

Service Manual

EP16K, EP18K, EP20KC **Chassis & Mast**

EP16K	ETB6A-00001-up	AC MC
EP18K	ETB6A-50001-up	
EP20KC	ETB7A-00001-up	



battery plug.

edge card for abnormality.

Acceptable

Unacceptable

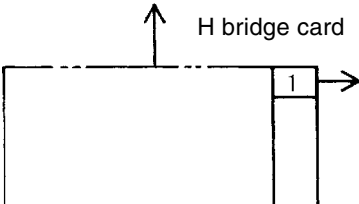
motor field wiring for shorting.

ire No shorted wire

(7) Replace H bridge card.

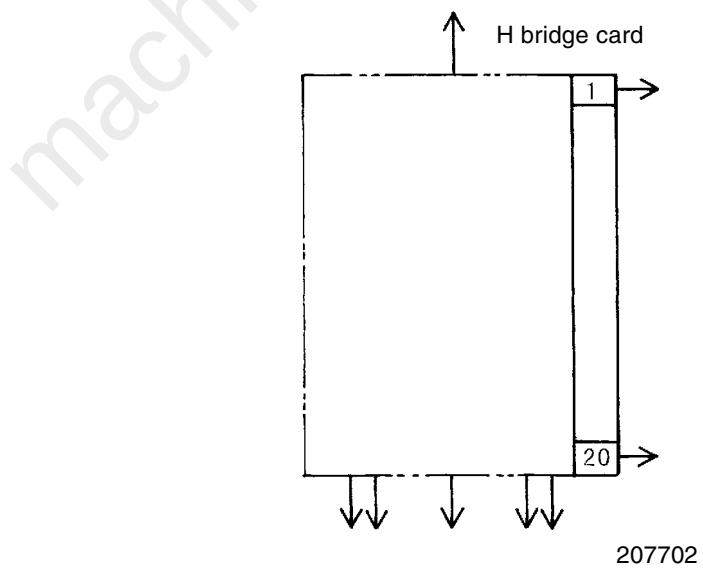
replace left motor field wiring.

(6) Replace logic catd.

