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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18744; Directorate Identifier 2004-CE-24-AD; Amendment 39-13910; AD 2004-25-22]

RIN 2120-AA64

Airworthiness Directives; Great Lakes Aircraft Company, LLC, Models 2T-1A-1 and 2T-1A-2 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA supersedes Airworthiness Directive (AD) 79-20-08, which applies to all Great Lakes Aircraft Company, LLC, (Great Lakes) Models 2T-1A-1 and 2T-1A-2 airplanes with a Lycoming IO-360-B1F6 or AIO-360-B1G6 engine installed. AD 79-20-08 currently requires you to inspect the engine induction system and the alternate air door for any signs of damage and repairing or replacing any damaged components. AD 79-20-08 also requires you to inspect the induction system for the presence of a drain fitting. If the drain fitting is blocked, restricted, or does not exist, AD 79-20-08 requires you to clear the fitting or drill a hole in the elbow at the fitting location. This AD is the result of the FAA inadvertently omitting Lycoming engine AEIO-360-B1G6 from the applicability section of AD 79-20-08. Consequently, this AD retains the actions required in AD 79-20-08 and adds Lycoming engine AEIO-360-B1G6 to the applicability section. We are issuing this AD to prevent the aircraft induction system from becoming blocked or restricted, which could result in engine failure. This failure could lead to loss of control of the airplane.

DATES: This AD becomes effective on January 28, 2005.

ADDRESSES: To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at *http://dms.dot.gov*. The docket number is FAA-2004-18744.

FOR FURTHER INFORMATION CONTACT: Roger Caldwell, Aerospace Engineer, Denver Aircraft Certification Office (ACO), Federal Aviation Administration (FAA), 26805 E. 68th Ave., Rm 214 Denver, CO 80249-6361; telephone: (303) 342-1086; facsimile: (303) 342-1088.

SUPPLEMENTARY INFORMATION:

Discussion

What events have caused this AD? The alternate air source door on the original aircraft configuration of Great Lakes Models 2T-1A-1 and 2T-1A-2 airplanes was operated by push-pull cable in the cockpit and had an induction system drain provision. Later modifications changed the configuration of the alternate air source door to automatic operation.

All fuel-injected engines are required to have an alternate air source. If the primary induction air source becomes blocked or restricted, the lower pressure differential in the induction system would overcome a spring tension on the alternate air door and provide a secondary airflow path for the engine.

Inspections of Lycoming engines IO-360-B1F6 and AIO-360-B1G6 revealed instances of heat distortion, damage, and cracks in the alternate air door. Extensive damage to the alternate air door could cause pieces to break off and get sucked into the induction system blocking the airflow to the engine.

Additional inspections revealed that some of the affected engines did not have an induction system drain to remove fluid and/or moisture away from the engine.

These conditions caused us to issue AD 79-20-08. AD 79-20-08 currently requires the following on all Great Lakes Models 2T-1A-1 and 2T-1A-2 airplanes that have a Lycoming engine IO-360-B1F6 or AIO-360-B1G6 installed:

–Visually inspecting the aircraft induction system drain fitting located in the induction elbow below the fuel injector for blockage or restriction;
–Clearing the blocked drain hole or drilling a hole in the elbow at the fitting location if the drain hole is restricted in the weld area or not drilled through the elbow;
–Visually inspecting the alternate air door for damage and repairing or replacing any damaged alternate air door; and
–Visually inspecting the aircraft induction system (including the filter) for cleanliness, security, and damage and repairing or replacing any dirty or damaged components.

What has happened since AD 79-20-08 to initiate this action? During a recent inspection, it was discovered that the Lycoming engine AEIO-360-B1G6 has the same configuration as Lycoming engines IO-360-B1F6 and AIO-360-B1G6.

What is the potential impact if FAA took no action? If not detected and corrected, blockage or restriction of the aircraft induction system could cause engine failure. This failure could result in loss of control of the airplane.

Has FAA taken any action to this point? 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 all Great Lakes Models 2T-1A-1 and 2T-1A-2 airplanes with a Lycoming IO-360-B1F6, AIO-360-B1G6, or AEIO-360-B1G6 engine installed. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on September 20, 2004 (69 FR 56175). The NPRM proposed to supersede AD 79-20-08 with a new AD that would retain the actions required in AD 79-20-08 and would add Lycoming engine AEIO-360-B1G6 to the applicability section.

