

## PRODUCT BULLETIN

**PB No.117**  
**Rev. 0**

**Subject:** Dampener Kits for Lube Oil Pump Drives on Superior Inline Engines.

**PROBLEM:** Spring failure due to cyclic fatigue in the lube pump drive and excessive wear of the internal lugs on the hub and gear.

EnDyn has responded to our customer's request to provide a product that extends the useful life of the lube pump hub and gear while eliminating pump drive failures.

We have researched and field tested an upgrade kit (P-YKIT-004-520-X) that will directly replace the currently used spring dampeners (P-033-408). When using the original spring design, it is often required to replace the cast iron hub and gear at each overhaul due to the excessive wear created by the hardened springs.

EnDyn's replacement kit utilizes Hi-density VITON balls with Teflon strips that do not subject the hub and gear to the same aggressive wear as the spring dampeners. Extensive field-testing has revealed that the replacement kit allows the hub and gear to be reused during overhauls in most circumstances. The field-testing has also shown that there is less down time from failed lube pump drives (broken damper springs) in units that used the EnDyn Kit.

For further information, price and availability, please contact your local **PowerParts**<sup>®</sup> Distributor or **EnDyn's** Sales Department direct.

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## **P-YKIT-004-520-X Installation Instructions**

The following steps summarize the installation procedures for utilizing the replacement kit (P-YKIT-004-520-X):

- 1) Clean and inspect the Gear (P-004-034), Hub (P-004-520), and Retainer Plate (P-004-524) (not shown on the attached drawing). Make sure that the Gear ID; Hub OD and inside face of the Retainer Plate are free of burrs and rough areas. Special attention should be given to gear teeth wear.
- 2) Heat the Hub (350 to 450 deg. F) and install onto crankshaft.
- 3) After allowing Hub to cool to room temperature, place the Gear over the Hub (with the beveled edge toward the Hub shoulder).
- 4) Turn the Gear clockwise until the cast lugs of the gear contact the lugs of the Hub.
- 5) Place a (white) Teflon strip (P-004-520-TS-2) against the inside wall of the opening created between the Hub and Gear. Note that the right edge of the strip will be between the end of the Gear lug and the Hub.
- 6) Place a (white) Teflon strip (P-004-520-TS-3) against the backside of the opening created between the hub and gear. Note again, that you will need to slide the right end of the strip between the lug and hub.
- 7) Place a (white) Teflon strip (P-004-520-TS-1) against the outer wall created between the hub and gear. Note that the left end of the strip needs to slide between the end of the lug on the hub and the ID of the gear.
- 8) Place three (3) of the VITON balls into this opening.
- 9) Repeat steps 5 through 8 until all five (5) cavities contain the (white) Teflon strips and three (3) balls each.

- 10) Rotate the gear counter-clockwise until the gear lugs contact the balls and the hub lugs.
- 11) Place one (1) ball into each opening that is created to the right of the gear lugs.
- 12) With a standard Superior damper drive tool add to the counter-clockwise rotation of the gear. This will require compressing the three (3) balls to the right of the hub lugs. While they are compressed, place the last balls, one (1) each into the openings.
- 13) The final result should be two (2) balls to the left of each hub lug and three (3) balls to the right of each hub lug.
- 14) Place the circular (white) Teflon strip (P-004-520-TS-4) over the five opening (over the balls). Note that the strip lies across the side of the hub lugs.
- 15) Place the retainer plate over the hub and gear and install eight (8) retainer bolts. Torque the bolts to specified torque.
- 16) With the standard Superior damper drive tool, rotate the gear on the hub to insure that it is free to work against the balls.
- 17) Tie-wire the bolts.

# INLINE: OIL PUMP DRIVE ASSEMBLY

