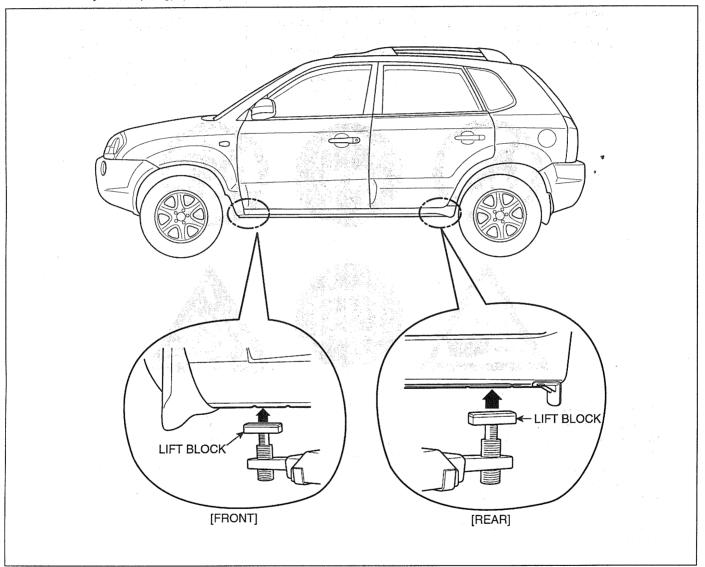
## **WARNING**

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 substatial weight is removed from the rear of the vehicle, the center of gravity may change and cam cause the vehicle to tip forward on the hoist.

## **NOTE**

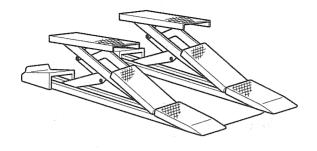
 Since each tire/wheel assembly weights approximately 30lbs (14kg), placing the front wheels in

- the luggage area can assist with the weight dis-
- Use the same support points to support the vehicle on safety stands.
- I. 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.



EAQF600A

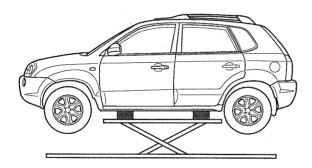
# **WARNING**



KAQF800A

Fuel tank cauld be damaged or broken when using the lift in the illustration above. So, install the rubber or wooden block on the position supporting the lift and then lift up the vehicle.

Minimum height of the block is 8cm.



#### **TOWING**

If the vehicle needs to be towed, call a professional towing service. Never tow vehicle with just a rope or chain. It is very dangerous.

#### **EMERGENCY TOWING**

There are three propular methods of towing a vehicle:

**Flat - bed Equipment -** The operator loads the vehicle on the back of truck. This is best way of transporting the vehicle.

Wheel Lift Equipment - The tow truck uses two pivoting arms that go under the tires (front or rear) and lift them off the ground. The other two wheels remain on the ground.

Sling type Equipment - The tow truck metal cables with hooks on the ends. These hooks go around parts of the frame or suspension, and the cables lift that end of the vehicle off the ground. The vehicle's suspension and body can be seriously damaged if this method of towing is attempted.

If the vehicle cannot be transported by flat-bed, if should be towed with the front wheels off the ground. If due to damage, the vehicle must be toward with the front wheels on the ground, do not following:

Manual Transmission

- · Release the parking brake.
- · Shift the transmission to neutral

KAQF800B

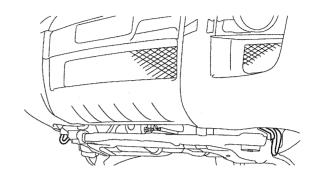
#### **Automatic Transmission**

- · Release the parking brake.
- · Start the engine.
- Shift to [D] position, then [N] position.
- Turn off the engine.

## ( CAUTION

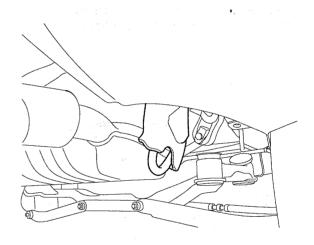
- · Improper towing preparation will damage the transmission. Follow the above procedure exactly. If you cannot shift the transmission or start the engine(automatic transmission), your vehicle must be transported on a flatbed.
- · It is the best to tow vehicle no farther than 19miles (30km), and keep the speed below 30mph (50km/h).
- · Trying to lift or tow your vehicle by the bumpers will cause serious damage. The bumpers are not designed to support the vehicle's weight.

