

ROBERTSON AIRCRAFT CORPORATION

INSTALLATION INSTRUCTIONS

FOR SERVICE BULLETIN #19

18 & 19 SERIES

(PA24, PA24-250, -260, PA30, & PA39)

REVISED 7-26-83

DATE 2-28-83

INSTALLATION INSTRUCTIONS LATEST REVISION LOG

<u>PAGE</u>	<u>LATEST REVISION</u>
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SERVICE BULLETIN # 19

PA 24, 30, and 39

FLAP RETURN CABLE INSTALLATION

PA 30

(Serial No. 30-2 thru 30-852
30-854 thru 30-901)

(3) USED ON PA 24-260
(Serial No. 24-4247, 24-4300 and on.)

PA 30

(Serial No. 30-853, 30-902 and on.)

PA 39

(Serial No. 39-1 and on.)

18 & 19 SERIES
(PA 24, 24-250, -260, PA30, & PA39)

INSTALLATION INSTRUCTIONS

Refer to drawing 18-460.

There are two versions of the return cable installation. The -1 installation is used for aircraft having the standard four seat configuration. The -3 installation is for aircraft equipped for the optional six seat configuration.

1.0 DISASSEMBLY AND INSTALLATION

- 1.1 Disconnect flap return spring(s) at bellcrank.
- 1.2 Remove flaps and retain hardware.
- 1.3 Remove rear seat and floor paneling under rear seat. Remove wing inspection panels as required.
- 1.4 Remove existing hardware from pushrod clevis on bellcrank, retaining the link and spacer. Install 18A427-1, links (2), (-1 instl), or 18A427-3, links (2), (-3 instl) and associated hardware shown in Section Z-Z, zone A7.
- 1.5 Install 18-420-1 pulley bracket assy to the outboard side of WSTA 68 rib as shown in Section Y-Y, zone C11.
- 1.6 Install the 25-336-1 pulley bracket assy to the forward side of the rear spar as shown in Section V-V, zone B11.
- 1.7 Enlarge existing cable hole in WSTA 55 rib as shown in Section U-U, zone C9.
- 1.8 Enlarge existing cable hole in WSTA 47 rib as shown in Section T-T, zone B10.
- 1.9 Remove existing Piper pulley bracket assembly attached to the forward side of the rear spar between WSTA 33 and 47. Trim existing Piper pulley brackets per Detail AC. Plug unused rivet holes in spar per flagnote 4. Add MS24566-3B pulley and reinstall with 18A426-1 nutplate assembly as shown in Section P-P, zone A10.

- 1.10 Locate and install 25-336-1 pulley bracket assy to the inboard side of WSTA 33 1/16 rib as shown in Section M-M, zone A8.
- 1.11 Remove existing Piper pulley bracket assy attached to the inboard side of wing root rib. Enlarge existing cable hole in wing root rib as shown in Detail L, zone C8. Add S-394 pulley (ream ID. to .255/.270), 18-421-3 clip, and associated hardware. Reinstall as shown in Section J-J, zone B8.
- 1.12a Remove existing Piper pulley from bracket on rear spar as shown in Detail AD, zone D10. Install MS20220-1 pulley and 18-421-5 clip, using the longer AN5 bolt (-3 instl only).
- 1.12b Locate and install 18A428-1 stiffener and 25-321-11 pulley bracket assy to floor beam as shown in Section G-G, zone B3 (-1 instl only). Enlarge hole for cable clearance as required.
- 1.13 Remove existing fairlead and enlarge hole in floor beam as shown in Detail AE, zone C2. Locate and install 18B429-1, pulley bracket assy to floor beam as shown in Section AH-AH, zone C3 (-3 instl only).
- 1.14 Enlarge existing cable hole in floor beam as shown in Section AF-AF, zone B2.
- 1.15 Attach 18-423-1 and -2 cable assys to flap bellcranks as shown in Section Z-Z, zone A7.
- 1.16 Reattach flap return springs.
- 1.17 Route 18-423-1 & -2 cables over pulleys in wing and into the fuselage as shown in plan view.
- 1.18 Remove pivot bolt from right pulley located on the spar support (see Detail D, zone A5). Install 18-423-1 and -2 return cables over MS24566-3B pulleys (2) before installing 18-421-1 pulley support and associated hardware.
- 1.19 Locate fastener locations for 18-425-1 pulley bracket assy on frame as shown in Section AA-AA, zone B10. Install 18-422-1 cable assy over pulley such that the threaded terminal end is on the outboard side, and install pulley bracket assy to frame.

