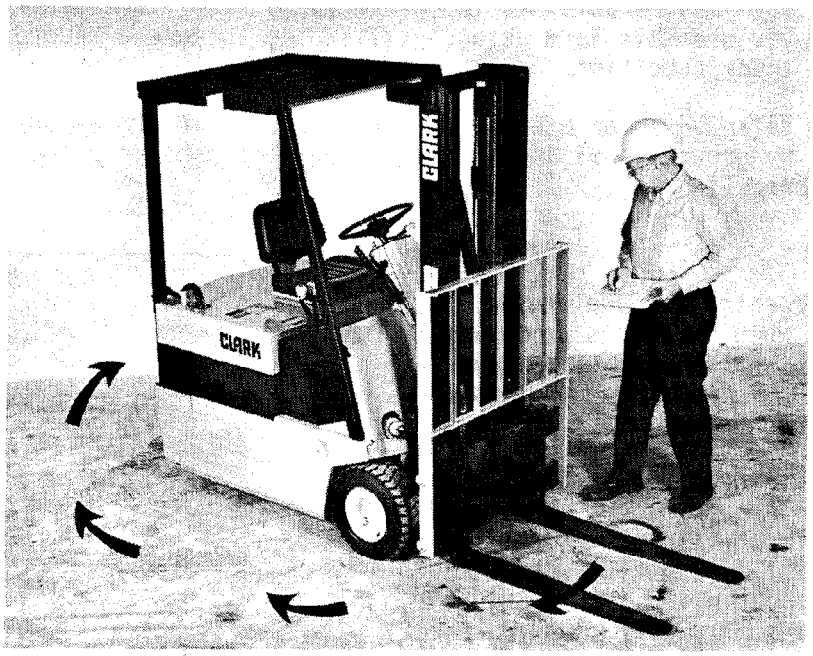
SM-555
TM 12/25 36Volt
EV-100 Supplement

Technical
Publications
Lexington, KY
40508

1 Visual Inspection



85M549

The objective of the visual inspection is to be sure that all components of the lift truck are:

1) in place
2) attached securely
3) in a safe and efficient operating condition.

Be sure to make a thorough inspection of the critical components that handle or carry the load.

1 First, perform a visual inspection of the truck and its components.

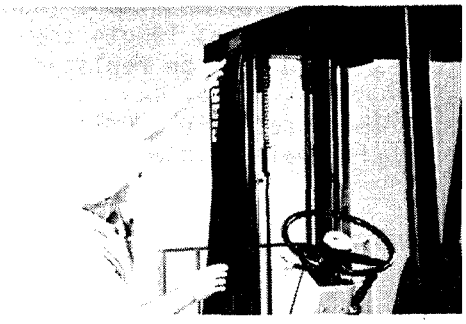
- Walk around the truck and take note of any obvious damage.
- Check for loose fasteners and fittings.
- Check for leaks.

WARNING
HYDRAULIC FLUID PRESSURE
DO NOT USE YOUR HANDS TO CHECK FOR HYDRAULIC LEAKAGE. FLUID UNDER PRESSURE CAN PENETRATE YOUR SKIN AND CAUSE SERIOUS INJURY.

When you find oil leaks due simply to a loose fitting, tighten the fitting.
Report other leakages as major repairs on the PM Report form.

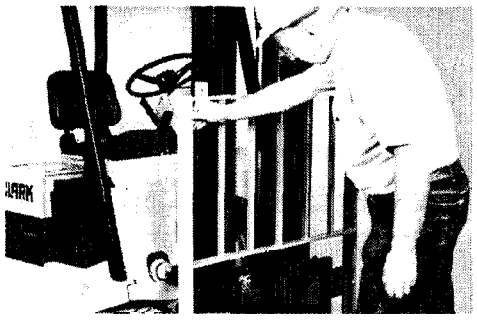
85M501

2 Inspect the overhead guard for damage. Be sure that it is properly positioned and all mounting fasteners are in place and tight.


85M473

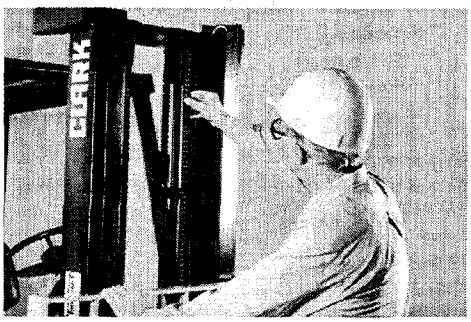
3 Inspect the load back rest extension for damage. Be sure that the mounting fasteners are all in place and tight.

