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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2006-23646; Directorate Identifier 2006-CE-005-AD; Amendment 39-15849; AD 2006-08-08 R1]**

**RIN 2120-AA64**

**Airworthiness Directives; Air Tractor, Inc. Models AT-400, AT-401, AT-401B, AT-402, AT-402A, and AT-402B Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) to revise AD 2006-08-08, which applies to certain Air Tractor, Inc. (Air Tractor) Models AT-400, AT-401, AT-401B, AT-402, AT-402A, and AT-402B airplanes. AD 2006-08-08 currently requires you to repetitively eddy current inspect the wing lower spar cap in order to reach the safe life and, for certain Models AT-402A and AT-402B airplanes and those that incorporate or have incorporated Marburger Enterprises, Inc. (Marburger) winglets, lowers the safe life for the wing lower spar cap. Since we issued AD 2006-08-08, we have received information to update inspection intervals for the Models AT-401B, AT-402A, and AT-402B airplanes based on a revised damage tolerance analysis. Consequently, this AD would not only retain the actions of AD 2006-08-08, but would reduce the number of repetitive inspections for all affected Model AT-401B airplanes and certain Models AT-402A and AT-402B airplanes. We are issuing this AD to prevent fatigue cracks from occurring in the wing lower spar cap before the originally established safe life is reached. Fatigue cracks in the wing lower spar cap, if not detected and corrected, could result in wing separation and loss of control of the airplane.

**DATES:** This AD becomes effective on May 5, 2009.

As of April 21, 2006 (71 FR 19986, April 19, 2006), the Director of the Federal Register approved the incorporation by reference of Snow Engineering Co. Drawing 21088, dated November 3, 2004; Snow Engineering Co. Process Specification 197, page 1, revised June 4, 2002, pages 2 through 4, dated February 23, 2001, and page 5, dated May 3, 2002; and Snow Engineering Co. Service Letter 202, page 3, dated October 16, 2000, listed in this AD.

**ADDRESSES:** For service information identified in this AD, contact Air Tractor, Incorporated, P.O. Box 485, Olney, Texas 76374; telephone: (940) 564-5616; facsimile: (940) 564-5612; Internet:

<http://www.airtractor.com>; or Marburger Enterprises, Inc., 1227 Hillcourt, Williston, North Dakota 58801; telephone: (800) 893-1420 or (701) 774-0230; facsimile: (701) 572-2602.

To view the AD docket, go to U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, or on the Internet at <http://www.regulations.gov>. The docket number is FAA-2006-23646; Directorate Identifier 2006-CE-005-AD.

**FOR FURTHER INFORMATION CONTACT:** Direct all questions to:

–For airplanes that do not incorporate and never have incorporated Marburger winglets: Rob Romero, Aerospace Engineer, FAA, Fort Worth Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone: (817) 222-5102; facsimile: (817) 222-5960; and

–For airplanes that incorporate or have incorporated Marburger Enterprises, Inc. winglets: John Cecil, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, 3960 Paramount Boulevard, Lakewood, California 90712; telephone: (562) 627-5228; facsimile: (562) 627-5210.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

On December 4, 2008, we issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to certain Air Tractor Models AT-400, AT-401, AT-401B, AT-402, AT-402A, and AT-402B airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on December 10, 2008 (73 FR 74999). The NPRM proposed to revise AD 2006-08-08 with a new AD that would not only retain the actions of AD 2006-08-08, but would reduce the number of repetitive inspections for all affected Model AT-401B airplanes and certain Models AT-402A and AT-402B airplanes.

