



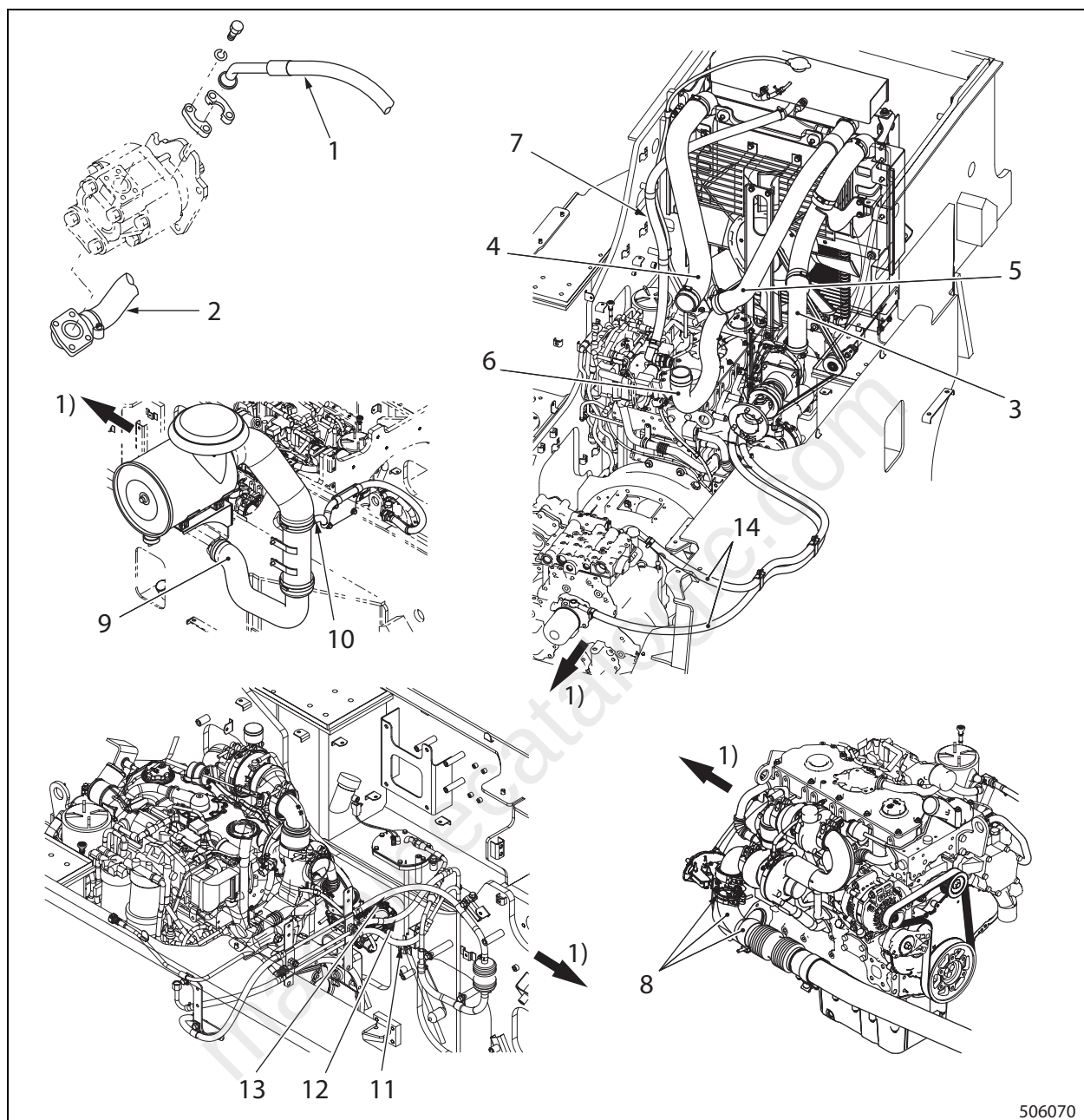
Service Manual

Chassis & Mast

LC/FC

DP100N1	AT15E-00011-up
DP120N1	AT15E-00011-up
DP135N1	AT15E-00011-up
DP150N1	AT24C-00011-up
DP160N1	AT39A-00011-up

4.4 Disconnecting Pipes and Hoses



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|------------------------------------|-------------------------------------|
| 1. Delivery hose of hydraulic pump | 8. Exhaust elbow, Clamp, Ball joint |
| 2. Suction hose of hydraulic pump | 9. Air inlet hose |
| 3. Inlet hose of intercooler | 10. Air hose |
| 4. Outlet hose of intercooler | 11. Fuel hose |
| 5. Upper hose of radiator | 12. Fuel hose |
| 6. Lower hose of radiator | 13. Fuel hose |
| 7. Fill hose | 14. Oil cooler hose |
| | 1) Front of lift truck |

