SERVICE BULLETIN

MITSUBISHI MOTORS

AFTERSALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-07E11-014	DATE : 2007-12-05
SUBJECT : OIL PRESSURE SWITCH FOR 6B3 ENGINE		<MODEL> (RUSSIA/ ARGENTINA) OUTLANDER (GS45X)(CW0W) <M/Y> 08
GROUP : ENGINE		

1. Description:

Since the engine oil pressure switch for detection of MIVEC operation oil pressure has been replaced with the taper plug for the vehicles equipped with 6B3 engine, the related descriptions are modified in the applicable Workshop Manual. This Service Bulletin contains the changed descriptions.

Note: The engine control-related diagnosis code “No. P1020 Mitsubishi Innovative Valve Timing Electronic Control System (MIVEC) Performance Problem” will no longer be issued.

2. Applicable Manuals:

Manual	Pub. No.	Title (Info-ID)	Attachment
2008 OUTLANDER Workshop Manual	CGXE08E1-CD (English) CGXS08E1-CD (Spanish) CGXF08E1-CD (French) CGXG08E1-CD (German)	Camshaft and Valve Stem Seal Removal and Installation (M112-00-661-63400-01)	Attachment 1
		Torque Specifications (M113-02-342-63900-01)	Attachment 2
		Sealant (M113-00-051-83600-01)	Attachment 3
		Water Hose and Pipe Removal and Installation (M113-01-020-38300-01)	Attachment 4
		Engine and Transmission <6B31> (M801-00-042-96400-01)	Attachment 5
		Engine Control System <6B31> (M901-00-086-37000-01)	Attachment 6
2008 OUTLANDER Workshop Manual <Additional Data for 4HN>	CGXE08E2-CD (English) CGXS08E2-CD (Spanish) CGXF08E2-CD (French) CGXG08E2-CD (German)	Camshaft and Valve Stem Seal Removal and Installation (M112-00-661-63400-01)	Attachment 1
		Torque Specifications (M113-02-342-63900-01)	Attachment 2
		Sealant (M113-00-051-83600-01)	Attachment 3
		Water Hose and Pipe Removal and Installation (M113-01-020-38300-01)	Attachment 4
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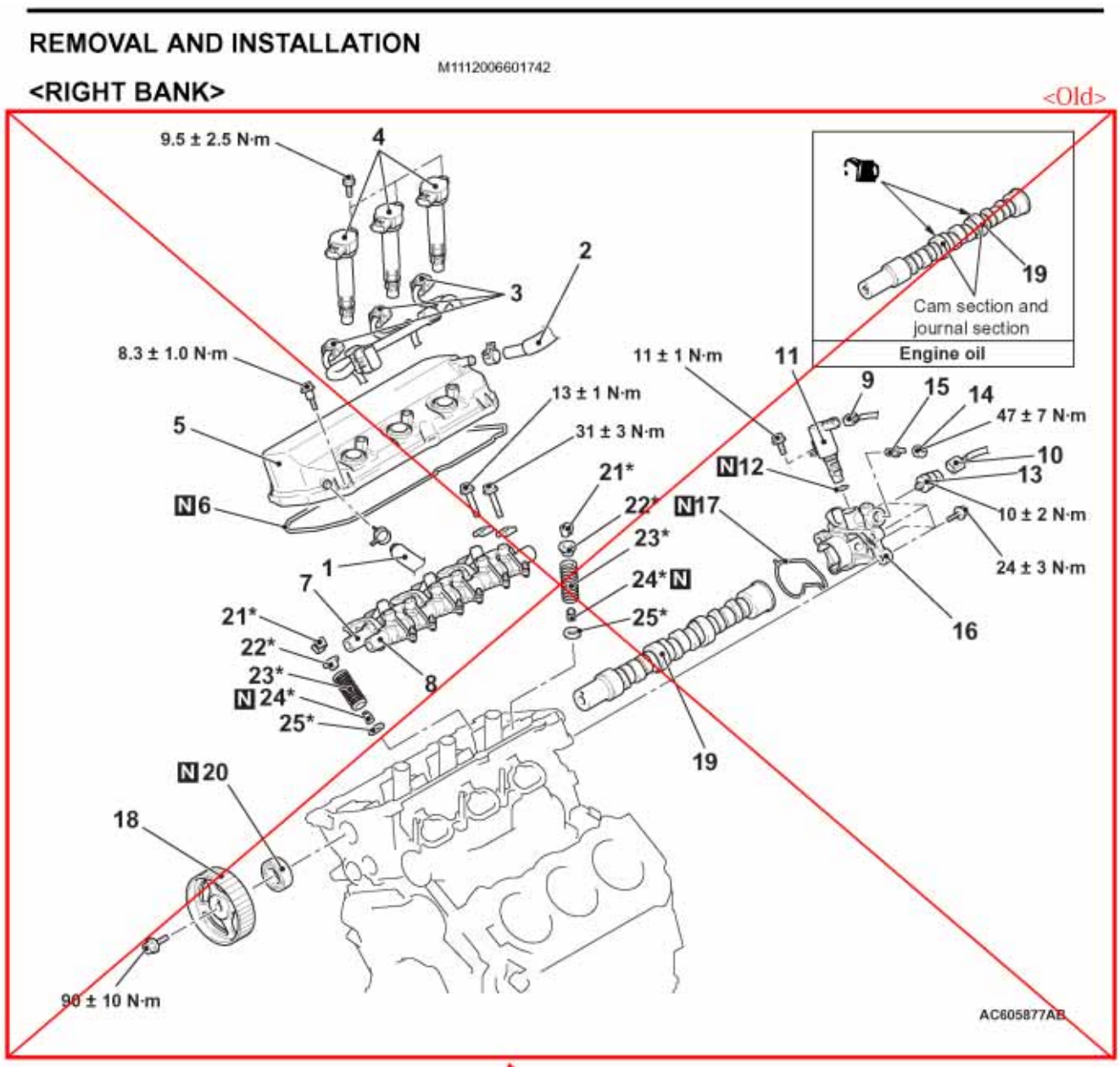
		Engine Control System <6B31> (M901-00-086-37000-01)	Attachment 6

