

Push-Pull Controls



Solid Metal Construction

Our fittings and components are made from anodized aluminum, stainless steel, and brass. All critical swage connections are metal for continued dependability. Our vernier locking devices are precision formed and heat treated in critical wear areas. Precise surface finishes provide a smooth consistent feel and long service life.

A Superior Conduit System

The McFarlane conduit is made from plated carbon steel wire that has been formed to a "D" shape for increased strength and to give a smooth inside diameter. A virgin Teflon® liner has been inserted into the center of the coil for low friction and high temperature operation. Two different configurations are used to provide good tensile strength. The coil is either over-braided with stainless steel wire, or a double-wound coil is used. Both configurations provide a solid feel under heavy push loads without sacrificing routing flexibility. Finally, a Teflon jacket is extruded over the coil or stainless steel braid for abrasion resistance. Cheap controls with poly liners will not tolerate engine temperatures.

Knobs Make a Difference

Our "pilot friendly" knobs are all compression molded from a cellulose reinforced copolymer melamine-phenol resin. They are hard and stable. Unlike the soft injection molded knobs, they resist scratching and do not deteriorate with age. The McFarlane knobs meet the latest FAR requirements for shape and color.

Vibration Dampening Features

The McFarlane metal swivel joints have a unique Viton® rubber vibration dampening sleeve with a spring load system that dampens engine induced vibration in the push rod guide tube and metal swivel joint. Molded Viton boots are also used on the push rod guides to seal out contaminants. The Viton rubber withstands the high temperature of the engine environment while resisting degradation from oil and solvents. This system drastically reduces the vibration fretting and wear that leads to premature control failure.

Special Lubrication

During assembly the McFarlane controls have a special lifetime lubrication applied to critical sliding surfaces. This molybdenum disulfide and Teflon based lubricant with a synthetic grease base has been specially formulated to reduce friction. It also prevents galling and contamination locking of the control components from -70° F to over 1000° F. This lubricant is available only in new McFarlane controls.

Consistent Quality

The production of McFarlane controls is interrupted many times for inspections during assembly. All of our assembly and critical inspections are performed 100%. Attention is given to every detail at McFarlane. For instance, we verify the torque required to rotate our vernier mechanism on every vernier control sold.

Tough in any Environment

The McFarlane controls have had an outstanding performance and reliability record in all environments. We have tested our controls in the harshest environments to insure that they will provide long reliable service in the most demanding installations. They work freely at -50°F and have been proven in harsh saltwater environments. Even temperatures approaching the melting point of the steel components can not stop the McFarlane controls from functioning.

- Solid metal construction
- Pilot friendly knobs
- Lifetime lubrication
- Superior low friction conduit
- Custom controls available

Time Tested

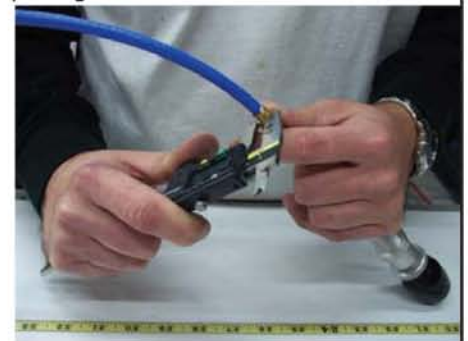
McFarlane manufactures the best aircraft engine controls. With 20 years of reliable service and thousands of units in airplanes flying on every continent (yes, even Antarctica), McFarlane controls have a proven track record and set the standard for premium controls.

Recommended Service Life

Due to the criticalness of engine controls and considering their operating environment, the maximum recommended in service time for McFarlane engine controls is equal to the maximum time between engine overhauls as recommended by the engine manufacturer. This recommended service time is in alignment with most aircraft manufactures' recommendation.

Custom Controls

Custom engine controls can be manufactured for aircraft not listed in our catalog or on our web site. All McFarlane custom controls are built to customer provided specifications using dimensioned drawings or pattern controls. Custom control design forms are available, or you can send us a pattern. McFarlane custom engine controls duplicate the original customer supplied controls in regard to length, thread size, wear sleeve locations, and travel length. McFarlane custom controls are manufactured to the same standards using the same materials, rigorous testing and inspections as our FAA-PMA products; however, custom controls are not FAA-PMA approved. We cannot provide FAA-PMA approval for custom controls. The user must obtain the proper FAA approvals to use our custom controls. Normally completed within a few days. Affordable pricing.



New Controls!

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

Throttle, Mixture and Propeller Controls

- Solid metal construction
- Pilot friendly knobs
- Lifetime lubrication
- Superior low friction conduit



Carb Heat Controls

Longer life and up to 40% off OEM list price!

- High temperature Teflon lined conduit for reduced vibration wear, longer life and smooth, consistent control
- Cheap controls with poly liners will not tolerate engine temperatures
- Special heavier wire for more fatigue strength and reliability
- Improved friction mechanism
- High quality scratch resistant phenolic knob
- Updated square knob meets the latest FAA standards

The most often replaced Cessna part just got better and now costs less!



McFarlane rod ends and wire clamps also available!

Model	Serial Number	Throttle Control	Propeller Control	Mixture Control	Cowl Flap Left	Cowl Flap Right	Carb Heat Control
		Rod End	Rod End	Rod End or Wire Clamp			Wire Clamp
120,140	8000 thru 11846	MC0411091-7 MCS1104-3		MC600-72			MCS2323-1
140,140A	11847 thru 15724	MC0411091-7 MCS1104-3		MC600-72			MC0411090-4CH MCS2323-1
150	17001 thru 17683	MC0411091-7 MCS1104-3		MC600-72 MCS2323-6			MCS2323-1
150	17684 thru 59018	MC0411091-7 MCS1104-3		MC600-72 MCS2323-6			MC0713302-5CH MCS2323-1
150A,B,C,D,E,F	All	MCS1222-11S MCS1104-3		MC600-72 MCS2323-6			MCS1230-2 MCS2323-1
150G	All	MCS1222-14S MCS1104-3		MC600-72 MCS2323-6			MCS1230-2 MCS2323-1
150H,J,K,L	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-6			MCS1230-19 MCS2323-1
150M	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-12			MCS1230-19 MCS2323-1
A150K,L	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-6			MCS1230-19 MCS2323-1
A150M	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-12			MCS1230-19 MCS2323-1
F150F	All	MCS1222-11S MCS1104-3			MCS2323-6		MCS1230-2 MCS2323-1
F150G	All	MCS1222-14S MCS1104-3		MC600-72 MCS2323-6			MCS1230-2 MCS2323-1
F150H,J,K,L	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-6			MCS1230-19 MCS2323-1
F150M	All	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-12			MCS1230-19 MCS2323-1
FA150K,L	FA1500001 thru FA1500120	MCC299505-0202S MCS1104-3		MC600-72 MCS2323-6			MCS1230-19 MCS2323-1
FA150L	FA1500121 thru FA1500261	MCC299505-0202S MCS1104-3			MCS2323-6		MCS2323-1
FA150M	FA1500262 thru FA1500336	MCC299505-0202S MCS1104-3					MCS2323-1

① Partial model eligibility.











② If replacing P/N S1186-1 or P/N 0550158 also order RE-KT-1 hardware kit.

③ Eligible for use as a carburetor heat control only.

Eligibility continued on next page.

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

New Controls!







Model	Serial Number	 Throttle Control	 Propeller Control	 Mixture Control	 Cowl Flap Left	 Cowl Flap Right	 Carb Heat Control
		 Rod End	 Rod End	 Rod End or Wire Clamp			 Wire Clamp
FRA150L,M [Ⓢ]	FRA1500121 thru FRA1500311	MCC299505-0202S MCS1104-3		MCS2323-12			MCS1230-19 MCS2323-1
FRA150M [Ⓢ]	FRA1500312 thru FRA1500336	MCS1104-3		MCS2323-12			MCS1230-19 MCS2323-1
152 [Ⓢ]	15279406 thru 15282031	MC9863053-20 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
152 [Ⓢ]	15282032 thru 15285939	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
152 [Ⓢ]	15285940 thru 15286033	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS2323-5
A152 [Ⓢ]	A1520735 thru A1520808	MC9863053-20 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
A152 [Ⓢ]	A1520809 thru A1521049	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
F152 [Ⓢ]	F15201429 thru F15201528	MC9863053-20 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
F152 [Ⓢ]	F15201529 thru F15201952	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
F152 [Ⓢ]	F15201953 thru F15201980	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS2323-5
FA152 [Ⓢ]	FA1520337 thru FA1520347	MC9863053-20 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
FA152 [Ⓢ]	FA1520348 thru FA1520387	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS1230-19 MCS2323-5
FA152 [Ⓢ]	FA1520388 thru FA1520425	MC9863056-1 MCS1104-3		MC600-72 MCS2323-13			MCS2323-5
170	All	MC0411091-2		MC600-72 MCS2323-2			MC0411090-4CH [Ⓢ] MCS2323-1
170A	All	MC0411091-2 MCS1104-3 [Ⓢ]		MC600-72 MCS2323-2			MC0411090-4CH [Ⓢ] MCS2323-1
170B [Ⓢ]	20267 thru 25372	MC0411091-2 MCS1104-3 [Ⓢ]		MC600-72			MC0411090-4CH [Ⓢ] MCS2323-1
170B [Ⓢ]	25373 thru 27169	MCS1222-2S MCS1104-3 [Ⓢ]		MC600-72			MC0411090-22CH [Ⓢ] MCS2323-1
172 [Ⓢ]	28000 thru 36965	MCS1222-2S MCS1104-3 [Ⓢ]		MC600-72 MCS2323-2			MC0411090-22CH [Ⓢ] MCS2323-1
172 [Ⓢ]	36966 thru 46754	MCS1222-2S MCS1104-3 [Ⓢ]		MC600-72 MCS2323-2			MC0713302-5CH [Ⓢ] MCS2323-1
172A	All	MCS1222-2S MCS1104-3 [Ⓢ]		MC600-72 MCS2323-2			MC0713302-5CH [Ⓢ] MCS2323-1
172B,C	All	MCS1222-2S MCS1104-3 [Ⓢ]		MC600-72 MCS2323-2			MCS2323-5
172D	All	MCS1222-2S MCS1104-3		MC600-72 MCS2323-2			MCS2323-5
172E,F	All	MCS1222-15S MCS1104-3		MC600-72 MCS2323-2			MCS2323-5
172G,H	All	MCS1222-15S MCS1104-3		MC600-72 MCS2323-2			MCS1230-7 MCS2323-5
172I,K,L,M [Ⓢ]	17256513 thru 17263458	MCC299505-0102 MCS1104-3		MC600-72 MCS2323-2			MCS1230-17
172M [Ⓢ]	17263459 thru 17267584	MCC299505-0102 MCS1104-3		MC600-72 MCS2323-13			MCS1230-17 MCS2323-5
172N [Ⓢ]	17267585 thru 17271034	MC9863053-15 MCS1104-3		MC600-72 MCS2323-4			MCS1230-17 MCS2323-5
172N [Ⓢ]	17271035 thru 17274009	MC9863056-3 MCS1104-3		MC600-72 MCS2323-4			MCS1230-17 MCS2323-5
172P	17274010 thru 17276654	MC9863056-3 MCS1104-3		MC600-72 MCS2323-13			MCS1230-17 MCS2323-5
172Q	All	MC9863056-3 MCS1104-3		MC600-72 MCS2323-4			MCS2323-5
172R,S	All	MC565-549-021 MCS1104-3		MC565-548-041 MCS1104-3			
172RG	All	MC9863056-8 MCS1104-3	MC345-085-9 MCS1104-3	MC600-72 MCS2323-11			MCS2323-7
F172D	All	MCS1222-2S MCS1104-3		MC600-72 MCS2323-2			MCS2323-5
F172E,F	All	MCS1222-15S MCS1104-3		MC600-72 MCS2323-2			MCS2323-5

[Ⓢ] Partial model eligibility.
[Ⓢ] If replacing P/N S1186-1 or P/N 0550158 also order RE-KT-1 hardware kit.
[Ⓢ] Eligible for use as a carburetor heat control only.

