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 適航指令發布單 Airworthiness Directive Issuance Form			
民航局AD編號 AD Number	CAA-2017-04-002	發布日期 Date issued	2017/4/10
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	This AD applies to Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Models (to include all dash number and model number variants) 921, 930, 937, 940, 944, 945, 977, 978, 979, 8240, 8253, 8259, and 8472 combustion heaters that are installed on, but not limited to, certain Beech, Britten-Norman, Cessna Aircraft Company, and Piper Aircraft, Inc. airplanes.		
主旨摘要	Heating System - Combustion Heater - Inspection/ Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主關機構 Original Authorities <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> FAA <input type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC </div> <div> <input type="checkbox"/> Germany LBA <input type="checkbox"/> CAA-NL <input type="checkbox"/> UK CAA <input type="checkbox"/> Japan CAB <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____ </div> </div>		
	設計國AD編號 Original AD number	2017-06-03	
	1. 直接採用原AD之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) ____ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將AD執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	(i) This AD is superseding FAA Airworthiness Directive (AD) 81-09-0. (ii) Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998. (iii) South Wind Division Stewart-Warner Corporation Service Manual Beech Aircraft Corporation PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), Part No. 404-001056 Blower Assy. (SW G-716307), Part No. G-714127 Thermostat (SW G-714127). (iv) South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015. (v) Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters.		
註： 1. AD內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail：adcaa@mail.caa.gov.tw Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail：adcaa@mail.caa.gov.tw			

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[Rules and Regulations]

[Pages 15988-15993]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0603; Directorate Identifier 2013-CE-026-AD; Amendment 39-18827; AD 2017-06-03]

RIN 2120-AA64

Airworthiness Directives; Meggitt (Troy), Inc. Combustion Heaters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 81-09-09 for certain Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Model Series (to include all the variants) 921, 930, 937, 940, 944, 945, 977, 978, 979, 8240, 8253, 8259, and 8472 combustion heaters. AD 81-09-09 required repetitive inspections of the combustion heater; repetitive installation inspections of the combustion heater; and, for combustion heaters having 1,000 hours or more time-in-service (TIS), overhaul of the combustion heater. This new AD requires detailed repetitive inspections, repetitive pressure decay tests, and disable/removal of the combustion heater if necessary. This AD was prompted by an airplane accident and reports that the heater was malfunctioning. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective May 5, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 5, 2017.

ADDRESSES: For service information identified in this final rule, contact Meggitt Control Systems, 3 Industrial Drive, Troy, Indiana 47588; telephone: (812) 547-7071; fax: (812) 547-2488; email: infotroy@meggitt.com; Internet: www.stewart-warner.com. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0603.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0603; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Chung-Der Young, Aerospace Engineer, FAA, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7309; fax (847) 294-7834 email: chung-der.young@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to supersede AD 81-09-09, Amendment 39-4102 (46 FR 24936, May 4, 1981) (“AD 81-09-09”). The SNPRM published in the Federal Register on November 3, 2016 (81 FR 76532). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on August 20, 2014 (79 FR 49249). The NPRM proposed to retain most actions from AD 81-09-09, add a calendar time to the repetitive inspections, add more detailed actions to the inspections, and add a pressure decay test (PDT). The NPRM was prompted by an airplane accident and reports we received of the heater malfunctioning. The SNPRM proposed to retain the actions proposed in the NPRM, add combustion heater models series to the applicability, and modify the compliance times. We also completed and included in the SNPRM an initial regulatory flexibility analysis. We are issuing this AD to correct the unsafe condition on these products.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the SNPRM and the FAA's response to each comment.

Request

The European Aviation Safety Agency (EASA) requested we change the wording in paragraph (k) of this AD, Removal or Disable of the Combustion Heater. If an operator installs or re-enables an applicable combustion heater, the SNPRM requires the operator to do either the inspections required by the AD, disable the heater, or remove the heater. However, the actions of remove or disable would not apply to an operator installing or re-enabling a heater. EASA requested we only require the inspections for a heater that has been re-enabled and only require the inspections or disable options for a heater that has been installed.