4 Inspect the fork carriage for damage, cracks, wear, and high stress areas.


85M474

5 Inspect the complete upright assembly; rails, rollers, lift chains, and lift cylinders. Look for any loose parts or fittings. Be sure that all safety guards and chain retainers are in place and not damaged.
Inspect the carriage stops and cylinder retainer bolts.
Check all welded connections.

6 Check the lift cylinder piston rods for wear marks, grooves and scratches. Check the cylinder seals for leaks.



85M502

7 Check the upright lift chains for equal tension.

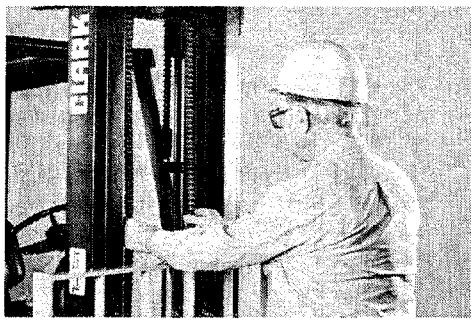
8 Inspect the condition of the carriage and rail lift chains. Look for wear, rust and corrosion, cracked plates, tight joints or other damaged parts.

⚠ WARNING

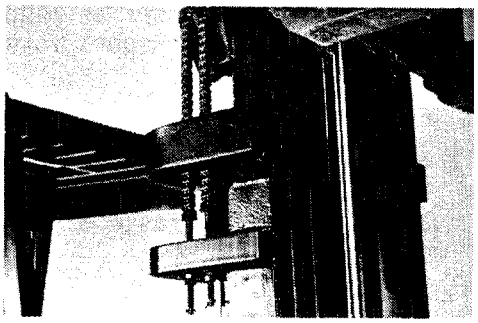
If the chains show slack due to an increase in length they should be measured for wear. When chains have stretched by wear more than 3% of their original length they are not safe and must be replaced.

Please refer to GROUP 34, Section 7, Lift Chain Maintenance.

On Triple Stage uprights, carefully inspect both sets of chains and fittings.



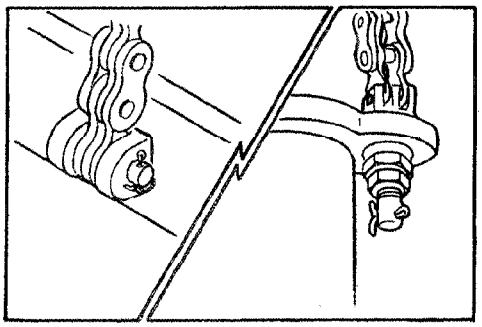
85M538



85M769

9 Inspect lift chain anchors at both ends of chain. Inspect each lift chain attachment point, clevis end and retainer. Be sure both nuts for each chain anchor are in place. Be sure there is a retaining pin (cotter pin) in the end of each anchor.

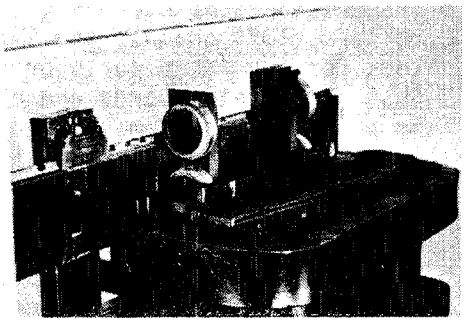
NOTICE - Style and location of lift chain anchor fittings varies between upright models.



22225

10 Inspect the condition of the carriage and upright rollers. Check for correct roller clearance.

11 Inspect the rails for roller wear and correct roller pattern. Look for deep grooves, scratches, rust, grease and contamination. Inspect the tie bars.

