

# REVISION LIST

## CHAPTER 18: BRAKE SYSTEMS

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
18-1 through 18-6	0/02-15-02	None	Current revision is correct
18-1	3/12-15-04	R&R	Updated table of contents with page numbers.

## Chapter 18: Brake System

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## 1. INTRODUCTION

The brakes perform two very critical functions in the Legacy. Number one (of course) they serve as brakes. Secondly, the brakes are used for ground steering at lower speeds. Obviously the brakes are very important! With this in mind, take your time and assemble carefully.

In assembling the brake system we will start at the brakes and work our way to the reservoir. At the end of this chapter, you will have functioning brakes.

### Note:

Optional Parts available through :

(\*) Lancair Avionics

(\*\*) Kit Components, Inc.

## 2. PARTS LIST

#	PART NO. (P/N)	QTY	DESCRIPTION	OPTIONAL ITEM <i>(not included with kit)</i>
<b>BRAKE SYSTEM</b>				
1)	4662	2	Brake Cylinder Clevis	
2)	9-42016	1	Brake Fluid Reservoir	
3)	AN316-5	2	Check Nut	
4)	10-88	2	Cleveland Master Cylinder	
5)	272P-03x02	1	Poly-Flo Fitting, T	
6)	269P-03x02	4	Poly-Flo Fitting, Elbow	
7)	71-T-187	30	Poly-Flo Tubing	
8)	B44-3	30	Tygon Tubing	
<b>INSTALLING BRAKE ASSEMBLIES</b>				
1)	AN823-4	2	Fitting, Elbow	
<b>BRAKE LINES MAIN GEAR LEGS</b>				
1)	4740	2	Premade Hose	
2)	AN3-4A	2	Bolts	
3)	MS21919-DG10	2	Clamps	
4)	MS21919-DG6	8	Clamps	
5)	268 - 03 x 02	2	Fitting	
6)	C5275 x 4	2	Fitting	
7)	MS35489-11	2	Grommet	
8)	AN365-1032A	4	Locknuts	
9)	AN924-4	2	Nut	
10)	CS125-103212GCR	2	Studs	
11)	AN960-10L	4	Washers	
12)	AN960-10	2	Washers	
<b>MOUNTING BRAKE RESERVOIR</b>				
1)	5052-.250 x .035	4	Aluminum Tubing	
2)	AN3-7A	2	Bolts	
3)	MS21919-DG4	2	Clamps	
4)	AN822-4D	1	Fitting, Elbow	
5)	AN363-1032	2	Locknut	
6)	AN818-4D	1	Nut, Coupling	
7)	AN819-4D	1	Sleeve, Coupling	
8)	AN970-3	2	Washers	
9)	AN960-10L	2	Washers	



