

REVISION LIST

CHAPTER 19: ELEVATOR CONTROLS

The following list of revisions will allow you to update the Legacy construction manual chapter listed above.

Under the “Action” column, “R&R” directs you to remove and replace the pages affected by the revision. “Add” directs you to insert the pages shows and “R” to remove the pages.

PAGE(S) AFFECTED	REVISION # & DATE	ACTION	DESCRIPTION
19-1	1/09-18-02	R&R	Part # Correction
19-2	1/09-18-02	R&R	Part # Correction
19-3	0/02-15-02	None	Add additional fig. to 19:A:1
19-4	1/09-18-02	None	Current revision is correct
19-5	1/09-18-02	R&R	Text Correction
19-5	0/02-15-02	None	Current revision is correct
19-1	3/12-15-04	R&R	Updated table of contents with page numbers.
19-2	4/09-30-06	R&R	Removed note about two styles of cross-over weldment.

Chapter 19: Elevator Controls

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1. INTRODUCTION

There are two control tubes in the Legacy elevator control system. Both tubes are pre-assembled in the factory. The forward control tube mounts to the cross over weldment and the idler arm. The idler arm installs on the baggage bulkhead. You will notice four pivot holes pre-drilled on the elevator weldment in the back. In this chapter we will install these components as well as explain how to rig the elevator system.

2. PARTS LIST

#	PART NO. (P/N)	QTY	DESCRIPTION	OPTIONAL ITEM <i>(not included with kit)</i>
ELEVATOR CONTROLS RIGGING				
1)	3205-A	1	Idler Arm	
2)	4454	2	Elevator Idler Arm Bracket	
3)	4455	2	Elevator Idler Arm Spacer	
4)	4465	1	Control Tube, Forward 6061T6 (1" O.D. x 0.083" wall x 62.75" Length)	
5)	4466	1	Control Tube, Aft 6061T6 (1 1/4" O.D. x 0.065 wall x 76" Length)	
6)	AN3-7A (Rev. A)	1	Bolt, Undrilled	
6)	AN3-10A	4	Bolt, Undrilled	
7)	AN4-7A	2	Bolt, Undrilled	
8)	AN4-16A	1	Bolt, Undrilled	
9)	AN365-428A	3	Locknut	
10)	AN365-1032A	8	Locknut	
11)	MS24694-S56	4	Machine Screw	
12)	AN960-416L	3	Washer, Flat	
13)	AN960-10	8	Washer, Flat	

Note:

Optional Parts available through :

(*) Lancair Avionics

(**) Kit Components, Inc.



