



Worldwide Suppliers of Certified Instrument Panels

CONTROL WHEELS INSTALLATION INSTRUCTIONS

PCW-8001

Rev- 1 9/29/06

Installation:

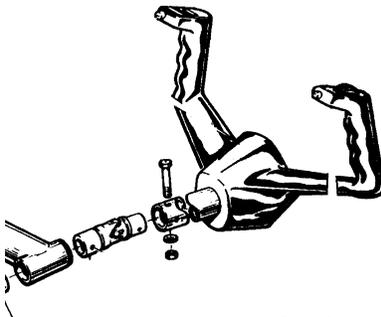
Original Piper control wheels are attached with one pin and split pin. The $\frac{3}{4}$ " shaft models require that the medallion on the front of the "bow tie" be pried off gaining access to the split pin that secures that transverse pin. The split pin is removed and the transverse pin tapped out to allow the control wheel to be removed from the shaft. The OEM wheels were sometimes installed with a smear of locking structural adhesive which will release with a firm twist. The end of the shaft should be cleaned of any residual adhesive after the original "bow tie" has been removed and the shaft inserted into the spacer with a small smear of Locktite (supplied). The shaft and spacer receive a smear of locktite and is inserted into the new control wheel, twisting to align the transverse holes to allow the installation of the transverse bolt (supplied)

The small series locking nut is installed and tightened to securely attach the wheel to the shaft. Repeat with the other wheel. The top plates can be removed to allow installation of the PTT switches and any additional switches required and wired to either a coiled cord or through the control shaft.

Piper aircraft with 3/4" control shaft.

Removal of original control wheels

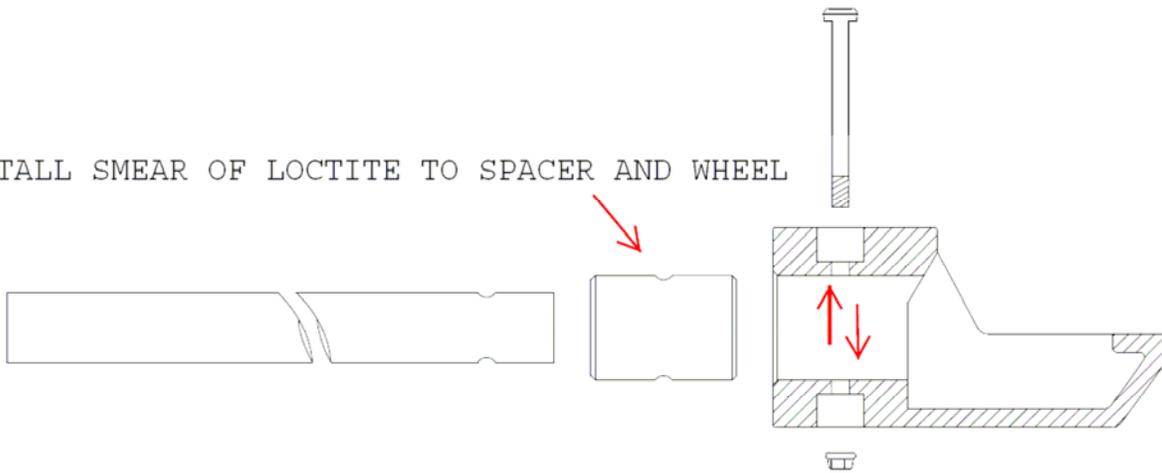
1. Remove the nuts and bolts securing the control shaft to the universal joint behind the panel. Repeat for the other side.
2. Withdraw the control wheels and shaft and remove from the plane.
3. Remove medallion on the front of the "Bow-tie" control wheels and expose the cross pin that secures the control wheels to the control shaft. Remove the split pin and drive the cross pin up and out of the wheel.



Installation of Avion replacement control wheels

1. Clean the end of the control shaft with laquer thinner or similar solvent and remove any residue from the original installation.
2. Install the spacer into the new control wheel and align the cross bolt hole.
3. Insert the control shaft into the spacer and re-align the cross bolt hole. Install the cross bolt to ensure alignment. The control wheel may exhibit some slight 'wiggle' on the shaft during this trial fit.
4. Disassemble and reassemble in the same order except apply a smear of Locktite to the inside of the control wheel opening and to the inside of the spacer opening.
5. Reassemble and install the cross bolt. Tighten the nut securely
6. Repeat with the other wheel.
7. Replace the control wheel and shaft into the aircraft, securely tightening the universal cross bolts and nuts.
8. Repeat with the other control wheel.

