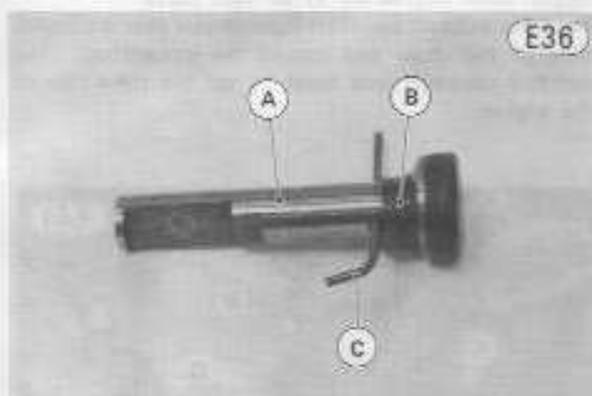


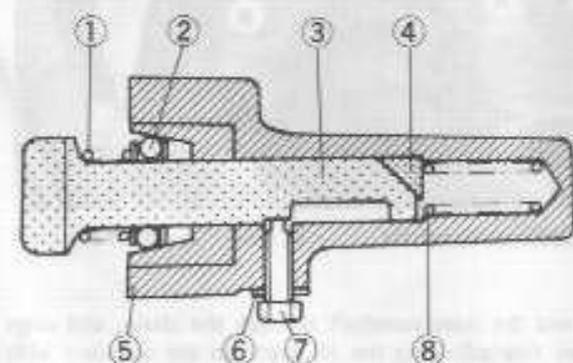
- Compressing the spring against the push rod head, insert a thin wire through the hole in the push rod to keep the spring in place.



A. Push Rod      B. Spring      C. Wire

- Check to see that the stiff spring is in the tensioner body.
- Apply a thin coat of grease on the end of the push rod, and fit the push rod stop on the push rod so that the push rod stop is properly installed in the tensioner body as shown in Fig. E37.
- Insert the push rod stop into the tensioner body going through the ball retainer. And then hold the tensioner body with the open end down so that the balls will fall away from the ramp inside the tensioner and allow the push rod to go in. Keep the flat side of the push rod toward the lock bolt, and push in the rod by hand until the wire rests against the tensioner mating surface.
- Holding the push rod in position and facing the flat side toward the bolt, tighten the original lock bolt securely to prevent the push rod from sticking out, and then pull out the wire.

#### Camshaft Chain Tensioner



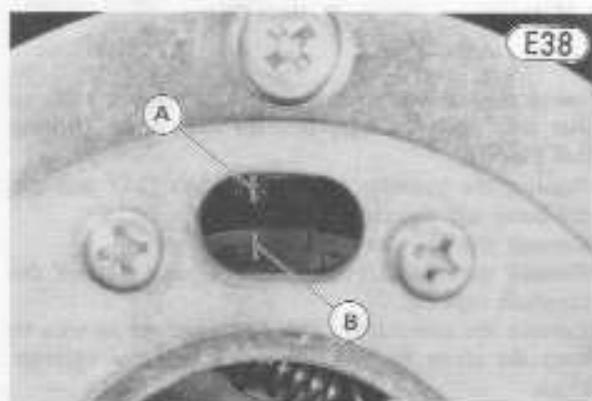
- |                      |                   |
|----------------------|-------------------|
| 1. Spring            | 5. Tensioner Body |
| 2. Ball and Retainer | 6. Flat Washer    |
| 3. Push Rod          | 7. Lock Bolt      |
| 4. Push Rod Stop     | 8. Spring         |

- Check the gasket, and replace it if it is damaged.
- Install the chain tensioner on the cylinder block, and tighten the mounting bolts. The upper mounting bolt is longer than the lower, and has an aluminum washer.
- Be certain that either the #1 and #4, or the #2 and #3 pistons are at TDC. If they are not, turn the crankshaft clockwise, and align one of the "T" marks on the timing advancer with the timing mark.
- Loosen the lock bolt and then tighten it. With the bolt loose, the stiff spring inside takes up any slack automatically.
- Install the carburetors (Pg. 46).
- Install the fuel tank (Pg. 43).

