

and against the gear, then slide the speedometer gear, spacer, and the original shims on the shaft. If the shims have been damaged or lost, select new shims to give a total thickness of .030" and install. Install driven gear shaft, outer bearing, companion yoke, washer and nut. Tighten nut as tight as for final assembly. Shock each end of the drive shaft with a brass drift and hammer, and revolve shaft until bearings roll smoothly. The shaft must be free rolling without end play for a correct bearing adjustment.

If the bearing adjustment is not cor-

rect, remove the shaft and gear and increase or decrease the thickness of the shim pack until a free rolling adjustment without end play is accomplished. When correct adjustment is obtained, remove companion yoke.

Remove companion yoke from lower driven gear shaft, lubricate bearings and install new oil seal, companion yoke, washer and nut. Position lower driven gear bearing retainer on case with lug of retainer covering shift rail opening in case. Install cap screws, nuts and washers.

Lubricate bearings and position upper driven shaft bearing retainer to transfer

case with lug of retainer covering shift rail hole in case. Install cap screws, nuts and washers.

Drive a new oil seal in the brake support and install support to upper driven gear bearing retainer. Install hand brake drum and band. Tighten all but the upper driven shaft companion yoke nuts and lock with cotter pins. Install speedometer pinion.

Adjust hand brake so there is .010" to .012" clearance between lining and drum. Apply brake and tighten upper driven shaft companion yoke nut, and lock with a cotter pin.

## Rear Axle Section

### REAR AXLES

Year	Make	Model	Type	Oil, Pts.
1949-58	Dodge	1350	1 Speed	3¾
1949-58	Dodge	13800	1 Speed	5½
1949-58	Dodge	16600	1 Speed	11
1949-58	Eaton	①	1 Speed	④
1949-58	Eaton	②	1 Speed	④
1949-58	Eaton	③	1 Speed	④
1949-58	Timken	F147	1 Speed	④
1949-58	Timken	H141	1 Speed	④
1949-58	Timken	L140	2 Speed	④
1949-58	Timken	QT140	2 Speed	④
1949-58	Timken	RT140	2 Speed	④
1949-58	Timken	H341	2 Sp. D. R.	④
1949-58	Timken	L340	2 Sp. D. R.	④
1949-58	Timken	QT340	2 Sp. D. R.	④
1949-58	Timken	RT340	2 Sp. D. R.	④
1957-58	Timken	Tandem	1 Speed	④
1957-58	Timken	⑤	1 Speed	④
1950-57	Timken	Worm Dr.	1 Speed	④

- ①—Semi-floating, two pinion type with two pinion bearings.
- ②—Full-floating, four-pinion type.
- ③—Full-floating, two-pinion type with three pinion bearings.
- ④—See *Rear Axles Chapter* for repairs and lubrication data.
- ⑤—Split housing type axle used at front of four-wheel drive trucks.

6. Install outer oil seal in brake support and stake seal in place at four points.
7. Install shims and brake support.
8. Install nuts on housing studs and tighten from 30-35 lb. ft. torque.
9. Axle shaft bearings are adjusted by removing or installing shims. Shims are available in thicknesses of .005", .010", .0125", .015" and .030". One or more shims should be used, as required, to obtain proper adjustment. Check axle shaft end play as follows:
10. Rap each axle shaft to be sure the bearings and cups are seated. Then place a dial indicator on the axle shaft in such a manner to locate the dial indicator stem on the end of the axle shaft. Pull out and push in the axle shaft to obtain end play reading on the indicator.
11. If the indicator reading shows less than .003" or more than .008" end play, remove the brake support plate and oil seal and add or remove shims as required. *When adjusting these bearings, equal thicknesses of shims should be removed or installed on both the right and left sides of the axle housing to retain the central position of the axle shaft thrust block.*
12. Install key in axle shaft and install hub and wheel. Tighten axle nut from 142-150 lb. ft. torque.

### 1949-58 SEMI-FLOATING AXLE

The drive pinion in these axles, Figs. 1 and 2, is held in position by the shoulders in the differential carrier upon which the pinion bearing cups seat. Pinion position is maintained by shims located between the pinion head and the rear bearing cone. Shims between the bearing spacer and the front bearing cone are used to adjust pinion bearings. The threaded nut type of differential bearing adjustment is used.

#### Axle Shaft, Remove

1. Remove the wheel, hub and drum assembly. Do not strike the end of the axle shaft to loosen the hub as damage to the axle roller bearings and spacer block may result.
2. Block the brake pedal so it cannot be depressed.
3. Disconnect the brake line from the wheel cylinder.

4. Remove the axle shaft drive key and remove the brake support plate.
5. If shims are removed from both ends of the axle housing, each set should be kept separate and assembled to its respective end of the axle housing to maintain the central location of axle shafts and wheels. When an axle shaft or bearing is replaced, the axle shaft end play should be checked and corrected as required.
6. Remove the axle shaft and bearing.

#### Axle Shaft, Install

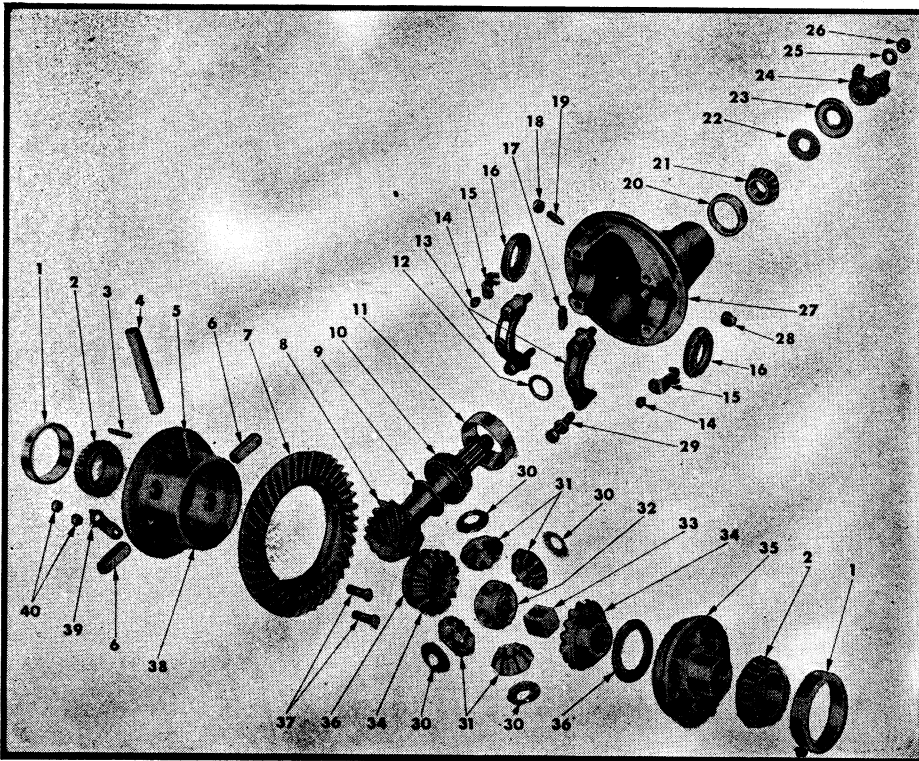
1. Install inner oil seal (well soaked with oil) in the axle housing.
2. Press bearing on axle shaft (if removed) applying pressure to the inner race.
3. Pack bearing with short fiber wheel bearing grease and coat the bearing cup bearing surface.
4. Place axle shaft in housing, working carefully to prevent damage to inner seal.
5. Drive bearing cup into housing.