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18-1

Chapter 18

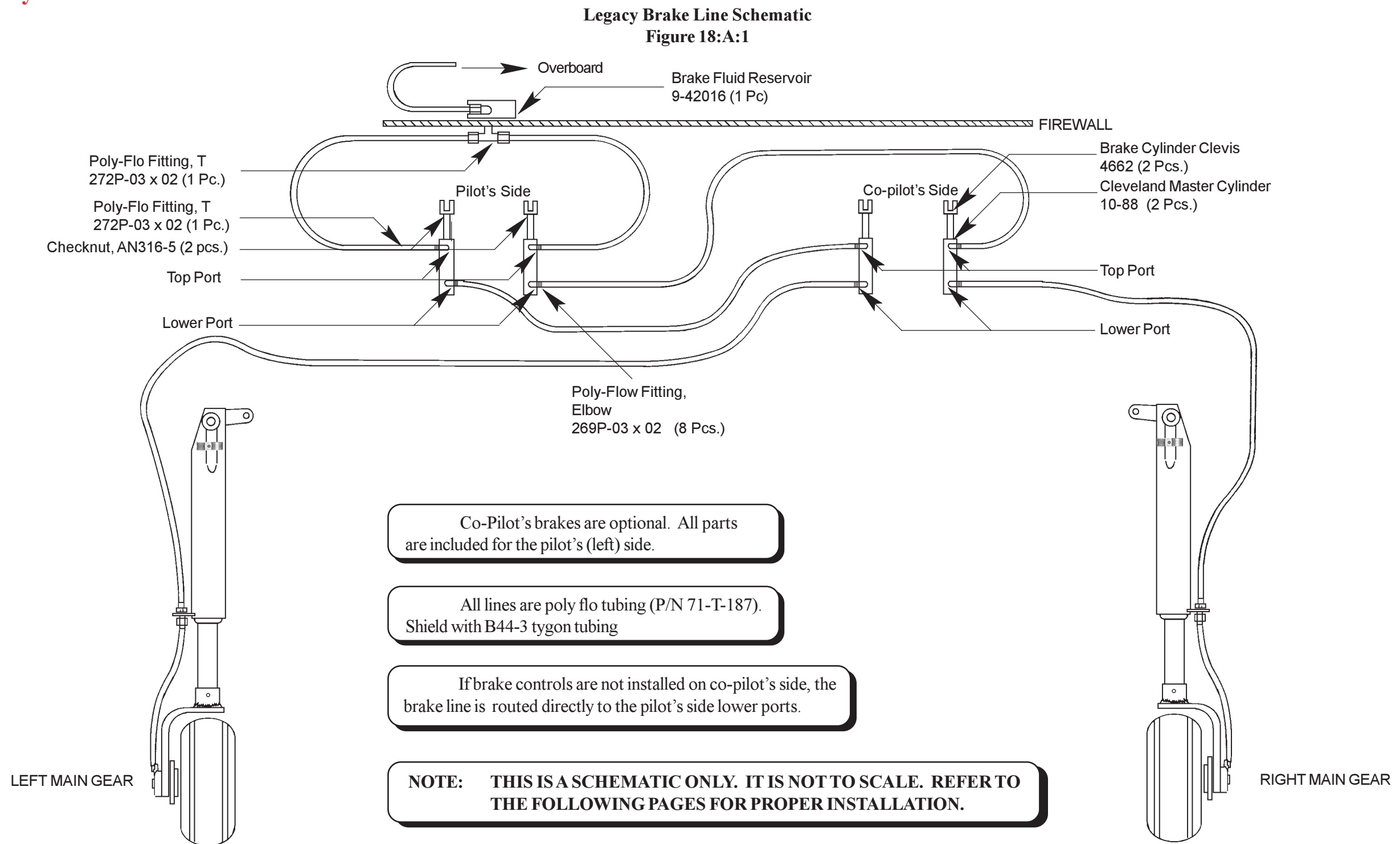
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**BRAKE SYSTEMS**

