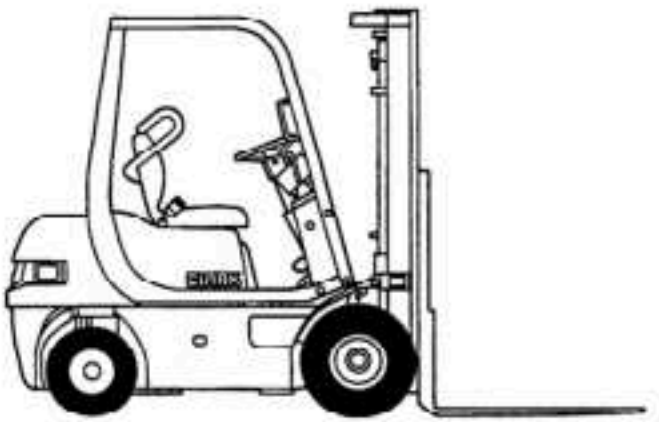
Service Manual

SM 649



CMP 50/60/70

Revision 1. July, 1999

CLARK Technical Publications Lexington, KY 40508

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Section 2.

Lifting, Jacking, and Blocking

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⚠ WARNING

Lifting or jacking any large piece of equipment such as your fork truck presents obvious hazards. It must be done with great care and forethought. Consult the truck weight tabulations in Group 40, "Specifications" to ensure that your lifting equipment is of adequate capacity.

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TROUBLESHOOTING GUIDE

Refer to the following troubleshooting guide for the diagnosis of typical transmission troubles.

	CAUSE	REMEDY
Low clutch pressure	1. Low oil level. 2. Clutch pressure regulating valve stuck open. 3. Faulty charging pump. 4. Broken or worn clutch shaft or piston sealing rings. 5. Clutch piston bleed valve stuck open.	1. Fill to proper level. 2. Clean valve spool and housing. 3. Replace pump. 4. Replace sealing rings. 5. Clean bleed valves thoroughly.
Low charging pump output	1. Low oil level. 2. Suction screen plugged. 3. Defective charging pump.	1. Fill to proper level. 2. Clean suction pump. 3. Replace pump.
Overheating	1. Worn oil sealing rings. 2. Worn charging pump. 3. Low oil level. 4. Dirty oil cooler. 5. Restriction in cooler lines.	1. Remove, disassemble, and rebuild converter assembly. 2. Replace. 3. Fill to proper level. 4. Clean cooler. 5. Change cooler lines.
Noisy converter	1. Worn charging pump. 2. Worn or damaged bearings.	1. Replace. 2. A complete disassembly will be necessary to determine what bearing is faulty.
Lack of power	1. Low engine R.P.M. at converter stall. 2. See "Overheating" and make same checks.	1. Tune engine check governor. 2. Make corrections as explained in "Overheating".

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- Fracture and crack

  Chain fractures occur because of overloads that considerably exceed the rated capacity of the equipment or by sudden impact loading. The most common reason for chain cracks is fatigue failure. Replace with new chains when fractures or cracks are found. Always replace all chains of the equipment at the same time

- Seized joint

  The joints of the lift chain must bend freely. A tight joint is caused by a bent pin and plate, or rust. Do not repair a chain by cutting out a worn section and joining in a new piece.

- Chain anchor/clevis bolt

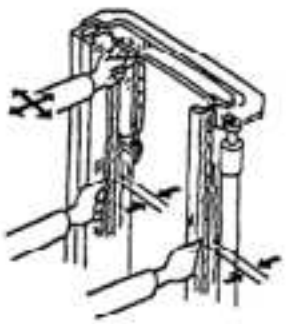
  Check wear, damage, and general condition of the chain anchors. If there is wear in the anchor or damaged to the clevis bolt thread, replace the anchor assembly.

- Cleaning

  It is preferable to clean the chains with a biodegradable solvent, however if steam cleaned do not use a caustic solution. Immediately upon completion, thoroughly blow dry and lubricate the chains.

Checking Chain Tension

- Place the mast at 0° vertical.
- Pick up a load and raise the forks approximately 153 mm (6 in).
- Push the chains forward and pull them backward to check the amount of tension on each chain.



- If one chain moves more than the other, lower and adjust the chain anchor bolts for equal tension on both chains.
- Raise the load and recheck the chain tension, adjust if required.
- Chain anchor lock nut torque: 9.5 kgf•m (68 lbf•ft).

Adjusting Chain Length

Two-Stage

The standard mast has two chains, one on each side of the mast anchored from the top tiebar of the outer rail to the carriage.

The full free lift mast has two chains anchored from the base area of the primary cylinder (center mounted on the inner rail).

