



Aircraft Restoration Corporation

# SERVICE BULLETIN

**NO. ARC-SB-852-010**

**Revision: B**

**Date: 6 February 2019**

**Subject:**

Installation of a spacer in each of the Main Landing Gear Retraction Actuators.

**Effectivity:**

Piper Model PA-31, PA-31-300, PA-31-325, PA-31-350, PA-31P, PA-31T, PA-31T1, PA-31T2, PA-42, and PA-42-720 airplanes as applicable where STC SA00555DE has been installed.

**Compliance:**

**MANDATORY at next scheduled maintenance.**

**Purpose:**

Field reports indicate there have been some difficulty in the final rigging of the Main Landing Gear retraction system after this STC has been installed. Installation of new spacer stops will correct this difficulty. Shortening the stroke by installing the spacer enables the gear to reach its up-limit more effectively when the landing gear contacts the newly installed bumper stop as the up-lock roller engages the up-lock hook.

**Material:**

2 ea. P/N: 85280128-01, Spacer for each Ozone actuator.

2 ea. P/N: 85280128-02, Spacer for each Wiebel actuator.

**Instructions/Summary/Comments:**

With the airplane on jacks, remove both MLG retraction actuator assemblies. Cap the hydraulic hoses to reduce hydraulic fluid loss.



