MITSUBISHI MOTORS

SERVICE BULLETIN

AFTERSALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-07E55-004	DATE : 2007-12-20
SUBJECT : A/C COMPRESSOR ASSEMBLY		<MODEL> (EUR) OUTLANDER (GS45X)(CW0W) <M/Y> Oct.07–
GROUP : HEATER, A/C & VENTILATION		

1. Description:

The new A/C compressor assembly has been installed in the 3.0L engine (new: QS90 ← current: MSC90CAS). This Service Bulletin contains the new descriptions.

2. Applicable Manual:

Manual	Pub. No.	Title (Info-ID)	Attachment
2008 OUTLANDER Workshop Manual	CGXE08E1-CD (English) CGXS08E1-CD (Spanish) CGXF08E1-CD (French) CGXG08E1-CD (German)	Service Specifications (M551-00-030-77200-01), Lubricants (M551-00-040-62700-01), Compressor Assembly (Disassembly and Assembly Inspection) (M552-00-470-27000-01)	Attachment 1 – 7

3. Effective Date:

From the vehicles produced in the beginning of October

4. Details:

Attachment 1

SERVICE SPECIFICATIONS

M1551000300589

Item			Standard value
Idle speed r/min (N or P range)		2400	650 ±50
Idle speed r/min (N or P range)		3000	650 ±50
Idle-up speed r/min (N or P range)	2400	A/C at low load	700 ±50
		A/C at high load	800 ±50
Idle-up speed r/min (N or P range)	3000		750 ±50
Air gap (magnetic clutch) mm			0.3 - 0.5
A/C refrigerant temperature switch operating temperature °C	Being turned off		155
	Being turned on		125

Attachment 2-A is to be added.

Attachment 2-B is to be added.

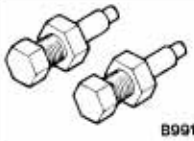
LUBRICANTS

M1551000400337

Item	Specified lubricant	Quantity
Compressor refrigerant unit lubricant cm ^{3}	SUN PAG 56	80~100 (target value: 80)
Each connection of refrigerant line	SUN PAG 56	As required
Refrigerant g	HFC134a (R134a)	500 ±20

SPECIAL TOOL

M1551000600342

Tool	Number	Name	Use
 B991367	MB991367	Special spanner	Removal and installation of the A/C compressor armature mounting nut
 B991386	MB991386	Pin	
 MB990900	MB990900 or MB991164	Door hinge adjusting wrench	Removal and installation of front deck cross member heater unit assembly

Attachment 2-C is to be added.

Attachment 2

SERVICE SPECIFICATIONS

M1551000300772

Item			Standard value
Idle speed r/min (N or P range)		2400	650 ±50
Idle speed r/min (N or P range)		3000	650 ±50
Idle-up speed r/min (N or P range)	2400	A/C at low load	700 ±50
		A/C at high load	800 ±50
Idle-up speed r/min (N or P range)	3000		750 ±50
Air gap (magnetic clutch) mm	2400		0.3 –0.5
	3000		0.25 –0.45
A/C refrigerant temperature switch operating temperature °C	2400	Being turned off	155
		Being turned on	125
	3000	Being turned off	135
		Being turned on	120

<A> <Added>

LUBRICANTS

M1551000400627

Item <B> <Added>		Specified lubricant	Quantity
Compressor refrigerant unit lubricant cm ^{3}	2400	SUN PAG 56 or S10X	80~100 (target value: 80)
	3000		70~90 (target value: 70)
Each connection of refrigerant line	2400	SUN PAG 56 or S10X	As required
	3000		As required
Refrigerant g		HFC134a (R134a)	500 ±20

<C>

SEALANT <3000>

M1552023400104

Item	Specified sealant	Quantity
Refrigerant temperature switch	KE-347W	As required

<Added>

Attachment 3

Switch status	Operating temperature °C
Being turned off (No continuity)	155
Being turned on { Continuity exists (2 Ω or less)}	125

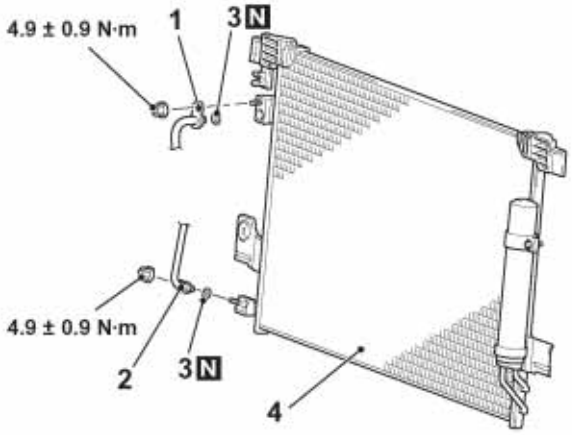
NOTE: When the oil temperature is 155°C or more and there is no continuity, the switch will not be turned on {Continuity exists (2 Ω or less)} until the temperature reduces to 125°C or less.