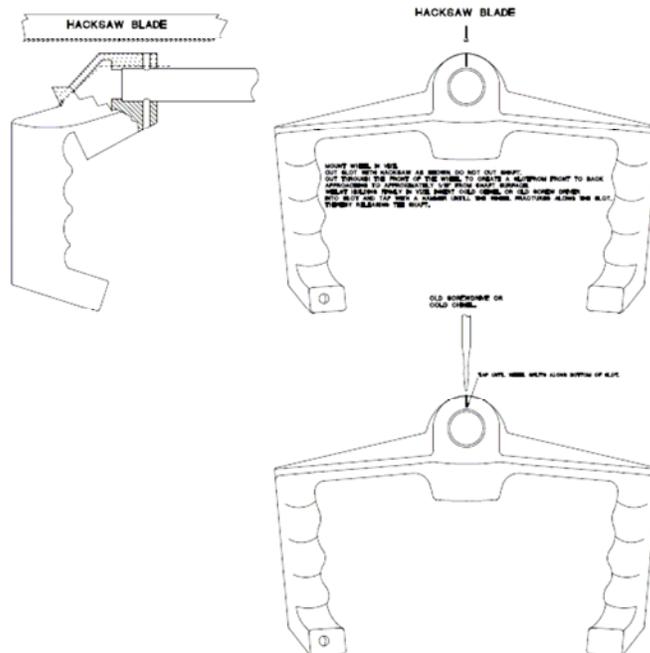
INSTALL SMEAR OF LOCTITE TO SPACER AND WHEEL



Piper aircraft with 1 1/8" control shaft.

Removal of original control wheels

4. Remove the nuts and bolts securing the control shaft to the universal joint behind the panel. Repeat for the other side.
5. Withdraw the control wheels and shaft and remove from the plane.
6. Remove nut and drive out the tapered cross pin up and out of the wheel. It may be necessary to remove some filler covering the nut.
7. Remove the wheel from the shaft and clean the end of the shaft.



MOUNT WHEEL IN VIZE.

CUT SLOT WITH HACKSAW AS SHOWN - DO NOT CUT SHAFT

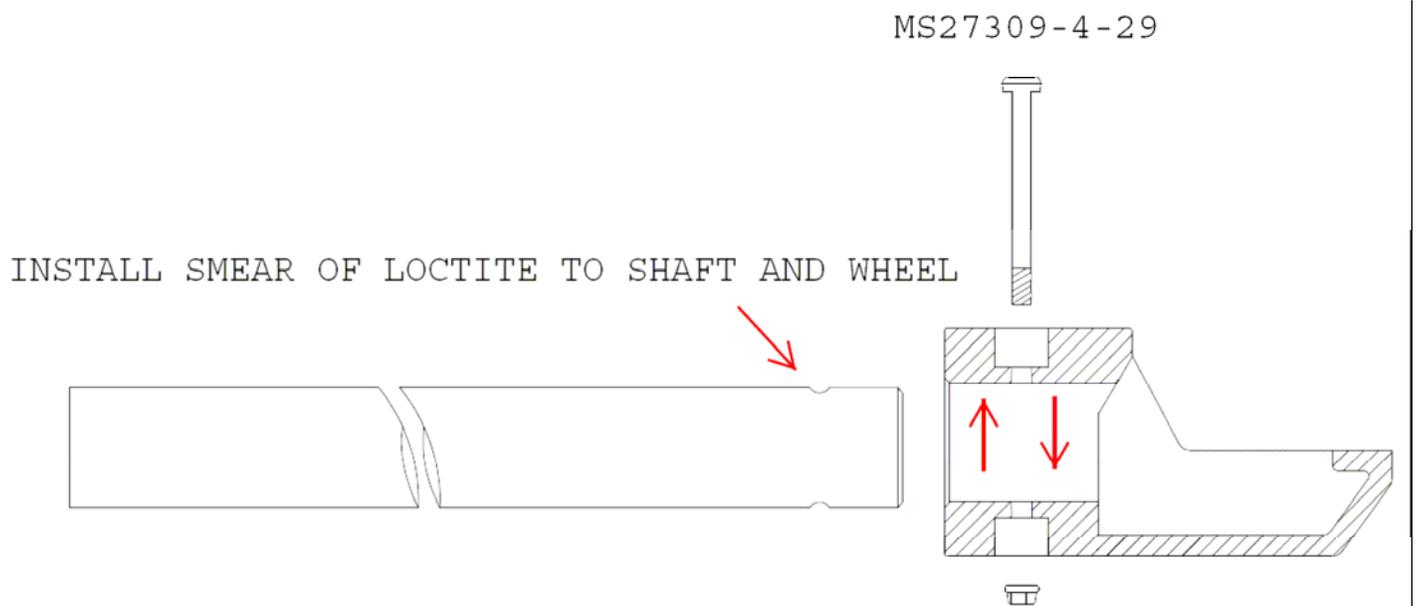
CUT THROUGH THE FRONT OF THE WHEEL TO CREATE A SLOT FROM FRONT TO BACK APPROCHING TO APPROXIMATELY 1/16" FROM SHAFT SURFACE

WHILE HOLDING FIRMLY IN WIZE INSERT COLD CHISEL OR OLD SCREW DRIVER

INTO SLOT AND TAP WITH A HAMMER UNTIL THE WHEEL FRACTURES ALONG THE SLOT, THEREBY RELEASING THE SHAFT.

