

4-YEAR LIMITED WARRANTY

MAINTENANCE MANUAL

P.E.D. FIRE-SAFE

AVIATION SERIES



**PART NUMBERS -FCC-PFS-20-BK, FCC-PFS-20-TN, FCC-PFS-20-CUS
FCC-PFS-18-BK, FCC-PFS-18-TN, FCC-PFS-18-CUS
FCC-PFS-16-BK, FCC-PFS-16-TN, FCC-PFS-16-CUS**

e-mail: Info@fconcepts.com For latest product manuals: www.fconcepts.com



P.E.D. FIRE-SAFE MAINTENANCE MANUAL

PREFACE

Revision Control is accomplished in accordance with Federal Aviation Regulations [Part 21]. Revisions to this manual shall be prepared by the Manufacturing Process Manager, having a revision number, revision bars, date, and page numbers being revised. Revisions to this manual shall be consecutively numbered, and logged on the Log of Revisions page of the Preface.

In order to facilitate efficient and effective recordkeeping and ensure that all Customers are utilizing the most current manuals, a Revision Notice will be noted on the website www.fcconcepts.com under Revision Tab indicating the most recent revision to the P.E.D. FIRE-SAFE Maintenance Manual. It is the sole responsibility of the Customer to ensure they are utilizing the most current recommended maintenance procedures for any requirements.



P.E.D. FIRE-SAFE MAINTENANCE MANUAL

LOG OF REVISIONS

Revision #	Date	Page Numbers	Name
Original	04/01/2017	Original Issue	Brian Burkett
Revision 1	06/01/2017	All Pages	Brian Burkett
Revision 2	07/15/2017	All Pages	Brian Burkett
Revision 3	08/17/2017	All Pages	Brian Burkett
Revision 4	09/15/2017	All Pages	Brian Burkett
Revision 5	02/15/2018	All Pages	Brian Burkett

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>TASK #</u>	<u>EFFECTIVITY</u>	<u>PAGE</u>
Preface	N/A	ALL	P1
Log of Revisions	N/A	ALL	P2
Table of Contents	N/A	ALL	P3
Maintenance Task Requirements	26-60-00-001	ALL	P4
PED FIRE-SAFE Storage Case or Unit Mounting	26-60-00-101	ALL	P5 - P6
Removing the PED FIRE-SAFE (PFS) from Kydex Storage Case	26-60-00-201	ALL	P7
Installing the PED FIRE-SAFE in the Kydex Storage Container	26-60-00-301	ALL	P8
Annual Inspection Procedures	26-60-00-401	ALL	P9
Suppression Bladders removal & installation within the PFS	26-60-00-501	ALL	P10 - P11
Temperature Indicator Testing Procedures	26-60-00-601	ALL	P12
Temperature Indicator Battery Replacement (P/N- PED TI-V2) POST 08/01/17	26-60-00-701	ALL	P13
Temperature Indicator Battery Replacement P/N PED-TI-V1 & PED-T2-V1 PRE 08/01/17	26-60-00-701B	ALL	P14
Illustrated Parts Diagram	26-60-00-801	ALL	P15 - P16
MEL PED FIRE-SAFE 25-60-1	25-60-1	ALL	P17
SOP Lithium Battery Safety EFB'S in Cockpit	SOP	ALL	P18
SOP General Fire-fighting Procedures of Lithium Batteries	SOP	ALL	P19 - P20
Four Year Warranty Information		ALL	P20 - P-21



P.E.D. FIRE-SAFE MAINTENANCE MANUAL

26-60-00-001

P.E.D. Fire-Safe (PFS) Maintenance Task Requirements

TASK NUMBER	FREQUENCY	DESCRIPTION
Task # 26-60-00-401	ANNUAL (12 MONTH)	Annual Inspection Procedures (12 month)
Task # 26-60-00-501	TEN (10) YEARS	Suppression Bladders removal & installation within the PED FIRE-SAFE (PFS)

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-101

P.E.D. Fire-Safe Storage Case Mounting or Direct Mounting

A) Reference Information

REFERENCE	DESIGNATION
N/A	N/A

B) Tools and Equipment

REFERENCE	DESIGNATION
P/N- PFS-20-TEMPLATE	20" PFS-Template
P/N- PFS-16-TEMPLATE	16" PFS-Template
P/N - 127759	4" wide adhesive backed fire-resistant hook Velcro
P/N -151405	(2) 2" Adhesive Back FR Hook Velcro Direct Mount
Commercially Available	Masking Tape
Commercially Available	isopropyl alcohol
Commercially Available	Lint free cloth
Commercially Available	Material Roller

C) Job Set-Up:

- 1) Obey the following safety precautions for cleaning.
 - Use safety goggles
 - Put on protective clothing
 - Do not let cleaning agents touch your skin, eyes, or mouth
 - Work in an area that has a good flow of clean air
 - Obey the manufacturer's instructions
 - Get medical aid if irritation occur
 - Cleaning agents can cause injuries.