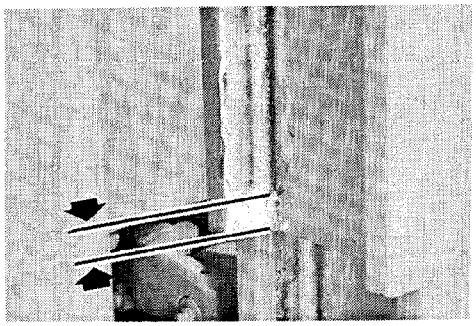


85M770

12 Check carriage chain adjustment.

If you are unfamiliar with this procedure, please refer to GROUP 34, Section 1, Upright Lift Chain Check and Adjustment Procedure.

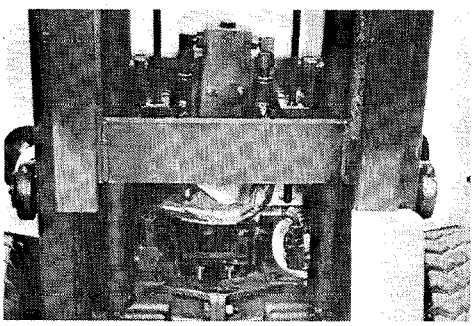
Also see operational tests for correct fork height check.



17643

13 Inspect all lift line hydraulic hoses and connections for damage and leaks.

⚠ WARNING
HYDRAULIC FLUID PRESSURE
DO NOT USE YOUR HANDS TO CHECK FOR HYDRAULIC LEAKAGE. FLUID UNDER PRESSURE CAN PENETRATE YOUR SKIN AND CAUSE SERIOUS INJURY.



85M632

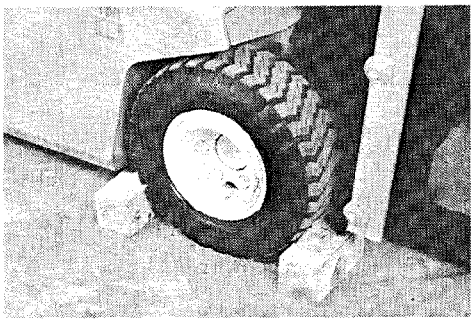
NOTICE

If necessary, raise the carriage for access to upright components, hoses, fittings, etc.

- APPLY THE PARKING BRAKE AND BLOCK THE WHEELS.
- BE SURE TO PUT BLOCKING UNDER THE CARRIAGE AND UPRIGHT RAILS FOR SAFETY.

Refer to:
GROUP 38, Section 3,
Machine Jacking and Blocking.

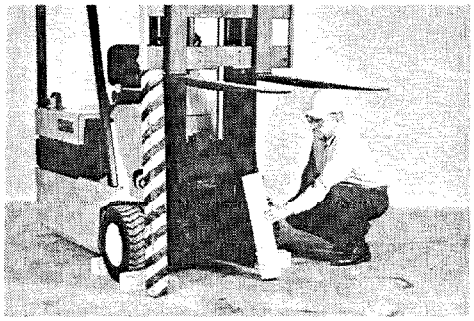
⚠ WARNING
FALLING FORKS
DO NOT WALK OR STAND UNDER RAISED FORKS. THE FORKS CAN FALL AND CAUSE INJURY OR DEATH.



85M626

NOTE - When carriage is raised and blocked, the oil level in drive axle may also be checked. Refer to section "6 Lubrication, Filters and Fluid Level Checks".

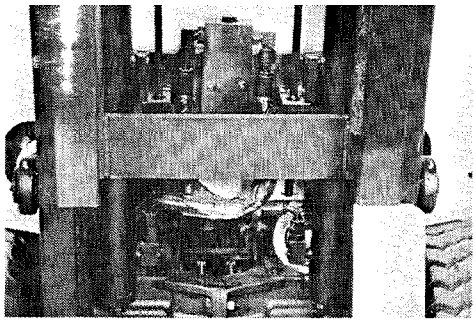
Also, check upright cylinder mounting bolt torque while the upright is raised. Refer to section "4 Critical Fastener Torque Checks".



85M627

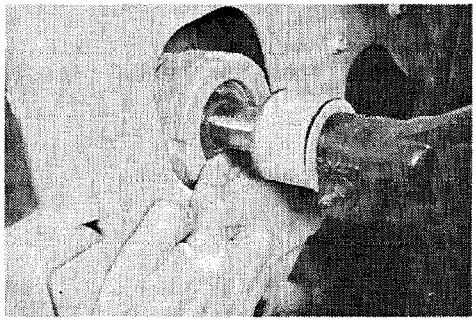
14 Inspect all lift cylinder mounting retaining bolts to be sure they are in place and tight. (NOTE - Style and location varies with upright model.)