Eligibility continued on next page.

New Controls!

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

Model	Serial Number						
		Rod End	Rod End	Rod End or Wire Clamp			Wire Clamp
F172G,H ^⓪	F172-0180 thru F172-0559	MCS1222-15S MCS1104-3		MC600-72 MCS2323-2			MCS1230-7 MCS2323-5
F172H ^⓪ ,K	F172-0560 thru F17200804	MCC299505-0203S MCS1104-3		MC600-72 MCS2323-2			MCS1230-7 MCS2323-5
F172L,M ^⓪	F17200805 thru F17201034	MCC299505-0203S MCS1104-3		MC600-72 MCS2323-2			MCS1230-7
F172M ^⓪	F17201035 thru F17201234	MCC299505-0102 MCS1104-3		MC600-72 MCS2323-2			
F172M ^⓪	F17201235 thru F17201514	MCC299505-0102 MCS1104-3		MC600-72 MCS2323-13			MCS1230-7 MCS2323-5
F172N ^⓪	F17201515 thru F17201749	MC9863053-15 MCS1104-3		MC600-72 MCS2323-4			MCS1230-7 MCS2323-5
F172N ^⓪	F17201750 thru F17202039	MC9863056-3 MCS1104-3		MC600-72 MCS2323-4			MCS1230-7 MCS2323-5
F172P	F17202040 thru F17202254	MC9863056-3 MCS1104-3		MC600-72 MCS2323-13			MCS1230-7 MCS2323-5
FP172	All	MCS1222-4 MCS1106-4	MCC299506-0105 MCS1104-3	MCS2323-4			MCS2323-5
FR172E	All	MCS1104-3	MCS1223-17 MCS1104-3	MCS1104-3			
FR172F,G,H,J ^⓪	FR17200061 thru FR17200530	MCC299505-0204S MCS1104-3	MCC299506B0104 MCS1104-3	MCS1104-3			
FR172J ^⓪	FR17200531 thru FR17200590	MCC299505-0204S MCS1104-3	MCC299506B0104 MCS1104-3	MC9862066-6 MCS1104-3			
FR172K ^⓪	FR17200591 thru FR17200630	MC9863053-10 MCS1104-3	MCC299506B0104 MCS1104-3	MC9862066-6 MCS1104-3	MCS1391-26 (one per aircraft)		
FR172K ^⓪	FR17200631 thru FR17200675	MC9863055-10 MCS1104-3	MCC299506B0104 MCS1104-3	MC9862066-6 MCS1104-3	MCS1391-26 (one per aircraft)		
P172D	All	MCS1222-4 MCS1106-4	MCC299506-0105 MCS1104-3	MC600-72 MCS2323-4			MCS2323-5
R172K ^⓪	R1722000 thru R1722929	MC9863053-10 MCS1104-3	MCC299506B0104 MCS1104-3	MC9862066-6 MCS1104-3	MCS1391-26 (one per aircraft)		
R172K ^⓪	R1722930 thru R1723454	MC9863055-10 MCS1104-3	MCC299506B0104 MCS1104-3	MC9862066-6 MCS1104-3	MCS1391-26 (one per aircraft)		
175 ^⓪	55001 thru 55703	MC0411091-27 MCS1106-4	MCS1104-3 ^⓪	MC600-72 MCS2323-4			MC0411090-22CH ^⓪ MCS2323-5
175 ^⓪	55704 thru 56238	MC0411091-30 MCS1106-4	MCS1104-3 ^⓪	MC600-72 MCS2323-4			MC0713302-5CH ^⓪ MCS2323-5
175A	All	MCS1222-4 MCS1106-4	MCS1104-3 ^⓪	MC600-72 MCS2323-4			MC0713302-5CH ^⓪ MCS2323-5
175B,C	All	MCS1222-4 MCS1106-4	MCS1104-3 ^⓪	MC600-72 MCS2323-4			MCS2323-5
177	All	MCS1222-19 MCS1104-3	MCS1104-3	MC600-72 MCS2323-2			
177A	All	MCC299505-0301 MCS1104-3	MCS1104-3	MC600-72 MCS2323-4			MCS1230-19 MCS2323-5
177B ^⓪	17701371 thru 17702539	MCC299505-0301 MCS1104-3	MCC299506-0105 MCS1104-3	MC600-72 MCS2323-4	MCS1391-25	MCS1391-26	MCS1230-19 MCS2323-5
177B ^⓪	17702540 thru 17702752	MC565-549-013 MCS1104-3	MC345-085-4 MCS1104-3	MC600-72	MCS1391-25	MCS1391-26	MCS1230-19 MCS2323-5
177RG ^⓪	177RG0001 thru 177RG1051	MCC299505-0401 MCS1104-3	MCC299506-0105 MCS1104-3	MCC299507-0102 MCS1104-3	MCS1391-27	MCS1391-27	
177RG ^⓪	177RG1052 thru 177RG1366	MCS1104-3	MC345-085-4 MCS1104-3	MCS1104-3	MCS1391-27	MCS1391-27	
F177RG ^⓪	F177RG0001 thru F177RG0160	MCC299505-0401 MCS1104-3	MCC299506-0105 MCS1104-3	MCC299507-0102 MCS1104-3			
F177RG ^⓪	F177RG0161 thru F177RG0177	MCS1104-3	MC345-085-4 MCS1104-3	MCS1104-3			
180 ^⓪	30000 thru 32150	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3 ^⓪	MC600-72 MCS2323-4	MC0713041-1 or MC0713041-1B ^⓪ (Dual control, one per aircraft)		MC0411090-22CH ^⓪ MCS2323-5
180 ^⓪ ,180A,B	32151 thru 50661	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3 ^⓪	MC600-72 MCS2323-4	MC0713041-1 or MC0713041-1B ^⓪ (Dual control, one per aircraft)		MCS2323-5

^⓪ Partial model eligibility.

^⓪ If replacing P/N S1186-1 or P/N 0550158 also order RE-KT-1 hardware kit.

^⓪ Eligible for use as a carburetor heat control only.











^⓪ S/Ns FR17200591 thru FR17200620 and R1722000 thru R1722880 prop control is only eligible for installation if aircraft has been modified as per Cessna Service Letter 78-51.

^⓪ See page 14 for details

Eligibility continued on next page.

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

New Controls!











Model	Serial Number	 Throttle Control  Rod End	 Propeller Control  Rod End	 Mixture Control  Rod End or Wire Clamp	 Cowl Flap Left	 Cowl Flap Right	 Carb Heat Control  Wire Clamp
		180C	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4	
180D,E	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4	MCS1245-1	MCS1245-2	MC0713302-5CH MCS2323-5
180F	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4	MCS1245-1	MCS1245-2	MCS1230-2 MCS2323-5
180G	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4	MCS1245-3	MCS1245-2	MCS1230-2 MCS2323-5
180H	18051446 thru 18051875	MCS1222-13S MCS1106-4	MCS1223-5 MCS1104-3	MC600-72 MCS2323-4	MCS1572-1	MCS1245-2	MCS1230-2 MCS2323-5
180H, J	18051876 thru 18052770	MCC299505-0201S MCS1106-4	MCC299506-0103 MCS1104-3	MC600-72 MCS2323-4	MCS1572-1	MCS1245-2	MCS1230-19 MCS2323-5
180K	18052771 thru 18053000	MC9863053-5 MCS1106-4	MC345-085-3 MCS1104-3	MCS2323-4	MC9860074-3	MC9860074-4	MCS1230-19 MCS2323-5
180K	18053001 thru 18053203	MC9863055-9 MCS1106-4	MC345-085-3 MCS1104-3	MCS2323-4	MC9860074-3	MC9860074-4	MCS1230-19 MCS2323-5
182	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4			MCS2323-5
182A	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4			MC0411090-22CH MCS2323-5
182B,C	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4			MC0713302-5CH MCS2323-5
182D	All	MCS1222-1S MCS1106-4	MCS1223-4 MCS1104-3	MC600-72 MCS2323-4	MCS1245-1	MCS1245-2	MC0713302-5CH MCS2323-5
182E,F,G	All	MCS1222-6S MCS1106-4	MCS1223-3 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-3 MCS2323-5
182H,J,K	All	MCS1222-13S MCS1106-4	MCS1223-6 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-3 MCS2323-5
182L,M,N	18258506 thru 18260445	MCC299505-0201S MCS1106-4	MCC299506-0102 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182N, P	18260446 thru 18261425	MCC299505-0201S MCS1106-4	MCC299506-0102 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182P	18261426 thru 18264835	MCC299505-0205 MCS1106-4	MCC299506-0102 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182P	18264836 thru 18265175	MC9863053-5 MCS1106-4	MCC299506-0102 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182Q	18265176 thru 18266590	MC9863053-5 MCS1106-4	MC9862067-3 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182Q	18266591 thru 18267715	MC9863055-9 MCS1106-4	MC9862067-3 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182R	All	MC9863055-9 MCS1106-4	MC9862067-3 MCS1104-3	MC600-72 MCS2323-4	MC9860058-3	MC9860058-4	MCS1230-10 MCS2323-5
182S, 182T, T182T	All	MC565-549-031 MCS1104-3	MC565-580-038 MCS1104-3	MC565-548-042 MCS1104-3	MC580-703-024	MC580-703-025	
A182J,K,L,N		MCS1106-4	MCS1104-3	MCS2323-4			MCS2323-5
F182P	All	MC9863053-5 MCS1106-4	MCC299506-0102 MCS1104-3	MC600-72 MCS2323-4			MCS1230-10 MCS2323-5
F182Q	F18200026 thru F18200094	MC9863053-5 MCS1106-4	MC9862067-3 MCS1104-3	MC600-72 MCS2323-4			MCS1230-10 MCS2323-5
F182Q	F18200095 thru F18200169	MC9863055-9 MCS1106-4	MC9862067-3 MCS1104-3	MC600-72 MCS2323-4			MCS1230-10 MCS2323-5
FR182	FR18200001 thru FR18200020	MC9863053-11 MCS1104-3	MC345-085-5 MCS1104-3	MCS2323-11			MCS1230-10 MCS2323-1
FR182	FR18200021 thru FR18200045	MC9863056-6 MCS1104-3	MC345-085-5 MCS1104-3	MCS2323-11			MCS1230-10 MCS2323-1
FR182	FR18200046 thru FR18200070	MC9863056-6 MCS1104-3	MC345-085-8 MCS1104-3	MCS2323-11			MCS1230-10 MCS2323-1
R182	R18200001 thru R18200583	MC9863053-11 MCS1104-3	MC345-085-5 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS1230-10 MCS2323-1
R182	R18200584 thru R18201313	MC9863056-6 MCS1104-3	MC345-085-5 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS1230-10 MCS2323-1
R182	R18201314 thru R18202041	MC9863056-6 MCS1104-3	MC345-085-8 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS1230-10 MCS2323-1
T182	All	MC9863056-7 MCS1104-3	MC345-085-8 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS2323-3

Ⓢ Partial model eligibility.
 Ⓢ If replacing P/N S1186-1 or P/N 0550158 also order RE-KT-1 hardware kit.
 Ⓢ Eligible for use as a carburetor heat control only.

Eligibility continued on next page.

New Controls!