The following table contains AD actions that address the wing spar safe life of the Air Tractor airplane fleet:

**RELATED AD ACTIONS**

<b>AD Number</b>	<b>Affected Air Tractor Airplane Model</b>	<b>Issue Date</b>
2003-07-04	AT-300, AT-400, AT-400A, AT-401, AT-401B, AT-402, AT-402A, AT-402B, AT-501, AT-502, and AT-502B	March 25, 2003
2006-08-08	AT-400; AT-401, AT-401B, AT-402, AT-402A, and AT-402B	April 10, 2006
2006-08-09	AT-802 and AT-802A	April 10, 2006
2006-23-09	AT-602	October 26, 2006
2006-24-10	AT-501, AT-502, AT-502A, AT-502B, and AT-503A	November 22, 2006
2008-09-10	AT-300, AT-301, AT-302, AT-400, and AT-400A	April 18, 2008

You may view these Airworthiness Directives at the following Internet Web site addresses: <http://rgl.faa.gov> or <http://www.gpoaccess.gov/fr/index.html>.

## Comments

We provided the public the opportunity to participate in developing this AD. The following presents the comment received on the proposal and FAA's response to the comment:

### Comment Issue: Reduce Applicability

Mr. David Ligon, Air Tractor, comments that since issuance of AD 2006-08-08, the 21058-1/-2 lower spar cap is standard on production Models 401B, 402A, and 402B airplanes beginning with SN 1183. Consequently, he recommends that the applicability of the proposed AD end at SN 1182; production airplanes following this SN have installed the 21058-1/-2 lower spar cap.

We agree with the commenter and are changing the AD to reflect the installation of the 21058-1/-2 lower spar cap on production Models 401B, 402A, and 402B airplanes beginning with SN 1183.

### Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for the changes previously discussed and minor editorial corrections. We have determined that these minor corrections:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### Costs of Compliance

We estimate that this AD affects 341 airplanes in the U.S. registry.

We estimate the following costs to do the inspection. We have no way of determining the number of airplanes that may need repair or modification as a result of any inspection:

<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Total Cost Per Airplane</b>	<b>Total Cost on U.S. Operators</b>
* \$500 to \$800	Not Applicable.	\$500 to \$800	\$170,500 to \$272,800

\* Eddy current inspections are an estimated flat cost that includes labor and use of equipment.

We estimate the following costs to do the modification. We have no way of determining the number of airplanes that may need this modification:

<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Total Cost Per Airplane</b>
120 work-hours X \$80 = \$9,600	\$11,500	\$21,100

We estimate the following costs to do the replacement. We have no way of determining the number of airplanes that may need this replacement:

<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Total Cost Per Airplane</b>
\$16,500	\$16,500	\$33,000

\* The labor costs of the replacement are an estimated flat cost that includes labor and use of equipment.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD (and other information as included in the Regulatory Evaluation) and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "Docket No. FAA-2006-23646; Directorate Identifier 2006-CE-005-AD" in your request.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2006-08-08, Amendment 39-14563 (71 FR 19986, April 19, 2006), and adding the following new AD:



**2006-08-08 R1 Air Tractor, Inc.:** Amendment 39-15849; Docket No. FAA-2006-23646; Directorate Identifier 2006-CE-005-AD.

**Effective Date**

(a) This AD becomes effective on May 5, 2009.

**Affected ADs**

(b) This AD revises AD 2006-08-08, Amendment 39-14563.

**Applicability**

(c) This AD applies to certain Models AT-400, AT-401, AT-401B, AT-402, AT-402A, and AT-402B airplanes that are certificated in any category. Use paragraph (c)(1) of this AD for affected airplanes that do not incorporate and never have incorporated Marburger winglets. Use paragraph (c)(3) of this AD for airplanes that have been modified to install lower spar caps, part number (P/N) 21058-1 and P/N 21058-2. Use paragraph (c)(4) of this AD for certain Models AT-401, AT-401B, AT-402, AT-402A, and AT-402B airplanes that incorporate or have incorporated Marburger winglets.

