

Geoprobe® 5400 Series Direct Push Machines

Replacing and Adjusting the Foot Slides

Geoprobe Systems® utilizes black polymer slides at key wear points on the probe assembly of the direct push machine. Slides allow moving components of the machine (hammer, foot, etc.) to contact stationary components (mounting brackets, frames, etc.) without causing wear or requiring petroleum-based lubricants.

Maintenance to the slides is minimal and mainly consists of spraying silicone lubricant on the metal components that contact the slides. It is important to keep the slides properly aligned and tightened to prevent uneven wear and possible damage to the mounting brackets. This document describes replacing and adjusting the foot slides of a Geoprobe® 5400 series direct push machine. Contact the Geoprobe® Service Department if you have any questions.

Required Equipment

- (2) Alignment Punch or Large Screwdriver
- (2) Combination Wrench or Ratchet Wrench and Socket, 3/4-in.
- (1) 5400 Replacement Foot Slide Kit, P/N: 19298 (optional)

Preparing the Probe Assembly

1. Park the machine at a level location. Unfold the probe assembly and place the foot flat on the ground. Fully raise the hydraulic hammer to provide room to access the fold bracket bolts and foot slides. Shut off the carrier vehicle engine.
2. The foot of the 5400 series machine is attached to the fold bracket with ten "front" bolts (five per side) and eight "side" bolts (four per side) as shown in Figure 1. Loosen all eighteen bolts.
3. If the foot slides are to be replaced, remove the bolts, washers, hex nuts, slides, and brackets. Continue with "Installing New Foot Slides" below.

If only adjusting the foot slides, leave the bolts in place. Continue with "Adjusting the Foot Slides" on Page 3.

Installing New Foot Slides

There are three foot slides on each side of the fold bracket (Fig. 2). The three slides will be identified in this document as the fold bracket slide, center slide, and angle bracket slide (where the fold bracket slides contact the fold brackets and the angle bracket slides contact the angle brackets).

1. Choose either side of the foot to begin installing the new slides.
2. Place a new fold bracket slide between the foot and fold bracket. As shown in Figure 2, the slide is positioned such that the holes in the slide are closer to the fold bracket than the foot. Align the top hole in the slide with the top hole in the fold bracket. Hold the slide in place by inserting a screwdriver or punch through the top hole in the fold bracket if necessary.

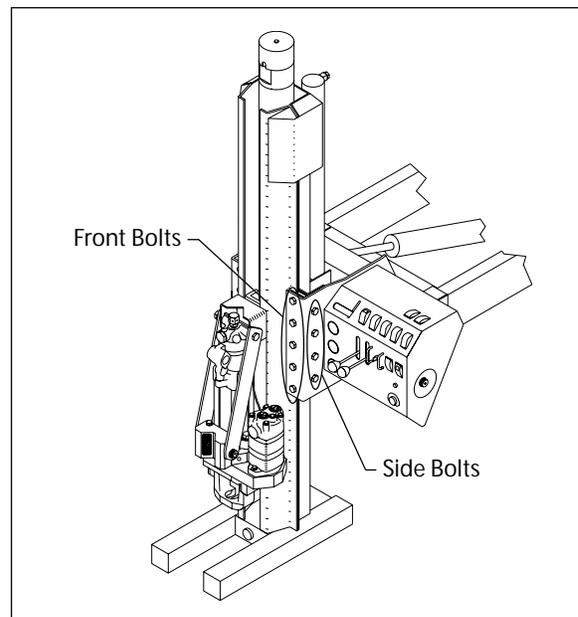


Figure 1: The 5400 series foot is attached to the fold bracket with ten "front" bolts and eight "side" bolts.

