Service Manual

VMT860 Tier 3

Service Manual - VMT860 Tier 3

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Section 2 - Care and Safety

Section 3 - Maintenance

Section C - Electrics

Section E - Hydraulics

Section H - Steering

Section K - Engine

Section L - Vibration



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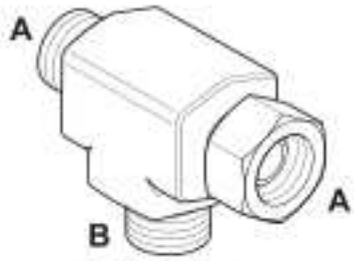


Fig 7. 'T' Adapters

892/00047	3/8 in. BSP (**A**) x 1/4 in. BSP (**B**)
892/00048	1/2 in. BSP (**A**) x 1/4 in. BSP (**B**)
892/00049	5/8 in. BSP (**A**) x 1/4 in. BSP (**B**)
816/50043	3/4 in. BSP (**A**) x 1/4 in. BSP (**B**)
892/00051	1 in. BSP (**A**) x 1/4 in. BSP (**B**)
816/50005	1/2 in. BSP (**A**) x 1/2 in. BSP (**B**)
816/60096	3/4 in. BSP (**A**) x 3/4 in. BSP (**B**)
816/00017	1 in. BSP (**A**) x 1 in. BSP (**B**)

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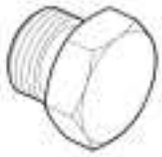


Fig 8. Female Blanking Caps

892/00055A	1/4 in. BSP
892/00056A	3/8 in. BSP
892/00057	1/2 in. BSP
892/00058A	5/8 in. BSP
892/00059A	3/4 in. BSP
892/00060	1 in. BSP

T11-010-3



Fig 9. Male Cone Blanking Caps

816/90045	1/4 in. BSP
816/00189A	3/8 in. BSP
816/00190A	1/2 in. BSP
816/90022	5/8 in. BSP
816/90274	3/4 in. BSP
816/90205	1 in. BSP

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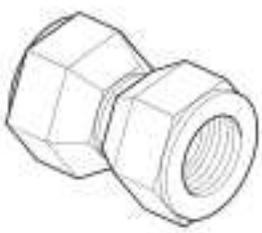


Fig 10. Female Connectors

892/00074	3/8 in. BSP x 3/8 in. BSP
892/00075	1/2 in. BSP x 1/2 in. BSP
892/00076	5/8 in. BSP x 5/8 in. BSP
892/00077	3/4 in. BSP x 3/4 in. BSP

T11-010-5



Fig 11. Bonded Washers

1406/0011	1/4 in. BSP
1406/0018	1/2 in. BSP
1406/0014	5/8 in. BSP
1406/0021	3/4 in. BSP
1406/0029	1.1/4 in. BSP

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Table 7.

Item	Description
K	Oil Cooler
VR2	Oil Cooler Bypass Valve
DS1	Clogging Indicator
F2	Input And Air Breather Filter
F1	Pressure Filter Charging
VB2	Control Block Gear Shifting, Park Brake
VB1	Control Block Vibration
LE	Steering Unit
M5/M6	Steering Cylinder
M4	Vibration Motor, Front
M3	Vibration Motor, Rear
M2	Driving Gear Box, Front
M1	Driving Gear Box, Rear
P1	Variable Pump Driving
P2	Variable Pump Vibration
P3	Gear Pump Steering / Charging

Table 8.

Port	Description	Pressure (Bar)
MP1	Driving Fwd	350
MP2	Driving Bwd	350
MP3	Charging	350
MP5	Vibration 33 Hz	350
MP6	Vibration 50 Hz	350
MP7	Steering	180

Note: *Pressure values at the measurement locations MP1 to MP7 are maximum values for pressure gauge selection, they may not conform to the measured values.*

Introduction

The hydraulic system is powered by a four cylinder liquid cooled diesel engine. ***See Section K, Engine.***

The machine propulsion and vibrator hydraulic systems have separate pumps and motors but share the same hydraulic oil tank.

The hydraulic pumps are fitted to the engine as a unit. The pump unit is driven by a coupling. It comprises of a propulsion pump, a vibration pump and a steering/charge pump.

The propulsion and vibration systems are hydrostatic with variable displacement pumps. The machine can travel in forward and reverse directions and the drive motors operate in parallel.

The vibrator system has two fixed displacement motors operating in series.

Steering is provided by a fixed displacement pump, steering control/metering valve and two cylinders.

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Removal

⚠ WARNING

Raised Machine

NEVER position yourself or any part of your body under a raised machine which is not properly supported. If the machine moves unexpectedly you could become trapped and suffer serious injury or be killed.

INT-3-3-7_1

⚠ WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure that lifting equipment is strong enough for the job.

INT-1-3-7

1 Park the machine on a smooth level surface and block the front and rear drums.

2 Make the machine safe.

⚠ WARNING

Hydraulic Pressure

Hydraulic fluid at system pressure can injure you. Before connecting or removing any hydraulic hose, residual hydraulic pressure trapped in the service hose line must be vented. Make sure the hose service line has been vented before connecting or removing hoses. Make sure the engine cannot be started while the hoses are open.

INT-3-1-11_2

⚠ WARNING

Jacking

A machine can roll off jacks and crush you. Do not work under a machine supported only by jacks.

8-3-5-7

3 Remove the front water tank.

4 Loosen the nuts securing the drum scrapers, move the scrapers away from the drum, and re-tighten the nuts to hold the scrapers away from the drum.

5 Place jacks under the left and right sides of the front roller frame. Raise the drum frame enough to release the load on the drum buffers and block the frame.