Comments

Was the public invited to comment? We provided the public the opportunity to participate in developing this AD. We received no comments on the proposal or on the determination of the cost to the public.

Conclusion

What is FAA's final determination on this issue? We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for 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.

Changes to 14 CFR Part 39–Effect on the AD

How does the revision to 14 CFR part 39 affect this AD? On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

How many airplanes does this AD impact? We estimate that this AD affects 130 airplanes in the U.S. registry.

What is the cost impact of this AD on owners/operators of the affected airplanes? We estimate the following costs to accomplish the inspections of the aircraft induction system, the induction system drain fitting, and the alternate air door:

Labor cost	Parts cost	Total cost Per airplane	Total cost on U.S. operators
3 workhours × $65 = $195	Not applicable	$195	$195 × 130= $25,350

We estimate the following costs to accomplish any necessary repairs and/or replacements that will be required based on the results of the inspections. We have no way of determining the number of airplanes that may need these repairs and/or replacements:

Labor cost	Parts cost	Total cost per component
3 workhours per component × $65 = $195	Approximately $113 per component	$195 + 113 = $308

What is the difference between the cost impact of this AD and the cost impact of AD 79-20-08? The only difference between this AD and AD 79-20-08 is the correction to the applicability. No additional actions are being required. The FAA has determined that this AD action does not increase the cost impact over that already required by AD 79-20-08.

Authority for This Rulemaking

What authority does FAA have for issuing this rulemaking action? 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

Will this AD impact various entities? 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.

Will this AD involve a significant rule or regulatory action? 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 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-2004-18744; Directorate Identifier 2004-CE-24-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, 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) 79-20-08, Amendment 39-3580, and by adding a new AD to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-25-22 Great Lakes Aircraft Company, LLC: Amendment 39-13910; Docket No. FAA-2004-18744; Directorate Identifier 2004-CE-24-AD; Supersedes AD 79-20-08; Amendment 39-3580.

When Does This AD Become Effective?

(a) This AD becomes effective on January 28, 2005.

What Other ADs Are Affected by This Action?

(b) This AD supersedes AD 79-20-08, Amendment 39-3580.

What Airplanes Are Affected by This AD?

(c) This AD affects all Model 2T-1A-1 and 2T-1A-2 airplanes that have a Lycoming IO-360-B1F6, AIO-360-B1G6, or AEIO-360-B1G6 engine installed and are certificated in any category.

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of heat distortion, damage, and cracks found in the aircraft induction system on Lycoming IO-360-B1F6, AIO-360-B1G6, and AEIO-360-B1G6 engines. The actions specified in this AD are intended to prevent the aircraft induction system from becoming blocked or restricted, which could result in engine failure. This failure could lead to loss of control of the airplane.

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) Perform the following: (i) Visually inspect the aircraft induction system drain fitting located in the induction elbow below the fuel injector for blockage or restriction. (ii) If the hole is blocked or restricted in the weld area or not drilled through the elbow, open up the restricted hole or drill a hole in the elbow at the fitting location using a No. 10 (.193) drill.	*For all affected airplanes:* Inspect within the next 25 hours time-in-service (TIS) after January 28, 2005 (the effective date of this AD). Before further flight, modify the blocked or restricted aircraft induction system drain fitting.	Not applicable.

(2) Visually inspect the alternate air door for distortion, heat damage, and cracks. If any damage is found, repair or fabricate a new door following Figure 1, Figure 2, and Figure 3 in this AD.	*For airplanes previously affected by AD 79–20–08:* Initially inspect at the next scheduled inspection required by AD 79–20–08 or within the next 25 hours TIS after January 28, 2005 (the effective date of this AD), whichever occurs later. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. *For airplanes not previously affected by AD 79–20–08:* Inspect within the next 25 hours TIS after January 28, 2005 (the effective date of this AD). Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. *For all affected airplanes:* After each inspection, if damage is found during any inspection, before further flight, repair, replace the damaged alternate air door.	Not applicable.
(3) Visually inspect the aircraft induction system for cleanliness of the air filter, distortion, security, and damage from backfire or induction system fire. If the air filter is dirty, if any distortion, damage, or lack of security is found, repair, replace or modify all affected components.	*For airplanes previously affected by AD 79–20–08:* Initially inspect at the next scheduled inspection required by AD 79–20–08 or within the next 25 hours TIS after January 28, 2005 (the effective date of this AD), whichever occurs later. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. *For airplanes not previously affected by AD 79–20–08:* Inspect within the next 25 hours TIS after January 28, 2005 (the effective date of this AD). Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. *For all affected airplanes:* After each inspection, if damage is found during any inspection, before further flight, repair, replace or modify any damaged components.	Not applicabale.

