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SERVICE LETTER 269

WATER RUDDER REMOVAL ON 10000 LEFT HAND FLOAT

Aircraft Makes/Model(s):	Float Model(s):	Compliance: Optional	By: MAS
Air Tractor AT-802A & AT-802	10000A	Part Number: 1012726 Date: 1/20/2025	Approved: DRH Revision: A

LOG OF REVISIONS

Revision	Description	Date
A	Initial release	1/20/2025

FAA approval has been obtained for technical data in this publication that affects STC or TSO design compliance.

EFFECTIVITY:

This service letter applies to Air Tractor AT-802 and AT-802A model aircraft with Wipline 10000 amphibian floats with water rudders installed per STC SA01795CH.

COMPLIANCE:

Compliance is optional.

BACKGROUND:

In an effort to reduce weight and move the center of gravity forward, the water rudder, cables, and cable routing parts may be removed from the left hand 10000A float.

COMPLIANCE METHOD:

Remove and install parts in accordance with work instructions in this service letter.

APPROXIMATE SHOP HOURS:

Performing the work instructions will take approximately 5-10 hours depending on how many of the float and pylon cable routing parts are removed.

WEIGHT AND BALANCE:

Description	Weight	Arm
Remove LH water rudder and cables from LH float. Remove fuselage brackets that route cables to the LH pylon.	-11.87 lb	189.53 in
Remove additional pulley brackets and parts from LH float and pylon (optional).	-2.60 lb	130.77 in
Add fuselage brackets for RH water rudder cable routing.	0.21 lb	70.01 in

WARRANTY INFORMATION:

This service letter does not include warranty for labor or parts.

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OVERVIEW:

The existing water rudder steering cable routing with both water rudders installed is shown in Figure 1. Each steering cable runs from the aircraft rudder horn, through the fuselage, down each respective pylon, and through each float to the water rudder. A balance cable then travels between the two float water rudders to complete the steering cable system. Note that there is a turnbarrel in each wire run for adjustment.

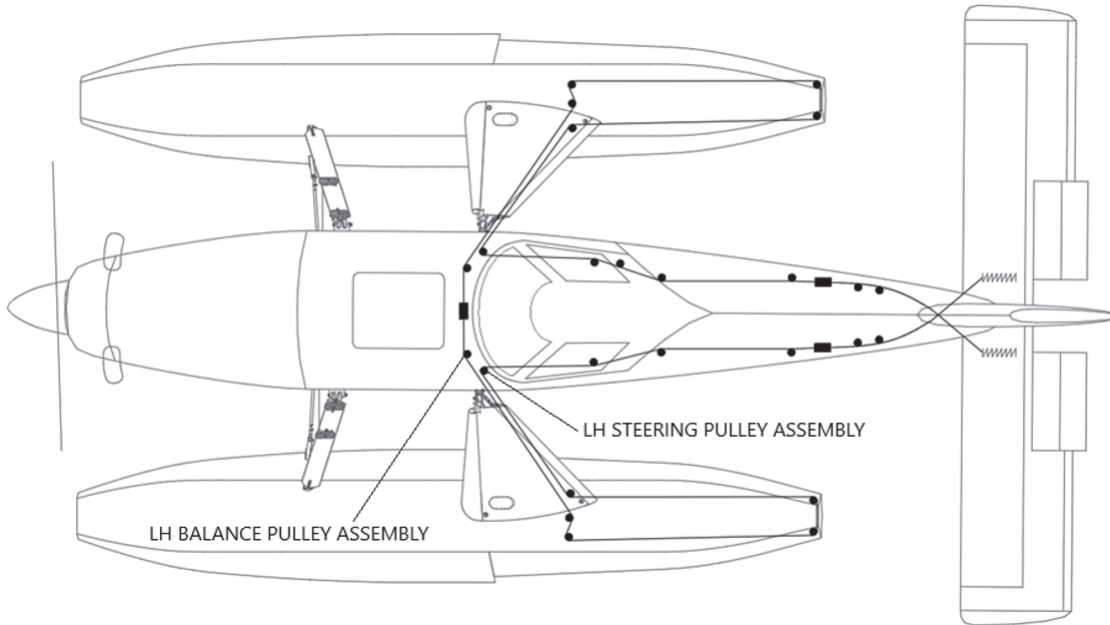


FIGURE 1: 2-WATER RUDDER CABLE ROUTING

The removal of the water rudder from the LH float requires a change to the water rudder cable routing making 2 steering cables that run from the aircraft rudder to the RH water rudder. The LH steering pulley is removed, pulley assemblies at STA 82.5 and 68 are added, and the LH steering cable and balance cable are combined to create the new steering cable. See Figure 2 and Figure 3 for overview reference.