#### Differential Carrier, Remove

1. Drain oil from housing by removing two bottom cap screws that fasten carrier to axle housing.
2. Remove axle shafts.
3. Disconnect rear universal joint and drop propeller shaft.
4. Remove remaining carrier-to-housing cap screws and lift out carrier.

#### Differential Carrier, Install

1. Roll differential carrier under truck on dolly and lift assembly into housing.
2. Install cap screws and tighten evenly from 25-30 lb. ft. torque.
3. Connect propeller shaft.
4. Install axle shafts.
5. Fill housing to proper level at bot-



**Fig. 1 Dodge semi-floating four pinion axle with barrel type differential case**

- |                   |                     |                      |
|-------------------|---------------------|----------------------|
| 1—Bearing cup     | 15—Lock             | 28—Filler plug       |
| 2—Bearing cone    | 16—Adjuster         | 29—Screw and washer  |
| 3—Shaft lock pins | 17—Thrust screw pad | 30—Thrust washer     |
| 4—Shaft           | 18—Check nut        | 31—Pinion            |
| 5—Lock pin        | 19—Thrust screw     | 32—Block             |
| 6—Shaft           | 20—Bearing cup      | 33—Thrust block      |
| 7—Gear            | 21—Bearing cone     | 34—Gear              |
| 8—Pinion          | 22—Oil slinger      | 35—Case cap          |
| 9—Washer          | 23—Oil seal         | 36—Thrust washer     |
| 10—Bearing cone   | 24—Yoke             | 37—Bolts             |
| 11—Bearing cup    | 25—Washer           | 38—Differential case |
| 12—Washer         | 26—Nut              | 39—Nut lock          |
| 13—Carrier caps   | 27—Carrier          | 40—Nuts              |
| 14—Lock screw     |                     |                      |

tom of threads in inspection hole with proper lubricant.

**Pinion & Bearings, Replace**

The differential unit must be removed before the drive pinion can be taken out, but it is not necessary to remove the drive pinion or differential unit if only the pinion bearing oil seal is to be replaced.

To remove the oil seal, take off the pinion flange retaining nut and use a suitable puller, to remove the flange. The oil seal may then be pulled out of the carrier.

Pull the drive pinion through the rear end of the differential carrier. The bearing spacer, front bearing and shims may then be taken out. Using a bearing puller, remove the rear bearing cone from the pinion shaft and, unless a new ring gear and pinion is to be installed use care not to allow the front and rear shim packs to become mixed.

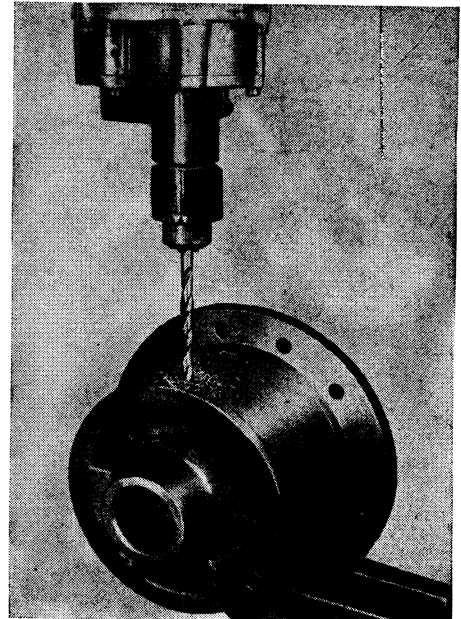
If the differential unit was satisfac-

tory from a standpoint of noise before it was dismantled, the drive pinion may be assembled with the original shims behind the rear bearing. If new parts are used or if an adjustment was necessary, change the shims until the correct combination is obtained to locate the pinion properly.

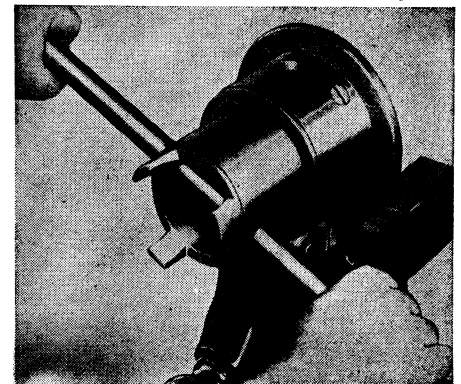
To assemble, place the front bearing in position in its cup and install the pinion shaft oil seal. Place the shims on the pinion shaft against the pinion head and press on the rear bearing. Slip the bearing spacer against the rear bearing, then place the front bearing shims ahead of the spacer. Install the pinion and assembled parts in the carrier, passing the forward end of the pinion through the front bearing. Replace the pinion flange, slip on the washer, screw on the retaining nut and tighten it securely.