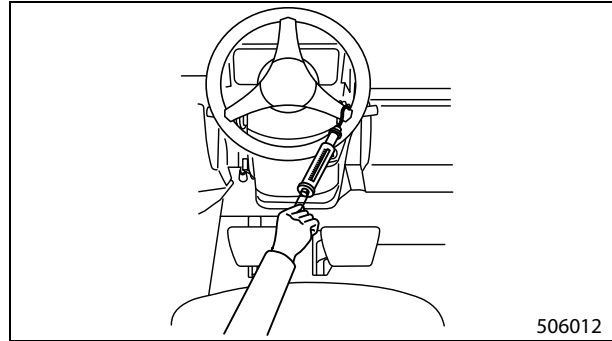
Suggestions for removal

- (1) Disconnect the engine left side fuel hose. Leave other intermediate pipes and right side hoses connected to the engine.
- (2) Disconnect the oil cooler hoses at the transmission side and tack the hoses along the frame.

4.3 Inspecting Steering Wheel After Installation

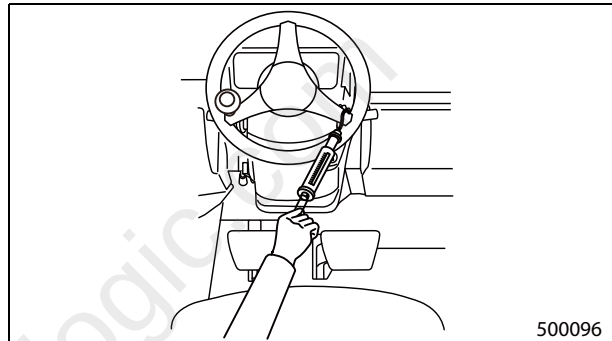
Checking steering effort (Without knob type)

- (1) Apply the parking brake.
- (2) Run the engine until hydraulic oil temperature reaches a range of between 40 and 60°C (104 and 140 °F).
- (3) Attach a spring scale on the rim or spoke of the steering wheel, and measure the steering effort required to turn the steering wheel clockwise or counterclockwise from the straight-ahead position. Steering effort must be less than the specified value given below.



Checking steering effort (With knob type)

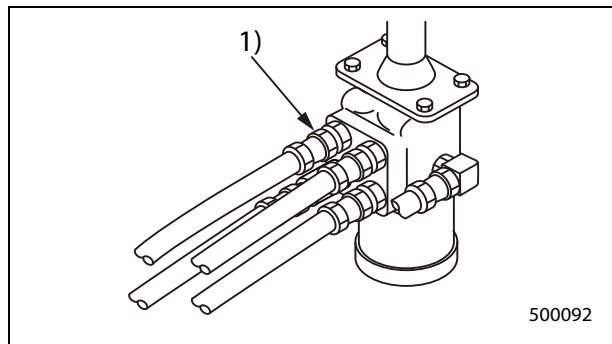
- (1) Apply the parking brake.
- (2) Run the engine until hydraulic oil temperature reaches a range of between 40 and 60°C (104 and 140 °F).
- (3) Attach a spring scale on the rim or spoke of the steering wheel, and measure the steering effort required to turn the steering wheel clockwise or counterclockwise from the straight-ahead position. Steering effort must be less than the specified value given below.



Item	Standard
Steering effort (at steering wheel rim)	10 N (1.2 kgf) [2.25 lbf]