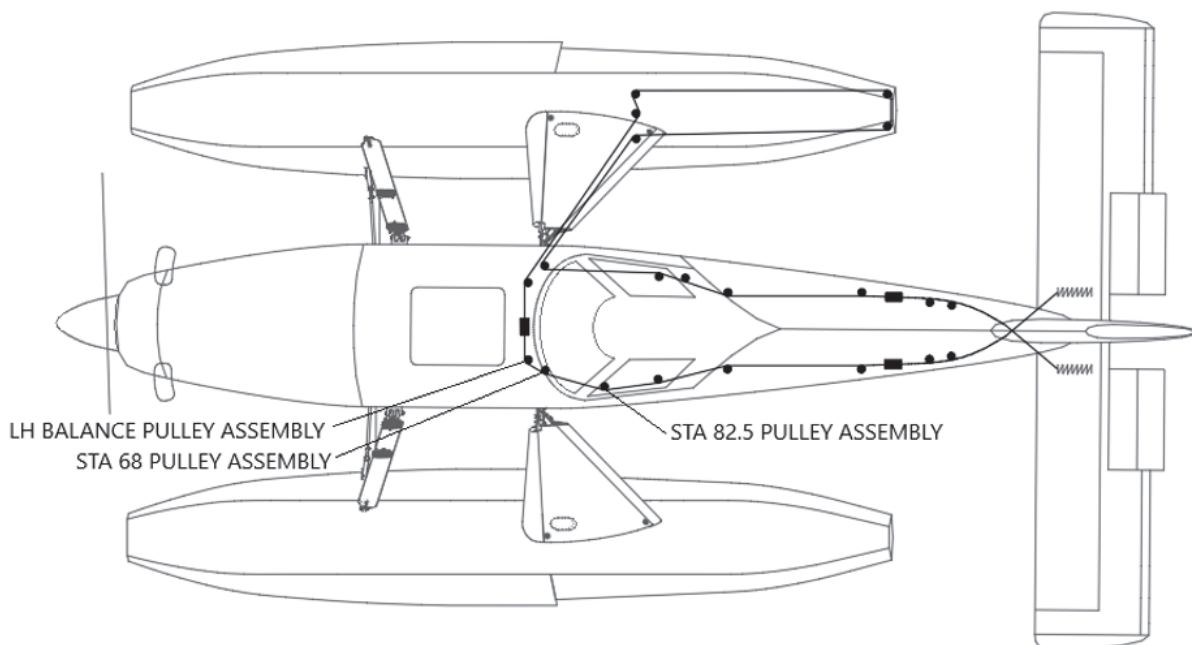


FIGURE 2: SINGLE WATER RUDDER CABLE ROUTING

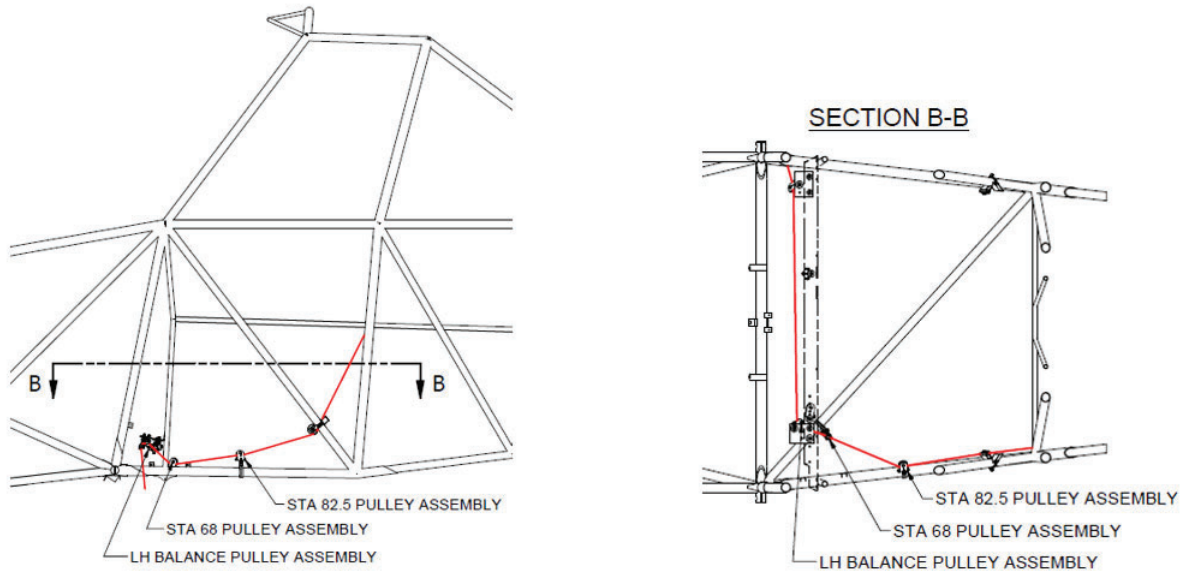


FIGURE 3: SINGLE WATER RUDDER CABLE ROUTING

TECHNICAL DATA:

Copies of this service letter, associated service kit (if applicable), float service manual, and float parts manual are available at www.wipaire.com.

ITEMS PROVIDED IN SERVICE KIT 1012726-01 (1 PER AIRCRAFT)			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1008959	PULLEY BRACKET
2	1	1012705	COVER, WATER RUDDER CABLE REMOVAL, BULKHEAD 22
3	2	1012706	COVER, WATER RUDDER CABLE REMOVAL, BULKHEAD 21
4	1	10A08000-166	CABLE, RETRACT
5	2	AN3-15A	BOLT, 1/4-28, 1.1875 GRIP, UNDRILLED, STEEL
6	2	AN3-6A	BOLT, 10-32, 0.375 GRIP, UNDRILLED, STEEL
7	2	AN42B4A	EYE BOLT
8	2	AN42B5A	EYE BOLT
9	1	AN6C36A	BOLT, 3/8-24, 3.188 GRIP, UNDRILLED, CR STEEL
10	8	MS21044N3	NUT, 10-32
11	1	MS21252-3LS	CLEVIS-ROD END, TURNBUCKLE, CLIP LOCKING
12	2	MS21256-1	TURNBARREL LOCKING CLIP
13	1	MS21260S3 LH	TERMINAL-WIRE ROPE, STUD LH
14	1	MS21260S3 RH	TERMINAL-WIRE ROPE, STUD RH
15	1	MS21919WDG22	CLAMP, LOOP, CUSHIONED, 1-3/8 TUBE OD
16	1	MS21919WDG26	CLAMP, LOOP, CUSHIONED, 1-5/8 TUBE OD
17	2	MS24566-1B	PULLEY, CONTROL, ANTI-FRICTION BEARING
18	2	MS24665-285	COTTER PIN
19	8	NAS1149F0332P	WASHER, 0.203 ID, .032 THK, STEEL
20	8	NAS1149F0363P	WASHER, 0.203 ID, .063 THK, STEEL
21	1	NAS43DD3-64FC	SPACER, 1 IN
22	1	NAS561P4-12	ROLL PIN

