

Service Manual

GP15, GP18, GP20, GP25, GP30, GP35, DP20, DP25, DP30, DP35 Mast Supplement

GP15 3AM00001-up

GP18 3AM00001-up

GP20 5AM00001-up

5AM90001-up

GP25 5AM00001-up

5AM90001-up

GP30 7AM00001-up

GP35 8AM00001-up

DP20 5BM00001-up

DP25 5BM00001-up

DP30 7BM00001-up

DP35 8BM00001-up

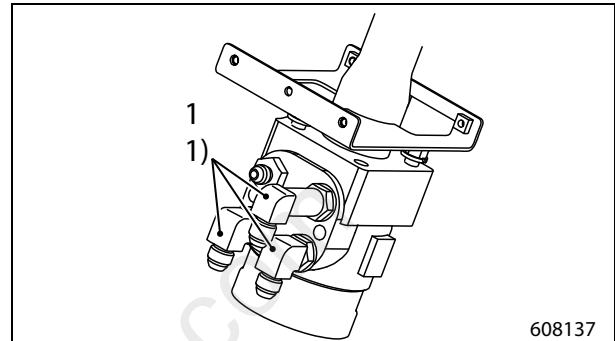
6. Steering Valve, Removing

- (1) Remove the cover from the steering column.
- (2) Disconnect four hoses from the steering valve.
- (3) Remove bolts and remove the steering valve.

7. Steering Valve, Installing

For installation, follow the removal sequence in reverse and observe the instructions below:

- (1) Apply grease to serrated portion at the lower part of the steering shaft.
- (2) Tighten mounting bolts to the specified torque.
- (3) Pay attention to the orientation when installing the elbow on the steering valve. Also be sure to tighten to the specified torque.



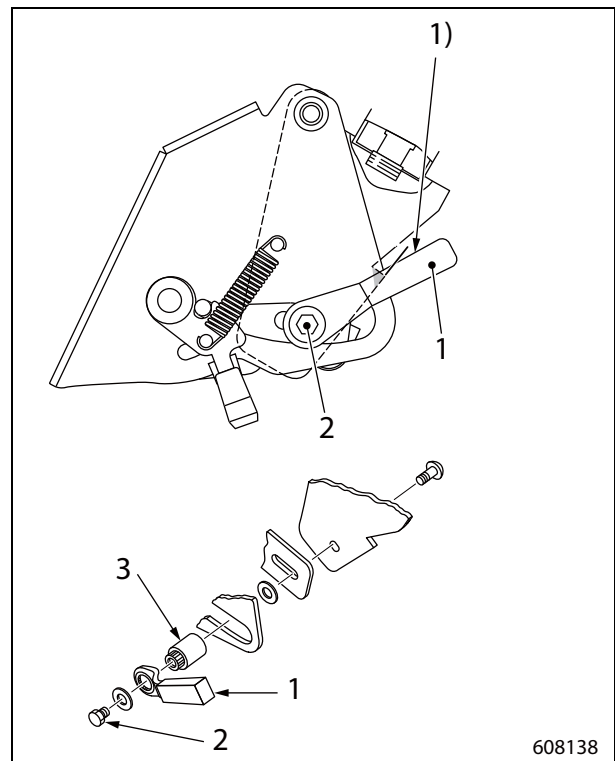
1. Elbow

1) Install the elbow facing downward

Ref.	Item	Tightening torque
1	Elbow	34 to 39 N·m (3.5 to 4.0 kgf·m) [25.08 to 28.76 lbf·ft]

8. Tilt Lock Lever, Disassembling

- (1) Make a matchmark across tilt lock lever and nut 3 for proper installation at assembly.
- (2) Remove lever mounting bolt 2 and remove tilt lock lever.



