

**Subject:** Determining Installation Eligibility of installed AAE Cargo Fire Protection System Kits and Line Replaceable Units; and of Serviced and Replacement Parts.

**SB Number:** TFA10-26-0016, Revision A, **Date:** July 12, 2013.

## ATTENTION

**Purpose:** This Service Bulletin provides instructions for the installation of serviced and replacement parts and for the inspection of the currently installed AAE, LTD Fire Protection System (FPS) Kits and its Line Replacement Units (LRU's) to identify and replace any LRU's that are not "eligible" for installation with the AAE Cargo FPS because these Kit or part numbers are not shown in AAE's STC and its approved Type Design.

This AAE LTD Service Bulletin includes recommendations and tools to assist the operator/installer in making the required determination(s) for each LRU that is currently installed, or is to be installed, with the AAE Cargo FPS as well as for spare parts that are maintained for future use in the AAE FPS.

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**AAE's Intellectual Property:** AAE's STC'd Type Design Data is Proprietary and Confidential to AAE, Ltd and is not supplied to vendors or repair facilities unless authorized in writing by AAE. Therefore, unless in possession of written permission from AAE to use AAE's Type Design data to manufacture or maintain the AAE parts, **vendors and repair facilities cannot provide approved parts that are eligible for installation with the AAE STC Modification.**

**Applicability:** Transport Category Aircraft Models DC-9-10, -21, -30 Series, -41, -51 and DC-9-81, -82, -83, -87, MD-88 and MD-90-30 with Cargo Fire Protection Kits installed using AAE's Type Design approved by FAA STC No's: ST01455AT or ST01138WI.

**Compliance:** Mandatory

**Time of Compliance:** Recommended at next scheduled maintenance check.

**Pricing and Lead Time:** Contact AAE for current pricing on replacement parts. AAE strives to maintain an adequate level of inventory needed to satisfy the requirements of this service bulletin. However, lead time will vary based on AAE's workload and available inventory.

Contact AAE to obtain a Return Material Authorization (RMA) number then send parts needing service to AAE, LTD. Service prices will be determined upon receipt at AAE. Standard lead time is 45 days ARO, however, expedited lead times are available.

**LRU'S :** Below is a list of affected LRU's. Refer to the applicable AAE Master Drawing List, Bill of Materials, and "Inspection Form" on page 8 of this SB for the specific eligible part numbers. These parts are "critical" and the use of alternate part numbers is not allowed by AAE's FAA approved Type Design.

|                      |                                       |
|----------------------|---------------------------------------|
| Control Panel        | Extinguisher Bottle(s) and it's squib |
| Smoke Detectors      | Diverter Valve and it's squibs        |
| Fault Panel Assembly | Metering Valve                        |
| Filter Assembly      |                                       |

**Life-Limitations and Maintenance Requirements:** The parts listed above have established "life-limits" and must be maintained in accordance with approved Instructions for Continued Airworthiness (ICA) requirements. Refer to the latest FAA approved revision of AAE's ICA's for a definition of the required time-sensitive maintenance actions.

### Definitions:

"Replacement Part" – when used throughout this SB is intended to mean

- those AAE LRU's installed into the AAE Cargo FPS in accordance with the AAE Type Design data approved by the FAA per AAE STC No. ST01455AT or ST01138WI on an FAA Type Certificated aircraft.

"Eligible" – when used throughout this SB is intended to mean

- included in AAE's STC and it's FAA approved Type Design Data for the affected make and model of aircraft, and
- is listed in the AAE Type Design's applicable Kit configuration for installation on the affected make and model aircraft, and
- is airworthy (conforms to AAE's Type Design and in a condition for safe operation).

"Ineligible" – when used throughout this SB is intended to mean

- is not included in AAE's STC and it's FAA approved Type Design Data for the affected make and model of aircraft, or
- is not listed in the AAE Type Design's applicable Kit configuration for installation on the affected make and model aircraft, or
- is unairworthy (doesn't conform to AAE's Type Design or is not in a condition for safe operation).

