CAT® Lift Trucks

Service Manual

Chassis & Mast — MC/FC

GP15N	T25C-50001-up	GPE15N	T25C-58001/68001-up
GP15ZN	T34-50011-up	GPE15ZN	T34-58011/68001-up
GP18N	T25C-70001-up	GPE18N	T25C-78001/88001-up
GP18ZN	T34-70001-up	GPE18ZN	T34-78001/88001-up
GP20CN	T34-20001-up	GPE20CN	T34-28001/38001-up
GP20N	T17D-00011-up	GPE20N	T17D-08011/18001-up
GP20ZN	T35-00011-up	GPE20ZN	T35-08011/18001-up
GP25N	T17D-50001-up	GPE25N	T17D-58001/68001-up
GP25ZN	T35-50001-up	GPE25ZN	T35-58001/68001-up
GP30N	T13F-30011-up	GPE30N	T13F-38011/48001-up
GP35AN	T13F-50001-up	GPE35AN	T13F-58001/68001-up

DP15N	T16D-50001/60001-up
DP18N	T16D-70001/80001-up
DP20CN	T16D-85001/87001-up
DP20N	T18C-00011/10001-up
DP25N	T18C-50001/60001-up
DP30N	T14E-30011/40001-up
DP35AN	T14E-50001/60001-up

For use with S4Q2, S4S and K15/K21/K25 Engine Service Manuals.

