

## BA-01: Pre-load Roller Packs (Sundstrand)

### SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- Moving equipment hazard exists when operating the Sundstrand.
- A greasy surface, wires, cables, and hoses on and around the Sundstrand contribute to an existing tripping hazard.

### EQUIPMENT

- Maintenance Mechanic hand tools
- dial indicator (capable of reading .0001") and magnetic base
- Allen wrenches
- putty knife

### RESOURCES

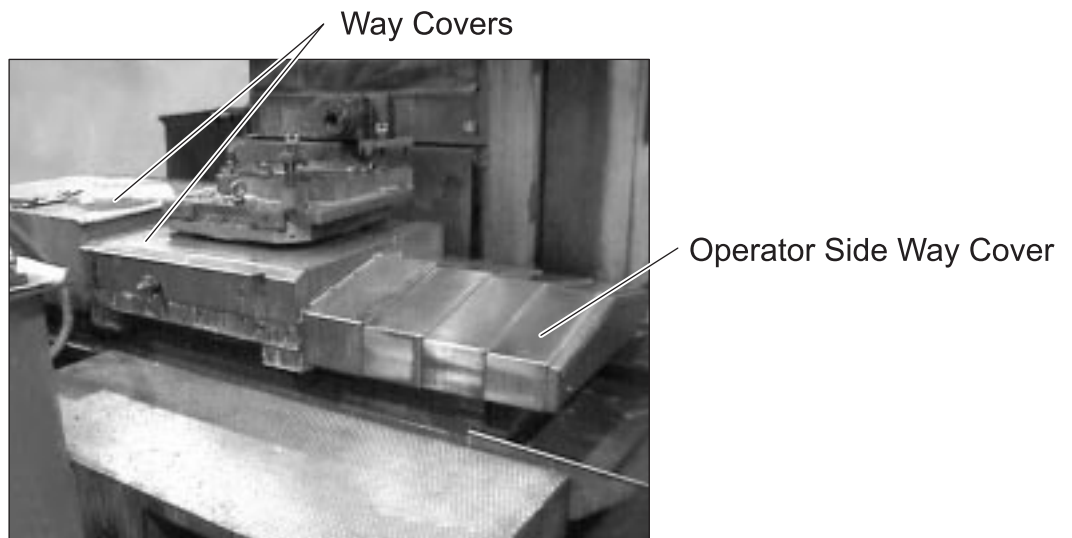
- Sundstrand S60 Omnimill Maintenance Mechanic Manual

**Note: This task was performed on the X-axis; the Y- and Z-axes are compatible.**

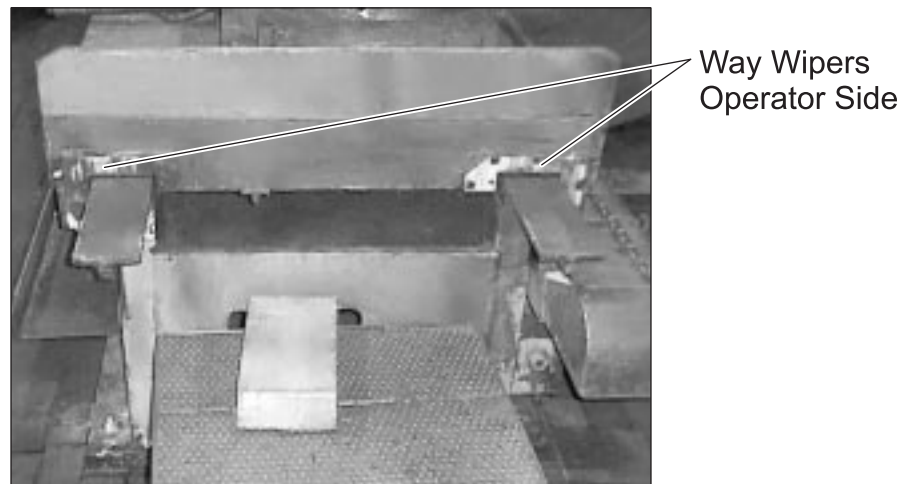
### Pre-load Roller Packs (Sundstrand)

- 1. Move the table to the center position.**
- 2. Turn off the machine and perform a lockout/tagout.**
  - Make sure the machine meets the ZMS standards.

