



Instructions for Continued Airworthiness

Grizzly Claw Ski Drag

Document No. AF48040-ICA

Aircraft Serial Number: _____

STC Number: SA02428AK

These Instructions for Continued Airworthiness shall be included in the airplane Maintenance Material when the Grizzly Claw Ski Drag is installed.

The information contained in this manual supplements or supersedes the type design data only in those areas listed herein. For maintenance practices and procedures, not contained in this document, consult the maintenance material, or other information that was required by the applicable regulations under which the airplane was type certificated.

REVISION RECORD

Revision	Description	Date
--	Original	1/21/14

*This document will be updated in entirety when revisions are incorporated.

SECTION 1: GENERAL

The Airframes Alaska Grizzly Claw Ski Drag is a drag device that attaches to wheel replacement skis. The drag is designed to enhance ground handling characteristics and aid the pilot in controlling ground speed on ice and snow by simultaneous or differential application of the aircraft's brake pedals.

SECTION 2: CONTROL AND OPERATION

The drag mechanism is a hydraulically controlled lever arm actuated by the existing brake pedals on the aircraft. Depressing a brake pedal causes actuation of a hydraulic slave cylinder on the respective ski which puts upward force on the forward end of the arm. The aft end of the arm has a head with steel or steel/carbide studs that extend down through a hole in the ski and are forced into the ice or snow below the ski. The mechanism is mounted to the top surface of the ski near the pedestal on the inboard side.

SECTION 3: INSTALLATION, REMOVAL AND SERVICING INFORMATION

3.1 Installation

Refer to following drawings as applicable for installation instructions:

A copy is attached to this ICA and replacement copies may be obtained by contacting Airframes Alaska per Sect. 6 of this document.

Ski Model	Installation Drawing No.
Airglas: L2000A L2500A L3000	AF48040-100

3.2 Removal

Removal of the ski drag is opposite of installation. If the skis are to be operated with the ski drags removed, the three attachment holes should be filled with the appropriate length ¼ in. 82 deg. countersunk screws and locknuts to prevent the holes from clogging and to retain the bushing.

3.3 Servicing

The only necessary servicing of the drag assembly is maintaining the proper level of brake fluid in the system and replacement of worn studs. Maintaining the brake fluid level can be done by following the aircraft manufacturer's instructions. A bleeder valve is located on the side of the cylinder to aid in removing air or adding fluid to the system. Use only MIL-H-5606 or MIL-H-5606 compatible brake fluid.

3.4 Stud Replacement

If ski drag performance drops below the desired level, replace the studs using the procedure contained below.

Refer to attached drawing AF48040 Sheet 1

- a) Remove the bolt connecting the drag head to the arm.
- b) Remove the two internal hex set screws from the top of the head.
- c) Remove the worn stud using a narrow blade slotted screwdriver from the top of the head.
- d) Install new stud opposite of removal.
- e) Install set screw behind stud until contact is made and tighten until snug.
- f) Place head on arm and reinstall bolt.

3.5 Inspections

1. Inspect ski drags on a 100hr or Annual basis as applicable.

Inspect for:

- Loose or damaged hardware – tighten or replace as necessary.
- Bent or damaged arm or drag head components – replace if found.
- Hydraulic fluid leakage between cylinder and piston or brake line attachment.
 - If leakage is found between cylinder and piston, replace O-rings and inspect cylinder inside diameter for scoring. Replace a scored cylinder if leaking continues after replacement of O-rings.
 - For leakage at the brake line attachment, tighten fitting or reinstall fitting with new thread sealant in place.
- Wear on piston cap – replace when height of cap measures less than .560 in.
- Wear in pivot bushings – If side to side movement of the arm is more than .10 in. measured at the slave cylinder centerline – inspect bushings and replace if inside diameter measures more than .328 in.
- Inspect complete assembly for proper operation and verify spring fully retracts drag head when in neutral position.
- Inspect cut-out for drag head in ski to ensure sealant on cut edge remains intact and no delamination or other damage to the fiberglass structure has occurred. If damage or delamination is found, follow the ski manufacturer's instructions for proper repair procedures. If sealant needs replacing, use a marine grade polyurethane sealant.

2. Inspect ski drags if the drag head inadvertently contacts surfaces or obstacles other than ice or snow such as rocks, gravel or other hard objects.

Inspect for:

- Loose or damaged hardware – tighten or replace as necessary.
- Bent or damaged arm, head or other ski drag components – replace if found.

SECTION 4: AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations Section is FAA approved and specifies maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations are added.

SECTION 5: PARTS LIST

Refer to the attached assembly drawings AF48040 sheets 1-3 and installation drawing AF48040-100 for a complete parts list. For replacement parts, please use the contact information below.

SECTION 6: DOCUMENT DISTRIBUTION

Copies of this ICA document will be distributed to all known purchasers of the Grizzly Claw Ski Drag. Replacement copies and the latest revision of this document are available at the Airframes Alaska Website or by contacting us using the information below.