#### CAMSHAFTS

##### Removal:

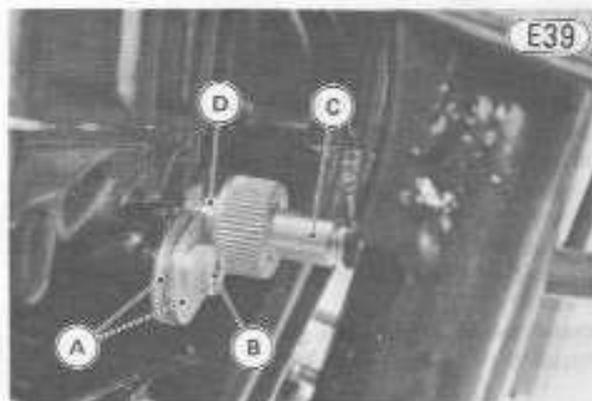
- Remove the fuel tank (Pg. 43).
- Remove the ignition coils (Pg. 51).
- Remove the vacuum switch valve and silencer (on US model: Pg. 51).
- Remove the pick-up coil cover and gasket.
- Using a 17 mm wrench on the crankshaft, set the 1, 4 pistons at TDC by aligning the timing advancer "T" mark on the 1, 4 side (the line adjoining the "T" with the timing mark).



A. Timing Mark      B. "T" Mark

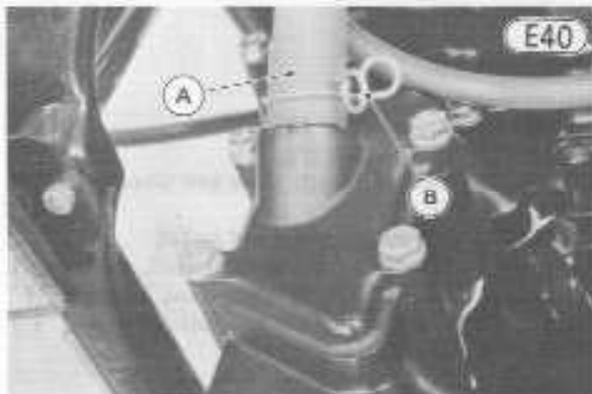
- Remove the Allen bolt, and remove the tachometer pinion holder stops. Pull the tachometer pinion holder and pinion with the tachometer cable off the cylinder head.

**CAUTION** Attempting to install the camshafts with the tachometer pinion left in the cylinder head may cause tachometer gear damage.



A. Holder Stops  
B. Allen Bolt  
C. Tachometer Cable  
D. Pinion Holder

- Lock the chain tensioner (Pg. 52).
- Slide the hose clamps (2), and pull the hoses (2) off the air suction valve covers (US model).



A. Hose  
B. Hose Clamp

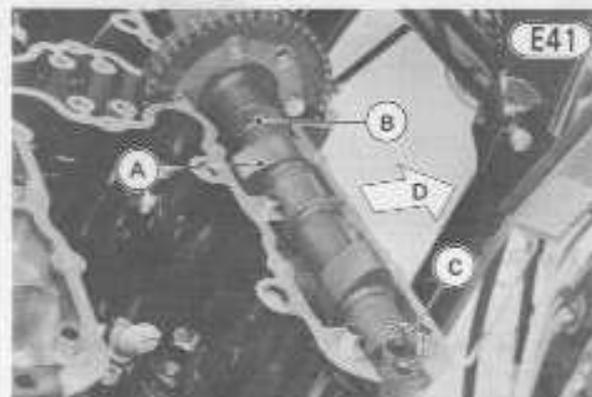
- Swing the vacuum switch valve and silencer aside so that they do not binder cylinder head cover removal (US model).
- Remove the cylinder head cover bolts (24), and slip the cover off the cylinder head.
- Remove the cylinder head cover gasket.
- Remove the camshaft cap bolts (16), and take off the camshaft caps (8).
- Remove the camshafts. Use a screwdriver or wire to keep the chain from falling down into the cylinder block.

**CAUTION** Always pull the camshaft chain taut while turning the crankshaft with the camshaft chain loose. This avoids kinking the chain on the lower (crankshaft) sprocket. A kinked chain could damage both the chain and the sprocket.

