SERVICE MANUAL

E35B SR / E39B SR

Mini Excavator

Part number 47574267B
English
March 2014

NEW HOLLAND CONSTRUCTION

Copyright © 2014 CNH Industrial Italia S.p.A. All Rights Reserved.

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Publicati... Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1
[10.102] Pan and covers 10.2
[10.106] Valve drive and gears 10.3
[10.101] Cylinder heads 10.4
[10.105] Connecting rods and pistons 10.5
[10.103] Crankshaft and flywheel 10.6
[10.216] Fuel tanks 10.7
[10.218] Fuel injection system 10.8
[10.202] Air cleaners and lines 10.9
[10.250] Turbocharger and lines 10.10
[10.254] Intake and exhaust manifolds and muffler 10.11
[10.400] Engine cooling system 10.12
[10.304] Engine lubrication system 10.13

Hydraulic systems 35

[35.000] Hydraulic systems 35.1
[35.300] Reservoir, cooler, and filters 35.2
[35.106] Variable displacement pump 35.3
[35.359] Main control valve 35.4
[35.355] Hydraulic hand control 35.5
[35.356] Hydraulic foot control 35.6
[35.352] Hydraulic swing system 35.7
[35.353] Hydraulic travel system 35.8
[35.354] Hydraulic central joint 35.9
[35.736] Boom hydraulic system 35.10
[35.737] Dipper hydraulic system 35.11

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >

[35.738] Excavator and backhoe bucket hydraulic system 35.12
[35.360] Hammer and rotating bucket hydraulic system 35.13
[35.739] Swing arm hydraulic system 35.14
[35.741] Dozer blade cylinders 35.15
Frames and ballasting 39
[39.101] Upper frame 39.1
[39.103] Swing ring assembly 39.2
[39.140] Ballasts and supports 39.3
Tracks and track suspension 48
[48.130] Track frame and driving wheels 48.1
[48.100] Tracks 48.2
[48.134] Track tension units 48.3
[48.138] Track rollers 48.4
Cab climate control 50
[50.200] Air conditioning 50.1
Electrical systems 55
[55.000] Electrical system 55.1
[55.100] Harnesses and connectors 55.2
[55.015] Engine control system 55.3
[55.201] Engine starting system 55.4
[55.301] Alternator 55.5
[55.302] Battery 55.6
[55.011] Fuel tank system 55.7
[55.013] Engine oil system 55.8
[55.512] Cab controls 55.9
[55.404] External lighting 55.10
[55.510] Cab or platform harnesses and connectors 55.11
Booms, dippers, and buckets 84

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >

[84.114] Boom pivoting support 84.1
[84.910] Boom 84.2
[84.912] Dipper arm 84.3
[84.100] Bucket 84.4
Dozer blade and arm 86
[86.110] Dozer blade 86.1
Platform, cab, bodywork, and decals 90
[90.150] Cab 90.1
[90.110] Operator platform less cab 90.2
[90.114] Operator protections 90.3
[90.105] Machine shields and guards 90.4
[90.116] Fenders and guards 90.5

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >

Cause	Trouble symptom	Large engine vibration	Difficulty in returning to low speed	Engine excessive fuel consumption	Lubricating oil					Coolant		Air intake			Corrective action
					Excessive consumption	Diluted with fuel	Mixture with water	Low L.O. pressure	Much blow-by gas	Overheating	Low water temperature	Pressure drop	Pressure rise	Exhaust temperature rise	
Cooling Water System	Excessive cooling effect of radiator			O							O				Defective thermostat (kept closed)
	Insufficient cooling effect of radiator									O				O	Defective thermostat (kept opened) or slipping fan belt
	Insufficient coolant water level									O				O	Water leak check in cooling water system
	Cracked water jacket						O	O		O					Repair or replace.
	Slackened fan belt									O				O	Adjust the belt tension.
	Faulty thermostat									O	O				Check or replace.
Lubricating system	Improper properties of lubricating oil				O			O	O						Use proper lubricating oil.
	Leakage from lubricating oil piping system				O			O							Repair.
	Insufficient delivery from trochoid pump							O							Check and repair.
	Clogged lubricating oil filter							O	O						Clean or replace.
	Defective pressure regulating valve							O							Clean, adjust or replace.
	Insufficient lubricating oil level							O							Add proper lubricating oil.
Fuel system	Too early timing of fuel injection pump	O													Check and adjust.
	Too late timing of fuel injection pump			O										O	Check and adjust.
	Improper properties of fuel oil														Use proper fuel oil.
	Water entrance in fuel system														Perform draining from the fuel filter.
	Fuel filter clogged														Clean or replace.
	Air entrance in fuel system														Perform air bleeding.
	Clogged or cracked fuel pipe														Clean or replace.
	Insufficient fuel supply to fuel injection pump														Check the fuel tank cock, fuel filter, fuel pipe and fuel feed pump.
	Uneven injection volume of fuel injection pump	O												O	Check and adjust.
	Excessive fuel injection volume			O	O			O	O				O	O	Check and adjust.
	Poor spray pattern from fuel injection nozzle	O		O											Check and adjust.
	Priming failure														Foreign matter trapped in the valve inside the priming pump.
	Clogged strainer at feed pump inlet														Clean the strainer.

