# SM-581
# E357
# SERVICE MANUAL




CLARK Technical Publications Lexington, KY 40508

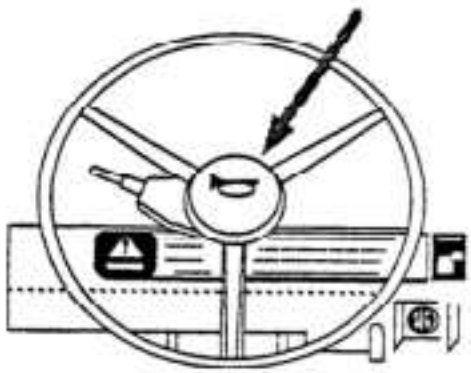
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## Functional Tests

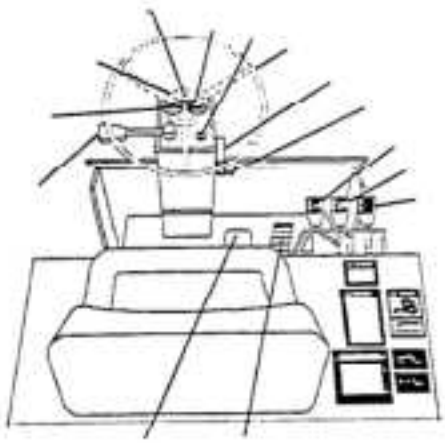
Now, be sure that all controls and systems are functioning correctly.

Test all warning devices, horn, lights, and other safety equipment and accessories. Be sure they are properly mounted and working correctly.

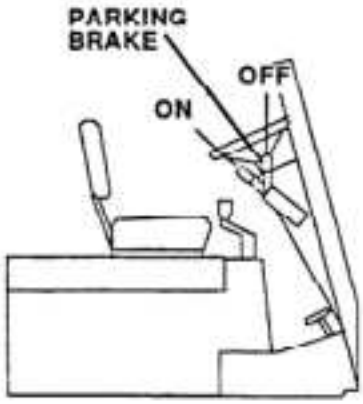


Press the horn button to check horn function. If the horn or any other part does not operate, report the failure and have it repaired before the truck is put back into operation.

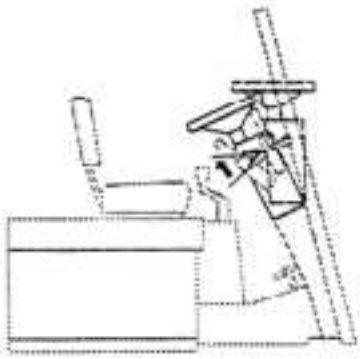
Operate service and parking brakes, all hydraulic controls: lift, tilt, and auxiliary (if installed), accelerator, directional controls, and steering system. Be sure all controls operate freely and return to neutral properly.



Check function of the parking brake mechanism. Release, then apply the parking brake with the lever. When correctly adjusted, the lever should snap-lock into the over-center applied position without having to use excessive force. If the lever binds or does not operate freely, apply lubricant to the linkage at pivot and sliding points.




Check steering column (pylon) release lever. Pylon must move up freely and also pull back and latch into the driving position without restrictions. Lubricate the lever pivot and pylon hinge points as necessary.



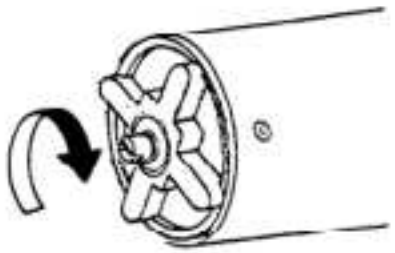
Check the service brake system. Push the brake pedal fully down and hold. The brakes should be applied before the pedal reaches the floorplate. Check for a feeling of solid resistance when the pedal stops. The pedal must feel firm and not move down farther after it stops. If the pedal continues to creep downwards, report the failure. DO NOT OPERATE THE TRUCK UNTIL THE BRAKES ARE REPAIRED.

NOTE - A low pedal reserve (clearance at floor plate) is normal.



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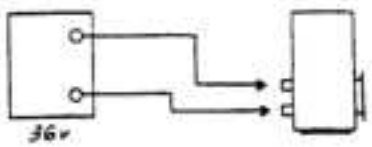
If shaft turns freely, go to item 3.



2. The shaft could be tight for several reasons.

This check is to determine if tightness is of a temporary nature only.

Step 1: You will need a power source equal to name plate voltage (36 volt), e.g., use truck battery with cable adapter.




Step 2: Provide power cable leads between motor and power source.

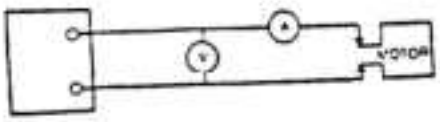
DO NOT MAKE A PERMANENT CONNECTION.

Step 3: First, touch motor leads quickly to power supply just long enough to observe if shaft turns.

