

General Information

Chassis Number Nameplate GI - 2

General Service Information GI - 3

Precautions For Electric Welding GI -10

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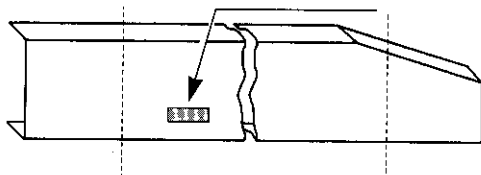
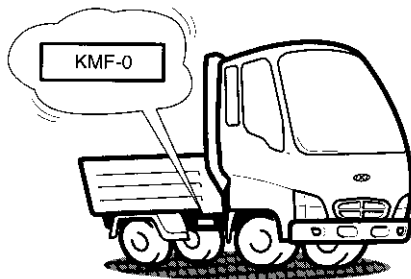
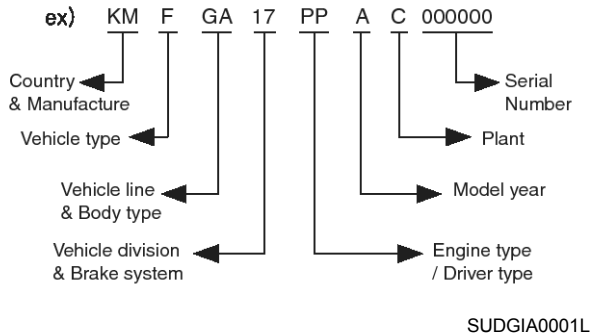
General Information(Chassis)

General

CHASSIS NUMBER NAMEPLATE

Vehicle Identification Number Location

The vehicle identification number (V.I.N) is stamped on the rear side of the right front spring bracket.



EMTGI5002A

VEHICLE IDENTIFICATION NUMBER

K	M	F	G	A	1	7	A	P	2	C	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	10	11						12

EMTGI5101A

1. Geographic zone

K-Built in Korea by HMC (Hyundai Motor company)

2. Manufacturer

M-Manufactured by HMC

3. Vehicle Type

B-Trailer F- Truck C- Special vehicle
J-Bus E- Tractor

4. Vehicle Line

TRUCK

- C-MIGHTY / Bare chassis
- G-MIGHTY(Wide Cab)
- J- MIGHTY / GVW 4 TON
- V-MIGHTY (Narrow cab)

5. Body Type

TRUCK

- A- Cargo / Top Truck Type B- Full Cargo Type
- E- Double Cab Type F- Bare chassis

6. Vehicle Division

1- All vehicle

7. Brake System

- 7-Hydraulic Brake System
- 8-Pneumatic Brake System
- 9-Compound Brake System

8. Engine Type

A- D4DA B- D4DB, D4BB C-D4DC
E- D4AE F- D4AF H-D4GA
K-D4AK L-D4AL P-D4DD

9. Check Digit Other

P-Left Hand Driver (LHD)
R-Right Hand Driver (RHD)

10. Model year or Product Year

9: 2009 A: 2010 B:2011 C: 2012
D: 2013 E: 2014 F:2015 G:2016

11. Plant

U-Ulsan plant(in Korea)
C-Cheonju plant(in Korea)
A-Asan plant(in Korea)

12. Serial Number (Vehicle Production)

000001-999999

General

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GENERAL SERVICE INFORMATION

PROTECTION OF THE VEHICLE

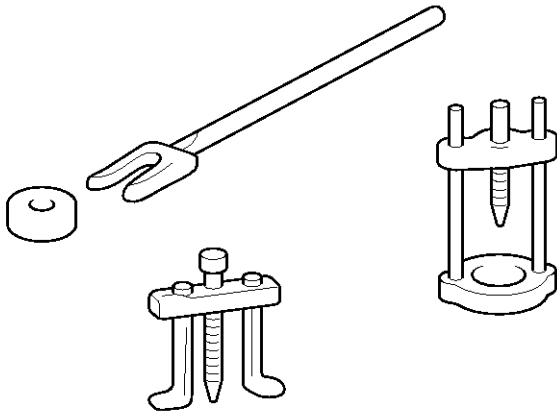
Always be sure to cover fenders, seats, and floor areas before starting work.

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.