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

Model	Serial Number						
		Rod End 	Rod End 	Rod End or Wire Clamp 			Wire Clamp 
TR182	R18200584 thru R18201313	MC9863056-7 MCS1104-3	MC345-085-6 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS2323-3
TR182	R18201314 thru R18202041	MC9863056-7 MCS1104-3	MC345-085-8 MCS1104-3	MCS2323-11	MC9860075-3	MC9860075-4	MCS2323-3
185	All	MC1213228-3 MCS1104-3	MCS1223-5 MCS1104-3	MC1213229-2 MCS1104-3	MCS1245-3	MCS1245-2	MCS1230-2
185A,B,C,D,E	All	MCS1294-1 MCS1104-3	MCS1223-5 MCS1104-3	MCS1220-4 MCS1104-3	MCS1572-1	MCS1245-2	MCS1230-2
A185E	185-0968 thru 185-1300	MCS1294-1 MCS1104-3	MCS1223-5 MCS1104-3	MCS1220-4 MCS1104-3	MCS1572-1	MCS1245-2	MCS1230-2
A185E	185-1301 thru 18502007	MCC299505-0301 MCS1104-3	MCC299506-0103 MCS1104-3	MCC299507-0201 MCS1104-3	MCS1572-1	MCS1245-2	
A185E	18502008 thru 18502025	MCC299505-0501 MCS1104-3	MCC299506-0201 MCS1104-3	MCC299507-0401 MCS1104-3	MCS1572-1	MCS1245-2	
A185E	18502026 thru 18502027	MCC299505-0301 MCS1104-3	MCC299506-0103 MCS1104-3	MCC299507-0201 MCS1104-3	MCS1572-1	MCS1245-2	
A185E	18502028 thru 18502090	MCC299505-0501 MCS1104-3	MCC299506-0201 MCS1104-3	MCC299507-0401 MCS1104-3	MCS1572-1	MCS1245-2	
A185F	18502091 thru 18502310	MCC299505-0501 MCS1104-3	MCC299506-0201 MCS1104-3	MCC299507-0401 MCS1104-3	MCS1572-1	MCS1245-2	
A185F	18502311 thru 18503153	MCC299505-0501 MCS1106-3	MCC299506-0201 MCS1104-3	MCC299507-0401 MCS1104-3	MCS1572-1	MCS1245-2	
A185F	18503154 thru 18503683	MC9863053-17 MCS1106-3	MC345-085-7 MCS1104-3	MC9862066-3 MCS1104-3	MC9860074-3	MC9860074-4	
A185F	18503684 thru 18504448	MC9863056-5 MCS1106-3	MC345-085-7 MCS1104-3	MC9862066-3 MCS1104-3	MC9860074-3	MC9860074-4	
188,188A	All	MCS1391-18 MCS1104-3	MCS1391-19 MCS1104-3	MCS1220-13 MCS1104-3			MCS2323-5
188B,A-188B, A-A188B	All	MCS2149-1 MCS1106-3	MCS2149-2 MCS1106-3	MCC299507-0301 MCS1106-3			MCS2323-5
A188,A188A	All	MCS1391-20 MCS1104-3	MCS1391-19 MCS1104-3	MCS1220-13 MCS1104-3			MCS2323-5
A188B	18802349 thru 18802745 18802349T thru 18802745T	MCS2149-1 MCS1106-3	MCS2149-2 MCS1106-3	MCC299507-0301 MCS1106-3			MCS2323-5
A188B	18802746 thru 18803973 18802746T thru 18803973T	MCC299508-0301 MCS1106-3	MCC299508-0302 MCS1106-3	MCC299508-0401 MCS1106-3			MCS2323-5
T188C	All	MCC299508-0303 MCS1106-3	MCC299508-0304 MCS1106-3	MCC299508-0402 MCS1106-3			
190	All	MC0411091-4 MCS1104-3	MC0311031-1 MCS1104-3	MCS1104-3			
195,195A,B	All	MC0411091-4 MCS1104-3	MC0311031-2 MCS1104-3	MCS1104-3			
205,205A	All	MCS1219-1 MCS1104-3	MCS1223-17 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
206	All	MCS1219-1 MCS1104-3	MCS1223-17 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
206H	All	MC565-549-041 MCS1104-3	MC565-580-012 MCS1104-3	MC565-548-043 MCS1104-3	MC580-703-026	MC580-703-027	
P206,P206A,B	All	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
P206C,D,E	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
T206H	All	MC565-549-041 MCS1104-3	MC565-580-012 MCS1104-3	MC565-548-043 MCS1104-3	MC580-703-026	MC580-703-027	
TP206A	P2060161 thru P2060274	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
TP206A, B	P2060275 thru P2060419	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-32	MCS1244-31	
TP206C,D,E	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
TU206A	U2060438 thru U2060617	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
TU206A, B	U2060618 thru U206-0914	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-32	MCS1244-31	
TU206C,D,E,F	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
TU206G	U20603522 thru U20604649	MC9863053-13 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
TU206G	U20604650 thru U20607020	MC9863056-2 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	

Ⓢ Partial model eligibility.

Ⓢ If replacing P/N S1186-1 or P/N 0550158 also order RE-KT-1 hardware kit.

Eligibility continued on next page.

Engine, Cowl Flap and Carb Heat Controls for Cessna Aircraft

New Controls!

Model	Serial Number	Throttle Control	Propeller Control	Mixture Control	Cowl Flap Left	Cowl Flap Right	Carb Heat Control
		Rod End	Rod End	Rod End or Wire Clamp			Wire Clamp
U206,U206A,B	All	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
U206C,D,E	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
U206F	U20601701 thru U20602199	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
U206F	U20602200 thru U20603521	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
U206G	U20603522 thru U20604649	MC9863053-13 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
U206G	U20604650 thru U20607020	MC9863056-2 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
207,T207	All	MCS1222-25A MCS1104-3	MCS1223-16 MCS1104-3	MCS1220-12A MCS1104-3	MCS1244-29	MCS1244-30	
207A,T207A	20700363 thru 20700482	MC9863053-16 MCS1104-3	MC9862067-12 MCS1104-3	MC9862066-5 MCS1104-3	MCS1244-29	MCS1244-30	
207A,T207A	20700483 thru 20700788	MC9863056-4 MCS1104-3	MC9862067-12 MCS1104-3	MC9862066-5 MCS1104-3	MCS1244-29	MCS1244-30	
210,210A	All	MC1213228-2 MCS1104-3	MCS1223-17 MCS1104-3	MC1213229-1 MCS1104-3	MC1213040-1	MC1213040-2	
210B,C,D	All	MCS1219-1 MCS1104-3	MCS1223-17 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
210E,F,G	All	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
210H,J	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
210K	21059200 thru 21059240	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
210K, L	21059241 thru 21061573	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
210M	All	MC9863053-13 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
210N	All	MC9863056-2 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
210R	All	MCC299513-0101 MCS1104-3	MCS1104-3	MCS1104-3			
P210N	P21000001 thru P21000150	MC9863053-13 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
P210N	P21000151 thru P21000834	MC9863056-2 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
P210R	All	MCC299513-0101 MCS1104-3	MCS1104-3	MCS1104-3	MCS1106-3	MCS1106-3	
T210F	All	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-5	MCS1244-31	
T210G	All	MCS1222-10A MCS1104-3	MCS1223-4 MCS1104-3	MCS1220-3 MCS1104-3	MCS1244-32	MCS1244-31	
T210H,J	All	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
T210K	21059200 thru 21059240	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-5	MCS1244-31	
T210K, L	21059241 thru 21061573	MCC299505-0101 MCS1104-3	MCC299506-0101 MCS1104-3	MCC299507-0101 MCS1104-3	MCS1244-32	MCS1244-31	
T210M	All	MC9863053-13 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
T210N	All	MC9863056-2 MCS1104-3	MC9862067-1 MCS1104-3	MC9862066-1 MCS1104-3	MCS1244-32	MCS1244-31	
T210R	All	MCC299513-0101 MCS1104-3	MCS1104-3	MCS1104-3	MCS1106-4	MCS1106-4	

Partial model eligibility.

New! Dual Cowl Flap Control Model 180, 180A,B

- Solid wire ends
- Choose a chrome or black knob to match your panel!
- Order P/N MC0713041-1 with a chrome knob or P/N MC0713041-1B with a black knob.



180B,C, 182B,C threaded push rod style coming soon!

New!

MC600 Series Solid Wire Vernier Mixture Controls

Precise vernier control for less money!

- Minor alteration (requires logbook entry only)
- FAA-PMA approved for many Cessna, Piper, Beechcraft, Mooney Maule and Stinson aircraft. See previous pages for eligibility
- Fits most carbureted engines
- Teflon lined conduit for smooth, consistent operation
- Extra long - Trim to exact length



Installation Tip:

The MC600 series mixture controls require a 3/4 inch instrument panel hole. Most aircraft have a 1/2 inch hole from the factory that must be enlarged before the installation of an MC600 series mixture control.

Engine Controls for Piper Aircraft

Throttle, Mixture and Propeller Controls

- Solid metal construction
- Pilot friendly knobs
- Lifetime lubrication
- Superior low friction conduit



Carb Heat and Alt Air Controls New Controls!

Longer life and save up to \$200.00

- The most commonly replaced controls just got better!
- Special, heavier wire for more fatigue strength and reliability
- Improved friction mechanism
- Reduced vibration wear
- Anti-rotate feature to reduce stress on the inner wire
- High temperature Teflon lined conduit
- Realistic price







Model	Serial Number	Throttle Control	Propeller Control	Mixture Control	Carb Heat or Alt Air Control
PA-18, PA-18"105" (Special)	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18"125" (Army L-21A)	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18"135" (Army L-21B)	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18"150"	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18A, PA-18A"135",A"150"	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18AS"125", AS"135", AS"150"	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18S, PA-18S"105",S"125",S"135"	All			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18S "150"	1809001 thru 1809113			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-18S "150"	18-3771 thru 18-8309025			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-19, PA19S,L-18C	All			MC600-72	
PA-20, PA-20S	20-01 thru 20-811	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20, PA-20S	20-812 thru 20-1121	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20, PA-20S	20-1122 and On			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20"115", PA-20S"115"	20-01 thru 20-1121	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20"115", PA-20S"115"	20-1122 and On			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20"135", PA-20S"135"	20-877 thru 20-1121	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-20"135", PA-20S"135"	20-1122 and On			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22	All	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-108	22-8000 and On	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-135	22-534 thru 22-2377	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-135	22-2379 thru 22-2424	MC455-139		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-135	22-2378, 22-2425 thru 22-3217	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-135	22-3219 thru 22-3386	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22S-135	22-534 thru 22-2377			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22S-135	22-2379 thru 22-2424			MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22S-135	22-2378, 22-2425 thru 22-3217	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22S-135	22-3219 thru 22-3386	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-150, PA-22S-150	22-2378, 22-2425 thru 22-7642	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-22-160, PA-22S-160	22-5139, 22-5603 thru 22-7642	MC12693-04		MC454-120 ② or MC600-72 ②	MC454-120 ②
PA-24	24-2969 and On			MC454-120 ② or MC600-72 ②	
PA-24-250	24-105 thru 24-2174		MC455-184	MC600-72	
PA-24-250	24-2176 thru 24-2298		MC455-252	MC600-72	
PA-24-250	24-2175, 24-2299 thru 24-2968		MC455-252	MC600-72	
PA-24-250	24-2969 thru 24-3687		MC455-252	MC454-120 ② or MC600-72 ②	MC454-120
PA-24-260	24-3642, 24-4000 thru 24-4803		MC455-252	MC600-72 Carb. Engine Only	
PA-24-400	26-2 thru 26-148			MC22633-04	
PA-28-140	28-20002 thru 28-21095	MC12693-04		MC600-72	MC63902-003 ②
PA-28-140	28-21096 thru 28-24999	MC12693-04		MC600-72	MC63902-016 ②
PA-28-140	28-25000 thru 28-25821	MC455-353		MC455-352	MC554-167
PA-28-140	28-25822 thru 28-7425418	MC455-353		MC455-352	MC554-093 ①
PA-28-140	28-7425419 thru 28-7725290	MC455-353		MC455-352	MC554-094 ①
PA-28-150	28-1 thru 28-2627	MC12693-04		MC600-72	MC63902-003 ②
PA-28-150	28-2628 thru 28-4377	MC12693-04		MC600-72	MC63902-016 ②
PA-28-151	All	MC455-350		MC455-352	MC554-093 ①
PA-28-160	28-1 thru 28-2627	MC12693-04		MC600-72	MC63902-003 ②
PA-28-160	28-2628 thru 28-4377	MC12693-04		MC600-72	MC63902-016 ②
PA-28S-160	28-1 thru 28-1760			MC600-72	MC63902-003 ②
PA-28-161	2816001 thru 2816110 (Less 2816066)	MC455-350		MC455-352	MC554-093 ①
PA-28-161	2816111 thru 2816119				MC554-093 ①
PA-28-161	2841001 thru 2842999	MC455-350		MC455-352	MC554-093 ①
PA-28-161	28-7716002 thru 28-8616057	MC455-350		MC455-352	MC554-093 ①
PA-28-180	28-671 thru 28-1760	MC12693-04		MC600-72	MC63902-003 ②
PA-28-180	28-1761 thru 28-2627	MC12693-04		MC600-72	MC63902-003 ②
PA-28-180	28-2628 thru 28-4377	MC12693-04		MC600-72	MC63902-016 ②
PA-28-180	28-4378 thru 28-5152	MC455-333		MC455-332	MC66856-007
PA-28-180	28-5153 thru 28-5398	MC455-350		MC455-352	MC66856-007
PA-28-180	28-5399 and On	MC455-350		MC455-352	MC554-095 ①
PA-28R-180	28R-30005 thru 28R-30481	MC455-322	MC455-322	MC455-322	
PA-28R-180	28R-30483 thru 28R-31092	MC455-322	MC455-322	MC455-322	
PA-28R-180	28R-31093 thru 28R-31279	MC455-322	MC455-322	MC455-322	MC554-092 ①
PA-28R-180	28R-7130001 thru 28R-7130013	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28R-180	28R-7130014 thru 28R-7130019	MC455-322	MC455-322	MC455-322	
PA-28S-180	28-671 thru 28-2627			MC600-72	MC63902-003 ②

