



## ACCU-DRIVE CAM GEAR DRIVE SYSTEM

#7890 - Small Block Chevrolet V8s 262-400 c.i.d. 1957-1995

#7891 - Big-block Chevrolet V8s 396-454 c.i.d. 1965-1990

## INSTALLATION INSTRUCTIONS

**EMISSION CONTROL SYSTEMS:** Check local laws for requirements. Not legal in California on pollution controlled motor vehicles. Not recommended for computer-controlled vehicles equipped with knock sensors.

**POWER PACKAGE:** Edelbrock Accu-Drive gear drives are part of a Total Power Package parts system that can be completed with the use of dyno-matched Performer, Performer RPM, or Torker II cams, intake manifolds, and carburetors. For competition applications, use Edelbrock Victor or Victor Ram intake manifolds. Please refer to the Power Package Guide in the Edelbrock catalog to select all the components you need.

**ACCU-DRIVE OPERATING PRINCIPAL:** The Accu-Drive system utilizes a free floating idler gear that is self-aligning and connects the crankshaft and camshaft gears into proper mesh. The large power idler gear (SBC 21 Tooth/BBC 23 Tooth ) is positioned on the right side of the engine (passenger side). During normal operation, the drive power is transmitted from the crankshaft through the large power idler to the camshaft gear. During the running operation, there is no backlash between these gears. The small reverse idler gear (SBC 18 Tooth/ BBC 20 Tooth ) located opposite the large power idler gear, is also free floating. This small reverse idler gear does not carry any operating gear loading. The small reverse idler gear must be allowed to float vertically as noted in Figure 1. The small reverse idler gear prevents the large power idler from being disengaged from mesh in the event the engine is rotated backwards.

### GEAR ASSEMBLY CAUTION NOTES

1. Never hammer directly on gears. You will damage the gear teeth and cause early failure.
2. Lubricate all gears and bearings with engine oil before installing front cover.
3. The small reverse idler must be free to float vertically with the large power idler in tight gear mesh with the crankshaft and camshaft gears. See Figure 1 for proper clearance. **CAUTION:** If gears do not have proper clearance the gear teeth will become overheated and discolored and will fail due to excessive friction between the mating gears.
4. Large power idler shaft length may require material removal to obtain the correct clearance between the cylinder block and front cover. See Figure 3.
5. Cam gear lock tabs must be bent over the heads of the attaching capscrews holding the gear to the camshaft. Before bending tabs be sure that the capscrews are torqued to 20 ft./lbs. You may also use Locktite™ or equivalent on bolt threads.
6. If a non-stock front cover is used, be sure idler gear axles do not have more than .030" front end clearance. Install allen head capscrews into the front face of the cover, if necessary to obtain proper clearance. Figure 3 & 4.
7. Do not use aluminum hub harmonic balancer with your Accu-Drive. Use only stock or aftermarket steel harmonic balancers.

## INSTALLATION INSTRUCTIONS

**NOTE: THE FOLLOWING STEPS ARE CRITICAL FOR THE PROPER OPERATION OF YOUR ACCU-DRIVE!**

1. Remove stock timing cover. Rotate engine to Top Dead Center of cylinder #1 so that the timing marks on the original crank and cam sprockets are directly lined up with each other, i.e., the mark on the crank sprocket will be straight up and the mark on the cam sprocket will be straight down. Using suitable gear puller, remove stock crank and camshaft sprockets and timing chain. Refer to repair manual if necessary for individual steps.
  - (c) Select the correct offset timing bushing 0-2-4-6-8 degrees and install on cam dowel and into cam gear. Use the "0" off set bushing as a baseline for camshaft timing.
  - (d) Position locking plate and install the three cam gear capscrews; lightly tighten.
2. Assemble Accu-Drive as shown in Figure 1.
3. Install crank gear with large chamfer towards rear of engine and timing mark toward front of engine. Make certain crankshaft drive key is aligned with keyway of the crank gear before assembling.
4. See Figure 2 "Camshaft gear assembly" for correct assembly.
  - (a) Place well lubricated thrust washer on the rear (block) side of cam gear.
  - (b) Align the three bolt holes and timing hole of the cam and gear and install the gear. Do not install the cam/gear attaching capscrew
5. Align the cam gear and crank gear timing marks as shown in Figure 1.
6. Install the large power idler gear sub-assembly as follows:
  - (a) The large power idler gear must be installed on the passenger side (right side) of the engine.
  - (b) With large power idler gear cranked tightly into mesh, make certain the small idler (left side of engine) has free vertical movement (clearance) of no less than .005" or no more than .070".

**NOTE:** The gears will be severely damaged from friction if the small idler does not have the proper running clearance as noted.

7. With the idler sub-assembly fully installed in mesh with crank and cam gears and the large idler gear axle all the way back against the block, check the clearance between end of idler axles and front cover as follows:
  - (a) Place a small amount of clay on the front end of both axles as shown in Figure 3.
  - (b) Install front cover with gasket in place and tighten cover bolts.
  - (c) Remove cover and measure the thickness of the compressed clay. It should be .005"-.030".
  - (d) If axles are too long and are bottoming out between the block and the front cover, you will need to grind off material from axles as noted in Figure 3.

**Note:** Non-stock timing covers may require special allen-type screws be installed into the face of the cover to obtain the correct thrust adjustment for proper idler shaft clearance.
8. With all gears correctly in mesh and timed, tighten the three camshaft capscrews to 20 ft./lbs. Be certain that you bend the tabs of the special lockplate over the bolt heads to secure the gear to the camshaft. It would also be a good idea to use Locktite™ or equivalent on the bolt threads prior to final assembly.
9. Install the front thrust bearing assembly into the center hole of the camshaft gear. Make sure that the bolt heads of the cam gear bolts do not protrude farther than the nose of the thrust bearing; grind or file, if necessary.
10. Lubricate all gears and bearings with engine oil.
11. Re-install the front cover.
12. Re-install all components removed in preparation for step 1.

