

FAA-PMA Approved

Control Arms, Shafts and Bearing Housings for Cessna Carb Heat Boxes

Unique elastomer bearing replaces needle bearing

McFarlane's elastomer bearing is assembled with tension between the mating surfaces. This tension prevents micro-movement and its related metal erosion. The bearing contact area that transfers vibration motion from the heat box to the butterfly shaft is hundreds of times greater than that of the original needle bearing. This large surface effectively prevents localized metal erosion.

- Absorbs shaft and butterfly vibration
- Eliminates needle bearing failures
- Increases service life of *all* components
- Direct replacement for original parts

Proven Design

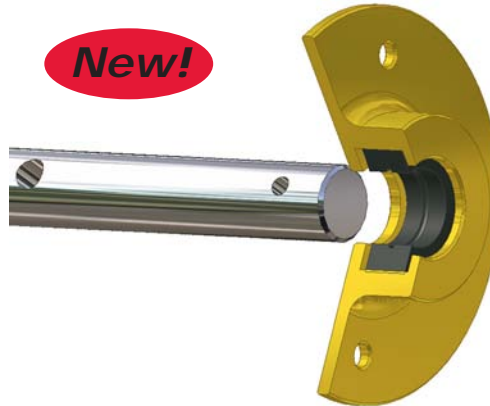
- Tested to over 700,000 cycles while exposed to avgas, heat and vibration without any change in performance
- Extremely rugged and wear resistant in high temperature and fuel environments

Convenient

- Discontinued part numbers through the factory are now manufactured by McFarlane
- Also available in kits containing the shaft, arm, bearing housings, monel rivets, and roll pin

New approvals for 177 and 205 thru 310 aircraft!

New!



Needle bearings don't work!

Model	Serial Number	Shaft P/N	Arm P/N	Roll Pin P/N	Rivet P/N	Bearing Housing P/N	Kit P/N
152	All	MC0450068-2	MCS2280-8-00	NASM16562-17	MS20615-4M9	MC0750113-1	CCH-KT-1
A152	All	MC0450068-2	MCS2280-8-00	NASM16562-17	MS20615-4M9	MC0750113-1	CCH-KT-1
F152	All	MC0450068-2	MCS2280-8-00	NASM16562-17	MS20615-4M9	MC0750113-1	CCH-KT-1
FA152	All	MC0450068-2	MCS2280-8-00	NASM16562-17	MS20615-4M9	MC0750113-1	CCH-KT-1
172B,C	All	MC0550180-16	2	2	MS20615-4M9	MC0750113-1	CCH-KT-2
172D,E,F,G	All	MC0550180-28	2	2	MS20615-4M9	MC0750113-1	CCH-KT-3
F172D,E,F,G	All	MC0550180-28	2	2	MS20615-4M9	MC0750113-1	CCH-KT-3
172H,I,K,L,M,N,P	All	MC0550180-16	2	2	MS20615-4M9	MC0750113-1	CCH-KT-2
F172H,K,L,M,N,P	All	MC0550180-16	2	2	MS20615-4M9	MC0750113-1	CCH-KT-2
172Q	All	MC0509068-6	MC0750111-19	NASM16562-17	MS20615-4M9	MC0750113-3	CCH-KT-4
P172	All	Not Available	Not Available	Not Available	MS20615-4M9	MC0750113-1	N/A
175, 175A	All	MC0750133-8	MC0750111-19	NASM16562-17	MS20615-4M9	MC0750113-3	CCH-KT-5
175B,C	All	Not Available	Not Available	Not Available	MS20615-4M9	MC0750113-1	N/A
177	All	Not Available	Not Available	Not Available	MS20615-4M9	MC0750113-3	N/A
177A,B	All	MC1752078-4	MC0750111-19	NASM16562-16	MS20615-4M9	MC955 New!	CCH-KT-17 New!
180	30000 thru 32150	MC0750112	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-7
180A, 180A,B	32151 thru 50661	MC0750126-19	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-3	CCH-KT-8
180C,D,E,F,G,H,J,K	All	MC0750133-8	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-9
182, 182A,B,C,D,E,F,G,H	All	MC0750133-8	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-9
182J,K,L,M,N,P,Q,R	All	MC0750133-8	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-9
F182P,Q	All	MC0750133-8	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-9
R182	All	Not Available	MCS2280-3-157	NASM16562-205	MS20615-4M9	MC0750113-1	N/A
FR182	All	Not Available	MCS2280-3-157	NASM16562-205	MS20615-4M9	MC0750113-1	N/A
185, 185A,B,C,D,E/A185E	185-0001 thru 185-1300	MC0750173-3	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-10
A185E	185-1301 thru 18501832	MC0750173-4	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-11
188	188-0001 thru 18802348	MC0750133-8	MC0750111-19	NASM16562-16	MS20615-4M9	MC0750113-1	CCH-KT-9
210-5 (205), 210-5A (205A)	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC0850500-37 New!	N/A	N/A	MS20470AD4-7	MC0850500-31 New!	CCH-KT-13 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
		MC0850500-37 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC0850500-31 New!	CCH-KT-15 New!
206, U206, U206A,B, P206, P206A,B	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC0850500-37 New!	N/A	N/A	MS20470AD4-7	MC0850500-31 New!	CCH-KT-13 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
		MC0850500-37 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC0850500-31 New!	CCH-KT-15 New!
U206C,D,E,F,G, P206C,D,E	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
207, 207A	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
210, 210A,B,C	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC0850500-37 New!	N/A	N/A	MS20470AD4-7	MC0850500-31 New!	CCH-KT-13 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
		MC0850500-37 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC0850500-31 New!	CCH-KT-15 New!
210D,E,F,G	All	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC1250311-1 New!	MC1250718-1 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-16 New!
210H,H,K,L,M,N	21058937 thru 21064535	MC1250311-1 New!	N/A	N/A	MS20470AD4-7	MC1250309-1 New!	CCH-KT-12 New!
		MC1250311-1 New!	MC0850500-30 New!	MS16562-27	MS20470AD4-7	MC1250309-1 New!	CCH-KT-14 New!
310, 310B		N/A	MC0850500-30 New!	N/A	N/A	N/A	N/A

- 1 Partial model eligibility
- 2 The control arm is integral with the shaft.
- 3 Attach shaft to arm with the specified roll pin
- 4 P/N MC0850500-31 and MC1250309-1 are not for sale individually

Costs less!

**Vibration Absorbing Bearings!
Lasts 10 times longer!**



Avglas™ STC Repair Kit for Continental Carburetor Heat Boxes

New hardened stainless steel bearing for improved vibration resistance and longer life!

FAA-PMA/STC Kits include:

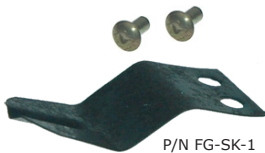
- Replacement shaft, arm and detent spring assembly
- Bearings
- Bearing housing
- Locknut and washer
- Complete instructions

Installation:

The butterfly (not included in kit) must be brazed or tack welded to the shaft during installation, and the bearing housings must be brazed, tack welded or flush riveted to the carburetor heat box. Avoid applying excessive heat during brazing or tack welding or the heat treated stainless steel bearing may be damaged. See the installation instructions for complete details.

Engine Model	Continental Airbox P/N	Avglas P/N
C-75	50256	FG-100
C-85	50256	FG-100
C-90	50256	FG-100
O-200	628122, 653675, 641534	FG-100
O-300	530852, 531143	FG-105

Note: Avglas repair kits are only applicable to aircraft equipped with the specified Continental airbox.



P/N FG-SK-1



Spring Service Kit P/N FG-SK-1

Eligible for installation on P/N FG-100 and FG-105.

Service kit contains:

(1) FG102S Spring and (2) MS20613-3-P3 Rivets

337 Skymaster Spinner Bulkhead

Most Skymaster 337 Rear Spinner Bulkhead are cracked!

P/N MC1557300-5

- Now FAA-PMA approved!
- Less than half the price and 15 times the crack resistance
- Spun to shape and heat treated
- Kit includes anodized aluminum pressure plate reinforcement
- One piece construction 2x the thickness
- Precision machined to final trueness
- Epoxy primed and balanced with installation hardware
- 5 year warranty

New!



Aircraft
337, 337B,C,D,E,F,G,H
F337E,F,G,H
FT337E,F,GP,HP
P337H
T337B,C,D,E,F,G,H, T337H-SP

Vacuum Saver

Vacuum Pump Cooling Kit

P/N KIT #10, KIT #11, and KIT #20

Increase the life of your oil cooling pump with the new McFarlane Vacuum Saver!

- Keeps cooler air flowing around the pump housing
- Powered by ram air forward of the engine baffle
- Easy installation, minimal tools and RTV silicone adhesive required

New!



Aircraft	Kit #10	Kit #11	Kit #20
Beechcraft			
F33A, S35, V35, V35A, V35B, 36, A36, A36TC, B36TC	•	•	•
Cessna			
152, A152	•		
172K,L,M,N,P,Q			
182G,H,J,K,L,M,N,P,Q, R182, TR182, T182	•		
206, U206, U206A,B,C,D,E,F,G, TU206A,B,C,D,E,F,G	•	•	
P206A,B,C,D,E, TP206A,B,C,D,E			
210L,M,N,R, P210N,R, T210L,M,N	•	•	•
310P,Q,R, T310P,Q,R	•	•	•
Piper			
PA-28-140,150,151,160, S-160,161, S-180,181,235,236,201T	•		
PA-28R-180, R-200, R-201, R-201T, RT-201, RT-201T	•		
PA-32-260,300,301, S-300,R-300,R-301,RT-300	•	•	•
PA-34-200T, 220T	•	•	•
Mooney			
M20E,F,J,K	•	•	•

Component List for Vacuum Pump Cooling Kits

	Qty	Part Number	Description
P/N KIT #10	1	2CDH	Cooling Shroud
	1	2CDH-1	Flange
	13 - 14"	2CDH-2 ¹	1" ID SCAT Aeroduct Ducting
	2	2CDH-3 ²	Cable Ties
	4	AN526-632R8 ³	Screws
	4	AN365-632 ³	Nuts
P/N KIT #11	4	AN960-6 ³	Washers
	1	4ADH	Cooling Shroud
	1	2CDH-1	Flange
	17 - 18"	2CDH-2 ¹	1" ID SCAT Aeroduct Ducting
	2	2CDH-3 ²	Cable Ties
	4	AN526-632R8 ³	Screws
P/N KIT #20	4	AN365-632 ³	Nuts
	4	AN960-6 ³	Washers
	1	6ADH	Cooling Shroud
	1	6CDH-1	Flange
	17 - 18"	6CDH-2 ¹	1.25" ID SCAT Aeroduct Ducting
	2	2CDH-3 ²	Cable Ties
4	AN526-632R8 ³	Screws	
4	AN365-632 ³	Nuts	
4	AN960-6 ³	Washers	

¹ Aeroduct Ducting upgraded from CAT to SCAT which is recommended for use in extremely cold and hot temperatures.