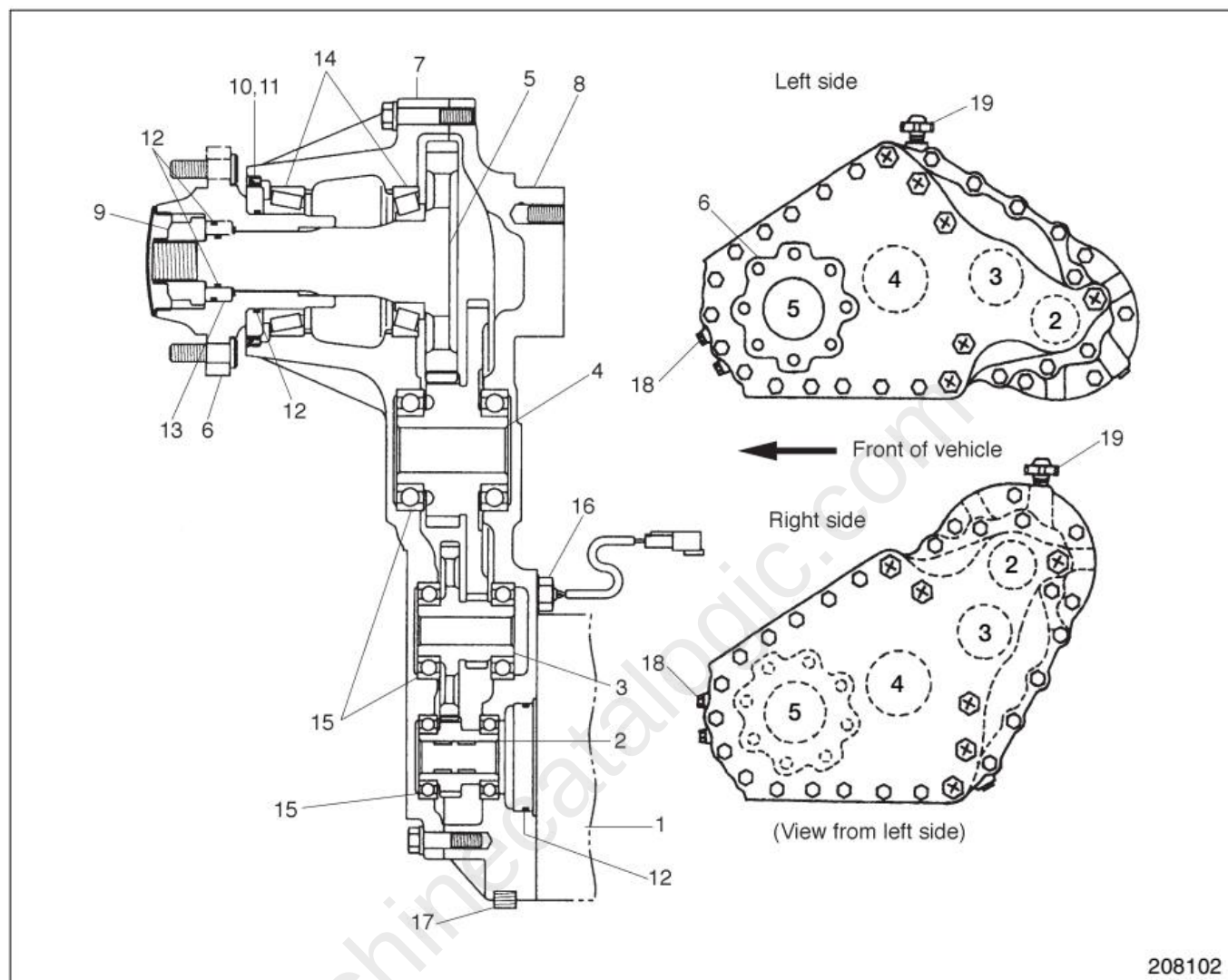


H bridge card

1



Structure and Functions (Part 2)



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|----------------|-------------------------|-----------------------------------|
| 1 Drive motor | 8 Main case | 15 Ball bearing |
| 2 Input gear | 9 Nut | 16 Pulse generator |
| 3 Second gear | 10 Retainer (Oil seal) | 17 Plug |
| 4 Third gear | 11 Oil seal | 18 Oil level plug |
| 5 Output shaft | 12 O-ring | 19 Air breather |
| 6 Wheel hub | 13 Spacer | Bolts marked with × : |
| 7 Cover | 14 Taper roller bearing | Bolts for mounting transfer units |
| | | to frame |

The left and right transfer units are identical, and are mounted on the frame with bolts marked with × in the illustration.

The left and right transfer units are installed with drive motors. The motor shafts are jointed to the involute splines of input gears.

Driving force is transmitted via the input gear, second gear, third gear, then to the output shaft that rotates wheel hub.

The pulse generator detects rotating speed.

Helical gears are used for reduced operating noise.

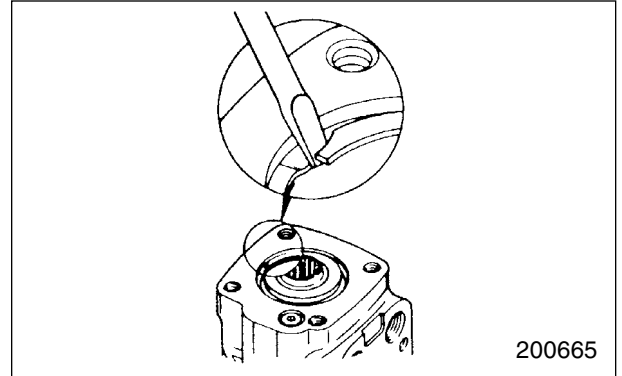
The output shaft is provided with two taper roller bearings to withstand heavy cargo.