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Publication 47574267B
Order the manual at mid-west-tech.com >

Hydraulic systems - Hydraulic schematic frame 01 - Standard specification

No.	Name
1	Pump assy
2	Control valve
2-3	Slewing control valve section
2-4L	Left travel motor control valve section
2-4R	Right travel motor control valve section
2-5	Boom control valve section
2-6	Arm control valve section
2-7	Bucket control valve section
2-8	Swing control valve section
2-9	Dozer control valve section
2-10	Service control valve section
3	Swing motor
4L	Travel left motor
4R	Travel right motor
5	Boom cylinder
6	Arm cylinder
7	Bucket cylinder
8	Swing cylinder
9	Dozer blade cylinder
10	Rotary control valve
11	Attachment control valve
12	Travel control valve
13	Solenoid valve
13-1	Pilot relief valve
14	Dozer control valve
15	Shuttle valve
16	Auxiliary control valve
17	Return filter (element)
18	Suction strainer
19	In-line filter
20	Check valve
22	Three-way valve
23	Oil coolant
24	Hydraulic oil tank
25	Travel 1-2 speed change over
26	Lever lock
28	Nibbler and breaker pilot valve
29	Nibbler breaker
30	Selector valve
31	Nibbler cylinder
201	Main relief valve **P1**, **P2**
202	Main pressure relief valve **P3**
203	Over load relief valve
204	Over load relief valve
304	Slew relief valve

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >

E35B SR

Sec.	Piece		Standard dimensions		Clearance X adjusted with shim (total of both sides)			Remedy	Pin length	
			No.	Dimensions	Standard value	Standard value for repair	Serviceability limit		No.	Dimensions
A-A	Dipper point	Arm	L1	140 mm (5.51 in)	0.5 - 2.1 mm (0.02 - 0.08 in)	See "NOTE"		Adjusted with shim	PL1	278 mm (10.94 in)
		Bucket		140.3 - 141.7 mm (5.52 - 5.58 in)						
B-B	Bucket connecting rod	Link side	L2	139.6 - 139.8 mm (5.50 - 5.50 in)					PL2	278 mm (10.94 in)
		Bucket		140.3 - 141.7 mm (5.52 - 5.58 in)						
C-C	Bucket link (Connected part of dipper)	Arm	L3	140 mm (5.51 in)	0.1 - 0.5 mm (0.00 - 0.02 in)	–			PL3	204.5 mm (8.05 in)
		Link side		–						
D-D	Bucket connecting rod (Rod side)	Rod side	L4	54.5 - 55 mm (2.15 - 2.17 in)	Less than 0.5 mm (0.02 in)	1.0 mm (0.04 in)	1.5 mm (0.06 in)		PL5	204.5 mm (8.05 in)
		Link side		55.5 - 56 mm (2.19 - 2.20 in)						
	Bucket connecting rod (Idler link side)	Bucket connecting rod	L5	139.6 - 139.8 mm (5.50 - 5.50 in)	0.1 - 0.5 mm (0.00 - 0.02 in)	–				
		Bucket link		-						

NOTE: *Clearance X shall be adjusted using shims, if clearance exceeds the standard value for repair.*