(1) The following table applies to airplanes that do not incorporate and never have incorporated Marburger winglets along with the safe life (presented in hours time-in-service (TIS)) of the wing lower spar cap for all affected airplane models and serial numbers (SNs):

**Table 1 — Safe Life for Airplanes That Do Not Incorporate and Never Have Incorporated Marburger Winglets**

<b>Model</b>	<b>SNs</b>	<b>Wing Lower Spar Cap Safe Life (Hours TIS)</b>
AT-400	All beginning with 0416	13,300
AT-401	0662 through 0951	10,757
AT-401B	0952 through 1020, except 1015	6,948
AT-401B	1015 and 1021 through 1182	7,777
AT-402	0694 through 0951	7,440
AT-402A	0738 through 0951	7,440
AT-402A	0952 through 1020	2,000
AT-402A	1021 through 1182	2,300
AT-402B	0966 through 1020, except 1015	2,000
AT-402B	1015 and 1021 through 1182	2,300

(2) If piston-powered aircraft have been converted to turbine power, you must use the limits for the corresponding serial number (SN) turbine-powered aircraft.

(3) If you have an aircraft that has been modified by installing lower spar caps, P/N 21058-1 and P/N 21058-2, you must use a wing lower spar cap safe life of 9,800 hours TIS. No inspections are required to reach this life.

(i) Airplane SNs beginning with 1183 and those that have been modified with replacement spar caps, P/N 21058-1 and P/N 21058-2, are not eligible to have Supplemental Type Certificate (STC) No. SA00490LA, Marburger winglets, installed.

(ii) If your airplane currently has spar caps, P/N 21058-1 and P/N 21058-2, and winglets installed, then you must remove the winglets before further flight and you must contact the FAA at the address in paragraph (m)(1) of this AD for a new safe life.

(4) The following table applies to airplanes that incorporate or have incorporated Marburger winglets. These winglets are installed following STC No. SA00490LA. Use the winglet usage factor in Table 2 of paragraph (c)(4) of this AD, the wing lower spar cap safe life specified in Table 1 of paragraph (c)(1) of this AD, and the instructions included in Appendix 1 to this AD to determine the new safe life of airplanes that incorporate or have incorporated Marburger winglets:

**Table 2 — Winglet Usage Factor to Determine the Safe Life for Airplanes That Incorporate or Have Incorporated Marburger Winglets Per STC No. SA00490LA**

<b>Model</b>	<b>SNs</b>	<b>Winglet Usage Factor</b>
AT-401	0662 through 0951	1.6
AT-401B	0952 through 1020, except 1015	1.1
AT-401B	1015 and 1021 through 1182	1.1
AT-402	0694 through 0951	1.6
AT-402A	0738 through 0951	1.6
AT-402A	0952 through 1020	1.1
AT-402A	1021 through 1182	1.1
AT-402B	0966 through 1020, except 1015	1.1
AT-402B	1015 and 1021 through 1182	1.1

### **Unsafe Condition**

(d) This AD is the result of fatigue cracking of the wing main spar lower cap at the center splice joint outboard fastener hole. The actions specified in this AD are intended to detect and correct cracks in the wing main spar lower cap, which could result in failure of the spar cap and lead to wing separation and loss of control of the airplane.

### **Compliance**

(e) Safe Life Record: For all affected airplanes, modify the applicable aircraft records (logbook) as follows to show the safe life for the wing lower spar cap listed in this AD (use the information from paragraph (c) of this AD and Appendix 1 to this AD, as applicable).

(1) Incorporate the following into the aircraft logbook: "Following this AD, the wing lower spar cap is life limited to ——— hours time-in-service (TIS)." Insert the applicable safe life number from the applicable tables in paragraph (c) of this AD and Appendix 1 to this AD.

(i) Do the logbook entry within the next 10 hours TIS after April 21, 2006 (the effective date of AD 2006-08-08).

(ii) A person holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may modify the aircraft records. Make an entry into the aircraft logbook showing compliance with this portion of the AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).

(2) Wing Spar Replacement: For all affected airplanes, replace the wing lower spar cap following Snow Engineering Drawing Number 21088, dated November 3, 2004. Replace upon accumulating the safe life used in paragraph (e)(1) of this AD or within the next 50 hours TIS after April 21, 2006 (the effective date of AD 2006-08-08), whichever occurs later. The owner/operator may not do the spar cap replacement, unless he/she is a properly certified mechanic.