3. Effective Date:

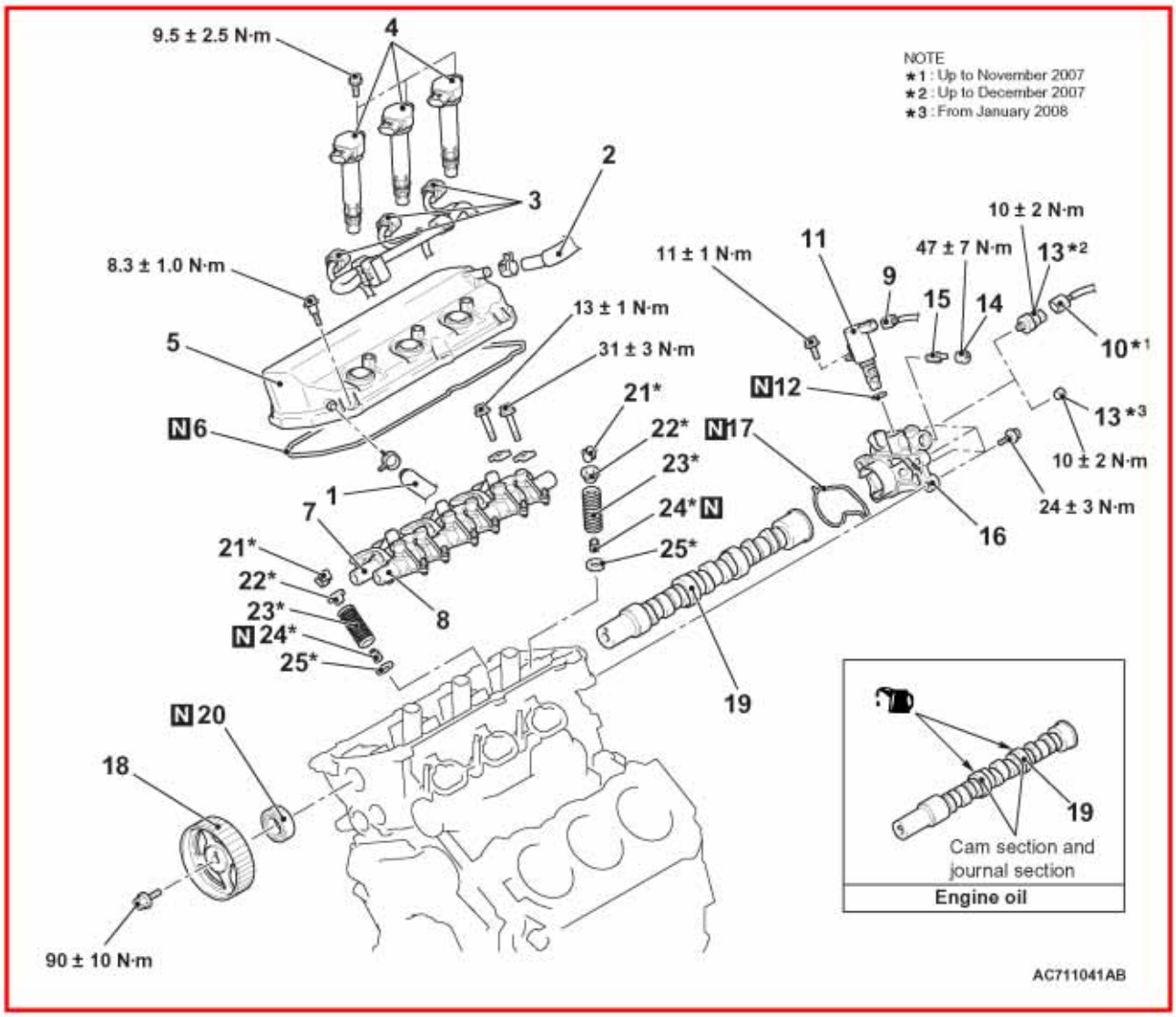
From November 23, 2007 (Engine oil pressure switch connector)
From January 8, 2008 (Engine oil pressure switch)

4. Details:

Attachment 1 (1/4)



Insert Attachment 1 (2/4).


NOTE
★1 : Up to November 2007
★2 : Up to December 2007
★3 : From January 2008
9.5 ± 2.5 N·m
8.3 ± 1.0 N·m
13 ± 1 N·m
31 ± 3 N·m
11 ± 1 N·m
47 ± 7 N·m
10 ± 2 N·m
24 ± 3 N·m
90 ± 10 N·m
Cam section and journal section
Engine oil
AC711041AB

