CAT® Lift Trucks

Service Manual

Chassis & Mast — MC/FC

DP40N	CT12C-00011-up
DP45N	CT19E-50001-up
DP50CN	CT19E-80001-up
DP50N	CT28D-50001-up
DP55N	CT28D-80001-up
GP40N	CT40A-00011-up
GP45N	CT29E-50001-up
GP50CN	CT29E-80001-up
GP50N	CT33D-50001-up
GP55N	CT33D-80001-up

For use with S6S and TB45 Engine Service Manuals.

99739-6E110

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Chapter 1 GENERAL INFORMATION

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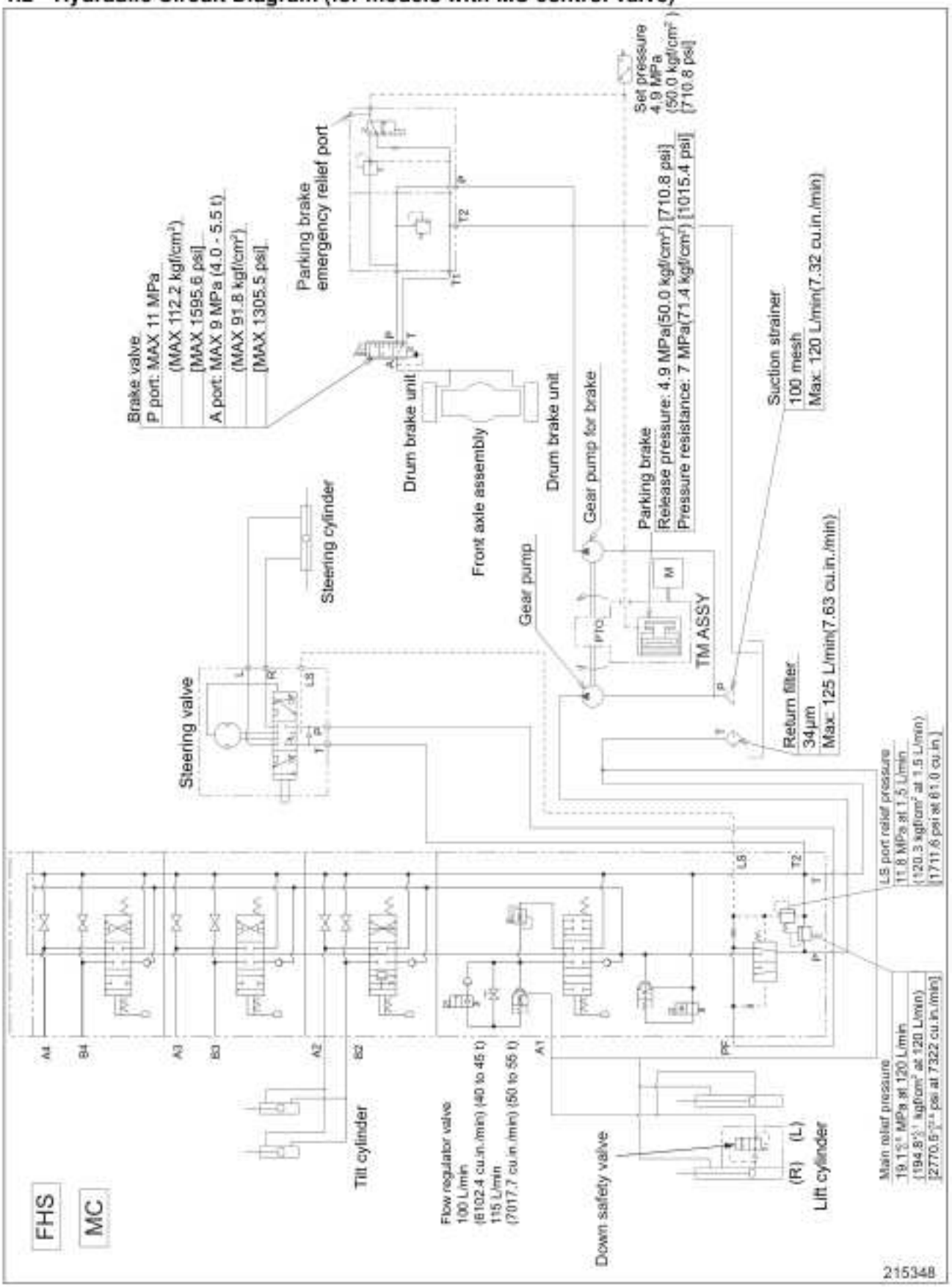
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5. Troubleshooting