(f) Inspection Requirements: For all affected airplanes, except Model AT-402A, SNs 0952 through 1182, and except Model AT-402B, SNs 0966 through 1182, do the initial inspection of the outboard two lower spar cap bolt holes using the wing spar lower cap TIS schedules listed in Table 3. Follow Snow Engineering Co. Process Specification 197, page 1, revised June 4, 2002, pages 2 through 4, dated February 23, 2001, and page 5, dated May 3, 2002. After the initial inspection, perform repetitive inspections at the repetitive inspection intervals listed in Table 3. Use the same procedure for the repetitive inspections as for the initial inspection. If not already done, install access panels at the time of the first inspection following Snow Engineering Service Letter 202, page 3, dated October 16, 2000.

Note: Hours listed in the table are in hours TIS and the phrase "within the — next hours" refers to "within the next — hours after April 21, 2006 (the effective date of AD 2006-08-08)."

**Table 3 — Inspection Times**

<b>Model</b>	<b>SNs</b>	<b>Current Wing Spar Lower Cap TIS Hours</b>	<b>Initial Inspection</b>	<b>Repetitive Inspection Interval (Hours)</b>
AT-400	All beginning with 0416	Greater than 7,750	Within the next 50 hours TIS or upon the accumulation of 8,000 hours TIS, whichever is later	900
AT-401	0662-0951	Greater than 6,250	Within the next 50 hours TIS or upon the accumulation of 6,500 hours TIS, whichever is later	700
AT-401	0662-0951	Greater than 4,350 but less than or equal to 6,250	Within the next 250 hours TIS or upon the accumulation of 4,850 hours TIS, whichever is later	700
AT-401	0662-0951	Greater than 2,750 but less than or equal to 4,350	Within the next 500 hours TIS	700
AT-401	0662-0951	Less than or equal to 2,750	Upon the accumulation of 3,250 hours TIS	700
AT-401B	0952-1020 except 1015	Greater than 3,950	Within the next 50 hours TIS or upon the accumulation of 4,200 hours TIS, whichever is later	600
AT-401B	0952-1020 except 1015	Greater than 2,650 but less than or equal to 3,950	Within the next 250 hours TIS or upon the accumulation of 3,150 hours TIS, whichever is later	600

AT-401B	0952-1020 except 1015	Greater than 1,600 but less than or equal to 2,650	Within the next 500 hours TIS	600
AT-401B	0952-1020 except 1015	Less than or equal to 1,600	Upon the accumulation of 2,100 hours TIS	600
AT-401B	1015 and 1021-1124	Greater than 4,450	Within the next 50 hours TIS or upon the accumulation of 4,700 hours TIS, whichever is later	600
AT-401B	1015 and 1021-1124	Greater than 3,000 but less than or equal to 4,450	Within the next 250 hours TIS or upon the accumulation of 3,500 hours TIS, whichever is later	600
AT-401B	1015 and 1021-1124	Greater than 1,850 but less than or equal to 3,000	Within the next 500 hours TIS	600
AT-401B	1015 and 1021-1124	Less than or equal to 1,850	Upon the accumulation of 2,350 hours TIS	600
AT-401B	1125 through 1182	Greater than 4,450	Within the next 50 hours TIS or upon the accumulation of 4,700 hours TIS, whichever is later	1,000
AT-401B	1125 through 1182	Greater than 3,000 but less than or equal to 4,450	Within the next 250 hours TIS or upon the accumulation of 3,500 hours TIS, whichever is later	1,000
AT-401B	1125 through 1182	Greater than 1,850 but less than or equal to 3,000	Within the next 500 hours TIS	1,000
AT-401B	1125 through 1182	Less than or equal to 1,850	Upon the accumulation of 2,350 hours TIS	1,000
AT-402/ AT-402A	0694-0951	Greater than 4,250	Within the next 50 hours TIS or upon the accumulation of 4,500, whichever is later	700
AT-402/ AT-402A	0694-0951	Greater than 2,850 but less than or equal to 4,250	Within the next 250 hours TIS or upon the accumulation of 3,350 hours TIS, whichever is later	700
AT-402/ AT-402A	0694-0951	Greater than 1,750 but less than or equal to 2,850	Within the next 500 hours TIS	700
AT-402/ AT-402A	0694-0951	Less than or equal to 1,750	Upon the accumulation of 2,250 hours TIS	700

(g) For all affected airplanes: Before further flight after the inspection in which cracks are found, replace any cracked wing lower spar cap following Snow Engineering Drawing Number 21088, dated November 3, 2004.