19-1

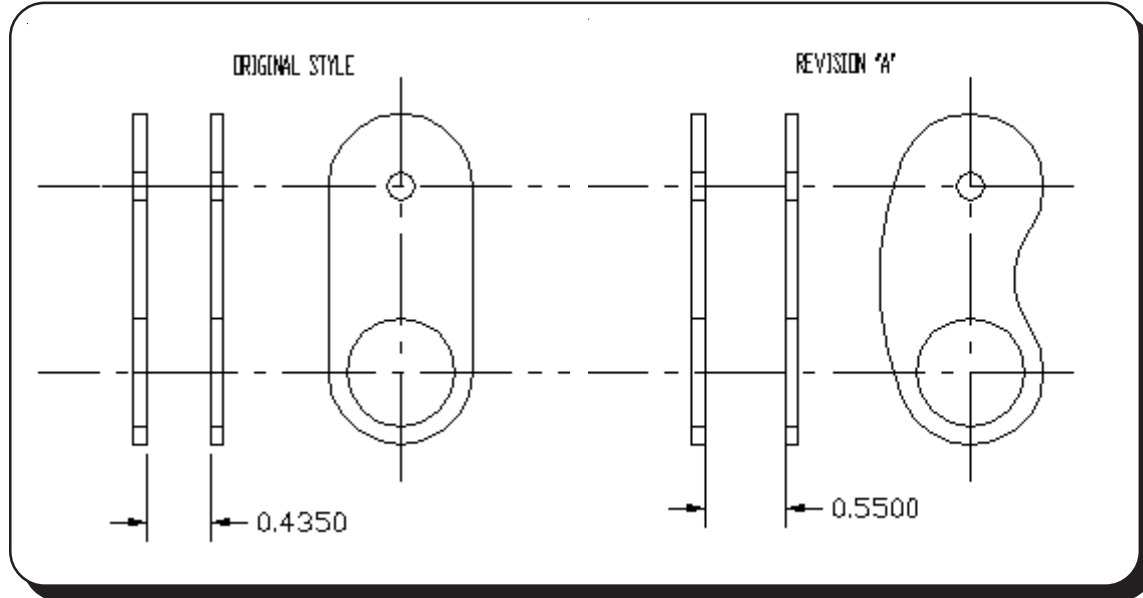
Chapter 19 REV. 3/12-15-04

ELEVATOR CONTROLS

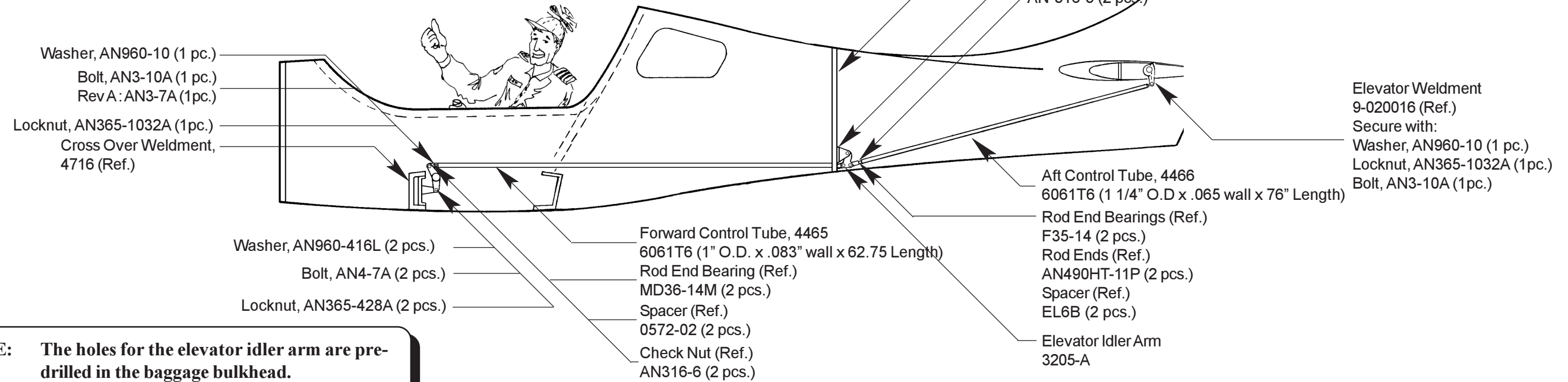
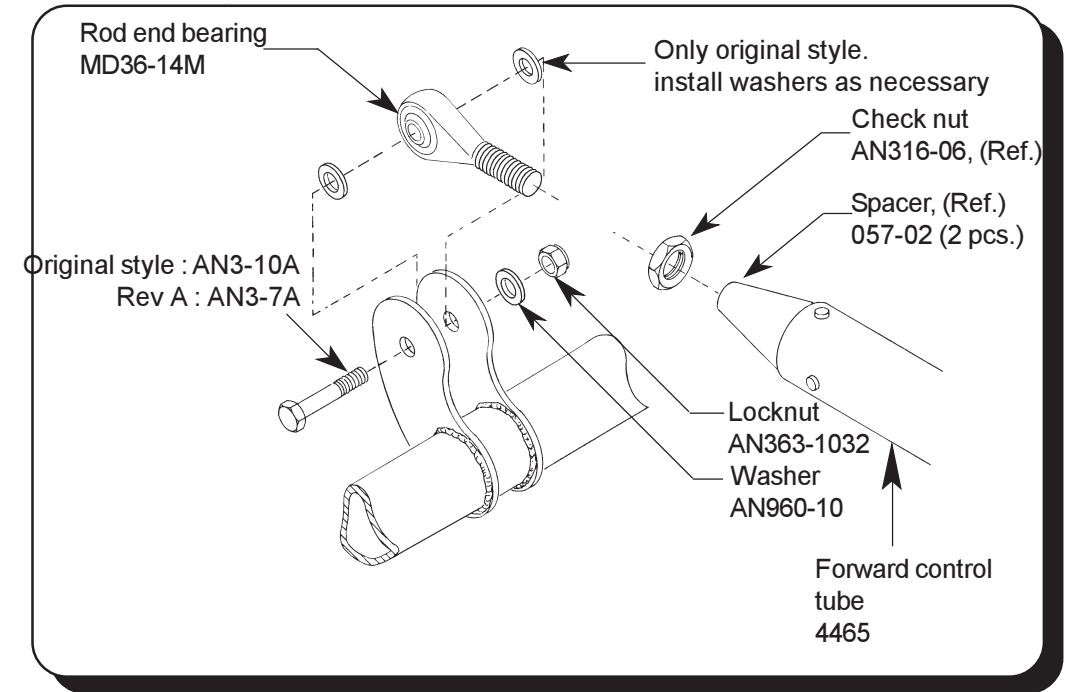
3. CONSTRUCTION PROCEDURES

A. Elevator Controls Rigging

NOTE: Verify the length of the forward control tube (p/n 4465). The length of the tube itself should be 62.75". Please contact a tech representative at Lancair should the tube be off by more than 1/4".