Refer to GROUP 40, Section 5 for torque specification.



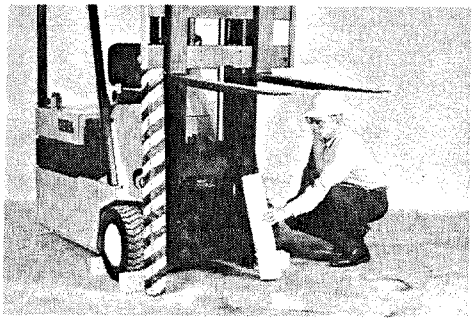
85M632

15 Check tilt cylinder rods for any damage and scratches which may cause cylinder seals to leak.

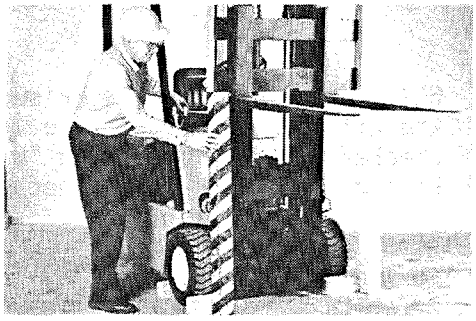


85M539

16 If carriage was blocked up for previous inspections, raise carriage slightly and remove the blocking. Lower the carriage.



85M627



85M630

IMPORTANT

FORKS ARE A CRITICAL SAFETY ELEMENT OF THE LIFT TRUCK. THEY MUST BE CAREFULLY INSPECTED AT EACH PM INTERVAL AND ALWAYS MAINTAINED IN A SAFE CONDITION.

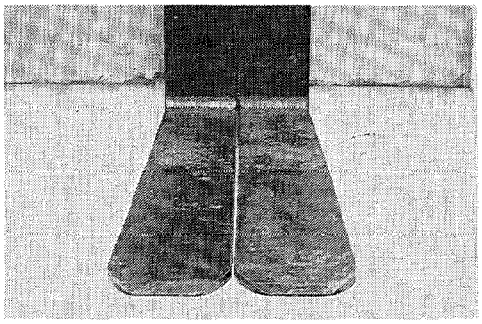
FORKS THAT ARE BENT OR TWISTED WILL CAUSE THE LOAD TO SHIFT OR SLIDE OFF AND BE DROPPED. FORKS THAT ARE CRACKED OR WORN EXCESSIVELY CAN BREAK SUDDENLY AND CAUSE SEVERE INJURY OR DEATH.

Please refer to:
GROUP 34, Section 4
Fork Maintenance.

17 Inspect the lift forks for:

- Cracks
- Breaks
- Bending
- Wear

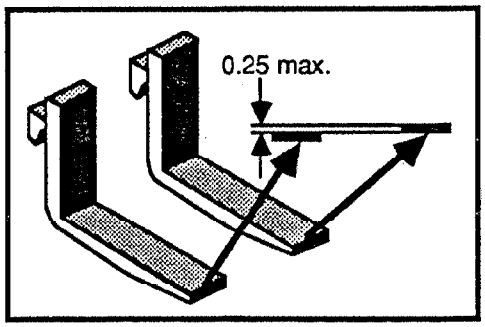
Move the fork blades together (side-by-side). Check the fork blades for bent or twisted condition, with respect to each other and also to the fork shank. Check for cracks and wear all around the fork heel area.



18046

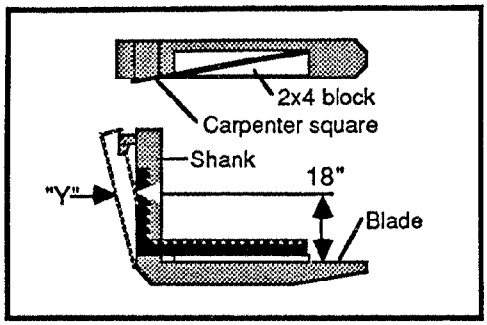
Inspect the fork blades carefully for twists and bends.

The fork surfaces should be level and even with each other. The height difference between both fork tips should be no more than [6mm] 0.25 inch maximum.



