



**THRUSH AIRCRAFT, INC.**

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## **SERVICE BULLETIN**

**No. SB-AG-48**

March 7, 2006

# **FLAP CONTROL TORQUE SHAFT** **REPLACEMENT**

### **MODELS AFFECTED:**

**Aircraft of the following models and serial numbers must comply with this Service Bulletin:**

<b><u>MODEL</u></b>	<b><u>SERIAL NUMBERS</u></b>
<b>S2R-T660</b>	<b>T660-101 through T660-125</b>

### **REASON FOR PUBLICATION:**

Service Letter SL-AG-108 was issued a year ago because cracks were found on a flap torque shaft assembly P/N 95661-3 where the P/N 95678-1 flap linkage arm welds to the torque shaft. (the problem torque shaft was incorrectly identified as a 95661-1 on SL-AG-108) A similar problem with the same parts was recently reported. Examination of these latest parts makes it evident that the linkage arm joint at the torque tube is not robust enough.

A failure of the linkage arm in flight will cause a sudden roll input, potentially causing an accident. This is especially true when using flaps for a full gross weight take-off. For this reason it is mandatory that the 95661-3 torque shaft assembly be replaced with a strengthened 95661-5 torque shaft assembly.

### **COMPLIANCE:**

Initial inspection compliance is required prior to further flight. Repetitive inspections are to be accomplished every 25 flight hours. Replacement of the torque shaft assembly is required within 200 flight hours.

**BY WHOM WORK WILL BE ACCOMPLISHED:**

FAA licensed Airframe or A & P mechanic, or foreign equivalent.

**APPROVAL:**

This Service Bulletin is FAA approved.

**MAN HOURS:**

The inspections should take a mechanic one half hour to complete, with another 15 minutes for paperwork. Replacement of the torque shaft is a 6 to 8 hour job.

**SPECIAL TOOLS:**

Common A&P mechanic tools are sufficient.

**INSPECTION:** Ref. Figures 48-1 & 48-2

Inspection requires the removal of wing root fairings and cockpit side skins on both sides of the aircraft, in order to have clear access to the torque shaft assembly. Carefully inspect the weld junction of the flap linkage arm to the torque shaft on both sides of the aircraft.

Cracked, bubbled or discolored paint in the vicinity of the weld must be removed with paint stripper and the weld visually inspected with a minimum 5 power magnifying glass. If a crack is found, the torque shaft must be replaced with the new 95661-5 torque shaft prior to further flight.

If a crack is found, the entire flap control system and the flaps themselves must be thoroughly inspected to ensure they have not been damaged.

If paint is stripped for inspection and no crack is found, stripped area must be re-primed and painted.

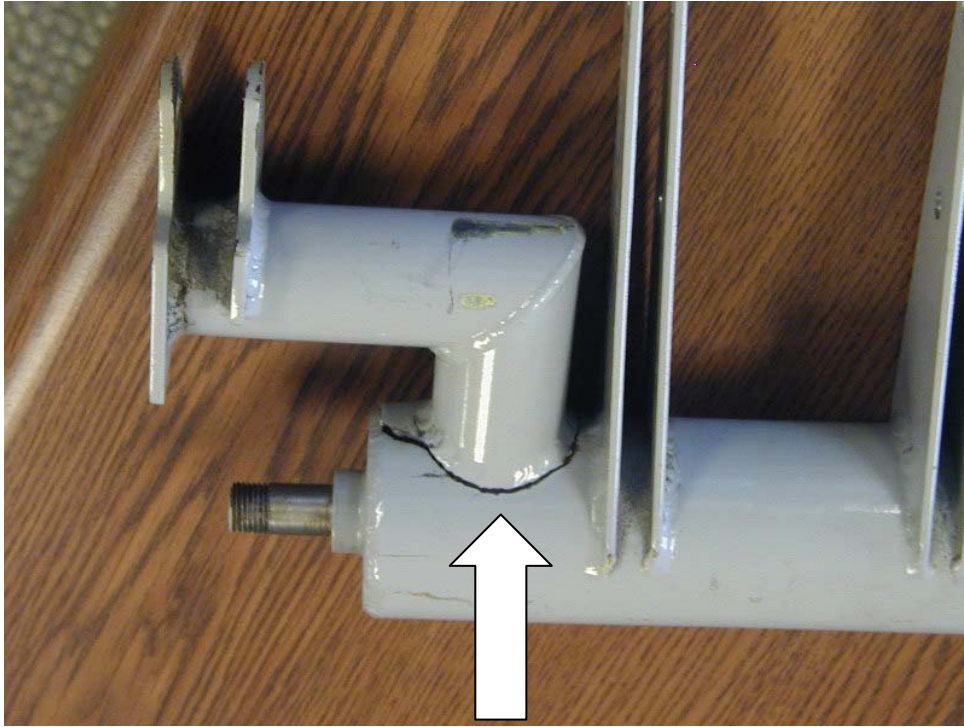
Our records indicate that Ayres Corporation delivered a few of the early T660s with a 95661-1 torque shaft, which the -5 is similar to. The difference between the 95661-3 torque shaft and the -1 or -5 is obvious, since the linkage arms of the -3 are made of round tubing, while the linkage arms of the -1 and -5 are made of rectangular tubing. The initial inspection must still be complied with, but the 95661-1 torque shaft is acceptable in lieu of the 95661-5 torque shaft.