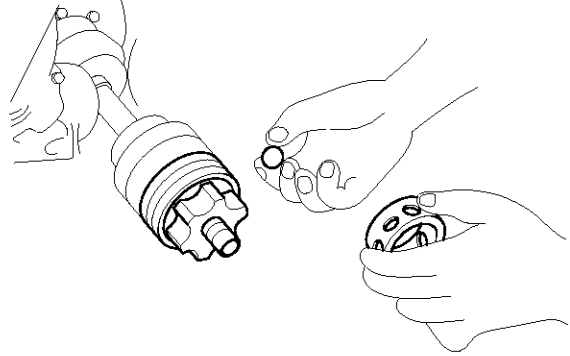
EAKE005A

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.

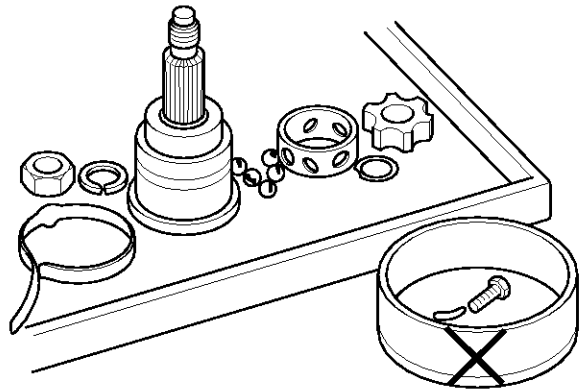


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2. Arrangement of parts

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.



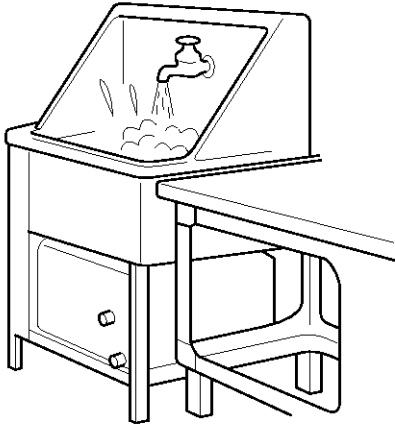
EAKE005D

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3. Cleaning parts for reuse

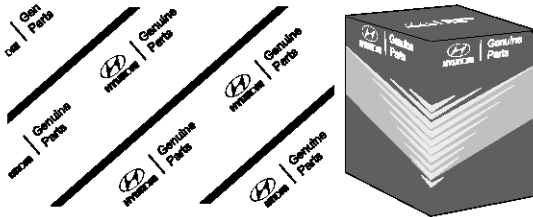
All parts to be used again should be carefully and thoroughly cleaned by an appropriate method.



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PARTS

When replacing parts, use HYUNDAI genuine parts.



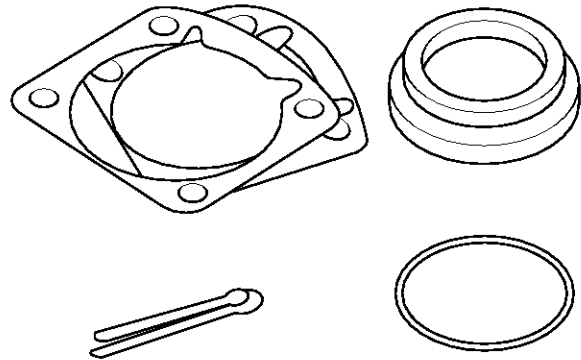
EAKE005F

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

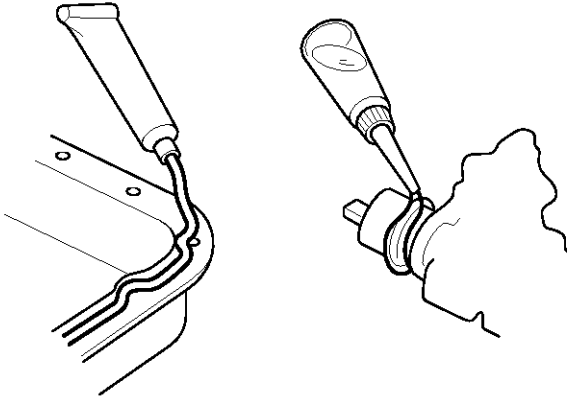
Depending on their location.

7. Sealant should be applied to gaskets.
8. Oil should be applied to the moving components of parts.

General

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9. Specified oil or grease should be applied to the prescribed locations (oil seals, etc) before assembly.