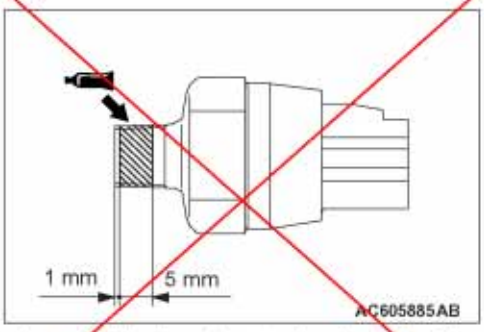
<New>

			Camshaft removal steps
		•	Air intake plenum (Refer to GROUP 15 – Air Intake Plenum <6B3>).
		•	Timing belt (Refer to).
		•	Thermostat housing (Refer to GROUP 14 – Water Hose and Water Pipe <6B3>).
		1.	Blow-by hose connection
		2.	Breather hose connection
		3.	Ignition coil connector connection
		4.	Ignition coil
	>>I<<	5.	Rocker cover
		6.	Rocker cover gasket
		•	Valve clearance check and adjustment (Inlet valve) (Refer to) <Installation only>.
<<A>>	>>H<<	7.	Rocker arm, shaft and lash adjuster assembly (exhaust side)
<<A>>	>>H<<	8.	Rocker arm and shaft assembly (inlet side)
		9.	Engine oil control valve connector connection
		10.	Engine oil pressure switch connector connection
	<Added>		<Up to November 2007>
	>>G<<	11.	Engine oil control valve
	>>G<<	12.	O-ring
	>>F<<	13.	Engine oil pressure switch
	<Added>		<Up to December 2007> or Taper plug <From January 2008>
		14.	Plug
		15.	Engine oil control valve filter
		16.	Engine oil control valve housing
		17.	Engine oil control valve housing gasket
<<B>>	>>E<<	18.	Camshaft sprocket
			Camshaft removal steps
		•	Engine-ECU (Refer to GROUP 13B – Engine-ECU).
		•	Air cleaner bracket (Refer to GROUP 15 – Air Cleaner <6B3>).
		19.	Camshaft
<<C>>	>>D<<	20.	Camshaft oil seal
			Valve stem seal removal steps
		•	Air intake plenum (Refer to GROUP 15 – Air Intake Plenum <6B3>).
		•	Timing belt (Refer to).
		1.	Blow-by hose connection
		2.	Breather hose connection
		3.	Ignition coil connector connection
		4.	Ignition coil
	>>I<<	5.	Rocker cover
		6.	Rocker cover gasket
		•	Valve clearance check and adjustment (Inlet valve) (Refer to) <Installation only>.
<<A>>	>>H<<	7.	Rocker arm, shaft and lash adjuster assembly (exhaust side)
<<A>>	>>H<<	8.	Rocker arm and shaft assembly (inlet side)
		•	Spark plug (Refer to GROUP 16 – Ignition System, Ignition Coil <6B3>).
<<D>>		•	Power steering oil pump (Refer to GROUP 37 – Power Steering Oil Pump Assembly).
<<E>>	>>C<<	21.	Valve spring retainer lock
		22.	Valve spring retainer
	>>B<<	23.	Valve spring
	>>A<<	24.	Valve stem seal
		25.	Valve spring seat

INSTALLATION SERVICE POINTS

<Old>

>>F<< ENGINE OIL PRESSURE SWITCH INSTALLATION

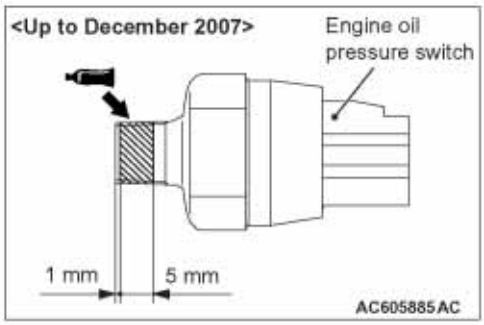


Apply the specified sealant to the thread of the engine oil pressure switch.

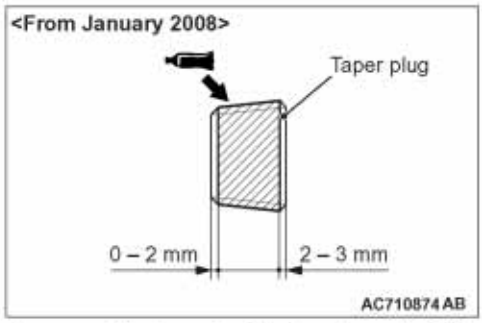
Specified Sealant: Three bond 1104, 1215, 1212 or equivalent

>>F<< ENGINE OIL PRESSURE SWITCH OR TAPER PLUG INSTALLATION

<Up to December 2007>



<From January 2008>



Apply the specified sealant to the thread of the engine oil pressure switch or taper plug.