NOTE: The P.E.D. Fire-Safe (PFS) Storage Case may be Velcro mounted in any suitable safe location which does not interfere with emergency egress procedures. The PFS may be mounted vertically or horizontally based on the needs of the individual installation.

2. Select the desired location to mount the P.E.D. Fire-Safe storage container or Direct Mount to ensure the installation allows for quick accessibility, does not obstruct emergency egress, effect the proper operation of seats, doors, overhead bins, or cabinets.

PED FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-001

The following are a few suggested areas within the aircraft where the units can be mounted

- Behind any seat in the passenger compartment
- In an overhead storage bin
- In a closet
- Under a seat or divan.
- In a cabinet or accessible cargo compartment
- Next to a flight attendant station on or near a bulkhead
- In a cockpit behind or adjacent to a crew seat.

NOTE: When selecting the location that the PED FIRE-SAFE unit will be mounted and stored within the aircraft the installer must ensure that any failure of the mounting system, which could occur, will not jeopardize the safety of passengers, crew members or the safe continuation of flight.

C) Procedures

1. After selecting desired mounting location of the PED FIRE-SAFE locate the provided template and follow the instructions to trim out the template as needed for your specific installation.
2. Complete a general cleaning of the location (see job set-up)
3. Install 1" Masking tape in the area noted in the template to prepare for Adhesive backed Velcro installation. And install in location,
4. Clean the surface exposed for Velcro installation to remove any traces of dirt grease, wax and silicone. Allow to thoroughly dry before proceeding. Failure to properly clean the surface prior to installation of the adhesive backed Velcro will most likely result in pre-mature failures.

NOTE: The Velcro will not adhere to carpet or fabric

5. Remove adhesive protection film from 4" or 2" Velcro hook strips and place in the template guided location. For optimal adhesion of the adhesive backing on the Velcro to the mounting surface the ambient temperature should be > 60° F or 16°C.
6. Utilizing a suitable roller, firmly seat the Velcro hook starting from the middle and working out to the edges of the Velcro.
7. Place the P.E.D. Fire-Safe Kydex Storage Case or direct mount unit in the selected location and firmly mate the Hook & Loop Velcro to complete the installation.
8. Inspect the final installation for security and accessibility.

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-201

1. Removing the P.E.D. Fire-Safe from the Kydex Storage Container

A. Reference Information

REFERENCE	DESIGNATION
N/A	N/A

B. Tools and Equipment

REFERENCE	DESIGNATION
N/A	N/A

C. Procedures

- (1) If the Kydex Storage Case is utilized, gain access to where the Unit is located within the aircraft.
- (2) Feed index finger through the inside RED webbing loop on the matching Kydex Plastic L Bracket located on top the Container or the full Plastic shield provided on certain custom ordered assemblies.
- (3) Applying moderate force pull the red webbing strap away from the Kydex storage separating the mated Velcro.
- (4) With light pulling pressure ensure Velcro does not reattach. Pull up on the strap to release the L bracket or full plastic shield from the provided groove on the back of the Kydex storage Case.
- (5) Grasp the Provided leather handles of the P.E.D. Fire-Safe and lift or pull the Unit by the handles from the Kydex Storage Case based on installation.

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-301

1. Installing the P.E.D. Fire-Safe in the Kydex Storage Case

A. Reference Information

REFERENCE	DESIGNATION
N/A	N/A

B. Tools and Equipment

REFERENCE	DESIGNATION
N/A	N/A

C. Procedures

- (1) Gain access to where the P.E.D. Fire-Safe and Kydex Storage Case is located within the aircraft.
- (2) Feed bottom of the P.E.D Fire-Safe assembly into the Kydex Storage Case opening.