Work Instructions

Reference the following documents for instructions pertaining to inspection and repair when completing the following tasks:

- AC43.13-1B or later FAA approved revision guidelines.
- Structural Repair Manual for Wipline Aluminum Floats, Wipaire document number 1008274.

Float & Pylon

1. Put the water rudders in the down position. If the water rudder system has an electric retract motor, pull the circuit breaker "W.R. RETRACT."
2. Disconnect the retract cable, steering cable, and balance cable from the LH water rudder attachment location at the aft end of the LH float.
3. Cable ends can be cut and removed through the LH float and the LH pylon. The retract cable can be completely disconnected and removed. Leave the steering and balance cables at length until it is determined how the cables will be run and terminated in Step 16.
4. With cables out of the way, remove all LH water rudder parts attached to water rudder casting 3A01437-001. Keep water rudder stop 10A08426-012 to be added to the RH water rudder.

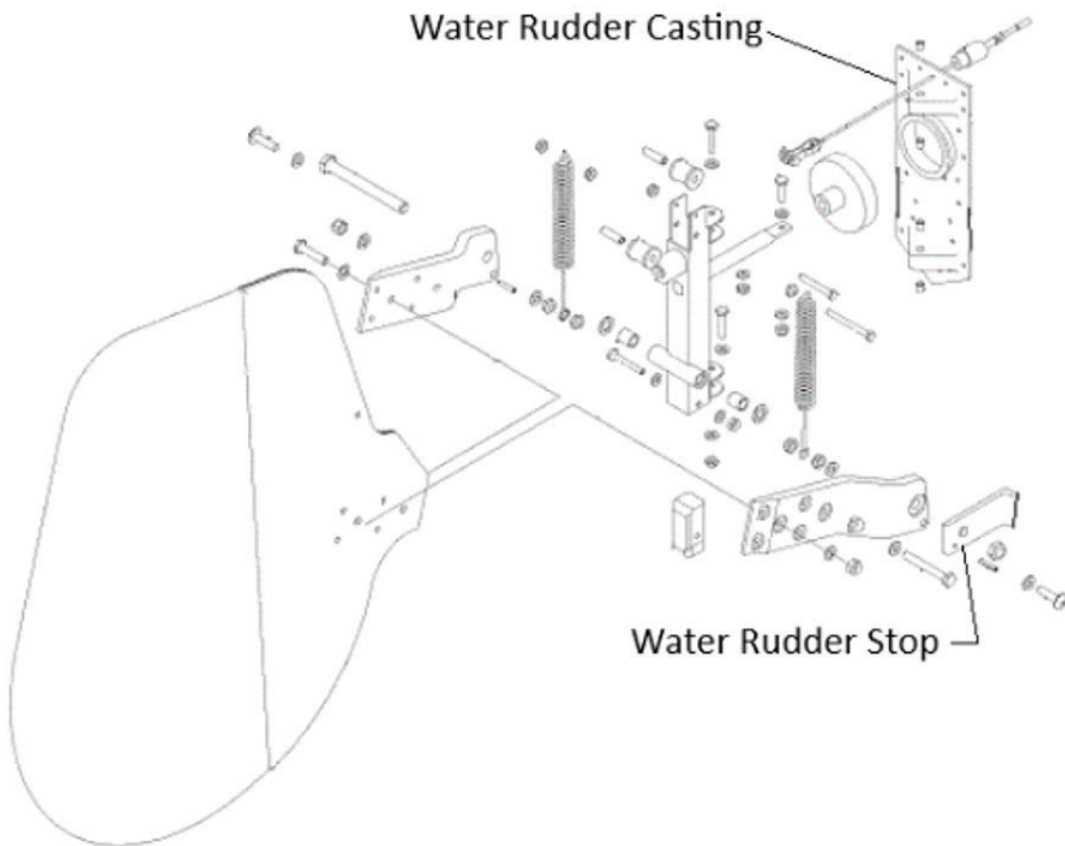


FIGURE 4: LH WATER RUDDER PARTS

5. Drill out the rivets to remove water rudder casting 3A01437-001
6. From the inside of the float, drill out the rivets and remove pulley bracket guide mount 10A08033-004.