(h) For Models AT-400, AT-401, AT-401B, and AT-402 airplanes, SNs 0952 through 1182: Report to the FAA any cracks detected as the result of each inspection required by paragraph (f) of this AD on the form in Figure 1 of this AD.

(1) Only if cracks are found, send the report within 10 days after the inspection required in paragraph (f) of this AD.

(2) The Office of Management and Budget (OMB) approved the information collection requirements contained in this regulation under the provisions of the Paperwork Reduction Act and assigned OMB Control Number 2120-0056.

(i) For all affected airplanes: Upon the accumulation of the life used in paragraph (e)(1) of this AD or within the next 50 hours TIS after April 21, 2006 (the effective date of AD 2006-08-08), whichever occurs later, you must replace your wing lower spar cap before further flight following Snow Engineering Drawing Number 21088, dated November 3, 2004.

(j) For Model AT-402A airplanes, SNs 0952 through 1182; and Model AT-402B airplanes, SNs 0966 through 1182: In lieu of the safe life used in paragraph (e)(1) of this AD, you may eddy-current inspect and modify the wing lower spar cap as specified in the alternative method of compliance in AD 2006-08-08, which is approved for this AD (see paragraph (o) of this AD for more information).

(k) For all affected airplanes (those complying with the actions in the AD or alternative method of compliance (AMOC)): One of the following must do the inspection:

(1) A level 2 or 3 inspector certified in eddy current inspection using the guidelines established by the American Society for Nondestructive Testing or MIL-STD-410; or

(2) A person authorized to perform AD work and who has completed and passed the Air Tractor, Inc. training course on Eddy Current Inspection on wing lower spar caps.

**AD 2006-08-08 R1 INSPECTION REPORT  
(REPORT ONLY IF CRACKS ARE FOUND)**

1. Inspection Performed By:	2. Phone:
3. Aircraft Model:	4. Aircraft Serial Number:
5. Engine Model Number:	6. Aircraft Total Hours TIS:
7. Wing Total Hours TIS:	8. Lower Spar Cap Hours TIS:
9. Has the lower spar cap been inspected before? (Eddy-current, Dye penetrant, magnetic particle, ultrasound) <input type="checkbox"/> Yes <input type="checkbox"/> No	9a. If yes, <p style="text-align: right;">Date: _____</p> <p style="text-align: center;">Inspection Method: _____</p> Lower Spar Cap Hours TIS: _____ <p style="text-align: right;">Cracks found?   <input type="checkbox"/> Yes   <input type="checkbox"/> No</p>
10. Has there been any major repair or alteration performed to the spar cap? <input type="checkbox"/> Yes <input type="checkbox"/> No	10a. If yes, specify (Description and hours TIS)
11. Date of AD inspection: _____	
12. Inspection Results: (Note: Report only if cracks are found)	12a. <input type="checkbox"/> Left Hand <input type="checkbox"/> Right Hand
12b. Crack Length: _____	12c. Does drilling hole to next larger size remove all traces of the crack(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No
12d. Corrective Action Taken:	

Mail report to: Manager, Fort Worth ACO, ASW-150, 2601 Meacham Blvd., Fort Worth, TX  
 76193-0150; or fax to (817) 222-5960

**Figure 1**

**Special Flight Permit**

(1) Under 14 CFR 39.23, we are allowing special flight permits for the purpose of compliance with this AD under the following conditions:

- (1) Only operate in day visual flight rules (VFR).
- (2) Ensure that the hopper is empty.
- (3) Limit airspeed to 135 miles per hour (mph) indicated airspeed (IAS).
- (4) Avoid any unnecessary g-forces.
- (5) Avoid areas of turbulence.
- (6) Plan the flight to follow the most direct route.