4.4 Removing Steering Valve

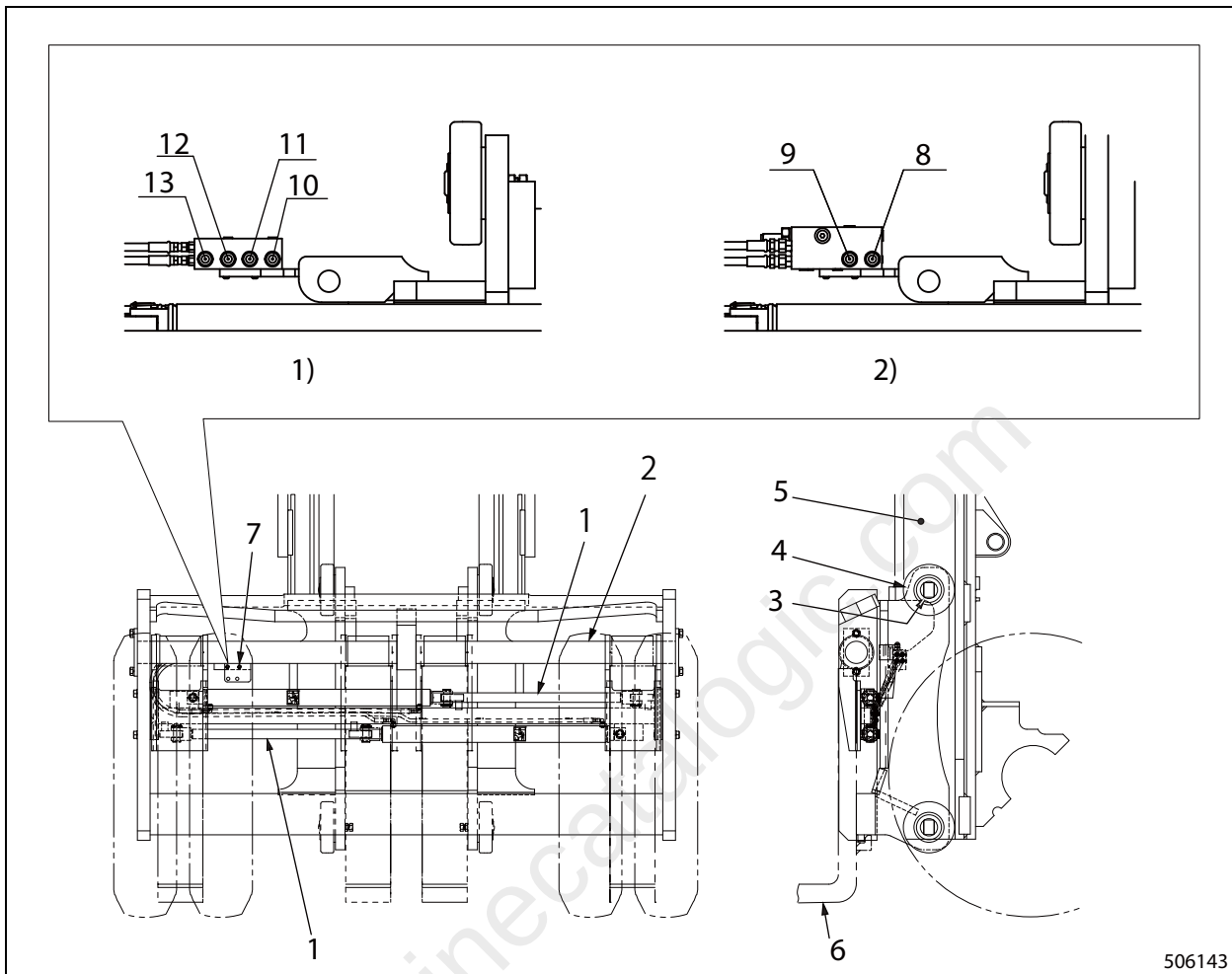
- (1) Remove the cover around the steering column.
- (2) Disconnect the five hoses from the steering valve.
- (3) Remove the steering wheel mounting bolts, and remove the steering valve.



1) Mounting bolts

Ref.	Bolt tightening torque
1)	34 to 44 N·m (3.5 to 4.5 kgf·m) [25.08 to 32.45 lbf·ft]

