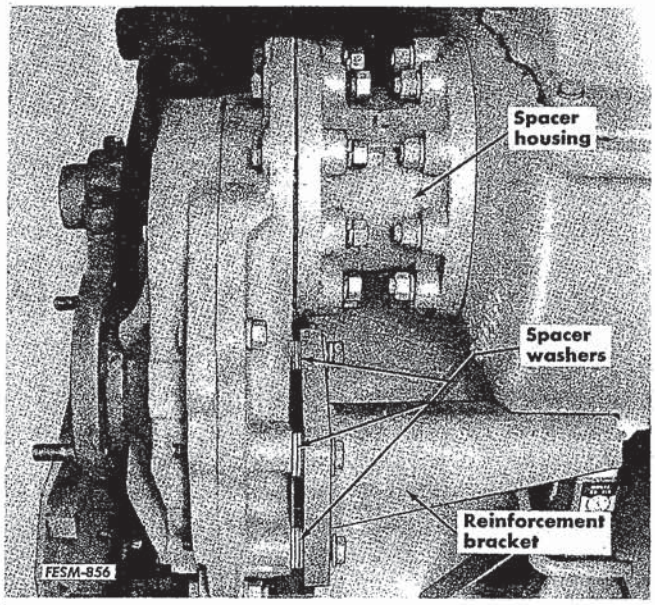
Final Drive Housing Alignment

NOTE: When installing final drive housings or where repeated failure of the steering clutch fibre discs occurs (stripping of drive teeth), the alignment of the bevel gear shaft, pinion shaft and final drive housing must be checked.

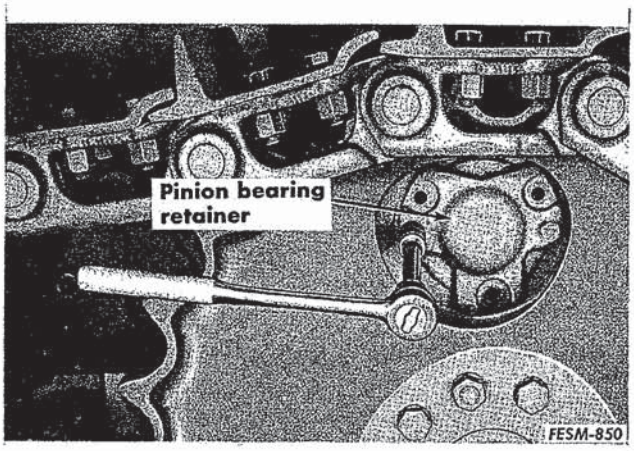


Illust. 167. Final drive reinforcements.

Positive alignment of the final drive housing is maintained by means of final drive reinforcements (see Illust. 167) and is checked as follows.

1. Align the access hole in the sprocket with the pinion bearing retainer. Remove the retainer using two capscrews to push off the cap. See Illust. 168.

NOTE: Determine whether or not the retainer cap can be easily inserted into the bore. Ease of installation indicates proper alignment.



Illust. 168. Removing pinion bearing retainer.

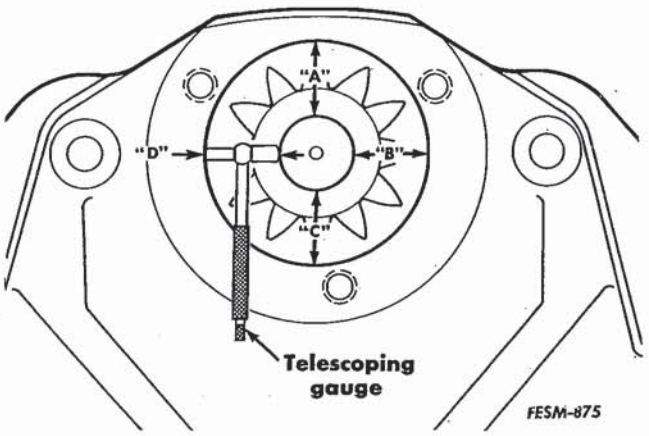
2. Wipe the bore, bearing recess in the retainer and the pinion shaft to clean off any grease or foreign material.

3. Mount a dial indicator on the final drive housing and by prying the shaft up with a screwdriver, determine the amount of "droop" that exists in the pinion shaft. This will normally be .003 inch. Record this figure. Remove the dial indicator.

NOTE: It may be necessary to revolve the sprocket to locate the pinion teeth in a position where the "droop" is vertical.

4. Measure the distance from the pinion shaft to the case bore in four positions, vertically and horizontally, with a 3/4 to 1-1/4 inch telescoping gauge and micrometer. Do Not move the shaft in performing any of these checks. See Illust. 169.

5. Using the lesser reading as a basis, determine if the shaft is centered within the bore within .005 inch in all directions.



Illust. 169. Measuring final drive alignment.

6. The droop figure in step 3 must now be taken into consideration. Subtract one-half of this figure from the top reading ("A" Illust. 169) and add one-half of this figure to the bottom reading ("C" Illust. 169) prior to calculating the shafts centered position.

Example: Refer to Illust. 169

Measurement at "A" - .967 inch
Measurement at "B" - .972 inch
Measurement at "C" - .983 inch
Measurement at "D" - .978 inch
Shaft droop - - - - .003 inch

Subtract one-half of the shaft droop from measurement "A" which would be .9655 inch. Add one-half of the shaft droop to measurement "C" which would be .9845 inch. This example shows that the shaft is out of alignment a total of .019 inch. The final drive housing must be moved in (remove shims) to obtain correct alignment.

NOTE: If the calculations in step 6 are within specifications, no changes are required other than positioning the reinforcement bracket to permanently locate the final drive in this position. If the calculations are not within specifications, add or remove shims between the reinforcement bracket and final drive housing to align the housing and shaft. See Illust. 169.

NOTE: Prior to using shims to force the housing into alignment, an attempt should be made to reach correct alignment by revolving the final drive spacer one hole at a time. The gasket, if installed, between the clutch housing and spacer should be eliminated. Misalignment can be caused by foreign material between these parts.

If the alignment is not restored by revolving the spacer, remove all shims between the housing and reinforcement bar. Check shaft alignment as the bolts are being tightened. When proper alignment is reached, measure the gap and select the shim pack required. Install shims and torque the bolts.