FE Power LLC
22355 Oakdale Drive, Rogers, MN 55374 952-428-9035 jayb@fepower.net www.fepower.net
Performance Parts for Ford FE Engines

March 22, 2017

Instructions for the FE Timing Cover

Thank-you for purchasing this product. The FE Timing Cover offers several advantages over a standard FE timing cover. Some of these advantages are:

- Removable, O-ring sealed cover plate allowing access to the top timing gear. This allows cam timing changes to be accomplished with the timing cover in place (if the timing set permits), and also allows the top timing gear to be removed for cam changes. The cover plate can also be drilled for installation of a cam sensor, if required in EFI applications.

- Additional bosses on the body of the timing cover, for easy attachment of custom bracketry. Some potential uses for these bosses include bracket mounting points for a vacuum pump, dry sump pump, or a crank sensor.

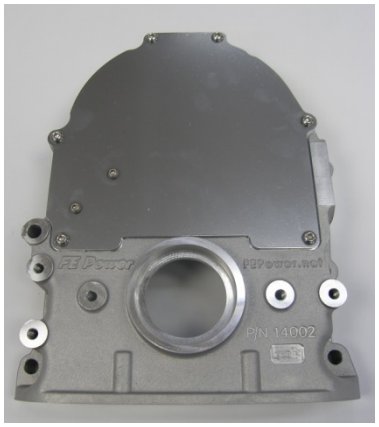
- Provisions for use of the stock FE front seal or a 351C front seal. The 351C front seal installs from the front and can be replaced without removing the timing cover, and also allows the use of a double lip seal if desired. Note that when using a 351C front seal, a modification must be made to the stock FE crank spacer, to extend its sealing surface towards the front of the engine.

- Thicker bosses on the bottom two timing cover attachment bolt holes. Because of this feature the cover has the two corner oil pan bolt holes tapped through more material, eliminating the stripped threads common on the factory timing covers in this location.

Four versions of the timing cover are available. Part number 14001 accepts the standard FE mechanical fuel pump, and part number 14002 is machined to eliminate the fuel pump mounting bosses and holes. Also, the timing covers can be purchased with the optional Dress-Up kit, which includes a finned aluminum cover plate. Part numbers for these versions are 14011 (accepts the mechanical fuel pump), and 14012 (eliminates fuel pump mounting bosses and holes). The finned aluminum cover plate is approximately 3/8” thicker than the standard, steel cover plate, and as a result the water pump will no longer fit with the finned aluminum cover plate installed. This is because the cover plate interferes with the back of the pump. To eliminate this problem, spacers for the water pump, crank pulley, and alternator are included with the dress-up kit, to move the water pump, alternator, and crank pulleys out approximately 3/8”. This maintains pulley alignment at the front of the engine; also, the spacers for the water pump are cut for O-rings (included in the kit), which allows the water pump to be removed and replaced without using sealer or any gaskets. Pictures of the various timing cover versions are shown on the following page:

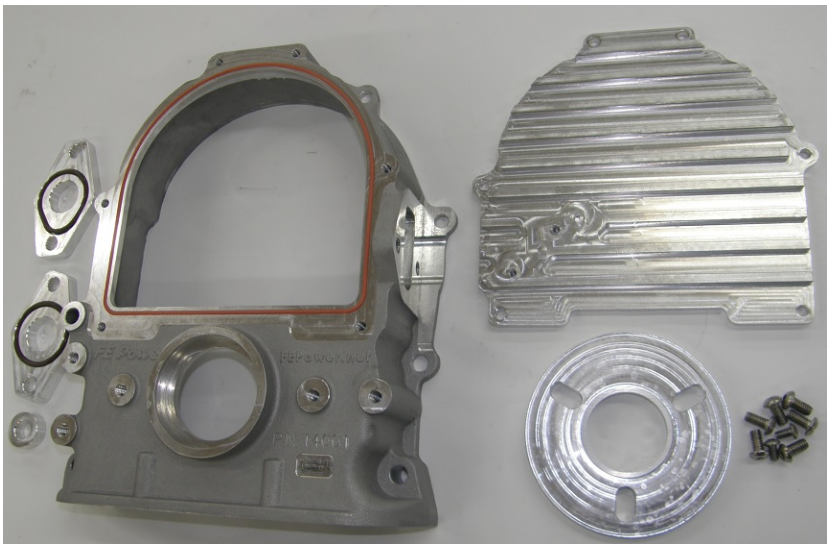
March 22, 2017


Part Number 14001




Part Number 14002

Part Number 14011



Part Number 14011 showing all parts included with the kit

Installation of the FE Timing Cover

The timing cover bolts on in the stock location. FE Power LLC recommends that an alignment tool is used, or that the crank spacer is installed through the front seal before the bolts are tightened, in order to help center the seal on the crankshaft snout; this minimizes the potential for front seal leaks.