FRONT:



EAQF003A

REAR:



EAQF002A

# TIGHTENING TORQUE TABLE OF STANDARD PARTS

Bolt niminal	Diale (mana)	Torque Nm (kg.cm, lb.ft)		
diameter (mm) Pich (mm)		Head Mark 4	Head Mark 7	
			(7)(	
EAKE004E	KASD100Y	EAKE004F	EAKE004G	
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**

- 1. 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.
- 2. 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.
- 3. If you reduce the torques in the table to the percentage indicated below, under the following conditions, if will be the standard value.
  - If spring washers are used: 85%
  - If threads and bearing sufaces are stained with oil: 85%

#### **LUBRICANTS**

#### RECOMMENDED LUBRICANTS

Parts		OIL & GREASE STANDARD		
Engine Oil	Gasoline	API SH or ABOVE	SAE 5W -20 (Below -10°C) *1, *2 SAE 5W -30 (Below 10°C) SAE 5W -40 (Below 20°C) SAE 10W -30 (-25°C ~ 40°C) SAE 10W -40, 10W -50 (Above -25°C)	
		API SH or ILAS GF-1 and ABOVE	SAE 10W -30, 10W -40 SAE 5W-30, 5W-40	
	Diesel	API CF -4 or ABOVE, ACEA B4 or ABOVE	SAE 30 (0°C ~ 40°C) SAE 20W-40 (ABOVE -10°C) SAE 15W-40 (ABOVE-15°C) SAE 10W-30 (-20°C ~ 40°C) SAE 5W-30 (-25°C ~ 10°C) SAE 0W-30 (Below 10°C), *1, *2	
1.00 (		*1. Restricted to driving condition and area.  *2. Not recommended for sustained high speed vehicle operation.		
Transaxle	Manual	HYUNDAI GENUINE PART MTF 75W/90 (API GL - 4) DIAMOND ATF SP-III, SK ATF SP-III		
THE RESERVE OF THE PERSON OF T	Auto			
Power Steering		PSF -3		
Breake Steering DOT 3, DOT 4 or equivalent		iivalent		
Coolant		Ethlyene glycol base for aluminium radiator		
Transaxle linkage, parking breake cable mechanism, hood, door latch, seat adjuster, tailgate latch, door hinges, tailgate hinge		Multipurpose grease N	NIGL grade #2	



Always use Genuine Hyundai parts and recommedended fluid.

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

#### **LUBRICANTS CAPACITIES**

	Description	2.7	2.0	Diesel
Engine oil	Oil pan	4.2 (4.44, 3.70)	3.7 (3.90, 3.26)	5.4 (5.70, 4.75)
	Oil filter	0.3 (0.32, 0.26)	0.3 (0.32, 0.26)	0.5 (0.583, 0.44)
	Total	4.5 (4.75, 3.96)	4.0 (4.23, 3.52)	5.9 (6.3, 5.2)
Cooling system		7.8 (8.2, 6.8)	6.0 (6.4, 5.31)	7.9 (8.35, 6.95)
Manual transaxle	<del></del>	2.15 (2.3, 1.86)	2.15 (2.3, 1.86)	2.15 (2.3, 1.86)
Automatic transa	xle	7.8 (8.2, 6.8)	7.8 (8.2, 6.8)	7.8 (8.2, 6.8)
Power steering		0.9 (0.95, 0.79)	0.9 (0.95, 0.79)	0.9 (0.95, 0.79)

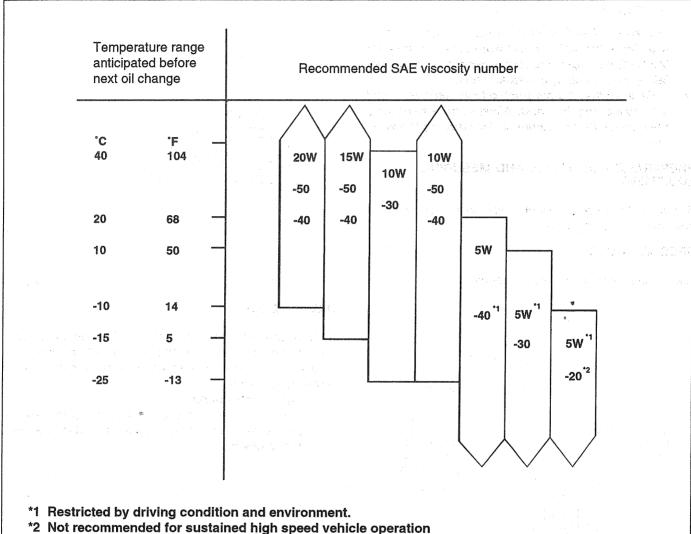
Capacities: [liter (U.S.qus, Imp.qts)]

