



Service Manual

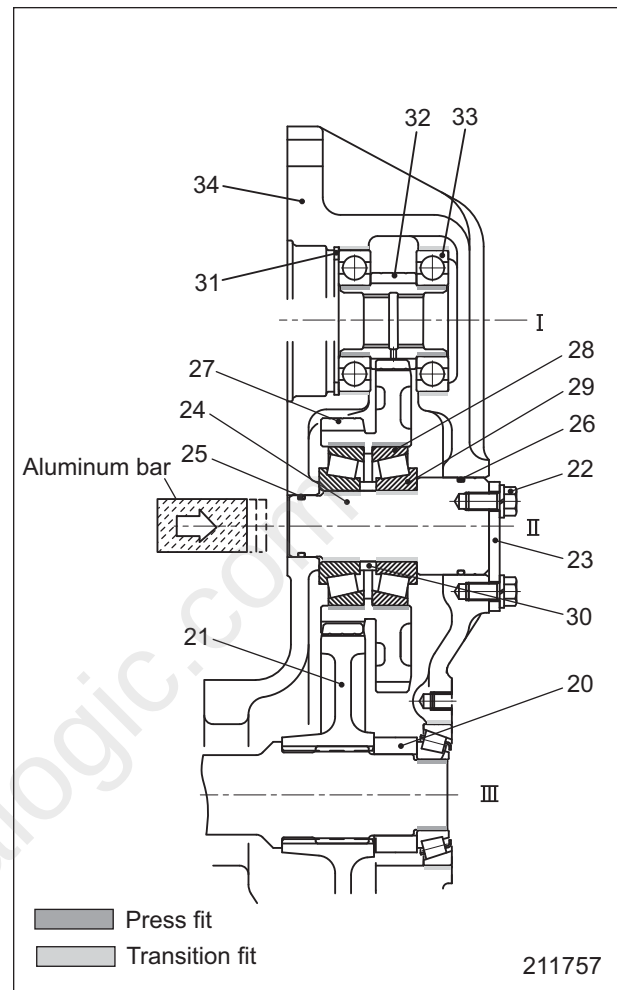
Chassis, Mast & Options

EP20K PAC	ETB8C-00011-up
EP25K PAC	ETB8C-50001-up
EP30K PAC	ETB9C-00011-up
EP35K PAC	ETB9C-50001-up

6. Remove the spacer 20, then remove the third gear 21. The third shaft 18 is fitted with the bearing inner race 19. The inner race 19 may be left fitted to the third shaft 18 if it is in a satisfactory condition for reuse. If it needs to be replaced, remove it using an appropriate puller.
7. Remove three bolts 22, then remove the lock plate 23. Apply an aluminum bar to the second shaft 24 from the traction fitted side and lightly strike it with a hammer to force the second shaft 24 out of place with O-rings 25 and 26 fitted to it.
8. Remove the second gear 27 with the bearing outer race 28 attached. The bearing outer race 28 may be left fitted to the second gear 27 if it is in a satisfactory condition for reuse. If it needs to be replaced, remove it using an appropriate puller.
9. Remove the snap ring 31. Remove the input gear 32 fitted with the ball bearings 33 from the transfer case 34 using a slide hammer puller. The ball bearing 33 may be left fitted to the input gear 32 if it is in a satisfactory condition for reuse.

