

## **INSPECTION OF BELT MANLIFTS**

Part 8.2.1 of the ASME A90.1 – 2003 SAFETY STANDARD FOR BELT MANLIFTS states that all manlifts shall be inspected by a competent designated person at intervals of not more than 30 days. Safety stops shall be checked weekly. Note: HUMPHREY MANLIFT COMPANY RECOMMENDS THAT ALL SAFETY STOP DEVICES AND THE START-STOP CONTROL ROPE BE INSPECTED DAILY. Manlifts found to be unsafe shall not be operated until properly repaired.

### **BELT**

1. Check for cuts or damage. Check the backside of the belt for any cracking at the splice bolts, handhold bolts and step bolts
2. Check the belt for proper tension. If it is too loose, it will be difficult to track the belt properly.
3. Check for proper tracking. If it is not, excessive wear can occur to the guide rails, step rollers, and in the case of an angle frame manlift, the step brackets. If enough wear occurs, a step could hit the pulleys and/or come out of the guide rails.
4. Check the splice and splice bolts. Once again, check the backside of the belt for cracking at the splice bolts. Also, make sure all of the splice bolts are tight and the head of the bolt is seated into the belt. If a bolt head is sticking up, it could possibly catch on a drive screw that holds the lagging on to the head pulley, and it could cause excessive wear to the lagging itself.
5. Make sure the belt is stenciled "FACE THE BELT", "USE THE HANDHOLD" and "TO STOP – PULL ROPE IN DIRECTION OF TRAVEL" as well as arrows to indicate direction of travel.
6. Make sure the side of the belt that contacts the pulley is free of any foreign matter or moisture that could cause it to slip.

### **STEPS**

1. Check the safety walk on the step treads. It is important that the treads have a non-smooth surface for standing on. If there is a build up of foreign material, clean them. If they are worn smooth, replace the safety walk.
2. Check the treads for damage. If they are of wood, check for cracking and/or splintering. Check that the bolts holding the tread to the side brackets are tight, and none missing.

3. Check the step brackets for cracks or pieces broken out of them. If the steps are the 4-roller type for channel manlifts, check the pins and x-washers that hold the two halves of the steps together.
4. Check the step rollers, bushings and pins. If the step rollers have excessive wear or if they are sloppy because of bushing wear, they should be changed. At this time, the pins should be checked for wear and changed if needed. The riveted type pin will have to be changed when changing the step rollers.
5. Check the bars that attach the step to the belt. Any bent bars or bars that have excessive wear where they go into the step side bracket should be replaced.
6. Check all of the bolts that attach the steps to the belt. Make sure they are tight and that all heads are seated into the belt properly.
7. Make sure that each step has two handholds and that there are no handholds on the belt without a corresponding step. Check the bolts that attach the handhold to the belt for tightness and that the bolt heads are seated into the belt properly.

#### **FOOT ASSEMBLY**

1. Check the leg and circle castings for cracks and/or pieces broken out of them. Make sure the legs are securely fastened to the floor.
2. Make sure the foot pulley does not have any pieces broken out of it. Check spokes for cracks. Make sure pulley is centered between the foot circles. Check set screws for tightness.
3. Make sure the belt is tracking properly over the foot pulley.
4. Make sure the two take-up bolts on each side of the foot assembly are seated into the bearing blocks.
5. Service foot shaft bearing as needed.
6. Make sure mounting platform (and dismounting platform if so equipped) is in good condition and free of any debris, etc. Height should be enough that the step tread is parallel to the floor when a rider steps on.
7. Make sure rope sheaves are free and in good condition.
8. Check that there is a debris deflector located above the foot pulley.

**HEAD ASSEMBLY**

1. Check the head circles for cracks or pieces broken out of them.
2. Check the head pulley for pieces broken out of it. Check the pulley spokes for cracks. Make sure the pulley has lagging on it and that the lagging is not smooth. Check that pulley is centered between the head circles. Check the set screws and key.
3. Make sure belt is tracking over the pulley properly.
4. Check coupler. Make sure it is fully engaged and that all bolts and set screws are tight. Check key and keyway.
5. Check bolt that holds control arm for tightness. Make sure control arm works smoothly, and control rope is securely fastened.
6. Service head shaft bearings as needed.

**SAFETY STOP DEVICES**

1. Check safety stop device located above the top landing for proper operation. The current standards require a total of three located above the top landing.
2. If manlift is installed in a pit, or if a dismounting platform is used, it should have safety stop devices located at the bottom landing on the "down" travel side. Check for proper operation.
3. Make sure start-stop control rope will shut off manlift when pulled in direction of travel and restart manlift when pulled in opposite direction of travel.
4. If equipped with a "Saf-T-Stop" brake, make sure the Micro Switches that are furnished with it will shut the power off to the manlift. Also, re-torque the ring clamp bolts as needed. Be sure to torque to specifications received from manufacturer. Make sure linkage and cam locks are free of corrosion and work freely.

**GEARMOTOR**

1. Check oil level and change as per manufacturers instructions.
2. Make sure brake on motor end of gearmotor works properly.

**ELECTRICAL**

1. There should be a reset pushbutton at the top landing of the manlift to reset electrical control circuit after a safety stop device has been actuated.
2. If there are safety stop devices at the bottom floor of the manlift, there should be a reset pushbutton located here also.

3. There should be a red warning light located just below the top landing on the “up” travel side of the manlift.
4. The manlift should be equipped with a dropout control relay.
5. The manlift should be equipped with a phase failure, phase reversal relay.
6. The manlift should be equipped with a 3-pole contactor.

**MISCELLANEOUS**

1. Each floor opening on the “up” travel side of the manlift must have a safety cone hood mounted beneath it, either stationary or moveable. If they are moveable, make sure they will stop the manlift when bumped.
2. Each manlift must be equipped with a ladder or individual ladder rungs attached to one side of the manlift framework.
3. Each landing must have guardrails around the floor openings with outward opening self-closing gates, or in a maze configuration.
4. There must be a “TOP FLOOR – GET OFF” sign located just below the top landing on the “up” travel side.
5. There must be a “BOTTOM FLOOR – GET OFF” sign located just below the ceiling above the bottom landing on the “down” travel side.
6. There must be a “NOTICE – MANLIFT FOR USE BY AUTHORIZED PERSONNEL ONLY” sign located at each landing.
7. There must be a “MANLIFT INSTRUCTIONS” sign at each landing.
8. Make sure manlift has enough illumination. Replace any blown light bulbs.
9. Check to be sure guide rails are free of foreign material including oil, grease or other lubricants.