SERVICE MANUAL

E35B SR
E39B SR
Hydraulic Mini Excavator

Print No. 84553640A

NEW HOLLAND CONSTRUCTION

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1. DESCRIPTION

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2. SPECIFICATIONS

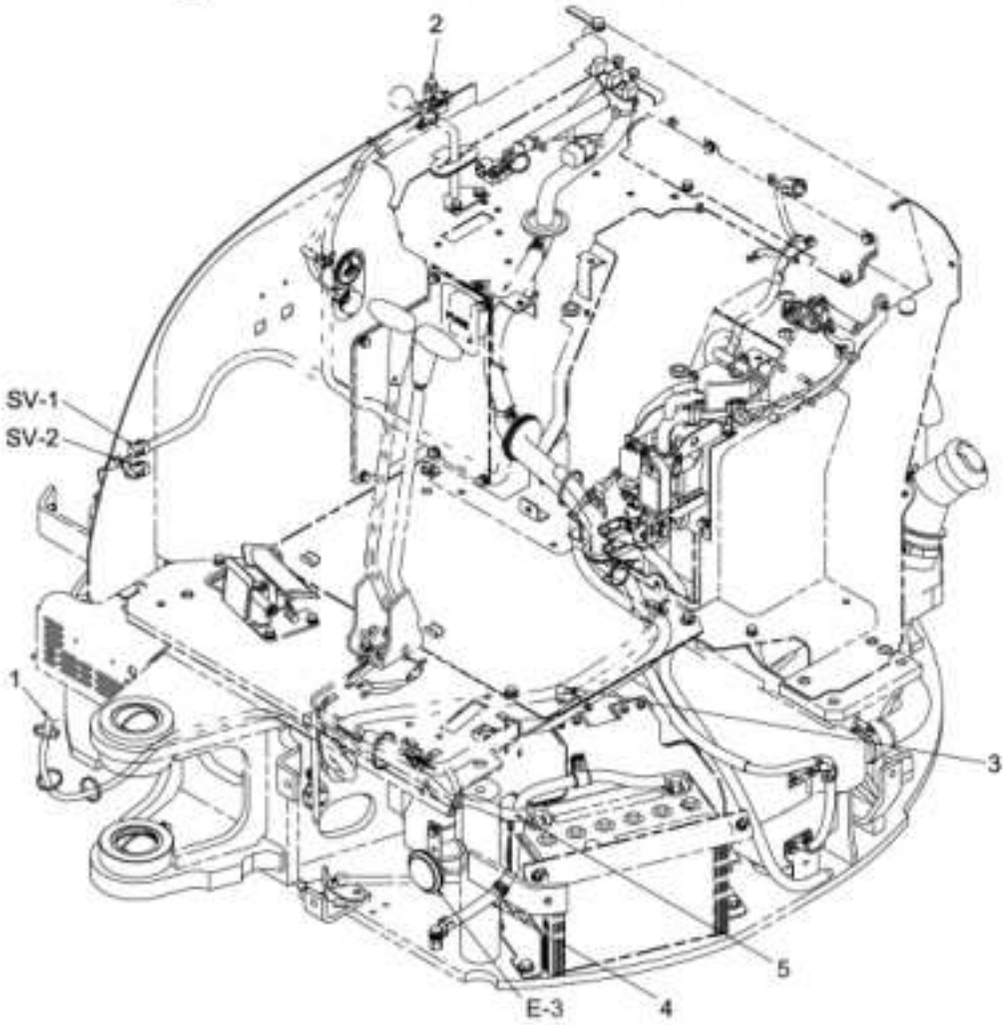
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(11) Disconnecting harness

See below drawing to disconnect the harness connected to the instrument harness and main harness.



1. To boom
2. To canopy light
3. Connect with fuel sensor
4. Battery ground cable
5. Starter cable

E-3. Horn
SV-1. Lock lever solenoid
SV-2. Two-speed selection solenoid

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42.1 GENERAL PRECAUTIONS

Troubleshooting provides the procedure to investigate the cause of trouble when a problem occurs. This manual describes how to systematically solve a specific problem as quickly as possible. For the troubleshooting concerning the inside of equipment, refer to the troubleshooting for each manual of the equipment.

42.1.1 CONFIRM ACTUAL TROUBLED CONDITIONS AT SITE

(1) Get to the site as quickly as possible.
Verify the machine model, serial number, situation of trouble and field, and notify possible arrival time to the user.



