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## INSTALLATION INSTRUCTIONS:

**Part Numbers SCP1098 and SCP1099**



***Please read these instructions and notes carefully and completely before beginning.***

The most important thing to do is always adjust one cylinder at a time and turn the engine in the normal direction of rotation while installing. Follow directions closely for easy installation. If you have any problems please call our Tech Support Line. **Scorpion Tech Support: 352-512-0800**

***Removal of the OEM Rocker Arms:***

This should be done one cylinder at a time, with extreme caution. You must make sure each valve is completely closed before removing the rocker bolt. Failure to do so will result in stripping out the threads. After removing all rockers you must also remove the one-piece factory rocker arm stand, this will not be used.

The first step is to make sure the pushrods are still in the middle of the lifters by spinning them while lightly pressing down. (If using 1.8 ratio rockers, you must check the pushrod clearance on the cylinder head.) Next, you must lube the top of the pushrods with Scorpion Cam & Lifter Installation Lubricant (part # SRPAL4-1 or SRPAL8-1). Install the rockers one cylinder at a time. You must rotate the engine in the normal direction of rotation on #1 cylinder until the intake pushrod goes completely up and just starts to return. This will ensure you are on the heel of the exhaust lobe of the

cam and are ready to install your exhaust rocker arm. Lube the pushrod seat in the rocker with Scorpion Racing Products Cam & Lifter Installation Lubricant or oil. Next, place the ARP washer provided on the factory bolt with the flat side facing down. Lube the washer and threads with oil only. Place the bolt through the rocker arm - the flat of the trunnion must face up. Next, place the pedestal over the bolt with the radius matching the bottom of the trunnion. Now lay the U Channel on the cylinder head (open side up).

Place the flat of the pedestal in the U Channel. Screw the bolt down until no lash is felt. Spin pushrod to make sure you're in the pushrod seat. Now torque to factory specifications.

**Note:** The last 1/2 to full turn will be snug on lifters that are pumped up with oil. This is very common and of no concern, torque to factory specifications.

Next rotate the engine in the normal direction of rotation until exhaust rocker starts to open exhaust valve - this means the intake rocker is ready to be installed. Repeat same procedure as you did with exhaust. Place the ARP washer provided on the factory bolt with the flat side facing down. Lube the washer and threads with oil only. Place the bolt through the rocker arm - the flat of the trunnion must face up. Now place the pedestal over the bolt with the radius matching the bottom of the trunnion. Place the flat of the pedestal in the

U Channel. Screw the bolt down until no lash is felt. Spin pushrod to insure you're in the pushrod seat. Now torque to factory specifications.

#### **Checking lifter preload with an aftermarket cam:**

With the engine in the proper position, install the rocker and lightly tighten the attaching screw with your fingers. Once you're at zero lash, set your torque wrench to the specified torque and tighten the attaching screw. The screw should turn another 1/4 to 3/4 turn (1/8 to 1/4 turn with short travel lifter) until the torque wrench clicks. If it is less than 1/4 turn, a longer pushrod is needed. If it is more than 3/4 turn, a shorter pushrod or shimming the pedestal is needed. Scorpion offers shims in .020" thickness, part number SCP3220SM (set of 32 pieces).

**Note:** Due to tighter clearances (spring travel, piston to valve, retainer to seal) the lesser preload is recommended. If your engine's RPM level is raised high enough so that the lifters go into a pump-up situation, it is better to limit the amount of preload to prevent mechanical interference. For example, if you have .050" lifter preload and have lifter pump-up at higher RPM with a 1.7 ratio rocker, this momentarily equates to .085" more valve lift (.050" at the lifter x 1.7 = .085" at the valve). This could cause momentary mechanical interference and component failure.

#### **IMPORTANT:**

- Scorpion strongly suggests using .080 minimum wall thickness pushrods. The added pushrod stiffness will produce power gains and increase stability and durability throughout the remainder of the valvetrain.
- Scorpion does not recommend going higher than the factory RPM limit with stock valve spring pressures.
- When using a camshaft other than stock, you must check for mechanical interference and follow the camshaft manufacturer's valve spring pressure, lifter preload and maximum RPM recommendations.
- Maximum allowable valve spring open pressure is 420 lbs.