### 3. CONSTRUCTION PROCEDURES

#### A. Brake System

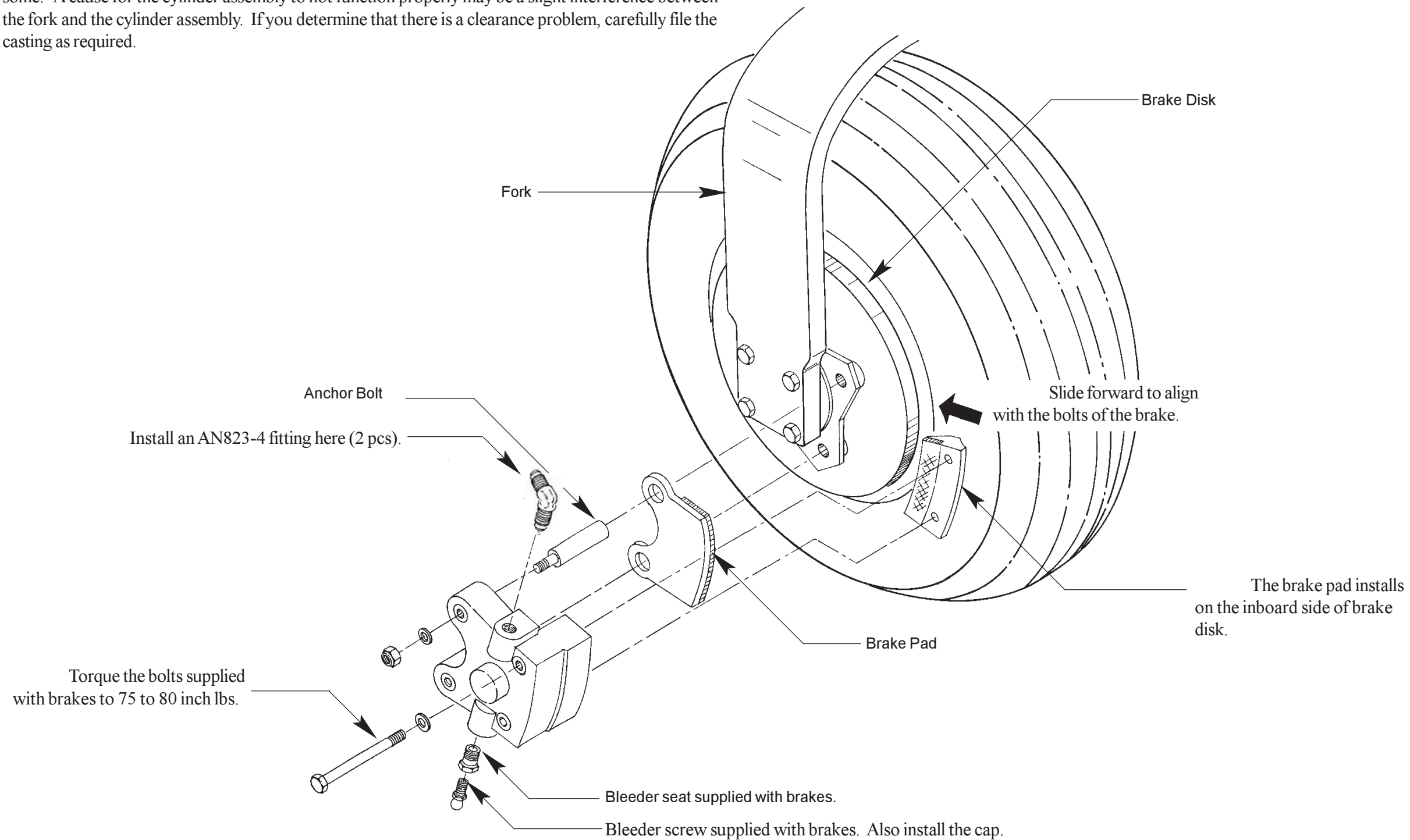


## B. Installing the Brake Assemblies

The brake cylinder assembly must slide freely on the anchor bolt. Inspect for clearance between the fork and the brake cylinder assembly. We have noticed that the casting of the cylinder assembly may vary some. A cause for the cylinder assembly to not function properly may be a slight interference between the fork and the cylinder assembly. If you determine that there is a clearance problem, carefully file the casting as required.

### Installing Brake Assemblies

Figure 18:B:1



**Brake Lines Main Gear Legs**  
**Fig. 18:B:2**

**NOTE: STAY CLEAR OF FLAP TORQUE TUBES!**

When the installation is complete, manually retract the gear and make sure the brake lines do not pinch or interfere.



Secure brake lines using:  
 Studs, CS125-103212GCR (2 pcs.)  
 Clamps, MS21919-DG6 (8 pcs.)  
 Locknuts, AN365-1032A (4 pcs.)  
 Washer, AN960-10 (2 pcs.)

We suggest using a MS35489-11 grommet to route the brake line through the inboard rib.

Install an MS21919-DG6 clamp on the inboard upper bolt to secure the line.