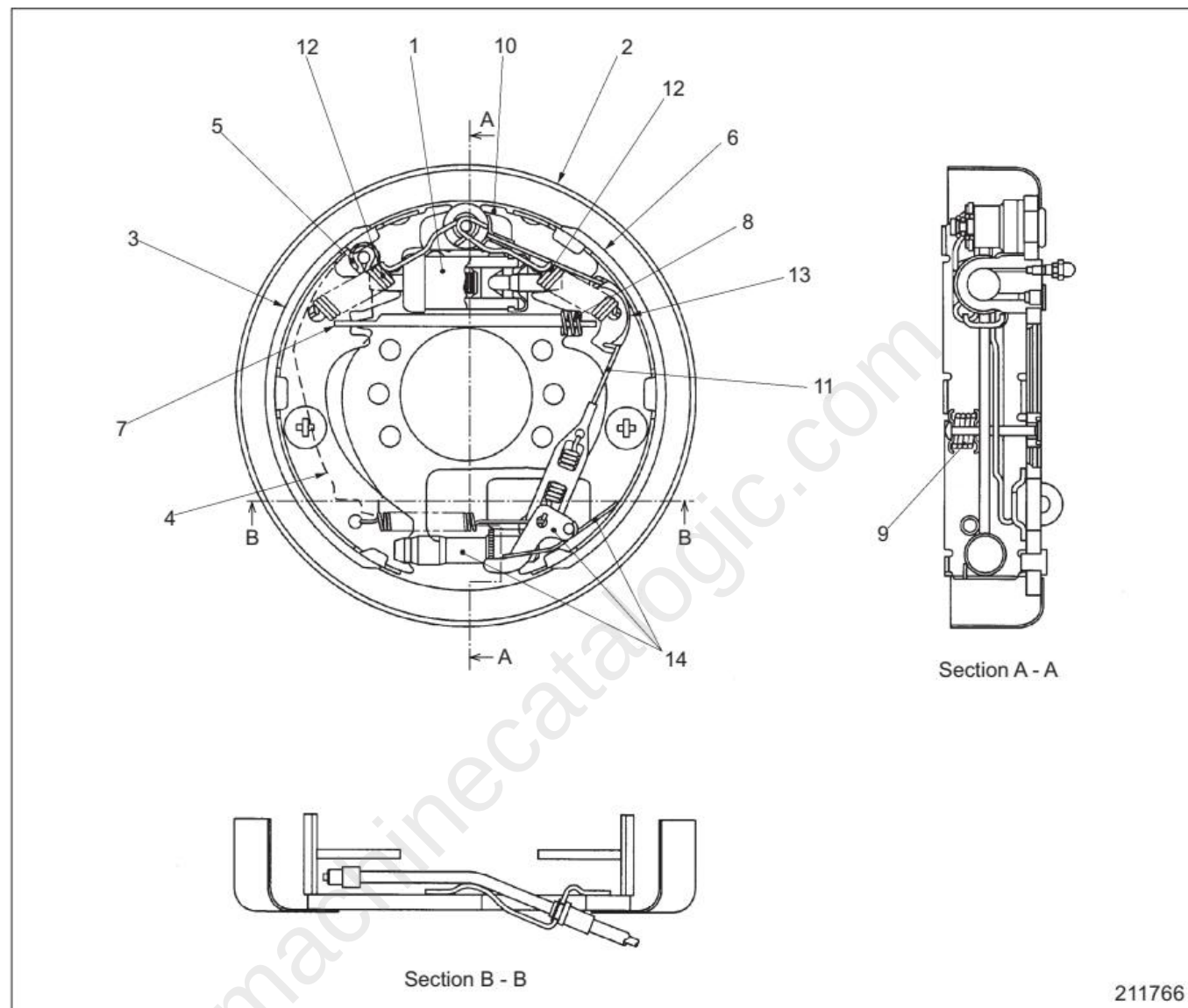
NOTE

The bearing outer race 28, bearing inner race 29 and spacer 30 are adjusted in their combination. Never change their combination.



Reassembly

2 ton class and 2.5 ton class



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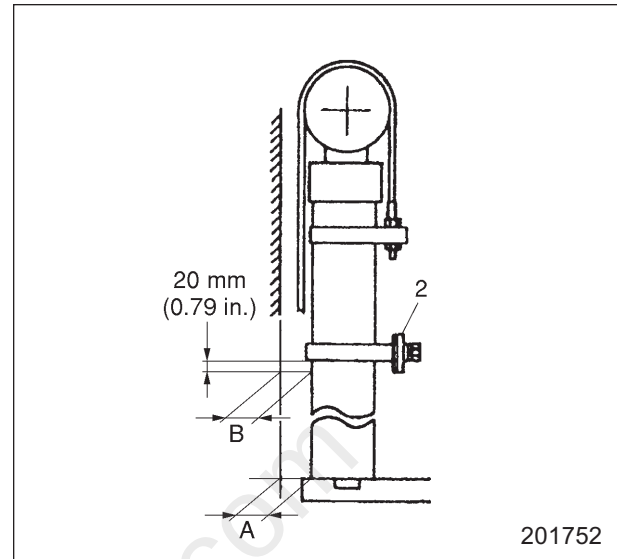
Sequence

