

V-Twin Mfg.
Crane Solid Tappet Kit
Fits 1966-1984 74" & 80" BT Models
VT Part No. 10-8251

This is a custom application and rider safety depends on proper installation. This product should only be installed by a knowledgeable and trained motorcycle technician. V-Twin Mfg. accepts no responsibility for improper installation.

These instructions are a guide to assist in the installation of a Crane Solid Tappet Kit. As with any mechanical work on your motorcycle, you must have the knowledge and experience to perform the job, or seek qualified assistance. Always have a service manual for your model when performing mechanical work. It will be necessary to have a Crane Cam and Pushrod Installation Tool Kit VT No. 16-0030. to make this an easy installation.

REMOVING THE OLD TAPPETS

1. Disconnect the battery. Secure the motorcycle on a suitable stand with the rear wheel off the ground if no kick starter is on your model. Remove all components necessary for easy access to pushrod covers and gear case cover. Remove spark plugs.
2. Remove the pushrod cover keepers and lift the covers to expose adjusters. Rotate engine until both front cylinder tappets are in the lowest position. (Top of compression stroke.) Loosen pushrod lock nuts and shorten pushrods until they can be lifted out. Rotate engine to the top of compression stroke of rear cylinder and remove its pushrods.
3. Remove gear case cover. Remove tappet guide blocks and tappets.
4. Remove cam, spacing washer, and thrust washer. Remove breather and washer.
5. Clean and inspect all parts. Obtain new gaskets and O-rings.

INSTALLING CRANE HYDRAULIC TAPPET KIT

1. Shorten the pushrods by turning lower portion until no threads show. Remember that the short pushrods are intakes and long pushrods are exhausts.
2. Place the rear tappet guide into the case and insert rear intake tappet into the guide from the bottom. Screw guide in place and let tappet rest in the case. Place intake pushrod, with cover and O-rings in place, into guide. Using spring clip from Crane Cam and Pushrod Installation Tool Kit, hold pushrod and cover up and centered (Fig. 1). Insert exhaust pushrod and cover in guide and hold it up and centered with clip. Now insert exhaust tappet up into guide from bottom.
3. Hold both tappets up against the pushrods, making sure pushrods are seated in the rocker arms and centered over the pushrod seats in the tappets. This is very important throughout assembly to avoid damaging parts. While holding tappets up, insert tangs of installation tool through tappet guide slots into tappets just above rollers (Fig. 2). With an allen wrench, tighten the tool's swivel foot against the tappet guide while holding tappets up. Tappets and pushrods will now stay in place (Fig. 3).
4. Insert the front tappet guide into the case and secure with screws. Insert pushrods into their correct locations, with covers and O-rings in place. Hold them centered with spring clips. Insert front tappets into guide from bottom. Secure with front installation tool while holding tappets up as high as possible in guides.
5. Rotate engine so pinion timing mark is approximately three teeth to the left of top. Insert thrust plate, spacer and cam into engine with timing mark three teeth to the left of bottom. Cam should slide in clearing the rollers. If not, check that pushrods are seated both top and bottom, and that the tools have the tappets held as high as possible. (Rear intake and front exhaust pushrods should have little, or no, movement in them.)
6. Make sure both timing marks will line up. Remove tools from tappet guide blocks. Lengthen pushrods by turning with fingers to take up slack. Slowly rotate the engine a little at a time while continually checking all pushrods and taking the slack out. Make two complete revolutions while doing this step. Recheck timing marks on pinion and cam, then insert breather and washer.
7. Reassemble timing case cover and gasket.

ADJUSTING CRANE SOLID TAPPETS

1. Place clips above hexes on pushrods to hold covers up (Fig. 4). Watching tappets, rotate engine until both front tappets are in down position with the front piston on top of the compression stroke.
2. Turn the adjustable lower end of the front pushrods to the point where the slack is taken out (until up and down shake is taken out)
3. Tighten lock nuts against bottom portions of pushrods (DO NOT OVER TIGHTEN). Recheck adjustment by rotating pushrods with fingers. They should have slight drag and no shake.
4. Rotate engine until rear cylinder is on top of the compression stroke (both rear tappets in lowest position). Repeat the adjusting procedure on rear pushrods.
5. Following the directions in your service manual, reassemble engine and chassis parts.

