CAT® Lift Trucks

Service Manual

Mast Supplement

5M15D
5M20D
5M25D
5M30D
5M35D

99739-351T0

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MAST AND FORKS

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- Clearance G1

Clearance between side roller circumference and inner mast side roller thrust surface:

Move side roller to the upper end of the inner mast and press the lift bracket to either the leftmost or rightmost position.

Take measurement of clearance G1 between the roller circumference and inner mast.

Adjust the clearance with shims to the specification.

Clearance G1	0.1 to 0.5 mm (0.004 to 0.020 in.)

(1) Choosing correct roller diameters

- Measure clearance F for upper rollers 2, middle rollers 3 and lower rollers 4. If the measured clearances do not conform to the standard values, replace with rollers of correct diameters listed in the table to the right.

Note: For measuring procedures, refer to "Inspection and Adjustment."

- The rollers installed should rotate smoothly.

Unit: mm (in.)

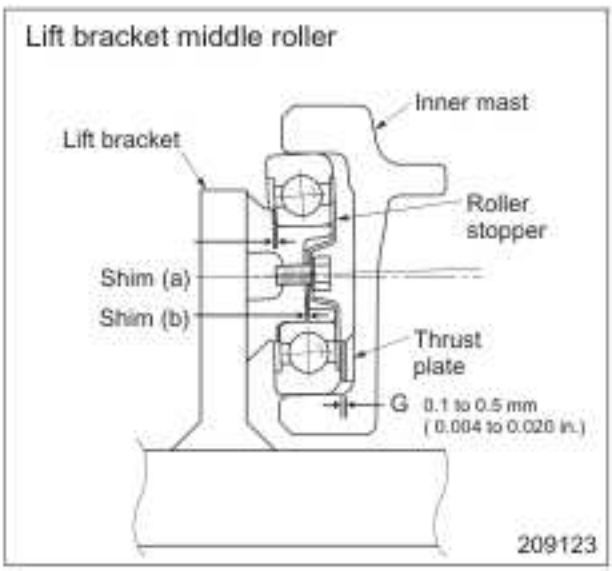
Size (Diameter) \ Mast Model	5M15D 5M20D	5M25D 5M30D 5M35D
S	99 (3.9)	113.8 (4.5)
M	100 (3.9)	115 (4.5)
L	101 (4)	116 (4.6)
LL	102 (4)	117 (4.6)

(2) Adjusting clearance G between the middle roller and thrust plate

Note: The following adjustment is not required for the upper roller.

- Measure clearance G between the middle roller and thrust plate. If the measured clearance does not conform to the standard value, adjust clearance G in the manner described below.

Note: For measuring procedures, refer to "Inspection and Adjustment."



- Adjustment

If clearance G is excessive, increase the thickness of shims (a) as required. Increase the thickness of shims (b) by the same amount that are added to shims (a).

Shim (a) is available in two sizes: 1 mm (0.04 in.) and 0.5 mm (0.020 in.). Shim (b) is available in only one size, 1 mm (0.04 in.).

If shims (a) are increased by 0.5 mm (0.020 in.), shims (b) do not need to be increased by the equal amount.

Remarks: At the manufacturing plant, shims (a) are usually adjusted to 1 mm (0.04 in.) and shims (b) to 2.0 mm (0.08 in.) for the shipment.

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Troubleshooting

Lift bracket and inner mast will not move smoothly	Clearance between lift rollers and side rollers incorrect	Readjust clearance.
	Rollers binding on their shafts	Relubricate of replace.
	Mast strip clearance incorrect	Shim adjust. 0.1 to 0.5 mm (0.004 to 0.020 in.)
Lift bracket or inner mast binds	Too much clearance on side rollers	Readjust by adding shims.
	Lift chains unequally tensioned	Readjust.
	Shim adjustments unequally made on between left and right lift cylinders (at maximum height)	Readjust.
Mast makes noise	Rollers not rotating smoothly on their shafts	Relubricate of replace.
Load descends (drift)	Lift cylinder packing damaged	Replace.
	Sliding (inside) surface of lift cylinder tube damaged	Replace.
Whole mast shakes	Mast-support bushing or metal worn	Retighten or replace.
Mast is distorted	Off-center loading or overload	Replace mast assembly.
Fork tips differ in height	Finger bar bent	Repair or replace.
	Forks bent	
	Un-even loading	

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