We partially agree with this comment. We agree that the wording of the SNPRM may be confusing—re-enable the heater and then disable or remove it. However, we do not agree with completely omitting the disable or removal options. If an operator installs or re-enables an applicable heater, that heater must be inspected as required by the AD, and, if it fails the inspections, the heater must be disabled or removed.

We changed the language in paragraph (k) of this AD, Removal or Disable of the Combustion Heater, to clarify our intent.

Supportive Comment

Tony Dillberg concurred with the SNPRM as drafted.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, replacing the initial regulatory flexibility analysis (IRFA) with a final regulatory flexibility analysis (FRFA), and minor editorial changes. We have determined that the change from an IRFA to a FRFA and the minor changes:

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

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed the following service information that applies to this AD:

–Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969;

–South Wind Division Stewart-Warner Corporation Service Manual Beech Aircraft Corporation PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), Part No. 404-001056 Blower Assy. (SW G-716307), Part No. G-714127 Thermostat (SW G-714127), revised: April 1965; and

–South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

For the applicable models as specified, the service information above describes procedures for inspection of the combustion heater and inspection of the installation of the combustion heater for the applicable heater models.

We also reviewed Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, dated May 17, 2014. This service information describes procedures for the PDT for airplane combustion heaters for certain heater models specified in the document.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

We reviewed the following service information that applies to this AD:

–South Wind Service Manual P.M. 35710 Aircraft Heaters 8240-E, 8259-HL1, HL2, -L, supplements attached HR2.JR2.M;

–Stewart-Warner Corporation South Wind Division Service Manual South Wind Aircraft Heaters Series 921 and 930, Ind-506, Revision 4-53;

–Stewart-Warner Corporation South Wind Division Service Manual SouthWind Series 940 Heater, PM-10035, Revision 3-82;

–Stewart-Warner Corporation South Wind Division Service Manual South Wind Model 978 Personal Heater, Form No. PM6348 (12-56);

–South Wind Service Manual Model 979-B1 Aircraft Heater, South Wind Division of Stewart-Warner Corporation, (3-51); and

–Navion Model 977-B Installation Manual Section I, Section II, Section III, and Section IV.

For the applicable models specified in the documents, the service information above describes procedures for the inspections required by this AD and may be used for procedural guidance when applying for an alternative method of compliance.

Costs of Compliance

We estimate that this AD affects 6,300 combustion heaters installed on, but not limited to, certain Beech, Britten-Norman, Cessna Aircraft Company, and Piper Aircraft, Inc. airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections and PDT of the combustion heater	7 work-hours × \$85 per hour = \$595	Not Applicable	\$595	\$3,748,500

We estimate the following costs to do any necessary combustion heater disable/removal/related component replacement that would be required based on the results of the inspections/PDT. We have no way of determining the number of airplanes that might need a combustion heater disable/removal/related component replacement:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replace combustion heater tube	8 work-hours X \$85 per hour = \$680	\$3,900	\$4,580
Replace temperature switches	1 work-hour × \$85 per hour = \$85	320	405
Repair pump	2 work-hours × \$85 per hour = \$170	470	640
Disable heater	2 work-hours × \$85 per hour = \$170	Not Applicable	170
Remove heater	3 work-hours × \$85 per hour = \$255	Not Applicable	255

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 rulemaking action.

Final Regulatory Flexibility Analysis

This section presents the final regulatory flexibility analysis (FRFA) that was done for this action. We have reworded and reformatted for Federal Register publication purposes. The FRFA in its original form can be found on the Internet at <http://www.regulations.gov> by searching for Docket No. FAA-2014-0603.

Introduction and Purpose of This Analysis

The Regulatory Flexibility Act of 1980 (Pub. L. 96-354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation." To achieve this principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are seriously considered." The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a FRFA as described in the RFA. The FAA finds that this AD will have a significant economic impact on a substantial number of small entities. Accordingly, in the following sections we discuss the compliance requirements of the AD, the cost of compliance, and the economic impact on small entities.