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Denver Aircraft Certification Office, FAA. For information on any already approved alternative methods of compliance, contact Roger Caldwell, Aerospace Engineer, Denver ACO, FAA, 26805 E. 68th Ave., Rm 214 Denver, CO 80249-6361; telephone: (303) 342-1086; facsimile: (303) 342-1088.

May I Get Copies of the Documents Referenced in This AD?

(g) You may view the AD docket at the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at http://dms.dot.gov. The docket number is FAA-2004-18744.

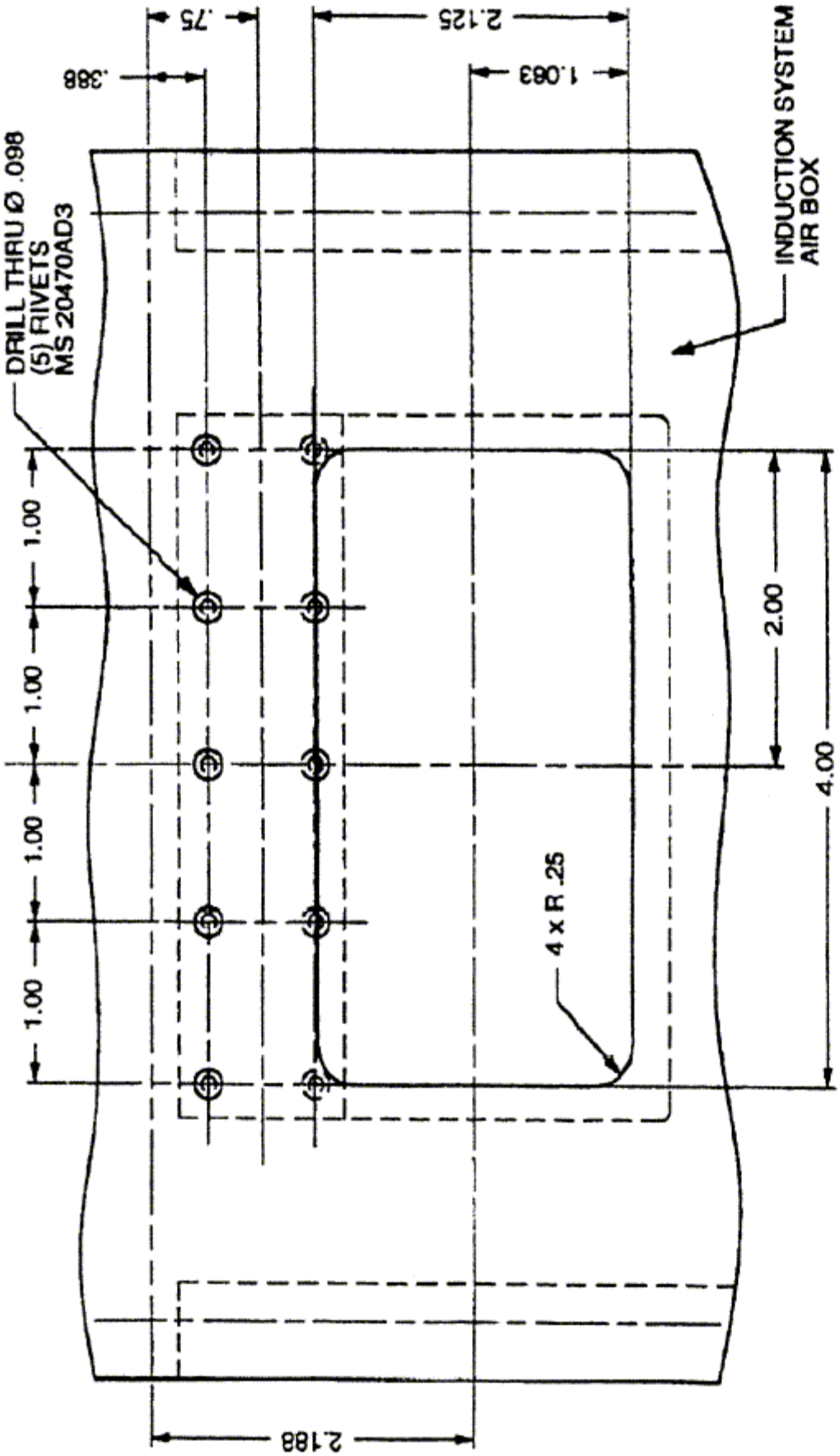

Fig. 1

GREAT LAKES AIRCRAFT, TYPES 2T-1A-1 AND 2T-1A-2
ENGINE INDUCTION SYSTEM AD 79-20-08
ALTERNATE AIR DOOR INSTALLATION
FULL SCALE