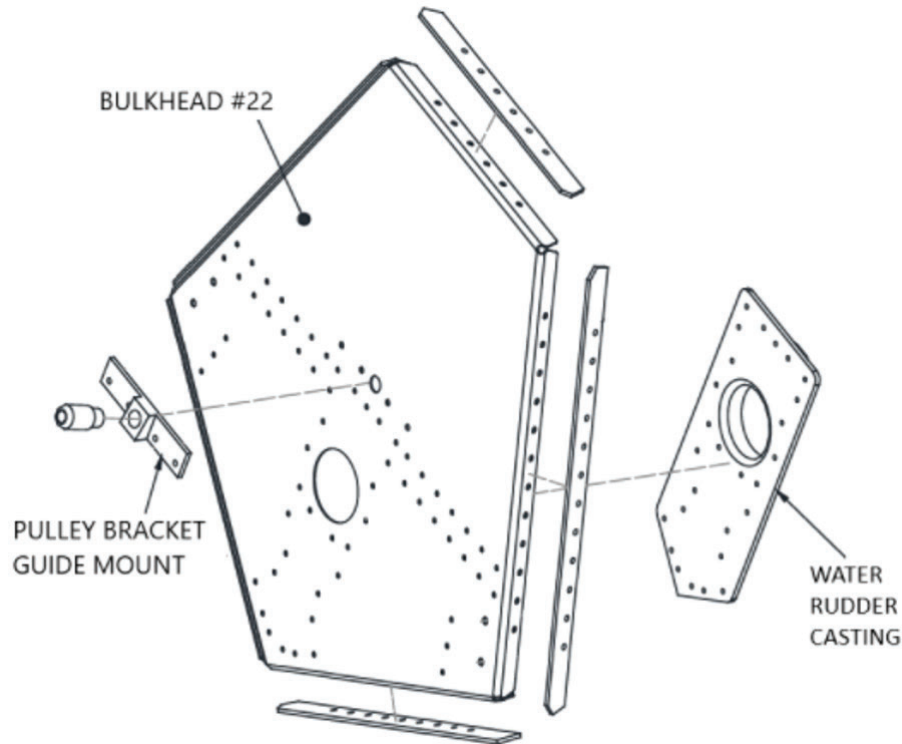


FIGURE 5: BULKHEAD #22 PARTS

7. Use water rudder bulkhead cover 1012705 on the aft side of bulkhead #22. Use PR-1422 sealant between the cover and the bulkhead before riveting. Fill existing holes in bulkhead #22 with rivets.
8. For the remaining sections of the LH float and pylon, it is left to the discretion of the customer or installer regarding how to fill the holes left by removing the cables or whether any other pulleys and brackets are removed. Sections must be repaired in accordance with AC43.13-1B or 1008274.
 - a. Additional water rudder cable cover parts 1012706 are included in this service letter kit to replace the pulley bracket guides (10A08251-004/10A08251-005) in bulkhead #21.

Aircraft

9. Remove the LH steering pulley bracket at fuselage station 62.63 near the LH top pylon attach.



FIGURE 6: LH STEERING PULLEY ASSEMBLY

10. Remove the LH side auxiliary retract pulley if installed.

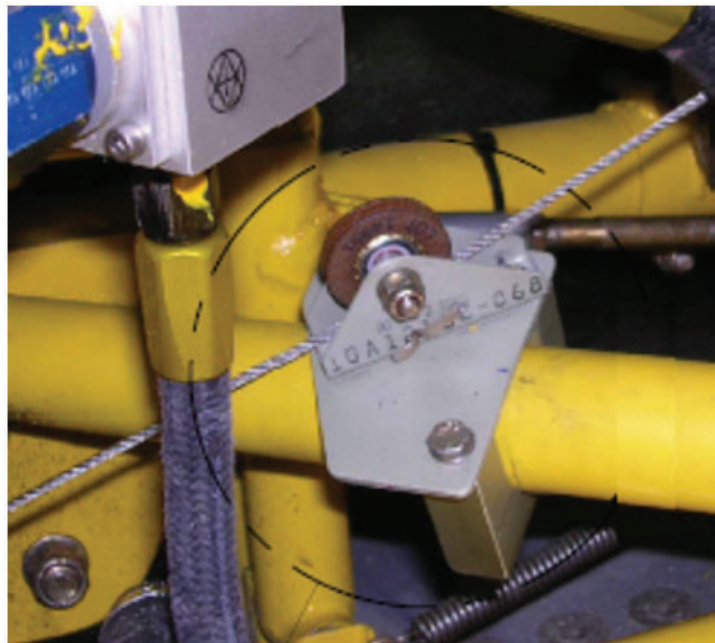


FIGURE 7: AUXILIARY PULLEY ASSEMBLY

11. The next step is to reconfigure the pulleys on the brace mounted to vertical fuselage tubes at STA. 67.88. Figure 8 view is looking forward at the aft side of the hopper.