Section 604 of the Act requires agencies to prepare a FRFA describing the impact of final rules on small entities. Section 604(a) of the Act specifies the content of a FRFA.

Each FRFA must contain:

- A statement of the need for, and objectives of, the rule;
- A statement of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a statement of the assessment of the agency of such issues, and a statement of any changes made in the rule as a result of such comments;
- The response of the agency to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule, and a detailed statement of any change made in the final rule as a result of the comments;

–A description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;

–A description of the projected reporting, recordkeeping and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and

–A description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

The head of the FAA certifies that this rulemaking will result in a significant economic impact on a substantial number of small entities.

1. Objectives of, and Legal Basis for, the Final Rule

Title 49 of the U.S. 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 FAA'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 the airplanes identified in this AD.

2. A Statement of the Significant Issues Raised by the Public, a Statement of the Assessment of the Agency of Such Issues, and a Statement of Any Changes Made

There were no comments submitted on the economic analysis from the SNPRM (81 FR 76532, November 3, 2016), nor were there any comments submitted that specifically addressed small business entities.

3. The Response of the Agency to Any Comments Filed by the Chief Counsel for Advocacy of the Small Business Administration in Response to the Proposed Rule, and a Detailed Statement of Any Change Made in the Final Rule as a Result of the Comments

The Chief Counsel for Advocacy of the Small Business Administration did not comment on the proposed rulemaking.

4. A Description of and an Estimate of the Number of Small Entities to Which the Rule Will Apply or an Explanation of Why No Such Estimate Is Available

The rulemaking will supersede AD 81-09-09, which applies to 8000 series Meggitt combustion heaters installed on certain twin-engine piston airplanes, primarily Cessna 300 and 400 series airplanes, but also installed on the Beech D18S twin-engine airplane and some Britten Norman twin-engine piston airplanes. The AD will extend applicability to 900 series Meggitt combustion heaters installed on certain Cessna single-engine piston airplanes, Cessna 310 twin-engine airplanes, Lake

LA-4 and LA-250 airplanes, certain Ryan Navion single-engine piston airplanes and certain Piper PA-23 and PA-30 airplanes. The FAA airplane registry indicates that there are 4,121 airplanes of the models equipped with 8000 series Meggitt combustion heaters, and 2,123 airplanes of the models equipped with 900 series Meggitt combustion heaters. The FAA expects many of these airplanes will be owned by small entities in many different industries. These entities constitute a substantial number of small entities.

Since many of these airplanes are registered to Limited Liability Companies (LLCs), Limited Liability Partnerships (LLPs) and other company forms typically suited for single proprietors, small partnerships, etc., we conclude that the cost of this AD will affect a substantial number of small entities.

5. Reporting, Record Keeping, and Other Compliance Requirements and Costs of the AD

Small entities will incur no new reporting and record-keeping requirements as a result of this rule. The compliance requirements for this AD will carry over the following requirements from AD 81-09-09:

- Heater inspection every 250 hours of heater operation, in accordance with the manufacturer's service manual.

- General inspection of the heater installation at the same time as the 250-hour inspection.

This AD will add the following new provisions, which will apply to both 900 and 8000 series heaters installed on certain airplanes:

- During each 250-hour inspection, more detailed actions will be required, namely inspection of the thermostat and upper limit switches and inspection of the solenoid valve and fuel pump.

- At the same time as the 250-hour and installation inspection, a combustion heater pressure decay test (PDT) will be required. If the combustion heater fails the PDT, the operator will be required to replace the combustion tube.

- Operators have the options of disabling the heater.

In the regulatory flexibility analysis for the SNPRM, the FAA estimated the total present value cost of compliance to be \$6,020 for airplanes equipped with 8000 series Meggitt combustion heaters and \$7,514 for airplanes equipped with 900 series Meggitt combustion heaters. The lower cost for airplanes with 8000 series combustion heaters reflects that 8000 series heaters are currently subject to the 250-hour inspection and installation inspection requirements, and, therefore, the incremental cost will be correspondingly less for airplanes with 8000 series combustion heaters compared to airplanes with 900 series heaters.