- | | |
|-------------------------------|---|
| 1 Wheel cylinder | 9 Hold-down spring, Cup, Pin |
| 2 Backing plate | 10 Shoe guide plate |
| 3 Shoe and lining (primary) | 11 Fitting cable |
| 4 Parking brake lever | 12 Return spring |
| 5 Retainer, Washer | 13 Cable guide |
| 6 Shoe and lining (secondary) | 14 Adjusting lever, Adjusting screw, Adjusting spring |
| 7 Strut | |
| 8 Anti-rattle spring | |

3. Installing first lift cylinder

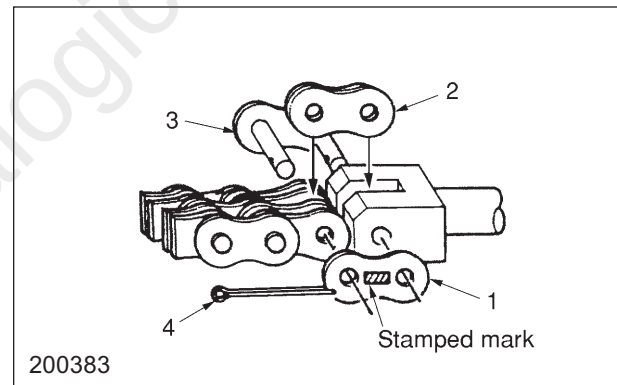
The first lift cylinder must be installed parallel to the mast when the lift cylinder rod is contracted.

Make sure the cylinder does not tilt forward. Using shims 2, adjust the backward inclination so that clearance at section B is 0 to +0.5 mm (0 to +0.02 in.) larger than clearance at section A.



4. Precaution for installation of chain anchor kit

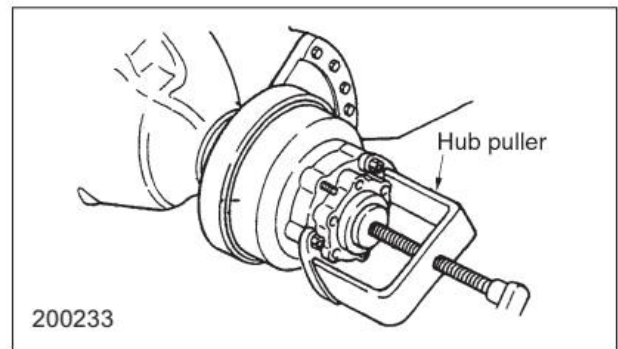
Be careful not to confuse the center plate with the link plate.



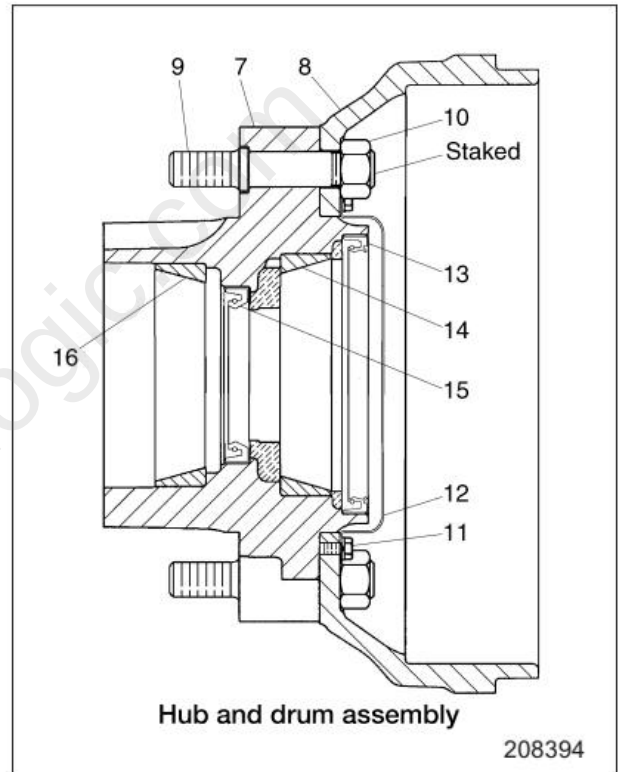
- 1 Link plate (stamped mark on surface)
- 2 Center plate (no stamped mark)
- 3 Link
- 4 Split pin

(4) Remove the hub and drum assembly.