WEBSITE: www.airframesalaska.com

To request a paper or electronic copy to be sent to you please contact:

Airframes Alaska
PO Box 670989
20130 Birchwood Loop Spur
Chugiak, AK 99567

Phone: 907-331-4480

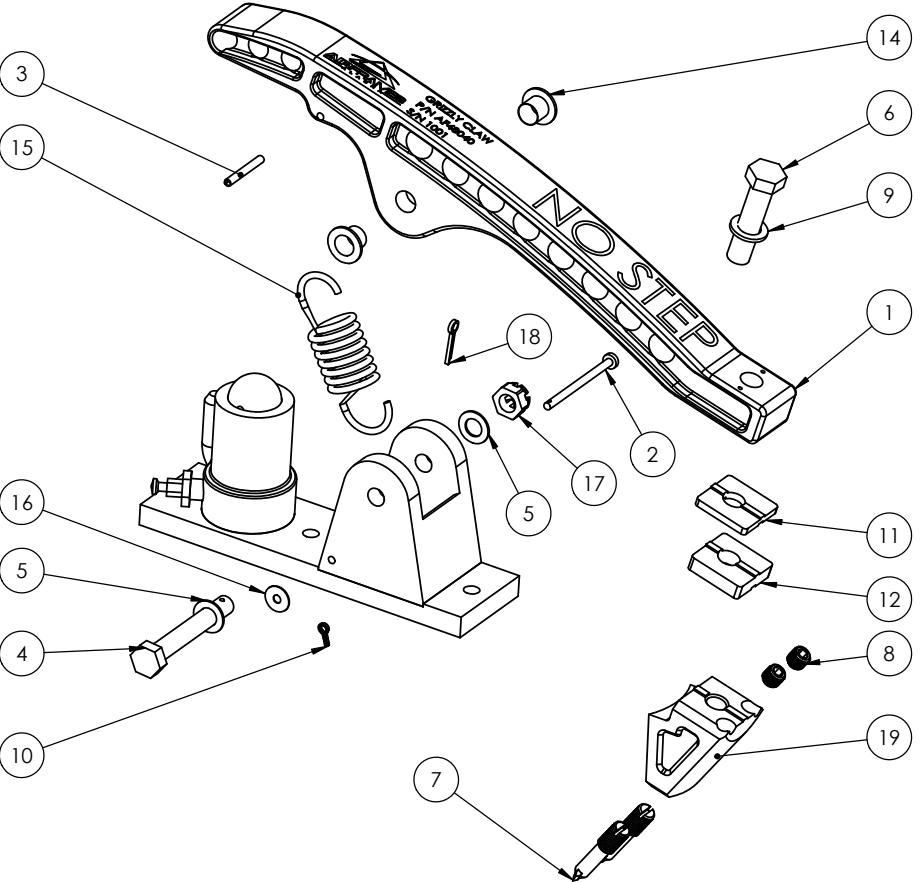
8 7 6 5 4 3 2 1

D

C

B

A



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	0.1	MINOR UPDATE TO PARTS AND DESCRIPTIONS	1/22/14	JLP
	0.2	UPDATED P/N AN6H12A TO AN6H14A	2/3/2014	JLP
	0.3	ADDED NOTE 1, UPDATED BOM ITEM 6 P/N	2/7/2014	JLP

NOTES:
 AN6H12A - USE WITH NO SPACER OR ITEM 11 .125 SPACER.
 AN6H14A - USE WITH ITEM 12, .250 SPACER AND ITEM 13, .375 SPACER.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AF48034-02	ARM	1
2	MS20392-1C57	CLEVIS PIN	1
3	1/8X1.0	S.S. SLOTTED SPRING PIN	1
4	AN5-21	PIVOT BOLT	1
5	NAS1149F0532P	WASHER	2
6	SEE NOTE 1	DRAG BOLT	1
7	AF48228-01	STUD	2
8	5/16-24X5/16	S.S. SET SCREW	2
9	NAS1149F0663P	WASHER	1
10	MS24665-132	COTTER PIN	1
11	AF49361-01	.125 SPACER (OPTIONAL)	1
12	AF49361-02	.250 SPACER (OPTIONAL)	1
13	AF49361-03	.375 SPACER (OPTIONAL) (NOT SHOWN)	-
14	ZFI-0506-06	FLANGED BUSHING	2
15	LE105G01S	SPRING	1
16	NAS1149FN516P	WASHER	1
17	AN310-5	NUT	1
18	MS24556-210	COTTER PIN	1
19	AF48035-02	DRAG HEAD	1