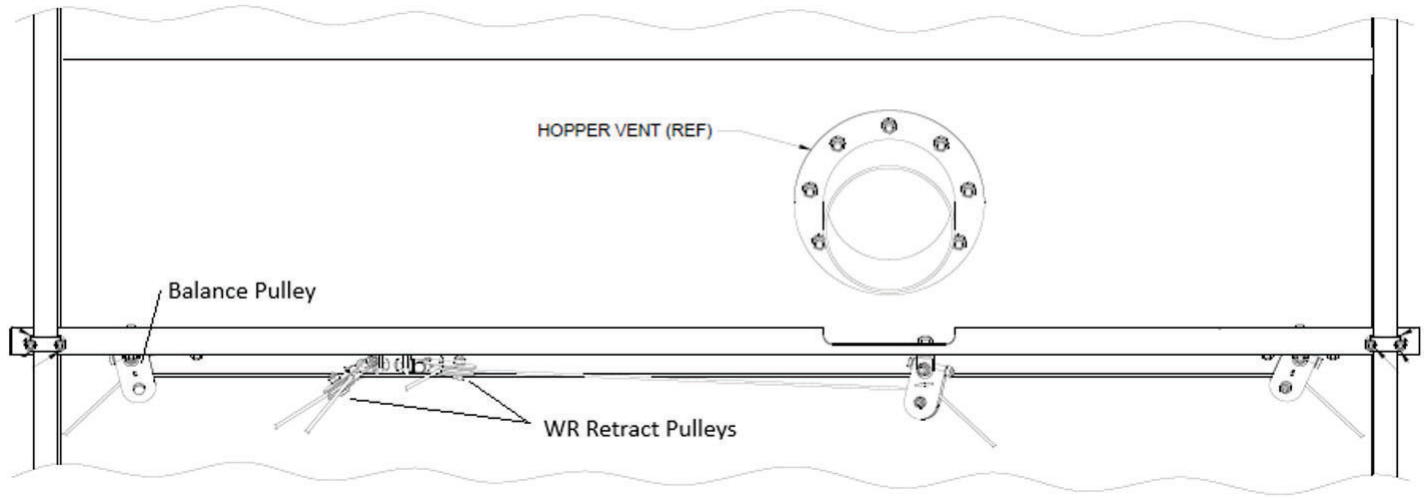


FIGURE 8: PULLEY BRACE AT STA 67.88

- a. Remove the RH WR Retract Pulley. The LH WR Retract Pulley becomes the single water rudder retract pulley that will direct the single cable to the RH float.
- b. The Balance Pulley and plate assembly needs to be moved and reconfigured for the new cable routing. Remove the plate from the long angle bracket, remove pulley assembly from the plate, rotate the plate 90 degrees counterclockwise, and move it as far inboard as you can without interfering with the WR Retract Pulley. Reattach the plate to the long angle bracket and reattach the pulley assembly to the forward-most hole on the plate. Holes may have to be drilled to size to fit hardware. Make sure that eye bolts are not over-tightened such that they cannot turn to adjust pulley position.

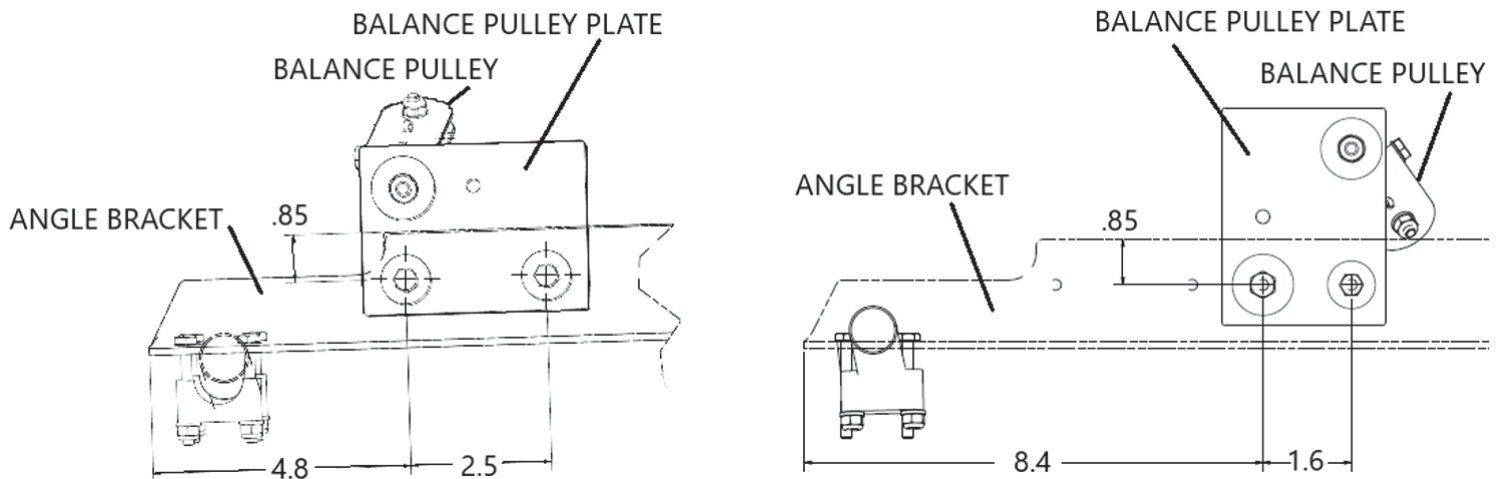
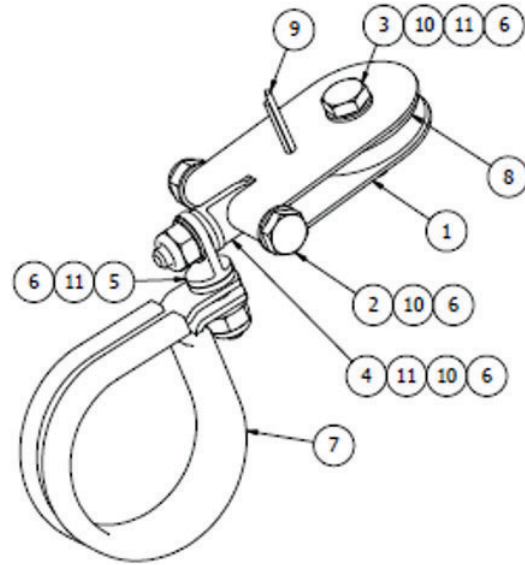


