

# Installation Instructions for 20100-46, 20160-78 & 20190-96 Aluminum Roller Rocker Arms

**Please read and follow the guidelines for installing your aluminum rocker arms to realize the maximum in performance and longevity.**

**Pushrods: Using proper length pushrods cannot be over emphasized!!!!**

Good valvetrain geometry starts when the correct length pushrod is used for your specific engine combination (deck height, cam base circle, lifter length). The fact is, if you are using stock length pushrods, your valvetrain is probably not correct. Use an adjustable pushrod checking tool to determine the proper length for your particular combination. **Always use heat treated pushrods with guideplates.**

The recommended procedure to install your new set of rocker arms is one cylinder at a time. Rotate the engine until the exhaust pushrod starts to move upward. The intake rocker arm is now ready to be placed on the rocker arm stud and to be adjusted (the flat of the fulcrum **MUST** face up as this will be the mating surface for the adjustment nut!). Make sure that the pushrod is properly seated in the lifter and the pushrod seat of the rocker arm.

Rotate the engine in direction of normal rotation until the intake valve has fully opened and follow through until it is nearly closed. The exhaust rocker arm is now ready to be placed on the rocker arm stud and to be adjusted (the flat of the fulcrum **MUST** face up as this will be the mating surface for the adjustment nut!). Make sure that the pushrod is properly seated in the lifter and the pushrod seat of the rocker arm.

Now that you have installed one cylinder set of rocker arms you can now follow through with the steps to make sure that there is no interference with the rocker arms and studs, guide plates, valve springs and retainers.

### **1. Clearance Check Rocker Arm to Stud**

Check to make sure the lower end of the rocker arm does not come in contact with the rocker arm stud, large end radius or the hex end of the body. Also, it should not come in contact with the guide plate and the rocker arm boss. All these checks **MUST** take place with the lifter all the way down on the base circle of the cam.

### **2. Clearance Check Rocker Arm to Valve Spring**

Check to make sure the underside of the rocker arm does not come in contact with the top side of the valve spring retainer or the side of the valve spring. The minimum amount of clearance is .045" in these areas. With the valve fully closed and the lifter on the base circle of the cam is usually when you will experience the least amount of clearance. The clearance check should be performed throughout the entire travel of the rocker arm cycle. The clearance can be checked by using a feeler gauge, or section of .045" wire bent to form a handy tool to find the tight confines of the rocker arm to spring retainer and spring. **Do not file or grind the rocker arm to gain the needed minimum .045" clearance. You have another situation that needs attention.** To obtain the needed clearance, either non-stock length pushrods or valve stem lash caps can be used. A pushrod length checker should be used to help determine the pushrod length.

### **3. Valve Adjustments**

Follow recommended procedures from the cam manufacturer. With the rocker arm adjusting lock nut, install the set screw with the internal hex up, into the adjusting nut and install on the rocker arm stud. Once you have set the adjustment, hold the hex with a wrench and tighten the set screw to lock-in the setting. These adjustments should be re-checked after a short run-in time with the engine brought up to normal operating temperatures.



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#### **4. Valve Cover Clearance Check**

These rockers are larger than stock configuration so you may encounter interference with the rocker arms, lock nuts, valve cover and valve cover baffles, if so equipped. Install the valve cover as you would normally. Only start the valve cover fasteners one to two threads. Hold the valve cover by hand to feel any movement of the valve cover or interference. Now rotate the engine by hand or by "bumping" the starter (**Do Not Start The Engine!**). Any minor interference can be cured by extra-thick valve cover gaskets or minor modifications to the valve cover. Depending on the selection of components, your application may require tall racing style valve covers.

#### **5. Final Assembly**

Before installing valve covers, use a pint of oil that you use for your engine or a break- in engine lubricant concentrate to pour over the rocker arms. Do not start a new set of rocker arms without this procedure. Now your engine is ready to run.

#### **Important Note:**

Special .150" offset intake rocker arms for Small Block Chevrolet are marked left and right **MUST** be placed on the correct cylinder to avoid possible failure.

Left offset to be used on intake locations for cylinders number 1, 5, 4 and 8

Right offset to be used on intake locations for cylinders number 3, 7, 2 and 6

Offset Part Numbers: 555-20110, 555-20111, 555-20113, 555-20114, 555-20115, 555-20115, 555-20116, 555-20117 and 555-20118

**Important Note: Grinding or altering the body of the rocker arm voids any warranty or liability of the manufacturer!**

#### **Tools to aid in the installation of your aluminum rocker arms:**

Lock Nut Adjusting Tool: 778-66781

Feeler Gauge: 555-80500

Offset Feeler Gauge: 555-80501

Feeler Gauge and Handle Kit: 555-80502

Pushrod Length Checker Small Block Chevrolet 3/8" Stud: 778-66789

Pushrod Length Checker Small Block Chevrolet 7/16" Stud: 778-66790

Pushrod Length Checker Big Block Chevrolet 7/16" Stud: 660-42133

Adjustable Checking Pushrod Small Block Chevrolet 5/16": 270-99726-2

Adjustable Checking Pushrod Big Block Chevrolet 5/16": 270-99730-2

Adjustable Checking Pushrod Small Block Ford 5/16": 270-99725-2



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