Air Research Technology Inc.

Instructions for Continued Airworthiness
No. ICA17025
Issue 4, Dec 22, 2012.

Cessna 170, 172 and 175 models modified by installation of *WingExtensions* in accordance with Transport Canada STC Approval Number SA01-35.

The information and data contained in this document supersede or supplement that contained in the basic Maintenance Manual in those areas listed herein. For procedures not contained in this document refer to the Approved Maintenance Manual or any other Approved Maintenance Manual Supplements.

This Supplement is to be attached to the Approved Maintenance Manual for the aircraft with the subject design change incorporated.

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REVISION AND DISTRIBUTION

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1. DESCRIPTION

The A.R.T. *WingExtensions* increase the wing span by 36 inches and provide additional lift. The *WingExtensions* are conventional sheet metal construction, and they attach to the wing tip with machine screws. In addition, the main wing spar is reinforced from wing station 91 to 109 and from wing station 128 to 160. For aircraft without wet wings, the rear spar is reinforced from wing station 40 to 57.25. The *WingExtensions* are classified as secondary structure.

2. INSTALLATION PROCEDURES

INITIAL INSTALLATION: The initial installation of the *WingExtensions* is addressed in installation drawing R1582-170-172-175 and SR100-170-172-175. During the initial installation of *WingExtensions* on a specific aircraft the weight and balance report must be amended to show the installation as an optional configuration. Initial installation requires permanent reinforcements to be installed in the wing in accordance with the above mentioned drawings.

SUBSEQUENT REMOVAL: Subsequent removal of the *WingExtensions* for maintenance or other purposes requires only hand tools. The wing spar reinforcements are permanent and should never be removed.

SUBSEQUENT INSTALLATION: Subsequent installation of the *WingExtensions* requires only hand tools. When installing the *WingExtensions* use only p/n AN525-832R8 machine screws. Ensure that the navigational lights and strobes (if installed) function correctly before releasing the aircraft.

3. PERIODIC INSPECTION

The following items must be inspected at the annual inspection:

Item	Area to be Inspected	Inspection Action	Initial
1	Main Spar lower surface reinforcement at Wing Station 100.	Visual inspection for loose or missing fasteners, cracks, and corrosion. Treat any corrosion per AC43.13-1B. Loose rivets must be replaced with CR-3243-6-6 or -7 as applicable.	
2	Main Spar upper surface reinforcement at Wing Station 128 to 160.	Remove inspection panels and visually inspect all structural elements for loose or missing fasteners, cracks, and corrosion. Treat any corrosion per AC43.13-1B. Replace fasteners if required.	
3	Fuel tank well cover inspection on aircraft not equipped with wet wings at aft upper spar cap from wing station 40 to 57.25. (see Figure 1)	Visual inspection to ensure that angle stiffener is present along the aft upper spar cap. Note that screw part number MS27039- 08-08 must be used to secure the angle stiffeners. AN525-10232R8 must be used to secure the WingExtension.	
4	*WingExtensions*	Visual inspection for missing or loose fasteners and physical damage and corrosion.	
5	Placards	Visually inspect to ensure that the required cockpit placards are installed in full view of the pilot (see section 6 for required placards)	