Condition	Possible cause	Action
Leaking coolant from radiator	Damaged radiator core or tank	Replace
	Damaged radiator hoses	Replace
	Hose clamp is defective.	Replace
	Drain cock is defective.	Replace
Engine overheated	Radiator fins are clogged.	Clean
	Fins are excessively distorted.	Replace
	Loose belt	Check the belt for tension, elongation, and cracks. Replace the belt if such defect is found.
	Not enough coolant	Refill
Leaking oil from oil cooler hose	Insufficient tightening torque of hose clamp	Retighten or replace

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1.2 Hydraulic Circuit Diagram (for models with MC control valve)



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12.2.2 Installing Outer/Inner Mast Rollers

Mast rollers have the same shape and size as the lift bracket middle roller and the lower roller, and the mast rollers have the same standard value for clearances between the rollers and the masts.

Unit: mm (in.)

Clearance F	1 (0.04) maximum
Clearance G	0.1 to 0.5 (0.004 to 0.02)

(1) Measure clearance F between the rollers' rolling contact surfaces and masts.
If the measured clearance does not meet one of the standard values shown in the table below, replace the roller with the correct diameter roller.

Note: For clearance measurement, refer to "14.5 Mast Roller Clearance Adjustment."

Unit: mm (in.)

Size (diameter)	Truck model	
	GP40N,GP45N	GP50CN,GP50N,GP55N
	DP40N,DP45N	DP50CN,DP50N,DP55N
S	117 (4.61)	129 (5.08)
M	118 (4.65)	130 (5.12)
L	119 (4.69)	131 (5.16)
LL	120 (4.72)	132 (5.20)

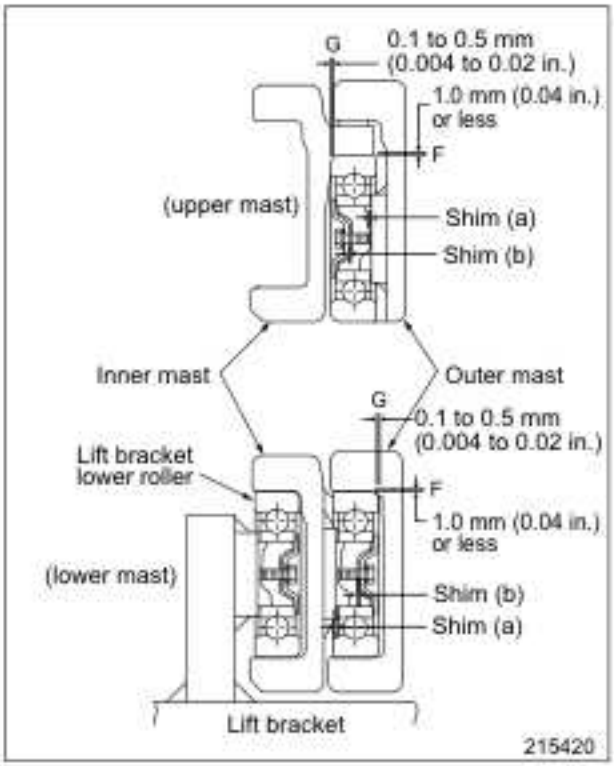
•To install the mast rollers with a driving tool, follow the installation instructions for lift bracket rollers. Refer to "12.2.1 Installing Lift Bracket Rollers, step (4)."

(2) Measure clearance G between the rollers and the masts. If the measured clearance G is larger than the standard value, adjust clearance G by increasing the number of shim (a) and shim (b) under the roller seats.

Note: For clearance measurement, refer to "14.5 Mast Roller Clearance Adjustment."