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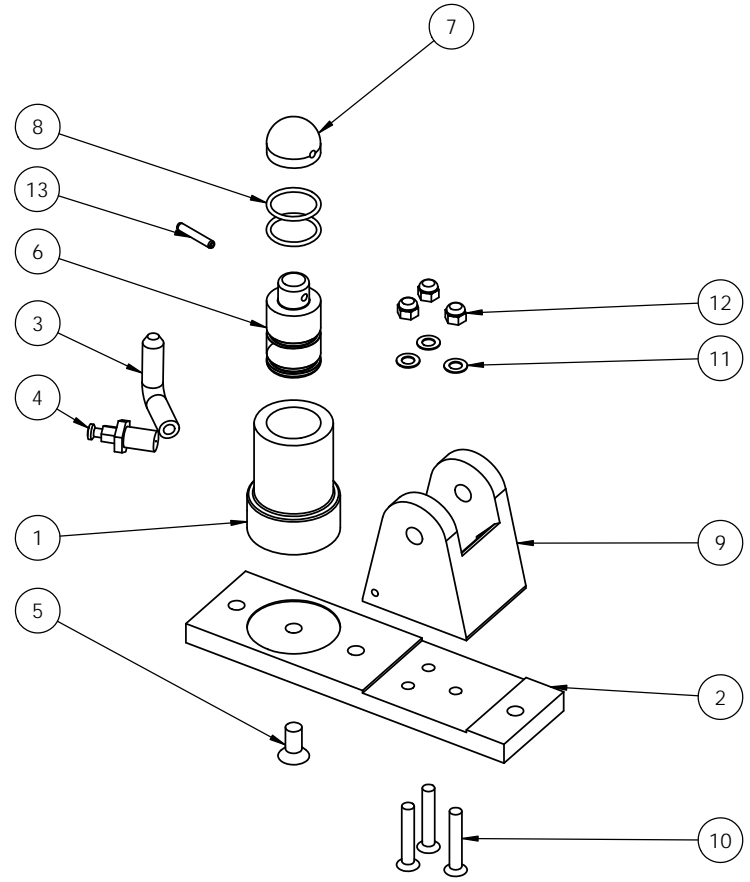
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		FRACTIONAL ±	ENG APPR.		
		ANGULAR: BEND ± 2°	MFG APPR.		
		TWO PLACE DECIMAL ± .25	Q.A.		
		THREE PLACE DECIMAL ± .03	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL:			
		SEE BOM			
		FINISH:			
NEXT ASSY	USED ON				
APPLICATION	DO NOT SCALE DRAWING				



TITLE: SKI DRAG ASSEMBLY		
SIZE	DWG. NO.	REV
B	AF48040	0.3
SCALE: 1:1	WEIGHT:	SHEET 1 OF 3

8 7 6 5 4 3 2 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	0.1	DEVELOPMENT REV- ADDED NOTE 1	1/22/14	-



NOTES:

- COMBINATION OF ITEMS 10 + 12 MAY BE SUBSTITUTED WITH THE FOLLOWING COMBINATION:
 - ITEM 10: MS24694S58
 - ITEM 12: MS21042-3

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AF48224-01	CYLINDER	1
2	AF48036-01	BASE PLATE	1
3	AN8224D	90 DEG NPT TO FLARE FITTING	1
4	11225/AC-CABS/ 220-0627	BLEEDER SCREW ASSEMBLY	1
5	1/4-20X9/16	S.S. FLAT SOCKET HEAD CAP SCREW	1
6	AF48225-02	PISTON	1
7	AF48226-01	PISTON CAP	1
8	MS28775-018	O-RING	2
9	AF48037-01	TOWER	1
10	MS24694S60	TOWER SCREW	3
11	NAS1149F0332P	WASHER	3
12	MS21044N3	TOWER NUT	3
13	1/8X3/4	S.S. SLOTTED SPRING PIN	1

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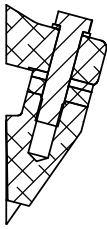
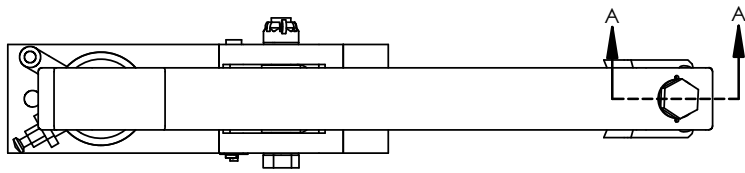
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TWO PLACE DECIMAL ± .25			
THREE PLACE DECIMAL ± .03			
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MATERIAL			
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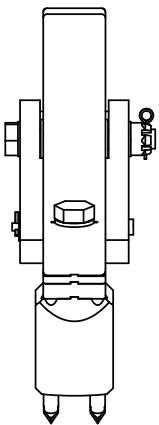
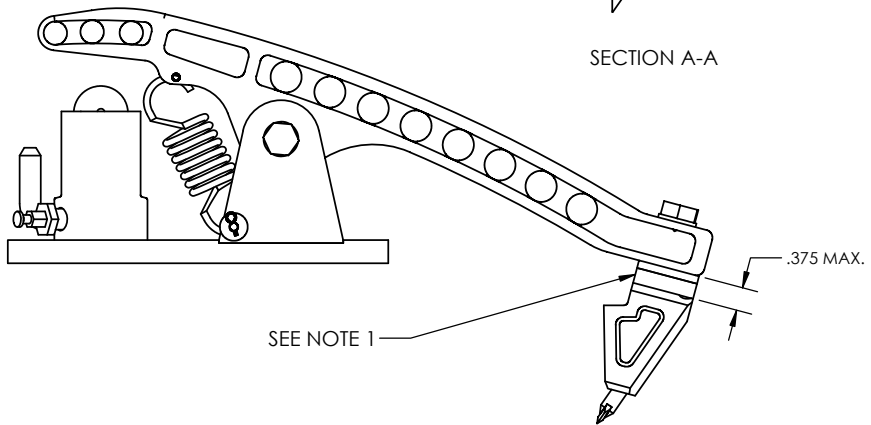
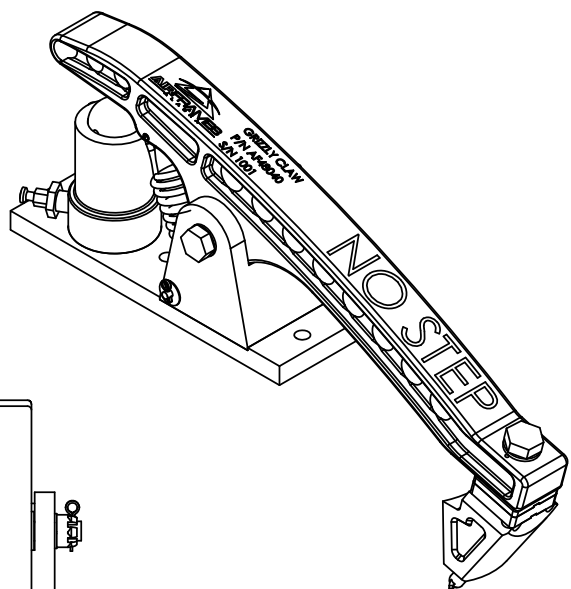
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B	AF48040	0.1
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8 7 6 5 4 3 2 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	0.1	DEVELOPMENT REV - ADDED NOTE 1, SPACER DIM.	1/22/14	-




