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IMPORTANT SAFETY NOTICE

Should an axle assembly require component parts replacement, it is recommended that “Original Equipment” replacement parts be used. They may be obtained through your local service dealer or other original equipment manufacturer parts supplier. CAUTION: THE USE OF NON-ORIGINAL EQUIPMENT REPLACEMENT PARTS IS NOT RECOMMENDED AS THEIR USE MAY CAUSE UNIT FAILURE AND/OR AFFECT VEHICLE SAFETY.

Proper service and repair is important to the safe, reliable operation of all motor vehicles or driving axles whether they be front or rear. The service procedures recommended and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tool should be used when and as recommended.

It is impossible to know, evaluate, and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way.

Accordingly, anyone who uses a service procedure or tool which is not recommended must first satisfy himself thoroughly that neither his safety nor vehicle safety will be jeopardized by the service methods he selects.

NOTE

Throughout this manual, reference is made to certain tool numbers whenever special tools are required. These numbers are numbers of Miller Special Tools, 32615 Park Lane, Garden City, Michigan 48135. They are used herein for customer convenience only. Dana Corporation makes no warranty or representation to these tools.
**LUBRICATION**

It is not our intent to recommend any particular brand or make of lubricant for the Spicer hypoid axles. However, an S.A.E. 90 weight multi-purpose gear lubricant meeting Mil. Spec. L-2105-B, or 80 W 90 multi-purpose gear lubricant meeting Mil Spec. L-2105-C, and suitable for A.P.I. Service Classification GL-5 is suggested as a minimum requirement.

Motor vehicles are operated under various requirements, conditions, and environments. This manual specifies the minimum requirements that the lubricants should meet. However, it is recommended that the lubricants specified by the vehicle manufacturer be used. They may provide additional lubricating characteristics which may be required for your vehicle's operation. Contact your local service dealer or refer to your owner's manual for obtaining the proper lubricant specification.

**COLD WEATHER OPERATION**

If the vehicle is operated below 0°F (-18°C), it is advisable to use S.A.E. 80 multi-purpose gear lubricant meeting Mil Spec. L-2105-B, and suitable for A.P.I. Service Classification GL-5.

**SUBMERSION OR DEEP WATER FORDING**

In the event the gear carrier should become submerged in water, particularly if over the breathers, it is recommended that the hypoid gear lubricant be drained and internal parts be inspected for water damage and/or contamination. Clean, examine and replace damaged parts, if necessary, prior to assembling the cover and refilling with the specified hypoid lubricant.

**NOTE**

It is recommended that whenever bearings are removed they are to be replaced with new ones, regardless of mileage.

**NOTE**

Limited Slip Differentials for Model 44-IJCJ Independent Rear Axle Assemblies are serviced as complete assemblies only. Follow the differential installation procedures recommended in this manual if a new differential is required.
The following is a detailed list of all special tools required to service the Model 44 Independent Rear Suspension Assembly.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Tool No.</th>
<th>Description</th>
<th>Item No.</th>
<th>Tool No.</th>
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<td>1</td>
<td>D-113</td>
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<td>D-144</td>
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<td>2</td>
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<td>D-147</td>
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<td>Press</td>
<td>20</td>
<td>D-156</td>
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<td>W-147-E</td>
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<td>5</td>
<td>C-293-39</td>
<td>Adapter Set — Rear Pinion Bearing Cone</td>
<td>22</td>
<td>C-4171</td>
<td>Extension — Universal Dial Indicator Set</td>
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<td>C-293-18</td>
<td>Adapter Set — Differential Bearing Cones</td>
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<td>C-293-3</td>
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<td>10</td>
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<td>12</td>
<td>D-139</td>
<td>Master Pinion Block</td>
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<td>C-4053</td>
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<td>13</td>
<td>D-345</td>
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<td>C-3952-A</td>
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<td>14</td>
<td>D-245</td>
<td>Supporting Fixture</td>
<td>31</td>
<td>D-193</td>
<td>Torque Wrench (50 In.-Lb.)</td>
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<td>D-246</td>
<td>Vise Adapter</td>
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<td>D-148</td>
<td>Remover — Inner Pinion Bearing Cup</td>
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*Pinion Setting Gauge and Master Differential Kit D-115-44.