**Pinion Bearings, Adjust**

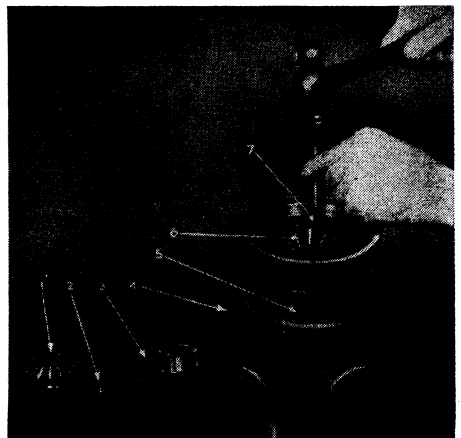
The only occasion for adjusting the drive pinion bearings is when a new pinion or differential carrier is installed. To



**Fig. 3 Removing case cap lock pin from barrel type differential case**



**Fig. 4 Removing case cap from barrel type differential case**



**Fig. 5 Removing pinion shaft lock pin from barrel type differential case. 1. Side gear. 2. Cap lock pin. 3. Case cap. 4. Case. 5. Pinion shaft. 6. Pinion. 7. Shaft lock pin**

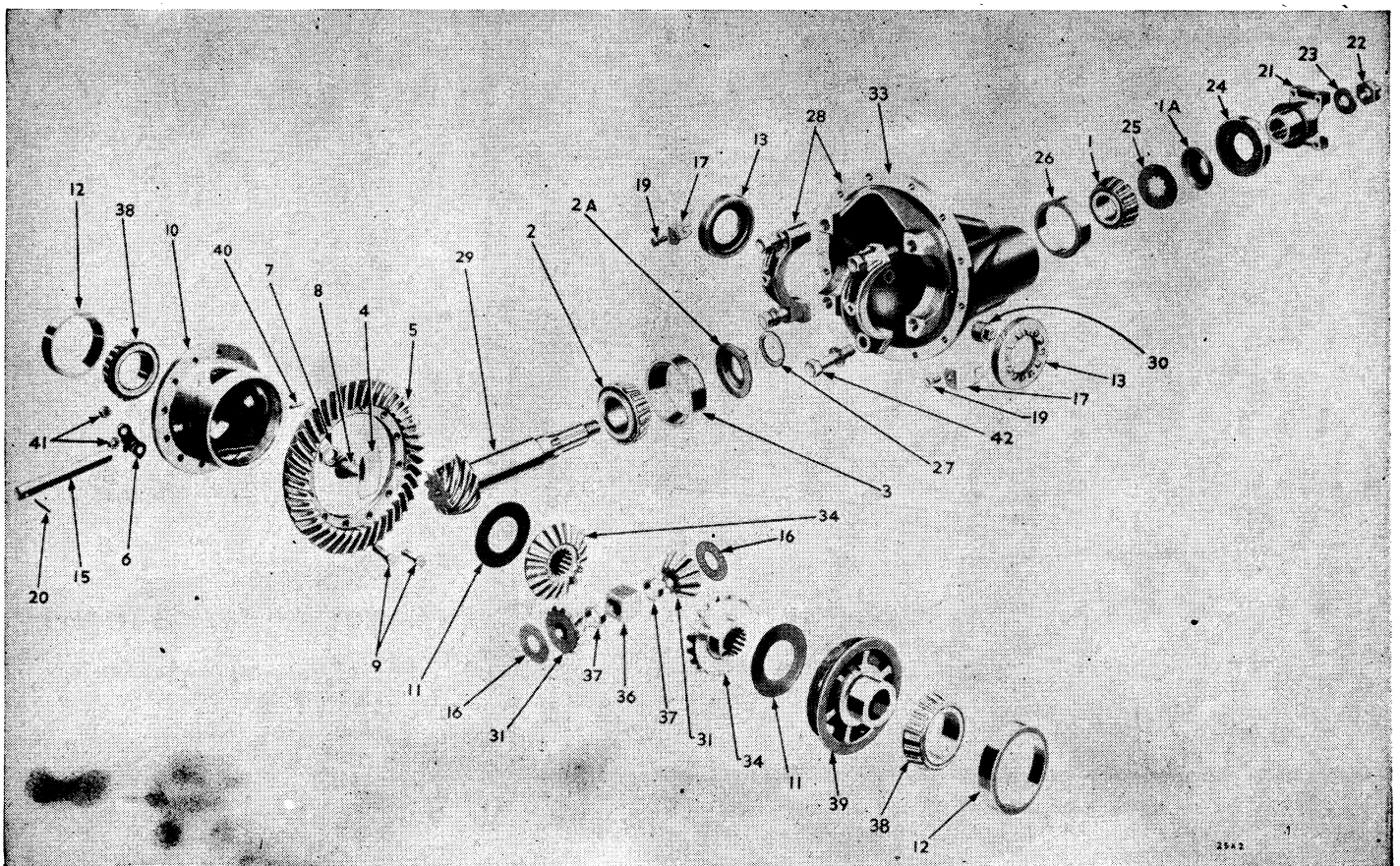


Fig. 2 Dodge semi-floating two pinion axle with barrel type differential case

- |                                   |  |                               |
|-----------------------------------|--|-------------------------------|
| 1. Drive pinion front bearing     | 15. Differential pinion shaft          | 29. Drive pinion              |
| 2. Drive pinion rear bearing      | 16. Thrust washer                      | 30. Plug                      |
| 3. Rear bearing cup               | 17. Differential bearing adjuster lock | 31. Differential pinion       |
| 4. Ring gear thrust pad           | 18. Lock wire                          | 32. Differential carrier bolt |
| 5. Ring gear                      | 19. Lock screw                         | 33. Gasket                    |
| 6. Ring gear bolt lock            | 20. Pinion shaft lock pin              | 34. Differential side gear    |
| 7. Thrust screw lock nut          | 21. Drive pinion flange                | 36. Axle shaft thrust block   |
| 8. Thrust screw                   | 22. Flange nut                         | 37. Thrust block spacer       |
| 9. Ring gear bolts                | 23. Washer                             | 38. Differential bearing      |
| 10. Differential case             | 24. Pinion bearing oil seal            | 39. Differential case cap     |
| 11. Side gear thrust washer       | 25. Pinion front bearing washer        | 40. Cotter pin                |
| 12. Differential bearing cup      | 26. Front bearing cup                  | 41. Ring gear nuts            |
| 13. Differential bearing adjuster | 27. Pinion bearing spacer              | 42. Cap screw                 |
|                                   | 28. Differential carrier               |                               |

make the adjustment, install sufficient shims between the bearing spacer and front bearing so that when the pinion retaining nut is tightened against the pinion flange, all rollers in the bearings are tight, but still permit rotating the pinion by hand.

The bearings should be preloaded from .0015" to .0025". To check and adjust this preload (tension) mount a dial indicator on the carrier with the stem of the indicator contacting the pinion flange. Then, if the indicator, for example, shows .004" end play, remove the parts, including .006" of shimming to give the necessary .002" preload on the bearings.