NOTE: Ensure the handles, gloves, and user guide is correctly positioned to the P.E.D. Fire-Safe assembly. They can easily get hung up during the stowage procedure. Do not force the unit back into the case. If for any reason the bag does not easily fall into place look for obstruction most likely attach to the bag assembly.

- (3) After the P.E.D. Fire-Safe is fully seated at the bottom of the Kydex Storage Case fold both leather handles towards the front of the case.
- (4) Guide the rear tab strap of the L bracket or full plastic shield Tab into the provided groove on the back of the Kydex Storage Case. Make sure that tab slots are engaged during installation.
- (5) Re-mate Velcro located on the locking tab or full plastic shield to the front of the Kydex Storage Case with light force.

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-401

1. Annual Inspection Procedures (12 month)

A. Reference Information

REFERENCE	DESIGNATION
TASK # 26-60-00-201	Removing the PED FIRE-SAFE from the Storage Container
TASK # 26-60-00-301	Installing of the PED FIRE-SAFE into Storage Container.
TASK # 26-60-00-601	P.E.D Fire-Safe Temperature Indicator Testing Procedures

B. Tools and Equipment

REFERENCE	DESIGNATION
Commercially Available	Flashlight
Commercially Available	Wax Lubricant (Zipper Ease, Zip Tech wax)

C. Procedure

- (1) Remove the P.E.D. Fire-Safe from its Kydex Storage Case container [TASK #26-60-00-201](#).
- (2) Complete a general visual inspection for obvious damage to the P.E.D Fire-Safe System interior & exterior.
 - Ensure the containment bag is free from tears, cuts and abrasions and that all stitching is intact.
 - Ensure there are no loose or missing parts, handles are firmly attached
- (3) Test of the attached temperature indicator per [TASK #26-60-00-601](#)
- (4) Open the PED FIRE-SAFE upper flap to expose the zipper. Open the zipper with attached red zipper pull. Ensure zipper opens and closes without binding. If required lubricate the zipper teeth with non-flammable wax lubricant.
- (5) Inspect the inside of the P.E.D. Fire-Safe for general condition. Ensure the Suppression bladders are not leaking and correctly positioned inside of the webbing pockets. Verify the Velcro closures for the webbing pockets are closed. The printing on the bladders should not be visible through the individual web pockets.
- (6) Ensure the User Instruction Card is free from damage & attached to Carrying handle.
- (7) Confirm the fire-resistant gloves are attached to the front of the carry handle metal loop and are free from damage.
- (8) Verify the Kydex Storage Case is correctly installed and free from damage & defects.

NOTE: Ensure the power button is selected to off on the indicator. The temperature display nor indicator lights should be illuminated prior to reinstalling the PED FIRE-SAFE in its storage case.

- (9) Reinstall the P.E.D. Fire-Safe into the Kydex Storage Case ([TASK 26-60-00-301](#)).

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-501

1. Suppression Bladders removal and installation within the P.E.D. Fire-Safe

A. Reference Information

REFERENCE	DESIGNATION
TASK # 26-60-00-201	Removing the PED FIRE-SAFE from Kydex Storage Case.
TASK # 26-60-00-301	Installing the PED FIRE-SAFE into Kydex Storage Case.

B. Tools and Equipment

REFERENCE	DESIGNATION
FCConcepts/ Approved Vender	(P/N=FCC-RSD10-113008) Support Ring Tool 20" PFS (P/N=FCC-RSD9-113008) Support Ring Tool 18" PFS (P/N=FCC-RSD8-113008) Support Ring Tool 16" PFS
FCConcepts/ Approved Vender	(Part Number -PFS-20-BL-KIT) (9) nine self-contained extinguishing bladders)
FCConcepts/ Approved Vender	Part Number -PFS-18-BL-KIT (8) six self-contained extinguishing bladders)
FCConcepts/ Approved Vender	Part Number -PFS-16-BL-KIT (6) six self-contained extinguishing bladders)

C. Procedures

- (1) Remove the P.E.D. Fire-Safe from its Kydex Storage Case if applicable [TASK # 26-60-00-201](#).
- (2) Open the PED FIRE-SAFE and insert appropriate Support Ring Tool into the zippered opening of the P.E.D. Fire-Safe.
- (3) Remove bladders mounted inside by separating the Velcro at the side of each pocket.

NOTE: Remove all bladders prior to installing new bladders.

