

VMP TUNING

VMP Ultimate Pulley Removal and Installation Tool for 2.4" to 3.15" Pulleys

Parts List:

Qty: Usage:

HD Clamshell Set	2	Clamps onto pulley
1/2"-13 bolts x 3"	2	Holds clamshell together
3/8"-16 bolts x 4"	2	Holds clamshell to square bar
3/8" washers	2	For use on long bolts in bar
Square bar	1	Used for pulley removal only
3/4"-16 bolt with nub	1	Used for removal ONLY
5/8"-18 bolt with tapped hole	1	Used for installation ONLY
M8 x 40 full thread screw	1	Used for installation of pulley
Large 5/8" D-3 bearing	1	Used for installation of pulley
Small washers	2	Used for removal of pulley
5/8"-18 nut	1	Used for installation of pulley
Grease Packet	1	For big bolt threads, nut, & washer
U-plate	Opt	For removing 03/04 Cobra Pulley



Tool List:

Usage:

9/16" & 3/4" socket	For 3/8" & 1/2" bolts
1 1/8" socket	Turning 3/4" bolt during removal
15/16" socket and wrench	For turning & holding 5/8" bolt & nut during install
3/8" ratchet-long flex head	For removing 10-rib SC belt on GT500
1/2" ratchet	For removing SC belt on Cobra
Long 3/8" extension	Insert into side of square bar for leverage

The VMP pulley tool is designed to remove press-fit pulleys from GT500s with the TVS or M122, and Roush Mustangs with M90 or P51 TVS blower. It will remove the stock pulley found on Lightning and Roush F150 trucks. It will remove the pulley from an 03/04 Cobra pulley with the optional U-plate. The tool will accommodate pulleys 3.15" to 2.4" diameter. Any size pulley or hub may be installed with this tool. The tool grabs the pulley by the ribs and applies equal force 360* around the pulley for easy damage-free removal.

Instructions for removal of pulley

- Release the supercharger drive belt, on a GT500 this is best done by taking a long 3/8" flex head ratchet with a short one inch long 3/8" extension and placing it on the tensioner then pushing it towards the driver side and down, while lifting the belt off the pulley with your left hand.
- Remove cap from blower snout by holding it and turning the pulley ClockWise. Some caps are not pushed all the way in and will easily spin out. If your cap is pushed all the way in you will need to get under it with a blade or thin edge and apply a little outward pull while spinning the pulley CW to get it started on coming out. If you Cobra or Lightning blower has a bolt instead of a cap you may remove it.
- Attach clamshell to pulley using supplied bolts. Place the clamshell all the way forward on the pulley. Tighten very snug on steel pulleys; be careful not to over tighten if you are removing an aftermarket aluminum pulley. If you are removing a stock 3.55" cobra pulley use the optional plate.
- Thread big 3/4" bolt into square bar, apply grease to the fine threads. Bolt goes into big bar one way, with chamfered slots facing toward you.
- Place the small washer on the nub on the end of the 3/4" bolt, this is critical to help protect the threads in the end of the blower shaft. This serves to keep the tool aligned in the end of the blower shaft. In the event the threads are damaged, they can be chased with an M8 tap.
- Apply some grease to the small washer to reduce friction.

- Insert square bar and big bolt (with smaller washer on nub) into the end of the blower.
- Insert long 3/8" bolts with washers through slotted holes in square bar and thread into clamshell
- Place long 1/2" ratchet and 1 1/8" socket onto the big bolt, a wrench may be used but a ratchet is faster and less likely to pop off. An impact gun may also be used.
- Insert a 3/8" extension into the hole on the side of the square bar for leverage, a 12" extension is ideal.
- Hold the extension with your left hand, you may rest it on top of the thermostat housing, and turn the ratchet clockwise with your right hand, this will push on the blower shaft and result in the pulley being pulled forward off the shaft.
- At first it may be very tight and then POP it will break loose and start to turn more easily. The pulley will break-loose much easier on a hot engine.
- Continue removing the pulley.



