



## Aluminum Underdrive Pulley Kits 1996-Current 4.6L/5.4L 6 and 8 Rib Auto/Truck Part # 1555, 1559, 15550

### INSTALLATION INSTRUCTIONS

- Step 1** Disconnect the battery.
- Step 2** Loosen alternator nut (this will require an air impact gun). ***Do not remove.***
- Step 3** Loosen the four (4) bolts for the water pump pulley. ***Do not remove.***
- Step 4** On truck models, the engine fan is threaded onto the water pump shaft end—it must be unthreaded in a normal CCW direction using a large wrench on the hex-nut portion of the fan clutch where it meets the water pump pulley. Additionally you will need a tool which attaches across two (2) of the water pump pulley bolts and allows you to put resistance in the direction of the fan nut while breaking the nut free—otherwise the water pump will simply rotate while attempting this removal.
- Step 5** Remove center bolt and washer from the factory pulley/dampener.
- Step 6** Remove alternator pulley and water pump pulley.
- Step 7** Use a three (3) prong harmonic dampener puller to remove the factory pulley/balancer.

#### HINT

***Hold the pulley with one hand when removing it. This will keep the pulley/dampener from falling to the ground when it clears the end of the crankshaft.***

- Step 8** Install hub of factory harmonic balancer pulley in counter bore of new pulley. Align threaded hole in each pulley together. The keyway location is not important.
- Step 9** Install and hand tighten three (3) 1/4 x 1-1/4" bolts. The factory pulley does not completely sit into the underdrive at this point. Carefully tighten the three (3) bolts equally in small increments to draw the two (2) pulleys together. Remove the three (3) 1/4" bolts.
- Step 10** Apply a hi-temp silicon sealer to the two (2) pulley assembly keyway. Place pulley assembly onto the crankshaft. *(Align pulley keyway with crankshaft key.)*
- Step 11** Reinstall the three (3) 1/4" hex bolts using locktite #242 and tighten to 10-12 ft/lbs.
- Step 12** Align the keyway on the two (2) pulley assembly with the keyway on the crankshaft and slide it on to the crankshaft.

#### HINT

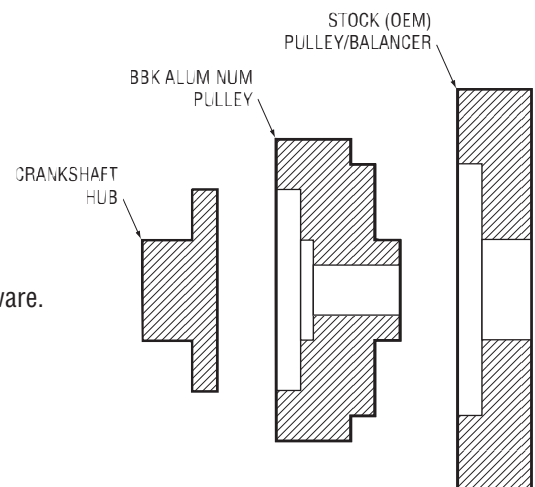
***Place the two (2) pulley assembly in HOT water for about 15-20 minutes prior to installation***

- Step 13** Attach the two (2) pulley assembly to the crankshaft using the new 12mm bolt provided and the original crank bolt washer. Use locktite #242 or equivalent on the bolt and torque to 60 ft/lbs.
- Step 14** Install the new water pump pulley using the original hardware. Use locktite #242 or equivalent.
- Step 15** On truck models, reverse **Step 4** in order to reattach the fan.
- Step 16** Install the alternator pulley with the appropriate one of two supplied spacers to allow proper belt alignment and attach with original hardware.
- Step 17** Reinstall the belt. Consult a shop manual for proper procedure.

#### NOTE

***Inspect belt prior to reinstalling. If evidence of wear exists, replace it with a new belt.***

- Step 18** Tighten alternator nut using an air impact gun.
- Step 19** Tighten water pump bolts evenly.
- Step 20** Reconnect battery.
- Step 21** Start engine and check belt for proper alignment.



## Identification Guide for 4.6L Water Pump Pulleys

Visually identify which water pump pulley you have before installing regardless of model year. The early water pump pulley had a convex or "bowed-out" face and the pulley on the later water pump has a concave or "pressed-in face". There is no exact changeover date for the pump and pulley. Supposedly the water pump changeover occurred in January of 2000, but we have seen cars with identical January build dates and different water pumps and pulleys. We have also seen the early design pulleys used on a few 2002 models,

Refer to the pictures below to determine which pulley design you have. Since there is no definitive answer as to the time line or model years.



**EARLY DESIGN – BBK1564**



**Pump Pulley #MAS176**



**LATE DESIGN – BBK1608**



**Pump Pulley #MAS178**

Please visit us at [www.BBKPERFORMANCE.com](http://www.BBKPERFORMANCE.com) to view a fully photographed installation of this and the many other BBK products available to help maximize the performance potential of your vehicle.