



SERVICE BULLETIN

NO. 1197A

Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida, U.S.A. 32960

SUPERSEDED!

PIPER CONSIDERS COMPLIANCE MANDATORY

For reference only.

Date: September 01, 2009

(S)(M)

SB 1197A Supersedes **SB 1197**. SB 1197A adds model PA-32S-300 Cherokee Seaplane to the list of Affected Models and added a Note to the Instructions. Aircraft that have previously complied with SB 1197 are in compliance SB 1197A.

SUBJECT:

CONTROL WHEEL SHAFT INSPECTION

MODELS AFFECTED:

PA-28-140 Cherokee Cruiser

PA-28-150 Cherokee
PA-28-160 Cherokee
PA-28-180 Cherokee

PA-28S-160 Cherokee
PA-28S-180 Cherokee

PA-28-235 Cherokee Pathfinder
PA-28-235 Cherokee Pathfinder
PA-28-236 Dakota

PA-28-151 Warrior
PA-28-161 Cadet
PA-28-161 Warrior II

PA-28-161 Warrior III
PA-28-180 Archer
PA-28-181 Archer II

PA-28-181 Archer III
PA-28-201T Turbo Dakota
PA-28R-180 Arrow

PA-28R-200 Arrow
PA-28R-200 Arrow II
PA-28R-201 Arrow III

PA-28R-201T Turbo Arrow III

PA-28RT-201 Arrow IV

SERIAL NUMBERS AFFECTED:

28-20001 through 28-26946; 28-7125001 through 28-7725290

28-03; 28-1 through 28-4377 & 28-1760A

28-03; 28-1 through 28-4377 & 28-1760A

28-03; 28-671 through 28-5859 & 28-7105001 through 28-7205318

28-1 through 28-1760 & 28-1760A

28-671 through 28-5859 & 28-7105001 through 28-7105234

28-10001 through 28-11378; 28-7110001 through 28-7210023

28E-11 & 28-7310001 through 28-7710089

28-7911001 through 28-8611008; 2811001 through 2811050

28-7415001 through 28-7715314

2841001 through 2841365

28-7716001 through 28-8216300; 28-8316001

through 28-8616057; 2816001 through 2816109

2816110 through 2816119; 2842001 through 2842305

28-E13; 28-7305001 through 28-7505260

28-7690001 through 28-8690056; 28-8690061;

28-8690062; 2890001 through 2890205

2890206 through 2890231; 2843001 through 2843672

28-7921001 through 28-7921095

28R-30002 through 28R-31270; 28R-7130001 through 28R-7130013

28R-35001 through 28R-35820; 28R-7135001 through 28R-7135229

28R-7235001 through 28R-7635545

28R-7737002 through 28R-7837317; 2837001

through 2837061; 2844001 through 2844138

28R-7703001 through 28R-7803374; 2803001 through 2803012

28R-7918001 through 28R-7918267

(OVER)

ATA: 2710

SUPERSEDED!

SUPERSEDED!

MODELS AFFECTED: (Continued)

PA-28RT-201 Arrow IV
 PA-28RT-201T Turbo Arrow IV

PA-32-260 Cherokee Six

PA-32-300 Cherokee Six

PA-32S-300 Cherokee Six Seaplane

PA-32R-300 Lance

PA-32RT-300 Lance II

PA-32RT-300T Turbo Lance II

PA-32R-301 Saratoga SP

PA-32R-301 Saratoga II HP

PA-32R-301 Saratoga II HP (with Entegra)

PA-32R-301T Turbo Saratoga SP

PA-32-301 Saratoga

PA-32-301T Turbo Saratoga

PA-32R-301T Saratoga II TC

PA-32-301FT Piper 6X

PA-32-301XTC Piper 6XT

PA-32-301XTC Piper 6XT (with Entegra)