Eligibility continued on the next page. See notes regarding the Mixture, Carburetor Heat and Alternate Air controls on the next page.

Engine Controls for Piper Aircraft

New Controls!

Continued from previous page

Model	Serial Number	Throttle Control 	Propeller Control 	Mixture Control 	Carb Heat or Alt Air Control 
PA-28S-180	28-2628 thru 28-4377			MC600-72	MC63902-016 ⑥
PA-28S-180	28-4378 thru 28-5398				MC66856-007
PA-28S-180	28-5399 thru 28-28-7205234				MC554-095 ①
PA-28-181	2843001 thru 2843999				MC554-094 ①
PA-28-181	2890001 thru 2890205				MC554-095 ①
PA-28-181	2890206 thru 2890231				MC554-094 ①
PA-28-181	28-7690001 thru 28-8290174	MC455-350		MC455-352	MC554-095 ①
PA-28-181	28-8390001 and On	MC455-350		MC455-352	MC554-095 ①
PA-28-201T	28-7921001 thru 28-7921095	MC455-322	MC455-322	MC455-361	MC554-387 ①
PA-28R-200	28R-30482, 28R-35001 thru 28R-35225	MC455-322	MC455-322	MC455-322	MC554-092 ①
PA-28R-200	28R-35226 thru 28R-35830	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28R-200	28R-7135001 thru 28R-7635545	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28R-201	2837001 thru 2837061	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28R-201	2844001 thru 2844999				MC554-130 ①
PA-28R-201	28R-7737002 thru 28R-7837317	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28R-201T	28R-7703002 thru 28R-7803372	MC455-322	MC455-322	MC455-361	MC554-387 ①
PA-28R-201T	2803001 thru 2803015	MC455-322	MC455-322	MC455-361	MC554-387 ①
PA-28RT-201	28R-7918001 thru 28R-8018116	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28RT-201	28R-8018117 thru 28R-8118000				MC554-130 ①
PA-28RT-201	28R-8118001 and On	MC455-322	MC455-322	MC455-322	MC554-130 ①
PA-28RT-201T	2831001 thru 2831038				MC554-387 ①
PA-28RT-201T	28R-7931001 thru 28R-8031188	MC455-322	MC455-322	MC455-361	MC554-387 ①
PA-28RT-201T	28R-8031189 thru 28R-8131000				MC554-387 ①
PA-28RT-201T	28R-8131001 and On	MC455-322	MC455-322	MC455-361	MC554-387 ①
PA-28-235	28-10003 thru 28-11038	MC12693-04		MC600-72	
PA-28-235	28-11039	MC12693-04			
PA-28-235	28-11040 thru 28-11252	MC455-333		MC455-332	MC66856-007
PA-28-235	28-11253 thru 28-11393	MC455-333		MC455-332	MC554-094 ①
PA-28-235	28-7110001 thru 28-7210033	MC455-333		MC455-332	MC554-094 ①
PA-28-235	28-7310001 thru 28-7710089	MC455-333	MC455-344	MC455-332	MC554-094 ①
PA-28-236	28-11001 thru 2811050				MC554-094 ①
PA-28-236	28-7911001 thru 28-8211060	MC455-333	MC455-344	MC455-332	MC554-094 ①
PA-28-236	28-8311001 and On	MC455-333	MC455-344	MC455-332	MC554-094 ①
PA-32-260	32-451 thru 32-1110				MC63902-021 ⑥
PA-32-260	32-1111 thru 32-1320	MC455-360		MC455-361	MC554-053
PA-32-260	32-7100001 thru 32-7800008	MC455-360		MC455-361	MC554-053
PA-32-300	32-40000 thru 32-40565	MC69530-02	MC65451-04		
PA-32-300	32-40566 thru 32-41018	MC455-358			MC554-051
PA-32-300	32-41019 thru 32-7140000				MC554-051
PA-32-300	32-7140001 thru 32-7940282	MC455-358			MC554-051
PA-32-300	32-7940283 and On				MC554-051
PA-32R-300	All				MC554-051
PA-32RT-300	All				MC554-051
PA-32S-300	32S40566 thru 32S-7240137				MC554-051
PA-32-301	32-8006001 thru 32-8406020	MC455-358			MC554-051
PA-32-301	32-8406021 thru 32-8506000	MC455-358			MC554-051
PA-32-301	32-8506001 and On	MC455-358			MC554-051
PA-32-301FT	All				MC554-051
PA-32-301T	32-8024001 thru 32-8424002	MC455-344		MC455-344	MC553-874
PA-32-301T	32-8524001 and On	MC455-344		MC455-344	
PA-32R-301	3213001 thru 3213103				MC554-051
PA-32R-301	3246001 thru 3246999				MC653-658
PA-32R-301	32R-8013001 thru 32R-8613006				MC554-051
PA-32R-301T	3229001 thru 3229003				MC553-885
PA-32R-301T	3257001 thru 3257999				MC653-658
PA-32R-301T	32R-8029001 thru 32R-8229078	MC455-360		MC455-360	MC553-885
PA-32R-301T	32R-8229079 thru 32R-8329000				MC553-885
PA-32R-301T	32R-8329001 and On	MC455-360		MC455-360	MC553-885
PA-32RT-300T	32R-7787001 thru 32R-7887000				MC554-466
PA-32RT-300T	32R-7887001 thru 32R-7987126	MC455-360		MC455-360	MC554-466
PA-38-112	All				MC554-511 ①

Notes:

- ① Knob not included.
 - ② Knob not included. Order P/N MC471-052
 - ③ Knob not included. Order P/N MC471-060
 - ④ Knob P/N MC471-084 included with control.
 - ⑤ Knob not included. Order P/N MC471-053
 - ⑥ Knob P/N MCS71-131 included with control.
 - ⑦ Part number MC454-120 duplicates original control.
 - ⑧ Part number MC600-72 is a vernier control and may require enlarging control panel hole size to 3/4".
- Additional knob eligibility is on shown on the following pages.

Rod end part numbers and eligibility can be found on the following pages.



See page 22 for Piper rod ends!

See the following page for swivel fittings!

New Controls!

Cabin Environment Controls for Piper Aircraft

New! Cabin Environment Controls for Piper Aircraft

Longer life and save up to \$200.00

- Special, heavier wire for more fatigue strength and reliability
- Improved friction mechanism
- Reduced vibration wear
- Anti-rotate feature to reduce stress on the inner wire
- High temperature Teflon lined conduit
- Realistic price



Aircraft	Serial Number	Cabin Heat Control	Cabin Heat Rear Control	Cold Air Inlet Control	Defrost Control	Parking Brake Control
PA-18, PA-18A, PA-18S	All	MC454-120 ②				
PA-18 "105" (Special), PA-18S "105" (Special)	All	MC454-120 ②				
PA-18 "125" (Army L-21A), PA-18AS "125", PA-18S "125"	All	MC454-120 ②				
PA-18 "135" (Army L-21B), PA-18A "135", PA-18S "135"	18-1 thru 18-2167	MC454-120 ②				
PA-18 "135" (Army L-21B), PA-18A "135", PA-18S "135"	18-2168 and On	MC454-120 ②		MC454-120 ②		
PA-18AS "135",	All	MC454-120 ①				
PA-18 "150"	All	MC454-120 ②				
PA-18A "150", PA-18AS "150"	All	MC454-120 ②		MC454-120 ②		
PA-18S "150"	1809001 thru 1809113	MC454-120 ②		MC454-120 ①		
PA-18S "150"	18-3771 thru 18-8309025	MC454-120 ②		MC454-120 ②③		
PA-20, PA-20S	20-1 thru 20-553	MC454-120 ②				
PA-20, PA-20S	20-554 thru 20-811	MC454-120 ②		MC454-120 ②		
PA-20, PA-20S	20-812 and On	MC454-120 ②	MC454-120 ②	MC454-120 ②		
PA-20 "115", PA-20S "115"	All	MC454-120 ②				
PA-20 "135", PA-20S "135"	20-877, 20-881, 20-885, 20-888	MC454-120 ②		MC454-120 ②		
PA-20 "135", PA-20S "135"	20-878 thru 20-880	MC454-120 ②	MC454-120 ②	MC454-120 ②		
PA-20 "135", PA-20S "135"	20-882 thru 20-884	MC454-120 ②	MC454-120 ②	MC454-120 ②		
PA-20 "135", PA-20S "135"	20-886 thru 20-887	MC454-120 ②	MC454-120 ②	MC454-120 ②		
PA-20 "135", PA-20S "135"	20-889 and On	MC454-120 ②	MC454-120 ②	MC454-120 ②		
PA-22	All	MC454-120 ②	MC454-120 ②	MC454-120 ②		MC454-120 ②
PA-22-108	All	MC454-120 ③	MC454-120 ③	MC454-120 ③		MC454-120 ①
PA-22-135	22-534 thru 22-539, 22-543	MC454-120 ②		MC454-120 ②		MC454-120 ②
PA-22-135	22-540 thru 22-542	MC454-120 ②	MC454-120 ②	MC454-120 ②		MC454-120 ②
PA-22-135	22-544 thru 22-2377	MC454-120 ②	MC454-120 ②	MC454-120 ②		MC454-120 ②
PA-22-135	2378	MC454-120 ②	MC454-120 ①	MC454-120 ②		MC454-120 ①
PA-22-135	22-2379 thru 22-2424	MC454-120 ②	MC454-120 ②	MC454-120 ②		MC454-120 ②
PA-22-135	22-2425 and On	MC454-120 ③	MC454-120 ③	MC454-120 ③		MC454-120 ①
PA-22S-135	22-534 thru 22-2377 and 22-2379 thru 22-2424	MC454-120 ②④	MC454-120 ①	MC454-120 ②		
PA-22S-135	22-2378, 22-2424 and On	MC454-120 ②④	MC454-120 ③	MC454-120 ③		
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-2378, 22-2425 thru 22-5138	MC454-120 ③	MC454-120 ③	MC454-120 ③		MC454-120 ③
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-2379 thru 22-2424	MC454-120 ②	MC454-120 ①	MC454-120 ②		MC454-120 ②
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-5139, 22-5603 and On	MC454-120 ③	MC454-120 ③	MC454-120 ③		MC454-120 ①
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-5140 thru 22-5602	MC454-120 ③	MC454-120 ③	MC454-120 ③		MC454-120 ③
PA-24, PA-24-250	24-1 thru 24-2174	MC454-120 ①		MC454-120 ①	MC454-120 ①	MC454-120 ①
PA-24, PA-24-250	24-2176 thru 24-2298			MC454-120 ①		MC454-120 ①

Notes:

- ① Knob not included.
- ② Knob not included. Order P/N MC471-052
- ③ Knob not included. Order P/N MC471-060
- ④ Quantity 2 each of the Cabin Heat Control is required for this aircraft.