² Cable tie material upgraded from standard nylon to PEEK with an operating temperature of 550°F (vs nylon 200°F). PEEK cable ties do not get brittle and crack in high temperature environments or in the presence of engine oils or smoke.

³ Standard aircraft hardware included.

FAA-PMA Approved

SAFE-HEET Silicone Pad Aircraft Engine Heaters

Easy to Use

- Permanent installation, thin flexible pad bonds to engine oil sump.
- STC or 337 form not required (log book entry only).
- No engine or airframe modifications required.
- Kit contains instructions and materials.
- Uses standard 110V AC.
- Can be used with a timer.

Ground fault protected for improved safety!

Economical and Efficient

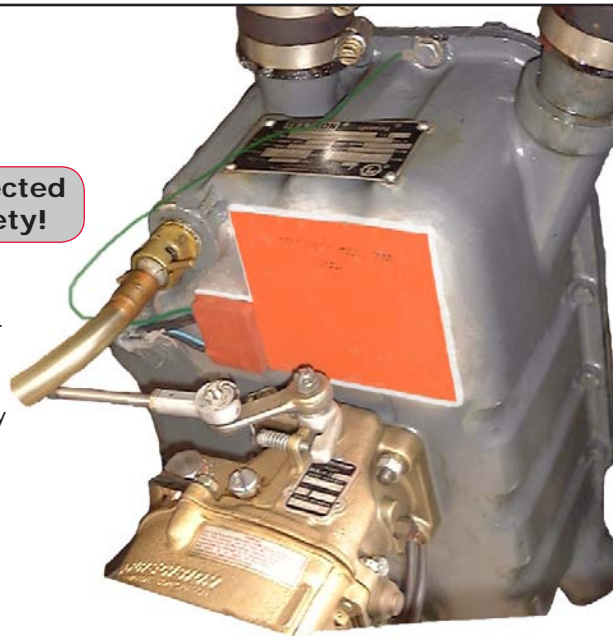
- Puts the heat where it is needed with little loss to the surrounding atmosphere.
- Heats the air inside the engine.
- Costs about 3 cents per hour to operate.
- Less than 1 hour will generally warm the engine oil from subzero to a safe easy starting temperature.
- Entire engine will be warm in 2 to 3 hours.
- Metal foil heatsink is vulcanized to pad contact face for even heat transfer.
- Thermally conductive adhesive for efficient heat transfer and lower surface temperatures.
- Reduces costly starter and engine abuse during cold weather starts.

Safe

- UL recognized components. 100% thermal fused element.
- External ground wire allows the engine and airframe to be grounded to the electrical outlet, reducing the risk of electrical shock in damp outdoor locations.
- Thermostatically controlled to maintain oil sump temperature less than 160°F.
- No flame or hot air to burn cowling or plastic parts.
- Reduces the risk of fires associated with cold starts.
- Ground Fault Circuit Interrupter (GFCI) included to reduce the risk of electrical shock and power surge damage.

Installation Tip:

SAFE-HEET engine heaters are installed with a two-part adhesive. The engine heater can be installed quickly and easily by using the 707 temperature controller at half power. At temperatures below 70°F the temperature controller must be used to ensure proper adhesive cure. Proper adhesive cure is essential to full service life of the heater.



Eligibility for SAFE-HEET Engine Heaters

Model Series	P/N
Teledyne Continental Aircraft Engines	
A65, A75, C-75, C-85, C-90, O200	705
C-125, C-145, O-300, GO-300, E165, E185, E225, IO-360, TIO-360, LTSIO-360	700
O-470, IO-470, LIO-470, FSO-470, TSO-470, GIO-470, IO-520, GTSIO-520, LTSIO-520, IO-550	720B
Textron Lycoming Aircraft Engines	
O-235, O-290, O-320 (EXCEPT O-320-H), IO-320, AIO-320, LIO-320, AEIO-320, O-360, HO-360, LO-360, IO-360, HIO-360, AIO-360, LIO-360, LHIO-360, AEIO-360, VO-360, IVO-360, TIO-360, TO-360, TIO-360, LTO-360, O-435, GO-435, VO-435, GO-480, GSO-480, IGSO-480	700
O-540, VO-540, TVO-540, IO-540, HIO-540, AEIO-540, IGO-540, IGSO-540, IVO-540, TIO-540, LTIO-540, TIVO-540, IO-720	720B
Franklin Aircraft Engines	
6A4-150, 6A4-165	700 or 720
Notes:	
1 Engine oil sump configurations may vary for specific engine models. There is insufficient oil sump or oil tank area and clearances as specified in the SAFE-HEET Installation Instructions for use of the SAFE-HEET engine heaters on some engine-airframe installations.	
2 For dry sump engines, use SAFE-HEET pads on the oil tank. The installer must evaluate as per the SAFE-HEET Installation Instructions the available oil sump or oil tank area below the oil level for use of SAFE-HEET pads on all engine models.	
3 Where the oil sump area is limited, Model 700 may be used. Specifically; 182RG Aircraft are equipped with an O-540 engine. Eligibility shows to use model 720 SAFE-HEET. We have found that there is a limited area to install the 720 model, and customers with a 182RG should use model 700 SAFE-HEET.	

Now with surge protection!

Complete installation instructions can be found on our website: www.mcfarlaneaviation.com/safe-heet



SAFE-HEET P/N 700
200 Watts
4" X 4"



SAFE-HEET P/N 705
150 Watts
3.5" X 7.3"



SAFE-HEET P/N 720
300 Watts
4" X 7"

Ground Fault Circuit Interrupter (GFCI)

P/N 709SK

Included with every SAFE-HEET is a Ground Fault Circuit Interrupter. 709SK is used to protect the SAFE-HEET and engine from any ground fault (insulation failure) situation. The 600 Watt Ground Fault Circuit Interrupter will open the circuit if more than 5 mA is detected not returning through the GFCI. This prevents lethal electrical shocks to the operator and electrical arcing between the engine and the heat pad. Insulation failure of the heat pad could be caused by lightning, electrical surge or mechanical damage. In some situations arcing between the heat pad and the engine pan could cause oil leakage and subsequent engine failure. Each GFCI is individually tested.



McFarlane's GFCI may be used with other brand engine heaters.

Variable Temperature Controller

P/N 707

Makes installation fast and easy!

SAFE-HEET engine heaters can be plugged into the controller to speed and improve engine heater installation. The controller allows the SAFE-HEET engine heater pad to cure the special thermo conductive adhesive using its own heat energy at a reduced rate. SAFE-HEET engine heaters can be installed during much colder temperatures using the 707 Temperature Controller.

The variable temperature controller can also be used for continuous engine heating. Lower temperature settings help prevent the internal engine corrosion normally associated with leaving heaters on at full power. The variable temperature controller allows the user to adjust the heat to best fit each unique situation.

McFarlane's Variable Temperature Controller may be used with other brand engine heaters.



Convenient SAFE-HEET Kits with Temperature Controller

P/Ns 700KT, 705KT, 720KT

Kits include a SAFE-HEET engine heater and a temperature controller. Use the temperature controller to make installation fast and easy!



A New McFarlane Product from D A M™

Fast and Easy Aircraft Window Cleaner!

This stuff is so D A M good we had to share it!

Aircraft size 1 oz. P/N DAM17-1

Hangar size 16 oz. P/N DAM17-16

A fast streak free polymer light liquid spray designed for acrylic and other surfaces

The carnauba wax and polymer formula fills minor scratches and leaves a slick clean surface that makes cleaning bugs easier next time.

- Fast streak free polymer mix
- Liquid spray - No smeary paste
- No ammonia and only a harmless trace of alcohol
- Anti-static - Repels dust
- Fills minor scratches - Carnauba wax protection
- Safe on all surfaces
- Amazing *Melt Away* cleaning power
- Economical a little goes a long way
- Cabin safe pump spray bottles
- Hazes off for a streak free polish finish

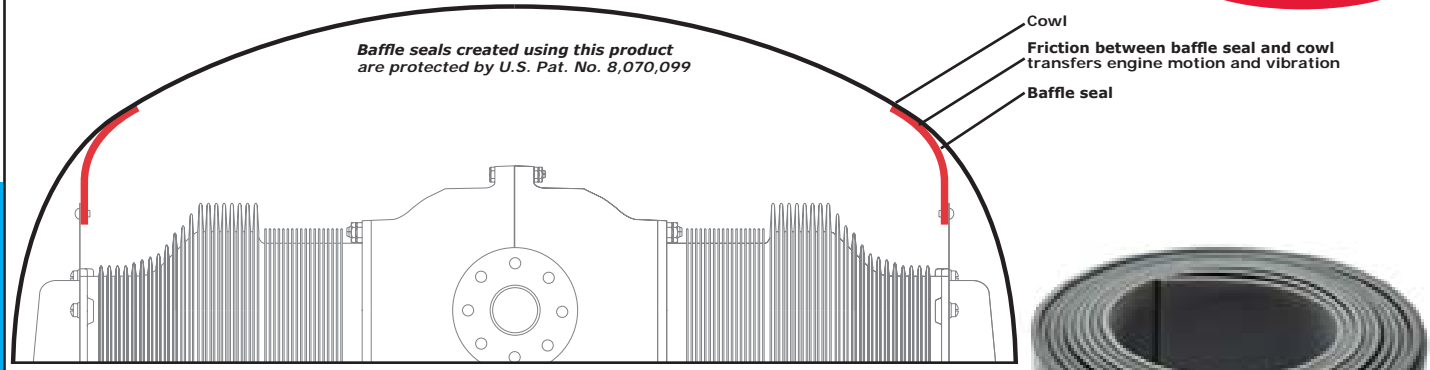
**New!
Try it!!**



Now also available with **Bi-Flex™** technology!

Cowl Saver™ Baffle Seal Material

Reduce Airframe Vibration, Stop Cowl and Firewall Cracks
You can feel the difference in the cockpit!



Baffle Seal Friction Causes Airframe Vibration and Destroys Cowls

Typical silicone rubber baffle seals have a coefficient of friction among the highest of any known material. This friction transfers engine vibration into your cowl and firewall causing fastener fretting, fatigue, cracking, chaffing and airframe vibration.

