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## VALVE ADJUSTMENT MADE SIMPLE

Whether it's a Chevy, Ford, Pontiac or Oldsmobile with 4, 6 or 8 cylinders, or some other foreign or domestic vehicle, follow these directions closely and valve adjustment can be very simple.

New or used, you MUST check to see if the pushrods are bent. Using a piece of flat glass, roll one pushrod at a time across the flat surface to see if it rolls smooth. If it is bent you will know it and change if necessary. Heavy wall pushrods must be used for high spring pressures.

Wash the pushrods with soap and hot water, then air blow dry thoroughly. Dry inside and out. Hold all pushrod ends to a light to inspect holes and make sure they are completely clear.

Lube the lifter side of pushrods with molylube. Also lube guide plate where pushrods will rub.

Now install the pushrods through the guide plate into lifter sockets. To make sure you are in the center of each lifter, spin pushrod with your fingers pressing lightly. It will find the middle easily. Now lube top of pushrods with molylube.

Now it's time to install your new Scorpion Rockers. Make sure they have been final washed. Just wipe with a clean lint-free rag and lube the trunnion with any thin motor oil. Also lube the pushrod cup with a generous amount of molylube. Now make sure the flat surface of the trunnion is facing up. Next, set the rocker over oiled rocker stud. Make sure the pushrod is in center of pushrod cup by lightly pressing on rocker and spinning pushrod. Install all rockers the exact same way.

**Note:** Don't worry about the lobes that are up and do not rotate engine. This action can result in bending pushrods. **Don't rotate yet.**

Now flood the top of stud and trunnion with motor oil before screwing polylock down. **Do not tighten.** Spin polylock down with your fingers until pushrod has no lash, but will still spin with your fingers. Repeat until all rockers are installed.

Take spark plugs out of head so you are not fighting compression. Then with a long ratchet and a socket to fit balancer bolt, rotate engine direction one turn at a time. This will loosen some of the rockers. With your fingers tighten polylocks until there's no lash, checking that pushrods still spin. Repeat exactly over and over until all rockers are down with no lash. Note as you take lash out of loose rocker arms some of the valves will start opening. This is okay.

Now it's time to adjust the valves. The most important thing is to do one cylinder at a time starting at front and working your way around. Rotate in normal engine direction. When the exhaust valve starts to open, adjust intake valve. When the intake valve opens and starts to close, adjust exhaust valve.

## FOR HYDRAULIC CAMS AND HYDRAULIC ROLLER CAMS

Example: When the exhaust valve just starts to open on #1 Cylinder, adjust #1 intake valve by loosening polylock slightly while spinning pushrod, until you feel lash in the rocker arm. Spin polylock down until you feel lash go away and now feel the pushrod snug up a little while you're spinning it. This is known as 0 lash. Now place offset 5/8 box wrench on polylock facing exhaust side of head at 6 o'clock position. Turn wrench to the 3 o'clock position. Now use T-handle allen wrench and screw the set screw down against the top of stud firmly. Then bump wrench slightly tighter to lock set screw. **DO NOT OVERTIGHTEN!** This will split the polylock. You don't need much to lock set screw to stud. After adjusting put a magic marker slash across top of rocker to tell you it has been done. Now rotate engine until intake valve opens and just starts to close and repeat adjustment on #1 exhaust valve (Note: one cylinder at a time). Repeat one cylinder at a time until complete engine is finished.

Now it's time to double check starting at #1 cylinder. When exhaust starts to open check intake. New hydraulic lifters won't be pumped up yet, so you should be able to spin pushrod with some resistance. Think of a hydraulic lifter as a shock absorber, and you want to be in the middle of it. You will be able to push the lifter plunger to the bottom of the lifter until you have oil pressure and then it becomes solid. You should put a 2nd mark on top of the rocker so you know it has been double checked. All rockers that are 100% finished being adjusted should have a magic marker X on them. One mark for 1st adjustment, 2nd mark for final checked.

## ADJUSTING VALVES ON SOLID LIFTER OR ROLLER CAMS

The most important thing to know is to adjust one cylinder at a time, starting at #1, and work your way around. Rotate in normal engine direction. When the exhaust valve starts to open on #1 cylinder, adjust intake valve. When the intake valve opens and starts to close, adjust #1 exhaust valve.

**Example:** When exhaust valve starts to open on #1 cylinder, adjust #1 intake valve by loosening polylock slightly while spinning pushrod until you feel lash in the rocker. Now spin polylock down until you feel the lash go away. You will feel the pushrod snug up a little while you're spinning it. This is known as 0 lash. Place offset 5/8 box wrench on polylock. Loosen polylock slightly while sliding feeler gauge in-between roller and tip of valve (See cam card for lash spec).

Spin polylock down against feeler gauge. Now use a T-handle allen wrench and screw the set screw down against the top of stud firmly, then bump wrench slightly tighter to lock set screw. **DO NOT OVERTIGHTEN!** This will split the polylock. You don't need much pressure to lock set screw to stud. After adjusting put a magic marker slash across top of the rocker to tell you it has been done, then rotate engine until intake valve on #1 cylinder opens and starts to close. Now adjust #1 exhaust valve. Repeat same valve adjust procedure ONE CYLINDER AT A TIME. Repeat one cylinder at a time until complete engine is finished.

Now it's time to double check. Starting at #1 cylinder, repeat valve adjustment procedure. When exhaust valve starts to open, check #1 intake with feeler gauge. After removing feeler gauge, spin push rod. This guarantees nothing is rubbing the pushrod. You should put a 2nd mark on top of rocker so you will know it has been double checked. All rockers that are 100% finished being adjusted should have a magic marker X on them. One mark for 1st adjustment, 2nd mark for final check.