CAT® Lift Trucks

Service Manual

S6S Diesel Engine

28620-up

For use with DP40K, DP40KL, DP45K, DP50K,
DP60, DP70, Chassis Service Manual.

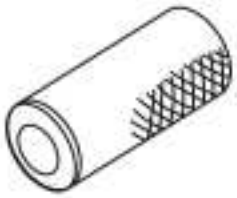
99709-66120

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Model designation			S6S
Cooling system	Refill capacity (engine water jacket) liter (U.S. gal.)		9.0 (2.4)
	Water pump	Type	Centrifugal
		Speed ration to crankshaft	1.3
		Capacity liter (U.S gal.)/min/min^{-1}	160 (42.3) at 0.07 MPa (7.5 kgf/cm^2) [107 psi] discharge pressure of pump running at 3600 min^{-1}
	Belt	Type mm (in.)	Low-edge B type V-belt × 1 1190 (46.9)
	Thermostat	Type	Wax pellet
		Valve opening temperature °C (°F)	76.5±1.5 (170±2.7)
Fuel system	Injection pump	Type	Bosch A
		Diameter of plunger mm (in.)	7 (0.276)
		Cam lobe lift mm (in.)	8 (0.315)
	Governor	Type	Bosch RSV, centrifugal
	Injection nozzle	Type of nozzle	Bosch hole
		No. of discharge orifice	1
		Diameter of discharge orifice mm (in.)	1.0 (0.039)
		Spray cone angle	0°
		Valve opening pressure MPa (kgf/cm^2) [psi]	11.77 (120) [1707]
	Fuel filter	Type	Cartridge of paper element
Electrical system	Voltage – polarity		24 V – (–) ground
	Starter	Model	M008T60372
		Type	Pinion shift
		Output V – kW	24 – 5
		No. of pinion teeth/ flywheel ring gear teeth	10/122
	Alternator	Type	3-phase, with rectifier
		Output V – A	24 – 35
		Working speed min^{-1}	8000
		Rated output generating speed min^{-1}	5000
		Maximum permissible speed min^{-1}	10,000
		Speed ratio to crankshaft	2.0
	Glow plug	Type	Electric
		Rated voltage – current V – A	22 – 4.4 (1.5 sec rating)
	Stop solenoid	Rated voltage V	24

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Special Tool List

Tool name	Part No.	Shape	Use
Valve spring pusher	30691 - 04500		Valve spring removal/ installation
Valve guide remove	32A91 - 00300		Valve guide removal
Stem seal installer	32A91 - 10200		Valve stem installation
Valve seat insert caulking tool	Inlet valve: 36791 - 00200 Exhaust valve: 34491 - 03020		Valve seat installation
Piston ring pliers	31391 - 12900		Piston ring removal/installation
Piston installer	34491 - 00200		Piston installation
Idler shaft puller	MH061077		Idler gear shaft removal

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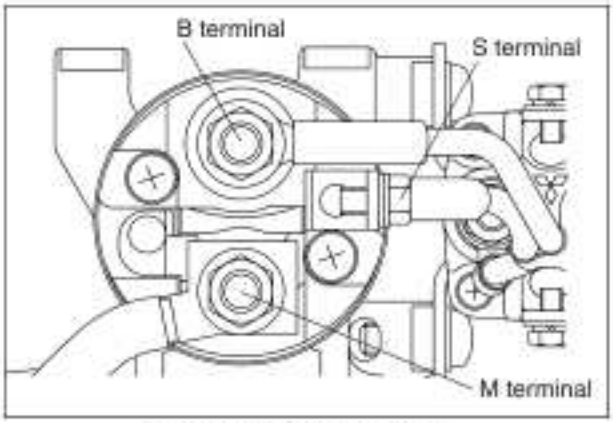
Magnet switch

(1) Testing coil for open circuits

If there is no continuity between S and M terminals and between S terminal and ground, replace the switch.

(2) Checking contactors for fusion

If there is any continuity between B and M terminals, replace the switch.



Magnet switch terminals

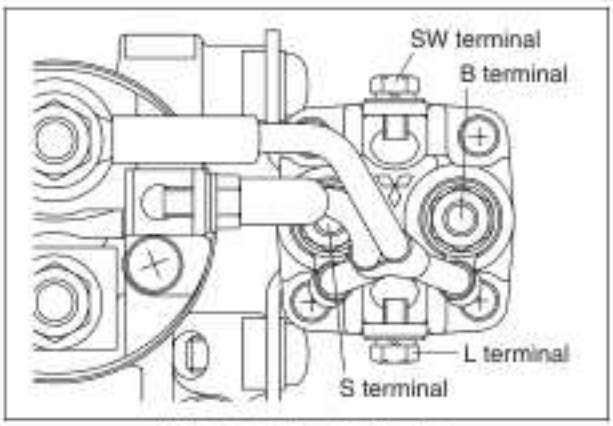
Starter relay

(1) Testing coil for open circuits

If there is no continuity between SW and L terminals, replace the relay.

(2) Checking contactors for fusion

If there is any continuity between S and B terminals, replace the relay.



Starter relay terminals

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