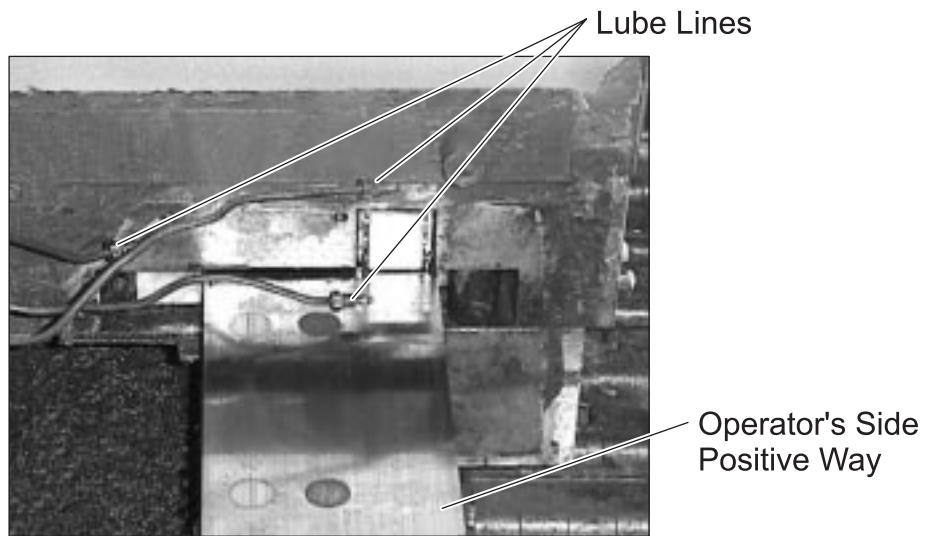
**3. Remove the way covers from both sides.**



