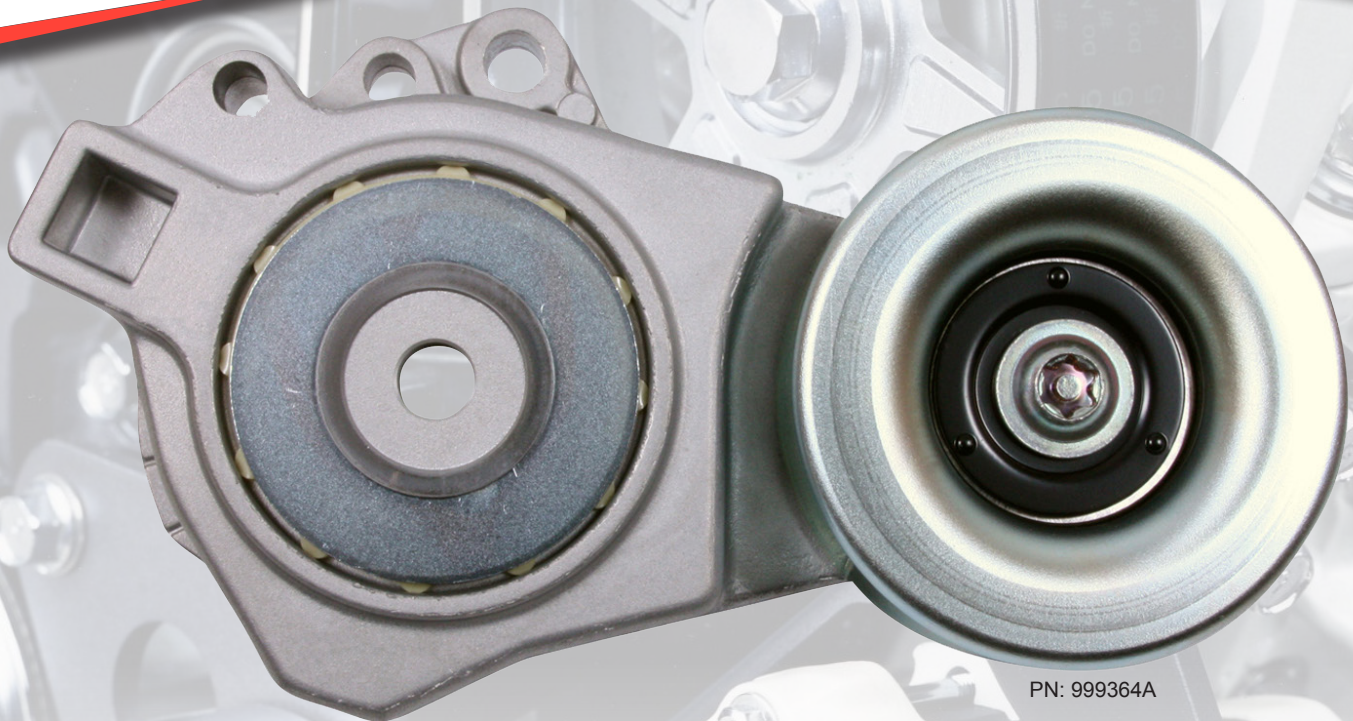


ACCESSORY DRIVE TENSIONER

BANDO



PN: 999364A

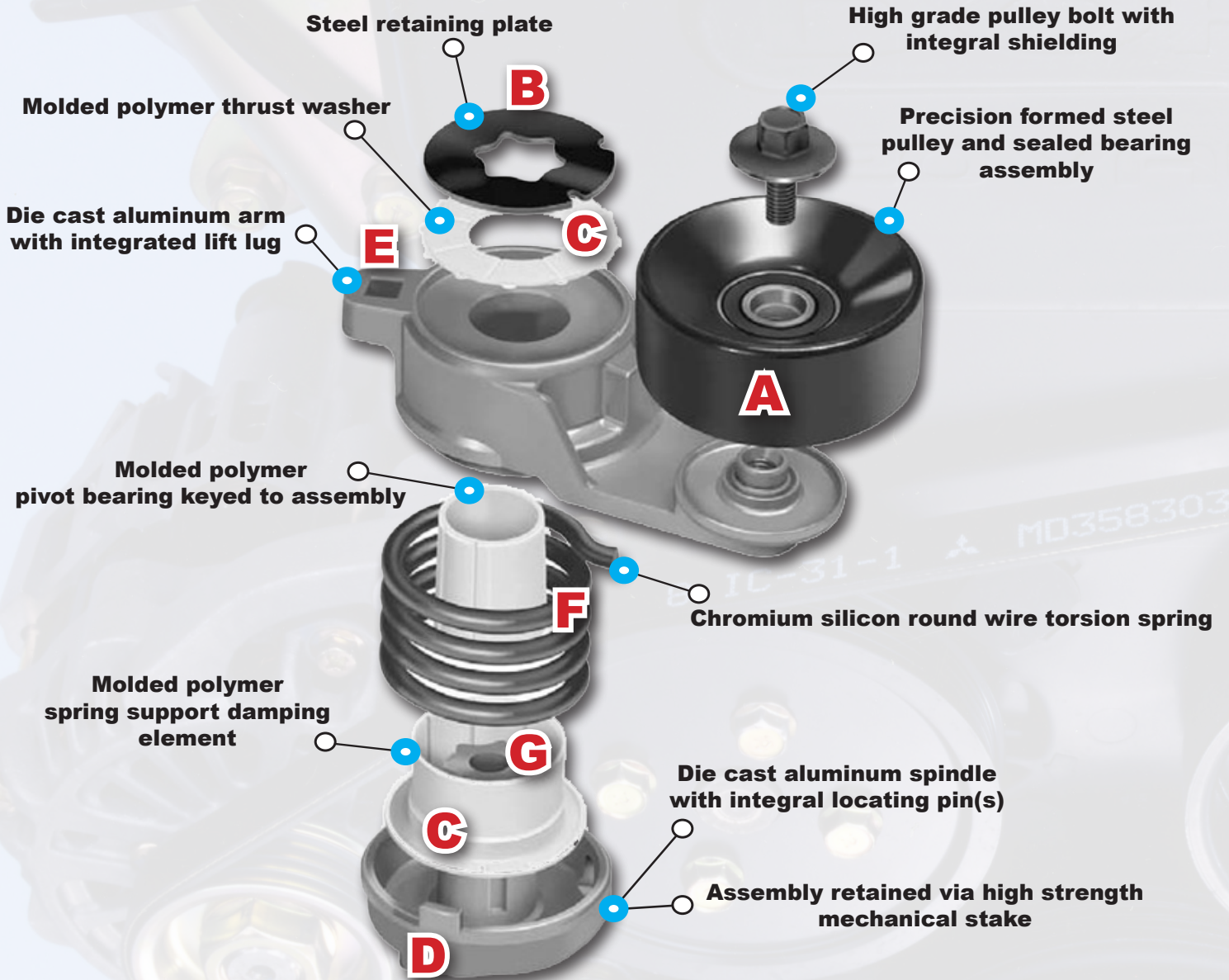
- Provides constant tension to the belt to eliminate slip or noise
- Dampens belt vibrations caused by engine firing
- Tunes the accessory drive system for proper function
- Maintains alignment of the belt
- Automatically adjusts for belt stretch and wear
- Optimizes life of belt
- Improves belt system alignment

**P R E M I U M
POWER TRANSMISSION PRODUCTS**

S I N C E 1 9 0 6

BANDO REPLACEMENT TENSIONER

OE FORM, FIT & FUNCTION



A

PULLEY

Ensures the belt travels effortlessly and finds true alignment.

THE BANDO ADVANTAGE:

Made of steel, and is wide and "crowned" to ensure proper belt travel.
THE COMPETITION'S DRAWBACK: They use a common plastic pulley to save on costs. However, this plastic is more susceptible to surface wear. It's also narrower than Bando and its flanges prevent the belt from finding the drive's "centerline".

B

ASSEMBLY RETENTION

Holds the tensioner securely together.

THE BANDO ADVANTAGE:

Incorporates a highly developed mechanical assembly stake.
THE COMPETITION'S DRAWBACK: They rely on a small sleeve pressed over a steel tube, which can weaken over time.

C

DAMPING COMPONENTS

The damping system compensates for engine vibrations, eliminating drive system noise and harshness.

THE BANDO ADVANTAGE:

All tensioners include a patented "proportional damping" system tuned to the needs of individual vehicle applications.

THE COMPETITION'S DRAWBACK:

They eliminate the OE specified damping system, which can result in vibration, noise, and undue stress on engine components.

D

LOCATING PIN

Positions the tensioner to its mounting surface.