**REPAIR:**

Repair of a cracked 95661-3 torque shaft is not permitted.

**REPLACEMENT:**

The 95661-3 torque shaft must be replaced by the 95661-5 torque shaft within 200 flight hours of receipt of this service bulletin.



**Figure 48-1: 95661-3 torque shaft crack at linkage arm**



**Figure 48-2: Inspection location for right end of torque shaft. Left opposite.**

**RECORD OF COMPLIANCE:**

Make appropriate entry in aircraft records as follows for every inspection:

**“The Inspection portion of Thrush Aircraft, Inc. Service bulletin SB-AG-48, Flap Control Torque Shaft Replacement, dated 2/20/06, was complied with by:**

\_\_\_\_\_ on \_\_\_\_\_ .at \_\_\_\_\_ airframe hours.  
Name & certificate #                      date

This inspection must be repeated every 25 flight hours until SB-AG-48 is fully complied with.

When the 95661-3 torque shaft is replaced with the 95661-5 torque shaft, or if a 95661-1 torque shaft is found, make a log book entry as follows:

**“SB-AG-48, Flap Control Torque Shaft Replacement, dated 2/20/06, was complied with by replacing the 95661-3 torque shaft with a 95661-5 torque shaft.**

\_\_\_\_\_ on \_\_\_\_\_ .at \_\_\_\_\_ airframe hours.  
Name & certificate #                      date.”

**OR**

**“SB-AG-48, Flap Control Torque Shaft Replacement, dated 2/20/06, was complied with by finding a 95661-1 torque shaft already installed on the aircraft.**

\_\_\_\_\_ on \_\_\_\_\_ .at \_\_\_\_\_ airframe hours.  
Name & certificate #                      date.”

**PARTS LIST (Parts are available through your area dealer).**

<u>P/N</u>	<u>Description</u>	
95661-5	Flap Control Torque Shaft .....	1 ea.
AN381-3-16	Cotter Pin .....	1 ea.
NE4717-080	Nut (ESNA) .....	1 ea.
MS21044N4	Nut.....	16 ea.
AN4-11A	Bolt.....	2 ea.
AN4-12A	Bolt.....	2 ea.

**RESPONSE CARD**

The final step in compliance with this Service Bulletin, once the flap control torque shaft is replaced (or a 95661-1 is confirmed), is completion and return of the response card on the next page, by mail, Fax or e-mail.

**Service Bulletin SB-AG-48 Compliance Record**

This certifies that the 95661-3 flap control torque shaft has been replaced with the 95661-5 flap control torque shaft, or that the aircraft is equipped with a 95661-1 flap control torque shaft.

Aircraft S/N:	_____	Aircraft Owner:	_____
Aircraft Registration #	_____	Address of Owner:	_____
Airframe total time:	_____	City & State:	_____
Engine total time:	_____	Physical location:	_____
Date of Compliance	_____		_____
Complied with by:	_____	Certificate #:	_____
Signature:	_____		

<b>Results of Inspection:</b>	95661-1 torque shaft was on aircraft.....	<input type="checkbox"/>
	95661-3 torque shaft was replaced by 95661-5 .....	<input type="checkbox"/>
	No cracks were found .....	<input type="checkbox"/>
	Cracks were found .....	<input type="checkbox"/>

**Note: Photographs of significant cracks would be greatly appreciated.**

This response card may be mailed, Faxed to (229) 436-4856, attention Ed Rusk, or scanned and e-mailed to [erusk@thrushaircraft.com](mailto:erusk@thrushaircraft.com). Digital photos can be sent as attachments to the e-mail.

----- fold, tape & mail (Do Not Staple) -----

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Return Address

Place first  
class postage  
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