

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 23**

[Docket No. CE298; Special Condition No. 23-238-SC]

**Special Conditions: Maule Aerospace Technology, Inc.; Maule Model M-7-230, M-7-230C, and M-9-230 Airplanes; Diesel Cycle Engine Using Turbine (Jet) Fuel**

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

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with a Societe de Motorisation Aeronautiques (SMA) Model SR305-230 aircraft diesel engine (ADE). This airplane will have a novel or unusual design feature(s) associated with the installation of a diesel cycle engine utilizing turbine (jet) fuel. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for installation of this new technology engine. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

**DATES:** The effective date of these special conditions is July 2, 2009.

We must receive your comments by August 12, 2009.

**ADDRESSES:** Mail two copies of your comments to: Federal Aviation Administration, Regional Counsel, ACE-7, Attention: Rules Docket CE298, 901 Locust, Room 506, Kansas City, Missouri 64106. You may deliver two copies to the Rules Docket at the above address. Mark your comments Docket No. CE298. You may inspect comments in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:**

Peter L. Rouse, Federal Aviation Administration, Aircraft Certification Service, Small Airplane Directorate, ACE-111, 901 Locust, Kansas City, Missouri, 816-329-4135, fax 816-329-4090.

**SUPPLEMENTARY INFORMATION:** The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected aircraft. In

addition, the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA, therefore, finds that good cause exists for making these special conditions effective upon issuance.

**Comments Invited**

We invite interested persons to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel about these special conditions. You may inspect the docket before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 7:30 a.m. and 4 p.m. Monday through Friday, except Federal holidays.

We will consider all comments we receive by the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

If you want us to let you know we received your comments on these special conditions, send us a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

**Background**

On July 16, 2007, Maule Aerospace Technology, Inc., applied through the Atlanta Aircraft Certification Office to amend Type Certificate 3A23 by certifying derivative Maule airplane Models M-7-230, M-7-230C, and M-9-230 to include the installation of a Societe de Motorisation Aeronautiques (SMA) Model SR305-230 aircraft diesel engine. The SMA Model SR305-230 aircraft diesel engine was previously type certificated in the United States under type certificate number E00067EN.

In anticipation of the reintroduction of diesel engine technology into the small airplane fleet, the FAA issued Policy Statement PS-ACE100-2002-004 on May 15, 2004, which identified areas of technological concern involving introduction of new technology diesel engines into small airplanes. For a more

detailed summary of the FAA's development of diesel engine requirements, refer to this policy.

The general areas of concern involved the power characteristics of the diesel engines, the use of turbine fuel in an airplane class that has typically been powered by gasoline fueled engines, and the vibration characteristics and failure modes of diesel engines. These concerns were identified after review of the historical record of diesel engine used in aircraft and a review of the 14 CFR part 23 regulations, which identified specific regulatory areas that needed to be evaluated for applicability to diesel engine installations. These concerns are not considered universally applicable to all types of possible diesel engines and diesel engine installations. However, after review of the SMA installation on the Maule Airplane, and applying the provisions of the diesel policy, the FAA proposes these fuel system and engine related special conditions. Other special conditions issued in a separate notice include special conditions for HIRF and application of § 23.1309 provisions to the Full Authority Digital Engine Control (FADEC).

**Type Certification Basis**

Under the provisions of § 21.101, Maule Aerospace Technology, Inc., must show that the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 meet the applicable provisions of 14 CFR part 23, as amended by Amendments 23-1 through 23-55 and Civil Air Regulations (CAR) 3 thereto. In addition, the certification basis includes special conditions and equivalent levels of safety for the following:

*Special Conditions*

- Engine torque (Provisions similar to § 23.361, paragraphs (b)(1) and (c)(3)).
- Flutter (Compliance with § 23.629, paragraphs (e)(1) and (2)).
- Powerplant—Fuel System—Fuel system with water saturated fuel. (Compliance with § 23.951 requirements.)
- Powerplant—Fuel System—Fuel system hot weather operation. (Compliance with § 23.961 requirements.)
- Powerplant—Fuel system—Fuel tank filler connection. (Compliance with § 23.973(f) requirements.)
- Powerplant—Fuel system—Fuel tank outlet. (Compliance with § 23.977 requirements.)
- Equipment—General—Powerplant Instruments. (Compliance with § 23.1305 requirements.)

