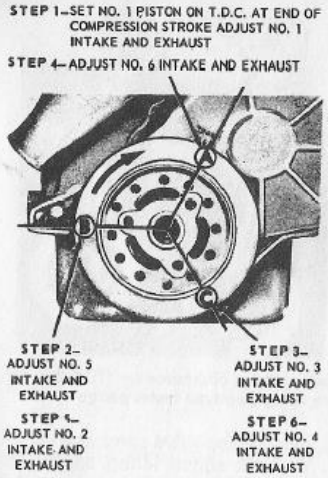


sition of crankshaft for valve adjustment, 200 & 6 cyl. engine

. Scribe a mark on the damper at this nt.

. Scribe two more marks on the damper, h equally spaced from the first mark (see stration).

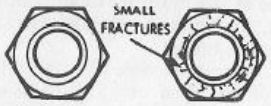
. With the engine on TDC of the compres- stroke, (mark A aligned with the pointer) k off the rocker arm adjusting nut until re is endplay in the pushrod. Tighten the sting nut until all clearance is removed, tighten the adjusting nut one additional . To determine when all clearance is re- ved from the rocker arm, turn the pushrod the fingers. When the pushrod can no ger be turned, all clearance has been oved.

. Repeat this procedure for each valve, ing the crankshaft 1/3 turn to the next k each time and following the engine fir- order of 1-5-3-6-2-4.

9
2

e early models of the 8–302 are equipped adjustable rockers whereas the later mod- re equipped with positive stop type rocker nting studs. Positive stop equipped rock- re adjusted by turning the adjusting nut until it stops. You can identify a positive mounting stud by determining whether or

Inspect the rocker arms, balls, studs, and nuts:



Stress cracks in the rocker nuts

nut attaches. If the shank portion is larger than the threaded area, it is a positive stop mounting stud. Use the procedure given below for adjusting the valve lash on positive stop type mounting stud equipped vehicles.

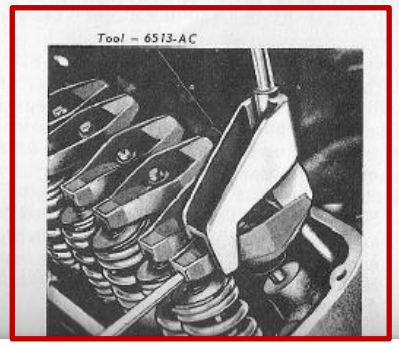
There are two different procedures for adjusting the valves on the V8 engines. One is a preferred procedure and one is an alternate procedure. The preferred procedure is recommended, but the alternate procedure may be used.

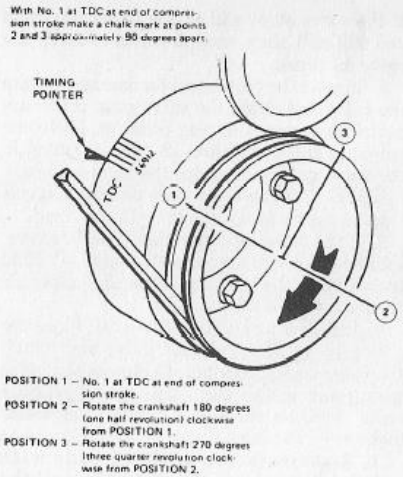
NOTE: *These procedures are not tune-up procedures, but rebuild procedures to be performed only after valve train reassembly.*

PREFERRED PROCEDURE THROUGH 1969

1. Position the piston(s) on TDC of the compression stroke, using the timing mark on the crankshaft pulley as a reference for starting with the No. 1 cylinder. You can tell if a piston is coming up on its compression stroke by removing the spark plug of the cylinder you are working on and placing your thumb over the hole while the engine is cranked over. Air will try to force its way past your thumb when the piston comes upon the compression stroke. Make sure that the high tension coil wire leading to the distributor is removed before cranking the engine. Remove the valve covers.

2. Starting with No. 1 cylinder, and the piston in the position as mentioned above, apply





Position of the crankshaft for checking and adjusting valve clearance

pressure to slowly bleed down the valve lifter until the plunger is completely bottomed.

3. While holding the valve lifter in the fully collapsed position, check the available clearance between the rocker arm and the valve stem tip. Use a feeler gauge.

4. If the clearance is not within the specified amount, rotate the rocker arm stud nut clockwise to decrease the clearance and counterclockwise to increase the clearance. Normally, one turn of the rocker arm stud nut will vary the clearance by 0.066" (1.676mm). Check the break-away torque of each stud nut with a torque wrench, turning it counterclockwise. It should be anywhere from 4.5 to 15 ft.lb. Replace the nut and/or the stud as necessary.

5. When both valves for the No. 1 cylinder have been adjusted, proceed on to the other valves, following the firing order sequence 1-5-4-2-6-3-7-8.

6. Replace the valve covers and gaskets.

ALTERNATE PROCEDURE THROUGH 1969

Follow Step 1 of the preferred procedure given above, but instead of collapsing the lifter as in Step 2, loosen the rocker retaining nut until there is endplay present in the pushrod; then tighten the nut to remove all pushrod-to-rocker arm clearance. When the pushrod-to-rocker arm clearance has been eliminated, tighten

next piston in the firing order sequence up to TDC at the end of its compression stroke. Collapsed Tappet Gap Clearance:

- Allowable: 0.071–0.193" (1.8–4.9mm)
- Desired: 0.096–0.165" (2.4–4.2mm)

POSITIVE STOP TYPE MOUNTING STUD FROM 1970

8–351, 400
1970 and Later 8–302

1. Crank the engine until no. 1 cylinder is at TDC of the compression stroke and the timing pointer is aligned with the mark on the crankshaft damper.

2. Scribe a mark on the damper at this point.

3. Scribe two additional marks on the damper (see illustration).

4. With the timing pointer aligned with mark 1 on the damper, tighten the following valves to 18–20 ft.lb.

- 302: no. 1,7, and 8 Intake; no. 1, 5, and 4 Exhaust
- 351, 400: no. 1, 4, and 8 Intake; no. 1, 3, and 7 Exhaust

5. Rotate the crankshaft 180° to point 2 and tighten the following valves:

- 302: no. 5 and 4 Intake; no. 2 and 6 Exhaust.
- 351, 400: no. 3 and 7 Intake; no. 2 and 6 Exhaust.

6. Rotate the crankshaft 270° to point 3 and tighten the following valves:

- 302: no. 2, 3 and 6 Intake; no. 7, 3, and 8 Exhaust
- 351, 400: no. 2, 5, and 6 Intake; no. 4, 5, and 8 Exhaust.

7. Rocker arm tighten specifications are: 302, 351 W and 351HO, tighten nut until it contacts the rocker shoulder, then torque to 18-20 ft.lb.; 351M, 400, tighten bolt to 18–25 ft.lb.

Valve Spring, Retainer And Seal

REMOVAL AND INSTALLATION

Broken valve springs or damaged valve stem seals and retainers may be replaced without removing the cylinder head, provided damage to the valve or valve seat has not occurred.

NOTE: *The following procedure requires the use of special tools: air compressor, air line adapter tool to fit the spark plug hole, and a valve spring compressor tool designed to be*