PA-34-200 Seneca

PA-34-200T Seneca II

PA-34-220T Seneca III

PA-34-220T Seneca IV

PA-34-220T Seneca V

PA-44-180 Seminole

PA-44-180 Seminole

PA-44-180T Seminole

SERIAL NUMBERS AFFECTED: (Continued)

28R-8018001 through 28R-8218026
 28R-7931001 through 28R-8631005; 2831001 through
 2831038

32-03; 32-04; 32-1 through 32-1297; 32-7100001
 through 32-7800008

32-15; 32-21; 32-40000 through 32-40974;
 32-7140001 through 32-7940290

32S-15; 32S-40000 through 32S-40974;
 32S-7140001 through 32S-7240137

32R-7680001 through 32R-7880068

32R-7885002 through 32R-7985106

32R-7787001; 32R-7887002 through 32R-7987126

32R-8013001 through 32R-8613006; 3213001 through
 3213028; 3213030 through 3213041

3213029; 3213042 through 3213103; 3246001 through
 3246217; 3246219; 3246223

3246218; 3246220 through 3246222; 3246224 through
 3246244

32R-8029001 through 32R-8629008; 3229001 through
 3229003

32-8006002 through 32-8606023; 3206001 through
 3206019; 3206042 through 3206044; 3206047;

3206050 through 3206055; 3206060

32-8024001 through 32-8424002

3257001 through 3257483

3232001 through 3232074

3255001 through 3255014; 3255026

3255015 through 3255025; 3255027; 3255051

34-E4; 34-7250001 through 34-7450220

34-7570001 through 34-8170092

34-8133001 through 34-8633031; 3433001 through

3433172; 3448001 through 3448037

3448038 through 3448079; 3447001 through 3447029

3449001 through 3449377

44-7995001 through 44-8195026

4495001 through 4495013; 4496001 through 4496251

44-8107001 through 44-8207020

COMPLIANCE TIME:

To coincide with next regularly scheduled maintenance event, but not to exceed the next one hundred (100) hours time in service.

APPROVAL:

The technical content of this Service Bulletin has been shown to comply with the applicable Federal Aviation Regulations and is FAA approved.

PURPOSE:

Piper has received two field reports of incorrectly-assembled control wheel shafts. Specifically, the shaft common to the sprocket and the universal joint (both pilot and copilot sides) may not have been inserted fully into the universal joint prior to match-drilling the hole for the taper pin that fastens the shaft to the universal joint. The cause of this condition is unknown. Holes mis-drilled in such a manner may appear visually to be acceptable, when in fact the hole in the shaft may be too close to the end of the shaft, causing a significant reduction in joint strength.

Left uncorrected, this condition could lead to separation of the control wheel shaft, resulting in loss of pitch and roll control.

This Service Bulletin provides instructions for a mandatory inspection of the shaft to universal joint interface to ensure that they are assembled correctly on all aircraft that might be affected.

INSTRUCTIONS:

1. Gain access to the forward end of the control wheel column between the instrument panel and the forward firewall.
2. Locate the shaft and the universal joint, which are fastened together with a threaded taper pin, as shown in Figures 1 and 2. These components are installed on the aft side of the T-bar assembly.
3. Insert a 3/64 inch diameter drill rod into the witness hole as far as it will go with hand pressure. Measure the depth of penetration:
 - In a correct installation, the drill rod penetration depth will measure approximately .2 inches, indicating that the drill rod is bottoming out against the side of the fully inserted shaft.
 - In an incorrect installation, the drill rod penetration depth will exceed .2 inches. This indicates that the drill rod is bottoming out against the far side inner wall of the universal joint, and is not making contact with the shaft, because the shaft has not been inserted to the full and proper depth and replacement of the shaft is required.

NOTE: Universal joints on some early aircraft may not have a witness hole. If no witness hole exists, temporarily remove the taper pin and disassemble the universal joint from the shaft.

