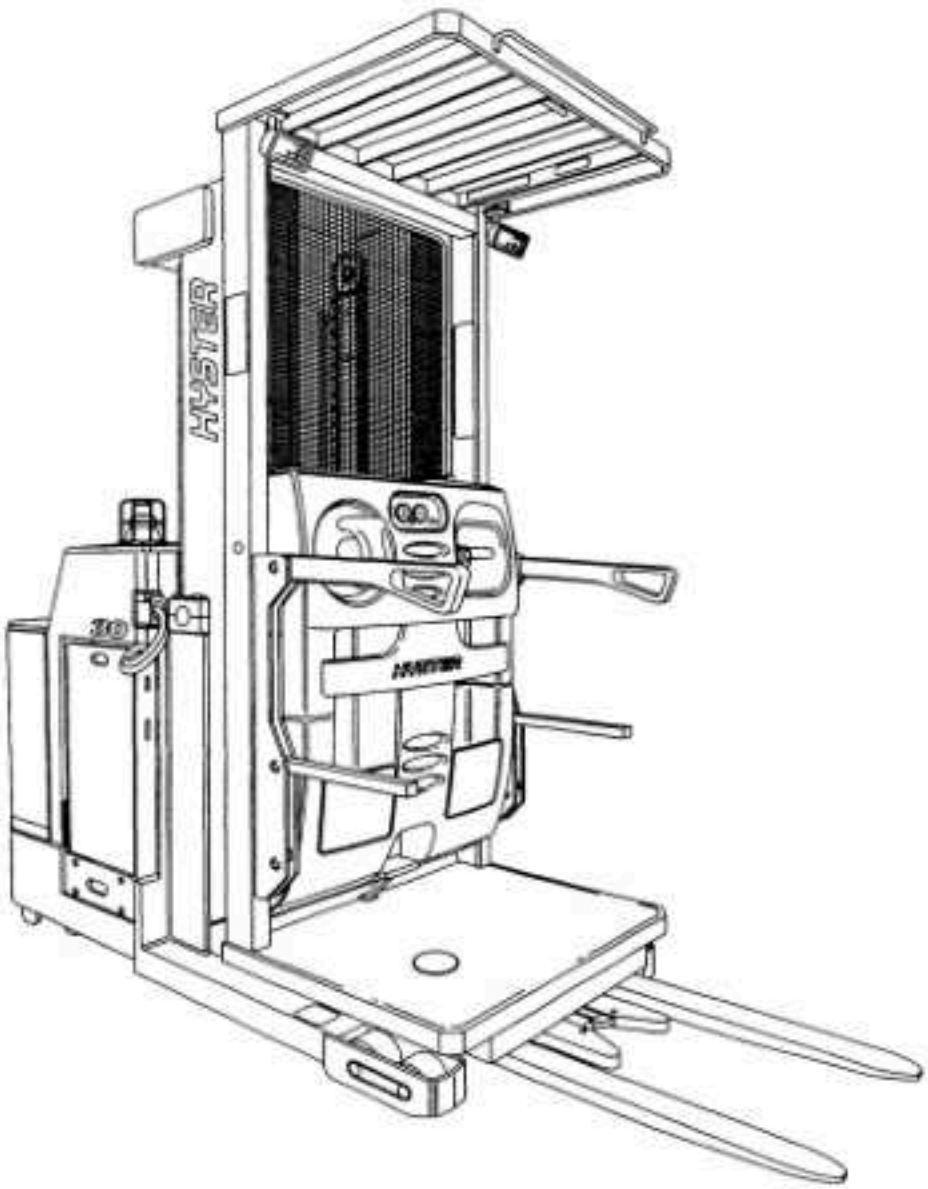
# SERVICE MANUAL

## R30XM / XMA / XMF (F118)




FORM 1465256 Rev. 11/03

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# R30XM / XMA / XMF (F118)
# SERVICE MANUAL CONTENTS