**Reference Documents:**

- a. AAE Supplemental Type Certificate (STC) Number ST01455AT and ST01138WI
- b. AAE Master Drawing List (MDL) TFA10-0051, Revision VV dated 04/27/12 or it's later FAA approved revision (For STC No. ST01455AT).
- c. AAE Bill of Materials (BOM)TFC07-0042, Revision U dated 07/27/11, or it's later FAA approved revision (For STC No. ST01455AT).
- d. AAE Master Drawing List TFA10-0058, Revision M dated 04/27/12 or it's later FAA approved revision (For STC No. ST01138WI)
- e. AAE Bill of Materials TFC07-0072, Revision C dated 07/27/11 or it's later FAA approved revision (For STC No. ST01138WI)
- f. AAE Instructions for Continued Airworthiness, TFA18-0076, Revision E dated 10/22/03 or it's later FAA approved revision.
- g. FAA Advisory Circular AC No. 20-62E "Eligibility, Quality, and Identification of Aeronautical Replacement Parts" dated 12/23/10

**Approval:** The AAE STC, and its type design data, used to accomplish this Service Bulletin are approved by the Federal Aviation Administration (FAA), EASA, and other foreign Civil Aviation Authorities. Check with AAE for details on the extent of approvals by these agencies.

**Background:**

It has come to AAE's attention that some replacement parts being installed into the AAE Cargo FPS are not eligible because their part numbers are not shown in AAE's Type Design and/or are not marked with the AAE Part Number; and/or have an FAA Form 8130-3 showing a Non-AAE part number in Block 8. This may be because some operators or MRO's have:

1. Purchased replacement part(s) directly from vendors other than AAE, or
2. Sent parts for repair, overhaul, or service to unapproved repair stations.

The actions listed above are improper use of AAE's STC Design Data; and result in the use of parts that do not conform to the specifications of AAE's Type Design. By definition of "airworthy", such replacement parts are considered "unairworthy". The use of unairworthy parts renders the entire AAE FPS unairworthy.

If any part installed into the AAE Cargo FPS is not marked with the eligible AAE part number, the performance of the AAE FPS kit cannot be substantiated as conforming to AAE's Type Design and the applicable standards of the FAA and of other Civil Aviation Authorities (CAA's) for the AAE Type Design which they have accepted or validated as set forth in Treaties or Bi-lateral Agreements between foreign CAA's with the United States. When an AAE Cargo FPS modification kit installed on the aircraft does not conform to its Type Design, then by definition of "airworthy", the AAE Cargo FPS is "unairworthy"; and subsequent operations of the aircraft which require an airworthy cargo FPS is not advised.

AAE is the DAH and PAH for the Cargo Fire Protection Systems installed in accordance with STC No. ST01455AT and ST01138WI. Each of these STC's includes FAA approved Design Data that defines the part numbers that are eligible for installation and how to install them. The eligible part numbers are identified by the AAE part number only and are shown on the current AAE STC Master Drawing List, Bill of Materials, and Instructions for Continued Airworthiness.

LRU's used in AAE's Cargo FPS may be marked with two different part numbers. One is the AAE PMA part number and the other is the vendor part number. AAE's FAA Parts Manufacturing System does not allow direct shipment from AAE's vendors to installers/users of the AAE FPS Kits installed on aircraft. Only parts marked with the AAE part number as shown in our current Type Design and Data are eligible for installation with the AAE Cargo FPS.

**IMPORTANT:** Alternate part numbers, including parts marked only with the vendor part number, are not eligible for installation into the AAE Fire Protection System because the vendor part numbers are not listed in the current FAA Approved AAE STC Master Drawing List, Bill of Materials, ICA's etc...and cannot be traced back to AAE's Type Design.

**IMPORTANT:** There are NO EQUIVALENT PARTS eligible to be installed with the AAE Cargo FPS.

**NOTE:** Some LRU's may carry a TSO approval or other approval. This TSO, or other approval, does not constitute approval or eligibility for installation with the overriding AAE STC and its Cargo FPS Type Design.

### **FAA Guidance:**

FAA Advisory Circular No. 21-29C: Detection and Reporting Suspected Unapproved Parts, Change 2, dated 8-17-2011.

The following excerpt is taken directly from FAA Advisory Circular AC No. 21-29C.

*"To determine that the installation of a part complies with the applicable regulations, the installer of the part is ultimately responsible for establishing that the part conforms to its type design and is in a condition for safe operation (Airworthy)." (Ref. AC 21-29C, Page 7, Paragraph 6(5)(b) "Airworthy".)*

FAA Advisory Circular No. 20-62E: Eligibility, Quality, and Identification of Aeronautical Replacement Parts, Dated 12-23-2010.

The following excerpts are taken directly from FAA Advisory Circular AC No. 20-62E. Certain sections are bolded or underlined for emphasis.