Examine the shaft. In a correct installation, the distance from the end of the shaft to the centerline of the hole for the taper pin will measure at least .19 inches. If the measured distance is less than .19 inches, replacement of the shaft is required.

If the taper pin is removed to accomplish this inspection, reinstall the taper pin according to the instructions in step 4c) below.

4. Perform this inspection on both pilot and copilot control wheel columns. If replacement is required, identify and order the correct replacement shaft (and, on condition, universal joint) using table 1, 2 or 3 as applicable. Verify that the new shaft has been fully inserted using the method described above, prior to returning aircraft to service. Install taper pins as follows:
 - a With shaft inserted to proper depth, drill through mated parts using a #5 (.2055) drill bit.
 - b Ream drilled hole in steps, with a #1 tapered reamer, Piper P/N 906-713. In a properly sized tapered hole, the tapered pin shall install to a depth such that the small end of the tapered shank (where the threads begin) is between .030 inches inside and .062 inches outside of outer surface.

INSTRUCTIONS: (Continued)

- c Install tapered pin through mated parts. (See Figure 3)
- If pin shoulder (small taper end) does not protrude past outer surface, install an AN960-10 washer (Piper part number 407-564) under nut.
 - If pin shoulder (small taper end) protrudes past tube surface, install an AN975-3 washer (Piper part number 494-093) under nut.

NOTE: Do not reuse the nut that installs the taper pin. Taper pins, washers, sprockets and universal joints may be reused, if they are determined to be in airworthy condition.