- Operating Limitations and Information—Powerplant limitations—Fuel grade or designation. (Compliance with § 23.1521(d) requirements.)

- Markings and Placards—Miscellaneous markings and placards—Fuel, oil, and coolant filler openings. (Compliance with § 23.1557(c)(1) requirements.)

- Powerplant—Fuel system—Fuel Freezing.

- Powerplant Installation—One cylinder inoperative.

- Powerplant Installation—High Energy Engine Fragments.

Equivalent levels of safety for:

- Ignition switches § 23.1145

The type certification basis includes exemptions, if any; equivalent level of safety findings, if any; and the special conditions adopted by this rulemaking action.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, part 23) do not contain adequate or appropriate safety standards for the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE must comply with the noise certification requirements of 14 CFR part 36.

The FAA issues special conditions, as appropriate, as defined in § 11.19, under § 11.38, and they become part of the type certification basis under § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate or amended type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101.

### Novel or Unusual Design Features

The Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE will incorporate the following novel or unusual design features: The Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE will incorporate an aircraft diesel engine utilizing turbine (jet) fuel.

### Applicability

As discussed above, these special conditions are applicable to the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE. Should Maule apply at a later date for a change to the type certificate to modify any other model included on Type Certificate No. 3A23 to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well.

### Conclusion

Under standard practice, the effective date of final special conditions would be 30 days after the date of publication in the **Federal Register**; however, as the certification date for the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes is imminent, the FAA finds that good cause exists to make these special conditions effective upon issuance.

This action affects only certain novel or unusual design features on the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of these features on the airplane.

### List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols.

### Citation

■ The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(g), 40113 and 44701; 14 CFR 21.16, and 21.101; and 14 CFR 11.38 and 11.19.

### The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Maule Model M-7-230, M-7-230C, and M-9-230 airplanes with the installation of an SMA Model SR305-230 ADE.

1. *Engine torque (Provisions similar to § 23.361, paragraphs (b)(1) and (c)(3)):*

(a) For diesel engine installations, the engine mounts and supporting structure must be designed to withstand the following:

(1) A limit engine torque load imposed by sudden engine stoppage due to malfunction or structural failure.

The effects of sudden engine stoppage may alternately be mitigated to an acceptable level by utilization of isolators, dampers, clutches and similar

provisions, so that unacceptable load levels are not imposed on any structure.

(b) The limit engine torque obtained in CAR 3.195(a)(1) and (a)(2) or 14 CFR § 23.361(a)(1) and (a)(2) must be obtained by multiplying the mean torque by a factor of four in lieu of the factor of two required by CAR 3.195(b) and 14 CFR § 23.361(c)(3).

2. *Flutter—(Compliance with § 23.629 (e)(1) and (e)(2) requirements):*

The flutter evaluation of the airplane done in accordance with 14 CFR § 23.629 must include—

(a) Whirlmode degree of freedom which takes into account the stability of the plane of rotation of the propeller and significant elastic, inertial, and aerodynamic forces, and

(b) Propeller, engine, engine mount and airplane structure stiffness and damping variations appropriate to the particular configuration, and

(c) Showing the airplane is free from flutter with one cylinder inoperative.

3. *Powerplant—Fuel System—Fuel system with water saturated fuel (Compliance with § 23.951 requirements):*

Considering the fuel types used by diesel engines, the applicant must comply with the following:

Each fuel system for a diesel engine must be capable of sustained operation throughout its flow and pressure range with fuel initially saturated with water at 80 °F and having 0.75cc of free water per gallon added and cooled to the most critical condition for icing likely to be encountered in operation.