The hub and drum assembly will be removed by pulling horizontally. If it cannot be pulled out, use the hub puller as shown in the illustration at right.



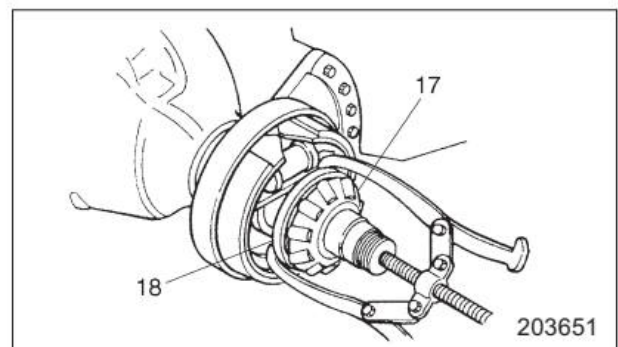
- Remove the oil deflector 12 if necessary.
- Do not remove the following parts from the inside of the wheel hub 7 unless they are faulty. When removing them, use a puller.
 - Taper roller bearing outer race 14 and 16
 - Oil seal 13 and 15
- Normally, it is not necessary to separate the wheel hub 7 and the brake drum 8. To separate them, the nut 10 must be removed. (The nut 10 has been staked to the bolt 9 after assembly to prevent dropping off.)



3. Removal of seal retainer and bearing inner race

Do not remove the retainer 18 and the bearing inner race 17 left on the axle housing unless they are faulty.

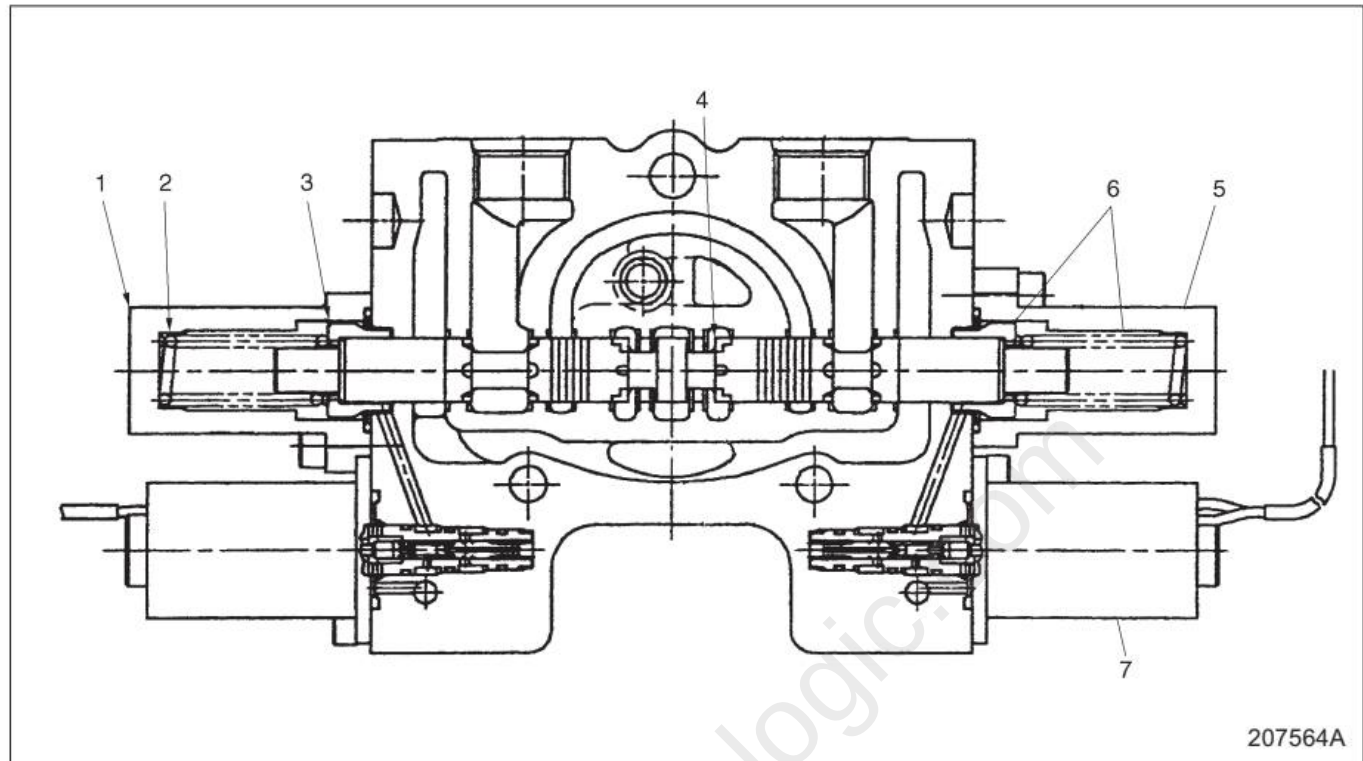
If they are to be replaced, remove them together using a puller.