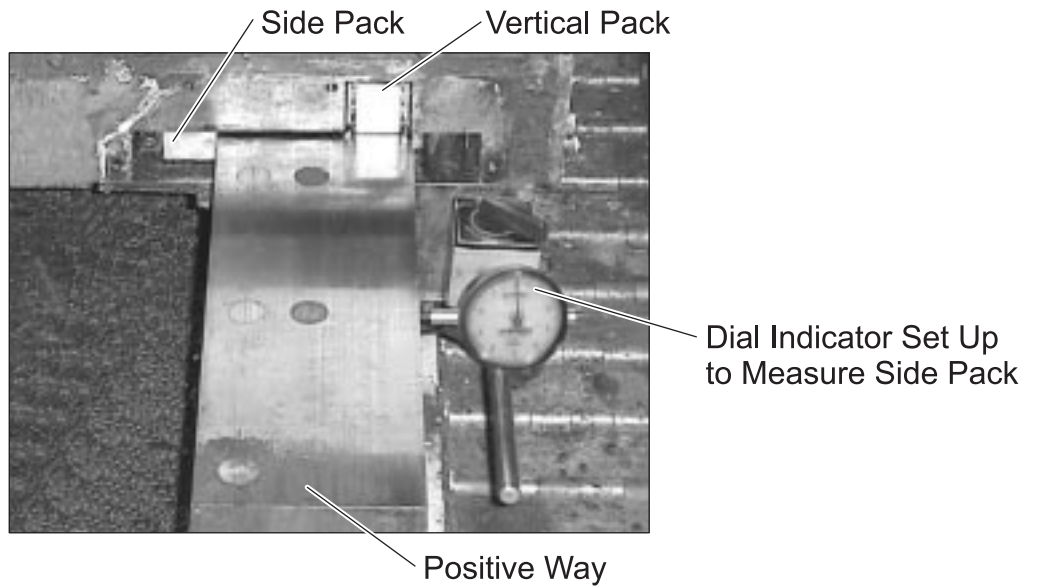
**4. Remove the way wipers.**



**5. Remove the lube lines.**

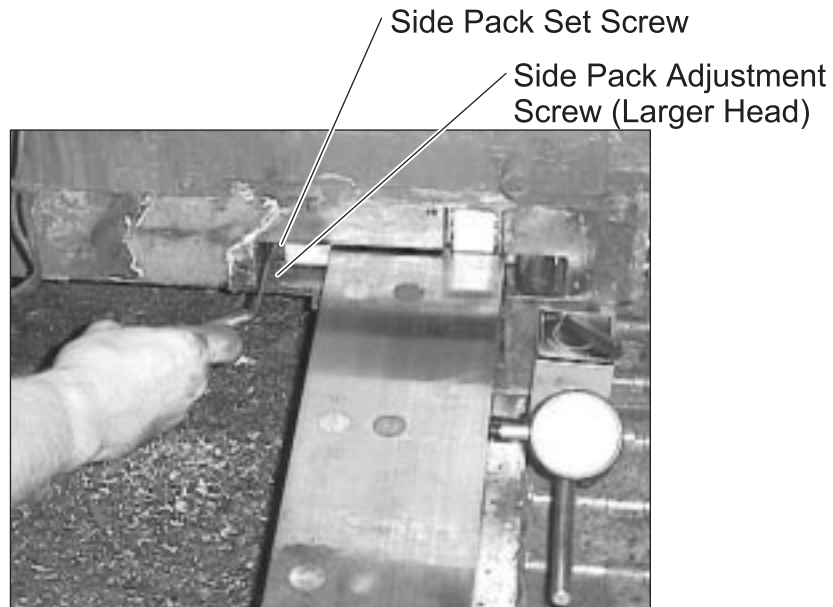


**6. Set up the dial indicator on the positive way to measure the side pack.**



**7. Zero the indicator.**

- Loosen the set screw.



- Loosen the adjustment screw.
- Tighten and loosen the adjustment screw to find a common zero.
- Loosen the adjustment screw until there is no change on the indicator, then set the indicator to zero.



**8. Tighten the adjustment screw to set the side pack pre-load according to the manufacturer's specifications.**

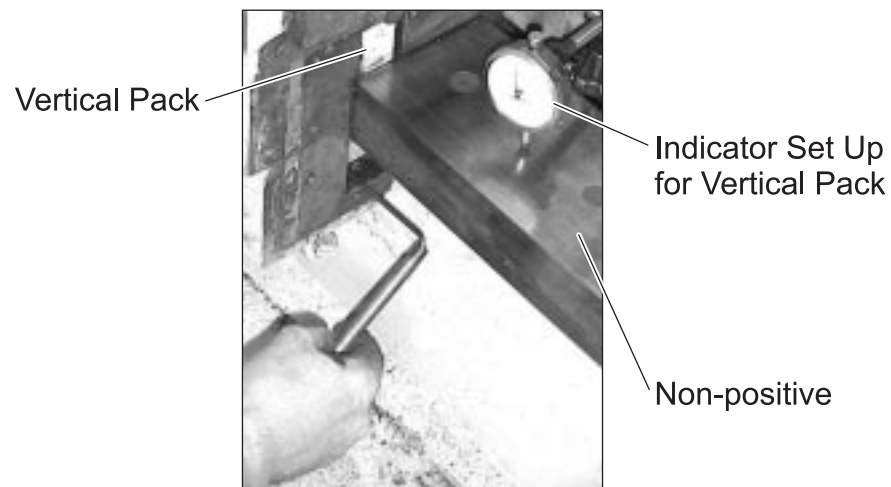
- Tighten the adjustment screw until the indicator reads between .0004" and .0006" in the positive direction.

**Note:** Sometimes the indicator will move towards the minus sign on the indicator and still be an adjustment that is putting a positive pre-load on the bearing.

**9. Tighten the set screw, verifying no change in the pre-load value.**


**10. Repeat steps 6-9 for the side pack at the other end of the positive way.**

**11. Set up the dial indicator on the positive way to measure the vertical pack.**



**12. Zero the indicator.**

- Loosen the set screw.
- Loosen the adjustment screw.
- Tighten and loosen the adjustment screw to find a common zero.
- Loosen the adjustment screw until there is no change on the indicator, then set the indicator to zero.

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13. **Tighten the adjustment screw to set the vertical pack pre-load according to the manufacturer's specifications.**
    - Tighten the adjustment screw until the indicator reads between .0004" and .0006" in the positive direction.
  14. **Tighten the set screw, verifying no change in the pre-load value.**
  15. **Repeat steps 11-14 for the vertical pack on the other end of the positive way and both ends of the non-positive way.**
  16. **Restore lube lines, way wipers, and way covers.**
  17. **Clean up the work area and make sure all tools are off the machine.**
  18. **Verify machine status.**
    - Cycle the machine to verify proper operation and no vibration.
    - Use an indicator that reads the vertical face of the positive rail to check for play in the slide when it changes direction.