Transfer reducing gear ratio	17.478
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Suggestions for Disassembly

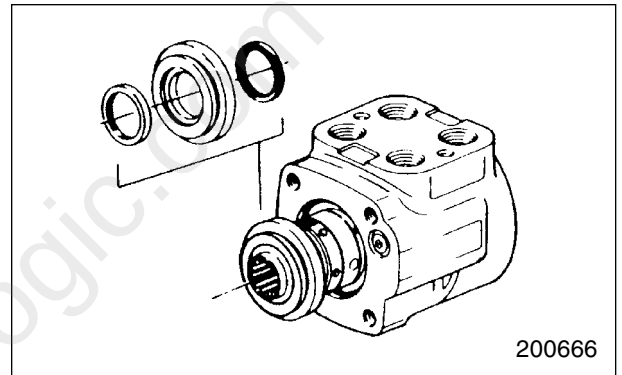
(1) Retaining ring removal

Remove the ring from the housing by prying its end out of the groove.



(2) Seal gland bushing removal

Position the control spool and control sleeve assembly so that the pin is even with the center of the assembly. Remove the bushing.

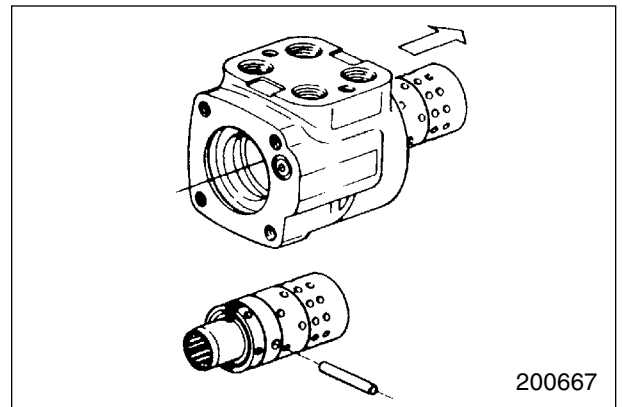


(3) Control spool and sleeve removal

Remove the control spool and sleeve assembly from the housing by pulling it toward the end of the housing opposite to the flange. Remove the pin from the assembly.

NOTE

When removing the assembly, slowly turn it in the housing in both directions while pulling out to prevent damage to the housing.

