



M7 Speed
Ultimate MINI Performance

M7 Speed
PO Box 3785
 Mooresville, NC 28117
888-438-5767

M7 16% Supercharger Pulley

Thank you for purchasing the M7 16% Supercharger Pulley. We're sure that you're going to enjoy the increased performance from this product!



M7 Speed engineers and manufactures the highest quality and best fitting Mini Cooper accessories and performance parts available anywhere on Planet Earth! Please inspect your parts when you receive them to verify everything is included and no damage has happened during shipment. Read these instructions completely BEFORE attempting to install this product. If you are not confident you can do the work described or do not have the tools or skills necessary please contact a local M7 dealer (listed on our website www.m7speed.com) or a local MINI repair shop or automotive accessory installation center to perform this work. We acknowledge not everything is perfect but we work very hard every day to improve our products and make installations easier. If you have any comments please contact M7 Customer Service directly at 704-663-0094. We encourage and welcome all criticism Good or Bad. Thank you.

CAUTION: Please note that professional installation is highly recommended for this product. The engine must be raised to expose the supercharger and drive pulley. This installation document is only a basic procedure for installing the pulley on the supercharger only - once the factory pulley is removed.



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The M7 16% Supercharger Pulley is a two-piece product consisting of an aluminum main pulley body and a steel taper locking hub.

1. Remove the stock pulley. A special puller tool will be needed to complete this step.
2. Clean the supercharger shaft with Scotchbrite or 600+ grit sandpaper-Ensure no burrs are present on the supercharger shaft.

NOTE: To separate the Gold pulley from the Black locking hub read the Disassembly Instructions at the end of this document and included with your pulley.

3. Assemble the M7 supercharger Gold pulley body and Black tapered hub together by aligning the four threaded holes in the hub with the four through holes in the pulley and **loosely** install the four supplied #10-32 x 7/8 long screws and lock washers. ***DO NOT TIGHTEN!***
4. Trial fit everything and verify alignment to the lower crankshaft pulley. Maintain a 0.03" (0.8mm) MINIMUM gap between the black hub and the supercharger shaft seal. **DO NOT FORCE OR HAMMER THE PULLEY ASSEMBLY ONTO THE SUPERCHARGER SHAFT.** It should slide freely onto the shaft.
5. If you are confident in the fit and placement of the pulley assembly and you trial fit the pulley it is recommended a drop of blue Loctite is placed on the starting threads of the four (4) supplied #10-32 screws at final assembly.
6. Slide the M7 Pulley assembly onto the pulley shaft. **DO NOT FORCE OR HAMMER THE PULLEY ASSEMBLY ONTO THE SUPERCHARGER SHAFT.**
7. Before tightening the screws, verify the supercharger pulley alignment with the lower crank pulley. Maintain a 0.03" (0.8mm) MINIMUM gap between the black hub and the supercharger shaft seal.
8. Tighten the 4 screws down evenly so that the collar draws up square. Tighten using the following procedure.
 - a. 10 in-lbs (1.1 Nm)
 - b. 30 in-lbs (3.4 Nm)
 - c. 50 in-lbs (5.6 Nm) FINAL TORQUE
9. Recheck that the pulley grooves are aligned top and bottom so the belt tracks straight.

DO NOT OVER-TORQUE THE SCREWS!

If you have any questions or concerns, don't hesitate to call our office Monday – Friday, 8am—5pm EST. Or e-mail us techsupport@m7speed.com



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Separation Holes (2)

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Disassembly Instructions

To separate the black tapered hub from the pulley remove the 4 clamp bolts. Install one #10-32 x 1 1/4" long screw into EACH of the 2 separation holes and evenly screw down 1/2 turn on each screw until the hub separates from the gold pulley body.

Failure to follow these directions will damage the pulley and void the product warranty.

M7 R53 OVERDRIVE CRANK PULLEY p/n: 53-3M7101-4

Installation Guide



CAUTION: M7 SPEED RECOMMENDS THAT A PROFESSIONAL PERFORMANCE SHOP DO THIS INSTALLATION. THIS IS A THERMAL FIT PART AND REQUIRES KNOWLEDGE OF THIS TYPE OF PROCEDURE.

M7 Tuning engineers and manufactures the highest quality MINI accessories and performance parts available anywhere on the Planet Earth! Please read these instructions completely BEFORE attempting to install this product. If you are not confident in your level of mechanical skill necessary to do this installation or do not have the tools necessary please contact your local M7 dealer (listed on or website www.m7tuning.com) or a local automotive performance & accessory installation center to perform this work.