Methods of compliance that are acceptable for turbine engine fuel systems requirements of § 23.951(c) are also considered acceptable for this requirement.

4. *Powerplant—Fuel System—Fuel flow (Compliance with § 23.955(c) requirements):*

In lieu of 14 CFR 23.955(c), engine fuel system must provide at least 100 percent of the fuel flow required by the engine, or the fuel flow required to prevent engine damage, if that flow is greater than 100 percent. The fuel flow rate must be available to the engine under each intended operating condition and maneuver. The conditions may be simulated in a suitable mockup. This flow must be shown in the most adverse fuel feed condition with respect to altitudes, attitudes, and any other condition that is expected in operation.

5. *Powerplant—Fuel System—Fuel system hot weather operation (Compliance with § 23.961 requirements):*

In place of compliance with § 23.961, the applicant must comply with the following:

Each fuel system must be free from vapor lock when using fuel at its critical temperature, with respect to vapor formation, when operating the airplane in all critical operating and environmental conditions for which approval is requested. For turbine fuel, or for aircraft equipped with diesel cycle engines that use turbine or diesel type fuels, the initial temperature must be 110 °F, -0°, +5° or the maximum outside air temperature for which approval is requested, whichever is more critical.

The fuel system must be in an operational configuration that will yield the most adverse, that is, conservative results.

To comply with this requirement, the applicant must use the turbine fuel requirements and must substantiate these by flight-testing, as described in Advisory Circular AC 23-8B, Flight Test Guide for Certification of Part 23 Airplanes.

6. Powerplant—Fuel system—Fuel tank filler connection (Compliance with § 23.973(f) requirements):

In place of compliance with § 23.973(e) and (f), the applicant must comply with the following:

For airplanes that operate on turbine or diesel type fuels, the inside diameter of the fuel filler opening must be no smaller than 2.95 inches.

7. Powerplant—Fuel system—Fuel tank outlet (Compliance with § 23.977 requirements):

In place of compliance with § 23.977(a)(1) and (a)(2), the applicant will comply with the following:

There must be a fuel strainer for the fuel tank outlet or for the booster pump. This strainer must, for diesel engine powered airplanes, prevent the passage of any object that could restrict fuel flow or damage any fuel system component.

8. Equipment—General—Powerplant Instruments (Compliance with § 23.1305):

In addition to compliance with § 23.1305, the applicant will comply with the following:

The following are required in addition to the powerplant instruments required in § 23.1305:

(a) A fuel temperature indicator, or  
(b) An outside air temperature (OAT) indicator.

(c) An indicating means for the fuel strainer or filter required by § 23.997 to indicate the occurrence of contamination of the strainer or filter before it reaches the capacity established in accordance with § 23.997(d).

Alternately, no indicator is required if the engine can operate normally for a specified period with the fuel strainer exposed to the maximum fuel contamination as specified in MIL-5007D and provisions for replacing the fuel filter at this specified period (or a shorter period) are included in the maintenance schedule for the engine installation.

9. Operating Limitations and Information—Powerplant limitations—Fuel grade or designation (Compliance with § 23.1521 requirements):

All engine parameters that have limits specified by the engine manufacturer for takeoff or continuous operation must be investigated to ensure they remain within those limits throughout the expected flight and ground envelopes (e.g., maximum and minimum fuel temperatures, ambient temperatures, as applicable, etc.). This is in addition to the existing requirements specified by 14 CFR 23.1521(b) and (c). If any of those limits can be exceeded, there must be continuous indication to the flight crew of the status of that parameter with appropriate limitation markings.

Instead of compliance with § 23.1521(d), the applicant must comply with the following:

The minimum fuel designation (for diesel engines) must be established so that it is not less than that required for the operation of the engines within the limitations in paragraphs (b) and (c) of § 23.1521.