SECTION A-A



NOTES:

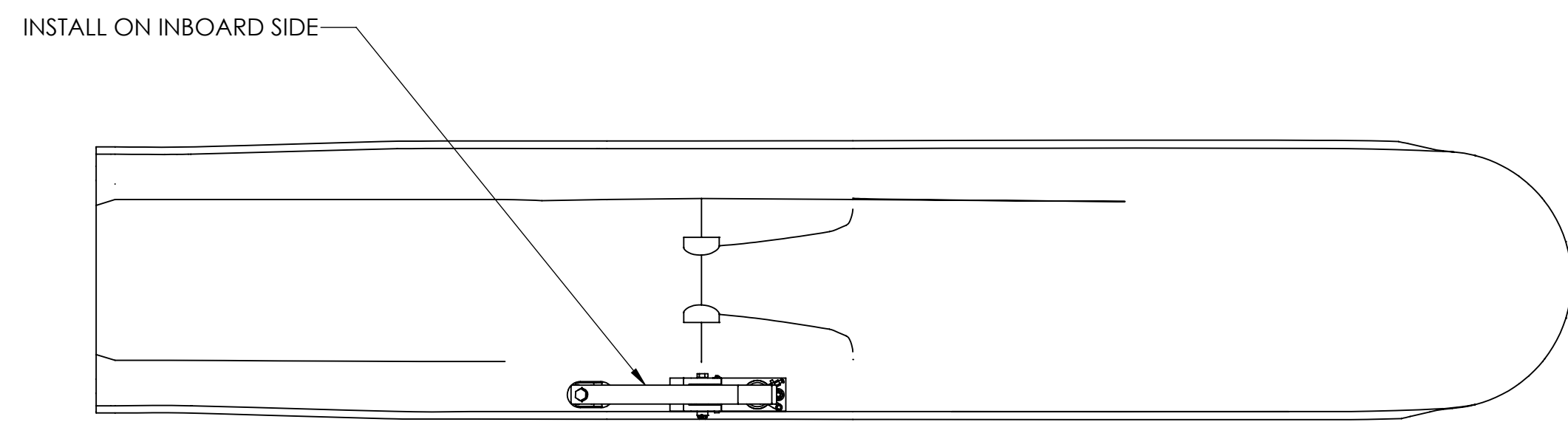
- 1. SHOWN WITH OPTIONAL SPACERS INSTALLED. USE SPACER NECESSARY TO OBTAIN DESIRED HEAD LENGTH.