1. Tilt lock lever

2. Lever mounting bolt

3. Nut

1) Lever face

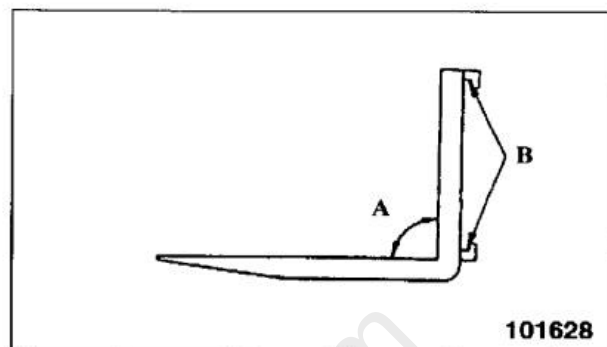
INSPECTION AND ADJUSTMENT

Forks

1. Carefully inspect the forks for cracks. Special attention should be given to the heel section A, all weld areas and B mounting brackets.

Forks with cracks should be removed from service.

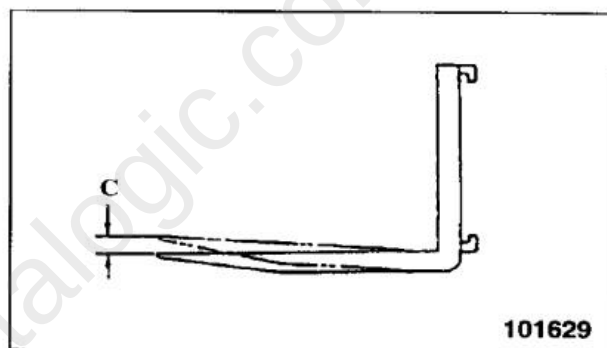
“Wet Test” magnetic particle inspection is generally preferred due to its sensitivity and the ease of interpreting the results.



2. Check the difference in height of one fork tip to the other when mounted on the fork carrier. A difference in fork tip height can result in uneven support of the load and cause problems when entering loads.

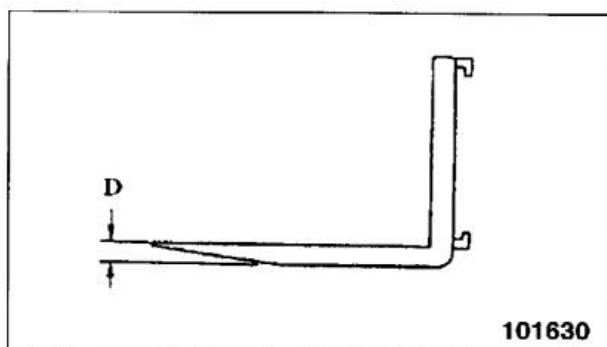
The maximum allowable difference in fork tip elevation C is 5 mm (0.20 in.) for pallet forks.

Replace one or both forks when the difference in fork tip height exceeds the maximum allowable difference.



3. Check the fork blade D. The fork should be withdrawn from service if the thickness is reduced to less than the tolerant thickness.

Fork blade length may also be reduced by wear, especially on tapered forks and platens. Remove the forks from service when the blade length is no longer adequate for the intended loads.



Unit: mm (in.)