#### Installation:

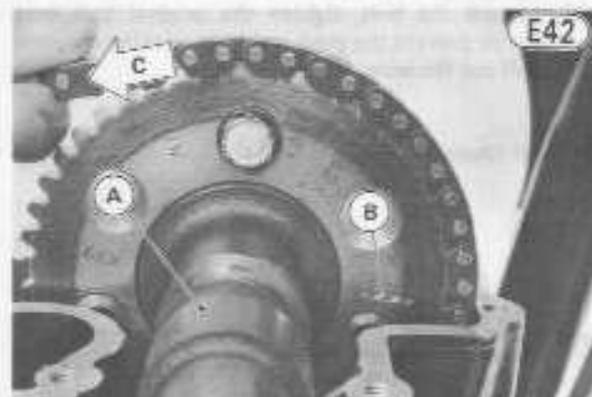
- Check that the tachometer pinion is removed from the cylinder head, and all camshaft cap knock pins (16) are fitted.

- Check crankshaft position to see that the 1, 4 pistons are still at TDC, and readjust if necessary. Remember to pull the camshaft chain taut before rotating the crankshaft.
- Apply clean engine oil to all cam parts.
- Feed the exhaust camshaft (tachometer gear is affixed) through the chain and remove the screwdriver. The notched camshaft end must be on the right side of the engine.



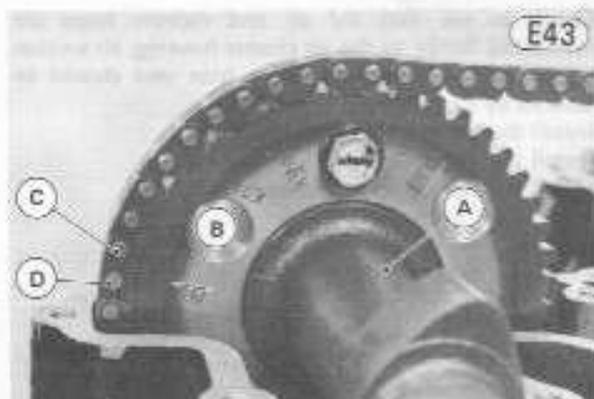
A. Exhaust Camshaft  
B. Tachometer Gear  
C. Notch  
D. Front

- Turn the exhaust camshaft so that the line adjoining the Z7EX mark on the sprocket is pointing to the front aligned with the cylinder head surface.
- Pull the chain taut and fit it onto the exhaust camshaft sprocket.



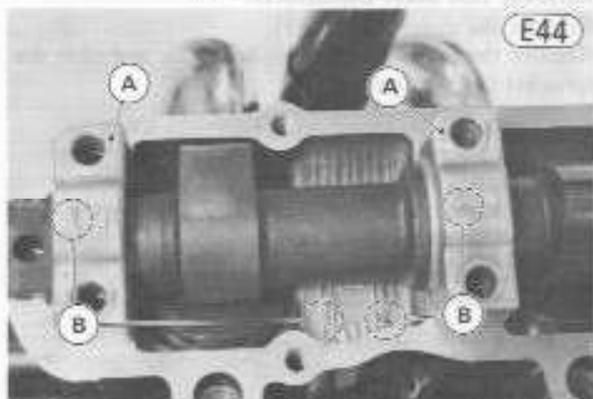
A. Exhaust Camshaft  
B. Line  
C. Pull

- Feed the inlet camshaft through the chain, and align the line adjoining the IN mark on the sprocket with the cylinder head surface and pointing to the rear. Find the pin on the link pointed at by the exhaust camshaft sprocket line adjoining the Z7EX mark, starting with this pin as zero (0), count to the 45th pin. Check to see that the inlet camshaft sprocket line adjoining the IN mark points between that 45th and 46th pins. If not, the camshafts are installed incorrectly.