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >

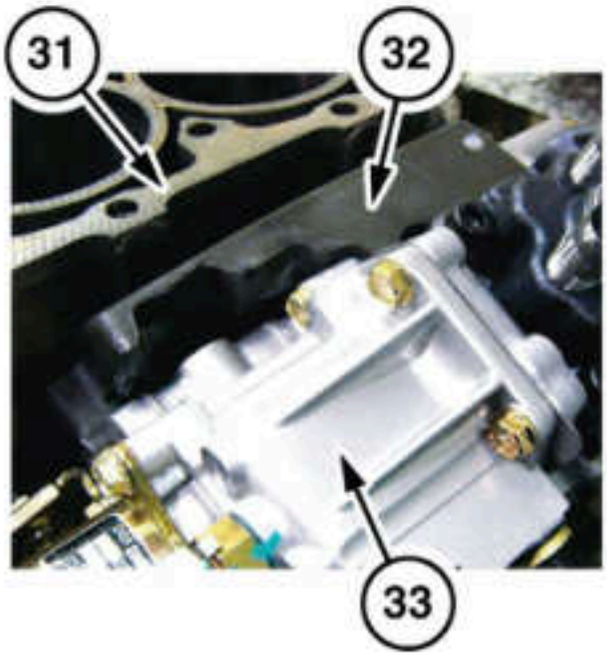
Point 3

Disassembly

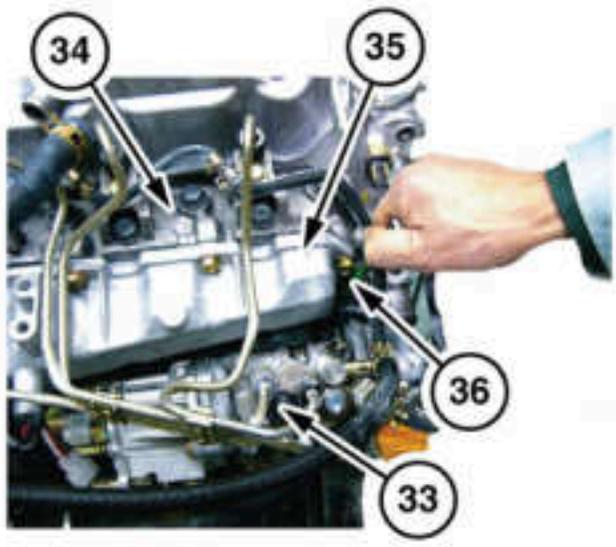
There is an acoustic material part to name as fuel pump spacer **(32)** between the fuel pump **(33)** and the cylinder block **(31)**. Loosen fuel pump mounting screws with a closed wrench **(36)** while disassembling the fuel pump.

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.*

34. Cylinder head



TUPH12EXN006AB 4

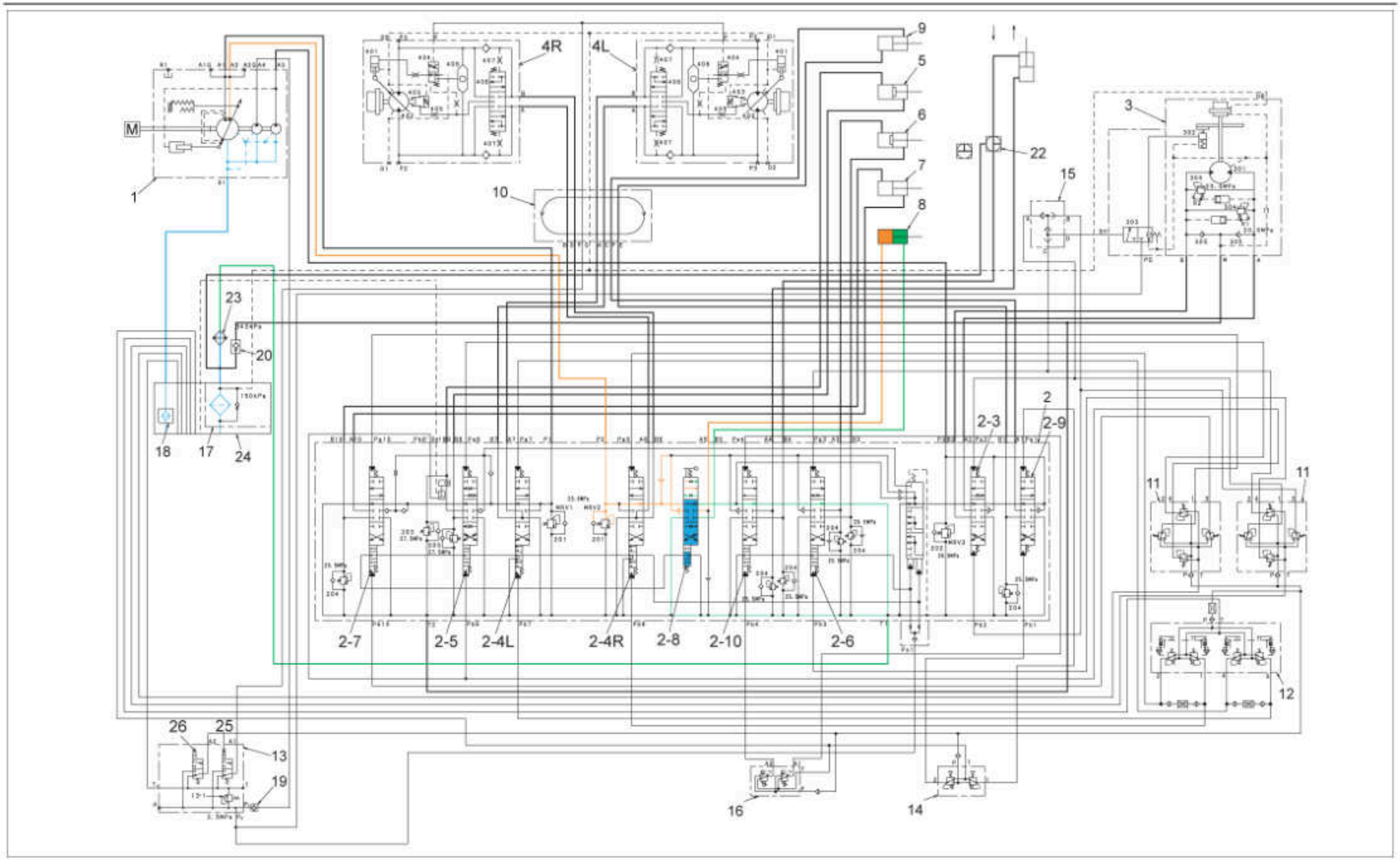


TUPH12EXN001AB 5

Reassemble

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

MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Pub... Order the manual at mid-west-tech.com >



MidWestTech | New Holland E35B SR, E39B SR Mini Excavator Service Manual | Publication 47574267B
Order the manual at mid-west-tech.com >