Note: If it becomes necessary to replace pushrod tube gaskets in an assembled engine, the tappets do not have to be removed. Lift the pushrod tube, cut out the old gasket and shorten the pushrod until a new gasket can be slipped under the lower ball end. To replace upper gasket, use a thin wire to pull the new gasket up through the pushrod tube.

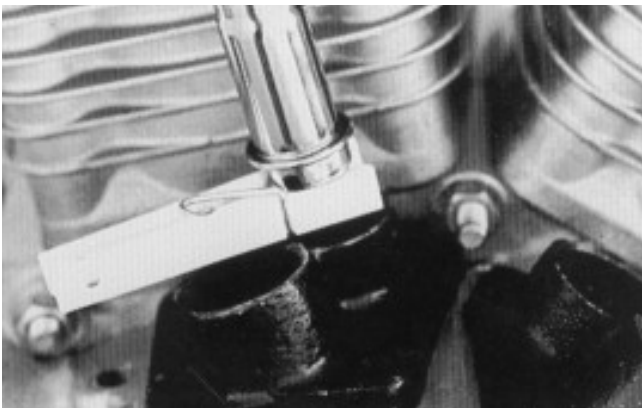


Fig. 1

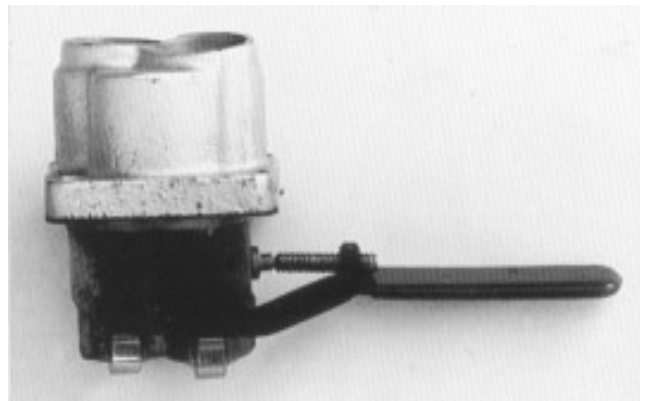


Fig. 2

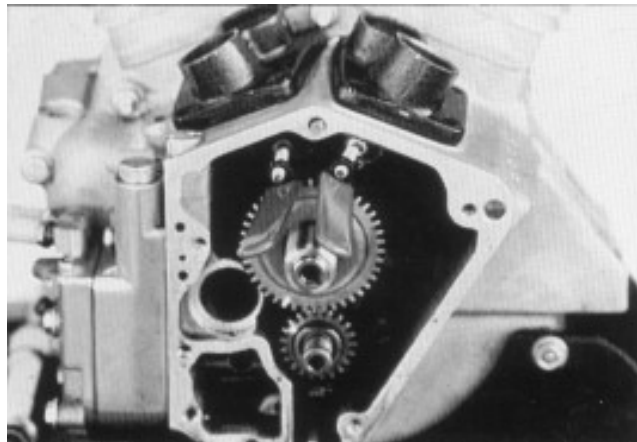


Fig. 3

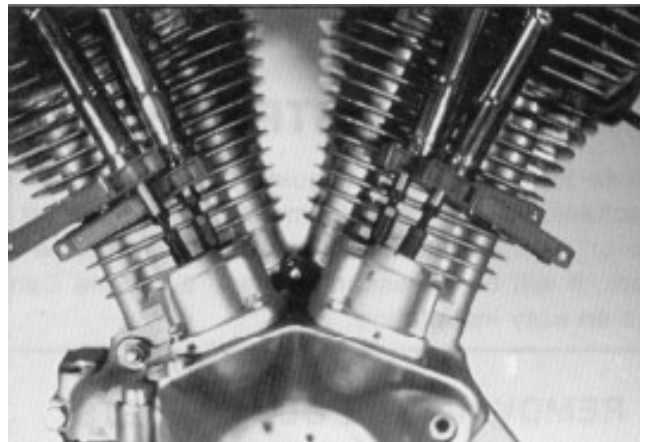


Fig. 4