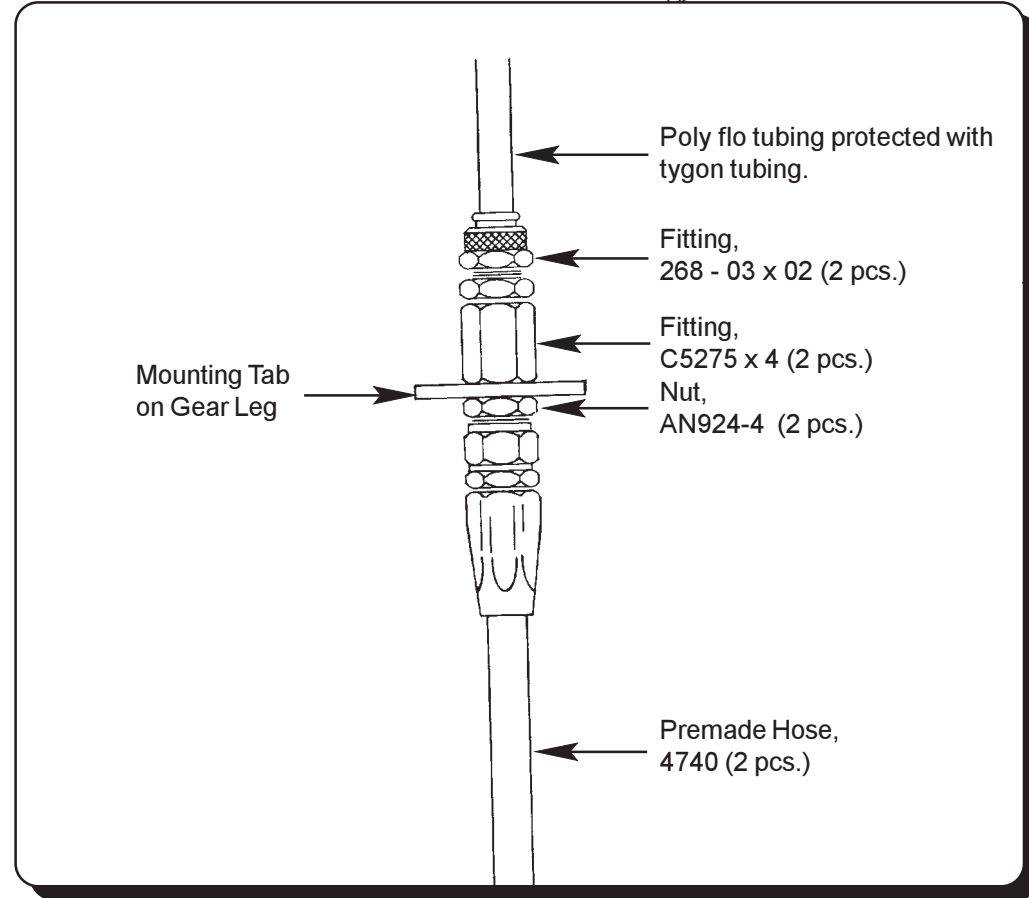
Allow sufficient hose to retract the gear.