10. Markings and Placards—Miscellaneous markings and placards—Fuel, oil, and coolant filler openings (Compliance with § 23.1557(c)(1) requirements):

Instead of compliance with § 23.1557(c)(1), the applicant must comply with the following:

Fuel filler openings must be marked at or near the filler cover with—

For diesel engine-powered airplanes—

(a) The words “Jet Fuel”; and  
(b) The permissible fuel designations, or references to the Airplane Flight Manual (AFM) for permissible fuel designations.

(c) A warning placard or note that states the following or similar: “Warning—this airplane equipped with an aircraft diesel engine, service with approved fuels only.”

The colors of this warning placard should be black and white.

11. Powerplant—Fuel system—Fuel-Freezing:

If the fuel in the tanks cannot be shown to flow suitably under all possible temperature conditions, then fuel temperature limitations are required. These will be considered as

part of the essential operating parameters for the aircraft and must be limitations.

A minimum takeoff temperature limitation will be determined by testing to establish the minimum cold-soaked temperature at which the airplane can operate. The minimum operating temperature will be determined by testing to establish the minimum operating temperature acceptable after takeoff from the minimum takeoff temperature. If low temperature limits are not established by testing, then a minimum takeoff and operating fuel temperature limit of 5 °F above the gelling temperature of Jet A will be imposed. The low temperature limit may be 5 °F above the gelling temperature of Jet A with fuel additives, if the additives are included in the limitations section of the Airplane Flight Manual. A display in the cockpit of either fuel temperature or outside temperature is required.

12. Powerplant Installation—One cylinder inoperative:

It must be shown by test or analysis, or by a combination of methods, that the airframe can withstand the shaking or vibratory forces imposed by the engine if a cylinder becomes inoperative. Diesel engines of conventional design typically have extremely high levels of vibration when a cylinder becomes inoperative.

No unsafe condition will exist in the case of an inoperative cylinder before the engine can be shut down. The resistance of the airframe structure, propeller, and engine mount to shaking moment and vibration damage must be investigated. It must be shown by test or analysis, or by a combination of methods, that shaking and vibration damage from the engine with an inoperative cylinder will not cause a catastrophic airframe, propeller, or engine mount failure.

13. Powerplant Installation—High Energy Engine Fragments:

It may be possible for diesel engine cylinders (or portions thereof) to fail and physically separate from the engine at high velocity (due to the high internal pressures). This failure mode will be considered possible in engine designs with removable cylinders or other non-integral block designs. The following is required:

(1) It must be shown by the design of the engine that engine cylinders, other engine components or portions thereof (fragments) cannot be shed or blown off of the engine in the event of a catastrophic engine failure; or

(2) It must be shown that all possible liberated engine parts or components do not have adequate energy to penetrate engine cowlings; or

(3) Assuming infinite fragment energy, and analyzing the trajectory of the probable fragments and components, any hazard due to liberated engine parts or components will be minimized and the possibility of crew injury eliminated. Minimization must be considered during initial design and not presented as an analysis after design completion.

Issued in Kansas City, Missouri, on July 2, 2009.

**Scott A. Horn,**

*Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.*

[FR Doc. E9-16476 Filed 7-10-09; 8:45 am]

**BILLING CODE 4910-13-P**

## **SOCIAL SECURITY ADMINISTRATION**

### **20 CFR Parts 404 and 416**

[Docket No. SSA-2009-0023]

**RIN 0960-AH01**

### **Attorney Advisor Program Sunset Date Extension**

**AGENCY:** Social Security Administration.

**ACTION:** Final rule.

**SUMMARY:** We are extending for two years our rule authorizing attorney advisors to conduct certain prehearing procedures and to issue fully favorable decisions. The current rule is scheduled to expire on August 10, 2009. In this final rule, we are extending the sunset date to August 10, 2011. We are making no other substantive changes.

