MAINTENANCE MANUAL



WAVE 50 SERIES

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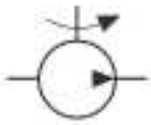
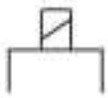
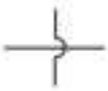
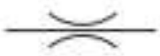
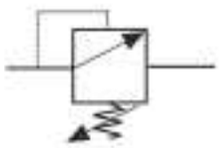
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Hydraulic schematic symbols

Symbol	Meaning	Symbol	Meaning
	Vented reservoir with lines above fluid level		Electric motor unidirectional single speed
	Vented reservoir with lines below fluid level		Hydraulic pump fixed displacement unidirectional
	Filter or strainer		Spring (Bias to normal de-energised position)
	Hydraulic line (plumbing , may be tubing, hose or flow passage in manifold) with full flow		Solenoid single coil or winding
	Pilot or drain line, limited flow		Component enclosure manifold block
	Lines crossing		Resistor orifice throttle (adjustable)
	Lines connected		Resistor orifice throttle
	Plugged port (test port)		Relief valve adjustable
	Accumulator, gas charged, diaphram type		Check valve

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Service Code 160		
Display information	BDI Light code	■□■□□□□□
	BDI display	Blinking
	Wrench Light	Blinking
Handset information	Message	— CAN
Vehicle information	Alarm	Repeatedly cracking
	Effect on vehicle	Fast stop with shutdown or no power up
Code information	Explanation	Unexpected SFW interrupt
	Possible cause	- Unexpected failure of communication board software. Try to restart (power up) again - Display or controller failure

Service Code 192		
Display information	BDI Light code	■■□□□□□□
	BDI display	Blinking
	Wrench Light	Blinking
Handset information	Message	— CAN
Vehicle information	Alarm	Repeatedly cracking
	Effect on vehicle	Fast stop with shutdown or no power up
Code information	Explanation	—
	Possible cause	- Unexpected failure of controller software. Try to restart (power up) again - Open or short circuit on communication lines - Short circuit to battery positive on communication lines

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8 Nut
12 Chain Anchors
13 Chain Pin
14 Cotter Pin
16 Retaining Ring
17 Pin
18 Chain Anchor
19 Hardware
22 8 mm (0.3125 in) Shim Location
23 Third Stage Mast
24 Old Chain
25 Wire
26 New Chain

- Loosen chain anchors (12) so that the chain has a little slack in it.
- Remove cotter pin (14) and chain pin (13).
- Remove hardware (19) holding chain anchor (18) to third stage mast (23) and pull anchor and chains down below third stage mast about 150 mm (6.0 in). Use wood wedge between third stage mast (23) and chain so that chain is not pulled back up into mast.
- Remove one retaining ring (16), pin (17) and chain anchor (18) from old chain (24).
- Wire (25) end of new chains (26) to old chains (24) as shown in A. Mount chain anchor (18) to new chain (26). Use new pin (17) and retaining rings (16).
- Remove wood wedge and pull chain through rear bottom (platform side) of third stage mast.
- Secure chain anchor (18) to third stage mast (23) with mounting hardware (19).
- Remove wire (25) holding new chain (26) and old chain (24) together.
- Mount chain to chain anchor (12). Use new chain pin (13) and cotter pin (14).
- Adjust chain anchors to remove slack from chains.
- Place two temporary 8 mm (0.3125 in) shims (22) on top of tube of the chassis traverse nearby the mast. This will automatically set platform height and allow cushioning of cylinder to operate properly.
- Connect batteries, remove hardwood block and lower platform completely on 8 mm (0.3125 in) shims using chassis console.
- Turn key switch off and adjust chain anchors evenly until platform is just rising off of 8 mm (0.3125 in) shim plates. The dimension to the back edge of the platform should be approximately as shown in Illustration below.



MS-2450-065

H 270 mm (10.56 in) for 2135 mm (84 in) Lift Height

- After chains are tensioned, raise mast at least half way up and check chain tension by pressing on each chain with a finger. Adjust the chain anchor on the loose chain until the tension feels equal. Secure the chain anchor (12) position with the nuts (8) on its back side, see illustration MS-2450-066. Remove temporary shim plates.
- Replace "H" frame, access covers, floorboard and mast cap. Plug in connector for DMSR and DMSL at lower rear of platform.
- Run operational check.

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Lift Chain

The lift chain is a very important component. Safe, uninterrupted use of the vehicle depends on proper care and maintenance of the lift chains. Precision chains require periodic maintenance to deliver maximum service life.

Inspection

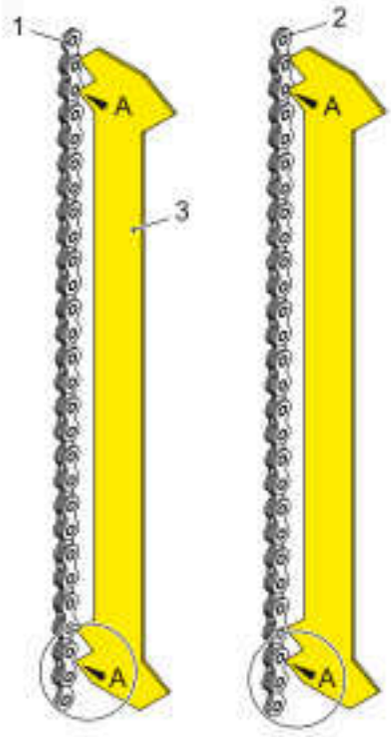
After every 100 h of vehicle operation, lift chains should be inspected and lubricated. When used in an extremely corrosive environment, inspect chains after every 50 h of operation. During inspection, check for the following:

Wear

As the chain flexes over the pulleys, the joints gradually wear.

The "stretch" a chain develops in service is due to material being worn off pins outside diameter and pitch hole inside diameter on the inside plates.

When checking chain wear, extend the mast completely and check the section of chain that operates over the pulley, this section of chain should show the most wear. Chain wear can be measured using a wear scale 106440 (3), see illustration MS-2450-060, or a steel tape. When a chain has elongated 3%, it should be replaced. The chain used has a 12,7 mm (0.50 in) pitch.



MS-2450-060

1 *New Chain*
2 *Streched Chain*
3 *Wear Scale 106440*

If wear scale 106440 (3) is used to check chain wear, place one "A" scale tip in center of a chain pin, then look at the center of the second "A" scale tip. If the center of the 24th chain pin down is even with the center of that tip, the chain should be replaced.

If a scale is used to check chain wear, place the end of the scale in center of a chain pin. Count down 24 pins and if the center of that pin has stretched to 314 mm (12.375 in) the chain should be replaced. With a new chain, you would read 305 mm (12 in).

Do not repair chains by cutting out the worn section and splicing in a new piece. If part of a chain is worn, replace both of the lift chains.

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