

Vertical Slide Assembly Replacement

Introduction

Use this instruction sheet to replace the vertical slide assembly in Spectrum® II Powder Feed Centers with a refurbished assembly.

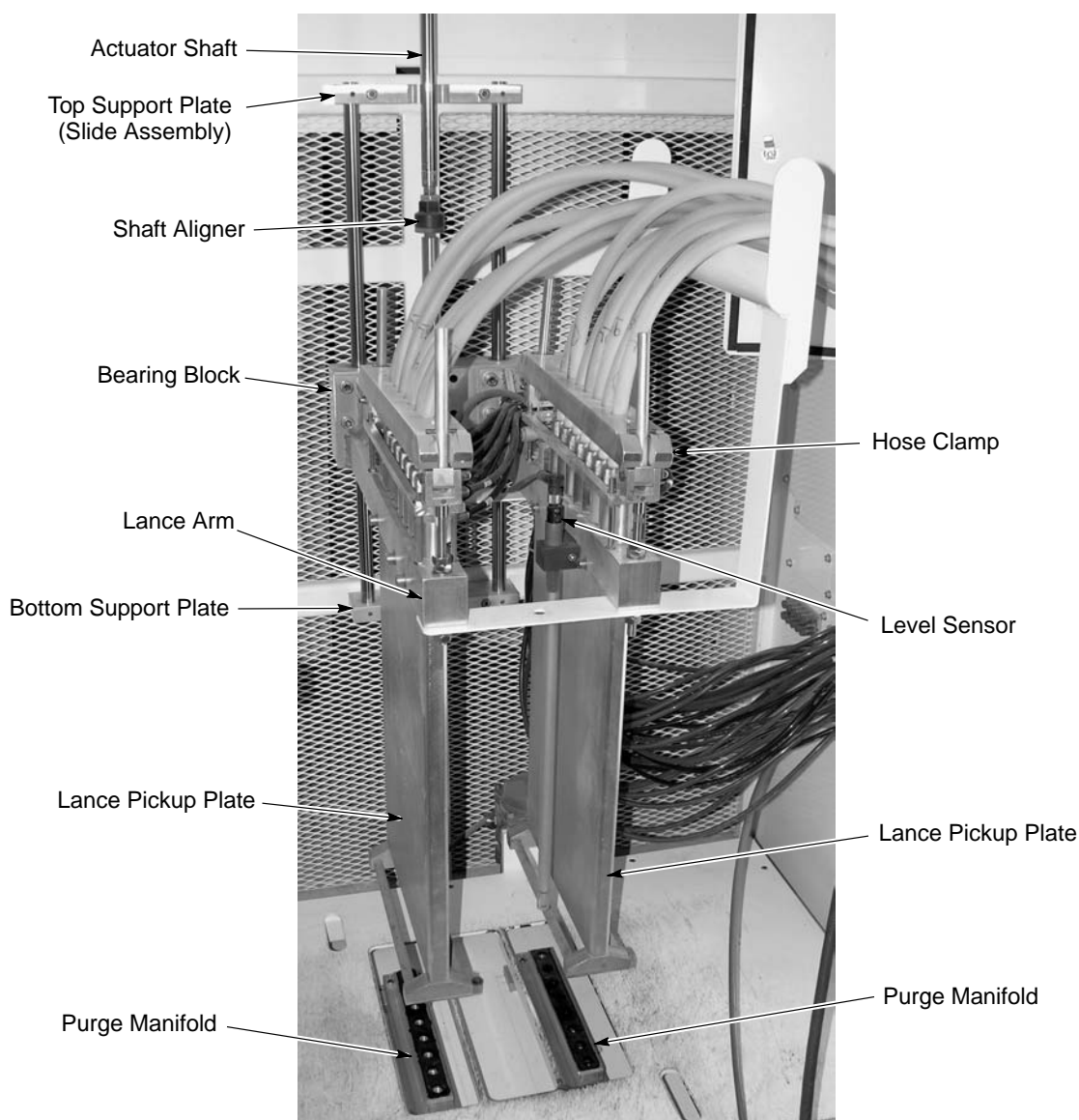


Figure 1 Typical Spectrum Feed Center Vertical Slide/Lance Assembly

Removal

NOTE: If your new vertical slide assembly was shipped on an RMA, carefully unpack it and use the packaging and included shipping label to return the old assembly to the vendor. The old slide assembly must be complete, and packaged carefully to prevent shipping damage, in order for you to receive credit for the return.



WARNING: Only qualified personnel should perform the following tasks. Follow proper safety precautions when operating equipment and keep clear of moving equipment.