Specified Sealant: Three bond 1215, 1212 or equivalent

<New>

TORQUE SPECIFICATIONS

Item	N·m
Alternator	
Crankshaft pulley centre bolt	200 → 0 → 110 → +60°
Tensioner pulley nut	47 ± 11
Power steering tensioner pulley bracket bolt	23 ± 6
Drive belt auto tensioner bolt	23 ± 6
Alternator bolt	47 ± 11
Alternator bracket bolt	23 ± 6
Air intake plenum and throttle body	
Vacuum tank bracket bolt	11 ± 1
Solenoid valve nut	5.5 ± 1.5
Solenoid valve bolt	10 ± 2
EGR pipe bolt	20 ± 5
Throttle body bolt	23 ± 6
Boost sensor bolt	5.0 ± 1.0
Throttle body stay bolt	20 ± 5
Engine hanger right bolt	17 ± 2
Air intake plenum stay bolt	20 ± 5
Air intake plenum bolt	22 ± 1
Timing belt	
Timing belt front cover bolt	7.0 ± 1.0
Engine support bracket bolt M8	20 ± 5
Engine support bracket bolt M10	48 ± 11
Crank angle sensor cover bolt	10 ± 2
Crank angle sensor bolt	10 ± 2
Auto-tensioner bolt	23 ± 3
Idler pulley bolt	41 ± 10
Tensioner arm bolt	41 ± 10
Camshaft sprocket bolt	90 ± 10
Timing belt rear cover bolt	10 ± 2
Inlet manifold	
Ignition coil bolt	10 ± 2
Spark plugs	18 ± 2
Injector and delivery bolt	12 ± 1
Inlet manifold nut	22 ± 1
Water hose and pipe	
Coolant temperature sensor	30 ± 9
EGR valve bolt	23 ± 6
Cover bolt	23 ± 6

Item	N·m
Eye bolt	30 ± 3
Oil pipe bolt	11 ± 1
Water inlet fitting bolt	23 ± 6
Thermostat housing bolt	23 ± 6
Oil feeder control valve bolt	11 ± 1
Oil pressure switch or Taper plug <Added>	10 ± 2
Oil feeder control valve housing bolt	24 ± 3
Water pump bolt	23 ± 6
Exhaust manifold	
Heated oxygen sensor	44 ± 5
Exhaust manifold cover bolt	16 ± 4
Exhaust manifold bracket bolt (flange bolt)	47 ± 11
Exhaust manifold bracket bolt (bolt, washer assembly)	41 ± 10
Exhaust manifold nut	49 ± 5
Engine hanger bolt	17 ± 2
Rocker cover and camshaft	
PCV valve	2.5 ± 0.4
Rocker cover bolt	8.3 ± 1.0
Rocker arms and shaft bolt intake side	31 ± 3
Rocker arms and shaft bolt exhaust side	13 ± 1
Rocker arm adjusting nut	9.0 ± 1.0
Cam position sensing cylinder bolt	22 ± 4
Camshaft position sensor bolt	10 ± 2
Camshaft position sensor support bolt	23 ± 6
Cylinder head and valves	
Cylinder head bolt	45 ± 2 → +150 to 154°
Oil pan and oil pump	
Drain plug	39 ± 5
Oil filter <MD360935>	14 ± 2
Oil filter <MD332687, MD365876>	16 ± 4
Oil filter cover bolt	23 ± 6
Heat protector bolt	10 ± 2
Oil pressure switch	10 ± 2
Oil pan, lower bolt	10 ± 2
Oil pan cover bolt	10 ± 2
Oil pan, upper bolt	10 ± 2
Oil screen bolt	20 ± 5
Bearing cap bolt	24 ± 2 → +60°
Plate bolt	23 ± 6
Oil pump case bolt	23 ± 6

Attachment 3

SEALANTS

Points of application	Specified sealant/adhesive
Coolant temperature sensor	Three bond 1324, Loctite 262 (MZ100753) or equivalent
Oil pressure switch <to oil control valve housing> or Taper plug <Added>	Three bond 1212 (MZ100080), 1215 (MZ100077) or equivalent
Oil pressure switch <to cylinder block>	Three bond 1104 (0110207), 1212 (MZ100080), 1215 (MZ100077) or equivalent
Oil pan upper	Three bond 1217G, Loctite 5900, 5970, 5971 or equivalent
Oil pan lower	Three bond 1207F (MZ100191), 1217G, Loctite 5900, 5970, 5971 or equivalent
Oil pump case	Three bond 1207F (MZ100191), 1217G, Loctite 5900, 5970, 5971 or equivalent
Oil seal case	Three bond 1207F (MZ100191), 1217G, Loctite 5900, 5970, 5971 or equivalent
Drive plate bolt	Three bond 1324 or equivalent

NOTE: The number in square brackets shows the genuine part number.