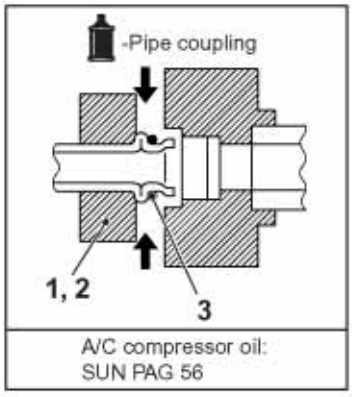
CONDENSER ASSEMBLY

REMOVAL AND INSTALLATION

M1552015400790

Pre-removal and Post-installation Operation
- Discharging and Recharging refrigerant (Refer to P.55A-56)
- Battery and Battery Tray Removal and Installation
- Air Cleaner Intake Duct Removal and Installation (Refer to GROUP 15 –Air Cleaner, <4B1> or <6B3>).





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Removal steps

<<A>> 1. Discharge flexible hose connection
<<A>> 2. Liquid pipe A connection
3. O-ring
4. Condenser assembly

NOTE: Condenser fan removal and installation (Refer to GROUP 14 –Radiator <4B1> or <6B3>).

REMOVAL SERVICE POINTS

<<A>> DISCHARGE FLEXIBLE HOSE/LIQUID PIPE A DISCONNECTION

⚠ CAUTION

Use the plug which is not breathable because A/C compressor oil or receiver have high hygroscopicity.

Plug the removed nipple of the pipe, hose and condenser to prevent the entry of dust and dirt.

Added the Attachments 4 to 7.

<Added>

COMPRESSOR ASSEMBLY <3000>

REMOVAL AND INSTALLATION <3000>

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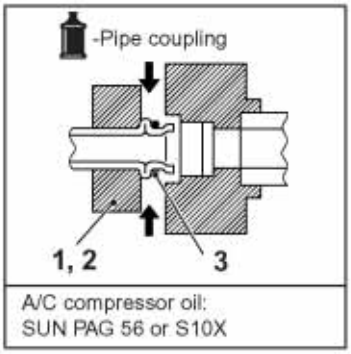
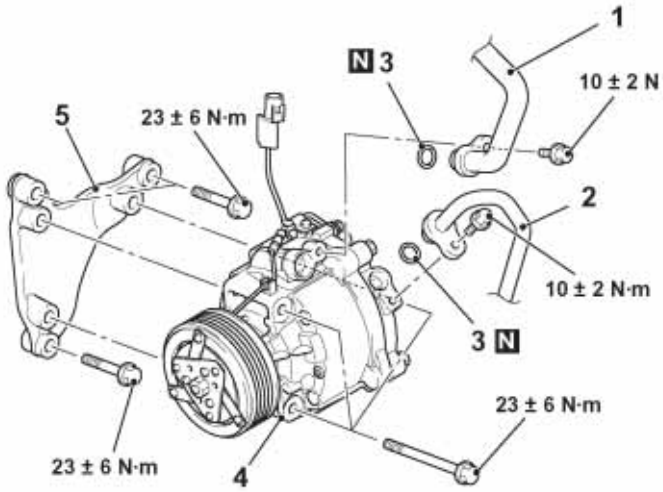
Pre-removal operation	Post-installation Operation
• Discharging refrigerant (Refer to)	• Alternator drive belt installation (Refer to GROUP 11C, Crankshaft pulley)
• Engine room under cover front B and engine room side cover removal (Refer to GROUP 51, under cover).	• Alternator drive belt tension check (Refer to GROUP 11C – Engine Adjustment, Drive Belt Tension Check).
• Alternator drive belt removal (Refer to GROUP 11C, Crankshaft pulley)	• Charging refrigerant (Refer to)
	• Engine room under cover front B and engine room side cover installation (Refer to GROUP 51, Under cover).