25455

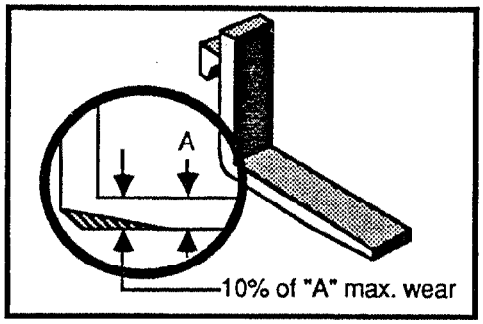
Check the forks to be sure they are not bent or twisted at the heel. Put a steel bar on the fork blade and use a carpenter's square to check for 90° angle between blade and shank. Angle at fork blade and shank must not be more than dimension specified in chart shown in GROUP 34, Section 4, Fork Maintenance.



25456

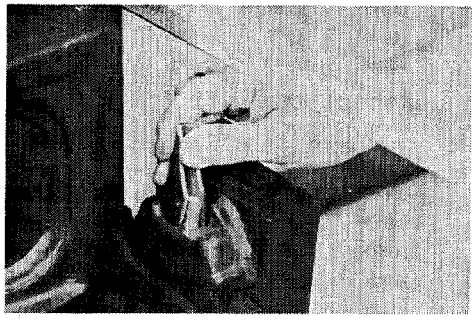
⚠ WARNING

Check the amount of wear at the heel of the forks. If the fork blade at the heel of the fork is worn down by more than 10 percent, the load capacity of the forks is reduced and they must be replaced. Please refer to GROUP 34, Section 4, Fork Maintenance.



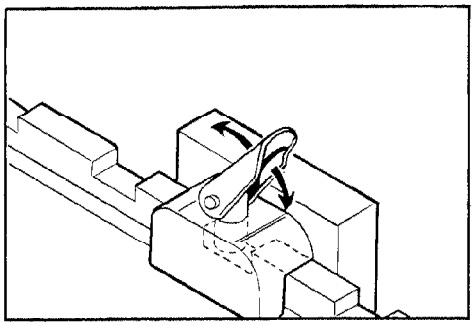
25457

18 Inspect the fork latches. Be sure they are not damaged or broken.



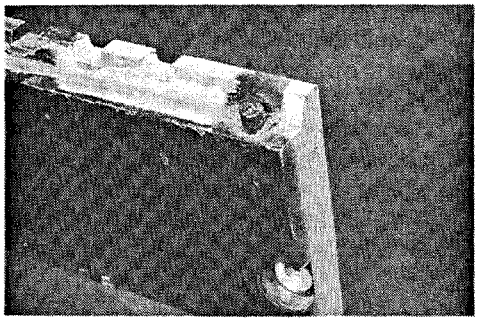
84M252

The fork latches are spring loaded. Test them to be sure that they operate freely and lock correctly. Inspect for broken or damaged springs.



24987

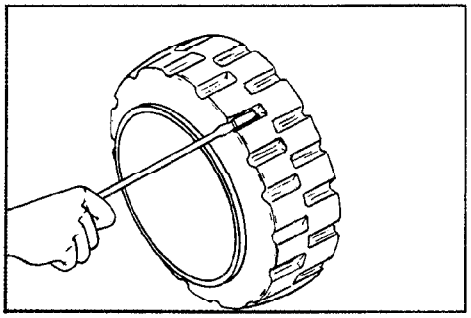
19 If your upright has a carriage with fork stop pins, inspect the stop pins for secure condition. Be sure that none are broken or missing, on top and bottom (if so equipped) of the carriage fork bar.



19507

20 Check the condition of the drive and steer wheels and tires. Remove objects that are embedded in the tread.

Inspect cushion tires for excessive wear and breaks or "chunking out", and bond failure between tire and rim.



12917

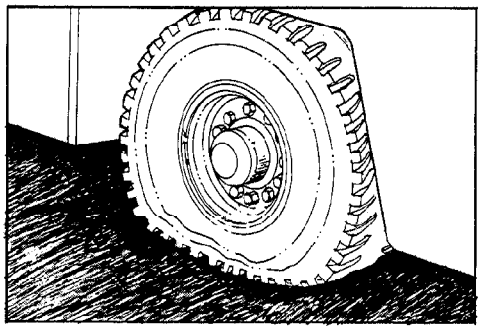
Inspect pneumatic tires and wheels carefully for:

- Damaged tire.
- Damaged wheels or loosening of the locking rings on multi-piece rims.
- Loosening of the clamping bolts and nuts on two-piece, split-rim wheels.
- Low inflation pressure.