6 Disconnect, label, and cap the hydraulic lines for the drum drive motor and gearbox on the left side of the drum.

7 Disconnect, label, and cap the hydraulic lines for the vibration motor on the right side of the drum.

8 Remove the drum drive gearbox adapter brackets to detach the drum drive from the left roller frame.

9 Remove the front and rear buffer brackets to detach the drum from the right roller frame.

10 Attach lifting chains to the four lifting points on the front drum frame.

11 Using a crane or hoist raise the drum frame and push the drum clear of the machine.

12 Lower and support the machine for removal of the front roller frame.

13 Remove the capscrews **3** securing the cover plate **2** to the counter flange plate **8**.

14 Remove the cover plate **2**, thrust ring **1**, and belleville spring washer **4**.

15 Remove the capscrews **5** securing the counter flange plate **8** to the joint support **11** and remove the counter flange plate.

16 Remove the front roller frame from the joint support and properly support the rear of the machine.

17 Remove the machine's belly pan.

18 Disconnect the steering cylinders from the joint support **11**.

19 Support the joint **11** on a trolley jack and remove the capscrews **14** holding the joint and bearing to the rear machine frame. Lower the joint and remove it from the machine.

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Injectors

Removal and Replacement

Removal

1 Prepare the machine for maintenance. ⇨ *Prepare the Machine for Maintenance (3-19).*



Fig 1.

2 Turn the main electrical isolation switch OFF.

3 Close the fuel switch under the fuel tank.

4 Remove the service doors and covers on the front and left side.



Fig 2.

5 Remove the floor mat.

6 Take off the platform service plates.



Fig 3.

7 Remove the four platform fasteners and the two retainer fasteners **A**.



Fig 4.

8 Use suitable lifting equipment to lift the cab approximately 100 mm.

Note: *Use the four cab lift points*

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Hydraulic Pump

Description

The pump is a variable displacement, axial piston pump with swashplate design. The flow is proportional to the input drive speed and displacement. By adjusting the swashplate, it is possible to infinitely vary the flow.

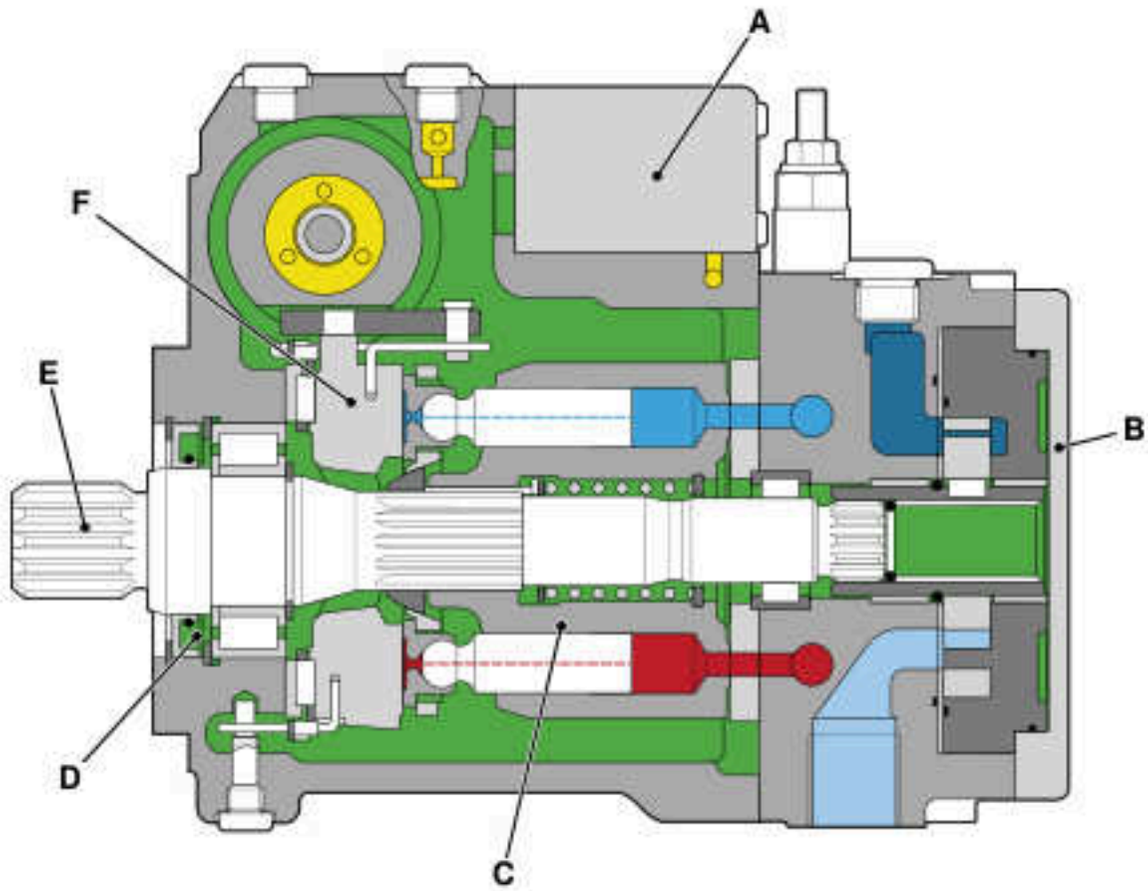


Fig 1.

Table 1.

Item	Description
A	Control Unit. ⇨ *Fig 1. (E-9)*
B	Auxiliary Pump
C	Rotary Group
D	Shaft Seal Ring
E	Drive Shaft
F	Cradle

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