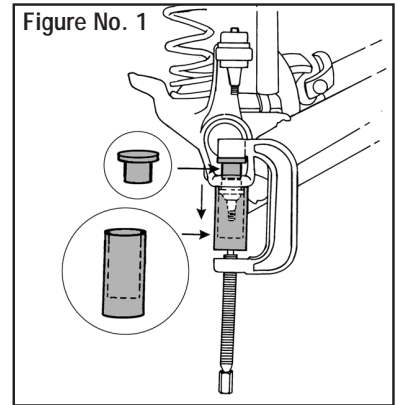


DODGE RAM 4 X 4 ADJUSTABLE BALL JOINT

Instructions for combination CAMBER/CASTER adjustment

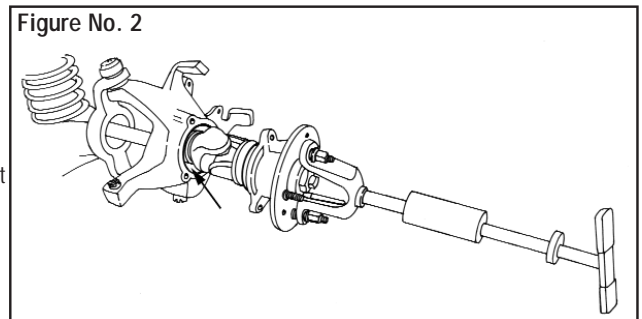
- 1) Check vehicle for bent, worn or loose components and repair as necessary.
- 2) Check alignment and determine camber and caster changes required.
- 3) Lift vehicle so suspension hangs freely. Support safely

NOTE: Lift vehicle high enough to allow ball joint press to function on lower ball joint.
(See Figure No. 1).



BALL JOINT REMOVAL

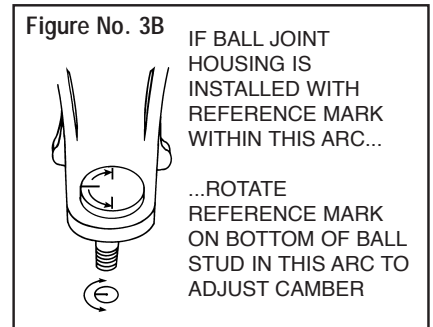
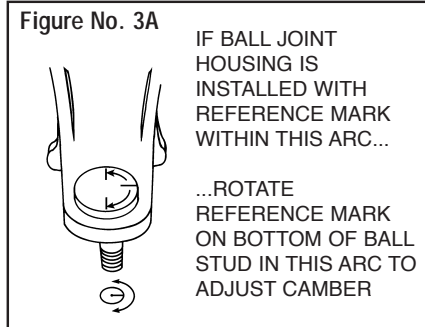
- 4) Remove wheel assembly and brake caliper. Support caliper. Place chalk marks on the hub and rotor to insure proper reassembly. Remove rotor.
- 5) Remove nut for steering arm. Using an appropriate tool, break the taper and remove the tie rod end from the arm.
- 6) Using the proper 12 point socket, remove the three bearing hub bolts from the back side of the steering knuckle. Remove the ABS sensor as required.
- 7) Place puller adapter flange on lug studs. Use washers under lug nuts to prevent damage, tighten lug nuts. Use a heavy duty slide hammer to loosen the hub assembly.
- 8) Place chalk marks on bearing hub, backing plate, and steering knuckle to insure proper reassembly.
- 9) Remove hub and bearing and axle as a unit (See Figure No. 2), using care not to damage inner seal.
- 10) Loosen ball joint nuts until they are within 2 or 3 threads from removal. Break tapers of ball joints.
- 11) Remove nuts and steering knuckle.
- 12) Press out lower ball joint using ball joint press and optional adapter set (See Figure No. 1).



SETUP OF REPLACEMENT BALL JOINT

- 13) Before installing new adjustable ball joint, align mark on ball stud with mark on housing, as in Figure No. 3A and 3B.
- 14) To insure proper combination camber/caster change: For **POSITIVE** camber change, use Figure 3A. For **NEGATIVE** camber change, use Figure 3B
- 15) Next, determine direction and amount of caster change required. Using the proper figure (4A or 4B), find the proper setting number for the mark on the ball joint housing. This mark will be referenced to the setting number on the provided template.