#### SELECTION OF ENGINE OIL

Recommended API classification: SH OR ABOVE, CF-4

or ABOVE

#### RECOMMENDED SAE VISCOSITY GRADES:



FAKE004H

# **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.
- 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.

#### GENERAL SERVICE INFORMATION

#### 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.

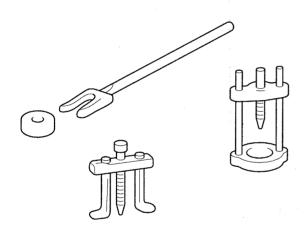
Make sure that the support rod has been released prior to closing the hood. Always check to be sure the hood is firmly latched before driving the vehicle.

#### PREPARATION OF TOOLS AND MESURING EQUIPMENT

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

#### SPECIAL TOOLS

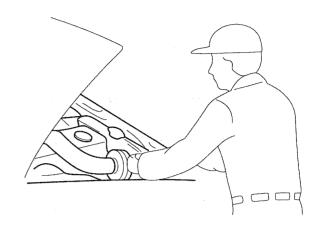
Use special tools when they are required.



FAKE005A

#### REMOVAL OF PARTS

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



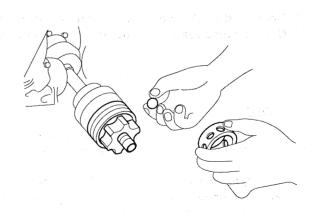
EAKEONSB

#### DISASSEMBLY

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

#### Inspection of parts

Each part, when removed, should be carefulley on spected for malfunction, deformation, damage, and other problems.

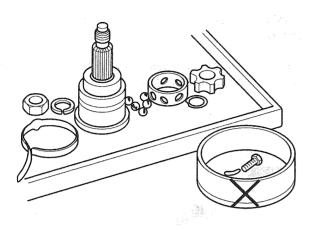


EAKE005C

#### 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 repllaced from those that will be used again.



EAKE005D

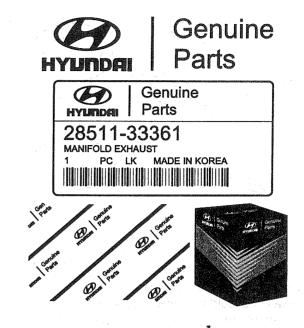
#### 3. Cleaning parts for reuse

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



#### **PARTS**

When replacing parts, use HYUNDAI genuine parts.



EAKE005F

#### REPLACEMENT

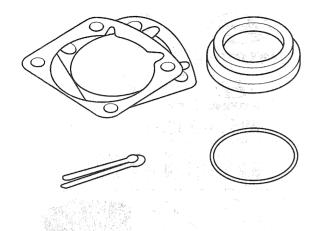
Standard values, such as torques and certain adjustments, must be strictly observed in the reassembly of all parts.

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)

EAKE005E

#### 6. Plastic nuts



EAKE005G

Depending on their location.

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



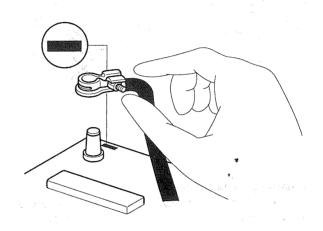
EAKE005H

### **ADJUSTMENT**

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

#### **ELECTRICAL SYSTEM**

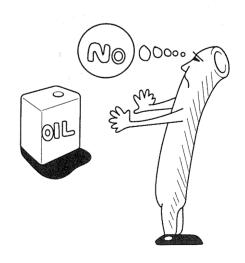
- 1. Be sure to disconnect the battery cable from the negative (-) terminal of the battery.
- Never pull on the wires when disconnecting connectors.
- 3. Locking connectors will click when the connector is secure.
- 4. Handle sensors and relays carefully. Be careful not to drop them against other parts.