To master cylinder

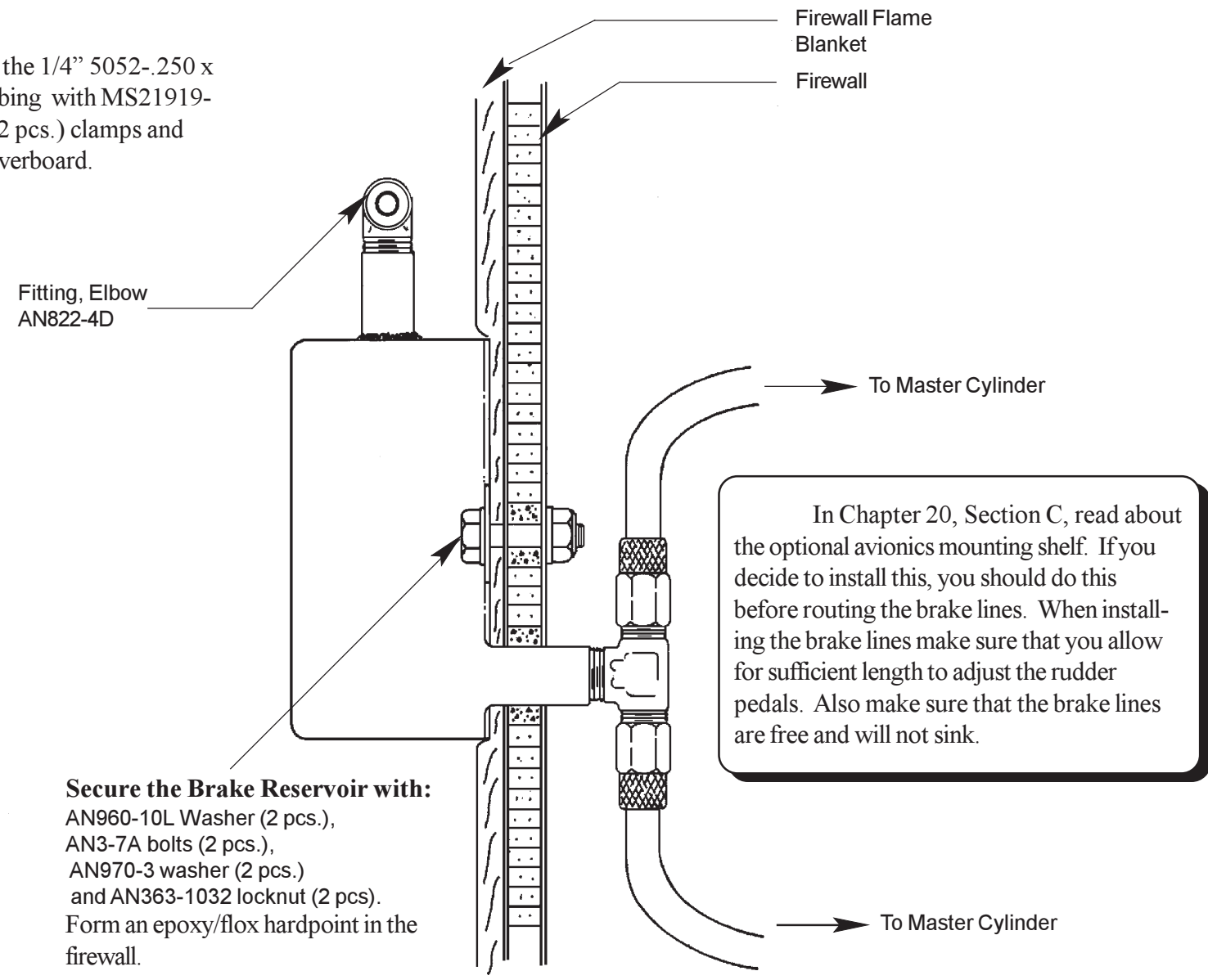
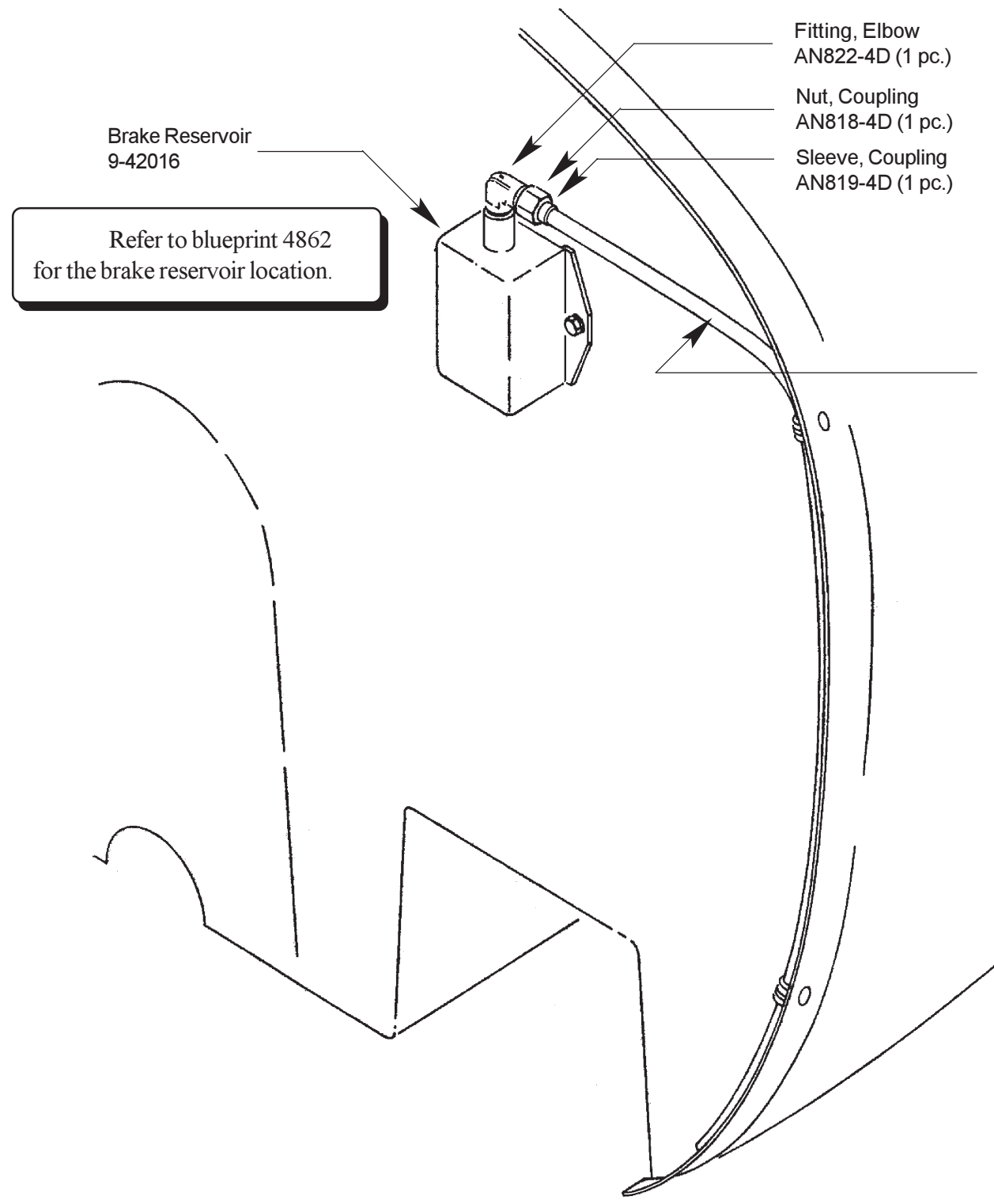
We suggest installing a 1" O.D. piece of a conduit through the rib to route the brake line