4. Removal of front axle support and/or front axle housing

These parts cannot be removed without dismounting the power train assembly from the vehicle body. Refer to "GROUP 3 POWER TRAIN" for the procedure.

Disassembly of Attachment Section Assembly



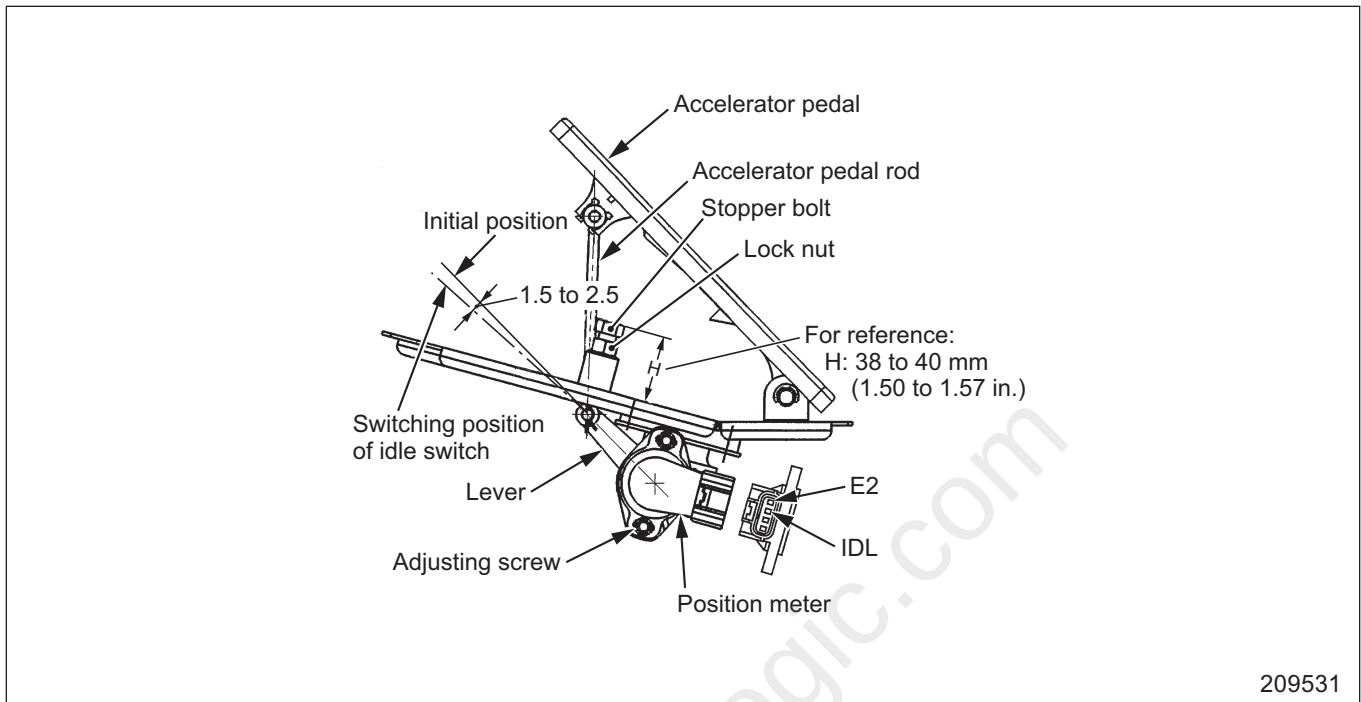
Sequence

- | | |
|-------------------------|---|
| 1 Cap, Socket-head bolt | 5 Cap, Socket-head bolt |
