GROUP 11B

ENGINE MECHANICAL <3.8L ENGINE>

CONTENTS

GENERAL DESCRIPTION

M2112000100750

The 3.8L engine employs the Mitsubishi Innovative Valve timing and lifting Electronic Control system (MIVEC).

MAJOR SPECIFICATIONS

ITEMS		SPECIFICATIONS
Total displacement cm^3 (cu in)		3,828 (233.6)
Bore × Stroke mm (in)		95.0 (3.74) × 90.0 (3.54)
Compression ratio		10.5
Combustion chamber		Pentroof type
Camshaft arrangement		SOHC
Valve timing	Intake Open	-2° BTDC <Low speed cam A>
		0° BTDC <Low speed cam B>
		15° BTDC <High speed cam>
	Intake Close	50° ABDC <Low speed cam A>
		52° ABDC <Low speed cam B>
		69° ABDC <High speed cam>
	Exhaust Open	57° BBDC
	Exhaust Close	19° ATDC
Maximum output kW/r/min (HP/r/min)		194/5,750(263/5,750)
Maximum torque N·m/r/min (lbs-ft/r/min)		353/4,500(260/4,500)
Lash adjuster		Exhaust side only
Fuel system		Electronic-controlled multiport fuel injection
Ignition system		Electronic-controlled 6-coil

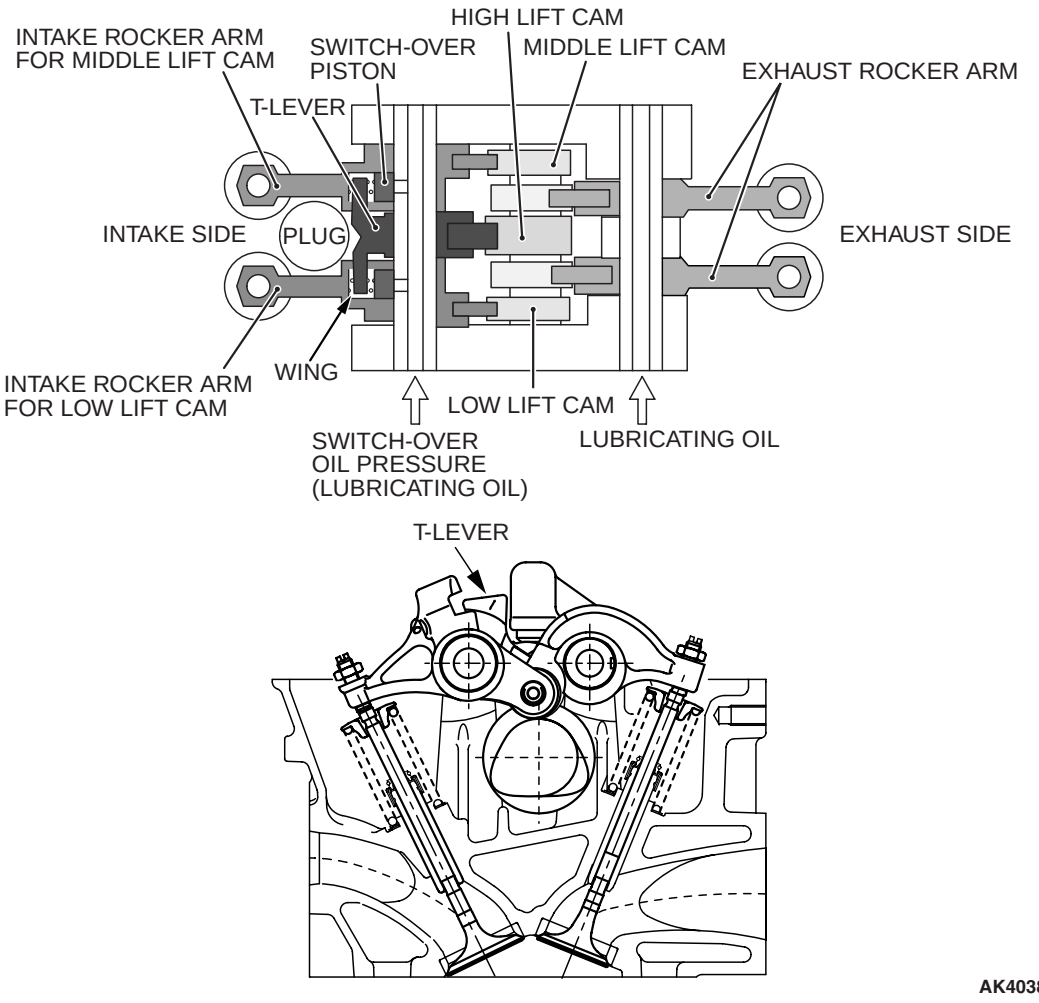
BASE ENGINE

M2112001000585

GENERAL DESCRIPTION

The following changes are applied based on the previous 6G74-SOHC engine.