EAKE005I

#### **RUBER PARTS AND TUBES**

Always prevent gasoline or from touching rubber parts or tubing.

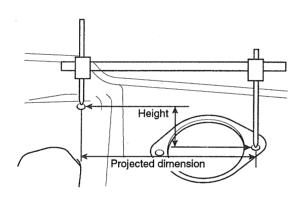


#### MEASURING BODY DIMENSIONGS

- 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.
- For measuring dimensions, both projected dimensioners and actual measurement dimensions are used in this manual.

#### **DIMENSIONS PROJECTED**

- 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.
- 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.

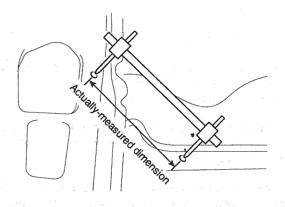


#### MEASURING ACTUAL DIMENSIONS

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



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

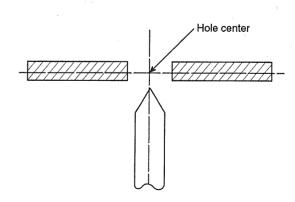


EAKE005L

#### MEASUREMENT POINT

Measurements should be taken at the center fo the hole.

EAKE005K

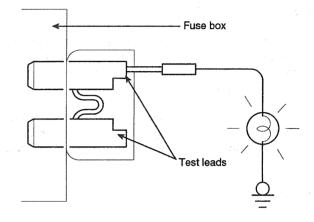


#### **CHECKING CABLES AND WIRES**

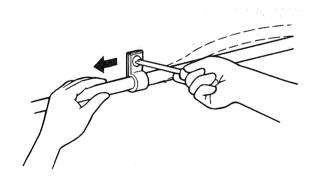
- 1. Check the terminal for tightness.
- 2. Check terminals and wires for corrosion from battery electrolyte, etc.
- 3. Check terminals and wires for open corcuits.
- 4. Check wire insulation and coating for damage, cracks and degrading.
- Check the conductive parts of terminals for contact with other metallic parts (vehicle body and other parts).
- Check grounded parts to verify that there is complete continuity between thier attaching bolt(s) and the vehicle's body.
- 7. Check for incorrect wiring.
- 8. Check that the wiring is so clamped to the prevent contact with sharp corners of the vehicle body, etc. or hot parts (exhaust manifold, etc.)
- Check that the wiring is clamped firmy 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.

#### **CHECK FUSES**

A blade type fuse test taps provided to allow checking the fuse itself without removing if 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



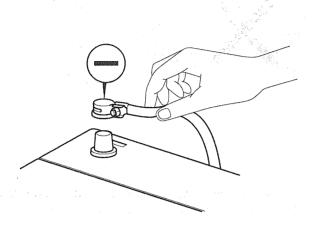
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#### SERIVICING THE ELECTRICAL SYSTEM

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

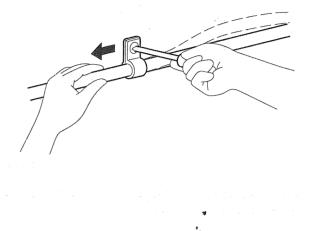
## **NOTE**

In the course of MFI or ELC system diagnosis, when the battery cable is removed, any diagnostic trouble code retained by the computer will be cleared. There fore, if necessary, read the diagnostic before removing the battery cable.



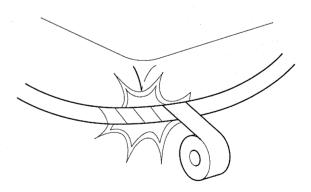
EAKE005P

2. 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 surronding parts and then secure the harness by using a clamp.



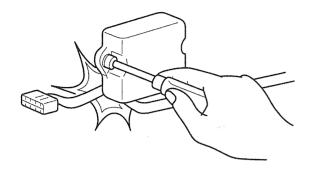
FAKE005B

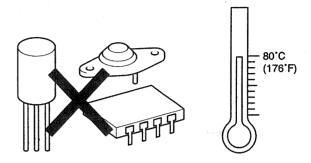
 If any section of a wiring harness interferes with the edge of a parts, or a corner, wrap the section of the harness with tape or something similar in order to protect if from damage.