*"The FAA continues to receive reports of replacement parts being offered for sale as aircraft quality when the quality and origin of the parts are unknown or questionable . Such parts may be advertised or presented as unused, like new, or remanufactured. These imply that the quality of the parts is equal to an acceptable part. Purchasers of these parts may not be aware of the potential hazards involved with replacement parts for which **acceptability for installation on a TC'd product has not been established.**"*

*“The continued airworthiness of an aircraft, which includes the replacement of articles, is the responsibility of the owner/operator, as specified in parts 91, 119, 121, 125, and 135; and §§91.403, 121.363, 125.243 and 135.413. These rules require that the installer determine that an article is eligible for installation on a product or component prior to returning that product or component to service with the part installed. Those rules also require that the installation of a part must be accomplished in accordance with **data approved by the FAA**, if the installation constitutes a major repair or alteration.”*

*“As part of determining whether installation of an article conforms with all applicable regulations, the installer should establish that the article was manufactured under a production approval pursuant to part 21, that an originally acceptable part has been maintained in accordance with part 43, or that the part is otherwise eligible for installation (i.e., has been found to **conform to data approved by the FAA**).”*

### **Accomplishment Instructions:**

Before installing a replacement part into the AAE Cargo FPS the installer should determine if the replacement part is NEW or USED, and that the AAE part number is eligible for installation with the AAE Kit and Kit configuration installed on the aircraft.

AAE provides new Kits and spare parts that are eligible for installation with its Kit configurations, as defined in the applicable AAE Master Drawing List, on the user/operator's aircraft.

NEW Kits and Parts: AAE provides new Kits and spare parts to user/operators.

For new Kits, the LRU's and parts contained in AAE's Kits are supplied in NEW condition. The Kit is provided with an FAA Form 8130-3 form that covers all of the parts in the kit and shows the Kit is eligible for installation on the aircraft make, model, and configuration specified in the user/operator's purchase order and by their other requirements.

When spare parts are provided by AAE, they are supplied in NEW condition and are accompanied by an FAA form 8130-3 tag showing the eligible AAE part number of the spare part in Block 8. AAE verifies the spare part is eligible for installation on the aircraft make, model, and configuration specified in the user/operator's purchase order and by their other requirements.

USED Parts: AAE provides used LRU's as replacement parts to its customers.

When these replacement parts are USED, they are presented to the user/operator as serviceable, repaired, inspected, modified, or overhauled and are accompanied by an FAA form 8130-3 tag showing the eligible AAE part number of the replacement part in Block 8. AAE verifies the part is eligible for installation on the aircraft make, model, and configuration specified in the user/operator's purchase order and by their other requirements.

**IMPORTANT:** The FAA Form 8130-3 “Airworthiness Tag” does not automatically constitute authorization to install the part or kit. And, it is the installer’s responsibility to verify eligibility of the part/kit with the applicable technical data. With AAE’s Kits and Parts, the accompanying FAA Form 8130-3 identifies the part by its part number, serial number, and applicable technical data and can be used by the installer to cross check the part to AAE’s applicable technical data.

To make the determination that a part is eligible for installation with the AAE Cargo FPS, the installer should verify the kit or part is:

- (1) marked with the AAE Part Number,
- (2) has an accompanying FAA Form 8130-3 with the
  - (2a) AAE Part Number shown in Block 8, or
  - (2b) AAE “Kit” Part Number shown in Block 8 when the part is included as part of a complete AAE Modification Kit, and
- (3) using the FAA Form 8130-3, verify the part number shown in Block 8 is also shown on AAE’s STC Master Drawing List, Bill of Materials, or ICA’s and is applicable for the aircraft’s make and model, and also for the Kit configuration installed on the aircraft.

The part is considered “ineligible” for installation with the AAE Cargo FPS when it does not meet all of the above three (3) conditions.

**The installer of a replacement part should accomplish the following actions:**

- (A) Inspect the Maintenance Records and, using the “Inspection Form” on Page 8 of this SB, and record the AAE Kit Part Number (i.e. TFK MD-83-400.....) for the AAE Cargo FPS Configuration installed on the aircraft.
- (B) Refer to the latest FAA approved Master Drawing List, the Bill of Materials, and the applicable Installation Drawings to determine the kit configuration, applicable parts, and their locations.
- (C) Using the “Inspection Form” on Page 8 of this SB, inspect the installation and document the AAE Part Number of the LRU components installed on the aircraft. Every LRU should be marked with a correct and eligible AAE part number. If not, the part should be replaced with a part that is eligible. Contact AAE to obtain an eligible replacement part or before performing maintenance actions on any part that needs to be serviced.
- (D) For each of these LRU components, examine the maintenance records, specifically the latest FAA Form 8130-3 Airworthiness Certificate, to verify the eligible AAE part number is in Block 8. Or was provided as part of the complete kit assembly where the AAE Kit Part Number is shown in Block 8 and the part is listed in the accompanying AAE Kit Material List. If not, the part should be replaced with a part that is eligible. Contact AAE to obtain an eligible replacement part or before performing maintenance actions on any part that needs to be serviced.

