

Full Contact Dual Angle Rear Wheel Alignment Shim System

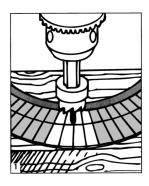
4-WHEEL ALIGNMENT EQUIPMENT FOR USE <u>WITH ELECTRONIC COMPUTERIZED</u> WITH TOE MEASUREMENTS READ IN DEGREES OR INCHES TOE SETTING IS THE MOST CRITICAL! 1) SELECT DESIRED TOE CHANG 2) MOVE ACROSS TO DESIRED R ES E Α S T = 0 $D \in C R$ E ACAMBER CHANGE OR CLOSEST CAMBER SELECTION. Toe Toe .75 1.00 .88 .63 .50 .38 .25 .13 .00 .13 .25 .38 .50 .63 .75 .88 1.00 Change Change 1° 7/8° 3/4° 5/8° 1/2° 3/8° 1/4° 1/8° 0° 1/8° 1/4° 3/8° 1/2° 5/8° 3/4° 7/8° 1° Inches Degrees 4 Left Righ 3 Left Right 2 Left Right 1 Left Right 1 Left Right 2 Left Right 4 Left Right 3 Left Right 00° IN 180 180 IN 180 180 IN 180 180 IN 180 180 IN 0 0 IN 0 0 **DUT** 180 180 **OUT** 0 0 **OUT** 0 0 4 Left Right 3 Left Right 2 Left Right 1 Left Right 4 Left Right .03 1 Left Right 2 Left Right 3 Left Right .06° IN 184 176 IN 185 175 IN 187 173 IN 195 165 IN 345 15 IN 353 7 IN 355 5 1/32 **OUT** 176 184 OUT 175 185 **OUT** 173 187 OUT 165 195 OUT 4 356 OUT 15 345 **OUT** 5 355 **OUT** 7 353 3 Left Right 2 Left Right 1 Left Right 4 Left Right 1 Left Right 3 Left Right 4 Left Right .06 2 Left Right .12° IN 187 173 IN 190 170 IN 195 165 IN 211 149 IN 329 31 IN 350 10 IN 353 IN 345 15 1/16" **OUT** 170 190 **OUT** 173 187 **DUT** 165 195 OUT 31 329 **DUT** 149 211 OUT 15 345 **OUT** 10 350 4 Left Right 3 Left Right 2 Left Right .09 1 Left Right 1 Left Right 2 Left Right 3 Left Right 4 Left Right .19° IN 202 158 IN 230 130 IN 310 50 IN 338 22 IN 345 15 IN 349 11 3/32" оит 165 195 OUT 169 191 OUT 158 202 **IUT** 50 310 OUT 22 338 **OUT** 15 345 **OUT** 11 349 3 Left Right 4 Left Right 2 Left Right 1 Left Rio 2 Left Right 3 Left Right 4 Left Right .12 .25° IN 195 165 IN 200 160 IN 211 149 IN 329 31 IN 340 20 IN 345 15 1/8" оит 165 195 **DUT** 160 200 **OUT** 149 211 **OUT** 90 27 **OUT** 31 329 **OUT** 20 340 **OUT** 15 345 4 Left Right 3 Left Right 2 Left Right 4 Left Right 2 Left Right 3 Left Right .16 .32° IN 199 161 IN 205 155 IN 220 140 IN 335 25 IN 320 40 IN 341 19 5/32" **OUT** 161 199 OUT 155 205 **OUT** 140 220 **OUT** 40 320 **OUT** 25 335 **OUT** 19 341 4 Left Right 3 Left Right 2 Left Right 3 Left Right 2 Left Right 4 Left Right .19 .38° IN 203 157 IN 211 149 IN 230 130 IN 310 50 IN 329 31 IN 337 23 3/16" OUT 149 211 OUT 130 230 **OUT** 31 329 онт 23 337 4 Left Right 3 Left Right 2 Left Right 2 Left Righ .22 3 Left Right 4 Left Right .44° IN 207 153 IN 217 143 IN 243 117 IN 297 63 IN 323 37 IN 333 27 7/32' OUT 143 217 **OUT** 153 207 **OUT** 117 243 **OUT** 63 297 оит 37 323 оит 27 333 4 Left Right 3 Left Right 2 Left Righ 3 Left Right 4 Left Right .25 .50° IN 223 137 IN 317 43 IN 329 31 1/4" OUT 149 211 **OUT** 90 270 **OUT** 43 317 OUT 137 223 **OUT** 31 329 4 Left Right 3 Left Right .28 3 Left Right 4 Left Right .57° IN 215 145 IN 310 50 IN 230 130 IN 325 35 9/32" OUT 145 215 **OUT** 130 230 OUT 35 325 4 Left Right 3 Left Right 3 Left Right 4 Left Right .31 .63° IN 220 140 IN 302 58 IN 320 40 5/16" **OUT** 140 220 оцт 122 238 **OUT** 58 302 **OUT** 40 320 4 Left Right 3 Left Right 3 Left Righ 4 Left Right .34 .70° IN 225 135 IN 250 110 IN 290 70 IN 315 45 11/32" OUT 135 225 OUT 110 250 **OUT** 45 315 out 70 290 4 Left Right 3 Left Righ 4 Left Right .37 .74° IN 230 130 IN 270 90 IN 310 50 3/8" **OUT** 130 230 **OUT** 50 310 4 Left Right 4 Left Right .41 .83° IN 236 124 IN 304 56 13/32" OUT 124 236 **OUT** 56 304 4 Left Right 4 Left Right .44 .90° IN 244 116 IN 296 64 7/16" **OUT** 116 244 OUT 64 296 4 Left Right 4 Left Right .47 .95° IN 253 107 IN 287 73 15/32" **OUT** 107 253 OUT 73 287 4 Left Righ .50 .99 IN 270 9