- Ensure that the tires are inflated to specification.
- Pick up a rated load (to obtain maximum chain stretch).
- Set the tilt angle of the mast to 0° vertical.
- Lower the carriage and inner rail completely.
- Adjust the carriage chains so that the heel of each fork is approximately 13 mm (1/2 in) off the floor.
- Recheck the chain tension.
- Check anchor lock nut torque: 9.5 kgf•m (68 lbf•ft).
- If one chain moves more than the other, lower and adjust the chain anchor bolts for equal tension on both chains.
- Raise the load and recheck the chain tension, adjust if required.
- Chain anchor lock nut torque: 9.5 kgf•m (68 lbf•ft).

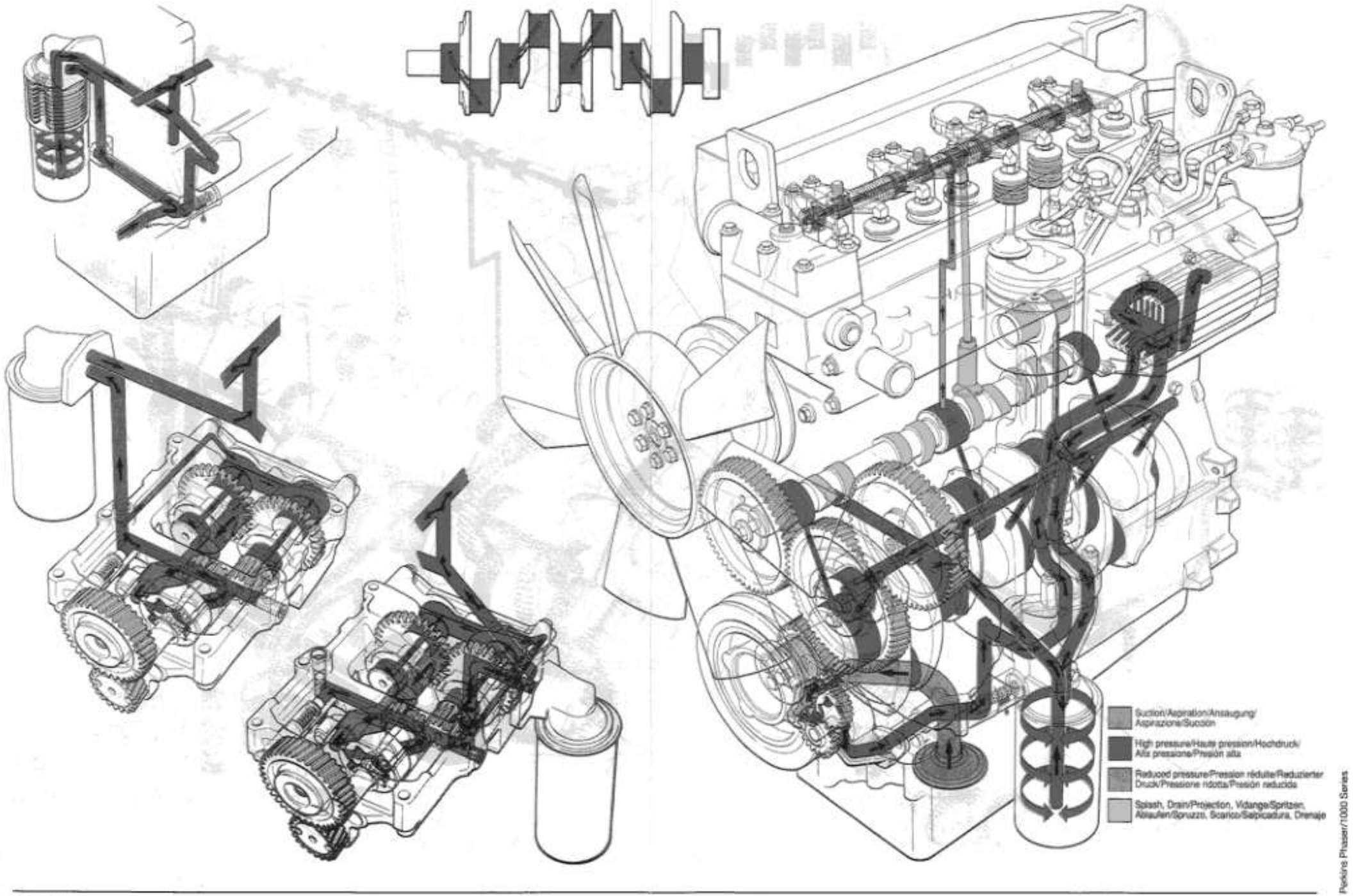
Triple-Stage

The full free lift 3-stage mast has four chains, 1 set anchored from the base of the inner rail to the top tie bar of the outer rail, and the other set anchored from the base area of the primary cylinder (center mounted) to the carriage.

- Ensure that the tires are inflated to specification.
- Pick up a rated load (to obtain maximum chain stretch).
- Set the tilt angle of the mast to 0° vertical.
- Lower the inner and intermediate rails completely.
- Adjust the back chains so that the inner rail is 3.1 mm (1/8 in) above the intermediate rail.
- Recheck the chain tension.
- Next adjust the carriage chains so that the heel of the forks is approximately 13 mm (1/2 in) off the floor.
- Recheck the chain tension.

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