



## Adjustable Timing Tag - Part # 1016117

The billet adjustable timing tag is designed to be used with our underdrive crankshaft pulley. Due to the smaller size of the underdrive pulley you can no longer use the stock timing pointer on the factory oil pump. Here is a quick instruction on how to properly install the new timing tag. These instructions include two different methods of finding top dead center on your engine. LC Engineering always recommends using the piston stop method to find a “true” top dead center. The alternate method is not recommended because it only gives you an approximate top dead center which will not give you accurate timing.

The adjustable timing tag comes with 3 bolts. The shortest bolt is used to mount the adjustable tag to the oil pump on the passenger side. The 2 remaining bolts are for the drivers side mount. All 75-84 engines will use the longer of the two remaining bolts. All 85-95 engines with our dual row timing chain conversion kit will also use the longer of the remaining bolts. All 85-95 engines with stock single row timing chain cover will use the shorter of the remaining bolts.

**LC Engineering Recommended Method:** You can use a piston stop and the degree wheel built into the new underdrive crankshaft pulley to get a true TDC

1. Remove the stock crankshaft pulley.
2. The stock timing tag (part of oil pump) must be cut off to clear the new underdrive kit.
  - a. This is best done with the oil pump off the engine to ensure that you do not get any shavings in the engine. If you choose to cut the stock tag off while it is still on the engine you will need to make sure that you protect the crank seal and oil pump opening as well as possible.
3. Using a cut off wheel (or similar tool) you will need to cut the stock timing tag off right at the base (see figure #1).
4. Install the oil pump back onto the engine.
  - a. Put a small amount of silicone on the o-ring to keep it in place while installing the pump.
  - b. Use the 2 new bolts supplied to install the new adjustable timing tag.
  - c. Put a small amount of silicone on the top bolt threads (see figure #1 & #2) (this will prevent an oil leak, since this bolt hole goes all the way through the timing cover).
5. Install the new underdrive crank pulley.
  - a. Apply engine oil to inside surface of the front seal (where it contacts the crank pulley) to prevent damage to seal.
  - b. Torque the new crank bolt to 116 ft-lbs using a small amount of anti-seize or moly-lube on the threads.
6. Remove all spark plugs (removing all the plugs will make it easier to turn the engine over).
  - a. If you do not install the piston stop correctly it can damage you piston and/or valves!
  - b. Turn engine over by hand (use a breaker bar or long handled ratchet with a 19mm socket) until the #1 cylinder is at top dead center on the compression stroke (#1 piston up all the way with both valves closed).
  - c. Rotate the crankshaft by hand 90° past TDC (the #1 cylinder must not be at TDC when installing the piston stop).
  - d. Install piston stop into cylinder #1.
7. Install a timing pointer that extends to point at the degree marks on the front of the new crank pulley (You should try to put the pointer as close the “0” as possible).
  - a. Welding rod or even a coat hanger will work for a pointer.
  - b. You can loop one end of the pointer to install underneath a water pump bolt to hold it in place (see figure #2).
8. Turn the engine over by hand until you feel the piston come into contact with the piston stop.
  - a. Mark the spot on the crank pulley that the pointer is at.
9. Turn the engine over by hand in the opposite direction.
  - a. Mark the spot on the crank pulley that the pointer is at.
10. Now remove the piston stop and reinstall the #1 spark plug.
11. Look at the two marks you made on your crank pulley. The true TDC will be the midpoint of these 2 marked points.



12. Rotate the engine by hand until your pointer is at this midpoint.
13. Adjust the new adjustable timing tag to the "0 TDC" mark on the top of the crank pulley.
  - a. LC Engineering recommends scribing a line across the base and the adjustable section of the adjustable timing tag as a future reference. This will allow you to easily reset the adjustable timing tag to the correct position.
14. This is your true TDC!!

**Alternate Method:** You can use the stock crankshaft pulley and timing tag to get an approximate TDC. This method is very inaccurate and is not the recommended method!!

1. If you choose to use the original crankshaft pulley and timing tag to determine TDC then you first need to loosen the crankshaft bolt just enough that it will turn easily by hand (this will ensure that the crankshaft does not turn when you go to remove the stock crank bolt and pulley). You will then turn the bolt back in by hand so that you can turn the engine over manually (clockwise if you are looking at the engine from the front of the vehicle) (use a breaker bar or long handled ratchet with a 19mm socket) until the timing notch on the stock crank pulley lines up with the zero mark on the stock timing tag. This is your approximate TDC.
2. Remove the stock crank pulley.
  - a. Be sure that the crankshaft does not turn when removing the pulley.
3. The stock timing tag (part of the oil pump) must be cut off to clear the new underdrive pulleys and belt.
  - a. This is best done with the oil pump off the engine to ensure that you do not get any shavings in the engine. If you choose to cut the stock tag off while it is still on the engine you will need to make sure that you protect the crank seal and oil pump opening as well as possible.
4. Using a cut off wheel (or similar tool) you will need to cut the stock timing tag off right at the base (see figure #1).
5. Install the oil pump back onto the engine.
  - a. Put a small amount of silicone on the o-ring to keep it in place while installing the pump.
  - b. Use the 2 new bolts supplied to install the new adjustable timing tag.
  - c. Put a small amount of silicone on the top bolt threads (see figure #1 & #2) (this will prevent an oil leak, since this bolt hole goes all the way through the timing cover).
6. Install the new underdrive crank pulley. **DO NOT TORQUE DOWN YET!!!**
  - a. Apply engine oil to inside surface of the front seal (where it contacts the crank pulley) to prevent damage to seal.
7. Adjust the new adjustable timing tag to the "0 TDC" mark on the top of the new crank pulley.
  - a. LC Engineering recommends scribing a line across the base and the adjustable section of the adjustable timing tag as a future reference. This will allow you to easily reset the adjustable timing tag to the correct position.
8. Torque the new crank bolt to 116 ft-lbs using a small amount of anti-seize or moly-lube on the threads.
9. You have now finished the installation of your underdrive crankshaft pulley and adjustable timing tag.

**Figure #1**



**Figure #2**