| Section | SRM Number | Rev Date |
|---|---|---|
| FRAME | 0100 SRM 0760 | 12/02 |
| DC MOTOR MAINTENANCE | 0620 SRM 0294 | 08/03 |
| MASTER DRIVE UNIT | 0630 SRM 0283 | 03/02 |
| ELECTRIC POWER STEERING | 1600 SRM 0691 | 02/02 |
| ELECTRIC BRAKE | 1800 SRM 0761 | 03/02 |
| HYDRAULIC GEAR PUMPS | 1900 SRM 0097 | 10/03 |
| HYDRAULIC SYSTEM | 1900 SRM 0419 | 07/99 |
| CURTIS MOTOR CONTROLLER (R30XMS) | 2200 SRM 0411 | 09/00 |
| WIRE GUIDANCE-DESCRIPTION | 2200 SRM 0421 | 07/99 |
| WIRE GUIDANCE-REPAIR | 2200 SRM 0422 | 07/99 |
| EV100/200 LX MOTOR CONTROLLER (R30XM / XMA / XMF) | 2200 SRM 0460 | 07/99 |
| INDUSTRIAL BATTERY | 2240 SRM 0001 | 11/03 |
| BATTERY INDICATORS | 2260 SRM 0138 | 06/02 |
| LIFT CYLINDERS | 4000 SRM 0135 | 10/03 |
| MAST-DESCRIPTION | 4000 SRM 0763 | 02/01 |
| MAST-REPAIR | 4000 SRM 0764 | 02/01 |
| INCH (SAE) AND METRIC FASTENERS | 8000 SRM 0231 | 03/03 |
| DIAGRAMS (R30XM / XMA / XMF) | 8000 SRM 0746 | 06/99 |
| DIAGRAMS (R30XMS) | 8000 SRM 0747 | 06/99 |
| PERIODIC MAINTENANCE | 8000 SRM 0749 | 05/99 |
| CAPACITIES and SPECIFICATIONS | 8000 SRM 0762 | 05/99 |