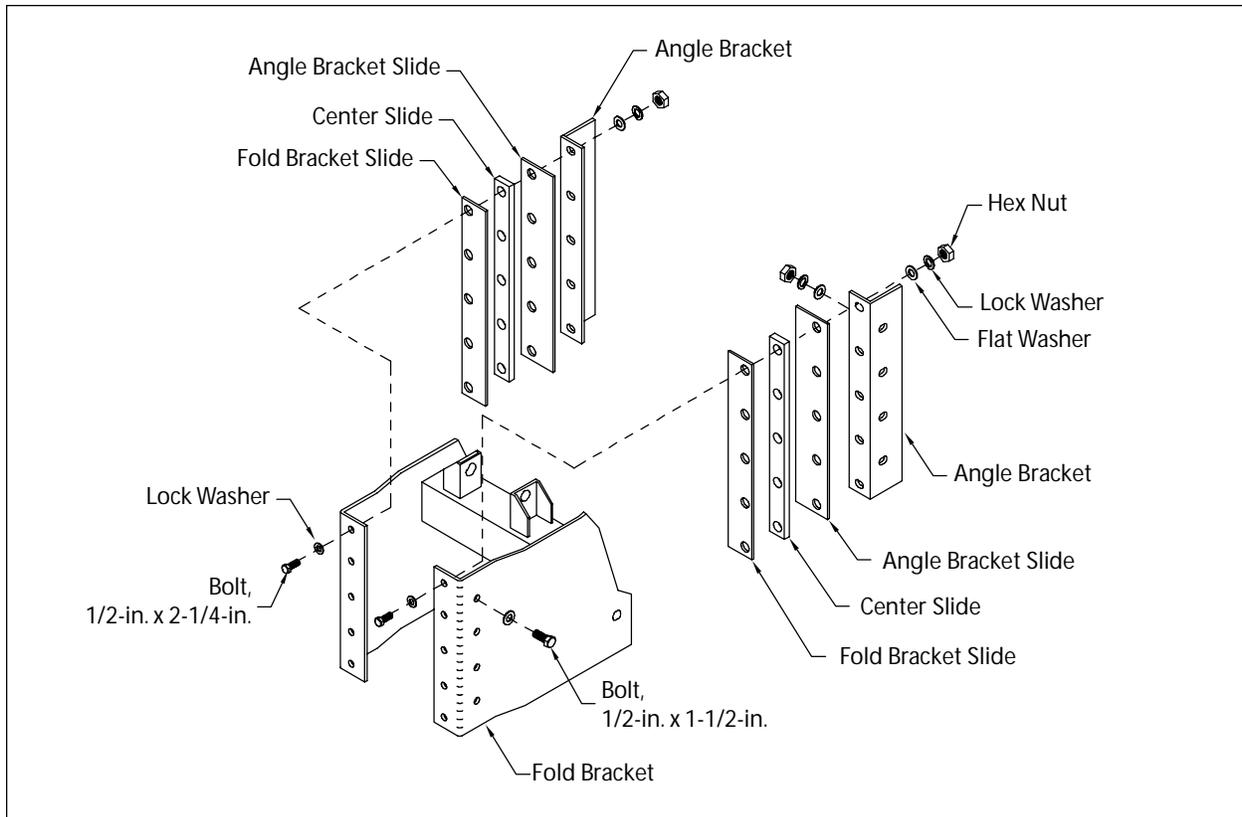


Figure 2: There are three foot slides on each side of the fold bracket. Note that the slides are positioned such that the holes are closer to the fold bracket than the foot.

3. Install a new center slide between the foot and fold bracket. Position the slide with the holes near the outside of the fold bracket. Note in Figure 3 that the center slide only contacts the outside edge of the lip on the foot. Hold the slides in place with the screwdriver or punch.
4. Place a new angle bracket slide behind the lip on the foot. Again, position the slide such that the holes in the slide are closer to the fold bracket than the foot. Insert the screwdriver or punch through the fold bracket and three slides.
5. Slide the angle bracket in behind the foot and place the top hole of the bracket over the screwdriver or punch that is holding the slides.
6. Align the holes in the slides and angle bracket with the holes in the fold bracket. Install the nine bolts with washers and hex nuts (Fig. 2) but do not tighten at this time. Note that the longer (2-1/4-inch) bolts are used at the front of the fold bracket.
7. Repeat Steps 2-6 for the opposite side of the fold bracket.
8. Adjust the new foot slides as described on Pages 3 and 4.