FIGURE 9: BALANCE PULLEY BRACKET - BEFORE & AFTER

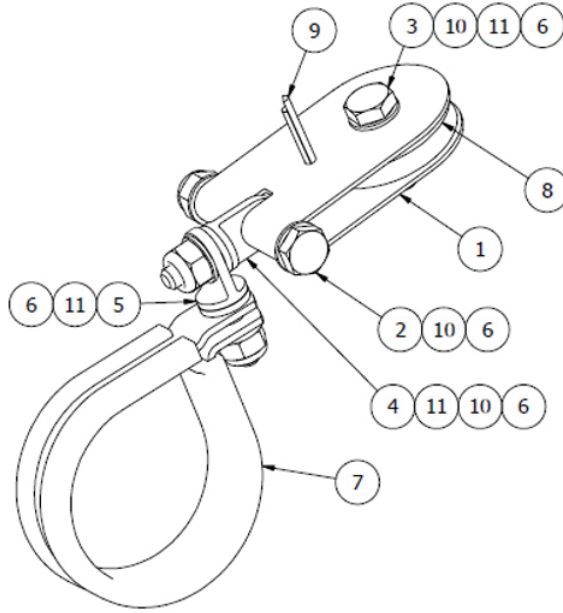
12. With parts included in this service letter kit, create the STA 82.5 Pulley Assembly, with the MS21919WDG26 clamp, and attach it to the bottom left fuselage tube approximately at STA 82.5. Pulley assembly position can be adjusted rotationally and longitudinally as needed for cable routing and clearance with other components. While the eye bolt going through the clamp must be tight, the eye bolt going to the pulley must be loose enough that the bolt can turn for proper pulley degrees of motion.



PARTS LIST REFERENCE ONLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1008959	PULLEY BRACKET
2	1	AN3-15A	BOLT, 10-32, 1.25 GRIP, UNDRILLED, STEEL
3	1	AN3-6A	BOLT, 10-32, 0.375 GRIP, UNDRILLED, STEEL
4	1	AN42B4A	EYE BOLT
5	1	AN42B5A	EYE BOLT
6	4	MS21044N3	NUT, LOCKING, REGULAR HEIGHT, 10-32 UNF
7	1	MS21919WDG26	CLAMP, LOOP, CUSHIONED, 1-5/8 TUBE OD
8	1	MS24566-1B	PULLEY, CONTROL, ANTI-FRICTION BEARING
9	1	MS24665-285	COTTER PIN
10	4	NAS1149F0332P	WASHER, 0.203 ID, 0.032 THK, STEEL
11	4	NAS1149F0363P	WASHER, 0.203 ID, 0.063 THK, STEEL

FIGURE 10: PULLEY ASSEMBLY AT STA 82.5

13. With parts included in this service letter kit, create the STA 68 pulley assembly, with the MS21919WDG22 clamp, and attach it to the bottom diagonal fuselage tube approximately at STA 68.0. Pulley assembly position can be adjusted rotationally and diagonally as needed for cable routing and clearance with other components. While the eye bolt going through the clamp must be tight, the eye bolt going to the pulley must be loose enough that the bolt can turn for proper pulley degrees of motion.



PARTS LIST REFERENCE ONLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1008959	PULLEY BRACKET
2	1	AN3-15A	BOLT, 10-32, 1.25 GRIP, UNDRILLED, STEEL
3	1	AN3-6A	BOLT, 10-32, 0.375 GRIP, UNDRILLED, STEEL
4	1	AN42B4A	EYE BOLT
5	1	AN42B5A	EYE BOLT
6	4	MS21044N3	NUT, LOCKING, REGULAR HEIGHT, 10-32 UNF
7	1	MS21919WDG22	CLAMP, LOOP, CUSHIONED, 1-3/8 TUBE OD
8	1	MS24566-1B	PULLEY, CONTROL, ANTI-FRICTION BEARING
9	1	MS24665-285	COTTER PIN
10	4	NAS1149F0332P	WASHER, 0.203 ID, 0.032 THK, STEEL
11	4	NAS1149F0363P	WASHER, 0.203 ID, 0.063 THK, STEEL

FIGURE 11: PULLEY ASSEMBLY AT STA 68

14. If the aircraft has a manual water rudder retract system, there is a retract pulley assembly at STA 102.56. Remove the outboard pulley/pulley stop, move the small spacer and the other pulley stop/pulley outboard, and replace spacer NAS43DD3-40FC with spacer NAS43DD3-64FC.

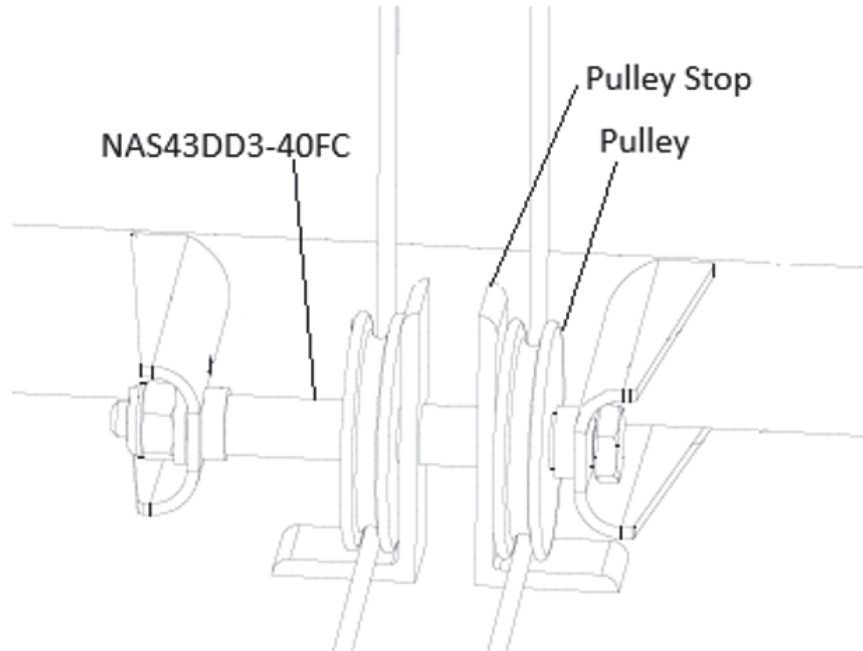


FIGURE 12: MANUAL RETRACT CABLE PULLEY ASSEMBLY

15. If the aircraft has an electric water rudder retract system, replace the MS21254-3LS eye end at the end of the retract cable with the MS21252-3LS clevis-rod end in the service letter kit.