### Pinion, Adjust

After adjusting the pinion bearings, the position of the pinion should be checked. If a pinion setting gauge is

available, check the pinion depth according to the instructions furnished with the gauge. Then if a correction is necessary, disassemble the parts and, if the pinion is to be moved toward the center of the axle, add shims between the pinion head and the rear bearing cone. If the pinion is to be moved away from the center of the axle, remove shims.

If no pinion setting gauge is available, assemble the differential unit in the carrier and check the tooth contact by painting the ring gear teeth (see *Rear Axles Chapter*). When the adjustment is correct, install a new cotter pin in the pinion flange nut.

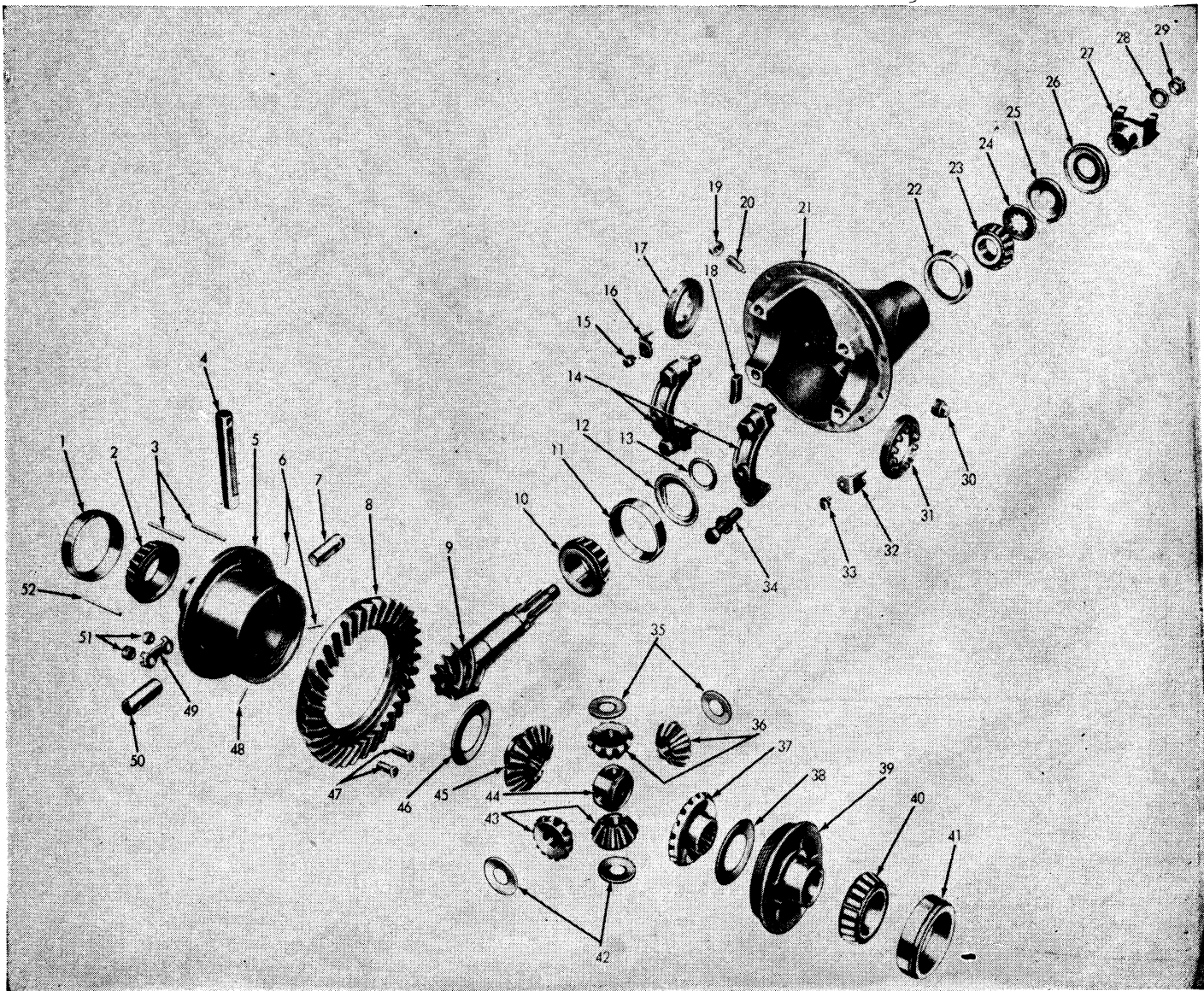
### Barrel Type Differential Case

Fig. 2 is an exploded view of the drive unit employing this type differential case.

The ring gear and pinion are precision machined when manufactured so that no shims are needed to make adjustments for pinion position.