MITSUBISHI INNOVATIVE VALVE TIMING AND LIFTING ELECTRONIC CONTROL SYSTEM (MIVEC)



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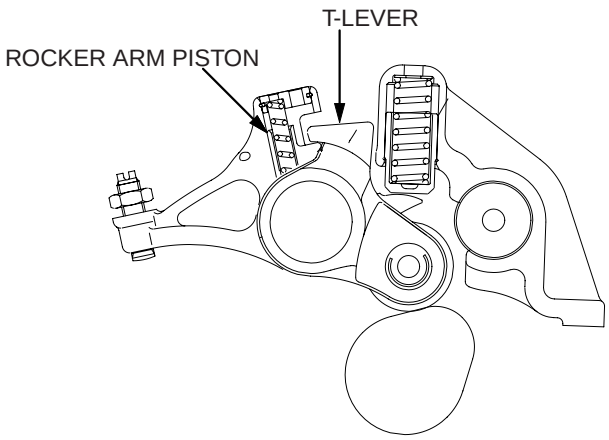
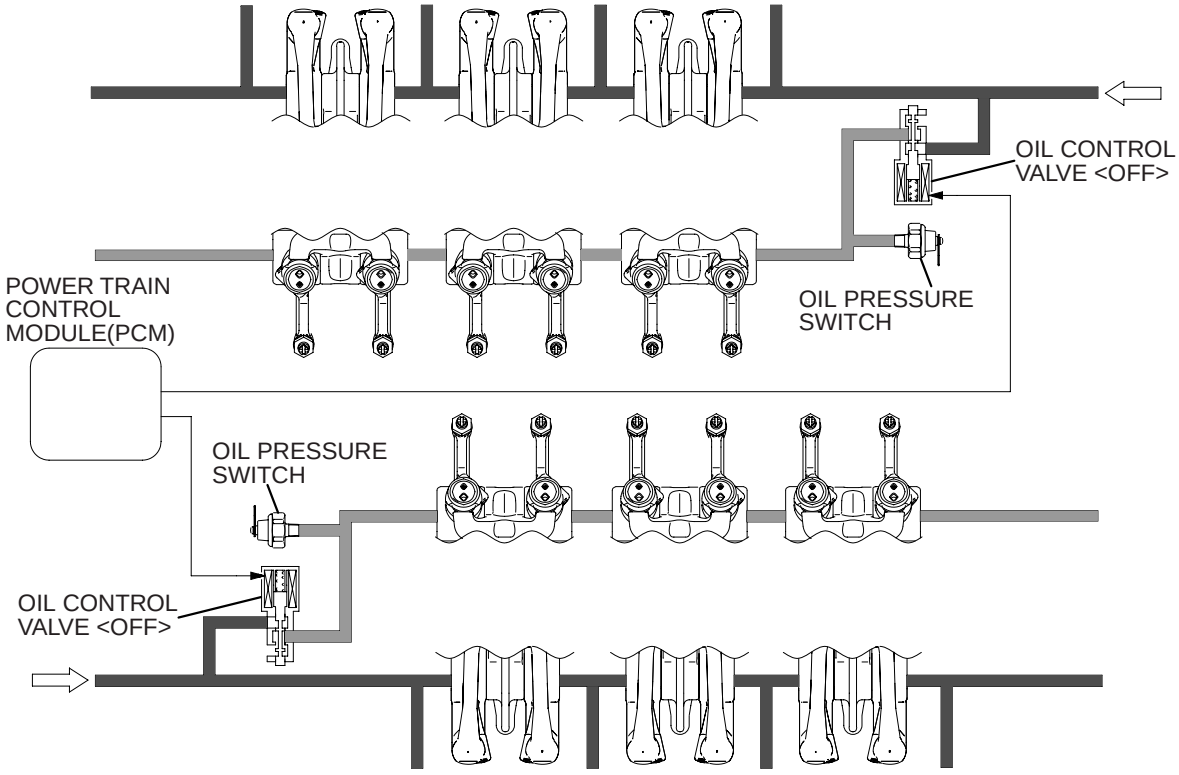
MIVEC has an additional switching system on the two intake valves in the conventional SOHC 4 valve engine. This switching system has two cams for the low mode having a difference between the valve-lifts and for the high mode keeping both valve lifts high.
In the range of the low engine speed, the flow within the valves is enhanced by the difference between the valve-lifts. Also, the stabilization of the combustion is designed for low fuel economy, low exhaust gas and high torque. At high engine speeds, the high output due to the increment in the intake air amount is reached by increasing the open valve period and the lift.
A T-lever moves following the high lift cams and is arranged between the high lift cam and two rocker arms, in addition to the low & middle lift cams and two rocker arms that drive the two intake valves respectively.

