

A-06: PM Vacuum Pump

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.

EQUIPMENT

- Maintenance Mechanic hand tools

RESOURCES

- none

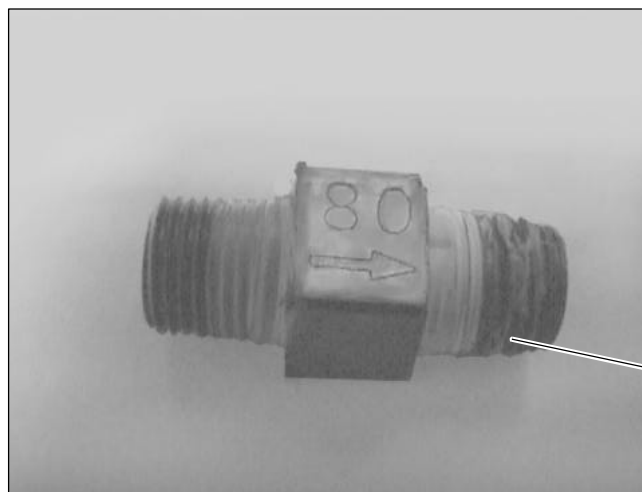
PM Vacuum Pump

Note: This task is divided into four main areas: speed controller, sensing tubes, switching station, and the carrier.

Part 1: Speed Controller

Note: The speed controllers are located in several areas throughout the facility. These locations are C-17-L, C-32-N, C-8-X, and J-OFC. Perform the following steps at those locations.

1. Check the carrier speed control restrictor for clogs.



Carrier Speed
Control Restrictor

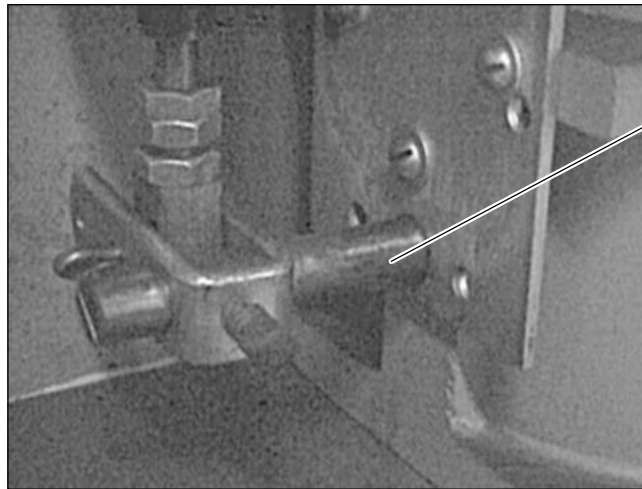
- Remove the restrictor from the speed controller.

- Observe the inlet end of the restrictor for debris, and replace the restrictor if clogged.

Note: Do not clean the restrictor.

2. Check the magnetmatic exchanger for operation.

- Lubricate the flapper valve shaft with light oil (automatic transmission or hydraulic fluid) to prevent the shaft from sticking.

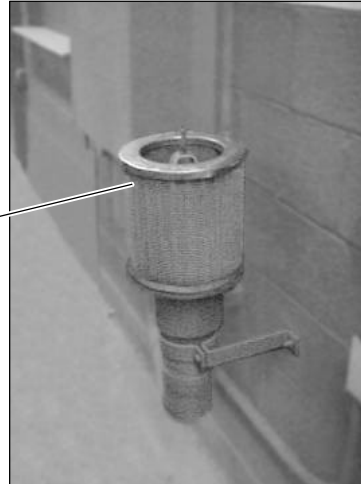


Flapper Valve Shaft

- Push up on the spring to rotate the valve to check free movement.
3. Inspect the compressor air filter element for cleanliness.
 - Remove the plastic cover from the stack.
 - Pull out the filter and clean as necessary.