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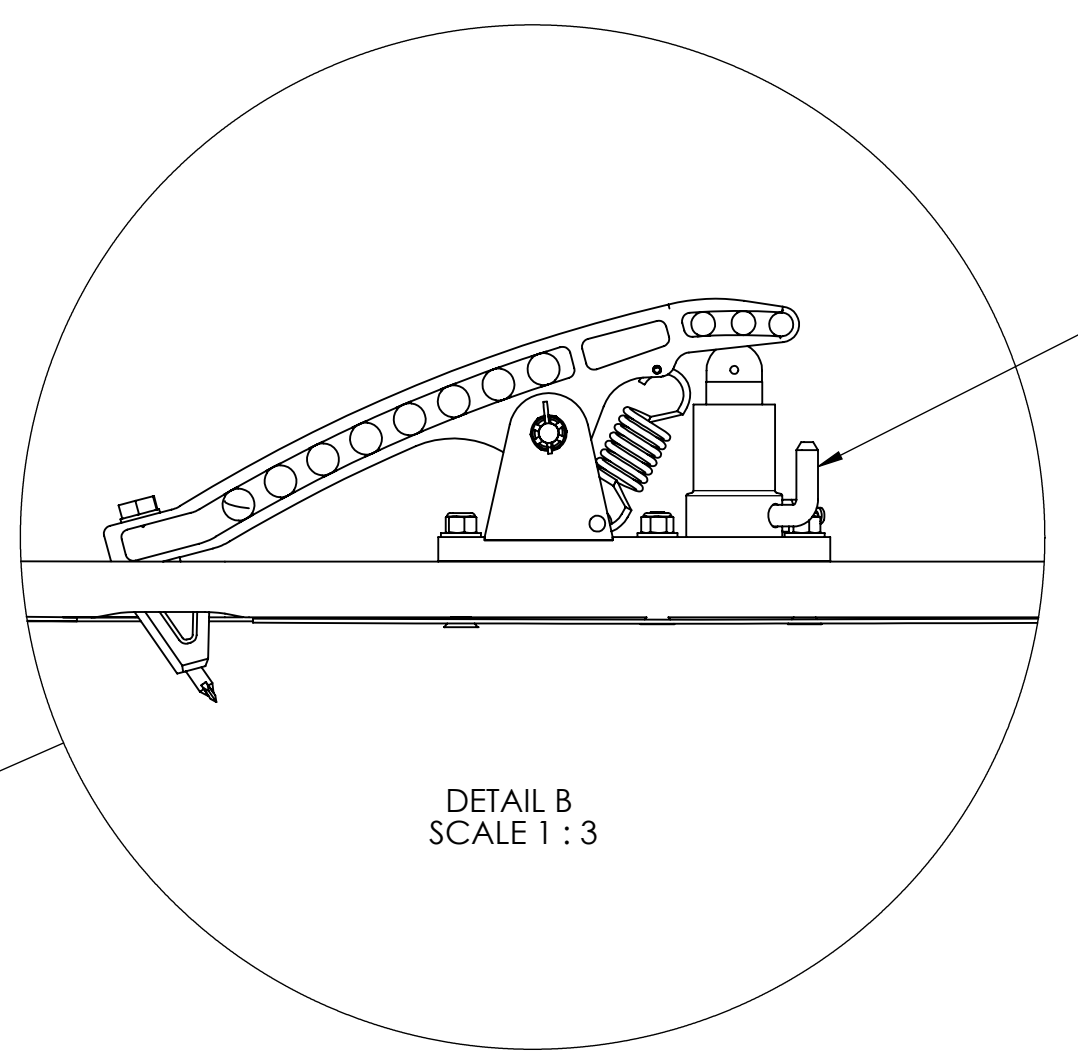
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		TWO PLACE DECIMAL ± .25	Q.A.			
		THREE PLACE DECIMAL ± .03	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:			TITLE: SKI DRAG ASSEMBLY	
		MATERIAL			SIZE DWG. NO. REV	
