

Inspection and Replacement of Carb Bracket

SD-1007

Evolution Trikes

Oct 04, 2011

Status: Mandatory

Background:

There has been one incidence in the field of a carb bracket on the Revo (Rotax 912 series engine) cracking at 70 hours. Although this doesn't suggest a trend and the bracket on the other side on the same machine didn't experience any cracking; we have decided that in the interest of safety, its best to inspect and replace this bracket for a certain serial number range. On aircraft 000550 through 000562, the brackets used a sharper bend that may cause stress that can be reduced with a larger radius bend in newer brackets and a welded triangular or straight support.

The replacement parts can be ordered from the manufacturer and will be charged. Once the older brackets are returned back to the manufacturer, the customer will be credited back the cost of the parts.

Scope:

The following serial numbers of the Revo weight-shift-control aircraft are affected by this safety directive:

000551 through 000562 (inspection and possible replacement), 1001 through 1008, 007, 000550U (inspection only)

Authorized Persons:

An operator can do the inspection and make the inspection entry in the aircraft logbook.

A Light Sport Repairman Mechanic or an A&P or an authorized aircraft mechanic by national civil aviation authority is allowed to execute the replacement of the safety bracket if required by this safety directive in accordance with the instructions in this directive.

Tools and Articles Required:

- 1) SAE Allen and Hex socket sets
- 2) 2 x open SAE spanner wrenches (7/16")
- 3) Equipment required to do carb synchronization for Rotax 912 series engine (see Rotax engine manual)
- 4) Replacement carb brackets for the Revo from the manufacturer if needed for your serial number

Compliance:

Compliance is mandatory.

INSPECTION

(SCOPE: Serial Numbers 007, 000550U, 000551 through 000562, 1001 through 1008)

Follow the steps below to perform an inspection before next flight (see Fig. 1 & 2 for the picture of the bracket you will be inspecting)

- 1) Visually inspect carefully taking the time to check different angles that the carb choke and throttle brackets are not cracking at the bend
- 2) After being satisfied that brackets are in condition of safe operation, make the following inspection notation in their aircraft logbook before next flight is conducted
“Safety directive 1007 inspection conducted as required by the manufacturer. No cracks or abnormalities found” – Signed: xxxxxxx Name: (Name of Operator or inspector)
- 3) After the above inspection and aircraft logbook notation by the operator, the aircraft can be flown as long as operator pays attention during pre-flight to this area

REPLACEMENTS OF BRACKETS

- 1) If the serial number of the aircraft is between 000551 through 000562, 007, also between 1001 through 1004 –and- if these brackets do not have the triangulated support welded to them as shown in Fig. 1, these brackets will need to be changed with new brackets provided by the manufacturer at the next 100 hour inspection or before by a mechanic. The guidance for changing the brackets is as follows
 - a) Remove engine cover if applicable
 - b) Using allen head sockets loosen cable retaining stops in the throttle and choke cable so the cable can be pulled out
 - c) Using 7/16” open end sockets, the ¼ x 28 cable housing retainer fitting can be taken off the bracket face. At this point the bracket should only be held in place by the two fasteners securing it to the carbs itself
 - d) Remove the bracket
 - e) Reverse to install the new bracket. Secure cables and cable housing retainers roughly in the same place as before
 - f) Check your work and tug on cables to make sure everything is secured
- 2) After changing the brackets, a carb synchronization as usual for Rotax 100 hour maintenance will need to be conducted following Rotax maintenance manual

