mercruiser
STERN DRIVES & INBOARDS

# service bulletin

TO: SERVICE MANAGER ☐ MECHANICS ☐
PARTS MANAGER ☐

No. 92-20

## A. ALPHA ONE/ALPHA ONE GENERATION II R/MR GEAR SETS

### Models

All stern drive models using the following gear sets 43-18411A2/43-45814A5/43-55778A3/43-75325A3

### Problem

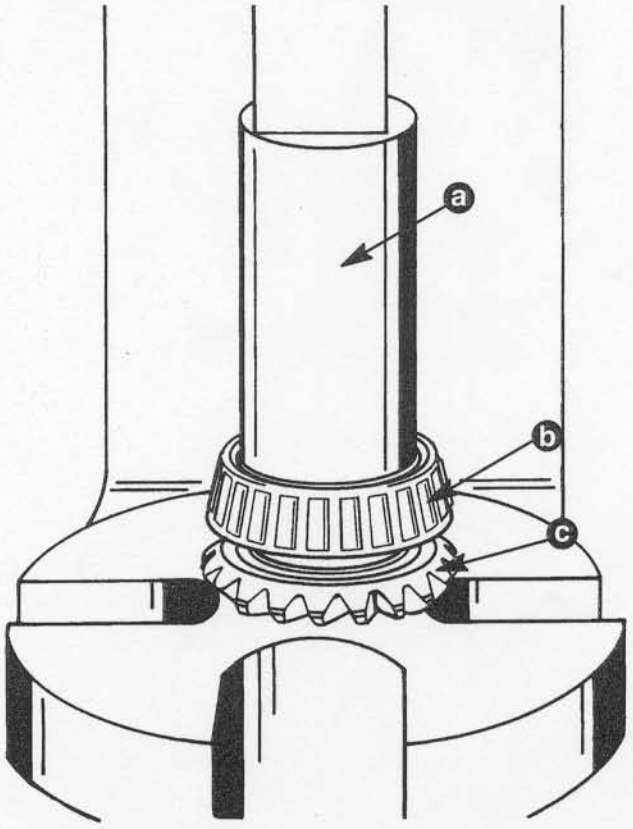
On the above listed gear sets we have been getting feed back that the bearings do not fit on the gears or too tight of a fit to the gear, an interference type fit.

### Correction

Follow the instructions in this service bulletin or the instructions that come with the gears.

**IMPORTANT: The latest Alpha One Stern Drive Units, beginning with serial number D492656 and above, no longer use the cone spacer between the bearings in the u-joint assembly to set the bearing preload. A new procedure has been established for adjusting this preload and is covered in the following instructions. Also, the O.D. of the drive gear hub was increased by .0014 in. which means that the bearing cones now have a slight interference fit with the gear. It is also important to note that these gear sets and bearing set will back-fit to drive units that fall below the above listed serial number and that the following bearing preload procedure should also be used for those units.**

1. Press the first bearing cone onto drive gear until it is firmly seated.




a - Suitable Mandrel
b - Bearing Cone
c - Drive Gear

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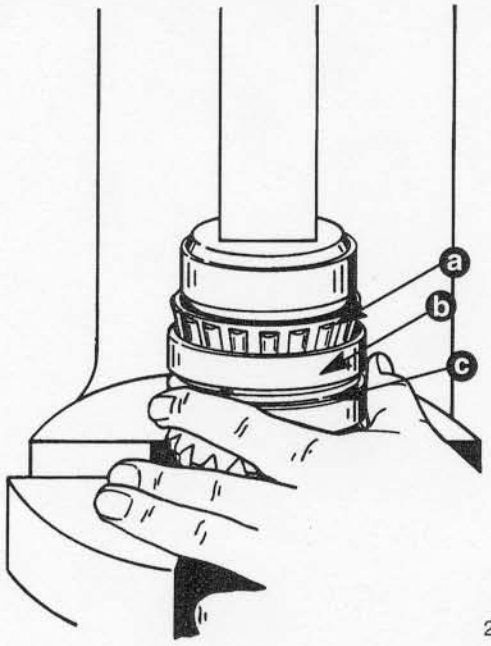
2. Place the bearing cup onto the first bearing cone, place the cup spacer on top of that cup, and then place the second bearing cup on top of the spacer.