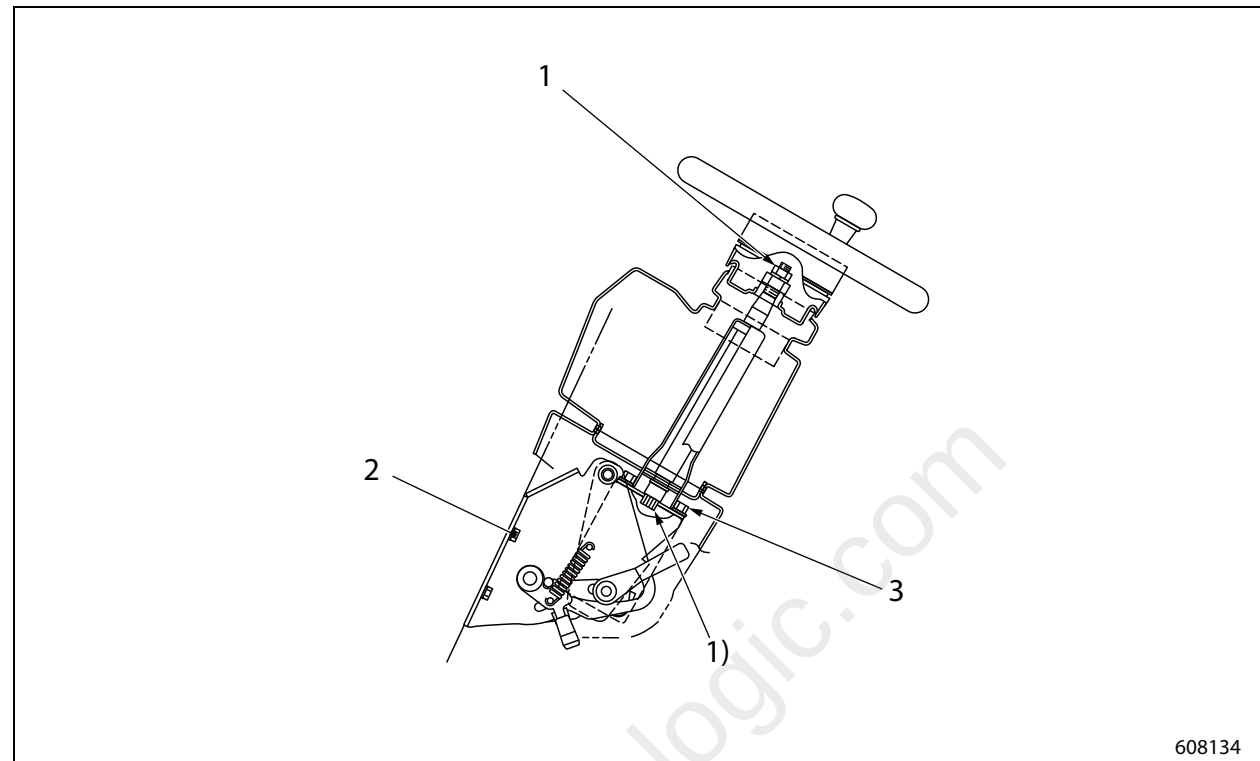
Tolerant thickness	Standard	Limit
GP15	40 (1.6)	31 (1.2)
GP18	40 (1.6)	33 (1.3)
GP20, DP20	45 (1.8)	36 (1.4)
GP25, DP25	45 (1.8)	39 (1.5)
GP30, DP30	45 (1.8)	40 (1.57)
GP35, DP35	50 (2.0)	45 (1.8)

A = Assembly standard B = Repair or service limit

Unit: mm (in.)

Item	Truck model	GP15, GP18	GP20, GP25 DP20, DP25	GP30, GP35 DP30, DP35
207106				
Tightening torque N·m(kgf·m)[lbf·ft]	Mast support bolts	A	74 (7.5) [54]	178 (18.2) [132]
	Upper nut ②	A	57 (5.8) [42.0]	84 (8.6) [62.2]
	Double nut (lower) ①	A	98 (10) [72.3]	147 (15.0) [108.5]
Distortion of finger bar		A	5 (0.2)	
102709				