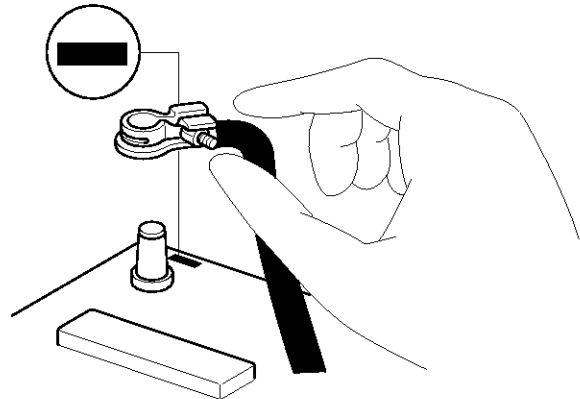
EAKE005H

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

RUBBER PARTS AND TUBES

Always prevent gasoline or from touching rubber parts or tubing.



EAKE005J

MEASURING BODY DIMENSIONS

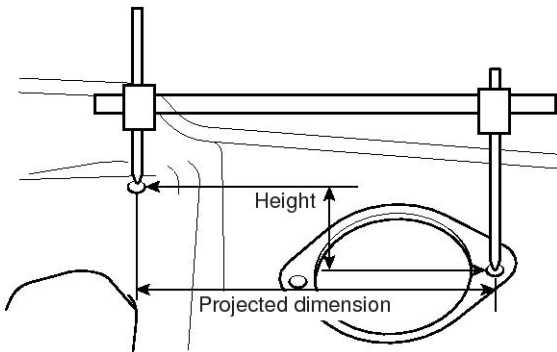
1. Basically, all measurements in this manual are taken with a tracking gauge.
2. When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
3. For measuring dimensions, both projected dimensions and actual - measurement dimensions are used in this manual.

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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 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.



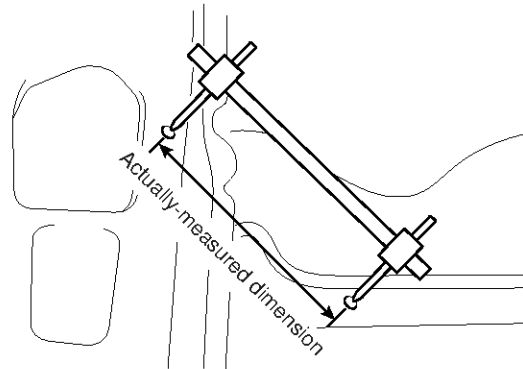
EAKE005K

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.

NOTICE

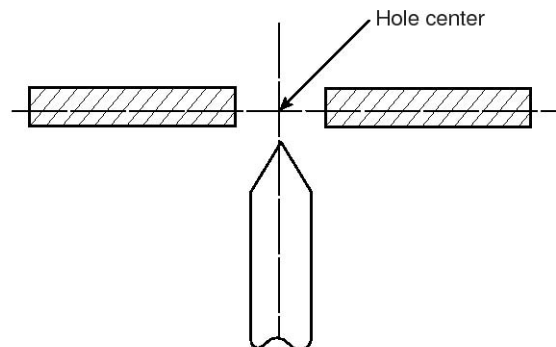
Check the probes and gauge itself to make sure there is no free play.



EAKE005L

MEASUREMENT POINT

Measurements should be taken at the center of the hole.



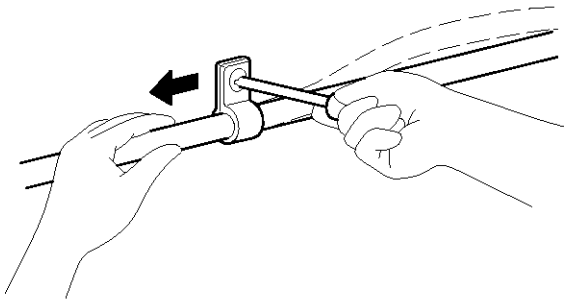
EAKE005M

General

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CHECKING CABLES AND WIRES

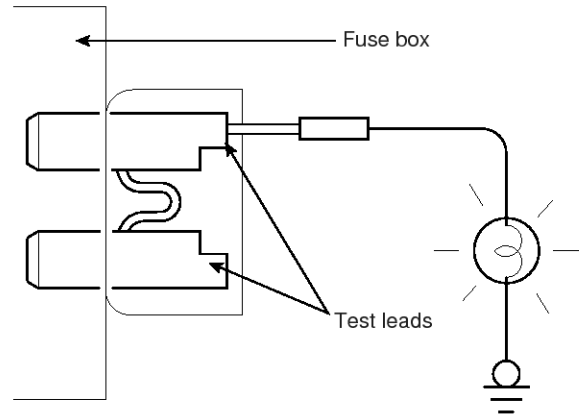
1. Check the terminal for tightness.
2. Check terminals and wires for corrosion from battery electrolyte, etc.
3. Check terminals and wires for open circuits.
4. Check wire insulation and coating for damage, cracks and degrading.
5. Check the conductive parts of terminals for contact with other metallic 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 the 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