Fig. 42-1 Make field investigation

(2) Verify background of trouble occurred.
1) Model name and serial number.
2) Type of attachment.
Check that the combination of attachments was proper and that the operating manner was not unreasonable.
3) Operating time on the hourmeter.
4) Record of troubles.
First trouble or repeated trouble.
5) History of the trouble and additional modifications.
Reoccurrence of the same trouble in the past or trouble due to additional modification.



Fig. 42-2 Verifying the causes of the trouble occurred

(3) How to diagnose trouble.
1) Verify defective part.
2) Reproduce the fault conditions.
3) Where the defective part can not be verified, surmise the possible causes systematically.
4) Check the assumed cause.
5) Report the repairing method, the procedures used and the repairing modes to the user.



Fig. 42-3 Diagnosing the trouble by means of the troubleshooting

(4) Explanation of the cause of trouble.
1) Explain the cause of trouble to the user.
For example, explain the oil leakage through the piston is caused by defect on the piston rod.
And the proper operating manner of the machine should be explained to the user to prevent reoccurrence of the same kind of trouble.
2) Handling of damaged parts.
The damaged parts to be claimed and returned are the evidence, so they should be handled with care. For example, protect them from invasion of water, soil, etc., into ports on a hydraulic equipment, etc., at the returning them. And also use care not to give any damages and breakage for transport.

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(8) 4TNV94L

Engine name		Unit	4TNV94L					
Engine specification class		-	CL		VL			
Type		-	Vertical, in-line, 4-cycle, water-cooled diesel engine					
Combustion chamber		-	Direct injection					
Number of cylinders		-	4					
Cylinder bore stroke		mm x mm	94 x 110					
Displacement		L	3.053					
Continuous rating	Rotation speed	rpm	1500	1800	-			
	Output	kW	26.1	31.3	-			
Rated output	Rotation speed	rpm	1500	1800	2000	2200	2400	2500
	Output	kW	29.1	34.6	35.3	38.2	41.6	43.0
Maximum no-load speed (±25)		rpm	1600	1895	2180	2400	2590	2700
Order of ignition		-	1-3-4-2-1(No.1 cylinder on flywheel side)					
Power take off		-	Flywheel					
Rotating direction		-	Counterclockwise (viewed from flywheel)					
Cooling system		-	Radiator					
Lubrication system		-	Forced lubrication with trochoid pump					
Starting system		-	Electrical system					
Appropriate fuel		-	ASTM fuel No. 2-D type TT					
Applicable lubricant		-	SUPER GOLD 10W-30		SUPER GOLD 15W-40			
Lubricant capacity (oil pan)*	Total	L	10.2					
	Effective	L	4.5					
Coolant volume (engine only)		L	4.2					
Engine Dimensions ** (with flywheel housing)	Overall length	mm	719					
	Overall width	mm	498					
	Overall height	mm	717					
Engine mass (dry) ** (with flywheel housing)		kg	245		235			
Fan (standard)		mm	410 mm O/D. 6 blades pusher type					
Crankshaft V pulley diameter and fan V-belt diameter (standard)		mm	130 x 130					

* Engine oil capacity may differ from the above depending on an engine installed on a machine unit.

** Engine mass and dimensions without radiator.

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61.3 AIR CONDITIONING REFRIGERANT CHECK AND FILLING

⚠ WARNING

Refrigerant with safety characteristics. This means that this refrigerant is non-flammable, non-explosive, nontoxic, non-irritating, tasteless and colourless. Nevertheless, it is necessary to take some precautions.

Avoid any contact with the refrigerant. In case of skin contact with the refrigerant, immediately treat the skin.

Wear the safety glasses to protect your eyes. If although these measures the coolant comes in contact with your eyes, rinse them immediately with cold and clean water and then obtain medical attention immediately.

Empty the system before carrying out repairs on it.

Do not let the refrigerant release in the surrounding areas.

To suck it, only use duly approved aspirators.

Regardless of the system being full of refrigerant or empty, heat determines a remarkable overpressure, which could not only damage the system, but also cause explosions.

Never expose the air conditioning components to a flame or a too hot heat source, to prevent fire or explosion hazard, with following emission of toxic gas.