⚠ WARNING

PERSONNEL WORKING ON WHEELS AND TIRES MUST BE QUALIFIED AND TRAINED TO DO WHEEL AND TIRE MAINTENANCE.

Please refer to section "6 Lubrication, Filters and Fluid Level Checks" for tire inflation pressure check. Also, refer to GROUP 40, Section 5, Truck Specifications.



24308

If pneumatic tire pressure is low, do not add air. The tire may need to be removed and repaired.

Move the truck to a maintenance area and perform, or schedule, a careful and complete inspection of the tire and rim installation.

Refer to GROUP 22, Section 1, Pneumatic Tire and Wheel Maintenance.

⚠ DANGER

RIM SEPARATION

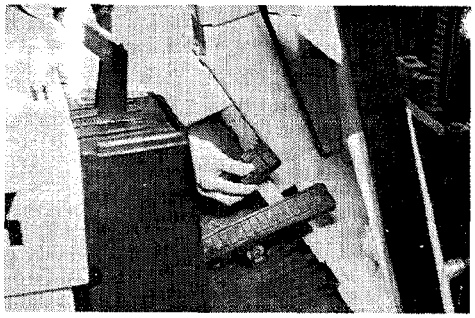
REMOVE THE AIR FROM TIRES BEFORE DOING ANY WORK ON TIRES OR RIMS. MULTI-PIECE RIMS CAN SEPARATE WITH ENOUGH FORCE TO CAUSE INJURY OR DEATH.

24988

21 Inspect the brake pedal for loose mounting. Check for free movement and correct, full travel of the pedal. Inspect the pedal pad for wear and secure attachment.

Push down on the pedal and release to check the return-spring action.

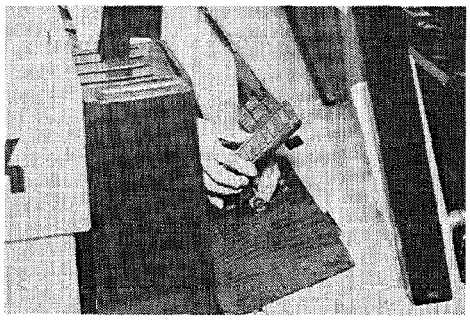
** See note below.



85M513

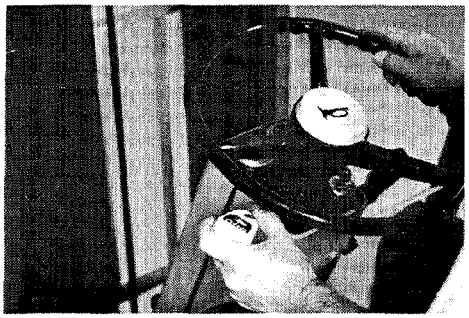
22 Inspect the accelerator pedal for correct mounting to the floorboard and travel movement.

** NOTE - Refer to section "5 Inner Chassis Components Inspection", Page 5.6, for additional inspection recommendations with floorboard removed.



85M514

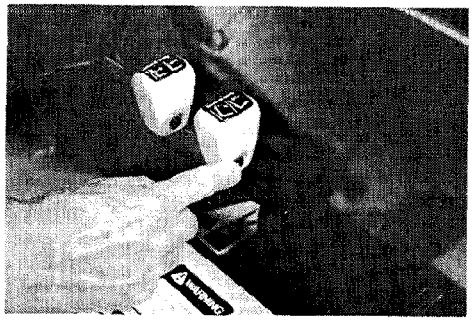
23 Inspect the directional control lever. Be sure that it is mounted securely and operates freely. Inspect the lever knob for damaged condition. Be sure the knob is attached securely and the screw is tightened correctly. Refer to GROUP 40, Section 5, for torque specification.



85M497

24 Check the hydraulic control levers for freedom of operation and security of mounting. Inspect the valve lever knobs for damaged condition. Be sure that they are attached securely to the lever and the screws are tight.

Refer to GROUP 40, Section 5, for torque specification.



85M491