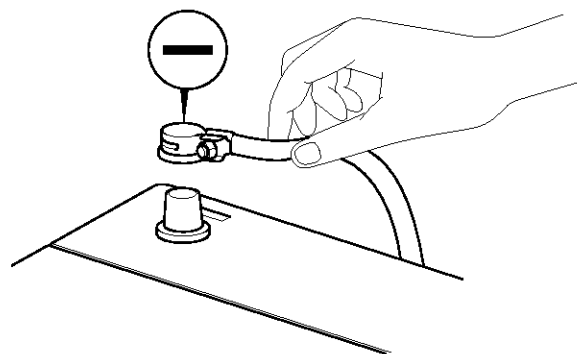
A blade type fuse test taps provided to allow checking the fuse itself without removing it from the fuse box. The fuse is good if the test lamp lights up when one lead is connected to the test taps (one at a time) and the other lead is grounded. (Turn the ignition switch so that the fuse circuit becomes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

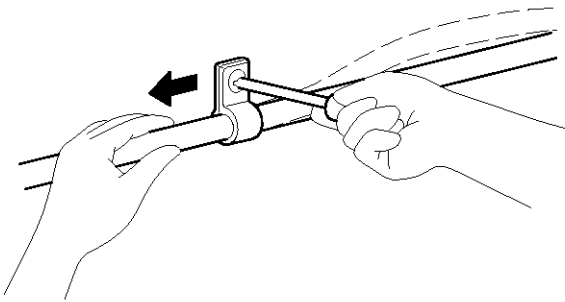


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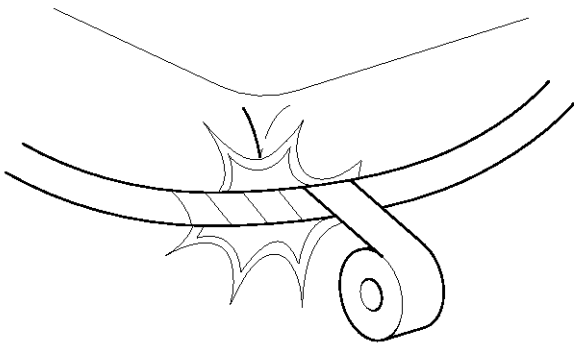
General Information(Chassis)

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 surrounding parts and then secure the harness by using a clamp.



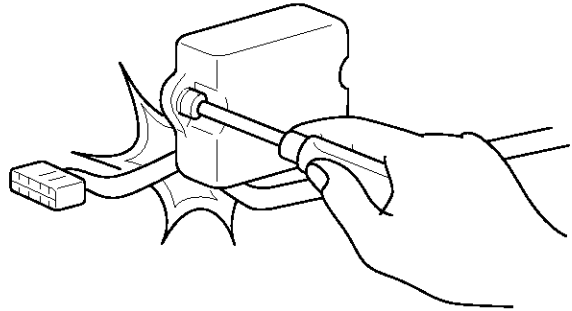
EAKE005R

3. 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.