4. Steering Wheel and Steering Valve, Installing

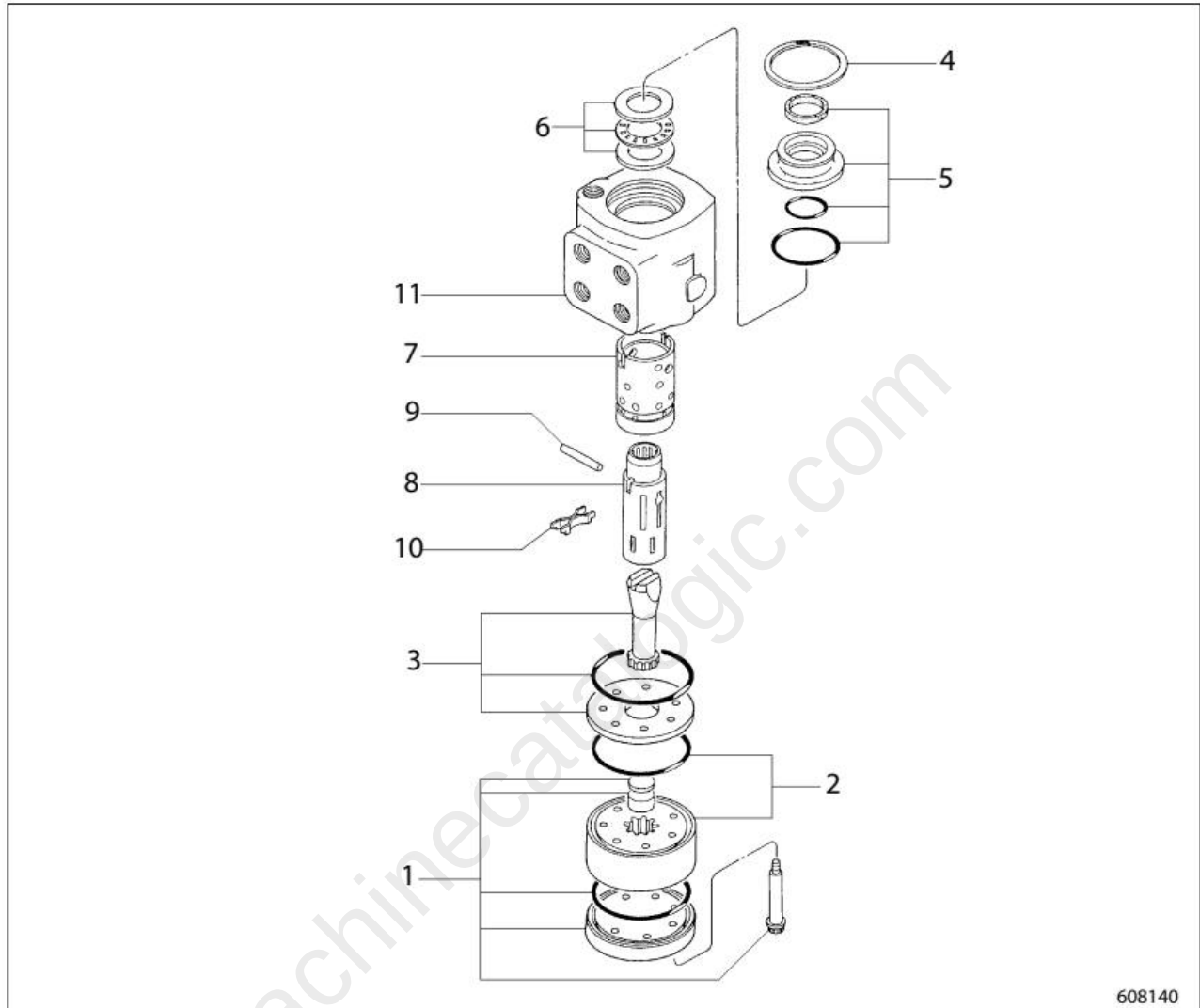


1) Apply grease.

Ref.	Item	Tightening torque
1	Steering wheel nut	$58.5 \pm 5.9 \text{ N}\cdot\text{m}$ ($5.97 \pm 0.60 \text{ kgf}\cdot\text{m}$) [$43.147 \pm 4.35 \text{ lbf}\cdot\text{ft}$]
2	Steering column assembly	$33.3 \pm 6.7 \text{ N}\cdot\text{m}$ ($3.40 \pm 0.68 \text{ kgf}\cdot\text{m}$) [$24.561 \pm 4.94 \text{ lbf}\cdot\text{ft}$]
3	Steering valve mounting bolt	$39 \pm 5 \text{ N}\cdot\text{m}$ ($4.0 \pm 0.50 \text{ kgf}\cdot\text{m}$) [$28.76 \pm 3.68 \text{ lbf}\cdot\text{ft}$]

