

YOUR ONE-OF-A-KIND HOMEBUILT DESERVES THE BEST-OF-ITS-KIND SUPERIOR XP-ENGINE™.

Congratulations: You've come to one of the most exciting parts of building your own aircraft – choosing the engine. Sure, you have a lot of options to choose from, but only one brand is truly superior. Whether it's the standard 160-horsepower XP-320 or the 180-horsepower XP-360, you will fly with confidence knowing that your Superior XP-Engine is built using the most advanced materials and manufacturing technologies to deliver truly superior value.



150 HP • 160 HP • 165 HP

TECHNICAL DATA

| | |
|-----------------------------------|--|
| Displacement: | 320 cu. in |
| Max. Continuous Break Horsepower: | 160 hp/119 kw standard 150 hp/112 kw available 165 hp/123 kw available |
| Compression Ratio: | 8.5:1 standard 7:1 or 9:1 available |
| Oil Capacity: | 8.0 Qts Max./2.5 Qts. Min. 7.6 Ltr. Max./2.4 Ltr. Min. |
| Ignition: | Dual impulse magnetos standard |
| Engine Mount Types: | Type 1 or 2 Dynafocal, Conical |
| Propeller Drive: | Drive: Direct, AS127 Type 2 Modified |
| Propeller Type: | Fixed-Pitch or Constant-Speed |

| | |
|-------------|--|
| Weight: | |
| O-320: | 276 to 280 pounds (depending on model**) 125 to 127 kg (depending on model**) |
| IO-320: | 283 to 287 pounds (depending on model**) 128 to 130 kg (depending on model**) |
| Fuel types: | 100LL* |

ENGINE DIMENSIONS

| | |
|---------|--|
| O-320: | 24.6" H x 32.4" W x 32.8" D 62.50 cm H x 82.30 cm W x 83.3 cm D |
| IO-320: | 24.0" H x 32.4" W x 32.8" D 61.0 cm H x 82.30 cm W x 83.31 cm D |

Warranty: 24 months or 1,000 hours, whichever comes first, from the date the engine is first placed in service, providing that service date does not exceed one-year from date of shipment. See website for details.



170 HP • 180 HP • 185 HP

TECHNICAL DATA

| | |
|-----------------------------------|--|
| Displacement: | 360 cu. in |
| Max. Continuous Break Horsepower: | 180 hp/134 kw standard 170 hp/127 kw available 185 hp/138 kw available |
| Compression Ratio: | 8.5:1 standard 7:1 or 9:1 available |
| Oil Capacity: | 8.0 Qts Max./2.5 Qts. Min. 7.6 Ltr. Max./2.4 Ltr. Min. |
| Ignition: | Dual impulse magnetos standard |
| Engine Mount Types: | Type 1 or 2 Dynafocal, Conical |
| Propeller Drive: | Drive: Direct, AS127 Type 2 Modified |
| Propeller Type: | Fixed-Pitch or Constant-Speed |

| | |
|-------------|--|
| Weight: | |
| O-360: | 288 to 295 pounds (depending on model**) 131 to 134 kg (depending on model**) |
| IO-360: | 290 to 295 pounds (depending on model**) 132 to 135 kg (depending on model**) |
| Fuel types: | 100LL* |

ENGINE DIMENSIONS

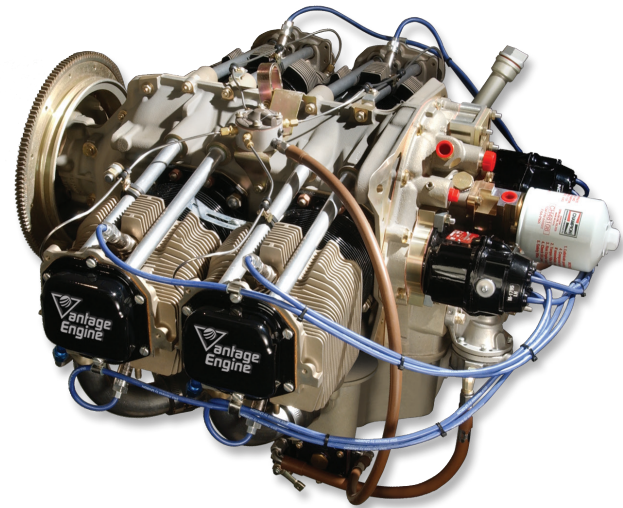
| | |
|---------|---|
| O-360: | 24.6" H x 33.4" W x 32.8" D 62.50 cm H x 84.84 cm W x 83.1 cm D |
| IO-360: | 24.0" H x 33.4" W x 32.8" D 60.96 cm H x 84.84 cm W x 83.31 cm D |

Warranty: 24 months or 1,000 hours, whichever comes first, from the date the engine is first placed in service, providing that service date does not exceed one-year from date of shipment. See website for details.