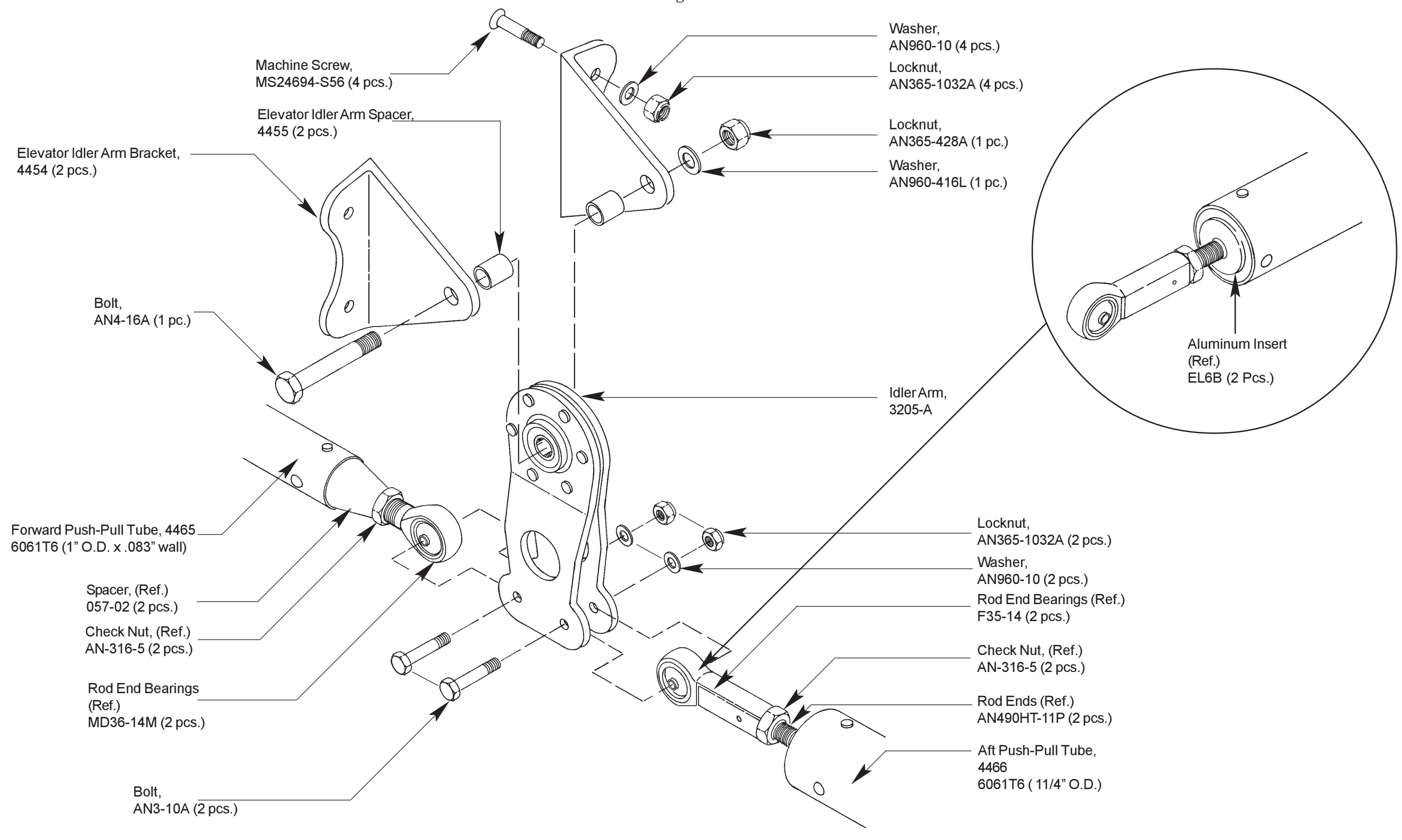


Elevator Control System
Figure 19:A:1



NOTE: The holes for the elevator idler arm are pre-drilled in the baggage bulkhead.

Elevator Idler Arm Assembly
Figure 19:A:2



Machine Screw,
MS24694-S56 (4 pcs.)