5. Make a logbook entry indicating compliance with this Service Bulletin.

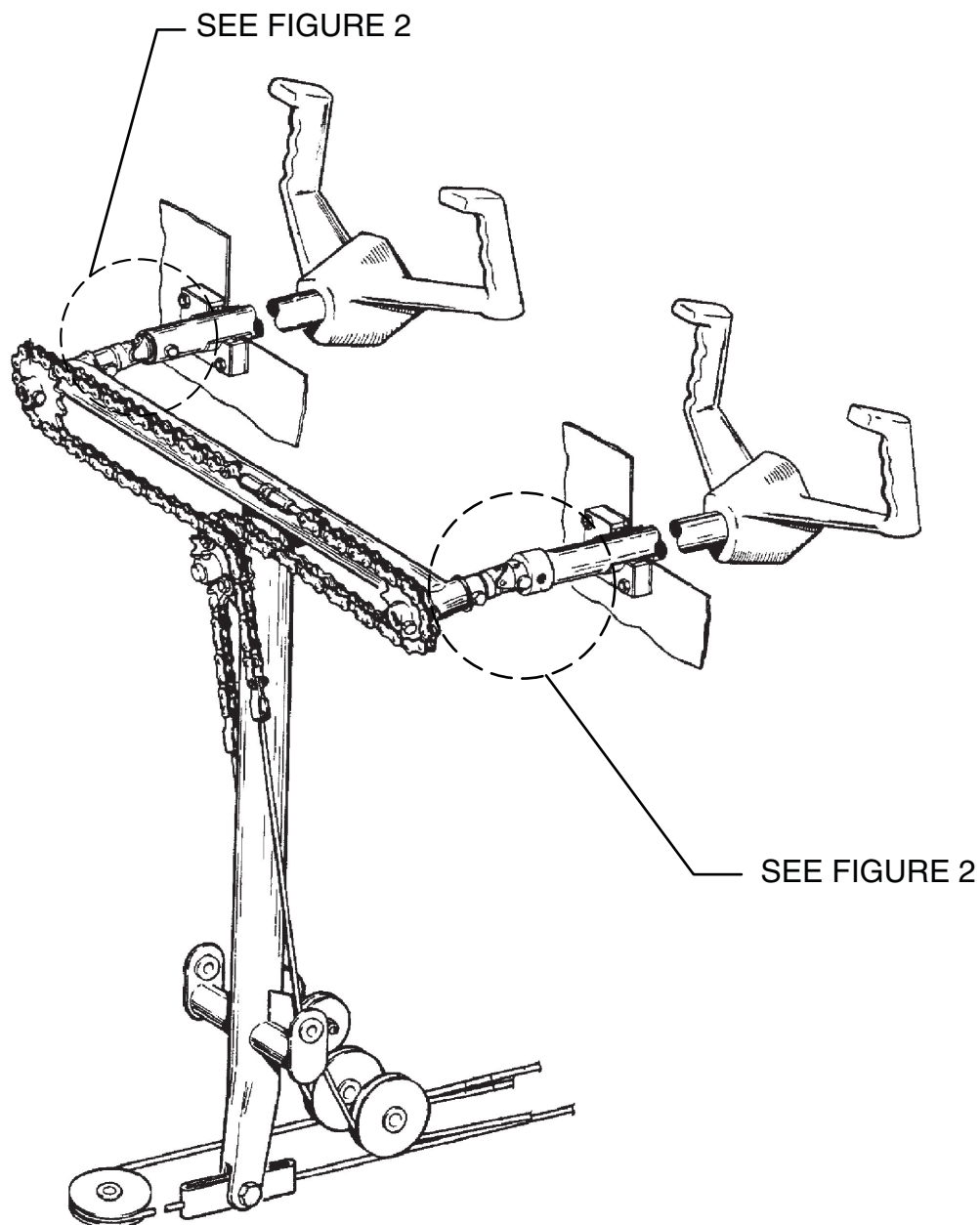


Figure 1
Control Column Assembly

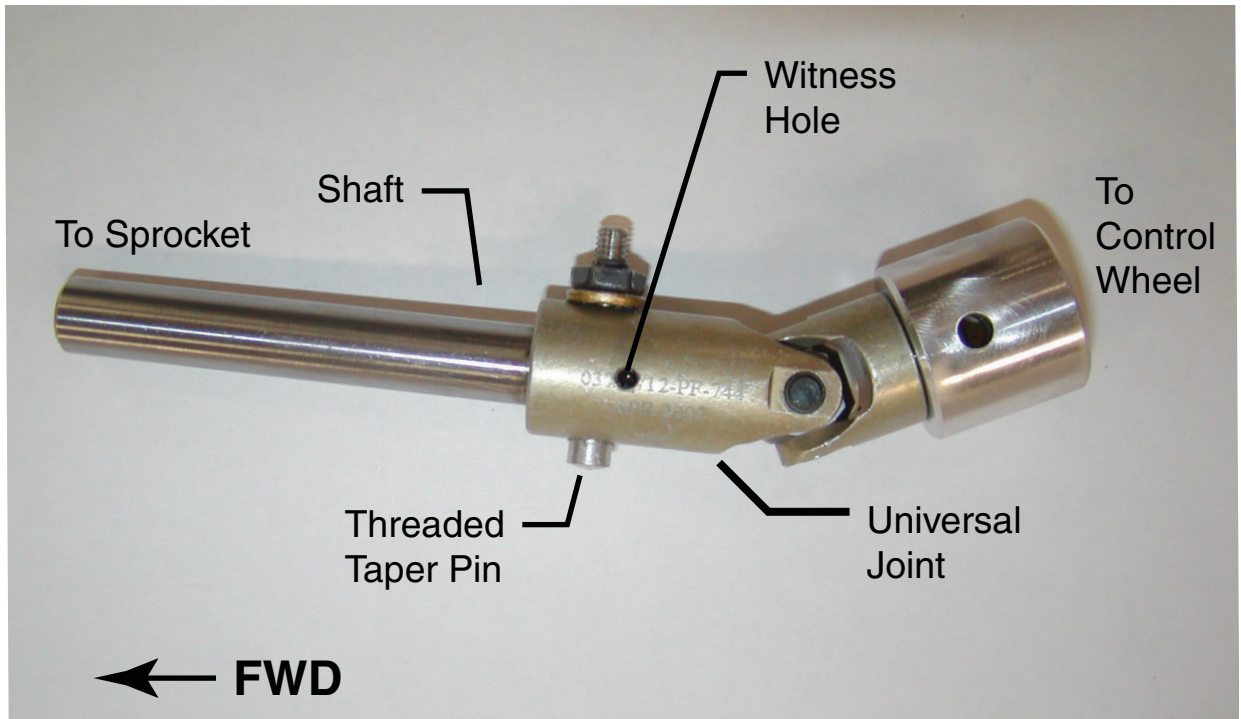


Figure 2
Shaft Fastened to Universal Joint

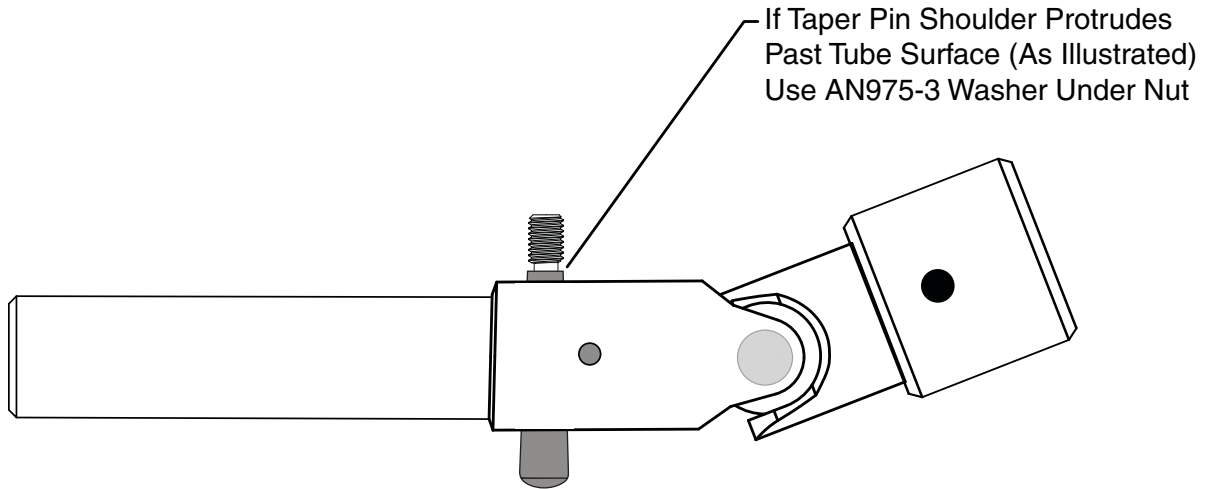


Figure 3
Taper Pin Protrusion

MATERIAL REQUIRED: The correct part numbers may be found in the applicable Aircraft Parts Catalog and Tables 1, 2, and 3

AVAILABILITY OF PARTS: Your Piper Service Facility.

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

SUMMARY: Applicable Factory Participation is limited to new aircraft in warranty at the time of compliance. Factory Participation will remain in effect for a period of time not to exceed 180 days from the date of this Service Bulletin.

Please contact your Factory Authorized Piper Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the compliance time indicated.

NOTE: Please notify the factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960

