

**MILODON**  
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### **TIMING THE ENGINE**

Once gear drive has been properly installed as far as lash adjustment, we can now proceed to the timing. There are no dots or line up marks on our gears because these are usually inaccurate. We start by finding the exact "straight up pattern" (no advance or retard). Once this position has been found, advancing or retarding cam timing can be done quickly and accurately without messing around with offset bushings and keyways. All Milodon gear drives use our venieer cam bolt pattern to set and adjust cam timing.

With the engine disassembled, install cam hub less the cam gear on the cam and crank gear on crank snout. Install degree wheel on crank and set indicater to "0" for T.D.C. on #1 cylinder. Using cam manufacturer's specs, take the #1 intake opening point and turn the crank to that position. Place a dial indicator on #1 intake lifter and rotate the cam to open to what the cam manufacturer used for a checking clearance. For example, if the cam specs were intake opens at 39 degrees BTDC at .050" cam lift, you would turn the crank so the pointer indicates 39 degrees on the degree wheel. Then rotate the cam so the dial indicator on #1 intake would read .050" lift.

The cam and crank are now in the "straight up" position set EXACTLY with 0 degrees advance or retard. The cam gear will now be installed onto the cam hub, with no bolts as yet. It will engage idler gear teeth. As the bolt pattern is not symetrical the gear and hub will only align correctly in one of the seven possible positions. (There are 7 bolt holes and, therefore 7 possible positions). Once the correct cam gear to hub position has been found, install all seven cam gear bolts. These should be torqued to 22 ft/lbs.

Scribe an indicator mark on the cam hub adjacent to any cam gear bolt hole. Mark that bolt hole with #1. Going clockwise mark the other bolt holes #2 - #7. Now using the chart supplied, you can advance or retard the cam to any position, from any position. There will be two tooth locations possible for each bolt hole position. The one for which the cam must be rotated clockwise to align holes will advance the cam. The one for which the cam must be rotated counterclockwise will retard the cam.

The Milodon "Gear Drive Install and Cam Degree" video gives clear and easy to under stand direction, if needed. Contact your parts supplier for part # 14900.

<u>Position #</u>	<u>Advance</u>	<u>Retard</u>
1	0	0
2	6.5	7.5
3	12	2
4	4	10
5	10	4
6	2	12
7	7.5	6.5