

T-34 Spar Corp.
2800 Airport Rd.
Ada, OK 74820
Phone 580-436-4833
Fax 580-436-6622

T-34A/B Horizontal Stabilizer Spars Eddy Current Inspection
Procedure No. TSC 3506, Rev. C dated 5/10/2005

Purpose: The purpose of the inspection procedure is to reveal cracks in the inner or outer spars of the front and rear spars of the T-34A horizontal stabilizers emanating from outside the steel bushings in the attach holes. T-34B Spars (Navy modified) with thicker spars and flanged bushings are exempted from this inspection requirement and may be used as is.

Configuration: Conform the structure for the specific T-34A configuration or T-34B configuration: Following removal of the stabilizer, or from the T-34B modification data plate if visible, determine whether structure has the thicker (.090 vs. .071) outer spar of the front spar and flanged steel bushings typical of the T-34B style (Ref. Fig. 1). If the structure is confirmed to be the T34B configuration, and no other discrepancies are noted, the structures may be replaced on the aircraft. (T34B style is exempt from this inspection.) If the spar has the latest T-34A configuration, it will be indicated by .100 straps riveted to the flanges of the inner front spar and the presence of double-flush steel bushings. Document the configuration of each of the Horizontal Stabilizer Spars on the Inspection Form TSC-405 Rev. A. For other configurations contact the AMOC holder for disposition.

Description of Area to be Inspected: The area to be inspected includes the forward and aft surfaces of the outer and inner, front and rear spars of the horizontal stabilizers in the area surrounding each of the attach holes.

Accessing Area to be Inspected: Remove the horizontal stabilizers from the aircraft.

Cleaning/Preparation of Area to be Inspected: Thoroughly clean area to be inspected with solvent (acetone or equivalent) as required until no signs of dirt, grime or oil remain on front and rear spars from the closeout former inboard on the forward and aft surfaces of the spars. Surface to be inspected shall be smooth and corrosion-free. Any noted loss of thickness due to corrosion below material thickness tolerance is cause for rejection of the structure. An ultrasonic thickness tester may be used to determine if material thickness has been compromised.

Equipment Requirements: Nortec Stavely 2000D Eddy Current Tester or equivalent., Probe = 50-500 KHz, shielded, absolute, .071" diameter (.090 max. diameter), right angle, pencil style, surface probe, 5" long, 1/2" drop or equivalent.

Reference Standard Requirements: The eddy current reference standard to be used is GAMI P/N 45-128 per attached drawing. Use .025” notch (beyond head) for calibration.

Personnel Requirements: Personnel performing this inspection shall be qualified as Eddy Current, Level II or III per one of the following specifications: ATA Specification 105, SNT-TC-1A, or NAS-410 (Mil Std 410E).

Estimated Time Requirements: It is estimated that to remove the surfaces, perform the inspection, replace the structures and document the results will require approximately 8 man-hours.

Methods: Typical Set-up parameters are: Frequency – 350 KHz, Gain Vert – 75 dB, Hor. – 69 dB, Drive-Mid, Filters- Lo Pass- 30, Hi Pass – 0, Lift off- Horizontal to the left. These may be adjusted as required. The most reliable indication (minimum of 1-1/2 to 2 graticules) of the smallest observable flaw in the coupon occurs from the notch extending .025” past the edge of the nominal fastener head (total notch length of .100” from the edge of the nominal hole). Install appropriate aluminum guide pin (GAMI P/N 45-127-1 or -2) into bushing such that edge of guide pin is flush with edge of bushing. Using bushing as a guide, circle the area surrounding the steel bushing with the probe and adjacent area (approximately 1/4”) to inspect for cracks. Inspect forward and aft surfaces surrounding bushings of each spar.

Accept/Reject Criteria: Any repeatable flaw indication is cause for rejection in accordance with this procedure.

Documentation Requirements: Record inspection findings on Form TSC F-405 Rev. A and aircraft logbook. Maintain the Form TSC-405, Rev. A, in the permanent aircraft records. Following a successful (no flaw indication found) inspection, an aircraft logbook entry should be made indicating as a minimum: Aircraft S/N _____ has been inspected in accordance with procedure TSC 3506, Rev. C, 5/10/05 and found to be free of cracks. In the event that a flaw is detected, describe the flaw in detail providing sketch as needed and contact the AMOC holder for FAA/DER disposition.

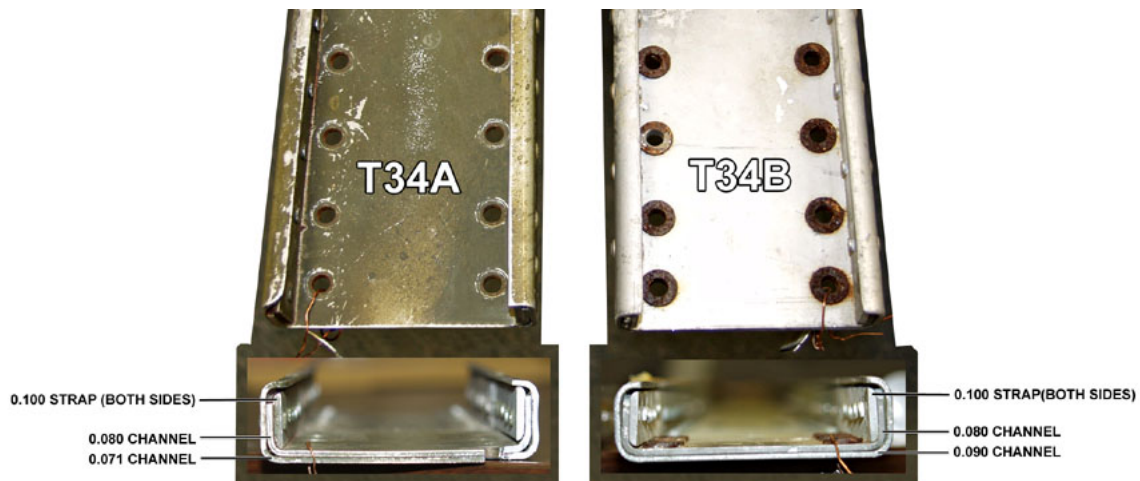


Figure 1