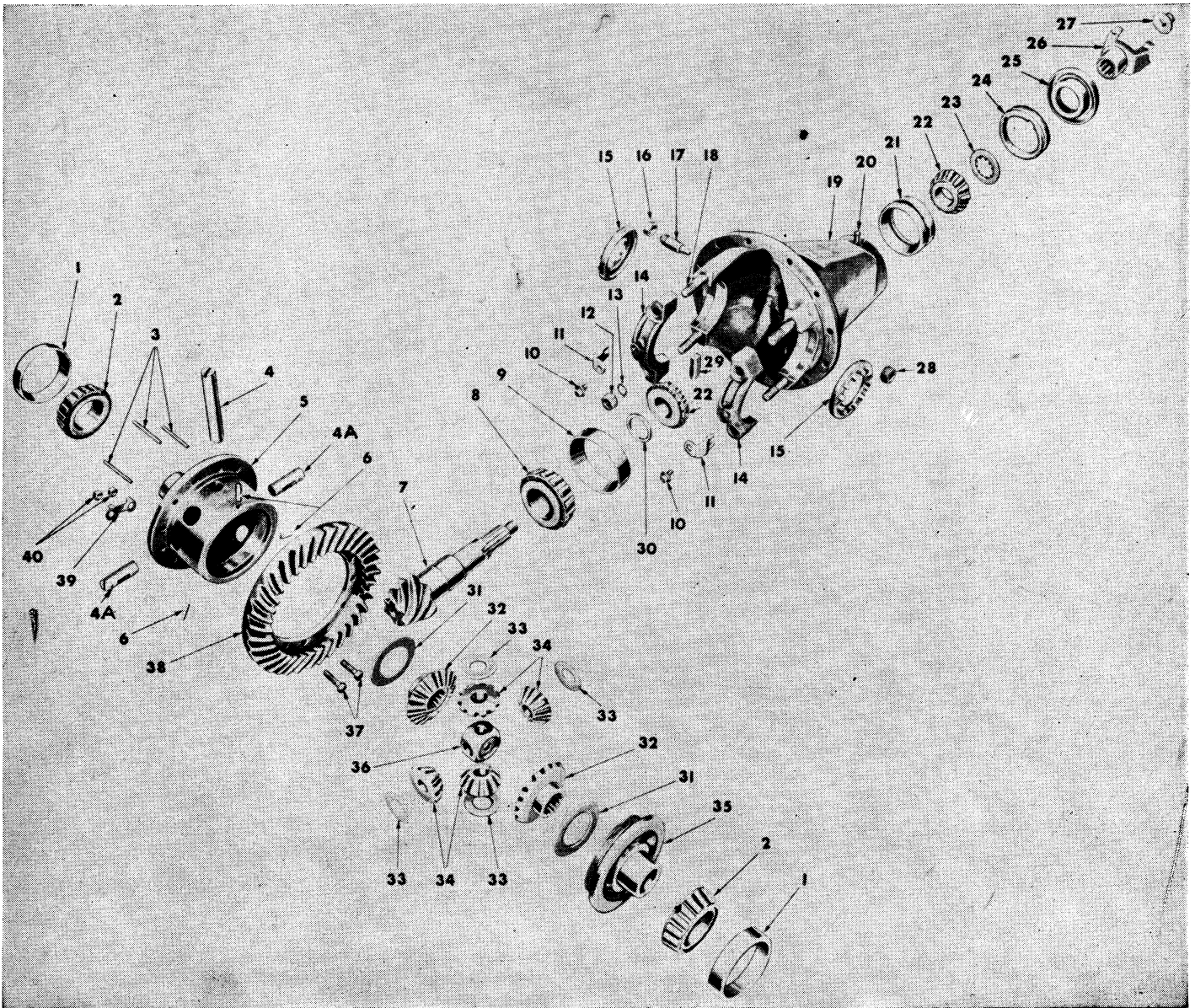
A thrust pad, which presses against the back face of the ring gear, together with the rigid differential case design, maintain accuracy of mesh between the ring gear and pinion. To overhaul the differential case, proceed as follows:

1. Mount differential case ring gear flange in vise, using copper jaw protectors.
2. Remove bearing from differential case cap side only.
3. Drill out case lock pins, Fig. 3.
4. Since the cap is a thousandth or two larger than the hole in the case into which it fits, the case must be expanded in order to get it off or damage will result. Heat the case (not



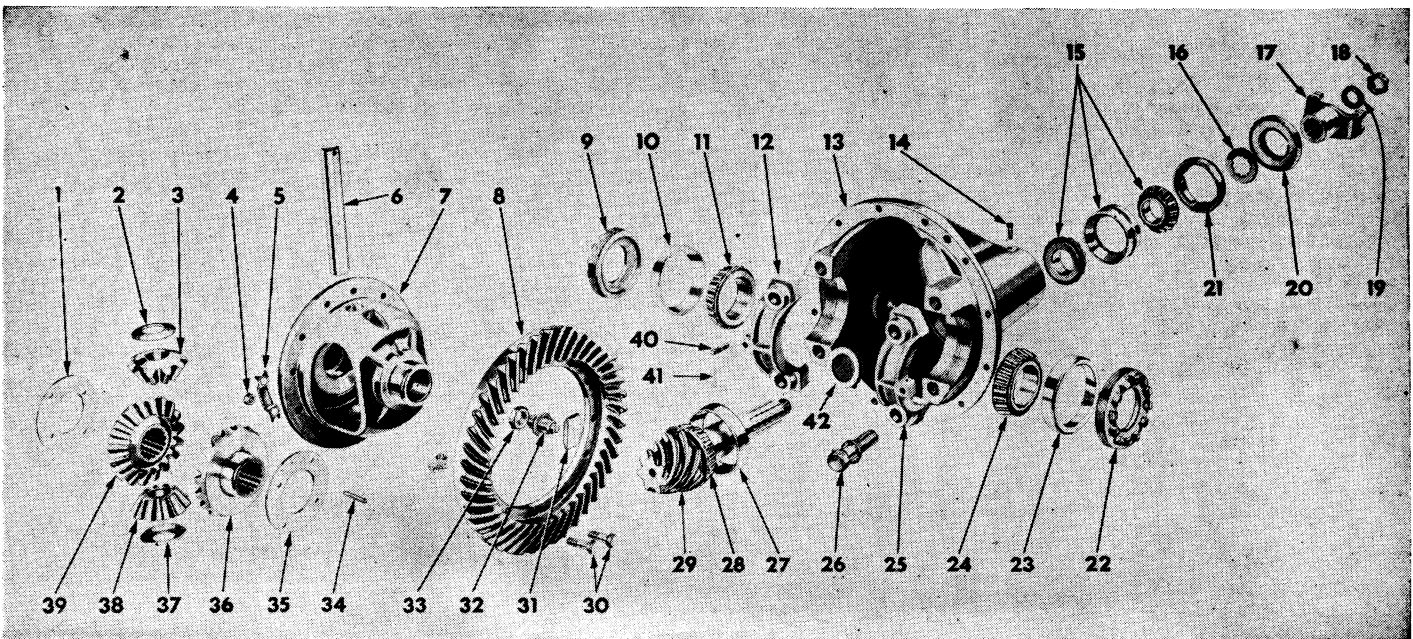
**Fig. 6 Dodge full-floating axle with barrel type differential case and two pinion bearings**