Cowl Saver™ Baffle Seal Material has 30 Times Less Friction!

- One side is silicone and the other is a low friction Teflon surface unique to the patented **Cowl Saver™** baffle seal material.
- **Cowl Saver™** dramatically reduces the friction between your cowl and baffle seals.
- Half of the engine vibration you feel in the cockpit is from baffle seal transfer.

Bi-Flex™ Technology
The three inch rolls of Cowl Saver™ material are now also available with a precision laser engraved flex pattern to ensure an optimum flexibility/stiffness combination for maximum cooling and minimum friction. The flex pattern covers a little less than half of the width of the material. See page 37 for more details.

Low Friction Saves You Money!

- Reduces transfer of vibration to the engine cowl and airframe
- Minimizes cowl chaffing and erosion from baffle seals
- Extends baffle seal life
- Reduces expensive cowl and cowl fastener repairs
- Reduces fatigue and cracking in baffles, cowl skins and firewall
- The cowling even goes on easier!



Unbeatable Performance

- Ideal balance of flexibility and stiffness
- Fiberglass reinforced
- Meets industry standard AMS3320G
- McFarlane quality you can count on!

Cowl Saver™ Baffle Seal Material

P/N	Thickness	Size
CS085X3G	.085 in	3 in wide, sold by the foot
CS085X3GBF	.085 in	3 in wide, sold by the foot with Bi-Flex™
CS085X18X36G	.085 in	18 in X 36 in (3 ft)
CS085X36X36G	.085 in	36 in X 36 in (3 ft)
CS085X3X108G	.085 in	3 in X 108 in (9 ft)
CS085X3X108GBF	.085 in	3 in X 108 in (9 ft) with Bi-Flex™
CS085X3X156G	.085 in	3 in X 156 in (13 ft)
CS085X3X156GBF	.085 in	3 in X 156 in (13 ft) with Bi-Flex™

Color: Black/Gray

Convenient Baffle Seal Repair Kits

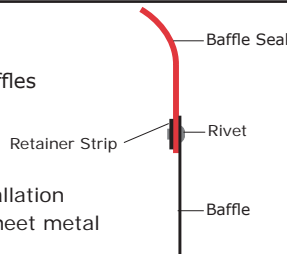
Kit P/N BAFFLE-KIT-1		
Qty	P/N	Description
1	CS085X3X108G	3 in X 108 in (9ft) Cowl Saver™
1	RIVET-KIT-2	Baffle Seal Rivet Kit
10	6036-012	Baffle Seal Retainer Strips
<i>Best for small aircraft with straight baffle seals</i>		
Kit P/N BAFFLE-KIT-1BF with Bi-Flex™		
1	CS085X3X108GBF	3 in X 108 in (9ft) Cowl Saver™ with Bi-Flex™
1	RIVET-KIT-2	Baffle Seal Rivet Kit
10	6036-012	Baffle Seal Retainer Strips
<i>Best for small aircraft with straight baffle seals</i>		
Kit P/N BAFFLE-KIT-2		
1	CS085X18X36G	18 in X 36 in (3ft) Cowl Saver™
2	RIVET-KIT-2	Baffle Seal Rivet Kit
20	6036-012	Baffle Seal Retainer Strips
<i>Recommended for most aircraft. Allows fabrication of straight, curved or irregular shaped baffle seals.</i>		
Kit P/N BAFFLE-KIT-3		
1	CS085X3X156G	3 in X 156 in (13ft) Cowl Saver™
1	RIVET-KIT-2	Baffle Seal Rivet Kit
14	6036-012	Baffle Seal Retainer Strips
<i>Best for aircraft with straight baffle seals</i>		
Kit P/N BAFFLE-KIT-3BF with Bi-Flex™		
1	CS085X3X156GBF	3 in X 156 in (13ft) Cowl Saver™ with Bi-Flex™
1	RIVET-KIT-2	Baffle Seal Rivet Kit
14	6036-012	Baffle Seal Retainer Strips
<i>Best for aircraft with straight baffle seals</i>		

Baffle Seal Retainer Strip

P/N 6036-012

Use as a retainer for riveting baffle seals to baffles

- .050 inch thick 6061-T6 aluminum
- Corrosion resistant
- Economical
- 7/16" X 12" strips - cut to length during installation
- Clamps better than washers or light gauge sheet metal



Baffle Seal Rivet Kit

P/N RIVET-KIT-2

- Soft rivets that won't deform baffles
- Several sizes for various baffle thicknesses and hole sizes

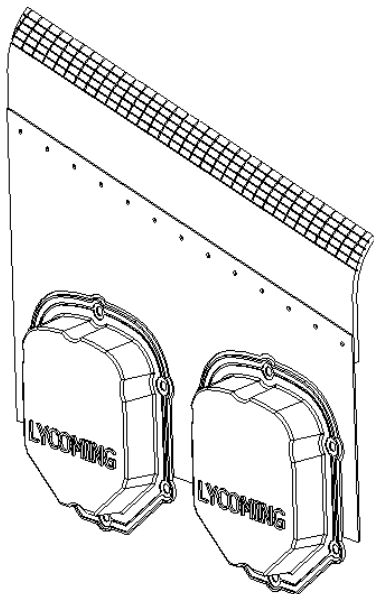
RIVET-KIT-2	
Qty	Rivet P/N
100	MS20470A3-5
100	MS20470A4-5
100	MS20470A4-6

Rivets included are approximate



Firewall Forward

Customizable Flexibility for Optimal Cooling



Cowl Saver™ engine baffle seal material can be customized to be extremely flexible for a perfect seal where it contacts the cowl and rigid elsewhere to prevent the seal from blowing past the cowl contact line. With other baffle seal materials, you must compromise and make a choice: either use material that is rigid enough to not blow past the cowl contact line, or use a material that is flexible enough to blend to the intricate contours of the engine cowl to ensure a good seal. Either choice results in less than optimal engine cooling. With Cowl Saver™ baffle seal material you no longer have to compromise.

Flexibility can be customized to only the areas of the baffle seal that you want it.

Cowl Saver™ material has a layer of black Teflon (clear for older material) bonded to a flexible reinforced silicone rubber base. In

addition to low friction, the Teflon also gives the laminate the solid stiffness needed near the engine baffle to prevent the seal from blowing past the cowl contact line. This extra stiffness, however, is not always desirable in the area that the material seals against the contours of the cowl.

Where extra flexibility is needed to make a good air seal, the black Teflon layer can simply be scored in a cross hatch, diagonal or parallel line pattern.

With care, a normal razor blade may be used, or McFarlane P/N TOOL120 may be used for more efficiency and greater control of cutting depth. Alternatively for relatively straight sections, three inch wide rolls of Cowl Saver™ material with Bi-Flex™ technology may be used.



The extreme bond of the Teflon layer is not affected by the scoring. The score line spacing and the extent of the score pattern control the amount of flexibility. The score line orientation and the type of pattern control the direction(s) of flexibility. Score patterns as small as 1/8 inch form little islands of friction free Teflon that has shown good durability while providing the extreme flexibility of soft silicone rubber. This customization can be performed when doing a new baffle seal installation or to perfect the fit and seal of an existing installation. As long as care is taken to just score the Teflon layer and as little of the silicone as possible (do not cut the fiberglass reinforcing layer), the material will still meet the original AMS3306 specification to which it was certified.

Cowl Saver™ Scoring Tool
Customize Your Baffle Seal Flexibility for Optimal Cooling!

P/N TOOL120



Only for use on the Teflon side of Cowl Saver™ baffle seal material

Customize Cowl Saver™ engine baffle seal material to be extremely flexible for a perfect seal where it contacts the cowl and rigid elsewhere to prevent the seal from blowing past the cowl contact line.

This unique tool has 3 circular razor blades spaced 0.16" apart and makes it fast and easy to score the stiffer outer layer of the Cowl Saver™ material where more flexibility is required. The spacers also precisely control the depth of the cuts to help prevent damage to the material.

- You control the amount of flexibility.
- Use on a new baffle seal installation or to perfect the fit and seal of an existing installation.
- Material still meets the original AMS3306 specification to which it was certified as long as the fiberglass reinforcing layer has not been cut.
- Replacement blade kit also available (P/N TOOL120-BKT)



Baffle Seals and Cowl Saver™ Kits for Cessna 172Q, R and S Models

Reduce airframe vibration and stop cowl and firewall cracks with a complete Cowl Saver™ kit!

U.S. Patent No. 8,070,099

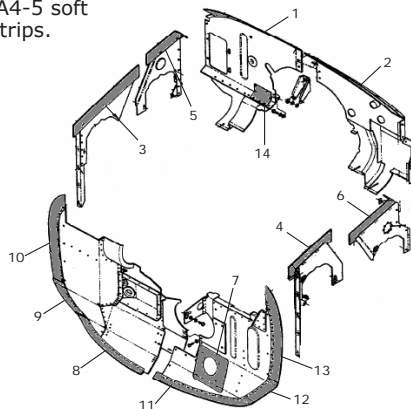
- Cut to fit. Saves time.
- Low friction for reduced transfer of engine vibration
- Kit includes all required baffle seals, MS20470A4-5 soft rivets, and McFarlane P/N 6036-012 retainer strips.
- Individual baffle seals also available

FAA-PMA Approved!

Save!

Now with Bi-Flex™ Technology!

Precision laser engraved flex pattern ensures optimum flexibility/stiffness combination for maximum cooling and minimum friction.



Part Number	Idx	Aircraft	Location
BSC-KT-1		172R, S	Baffle Seal Kit
MC0509069-4	1	172R, S	Right Aft
MC0509070-4	2	172Q,R,S	Left Aft
MC0509071-2	3	172Q,R,S	Cylinder 1 Right Forward
MC0509072-4	4	172Q,R,S	Cylinder 2 Left Forward
MC0509073-6	5	172R,S	Cylinder 3 Right Aft
MC0509074-2	6	172Q,R,S	Cylinder 4 Left Aft
MC0509079-2	7	172R,S	Air Intake for Heat Muff
MC0555250-17	8	172R,S	Forward Right Lower
MC0555250-18	9	172R,S	Forward Right Middle
MC0555250-19	10	172R,S	Forward Right Upper
MC0555259-25	11	172R,S	Forward Left Lower
MC0555259-26	12	172R,S	Forward Left Middle
MC0555259-27	13	172R,S	Forward Left Upper
MC2455076-1	14	172R,S	Right Aft Sub Panel

FAA-PMA Approved

Complete Engine Baffle Kits

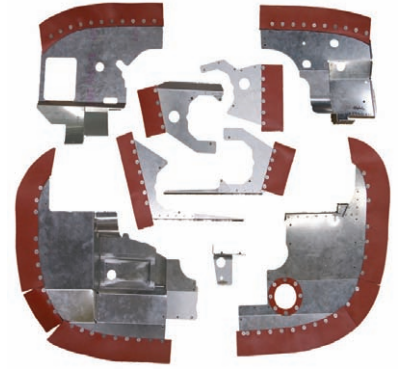
Keep your engine cool with baffle kits!