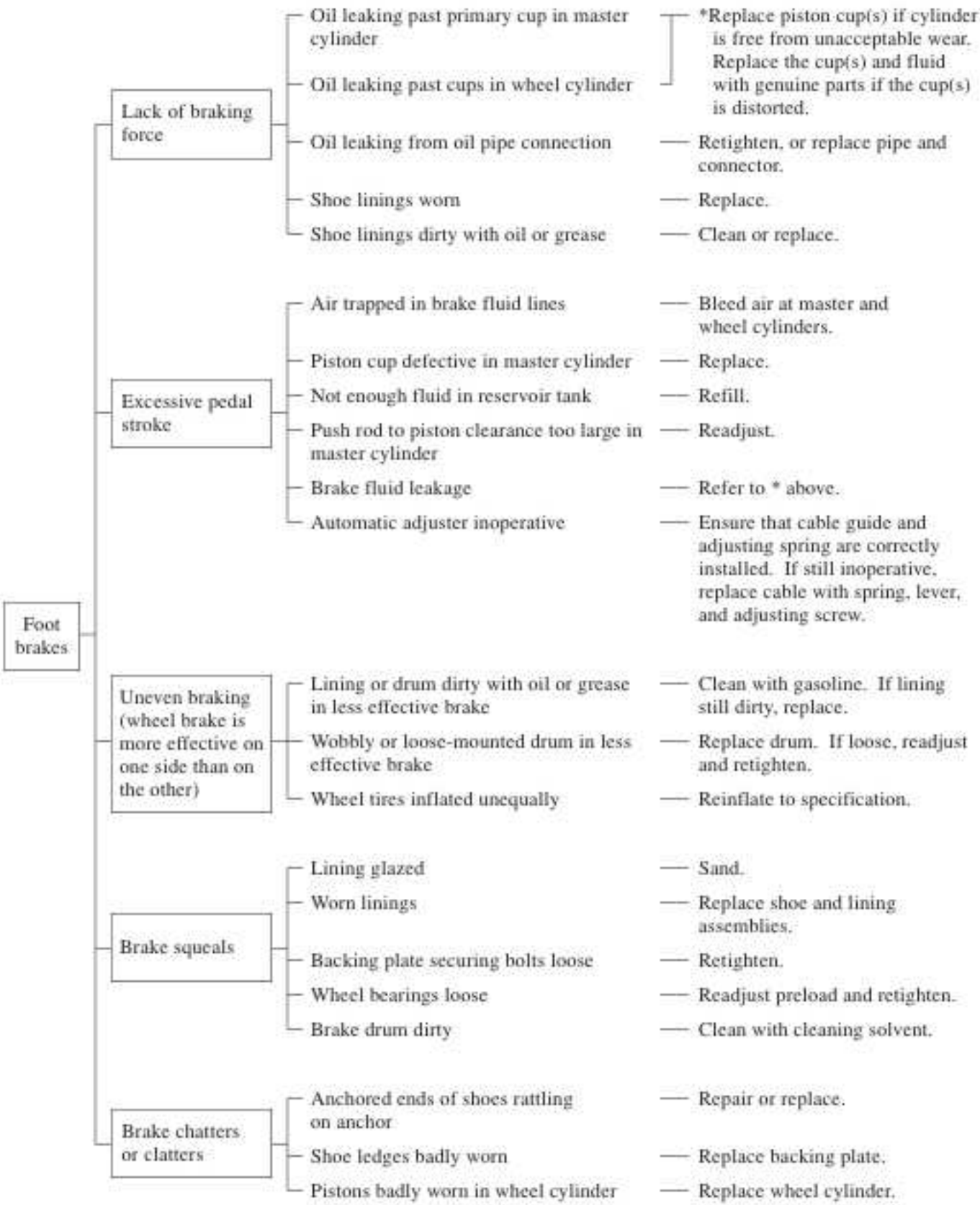
99719-35120

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Err code	Description	Probable cause	Check point
F54	Lift sol leak	1. Connector contact bad	1. Connector connection check
		2. Diode bad	2. Diode connection check
		3. Harness bad	3. Harness connection check
		4. Lift sol bad	4. Lift sol connection check
		5. Controller bad	
F55	Tilt FW sol err	1. Connector contact bad	1. Connector connection check
		2. Diode bad	2. Diode connection check
		3. Harness bad	3. Harness connection check
		4. Tilt FW sol bad	4. Tilt FW sol connection check
		5. Controller bad	
F57	Tilt BW sol err	1. Connector contact bad	1. Connector connection check
		2. Diode bad	2. Diode connection check
		3. Harness bad	3. Harness connection check
		4. Tilt BW sol bad	4. Tilt BW sol connection check
		5. Controller bad	
F59	Tilt sol leak	1. Connector contact bad	1. Connector connection check
		2. Diode bad	2. Diode connection check
		3. Harness bad	3. Harness connection check
		4. Tilt sol bad	4. Tilt sol connection check
		5. Controller bad	

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Troubleshooting



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3. Installing Mast Strips

(1) Measuring and adjusting clearance G2 between the mast strip and inner mast

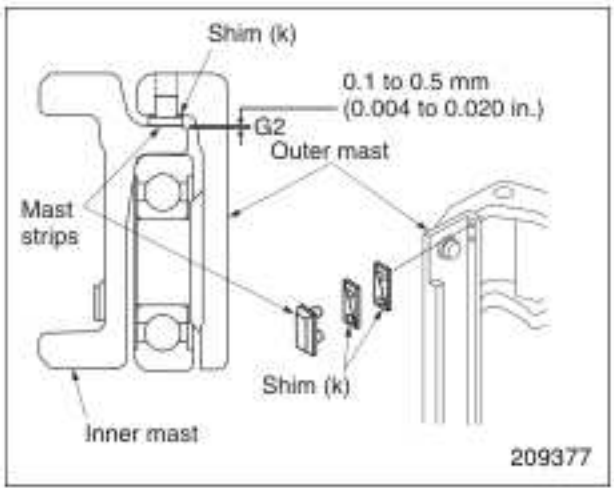
• Measurement

Make a clearance between the mast strip and inner mast. Insert a thickness gage to measure clearance G2.

Clearance G2	0.1 to 0.5 mm (0.004 to 0.020 in.)