Additional knob eligibility is on shown on the following page.

Swivel Fittings and Studs (Bug Nuts) for Piper Aircraft

Part number 70371-002 swivel fitting and 70371-003 stud are used to attach to solid wire push-pull controls. They wear out due to vibration.

There are two FAA-PMA replacement options. The PMA Products CA70371-002 swivel fitting and CA70371-003 stud, or the Univair U70371-000 swivel assembly.

The U70371-000 replaces Piper part numbers 70371-000 or 70371-800. These are service kits that include the -002 fitting, the -003 stud as well as an AN320-3 castle shear nut, MS24665-132 cotter pin, and two special sized Piper specific washers.



Part Number	Description	Eligible Models
CA70371-002 CA70371-003	Swivel Fitting Stud	PA18, PA18-150, PA22, PA23-150, 160, 235, 250, PA24-180, 250, 260, 400, PA25-150, 235, 260, PA28-140, 150, 151, 160, 161, 180, 181, 201T, 235, 236, PA28R-180, 200, 201, 201T, PA28RT-201, 201T, PA30, PA39, PA31-300, 310, 325, 350, PA31-350, T1020, PA31T, 1, 2, PA31P, 350, PA32-260, 300, 301, 301T, PA32R-300, 301, 301T, PA32RT, PA34-200, 200T, 220T, PA36-285, 300, 375, PA38, PA42, PA42-720, 1000, PA44-180, PA46, PA46-310P, 350P
U70371-000	Swivel Fitting Assy.	PA20, PA20S, PA20-135, PA20S-135, PA22-135, PA22S-135, PA22-150, PA22S-150, PA22-160, PA22S-160, PA22-108, PA23, PA23-160

Control Knobs for Piper Aircraft

New!

Control Knobs
Give your panel an upgrade - replace old discolored knobs!

- "Original" look
- Superior quality
- 10-32 thread



Aircraft	Serial Number	Part Number																			
		MC571-131	MC571-131	MC471-060	MC471-052	MC471-060	MC471-052	MC471-052	MC471-060	MC471-084	MC571-131	MC471-060	MC471-052	MC571-131	MC471-060	MC471-052	MC471-131	MC471-053	MC471-060	MC471-052	
		Knob Type	Alternate Air (Chrome)	Cabin Heat (Chrome)	Cabin Heat (Black)	Cabin Heat (Ivory)	Cabin Heat (Rear)	Cabin Heat Front (Ivory)	Cabin Heat Front (Black)	Carb. Heat (Blk w/Decal)	Carburetor Heat (Chrome)	Carburetor Heat (Black)	Cold Air (Black)	Cold Air Inlet (Ivory)	Cold Air Inlet (Chrome)	Cold Air Inlet (Black)	Defrost (Chrome)	Mixture Control (Red)	Parking Brake (Black)	Parking Brake (Ivory)	
PA-18, PA-18A, PA-18S	All																				
PA-18 "105" (Special), PA-18S "105"	All																				
PA-18 "125" (Army L-21A), PA-18AS "125", PA18S "125"	All																				
PA-18 "135" (Army L-21B), PA-18A "135", PA-18S "135"	18-1 thru 18-2167																				
PA-18AS "135"	18-1 thru 18-2167																				
PA-18 "135" (Army L-21B), PA-18A "135", PA-18S "135"	18-2168 thru 18-7632																				
PA-18AS "135"	18-2168 thru 18-7632																				
PA-18A "150", PA-18AS "150"	All																				
PA-18S "150"	1809001 thru 1809113																				
PA-18S "150"	18-3771 thru 18-8309025																				
PA-20, PA-20S	20-1 thru 20-553																				
PA-20, PA-20S	20-554 thru 20-811																				
PA-20, PA-20S	20-812 and On																				
PA-20 "115", PA-20S "115"	All																				
PA-20 "135", PA-20S "135"	All																				
PA-22	All																				
PA-22-108	All																				
PA-22-135	22-534 thru 22-539																				
PA-22-135	22-540 thru 22-542																				
PA-22-135	22-543																				
PA-22-135	22-544 thru 22-2377																				
PA-22-135	22-2378																				
PA-22-135	22-2379 thru 22-2424																				
PA-22-135	22-2425 and On																				
PA-22S-135	22-534 thru 22-2377 and 22-2379 thru 22-2424																				
PA-22S-135	22-2378, 22-2425 and On																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-2378																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-2379 thru 22-2424																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-2425 thru 22-5138																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-5139																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-5140 thru 22-5602																				
PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	22-5603 and On																				
PA-25-235	All																				
PA-25-260	All																				
PA-28-140	28-20002 thru 28-21095																				
PA-28-140	28-21096 thru 28-24999																				
PA-28-150, PA-28-160	28-0001 thru 28-2627																				
PA-28-150, PA-28-160	28-2628 thru 28-4377																				
PA-28S-160	28-1 thru 28-1760																				
PA-28-180, PA-28S-180	28-671 thru 28-2627																				
PA-28-180	28-2628 thru 28-4277																				
PA-28-180	28-4278 thru 28-4377																				
PA-28S-180	28-671 thru 28-2627																				
PA-28S-180	28-2628 thru 28-4377																				
PA-28-235	28-10003 thru 28-10675																				
PA-28-235	28-10676 thru 28-11039																				
PA-32-260	32-1 thru 32-1110																				
PA-32-300	32-40000 thru 32-40565																				
PA-32-300S	32S-15 thru 32S-40565																				

① Quantity 2 each of knob Cabin Heat (Ivory) is required for these aircraft.



P/N MC471-084
With P/N 6289
Carb Heat Decal



P/N MC471-052



P/N MC471-053



P/N MC471-060



P/N MC571-131

Engine Controls, Wire Clamps and Rod Ends

Solid Wire Vernier Mixture Control for Beechcraft, Mooney, Maule and Stinson Aircraft

FAA-PMA Approved

- Precise mixture control for less than the original replacement part
- Extra long - trim to exact length
- High quality McFarlane manufacture

Make	Model	Serial Number	Part Number
Raytheon (Beechcraft)	19A, M19A, B19,23, A23-19, B23	All	MC600-120
Raytheon (Beechcraft)	35, A35, B35, C35, D35, E35, F35, G35, H35	All	MC600-72
Mooney	M20, M20A, M20B, M20C, M20D	All	MC600-72
Maule	Bee Dee M-4, M4, M-4C, M-4S, M-4T	All with Carbureted Engine	MC600-72
Maule	M-4-220, M-4-220-C, M-4-220S	All with Carbureted Engine	MC600-72
Maule	M-4-220T, M-4-180C, M-4-180S, M-4-180T	All with Carbureted Engine	MC600-72
Maule	M-5-180C, M-5-220T, M-5-235C	All with Carbureted Engine	MC600-72
Maule	M-5-210TC, M-6-180, M-6-235, MX-7-160	All with Carbureted Engine	MC600-72
Maule	MXT-7-160, MX-7-180, MX-7-180A	All with Carbureted Engine	MC600-72
Maule	MXT-7-180, MXT-7-180A, MX-7-180B	All with Carbureted Engine	MC600-72
Maule	MX-7-180C, M-7-235, MX-7-235	All with Carbureted Engine	MC600-72
Maule	MX-7-235A, MX-7-235B, MX-7-235C, M-8-235	All with Carbureted Engine	MC600-72
Univair (Stinson)	108, 108-1, 108-2, 108-3, 108-5	All	MC600-72



Throttle Controls for Grumman Aircraft

FAA-PMA Approved

- Throttle Controls for aircraft manufactured by Grumman American, Gulfstream Aerospace Corp. or Tiger Aircraft LLC.
- McFarlane has developed a longer conduit terminal that allows extra clearance between the swivel joint and the air filter box at the clamp location.
- Thread length has been tailored to allow full adjustment of the Grumman swivel assembly.
- Push rod length has been tailored to ensure that McFarlane throttle controls duplicate the original controls in fit and function.

Model	Serial Number	Part Number
AA-1	AA1-0433 and On	MC507005-1
AA-1A	AA1A-0001 and On	MC507005-1
AA-1B	AA1B-0001 and On	MC507005-1
AA-1C	AA1B-0601	MC507005-1
AA-1C	AA1C-0001 and On	MC507005-1
AA-5	AA5-0001 and On	MC507005-2
AA-5A	AA5A-0283 and On	MC507005-2
AA-5B	AA5B-0001 and On	MC507005-3



Engine Controls for Bellanca Viking Aircraft

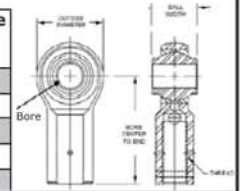
FAA-PMA Approved

Model	Serial Number	Throttle	Propeller	Mixture
17-30A	30263 and On, and aircraft with a S/N prefix "75-"	MCS191783-18	MCS191783-1	MCS191783-16
17-31A	73-32-128 and On, and aircraft with a S/N prefix "75-"	MCS191783-18	MCS191783-1	MCS191783-17
17-31ATC	73-31067 and On, and aircraft with a S/N prefix "75-"	MCS191783-18	MCS191783-1	MCS191783-17

Rod Ends for Experimental Aircraft

Not for use on certified aircraft. Not FAA-PMA approved.
See pages 20-22 for FAA-PMA approved rod ends.

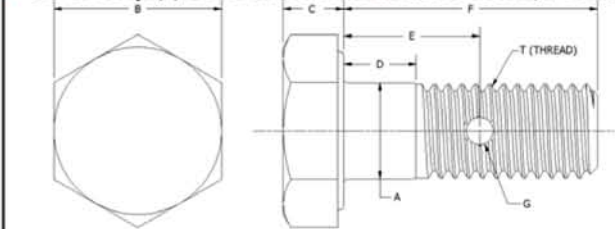
P/N	Bore	O.D.	Bore Ctr to End	Ball Width	Thread	Thread Type	Ultimate Static Load
(~)	(in)	(in)	(in)	(in)	(in)	(~)	(lbs)
MW-3M-500	0.190	0.625	1.062	0.312	10-32	Internal	1,531
GMW-3M-470	0.190	0.750	1.375	0.437	1/4-28	Internal	2,881
GMW-4M-470	0.250	0.812	1.375	0.437	1/4-28	Internal	2,950
MM-3M-500	0.190	0.625	1.250	0.312	10-32	External	1,169



Bolt Style Wire Clamps for Solid Wire Controls for Cessna Aircraft

FAA-PMA Approved

- Unique design to reduce wire stress
- Heat treated stainless steel for wear and corrosion resistance
- The best for less!
- See pages 9-13 to find the correct clamp for your mixture or carb heat control.
- Go to <http://www.mcfarlaneaviation.com/Products> to find the correct clamp for all other applications.