Torque Wrenches, C-4053, C-3952-A, and D-193 are optional and can be purchased separately. These Torque Wrenches are not included in the DW-44-ICJ Axle Tool Kit.
### IDENTIFICATION AND ARRANGEMENT OF COMPONENTS:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Item No.</th>
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<td>Shims — Differential Bearing Preload</td>
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<td>Shim — Pinion Adjusting (Method B)</td>
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<td>Screw — Ring Gear</td>
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<td>Thrust Washer — Differential Gear</td>
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<td>Shaft — Differential</td>
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<td>Roll Pin — Shaft</td>
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<td>Washer — Pinion Nut</td>
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<td>Shaft — Output</td>
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<td>Bolt — Output Shaft</td>
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<td>“O” Ring</td>
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<td>Screw — Carrier Cover</td>
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<td>Bearing — Output Shaft</td>
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<td>Plug — Fill</td>
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<td>Screw — Retainer</td>
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<tr>
<td>19</td>
<td>Cap — Bearing</td>
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</table>
AXLE IDENTIFICATION

This axle is identified with 1/8" (3.17 mm) high stamped numbers. The number 605234-1 is the Spicer part number for this particular assembly and is interpreted as follows. The number 605234 means this assembly is a Spicer Model 44 Independent Rear Suspension. The 1 (dash 1) means this unit is equipped with a 3.07:1 gear ratio and standard differential. Other dash numbers refer to other ratios and/or options.

The set of numbers adjacent to the complete part number is the manufacturing or build date. When referring to the axle assembly, obtain the complete part number and build date. To do this, it may be necessary to wipe or scrape dirt, etc., from the assembly.

NOTE
Follow vehicle manufacturer’s recommendations to remove carrier from vehicle.

SHAFT ASSEMBLY REPLACEMENT

Remove the retainer plate screws that retain the axle shaft assemblies in position. Remove the axle shaft assemblies. Tag the shim stack found behind the axle shaft bearing indicating which side it was from.

The axle shaft assembly is serviced as a complete assembly only. Should any component need replacement, a new axle shaft assembly is required.
Assemble the axle shaft assemblies and corresponding shim stack which was removed earlier into the carrier.

Figure 8
Torque the retainer plate screws to 35-45 lbs-ft (47-61 N·m).

Check clearance between the retainer plate and carrier as shown. There must be at least .002 in. (.05 mm) and not more than .005 in. (.13 mm) clearance so that the axle shaft bearing is properly preloaded. To correct improper clearance, add or subtract shims from the shim stack accordingly. Bent or mutilated shims should be replaced with new ones. Shims are available in .003 in. (.08 mm), .005 in. (.13 mm), .010 in. (.25 mm), and .030 in. (.76 mm) thicknesses.
DIFFERENTIAL CARRIER DISASSEMBLY

Follow the vehicle manufacturer's recommendations for carrier removal and installation procedures from vehicle. Remove the cover and drain the lubricant. Remove the axle shaft assemblies as outlined in this manual.

Mount the carrier in a fixture as shown. Remove the bearing caps. Note the matched letters stamped on the caps and carrier. When assembled, the letters on the caps must agree in both the horizontal and vertical position with the letters on the carrier.

Tools: D-245 Supporting Fixture
       D-246 Vise Adapter

Mount the spreader to the carrier. Use a dial indicator as shown. DO NOT SPREAD CARRIER OVER .010" (.25 mm). Remove the indicator.

Tools: D-113 Spreader
       D-128 Indicator Set
       D-227-1 Spreader Adapters

Pry the differential case from the carrier with two pry bars. After the differential case and ring gear have been removed, remove the spreader. Use caution to avoid damage to any machined surface.