- (E) Send the completed "Inspection Form" on Page 8 to AAE, LTD for assistance in verifying the installed components are eligible for installation with the specific AAE Kit configuration installed on your aircraft. You may contact AAE, LTD for assistance in completing the actions of this Service Bulletin.

**AAE, LTD**

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**Additional Information:**

- TO ENSURE PARTS ARE "ELIGIBLE" FOR INSTALLATION WITH THE AAE CARGO FPS, PLEASE OBTAIN ALL CARGO FPS REPLACEMENT PARTS FROM AAE; AND SEND ALL CARGO FPS PARTS DIRECTLY TO AAE FOR REPAIR OR OVERHAUL.
- AAE LTD. WAIVES ALL WARRANTIES, RESPONSIBILITY, OR LIABILITY FOR THE PERFORMANCE OF ANY AAE LTD. CARGO FPS PART OR AAE KIT THAT CONTAINS INELIGIBLE PARTS.
- CUSTOMERS MAY RETURN SUSPECTED INELIGIBLE PARTS TO AAE, LTD. TO DETERMINE IF THEY CAN BE RECERTIFIED OR IF THEY HAVE A CORE VALUE. PLEASE CONTACT AAE, AS SHOWN ABOVE, FOR A RETURN MATERIAL AUTHORIZATION NUMBER.
- THE EXTINGUISHER BOTTLES AND DIVERTER VALVES ARE CONSIDERED DANGEROUS GOODS AND SHOULD BE SHIPPED PROPERLY. DO NOT EMPTY THE BOTTLES OR FIRE THE SQUIBS BEFORE FIRST CONTACTING AAE. DOING SO COULD DESTROY THE CORE VALUE OF THE PART.
- CORE CREDIT OF THE INELIGIBLE PART(S) MAY BE AVAILABLE. CREDIT VALUE CAN ONLY BE DETERMINED UPON RECEIPT OF THE PART(S) BY AAE LTD.
- NOTE: THE EXTINGUISHER BOTTLES (AND THEIR SQUIBS), THE DIVERTER VALVE (AND ITS SQUIBS), AND THE METERING VALVE ARE "LIFE-LIMITED" ITEMS. REFER TO THE LATEST FAA APPROVED INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR THE REQUIRED MAINTENANCE AND INTERVALS.
- REMOVAL AND REPLACEMENT OF PARTS USED WITH THE AAE CARGO FPS SHOULD BE ACCOMPLISHED IN ACCORDANCE WITH AAE'S LATEST FAA APPROVED INSTRUCTIONS FOR CONTINUED AIRWORTHINESS AND ITS SYSTEM MAINTENANCE MANUAL.

**INSPECTION FORM***(Complete all shaded areas applicable to your installation and return the completed/signed copy to AAE, LTD 'DAH/PAH' holder at the address on Page 1)*

|  |
|--|
| <b>AIRCRAFT OWNER:</b>                     |
| <b>AIRCRAFT OPERATOR:</b>                  |
| <b>AIRCRAFT MODEL NUMBER:</b>              |
| <b>AIRCRAFT SERIAL NUMBER/TAIL NUMBER:</b> |
| <b>AAE KIT PART NUMBER:</b>                |
| <b>AAE KIT SERIAL NUMBER:</b>              |

|   |                                |
|---|--------------------------------|
|   | <b>REVISION<br/>LEVEL/DATE</b> |
| <b>AAE STC NO. INSTALLED:</b>                 |                                |
| <b>MASTER DRAWING LIST NO:</b>                |                                |
| <b>BILL OF MATERIALS NO:</b>                  |                                |
| <b>AAE RETURN MATERIAL AUTHORIZATION NO.:</b> |                                |