**Table 1
REPLACEMENT SHAFT and UNIVERSAL JOINT**

Model	Serial Number	Shaft		Universal Joint
		left (Pilot)	right (Copilot)	
PA-28-140 Cherokee	28-20001 through 28-20160	62716-002	62716-003	62834-000
	28-20161 through 28-21845 28-21931 through 28-21934	62716-004	62716-005	62834-000
	28-21846 through 28-21930 28-21935 through 28-25400	62716-006	62716-007	62834-002
	28-25401 through 28-26946 28-7125001 through 28-7725290	62716-007	62716-007	62834-002
PA-28-150 Cherokee	28-1 through 28-1760 28-03, 28-1760A	62716-002	62716-003	62834-000
	28-1761 through 28-3377	62716-004	62716-005	62834-000
	28-3378 through 28-4377	62716-006	62716-007	62834-002
PA-28-160 Cherokee	28-1 through 28-1760 28-03, 28-1760A	62716-002	62716-003	62834-000
	28-1761 through 28-3377	62716-004	62716-005	62834-000
	28-3378 through 28-4377	62716-006	62716-007	62834-002
PA-28-180 Cherokee	28-671 through 28-1760 28-03	62716-002	62716-003	62834-000
	28-1761 through 28-3377	62716-004	62716-005	62834-000
	28-3378 through 28-4377	62716-006	62716-007	62834-002
	28-4378 through 28-5859 28-7105001 through 28-7205318	62716-007	62716-007	62834-002
PA-28S-160 Cherokee	28-1 through 28-1760 28-1760A	62716-002	62716-003	62834-000
PA-28S-180 Cherokee	28-671 through 28-1760	62716-002	62716-003	62834-000
	28-1761 through 28-3377	62716-004	62716-005	62834-000
	28-3378 through 28-4377	62716-006	62716-007	62834-002
	28-4378 through 28-5859 28-7105001 through 28-7105234	62716-007	62716-007	62834-002
PA-28-235 Cherokee	28-10001 through 28-10486	62716-002	62716-003	62834-000
	28-10487 through 28-10719	62716-004	62716-005	62834-000
	28-10720 to 28-11039	62716-006	62716-007	62834-002
	28-11040 through 28-11378 28-7110001 through 28-7210023 28E-11	62716-007	62716-007	62834-002
	28-7310001 through 28-7710089			
PA-28-236 Dakota	28-7911001 through 28-8611008 2811001 through 2811050	62716-007	62716-007	62834-002
PA-28-151 Warrior	28-7415001 through 28-7715314	62716-007	62716-007	62834-002
PA-28-161 Cadet	2841001 through 2841365	62716-007	62716-007	62834-002
PA-28-161 Warrior II	28-7716001 through 28-8216300 28-8316001 through 28-8616057 2816001 through 2816109 2816110 through 2816119 2842001 through 2842305	62716-007	62716-007	62834-002

**Table 2
REPLACEMENT SHAFT and UNIVERSAL JOINT**

Model	Serial Number	Shaft		Universal Joint
		left (Pilot)	right (Copilot)	
PA-28-161 Warrior III	2816110 through 2816119 2842001 through 2842305	62716-007	62716-007	62834-002
PA-28-180 Archer	28-E13 28-7305001 through 28-7505260	62716-007	62716-007	62834-002
PA-28-181 Archer II	28-7690001 through 28-8690056 28-8690061, 28-8690062 2890001 through 2890205	62716-007	62716-007	62834-002
PA-28-181 Archer III	2890206 through 2890231 2843001 through 2843672	62716-007	62716-007	62834-002
PA-28-201T Turbo Dakota	28-7921001 through 28-7921095	62716-007	62716-007	62834-002
PA-28R-180 Arrow	28R-30002 through 28R-31270 8R-7130001 through 28R-7130013	62716-007	62716-007	62834-002
PA-28R-200 Arrow	28R-35001 through 28R-35820 28R-7135001 through 28R-7135229	62716-007	62716-007	62834-002
PA-28R-200 Arrow II	28R-7235001 through 28R-7635545	62716-007	62716-007	62834-002
PA-28R-201 Arrow III	28R-7737002 through 28R-7837317 2837001 through 2837061 2844001 through 2844138	62716-007	62716-007	62834-002
PA-28R-201T Turbo Arrow III	28R-7703001 through 28R-7803374 2803001 through 2803012	62716-007	62716-007	62834-002
PA-28RT-201 Arrow IV	28R-7918001 through 28R-7918267 28R-8018001 through 28R-8218026	62716-007	62716-007	62834-002
PA-28RT-201T Turbo Arrow IV	28R-7931001 through 28R-8631005 2831001 through 2831038	62716-007	62716-007	62834-002
PA-32-260 Cherokee Six	32-03, 32-04 32-1 through 32-600	62716-004	62716-005	62834-000
	32-601 through 32-690	62716-006	62716-007	62834-002
	32-691 through 32-1297 32-7100001 through 32-7800008	62716-007	62716-007	62834-002
	32-15, 32-21	62716-004	62716-005	62834-000
PA-32-300 Cherokee Six	32-40000 through 32-40415	62716-006	62716-007	62834-002
	32-40416 through 32-40974 32-7140001 through 32-7940290	62716-007	62716-007	62834-002
	32S-15	62716-004	62716-005	62834-000
	32S-40000 through 32S-40415	62716-006	62716-007	62834-002
PA-32S-300 Cherokee Six Seaplane	32S-40416 through 32S-40974 32S-7140001 through 32S-7240137	62716-007	62716-007	62834-002
	32R-7680001 through 32R-7880068	62716-007	62716-007	62834-002
PA-32R-300 Lance	32R-7680001 through 32R-7880068	62716-007	62716-007	62834-002
PA-32RT-300 Lance II	32R-7885002 through 32R-7985106	62716-007	62716-007	62834-002
PA-32RT-300T Turbo Lance II	32R-7787001 32R-7887002 through 32R-7987126	62716-007	62716-007	62834-002

