



ACCU-DRIVE CAM GEAR DRIVE SYSTEM
#7892 - Small-block Ford V8s, 289/302/351-W
#7893 - 1985 -1995 5.0L Ford V8s with Hydraulic Roller Lifter Cams
INSTALLATION INSTRUCTIONS

ACCU-DRIVE OPERATING PRINCIPLE: 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 floating idler gear 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 floating idler to the camshaft gear. During the running operation, there is no backlash between these gears.

The small idler gear (located opposite the large idler gear driver side) is also free floating. This small gear does not carry any operating gear loading. The small idler must be allowed to float vertically as noted in Figure 1. The small idler prevents the large idler gear from being disengaged from mesh in the event the engine is rotated backwards.

GEAR ASSEMBLY CAUTION NOTES:

- Never hammer directly on gears. You will damage the gear teeth and cause early failure.
- Lubricate all gears and bearings with engine oil before installing front cover.
- The small idler gear must be free to float vertically with the large idler gear 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.
- Large idler gear shaft length may require material removal to obtain the correct clearance between the cylinder block and front cover. See Figure 3.
- 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 inside cover (if necessary) to obtain proper clearance.
- 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.
2. Assemble Accu-Drive as shown in Figure 1.
3. Install crank gear with the large inside chamfer toward 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) The Edelbrock Accu-Drive system is furnished with an 0.032" thick thrust ring that installs between the back side of the cam gear and the front side of the camshaft thrust plate. Torque the thrust plate retaining capscrews to 9-12 ft./lbs.
NOTE: No thrust button is used on Ford engines.
 - (c) Install the crank gear by aligning the key way on the crank shaft to the crank gear.
 - (d) Install the one-piece Ford fuel pump drive #C3AZ-6287-B and retaining capscrews. Finger tighten only at this time to hold parts in place. Make sure pin is in pump drive.
5. Align the cam gear and crank gear timing marks as shown in Figure 1.
NOTE: The cam gear can be set to "0" (standard), "A" (4° advanced at the crank, 2° at the cam), or "R" (4° retarded at the crank, 2° at the cam). It is recommended to install the cam gear using the "0" timing mark as a baseline for camshaft timing.
6. Install the idler gear sub-assembly as follows:
 - (a) The large idler gear must be installed on the passenger side (right side) of the engine.
 - (b) With large idler 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 they do 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.

NOTE: It will be necessary to cut material off rib inside front cover to hold idler gears in place.

(b) Install front cover with gasket in place.

(c) Remove cover and measure the thickness of the compressed clay. It should be $.005''-.030''$. Do not tighten cover down until proper clearance has been obtained. Without sufficient clearance, there is risk of cracking the cover when tightened down.

(d) If clearance is less than $.005$, you will need to grind off idler axle as shown to obtain proper clearance. If clearance is greater than $.090$, replace left side (larger idler side) stud with tapered end axle provided in the kit. Re-install idler assembly and recheck for minimum clearance between block and front cover.

8. With all gears correctly in mesh and timed, tighten the camshaft capscrew to 35 ft./lbs. It would also be a good idea to use Locktite™ or equivalent on the bolt threads prior to final assembly.
9. Lubricate all gears and bearings with engine oil.
10. Re-install the front cover.
11. Re-install all components removed in preparation for step 1.