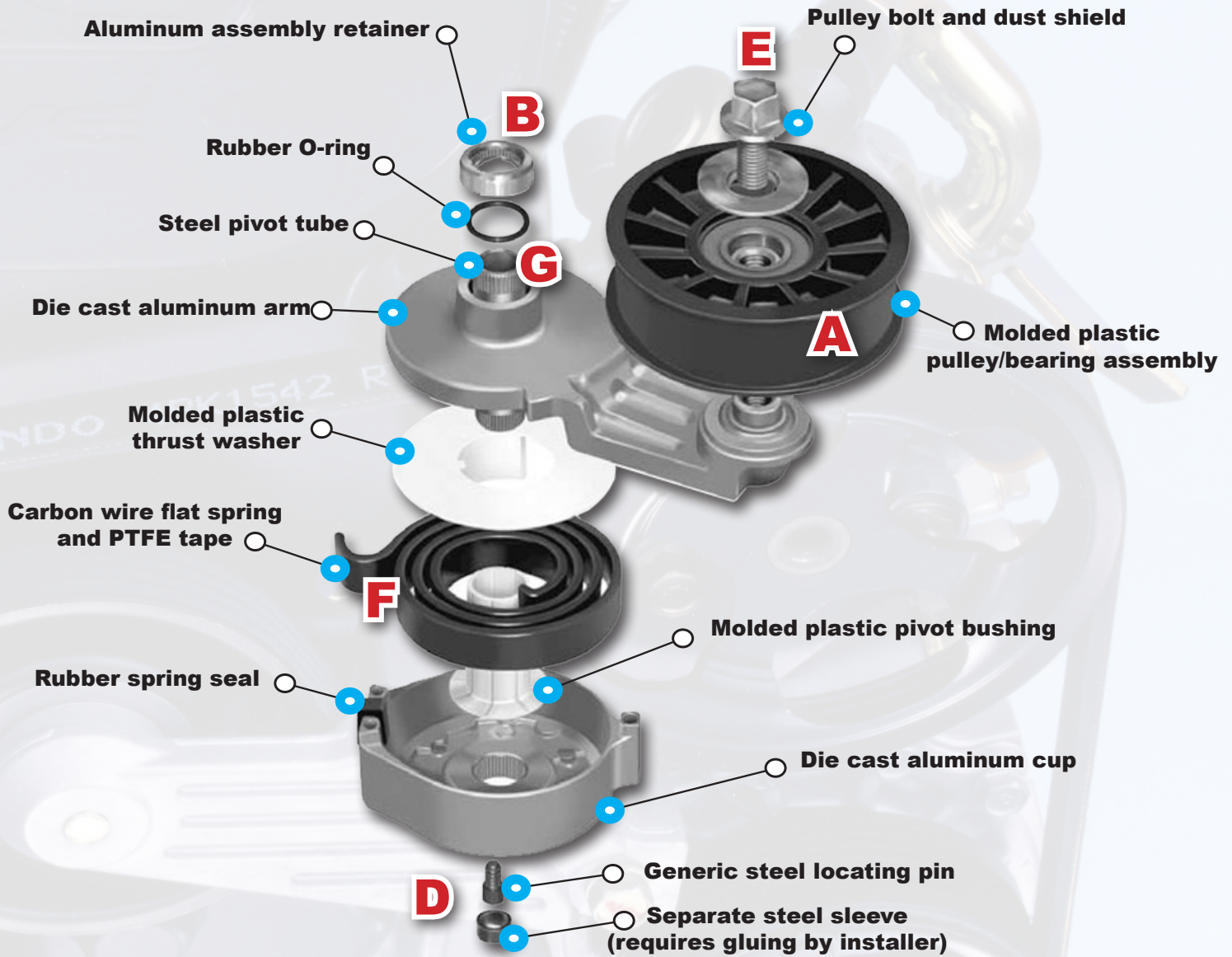
THE BANDO ADVANTAGE:

OE style locating pins are a part of the base casting, ensuring mounting accuracy and alignment.

THE COMPETITION'S DRAWBACK:

They drill a hole into the base and insert a steel screw. If the tensioner fits two or more applications, a bushing is provided to glue over the screw pin, which accommodates a larger pin hole. This is less accurate and requires extra installation time and effort.

COMPETITORS FLAT SPRING REPLACEMENT TENSIONER



E

LIFT FEATURE

Relieves belt tension to allow replacement of belt and/or tensioner.