Secure brake lines using:  
 Clamps, MS21919-DG6 (8 pcs.)  
 Clamps, MS21919-DG10 (2 pcs.)  
 Locknuts, AN365-1032A (4 pcs.)  
 Bolts, AN3-4A (2 pcs.)  
 Washers, AN960-10L (4 pcs.)

Premade Hose, 4740 (2 pcs.)



**Mounting Brake Reservoir**  
**Fig. 18:B:3**



## C. Filling and Bleeding the Brakes

To finish the brake system, you'll have to fill the system with brake fluid and bleed the brakes. The standard fluid for both hydraulic and brake systems is MIL-H-5606 type and is available from Aircraft Spruce and Specialty, or your local FBO. Fill the reservoir with fluid and loosen the bleeder valves on the bottom of the brake assemblies. Pump the PILOT'S brakes until the system begins to fill, then close the bleeder valves. To get all the air out of the brake system, you'll have to have a friend pump up and hold the brakes until the lines are pressurized, then you will crack open the bleeder valve for a moment to release the air. Reclose the valve quickly though, to avoid allowing air back into the system. Repeat the "PUMP-HOLD-VALVE OPEN-VALVE CLOSE" until there is no air visible in the Nylaflo lines and the brakes feel normal. Remember to refill the reservoir as the fluid fills the lines and master cylinders. It's hard to get every little air bubble out of the lines, but this is normal and should not affect brake performance if kept to a minimum.