3. Structure

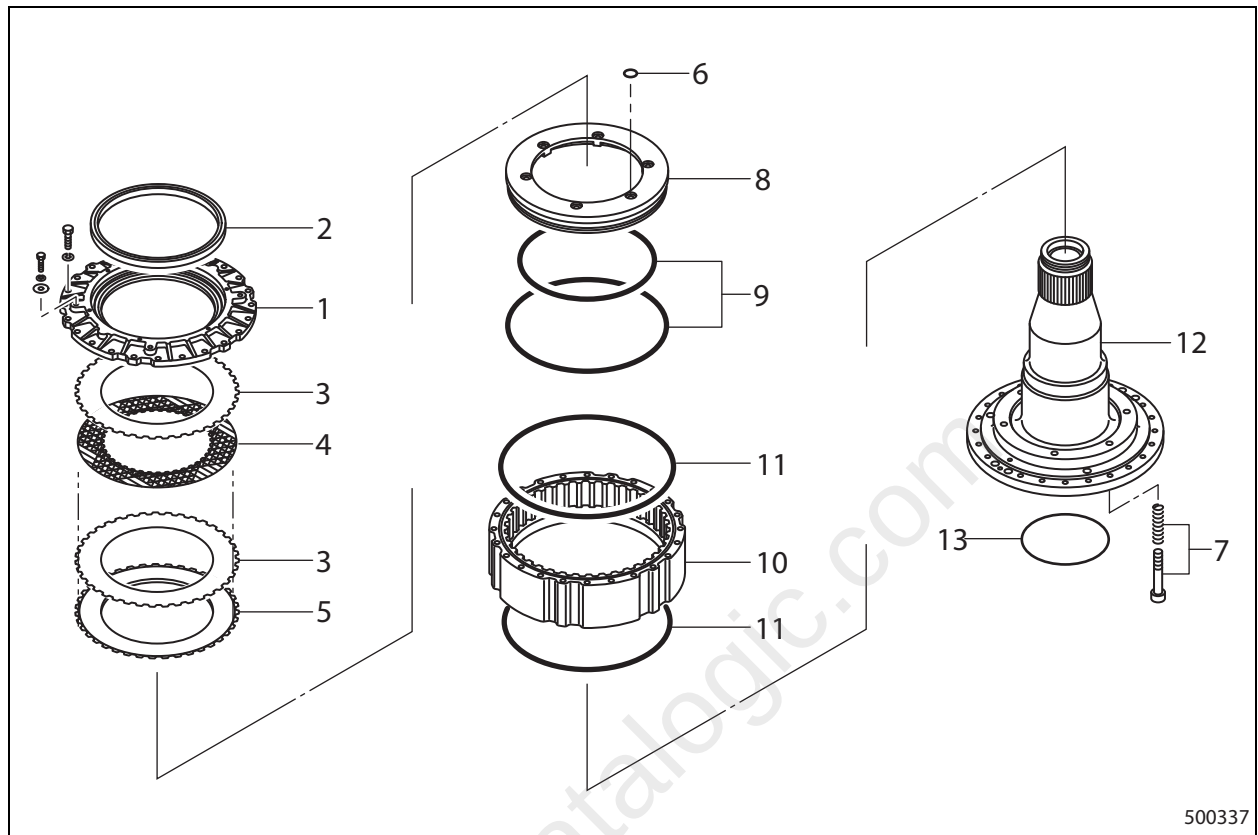


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|------------------------------|--|
| 1. Fork positioner cylinders | 8. Forks outward |
| 2. Fork guide bar | 9. Forks inward |
| 3. Side roller | 10. Left fork outward |
| 4. Main roller | 11. Left fork inward |
| 5. Mast | 12. Right fork outward |
| 6. Forks | 13. Right fork inward |
| 7. Piping | 1) Piping for simultaneous fork positioner |
| | 2) Piping for individual fork positioner |

- The fork positioner is an attachment that enables the outside fork spread to be adjusted stepless from the minimum position to the maximum position.
- The spread of the forks must be changed depending on the sizes of loads to ensure the stability of load.
- The hydraulic fork positioner can smoothly adjust the fork position using hydraulic cylinders.
- The fork positioner must be adjusted before picking up a load, as it cannot be adjusted while carrying the load on the fork.
- The fork positioner cylinder is mounted between the fork bracket and the lift bracket, and the extending and retracting movements of the cylinder slide the fork blades sideways.
- The right and left blades are independently adjustable.
In the case of the simultaneous move type, one attachment lever operates the right and left blades simultaneously. In the case of the independent move type, two attachment levers operate the right and left blades independently.

11.3 Disassembly Sequence of Wheel Brake



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|---------------------------------------|-------------------|
| 1. Brake cover | 8. Brake piston |
| 2. Oil seal | 9. Piston seal |
| 3. Mating plate | 10. Brake housing |
| 4. Friction plate | 11. O-ring |
| 5. End plate | 12. Spindle |
| 6. Snapping | 13. O-ring |
| 7. Return spring guide, Return spring | |

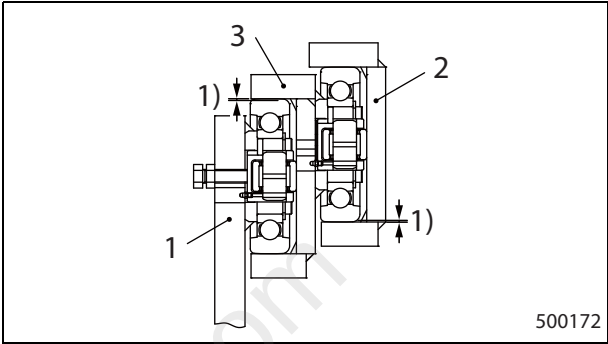
6. Assembling Mast Assembly

Follow the disassembly sequence in reverse to assemble and observe the instructions below:

6.1 Suggestions for Assembly

Back and front clearances between mast and lift bracket

- (1) Select the main rollers to provide the standard clearance between the main roller and the rolling surface through the whole lifting stroke.



1. Inner mast
2. Lift bracket
3. Outer mast
1) Clearance

Ref.	Item	Standard
1)	Back and front clearance between mast and lift bracket	0.5 to 2.8 mm (0.020 to 0.110 in.)

- (2) If the value exceeds the standard, replace the main roller with a new ones.

Item		Standard
Main roller size	S	203 mm (7.99 in.)
	M	205 mm (8.07 in.)
	L	207 mm (8.15 in.)

Full Version Available

Caterpillar DP150N1 Forklift Service and Operator Manual (99799-60100)

Caterpillar DP150N1 Forklift service manual, covers hydraulics, mast, drive unit, wiring, and engine. Searchable PDF download.

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