EAKE005S

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



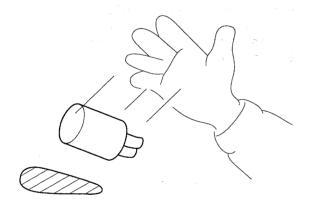


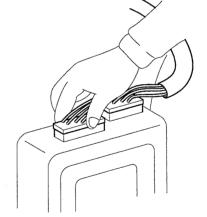
EAKE005T

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

EAKE006A

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

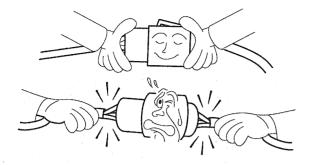


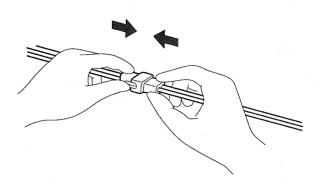


EAKE005U

EAKE006B

- When disconnecting a connector, be sure to grip only the connector, not the wires.
- 10. Connect connectors which have catches by inserting the connectors until they make a clicking sound.

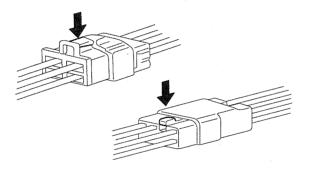




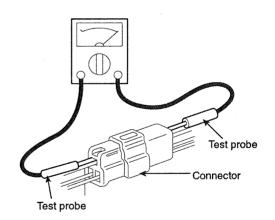
EAKE006C

EAKE006E

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



EAKE006D



EAKE006G

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

		Permissible current	
Noeminal size			Other areas
0.3mm²	AWG 22	-	5A
0.5mm²	AWG 20	7A	13A
0.85mm²	AWG 18	9A	17A
1.25mm²	AWG 16	12A	22A
2.0mm²	AWG 14	16A	30A
3.0mm²	AWG 12	21A	40A
5.0mm²	AWG 10	31A	54A

#### PRECAUTIONS FOR CATALYTIC CONVERTER

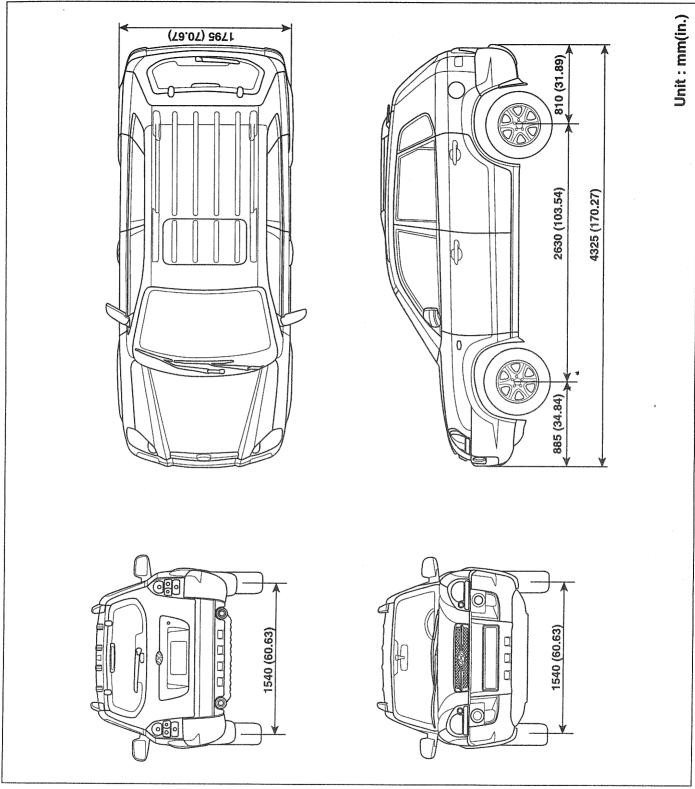


#### /!\ CAUTION

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

- Use only unleaded gasoline.
- Do not run the engine while the car is at rest for a 2. long time. Avoid running the engine at fast idle for more than 10minutes and idle speed for more than 20 minutes.
- 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.
- Do not measure engine compression for and extended time. Engine compression tests must be made as rapidly as possible.
- Avoid coasting with the ignition turned and during prolonged braking.
- Do not dispose of used catalytic converter together with parts contaminated with gasoline or oil.

# **BODY - DIMENSION**



EAQF300A