

**NOTES AND INSTALLATION INSTRUCTIONS:**

REV.	DESCRIPTION	DATE	DRAWN
A	INSTALL CONFORMITY CHANGES	1/5/2015	JMK

**REVISIONS**

1. SEE BILL OF MATERIALS ON SHEET 2.

2. REMOVE THE TAIL STINGER/FAIRING AND THE FAIRING ON TOP OF THE HORIZONTAL STABILIZER UNDER THE RUDDER PER THE INSTRUCTIONS IN QUEST'S MAINTENANCE MANUAL. (FAIRINGS NOT SHOWN FOR CLARITY.) USE A TOWBAR ON THE NOSE WHEEL TO MOVE THE RUDDER OUT OF THE WAY.

3. LOCATE AND REMOVE THE TWELVE 3/16" RIVETS ATTACHING THE UPPER HORIZONTAL STABILIZER SKIN TO THE AFT STABILIZER SPAR (TWO ROWS, THREE RIVETS PER ROW ON EACH SIDE OF CENTER) AND THE FOUR 1/8" RIVETS ATTACHING THE SKIN TO THE ELEVATOR HORN BRACKET.

4. ALIGN RIVET HOLES IN ITEM -3 WITH HOLES FOR REMOVED RIVETS. MATCHDRILL THE EIGHT NEW SMALLER RIVET HOLES FROM ITEM -3 INTO THE HORIZONTAL STABILIZER SKIN USING A #30 BIT. MATCHDRILL THE TWO BOLT HOLES IN ITEM -3 INTO THE SKIN USING A #9 BIT. DEBURR ALL HOLES.

5. APPLY A FAYING SEALANT, PRO-SEAL 890 CLASS B-1/2 OR EQUIVALENT, TO THE BOTTOM OF ITEM -3 AND INSTALL ITEMS -2 AND -1 AS SHOWN, USING ITEMS -4, -5, -6, AND -7 RIVETS. DRIVEN WET WITH SEALANT. FINGER FILLET THE SEALANT AROUND THE OUTSIDE EDGES OF ITEM -3, AND WIPE EXCESS SEALANT BEFORE IT DRIES. ONCE SEALANT IS DRY, ITEMS -2 AND -3 MAY OPTIONALLY BE PAINTED TO MATCH THE PLANE, OR LEFT AS BARE PRIMER.

6. INSTALL ITEM -1 ON ITEMS -2 AND -3 USING ITEMS -8, -9, -10, -11, AND -12. NOTE THAT THE TOP TWO BOLTS IN THE FRONT OF ITEM -1 ARE THE SHORTER ITEM -8, AND THE BOTTOM BOLT IS ITEM -9. THE TWO SIDE BOLTS ARE ITEM -9.