The airplanes equipped with the affected heaters are single- and twin-engine piston airplanes that, for the most part, were manufactured from the 1940s to the 1980s, and range in price from about \$270,000 for a Cessna 421C Golden Eagle down to a price as low as \$30,000 for a Piper 23-150 Apache. With a present value cost of about \$6,000 for airplanes equipped with 8000 series Meggitt combustion heaters and a present value cost of about \$7,500 for airplanes equipped with 900 series Meggitt combustion heaters, the FAA considers the cost impact to be significant for nearly all such airplanes.

6. A Description of the Steps the Agency Has Taken To Minimize the Significant Economic Impact on Small Entities Consistent With the Stated Objectives of Applicable Statutes, Including a Statement of the Factual, Policy, and Legal Reasons for Selecting the Alternative Adopted in the Final Rule and Why Each One of the Other Significant Alternatives to the Rule Considered by the Agency Which Affect the Impact on Small Entities Was Rejected

The FAA considered allowing more flight hours or calendar time before requiring compliance, but this alternative would increase the risk of another fatal accident. This AD allows the combustion

heater to be disconnected or removed, but, operating without a heater is unlikely to be viable. Because of an unsafe condition that is likely to exist or develop on the airplanes identified in this AD, there is no feasible significant alternative to requiring the actions of this AD.

Accordingly, since airplanes equipped with Meggitt combustion heaters have values low enough to consider that airplane operators will incur a significant expense inspecting and testing the heaters, and since many of these airplanes are registered LLCs, LLPs and other company forms typically suited for single proprietors and small partnerships, the FAA therefore concludes that this AD will have a significant economic impact on a substantial number of small entities.

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 DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

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 FAA amends 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 AD 81-09-09, Amendment 39-4102 (46 FR 24936, May 4, 1981), and adding the following new AD:



2017-06-03 Meggitt (Troy), Inc.: Amendment 39-18827; Docket No. FAA-2014-0603; Directorate Identifier 2013-CE-026-AD.

(a) Effective Date

This AD is effective May 5, 2017.

(b) Affected ADs

This AD replaces AD 81-09-09, Amendment 39-4102 (46 FR 24936, May 4, 1981).

(c) Applicability

(1) This AD applies to Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Models (to include all dash number and model number variants) 921, 930, 937, 940, 944, 945, 977, 978, 979, 8240, 8253, 8259, and 8472 combustion heaters that:

- (i) Are installed on, but not limited to, certain Beech, Britten-Norman, Cessna Aircraft Company, and Piper Aircraft, Inc. airplanes; and
- (ii) certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 2140; Heating System.

(e) Unsafe Condition

This AD was prompted by an airplane accident and reports we received that the combustion heater was malfunctioning. We are issuing this AD to detect and correct a hazardous condition caused by deterioration of the combustion heater, which could lead to ignition of components and result in smoke and fumes in the cabin.

(f) Compliance

Comply with this AD by doing one of the actions in paragraphs (f)(1), (2), or (3) of this AD at the compliance times indicated, unless already done. If the hours of combustion heater operation cannot be determined, use 50 percent of the airplane's hours time-in-service (TIS):

- (1) Perform the actions specified in paragraphs (g) through (j) of this AD;
- (2) Disable the heater following the instructions in paragraph (k)(1) of this AD; or
- (3) Remove the heater following the instructions in paragraph (k)(2) of this AD.

(g) Inspections and Pressure Decay Test (PDT) of the Combustion Heater

Within the next 10 hours TIS of the combustion heater after May 5, 2017 (the effective date of this AD) or the next scheduled 100-hour inspection, annual inspection, or phase inspection that occurs 30 days after May 5, 2017 (the effective date of this AD), whichever occurs first, and repetitively thereafter at intervals not to exceed 250 hours of combustion heater operation or two years, whichever occurs first, do the following inspections and PDT listed in paragraphs (g)(1) through (4) of this AD. You may do one of the actions in paragraph (k)(1) or (2) of this AD in lieu of doing the inspections required by paragraph (g).