EXAMPLE RIGHT SIDE (passenger)
Positive camber change
-3/4 degree caster adjustment
Setting #6



- 16) Place paper template on lower axle yoke with arrows pointed outward toward tire. (See Figure No. 5 on other side).
- 17) Align mark on ball joint housing with setting number. (See Figure No. 5).
- 18) Push ball joint up into yoke. Verify proper alignment with setting number.
- 19) Use ball joint press and proper adapters from set to press in and properly seat ball joint. Install boot, fitting it properly into the groove of the housing and around the ball joint stud.

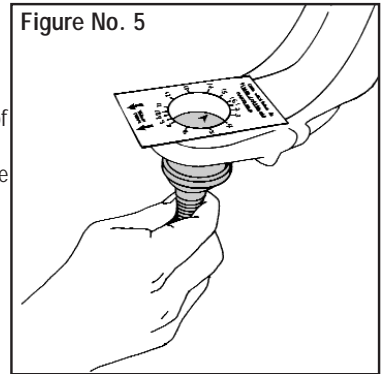
COMPLETING INSTALLATION

- 20) Install steering knuckle onto ball joints. Install and tighten upper nut to 75 ft. lb. (102 N. m.). Thread lower nut on by hand only at this time.
- 21) Place a film of grease on inner axle spline to keep from dam-

Fig. 4A Caster Adjustment chart for camber increase (+)			Fig. 4B Caster Adjustment chart for camber decrease (-)		
Left side caster Adj. needed	Setting	Right side caster Adj. needed	Left side caster Adj. needed	Setting	Right side Caster Adj. needed
+1°	5	-1°	+1°	5	-1°
+3/4°	6	-3/4°	+3/4°	4	-3/4°
+1/2°	7	-1/2°	+1/2°	3	-1/2°
+1/4°	8	-1/4°	+1/4°	2	-1/4°
0°	9	0°	0°	1	0°
-1/4°	10	+1/4°	-1/4°	16	+1/4°
-1/2°	11	+1/2°	-1/2°	15	+1/2°
-3/4°	12	+3/4°	-3/4°	14	+3/4°
-1°	13	+1°	-1°	13	+1°

Continued on other side: ▼

- aging the seal. Place a film of anti-seize on mating surfaces of hub and steering knuckle. Install axle assembly, aligning parts with chalkmarks.
- 22) Put anti-seize on hub bolt threads. Reinstall hub bolts, torque to factory specification.
 - 23) Replace tie rod into steering knuckle. Reinstall rotor, caliper and wheel assembly, torquing all fasteners to factory specification.
 - 24) Install and compensate alignment sensor.
 - 25) Gently lower vehicle. Adjust camber to desired reading by using a 1/4" allen wrench in the end of the ball stud.
 - 26) While holding the ball stud with an allen wrench to prevent it from turning, tighten and torque the locknut to 80 ft. lb. (110 N. m.).
 - 27) Verify proper camber and caster readings.
 - 28) Complete alignment and road test.



WARNING: It is possible that using this ball joint to adjust camber over 1.5 degrees positive may cause interference between the steering knuckle and the axle flange. This is a dangerous and unacceptable condition.

DODGE RAM 4 X 4 ADJUSTABLE BALL JOINT

Instructions for CAMBER only adjustment

1-12) Proceed with steps 1 through 12 from other side of this sheet.

SETUP OF REPLACEMENT BALL JOINT

- 13) Before installing new adjustable ball joint, align mark on ball stud with mark on housing, as in **Figure No. 3A and 3B**.
- 14) Using ball joint press and optional adapter set, press in ball joint with Index mark on ball joint housing toward WHEEL for POSITIVE camber change (**Figure No. 6**), or Index mark on ball joint housing toward ENGINE for NEGATIVE camber change (**Figure No. 7**). Install boot, seating it properly into the groove of the ball joint housing and around the ball joint stud.

COMPLETING INSTALLATION

- 15) Proceed with steps 20 through 28 from other side of this sheet.

WARNING: It is possible that using this ball joint to adjust camber over 1.5 degrees positive may cause interference between the steering knuckle and the axle flange. This is a dangerous and unacceptable condition.