- (4) All bladders are provided a date of manufacture and expiration date. This side of the bladder which embossed with this information is considered the backside of the bladder and should be installed to face away from the inner most recess. This data information should not be visible through the mesh pockets when looking into the bag.
- (5) Replace bladders starting at the bottom of the bag and working towards the top.

NOTE: As you install the new bladder in the mesh pocket, work the edges of the bladder into the four corners of the mesh pocket to ensure the bladder is flat and properly aligned in the mesh pocket.

- (6) Ensure the bladder is completely seated within each pocket and the Velcro retaining strips are securely mated.
- (7) When all bladders have been replaced, (7) remove the support return the zipper to its closed position and fold the leather flap back down.

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

CAUTION: The inside lining of the P.E.D. Fire-Safe contains fiberglass which can cause skin and eye irritation. Eye protection, protective gloves & a long-sleeved shirt is recommended when replacing the bladders in the P.E.D. Fire-Safe. After completion, it is suggested to wash any exposed skin thoroughly with soap and water.

(8) Reinstall the P.E.D. Fire-Safe in its Kydex Storage Case [TASK # 26-60-00-301](#).

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-601

1. Temperature Indicator Testing Procedures

C. Reference Information

REFERENCE	DESIGNATION
TASK # 26-60-00-201	Removal of the PED FIRE-SAFE from Kydex Storage container.
TASK # 26-60-00-301	Installing PED FIRE-SAFE in Kydex Plastic Storage Container.

D. Tools and Equipment

REFERENCE	DESIGNATION
No Special Tooling Required	N/A

E. Procedure

- (1) Remove the P.E.D. Fire-Safe from its Kydex Storage Case [TASK # 26-60-00-201](#).
- (2) Press the Test- Momentary push-switch verify the following indications:
 - Checks power supply: Ensure ≥ 2.80 Volts (fresh battery) ≤ 2 Volts (Replace battery)
 - 3 LED STATUS INDICATORS illuminate:
 - a) Temperature $< 400^{\circ}\text{F}$ (204°C): GREEN (SAFE CONDITION)
 - b) Temperature 400°F (231°C) to 800°F (400°C): AMBER (CAUTION)
 - c) Temperature $> 800^{\circ}\text{F}$ (400°C) $>$ (453°C): RED (WARNING)

NOTE: On units manufactured prior to 08/01/2017 the yellow caution and Red Warning lights will not illuminate. This test feature was incorporated into Temperature Indicator Model # PED-TI-V2.

- Blue temperature preference lights illuminate for the:
 - a) Fahrenheit
 - b) Celsius
- (3) Release Temperature Indicator press to test momentary push button.
 - (4) Push in the latching power push button. Verify approximate ambient temperature is displayed.

NOTE: Failure of one or more internal temperature thermal couples will result in a “1” indication to be displayed in place of the ambient temperature. Return to the manufacturer for repair.

- (5) Reinstall the P.E.D. Fire-Safe in its Kydex Storage Case if applicable or reattach unit directly to mounting location [TASK # 26-60-00-301](#).

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-701

1. Temperature Indicator Battery Replacement

Temperature Indicator Part Number -PED-TI-V2 MANUFACTURED AFTER 08/01/2017

A. Reference Information

REFERENCE	DESIGNATION
TASK # 26-60-00-201	Removing the P.E.D. Fire-Safe from the Kydex Storage Case.
TASK # 26-60-00-301	Installing the P.E.D. Fire-Safe into Kydex Storage Case.
TASK # 26-60-00-601	P.E.D. Fire-Safe Temperature Indicator Testing procedures

B. Tools and Equipment

REFERENCE	DESIGNATION
Commercially Available	(2-AAA) QU2400BKD Duracell-Quantum High Performance Battery
Commercially Available	1/16" Allen Head Driver

C. Procedures

- (1) Remove the P.E.D. Fire-Safe from its Kydex Storage Case if equipped [TASK # 26-60-00-201](#).
- (2) Remove 1/16" Allen screw on RH side of the data plate located on the Temperature Indicator.
- (3) Rotate the Data Plate on the remaining rivet to reveal battery access countersunk screw & remove the 1/16" Allen screw.
- (4) Lift the battery access panel to expose (2) AAA batteries.
- (5) Remove (2) AAA and Install (2) new AAA batteries.
- (6) Reinstall battery cover access plate.
- (7) Reinstall countersunk 1/16" Allen head screw removed in step (3).
- (8) Realign data plate and re-install 1/16" Allen head round head screw.
- (9) Test the P.E.D. Fire-Safe Temperature per [TASK # 26-60-00-601](#).
- (10) Reinstall the P.E.D. FIRE-Safe in its Kydex Storage Case if equipped or remount unit directly to stored location [TASK # 26-60-00-301](#).