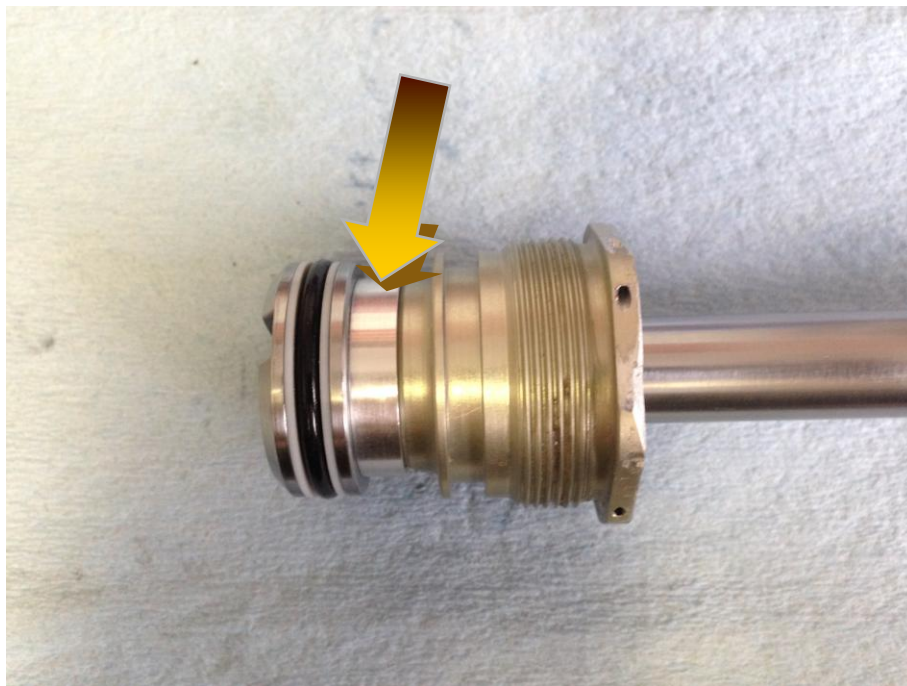
Aircraft Restoration Corporation

# SERVICE BULLETIN

NO. ARC-SB-852-010

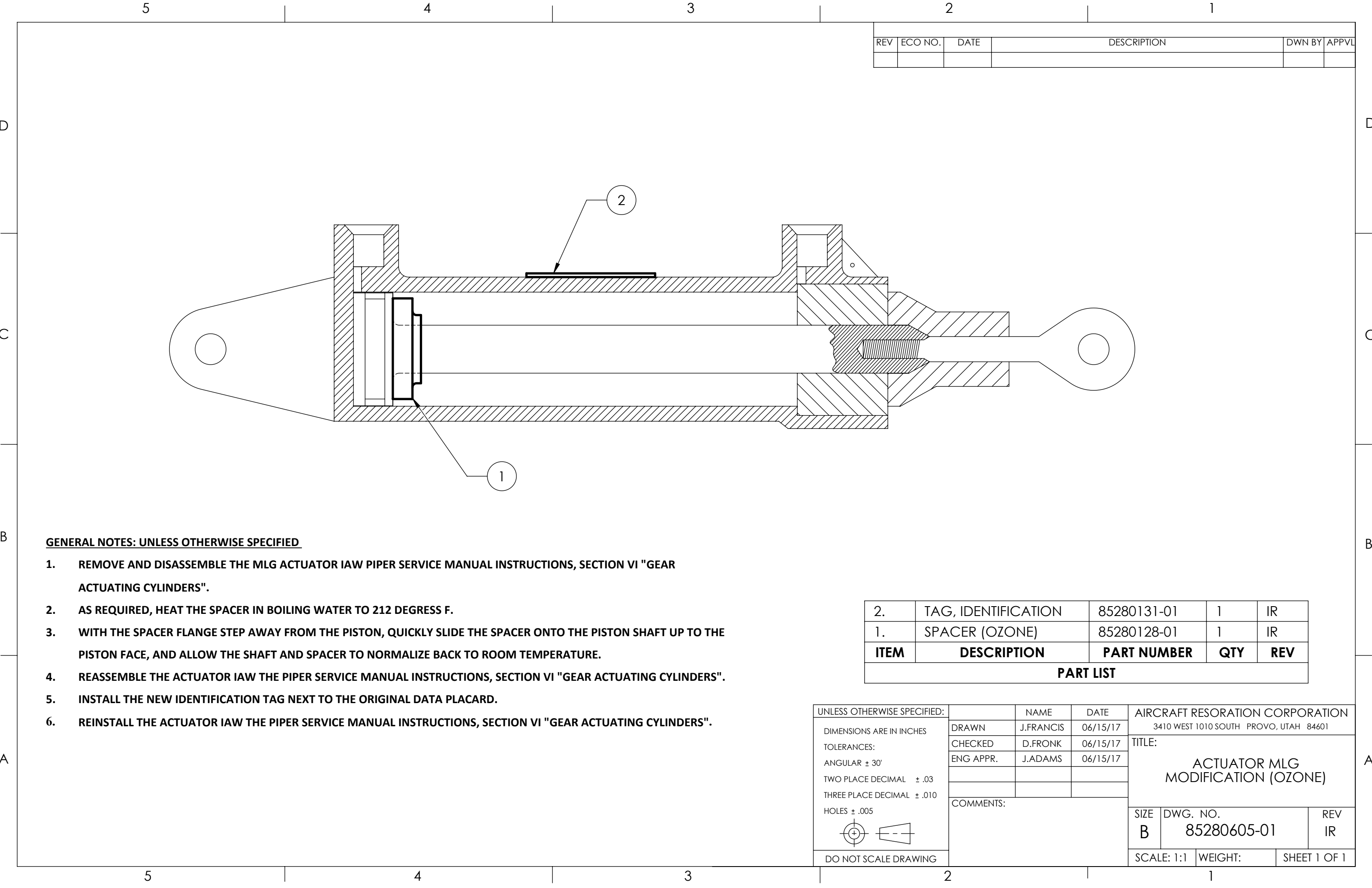
Remove end caps, install the new spacer (P/N: 85280128-01 for Ozone or 85280128-02 for Wiebel) on the ram shafts in accordance with drawings 85280605-01, Actuator MLG Modification (Ozone), and 85280605-02, Actuator MLG Modification (Wiebel) (copy attached). Reassemble actuators and reinstall them in their original locations. Rig the MLG in accordance with the Piper Service Manual Instructions, Section VII, "Landing Gear and Brake System".

Complete a log book entry showing compliance with this Service Bulletin.



**Figure 1, Spacer installed against piston and end cap. Spacer step away from piston.**

**Note:** On Wiebel actuators, ensure the spacer small diameter extension step fits inside of the End Cap Gland Nut cavity. On some early model end caps, Wiebel vendors did not machine the cavity in their final manufacturing process. The end cap cavity should measure .75 diameter and .40 deep minimum to accept the spacer step as shown in Drawing 85280605-02.