A/C compressor oil:
SUN PAG 56 or S10X



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Removal steps

<<A>>	1.	Flexible discharge hose connection
<<A>>	2.	Flexible suction hose connection
	3.	O-ring
	•	Alternator drive belt (Refer to GROUP 11C –crankshaft pulley)
<<B>> >>A<<	4.	A/C compressor
	5.	A/C compressor bracket

NOTE: The service points which are not described are the same as before.

INSTALLATION SERVICE POINT

>>A<< A/C COMPRESSOR INSTALLATION

If a new compressor is installed, first adjust the amount of oil according to the procedures described below, and then install the compressor.

1. Measure the amount X cm^3 of oil within the removed compressor.
2. Drain (from the new compressor) the amount of oil calculated according to the following formula, and then install the new compressor.

   New compressor oil amount = 70cm^3

   70 cm^3 –X cm^3 = Y cm^3

NOTE: Y cm^3 indicates the amount of oil in the refrigerant line, the condenser, the evaporator, etc.

<Added>

Attachment 5

DISASSEMBLY AND ASSEMBLY

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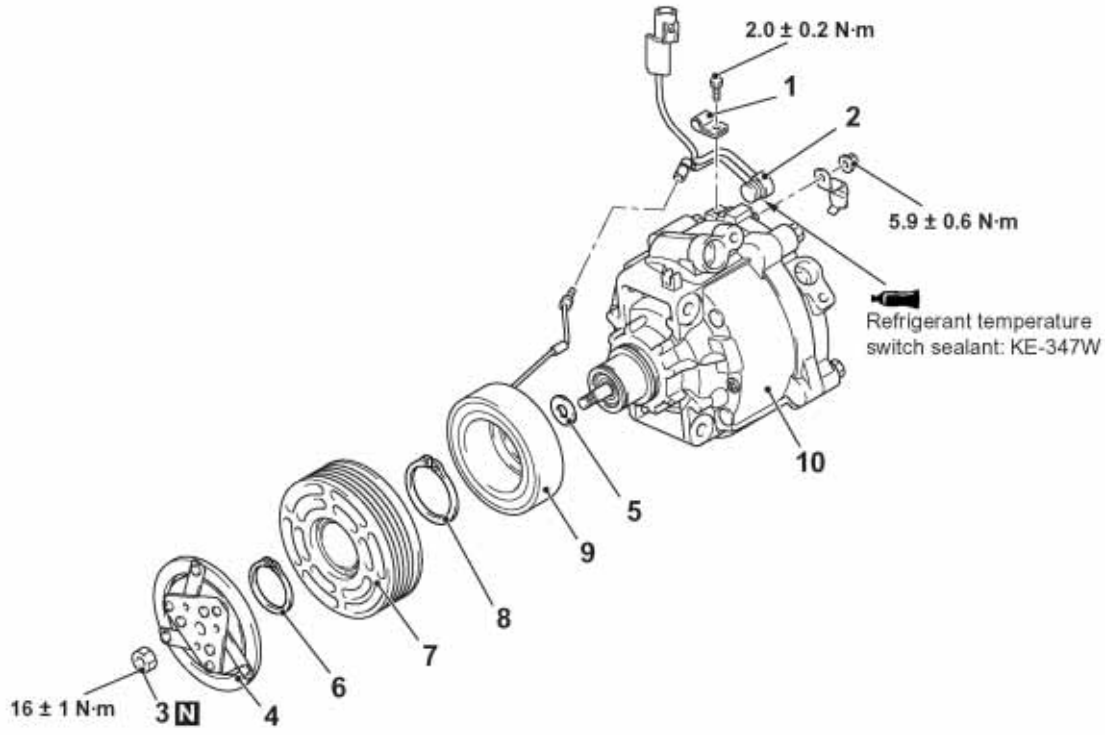

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Cooling temperature switch disassembly steps