		FINISH			B AF48040 0.1	
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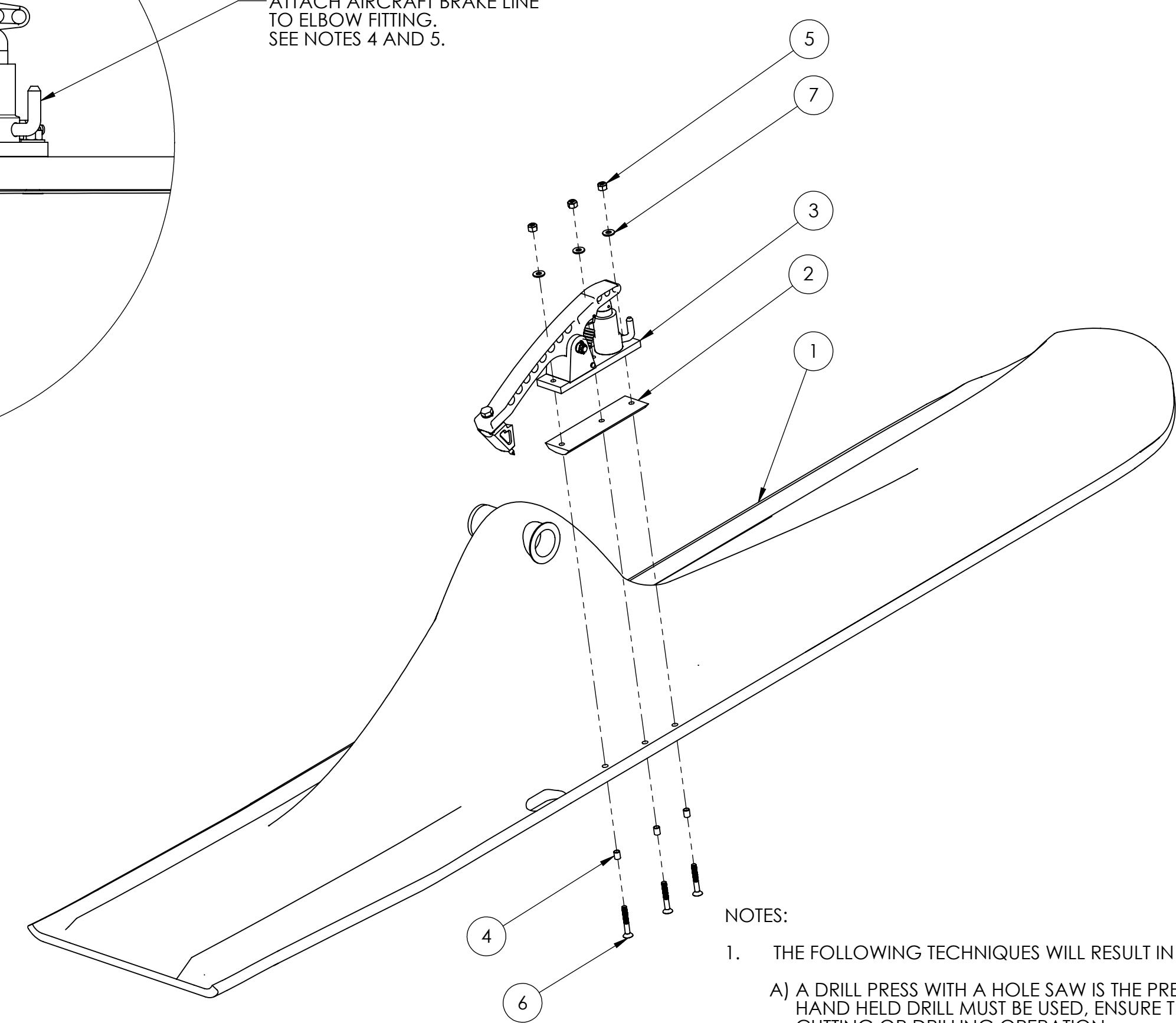
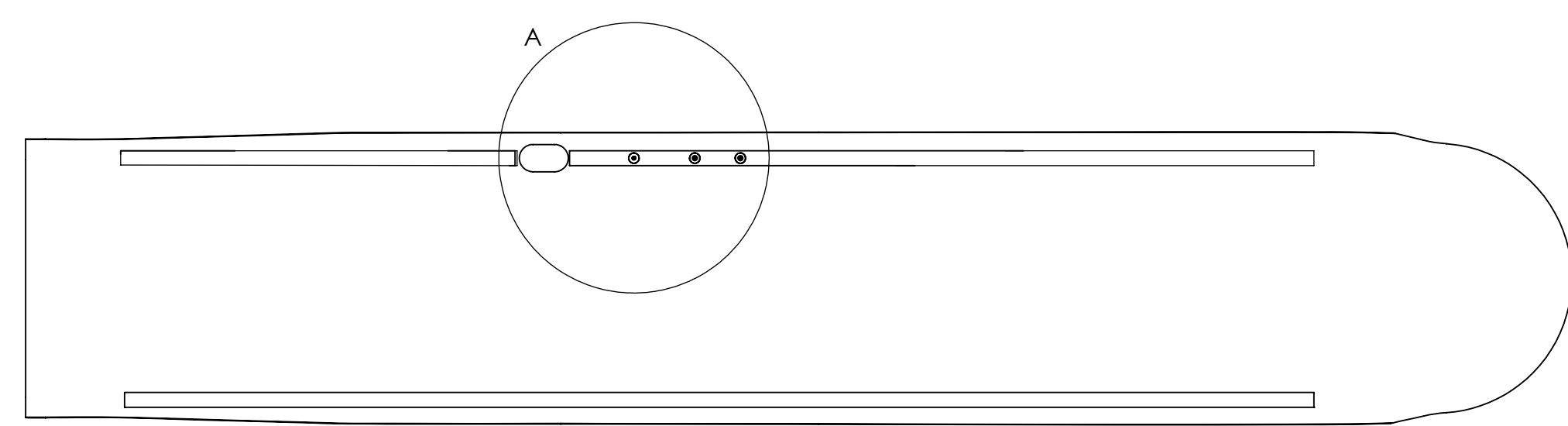
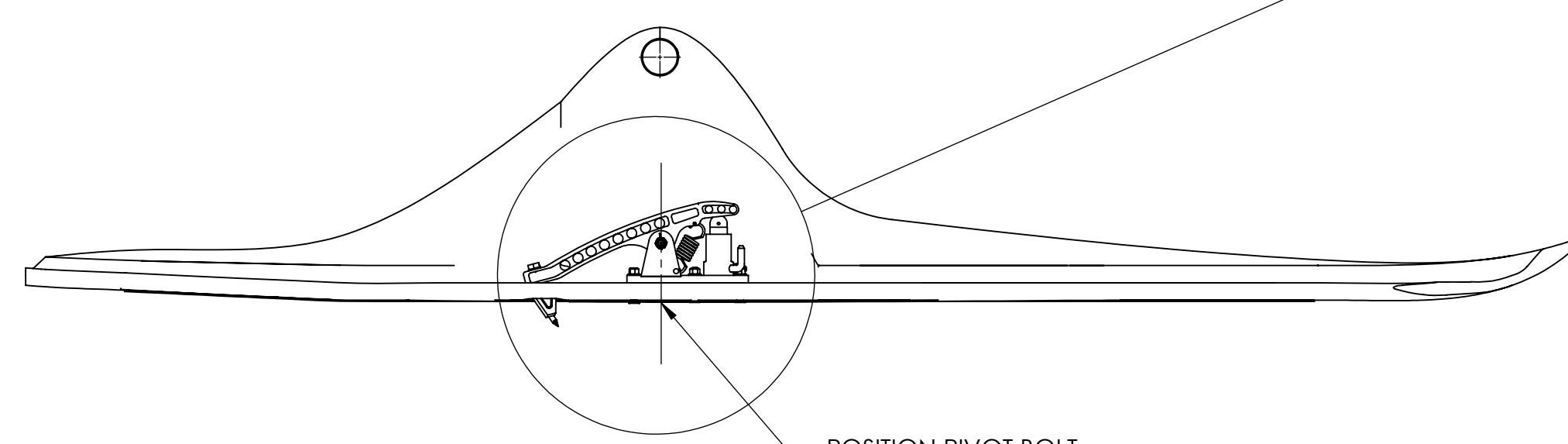
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	ORIGINAL ISSUE	-	-
	A	REMOVED DETAIL C - SQUARE CUT OUT OPTION	8/27/2014	JLP