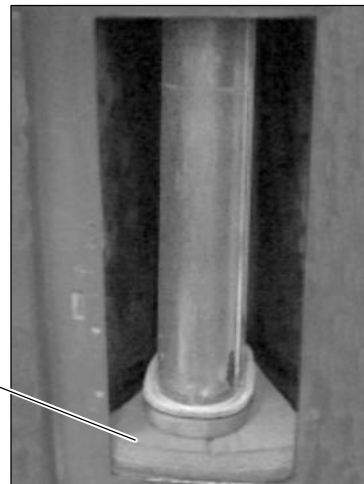
4. Inspect the sediment bowl and vacuum pump muffler filters for cleanliness.
 - Remove the wing nut to remove the cover.
 - Replace the filter with a clean filter.

Air Filter

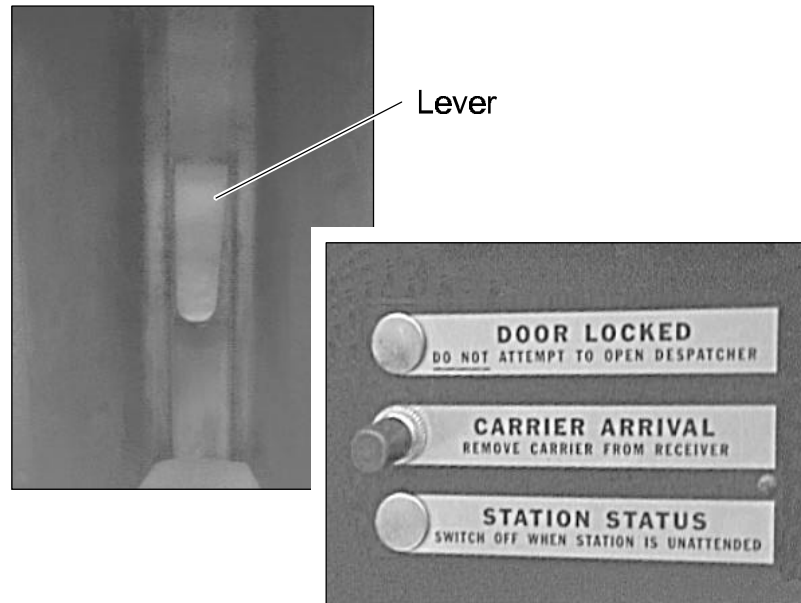


- Remove and clean the original filter. To clean the filter, wash it with high-pressure water, and remove the water with high-pressure air. Let the filter dry completely. This filter will be ready for use at the next PM.
5. Check the receiving/sending stations for serviceability.
 - Inspect the receiver pad for serviceability. The pad should have plenty of cushion. Replace as necessary.

Receiver Pad



- Push on the lever inside the receiving compartment to ensure that the carrier arrival light illuminates.



- Check both door latches for operation. Pull on the latch, checking the spring, ensuring that the latch snaps closed. Close the door and pull on the door. The door should not open.

Note: It is important that the door will not open unless using the latch. If the door does not lock properly, the carrier could enter the receiver compartment with such force that the carrier could fly out of the compartment.

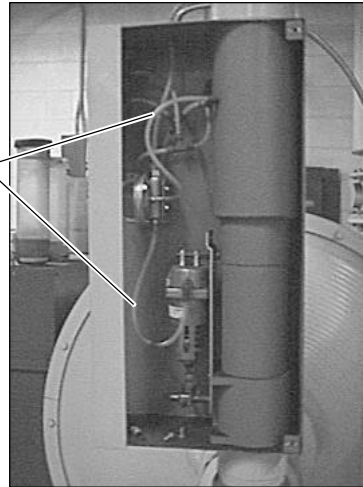
- Check the gasket around the doors for serviceability. The gasket should be soft and flexible. When the doors are closed, you should not hear any air around the doors.
- Check the hinges on the doors. The hinges should be securely fastened. There should not be any free play in the hinges.

Part 2: Sensing Tubes

1. Open the speed controller cover, if it is not opened.
2. Inspect the sensing tubes.



Sensing Tubes



- Disconnect the sensing tube fittings from the air line secondary.
 - Withdraw the tubes from the air.
 - Connect compressed air to the end of the sensing tubes and blow out the tubes.
3. Check the polyethylene lines and the flowout air motor.
 4. Check the spring and piston diaphragm.
 5. Check the vertical valve.
 6. Check the valve, spring brake, and bumper.