Airforms is the premier manufacturer of FAA-PMA replacement baffle kits for Cessna, Piper and the Beechcraft Baron.

- 6061-T6 aluminum with black high temperature fiberglass reinforced silicone seals pre-installed (orange or blue seals available as special order for an extra charge)
- Bare aluminum or gray powder coat finish
- Individually interchangeable with factory baffles

Many Improvements:

- Stainless steel brackets where needed
- Hard rivet construction
- 1/2" back plates to secure seals
- Improved fit



See eligibility in the Airforms section on pages 218-228

PROP GUARD

P/N FP1001 for two blades (65")

P/N CS1002 for three blades (92")

Anti-abrasion Boot for your metal propeller!

It is more economical to protect your propeller blades with PROP GUARD than to continually file, dress, paint and balance your blades until they have to be replaced. Water, sand, rock, and airborne abrasives are constantly eroding your propeller. As the name suggests, this product can eliminate this destructive process. Virtually all propeller blade failures start as leading edge nicks.

- PROP GUARD is a .014" thick clear anti-abrasion boot that is bonded to the leading edge of the propeller
- PROP GUARD is made from a special high strength heat processed polymer engineered for centrifugal loads. It's NOT just a piece of tape!
- Easy to install (approximately 20 minutes installation time)
- No performance loss
- Fully tested
- Repairable
- FAA-PMA/STC approved (minor alteration, no form 337 required)

Kit contains:

PROP GUARD boot for a two or three bladed propeller, adhesion accelerator, placard, lint-free cotton cloth, complete installation instructions and a copy of the STC.

Repair Kits

P/N PG-KT-R12 for 12 inches of material

P/N PG-KT-R24 for 24 inches of material

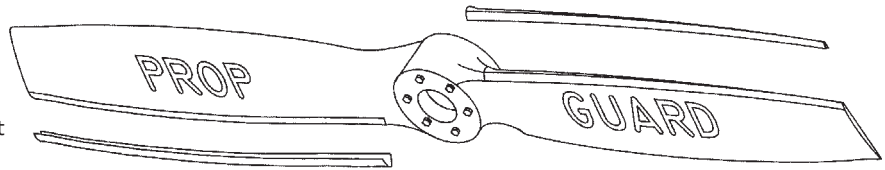
Two convenient repair kits are also now available to allow repair of existing PROP GUARD installations. Each repair kit includes a short length of PROP GUARD boot material, adhesion accelerator, lint-free cotton cloth, a spreader, and complete installation instructions.

PROP GUARD Installation Tool

Saves time and makes installation easier!
P/N TOOL125

This rubber coated roller makes working air bubbles out during installation easier than using the spatula included with the PROP GUARD kits.

The rubber conforms to the shape of the propeller, and the rolling action allows you to press harder to eliminate small air bubbles. It is recommended for customers who may be installing more than one PROP GUARD or those who just want to make the job faster and easier.



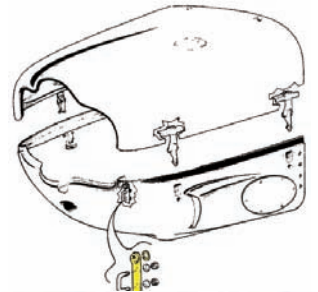
Cowl Attach Plates and Bushings for Piper Aircraft

Bushing P/N MC69790-00 with Retaining Ring P/N MC484-840

Plate P/N MC69791-000 (Includes Bushing and Retaining Ring)

New bushing material. Stronger and Tougher!

- High temperature stainless steel plates and retaining ring.
- Bushing is made from high temperature/high strength thermoplastic that lasts longer than original Nylon and Teflon bushing materials!
- Save up to 50%
- Each component sold separately



Model Series	Serial Numbers	Model Series	Serial Numbers
PA-28-150	28-1761 and On	PA-28R-201	All
PA-28-160	28-1761 and On	PA-28RT-201	All
PA-28-180	28-1761 and On	PA-32-260	All
PA-28-181	28-7690001 and On	PA-32-300	All
PA-28-235	28-10003 and On	PA-32R-300	All
PA-28R-180	28-30005 and On	PA-32RT-300	All
PA-28R-200	28-35001 and On		



Retaining Ring

Bushing

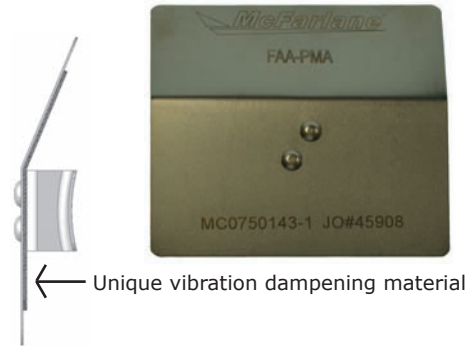


Plate with Bushing and Retaining Ring

Intake Hose Heat Deflector Shields for Cessna Aircraft with Teledyne Continental Six Cylinder Engines

Improved Design!
P/N MC0750143-1

- Vibration dampened to prevent cracking
- Polished stainless steel for better heat control
- Much better and 1/2 the price!



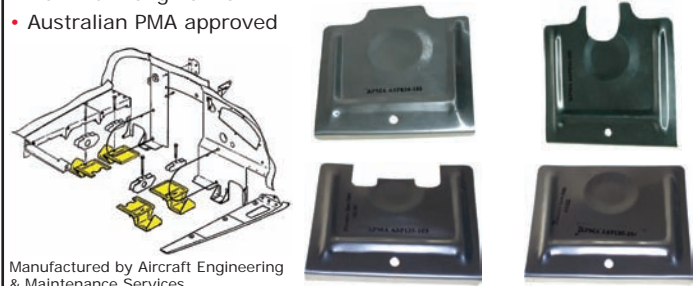
← Unique vibration dampening material

Aircraft Model	Serial Number
175 A,B,C	56083 thru 17557119
P172	P17257120 thru P17257188
180 A,B,C,D,E,F,G,H,J,K	30000 thru 18053203
182 A,B,C,D,E,F,G,H,J,K,L,M,N,P,Q,R	33000 thru 18268615
F182P,Q	F18200001 thru F18200169
A182J,K,L,M,N	A182-0001 thru A182-0148
T182	18267716 thru 18268615
185 A,B,C,D,E/A185E,F	185-0001 thru 18504448
188 A,B/A188 A,B	188-0001 thru 18803968T
T188C	T18803297T thru T18803968T
210-5 (205), 210-5A (205A)	205-0001 thru 205-0577
206	206-0001 thru 206-0275
U206 A,B,C,D,E,F,G	U206-0276 thru U20607020
P206 A,B,C,D,E/TP206A,B,C,D,E	P206-0001 thru P20600647
TU206A,B,C,D,E,F,G	U206-0438 thru U20607020
207 A/T207,A	20700001 thru 20700788
210 A,B,C,D,E,F,G,H,J,K,L,M,N,R	57001 thru 21065009
T210K,L,M,N,R	
P210N,R	P21000001 thru P21000874
T210G,H,J	T210-0198 thru T210-0454

■ Partial model eligibility
McFarlane P/N MC0750143-1 replaces Cessna P/N 0750121, 0750121-1, 0750121-2, 0750143-2 and 0750143-3.

Intercylinder Baffles for Cessna Aircraft with Teledyne Continental Six Cylinder Engines

- Replace worn baffles to maintain optimum engine cooling
- Maximum engine life
- Australian PMA approved



Manufactured by Aircraft Engineering & Maintenance Services

Model	Serial Number	ASP135-103	ASP135-104	ASP833-105	ASP834-101	ASP834-102
180	32151 thru 32661	2	2	4		
180A,B,C,D,E	32662 thru 18051183	2	1	4		
180F,G,H,J,K	18051184 thru 18018053203	3	2	4		
182	33000 thru 33482	2	2	4		
182A,B,C,D,E	33483 thru 18254423	2	1	4		
182F,G,H,J,K,L,M,N,P,■	18254424 thru 18262465	1	1	4		
182P,■,Q,R	18262466 thru 18268615	2	2	4		
A185F	All			4		
188, 188A,B, A188, A188A,B, T188C	188-0001 thru T18803968T	2	2	4		
210-5 (205), 210-5A (205A)	205-0001 thru 205-0577	1	2	4		
206, U206, U206A, B, C, D, E, F, G	206-0001 thru U20607020	2	2	4		
P206, P206A, B, C, D, E	P206-0001 thru P20600647	2	2	4		
207, 207A	20700001 thru 20700788	2	2	4		
210, 210A, B, C, D, E, F, G, H, J, K, L, M, N, R	57001 thru 21065009	2	2	4		
310, 310A, B, C, D, E, F, G, H, I, J, K, L, N	35000 thru 310N0198	2	2	4		
T310R	All			4		
320, 320A, B, C	320-0001 thru 320C0073	2	4			
320D, E, F	320D0001 thru 320F0045			4	6	2
335	335-0001 thru 335-0065			4	6	2
340, 340A	340-0001 thru 340A1817			4	6	2
401, 401A, B	401-0001 thru 401B0300			4	6	2
402, 402A, B, C	402-0001 and On			4	6	2
414, 414A	414-0001 and On			4	6	2

■ Partial model eligibility
P/N ASP135-103 replaces Cessna P/N 0750135-3
P/N ASP135-104 replaces Cessna P/Ns 0750135-4 and 0750135-8
P/N ASP833-105 replaces Cessna P/Ns 0750135-1 and 0851833-1
P/N ASP834-101 replaces Cessna P/N 0851834-1
P/N ASP834-105 replaces Cessna P/N 0851834-2

Motor Mount Bolt Lock Washer for Cessna Aircraft

P/N MC0851559-1

- Up to four times the locking power for less cost!
- FAA approved using stronger material than the original, allowing the standard washer to be eliminated.
- Only the McFarlane washer is embossed for improved locking and no-slip during installation.
- Designed with six tabs instead of two giving extra locking power.
- Easier to use
- Four lock washers required per engine.