The two small screws in the cover plate are used to hold the factory timing pointer in place, in some applications. These screws are not fully tightened, and should be installed with Loctite to make sure that they don't come loose during normal operation.

After the timing cover is bolted in place, test fit the water pump and look for interference between the pump and the timing cover. In particular check the gap between the button head screws holding the cover plate on the timing cover, and the stamped steel rear cover of the water pump. Also, on Edelbrock aluminum water pumps, check for clearance between the reinforcing ribs at the back of the pump, and the edge of the timing cover. FE Power has checked the fit of the timing cover with stock and Edelbrock water pumps, and also with the FE Power water pump adapters and CVR electric water pump, and no interference was noted. However, clearances are **very** tight in some areas, and tolerance stack-up could cause an interference issue. If interference does exist, minor grinding or filing of the water pump or timing cover will solve the problem.

Cam Pin

There is a replacement camshaft alignment pin taped to the instructions included with the timing cover. It is not required to use this pin; however, this pin will be easier to remove if that becomes necessary when removing the top timing gear to access the camshaft. The pin has an internal 10-32 thread. To remove the pin from the assembled engine, thread a good quality 10-32 screw into the pin, and either pull it out by putting a vise grips on the screw, or force the pin out by stacking washers between the pin and the head of the screw, and tightening the screw.

The pin should be a slide fit into the cam and the timing gear, not a press fit. If the pin will not slide into the cam or the top timing gear, run a 5/16” drill bit through them a few times to provide clearance. If you have to hammer the pin into the gear or the cam, it is too tight, and will not be able to be easily removed. After installation of the pin, make sure to use a washer on the cam bolt that is large enough to overlap the pin, and prevent it from coming out. Torque the cam bolt to 45 foot pounds.

Modifications to the stock FE crank spacer when using a 351C seal

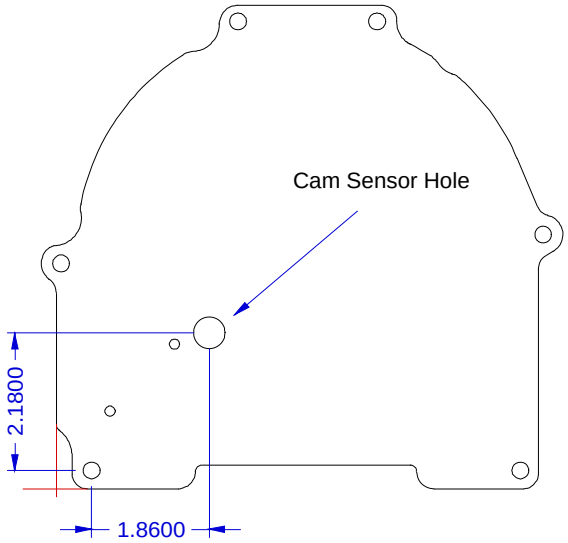
In order to use a 351C front seal with this timing cover, the stock FE crank spacer sleeve must have its sealing surface lengthened; this is because the 351C front seal is located forward of the stock FE seal. Any shop with a lathe can perform this work. Extend the sealing surface back towards the front of the engine by 0.625". The diameter of the sealing surface is the same as the original FE diameter.

Installing a cam sensor through the removable plate

For an EFI application a cam sensor can be installed through the removable plate, to detect a bolt that is used as a target for the magnetic sensor, and installed in the top cam gear. For timing covers using the

dress-up kit, a starter hole has been pre-drilled in the cover plate: this will position the cam sensor so that it will not interfere with the water pump. If using the FE Power adjustable timing set (part number 15001), one of the adjustments screws can be removed and replaced with a standard bolt plus a spacer, to provide a suitable cam sensor target. If another timing set is used, it may be possible to drill and tap the top gear for a suitable bolt, to be used as a target. Each application will have to be evaluated independently.

If the dress-up kit is not used, the standard steel cover can be drilled for a cam sensor in the same location; the drawing below gives the location of the hole for the sensor:



Normally a 15/32” or 1/2” hole will be required for the sensor.

Terms of Sale:

FE Power LLC makes every effort to ensure the quality of the timing covers, and we will do our best to work with any customer who is not satisfied with this product, in order to resolve the situation. However, because of the small percentage of customers who abuse return or refund policies, **FE Power LLC sells these parts AS IS, with no warranty regarding quality, fit or finish, and no returns or refunds available.**