7. Check the valve, spring, backing plate on the CBA deflector valve, and the horizontal/vertical deflector switch exchanger.

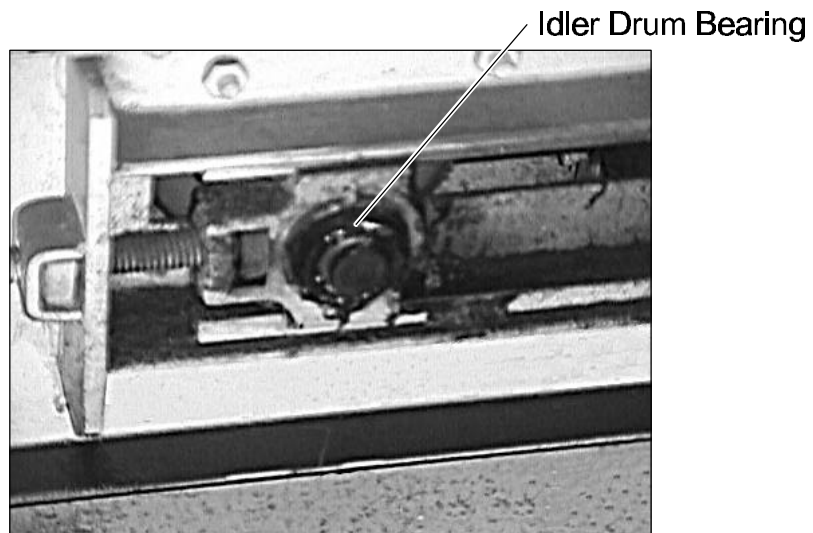


8. Clean compressor air filter screw, sediment, and exchanger.
9. Check the Teflon coating on the slide gates and repair as needed.

Part 3: Switching Station

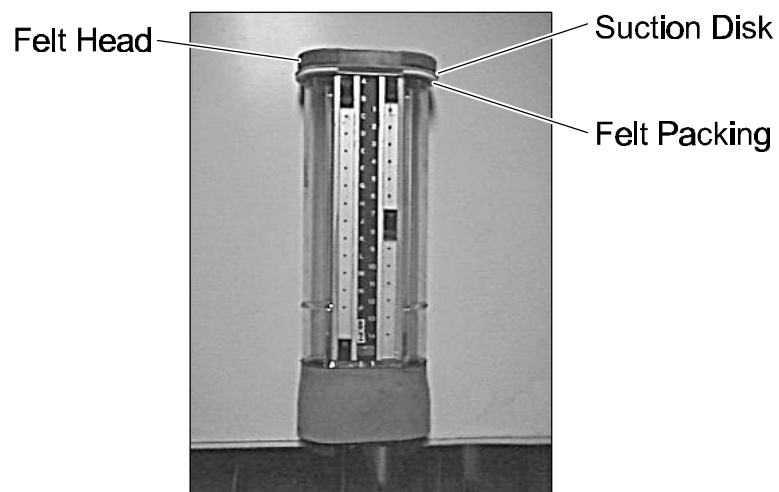
1. Open the cover on the back of the switching station.
 - Inspect the actuator arm for evidence of leakage.
 - Check the spring switch and rubber pad compartment air lube.
2. Clean the lubricator.
3. Adjust the screw needle valve and associated O-ring, and the screen located on the siphon tube inlet.

4. Lubricate the grease take up frame and conveyor idler drum bearings.



Part 4: Carrier

1. Check the carrier for serviceability.
2. Ensure that the screws that hold the felt head, suction disc, and the felt packing are tight.
3. Inspect the felt head, suction disc, and the felt packing for wear.



4. Check the snaps for serviceability. The snaps should fasten and not easily open.
5. Inspect the body of the carrier for wear and cracks. Repair or replace the body as necessary.