Hold the companion flange with a tool similar to the one shown and remove the pinion nut and washer.

Tool: C-3281 Holding Wrench
DIFFERENTIAL CARRIER DISASSEMBLY

Figure 14

Remove the companion flange with tools as shown. If the flange shows wear in the area of the seal contact, it should be replaced.

Tools: C-452 Companion Flange Remover
C-3281 Holding Wrench

Figure 15

Remove the pinion by tapping with a rawhide or heavy-duty plastic hammer. Catch the pinion with your hand to prevent it from falling and being damaged.

NOTE

On the spline end of the pinion, there are bearing preload shims. These shims may stick to the outer bearing and then fall to the floor. Be sure to collect all these shims and keep them together since they will be used later in assembly. If shims are mutilated, replace with new ones. Shims are available in thicknesses of .003" (.08 mm), .005" (.13 mm), .010" (.25 mm), and .030" (.76 mm).

Remove the pinion oil seal. Discard the seal and replace with a new seal at the time of assembly. Remove the outer pinion bearing cone and outer pinion oil slinger.

Figure 16

Remove the inner pinion bearing cup with tools as shown. Caution: Do not nick carrier bore.

Tools: D-148 Remover
C-4171 Handle

NOTE

THERE ARE TWO SEPARATE METHODS FOR CONTROLLING PINION POSITION.

Method A uses pinion position shims located between the inner bearing cup and carrier bore. If the shims are bent or nicked, they should be replaced at time of assembly. Measure each shim individually and wire the shim stack together. If the stack has to be replaced, replace it with the same thickness.

Method B is explained after Figure 18.
DIFFERENTIAL CARRIER DISASSEMBLY

Figure 17

Turn the nose of the carrier down. Remove the outer pinion bearing cup as shown. Caution: Do not nick the carrier bore.

Tools: D-147 Remover
       D-4171 Handle
       C-4291 Extension

Figure 18

Remove the inner pinion bearing cone with tools as shown.

Tools: DD-914-P Press
       DD-914-9 Adapter Ring
       C-293-18 Adapter Set
       C-293-3 Adapter Plug

Figure 19

Remove the differential bearings with a puller as shown. Wire the shims, bearing cup and bearing cone together, and identify from which side they were removed (ring gear side or opposite side). If the shims are mutilated, replace with new ones at time of assembly. Shims are available in thicknesses of .003" (.08 mm), .005" (.13 mm), .010" (.25 mm), and .030" (.76 mm). Reposition the case in the puller and remove the other bearing cone as described above.

Tools: DD-914-P Press
       DD-914-9 Adapter Ring
       C-293-18 Adapter Set
       C-293-3 Adapter Plug

If the original shim stack or equivalent replacement for each side is available, the shim stack may be used as a starting point to assemble the differential case. Assemble the shim stack and new bearings on the same side which they were taken from, and install the differential case into the carrier as described later in the manual. Follow the procedures of measuring and adjusting backlash.

If the original shim stacks are lost or cannot be accurately determined, it is recommended that the shim stacks be found by using the procedures described in this manual.

NOTE

It is recommended that whenever bearings are removed, they be replaced with new ones, regardless of mileage.
Place a few shop towels over the vise to prevent the ring gear teeth from being nicked. Place the differential case in the vise as shown. Remove the ring gear screws.

**NOTE**

It is recommended that whenever the ring gear screws are removed, they be replaced with new ones, regardless of mileage.

Figure 21

Tap the ring gear with a rawhide or heavy duty plastic hammer to free it from the case. Remove the case and ring gear from the vise.

Figure 22

Position the differential case in a vise and drive out the lock pin which secures the pinion mate shaft to the case. Use a small drift as shown.