- 1.20 If cable elevator up spring cable, 10-402-2A, is on right side, attach clevis end of 18-422-1 cable assembly to 18-413-6 clamp as shown in Section B-B, Zone A6. If 10-402-2A cable is on left side, install additional 18-413-6 clamp using AN3-15A bolts and attach 18-422-1 cable, as shown in Section C-C, zone A5.
- 1.21 Insert 18-422-1, 18-423-1 and -2 cable ends into 18A424-1 yoke and secure as shown in Detail F, zone A2.
- 1.22 Reinstall flaps.
- 1.23 Trim floor panel per Detail AG, zone A12.
- 1.24 Rig flap direct cables per Piper service manual.
- 1.25 Rig flap return cables per Section 2.0.

2.0 FLAP RETURN CABLE RIGGING

Refer to drawing 18-460.

- 2.1 Position flaps full up.
- 2.2 Rig 18-423-1 and -2 return cables with 10 ± 1 LB tension. Adjustment is made at 18A424-1 yoke, see Detail F, zone A2.
- 2.3 Cycle flaps to full down and back to full up position, checking for smooth operation and adequate cable clearance.

NOTE: When flaps are lowered, tension in the flap return cables will vary slightly due to the geometry of the system.

3.0 INSPECTION CHECK LIST

- 3.1 Inspect flap bellcranks, pushrods, and cut outs for proper clearance, ease of operation, lubrication, and security.
- 3.2 Inspect all modified pulley brackets for security, installation of cable keepers, and proper pulley rotation.
- 3.3 Inspect flap cables for proper routing, clearance, alignment, and tension.
- 3.4 Inspect flaps for proper rigging, travels, and general condition.
- 3.5 Inspect flap tracks for binding and bearing operation.
- 3.6 Check all bolts, cables, etc. for security and proper safetying.

4.0 CLOSURE

Reinstall inspection covers and cabin interior.

5.0 LOG BOOK ENTRY

Installed flap return cable kit in accordance with Robertson Service Bulletin #19.

SERVICE BULLETIN # 19

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PARTS LIST

PA 24, 30, and 39

FLAP RETURN CABLE INSTALLATION

PART NO.	NOMENCLATURE	QTY.	PICK	INSP.
18-413-6	CLAMP	1		
18-420-1	PULLEY BRACKET ASSY.	2		
18-421-1	PULLEY SUPPORT	1		
18-421-3	CLIP	2		
(3) 18-421-5	CLIP	2		
18-422-1	CABLE ASSY.	1		
18-423-1	CABLE ASSY.	1		
18-423-2	CABLE ASSY.	1		
18A424-1	YOKE	1		
18-425-1	PULLEY ASSY.	1		
18A426-1	NUT PLATE ASSY.	4		
(1) 18A427-1	LINK	4		
(3) 18A427-3	LINK	4		
(1) 18A428-1	STIFFENER	1		
(3) 18B429-1	PULLEY BRACKET ASSY.	1		
(3) BU0188	BUSHING	1		
(1) 25-321-11	PULLEY BRACKET ASSY.	1		
25-336-1	PULLEY BRACKET ASSY.	4		
82A320-5	BUSHING	2		
(3) AN3-10A	BOLT	1		
AN3-3A	BOLT	30		
(1) AN3-4A	BOLT	3		
(1) AN3-5A	BOLT	1		
AN3-14A	BOLT	4		
AN4-15A	BOLT	2		
AN4-14	BOLT	2		
AN4-22A	BOLT	1		
(3) AN5-14A	BOLT	2		
AN23-10	CLEVIS BOLT	2		
AN316-4R	NUT	3		

PARTS LIST

PA 24, 30, and 39

FLAP RETURN CABLE INSTALLATION

PART NO.	NOMENCLATURE	QTY.	PICK	INSP.
AN525-10R16	SCREW	1		
(1)/(3) AN960-10	WASHER	5/3		
(1)/(3) AN960-10L	WASHER	43/40		
AN960-416	WASHER	7		
BU0150	BUSHING	1		
BW50-20-032	BRASS WASHER	2		
BW75-27-032	BRASS WASHER	4		
BW75-27-063	BRASS WASHER	2		
MS17826-3	NUT	2		
MS17826-4	NUT	2		
(3) MS20220-1	PULLEY	2		
MS20365-428A	NUT	3		
MS20365-428C	NUT	3		
(1)/(3) MS20365-1032C	NUT	33/30		
MS24566-3B	PULLEY	4		
MS24665-132	COTTER PIN	2		
MS24665-134	COTTER PIN	2		
MS24665-289	COTTER PIN	4		
MS27039-1-08	SCREW	8		
NAS43HT4-8	SPACER	2		
S-394	PULLEY	2		

(1) USED ON PA 24-250
 (Serial No. 24-2844 thru 24-3641,
 24-3643 thru 24-3687)

PA 24-260
 (Serial No. 24-3642, 24-4000 thru 24-4246,
 24-4248 thru 24-4299)

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