Disconnecting the Lance Arms from the Slide Assembly

1. Remove the feed hopper from the feed center. Thoroughly clean the feed center.
2. On the feed center control panel, touch **Auto**. Use the **Lance Down** button to move the lance assembly down until the lances are resting on top of purge manifolds.
3. Touch **System Stop**. Turn the electrical disconnect switch on the feed center control panel to the OFF position.
4. Close the ball valve on the main air supply to the feed center and relieve the feed center air pressure. Lock out the ball valve.
5. Disconnect the 10-mm tubing from the LANCE UP bulkhead fitting on the top of the feed center system panel to relieve the pressure in the slide actuator. Label the disconnected tubing LANCE UP.
6. Disconnect the 10-mm tubing from LANCE DOWN bulkhead fitting on top of the feed center system panel to relieve the pressure in the slide actuator. Label the disconnected tubing LANCE DOWN.
7. See Figure 2. Disconnect the powder feed hoses from the inline pumps by unclamping the two cam lock clamps (3) and removing the hose clamps (2) and hoses from the top of the lance arms (4).

NOTE: If there is more than one level sensor installed on the lance arms, label each level sensor cable prior to disconnecting them so that you can reconnect the cables to the correct sensors.

8. If used, disconnect the level sensor cable(s) from the level sensors (5) on the lance arms.
9. Disconnect the 10-mm air supply line (6) from the first flow control valve (6) on the top of the lance assemblies.
10. Loosen and remove four M10 x 30 mm bolts and M10 lock washers from each lance arm assembly at the vertical slide bearing block. Leave the lance assemblies resting on top of the purge manifolds.

NOTE: If shims are installed between the lance arms and the vertical slide bearing block, remove and save the shim(s) for re-installation on the new vertical slide assembly.

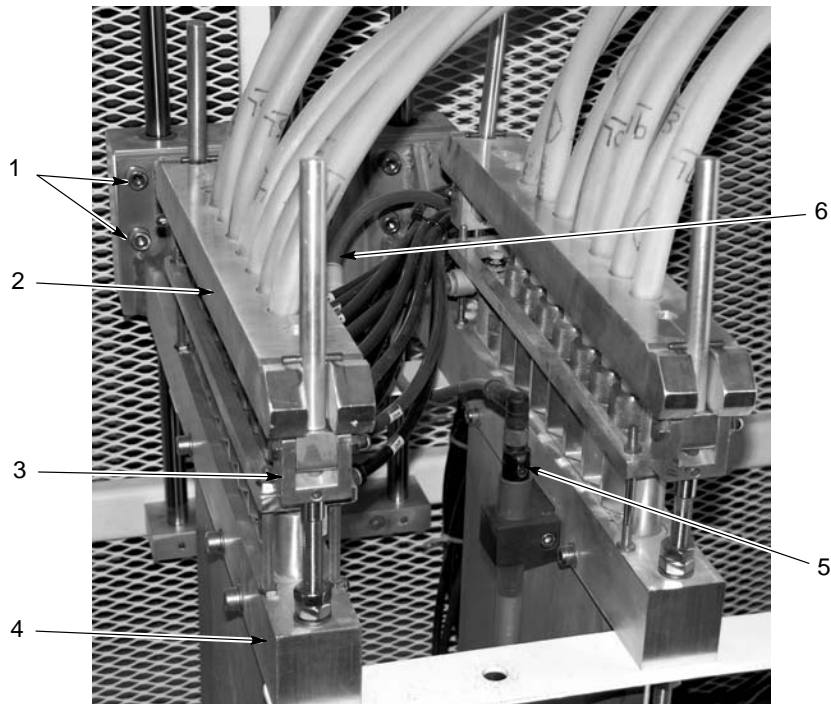


Figure 2 Lance Arm Removal

- | | |
|------------------------------|----------------------------------|
| 1. M10 bolts and lockwashers | 4. Lance arms |
| 2. Hose clamps | 5. Level sensor |
| 3. Cam lock clamps | 6. Fluidizing air tubing (10 mm) |

Removing the Vertical Slide Assembly from the Feed Center

NOTE: Two people are required to remove the vertical slide assembly from the feed center.

1. See Figure 3. Disconnect the ground cable (7) from the bearing block (6).
2. Measure and record the overall height of the vertical slide (**A**), from the bottom surface of the bottom support plate (8) to the top surface of the top support plate (4).
3. Measure and record the distance (**B**) that the two stop bolts (9) extend above the top surface of the bottom support plate.
4. While holding the bearing block up, unscrew the actuator shaft (1) from the shaft aligner (2). Lower the bearing block onto the slide bottom support plate (8).