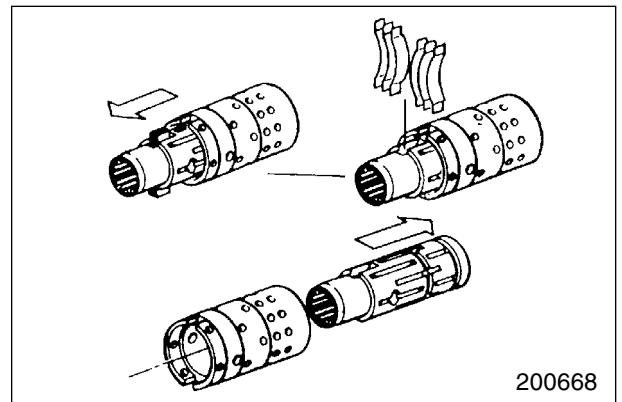


(4) Control spool and sleeve disassembly

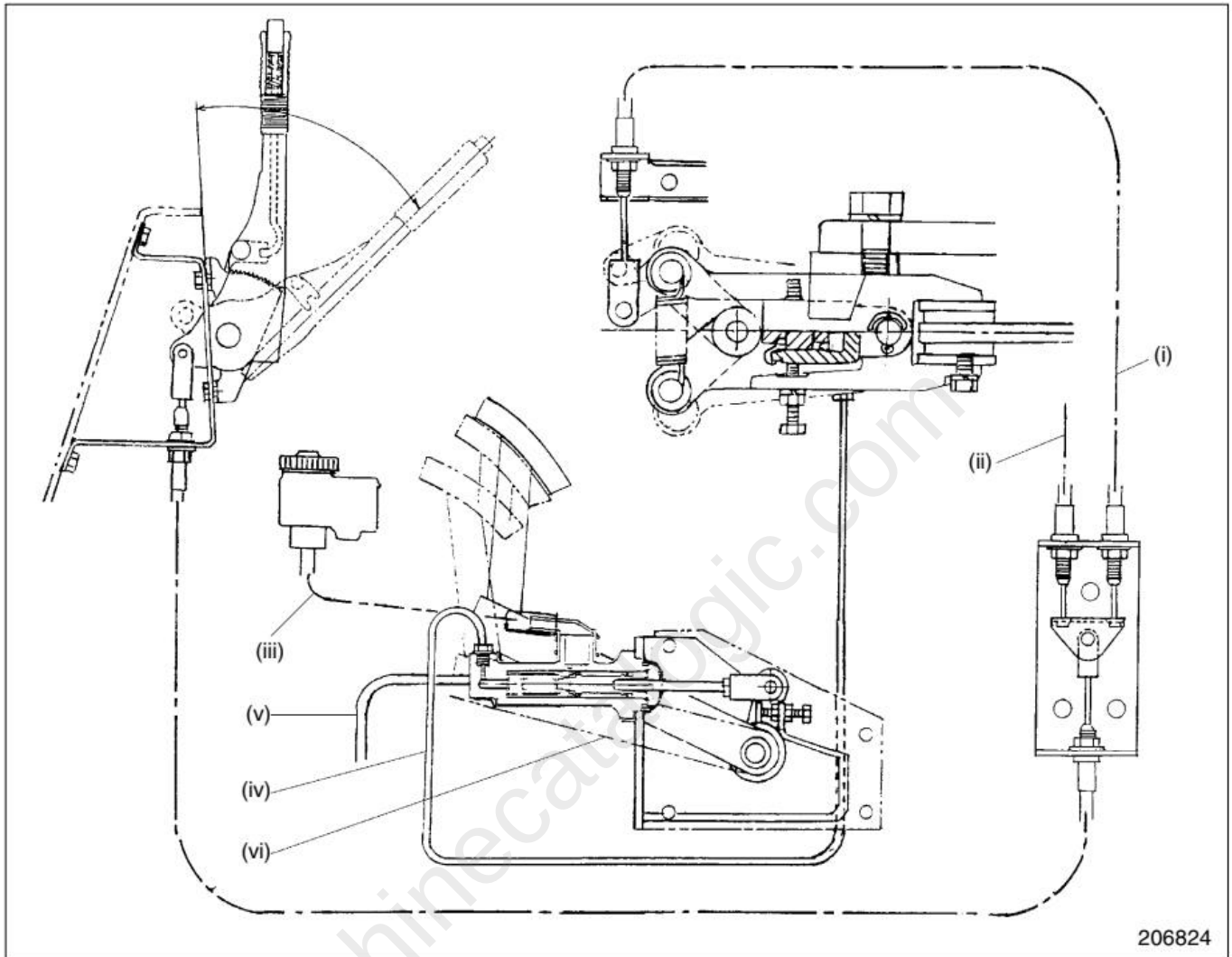
Pull the control spool from the sleeve enough to permit removal of the centering springs. Remove the centering springs. Remove the spool from the sleeve by pulling it toward the rear end of the sleeve while turning slowly.

NOTE

Before removing the spool from the sleeve, put a mark across the spool and sleeve so that the spool can be installed in the same position.