**DATES:** This final rule is effective July 13, 2009.

**FOR FURTHER INFORMATION CONTACT:**

Marilyn Hull, Social Security Administration, 5107 Leesburg Pike, Falls Church, VA 22041-3260, 703-605-8500 for information about this final rule. For information on eligibility or filing for benefits, call our national toll-free number, 1-800-772-1213 or TTY 1-800-325-0778, or visit our Internet site, Social Security Online, at <http://www.socialsecurity.gov>.

**SUPPLEMENTARY INFORMATION:**

#### **Electronic Version**

The electronic file of this document is available on the date of publication in the **Federal Register** at <http://www.gpoaccess.gov/fr/index.html>.

## **Background**

On August 9, 2007, we issued an interim final rule permitting some attorney advisors to conduct certain prehearing procedures. 72 FR 44763. We instituted this practice to enable us to provide more timely service to the increasing number of applicants for Social Security disability benefits and SSI payments based on disability. We considered the public comments we received on the interim final rule and, on March 3, 2008, issued the rule without change as a final rule. 73 FR 11349. Under this rule, attorney advisors may develop claims and, in appropriate cases, issue fully favorable decisions.

We included in the interim final rule a provision that the program would end on August 10, 2009, unless we decided to either terminate the rule earlier or to extend it beyond that date. We explained that we would announce any such termination or extension by publishing a final rule. 72 FR 44763, 44764 (August 10, 2007).

## **Explanation of Changes**

The number of requests for hearings has increased significantly in recent years, and we expect that trend to continue. While we are pursuing a number of initiatives to address this increase, it will take time to feel the full effects. The attorney advisor program is an important part of our ongoing efforts to decide cases efficiently, issue decisions timely, and reduce the number of claims pending at the hearing level. Accordingly, we have decided to extend the attorney advisor rule for two more years, until August 10, 2011. As before, we are reserving the authority to end the program earlier, or to extend it, by publishing a final rule in the **Federal Register**.

We are also making a minor editorial change to the language in this rule. We are changing the term “wholly favorable” to “fully favorable” in §§ 404.942 and 416.1442, for clarity and consistency.

## **Regulatory Procedures**

### *Justification for Issuing Final Rule Without Notice and Comment*

We follow the Administrative Procedure Act (APA) rulemaking procedures specified in 5 U.S.C. 553 when developing regulations. Section

702(a)(5) of the Social Security Act, 42 U.S.C. 902(a)(5). The APA provides exceptions to its notice and public comment procedures when an agency finds there is good cause for dispensing with such procedures because they are impracticable, unnecessary, or contrary to the public interest. We have determined that good cause exists for dispensing with the notice and public comment procedures for this rule. 5 U.S.C. 553(b)(B). Good cause exists because this final rule only extends the sunset date of an existing rule. It makes no substantive changes to the rule. The current regulations expressly provide that we may extend or terminate this rule. Therefore, we have determined that opportunity for prior comment is unnecessary, and we are issuing this rule as a final rule.

In addition, because we are not making any substantive changes to an existing rule, there is good cause for dispensing with the 30-day delay in the effective date of a substantive rule provided by 5 U.S.C. 553(d)(3). To ensure that we have uninterrupted authority to use attorney advisors to reduce the number of pending cases at the hearing level, it is in the public interest to make this final rule effective on the date of publication.

### *Executive Order 12866*

We have consulted with the Office of Management and Budget (OMB) and determined that this final rule does not meet the criteria for a significant regulatory action under Executive Order 12866 and was not subject to OMB formal review.

### *Regulatory Flexibility Act*

We certify that this final rule will not have a significant economic impact on a substantial number of small entities as it affects only persons. Therefore, a regulatory flexibility analysis is not required under the Regulatory Flexibility Act, as amended.

### *Paperwork Reduction Act*

This final rule contains reporting requirements in the regulation sections listed below. However, because there are fewer than ten respondents for each section, the Paperwork Reduction Act of 1995 does not require us to seek OMB clearance for these sections.