(1) Inspections using the instructions in paragraph (i)(1) or (j) of this AD, as applicable.

(2) Inspections using the steps listed in paragraphs (g)(2)(i) through (v) of this AD:

(i) Inspect the thermostat switch (external from heater) and upper limit switch (located on the heater). In cold static condition, both switches should be in closed position; in operation (hot) condition, both switches should regulate their sensed temperatures within 10 degrees F.

(ii) Inspect the solenoid valve and fuel pump for fuel leak, corrosion, diaphragm crack, metal shavings, and excess grease.

(iii) With the heater operating, inspect the fuel pump output pressure for proper gauge hook up and pressure range readings.

(iv) Inspect the combustion heater's fuel pump operating pressure to assure it is not affected by other on-board pumps.

(v) Inspect the heater to assure it instantly responds to the on/off switch.

(3) Installation inspections and checks using the steps listed in paragraphs (g)(3)(i) through (iv) of this AD:

(i) Inspect ventilating air and combustion air inlets and exhaust outlet correcting any restrictions and ensure attachment security.

(ii) Inspect drain line and ensure it is free of obstruction.

(iii) Check all fuel lines for security at joints and shrouds, correcting/replacing those showing evidence of looseness or leakage.

(iv) Check all electrical wiring for security at attachment points, correcting conditions leading to arcing, chafing or looseness.

(4) Pressure decay test using the instructions in paragraph (i)(2) or (j) of this AD, as applicable.

(h) Replacement of the Heater Tube and/or Correction or Replacement of Other Assemblies

If any discrepancies are found during any of the inspections/PDTs required in paragraphs (g)(1), (2), (3), and/or (4) of this AD, before further flight, replace the defective heater tube and/or correct or replace other defective assemblies as necessary. You must use the instructions in paragraph (i) or (j) of this AD, as applicable, to do any necessary replacements. This AD does not allow repair of the combustion tube. You may do one of the actions in paragraph (k)(1) or (2) of this AD in lieu of doing the replacements required by paragraph (h).

(i) Procedures for Inspection, PDT, and Replacement for Models 8240, 8253, 8259, and 8472

(1) For the inspections required in paragraph (g)(1) of this AD and the replacement(s) that may be required in paragraph (h) of this AD, use the service information listed in paragraphs (i)(1)(i) through (iii) of this AD, as applicable, or do one of the actions in paragraph (k)(1) or (2) of this AD.

(i) Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969;

(ii) South Wind Division Stewart-Warner Corporation Beech Aircraft Corporation Service Manual PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), Part No. 404-001056 Blower Assy. (SW G-716307), Part No. G-714127 Thermostat (SW G-714127), revised: April 1965; or
(iii) South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

(2) For the PDT required in paragraph (g)(4) of this AD, use Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, IP-347, dated May 17, 2014, or do one of the actions in paragraph (k)(1) or (2) of this AD.

(j) Procedures for Inspection, PDT, and Replacement for Models Other Than Models 8240, 8253, 8259, and 8472

This AD does not have referenced service information associated with the mandatory requirements of this AD for models other than Models 8240, 8253, 8259, and 8472. For the required inspections and PDT specified in paragraphs (g)(1) and (4) of this AD and, if necessary, any replacement(s) specified in paragraph (h) of this AD, you must contact the manufacturer to obtain FAA-approved inspection, replacement, and PDT procedures approved specifically for this AD and implement those procedures through an alternative method of compliance (AMOC) or do one of the actions in paragraph (k)(1) or (2) of this AD. You may use the contact information found in paragraph (n)(2) to contact the manufacturer. Appendix 1 of this AD contains a listing of service information that provides specific instructions, for certain inspections and replacements, that you may use to apply for an AMOC following paragraph (m) of this AD. The service information listed in appendix 1 of this AD did not meet Office of the Federal Register regulatory requirements for incorporation by reference approval due to the condition of the documents. However, the listing in appendix 1 to this AD does not include any instructions for the PDT required in paragraph (g)(4) because these procedures do not exist.