THE BANDO ADVANTAGE:

Maintains the OE design lift lug features to make installation easier.

THE COMPETITION'S DRAWBACK:

They remove the OE style lift feature, replacing the OE style pulley bolt with a larger head to use as a lift feature. (In some cases the pulley bolt is almost impossible to access.) The pulley width is narrowed from the OE specifications to accommodate this larger bolt and avoid interference with other engine components.

F

SPRING

Maintains the proper system belt tension and helps to absorb engine vibrations.

THE BANDO ADVANTAGE:

"Round" wire torsion spring is custom designed for each tensioner application.

THE COMPETITION'S DRAWBACK:

Their "clockspring" design can bind when the spring surface rubs against itself. To minimize this, a PTFE strip is inserted, which may trap dirt particles and cause spring wear and lock-up.

G

PIVOT SHAFT

Ensures the tensioner is aligned with the other belt-driven components.

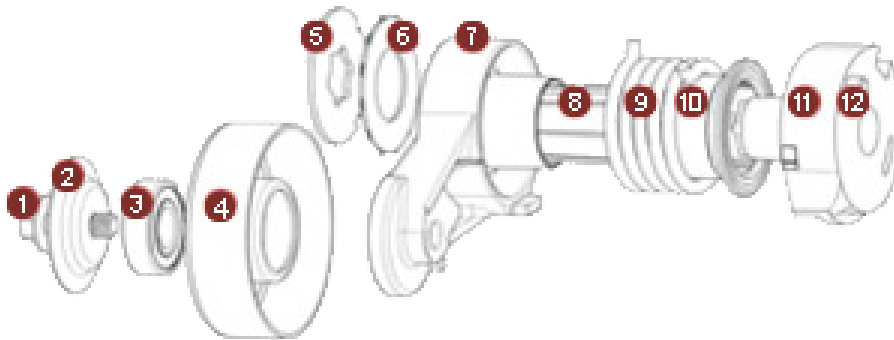
THE BANDO ADVANTAGE:

Pivot shaft is an integral part of the tensioner base.

THE COMPETITION'S DRAWBACK:

The competition, however, relies on a knurled tube-pressed into the tensioner base-to support the arm. If tilted, the belt could track off-center on the pulley, causing premature wear and/or failure.

DESIGN



- 1. Pulley Bolt:** Fastens pulley to arm. In some cases can also be used as a lift feature for belt installation.
- 2. Dust Shield:** Prevents contaminants from entering pulley ball bearing.
- 3. Ball Bearing:** Maintenance free and sealed for life.
- 4. Pulley:** Steel or plastic construction, depending on application. Due to belt length considerations, pulley diameters are application specific.
- 5. Front Plate:** Retains the complete tensioner assembly. Due to mechanical staking feature, tensioners are non-serviceable and cannot be disassembled safely.
- 6. Thrust Washer:** Provides additional damping and alignment.
- 7. Arm:** Robust and precision aluminum die casting. Transmits torque from spring to pulley to provide constant belt tension. Arm also provides environmental protection for internal components.
- 8. Pivot Bushing:** Self-lubricating, highly wear resistant polymer component. Function is to ensure proper tensioner arm alignment relative to belt and counters tilting.
- 9. Spring:** Critical part of tensioner. Designed to provide constant, trouble-free tension to belt for life of tensioner. Round wire design not affected by corrosion or coil-to-coil contact. Does not require a PTFE filler strip to prevent spring lock-up.
- 10. Spring Support/Damping Element:** Provides primary damping for smooth tensioner and accessory drive system operation. Damping varies with spring torque for consistent level of damping throughout operating range. Engineered, highly wear resistant polymer.
- 11. Spindle Or Bracket:** Robust and precision aluminum die casting with integral locating pin. Keeps the arm 'true' to belt. Provides a pivot center for arm and anchors spring. Ensures angular alignment or proper placement on engine. Other accessories or passages for engine coolant may be integrated.
- 12. Cast Locating Pin:** Incorporated into the die casting for exact Original Equipment fit and accuracy. The purpose of the pin is to accurately locate the tensioner on the engine and does not have torque transmitted through it, after the mounting bolt is torqued down. Represents typical construction.

Bando manufactures tensioners at the OE level and has teamed up with Litens®, the largest OE supplier, to have the broadest range of OE tensioners in North America.



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