AIRGLAS L2000, L2500A, L3000 LEFT SKI SHOWN, RIGHT SKI DRAG INSTALLATION IS THE SAME.



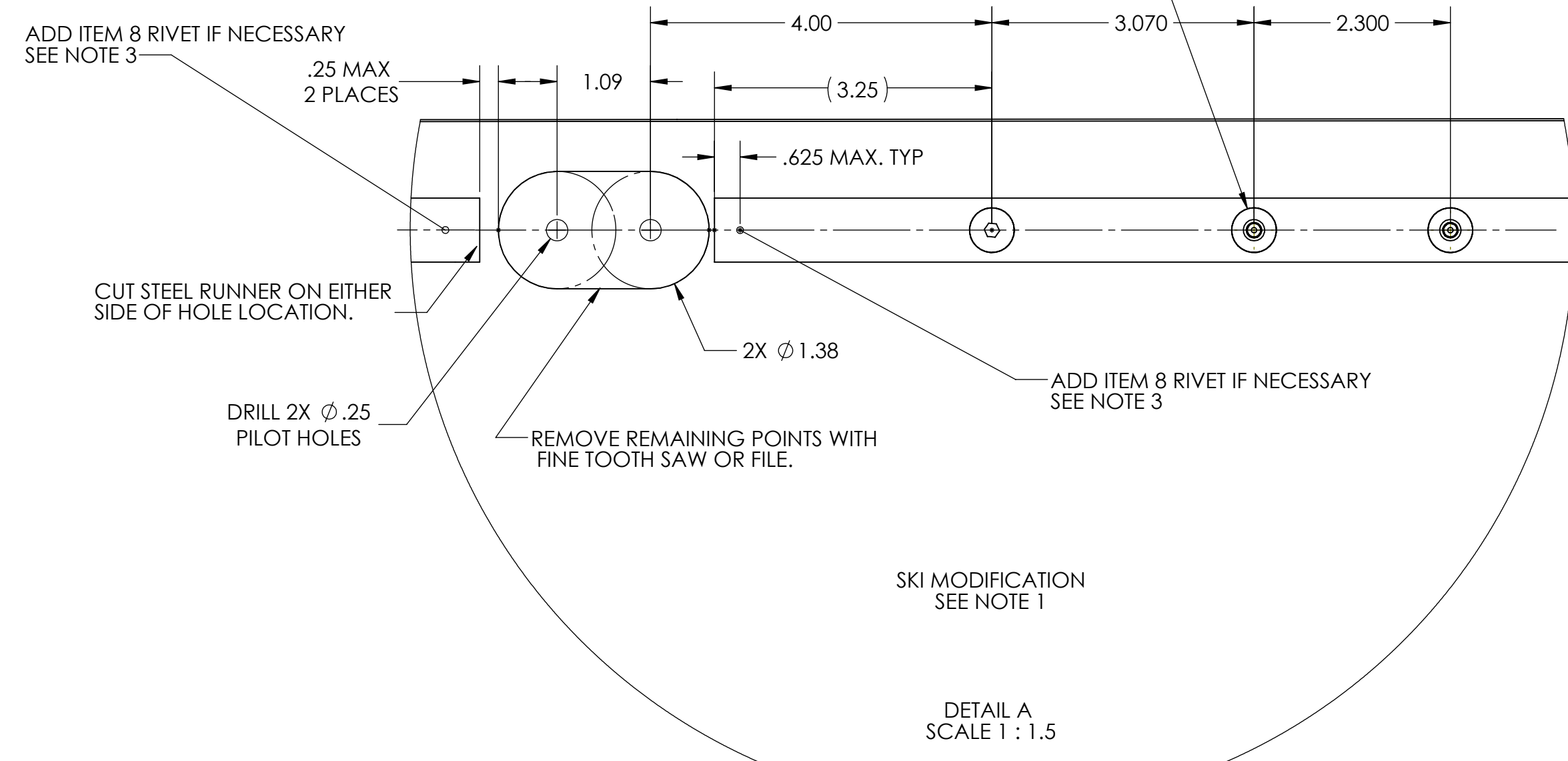
ATTACH AIRCRAFT BRAKE LINE TO ELBOW FITTING. SEE NOTES 4 AND 5.