LIQUID GASKET (FIPG)

FIPG is used for some parts in the engine. It is necessary to pay attention to an application amount, application procedure and applied surface condition for this gasket to fully achieve its purpose.
Too small amount causes leakage while too much amount squeezes out to block or narrow water and oil passages. Therefore, it is absolutely essential to apply a correct amount of liquid sealant continuously without break to eliminate leakage from joints.
FIPG used for engine parts hardens reacting with moisture in the air, and is usually used for metal flanges.

DISASSEMBLY

Parts assembled with FIPG can be easily disassembled without using a special method. In some cases, however, it is necessary to lightly tap parts with a wooden hammer or similar tool to break sealant between mating surfaces. Or lightly driving a smooth and thin gasket scraper in mating surfaces is useful, but full care must be exercised not to damage mating surfaces. As special too oil pan FIPG cutter (MD998727) is set, use this tool.

CLEANING OF GASKET SURFACE

Completely remove all deposits from the gasket surface with a gasket scraper or wire brush. Make sure that the surface to which FIPG is applied is smooth. The gasket surface must be free from grease and foreign substances. Be sure to remove old FIPG that has entered mounting holes and screw holes.

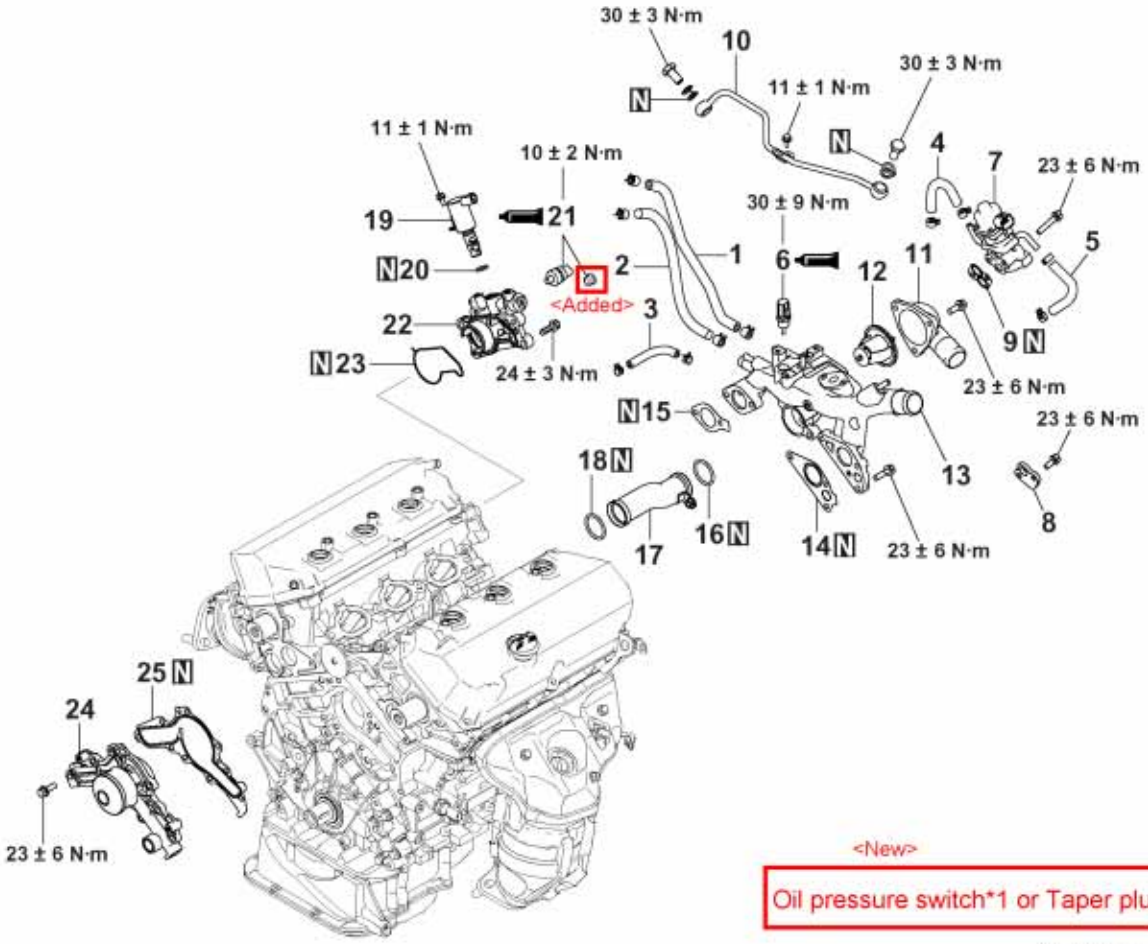
APPLICATION PROCEDURE