Figure 23

Remove the pinion mate shaft with a drift as shown.
DISASSEMBLY AND ASSEMBLY OF STANDARD DIFFERENTIAL

Figure 24

Rotate the pinion mate gears and side gears until the pinion mates turn to the windows of the case. Remove the pinion mate gears and spherical washers. Lift the side gears and thrust washers out of the case. Inspect all the parts, including the machined surfaces of the case. If excessive wear is visible on all the parts, it is suggested that the complete differential assembly be replaced. If any one of the gears need to be replaced, then both gears are to be replaced as a set.

Figure 25

Place the differential case in a vise. Apply a good quality grease to the new side gear thrust washers and to the hub and thrust face of the new side gears, and assemble into the case. Lubricate the new pinion mate gears and spherical washers. Hold the side gears in place with one hand, and assemble the pinion mate gears and spherical washers with the other hand. Rotate the side gears and pinion mate gears until the holes of the washers and pinion mate gears line up exactly with the holes in the case.

Figure 26

Assemble the pinion mate shaft. Make sure the lock pin hole in the shaft lines exactly with the lock pin hole in the case.

Assemble the lock pin. Peen some metal of the case over the pin to lock it in place.

NOTE

Limited slip differentials for this particular application (Model 44-1CJ) are serviced as complete assemblies only. Follow the differential installation procedures described in this manual if a new differential is required.
Install the master differential bearings onto the case. Remove all nicks, burrs, dirt, etc., from the hubs to allow the master bearings to rotate freely.

Tool: D-345 Master Bearings

Assemble the differential case into the carrier (less pinion). Mount a dial indicator with a magnetic base to the supporting fixture and indicate on the flange face as shown. Locate the tip of the indicator on the machined surface of the flange face. Force the differential assembly as far as possible in the direction towards the indicator. With force still applied, set indicator at zero (0).

Tool: D-128 Indicator

Force the differential assembly as far as it will go in the opposite direction. Repeat these steps until the same reading is obtained. Record the reading of the indicator. This amount, in shims, will be included in the final assembly shim stack to establish differential bearing preload and ring gear and pinion backlash.

After making sure the readings are correct, remove the indicator and differential assembly from the carrier.

View of ring and pinion etched with inch identification.
Figure 31

View of ring and pinion etched with metric identification.

Ring gear and pinions are supplied in matched sets only. Matching numbers on both pinion and ring gear are etched for verification. If a new gear set is being used, verify the numbers on each pinion and ring gear before proceeding with the assembly.

Figure 32

The distance from the centerline of the ring gear to the button end of the pinion for the Model 44 axle is 2.625 inches (66.68 mm).

On the button end of each pinion there is etched a plus (+) number, a minus (−) number, or a zero (0), which indicates the best running position for each particular gear set. The position of the pinion is controlled by the amount of shims between the inner pinion bearing cup and carrier bearing bore or a selected shim between the inner bearing and pinion.

For example, if a pinion is etched +3 (m+8), this pinion would require .003" (.08 mm) less shims than a pinion etched "0". This means that by removing .003" (.08 mm) of shims, the mounting distance of the pinion is increased to 2.628" (66.75 mm), which is just what a +3 (m+8) indicates. Or if a pinion is etched −3 (m−8), we would want to add .003" (.08 mm) more shims than would be required by a pinion that is etched "0". By adding .003" (.08 mm) shims, the mounting distance of the pinion was decreased to 2.622" (66.60 mm) which is just what a −3 (m−8) etching indicates.

If the old ring and pinion set is to be reused, measure the old shim stack and build a new shim stack to this same dimension. It is recommended that each shim be measured individually and then added together to obtain the shim stack total. To change the pinion position, shims are available in thicknesses of .003" (.08 mm), .005" (.13 mm), and .010" (.25 mm).

If a new gear set is used, notice the plus (+), minus (−), or zero (0) etching on both the old and new pinion and adjust the thickness of the new shim pack to compensate for the difference between these two pinion etchings. The chart in Figure 33 or 34 is helpful for determining this change.