NOTES:

- THE FOLLOWING TECHNIQUES WILL RESULT IN THE HIGHEST QUALITY CUT ON THE SKI:
 - A) A DRILL PRESS WITH A HOLE SAW IS THE PREFERRED METHOD FOR CUTTING HOLES. IF A HAND HELD DRILL MUST BE USED, ENSURE THE SKI IS HELD SECURELY BEFORE ANY CUTTING OR DRILLING OPERATION.
 - B) COVER AREA TO BE CUT WITH MASKING TAPE AND CUT THROUGH TAPE.
 - C) START CUT BY RUNNING HOLE SAW IN REVERSE TO A DEPTH OF 1/16".
 - D) MAKE CUT AT LOW SPEED SETTINGS.
- SEAL CUT OR DRILLED EDGES WITH MARINE GRADE POLYURETHANE SEALANT. 3M 5200 IS AN ACCEPTABLE SEALANT.
- DRILL AND ADD RIVETS IF NECESSARY ON CENTERLINE OF STEEL RUNNERS TO MAINTAIN A MAXIMUM EDGE DISTANCE OF 0.625 IN. COUNTERSINK BOTTOM SIDE OF RUNNERS 5/16" DIA X .080 DEPTH AND INSTALL STAINLESS STEEL 3/16" DIA. DOME HEAD BLIND RIVET, IFI GRADE 50 OR 51. (ITEM 8) INSTALL WITH RIVET HEAD ON TOP SURFACE OF SKI.
- CONNECT AIRCRAFT HYDRAULIC BRAKE LINE TO FITTING ON CYLINDER. IF ADDITIONAL BRAKE LINE LENGTH OR FITTINGS ARE NECESSARY, INSTALL PER AC43.13-1B.
- ADD BRAKE FLUID AS SPECIFIED PER AIRCRAFT MANUFACTURERS INSTRUCTIONS. A BLEEDER VALVE IS LOCATED ON THE SIDE OF THE ACTUATING CYLINDER TO AID IN REMOVING AIR OR ADDING FLUID TO THE SYSTEM AS NECESSARY.
- VERIFY SKI DRAG HEAD EXTENDS AND RETRACTS PROPERLY BEFORE RETURNING AIRCRAFT TO SERVICE.
- UPDATE AIRCRAFT WEIGHT AND BALANCE RECORDS.
SKI DRAGS INSTALLED WEIGHT: 4.4 LB
DRAG ASSEMBLY CG LOCATED AT PIVOT BOLT.

DRILL 3X .313 IN. HOLES, COUNTERSINK 82° SO SCREW HEAD SITS FLUSH OR WITH SLIGHT RECESS IN RUNNER.
- BASE SPACER MAY BE USED AS TEMPLATE.
- CENTER HOLES ON STEEL RUNNER.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY PER SKI
1	L2000A L2500A L3000	AIRGLAS STRAIGHT SKI	1
2	AF48227-01 AF48227-03	BASE SPACER (L2000A, L2500A) BASE SPACER (L3000)	1
3	AF48040	SKI DRAG ASSEMBLY	1
4	AF48229-01 AF48229-02	S.S. BUSHING (L2000, L2500A) S.S. BUSHING (L3000)	3
5	1/4-20	1/8-8 OR 3/16 STAINLESS STEEL SELF LOCKING NUT, ALTERNATE: SAE GR. 2 OR HIGHER	3
6	1/4-20 X 1-3/4	FLAT HEAD 82° CSNK SCREW-SS PER ASTM F879, ALTERNATE: ALLOY STEEL SCREW PER ASTM F835 OR EQUIV.	3
7	NAS1149F0432P OR NAS1149C0432R	WASHER	3
8	-	3/16" STAINLESS STEEL DOME HEAD BLIND RIVET IFI GRADE 50 OR 51.	AR

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MFG APPR.		
Q.A.		
COMMENTS:		
INTERPRET GEOMETRIC TOLERANCING PER:		
MATERIAL:		
FINISH:		
APPLICATION:		

AIRFRAMES
Aircraft Structures and Components

TITLE: SKI DRAG INSTALLATION: AIRGLAS SKIS

SIZE: DWG. NO. **D** AF48040-100 REV **A**

SCALE: 1:10 SHEET 1 OF 1