Setup for any pulley



Setup for 03/04 Cobra pulley



Setup for GT500 pulley(and others)

Instructions for installation of pulley

- Assemble the tool for installation using the 5/8 bolt, M8 set screw, nut, and bearing.
- Thread the fully threaded M8 set screw into the end of the big bolt
- Thread the nut about 2/3 of the way up the bolt, grease the threads
- Place the large caged thrust bearing on the bolt
- The tool is ready to use and should look like this:



- Place the pulley or hub over the tool, then put the tool up to the shaft of the blower and begin to thread it into the blower. If using a hub make sure it is installed with the flat side facing the back of the car.
- You should be able to get 15-20 turns on it before it stops. It should go in easy enough that the blower shaft does not turn. If it is hard to thread in make sure you are not cross threading it and make sure the threads in the blower shaft are not damaged. In the event the threads in the blower are somehow damaged you can use a standard pitch M8 x 1.25 tap from NAPA or Ace to chase the threads.

- Once the tool is threaded into the blower shaft, hold the pulley straight and turn the big nut ClockWise by hand until it is snug up against the pulley. You need some pre-load before you start using wrenches. If the pulley is not perfectly straight do not worry, it will straighten itself out when it is pressed on.
- Now you can put a ratchet on the big bolt's head and a wrench on the nut, at first, hold the big bolt and turn the nut ClockWise a few turns, then once everything tightens up you can begin to use a motion that brings both the wrench and ratchet up and together and presses the pulley on at the same time, once you get this going this is the fastest way to install it. You just have to make sure the large nut is threading out on the big bolt and pressing the pulley on, you do not want the small M8 set screw threading out of the blower shaft, the bearing is there to prevent this, but in the event the bearing binds up it may want to thread out of the blower shaft, so be aware of this and check for it once or twice during the install by backing off the nut and bearing.



- The nut will stop turning when the pulley is flush with the shaft. In most cases the pulley should be flush, the only exception is when using a pulley meant for a stock Eaton on a TVS, it should be pushed on a little farther. If the pulley seems to bind up during installation STOP, back off the nut, inspect, and try again. It is the point when things bind up that they get broken. **The set screw should be threaded all the way in, if you are having difficulty pressing the pulley on you should back the nut off and make sure the big bolt is still flush with the front of the shaft.**

WARNINGS:

- Grease helps tremendously to lower friction and reduce effort, it should be placed on the big bolt's threads and the small washer. Pulley installation and removal tools do not break because the parts are not strong enough, they break when they bind up and you have to put an excessive amount of force into them trying to turn them. If your pulley won't come off try heating it to 180F or working on a hot-warm engine.
- There is one M8 set screw supplied. If you break it, it may be replaced with any one that is available. **The fully threaded M8 set screw is for installation only**, it holds the 5/8 bolt to the blower shaft and allows you to press the pulley onto the blower, keep this threaded all the way into the big bolt and blower shaft or you may break off the end with the allen key recess.
- Don't mess up the threads in the blower shaft, make sure you put a washer on the nub on the end of the big 3/4 bolt. It's very easy to mess up the first thread or two in the blower shaft if you are not careful.
- In the event you do slightly damage the threads on the blower shaft they can be chased with an M8 tap to clean them up.
- A warm to hot pulley comes off easier than a cold one.
- A strong 1/2" impact may be used on the big bolt to remove the pulley, in this case no bar is needed for leverage.

In the event you need to remove a hub, we have a special tool available for removing the 5-bolt Metco and 6-bolt VMP hubs.

2013 and TVS blowers:

- **These pulleys have been put on with Loctite shaft locking compound. They are much harder to get off. Heating them to 180* helps tremendously. The same applies to installation, heating the pulley to 180F will make installation easier. Hotter than 180* is not necessarily better.**