FAA-CERTIFIED 180-HORSEPOWER ENGINE®

Superior's Vantage Engine is the culmination of everything we have learned through 50+ years of making superior piston engine components. Currently FAA-approved for the ACA Back Country Explorer and Top Cub. It is also FAA STC'd for the Cessna 172 (R-/S-models), the Vantage Engine gives you the option of installing a factory-fresh, zero-time engine for the price of an overhaul.



TECHNICAL DATA

| | |
|-----------------------------------|---|
| Displacement: | 361 cu. in |
| Max. Continuous Break Horsepower: | 180 hp/134 kw standard |
| Compression Ratio: | 8.5:1 |
| Oil Capacity: | 8.0 Qts Max./2.5 Qts. Min. 7.6 Ltr. Max./2.4 Ltr. Min. |
| Ignition: | Dual impulse magnetos standard |
| Engine Mount Types: | Type 1 Dynafocal |
| Propeller Drive: | Drive: Direct, AS127 Type 2 Modified |
| Propeller Type: | Fixed-Pitch |
| Fuel types: | 100LL |

ENGINE DIMENSIONS

| | |
|---------|---|
| IO-360: | 24.6" H x 33.4" W x 32.8" D 62.50 cm H x 84.84 cm W x 83.31 cm D |
|---------|---|

Warranty: 24 months or 1,000 hours, whichever comes first, from the date the engine is first placed in service, providing that service date does not exceed one-year from date of shipment. See website for details.

For more information about Superior Air Parts, please visit: www.superiorairparts.com.
Email: sales@superiorairparts.com. Phone: 800.277.5168 or 972.829.4600

®Millennium Cylinder and Vantage Engine are Registered Trademarks of Superior Air Parts, Inc.
†Superior warrants that each new FAA/PMA replacement Millennium Cylinders, will be free from defects in material and workmanship for thirty seven (37) months of operation from the date of first operation, or recommended TBO, whichever occurs first. Superior warrants that each new FAA-PMA replacement part/piece part will be free from defects in material and workmanship for twenty four (24) months of operation from the date of first operation, or recommended TBO, whichever occurs first.



QUALITY THAT GOES THE DISTANCE



QUALITY THAT GOES THE DISTANCE

SUPERIOR ENGINEERING.
SUPERIOR MANUFACTURING.
SUPERIOR PERFORMANCE.
SUPERIOR VALUE.

WHETHER IT'S SUPERIOR MILLENNIUM CYLINDERS® OR FAA-PMA REPLACEMENT PARTS; YOU'RE EITHER FLYING WITH A SUPERIOR ENGINE OR YOU'RE NOT.



*NOTE: Superior XP-320 and XP-360 Engines are approved for 100LL Avgas per ASTM D910, 91.98 (lead optional) and motor gasoline with a minimum antiknock index (R=M/2) method of 91 per ASTM D4814 (European EN228). Use of auto fuel blended with alcohol (ethanol) is forbidden. **Approximate dry weight. Actual weight varies by model.