## ⚠ CAUTION

**Use care in pressing the second bearing cone onto gear to avoid placing a premature preload on the bearings. Excessive force could also damage the bearings. Press the second bearing cone on only until it just starts to make contact with the bearing cup.**

3. Press the second bearing cone onto gear until the rollers just contact the cup.

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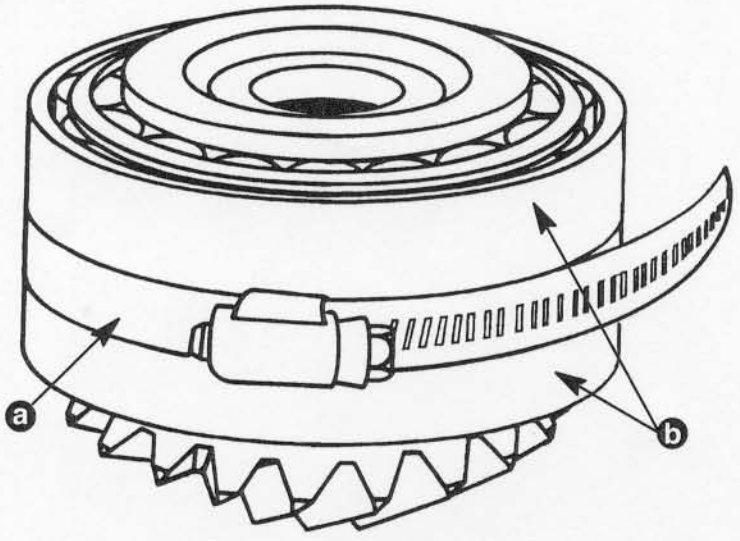
a - Bearing Cone
b - Bearing Cup
c - Spacer

NOTE: If a slight over-press condition occurs (spacer does not move freely) - support second bearing cup with universal puller plate and lightly tap end of gear with a soft hammer. Failure to do this will result in a high initial preload when you check it in the following steps.

4. Temporarily install a hose clamp on the bearing assembly to keep the bearing cups and cup spacer centered, prior to adjusting the preload.

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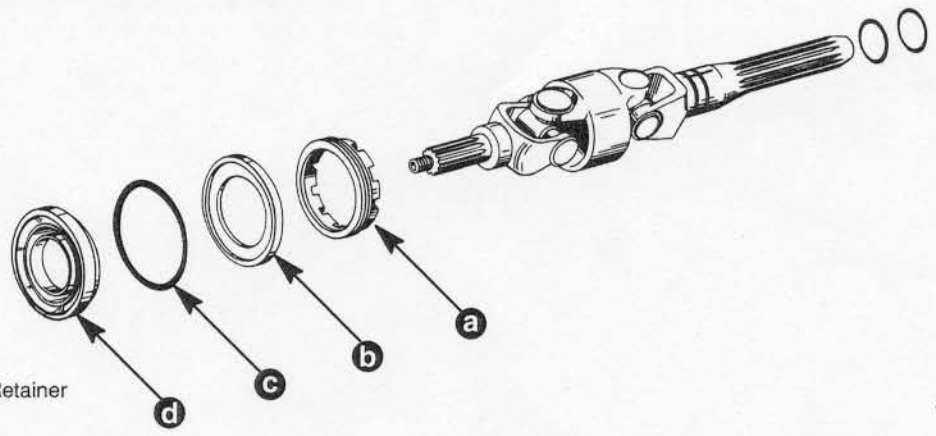
a - Hose Clamp
b - Bearing Cups

5. Install remaining components in order as shown.




a - Retainer
b - Roller Bearing Retainer
c - O-ring
d - Oil Seal Carrier

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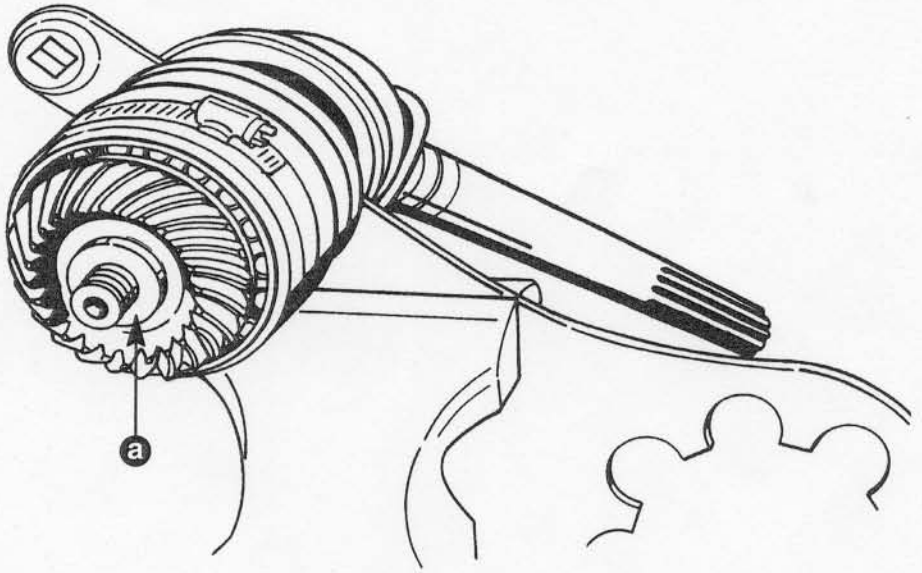
6. Install drive gear and bearings onto u-joint shaft. Secure with washer and locknut. Tighten until locknut just makes contact with washer.