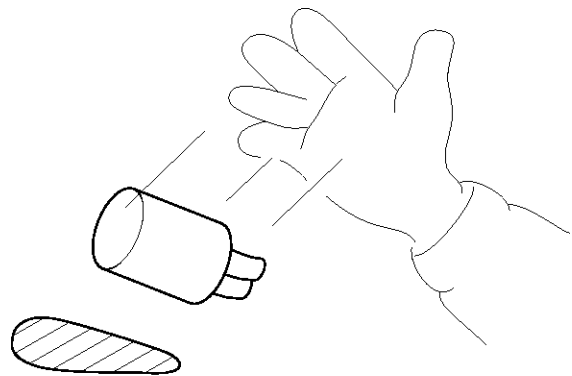
EAKE005S

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



EAKE005T

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

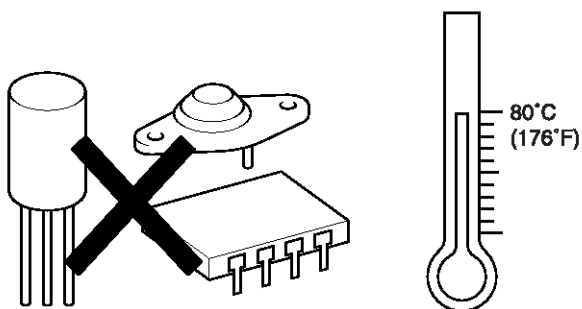


EAKE005U

General

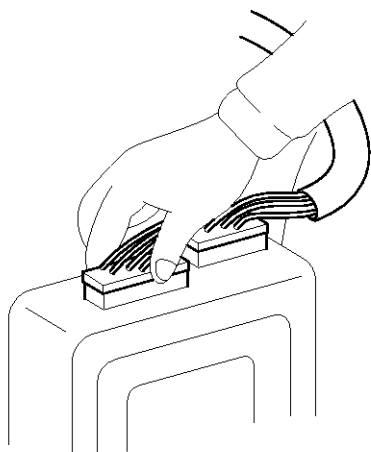
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6. The electronic parts used in the computer, relays, etc. are readily damaged by heat. If there is a need for service operations that may cause the temperature to exceed 80°C (176°F), remove the electronic parts before hand.



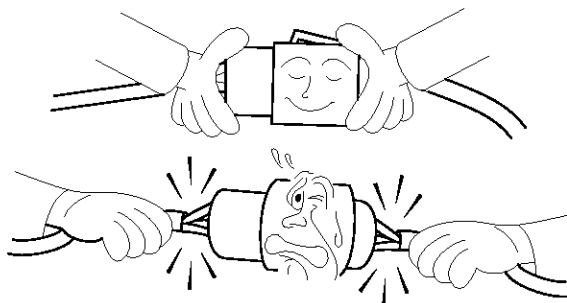
EAKE006A

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



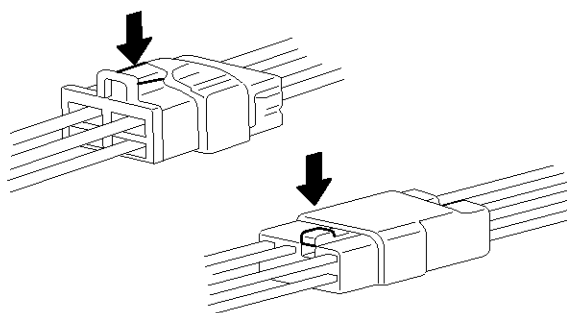
EAKE006B

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



EAKE006C

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

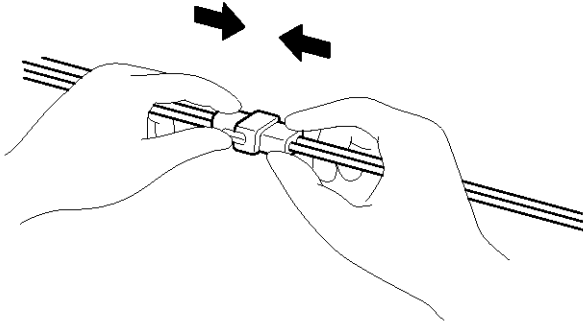


EAKE006D

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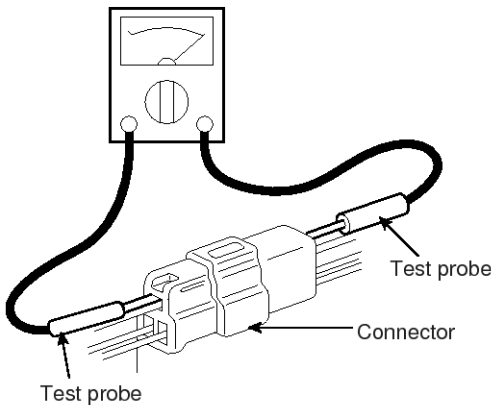
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10. Connect connectors which have catches by inserting the connectors until they make a clicking sound.



EAKE006E

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

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 electric welding

⚠ WARNING

When electric-welding the electronic parts which are connected directly to the battery, current in the welding machine can flow through the grounding circuit to these parts, thus damaging them. Follow below procedures surely.

1. Turn off all of the electric switches in vehicle.
2. Remove the (-) Battery.
3. Disconnect all of grounding circuits earthed in vehicle, insulate the current using rubber and etc.

📖 NOTICE

Refer the Electrical Troubleshooting Manual in relation position of ground terminal.

4. Disconnect all ECU and controller connector.

Engine control system : ECU or ECM

Brake control system : ABS ECU

The other system : ETACS

📖 NOTICE

Refer the Electrical Troubleshooting Manual in relation position of ground terminal.

5. Do not earth grounding circuit in the welding machine to the fuel tank.
6. The welding spark should not be contacted to the fuel tank.

