CT7-2E1 SERVICE BULLETIN - 73-0007 R00

Revised: 11/02/2022
Issued: 11/02/2022

SB 73-0007 R00 ENGINE FUEL AND CONTROL - FUEL SYSTEM (73-00-00) - APPROVED FUELS AND FUEL ADDITIVES

GE Designated: -CONFIDENTIAL-

1. PLANNING INFORMATION

A. Effectivity

* * * CT7-2E1

This Service Bulletin is applicable to all CT7-2E1 engines.

B. Description

This Service Bulletin provides operators with a reference to GE specification D50TF2 that lists acceptable fuels, minimum fuel properties and approved fuel additive testing requirements for TS_1 fuel and requirements for emergency fuels for use in all CT7-2E1 engines.

C. Compliance

Category 9

This Service Bulletin is issued for information only.

Impact F

Implement as deemed necessary per the Service Bulletin Category.

D. Concurrent Requirements

None.

E. Reason

(1) Objective:

To provide a reference to a list of acceptable fuels, minimum fuel properties and approved fuel additives for use in applicable CT7-2E1 engines included in this Service Bulletin.

(2) Condition:

The fuels and additives certified for use in CT7-2E1 engines are specified in GE Specification D50TF2, Revision S21 or later. GE Specification D50TF2 was not readily available to all operators. In addition, this document provides inspection and sampling requirements if TS-1 fuel or Confederation of Independent States (CIS) additives are used.

(3) Cause:

The GE specification D50TF2 became available to all operators.

(4) Improvement:

This Service Bulletin provides a reference to the common GE Specification D50TF2 that provides minimum fuel requirements and approved additives for use in all CT7-2E1 engines.

(5) Substantiation:

Substantiation is by analysis, test, comparative analysis and field experience.

With the exception of TS-1 fuel and CIS additives, all fuels and additives listed meet GE specification D50TF2. Use of TS_1 fuel and CIS additives is substantiated by the successful operational experience on the CF6, CFM56 and GE90 engine families.

F. Approval

The data contained in this Service Bulletin has been reviewed by the FAA or authorized entity representing the FAA and the repair(s) and modification(s) herein comply with the applicable Aviation Regulations and are APPROVED for installation in the model(s) listed in this Service Bulletin.

G. Manpower

No additional man-hours are required to comply with this Service Bulletin.

H. Weight and Balance

Weight and balance are not changed.

I. References (Use the latest version of these documents)

CT7-2E1 Service Bulletin 71-0000, Power Plant - General (71-00-00) - Consolidated On-Wing Inspection Recommendations and Servicing Tasks List
GE Specification D50TF2 (Available at myGEAviation.com)

J. Publications Affected

None.

K. Interchangeability

Not applicable.

L. Software Accomplishment Summary

Not applicable.

2. MATERIAL INFORMATION

A. Material - Price and Availability

(1) Parts necessary to do this Service Bulletin:
None.
(2) Other Spare Parts:
None.
(3) Consumables:
None.

B. Industry Support Information

None.

C. Configuration Chart

Not applicable.

D. Parts Disposition

None.

E. Tooling - Price and Availability

None.

3. ACCOMPLISHMENT INSTRUCTIONS

A. General - Minimum Requirements and Minimum Property Requirements

CAUTION: FUEL FOR SERVICING ENGINES MUST BE HANDLED WITH GOOD HOUSEKEEPING PRACTICES. FUEL SHOULD BE PASSED THROUGH A FILTER/SEPARATOR AND COALESCE WHEN DELIVERED TO AIRCRAFT FUEL TANKS.

NOTE: No adjusting, draining, or flushing of the fuel system is required when you change from one fuel to another.

(1) GE Specification D50TF2, Revision S21 or later is available on the my.geaviation.com portal in the Documents widget, Technical Presentations - Reference Materials section.

(2) The engine shall operate satisfactorily when using fuels and additives which specifications conform to GE Specification D50TF2, Revision S21 or later.

B. Fuels Conforming to Minimum Property Requirements

(1) Grade TS-1 fuel is listed in Gosudarstvennye Standarty State Standard Russian (GOST) 10227-86 and GSTU 320.00149943.011-99, and is the main commercial aviation gas turbine fuel in Russia and the Ukraine. Grade TS-1 is in compliance with GE D50TF2 Minimum Property Requirements except for the test method for Thermal Stability. Grade TS-1 is tested for thermal stability by GOST Test Method 11802, a static test method, which measures the insoluble gums in the fuel. The Minimum Property Requirements require a dynamic or fuel flowing test such as American Society for Testing and Materials (ASTM) D 3241 for the measurement of thermal stability. In consequence, the engine operator can use TS-1 if the following steps are taken:

(a) Test a fuel sample obtained from the airport storage tanks prior to initiation of service. Test to be used should be ASTM D 3241, but test method GOST 17751 can also be used. If the results of this test, using test method GOST 17751, exceed the specification requirement for GOST 10227-86 or GSTU 320.00149943.007-97, Grade RT fuel, then the fuel must be retested using ASTM D 3241 test method. Provide this test data to your local GE Field Service Engineer to be sent to the CT7 Product Support Engineering (PSE).

(b) Once operations to the airport have commenced, the operator shall test TS-1 fuel obtained from the aircraft fuel tank at least four times a year, and at equal time intervals, for dynamic thermal stability according to the ASTM D 3241 test method or test method GOST 17751. If the results of this test, using test method GOST 17751,

exceed the specification requirement for GOST 10227-86 or GSTU 320.00149943.007-97, Grade RT fuel, then the fuel must be retested using ASTM D 3241 test method. Provide this test data to your local GE Field Service Engineer to be sent to CT7 PSE.

(c) Requirements for fuel system component cleaning or scheduled inspections are listed in CT7-2E1 Service Bulletin 71-0000.

C. Emergency Fuels

(1) Operation of CT7-2E1 gas turbine engines on fuels that do not comply with the minimum requirements for approved fuels (paragraph 3.A.), is not recommended.

(2) Hydraulic Fluid Contamination - Phosphorous ester based aircraft hydraulic fluids occasionally leak into the fuel tanks. These hydraulic fluids can damage fuel system elastomeric materials and when burned in the engine combustor produce phosphoric pentoxide acids that can damage hot section flow-path materials. GE Aviation should be consulted on a case-by-case basis for remedial actions.

(3) Refinery Process Colored Fuels - The normal color of aviation turbine kerosene ranges from water white (Saybolt +30) to straw yellow (Saybolt -23). Occasionally delivered fuel will have a different color due to refinery processes. These colors have been reported as "pink, green, red, blue", and in various hues of these colors. A test to determine if the source of the color is due to manufacture is to put a sample of the fuel into a container made of a transparent material (glass or suitable plastic) and expose the sample to direct sunlight for at least one hour. If the color fades out, then the source of the color is from the manufacturing processes, and the fuel can safely be used. If the color does not fade out, the operator should contact his supplier immediately to determine the source of contamination, and contact your local GE Field Service Representative for further guidance.

D. Prohibited Fuels

(1) Operation of CT7 engines on certain fuels, as specified below, is prohibited and cannot be approved even for use on an emergency basis.

NOTE: Non-inclusion of specific fuels in this paragraph must not be interpreted to imply that the fuel is permitted for emergency use.

(2) DO NOT USE D50TF2 CLASS A, C, D or E FUELS WHEN OPERATING ENGINE AT FUEL INLET TEMPERATURES BELOW -40°C (-40°F)/12 CENTISTOKES.