Part Number (~)	A	B	C	D	E	F	G	T	Application
	Bolt Dia. (in)	Wrench Size (in)	Thick (in)	Grip Length (in)	Hole Position (in)	Shank Length (in)	Hole Dia. (in)	Thread (~)	
MCS2323-1	0.188	3/8	0.125	0.250	0.183	0.653	0.073	10-32	Carb heat, starter, mixture, cabin heat, fuel shutoff, strainer drain, defrost, shutter, wastegate, oxygen control, de-ice, heater, airbox, alternate air, flap/elevator, pressure air dump, heat exchanger
MCS2323-2	0.250	7/16	0.156	0.312	0.325	0.781	0.073	1/4 - 28	cabin heat, mixture, defrost, cabin heat
MCS2323-3	0.250	7/16	0.156	0.188	0.199	0.539	0.073	1/4 - 28	strainer drain, cowl flaps, carb heat, alternate air
MCS2323-4	0.250	7/16	0.156	0.313	0.312	0.781	0.073	1/4 - 28	mixture, flap indicator, flap guide, fuel shut-off
MCS2323-5	0.188	3/8	0.125	0.125	0.188	0.531	0.073	10-32	cabin air, carb heat, starter, airbox, defrost, flap, shutter, oxygen
MCS2323-6	0.250	7/16	0.156	0.188	0.355	0.656	0.073	1/4 - 28	mixture, hopper, induction
MCS2323-7	0.188	3/8	0.125	0.250	0.192	0.656	0.076	10-32	fuel shut-off, alternate air, flap elevator trim
MCS2323-8	0.188	3/8	0.125	0.250	0.202	0.656	0.096	10-32	fuel shut-off oxygen control
MCS2323-9	0.250	7/16	0.156	0.438	0.343	0.906	0.129	1/4 - 28	flap control, flap guide
MCS2323-10	0.188	3/8	0.125	0.125	0.204	0.477	0.079	10-32	fuel shut-off, heat exchanger
MCS2323-11	0.188	3/8	0.125	0.250	0.266	0.656	0.076	10-32	mixture, bleed air, fuel selector, flap/elevator
MCS2323-12	0.250	7/16	0.156	0.188	0.357	0.656	0.073	1/4 - 28	mixture, cabin heat, pressurization
MCS2323-13	0.250	7/16	0.156	0.313	0.271	0.781	0.073	1/4 - 28	mixture, alternate air, bleed air,
MCS2323-14	0.188	3/8	0.125	0.125	0.132	0.531	0.082	10-32	cabin heat, cabin air
MCS2323-19	0.188	3/8	0.125	0.125	0.200	0.531	0.094	10-32	defroster

Rod Ends Piper Aircraft



Rod Ends for Piper Aircraft

Model	Part Number	Description/Application	Piper Rod End Dimensions		
Model	Part Number	Description/Application	Part Number	Eye	Thread
PA-18/18A, PA-18-105/125/135/150 & PA-18A-125/135/150 S/N's 18-1 thru 18-8309025 and PA18-150 S/N's 1809001 thru 1809113	CA452-335A	Wing panel assembly, uncovered			
PA-22 & PA-22-108/135/150/160	CA452-335A	Wing panel assembly, nose wheel			
PA-23-150/160 PA 23-235/PA23-250 / PA 23-250	CA452-335A	Nose gear, main gear			
PA-24-180/250/260/400	CA452-412	Landing gear retraction system, flap control mechanism, control surfaces			
	CA452-334A	Steering push rod & shimmy dampener, main gear bearing, control system			
	CA452-335A	Bungee assembly, nose wheel, landing gear door			
PA-28-140/150/160/180/235/R-180/200	CA452-336A	Flap control, nose gear assembly			
	CA452-368	Main gear			
	CA452-584	Landing gear door			
PA-28-151/161 S/N 715001 thru 28-7715314,	CA452-334A	Nose gear			
28-7716001 thru 28-8616057 & 2816001 thru 2816119	CA452-335A	Nose gear, control system, Flap control			
PA-28-161 S/N 2841001 thru 2841365	CA452-334A	Nose gear			
PA-28-161 S/N 2842001 & up	CA452-335A	Control system, flap control			
PA-28-181 S/N 28-7690001 thru 28-8690056 & 2890001 thru 2890231	CA452-336A	Flap control			
PA-28-181 S/N 2843001 & up	CA452-334A	Nose gear			
	CA452-335A	Control system			
	CA452-336A	Flap control			
PA-28R-201/201T S/N 28R-773700, 2837001 thru 2837061,	CA452-334A	Nose landing gear, main landing gear			
28R7703002 thru 28R-7803372 & 2803001 thru 2803015	CA452-335A	Landing gear door, control system, flap control			
	CA452-336A	Flap control			
	CA452-584	Landing gear door			
	CA452-334A	Nose landing gear			
PA-28R-201 S/N 2844001 & up	CA452-335A	Landing gear door, control system, flap control			
	CA452-336A	Flap control			
	CA452-368	Main landing gear			
PA-28RT-201/201T	CA452-334A	Nose landing gear			
PA-30/39	CA452-335A	Landing gear door			
PA-31P	CA452-412	Landing gear retraction system, flap control mechanism			
	CA452-335A	Cabin door step			
PA-31P-350	CA452-412	Cabin door latch, nose landing gear, nose gear steering,			
	CA452-335A	Cabin door step			
PA-31-300/325, PA-31-350, PA-31-350T1020	CA452-412	Cabin door latch, nose landing gear, nose gear steering, elevator trim			
	CA452-412	Nose landing gear, nose gear steering mechanism			
	CA452-335A	Cabin door step, engine control			
PA-31T/T1/T2	CA452-412	Cabin door latch, nose landing gear			
	CA452-860A	Cabin door snubber			
PA-31T3	CA452-335A	Engine controls			
	CA452-412	Nose landing gear, nose gear steering			
	CA452-334A	Nose gear, main gear, control system			
PA-32-260/300/R-300	CA452-335A	Landing gear door, flap control			
	CA452-368	Main gear			
	CA452-584	Landing gear door			
	CA452-860A	Nose gear			
	CA452-334A	Nose gear			
PA-32-301/301T	CA452-335A	Aileron control, flap control			
	CA452-336A	Aileron control, flap control			
	CA452-860A	Nose gear			
PA-32-301 XTC	CA452-334A	Nose gear			
PA-32-301FT	CA452-335A	Aileron control, flap control			
	CA452-336A	Aileron control			
	CA452-860A	Nose gear			
	CA452-334A	Nose gear, main gear			
PA-32R-301/301T S/N 32R-8013001 thru 32R-8613005, 321001 thru 3213103, 32R-8029001 thru 32R-8629006 & 3229001 thru 3229003	CA452-335A	Landing gear door, aileron control, flap control			
	CA452-336A	Aileron control, flap control			
	CA452-368	Main gear			
	CA452-334A	Main gear			
PA-32R-301/301T S/N 3246001 & up & 3257001 & up	CA452-335A	Landing gear door, aileron control, flap control			
	CA452-336A	Aileron control, flap control			
	CA452-368	Main gear			
	CA452-334A	Nose gear, aileron control, rudder trim, hydraulic system			
PA-34-200	CA452-335A	Nose & main gear door actuation, flap control			
	CA452-336A	Flap control			
	CA452-368	Main gear			
PA-34-200T	CA452-334A	Air conditioning, condenser & scoop, nose gear, hydraulic system rudder trim			
	CA452-335A	Nose & main gear door actuation			
	CA452-336A	Flap control			
	CA452-368	Main gear			
	CA452-584	Aileron assembly, nose & main gear actuation			
PA-34-220T S/N 34-8133001 thru 34-8633031, 3433001 & up, & 3448001 & up, PA-34-220T S/N 3447001 thru 3447029, & 3449001 & up	CA452-334A	Nose gear, rudder trim hydraulic system, air conditioning condenser & scoop			
	CA452-335A	Nose & main gear door actuation, aileron control, flap control			
	CA452-336A	Flap control			
PA-34RT-300/300T	CA452-334A	Nose gear, main gear, control system			
	CA452-335A	Landing gear door, flap control			
	CA452-336A	Flap control			
	CA452-368	Main gear			
	CA452-584	Landing gear door			
PA-36-285/300/375	CA452-584	Elevator & elevator trim control			
PA-42/PA42-720	CA452-335A	Cabin door step, engine controls			
PA-42-1000	CA452-412	Cabin door latch, nose landing gear, nose gear steering, elevator control			
PA-44-180/180T S/N 44-7995001 thru 44-8207020 & 4495001 thru 4495013	CA452-334A	Nose landing gear, main gear			
PA-44-180 S/N/4496001 & up	CA452-335A	Landing gear door, aileron control, flap control			
	CA452-336A	Aileron control, flap control			
	CA452-584	Landing gear door			
PA-46-310P/350P S/N 46-8408001 thru 46-8608067, 4608001 thru 4608140 & 4622001 thru 4622200	CA452-334A	Nose gear, nose & main gear door, actuation			
	CA452-335A	Nose & main gear door actuation			
	CA452-412	Flap drive - electrical			
	CA452-860A	Flap drive - electrical, flap drive & hydraulic			
PA-46-350P S/N 4636001 & up, PA-46R-350T S/N 4692001 & up	CA452-334A	Nose gear, nose & main gear door actuation			
	CA452-335A	Main gear			
	CA452-412	Flap Drive-Mechanical			
	CA452-860A	Flap Drive-Mechanical			
	CA452-334A	Nose gear, nose gear door actuation			
PA-46-500TP S/N 4697002,4697340,4697399 & up with G1000	CA452-335A	Main gear door actuation			
	CA452-412	Flap Drive-Mechanical			
	CA452-860A	Flap Drive-Mechanical			
	CA452-334A	Nose gear, nose & main gear door actuation			
PA-46-500TP S/N/4697001 & up without G1000	CA452-335A	Nose & main gear door actuation			
	CA452-412	Flap Drive-Mechanical			
	CA452-860A	Flap Drive-Mechanical			
	CA452-584				

New!

Universal Controls

Push-to-Unlock Controls

Perfect for home built or custom projects!

- Quality stainless steel construction with bright anodized aluminum knobs
- High temperature Teflon lined conduit for smooth, consistent control (Cheap controls with poly liners will not tolerate engine temperatures)
- Heavy duty strength and long life
- Custom laser marking of the knobs is available
- Not for use on certified aircraft, flight controls or flight control trim tabs

Round knob with solid wire end (MC6150 series): Order part number MC6150-071XXLLL where **XX** is the knob color code and **LLL** is the length in inches.

- Round Knob - Red, black, blue and clear (silver) or Chrome plated bronze (designed to match vintage controls)
- Available in 4, 6, 8, 10, 12 foot and custom lengths
- May be trimmed to length

Square knob with solid wire end (MC6160 series): Order part number MC6160-071XXLLL where **XX** is the knob color code and **LLL** is the length in inches.

- Square black knob with a black or clear (silver) push-button
- Available in 6, 8, 12 foot and custom lengths
- May be trimmed to length
- Ideal for carburetor heat or alternate air

Round knob with 10-32 threaded push rod end (MC6250 series): Order part number MC6250-XXLLL where **XX** is the knob color code and **LLL** is the length in inches.

- Round Knob - Red, black, blue and clear (silver)
- Available in 4, 5, 6, 7, 8, 9, 10 foot and custom lengths

Round knob with dual solid wire ends (MC6350 series): Order part number MC6350-XXLLL where **XX** is the knob color code and **LLL** is the length in inches.