7. Removing brake components



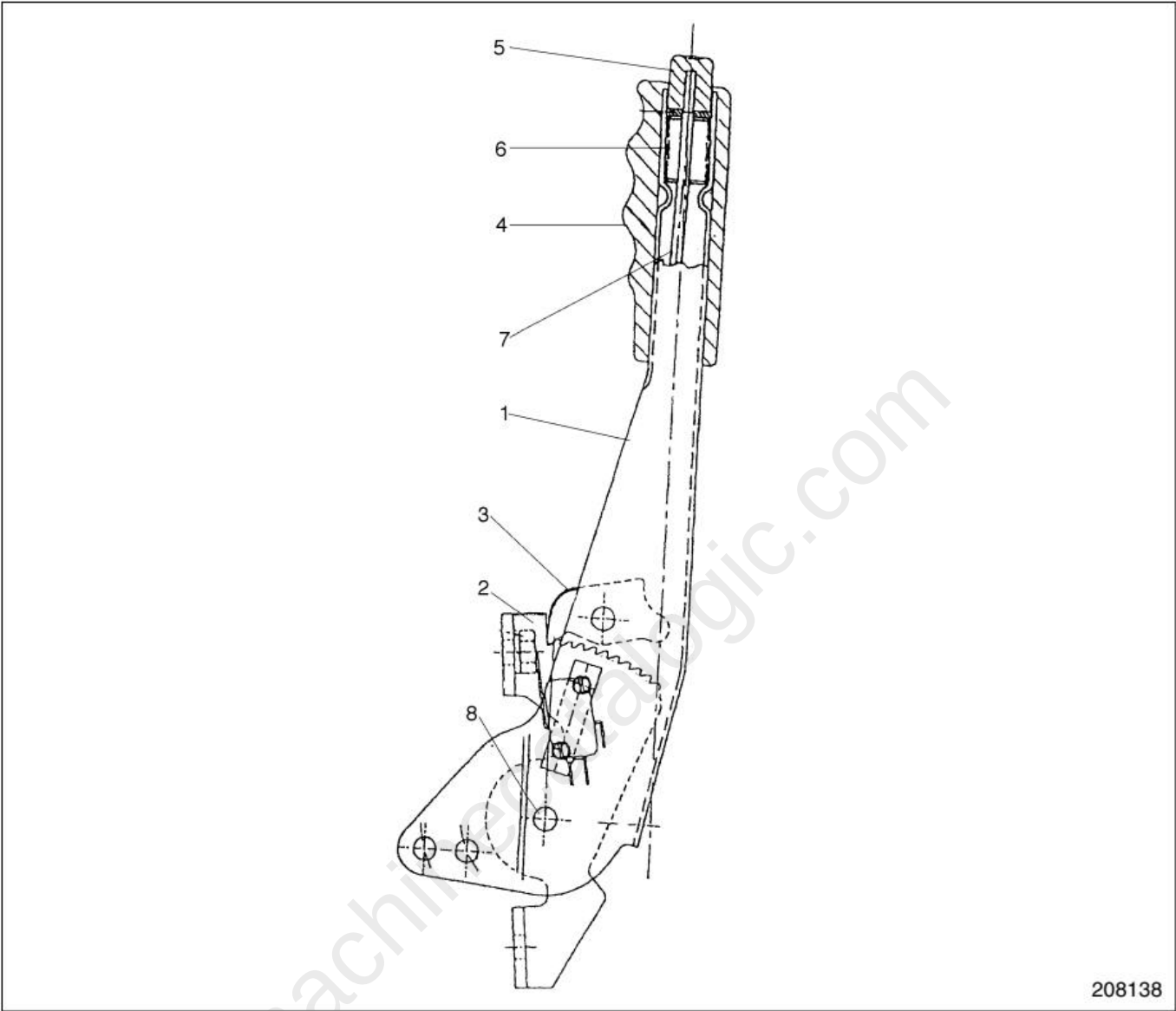
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- (1) Loosen the parking brake lever, and remove parking brake cable assemblies (i) (L.H.) and (ii) (R.H.).

Disconnect the parking brake cables at the calipers, and keep the cables together on the frame near the center brake.

- (2) Position an oil receiving pan, and disconnect brake fluid tube (iii) at the master cylinder.
- (3) Disconnect brake pipes (iv, v) (L.H., R.H.) at the master cylinder. Disconnect the branch brake hoses (L.H., R.H.) from the brake pipes.
- (4) Remove brake pedal assembly (vi).

Parking Brake Lever



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- | | |
|--------------|-----------|
| 1 Lever body | 5 Stopper |
| 2 Gear | 6 Spring |
| 3 Pawl | 7 Hook |
| 4 Grip | 8 Pin |

The parking brake lever is mounted on the left side of the dashboard.

When the grip is pulled, the parking brake cable activates the pad assembly of the caliper to clamp the brake disc and apply stopping force.