Elevator Idler Arm Spacer,
4455 (2 pcs.)

Elevator Idler Arm Bracket,
4454 (2 pcs.)

Bolt,
AN4-16A (1 pc.)

Forward Push-Pull Tube, 4465
6061T6 (1" O.D. x .083" wall)

Spacer, (Ref.)
057-02 (2 pcs.)

Check Nut, (Ref.)
AN-316-5 (2 pcs.)

Rod End Bearings
(Ref.)
MD36-14M (2 pcs.)

Bolt,
AN3-10A (2 pcs.)

Washer,
AN960-10 (4 pcs.)

Locknut,
AN365-1032A (4 pcs.)

Locknut,
AN365-428A (1 pc.)

Washer,
AN960-416L (1 pc.)

Idler Arm,
3205-A

Aluminum Insert
(Ref.)
EL6B (2 Pcs.)

Locknut,
AN365-1032A (2 pcs.)

Washer,
AN960-10 (2 pcs.)

Rod End Bearings (Ref.)
F35-14 (2 pcs.)

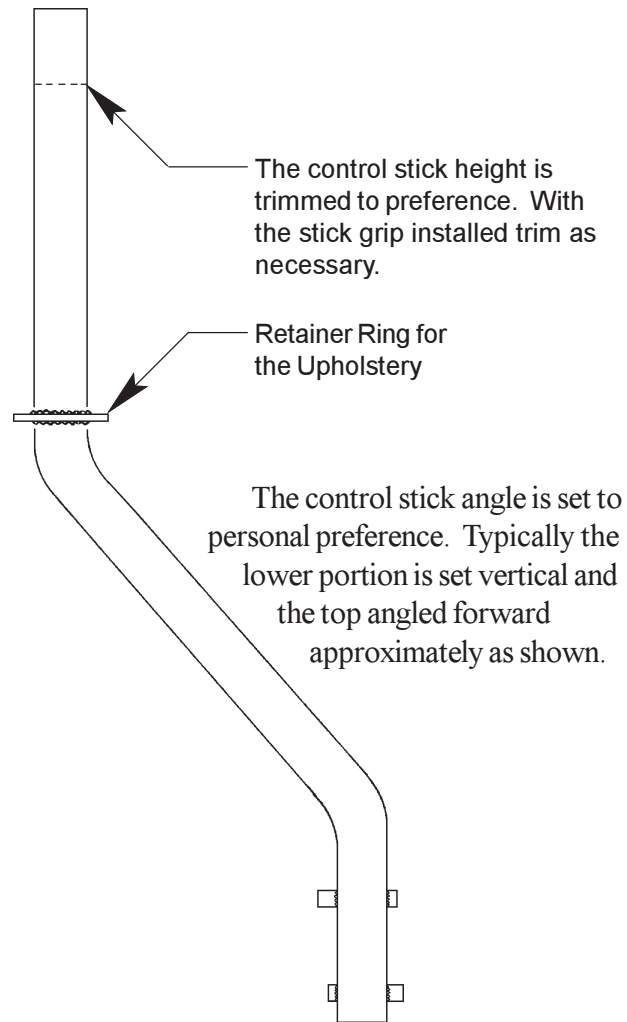
Check Nut, (Ref.)
AN-316-5 (2 pcs.)

Rod Ends (Ref.)
AN490HT-11P (2 pcs.)

Aft Push-Pull Tube,
4466
6061T6 (1 1/4" O.D.)

Rigging Elevator Controls
Fig. 19:A:3

Control Stick



The control stick height is trimmed to preference. With the stick grip installed trim as necessary.

Retainer Ring for the Upholstery

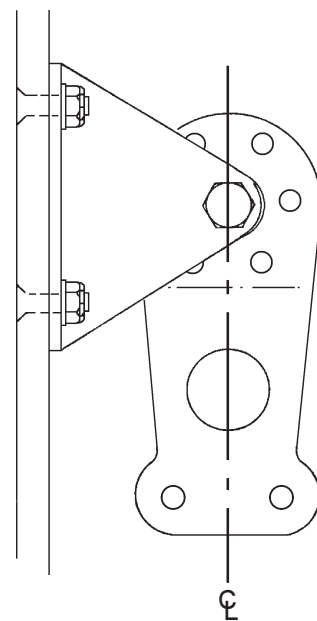
The control stick angle is set to personal preference. Typically the lower portion is set vertical and the top angled forward approximately as shown.

