

Air Research Technology Inc.
Maintenance Manual Supplement
No. MMS18025
Issue 1 April 20, 2002

Cessna 180, 182 and 185 models modified by installation of
WingExtensions in accordance with Transport Canada STC Approval
Number SA 93-136 and FAA STC Approval # SA00276NY

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.

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1. DESCRIPTION

The A.R.T. WingExtensions increase the wing span by 36 inches and provides 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

2. INSTALLATION PROCEDURES

INITIAL INSTALLATION: The initial installation of the WingExtensions is addressed in installation drawing R1582-180-182-185 and SB1-96. 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.

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. PREFLIGHT INSPECTION

The pilot's pre-flight inspection must include a visual inspection of the WingExtension for missing or loose fasteners and physical damage.

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4. PERIODIC INSPECTION

A 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. Required only on those aircraft not equipped with angle stiffener from the factory and having a gross takeoff weight of more than 3,000 lbs.	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.	

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3	Intentionally left BLANK		
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)	

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5. 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

6. REQUIRED PLACARDS

The following placards must be installed adjacent to the airspeed indicator when the WingExtensions are installed:

For Cessna 182 Models, the following placard must be installed:

Cessna 182 Models
with A.R.T. "*WingExtensions* "
VNE 180 MPH IAS (157 KIAS)

For Cessna 185 Models, the following placard must be installed:

Cessna 185 Models
with A.R.T. "*WingExtensions* "
VNE 189 MPH IAS (165 KIAS)

7. 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.