Apply FIPG in a determined diameter and continuously without break. Completely enclose the periphery of mounting holes. FIPG can be wiped off if it is not hardened. Install parts in place while FIPG is still wet. Take care not to allow FIPG to adhere to other locations than necessary locations during installation. Do not pour oil or water on applied locations or do not start the engine until sufficient time (approximately one hour) passes. The application procedure of FIPG may differ depending on areas. Follow the procedure in the body of the manual to apply FIPG.

WATER HOSE AND PIPE

REMOVAL AND INSTALLATION

M1113010200424



<New>

Oil pressure switch*1 or Taper plug*2

AK600806AD

Removal steps

1. Water hose
2. Water hose
3. Water hose
4. Water hose (with EGR valve)
5. Water hose (with EGR valve)

>>H<< 6. Coolant temperature sensor

7. EGR valve (with EGR valve)
8. Cover (without EGR valve)

>>G<< 9. EGR valve gasket

>>F<< 10. Oil pipe

11. Water inlet fitting

>>E<< 12. Thermostat

13. Thermostat housing

Removal steps (Continued)

14. Thermostat housing gasket

>>D<< 15. Thermostat housing gasket

>>C<< 16. O-ring

>>C<< 17. Water pipe

>>C<< 18. O-ring

>>B<< 19. Oil feeder control valve

20. O-ring <Old>

>>A<< 21. ~~Oil pressure switch~~

22. Oil feeder control valve housing
23. Oil feeder control valve housing gasket
24. Water pump
25. Water pump gasket

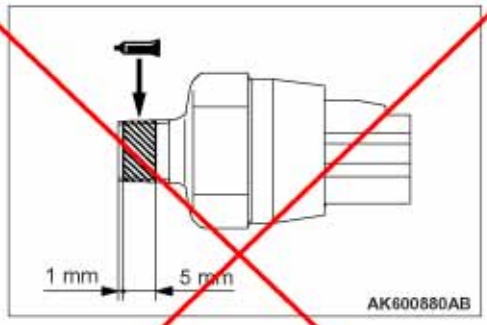
NOTE: *1:Up to December 2007
*2:From January 2008

<Added>

INSTALLATION SERVICE POINTS

>>A<< OIL PRESSURE SWITCH INSTALLATION

<Old>

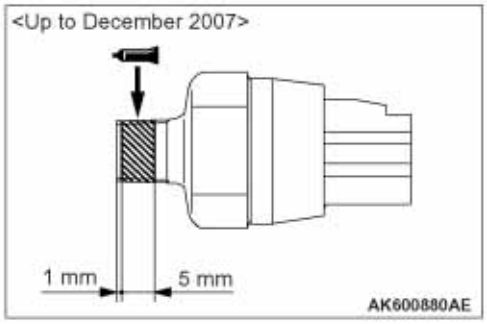


1. Apply sealant to the threads of the oil pressure switch.
   Specified sealant:
   Three bond 1104, 1215, 1212 or equivalent
2. Install the oil pressure switch to the oil feeder control valve housing.