**Table 3
REPLACEMENT SHAFT and UNIVERSAL JOINT**

Model	Serial Number	Shaft		Universal Joint
		left (Pilot)	right (Copilot)	
PA-32R-301 Saratoga SP	32R-8013001 through 32R-8613006 3213001 through 3213028 3213030 through 3213041	62716-007	62716-007	62834-002
PA-32R-301 Saratoga II HP	3213029 3213042 through 3213103 3246001 through 3246217 3246219; 3246223	62716-007	62716-007	62834-002
PA-32R-301 Saratoga II HP (with Entegra)	3246218 3246220 through 3246222 3246224 through 3246244	62716-007	62716-007	62834-002
PA-32R-301T Turbo Saratoga SP	32R-8029001 through 32R-8629008 3229001 through 3229003	62716-007	62716-007	62834-002
PA-32-301 Saratoga	32-8006002 through 32-8606023 3206001 through 3206019 3206042 through 3206044 3206047 3206050 through 3206055 3206060	62716-007	62716-007	62834-002
PA-32-301T Turbo Saratoga	32-8024001 through 32-8424002	62716-007	62716-007	62834-002
PA-32R-301T Saratoga II TC	3257001 through 3257483	62716-007	62716-007	62834-002
PA-32-301FT Piper 6X	3232001 through 3232074	62716-007	62716-007	62834-002
PA-32-301XTC Piper 6XT	3255001 through 3255014 3255026	62716-007	62716-007	62834-002
PA-32-301XTC Piper 6XT (with Entegra)	3255015 through 3255025 3255027, 3255051	62716-007	62716-007	62834-002
PA-34-200 Seneca	34-E4 34-7250001 through 34-7450220	62716-007	62716-007	62834-002
PA-34-200T Seneca II	34-7570001 through 34-8170092	62716-007	62716-007	62834-002
PA-34-220T Seneca III	34-8133001 through 34-8633031 3433001 through 3433172 3448001 through 3448037	62716-007	62716-007	62834-002
PA-34-220T Seneca IV	3448038 through 3448079 3447001 through 3447029	62716-007	62716-007	62834-002
PA-34-220T Seneca V	3449001 through 3449377	62716-007	62716-007	62834-002
PA-44-180 Seminole	44-7995001 through 44-8195026 4495001 through 4495013 4496001 through 4496251	62716-007	62716-007	62834-002
PA-44-180T Seminole	44-8107001 through 44-8207020	62716-007	62716-007	62834-002