- |                                     |                                       |                                       |
|-------------------------------------|---------------------------------------|---------------------------------------|
| 1. Differential bearing cup         | 19. Thrust screw lock nut             | 37. Differential side gear            |
| 2. Differential bearing cone        | 20. Thrust screw                      | 38. Side gear thrust washer           |
| 3. Differential case pin            | 21. Differential carrier              | 39. Differential case cap             |
| 4. Differential pinion shaft (long) | 22. Pinion front bearing cup          | 40. Differential bearing cone         |
| 5. Differential case                | 23. Pinion front bearing cone         | 41. Differential bearing cup          |
| 6. Pinion shaft lock pin            | 24. Pinion bearing washer             | 42. Differential pinion thrust washer |
| 7. Pinion shaft (short)             | 25. Pinion bearing oil slinger        | 43. Differential pinion               |
| 8. Ring gear                        | 26. Pinion bearing oil seal           | 44. Differential pinion shaft block   |
| 9. Drive pinion                     | 27. Pinion companion yoke             | 45. Differential side gear            |
| 10. Pinion rear bearing             | 28. Yoke washer                       | 46. Side gear thrust washer           |
| 11. Pinion rear bearing cup         | 29. Yoke nut                          | 47. Ring gear bolt                    |
| 12. Pinion bearing oil baffle       | 30. Carrier plug                      | 48. Pinion shaft lock pin             |
| 13. Pinion bearing spacer           | 31. Differential bearing adjuster     | 49. Ring gear nut lock                |
| 14. Differential carrier cap        | 32. Bearing adjuster lock             | 50. Differential pinion shaft (short) |
| 15. Bearing adjuster lock screw     | 33. Lock screw                        | 51. Ring gear bolt nut                |
| 16. Bearing adjuster lock           | 34. Bolt and washer                   | 52. Differential case pin             |
| 17. Differential bearing adjuster   | 35. Differential pinion thrust washer |                                       |
| 18. Ring gear thrust pad            | 36. Differential pinion               |                                       |



**Fig. 7 Dodge full-floating axle with barrel type differential case and three pinion bearings**

- |  |                                       |                                       |
|--|---------------------------------------|---------------------------------------|
| 1. Differential bearing cup            | 14. Differential bearing cap          | 27. Yoke nut                          |
| 2. Differential bearing cone           | 15. Differential bearing adjuster     | 28. Lubricant plug                    |
| 3. Differential pinion shaft lock pin  | 16. Lock nut                          | 29. Ring gear thrust pad              |
| 4. Differential pinion shaft (long)    | 17. Thrust screw                      | 30. Pinion bearing spacer             |
| 4A. Differential pinion shaft (short)  | 18. Bearing cap stud                  | 31. Side gear thrust washer           |
| 5. Differential case                   | 19. Differential carrier              | 32. Differential side gear            |
| 6. Differential case cap retainer pins | 20. Pinion outer bearing retainer     | 33. Differential pinion thrust washer |
| 7. Drive pinion                        | 21. Pinion outer bearing cup          | 34. Differential pinions              |
| 8. Pinion inner bearing                | 22. Pinion outer bearing cone         | 35. Differential case cap             |
| 9. Pinion inner bearing cup            | 23. Pinion outer bearing washer       | 36. Differential pinion shaft block   |
| 10. Lock screw                         | 24. Pinion outer bearing retainer nut | 37. Ring gear bolts                   |
| 11. Adjuster lock                      | 25. Pinion bearing oil seal           | 38. Ring gear                         |
| 12. Cap nut                            | 26. Pinion companion yoke             | 39. Ring gear nut lock                |
| 13. Lock washer                        |                                       | 40. Ring gear nuts                    |



**Fig. 8 Dodge full-floating axle with cage type differential case and three pinion bearings**

- |  |  |  |
|--|--|--|
| <ol style="list-style-type: none"> <li>1. Differential side gear thrust washer</li> <li>2. Differential pinion thrust washer</li> <li>3. Differential pinion</li> <li>4. Ring gear bolt nut</li> <li>5. Ring gear nut lock</li> <li>6. Differential pinion shaft</li> <li>7. Differential case</li> <li>8. Ring gear</li> <li>9. Differential bearing adjuster</li> <li>10. Differential bearing cup</li> <li>11. Differential bearing cone</li> <li>12. Differential bearing cap</li> <li>13. Differential carrier</li> <li>14. Lock screw</li> </ol> | <ol style="list-style-type: none"> <li>15. Pinion front bearing</li> <li>16. Pinion front bearing washer</li> <li>17. Companion yoke</li> <li>18. Yoke nut</li> <li>19. Yoke washer</li> <li>20. Pinion bearing oil seal</li> <li>21. Front bearing retainer nut</li> <li>22. Differential bearing adjuster</li> <li>23. Differential bearing cup</li> <li>24. Differential bearing cone</li> <li>25. Differential bearing cap</li> <li>26. Cap screw and washer</li> <li>27. Pinion rear bearing cup</li> <li>28. Pinion rear bearing cone</li> </ol> | <ol style="list-style-type: none"> <li>29. Drive pinion</li> <li>30. Ring gear bolts</li> <li>31. Ring gear thrust pad</li> <li>32. Ring screw thrust screw</li> <li>33. Thrust screw nut and washer</li> <li>34. Differential pinion shaft lock pin</li> <li>35. Side gear thrust washer</li> <li>36. Differential side gear</li> <li>37. Differential pinion thrust washer</li> <li>38. Differential pinion</li> <li>39. Differential side gear</li> <li>40. Bearing adjuster lock pin</li> <li>41. Cotter pin</li> <li>42. Pinion bearing spacer</li> </ol> |
|--|--|--|

cap) by playing a torch around the outside. Keep the flame moving to assure even heat. Try a piece of ordinary solder on case from time to time and when solder just starts to melt, case is as hot as you can get it without damaging inside washers. When case is just hot enough to melt soft solder, remove cap with a blunt drift and heavy hammer. If special wrench, Fig. 4, is used, jar cover loose by means of a smart blow on wrench handle and then quickly unscrew cap. The parts can now be immersed in oil to cool them for subsequent handling.

5. Remove differential pinion shaft locking pin, Fig. 5. Four-pinion differentials have three locking pins. When installing, be sure topeen over outside edge of hole to lock pin in place.
6. Push differential pinion shaft (or shafts) out of case. The gears, thrust washers and axle shaft thrust block will then be loose and can be lifted out of case.
7. When assembling, coat parts with differential lubricant to facilitate holding them in place until the

thrust block and pinion shaft are installed. Heat the case as outlined above and install the cap, tightening it rigidly with the special wrench shown in Fig. 4, or with a drift and hammer. Drill new lock pin holes and install new (unused) lock pins.

### **FULL-FLOATING AXLES**

#### **Barrel Type Differential Case & Two Pinion Bearings**

Fig. 6 is an exploded view of this type drive unit. Except for the full-floating axles, the design is similar to the semi-floating type shown in Fig. 2 and all service work is performed in the same manner.