•Adjustment steps

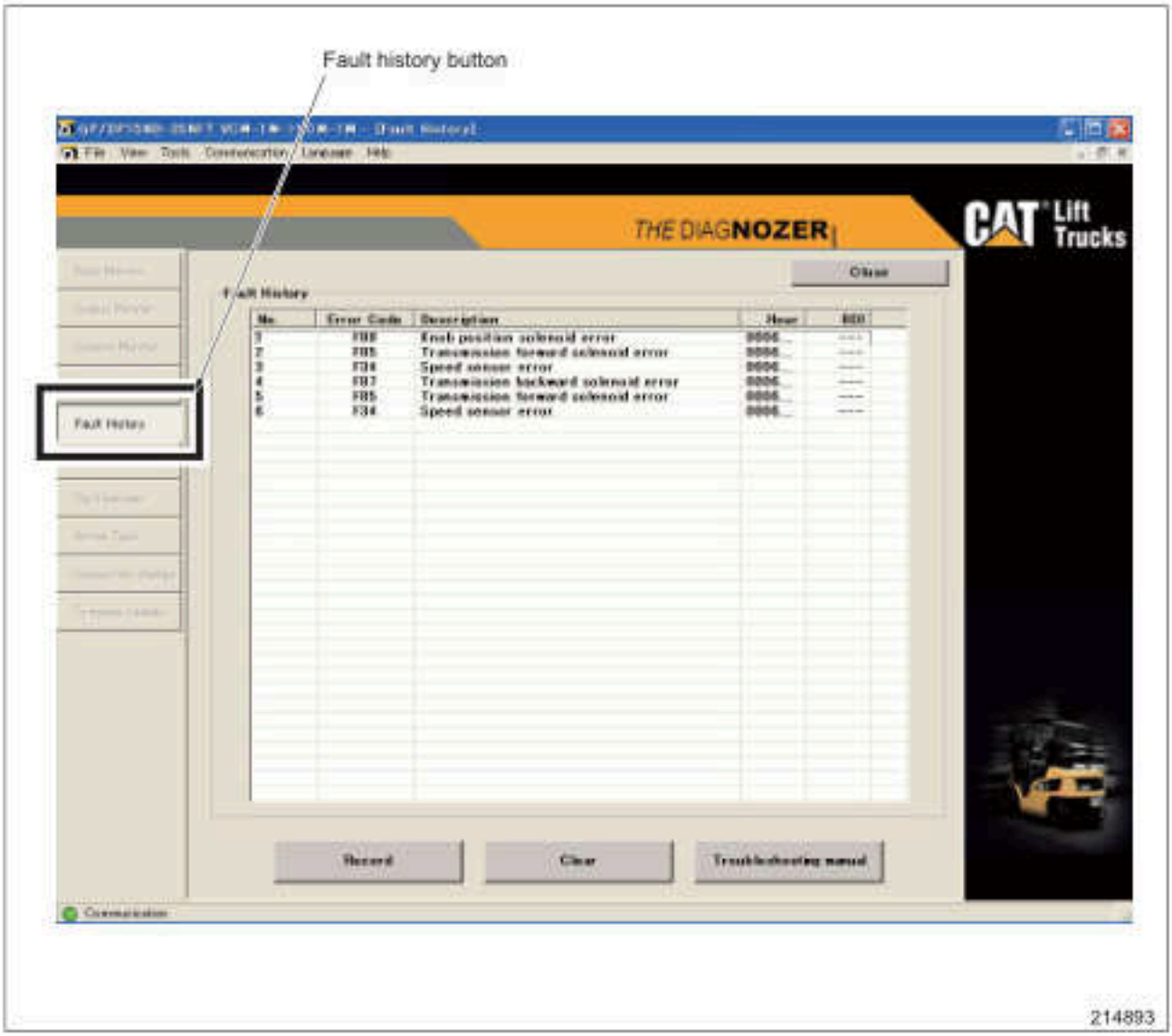
1) If clearance G is large, increase the number of shims (a) as required.
2) Adjust the number of shims (b) so that the shim thicknesses of shims (b) equals that of shims (a).
3) Shims (a) are available in two thicknesses: 0.5 and 1 mm (0.02 and 0.04 in.) and shims (b) are available in only 1 mm (0.04 in.) thickness.
4) If a 0.5 mm (0.02 in.) shim (a) thickness is used, thickness adjustment using shim (b) is unnecessary.