1. Bracket
2. Cooling temperature switch

A/C compressor clutch disassembly

>>D<< • Air gap adjustment

<<A>> >>C<< 3. Self-locking nut

4. Armature
5. Shim

>>B<< 6. Snap ring

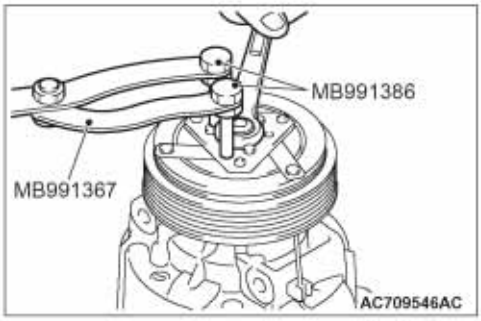
7. Rotor
8. Snap ring

>>A<< 9. Field core

10. A/C compressor

DISASSEMBLY SERVICE POINT

<<A>> SELF-LOCKING NUT REMOVAL



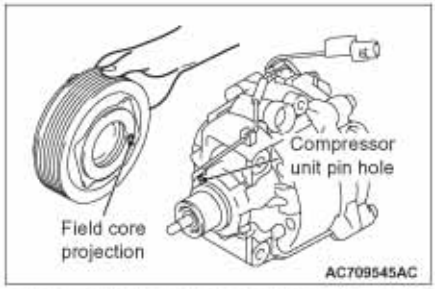
Use the special tools below to remove the self-locking nut.

<Added>

Attachment 6

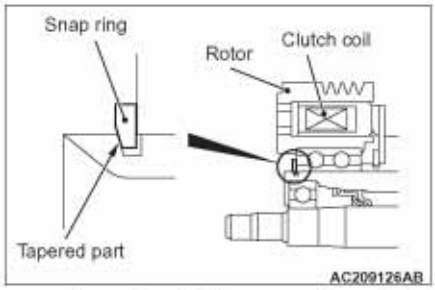
ASSEMBLY SERVICE POINT

>>A<< FIELD CORE ATTACHMENT



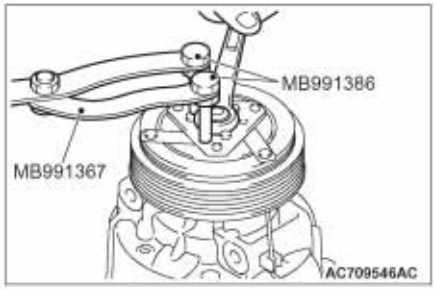
Line up the pin hole on the compressor unit with the field core projection and attach.

>>B<< SNAP RING INSTALLATION



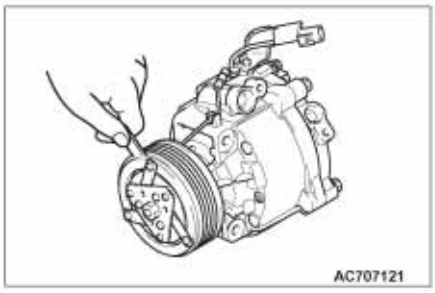
Using snap ring pliers, fit the snap ring so that the snap ring's tapered part is on the outside.

>>C<< SELF-LOCKING NUT INSTALLATION



Using a special tool, as when removing the nut, secure the armature and tighten the self-locking nut.

>>D<< AIR GAP ADJUSTMENT



Check whether or not the air gap of the clutch is within the standard value.

Standard value:
0.25 –0.45 mm

NOTE: If there is a deviation of the air gap from the standard value, make the necessary adjustment by adjusting the number of shims.

INSPECTION

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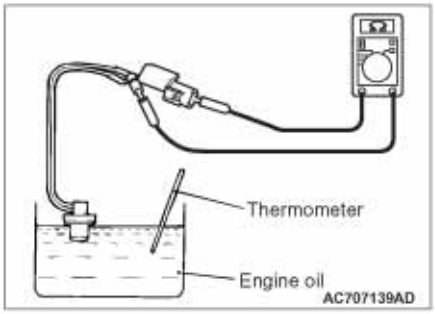
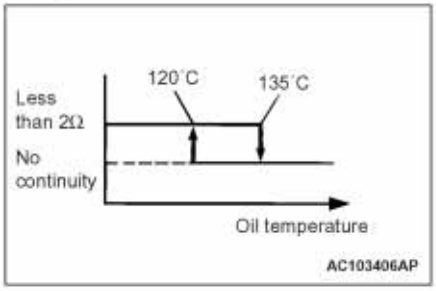
COOLING TEMPERATURE SWITCH

⚠ CAUTION
Do not heat more than necessary.



1. Immerse the refrigerant temperature sensor probe into engine oil to heat the sensor probe.



2. If the oil temperature reaches the standard value, there should be continuity between the switch terminals.

Standard value:

<Added>

Attachment 7

HEATER, AIR CONDITIONER AND VENTILATION
COMPRESSOR ASSEMBLY

Switch status	Operating temperature °C
Being turned off (No continuity)	135
Being turned on { Continuity exists (2 Ω or less)}	120

NOTE: When the oil temperature is 135°C or more and there is no continuity, the switch will not be turned on {Continuity exists (2 Ω or less)} until the temperature reduces to 120°C or less.

<Added>