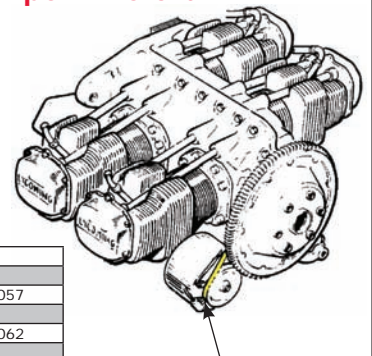
Model	Serial Number
180F,G,H,J,K	18051184 thru 18053203
182E,F,G,H,J,K,L,M,N,P,Q,R	18253599 thru 18268615
A182J,K,L,M,N/F182P,Q	All
185, 185A,B,C,D,E/A185E,F	All
188, 188A,B/A188/A188A,B/T188C	All
210-5 (205), 210-5A (205A)	All
P206, P206A,B,C,D,E, TP206A,B,C,D,E	All
206, U206, U206A,B,C,D,E,F,G	All
TU206A,B,C,D,E,F,G	All
207, 207A, T207, T207A	All
210, 210A,B,C,D,E,F,G,H,J,K,L,M,N,R	All
P210N,R, T210F,G,H,J,K,L,M,N,R	All
310, 310B,C,D,F,G,H,I,J,K,L,N,P,Q,R	All
T310P,Q,R,	All
320D,E,F	All
411, 411A, 414	All
414A	414A0001 thru 414A0680

Alternator V-Belt for Piper Aircraft

Finally an approved belt at an affordable price!

P/N MC73965-015

- High quality manufacture
- Direct replacement for P/Ns 10069-806, 452-541, 564-852, 73965-015 and 73965-15
- Save \$\$



Alternator V-Belt

Model	Serial Number
PA-28-151	All
PA-28-161	28-7716001 thru 28-8616057
PA-28-161	2816001 thru 2816119
PA-28-181	28-7690001 thru 28-8690062
PA-28-181	2890001 thru 2890231
PA-28-236	28-7911001 thru 28-8611008
PA-28R-201	2837001 thru 2837061
PA-28R-201	28R-7737002 thru 28R-7837317
PA-28R-201T	2803001 thru 2803012
PA-28R-201T	28R-7703001 thru 28R-7803373
PA-28RT-201	28R-7918001 thru 28R-8218026
PA-28RT-201T	2831001 thru 2831038
PA-28RT-201T	28R-7931001 thru 28R-8631005
PA-32RT-300	32R-7885002 thru 32R-7985106
PA-32RT-300T	32R-7787001 thru 32R-7987126



FAA-PMA Approved

AERO-Classics Oil Coolers

FAA-PMA Approved

- Direct replacements for most oil coolers
- Ideal for many certified and experimental aircraft
- FAA 8130-3 tags included with each oil cooler

Outstanding Performance

In side-by-side comparative performance tests, AERO-Classics 7 and 9 plate oil coolers outclassed competitive models, offering better overall cooling and lower weight.

Direct Replacements for Stewart Warner Oil Coolers

- HE Series High Efficiency Coolers
- FAA-PMA direct replacement for Stewart Warner (Meggett) oil coolers
- Match or outperform the original
- Save \$\$

Don't be fooled by Stewart Warner oil coolers available from many aviation suppliers. Even though its the same part number and manufacturer, if it didn't come from the aircraft manufacturer or say FAA-PMA, then it is not FAA approved.

Highest Quality, Best Value

- Corrosion Protection per MIL-C-5541, Class 1A
- Optimized internal oil flow design
- Low cost
- In-stock for fast delivery
- Pressure tested to 400 psig
- Light-weight
- Two year warranty



Replaces Stewart Warner P/N 8406R

The best for a lot less!

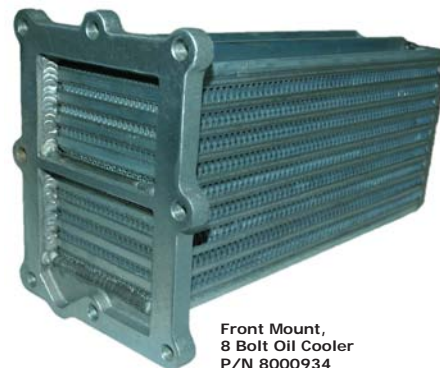
Engine Mount Oil Coolers for Continental Engines



Front Mount, 12 Bolt Non Congealing Oil Cooler P/N 8000307



Rear Mount Oil Cooler P/N 8000464



Front Mount, 8 Bolt Oil Cooler P/N 8000934



P/N 654117



P/N 652079



P/N 649964

Part Number	Description	FAA Approved Replacement for	Eligible Engine Models	Gaskets (not included with oil cooler)
Front-Mount, 8 Bolt Oil Coolers				
8000925		Continental 627392, Niagara 20585A	O-470-A,B,E,G,J,K,L,M,P,R,S,U IO-470- C,D,E,F,G,H,J,K,L,M,N,P,R,S,U,V	654117 649964 (plate)
8000934		Continental 646880, Niagara 20591A	IO-360-A,AB,C,CB,D,DB,G,GB,H,HB,HB9,J,JB,K,KB,ES TSIO-360-A,AB,B,C,CB,D,DB,E,F,GB,H,JB,KB,LB,MB L/TSIO-360-E,EB,F,FB,GB,H,HB,JB,KB,LB,MB,RB	654117, 649964 (plate)
Front-Mount, 12 Bolt Congealing Oil Coolers				
8000683	Non-7th Stud	Continental 626189, Niagara 20573A	O-470-B,J,K,L,M,R,IO-470-D,F,L,M,S IO-520-A,D,E,F,J,K,L, L/TSIO-520-AE, O-550-D	654553 649964 (plate)
8000687	7th Stud	Continental 652671, Niagara 20440A	IO-520-A,D,E,F,J,K,L, L/TSIO-520-AE, IO-550-D	654555, 649964 (plate)
Front-Mount, 12 Bolt Non Congealing Oil Coolers				
8000545	10" Universal 7th Stud	Continental 639171, Niagara 20795A Continental 654595, Niagara 20617A	O-470-R,S,U, IO-520-A,D,E,F,J,K,L TSIO-520-C,G,H,M,P,R,T,AF,CE, IO550-D,E,F,L	654554 652079 (plate)
8000319	11" Universal 7th Stud	Continental 639151, Niagara 20446A	O-470-F,K,L,R, IO-470-L, IO-520-A,D,E,F,J,K,L	654560, 652079 (plate)
8000307	11 7th Stud	Continental 654593, Niagara 20618A	IO-470-L, IO-520-A,D,E,F,J,K,L	654554, 652079 (plate)
8000531	11.5" Universal 7th Stud	Continental 639152, Niagara 20623A	O-470-M, IO-470-D,U,V, IO-520-A,D,E,F,J,K,L	654560, 652079 (plate)
8000127	11.5" 7th Stud	Continental 652759, Niagara 20448A	IO-520-A,D,E,F,J,K,L	654554, 652079 (plate)
Rear-Mount Oil Coolers				
8000440	Valve P/N 639305 small	Continental 654580, Niagara 10279A	TSIO-520-BE,E,J,L,N,VB,WB,EB,JB,LB,NB, 550-E, IO-550-B,C,G	G-KT-1
8000464	Valve P/N 639305 small	Continental 646685, Niagara 10196A	GTSIO-520-C,D,F,H,K,L,M,N	G-KT-2
8000953	Valve P/N 649369 large	Continental 654585, Niagara 10281A	IO-550-G,N,P,R, IO-F550-G,N,P,R, TSIO-550-G	G-KT-3
8000960	Valve P/N 639305 small	Continental 654572, Niagara 10278A	IO-520-B,BA,BB,C,CB,M,MB, TSIO-520-B,D,K,UB, IO-550-A,B,C	G-KT-1
8001213	Valve P/N 649369 large	Continental 655090, Niagara 10280A	IO-550-B,C, IOF-550-B,C, TSIO-520-B	G-KT-5

Continued on next page

Firewall Forward

Remote Mount Oil Coolers (Typically used with Lycoming Engines)


Bar and Plate P/N 8000356

7 row drawn cup P/N 8000075

HE Series P/N 8001646

HE Series P/N 8001599

Important: To confirm FAA approved eligibility, verify that your current (or originally) installed oil cooler P/N is listed in the "FAA Approved Replacement for" column for your aircraft model.