Figure 1

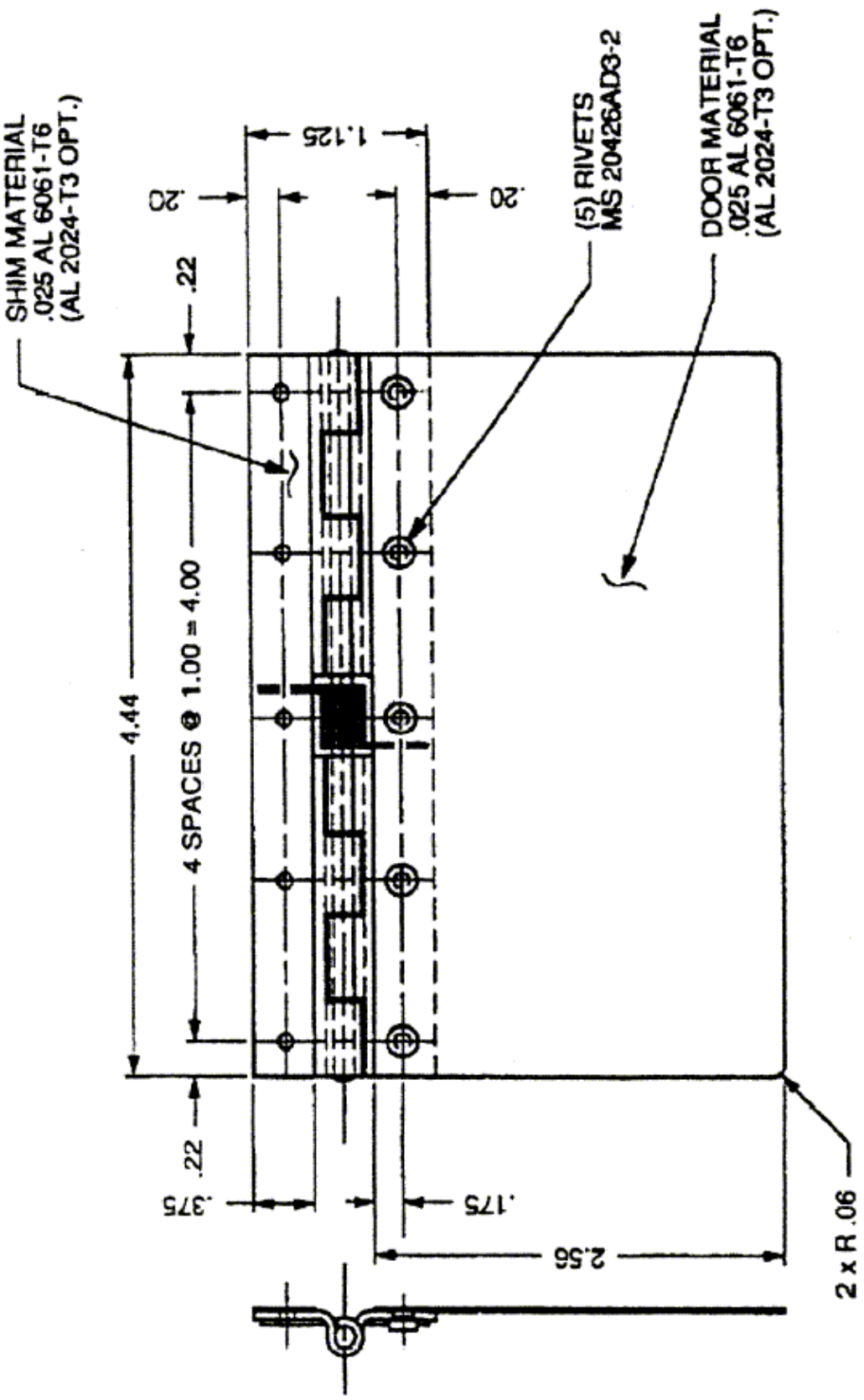

Fig. 2

GREAT LAKES AIRCRAFT, TYPES 2T-1A-1 AND 2T-1A-2
ENGINE INDUCTION SYSTEM AD 79-20-08
ALTERNATE AIR DOOR FABRICATION DETAIL
FULL SCALE