In the range of the low engine speed, the low and the middle lift cams drive each valve respectively because the wing of the T-lever moves freely. At high engine speeds, the oil pressure moves the switch-over piston within the rocker arm. The T-lever reaches the rocker arm and pushes it, and then the high lift cam lifts the both valves.
The cam switching is carried out when the torque produced in the low speed mode and the one produced in the high-speed mode crosses each other at an engine speed. An accumulator ensures oil pressure at the instant of switching and prevents switching mistakes.
The oil passage is divided into two, one for the intake rocker shaft and the other for the exhaust rocker shaft, just in front of the oil control valve (OCV). Oil is always supplied to the exhaust rocker shaft.
Oil supply to the intake rocker shaft is controlled by ON/OFF of the oil control valve (OCV) and carries out the switching for the low, middle and high lift cams.

TSB Revision





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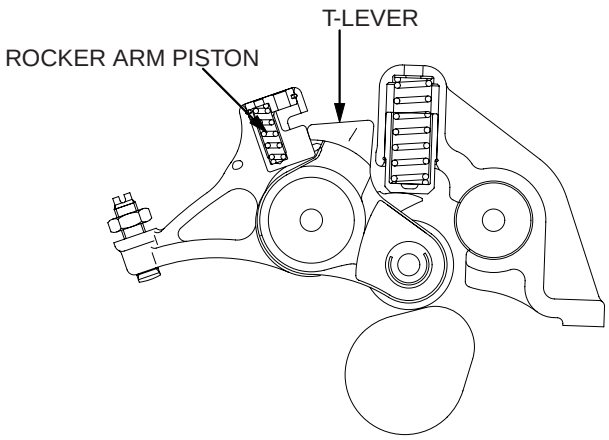
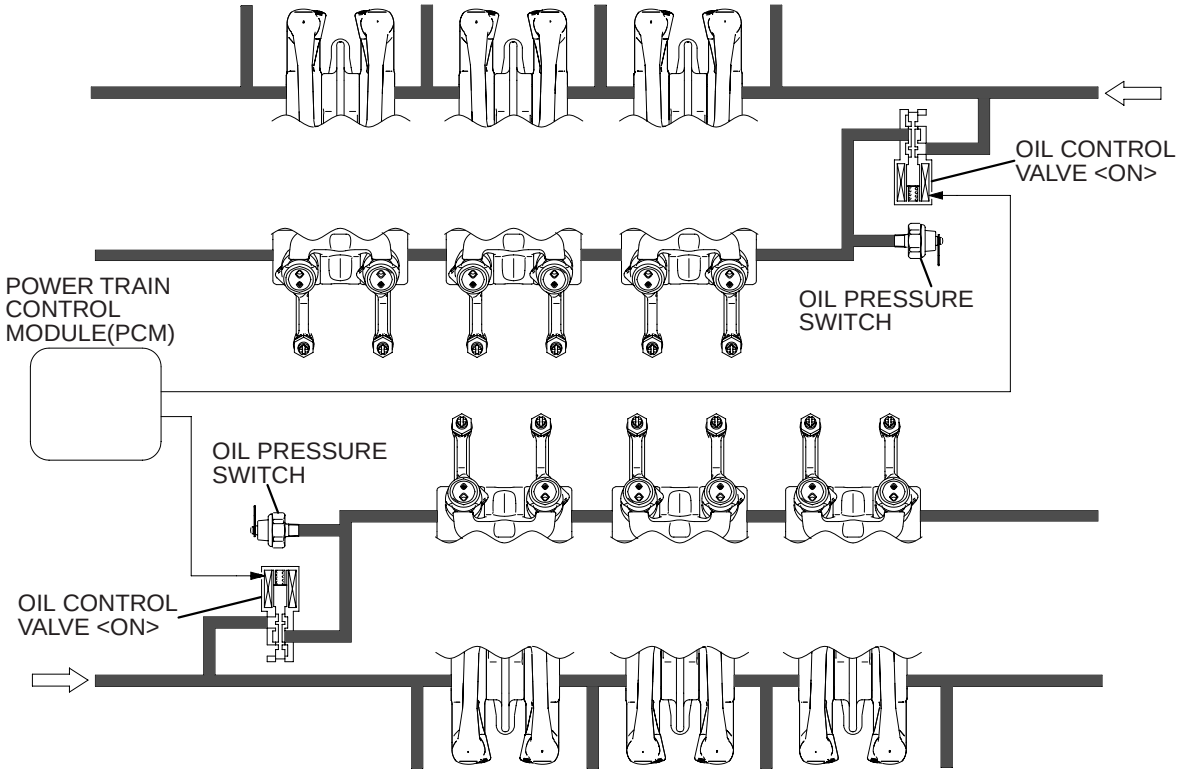
When the OCV is in the OFF position, the switch-over piston does not operate because the switch-over oil pressure within the intake rocker shaft is below the specified pressure, and so the wing of the T-lever does not reach the switch-over piston. Accordingly, the intake valve is driven by the rocker arm for low and middle lift cam.





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When the OCV is in the ON position, the switch-over piston is pushed by the oil pressure because the switch-over oil pressure within the intake rocker shaft is above the specified pressure, and so the wing of the T-lever reaches the switch-over piston. Accordingly, the intake valve is driven by the T-lever.

NOTES