Removing the Vertical Slide Assembly from the Feed Center (contd)

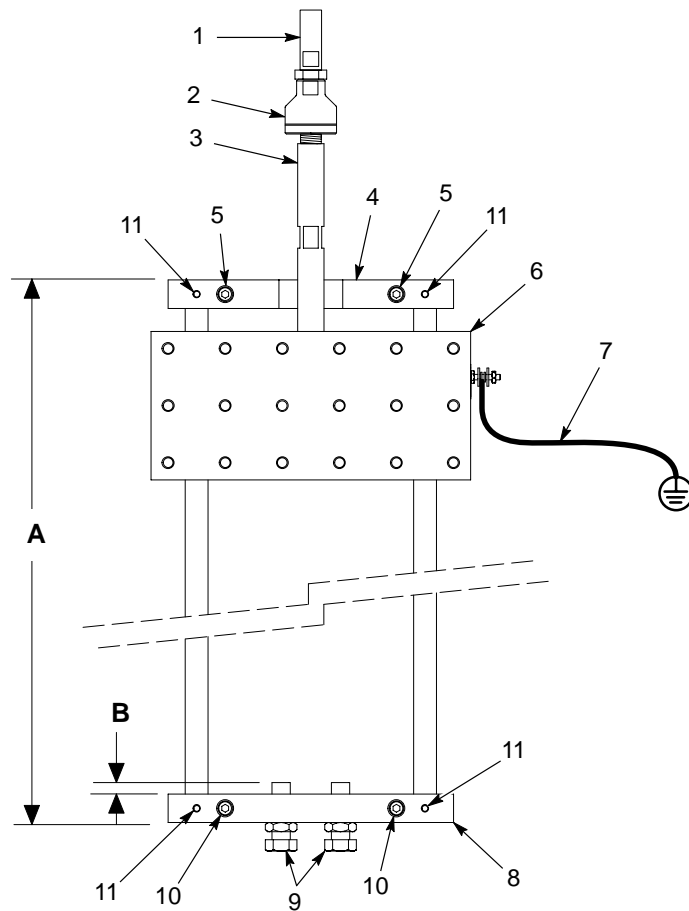


Figure 3 Vertical Slide Assembly Removal

- | | |
|---------------------------------|------------------------------|
| 1. Actuator shaft | 7. Ground cable |
| 2. Shaft aligner | 8. Bottom support plate |
| 3. Bearing block connecting rod | 9. Stop bolts |
| 4. Top support plate | 10. Bottom socket-head bolts |
| 5. Top socket-head bolts | 11. Set screws |
| 6. Bearing block | |

Note:

NOTE: If shim(s) are installed between the support plates and the feed center, note the location and number of shims used. Remove and save the shim(s) for use when installing the new slide assembly.

- Loosen, but do not remove, the two socket-head bolts (5) in the top support plate. Remove the two socket-head bolts (10) from the bottom support plate.

NOTE: The actuator shaft may need to be pushed up into the actuator to allow removal of the vertical slide assembly.

6. While one person supports the weight of the slide assembly, the other person removes the two bolts from the top support plate. Remove the slide assembly from the feed center.
7. Package the old slide assembly carefully to prevent shipping damage. Ship it to the vendor, using the shipping label provided with the new slide assembly.

Installation

Preparing the Replacement Slide Assembly

1. Set the new slide assembly horizontally on top of a work bench with the top and bottom support set screws (11) facing up.
2. See Figure 3. Measure the height of the vertical slide (A), from the bottom surface of the bottom support plate (8) to the top surface of the top support plate (4).
3. Compare your measurement to the measured height of the old vertical slide. If the new slide height is different, adjust the location of the top or bottom support plates until the new slide height matches the old slide height.

Loosen the set screws to adjust the position of the support plates on the rods. Make sure the top and bottom supports are parallel with each other after making any adjustments. Tighten the set screws securely.

4. Adjust the two stop bolts (9) in the new bottom support so that they extend the same distance above the top surface as the stop bolts in the old slide assembly.

Installing the Replacement Slide Assembly

NOTE: If shims were installed between the old slide assembly support blocks and the feed center, then re-install the same shim(s) at same locations and quantities on the new slide assembly.

1. See Figures 3 and 4. Install the new slide assembly in the feed center using M8 x 80 mm long stainless steel bolts (5, 10) through the top and bottom support plates. Tighten the bolts until hand tight.
2. Connect the actuator shaft (1) to the shaft aligner (2).
3. Connect the ground cable (7) to the bearing block ground stud.