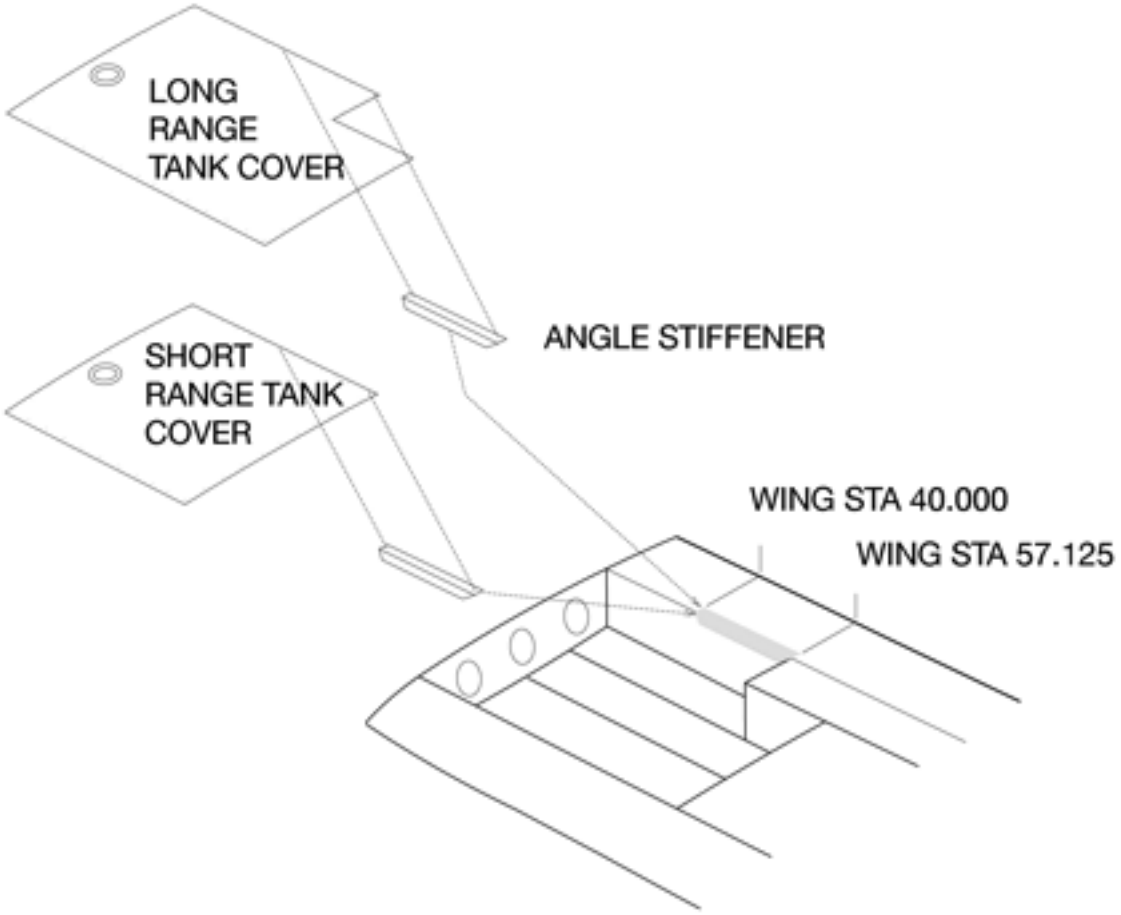


Figure 1: Angle Stiffener, Aft Upper Spar Cap

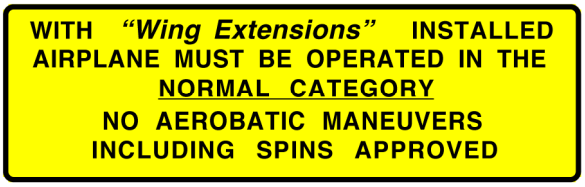
4. WEIGHT AND BALANCE

The following typical weights are provided for reference only. USE ACTUAL MEASURED WEIGHTS

Item	Total Weight (lbs)	Arm (in. aft of datum)	Moment (in.lbs.)
WingExtensions	16	52	832

5. REQUIRED MARKINGS AND PLACARDS

The following placards must be installed in full view of the pilot when the *WingExtensions* are installed:



and,

For Cessna R172K, 172RG, 172R and 172S, the airspeed indicator must be marked with a red radial line at 160 KIAS. The line should be 0.05" wide by 0.30" long. The instrument should be marked by one of the following methods:

1) Red line should preferably be placed directly on the instrument face by an appropriately rated instrument shop.
2) If red line is placed on the cover glass of the instrument, the line must extend onto the instrument bezel so that correct alignment of the cover glass with the face of the dial is maintained, and any rotation of the cover glass is apparent.

6. REPAIRS

Repairs to the sheet metal structure may be accomplished in accordance with AC 43.13-1B.

For parts, placards, or information contact Air Research Technology Inc. at (888) 325 2588 or at www.wingxstol.com.

7. AIRWORTHINESS LIMITATIONS SECTION

There are no Airworthiness Limitations introduced by this modification.

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required under any applicable airworthiness or operating rule, unless an alternative program has been approved by the Minister.