a - Washer

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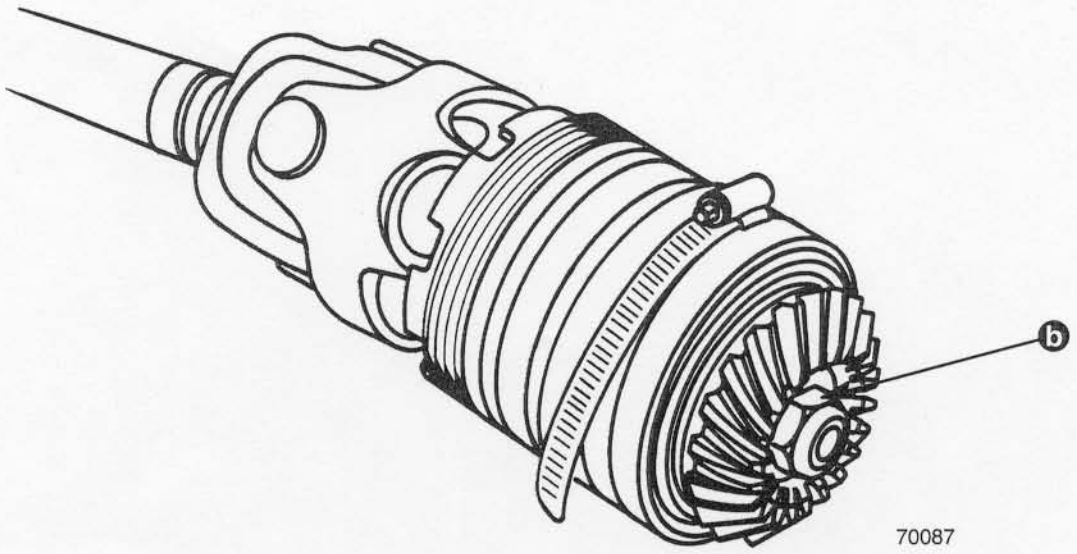


b - Locknut

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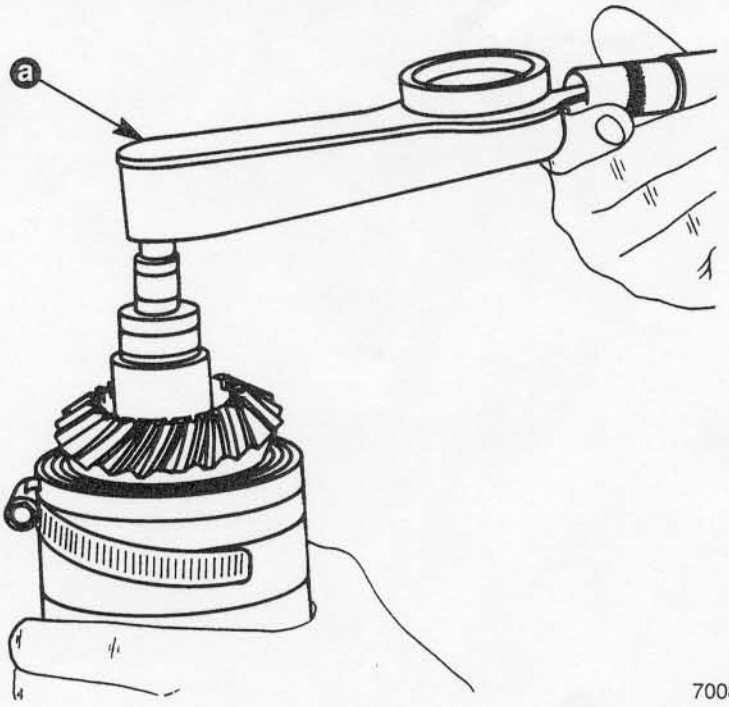
7. Set preload by tightening nut 1/16 of a turn at a time. Check for proper preload by turning gear using a torque wrench, until a 6-10 lb. in. (0.7 - 1.1 N·m) torque is obtained. If nut is accidentally overtightened (causing excessive preload), it will be necessary to loosen the locknut, and lightly strike the gear and bearing assembly to loosen the preload. You should then repeat this entire procedure.




a - Torque Wrench (lb. in.)

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Refer to Stern Drive Service Manual for "Adjusting Pinion Depth." This procedure has not changed.