7. INSTALL ITEMS -43 AND -44 ON ITEMS -2 AND -1 USING HARDWARE SHOWN.

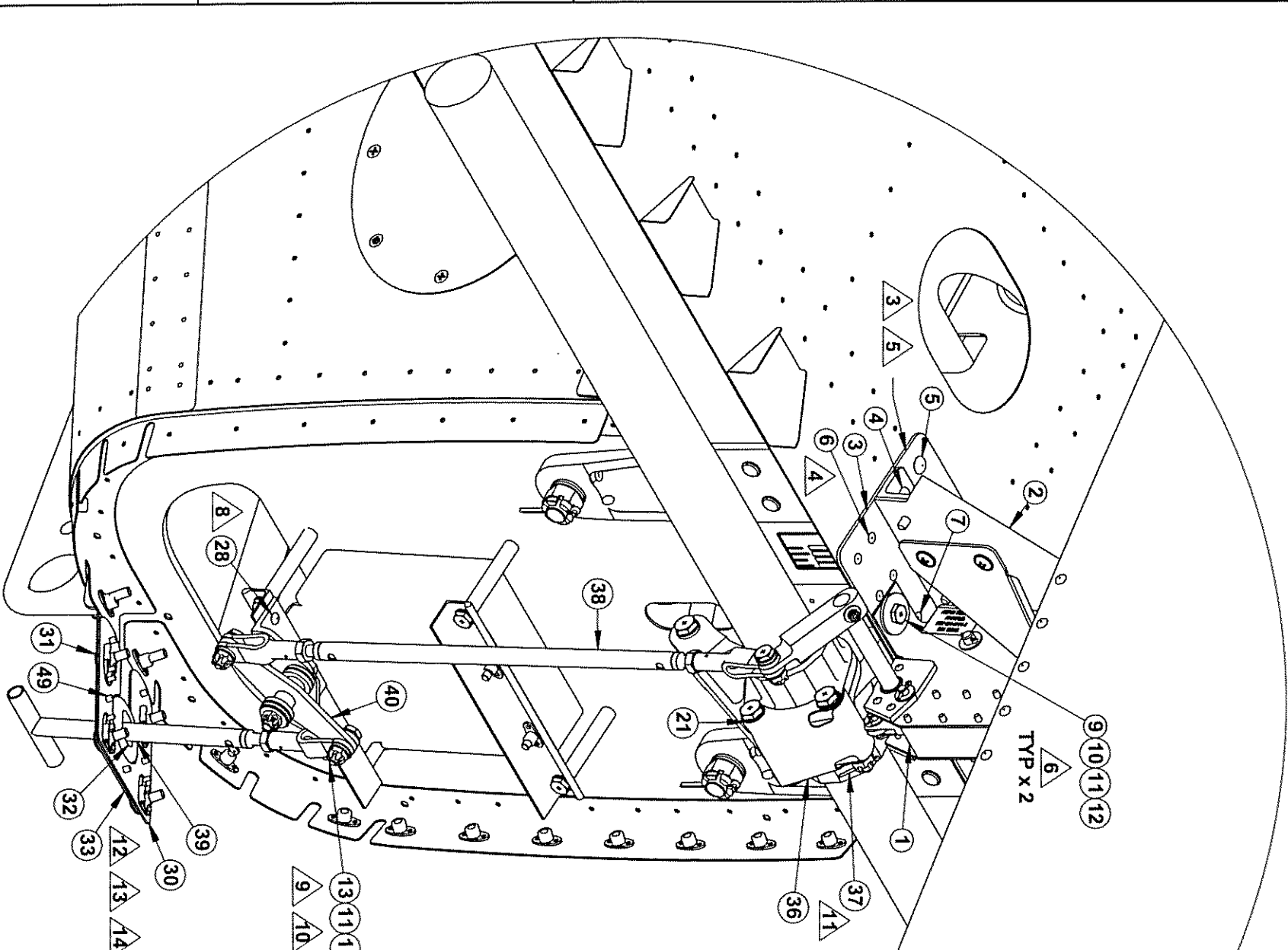
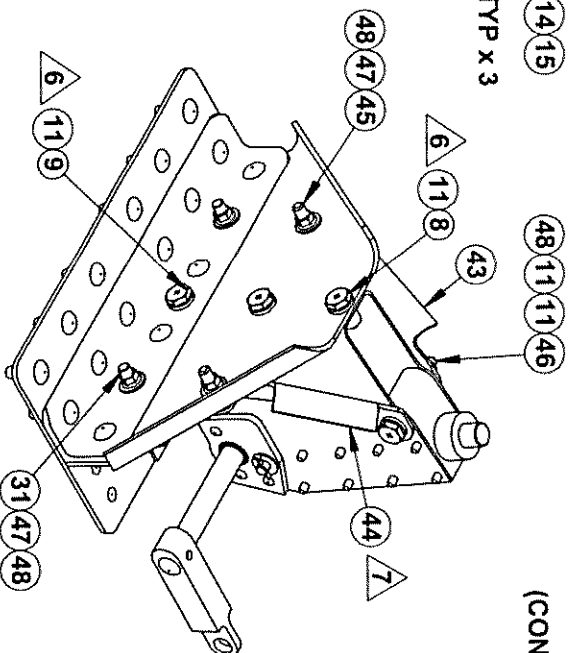
8. ALIGN THE FRONT EDGE OF THE ANGLE ON ITEM -40 WITH THE FRONT EDGE OF THE LOWER YAW DAMPENER MOUNTING ANGLE. AND PLACE THE LEFT EDGE 0.20 INBOARD FROM THE LEFT EDGE OF THE YAW DAMPENER ANGLE. MATCHDRILL THE THREE RIVET HOLES IN THE ITEM -40 ANGLE INTO THE YAW DAMPENER ANGLE USING A #30 BIT. DEBURR ALL HOLES AND ATTACH ITEM -40 TO THE YAW DAMPENER ANGLE USING ITEM -28 RIVETS.