If it does turn, hold motor leads on power supply for a longer time.

If motor sounds normal, go to item 3. If motor sounds noisy, it should be disassembled (described later).

3. If motor turned freely, connect an ammeter in circuit as shown.



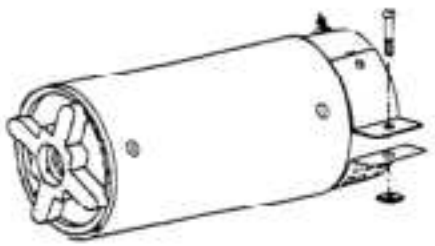

With rated voltage applied and shaft running free, ammeter should read less than 20% of name plate full load current.

If motor meets above conditions, then it can be assumed original problem is external to motor.

A higher current reading indicates a faulty armature.

## BRUSH REMOVAL AND INSPECTION

1. Loosen and remove clamping screw in brush cover band.





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| STATUS CODE -125 | DESCRIPTION | MEMORY RECALL | Yes |
|---|---|---|---|
| | 1A contactor does not drop out or drops out slowly. | CIRCUIT | Pump |

### SYMPTOM

Short tip life on pump or 1A contactor. Status code 46 displayed and no fault found.

### POSSIBLE CAUSE

Note: This status code can only be found by using the handset and looking at function 1. This status code is furnished as a trouble-shooting aid for status code 46.

Defective 1A contactor

- Check 1A contactor for binding or slow operation when dropping out.

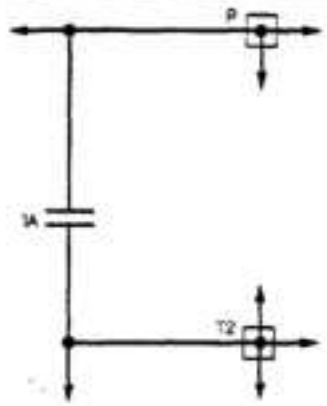



Figure 1.

### STATUS INDICATION CRITERIA

This status code is displayed when 1A contactor drop out time exceeds .060 seconds.

| STATUS CODE -141 | DESCRIPTION | MEMORY RECALL | No |
|---|---|---|---|
| | Open thermal protector or control over tempature. | CIRCUIT | Pump |

### SYMPTOM

Reduced or no power to pump motor in SCR range.

### POSSIBLE CAUSE

Open thermal protector circuit.

- Check for loose connection or broken wire between:
  Black wire-Thermal proctor and PZ1.
  Gray wire-Thermal proctor and PZ5.

Defective thermal protector.

- Disconnect wires from PZ1 and PZ5. At room tempature (25°C or 75°F) measure resistance between black and gray wire. Replace TP if ohmic value is greater than 300 ohms.

SCR is in thermal cut-back.

- Allow control to cool, status code should disappear.

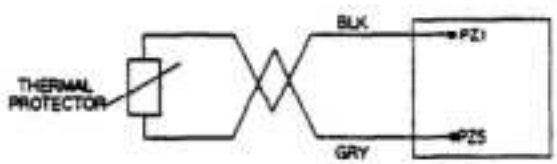



Figure 1.

### STATUS INDICATION CRITERIA

This status code is displayed when the voltage between PZ1 and PZ5 is greater than 1.8 volts.



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# GROUP 38 SECTION 01
# COUNTERWEIGHT

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| COUNTERWEIGHT REMOVAL | 38-02 |
| COUNTERWEIGHT INSTALLATION | 38-03 |


## 38-01 COUNTERWEIGHT MAINTENANCE

The counterweight must be maintained in good condition and securely attached to the lift truck. Because of its heavy weight and bulky mass, the counterweight must be carefully supported and handled. Store at floor level in a stable position to be sure it will not fall or tip, causing either damage or injury.

**WARNING**

REMOVING THE COUNTERWEIGHT CAN CAUSE LIFT TRUCK TO BE UNSTABLE.
Do not operate a lift truck or handle loads with the counterweight removed. Failure to follow this message can result in severe injury or death.

## 38-02 COUNTERWEIGHT REMOVAL

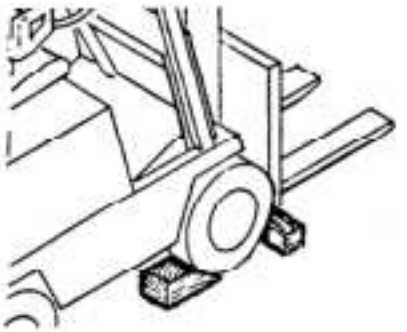
**CAUTION**

To perform this service procedure, it is recommended that you first:

Park truck on a solid, level surface.
Lower forks or attachment fully down.
Put all controls in neutral, apply the parking brake, and turn key switch OFF.

Remove the battery.

Put chocks at the drive wheels.



Remove the OHG assembly.



**WARNING**

All tools and lifting components used in these procedures must be in good condition, meet the lifting requirements, and have OSHA approval labels when required.



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