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SERVICE BULLETIN

No. SB-AG-53

Revision NC; 7/14/2010

S2R-T660 RUDDER **INSPECTION**

AIRPLANES AFFECTED: All S2R-T660 Models

MODEL

SERIAL NUMBERS

S2R-T660

T660-101 Through T660-125 and T660-127

REASON FOR THIS PUBLICATION:

In a recent incident the top of the rudder (the aerodynamic balance or “horn”) of a S2R-T660 failed in flight by bending to the side above the top hinge, thereby making control of the airplane quite difficult. The bent portion did not depart the aircraft and therefore interfered with airplane control more than if it had, especially in the yaw axis. The pilot had difficulty maintaining control at first, but the airplane became more manageable as it was slowed down. The pilot was able to return to his home field and made an uneventful landing.

The cause of this failure was a manufacturing error in that the wrong fairing was installed on the front of the rudder spar (see Figure 53-1). The correct fairing extends all the way up to the rudder horn, whereas the one installed stopped at the top hinge. This error was compounded by the fact that no rivets were installed to attach the rudder skin to the rudder spar flanges between the top hinge and the rudder horn. This portion of the rudder spar was therefore much weaker than it should have been, and was inadequate in the long run to sustain the twisting force applied to it by the rudder horn every time the rudder was deflected significantly.

Such a scenario is easy to prevent because a simple visual inspection will determine whether or not the rudder has the same condition as described above. If the rudder is configured similar to what is described above and is shown in Figure 53-1, the airplane should not be flown again until the condition is corrected.

COMPLIANCE:

This Service Bulletin is considered mandatory, with a rudder inspection to be carried out prior to the next flight. If a discrepant condition similar to that described and shown in Figure 53-1 is found, the Rudder must be replaced prior to further flight.

BY WHOM WORK WILL BE ACCOMPLISHED:

The initial inspection can be done by the owner or operator, but it must be confirmed and signed off by an FAA licensed A&P mechanic or foreign equivalent before the airplane is flown again. If the rudder requires replacement the work must be performed by an FAA licensed A&P mechanic or foreign equivalent.

APPROVAL:

This Service Bulletin is approved by Thrush Aircraft, Inc. Proper execution of this Service Bulletin assures that the subject rudder complies with FAA Approved Type Design Data.

MAN HOURS:

1 hour for inspection and 4 hours for removing the old rudder and installing the new one, if required.

SPECIAL TOOLS:

None

INSPECTION:

Prior to further flight the rudder must be inspected at the spar between the upper hinge and the aerodynamic balance (horn) to ensure that it has the 40298-2 fairing and that it is properly installed (see Figure 53-1).

REPAIR:

1. If the rudder does not have the 40298-2 fairing installed properly, replace the rudder assembly with a new 95265-15 or 17 rudder, as applicable. It is not sufficient to just install the proper fairing, since the rudder structure may have already sustained significant damage.

PARTS LIST: (Parts are available through your local Approved Thrush Repair Center).

<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>
1 ea.	95265-15	Rudder Assembly
or		
1 ea.	95265-17	Rudder Assembly

NOTE:

If the rudder being replaced has a fixed trim tab, rather than the electric one shown, the replacement rudder P/N is 95265-3. If it is desired to replace the rudder with one having an electric trim tab, a 95265-17 rudder is required and the vertical fin must be replaced with a 95263-7 vertical fin. A 95265-17 rudder cannot replace a 95265-15 rudder unless the vertical fin is replaced with a 95263-7.