**PART NO. 1465256**
**Rev. Unknown**

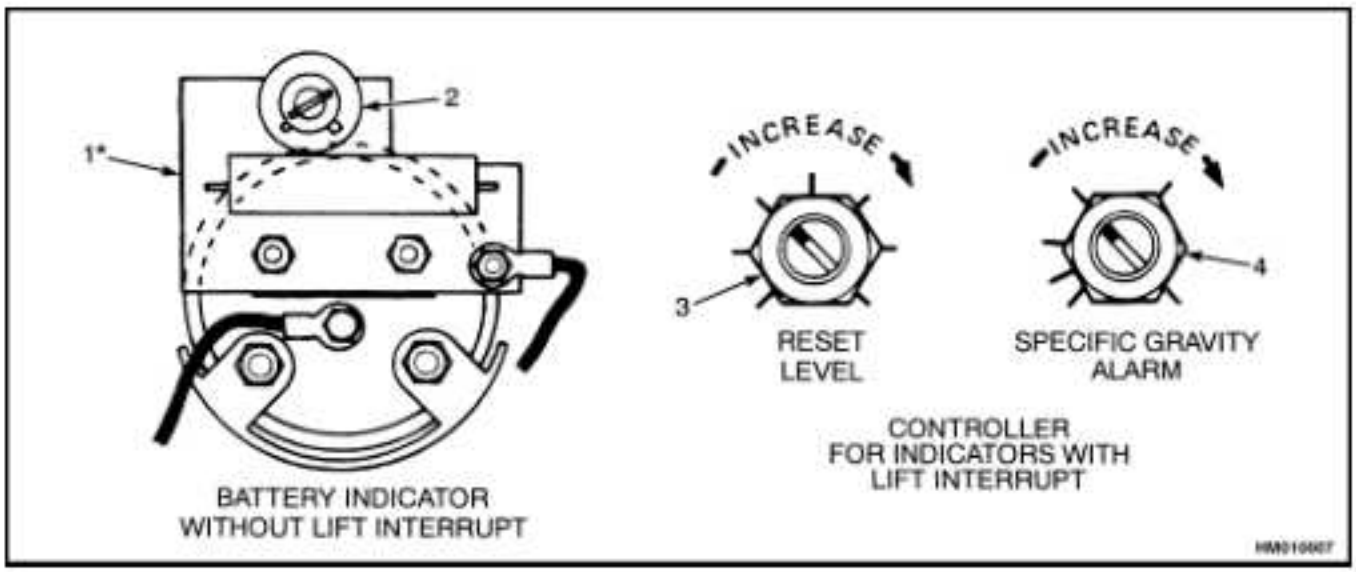


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| PROBLEM | POSSIBLE CAUSE | PROCEDURE OR ACTION |
|---|---|---|
| Copper drag occurs when copper from the commutator is pulled into the slot between the commutator bars. This problem will cause a short circuit between the commutator bars (see Table 2). | Operation in a dirty or abrasive environment. | Clean commutator more frequently. |
| | Brush holder is not correctly adjusted electrically for the motor. | Adjust brush holder. |
| | Wrong type of brushes for this motor and operation. | Replace brushes with correct type. |
| | Brush pressure is incorrect (too high or too low). | Adjust brush pressure. |
| Electrical burns on commutator bars on opposite sides of the commutator (see Table 2). | Open armature winding. | Replace armature. |
| | Motor has been stalled. | Use correct operating techniques. |
| Copper wears rapidly at the edge of the commutator bars (see Table 2). | Operation in a dirty or abrasive environment. | Clean commutator more frequently. |
| | Wrong type of brushes for this motor and operation. | Replace brushes with correct type. |



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1. PRINTED CIRCUIT BOARD
2. CALIBRATION POTENTIOMETER
3. RESET POTENTIOMETER
4. SPECIFIC GRAVITY ALARM POTENTIOMETER

*NOT USED ON ALL INDICATORS.

***Figure 7. Battery Indicator (Early Models)***

# Battery Indicators With Lift Interrupt Adjustment (Early Models)

The controller for the battery indicator has two factory-set adjustments. The adjustments are made with the RESET potentiometer and the SPECIFIC GRAVITY ALARM potentiometer. See Figure 7.

## RESET POTENTIOMETER

The RESET potentiometer determines the level to which the battery must be charged before the indicator indicates fully charged. The RESET potentiometer is set at the factory to C. The RESET function operates only when a battery has been disconnected for at least 15 seconds and another battery connected. The replacement battery must be charged to at least 90% of its capacity.

Turning the RESET potentiometer from C toward G (clockwise) increases the voltage at which the battery is accepted. The specific gravity of the battery must be more than 1.245.

Turning the RESET potentiometer from C toward A decreases the voltage at which the battery is accepted. The specific gravity of the battery is less than 1.245.

If a battery that is connected does not have the correct specific gravity, the indicator will remain in its original position.

## SPECIFIC GRAVITY ALARM

The SPECIFIC GRAVITY ALARM potentiometer determines the level at which the LIFT interrupt function occurs. The potentiometer is set at the factory to N. The N setting is equal to 1.73 volts per cell.

Turning the SPECIFIC GRAVITY ALARM potentiometer from N toward K lets the battery discharge more before lift interrupt occurs.

Turning the SPECIFIC GRAVITY ALARM potentiometer from N toward P lets the battery discharge less before lift interrupt occurs.



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*Legend for Figure 3*

1. HYSTER DECAL
2. MODEL 30 DECAL
3. WARNING DECAL
4. WARNING DECAL
5. EMERGENCY LOWER DECAL
6. EMERGENCY LOWER DECAL
7. WARNING FOR SAFETY DECAL
8. OVERHEAD GUARD DECAL
9. KEY SWITCH LABEL
10. NAMEPLATE TAG
11. INFO CASE BASE
12. INFO CASE COVER
13. RIVET
14. OPERATOR MANUAL
15. UPRIGHT SAFETY DECAL
16. CAPACITY DECAL
17. COVER
18. RIVET
19. FUNCTION DECAL
20. PATENTS AND TRADEMARK LABEL
21. U.L. PLATE
22. HYSTER TM TRADEMARK
23. 330.2 mm (13 in.)
24. 9.65 mm (0.38 in.)
25. 38.10 mm (1.5 in.)
26. 254.00 mm (10.00 in.)
27. 406.4 mm (16.00 in.)
28. 25.4 mm (1.00 in.)
29. 203.2 mm (8.00 in.)
30. 120.65 mm (4.75 in.)
31. 50.8 mm (2.00 in.)
32. 406.4 mm (16.00 in.)
33. 146.05 mm (5.75 in.)
34. 101.6 mm (4.00 in.)
35. 152.4 mm (6.00 in.)



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