9. ATTACH PUSHROD ASSEMBLY, ITEM -38 TO ITEMS -1 AND -40 USING -13 BOLTS, -11 WASHERS, -14 NUTS, AND -15 COTTER PINS.

10. ATTACH ITEM -39 HANDLE ASSEMBLY TO ITEM -40 USING ITEMS -13, -11, -14, AND -15.

(CONTINUED ON SHEET 3.)

**FRONT VIEW OF ATTACHMENT OF ITEM -1**



PART NUMBER: -

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NAME	DATE
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C. WRIGHT	03/17/14
J. KEPLER	03/17/14

**AERO TWIN, INC.**  
2403 MERRILL FIELD DRIVE - ANCHORAGE, ALASKA - 99501  
(907)274-6166 - WWW.AEROTWIN.COM

QUEST KODIAK 100 RUDDER GUST LOCK

**DO NOT SCALE DRAWING**

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL: 1/16"  
ANGULAR: 30'  
LINEAR: .005  
XXX=010

**RUDDER GUST LOCK INSTALLATION**

SIZE DWG. NO.

**B QK-4111-INST**

REV

**A**

SCALE: NOT TO SCALE

SHEET 1 OF 3

REVISIONS		
REV.	DESCRIPTION	DATE
A	INSTALL CONFORMITY CHANGES	1/5/2015
		JMK

- NOTES:**
- ITEM -38 IS AN ASSEMBLY OF ITEMS -16, -17, AND -18 TO FORM A PUSHROD ASSEMBLY PER DWG. QK-63320, SEE SHEET 3.
  - ITEM -39 IS AN ASSEMBLY OF ITEMS -29, -16, AND -17 TO FORM A HANDLE ASSEMBLY PER DWG. QK-63320, SEE SHEET 3.
  - ITEM -40 IS AN ASSEMBLY OF ITEMS -19 THROUGH -27 AND -50 TO FORM THE BELLCRANK ASSEMBLY PER DWG. QK-63320, SEE SHEET 3.

ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL	DIMENSION	SPECIFICATION
1	1	QK-4111-1	LOCK MECHANISM	-	-	DWG. QK-4111
2	1	QK-63322	BULKHEAD ASSEMBLY	-	-	DWG. QK-63320
3	1	QK-63321	DOUBLER ATTACH PLATE	-	-	DWG. QK-63320
4	6	MS20470AD6-12	RIVET	-	-	-
5	6	MS20470AD6-10	RIVET	-	-	-
6	8	MS20426AD4-5	RIVET	-	-	-
7	4	MS20426AD4-7	RIVET	-	-	-
8	2	AN3-4A	BOLT	-	-	-
9	3	AN3-5A	BOLT	-	-	-
10	2	AN970-3	WASHER	-	-	-
11	11	NAS1149F0363P	WASHER	-	-	-
12	2	MS21045-3	NUT	-	-	-
13	3	AN3-6	BOLT	-	-	-
14	3	AN310-3	NUT	-	-	-
15	3	MS24665-130	COTTER PIN	-	-	-
16	3	MS27975-4	FORK FITTING	-	-	-
17	3	MS35650-3252	JAMB NUT	-	-	-
18	1	QK-63323-2	PUSHROD	-	-	DWG. QK-63320
19	1	QK-63325-5	BELLCRANK	-	-	DWG. QK-63320
20	1	AN4-16	BOLT	-	-	-
21	4	NAS1149F0432P	WASHER	-	-	-
22	4	S1450-4S10-032	WASHER	-	-	-
23	2	NTA411	BEARING	-	-	-
24	2	S1003-11A	BUSHING	-	-	-
25	1	AN310-4	NUT	-	-	-
26	1	MS24665-132	COTTER PIN	-	-	-
27	1	QK-63325-4	ANGLE	-	-	DWG. QK-63320
28	3	MS20470AD4-5	RIVET	-	-	-
29	1	QK-63324-4	HANDLE	-	-	DWG. QK-63320
30	1	QK-63329	TAILCONE DOUBLER	-	-	DWG. QK-63320
31	8	AN525-10R10	SCREW	-	-	-
32	1	MS35489-15	GROMMET	-	-	-
33	1	QK-63328	HANDLE COVER PLATE	-	-	DWG. QK-63320
34	1	QK-63326	RUDDER STRIKER PLATE	-	-	DWG. QK-63320
35	18	CR3213-4-3	BLIND RIVET	-	-	-
36	1	QK-63327	ELEVATOR HORN STRIKER PLATE	-	-	DWG. QK-63320
37	2	MS24665-134	COTTER PIN	-	-	-
38	1	QK-63323	PUSHROD ASSEMBLY	-	-	DWG. QK-63320
39	1	QK-63324	HANDLE ASSEMBLY	-	-	DWG. QK-63320
40	1	QK-63325	BELLCRANK ASSEMBLY	-	-	DWG. QK-63320
41	1	QK-4111-PLAC	PLACARD - RUDDER LOCK OPERATION	-	-	DWG. QK-63320
42	2	AT-RL-1031	PLACARD - DO NOT TOW	-	-	DWG. QK-63320
43	1	QK-63330	BRACE - RH	-	-	DWG. QK-63320
44	1	QK-63331	BRACE - LH	-	-	DWG. QK-63320
45	2	AN525-10R8	SCREW	-	-	-
46	1	AN3-14A	BOLT	-	-	-
47	4	NAS1149F0332P	WASHER	-	-	-
48	5	MS21042-3	NUT	-	-	-
49	5	MS20426AD4-4	RIVET	-	-	-
50	1	NAS1149F0463P	WASHER	-	-	-