For example: If the old pinion is etched +2 (m+5) and is at proper pinion position and the new pinion is etched −2 (m−5), then add .004" (.10 mm) to the original shim stack thickness in order to install the new pinion at proper position.
## REASSEMBLY

<table>
<thead>
<tr>
<th>Old Pinion Marking</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
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<th>+1</th>
<th>+2</th>
<th>+3</th>
<th>+4</th>
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<tr>
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<td>+0.007</td>
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<td>+0.005</td>
<td>+0.004</td>
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**Figure 33**
Pinion setting chart (inch).

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<td>+.15</td>
<td>+.13</td>
<td>+.10</td>
<td>+.08</td>
<td>+.05</td>
<td>+.03</td>
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<td>+.10</td>
<td>+.08</td>
<td>+.05</td>
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<td>+.10</td>
<td>+.08</td>
<td>+.05</td>
<td>+.03</td>
<td>0</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.08</td>
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<td>+.05</td>
<td>+.03</td>
<td>0</td>
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<td>-0.05</td>
<td>-0.08</td>
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<td>-0.10</td>
<td>-0.13</td>
<td>-0.15</td>
<td>-0.18</td>
<td>-0.20</td>
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</tbody>
</table>

**Figure 34**
Pinion setting chart (metric).
Use these charts as a guideline to set pinion position.
Figure 35
View of master pinion block, pinion height block, scooter gage, cross arbor and arbor discs.

NOTE
Be sure that all carrier bores are free from all nicks, dirt or any other contamination.

Figure 36
Place the master pinion block into the inner pinion bearing bore of the carrier as shown.
Tool: D-139 Master Pinion Block

Figure 37
Place the arbor discs and arbor into the cross bores of the carrier as shown.
Tools: D-115-3 Arbor
D-115-4-44 Arbor Discs

Figure 38
Place the pinion height block on top of the master pinion block and against the arbor as shown.
Tool: D-115-1 Pinion Height Block
Place the scooter gauge on the pinion height block. Apply light pressure with fingers at the back side of the scooter gauge. Make sure the scooter gauge is flat on the pinion height block, then set the indicator at zero (0).

Tool: D-115 Scooter Gage

Slide the scooter gauge towards the arbor. As the indicator moves over the top of the arbor, the dial will move in a clockwise direction across the face of the indicator. When the indicator is at the top center of the arbor, the dial will stop traveling in a clockwise direction. If the dial starts to move in a counter-clockwise direction, this means that you have passed the top center position on the arbor. Record only the reading when the indicator is at top center on the arbor and the dial has stopped moving clockwise on the indicator face. This reading indicates the thickness of the shim stack that is required to install a pinion that is etched with a zero (0) at a zero (0) position. If the pinion being installed has a plus (+) or minus (−) etching, then an adjustment of this shim stack is required.

For example: If a pinion is etched +3 (m+8), then this pinion would require .003" (.08 mm) less shims than a pinion etched zero (0). If a pinion is etched −3 (m−8), we would want to add .003" (.08 mm) more shims to the shim stack than would be required if the pinion were etched zero (0).

Remove the special tools.

Measure each shim separately for Method A with a micrometer and add together to get the total shim stack thickness. Place the required amount of shims in the inner pinion bearing bore. Drive the inner pinion bearing cup into the carrier with tools as shown.

Tools: D-145 Installer
C-4171 Handle

Assemble the outer pinion bearing cup into carrier as shown.

Tools: D-144 Installer
C-4171 Handle
REASSEMBLY

Figure 43

Measure the selected shim for Method B as determined in Figure 40 and install it on the pinion. Assemble the inner pinion bearing cone on the pinion. Place the bearing installer over pinion shaft as shown. Drive the bearing on the shaft until it is completely seated.

Tool: W-262 Installer

Figure 44

Insert the pinion into the carrier.

Assemble the outer pinion bearing cone, slinger and companion flange onto pinion spline (do not assemble the oil seal and pinion bearing preload shims at this time).

