



# BC320

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# QUICK FACTS

## BETTER BY DESIGN

With an innovative, patented design, the BC320 Starter for Continental engines solves all the problems that other starters have had — from worn-out clutches and broken pinions, to nagging oil leaks and catastrophic failure modes. Featuring a precision CNC machined billet aluminum end bell, heavy-duty sealed ball-bearings, all-steel gears, electro-mechanical pinion engagement, and an efficient series-wound motor, the BC320 provides greater starting torque for Continental engines, all while saving 4.3 to 5.2 lbs. over the OEM key-type and pull-cable type starters (respectively). Since its introduction in 1994, this unit has estab-



lished an impressive service record as the ONLY starter design on the market that has provided reliable, long-term service for these engines. Many engine shops and flight schools use the BC320 exclusively due to its proven reliability and long service life. STC/PMA for certified aircraft, this Starter makes a superb choice for Homebuilt aircraft, also. Two installation/conversion kits are available — one to replace an existing OEM key-type starter, the other for an existing legacy pull-type starter. The BC320 is simply a better solution — try it and we think you'll agree: it's better by design.

## RE-THINKING THE CONTINENTAL STARTER

Persistent challenges offer a chance to re-think widely-held notions, and take a “clean sheet” approach to the design process.

Consider the OEM-style starters used on Continental engines, for example. These have seen decades of use, and many thousands of hours of service. They also tend to have common ways of failing—nagging oil leaks, fractured pinions, and frozen clutches (depending on the type of starter).

Pull-Cable type starters are known sources of oil leaks and fractured pinions. Oil leaks occur in these units as an integral “lip seal” desiccates, and wears from normal



pinion travel on its supporting shaft. Inevitably, as the integrity of this seal declines, engine oil migrates into—and through—the starter. Cracked pinions are another common problem for this starter design. With only 1/8” (approx.) of base material at its thinnest point, the pinion on these units is susceptible to fracture in cases of incomplete engagement at start-up, or as a result of severe engine kick-back.

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### FEATURES

- Billet Aluminum End Bell
- All-Metal Gears
- Sealed Heavy-Duty Ball Bearings
- Electro-Mechanical Pinion Actuation
- Efficient Series-Wound Motor
- Self-Contained Reduction Gear
- Weight: 10.3 lbs.
- STC/PMA: C-75, C-85, C-90, C-145-2, O-200, IO-240, O-300-A/B/C, and GO-300-A/B/C

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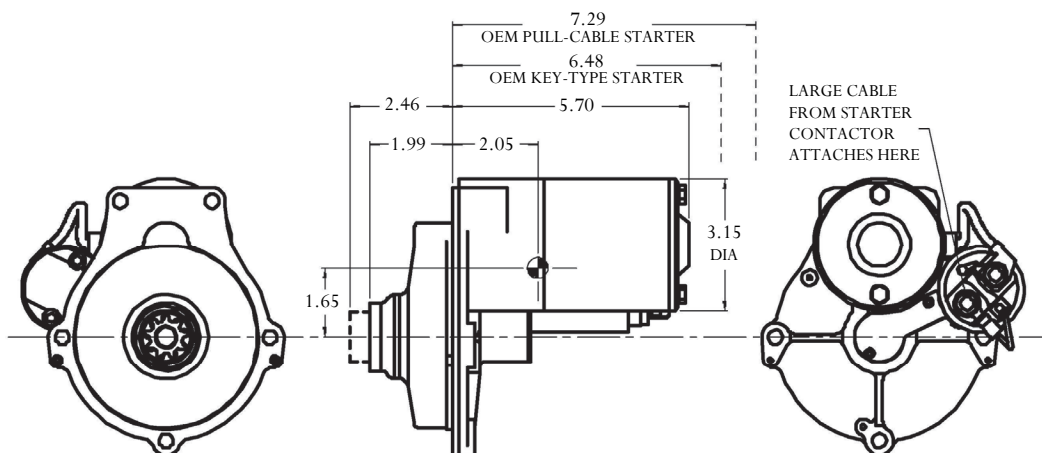
### PRICING

BC320-1 Starter, 12v (STC/PMA)	\$1095
BC320-2 Starter, 12v, Counter-Rotating, (STC/PMA)	\$1275
BC320-3 Starter, 24v (STC/PMA)	\$1275

### INSTALLATION KITS

501-1 Existing Key-Type Installation/Conversion Kit	\$41
501-3 Existing Pull-Type Installation/Conversion Kit	\$129

## BC320-1 DIMENSIONS

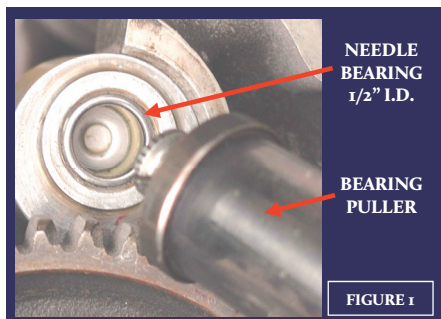


## INSTALLATION KITS FOR PULL-CABLE & KEY-START APPLICATIONS

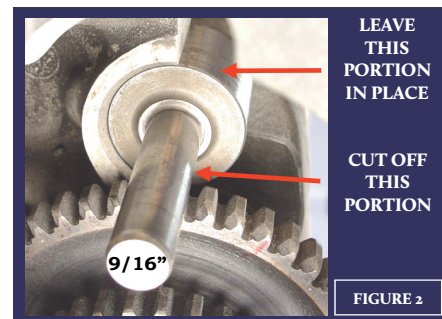
To facilitate installation of the B&C Starter for Continental engines, two in-

stallation/conversion kits are available — one for replacing a key-type starter, the

other for replacing a pull-type starter (both are covered by our STC). the engine case halves must be cut off (Figure 2), also. The BC320 does not use



When replacing an OEM key-type starter, Installation Kit 501-1 will be necessary. Before installing the BC320, the needle bearing will need to be removed from your engine (Figure 1). A 1100-1400 Watt heat gun, together with a blind hole bearing puller capable of removing a .50" ID bearing, is recommended for this extraction process.



When replacing an OEM pull-type starter, Installation Kit 501-3 will be needed. The 9/16" shaft located between

this for pinion support, and modification is needed for adequate clearance.

## RE-THINKING THE CONTINENTAL STARTER

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Key-type starters have their own modes of failure. Often, this involves a failure of the clutch (aka "Sprague clutch") used to allow continuous engagement of the pinion and engine cluster gear. When this clutch freezes, and ceases to permit free rotation, the starter's armature and windings self-destruct (costly), or the pinion and clutch disintegrate, transmit-



ting metal into the engine case (catastrophic).

The B&C Starter for Continental engines was designed to avoid each of these failure modes. It's patented design prevents oil from migrating through the starter, and it's pinion contains nearly three (3) times the base material found in the pinions used on Pull-Cable starters. And rather than being continuously engaged, and relying on an over-running clutch to prevent starter or engine dam-

age, the B&C Starter is electro-mechanically engaged: the pinion extends and engages the cluster gear; the Starter motor turns over the engine; and the pinion springs back out of the way until the next start cycle.

These are just a few of the ways that we've made the B&C Starter for Continental engines remarkably reliable. Persistent challenges may perplex for a moment; but not forever — they are but opportunities for excellence in disguise.