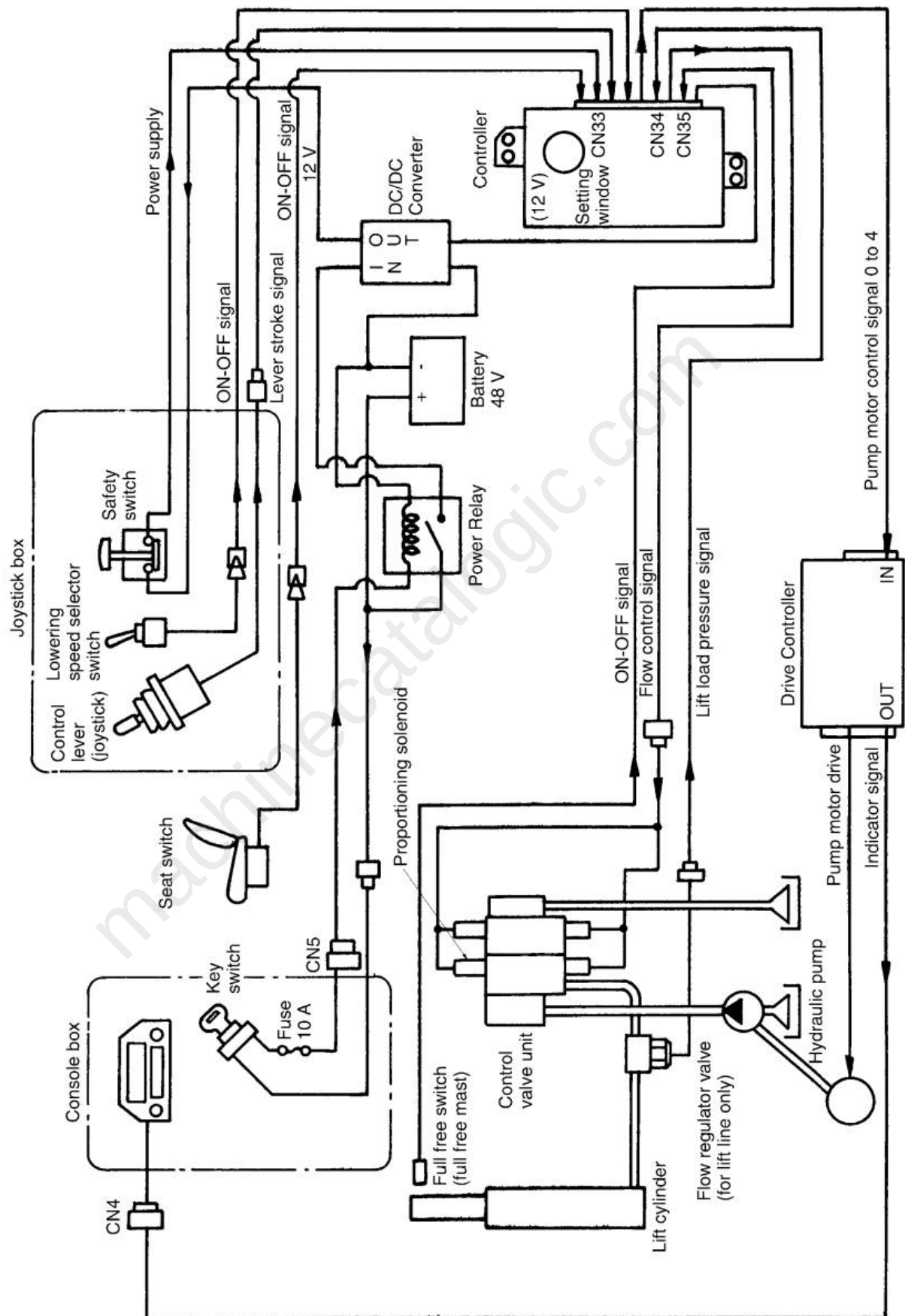
Notch 3 engages with gear 2 to retain the lever in position. To release the parking brake, pull the grip and press stopper 5. This disengages the gear from the notch, and the lever can be returned to the original position.

The maximum lever stroke is 50 degrees. There are a total of 10 gear teeth. Adjust the parking brake so that the brake activates and applies force when the third or fourth tooth of gear 2 engages with the pawl.

Unit: N (kgf) [lbf]

Grip operating effort	294 (30) [66]
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Finger-control system diagram



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Full Version Available

Caterpillar EP20KC Forklift Service Manual (99759-62100)

Caterpillar EP20KC Forklift service manual, covers hydraulics, mast, wiring, drive systems, and diagnostics. Searchable PDF download.

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