

## 7.0 KICKER SHAFT INSTALLATION

1. Bring kicker shaft components to working area and lay out:
  - a. Shaft.
  - b. Mounting plate.
  - c. Bearings.
  - d. Spacers.
  - e. Grease lines.
  - f. Grease fittings.



FIG 7-1 KICKER COMPONENTS

2. Clean kicker shaft assembly shafts:
  - a. Remove the sleeves on the shaft on each end.
    - Use a screw driver to loosen sleeve and remove.
  - b. Use a file to remove burrs from exposed shafts.



Sleeve Removed (Typical)



Removing Burrs

FIG 7-2 CLEANING SHAFTS

3. Prepare side plate for installation:
  - a. Bring side plate to working area and lay out.



**Lay-Out**

- b. Apply silicon sealant on inside of frame mounting area.

**NOTE**

The silicon sealant must be applied all the way around the frame opening as it acts as a seal for the oil reservoir in the bottom of the chain case.



**Silicon**

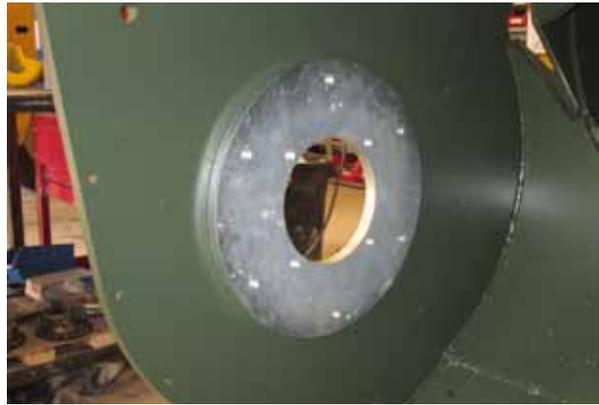
**FIG 7-3 SIDE PLATE PREPARATION**

4. Install the side plate:
  - a. Align the mounting bolt holes while moving the side plate into position against the frame.

**NOTE**

The best results occur when the plate is installed with the center mounting holes are in a flat orientation rather than diamond.

- b. Install mounting bolts with a lock washer under the head.
  - c. Tighten bolts in a diagonal pattern to their specified torque.



**Placed**



**Mounting Bolt**



**Tightening**



**Installed**

**FIG 7-4 SIDE PLATE INSTALLATION**

5. Assemble kicker shaft ends for installation:
  - a. Place kicker shaft on a small wheeled scissors lift cart and move into frame with paddle mounts moving soil into the fan.

**NOTE**

The kicker shaft turns in the direction that pulls the ditcher forward. Orient the shaft so the angle of the side paddles move soil toward the center of the machine as it moves forward.

- b. Slide a thick and thin spacer and a large washer over the end of each shaft.
- c. Slide spacers and washer down on shaft.
- d. Use a hammer if required to seat them against the hub.



**Scissors Lift**



**Spacers/Washer**



**Seating**

**FIG 7-5 ASSEMBLE SHAFT ENDS**

6. Move kicker shaft into position in frame:
  - a. Use wheeled cart to move shaft end into frame.



**Shaft End**

- b. Support left end of kicker shaft with a hoist and strap.



**Strap**

- c. Swing shaft into slot and lay on frame.



**Slot**



**Supported**

**FIG 7-6 KICKER SHAFT PLACEMENT**

7. Clean up shaft ends.
  - a. Use a file to remove any remaining burrs.



**File**

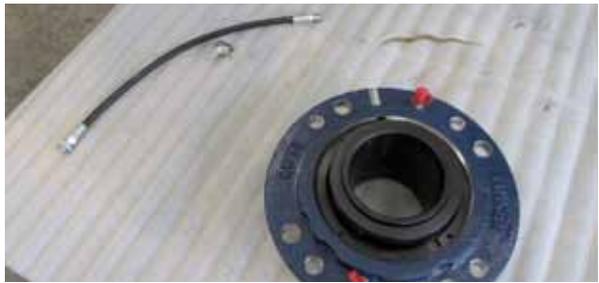
- b. Use an emery cloth to remove any rust from the surface.



**Emery Cloth**

**FIG 7-7 CLEAN SHAFT ENDS**

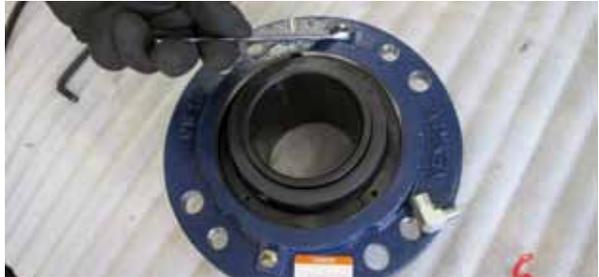
8. Prepare bearing housings for installation:
  - a. Bring components to working area and lay out.
  - b. Back out set screws from collar and hub.
  - c. Remove top zerk fitting and cover from bottom one.
  - d. Install elbow fitting into top hole and point to the right.
  - e. Attach grease line and tighten to its specified torque.
  - f. Repeat with the other bearing housing.



**Lay-Out**



**Set Screws**



**Zerk**



**Elbow**



**Hose**



**Second Bearing**

9. Install right side bearing on shaft:

a. Slide top bearing on shaft.



**Bearing on Shaft**

b. Raise the end of the shaft so inner race clears frame.



**Shaft Raised**

c. Turn bearing and align with threaded holes in mounting plate.



**Aligned**

d. Install mounting bolts with a lock washer.



**Mounting Bolts**

e. Use a pry bar on the inside of the frame to check for tightness. There should be no movement of shaft while shafts turns freely.

f. Tighten mounting bolts to their specified torque.



**Clearance**

**FIG 7-9 RIGHT SIDE BEARINGS**

10. Install left side bearing on shaft:

- a. Install top mounting bolts.
- b. Raise shaft and install bottom mounting bolts.
- c. Lower shaft and install bearing.
- d. Slide or tap into position.
- e. Raise shaft, align mounting holes and move bearing into position.
- f. Use a clamp to help pull bearing into position if required.
- g. Install nuts and tighten to their specified torque.



**Top Bolts**



**Bottom Bolts**



**Raising Shaft**



**Aligning**



**Installed**

**FIG 7-10 LEFT SIDE BEARINGS**

11. Check kicker shaft clearance:

- a. Use a pry bar between frame and kicker shaft to check for clearance.
- b. Correct clearance will allow the shaft to turn freely with only minimal lateral movement.



**FIG 7-11 CLEARANCE**

12. Add a spacer to right side bearing shaft if required to provide the clearance:

a. Back out mounting bolts on right bearing housing.



**Bolts Removed**

b. Install removal bolts through the extra holes and back bearing out/off shaft.



**Removal Bolts**

c. Add shims/spacer(s) as required.



**Shim (Typical)**

d. Re-install bearing per previous procedure.

e. Check clearance again and add more shims/spacers if required.



**Re-Install**

**FIG 7-12 ADDING SPACER**

13. Loctite set screws in bearing hub:

- a. Remove set screw(s) from right bearing hub.
- b. Apply 243 Loctite to threads.



**Threads**

- c. Install set screw and tighten to specified torque.



**Tightening**

- d. Repeat with set screws in left bearing.



**Left Side**

**FIG 7-13 SET SCREWS**

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