• Adjustment

If clearance G2 is excessive, add a proper amount of shims under the mast strip. Check the smooth movement by moving slowly up and down the bracket. Usually, a 1.0 mm (0.04 in.) thick shim is used in a new truck.



4. Installing Second Lift Cylinders

(1) Install the cylinder brackets to the lift cylinders as shown in the right illustration.

(2) Place the lift cylinders complete with the brackets between the outer and inner masts.

(3) Install the lift cylinder rods to the inner mast as shown in the illustration. If shims (l) are used, be sure to reinstall them. Usually shims (l) are not used.

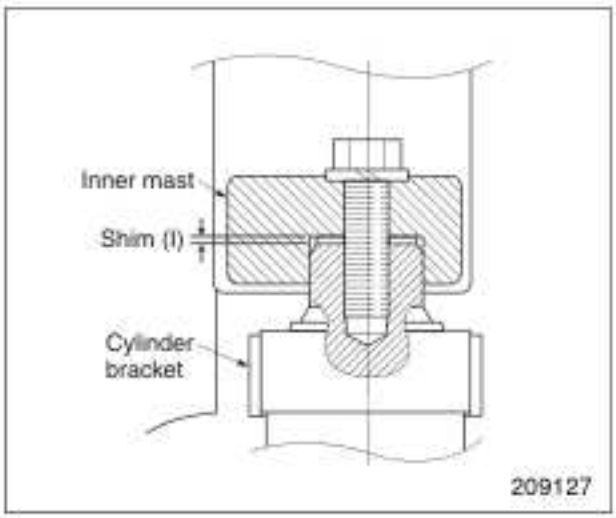
(4) With the cylinder rods fully retracted and the cylinders set vertically, measure clearance H. Adjust the clearance at 1.6 mm (0.063) or less by adding or removing shims (m).

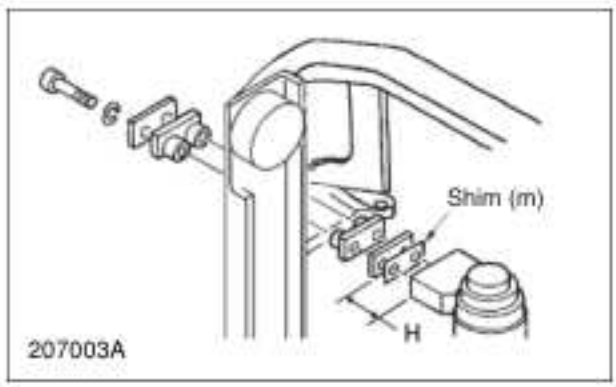
Clearance H	1.6 mm (0.063 in.) or less

• Adjustment

If clearance H is exessive, add shims (m). Normally on a new truck, the second lift cylinders are not fitted with shims (m). If the clearance is 3.2 mm (0.126 in.) or more, make sure to include a 3.2 mm (0.126 in.) thick sheet in the shim pack that is to be installed.