Aircraft Model	FAA Approved Replacement for P/N	Description	P/N
AEROSTAR			
601, 601P, 602P, 700P	Niagara 20015A, 20044A, Harrison 8541336	bar and plate	8000357
Beechcraft			
19, C23, A24R, C24R	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
19A, B19, A23, A23A, A24, A24R, B23, C23	Beech 169-910002-23, 169-380001-1, Stewart Warner 8406R	HE Series	8001602
A23-24	Beech 169-910002-23, 169-380001-1, Stewart Warner 8406R Beech 169-380033, Stewart Warner 8432S	HE Series	8001602 8001694
Brittan-Norman (Pilatus)			
BN-2	B-N 354501026, Stewart Warner 8406R	HE Series	8001602
BN-2A	Niagara 20006A, Harrison 8534108 B-N 354501026, Stewart Warner 8406R	13 row drawn cup HE Series	8000215 8001602
BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27	B-N 354501026, Stewart Warner 8406R	HE Series	8001602
BN-2B	Niagara 20006A, Harrison 8534108	13 row drawn cup	8000215
BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, BN-2T-4R	B-N 354501026, Stewart Warner 8406R	HE Series	8001602
Cessna			
150, 152, A152	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
162	Cessna and Stewart Warner 10578R	HE Series	8001535
170	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
172	Niagara 20002A, Harrison 8526250 Cessna and Stewart Warner 8406R	7 row drawn cup HE Series	8000075 8001733
175, 177	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
177RG	Cessna and Stewart Warner 8406R	HE Series	8001733
172N	Cessna and Stewart Warner 10599R	HE Series	8001599
172R,S	Cessna and Stewart Warner 10877R	HE Series	8001588
182	Cessna and Stewart Warner 10610R	HE Series	8001646
R182, TR182	Cessna and Stewart Warner 10614R Cessna and Stewart Warner 10610R	HE Series	8001643 8001646
T182, TR182, T182T	Cessna and Stewart Warner 10891A	HE Series	8001718
210-5 (205), 210-5A (205A)	Cessna and Stewart Warner 10634R	HE Series	8001652
206, 206H, P206, P206A,B,C,D,E, U206, U206A,B,C,D,E,F,G	Cessna and Stewart Warner 10880A	HE Series	8001713
T206H, TP206A,B,C,D,E, TU206A,B,C,D,E,F,G	Cessna and Stewart Warner 10865B	HE Series	8001701
210, 210A thru 210R, P210N,R, T210F thru T210R	Cessna and Stewart Warner 10634R	HE Series	8001652
Commander, Twin Commander Aircraft LLC			
114, 114A, 500S	Commander 630146-509, Niagara 20009A, Harrison 8533718, 8537798	18 row drawn cup	8000353
Cub Crafters Inc.			
CC18-180, CC18-180A	Niagara 20003A, Harrison 8529245	9 row drawn cup	8000074
Grumman			
AA-5 (Tiger)	5505002-2, Stewart Warner 10568R	HE Series	8001640
AA-5A Series (Cheetah)	5505002-1, Stewart Warner 10578R	HE Series	8001535
Maule			
M-5-180C, M-5-235C, M-6-180, M-6-235	Niagara 20003A, Harrison 8529245	9 row drawn cup	8000074
Mooney			
MC20A, MC20B	Mooney 620036, Stewart Warner 8406R Niagara 20002A, Harrison 8526250	HE Series 7 row drawn cup	8001602 8000075
M20C, M20D	Mooney 620036, Stewart Warner 8406R	HE Series	8001602
M20E, M20F	Mooney 620016, 620052, Stewart Warner 8432R Mooney 6200160501, Stewart Warner 8432S	HE Series	8001689 8001694
M20G	Mooney 620036, Stewart Warner 8406R	HE Series	8001602
M20J	Mooney 620016, 620052, Stewart Warner 8432R	HE Series	8001689
Piper			
PA-18,18A	Harrison 8521940	bar and plate	8000328
2 PA-18, -18A, -18S, -18 "105" Special, -18 "125"(Army L-21A), -18S "125", -18AS "125", -18 "135" (Army L-21B),-18A "135", -18S "135", -18AS "135", -18 "150", -18A "150", -18S "150P", -18AS "150", -19 (Army L-18C), -19S	Niagara 20003A, Harrison 8529245	9 row drawn cup	8000074
PA22-135,150,160	Harrison 8521940	bar and plate	8000328
PA-23, S/N 23-163 and up	Piper 18622-00, Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
PA-23	Niagara 20104A, Harrison 8530016, 8537798	9 row, 2 pass drawn cup	8000343
PA-23-160	Piper 18622-00, Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
PA23-235,250	Niagara 20104A, Harrison 8530016, 8537798	9 row, 2 pass drawn cup	8000343
PA-23-250	Piper 32330-07, S/W Meggit 10631S	HE Series	8001956
PA-24	Piper 18622-00, Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
PA-24-260 S/N 24-4783, 24-4804 and up	Niagara 20104A, Harrison 8530016, 8537798	9 row, 2 pass drawn cup	8000343
PA-25	Niagara 20006A, Harrison 8534108	13 row drawn cup	8000215
PA-25-235	Niagara 20104A, Harrison 8530016, 8537798	9 row, 2 pass drawn cup	8000343
PA-28-140,150,151,160,161,180,181	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
PA-28R-200,201,201T	Piper 67848-00, Niagara 20017A, Harrison 8537820	13 row, drawn cup with cutout	8000661
PA-28-236	Niagara 20003A, Harrison 8529245	9 row drawn cup	8000074
PA-30	Piper 18622-00, Niagara 20002A, Harrison 8526250 Niagara 20006A, Harrison 8534108	7 row drawn cup 13 row drawn cup	8000075 8000215
PA-31	Niagara 20104A, Harrison 8530016, 8537798	9 row, 2 pass drawn cup	8000343
PA-31-310,325,350	Niagara 20010A, Harrison 8535311	bar and plate	8000356
PA-32-260	Piper 18622-00, Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
PA-32-300	Niagara 20003A, Harrison 8529245	9 row drawn cup	8000074
PA-32R-300	Piper 556-391, Harrison 8543897	bar and plate	8001201
PA-32RT-300,300T, PA-32R-301,301T	Niagara 20010A, Harrison 8535311	bar and plate	8000356

Eligibility continued on the next page

FAA-PMA Approved

Important: To confirm FAA approved eligibility, verify that your current (or originally) installed oil cooler P/N is listed in the "FAA Approved Replacement for" column for your aircraft model.

Eligibility continued from previous page

Aircraft Model	FAA Approved Replacement for P/N	Description	P/N
Piper Continued			
PA-34-200	Piper 67848-00, Niagara 20017A, Harrison 8537820	13 row, drawn cup with cutout	8000661
PA-39	Piper 18622-00, Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
Robinson Helicopter			
R22	Niagara 20008A	17 row drawn cup	8000216
R44, R44II	Robinson and Stewart Warner 10886A	HE Series	8001723
Sky International (PITTS)			
S-2B	Niagara 20006A, Harrison 8534108	13 row drawn cup	8000215
	Niagara 20009A, Harrison 8533718, 8537798	18 row drawn cup	8000353
Socata			
TB9, TB10	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
TB20, TB200	Niagara 20006A, Harrison 8534108	13 row drawn cup	8000215
	Niagara 20009A, Harrison 8533718, 8537798	18 row drawn cup	8000353
Taylorcraft 2000, LLC			
F22B, F22C, F22R	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075
Univair (Stinson)			
108, 108-1, 108-2, 108-3	Niagara 20002A, Harrison 8526250	7 row drawn cup	8000075

1 McFarlane engineering is unable to confirm this eligibility entry. P/N 8000215 is for larger (300HP+) engines.

2 When modified with IAW Cub Crafters Inc. STC # SA00718SE or SA92NW.

Firewall Forward

Cross Reference	
Beechcraft P/N	AERO-Classics P/N
169-380001-1	8001602
169-380033	8001694
169-910002-23	8001602
Britten-Norman (Pilatus) P/N	
354501026	8001602
Continental P/N	
626189	8000683
627392	8000925
639151	8000319
639171	8000545
646685	8000464
646880	8000934
652671	8000687
652759	8000127
654572	8000960
654580	8000440
654585	8000953
654593	8000307
654595	8000545
655090	8001213
693152	8000531
Harrison P/N	
8521940	8000328
8526250	8000075
8529245	8000074
8530016	8000343
8533718	8000353
8534108	8000215
8535311	8000356
8537798	8000343
8537820	8000661
8541336	8000357
8543897	8001201
Mooney P/N	
620016	8001689
620036	8001602
620052	8001689
6200160501	8001694
Niagara P/N	
10196A	8000464
10278A	8000960
10279A	8000440
10280A	8001213
10281A	8000953
20002A	8000075
20003A	8000074
20006A	8000215
20008A	8000216

Cross Reference	
Continued from previous column	
Niagara P/N	
20009A	8000353
20010A	8000356
20015A	8000357
20017A	8000661
20044A	8000357
20104A	8000343
20440A	8000687
20446A	8000319
20448A	8000127
20573A	8000683
20585A	8000925
20591A	8000934
20617A	8000545
20618A	8000307
20623A	8000531
20710A	8001080
20795A	8000545
Piper P/N	
18622-00	8000075
556-391	8001201
67848-00	8000661
85472-012	8001080
Stewart Warner	
8406R	8001733
8406R	8001602
8432R	8001689
8432S	8001694
10568R	8001640
10578R	8001535
10599R	8001599
10610R	8001646
10614R	8001643
10634R	8001652
10865B	8001701
10877A	8001588
10880A	8001713
10886A	8001723
10891A	8001718
Twin Commander P/N	
630146-509	8000353
True Flight Holding LLC P/N	
5505002-1	8001535
5505002-2	8001640

Verify aircraft make and model to ensure direct replacement eligibility. An IPC will confirm the part number that came equipped with the aircraft.

New Approval for Cessna and Piper Aircraft
FAA-PMA approval for more Cessna and Piper aircraft!

- Cessna 205 and 210 series
- Piper PA-23-250, PA-28-181 and PA-32-260 aircraft



Aluminum Oil Cooler for PA18, PA22 Series
Save weight and money!
P/N 8000328

- The only aluminum Super Cub oil cooler
- FAA-PMA



Save 3.7 lbs!

Stewart Warner Oil Coolers

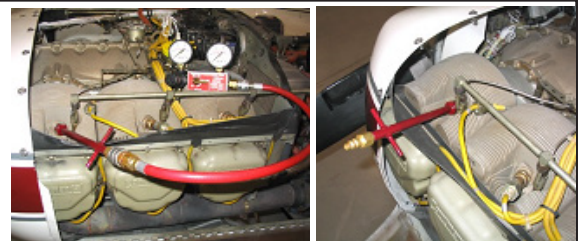
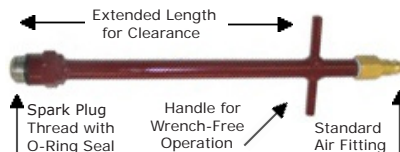
Factory new oil coolers manufactured by Stewart Warner are ideal for many experimental applications. They are identical to Stewart Warner oil coolers used on many certified aircraft but are not FAA-PMA approved. Form 337 field approvals are required for installation on certified aircraft. Available part numbers: 10611R, 10611S, 10631S, 10655A, 8406S and 8446S.



Compression Tester Extension

- EXTENSION CT1 (18mm thread)
- EXTENSION CT12 (12mm thread)
- EXTENSION CT14 (14mm thread)

- Wrench-free compression testing
- Quality welded construction, o-ring seal
- Allows for exhaust system and baffling clearance
- Makes compression testing easy
- Save time and \$\$



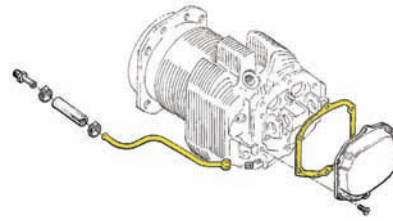
Compression Tester Extension is not FAA-PMA approved.

Manufactured by Baines Specialties, LLC.

APS Rocker Cover Gaskets

Reusable, silicone!