16. Rerouting cables:

- a. Route and adjust cable assemblies with flaps in up position.
- b. Set steering cable tension to 10 lbs +5/-0.
- c. Figure 13 is a cable routing schematic for the existing 2-water rudder installation where Item 2 is MS21251B3S (turnbarrel), and Item 3 is MS21256-1 (turnbarrel locking clip).

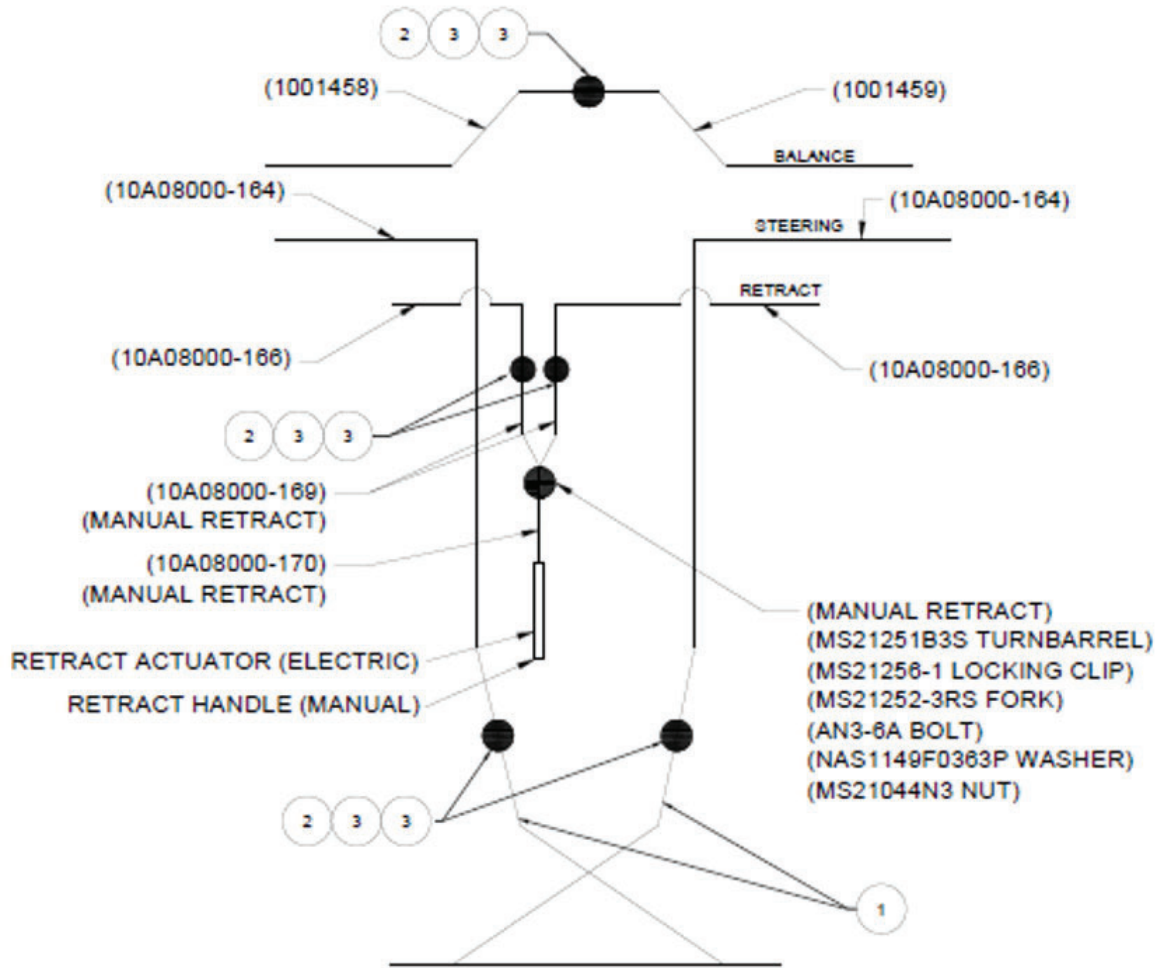


FIGURE 13: 2-WATER RUDDER CABLE SCHEMATIC

- d. LH retract cable 10A08000-166 is removed in Step 3.
- e. Steering cable 10A08000-164 and balance cable 1001459 must be joined such that the cable runs from the rudder horn, through the fuselage existing pulleys, through the newly assembled pulleys (Steps 11b, 12, and 13), and down the pylon to the RH water rudder.
 - i. Installer can remove steering cable 10A08000-164, route balance cable 1001458 to the turnbarrel in the aft fuselage, cut cable to the correct length, and add a new terminal stud to be reassembled with the turnbarrel.
 - ii. Installer can remove balance cable 1001458, route steering cable 10A08000-164 to the turnbarrel at STA 67.88, cut cable to the correct length, and add a new terminal stud to be reassembled with the turnbarrel.
 - iii. Note that both of these options will result in the steering cable run having 2 separate turnbarrel locations. This cable configuration can be modified at the installer's discretion provided at least one turnbarrel assembly is included in the cable run for adjustment purposes.