| 2 Spring | 6 Spring, Spring seat |
| 3 Spring seat | 7 Proportional electromagnetic pressure control valve |
| 4 Spool | |

Suggestions for Disassembly

For disassembly procedures, refer to the tilt section.

Accelerator Control



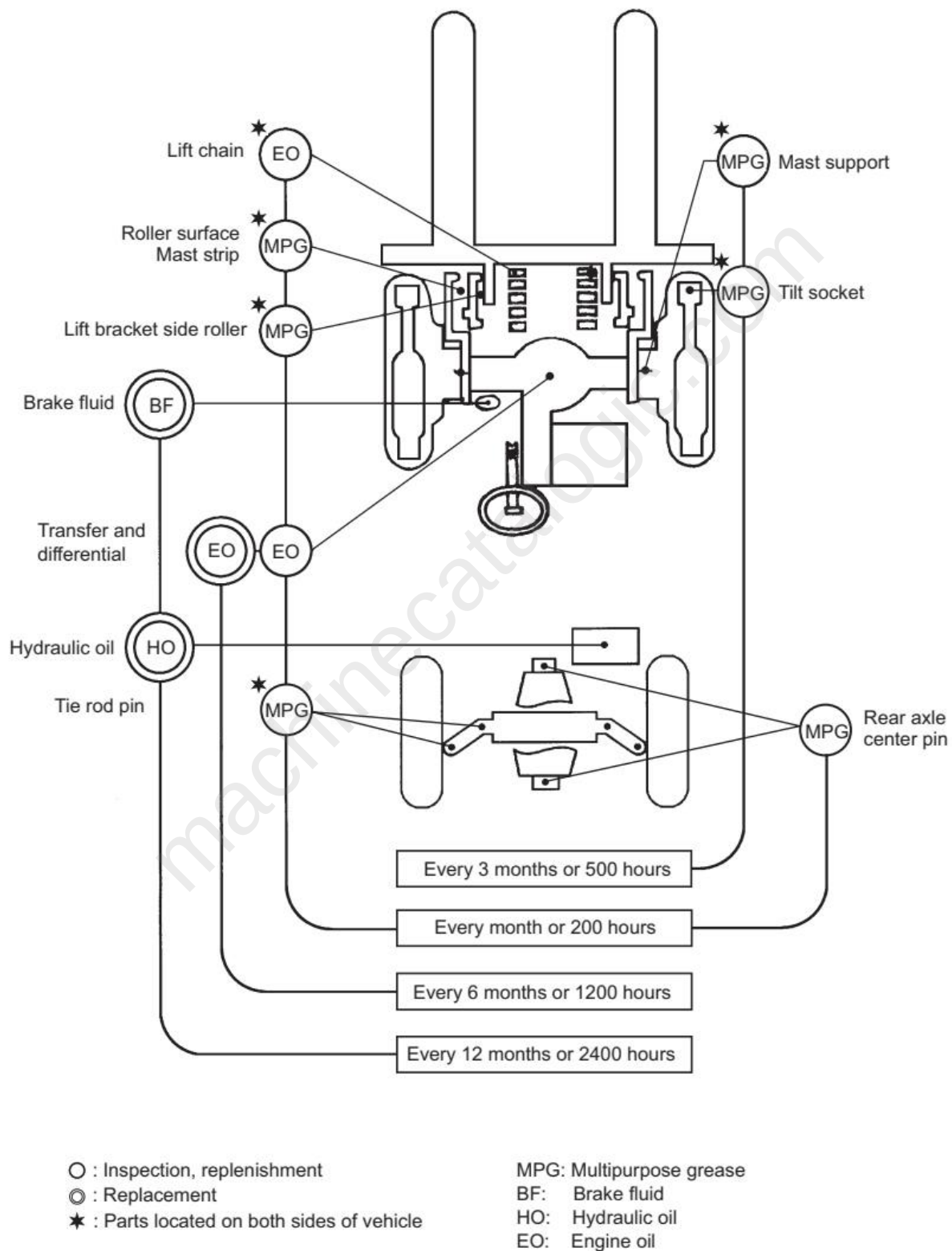
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Adjustment Procedures