PART NUMBER: -

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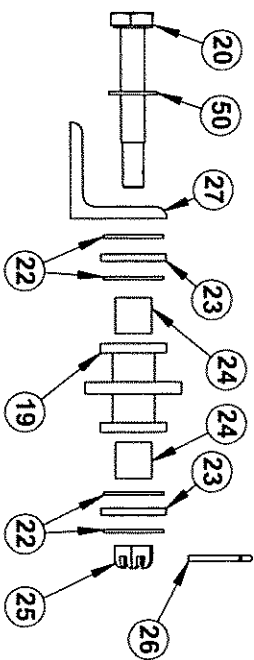
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NAME	DATE
DRAWN J. KEPLER	03/17/14
CHECKED C. WRIGHT	03/17/14
ENG APPR. J. KEPLER	03/17/14

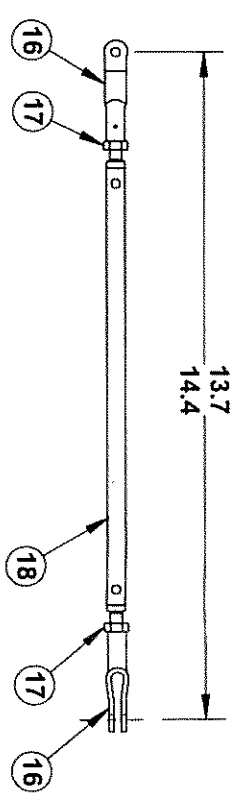
**AERO TWIN, INC.**  
 2403 MERRILL FIELD DRIVE - ANCHORAGE - ALASKA - 99501  
 (907)274-6166 - WWW.AEROTWIN.COM  
 QUEST KODIAK 100 RUDDER GUST LOCK

**RUDDER GUST LOCK  
 INSTALLATION**

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	TOLERANCES:	SIZE	DWG. NO.	REV
FRACTIONAL: ANGULAR: LINEAR:	$\pm 1/16"$ $\pm .1$ XXX=0.10	<b>B</b>	<b>QK-4111-INST</b>	<b>A</b>
DO NOT SCALE DRAWING		SCALE: NOT TO SCALE	SHEET 2 OF 3	

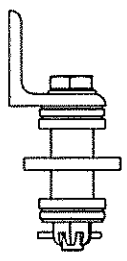


**EXPLODED VIEW**



**BREAKDOWN OF P/N QK-63323, PUSHROD ASSEMBLY**

**COLLAPSED VIEW**



**BREAKDOWN OF ITEM -40, BELLCRANK ASSEMBLY**

INSTALLATION INSTRUCTIONS CONTINUED:

▲1 TEMPORARILY REMOVE TWO AN4-20 BOLTS FROM ELEVATOR CONTROL HORN, SLIDE ITEM -36 IN PLACE ON THE HORN AND REINSTALL THE BOLTS WITH EXISTING NUTS, EXCHANGING ITEM -21 FOR EXISTING WASHERS AS NECESSARY TO ALLOW PROPER COTTER PIN HOLE ALIGNMENT. USING NEW COTTER PINS, ITEM -37. TORQUE BOLTS TO 50-70 IN-LBS BEFORE INSTALLING ITEM -37 COTTER PINS.