Installation of Avion replacement control wheels

9. Clean the end of the control shaft with lacquer thinner or similar solvent and remove any residue from the original installation.
10. Install a smear of Loctite on the inside of the Avion control wheel and install the wheel onto the control shaft.
11. Install the cross bolt. Tighten the nut securely
12. Repeat with the other wheel.
13. Replace the control wheel and shaft into the aircraft , securely tightening the universal cross bolt and nut.
14. Repeat with the other control wheel.
15. Proceed to wire in PTT switch and other switches.



FAA Certification

Prior to flight check the full and free function of the control wheels and make the appropriate additions to the aircraft logbook. An annotation should be made in the aircraft log book stating that the wheels were installed in accordance with Piper service instructions and citing the FAA/PMA number. (enclosed) The copy of the PMA supplement should be included in the aircraft documents.

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Model Applicability List

Piper Model #	Piper P/N	Shaft Dia.	Avion P/N
Pa28-140 (4) Pa28-150 (4) Pa28-160 (4) Pa28-180 (4) Pa28-235 (4) Pa32-260 (4) Pa32-300 (4)	62818-00 (1) 62824-00	3/4 " (.750")	PCW-6001-103
Pa28-161	85292-07 85292-09	(1.125")	PCW-6001-101
Pa28-181 (3)	85292-07 85292-09 85292-10 85292-22 100572-003	(1.125")	PCW-6001-101
Pa28-151 Pa28-161 (3) Pa28-180 (2) Pa28-201T Pa28-235 (2) Pa28R-180 (2) Pa28R-200 (2) Pa28R-201 (3) Pa28R-201T Pa32-260 (2) Pa32-300 (2) Pa32R-300 Pa32RT-300T Pa32R-301T (3)	79276-00 79276-872	(1.125")	PCW-6001-101

- (1) AD 64-06-06 Control Wheel Cracks
- (2) AD 69-15-01 Pin Disengagement
- (3) AD 2004-14-12 Pin Disengagement
- (4) AD 69-22-02 Control Wheel Cracks

FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

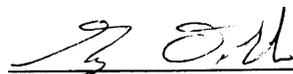
**AVION RESEARCH CORPORATION
265 SOBRANTE WAY, SUITE G
SUNNYVALE, CALIFORNIA 94056**

**PMA NO: PQ2254NM
SUPPLEMENT NO: 2
DATE: January 31, 2007**

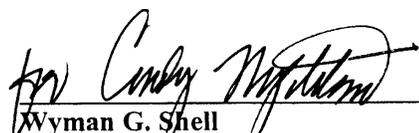
PART NAME	PART NUMBER	APPROVED REPLACEMENT FOR PART NUMBER	APPROVAL BASIS AND APPROVED DESIGN DATA	MAKE ELIGIBILITY	MODEL ELIGIBILITY
Control Wheel	PCW-601-101	85292-07	Test and Computation per 14 CFR § 21.303 Dwg No: MDL PCW-601 Rev: N/C Date: 9/29/06, or later FAA approved revisions	Piper	PA-28-151
		85292-09			PA-28-161
		85292-010			PA-28-180
		85292-022			PA-28-181
		100572-003			PA-28-201T
		79276-00			PA-28-235
		79276-872			PA-28-236
					PA-28R-180
					PA-28R-200
					PA-28R-201
	PA-28R-201T				
	PA-32-260				
	PA-32-300				
	PA-32R-300				
	PA-32RT-300T				
	PA-32R-301T				
Control Wheel	PCW-601-103	62818-00	Test and Computation per 14 CFR § 21.303 Dwg No: MDL PCW-601 Rev: N/C Date: 9/29/06, or later FAA approved revisions	Piper	PA-28-140
		62824-00			PA-28-150
					PA-28-160
					PA-28-180
					PA-28-235
					PA-32-260
					PA-32-300

-----End of Listing-----

NOTE: Minor design changes (reference 14 CFR part 21 §§ 21.93 and 21.95) must be submitted in a manner as determined by the ACO. Major Design changes (reference 14 CFR part 21 §§ 21.93 and 21.97) to drawings and specifications are to be handled in the same manner as that for an original FAA-PMA.



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