## **Alternative Methods of Compliance (AMOCs)**

(m) The Manager, Fort Worth or Los Angeles Airplane Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO. For AMOC approval, send information to ATTN:

(1) For the airplanes that do not incorporate and never have incorporated Marburger winglets: Rob Romero, Aerospace Engineer, FAA, Fort Worth Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone: (817) 222-5102; facsimile: (817) 222-5960.

(2) For airplanes that incorporate or have incorporated Marburger winglets: John Cecil, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, 3960 Paramount Boulevard, Lakewood, California 90712; telephone: (562) 627-5228; facsimile: (562) 627-5210.

(n) AMOCs approved for AD 2001-10-04, AD 2001-10-04 R1, or AD 2002-11-05 for the AT-400 series airplanes are not considered approved for this AD.

(o) AMOCs approved for the repetitive inspection requirements of AD 2006-08-08 are approved for this AD until the scheduled modification date required by this AD. That AMOC was included in AD 2006-08-08 and can be found in the docket at: <http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=FAA-2006-23646>.

## **Material Incorporated by Reference**

(p) You must use Snow Engineering Co. Drawing 21088, dated November 3, 2004; Snow Engineering Co. Process Specification 197, page 1, revised June 4, 2002, pages 2 through 4, dated February 23, 2001, and page 5, dated May 3, 2002; and Snow Engineering Co. Service Letter 202, page 3, dated October 16, 2000, to do the actions required by this AD, unless the AD specifies otherwise.

(1) On April 21, 2006 (71 FR 19986, April 19, 2006) the Director of the Federal Register approved the incorporation by reference of Snow Engineering Co. Drawing 21088, dated November 3, 2004; Snow Engineering Co. Process Specification 197, page 1, revised June 4, 2002, pages 2 through 4, dated February 23, 2001, and page 5, dated May 3, 2002; and Snow Engineering Co. Service Letter 202, page 3, dated October 16, 2000, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Air Tractor, Incorporated, P.O. Box 485, Olney, Texas 76374; telephone: (940) 564-5616; facsimile: (940) 564-5612; Internet: <http://www.airtractor.com>; or Marburger Enterprises, Inc., 1227 Hillcourt, Williston, North Dakota 58801; telephone: (800) 893-1420 or (701) 774-0230; facsimile: (701) 572-2602.

(3) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(4) You may also review copies of the service information incorporated by reference for this AD at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

## **Appendix 1 to AD 2006-08-08 R1**

The following provides procedures for determining the safe life for those Models AT-401, AT-401B, AT-402, AT-402A, and AT-402B airplanes that incorporate or have incorporated Marburger winglets. These winglets are installed following Supplemental Type Certificate (STC) No. SA00490LA.

**What if I removed the Marburger winglets prior to further flight after April 21, 2006 (the effective date of AD 2006-08-08) or prior to April 21, 2006 (the effective date of AD 2006-08-08)?**

1. Review your airplane's logbook to determine your airplane's time in service (TIS) with winglets installed per Marburger STC No. SA00490LA. This includes all time spent with the winglets currently installed and any previous installations where the winglet was installed and later removed.

Example: A review of your airplane's logbook shows that you have accumulated 350 hours TIS since incorporating Marburger STC No. SA00490LA. Further review of the airplane's logbook shows that a previous owner had installed the STC and later removed the winglets after accumulating 150 hours TIS. Therefore, your airplane's TIS with the winglets installed is 500 hours.

If you determine that the winglet STC has never been incorporated on your airplane, then your safe life is presented in paragraph (c)(1) of this AD. Any future winglet installation will be subject to a reduced safe life per these instructions.

2. Determine your airplane's unmodified safe life from paragraph (c)(1) of this AD.

Example: Your airplane is a Model AT-401B, SN 1022. From paragraph (c)(1) of this AD, the unmodified safe life of your airplane is 7,777 hours TIS.

All examples from hereon will be based on the Model AT-401B, SN 1022 airplane.

