



# Installation Instructions

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## LS1/LS7 SUPER DAMPER

### Tools needed:

Damper installation tool

Torx T-40 Plus bit

Ft/Lb Torque Wrench

3/8-12 point socket

Blue Loctite 242 or similar grade

1. Remove existing damper bolt and damper from engine. If necessary, use ATI Puller/Installer (p/n 918999) with Adapter for LS1/LS7 (p/n 918999SC) or similar damper puller. Keep your original bolt for a step later.
2. Depending on the year of your engine / vehicle you may notice a thin "friction" washer behind the damper hub in front of the first oil pump gear. This washer should be left in place if you are not pinning or keying your crankshaft. Otherwise it is safe to remove.
3. Inspect your crankshaft for any nicks or burs; lightly file to clean up. Stone or file a slight radius on the end of the crankshaft to eliminate any sharp edges.
4. This would be the time to consider whether or not you would like to pin the crankshaft as the ATI damper has a keyway in the hub unlike the OEM damper. If you decide to pin the crankshaft (a must for super charging), you will need to purchase ATI's LS1 Crank Pin Drill Fixture (p/n 918993) and follow the instructions enclosed before proceeding to step 5.
5. It is highly recommended that you use anti-seize on the crankshaft snout before hub installation.
6. The hub may be installed onto the crankshaft first, then the damper may be bolted to the hub. Use the proper installation tool. The damper to crank snout is NOT a slip fit and will be fairly tight going onto the snout. Test fit and then heat the hub in boiling water or on a heat plate to help with your install. Do not heat more than 200° F!
7. Install bolt (p/n 951499 for LS1) or (951500 for LS7) and torque to manufacturer specs (see bottom of this page for detailed instructions).
8. The Super Damper shell assembly is indexed to the crank hub with an offset hole marked by an indent dimple on the face of the hub and the back of the damper. It is also marked on the front by the face decal. These must be aligned for proper assembly.
9. The hub to damper fit is held to an extremely close tolerance. To install the damper to the hub:
  - a) Align the indent dimples.
  - b) Start the damper onto the hub. If you are exactly straight, it will slip right on. You may need to use your palms or fists to get it to go all the way back.
  - c) Start the six (6) countersunk flat head screws in the remaining six holes. Draw the damper assembly onto the hub evenly. Torque the 6 flat head screws to 16 ft./lbs. Be sure to use Blue Loctite 242 and the proper Torx Bit.

### VINTAGE AIR

- d) Now you can install your new crank pulley with the 3/8" 12-point bolts provided.
- e) Start the three (3) 12-point bolts through the pulley and then into the hub. Make sure the pulley is located on the damper, and then torque the bolts to 28-30 ft./lbs evenly. Use Blue Loctite 242 on all bolts!
- f) If no pulley is used, install the three (3) 12-point bolts and then torque the bolts to 28-30 ft./lbs evenly. Use Blue Loctite 242 on all bolts!

### USING THE GM FACTORY BOLT

- 1) Use your old bolt to install the damper and torque to 240 ft/lbs, then remove it. This is to seat the damper completely.
- 2) Install your new bolt and tighten to 37 ft/lbs.
- 3) This step is to get a reference on the front of the engine. With the torque wrench hanging at the spot where the 37 ft/lbs was achieved, reference 140° clockwise for another tightening cycle. Put a mark or a piece of tape where you need to tighten.
- 4) Then go another 140° from the 37 ft/lbs start point and you are now tight. (We also recommend Loctite here if you are doing any High Performance Driving with this engine.  
For an aftermarket ARP Bolt - use Red Loctite and tighten to 250 ft/lbs.