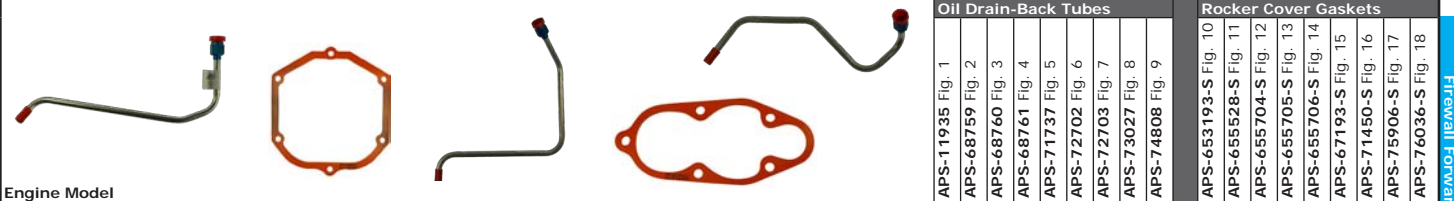
- FAA-PMA Direct replacement for Continental and Lycoming Engines
- For use in both certified and experimental aircraft



APS Oil Drain-Back Tubes

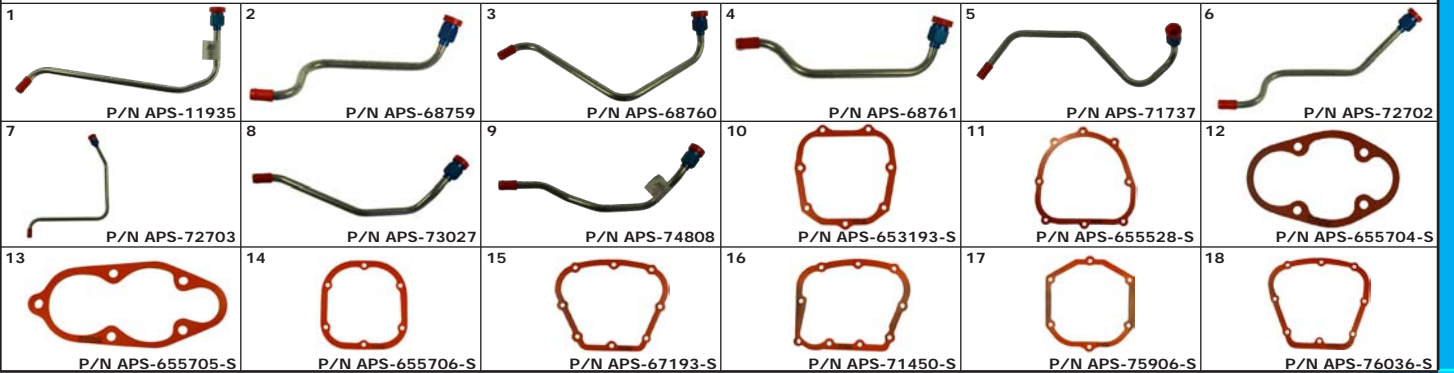
Save up to 50%

- FAA-PMA Direct replacement for Lycoming tubes
- For use in both certified and experimental aircraft



Engine Model	Oil Drain-Back Tubes	Rocker Cover Gaskets
Continental Engines	APS-11935 Fig. 1 APS-68759 Fig. 2 APS-68760 Fig. 3 APS-68761 Fig. 4 APS-71737 Fig. 5 APS-72702 Fig. 6 APS-72703 Fig. 7 APS-73027 Fig. 8 APS-74808 Fig. 9	APS-653193-S Fig. 10 APS-655528-S Fig. 11 APS-655704-S Fig. 12 APS-655705-S Fig. 13 APS-655706-S Fig. 14 APS-67193-S Fig. 15 APS-71450-S Fig. 16 APS-75906-S Fig. 17 APS-76036-S Fig. 18
Continental Engines		
A-75, A-85, C90, C125, C145 Series		
E165, E185, E225 Series		
GO300		
GTSIO520		
IO240, IO360 Series		
IO470		
IO520 Series		
IO550		
LTSIO520		
O200, O300 Series		
O470		
TSIO360 Series		
TSIO470		
TSIO520		
TSIO550		
Lycoming Engines		
A-40, A-50, A-65, A-70 Series		
AEIO320		
AEIO360		
AEIO540		
AEIO580		
AIO320		
AIO360		
C75, C85 Series		
GO435		
HIO360		
HIO540		
HO360		
IGO540		
IGSO540		
IHO360		

Eligibility continued on next page



FAA-PMA Approved



Figures 1-18 Photos are not to scale relative to each other
Continued from previous page



Engine Model

Engine Model	Oil Drain-Back Tubes									Rocker Cover Gaskets								
	APS-11935 Fig. 1	APS-68759 Fig. 2	APS-68760 Fig. 3	APS-68761 Fig. 4	APS-71737 Fig. 5	APS-72702 Fig. 6	APS-72703 Fig. 7	APS-73027 Fig. 8	APS-74808 Fig. 9	APS-653193-S Fig. 10	APS-655528-S Fig. 11	APS-655704-S Fig. 12	APS-655705-S Fig. 13	APS-655706-S Fig. 14	APS-67193-S Fig. 15	APS-71450-S Fig. 16	APS-75906-S Fig. 17	APS-76036-S Fig. 18
IO320	A1AA,2AB1A A1AA2,AB1A B1B,B1C,B1D,B1E,B2A,C1A,C1B,D1A,D1B,D1C,E1A,E1B,E2A,E2B,F1A																	
IO360	A1A,A1B,A1B6,A1B6D,A1C,A1D,A1D6,A2A,A2B,A2C,A3B6,A3B6D,A3D6D,C1B,C1C,C1C6,C1D6,C1E6,C1E6D,C1G6,D1A,J1A6D,K2A A1C6 A1D6D,C1F B1B,B1BD,B1D,B1E,B1F,B1G6,B2E,B2F,B2F6,B4A,L2A,M1B,M1A B1A,B1C,B1F6,E1A C1A F1A J1AD																	
IO390	A1A6,A3A6,A1B6,A3B6 A1A5,B1B5,G1B5,G1C5,G1D5,G1E5,G1F5,K1C5,L1B5D,P1A5 AA1A5,AA1B5,AE1A5,K1A5,K1A5D,K1B5,K1D5,K1E5,K1F5,K1F5D,K1G5,K1G5D,K1J5,K1J5D,K1K5 AB1A5,C4B5,C4B5D,C4D5D,D4A5,N1A5,T4B5D,V4A5D,W1A5D B1A5,B1C5,E1A5,E1B5 C1B5,C4C5,C4D5,R1A5,S1A5,T4A5D,T4B5,T4C5D D4B5,D4C5,E4C5D,N1A5D,V4A5,W1A5,W1A5D,W3A5D G1A5																	
IO540	J4A5 K1H5 K2A5,M1A5 L1A5D L1C5 M1A5D M1B5D U1A5D,U1B5D																	
IO580	A1A,B1A																	
IO720	A1A,A1B,D1B,D1C,D1CD B1B,B1BD,C1B																	
IYO540	A1A																	
LIHO360	C1A,C1B,F1AD																	
LIO320	B1A,C1A C1E																	
LIO360	C1E6 C1E6D M1A																	
LO360	A1G6D,A1H6,E1A6D E1AD,E1BD,E2AD,E2BD F2BD,J2B,J2BD K1AD N2BD,R2AD U2A V2AD W2A																	
LTIO540																		
O235, O290 Series																		
O320	A1A,A1B,A2A,A2B,A2C,A2D,A3A,A3B,A3C,B1A,B1B,B2A,B2B,B2C,B2D,B2E,B3A,B3B,B3C,C1A,C1B,C2A,C2B,C2C,C3A,C3B,C3C,D1A,D1B,D1C,D1D,D1F,D2A,D2B,D2C,D2F,D2G,D2H,D2J,D3G,E1A,E1B,E1C,E1F,E1J,E2A,E2B,E2C,E2D,E2F,E2G,E2H,E3D,E3H,H1AD,H1BD,H2AD,H2BD,H3AD,H3BD																	
O320 Series																		
O340	A1A,A2A,B1A																	
O340 Series																		
O360	A1A,A1AD,A1C,A1D,A1F6,A1F6D,A1G,A1G6,A1G6D,A1H,A1H6,A1J,A1LD,A1P,A2A,A2D,A2E,A2F,A2G,A3A,A3AD,A4A,A4AD,A4D,A4G,A4J,A4JD,A4K,A4M,A4N,A4P,A5AD,B2A,C1A,C1C,C1E,C1F,C1G,C2A,C2C,C2D,C2E,C4F,C4P,D2A,D2B,F1A6,G1A6 A2H,A3D,B1A,B1B,B2B,B2C,E1A6D,E1AD,E1BD,E2AD,E2BD,J2A																	
O540	A1A,A1A5,A1B5,A1C5,A1D,A1D5,A2B,A3D5,B4B5,W1A5,W1A5D,W3A5D A4D5,E4B5D,G1A5D,J1C5D,J2A,J2A5D B1A5,B1B5,B2B5,B2C5,E4A5,E4B5,E4C5,F1B5,G1A5,G2A5,H1B5D,H2B5D,J1A5D,J3A5,J3A5D,J3C5D,L3C5D B2A5																	
TIG0541	E1A																	
TIO360	A1A,A1B,A3B6																	
TIO540	A1A,A1B,A2A,A2B A1C,A2A A2C AE2A AH1A C1A,E1A,H1A AJ1A,AK1A,G1A,T2AD,W2A AA1AD,AB1AD,AF1A,AG1A,K1AD AB1BD,AF1B F2BD,J2B,J2BD,N2BD,R2AD,S1AD U2A V2AD																	
TIO541	E1A4,E1B4,E1C4,EAD4																	
TIVO540	A2A																	
TO360	C1A6D																	
TVO435	A1A,B1A,B1B,D1A,D1B,F1A,G1A,G1B																	
TVO540	A1A																	
VO435	A1A,A1C,A1D,A1E,A1F,B1A																	
VO540	A1A,B1A,B1B,B1B3,B1C,B1D,B1F,B2D,C1A,C1B,C1C3,C2A,C2C																	

Firewall Forward

Adel Clamps (MS21919 W Series)

Loop type, cushioned support clamps, commonly referred to as "Adel Clamps" feature a wedge that is bonded to the cushion to prevent the escape of small wires when used for general purpose wire bundle clamping. Meets the requirements of Mil Spec MS21919.

Standard MS21919WDGXX Clamps

- Aluminum band with a chlorophrene cushion (black with blue stripe)
- For use in areas contaminated with petroleum based hydraulic fluids and occasional fuel splash
- Ozone resistant
- Rated to 212° F
- Not resistant to phosphate ester based fluids
- Supersedes MS21919-DG series without the wedge

High Temperature MS21919WCJXX Clamps

These blue clamps will not get hard and brittle with engine temperatures. A little more expensive but will last a long time in firewall forward applications.