▲2 ALIGN HANDLE COVER PLATE, ITEM -33, ON THE BOTTOM OF THE TAIL STINGER/FAIRING, ALIGNING THE FORWARD SCREW HOLES IN ITEM -33 WITH THE TWO SCREW HOLES ON THE BOTTOM OF THE STINGER/FAIRING. USING A SHARP #9 BIT, MATCHDRILL THE FOUR ADDITIONAL SCREW HOLES FROM ITEM -33 INTO THE STINGER/FAIRING.

▲3 REMOVE ITEM -33 AND PLACE ITEM -30 ON INSIDE OF STINGER, ALIGNING IT WITH THE NEWLY DRILLED HOLES. MARK THE INSIDE EDGE OF ITEM -30 ON THE STINGER AND EXTEND THE LINES FORWARD TO THE EDGE OF THE STINGER/FAIRING. USING A SHARP SAW, CUT THE STINGER/FAIRING ALONG THE MARKED LINE. MATCHDRILL THE FIVE RIVET HOLES IN ITEM -30 INTO THE STINGER USING A #30 BIT AND COUNTERSINK THE STINGER HOLES FOR ITEM -49 RIVETS.

▲4 WITH ITEM -30 ALIGNED WITH THE SCREW HOLES IN THE STINGER/FAIRING, BOND ITEM -30 TO THE INSIDE SURFACE OF THE STINGER/FAIRING USING PRO-SEAL 890 CLASS B-1/2 OR EQUIVALENT AND ITEM -49 RIVETS.

15. TEMPORARILY INSTALL STINGER/FAIRING AND MARK LOCATION OF LOCK MECHANISM PIN. USE A SHARP 1 INCH BIT TO DRILL A HOLE IN THE STINGER/FAIRING CENTERED OVER THE LOCK PIN.

▲16 STRIKER PLATE, ITEM -34 IS ATTACHED TO THE BOTTOM OF THE RUDDER THROUGH EXISTING RIVET HOLES IN THE RUDDER. LOCATE ITEM -34 AS SHOWN, AND REMOVE THE FIVE EXISTING RIVETS ON EITHER SIDE OF THE RUDDER. POSITION BOTTOM OF ITEM -34 FLUSH WITH THE BOTTOM OF THE RUDDER. MATCHDRILL ITEM -34 TO THE RUDDER RIVET HOLES USING A #30 BIT. DEBURR HOLES AND ATTACH ITEM -34 USING ITEM -35 RIVETS. PAINT ITEMS -33, -34, AND -35 TO MATCH AIRCRAFT.