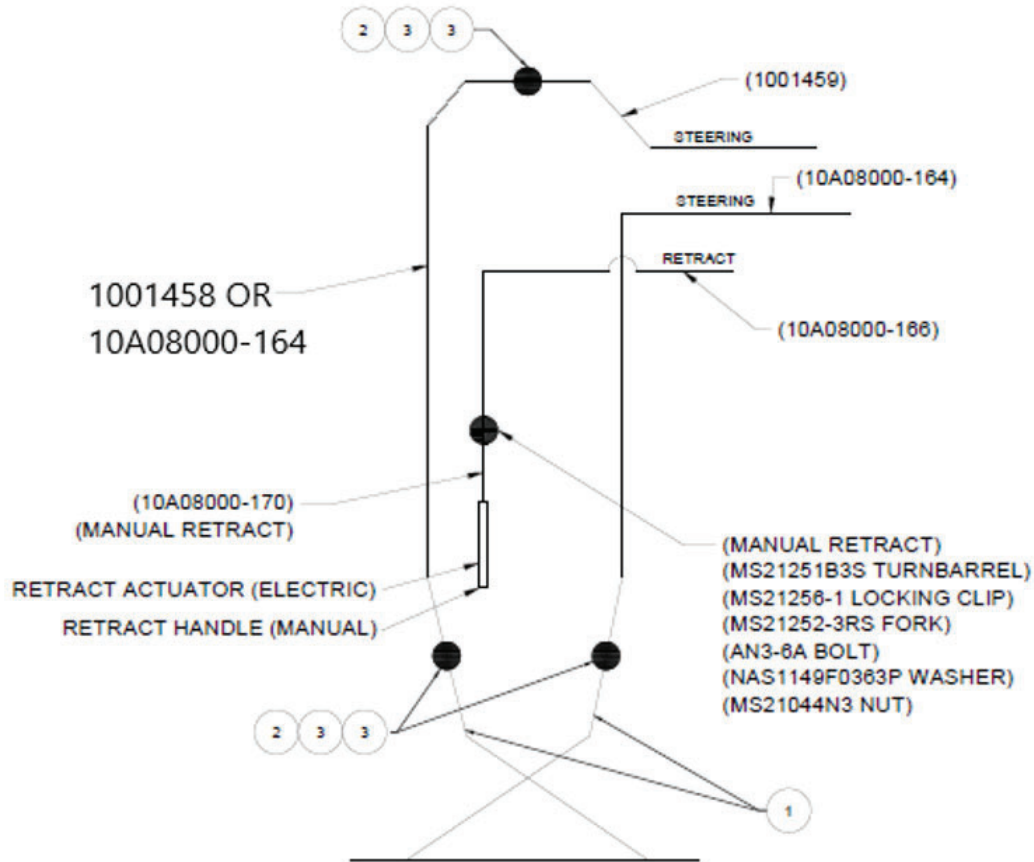


FIGURE 14: SINGLE WATER RUDDER CABLE SCHEMATIC

NOTE: After routing and connecting all cables, push the "W.R. RETRACT" circuit breaker back in to restore water rudder retract function.

17. The water rudder stop from the LH water rudder needs to be attached to the opposite side of the RH water rudder such that there is a stop on both sides of the RH water rudder. Position water rudder stop square to bulkhead with water rudder in the up position. Match drill 0.125 hole from water rudder stop through water rudder arm. New roll pin and longer bolt (AN6C36A) are included in this service kit.

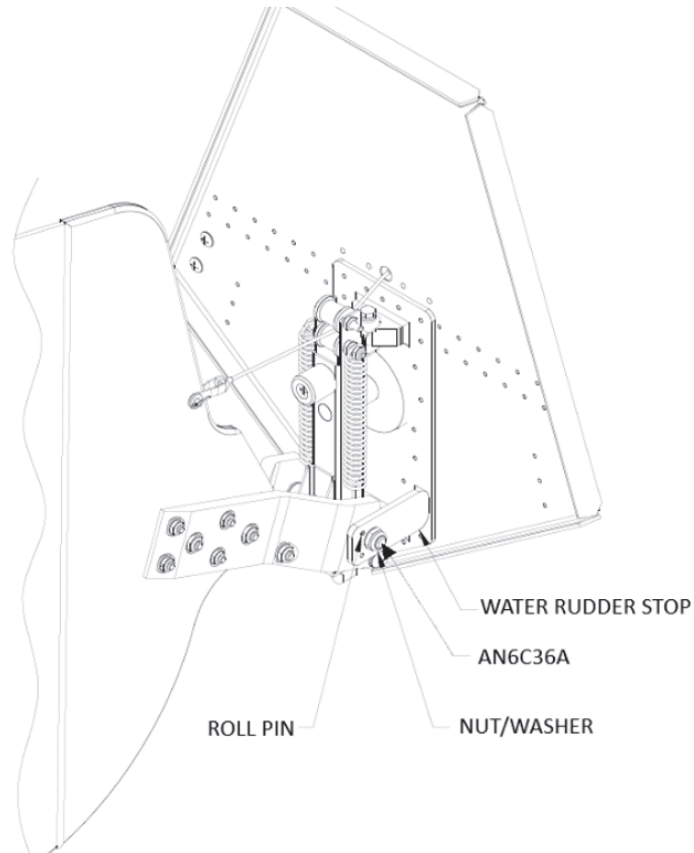


FIGURE 15: WATER RUDDER STOP

Aircraft Closing & Return to Service

Upon completion of inspection, enter information in Aircraft Logbook for completion of Wipaire Service Letter 269.