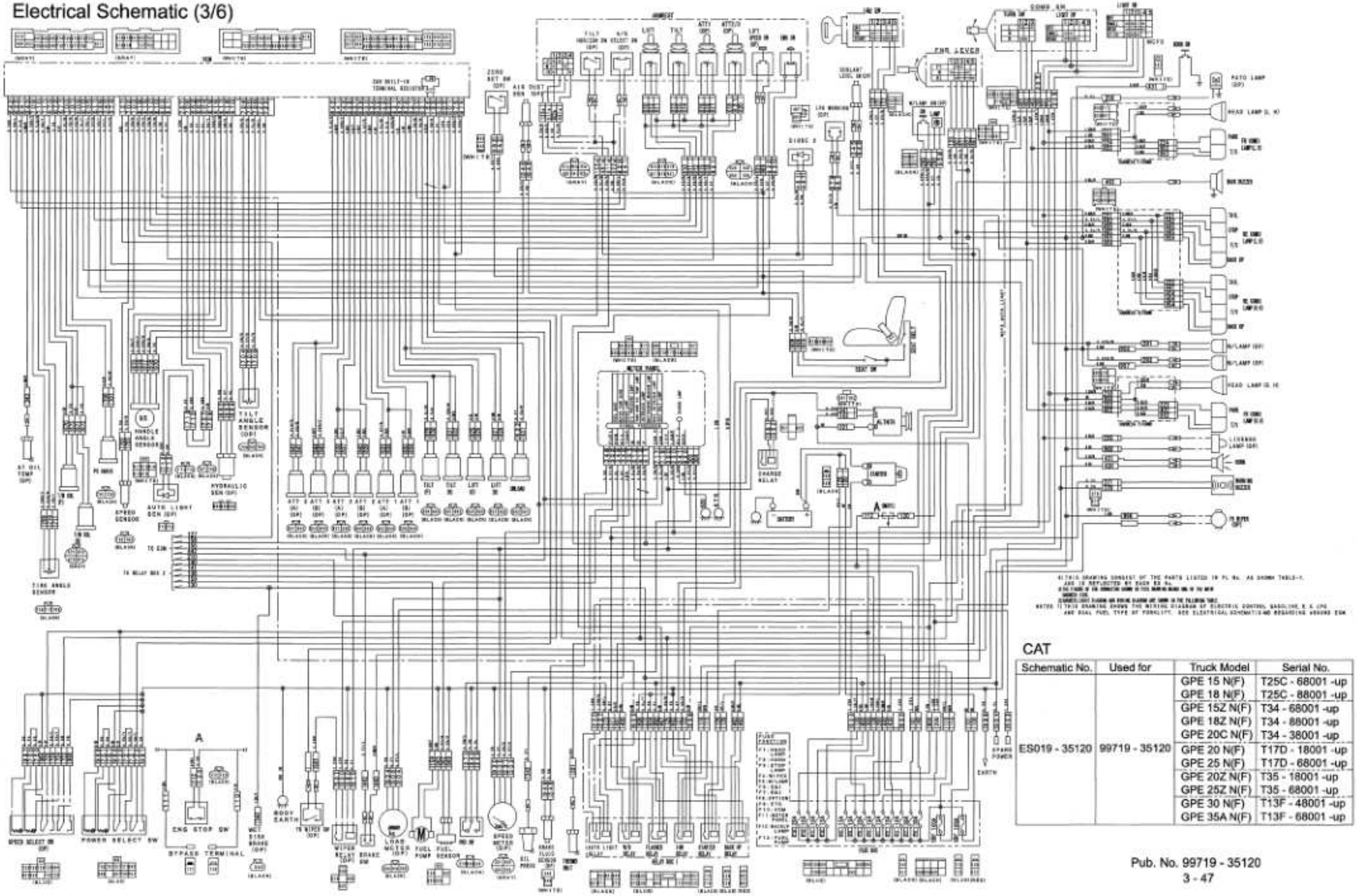
(5) After ressembly, perform an operation test to check if the stroke of the left and right cylinders is the same. For the checking procedure, refer to page 14-53.





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Electrical Schematic (3/6)



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Schematic No.	Used for	Truck Model	Serial No.
ES019 - 35120	99719 - 35120	GPE 15 N(F)	T25C - 68001 -up
		GPE 18 N(F)	T25C - 88001 -up
		GPE 15Z N(F)	T34 - 68001 -up
		GPE 18Z N(F)	T34 - 88001 -up
		GPE 20C N(F)	T34 - 38001 -up
		GPE 20 N(F)	T17D - 18001 -up
		GPE 25 N(F)	T17D - 68001 -up
		GPE 20Z N(F)	T35 - 18001 -up
		GPE 25Z N(F)	T35 - 68001 -up
		GPE 30 N(F)	T13F - 48001 -up
		GPE 35A N(F)	T13F - 68001 -up

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