(k) Disable or Removal of the Combustion Heater

As an option to the inspection, PDT, and replacement actions specified in paragraphs (g) and (h) of this AD, within the next 10 hours TIS of the combustion heater after the effective date of this AD or the next scheduled 100-hour inspection, annual inspection, or phase inspection that occurs 30 days after the effective date of this AD, whichever occurs first, do one of the following actions:

(1) Disable the heater by the following actions:

- (i) Disconnect and cap the heater fuel supply.
- (ii) Disconnect circuit breakers.
- (iii) Tag the main switch "Heater Inoperable."
- (iv) The ventilation blower can stay functional.

(v) If you re-enable the combustion heater, before further flight, you must perform the actions in paragraphs (f)(1) of this AD. If you cannot complete the actions of paragraph (f)(1) satisfactorily, you must perform the actions in either paragraph (f)(2) or (3) of this AD.

(2) Remove the heater by the following actions:

- (i) Disconnect and cap the heater fuel supply.
- (ii) Disconnect/remove circuit breakers.
- (iii) Remove exhaust pipe extension;.
- (iv) Cap the exhaust opening.
- (v) Remove the heater.
- (vi) Do weight and balance for the aircraft.

(vii) If you install an applicable combustion heater on the airplane, before further flight, you must perform the actions in paragraphs (f)(1) of this AD. If you cannot complete the actions of paragraph (f)(1) satisfactorily, you must perform the actions in either paragraph (f)(2) or (3) of this AD.

(l) Special Flight Permit

Special flight permits are permitted in accordance with 14 CFR 39.23 with the following limitation: Use of the heater is not allowed.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Chicago Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (o)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) AMOCs approved for AD 81-09-09 (46 FR 24936, May 4, 1981) are not approved as AMOCs for this AD.

(n) Related Information

For more information about this AD, contact Chung-Der Young, Aerospace Engineer, FAA, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7309; fax (847) 294-7834 email: chung-der.young@faa.gov.

(o) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969.

(ii) South Wind Division Stewart-Warner Corporation Service Manual Beech Aircraft Corporation PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), Part No. 404-001056 Blower Assy. (SW G-716307), Part No. G-714127 Thermostat (SW G-714127), revised: April 1965.

(iii) South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

(iv) Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, dated May 17, 2014.

(3) For service information identified in this AD, contact Meggitt Control Systems, 3 Industrial Drive, Troy, Indiana 47588; telephone: (812) 547-7071; fax: (812) 547-2488; email: infotroy@meggitt.com; Internet: www.stewart-warner.com.

(4) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this service information that is incorporated by reference 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/cfr/ibr-locations.html>.

Appendix 1 to AD 2017-06-03

The following service information applies to certain combustion heater models affected by this AD, but the service information cannot be required by the AD. You may use this service information for procedural guidance when applying for an alternative method of compliance.

- South Wind Service Manual P.M. 35710 Aircraft Heaters 8240-E, 8259-HL1, HL2, -L, supplements attached HR2.JR2.M;
- Stewart-Warner Corporation South Wind Division Service Manual South Wind Aircraft Heaters Series 921 and 930, Ind-506, Revision 4-53;
- Stewart-Warner Corporation South Wind Division Service Manual SouthWind Series 940 Heater, PM-10035, Revision 3-82;
- Stewart-Warner Corporation South Wind Division Service Manual South Wind Model 978 Personal Heater, Form No. PM6348 (12-56);
- South Wind Service Manual Model 979-B1 Aircraft Heater, South Wind Division of Stewart-Warner Corporation, (3-51);
- Navion Model 977-B Installation Manual Section I, Section II, Section III, and Section IV.

Issued in Kansas City, Missouri, on March 9, 2017.

Melvin Johnson,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.