In order to rig its controls, we need to set the components in a neutral position:

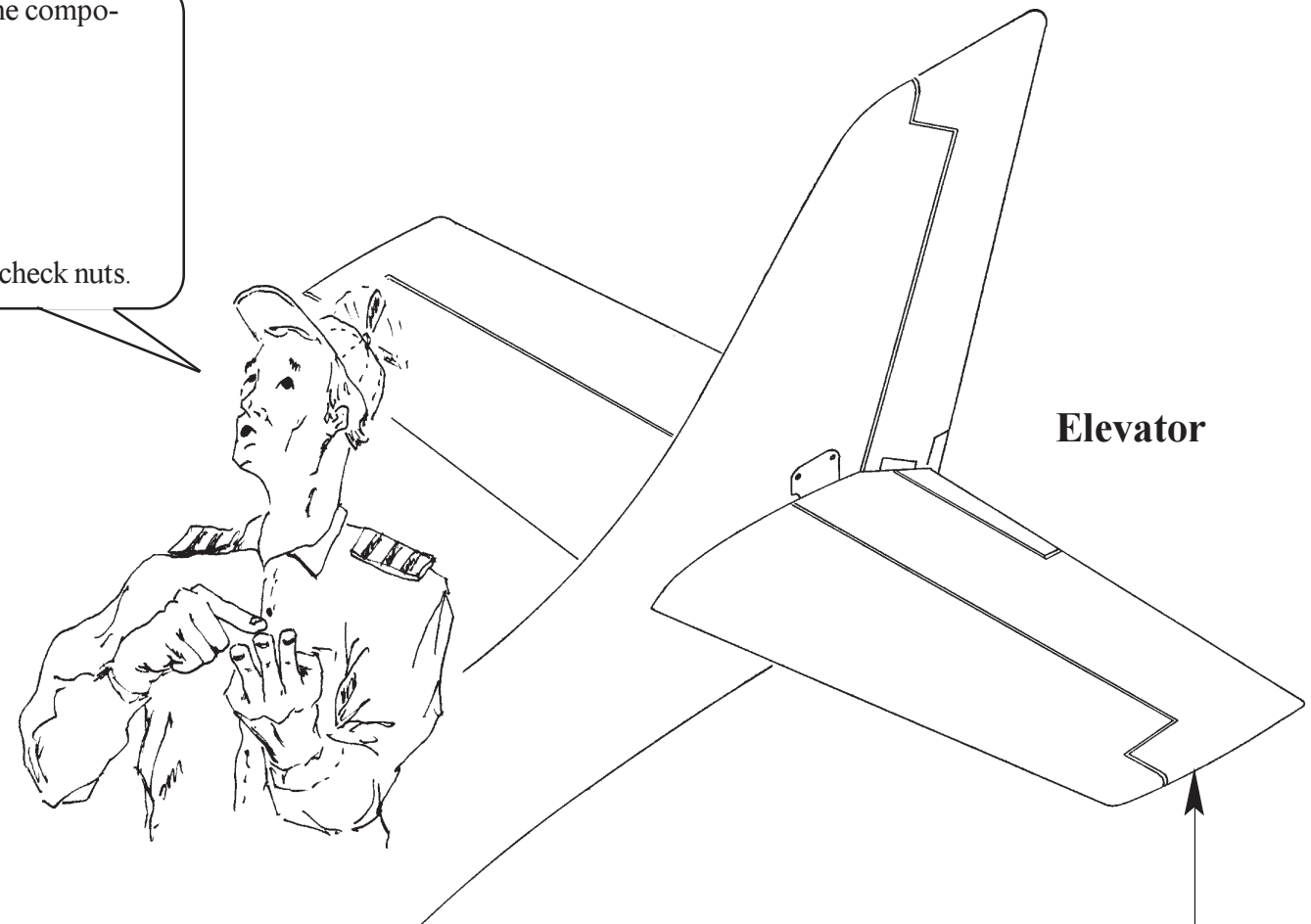
1. Set the elevator to neutral.
2. Set the idler arm to neutral.
3. Set the control stick to neutral.

Adjust the rod ends and tighten the check nuts.

Elevator Idler Arm



Set the idler arm approximately vertical.



To set the elevator to neutral, the counterweight is set flush with the horizontal stabilizer. This corresponds to 0 degrees of deflection.

NOTE: You may need to shorten the stick depending on preference and stick grip used.

B. Trimming Inboard Ends for the Rudder

The inboard ends of the elevator (and the elevator trim tab) must be trimmed such that there is a minimum of 3/16" clearance between the elevator and the rudder during any combination of control surface deflections.

Trimming Inboard Ends of Elevator

Fig. 19:B:1