Fig-1

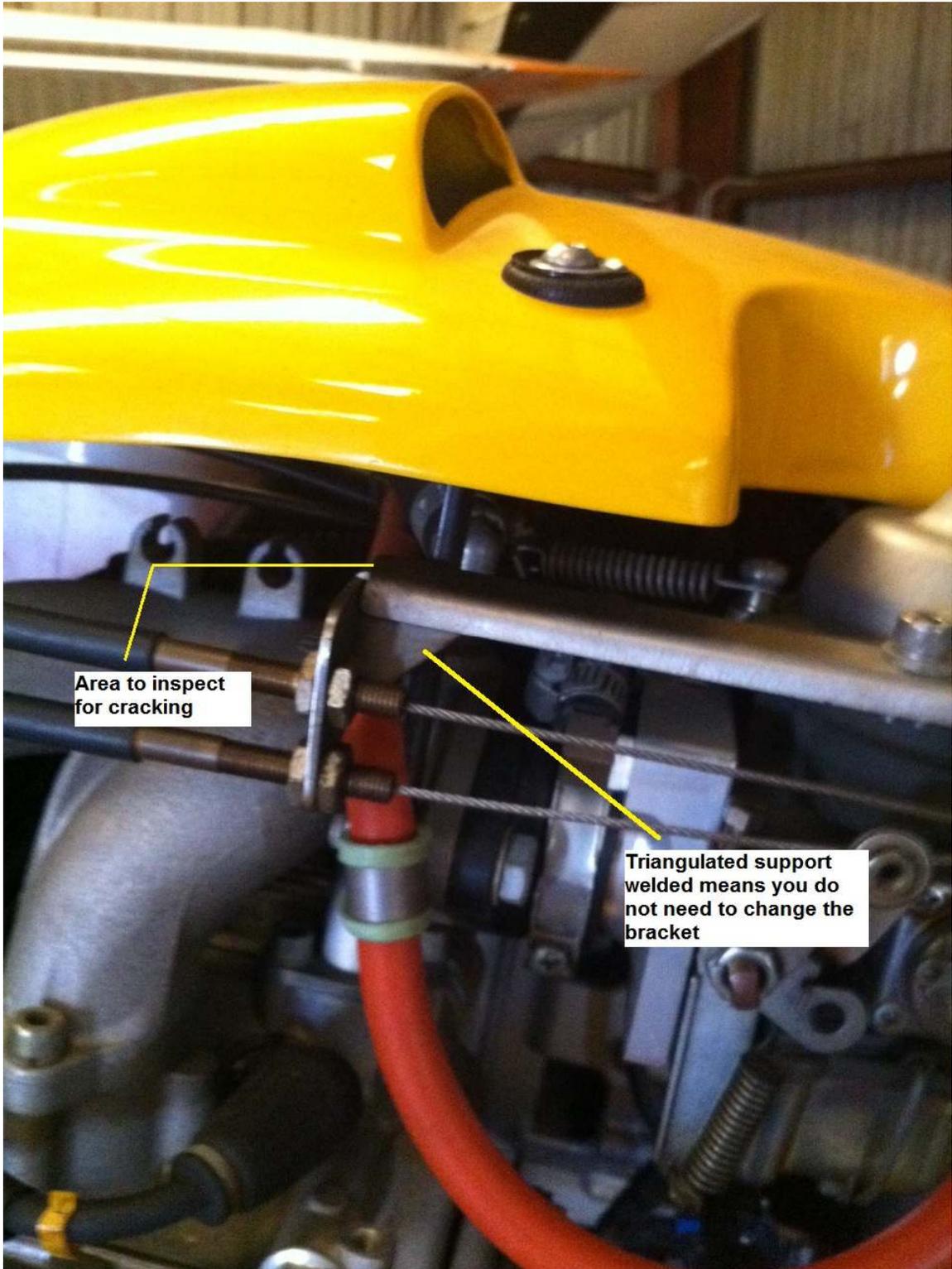


Fig-2. In-field crack on one bracket (bend too sharp)



Testing:

- Engine start and idle and engine run-up tests should be conducted on the ground till it is clear that everything is secure and not slipping or moving
- A taxi test on the ground should be conducted at different RPMs (keeping safety in mind) to further ensure the cables are set in the cable stops and not slipping

Logbook Entry:

Aircraft logbook should be marked with the following entry and dated and signed with mechanic's or pilot owner/operator's license number (if applicable):

"Safety directive 1007 replacement of brackets from the manufacturer satisfied as per instructions. Compliance with ASTM standards is maintained"