- Round Knob - Red, black, blue and clear (silver)
- Available in 4, 6, 8, 12 foot and custom lengths
- May be trimmed to length

Specifications:

Travel (stroke): 3" minimum

Conduit (dual wire controls): 0.188 inch OD Teflon lined wound conduit

Conduit (single wire controls): 0.24 inch OD Teflon lined would conduit with a Teflon jacket

Max Work Loads: Pull: ~25 lbs; Push: ~10 lbs*

Minimum Locking Force (measured at the knob): 15 lbs tensile, 10 lbs compression

Operating Temp: -65 to 450 deg F (knob/housing assembly: -65 to 250 deg F)

Panel Fitting: 7/16-20 thread

*Max push load for solid wire end designs is dependent on wire diameter, length of trimmed wire (unsupported by conduit), geometry of wire rigging, and the actuator configuration.

Custom Engraved Knobs:

Custom laser marking of the knobs is available for a small additional fee. Call for details.



Vintage Chrome also available!



Laser Marking
Clean and durable!

Knob/Color Codes	
Code	Description
BB	Black anodized aluminum
RR	Red anodized aluminum
LL	Blue anodized aluminum
CC	Clear (Silver) anodized aluminum
CB	Black anodized aluminum with Clear (Silver) push button
HH	Chrome plated brass knob

Universal Controls

New!

Turn-to-Lock Controls

Perfect for homebuilt or custom projects!

These versatile controls are ideal for many applications. They feature a turn-to-lock mechanism that requires a quarter turn of the knob to lock or unlock the control.

- Quality stainless steel construction
- High temperature Teflon lined conduit for smooth, consistent control (Cheap controls with poly liners will not tolerate engine temperatures)
- Wire end - may be trimmed to length
- Not for use on certified aircraft, flight controls or flight control trim tabs



Dual twisted wire ends: P/N MCTL1014D LLL-K (LLL = length in inches, K = Knob style)

- 1/16" diameter 7X7 stainless steel
- ~ 30 lbs minimum locking force
- Includes two adjustable barrel stops to attach to Rotax choke arms
- Available in 4, 6, 8 and 12 ft lengths

Dual solid wire ends: P/N MCTL2254D072-K (K = Knob style)

- 0.071" diameter music wire
- ~ 55 lbs minimum locking force
- 6 foot length

Single twisted wire end: P/N MCTL1034-072-K (K = Knob style)

- 1/16" diameter 1X7 stainless steel
- ~ 30 lbs minimum locking force
- 6 foot length

Single solid wire end: P/N MCTL2254-072-K (K = Knob style)

- 0.071" diameter music wire
- ~ 55 lbs minimum locking force
- 6 foot length

Specifications:

Travel (stroke): 4.0" maximum
 Conduit (dual wire controls): 0.188 in OD Teflon lined
 Conduit (single wire controls): 0.25 in OD Teflon lined, Teflon jacket
 Max Work Loads: Pull: ~25 lbs; Push: ~10 lbs*
 Operating Temp: -65 to 450°F (knob/housing assembly: -65 to 250°F)
 Panel Fitting: 1/2-20 UNF thread
 *Push loads apply to controls with solid wire only and depend on wire diameter, length of wire not supported by conduit, geometry of wire rigging, and the actuator configuration.

Call us with your custom requirements!



MCTL1014D series MCTL1034 series
 MCTL2254D series MCTL2254 series

Knob Style Suffix (-K)	Knob Style
-B	Ball
-F	Fluted
-P	4-Prong
-T	T-Handle
-FA	Fluted, engraved "Airbox Lock"
-FH	Fluted, engraved "Cabin Heat Lock"
-FL	Fluted, engraved "Lock"
-PL	4-Prong, engraved "Lock"
-TC	T-Handle, engraved "Choke Lock"
-TL	T-Handle, engraved "Lock"
	No knob

Universal Light-Weight Controls

- For use in non-certified aircraft applications such as carb heat, cabin heat, cabin air and defrost
- Keyed shaft prevents rotation and maintains knob alignment
- High quality brass and aluminum construction
- Teflon lined conduit for smooth, consistent control (Cheap controls with poly liners will not tolerate engine temperatures)
- Many knob styles available or provide your own knob with 10-32 thread
 -Knobs are not included with the control, see page 28 for knob choices
- Available in 4,6,8,10 and 12 ft and custom lengths - Wire end - Easily trimmed to length
 -Measured from panel fitting to end of conduit, wires extend at least 3" beyond conduit
- Available with optional creep resistant feature to prevent creep due to engine vibration



Standard Control: P/N MCU124-LLL (LLL = length in inches)

Control with creep resistant feature: P/N MCU224-LLL (LLL = length in inches)

Specifications:

Travel (stroke): 3.75" maximum*
 Conduit: 0.188 inch OD Teflon lined
 Max Work Loads: Pull: ~10 lbs; Push: ~5 lbs**
 Operating Temp: -65 to 450°F
 Inner Wire: 0.061 inch solid wire
 Screw thread for knob attachment: 10-32 X .3
 Screw thread for instrument panel: 3/8-24 X .5

*Installer must ensure maximum travel is not exceeded during installation and rigging of the control.

**Maximum push load with 3-1/2" of wire extending from the conduit. Push loads depend on wire diameter, length of wire not supported by conduit, geometry of the rigging and the actuator configuration.



New!

Controls for Rotax Engines

Controls for Dual Carburetor 912/914 Series Rotax Engines

Allow a neat, clean installation without a clunky splitter box

- Quality metal construction
- High temperature Teflon lined conduit for smooth consistent control (Cheap controls with poly liners will not tolerate engine temperatures)
- Available in 4, 6, 8 and 12 foot and custom lengths - Easily trimmed to length
- Manufactured to the same quality standards as McFarlane's FAA-PMA parts
- Not for use on certified aircraft, or for flight controls or flight control trim tabs



Throttle Controls for 912/914 Series Rotax Engines

- Includes Throttle hardware kit P/N 6408 (see page 26)
- Inner Wire: Heavy duty 0.062 inch diameter, flexible 1/16 1X7 stainless steel twisted wire
- Conduit: 0.188 inch OD Teflon lined for smooth consistent control
- Design work load: 10 lbs (pull only)
- Operating temp: -65 to 450°F

Panel Mount: P/N MCT100DLLL (LLL = length in inches. Add a "-B" for a ball knob)

- Super smooth friction lock
- Travel (stroke): 3.75" max
- Typical locking force: 1 to 10 lbs (locking force dependent on friction lock engagement)
- Panel fitting: 1/2-20 UNF thread
- Control length is measured from panel fitting to end of conduit, wires extend 6 inches beyond conduit.
- Two knob options (ball or standard barrel shape)



P/N 6408
Dual hardware throttle kit



P/N EC03
Standard style knob



P/N EC53
Ball style knob



Vernier-Assist™ Panel Mount: P/N MCTV0005DLLL (LLL = length in inches)

- Travel (stroke): 3.5" max
- Typical locking force: 1 to 10 lbs (locking force dependent on friction lock engagement)
- Panel fitting: 3/4-16 UNF X 0.875 inch thread
- Control length is measured from panel fitting to end of conduit, wires extend 6 inches beyond conduit.
- See page 27 for additional details

New!



A vernier without
a release button!
See page 27



Quadrant Style: P/N MCQ100DLLL (LLL = length in inches)

- Includes convenient dual conduit clamp P/N 6433-1 for simple quadrant mounting
- Viton boot to dampen vibration and seal out dust on the quadrant end
- Travel (stroke): 4" max
- Pushrod thread (quadrant end): 10-32 UNF X 0.65 inch thread
- Control length equals the conduit length, wires extend a minimum of 6 inches beyond the conduit.



P/N 6433-1
Dual Conduit Clamp



Compression Tester Extension for Rotax Engines

Part Number EXTENSION CT12 (12mm thread)

- Wrench-free compression testing
- Allows for exhaust system and baffling clearance
- Makes compression testing easy



Manufactured by Bob Baines

Order Online at www.mcfarlaneaviation.com or Call 888-794-5288

Choke Controls for 912/914 Rotax Series Engines

- Includes two adjustable barrel stops P/N 6515 to attach to the carb choke arms (no swaging or soldering necessary)
- Inner Wire: Heavy duty 0.062 inch diameter, flexible 1/16 7X7 stainless steel twisted wire.
- Many knob styles available
- Conduit: 0.188 inch OD Teflon lined for smooth consistent control
- Design work load: 25 lbs (pull only)
- Operating temp: -65 to 450°F (knob housing assembly: -65 to 250°F)
- Control length is measured from panel fitting to end of conduit, wires extend 6 inches beyond conduit.



Turn-to-Lock: P/N MCTL1014D LLL-K (LLL = length in inches, K = Knob style - see page 24)

These controls feature a turn-to-lock mechanism that requires a quarter turn of the knob to lock or unlock the control at any position.

- Travel (stroke): 4.0" max
- Minimum locking force ~30 lbs
- Panel fitting: 1/2-20 UNF thread



Non-Locking: P/N MCC101D LLL-K (LLL = length in inches, K = Knob style - see table below)

Internal elastomer seal to dampen vibration and provide a small amount of resistance. If your choke installation features a return spring, this control will return to the closed position when released.

- Travel (stroke): 3.5" max
- Panel fitting: 7/16-20 X 1.3" UNF thread



Knob Style Suffix (-K)	Knob Style
-RB	Round, Black
-RC	Round, Clear (silver)
-RL	Round, Blue
-RR	Round, Red
-RBC	Round, Black, engraved with "Choke"
-RCC	Round, Clear (silver), engraved with "Choke"
-RLC	Round, Blue, engraved with "Choke"
-RRC	Round, Red, engraved with "Choke"

Throttle Hardware Kit for Rotax Engines

Dual Throttle Hardware Kit P/N 6408

Parts also available separately. For use on non-certified aircraft

Slip Fit Conduit Terminal P/N 6271

- M6x1 x 1.00 inch thread for easy adjustment
- Three installation options - (1) Slip on the conduit, (2) Secure to conduit with provided set screws, (3) Epoxy to conduit

Adjustable cable stops P/N 6270

Prevents damage to the carburetor from excessive pilot force at the idle-cutoff position. If needed, install cable stop assembly on control wire(s). Locate stop so that when carburetor is at full idle, the cable stop is against part number 6271 conduit terminal.

Alternate Carburetor Arm Return Spring P/N 6696

- Less than half the strength of the original stock Rotax springs
- Prevents throttle "creep" due to excessive return spring force
- Requires 1 per carburetor (2 per engine)
- Installer must determine whether this spring is appropriate for their application.

Kit contains:

- 2 each 6271 Slip Fit Conduit Terminal Assemblies
- 2 each 6270 Adjustable Cable Stop Assemblies
- 2 each 6696 Spring
- 1 each Hex Wrench



Conduit Terminal P/N 6424

May be used as a slip fit conduit terminal, or swaged or epoxied onto the conduit. Fits 0.188" diameter conduit. OD is 0.25".

- 2 per control
- Stainless Steel



Barrel Stop Assembly P/N 6515

Attach to the carburetor choke arm. No swaging or soldering necessary. Accepts 1/16" wire

For MCTL1014D series Turn-to-Lock Choke Controls and MCC101D series Non-Locking Choke Controls.



New!

Vernier Assist Controls

Vernier-Assist™ Mixture and Throttle Controls

Look Ma, No Button!

New roller action vernier provides smooth jam-proof coarse and fine adjustment without a release button. (Patent Pending US Pat. Application #13/110,632)

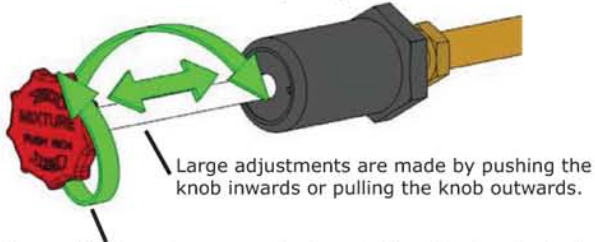
- Light weight and compact behind the dash
- Safer - no vernier threads to jam!