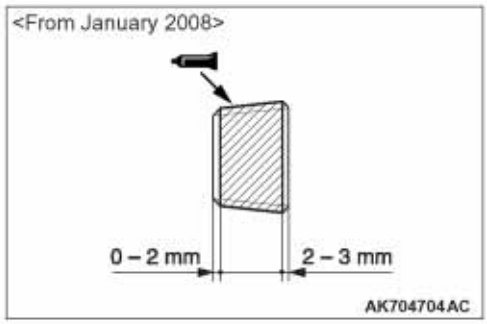
<New>

>>A<< OIL PRESSURE SWITCH OR TAPER PLUG INSTALLATION

<Up to December 2007>



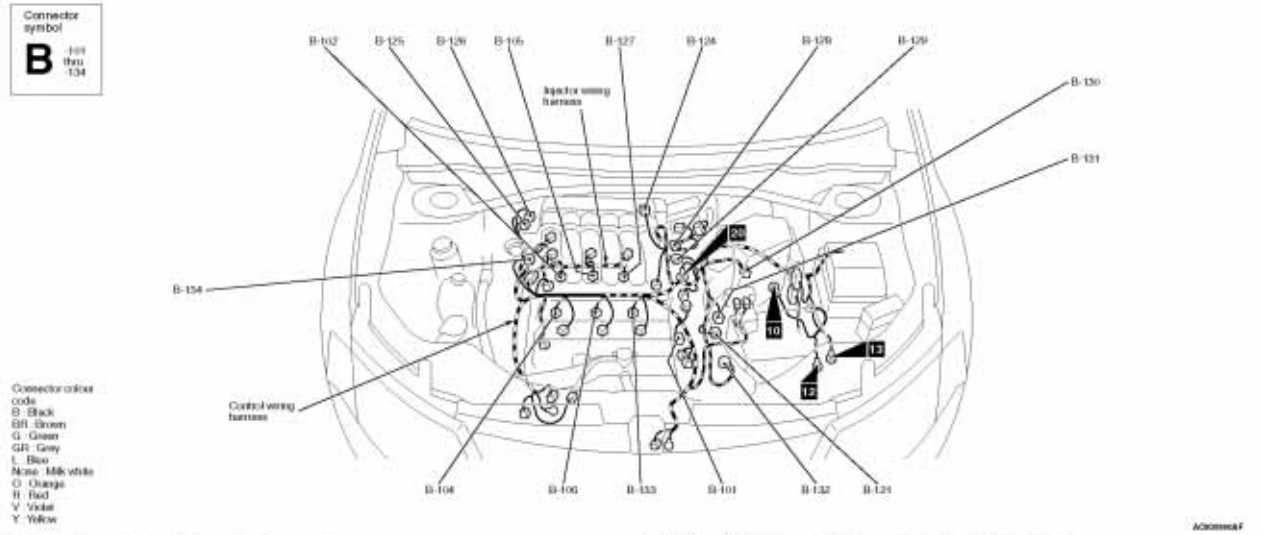
<From January 2008>



1. Apply sealant to the threads of the oil pressure switch or taper plug.
   Specified sealant:
   Three bond 1215, 1212 or equivalent
2. Install the oil pressure switch or taper plug to the oil feeder control valve housing.

Attachment 5

ENGINE AND TRANSMISSION <6B31> (CONTINUED)



B-101 (3-GR) Camshaft position sensor
B-102 (2-GR) No.1 fuel injector
B-104 (2-GR) No.2 fuel injector
B-105 (2-GR) No.3 fuel injector
B-106 (2-GR) No.4 fuel injector
B-121 (10-B) Inhibitor switch
B-124 (3-B) Manifold absolute pressure sensor
B-125 (4-B) Right bank oxygen sensor (Rear)
B-126 (4-GR) Right bank oxygen sensor (Front)
B-127 (2-GR) No.5 fuel injector
B-128 (2-B) Engine oil control valve
B-129 (1-B) Engine oil pressure switch (for engine oil control valve) <Up to November 2007>
B-130 (3-B) Output shaft speed sensor <Added>
B-131 (3-B) Input shaft speed sensor
B-132 (22-B) A/T control solenoid valve assembly
B-133 (2-GR) No.6 fuel injector
B-134 (2-B) Variable induction control solenoid valve

Attachment 6