#### **Barrel Type Differential Case & Three Pinion Bearings**

Fig. 7 is an exploded view of this type drive unit. Except for the full-floating axles and the three-bearing drive pinion mounting, the design is similar to the type show in Fig. 2. To service the drive

pinion, proceed as follows:

1. Remove the drive pinion yoke nut.
2. Remove the pinion yoke.
3. Pull out the pinion oil seal.
4. Lift out the outer bearing washer.
5. Unscrew and remove the outer bearing retainer lock screw (20), Fig. 7, and the bearing retainer nut (24).
6. Pull the drive pinion out through the rear of the differential carrier. The spacing washer (23) does not fit the pinion tightly and will drop into the carrier.
7. Remove the rear bearing cone from the pinion by means of a puller. The center and front bearing cones can be tapped off the pinion with a drift and hammer.
8. Drive the front bearing cup out of the front of the carrier.
9. Drive the rear bearing cup out of the rear of the carrier.

#### **Assembly Notes**

Assemble by reversing the foregoing operations. The two front bearings have two cones and only one cup. The cup is marked with the letter "Y" etched in

the end which must always be assembled toward the front end of the pinion shaft. The bearing to be used with the side of the double cup marked "Y" is also marked "Y" on its forward side.

The companion yoke nut (27), Fig. 7, holds the entire group of bearings and spacers together on the drive pinions; therefore, it must be rigidly tightened.

The front bearing retaining nut should be turned tightly against the front bearing, making certain that the bearings are properly seated. Then lock the retainer nut with the retainer locking screw (20), Fig. 7. Be sure the oil seal is in good condition and that the drive pinion is free from burrs or dirt which

would wear the seal and cause leakage.

Adjustment of the drive pinion bearing tension is required whenever the pinion or bearings are changed. To adjust the bearing tension, proceed as follows:

After assembling the drive pinion and bearings in the carrier, make sure the front bearing retainer nut and universal joint companion yoke are tight. Then test each roller of the rear bearing by pushing on the ends with the end of a file or awl to determine if any of them are loose. If any looseness exists, use a thinner spacer (30), Fig. 7. If all rollers are tight, and the pinion can be rotated by hand the bearing is properly adjusted. Of course, there should be no end play of

the pinion shaft.

The drive pinion bearings cannot be used for pinion gear adjustment. Tooth contact can only be corrected by ring gear sidewise adjustment at the differential side bearings.

## Conventional Differential Case & Three Pinion Bearings

Fig. 8 is an exploded view of this type drive unit. Its design is the same as the one described immediately above except that a conventional differential case is employed. To service the drive pinion and bearings, follow the same procedure given above for the unit shown in Fig. 7.

# Torque Divider Section

## TIMKEN T-70

This unit, Fig. 1, is a two-speed torque divider driven by the transmission through a propeller shaft connecting the two units. It consists of two output shafts, each of which is connected to one of the two rear driving axles. The center shaft, which is the main driving shaft, carries an inter-axle differential which distributes driving torque to the two output shafts in proportion to the traction available at the rear wheels.

In this unit, an extra set of gears is incorporated within the case, providing an additional gear ratio. A sliding clutch on the center shaft is used to lock out the differential.

### Torque Divider, Remove & Install

1. Disconnect front and rear universal joints.
2. Disconnect control cable at torque divider.
3. Disconnect gearshift rod from control lever.
4. Place a roller jack under the torque divider and unfasten the unit from the frame cross member.
5. Lower the jack and remove the assembly.
6. To install, reverse the foregoing procedure, *being sure to obtain the correct universal joint alignment. This may require the use of shims between the frame cross member and the torque divider.*

### Torque Divider Service

When disassembling the unit, tag all bearing covers, shims and bearings so the original bearing adjustment and proper gear alignment are maintained upon reassembly.

Oil seals should be carefully inspected and if the slightest indication of wear is apparent they should be discarded and replaced with new parts. Failure to replace oil seals whenever the unit is overhauled may result in premature wear of more expensive parts.

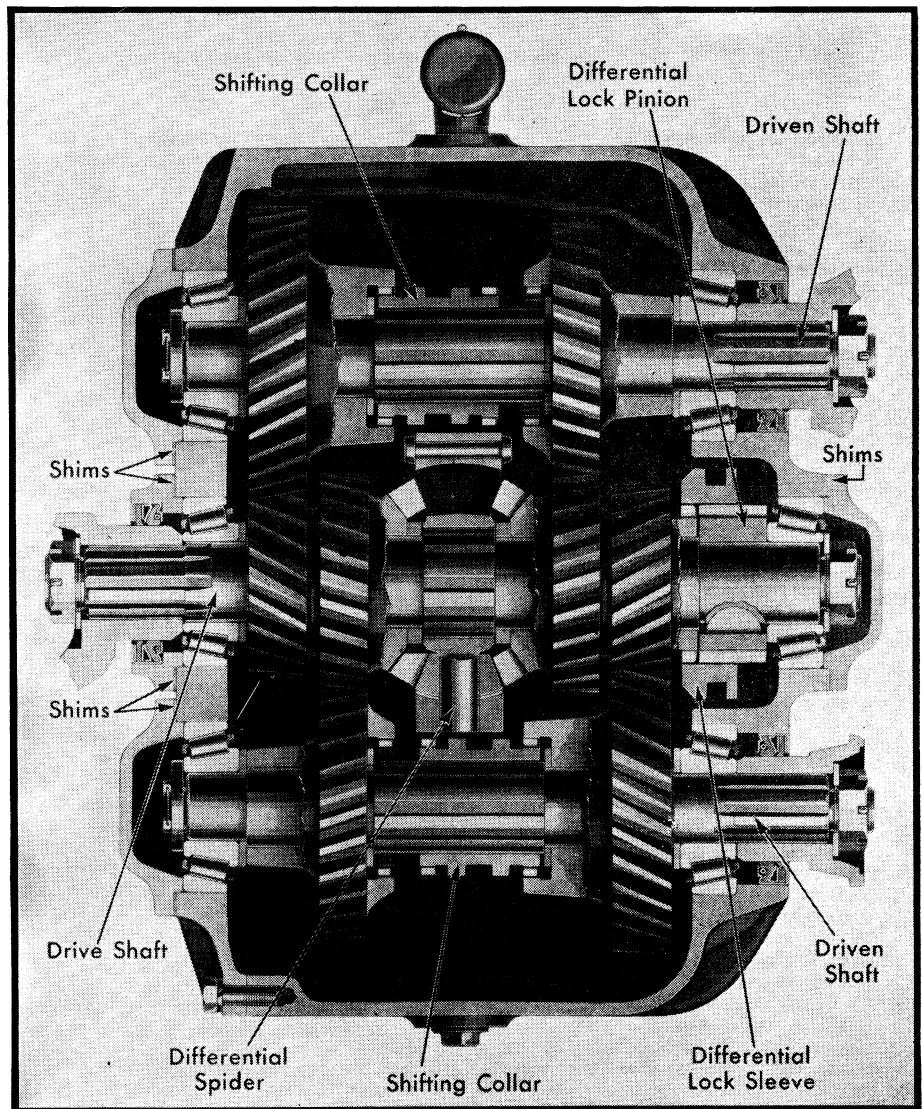


Fig. 1 Timken two-speed torque divider used on tandem axle trucks

Tapered roller bearings should be so adjusted as to eliminate any lateral movement of the bearings, but not so tight that a thrust load will be thrown on the bearings when the caps are drawn down tight against the shims. In other words, sufficient shims should be used behind the bearing caps so that the shaft is free-turning with end play not exceeding .004".