Call us with your
unique requirements!



MCMV Mixture Series

Vernier action with only a 3/8" panel hole!

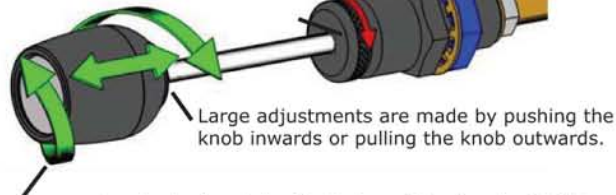


Large adjustments are made by pushing the knob inwards or pulling the knob outwards.

MCTV Throttle Series

Vernier and friction lock - The best of both!

Tension and vernier action is increased by tightening the tension nut.



Large adjustments are made by pushing the knob inwards or pulling the knob outwards.

Fine adjustments are made by rotating the knob clockwise or counterclockwise. The McFarlane Vernier-Assist™ type controls use a patent pending drive mechanism instead of a positive lock thread engagement. During rotation, slight inward or outward pressure may be required for vernier action depending on the amount of drag produced by the conduit routing.

Throttle Control with 10-32 threaded end: P/N MCTV1035-LLL (LLL = length in inches)

- Available in 3, 4, 5, 6, 7, 8 foot and custom lengths.
- Vernier and friction lock
- Requires a 3/4" panel hole



Throttle Control with 1/4-28 threaded end: P/N MCTV2035-LLL (LLL = length in inches)

- Available in 3, 4, 5, 6, 7, 8 foot and custom lengths.
- Vernier and friction lock
- Requires a 3/4" panel hole



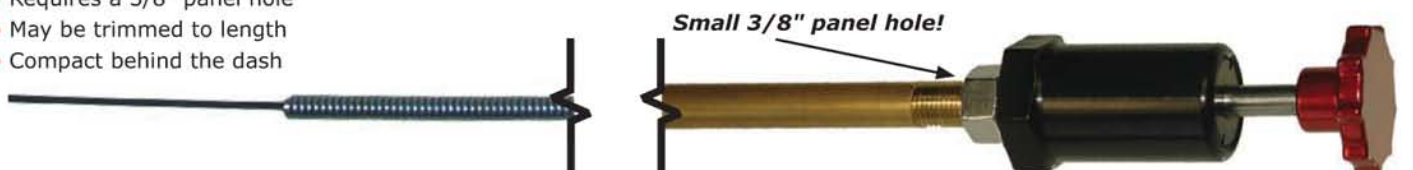
Dual Throttle Control with 0.062" diameter 1X7 twisted stainless wire ends: P/N MCTV0005DLLL (LLL = length in inches)

- Available in 4, 6, 8, 12 foot and custom lengths.
- Requires a 3/4" panel hole
- Perfect for Rotax 912/914 engines! See page 25



Mixture Control with 0.061" diameter solid wire end: P/N MCMV0241-LLL (LLL = length in inches)

- Available in 4, 6, and 10 foot lengths.
- Requires a 3/8" panel hole
- May be trimmed to length
- Compact behind the dash



Push-Pull Control Replacement Parts

New!

Replacement Knobs for McFarlane Push-Pull Controls

Knobs:

Part Number	Description	Thread	Color	Marking	Use Eligibility
6277B**	Round anodized aluminum	10-32	Black		MCC101D and MCU series controls
6277C**	Round anodized aluminum	10-32	Clear (silver)		MCC101D and MCU series controls
6277L**	Round anodized aluminum	10-32	Blue		MCC101D and MCU series controls
6277R**	Round anodized aluminum	10-32	Red		MCC101D and MCU series controls
6417	T-Handle	1/4-20	Black		MCTL series controls
6418	T-Handle	1/4-20	Black	"Lock" w/arrows	MCTL series controls
6427	4 Prong	1/4-20	Black		MCTL series controls
6428	4 Prong	1/4-20	Black	"Lock" w/arrows	MCTL series controls
6429	Fluted	1/4-20	Black		MCTL series controls
6430	Fluted	1/4-20	Black	"Lock" w/arrows	MCTL series controls
6432	Shortened T-Handle	1-4-20	Black		MCTL series controls
6489B**	Square	10-32	Black		MCU series controls
6489C**	Square	10-32	Clear (silver)		MCU series controls
6489L**	Square	10-32	Clear (silver)		MCU series controls
6489R**	Square	10-32	Clear (silver)		MCU series controls
6495-01B	Phenolic	10-32	Black		MCU series controls
6495-02B	Phenolic	10-32	Black		MCU series controls
6495-03B	Phenolic	10-32	Black		MCU series controls
6495-04B	Phenolic	10-32	Black		MCU series controls
6512B	Triangle	10-32	Black		MCU series controls
6512C	Triangle	10-32	Clear (silver)		MCU series controls
6512L	Triangle	10-32	Blue		MCU series controls
6512R	Triangle	10-32	Red		MCU series controls
6570	Vernier Assist Mixture	1/4-20	Red		Vernier Assist Mixture series controls
6620	Vernier Assist Throttle	1/4-20	Black		Vernier Assist Throttle series controls
6660	T-Handle	1/4-20	Black	Choke Lock	MCTL series controls
6661	Fluted	1/4-20	Black	Cabin Heat Lock	MCTL series controls
6662	Fluted	1/4-20	Black	Airbox Lock	MCTL series controls
EC03	Black Knob	1/4-20	Black		Throttle controls
EC53	Black Ball Knob	1/4-20	Black		P/N MC12693-04 or MC455-139, MCT100D, MCTL and MCC101D series controls
06932602	2" Hemisphere	1/4-20	Black		
MC471-060	Round, Phenolic	10-32	Black		Piper Cabin Environment Controls
MC471-053	Round, Phenolic	10-32	Red		Piper Mixture Controls
MC471-052	Round, Phenolic	10-32	Ivory		Piper Cabin Environment and Carb Heat Controls
MC471-084	Round, Phenolic	10-32	Black	Carb Heat	Piper Carb Heat Controls
MC571-131	Round, Phenolic	10-32	Clear (Silver)		Piper Cabin Environment and Carb Heat Controls

Knob Adapter Adapts the McFarlane throttle control to the early hemisphere style knobs. Inner thread size is 1/4-20. Outer thread size is 1/4-28.



** See Knob Options table below for Color and Marking Codes

Knob Options

Color Code	Primary Marking Code (Secondary)
B-Black	A-CABIN AIR only on 6277 series knobs (PULL ON)
C-Clear (Silver)	B-CARB HEAT only on 6489 series knobs (PULL ON)
L-Blue	C-CHOKE use on 6277 series knobs
R-Red	D-DEFROST only on 6277 series knobs (PULL ON)
	H-CABIN HEAT only on 6277 series knobs (PULL ON)
	P-PARK BRAKE only on 6277 series knobs (PULL ON)

Custom engraved knobs are available for a small additional fee. Call for details.



Knob Jam Nuts and Lock Washers

Part Number	Description	Use Eligibility
EC33	1/4-20 Jam Nut	MCTL Series Controls Throttle controls using 1/4-20 threaded fittings (except p/n MC12693-04 & MC455-139)
MS35650-304	10-32 Jam Nut	MCC101D series controls
MS35333-40	1/4" Steel Lock Washer	MCTL and MCC101D Series Controls

Decals

Part Number	Description	Use Eligibility
6289	Carb Heat Decal	Piper Carb Heat Controls

Examples of marked knobs



New!

Push-Pull Control Replacement Parts

Replacement Parts for McFarlane Push-Pull Controls

Parts used on FAA-PMA approved controls are FAA-PMA approved. All other parts are non FAA-PMA approved.

Boots: Fuel, oil and temperature resistant, keeps trash out of the control and dampens vibration.

Part Number	Description	Use Eligibility
235	3/16" Pushrod Boot	Controls with a 3/16" pushrod
272	1/4" Pushrod Boot	Controls with a 1/4" pushrod
EC04	Swivel Boot	Controls employing a swivel joint

Retaining Nuts and Lock Washers: The retaining nut threads onto the threaded section of the control on the back side of the instrument panel to secure the control.

Part Number	Description	Use Eligibility
6060-8	1/2-20 Retaining Nut	Throttle controls using 1/2-20 threaded fittings
EC111	1/2" Lock Washer	Throttle controls using 1/2" threaded fittings
MS35333-44	Same as EC111	
6060-12	3/4-16 Retaining Nut	Throttle controls using 3/4-16 threaded fittings
EC112	3/4" Lock Washer	Throttle controls using 3/4" threaded fittings
MS35333-47	Same as EC112	
6196	3/8-24 Jam Nut	Cessna carb heat controls
6197	3/8" Lock Washer	Cessna carb heat controls
6133	7/16-20 Retaining Nut	Throttle controls using 7/16-20 threaded fittings
6260	7/16-20 Retaining Nut, Modified	MC6350 Dual Push-to-Unlock controls
EC38	7/16" Lock Washer	
EC61	3/8" Lock Washer	P/N MC12693-04 or MC455-139
EC62	3/8-24 Retaining Nut	P/N MC12693-04 or MC455-139
EC65	Throttle Spacer Bushing	P/N MC12693-04 or MC455-139
EC119	3/4-16 Retaining Nut Extended Nut	McFarlane vernier controls using 3/4-16 threaded fittings

Threaded Wear Sleeve Nuts and Lock Washers: Threaded wear sleeves are used on many McFarlane controls to secure the control to the firewall and/or mounting brackets.

Part Number	Description	Use Eligibility
EC37	7/16-20 Stainless Steel Nut	MC565-548 series controls
EC38	7/16" Lock Washer	MC565-548 series controls
EC70	12M x 1.25 Jam Nut	MC565 series controls
EC72	12mm Lock Washer	MC565 series controls

Alternate carburetor arm return spring for dual carburetor 912/914 series Rotax engines. Less than half the strength of the original stock Rotax springs. Prevents throttle "creep" due to excessive return spring force. Requires 1 per carburetor (2 per engine)

Part Number	Description	Use Eligibility
6696	Spring, Throttle	912/914 series Rotax engines. Installer is responsible for determining whether this spring is an appropriate substitution for their application. Not for use on certified aircraft.

Adjustable Friction Lock Service Kits

Part Number	Description	Use Eligibility
EC12SK	Friction Packing Service Kit	Throttle controls using a 1/2" friction nut
EC312SK	Friction Packing Service Kit	Throttle controls using a 9/16" friction nut

Miscellaneous

Part Number	Description	Use Eligibility
6135	1/8 " Ball Bearing, sold in 5 packs.	Replaces the ball bearing used in the locking mechanism for the MC6150, MC6250 and MC6350 series Push-to-Unlock controls.
6415	Panel Bolt, Turn-to-Lock	MCTL series controls
6416	Pin, Turn-to-Lock	MCTL series controls
6420	Ferrule, Turn-to-Lock, Brass	MCTL series controls
6423	Ferrule, Turn-to-Lock, Nylon	MCTL series controls
6424	Conduit Terminal	Rotax Choke Controls
6433-1	Conduit Clamp	MCQ100 series controls
6515	Barrel Stop Assembly	MCC101D and MCTL series controls
EC02	1/2" Friction Nut	Throttle controls using a 1/2" friction nut
EC98	9/16" Friction Nut	Throttle controls using a 9/16" friction nut
M83248/1-006	O-ring	MCC101D series controls

Conduit Clamps

Standard (AN742 Series)

MIL SPEC standard clamps.

Extra Grip (6317 Series)

Similar to standard AN742 clamps, but include a detent groove for better grip on coiled wire conduit.



Part Number	Material	Approximate Conduit Diameter
6317D3	Aluminum	3/16"
6317D4	Aluminum	1/4"
AN742D3	Aluminum	3/16"
AN742D4	Aluminum	1/4"
AN742F4	Stainless Steel (light duty)	1/4"