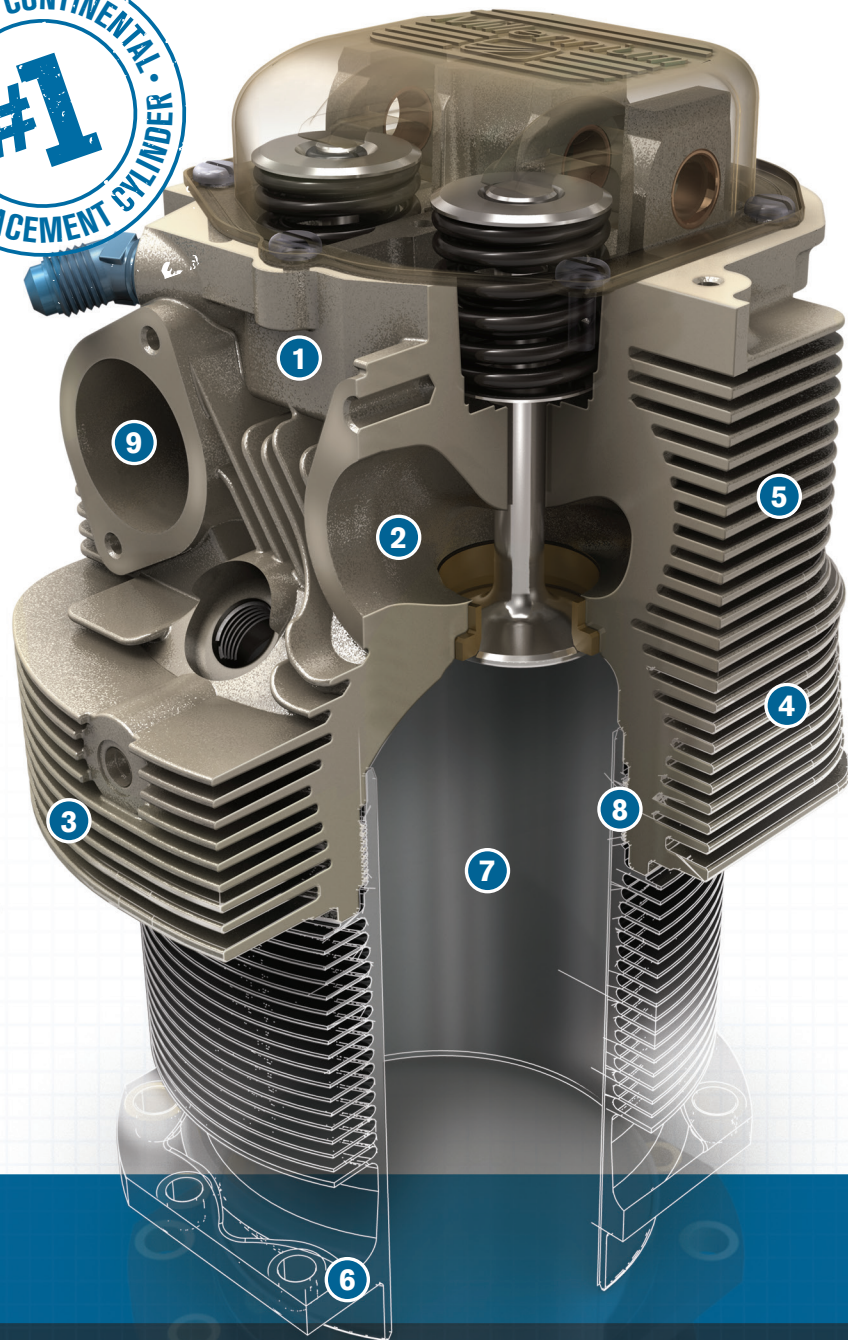


GA'S #1 PMA REPLACEMENT CYLINDERS FOR CMI AND LYCOMING ENGINES.

With nearly 250,000 installed, Superior Millennium Cylinders are by far the most popular replacement cylinders in general aviation. Each Millennium Cylinder is designed and manufactured using the most advanced engineering modeling software and highest quality materials. The raw components are then precision finished at Superior's state-of-the-art machining facility in Fridley, Minnesota.

Precision machining produces a Superior cylinder that looks great and preforms even better. Millennium Cylinders resist cracking, run cooler, last longer, and generally out perform every other replacement cylinder – not matter who makes it.

We're so confident in the quality of our Millennium Cylinders, all factory-new Millennium Cylinders come standard with an industry-leading warranty: 37 monthst or to TBO, whichever occurs first.



9 REASONS TO PUT YOUR TRUST IN A SUPERIOR MILLENNIUM CYLINDER.

1 ADVANCED ALUMINUM ALLOY HEADS

Advanced alloys mean the structural strength; porosity and shrinkage resistance all exceed the latest aerospace industry requirements for air-cooled cylinder heads.

2 INCREASED PORT WALL THICKNESS

Proprietary design enables a thicker port wall eliminating issues with premature warping and cracking. Exhaust and intake ports are also volumetrically matched to provide optimum output and performance.

3 COMPUTER-GENERATED HEAD FIN CONFIGURATION

Unique head fin configuration provides consistent fin thickness and spacing, resulting in more uniform heat transfer to minimize "hot spots."

4 IMPROVED COOLING

Precision finishing means Millennium Cylinders had smoother surfaces to improve airflow and maximize heat dissipation – cooler cylinders last longer.

