

9-10-2021: ANNUAL CONDITION INSPECTION.
AIRWORTHINESS DIRECTIVES AND SERVICE BULLETIN
SEARCH REVEALED NO OUTSTANDING ACTION REQUIRED.

I CERTIFY THAT THIS AIRCRAFT AND ENGINE
HAVE BEEN INSPECTED IN ACCORDANCE
WITH THE SCOPE AND DETAIL OF ^{FAR} PART 43,
SUBPART D, AND FOUND TO BE IN A CONDITION FOR
SAFE OPERATION.
KEVIN CASSON, [REDACTED] AIP# [REDACTED]

END.

9-11-2021 PARTS 5-4 N3156D suffered landing gear damage
and some limited damage to the fuselage following
a hard landing.

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Repair of RANS S-4, Coyote-1, N325. Beginning in December of 2021, repairs were made to RANS S-4, Coyote-1, N3156D.

The following parts were replaced in this order. All damaged parts were replaced with new, factory-made, parts except where noted. The following list of parts was utilized, and repairs were made in the order they are listed here. The Fuselage was repaired first and the landing gear was then added.

Fuselage repair

<u>RANS Part No</u>	<u>Part Name</u>	<u>Action Taken</u>
2-3	Cockpit Bottom Longeron	Replaced with new on Left side of cockpit only
2-2A	Cockpit Diagonal Brace	Left Side between Station 2 and 2.5
G-5	5-hole Gusset Plate	Replaced 2 new at station 2A On Left side of cockpit Supporting the bottom Longeron.
S1-XL	S1 Extra Length	Damage to the S1 down tube, on the right side, was Repaired by trimming the tube end shorter by 1 inch, Then inserting a 7/8 inch diameter doubler of 0.58 thickness 6061 T-6 aluminum, four inches long. This was held in Place with 3/16 inch stainless steel pop rivets, as well as 3/16 inch bolts, nuts and washers. A 0.58 thickness, one inch tube doubler, 1 inch long was placed over this to form the new end of the down tube.
G-5	5-hole Gusset Plate	Replaced 2, with new plates at S1 on right side.
1-1-XL	FWD Cockpit Bottom Longeron	Replaced with new part.
1-2-XL	FWD Cockpit Diagonal	Replaced with New part.
	Floorboard	Replaced with new part fabricated by owner, consisting Of a single sheet of 5 layers of S-Glass, 5 layers of Kevlar, and one layer of Aircraft grade, birch plywood. The sheet was cut to size using the original 1/4 inch plywood floorboard as a template.
S-4-RP-ASSY-RH	Rudder pedal RH	Replaced with new RANS part.
S-2-ABT	S-2 Bottom Cross Tube Assy	Replaced with new RANS part. Includes tube doubler.
TC-4	1" Compression Tube Fitting	Replaced 4 total, Replaced 2 on both ends of the S-2 bottom cross tube at station S-2, 2 on both ends of the bottom cross tube at station S-3.
G-4	4-hole Gusset Plate	Replaced the outside plates on the upper, right, and left sides of S-3 at station 3.
S-5	Station 5 Channel	Replaced the S-5 Channel with a new channel at Station 5 which gathers, and secures all the Fuselage longerons together at the tail-end of fuselage.

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<u>RANS Part No</u>	<u>Part Name</u>	<u>Action Taken</u>
LG-WP	Wing Strut Anchor Bracket	Replaced (1) new on aircraft right side.
	Fuselage cover Assembly	Replaced with new.

Right Wing Strut Repairs

<u>RANS Part No</u>	<u>Part Name</u>	<u>Action Taken</u>
KPW10071	Aft Lift Strut, 105"	Replaced with new.
LS-ACU-2	Aft Upper Lift Strut Connector	Replaced with new.
KPW10070	FWD Lift Strut 100 1/2"	Replaced with new.
LS-ACU	Lift Strut Connector	Replaced with new.
KPL50002	Lift Strut Connector	Replaced with new.

Landing Gear Repairs

<u>RANS Part No.</u>	<u>Part Name</u>	<u>Action Taken</u>
S2-SAB	Gear Brace Attach Bracket	Both replaced (2) Replaced both, right and left with New.
NG-AFT-B-L	Gear Brace Left Hand	Replaced with new.
NG-AFT-B-R	Gear Brace Right Hand	Replaced with new.
LG-GL	Gear Leg	Replaced both, right and left with new.
LG-GCT	Landing Gear Compression Tube	Replaced both, right and left with new.
1080	Bungie	Replaced both, right and left with new.
LG-OCOV	Bungie Cover	Replaced both, right and left with new.
LG-NG-GAC	Gear Attachment Channel	Replaced both, right and left with new.
LG-VB	"V" brace	Replaced with new.
LG-IST	Inner Side Tube	Replaced both, right and left with new.
NG-AFT-MG	Main Gear Brace Bracket	Replaced both, right and left with new.

All repairs were made in accordance with the RANS S-4 Assembly Manual. All removed hardware was examined for damage and wear. If found to be compromised, it was replaced with new in accordance with the parts specified in the RANS S-4, S-5 parts and assembly manuals. All subassemblies and main assemblies were constructed and installed in accordance with the instructions in the RANS S-4 & S-5 assembly manual for an S-4 aircraft.

03-03-2022 Post Test: Break power was poor. Breaks were re-adjusted with some improvement to marginal power.

4-04-2022 Taxi Test done Break power was marginal. Breaks re-adjusted & taxi test repeated. Break power was adequate & same Left & Right.

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4-04-2022 ANNUAL CONDITION INSPECTION:

1. AIRWORTHINESS DIRECTIVE AND SERVICE BULLETIN SEARCH REVEALED NO ACTION REQUIRED.
 2. I CERTIFY THAT THIS AIRCRAFT, AND ENGINE, AND PROPELLER HAVE BEEN INSPECTED IN ACCORDANCE WITH THE SCOPE AND DETAIL OF FAR PART 43, SUBPART D, AND FOUND TO BE IN A CONDITION FOR SAFE OPERATION.
- KEVIN CASSON AIP # [REDACTED]

END