Figure 2

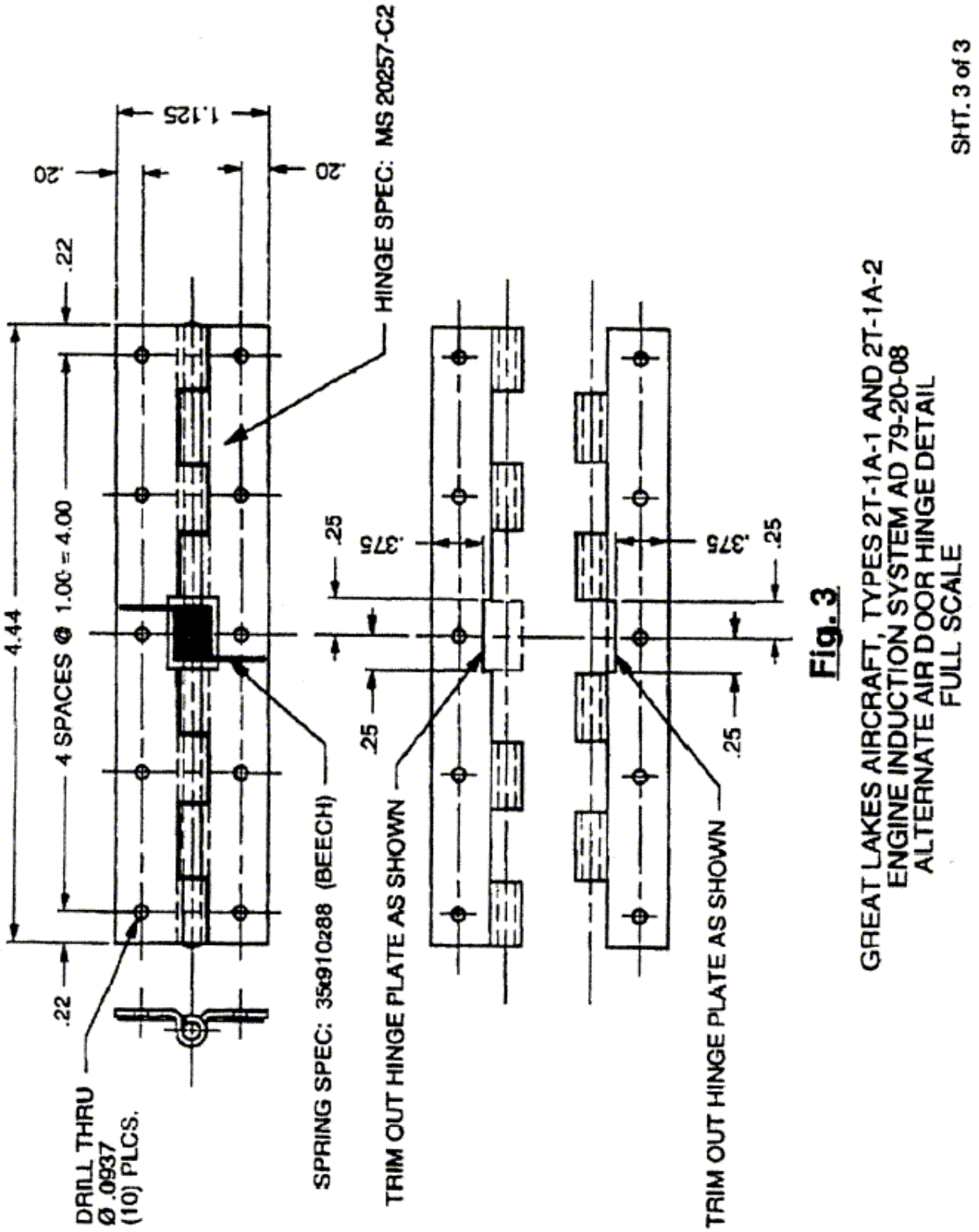

Figure 3

Issued in Kansas City, Missouri, on December 7, 2004.

Sandra J. Campbell,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-27521 Filed 12-15-04; 8:45 am]

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