The edges of constant mesh gears should be flush with each other, and there should be clearance between the gears and the edge of the case to prevent the gears from rubbing against the case cover. To obtain the proper tooth contact when equipped with tapered roller bearings, remove or add shims under the bearing caps as required. Where no shims are used, spacers of the proper thickness should be installed to obtain the desired result.

*When shims are removed from behind one bearing cap for the purpose of aligning gears, an equal quantity and thickness of shims should be removed or added to the opposite bearing cap so as to maintain the proper bearing adjustment.*

**Disassemble**

Unscrew the nuts from the ends of the shafts and pull off the universal flanges. Remove the output shaft bearing caps and, if ball bearing equipped, unscrew the shaft nuts. Take off the front cover, the top cover and the baffle plates; all the shafts may now be lifted from the case and stripped, tagging each gear, bearing and spacer as to their location to insure correct assembly.

To disassemble the differential, mark the relative position of the case halves so that assembly may be made in the same position. If the case is riveted, use a drill which is smaller than the rivet and drill through the heads to a depth just below the bottom of the rivet head. Then cut off the heads of the rivets with a chisel and punch the rivets out of the case. Separate the case and remove all parts.

**Inspection of Parts**

Helical gear backlash should be from .003" to .005". Clearance between the mainshaft and side gear bushings .0016"

to .0029"; between the main drive shaft and spider splines, .001" to .0025"; between the output shafts and gear splines, tight to .001"; between the spider and pinion bushings, .0016" to .0034"

**Reassemble**

Reverse the order of disassembly to assemble the unit, being sure the halves of the differential case are assembled according to the marks made before the unit was taken apart. It is recommended that a special riveting fixture be used when assembling the case to insure the correct seating of the two halves.

Make sure all gaskets are in good condition and of the original thickness, as leakage and misalignment is sure to result if improper gaskets are used. Check the sealing surface of the universal flange yokes to be sure they are smooth and concentric—as a rough or damaged yoke will damage the oil seal.

Before installing the torque divider, be sure the breather is clean and that its filter is in good condition.

**Brake Section**

**BENDIX UNI-SERVO & DUO-SERVO BRAKES**

**Adjustment, Figs. 1 & 2**

Raise wheels and remove adjusting hole covers from support plates. Insert screwdriver or star wheel adjusting tool in slot of support plate to engage star wheel. Move outer end of tool toward center of axle to expand brake shoes. Expand shoes until wheel can just be turned by hand and then back off on star wheel 12 to 14 notches. After adjusting each brake check to see that the wheel turns freely.

**CHRYSLER TWO CYLINDER BRAKE**

On this type brake, Fig. 3, each shoe is actuated by its own cylinder which has a single piston. One cylinder is at the top of the brake assembly and operates the front shoe. The other cylinder is at the bottom of the brake assembly and operates the rear shoe. Each cylinder is mounted by means of an anchor pin for the opposite shoe.

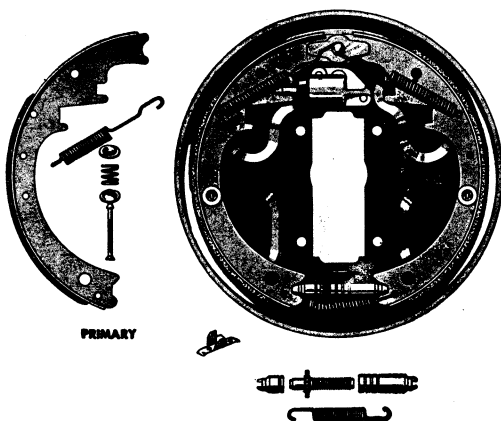
**Adjustment**

Following overhaul or when new brake linings are installed, the initial adjustment should be carefully made to properly locate the curvature of the lining to

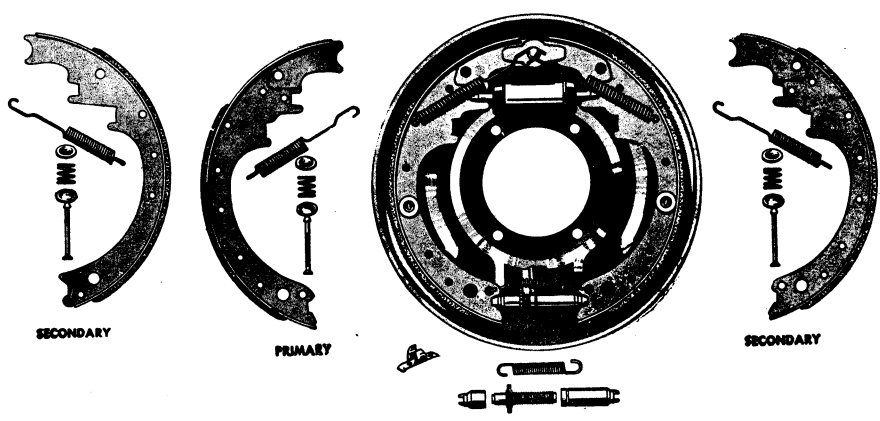
the drum and obtain the proper clearance.

Each shoe must be adjusted to center the brake shoe arc in relation to the drum. Back off on both the anchor pins and cams and adjust each shoe individually. Adjust the cam to bring the lining into contact with the drum and rotate the anchor pin sufficient to relieve drag. Repeat until additional rotation of the anchor pin will no longer relieve drag. Lock the anchor pin lock nut and back off the cam just enough to permit the wheel to turn freely.

Subsequent adjustments to compensate for lining wear are made with the eccentric cam only. Turn the cam to bring the lining into contact with the drum. Then back off just enough to



**Fig. 1 Bendix Uni-Servo brake with single piston wheel cylinder**



**Fig. 2 Bendix Duo-Servo brake with dual piston wheel cylinder**