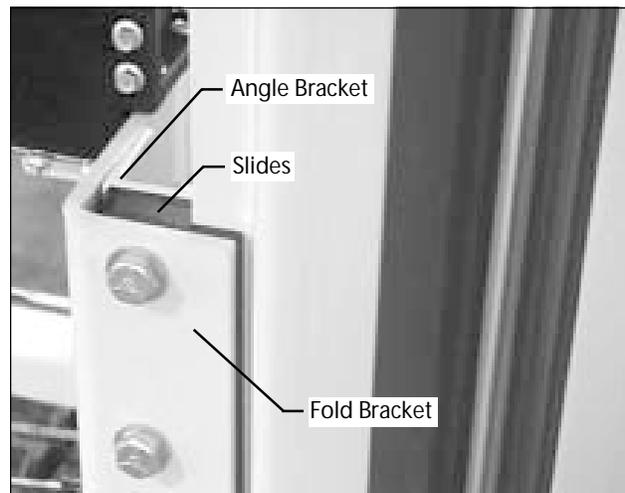


Figure 3: The slides should be flush with both brackets.

Adjusting the Foot Slides

Note that there are three slides on each side of the foot. The three slides will be identified in this document as the fold bracket slide, center slide, and angle bracket slide (where the fold bracket slides contact the fold brackets and the angle bracket slides contact the angle brackets).

1. Ensure that the top of the slides are flush with the metal fold bracket and back angle bracket (Fig.3). Do this for both sides of the foot.
2. Using two alignment punches or large screwdrivers, push the top of each center slide in to contact the foot (Fig. 4). Leave a punch or screwdriver in each side to hold the slides in place as shown in Figure 5.
3. Step back and visually check the alignment of the foot. The foot should be centered horizontally on the fold bracket (Fig. 5). Move the slides as needed to correctly position the foot on the fold bracket.
4. Tighten the top front bolts on each side of the fold bracket such that the slides will stay against the foot when the punches or screwdrivers are removed, yet they can still be moved for alignment at the bottom of the fold bracket.
5. Now use the two punches or screwdrivers to push in on the bottom of each center slide until it contacts the foot.
6. Step back and visually check that the foot is vertically aligned with the machine. Move the slides as needed to correctly position the foot on the fold bracket.
7. Tighten the bottom front bolts on each side of the fold bracket. Once again, only tighten the bolts enough to keep the slides in position when the punches are screwdrivers are removed. It may be necessary to slightly move the slides later in this procedure.



Figure 4: Push the center slide tight against the foot.



Figure 5: Adjust the center slides so that the foot is centered on the fold bracket and aligned with the vertical axis of the machine.



Figure 6: Position the tilt bracket slides and angle bracket slides so they do not contact the foot.

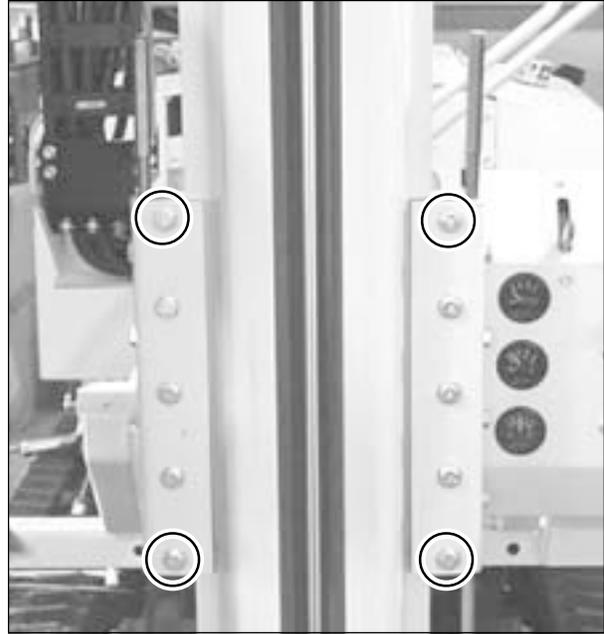


Figure 7: Fully tighten the four corner bolts on the front of the fold bracket.

8. The fold bracket slides and angle bracket slides should not contact the side of the foot. Use a screwdriver or punch to push the slides back even with the edge of the brackets (Fig. 6).
9. Fully tighten the four corner bolts on the front of the fold bracket as identified in Figure 7. This will hold the fold bracket slides in place while tightening the angle bracket bolts
10. Tighten the top and bottom side bolts on both sides of the fold bracket.
11. Fully tighten all of the bolts on the side of the fold bracket.
12. Fully tighten the remaining bolts on the front of the fold bracket.
13. Start the carrier vehicle engine and cycle the foot up-and-down to verify smooth operation. It may be necessary to spray silicone lubricant on the foot where it contacts the slides if it squeaks or does not operate smoothly.



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