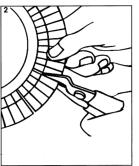
Installation Instructions

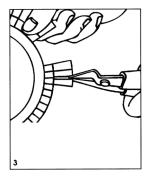
- Install alignment equipment and record readings. Note the camber and toe changes needed for correction
- Using the shim positioning chart furnished with shim, select the correct side of the chart (one side is for computerized four wheel alignment equipment and the other is for con-computerized equipment).
- 3. Select the amount of toe change desired by reading down the toe change column on the left side of the chart
- 4. Select the amount of camber change (increase or decrease) from camber change listings across the top of the chart. Next, read down the camber change column and across the toe change column to find the box where the two columns meet.
- 5. The bold number shown in the upper left corner of the box indicates the correct shim number to use. The words IN and OUT correspond to the direction the toe will change from the reading you now have. The words LEFT and RIGHT determine which side of the vehicle you are working on. The number shown is the indexing number for the shim when locating it on the template (See template furnished with shim).
- 5. Place shim over template with the notch indexed to the number obtained from the chart (the smooth side faces down). Using provided paint stick, or other suitable marker, mark the full length of each tab segment that corresponds to the mounting bolt pattern and wheel speed sensor hole as indicated on the template. Next, mark only the first half of each tab segment as indicated by the long grey line along top of template.
- Note: to maximize surface area and maintain integrity of shim. It is recommended a %" hole cutter be used to bore holes (in place of full tab removal) for hub mounting bolts.
- When using this method, place previously marked shim on block of wood and (with hole cutter installed in air drill) position centering pilot at first relief line (see figure 1). Using moderate pressure, drill 4 holes corresponding to hub mounting bolts. If you are not using a ½" hole cutter, simply remove the full tabs that correspond to the hub bolt pattern by using shim cutter to break tab membrane its full length on either side of tabs to be removed. Grasp the tabs to be removed with the shim cutter and bend downward, breaking off each tab at the inner relief line (see figure 2). In the same manner, remove the tabs corresponding to the wheel speed sensor... Next, as indicated by the long gray line on template, remove only the outer half of each tab segment that corresponds to this marking. Note: Nip only the very edge of the slots on either side of the outer tab segments to be removed. This will split the membrane to only the first relief line (see figure 3). Next, using a needle-nose plier and holding the shim as shown in figure 4, grasp tabs and bend downward to break away.

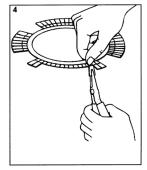
Installing the Shim

- Raise and support vehicle in a safe manner. Remove alignment equipment and tire/wheel assembly from vehicle
- 2. IMPORTANT: To prevent possible kinking of brake line during shim installation, first remove both brake line mounting clips along axle. Next, from the back side of the axle, remove the rear wheel speed sensor. CAUTION! If the speed sensor has seized, DO NOT use pliers on sensor head in an attempt to remove it. Use a hammer and punch and tap edge of sensor, rocking it from side to side until free from hub and bearing assembly.
- Remove hub and bearing assembly from vehicle clean all surfaces and install shim with tabbed side facing out.
- Replace hub and bearing mounting bolts and torque in a star pattern to manufactures
- Install rear wheel speed sensor and torque speed sensor attaching bolt to manufactures specification
- 6. Install rear brake drum
- Install rear tire wheel assembly and tighten lug nuts to manufactures specicization
- 8. Proceed with balance of total 4-wheel alignment and road test vehicle.









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