Problem - There are (4) Roll Pins (#879) that holds the (4) Planet Gear Pins (#820) in the Planet Hub (#886). These Roll Pins, under rare circumstances, may break loose and interfere with the Planetary Gear Set. For continuous product improvement, Force Control Industries, Inc. has developed a new Pin Retainment System that extends the life of the Planetary Gear Reducer.

Solution - Remove the (4) Roll Pins (#879) and replace them with (4) Dog Pt. Set Screws (#877), using Loctite Thread Adhesive on the screw threads. The Planet Hub (#886) will need to be drilled and tapped for the (4) Dog Pt. Set Screws (#877).

This Upgrade Kit enables you to remove these (4) Roll Pins (#879), drill and tap the Planet Hub (#886) and install the (4) new Dog Pt. Set Screws (#877). There is an English Upgrade Kit and a Metric Upgrade Kit.

Refer to Service Manual #502-11/20-001-00 for specific procedures and parts described in this Upgrade Instruction Sheet.

**UPGRADE INSTRUCTION STEPS**

**Step 1**
Remove the Posidyne and Gear Reducer from the Chopper Stand. See Section 7-1 and 7-2 in the Service Manual #502-11/20-001-00 for detailed instructions to remove the Posidyne Clutch/Brake, Fan, Fan Shroud and Flywheel.

**Step 2**
Drain the oil from the Gear Reducer. Save or discard as condition warrants.

**Step 3**
Remove the Breather (#45) from the Posidyne and replace it with a 3/8" pipe plug.

**Step 4**
Set the unit on the work bench with the Gear Reducer Shaft pointing up.

**Step 5**
Remove the (8) Screws (#843) and (8) Lockwashers (#850). Lift the Main Housing (#800) along with the Planet Hub (#886) straight up and off the Transfer Case (#801). Discard O-Ring (#873).

**Step 6**
Place the Main Housing (#800) on the work bench with the Gear Reducer Shaft in a horizontal position.

**Step 7**
Drive the Roll Pin (#879) into the Planet Gear Pin (#820) until it bottoms out as shown in Figure 1.

**Step 8**
Push the Planet Gear Pin (#820) out of the Planet Hub (#886). Be very careful not to allow the Planet Gear (#820) or the (2) Thrust Washers (#827) to drop when removing the Planet Gear Pin (#820). Have someone hold them as the Gear Pin is being removed.

![Figure 1 - Removing Roll Pin (#879)](image-url)
Step 9
Completely remove the Roll Pin (#879) from the Planet Gear Pin (#820).

Step 10
Repeat Steps 6, 7 and 8 for the other (3) Planet Gear Pins (#820).

Step 11
Drill and tap the roll pin hole in the Planet Hub (#886) for either English or Metric. Be sure that you clean out all metal shavings from the Planet Hub (#886).

English: 27/64” Drill, 1/2’-13 Tap
Metric: 10.2 mm Drill, M12-1.75 Tap

Step 12
Install the Planet Gear Pin (#820), Planet Gear (#818) and (2) Thrust Washers (#827) into the Planet Hub (#886) as shown if Figure 2. Make sure the holes are aligned with each other.

Step 13
Install the proper Dog Pt. Set Screw, using Blue Loctite #242. Torque to 25 Ft. Lbs.

Step 14
Repeat Steps 11, 12 and 13 for the other (3) Planet Gear Sets.

Step 15
After all (4) Planet Gear Pins (#820) and Planet Gears (#818) are properly installed, check the End Play of the Planet Hub (#886) as shown in Figure 9.25 and described in Section 9-14-C in the Service Manual #502-11/20-001-00. Adjust if necessary.

Step 16
Check the Magnetic Encoder Housing for any build-up of insulation fibers. Clean out if necessary.

Step 17
Reassemble the Main Housing (#800) to the Transfer Case (#801) with the new O-Ring (#873) and the (8) Screws (#843) and (8) Lockwashers (#850). Torque to 60 Ft. Lbs. (Lubricate the new O-Ring with white grease before installing it.)

Step 18
Fill the Planetary Gear Reducer with oil as shown and described in Section 4 in the Service Manual #502-11/20-001-00.

Step 19
Replace the Breather (#45) back into the Posidyne housing.

Step 20
Re-install the complete drive back on the Chopper frame as described in Section 3 - Installation in the Service Manual #502-11/20-001-00.