| DESCRIPTION   | ELIGIBLE AND APPROVED<br>PART NUMBER(S)  | P/N AND S/N<br>INSTALLED<br>(MARKED ON<br>COMPONENT) | LOCATION<br>INSTALLED | DATE OF<br>MFG | DATE OF<br>LAST<br>SERVICE/<br>REPAIR | PART NUMBER<br>SHOWN IN BLOCK<br>8 OF FAA FORM<br>8130-3 | NOTES AND COMMENTS |
|---|--|--|-----------------------|----------------|---------------------------------------|--|--------------------|
| <b>CARGO<br/>DETECTION/<br/>SUPPRESSION<br/>PANEL</b> | TFC12-0050-()<br>TFC12-0052-()<br>TFC12-0053-()<br>TFC12-0054-()<br>TFC12-0061-()<br>TFC12-0064-()<br>TFC12-0077-()<br>TFC12-0078-() |  |                       |                |                                       |  |                    |
| <b>FAULT PANEL<br/>ASSEMBLY</b>                       | TFC12-0051-()<br>TFC12-0055-()<br>TFC12-0058-()  |  |                       |                |                                       |  |                    |
| <b>SMOKE<br/>DETECTORS</b>                            | TFC13-0021-()<br>TFC13-0023-()<br>TFC13-0024-()  |  |                       |                |                                       |  |                    |



**Smoke Detectors (Continued)**

|   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| Detector 1                                      |  |  |  |  |  |  |  |
| Detector 2                                      |  |  |  |  |  |  |  |
| Detector 3                                      |  |  |  |  |  |  |  |
| Detector 4                                      |  |  |  |  |  |  |  |
| Detector 5                                      |  |  |  |  |  |  |  |
| Detector 6                                      |  |  |  |  |  |  |  |
| Detector 7                                      |  |  |  |  |  |  |  |
| Detector 8                                      |  |  |  |  |  |  |  |
| Detector 9                                      |  |  |  |  |  |  |  |
| Detector 10                                     |  |  |  |  |  |  |  |
| Detector 11                                     |  |  |  |  |  |  |  |
| Detector 12                                     |  |  |  |  |  |  |  |
| <b>EXTINGUISHER<br/>BOTTLE(S) AND<br/>SQUIB</b> | TFC14-0039-( )<br>TFC14-0045-( )<br>TFC14-0047-( )<br>TFC14-0048-( )<br><br>Squib 30903852 |  |  |  |  |  |  |
| Bottle 1  |  |  |  |  |  |  |  |
| Bottle 1's Squib                                |  |  |  |  |  |  |  |
| Bottle 2  |  |  |  |  |  |  |  |

**EXTINGUISHER BOTTLE(S) AND SQUIB (Continued)**

|                               |  |  |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|--|--|
| Bottle 2's Squib              |  |  |  |  |  |  |  |
| Bottle 3<br>(If installed)    |  |  |  |  |  |  |  |
| Bottle 3's Squib              |  |  |  |  |  |  |  |
| Bottle 4<br>(If installed)    |  |  |  |  |  |  |  |
| Bottle 4's Squib              |  |  |  |  |  |  |  |
| <b>DIVERTER VALVE</b>         | TFC16-0027<br>TFC16-0028-( )<br>TFC16-0029-( )   |  |  |  |  |  |  |
| FWD Squib –<br>Diverter Valve | TFC16-0027<br>(Squib P/N 30903889)<br>TFC16-0028-( )<br>(Squib P/N 30903889)<br>TFC16-0029-( )<br>(Squib P/N 30903852) |  |  |  |  |  |  |
| MID Squib –<br>Diverter Valve | TFC16-0027 (N/A)<br>TFC16-0028-( )<br>(Squib P/N 30900000M)<br>TFC16-0029-( ) (N/A)                                    |  |  |  |  |  |  |
| AFT Squib –<br>Diverter Valve | TFC16-0027<br>(Squib P/N 30903852)<br>TFC16-0028-( )<br>(Squib P/N 30903852)<br>TFC16-0029-( )<br>(Squib P/N 30903889) |  |  |  |  |  |  |
| <b>METERING VALVE</b>         | TFC16-0026-( )<br>TFC16-0031-( )   |  |  |  |  |  |  |
| <b>FILTER ASSEMBLY</b>        | N/A  |  |  |  |  |  |  |

|                       |                         |                   |               |
|-----------------------|-------------------------|-------------------|---------------|
| <b>DATE COMPLETE:</b> | <b>BY:</b> (Print Name) | <b>SIGNATURE:</b> | <b>TITLE:</b> |
|-----------------------|-------------------------|-------------------|---------------|