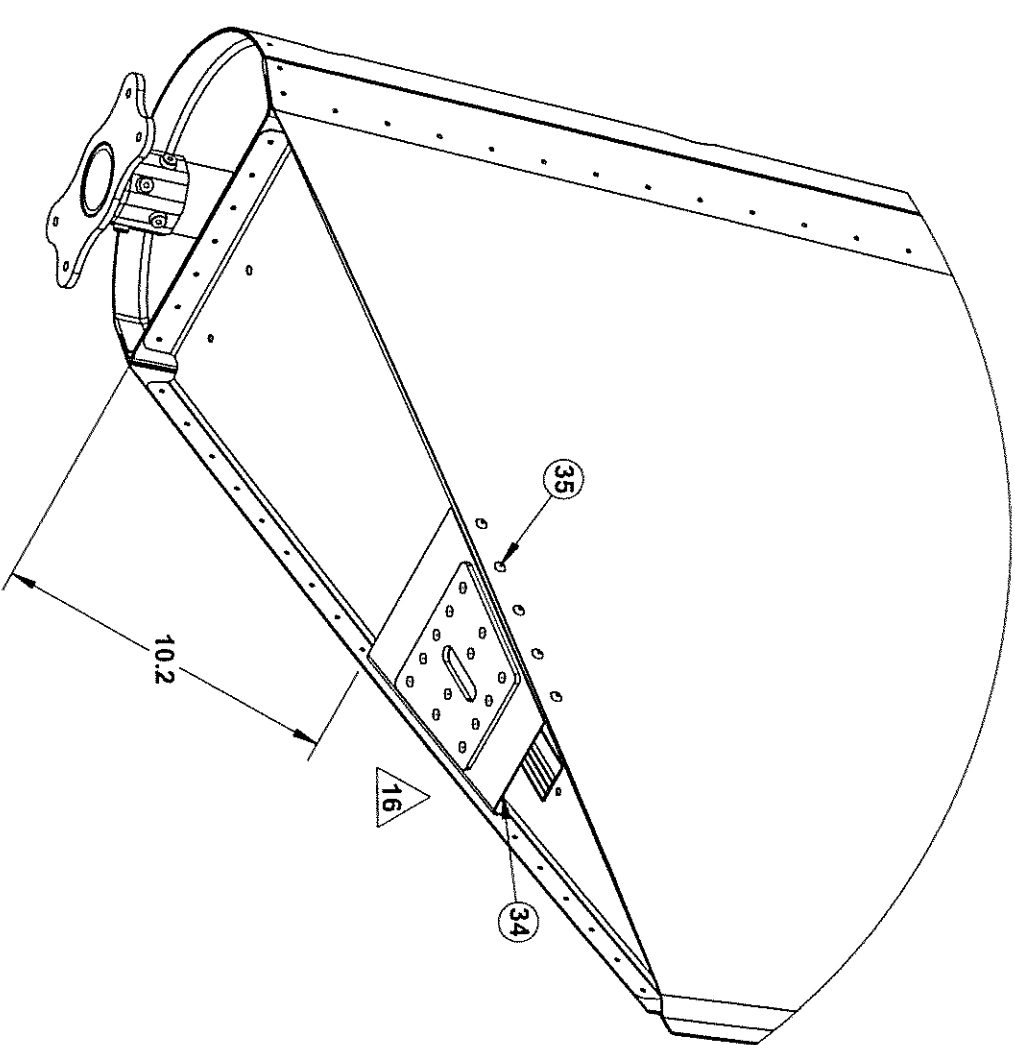
17. PERFORM THE DETAILED FUNCTIONAL CHECKS AND ADJUSTMENTS IN SECTION 1.5 OF DOCUMENT QK-4111-ICA TO ADJUST THE LENGTHS OF ITEMS -38 AND -39. ENSURE JAMB NUTS, ITEM -17, ARE TIGHT ON ITEMS -38 AND -39 AND THE FORK, ITEM -16, ON ITEM -39 IS SAFETIED TO THE SAFETY WIRE TAB ON ITEM -39. WITH THE HANDLE T BAR ALIGNED WITH THE AIRCRAFT'S LATERAL AXIS.

18. APPLY PLACARD, ITEM -41, TO THE LEFT HAND SIDE OF THE STINGER/FAIRING, LOCATED APPROXIMATELY HALFWAY UP THE SIDE OF THE STINGER/FAIRING AND TWO INCHES AFT OF THE FRONT OF THE STINGER/FAIRING'S FRONT EDGE.

19. ATTACH PLACARDS, ITEM -42, TO BOTH SIDES OF THE NOSE GEAR FAIRING, JUST AFT OF THE LEADING EDGE CURVE, CENTERED VERTICALLY ON THE FAIRING. MATCHDRILL THE FAIRING TO THE RIVET HOLES IN ITEM -42 USING A #30 BIT AND ATTACH THE PLACARDS USING ITEM -35 RIVETS.

20. REINSTALL ALL REMOVED FAIRINGS, AND INSTALL HANDLE COVER PLATE, ITEM -33 USING SCREWS, ITEM -31, WITH GROMMET, ITEM -32 SANDWICHING ITEM -30, THE STINGER/FAIRING, AND ITEM -33.

21. UPDATE AIRCRAFT WEIGHT AND BALANCE AND EQUIPMENT LIST TO ADD THE RUDDER GUST LOCK, ADDING 4.0 POUNDS AT F.S. 290 FOR A TOTAL MOMENT CHANGE OF 1,160 IN-LBS.



REVISIONS			
REV.	DESCRIPTION	DATE	DRAWN
A	INSTALL CONFORMITY CHANGES	1/5/2015	JMK
B	STRIKER PLATE MODIFICATION	1/9/2015	JMK

PART NUMBER: -

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NAME	DATE
J. KEPNER	03/17/14
C. WRIGHT	03/17/14
J. KEPNER	03/17/14

**RUDDER GUST LOCK INSTALLATION**

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

NAME	DATE	SIZE	DWG. NO.	REV
J. KEPNER	03/17/14	B	QK-4111-INST	B
C. WRIGHT	03/17/14	SCALE: NOT TO SCALE SHEET 3 OF 3		
J. KEPNER	03/17/14			