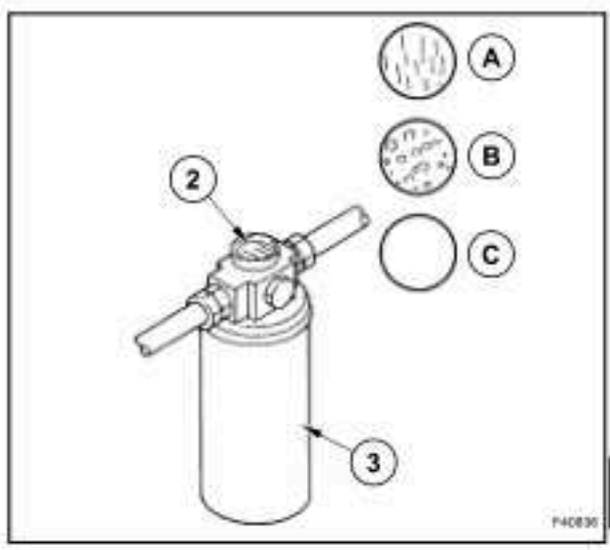
Empty refrigerant cylinders must not be discarded. When full, refrigerant cylinders must not be exposed to sun rays or other heat sources for a long time.

The maximum allowed temperature for a full refrigerant cylinder must not exceed 40 °C.

The lack of refrigerant causes low efficiency of cooling. Run the engine at high idling and rotate the cooler at high speed. Then remove the rubber cap (1), and inspect the flowing refrigerant condition from the sight glass (2) of the receiver dryer (3).



A. No bubbles: proper
B. Bubbles appeared (Bubbles appear continuously): insufficient
C. Transparent: over charged or no refrigerant



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Point 3

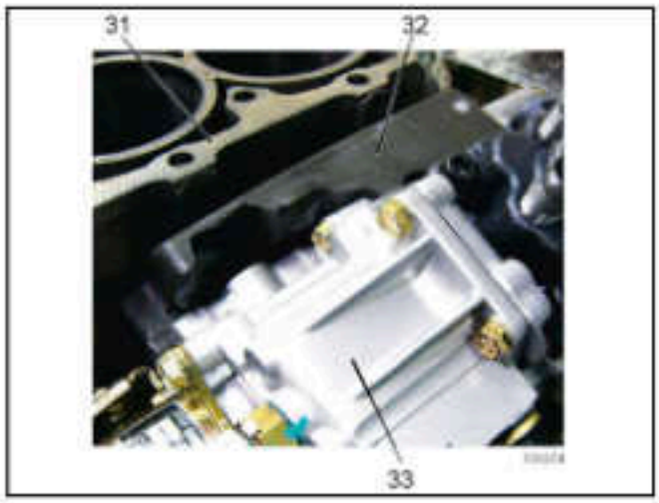
Disassembly

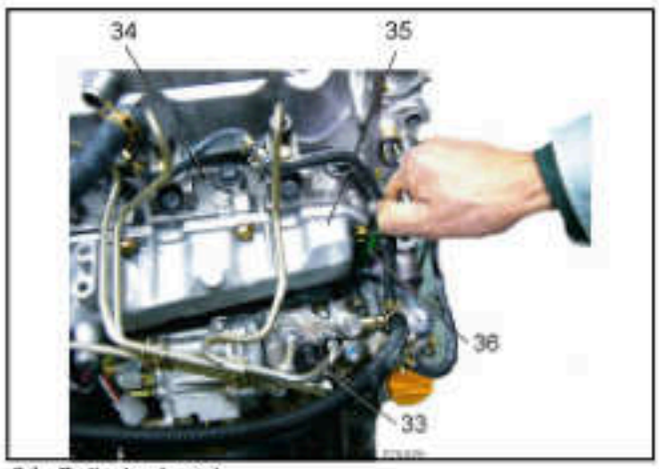
There is an acoustic material part to name as fuel pump spacer (32) between the fuel pump (33) and the cylinder block (31). Loosen fuel pump mounting screws with a closed wrench (36) while disassembling the fuel pump.

NOTE: an intake manifold may obstruct the disassembly of the fuel pump (33) by the engine model. Remove the fuel pump after removing the intake manifold (35) first.

Reassemble

When installing a fuel pump on the gear case, put a fuel pump spacer between the cylinder blocks, and install it.





34. Cylinder head

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