Tools Required (not included):

- Kitchen oven and clean sheet pan –or–
 - Propane torch or similar
- Infra-red temperature gun or thermocouple
- High temperature oven gloves
- Wood block 2"x4" x 6"-12" x approx. 12" long
- Hammer
- Torque Wrench (ft-lb | Nm)
- 14 mm 12 point Socket
- Red Loctite



DANGER: ALWAYS BE AWARE OF FIRE DANGERS WHEN USING OPEN FLAMES. NEVER USE AN OPEN FLAME ON OR NEAR YOUR CAR. HEAT THE PART A SAFE DISTANCE AWAY FROM YOUR CAR AND AWAY FROM ANY COMBUSTIBLE MATERIALS. ALWAYS HAVE A FIRE EXTINGUISHER NEARBY AND A SECOND PERSON WORKING WITH YOU TO WATCH FOR ANY FIRE THAT MAY OCCUR.

This procedure only addresses the actual installation of the M7 pulley onto the crankshaft nose. For the removal and reinstallation of the supercharger belt drive system and other related parts follow the shop manual procedure as described in a maintenance manual for your |YEAR | MAKE | MODEL| of Mini Cooper.

**CAUTION:**

WHEN WORKING UNDER YOUR CAR ALWAYS USE THE RIGHT EQUIPMENT FOR THE JOB. DON'T BE TEMPTED TO TAKE SHORT CUTS OR USE INAPPROPRIATE SUPPORTS. NEVER WORK UNDERNEATH A VEHICLE THAT IS ONLY SUPPORTED BY A JACK; USE PROPER AXLE STANDS OR CAR RAMPS THAT ARE IN GOOD CONDITION PROPERLY RATED FOR YOUR VEHICLE'S WEIGHT AND SITTING ON LEVEL FIRM GROUND.

1. Jack the front of the car and place it on suitable jack stands. Remove the Right Front tire and inner fender cover to gain full access to the lower pulley.
2. Remove the serpentine belt from the engine.
3. Remove the existing lower pulley from the engine using a standard 3 slot puller tool attached to the three (3) M8 threaded holes in the balancer.
4. Once the drive belt system and factory lower pulley is removed, wipe clean the crank snout using brake clean or similar degreaser. Lightly polishing the nose with 600 grit sandpaper or emery cloth is recommended.
5. Wipe the crankshaft clean so no oil or residue is present. Be careful not to nick or damage the crankshaft oil seal at the front of the engine.
6. Clean out the threaded hole in the crankshaft with solvent and blow gun.
7. Prepare your work area and have the necessary tools close by to complete this installation. You have a very limited amount of time between heating the pulley and getting it installed on the crankshaft. If too much time lapses between heating to temperature and getting it onto the crankshaft STOP! And start over.



CAUTION: DO NOT EXCEED THE SPECIFIED TEMPERATURE. THE PART WILL BE DAMAGED AND CANNOT BE USED.

8. Heat the pulley uniformly to 300°F – 350°F (148°C-176°C). We recommend using an oven to heat the part. A small hand held touch is acceptable if you uniformly heat the entire part including the large outer hub, inner hub and spokes to the specified temperature. Use an infrared heat gun to measure the part temperature.



WARNING: USE HEAT RESISTANT GLOVES TO HANDLE THE PART AND PROTECT YOURSELF FROM SEVERE BURNS.

9. One the part reaches the specified temperature **IMMEDIATELY** place the pulley onto the crank snout. Place it on as straight as possible. It should easily slide on completely and bottom onto the snout. If it starts crooked or cocks for any reason STOP! Remove it, reheat and reinstall. **DO NOT FORCE IT! DO NOT USE THE BOLT TO PRESS IT ON!**



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10. If the pulley starts onto the crankshaft straight but doesn't fully seat all the way on before it cools, use a wood block and hammer to drive it all the way on. Hit only at the center hub of the pulley.
 - **DO NOT HAMMER OR APPLY FORCE TO THE SPOKES OR OUTER RIM OF THE PULLEY.**
 - **DO NOT USE THE BOLT TO PRESS IT ON!**
 - **DO NOT USE A TORCH TO REHEAT THE PULLEY HUB WHILE IT IS ON THE CRANKSHAFT UNLESS YOU ARE FULLY CONFIDENT YOU WILL NOT DAMAGE THE OIL SEAL.**
11. Let the part cool to room temperature. Prepare the supplied ARP bolt and washer. Clean the threads of the bolt to remove any oil or residue. Place 1-2 drops of Red Loctite on the threads thread it into the crankshaft. Torque to 100 ft-lbs (133 Nm).
12. Reinstall the drive belt system per the shop manual instructions. Verify proper belt alignment.
13. Enjoy the new found power and acceleration!

Enjoy the Ride and Stay M7 Tuned.....