5 VERY HIGH QUALITY CASTING

Better quality materials and castings create greater consistency through the cylinder's structure, which result in better heat transfer.

6 THROUGH-HARDENED STEEL BARRELS

Through hardening means greater structural integrity for the cylinder barrel. Among its many benefits are more even wear while withstanding the extreme heat and pressure and that helps the cylinder get to TBO.

7 AMS6382 STEEL BARRELS

Manufacturing our Millennium Cylinder barrels with AMS6382 steel ensures complete control of the entire manufacturing process from the grain size of the steel to the elimination of material defects and corrosion-causing micro-impurities.

8 ADVANCED CYLINDER BARREL CHOKE

Advanced manufacturing techniques enable us to craft the Millennium Cylinder's barrel choke from 10 to 13 thousandths of an inch, which helps the rings and pistons work more efficiently throughout the cylinder's operating range.

9 VOLUMETRICALLY MATCHED PORTS

Volumetric matching ensures each Millennium Cylinder delivers optimum performance right out of the box.



The Superior mark signifies that feature is a unique Superior design or manufacturing innovation.

| SUPERIOR AIR PARTS MILLENNIUM CYLINDERS FOR CONTINENTAL ENGINES | |
|---|---|
| Part Number | Application |
| SA10200-A20P | C-125-2; C-145-2, 2H; O-200-A, B; O-300-A, B, C, D |
| SA10200-A21P | C-75, C-85 |
| SA10200-A22P | C-90 |
| SA47006L-A20P | IO-470-D, E, F, H, LO, M, N, S, U, V, VO; O-470-U |
| SA47006S-A20P | IO-470-A, C, G, P, R, T; LIO-470-A; O-470-G, G-CI, M, M-CI, P |
| SA47006S-A21P | O-470-K, K-CI, L, L-CI, R, S, T |
| SA52006-A20P | IO-520-A, B, BA, BB, C, CB, D, E, F, J, K, L, M, MB, N, NB |
| SA52006-A22P | TSIO-520-A, AF, B, BB, C, CE, D, DB, E, EB, G, H, J, JB, K, KB, L, LB, M, N, NB, P, R, T, U, UB, VB, WB |
| SA52006-A23P | IO-550-A, B, C; IOF-520-B, C |
| SA55006-A20P | IO-550-D, E, F, L; IOF-550-D, E, F, L |
| SA65000S0 | A-65 (Sold in kit of 4 - STC) |