Installing the Replacement Slide Assembly (contd)

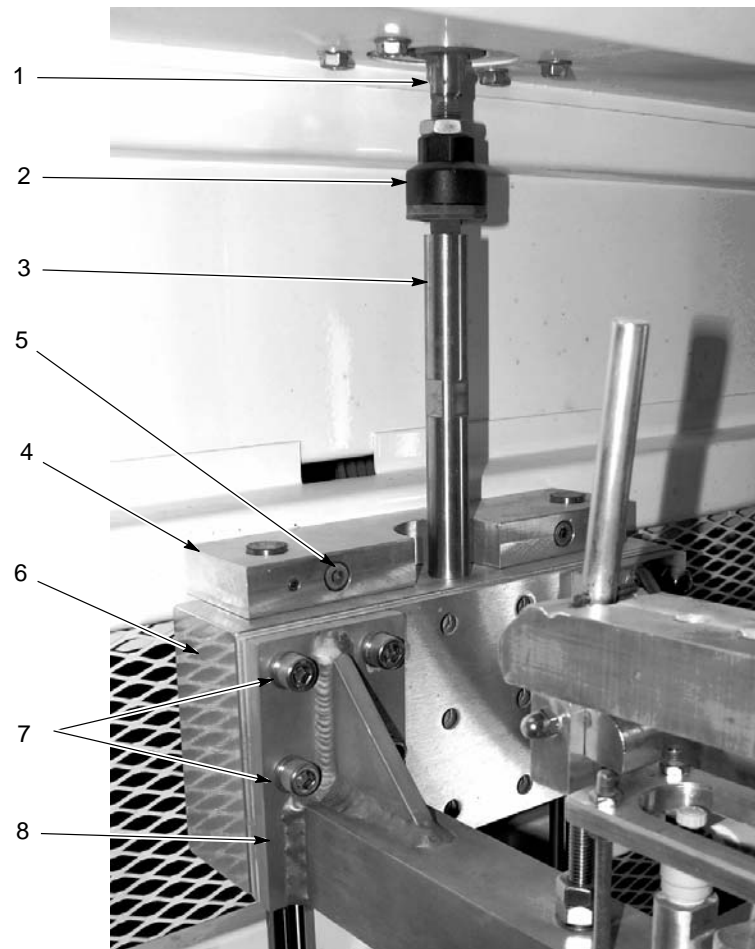


Figure 4 Vertical Slide Assembly Installation

- | | |
|----------------------|--------------------------|
| 1. Actuator shaft | 5. Bolts |
| 2. Shaft aligner | 6. Bearing block |
| 3. Connecting rod | 7. Bolts and lockwashers |
| 4. Top support block | 8. Lance arms |

NOTE: If shims were installed between the lance arms and the old slide assembly bearing block, then install the same shim(s) in the same locations on the new slide assembly.

4. Install the lance arms on the bearing block with M10 x 30 mm long stainless steel bolts and M10 lock washers (7). Temporarily tighten the bolts until snug, but not so tight that the bottom of lance cannot be rotated right and left.
5. Check the left-to-right alignment of each lance assembly with the purge manifolds. If necessary, rotate the lance assemblies until the pick-up plates are centered left-to-right with the top of the purge manifolds. When the lances are centered tighten the lance arm mounting bolts securely.

6. See Figure 2. Connect the 10-mm air supply tubing (6) to the fluidizing air flow control valves on the lance arms.
7. Connect the level sensor cable(s) to the level sensor(s) (5) on the lance arms.
8. Install the powder hose clamps (2) onto the pumps and clamp them in place with the cam lock assemblies (3).
9. Connect the 10-mm tubing labeled LANCE UP to the LANCE UP bulkhead fitting on top of the feed center system panel.
10. Connect the 10-mm tubing labeled LANCE DOWN to the LANCE DOWN bulkhead fitting on top of the feed center system panel.
11. Open the ball valve supplying compressed air to the feed center.
12. See Figure 3. Adjust the two stop bolts (9) in the bottom support plate (8) to allow full compression of the face seal on top of the purge manifolds. Tighten the lock nut on each stop bolt.
13. Unlock the feed center air supply ball valve and turn on the air supply.
14. Turn the electrical disconnect switch on the feed center control panel to the ON position. On the control panel, touch **Auto>System Start**.
15. Touch **Manual>Feed Center>Lance Control**. Toggle the **Lance/Purge Mode** to **Manual**. Touch the **Lance Down** button to pressurize the vertical slide actuator, then use the **Up** and **Down** buttons to move the lance up and down while checking the operation of the vertical slide.
16. Touch the **Purge Start** button to run a manual purge. Make sure the lances are sealing against the purge manifolds.

If air leaks from between the lances and the purge manifolds, check the bottom slide stops and the purge manifold gaskets. Make sure the stops allow a good seal and the gaskets are not leaking. If a gasket is leaking, replace it.

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