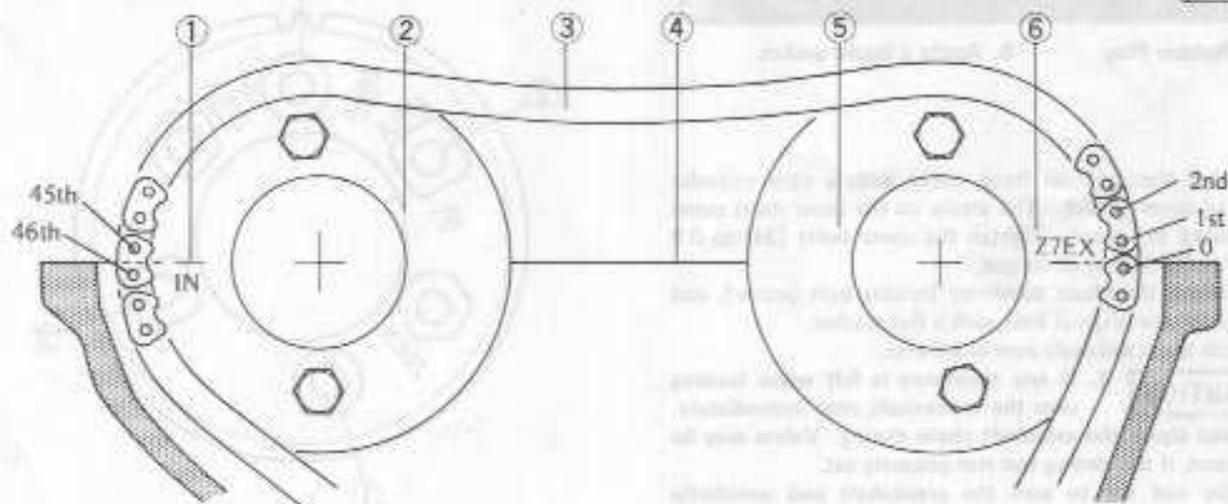
A. Inlet Camshaft  
B. Line  
C. 45th Pin  
D. 46th Pin

- Check that the camshaft chain seats in the groove of the front and rear chain guides.
- The camshaft caps are machined together with the cylinder head, so match the number on the camshaft caps with the number on the cylinder head. The arrow on the cap points forward (toward the exhaust).



A. Camshaft Cap  
B. Match the number.

#### Camshaft Chain Timing

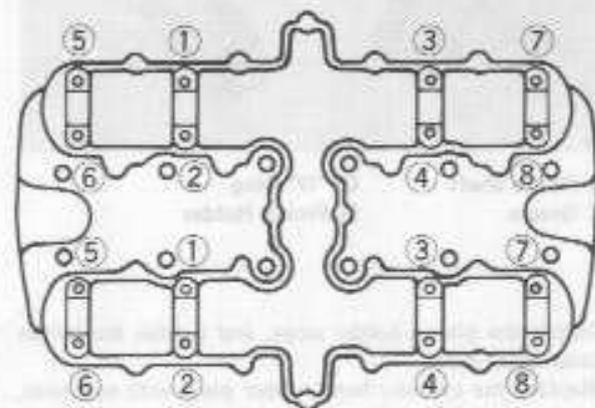


1. "IN" Mark
2. Inlet Camshaft Sprocket
3. Camshaft Chain

4. Cylinder Head Upper Surface
5. Exhaust Camshaft Sprocket
6. "ZTEX" Mark

- Partially tighten the left inside camshaft cap bolts first, to seat the camshaft in place. Fully tighten all the bolts to 1.2 kg-m (104 in-lbs) of torque, following the tightening sequence shown in the figure.

#### Camshaft Cap Tightening Order



- With the crankshaft positioned so #1 and #4 pistons are at TDC, check that the timing marks on the exhaust and inlet camshaft sprockets are aligned with the cylinder head surface.

**CAUTION** Rotation of the crankshaft with improper camshaft timing could cause the valves to contact each other or the piston, and bend.

**NOTE:** If a new camshaft, cylinder head, valve or valve lifter was installed, check valve clearance at this time (Pg. 12), and adjust if necessary.

- Apply a small amount of molybdenum disulfide engine assembly grease to the tachometer pinion shaft, insert the pinion and pinion holder into the cylinder head (Fig. E47).

E46