3. Determine the winglet usage factor from paragraph (c)(4) of this AD.

Example: Again, your airplane is a Model AT-401B, SN 1022. From paragraph (c)(4) of this AD, your winglet usage factor is 1.1.

4. Adjust the winglet TIS to account for the winglet usage factor. Multiply the winglet TIS (result of Step 1 above) by the winglet usage factor (result of Step 3 above).

Example: Winglet TIS is 500 hours x a winglet usage factor of 1.1. The adjusted winglet TIS is 550 hours.

5. Calculate the winglet usage penalty. Subtract the winglet TIS (result of Step 1 above) from the adjusted winglet TIS (result of Step 4 above).

Example: Adjusted winglet TIS - the winglet TIS = winglet usage penalty. (550 hours) - (500 hours TIS) = (50 hours TIS).

6. Adjust the safe life of your airplane to account for winglet usage. Subtract the winglet usage penalty (result of Step 5 above) result from the unmodified safe life from paragraph (c)(1) of this AD (result of Step 2 above.).

Example: Unmodified safe life - winglet usage penalty = adjusted safe life. (7,777 hours TIS) - (50 hours TIS) = (7,727 hours TIS).

7. If you remove the winglets from your airplane before further flight or no longer have the winglets installed on your airplane, the safe life of your airplane is the adjusted safe life (result of Step 6 above). Enter this number in paragraph (e)(1) of this AD and the airplane logbook.

**What if I have the Marburger winglet installed as of April 21, 2006 (the effective date of AD 2006-08-08) and plan to operate my airplane without removing the winglet?**

1. Review your airplane's logbook to determine your airplane's TIS without the winglets installed.

Example: A review of your airplane's logbook shows that you have accumulated 1,500 hours TIS, including 500 hours with the Marburger winglets installed. Therefore, your airplane's TIS without the winglets installed is 1,000 hours.

2. Determine your airplane's unmodified safe life from paragraph (c)(1) of this AD.

Example: Your airplane is a Model AT-401B, SN 1022. From paragraph (c)(1) of this AD, the unmodified safe life of your airplane is 7,777 hours TIS.

All examples from hereon will be based on the Model AT-401B, SN 1022 airplane.

3. Determine the winglet usage factor from paragraph (c)(4) of this AD.

Example: Again, your airplane is a Model AT-401B, SN 1022. From paragraph (c)(4) of this AD, your winglet usage factor is 1.1.

4. Determine the potential winglet TIS. Subtract the TIS without the winglets installed (result of Step 1 above) from the unmodified safe life (result of Step 2 above).

Example: Unmodified safe life - TIS without winglets = Potential winglet TIS. (7,777 hours TIS) - (1,000 hours TIS) = (6,777 hours TIS).

5. Adjust the potential winglet TIS to account for the winglet usage factor. Divide the potential winglet TIS (result of Step 4 above) by the winglet usage factor (result of Step 3 above).

Example: Potential winglet TIS / Winglet usage factor = Adjusted potential winglet TIS. (6,777 hours TIS) / (1.1) = (6,155 hours TIS).

6. Calculate the winglet usage penalty. Subtract the adjusted potential winglet TIS (result of Step 5 above) from the potential winglet TIS (result of Step 4 above).

Example: Potential winglet TIS - Adjusted potential winglet TIS = Winglet usage penalty. (6,777 hours TIS) - (6,155 hours TIS) = (622 hours TIS).

7. Adjust the safe life of your airplane to account for the winglet installation. Subtract the winglet usage penalty (result of Step 6 above) from the unmodified safe life from paragraph (c)(1) of this AD (the result of Step 2 above).

Example: Unmodified safe life - Winglet usage penalty = Adjusted safe life. (7,777 hours TIS) - (622 hours TIS) = (7,155 hours TIS).

8. Enter the adjusted safe life (result of Step 7 above) in paragraph (e)(1) of this AD and the airplane logbook.

**What if I install or remove the Marburger winglet from my airplane in the future?**

If, at anytime in the future, you install or remove the Marburger winglet STC from your airplane, you must repeat the procedures in this Appendix to determine the airplane's safe life.

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John Colomy,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.