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7. When tightening ground terminal to the body, clean the neighborhood of body and tighten it with specified torque.

Item	Outer Diameter of bolt(mm)	Tightening torque		
		Nm	kgf·m	lb·ft
Battery (+) cable tightening	M8	88.3~137.3	9~14	65.1~101.3
Battery (+) terminal	M8	88.3~137.3	9~14	65.1~101.3
Battery (-) cable tightening	M10	137.3~156.9	14~16	101.3~115.7
Battery (-) terminal	M6	39.2~58.8	4~6	28.9~43.4
Starter motor	M8	98.1~117.7	10~12	72.3~86.8
Alternator "B" terminal	M8	88.3~137.3	9~14	65.1~101.3
Engine grounding strap	M10	186.3~274.6	19~28	137.4~202.5
Main Fuse box	M8	88.3~137.3	9~14	65.1~101.3

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Recommended Lubrication

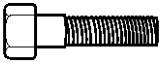
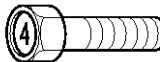
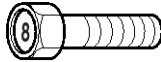
Item		Recommended fluid		Quantity(liter)
Engine oil	Except D4GA	API CF-4 or above	0~40 ℃ : SAE 30W	*Total :9.0(9.3 : When By-pass filter is installed.) *Oil pan : 8.0
			-10 ℃ above : SAE 20W-40	
			-15 ℃ above : SAE 15W-40	
			-20 ℃ above : SAE 10W-40	
			-20 ~ 40 ℃ dabove : SAE 10W-30	
			-25 ~ 40 ℃ dabove : SAE 5W-30	
			10 ℃ below : SAE 0W-30	
	D4GA	API CI-4 or above	0~40 ℃ : SAE 30W	*14(With oil filter) *Oil pan : MAX - 13.5 MIN - 9.5
			-10 ℃ above : SAE 20W-40	
			-15 ℃ above : SAE 15W-40	
			-20 ℃ above : SAE 10W-40	
			-20 ~ 40 ℃ dabove : SAE 10W-30	
			-25 ~ 40 ℃ dabove : SAE 5W-30	
			10 ℃ below : SAE 0W-30	
Transmission oil		API GL-4, SAE 75W85	T60S5 : 4.5(With PTO : 4.9) T60S6 : 5.5(With PTO : 5.9)	
Transmission oil		Temperate/Frigid zone : API GL-3, SAE 80 or API GL-4 80W-90 Tropical zone : API GL-4 SAE 90	M2S5 : 4.0 (With PTO : 4.5)	
			M3S5 : 3.4 (With PTO : 3.9)	
			M035S5 : 3.2 (With PTO : 3.7)	
Rear Axle oil		Temperate/Frigid zone : API GL-5, SAE 80W-90 Tropical zone : API GL-5 SAE 140 or SAE 85W/140	R130HS : 6.2±0.25 D033H : 5.8±0.25 D2H/D3H : 4.5±0.14	
Steering gear box flow rate		PSF-3	7ℓ / Min	

General

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TIGHTENING TORQUE TABLE OF STANDARD PARTS

Thick bolt

Bolt nominal diameter (mm)	Pitch(mm)	Torque N.m(kgf.m , lb-ft)	
		Head mark 4	Head mark 8
 SDFGI8022D	 SDFGI8023D	 SDFGI8024D	 SDFGI8026D
M5	1.5	17.6~26.5 (1.8~2.7 , 13~19.5)	42.1~58.8 (4.3~6 , 31.1~43.4)
M6	1.75	30.4~46.1 (3.1~4.7 , 22.4~34)	73.5~98 (7.5~10 , 54.2~72.3)
M8	2	53.9~73.5 (5.5~7.5 , 39.8~54.2)	117.6~166.6 (12~17 , 86.8~122.9)
M10	2	88.2~117.6 (9~12 , 65.1~86.8)	186.2~254.8 (19~26 , 137.4~188)
M12	2.5	117.6~156.8 (12~16 , 86.8~115.7)	254.8~343 (26~35 , 188~253)
M14	2.5	166.6~225.4 (17~23 , 122.9~166.3)	362.6~490 (37~50 , 267.5~361.5)
M16	2.5	225.4~303.8 (23~31 , 166.3~224.1)	490~666.4 (50~68 , 361.5~491.6)
M18	3	284.2~392 (29~40 , 209.7~289.2)	627.2~842.8 (64~86 , 462.7~621.8)

NOTICE

- 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.

3. 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%