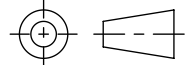


REV	ECO NO.	DATE	DESCRIPTION	DWN BY	APPVL

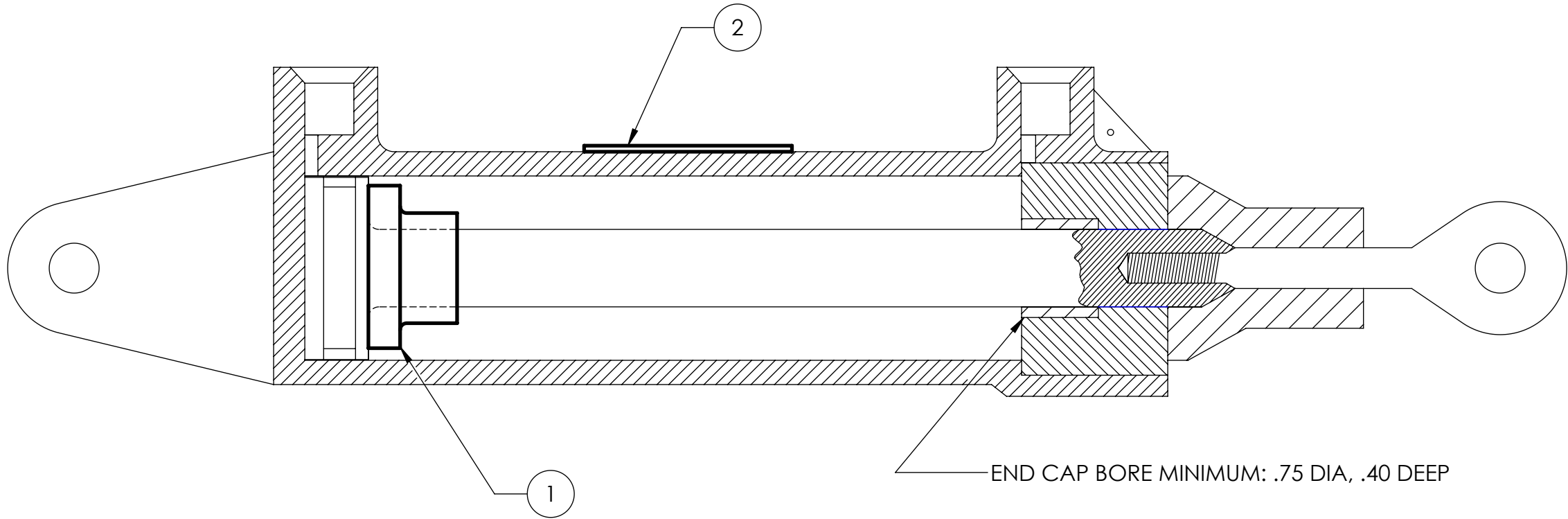
GENERAL NOTES: UNLESS OTHERWISE SPECIFIED

1. REMOVE AND DISASSEMBLE THE MLG ACTUATOR IAW PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".
2. AS REQUIRED, HEAT THE SPACER IN BOILING WATER TO 212 DEGRESS F.
3. WITH THE SPACER FLANGE STEP AWAY FROM THE PISTON, QUICKLY SLIDE THE SPACER ONTO THE PISTON SHAFT UP TO THE PISTON FACE, AND ALLOW THE SHAFT AND SPACER TO NORMALIZE BACK TO ROOM TEMPERATURE.
4. REASSEMBLE THE ACTUATOR IAW THE PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".
5. INSTALL THE NEW IDENTIFICATION TAG NEXT TO THE ORIGINAL DATA PLACARD.
6. REINSTALL THE ACTUATOR IAW THE PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".

2.	TAG, IDENTIFICATION	85280131-01	1	IR
1.	SPACER (OZONE)	85280128-01	1	IR
ITEM	DESCRIPTION	PART NUMBER	QTY	REV
PART LIST				

UNLESS OTHERWISE SPECIFIED:			NAME	DATE	AIRCRAFT RESORATION CORPORATION 3410 WEST 1010 SOUTH PROVO, UTAH 84601		
DIMENSIONS ARE IN INCHES  TOLERANCES:  ANGULAR ± 30'  TWO PLACE DECIMAL ± .03  THREE PLACE DECIMAL ± .010  HOLES ± .005  		DRAWN	J.FRANCIS	06/15/17	TITLE:  ACTUATOR MLG MODIFICATION (OZONE)		
		CHECKED	D.FRONK	06/15/17			
		ENG APPR.	J.ADAMS	06/15/17			
	COMMENTS:				SIZE	DWG. NO.	REV
					B	85280605-01	IR
DO NOT SCALE DRAWING					SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

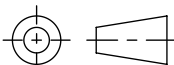
REV	ECO NO.	DATE	DESCRIPTION	DWN BY	APPVL
A	20190207	02/07/19	EMD CAP DEM CLARIFICATION	J.FRANCIS	J.ADAMS



**GENERAL NOTES: UNLESS OTHERWISE SPECIFIED**

1. REMOVE AND DISASSEMBLE THE MLG ACTUATOR IAW PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".
2. AS REQUIRED, HEAT SPACER IN BOILING WATER TO 212 DEGRESS F.
3. ENSURE THE SPACER STEP FITS INSIDE THE END CAP CAVITY, QUICKLY SLIDE THE SPACER ONTO THE PISTON SHAFT UP TO THE PISTON FACE, AND ALLOW THE SHAFT AND SPACER TO NORMALIZE BACK TO ROOM TEMPERATURE.
4. REASSEMBLE THE ACTUATOR IAW THE PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".
5. INSTALL THE NEW IDENTIFICATION TAG NEXT TO THE ORIGINAL DATA PLACARD.
6. REINSTALL THE ACTUATOR IAW THE PIPER SERVICE MANUAL INSTRUCTIONS, SECTION VI "GEAR ACTUATING CYLINDERS".

2.	TAG, IDENTIFICATION	85280131-02	1	IR
1.	SPACER (WIEBEL)	85280128-02	1	IR
ITEM	DESCRIPTION	PART NUMBER	QTY	REV
PART LIST				

UNLESS OTHERWISE SPECIFIED:			NAME	DATE	AIRCRAFT RESORATION CORPORATION 3410 WEST 1010 SOUTH PROVO, UTAH 84601			
DIMENSIONS ARE IN INCHES  TOLERANCES:  ANGULAR ± 30'  TWO PLACE DECIMAL ± .03  THREE PLACE DECIMAL ± .010  HOLES ± .005  		DRAWN	J.FRANCIS	06/15/17	TITLE:  ACTUATOR MLG MODIFICATION (WIEBEL)			
		CHECKED	D.FRONK	06/15/17				
		ENG APPR.	J.ADAMS	06/15/17				
						SIZE B		
		COMMENTS:			REV A			
DO NOT SCALE DRAWING					SCALE: 1:1			
					WEIGHT:			
					SHEET 1 OF 1			