



### DISASSEMBLY OF REVERSING GEAR CASE

The following procedure would be necessary to repair or replace the operating cone, pressure plate, gear cage bearing, **adjusting collar**, or clutch disks.

### REMOVAL OF TAIL SHAFT AND GEAR CAGE BEARING

1) Remove the three fingers from the pressure plate by removing the pins and cotter pins.

**NOTE:** Reinstalling these cotter pins can be quite difficult. Observe carefully how they are installed by the factory, and then attempt to procure pins as close to the originals as possible before starting reassembly. It also helps to put a slight bend in the new cotter pins before reinstalling them.

2) Position the adjusting collar until its rearward face is flush with the end of the threads on the tail shaft.

3) Remove the forward pilot bearing.

4) Position the gear case (pinion gears up) in a press in such a way as to support the adjusting collar between two strong plates. The edges of the plates should be notched so as to form an opening as close to the diameter of the tail shaft as possible.

5) Press the tail shaft out of the propeller gear using a piece of 3/4" round stock (3 1/2" long). The end of the round stock must be recessed (15/32" dia. x 1/2" deep) to prevent damage to the forward (pilot bearing) end of the tail shaft. A press with at least 12 ton capacity is usually required.

6) Remove pressure plate and clutch disks.

7) Remove the retaining ring and gear cage (pilot) bearing.

### REMOVAL OF PINION GEARS

1) Remove the retaining ring on the forward face of the gear case.

2) Drive the 4 pinion studs out of the gear case. The studs can only move forward; from the direction of the clutch disks to the forward end of the gear case.

### REASSEMBLY

**The gear case assembly can be reassembled by reversing the above steps, with only a few precautions:**

1) Install the spacers on the pinion studs so that the small gears are positioned against the forward end of the gear case.

2) The forward end of the gear case can be placed directly on the press when pushing the tail shaft back into the propeller gear. However, the coupling nut should be installed on the end of the shaft to prevent damaging the threads.

3) If you are working on a very late model reversing gear (circa 1980 or later), there will only be two plain steel disks in the clutch assembly. Be sure that these two disks are placed - one on either side - of the middle bronze disk. On all other models, the third disk is installed between the pressure plate and the first bronze disk.