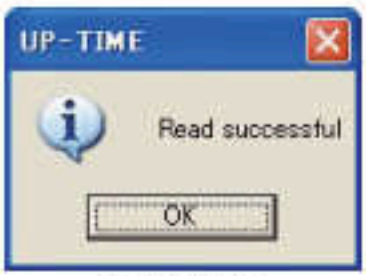
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(5) Truck history

Click truck history button from the menu or toolbox to read past faults stored in the memory of controller. If the read is successfully completed, the dialog box displays Read successful message. If not, "Read error" message is displaced. Then, Truck history monitor screen is displayed in the main windows.



When the read is successful



Success dialog

214894

When the read is unsuccessful



Error dialog

214895

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(2) Disconnect the lift cylinder high-pressure hoses
Lower the mast to the bottom, and then disconnect hose 5 as shown at the arrow in the illustration on the previous page.

(3) Separating tilt cylinders

(a) Hitch a sling to the rings on the cross-member at the top of the outer mast, then lift the outer mast with a hoist.

⚠ CAUTION

When removing and installing the mast assembly with a hoist, be sure to use a hoist with enough lifting capacity.

(b) Place wood blocks under the tilt cylinder mounting section and remove the tilt socket pins, and separate the mast from the tilt cylinders.

(c) Start the engine, and pull back on the tilt lever to retract the tilt cylinder rods.

⚠ CAUTION

Do not touch any levers except the tilt lever while the engine is running.

⚠ CAUTION

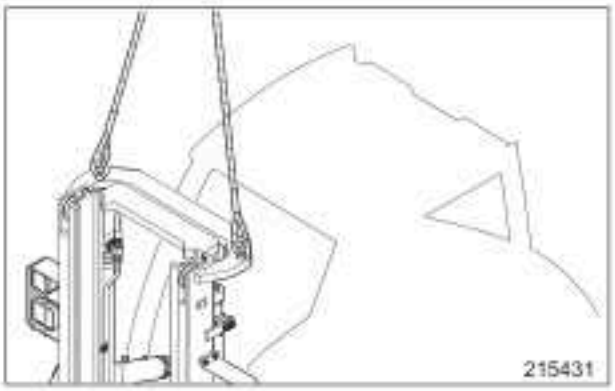
Never loosen the tilt socket bolts except when disassembling the tilt cylinder.

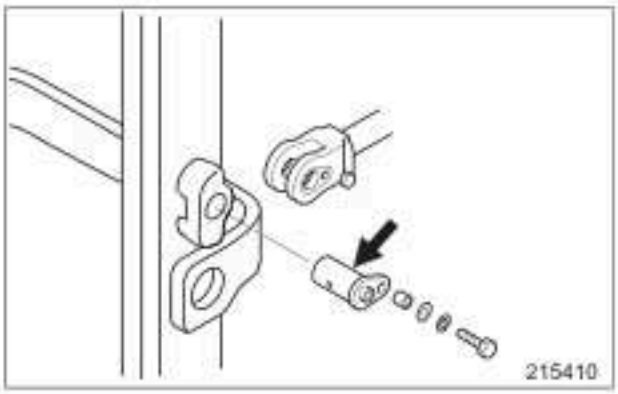
(4) Removing mast support caps

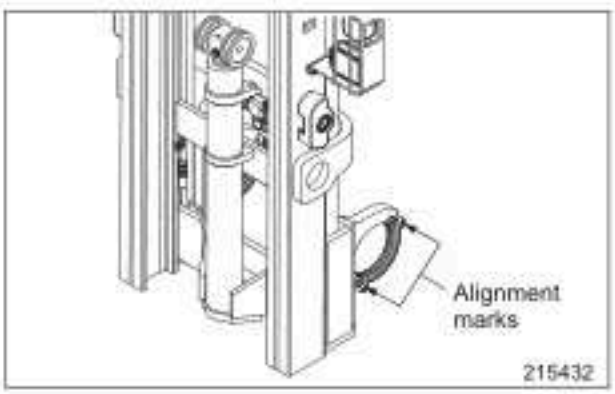
(a) Put alignment marks on caps so that the caps are correctly positioned when they are reassembled.

(b) Remove cap mounting bolts from the mast and disconnect the suspended mast assembly from the truck. Lay the mast assembly horizontally on level ground with the lift bracket side facing up.

Note: Lay the mast assembly in a space large enough for disassembly work.







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