Use the yoke installer (as shown) to draw the companion flange onto the pinion spline.

Tools: W-162 Installer
C-3281 Holder

Figure 45

Assemble the washer and pinion nut. Torque the nut until it requires 10 lbs. in. (1.13 N•m) to rotate the pinion. Rotate the pinion several revolutions before checking pinion position. This is done to seat the bearings and assure a more accurate reading.

NOTE

The reason for not assembling the pinion oil seal and preload shims at this time is due to the possibility of having to adjust pinion bearing preload or pinion position. It would be necessary to again remove the oil seal; and as mentioned, whenever seals are removed, they are to be replaced with new ones.
Place the arbor discs and arbor into the cross bore of the carrier. Place the pinion height block on the button end of the pinion. Set dial indicator of scooter gage at zero (0). Slide the scooter gage towards the arbor. As discussed in Figure 40, the indicator will show the greatest clockwise reading when it is at the top center of arbor. This reading indicates the position of the pinion.

An indicator reading within .002" (.05 mm) of the etching on the pinion is considered acceptable. If pinion position is not within plus or minus (±) .002" (.5 mm) of the etching on the button of the pinion, refer to the pinion setting charts in Figures 33 or 34 as a guide to how much change in the shim stack is needed to position the pinion properly.

For example: If the etch on the bottom of the pinion is +2 (m+5) and the indicator reading is -.003" (-.08 mm), the pinion is installed too close to the centerline of the differential crossbore. It is not within the acceptable tolerance of ±.002" (.05 mm) of the pinion etch. Referring to the charts in Figures 33 or 34, in order to move from a position of −3 (−8) to the correct position of +2 (+5), we need to remove .005" (.13 mm) of shims from the shim stack or use a .005" (.13 mm) smaller selected shim.

Follow the recommended procedures for removing the shim stack or selected shim and make the change. Reinstall the pinion according to Figure 44 to 45.

Tools: D-115·3 Arbor  
D-115·4-44 Arbor Discs  
D-115·1 Pinion Height Block  
D-115 Scooter Gage

When the pinion position is within the acceptable tolerance of ±.002" (.05 mm) of the pinion etch, remove the pinion nut, washer, companion flange, slinger, outer pinion bearing cone and the pinion. Lubricate the inner and outer bearings by applying a small amount of the specified lube on the rollers of the bearing cone. Install the outer bearing cone and oil slinger into the carrier. Apply a light coat of oil to the lip of a new pinion oil seal, and assemble the seal into the carrier as shown.

Tools: W-147-E Seal Installer  
C-4171 Handle

Assemble the preload shims, which are equal in thickness to the original shim stack, onto the pinion. Insert the pinion into the carrier. Assemble the companion flange onto the spline of the pinion.

Tools: W-162 Installer  
C-3281 Holder
Assemble the pinion washer and the new pinion nut. Torque the pinion nut to 200-220 lbs. ft. (271-298 N•m).

Tools: C-3281 Holder
       C-4053 Torque Wrench

Using an inch-pound torque wrench as shown, the pinion rotating torque should read 20-40 lbs. in. (2.3-4.5 N•m) with new bearings. To increase the preload, remove shims; to decrease the preload, add shims.

Be sure the flange face of the differential case is free of nicks or burrs. Assemble the ring gear to the differential case using new ring gear screws. Draw the screws up alternately and evenly. Torque the screws to 45-60 lbs. ft. (68-81 N•m).

Tool: C-3952-A Torque Wrench

Install the master differential bearings onto the case. Remove all nicks, burrs, dirt, etc., from the hubs to allow the master bearings to rotate freely.

Place the differential assembly into the carrier. Set up the dial indicator as shown. Force the differential assembly away from the pinion until it is completely seated against the cross bore face of the carrier. With force still applied to the differential case, place the tip of dial indicator on a flat machined surface of the differential case, if available, or on the head of a ring gear screw, and set the indicator at zero (0).