1. Disconnect the battery plug.
2. Install the position meter by loosely mounting the adjusting screws.
3. Connect the accelerator pedal rod to the lever.
4. Check that there is no continuity between the E2 and IDL terminals.
5. Move the lever 1.5 to 2.5° from the initial position.
6. Check that there is continuity between the E2 and IDL terminals (the idle switch in the position meter is ON), then finally tighten the adjusting screws of the position meter.
7. Make sure the stopper bolt height H is approximately 38 to 40 mm (1.50 to 1.57 in.). Depress the accelerator pedal until it comes in contact with the stopper bolt. Adjust the height H of the stopper bolt until letter "15" flashes on the I/O diagnosis display.

Lubricating Standards

Lubrication Chart



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10. Always use tools that are in good condition and be sure you understand how to use them before performing any service work.
11. Reinstall all fasteners with same part number. Do not use a lesser quality fastener if replacements are necessary.
12. If possible, make all repairs with the truck parked on a level, hard surface. Block truck so it does not roll while working on or under truck.
13. Disconnect battery and discharge any capacitors (electric trucks) before starting to work on truck. Hang "Do not Operate" tag in the Operator's Compartment.
14. Repairs, which require welding, should be performed only with the benefit of the appropriate reference information and by personnel adequately trained and knowledgeable in welding procedures. Determine type of metal being welded and select correct welding procedure and electrodes, rods or wire to provide a weld metal strength equivalent at least to that of parent metal.
15. Do not damage wiring during removal operations. Reinstall the wiring so it is not damaged nor will it be damaged in operation by contacting sharp corners, or by rubbing against some object or hot surface. Place wiring away from oil pipe.
16. Be sure all protective devices including guards and shields are properly installed and functioning correctly before starting a repair. If a guard or shield must be removed to perform the repair work, use extra caution.
17. Always support the mast and carriage to keep carriage or attachments raised when maintenance or repair work is performed, which requires the mast in the raised position.
18. Loose or damaged fuel, lubricant and hydraulic lines, tubes and hoses can cause fires. Do not bend or strike high pressure lines or install ones which have been bent or damaged. Inspect lines, tubes and hoses carefully. Do not check for leaks with your hands. Pin hole (very small) leaks can result in a high velocity oil stream that will be invisible close to the hose. This oil can penetrate the skin and cause personal injury. Use cardboard or paper to locate pin hole leaks.
19. Tighten connections to the correct torque. Make sure that all heat shields, clamps and guards are installed correctly to avoid excessive heat, vibration or rubbing against other parts during operation. Shields that protect against oil spray onto hot exhaust components in event of a line, tube or seal failure, must be installed correctly.
20. Relieve all pressure in air, oil or water systems before any lines, fittings or related items are disconnected or removed. Always make sure all raised components are blocked correctly and be alert for possible pressure when disconnecting any device from a system that utilizes pressure.
21. Do not operate a truck if any rotating part is damaged or contacts any other part during operation. Any high speed rotating component that has been damaged or altered should be checked for balance before reusing.

Full Version Available

Caterpillar EP25K PAC Forklift Service Manual (99759-6A110)

Caterpillar EP25K PAC forklift service manual, covers hydraulics, drive, wiring, mast, and brake repairs. Searchable PDF download.

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