Manual No. : W16J-E-01

Workshop Manual

ZAXIS

450 450H
450LC 450LCH
460LCH

Excavator

HITACHI

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SECTION 1
GENERAL



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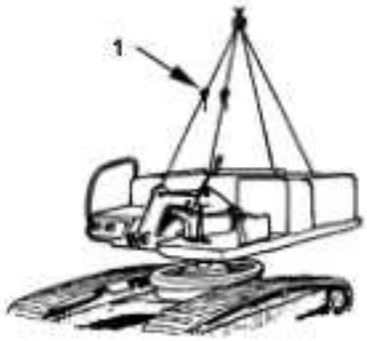
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Installation (Fit-in Type Counterweight)

CAUTION: Upperstructure weight: 9500 kg (20950 lb)
Upperstructure weight (with removal device): 9900 kg (21830 lb)

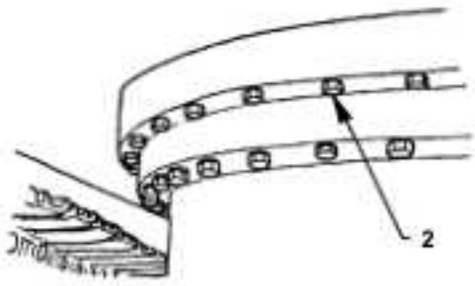
1. Attach wire ropes to the main frame. Level the main frame by adjusting chain blocks (1) and install the main frame onto track frame by crane.

NOTE: As for lifting method, refer to Removal section.



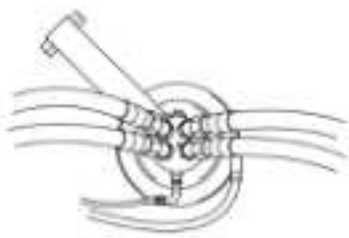
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2. Align the matching marks on the outer race of the swing bearing and main frame.
   Install bolts (2) on the swing bearing and tighten it temporarily. Remove wire ropes and tighten bolts to specification.
   : 41 mm
   : 1400 N·m (143 kgf·m, 1030 lbf·ft)



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3. Connect all hose to the center joint.
   : 19 mm
   : 29.5 N·m (3 kgf·m, 21.5 lbf·ft)
   : 27 mm
   : 93 N·m (9.5 kgf·m, 69 lbf·ft)
   : 41 mm
   : 205 N·m (21 kgf·m, 152 lbf·ft)



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4. Install stopper onto center joint.
   : 22 mm
   : 140 N·m (14 kgf·m, 101 lbf·ft)

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4. Excessive Fuel Consumption

Condition	Possible Cause	Correction
Trouble in the fuel system	Fuel leakage	Repair or replace the fuel system related parts
	Injection nozzle starting pressure too low	Adjust or replace the injection nozzle
	Improper spray condition	Adjust or replace the injection nozzle
	Injection timing improperly adjusted	Adjust the injection timing
Trouble in the air intake system	Clogged air cleaner element	Clean or replace air cleaner element
Improper idle speed	Poorly adjusted idling speed	Adjust idling speed
Trouble in the cooling system	Defective thermostat	Replace
Trouble in the lubricating system	Improper engine oil viscosity	Replace engine oil
Trouble in turbocharged system	Air leakage from the turbocharger intake side	Repair the turbocharger intake side
	Defective turbocharger assembly	Replace the turbocharger assembly
Low compression pressure	Blown out cylinder head gasket Worn cylinder liner Piston ring sticking or broken Improper seating between the valve and valve seat.	Replace the related parts
Trouble in the valve gear train	Valve clearance improperly adjusted	Adjust the camshaft
	Worn camshaft lobe	Replace the camshaft
	Valve spring weak or broken	Replace the valve spring

5. Excessive Oil Consumption

Condition	Possible Cause	Correction
Trouble in the lubricating system	Engine oil unsuitable	Replace engine oil
	Too much engine oil volume	Correct engine oil volume
Leakage	Oil leakage from the oil seal and/or gasket	Replace the oil seal and/or gasket
Oil leaking into the combustion chamber due to poor seal in the valve system	Worn valve stems and valve guides	Replace the intake and exhaust valves and valve guides
	Worn valve stem oil seal	Replace the oil seal
Improper sealing	Worn or broken seal ring in the turbocharger	Replace the seal ring
Low compression pressure	Blown out cylinder head gasket Worn cylinder liner Piston ring sticking or broken Improper seating between the valve and valve seat.	Replace the related parts
Trouble in the ventilation	Clogged air breather	Clean the air breather

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