



## Chevrolet Timing Chain

Thank you for choosing COMP Cams® products; we are proud to be your manufacturer of choice. Please read this instruction sheet carefully before beginning installation, and also take a moment to review the included limited warranty information.

<i>Application</i>	<i>Part #</i>
Chevy 90° V6 (200, 229 and 262, 1978-86) and V8 (262-400 1955-91)	#2100, #3100 and #3200
Chevy Big Block (396-454, 1965-90)	#2110, #3110 and #3210
Chevy 90° V6 and V8 (1987-Present with factory roller camshaft)	#2136 and #3136
Chevy 60° V6, 173	#3201

### ***Kit Components:***

- Upper timing gear
- Lower timing gear
- Timing chain



### **Tools and Supplies needed:**

1. 1/2 Wrench
2. Torque Wrench
3. Pro Cam Lube (Part #153 or #154).
4. Harmonic Balancer Installation Tool (Part #4920)
5. Crankshaft Timing Gear Installation Tool (Part #4789). (Used in conjunction with #4920)
6. Crankshaft Socket (Part #4793 for Small Block Chevy and #4797 Big Block Chevy)
7. Cam Lock Plate & Bolts (Part #4605) (Not used on 87-present models equipped with factory roller cam)
8. Cam Button (Part #200 or #202 for Small Block Chevy and #205 or #207 for Big Block Chevy).  
***Note: This is required when using mechanical roller and retro-fit hydraulic roller camshafts. However, it is not required on 87-present models equipped with factory roller camshafts when using stock camshaft retainer.***
9. Camshaft Degree Bushings (Part #4760)
10. Camshaft Degree Kit (Part #4796 including degree video)
11. Thread Locking Compound
12. Cleaning Solvent

The following instructions begin after the timing cover and old timing set have been removed. Installing the timing set and degreasing the camshaft will be easier if you loosen the rocker arms so that

the camshaft can turn freely. You should be able to turn the camshaft by hand. Make sure that the engine mounting surfaces and your new timing set have been thoroughly cleaned with a good solvent.

If you are using a timing set with three keyways, select the appropriate keyway for your camshaft timing specifications. COMP Cams® recommends the standard timing position for most applications. This position uses the round or “O” timing and keyway marks. Standard Timing Location: This is the same as original O.E.M. setting. Use keyway and crankshaft gear tooth marked “O”.

- **4 Degree Advance:** Use keyway and crankshaft tooth marked  $\triangle$ . **Note:** The  $\triangle$  or advanced position should not be used without degreeing the camshaft. Many camshafts have the proper advance built in. Advancing the cam will reduce intake valve to piston clearance and increase exhaust piston to valve clearance.
- **4 Degree Retard:** Use keyway and crankshaft gear tooth marked  $\square$ . **Note:** The  $\square$  or retarded position should not be used without degreeing the camshaft. Many cams have the proper advance built in. Retarding the cam will reduce exhaust valve to piston clearance and increase intake piston to valve clearance.

### Step 1 – Lower Gear Installation

Select the appropriate keyway for your camshaft timing specifications. COMP Cams® recommends the zero timing position, which uses the round timing mark and round keyway mark. If the camshaft needs to be advanced or retarded, use degree bushings (Part #4760) as they are a more accurate method of positioning the camshaft. Using your lower timing gear installation tool (Part #4920), install the lower gear on the crankshaft making sure that the gear is fully seated against the crankshaft flange and the timing marks on the gear are toward you. *(Never strike the gear with a hammer, chisel, or punch).*

### Step 2 – Chain Installation

Now that the lower crankshaft gear is installed rotate the crankshaft using your crankshaft socket, (Part #4793 for Small Block Chevy or #4797 for Big Block Chevy), until the appropriate crankshaft gear tooth is in the 12:00 position and the crankshaft gear keyway slot is in the 2:00 position. The #1 piston should be at top dead center. Rotate the camshaft until the camshaft dowel pin is at the 3:00 position. Loop the chain over the camshaft gear. Align the camshaft and crankshaft timing marks and loop the chain around the crankshaft gear. Lift the camshaft gear into place on the camshaft. Install the three camshaft bolts (finger tight for now). Make sure that the camshaft gear timing mark aligns with the proper crankshaft gear timing mark. The camshaft timing mark should be at 6:00 and the crankshaft gear timing mark should be at 12:00. If this procedure is missed by even one tooth, engine damage can result.

If a mechanical roller or retro-fit hydraulic roller cam is being installed, a cam button (Part #200 or #202 for Small Block Chevy, #205 or #207 for Big Block Chevy) must be used. Install the cam button per the supplied instructions. A cam button is not required on 87-present models equipped with factory roller camshafts using stock camshaft retainer. If you are using a cam lock plate (Part #4605), install it with the bolts leaving them finger tight. ***Do not bend the tabs at this time.***

For a more accurate installation, we recommend that you degree your cam at this time using the instruction sheet and video provided in your COMP Cams® Degree Kit (Part #4796). Then refer to your repair manual for the proper torque specifications for all attaching hardware and secure your cam

locking tabs if you are using the cam locking plate. If camshaft bolts loosen up, severe engine damage can result. ***A good thread locking compound should be used on all bolts.*** Make sure that the engine oil has a clear path to the timing set through the lifter valley drain holes or some other means. Timing sets require plenty of oil to survive. Pour plenty of Pro Cam Lube (Part #153 or #154) over the entire timing set. The proper lube will protect your timing set during final assembly and initial start up.

### **Step 3 – Final Assembly**

Install the timing cover and gasket. COMP Cams® offers a two piece front cover (Part #210 for Small Blocks and #212 for Big Blocks) that simplifies camshaft timing changes without disturbing the oil pan seal. Erratic ignition timing problems caused by timing cover flex will also be eliminated. This cover offers all strength and rigidity necessary for easy use, and no bothersome oil leaks. Install the harmonic balancer using your installation tool (Part #4920). ***Never use a hammer to install your balancer.*** This can cause serious damage to the balancer and internal parts.