Tools: D-128 Dial Indicator
       D-345 Master Bearings
Force the ring gear to mesh with the pinion gear. Rock the ring gear slightly to make sure the gear teeth are meshed. Repeat this procedure several times until the same reading is obtained each time. Be sure the indicator reads zero (0) each time the ring gear is forced back into contact with the cross bore face. This reading will be the necessary amount of shims between the differential case and differential bearing on the ring gear side. Remove the dial indicator and the differential case from carrier.

Remove the master bearings from the differential case.

Place the differential case onto the adapter as shown.

Assemble the required amount of shims to the ring gear side hub as determined in Figure 53. Place the bearing cone on the hub of the differential case. Use the bearing installer to seat the bearing cone as shown.

The adapter is used to prevent possible damage to hubs while assembling bearing cones.

Tools: C-4487-1 Adapter
D-156 Installer
C-4171 Handle

Assemble the remaining shims of the total shim pack. Add an additional .010" (.25 mm) to the remaining shims. Assemble the opposite side differential bearing cone as shown.

EXAMPLE: In Figure 29 a total of .077" (1.96 mm) was recorded. In Figure 53 a total of .059" (1.50 mm) was recorded.

This leaves a balance of .018" (.46 mm) for opposite side ring gear, and adds up to .077" (1.96 mm) which was obtained at the start.

To compensate for preload and backlash, add .010" (.25 mm) to the opposite side. The shim pack totals for this example are as follows:

Ring gear side: .059" (1.50 mm)
Opposite side: Original Balance of .018" (.46 mm) plus .010" (.25 mm) gives .028" (.71 mm).

Install the spreader and indicator to the carrier as shown. Spread the carrier .010" (.25 mm) for differential installation.

DO NOT SPREAD THE CARRIER OVER .010" (.25 mm).

Tools: D-113 Spreader
D-227-1 Spreader Adapters
D-128 Dial Indicator Set

Remove the indicator.
Assemble the differential bearing cups to the differential bearing cones.

Install the differential assembly into the carrier.

Use a rawhide or heavy-duty plastic hammer to seat the differential assembly into the cross bore of the carrier. Care should be taken to avoid nicking the teeth of the ring gear or pinion during assembly.

Remove the spreader.

Install the bearing caps and screws. Make sure the letters stamped on the caps correspond in both position and direction with the letters stamped into the carrier as noted in Figure 10.

Torque the bearing cap screws to 80-90 lbs. ft. (108-122 N·m).

Tool: C-3952-A Torque Wrench

Check the ring gear and pinion backlash in three equally spaced points with a dial indicator as shown. Backlash tolerance is .005" (.13 mm) to .008" (.20 mm) and cannot vary more than .003" (.08 mm) between points checked.

High backlash is corrected by moving some shims from the opposite side of the differential case to the ring gear side: thus moving the ring gear closer to the pinion.

Low backlash is corrected by moving some shims from the ring gear side of the differential case to the opposite side: thus moving the ring gear away from the pinion.

Tool: D-128 Dial Indicator
The mating surfaces of the carrier cover and the carrier should be free of dirt, oil, etc. Apply the sealer to the carrier face as shown. The sealer bead is to be 1/8" (3.18 mm) to 1/4" (6.35 mm) wide and should be continuous, and should not pass through or outside of the holes.

Sealant material must meet specification of ASTM 1, GE 503, Z1, Z2 and Z3 sealant.

Cover and carrier assembly must be assembled together within five minutes of gasket sealant application. Torque the cover screws 30-40 lbs. ft. (27-54 N•m).

**NOTE**

Use of cleaning solvent may prevent the silicone rubber sealant from adhering to the carrier face and cover, resulting in leaks of axle lubricant.

Assemble the axle shaft assemblies as outlined in this manual. Fill the carrier assembly with the specified type and amount of hypoid lubricant.

When the carrier assembly is rebuilt to proper specifications, refer to the vehicle manufacturer's recommendations for the proper installation procedures into the vehicle.
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