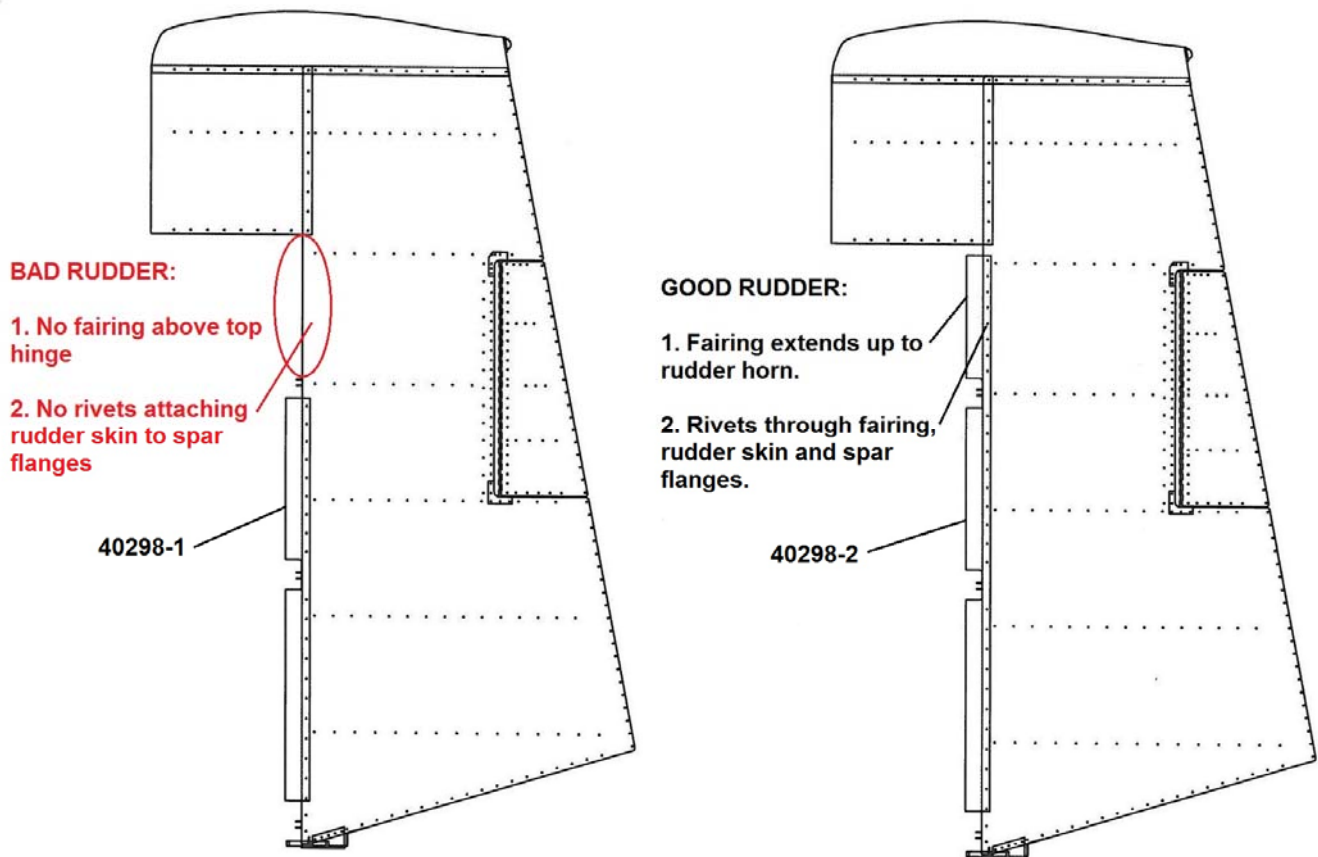


Figure 53-1: Comparison of Good & Bad Rudder

Note: The rudder illustrated is the 95265-17 “tall” rudder, having an additional bay at the top of the horn. The 95265-15 rudder has a one bay horn, but the area in question is the same.

RECORD OF COMPLIANCE

Make appropriate entry in airplane maintenance records as follows: **“Thrush Service Bulletin SB-AG-53 Rev. NC inspection requirement complied with at _____ total hours on aircraft and no discrepancy was found. _____”**

(name & certificate #)

(date)

or

“Rudder P/N 95265-15 (or -17, as applicable) S/N ____ has been replaced by P/N 95265-15 (or -17, as applicable) S/N_____ per SB-AG-53 Rev. NC at _____ total hours on aircraft. Accomplished by: _____”

(name & certificate #)

(date)

COMPLIANCE CONFIRMATION:

The final step in compliance with this Service Bulletin is to notify Thrush Aircraft, Inc. that it has been completed. Please copy, scan or photograph the record of compliance from the maintenance log book and send it as follows:

FAX to: Greg Moreland, QC Manager 229-439-9790

E-mail to: Greg Moreland, QC Manager gmoreland@thrushaircraft.com

THRUSH AIRCRAFT FACTORY CONTACT:

Questions about this Service Bulletin should be directed to:

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