| SUPERIOR AIR PARTS MILLENNIUM CYLINDERS FOR LYCOMING ENGINES | |
|--|--|
| Part Number | Application |
| SL10302-A20P | O-235-F2A, F2B, J2A |
| SL10302-A21P | O-235-K2A, K2B, K2C, L2A, L2C, M1 |
| SL32006N-A20P | IO-320-B1A; O-320-B1A, B1B, B2A, B2B, B2C, B3A, B3B, B3C, D1A, D1AD, D1B, D1C, D1D, D1F, D2A, D2B, D2C, D2F, D2G, D2H, D2J, D3G |
| SL32006N-A21P | O-320-A1A, A1B, A2C, A2D, A3A, E1A, E1B, E1C, E1F, E1J, E2A, E2B, E2C, E2D, E2F, E2G, E2H, E3D, E3H |
| SL32006NA-A21P | O-320-A2A, A2B, A2C, A3A, A3B, A3C, E1A, E2A |
| SL32006W-A20P | AEIO-320-D1B, D2B; AIO-320-B1B, C1B; IO-320-B1B, B1C, B1D, B1E, B2A, C1A, C1B, D1A, D1B, D1C, F1A; LIO-320-B1A, C1A; O-320-B1A, B1B, B2A, B2B, B2C, B3A, B3B, B3C, D1A, D1AD, D1B, D1C, D1D, D1F, D2A, D2B, D2C, D2F, D2G, D2H, D2J, D3G |
| SL32006W-A21P | AEIO-320-E1A, E1B, E2A, E2B; AIO-320-A1A, A1B, A2A, A2B; IO-320-A1A, A2A, B1A, E1A, E1B, E2A, E2B; O-320-A1A, A1B, A2B, A2C, A2D, A3A, A3B, C1A, C1B, C2A, C2B, C2C, C3A, C3B, C3C, E1A, E1B, E1C, E1F, E1J, E2A, E2B, E2C, E2D, E2F, E2G, E2H, E3D, E3H |
| SL36006N-A20P | HIO-360-B1A; HO-360-B1A, B1B; IO-360-B1A, B1B; IO-540-C1B5, C1C5, C2C, C4A5, C4B5, C4B5D, C4C5, C4D5D, D4A5, D4B5, D4C5, N1A5; O-360-A1A, A1C, A1D, A2A, A2D, A2E, A3A, C2A, C2C, C2D; O-540-A1A, A1A5, A1B5, A1C5, A1D, A1D5, A2B, A3D5, D1A5, E1A, E4A5, E4B5, E4B5D, E4C5, G1A5, G2A5; TIO-540-G1A |
| SL36006N-A21P | O-360-B2A, D2A, D2B; O-540-B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B2C5D, B4A5, B4B5, B4B5D |
| SL36006W-A20P | AEIO-360-B1B, B1D, B1F, B1F, B1G6, B1H, B2F, B2F6, B4A, H1A, H1B; AEIO-540-D4A5, D4B5, D4C5; HIO-360-B1A, B1B, G1A; HO-360-B1A, B1B, C1A; IO-360-B1A, B1B, B1BD, B1C, B1D, B1E, B1F, B1F6, B2E, B2F, B2F6, B4A, E1A, F1A, L2A, M1A, M1B; IO-540-AA1A5, AA1B5, AF1A5, C1B5, C1C5, C2C, C4A5, C4B5, C4B5D, C4C5, C4D5, C4D5D, D4A5, D4B5, D4C5, N1A5, T4A5D, T4B5, T4B5D, T4C5D, V4A5, V4A5D, W1A5; LIO-360-M1A; LO-360-A1G6D, A1H6; O-360-A1A, A1AD, A1C, A1D, A1F, A1F6, A1F6D, A1G, A1G6, A1G6D, A1H, A1H6, A1J, A1LD, A1P, A2A, A2D, A2E, A2F, A2G, A2H, A3A, A3AD, A3D, A4A, A4AD, A4D, A4G, A4J, A4JD, A4K, A4M, A4N, A4P, A5AD, C1A, C1C, C1E, C1F, C1G, C2A, C2B, C2C, C2D, C2E, C4F, C4P, F1A6, G1A6; O-540-A4D5, E4A5, E4B5, E4C5, F1A5, G1A5, G2A5, H1A5, H1A5D, H1B5D, H2A5, H2A5D, H2B5D, J1B5D, J1C5D, J1D5D |
| SL36006W-A21P | O-360-B1A, B1B, B2A, B2B, B2C, D1A, D2A; O-540-B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B4A5, B4B5 |
| SL36006TW-A20P | IO-540-AB1AB, W1A5D, W3A5D; J1A5D, J2A5D, J3A5D, J3C5D |

Not to be used for installation eligibility

For a current list of eligibilities, please visit: www.superiorairparts.com/SuperiorEligibilities

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YOU CAN'T HAVE A SUPERIOR OVERHAUL WITHOUT SUPERIOR PARTS.

OVER 2,000 WAYS TO HELP YOU GET THE HIGHEST-QUALITY ENGINE OVERHAUL AT THE LOWEST-POSSIBLE COST.

Superior Air Parts started in 1967 with the PMA of one part – the simple valve guide. They were successful because it was a high-quality part available at a reasonable price. That simple methodology has been the foundation of every one of the nearly 2,500 FAA-PMAs Superior has earned over the past 50+ years.

Today, from camshafts to valve guided and everything in between, Superior Air Parts has more FAA-approved PMA parts available for Continental and Lycoming piston aircraft engines than anyone in the world.

GO ONLINE TO STREAMLINE YOUR PARTS ELIGIBILITY SEARCH.

With 2,500-plus PMAs in our catalogue, you might think it's a challenge to search for the exact Superior Air Parts component you need for your Continental or Lycoming engine. Not so. **Just visit: www.superiorairparts.com/SuperiorEligibilities/**

Click on the Eligibilities tab and select the Continental, or Lycoming eligibility list to find the exact part number documentation you need to verify which Superior PMA part is the perfect match for the engine you are repairing.



THE BEST PARTS COME WITH BEST WARRANTY.

Every Superior-produced FAA-PMA piece part and component is backed by our industry-leading 24 monthst or to TBO, whichever occurs first warranty. Nobody beats our warranty because nobody beats our quality.