10. Steering Valve, Disassembling

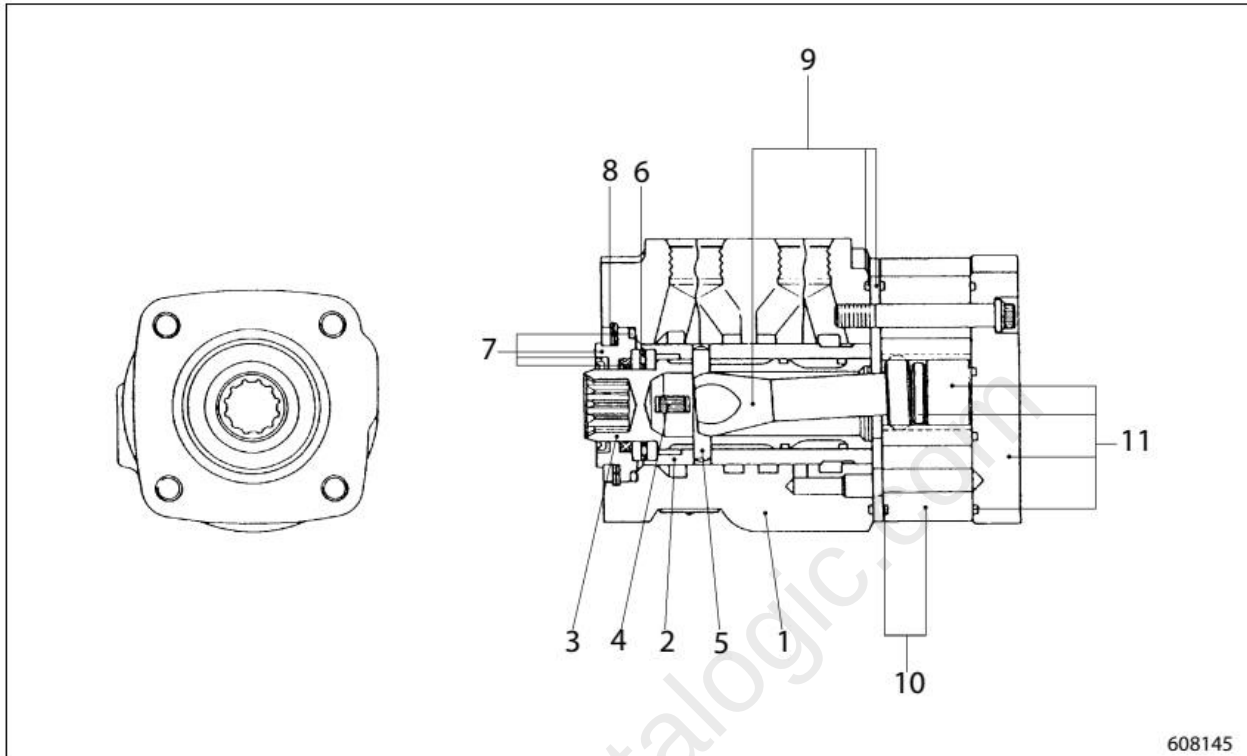
10.1 Disassembly Sequence



608140

12. Steering Valve, Assembling

12.1 Assembly Sequence



- | | |
|--------------------------------|--|
| 1. Long housing | 7. Seal gland bushing, Oil seal, Dust seal, O-ring |
| 2. Control sleeve | 8. Retaining ring |
| 3. Control spool | 9. Drive shaft, Spacer plate, O-ring |
| 4. Centering spring | 10. Gerotor set, O-ring |
| 5. Pin | 11. End cap, O-ring, Spacer, Bolt |
| 6. Thrust needle, Bearing race | |

⚠ CAUTION

Preparation before assembly:

- Prepare new parts to replace damaged parts.
- Wash all metal parts and dry by blowing off any foreign objects using compressed air.
- Make sure O-ring seals and lip seals in the seal kit are new.

⚠ CAUTION

Precautions during assembly:

- Apply a thin coat of oil to each part during assembly.
- Apply grease to O-rings.
- Do not wear fabric gloves when assembling. Lint may enter the valve.

Full Version Available

Caterpillar DP30 Forklift Service Manual (99719-3F110)

Caterpillar DP30 Forklift service manual, covers engine, hydraulics, power train, wiring, and repairs. Downloadable PDF format.

VIEW THE FULL MANUAL

<https://machinecatalogic.com/caterpillar-dp30-forklift-service-manual-99719-3f110/>