- Corrosion resistant steel band with a blue fluorosilicone cushion
- Perfect for use in engine area or other areas with elevated temperature and/or where petroleum based fluid contamination is present
- Ozone resistant
- Rated to 450° F
- Not resistant to phosphate ester based fluids



P/N MS21919WCJ2



P/N MS21919WCJ3



P/N MS21919WCJ4



P/N MS21919WCJ5



P/N MS21919WCJ7



P/N MS21919WCJ15

Tube/ Bundle O.D.	Aluminum Band, Chlorophrene Cushion: MS21919WDG Series	Corrosion Resistant Steel Band, Fluorosilicone Cushion: MS21919WCJ Series
1/8"	MS21919WDG2	MS21919WCJ2
3/16"	MS21919WDG3	MS21919WCJ3
1/4"	MS21919WDG4	MS21919WCJ4
5/16"	MS21919WDG5	MS21919WCJ5
3/8"	MS21919WDG6	MS21919WCJ6
7/16"	MS21919WDG7	MS21919WCJ7
1/2"	MS21919WDG8	MS21919WCJ8
9/16"	MS21919WDG9	MS21919WCJ9
5/8"	MS21919WDG10	MS21919WCJ10
11/16"	MS21919WDG11	MS21919WCJ11
3/4"	MS21919WDG12	MS21919WCJ12
13/16"	MS21919WDG13	MS21919WCJ13
7/8"	MS21919WDG14	MS21919WCJ14
15/16"	MS21919WDG15	MS21919WCJ15
1"	MS21919WDG16	MS21919WCJ16



P/N MS21919WDG3



P/N MS21919WDG4



P/N MS21919WDG9

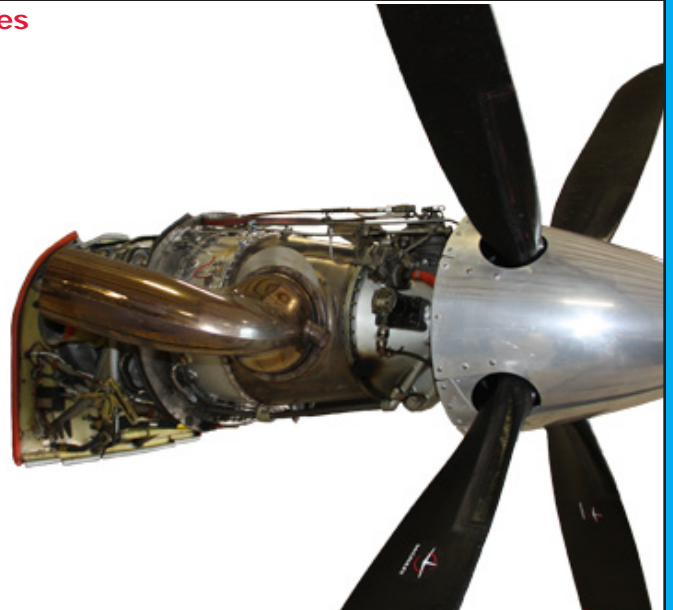


P/N MS21919WDG13

Parts for the Legendary Pratt & Whitney PT6 Engines

- In stock, no long lead times!
- Save \$\$ on commonly replaced parts

P/N	Description	Eligibility
CA3011155	Fuel Transfer Tube	PT6A-10, 11, 11AG, 15AG, 21, 25, 25A, 25C, 27, 28, 34, 34AG, 34B, 36, 38, 41, 41AG, 42, 45A, 45B, 45R, 50, 60A, 61, 64, 65B, 65R, 65AG, 65AR, 67, 67A, 67B, 67D, 67R, 67AF, 67AG, 110, 112, 114, 114A, 116, 135, 135A, PT6B-36, 36A, 36B, PT6T-3, 3B, 3BE, 6, 6B, ST6T-75
CA3020030	Fuel Transfer Tube	PT6T-3, 3B, 6, ST6T-75, 76
CA3029566	Fuel Nozzle Gasket	PT6A-11, 11AG, 15AG, 110, 112, 114, 114A, 116, 21, 27, 28, 34, 34AG, 34B, 36, 135, 135A, 25, 25A, 25C, PT6T-3, 3B, BE, 6, 6B, PT6B-36, 36A, 36B
CA3029678	Fuel Nozzle Gasket	PT6A-6, 6A, 6B, 20, 20A, 20B
CA3101469-01	Fuel Manifold Gasket	PW118, 118A, 118B, 120A, 121, 123, 123AF, 123B, 123C, 123D, 123E, 125B, 126, 126A, 127B, 127D
CA3103345-01	Retainer Plate	PT6A-10, 11, 11AG, 15AG, 21, 25, 25A, 25C, 27, 28, 34, 34AG, 34B, 36, 38, 41, 41AG, 42, 45A, 45B, 45R, 45AG, 50, 60A, 60AG, 61, 65B, 65R, 110, 112, 114, 116, 135, 135A, PT6B-36, 36A, 36B, PT6T-3, 3B, 3BE, 6, 6B, ST6T-75
CA3103346-01	Diaphragm	PT6-A38, 41, 41AG, 42, 45A, 45B, 45R, 45AG, 50, 65B, 65R
CA3103347-01	Diaphragm	PT6A-10, 11, 11AG, 15AG, 21, 25, 25A, 25C, 27, 28, 34, 34AG, 34B, 36, 110, 112, 114, 114A, 116, 135, 135A, PT6B-36, 36A, 36B, PT6T-3, 3B, 3BE, 6, 6B, ST6T-75
CA3110998-01	Prop Shaft Shim	PT6A, 60A, 65B, 65R, 65AR, 65AG
CA3118962-01	Gasket	PT6A-6, 6A, 6B, 20A, 20B, 21, 25, 25A, 25C, 27, 28, 34, 34AG, 34B, 36, 114, 114A, 116, 135, 135A
CG3011587	Rod End Bearing	PT6A-15AG, 27, 28, 34, 34AG, 34B, 36, 45R, 60A, 61, 135
MS9371-16	Gasket	PT6



Manufactured by PMA Products, Inc.
Engine photo courtesy of
Air Associates, Olathe, KS



FAA-PMA Approved

Cowl Flap Hinges for Cessna Aircraft
Replace worn-out cowl flap hinges at half the cost!

- Assembly includes hinge and hinge pin
- No looseness in the hinge to start vibration wear
- Selective fit pins
- FAA-PMA direct replacement

Improved!



Save 50%

Aircraft	PartNumber
FR172J,K	MC0552144-14
R172K	MC0552144-14
177B	MC1752091-13
180, 180A,B	MC0752000-116
180C,D,E,F,G,H,J,K	MC0752014-15
182B,C,D	MC0752014-15
182E,F,G,H,J,K,L,M,N,P	MC0752625-200
182P,Q,R	MC0752625-200
T182	MC0752625-200
185, 185A,B,C,D,E, A185E,F	MC0752014-15
210-5 (205), 210-5A (205A)	MC1213469-205
206, U206, U206A,B,C,D	MC1213469-205
U206E,F,G	MC1213261-200
P206, P206A,B,C,D	MC1213469-205
P206E	MC1213261-200
TP206A,B,C,D, TU206A,B,C,D	MC1213469-205
TU206E,F,G	MC1213261-200
210B,C,D,E,F,G,H	MC1213469-205
210J,K,L,M,N,R, P210R	MC1213261-200
T210F,G,H	MC1213469-205
T210J,K,L,M,N	MC1213261-200

McFarlane Assembly P/N	Replaces Cessna Part Number		
Assembly	Hinge Halves	Hinge Pin	
MC0552144-14	0552144-14	0552144-15, 0552144-16	0552144-17
MC0752014-15	0752014-15	0752014-15	0752609-27
MC0752000-116	0752000-116	0752000-114	0752000-158
MC0752625-200	0752625-200	0752625-200	0752609-27
MC1213261-200	1213261-200	1213506-5, 1213506-6	1213472-1
MC1213469-205	1213469-205	1213506-3, 1213506-4	1213472-1
MC1752091-13	1752091-13	1752091-14, 1752091-15	1213472-3

Quantity of 2 each required per aircraft. Unless otherwise noted, eligibility is for all aircraft.

- 1 Partial model eligibility
- 2 S/N FR17200441 thru FR17200675
- 3 S/N 18253599 thru 18261425
- 4 S/N 18262466 thru 18268160
- 5 S/N 18267716 thru 18268160

Oil Access Door for Cessna Aircraft
P/N WAC752000

- Improved to better match the contour of the cowl
- More affordable than other replacement doors
- Replaces Cessna P/N 0752000-56



SAVE!

FAA-PMA Approved

Now manufactured by McFarlane!

Model	Serial Number
180-180G	30000 thru 18051445
182-182G	33000 thru 18255844
185-185C	185-0001 thru 185-0776
210-210E	57001 thru 21058715

Fuel Injection/Hydraulic/Oxygen Line Union Cone
P/N AN800C2-MOD

Improved Design! These braze-on 316 stainless fittings are an improvement over AN800C2 fittings commonly used on 1/8" stainless steel fuel injection, hydraulic and oxygen lines.



Improvements include:

- Witness hole to assure complete braze penetration
- Closer tolerance ID (0.131" - 0.133") to assure compatibility with close tolerance MIL-T-8504/ASTM A632 stainless steel tubing. The precision ID provides ideal clearance for proper braze penetration.

Note: Although similar, these parts are not manufactured/certified to AN800 specs. Fittings certified to AN800 are available upon request.

Exhaust Valve Guide Cleaning Reamers for Continental and Lycoming Engines

Why McFarlane Special Reamers?

McFarlane now offers special valve guide reamers sized specifically for cleaning Continental and Lycoming exhaust valve guides. Standard valve guide reamers are designed to perfect the guide hole size when reaming new guides. The standard reamer pilot is sized to fit the small bore of a new unfinished guide to insure stability and a straight finished bore. When this same type of reamer is used to clean the valve guides, the pilot is smaller than the finished hole. This causes the reamer to wander and misalign while it is being started and turned in the guide hole.

The McFarlane cleaning reamers have a pilot the same size as the valve stem. This properly sized pilot forces the reamer cutter to start straight and follow the correct valve stem path through the guide hole. **Finally, a tool that is designed for the job!**

While using standard reamers to clean valve guides, you probably have noticed that you have some valve guide metal in the reamer flutes afterwards. This metal is cut from the sides of the guide when hard carbon deposits displace the unguided reamer from the original guide hole, or the reamer was not started in alignment with the guide hole. Wavy or gouged guide holes cause premature carbon buildup, poor heat transfer, and early guide hole wear. Prevent damage to your valve guides by using McFarlane Cleaning Reamers!

Features and Benefits

- Discounted pricing for complete set
- Spiral flutes for a better guide finish
- Pilot sized specifically for cleaning
- Cutting pilot cleans guides without notching guide surfaces
- Constructed of precision ground, high speed tool steel
- See page 243 for additional product information



U.S. Patent No. 9,878,354