P.E.D. FIRE-SAFE MAINTENANCE MANUAL

Task # 26-60-00-701B

1. Temperature Indicator Battery Replacement

Temperature Indicator Part Number PED-TI-V1 & PED-T2-V1 Manufactured Prior to 08/01/2017

A. Reference Information

REFERENCE	DESIGNATION
TASK # 26-60-00-201	Removing the P.E.D. Fire-Safe from the Kydex Storage Case.
TASK # 26-60-00-301	Installing the P.E.D. Fire-Safe into Kydex Storage Case.
TASK # 26-60-00-601	P.E.D. Fire-Safe Temperature Indicator Testing procedures

B. Tools and Equipment

REFERENCE	DESIGNATION
Commercially Available	(2-AAAA) MX2500B2PK Alkaline Batteries
Commercially Available	(2-AAA) QU2400BKD Duracell-Quantum High Performance Battery
Commercially Available	1/16" Allen Head Driver

C. Procedures

- (1) Remove the P.E.D. Fire-Safe from its Kydex Storage Case if equipped [TASK # 26-60-00-201](#).
- (2) Remove (QTY 4) 1/16" Allen screws on the sides of the Temperature Indicator securing the cover of the Temperature Indicator to the base.
- (3) Lift the Temperature Indicator Cover on the outboard edge away from the power and test buttons to remove the cover.
- (4) Lift the inboard side of the temperature indicator cover and feed the power and test switch buttons through the recess of the upper cover.
- (5) Remove (2) AAAA installed in Temperature Indicator Model # **PED-TI-V1** or (2) AAA batteries installed in Temperature Indicator Model # **PED-T2-V1** with fresh new batteries.
- (6) Press the TEST button and ensure 2.8 Volts. Press the Power button and ensure ambient temperature is displayed.
- (7) Reinstall the indicator cover starting on the inboard edge. Ensure the power & test switch slip through provided cutouts.
- (8) Realign the outboard edge of the Temperature Indicator Cover and reinstall the (4) 1/16" Allen head screws.

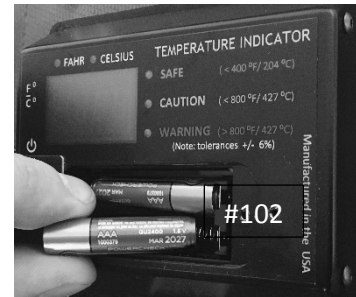
NOTE: Ensure there is no binding of the power or test switches after reinstallation of hardware. Ensure that all interior bulbs are located in their corresponding locations.

- (9) Test the P.E.D. Fire-Safe Temperature per [TASK # 26-60-00-601](#)
- (10) Reinstall the P.E.D. Fire-Safe in its Kydex Storage Case if equipped [TASK # 26-60-00-301](#).

ILLUSTRATED PARTS DIAGRAM



View A



#105



#103



#104



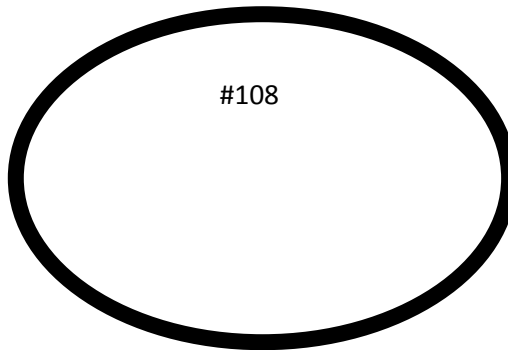
#106



#107



#108



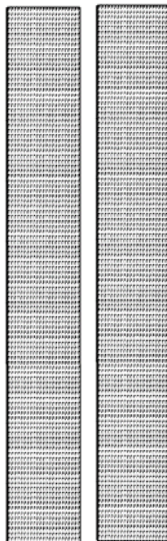
#109



#110

PED FIRE-SAFE

#113



#111

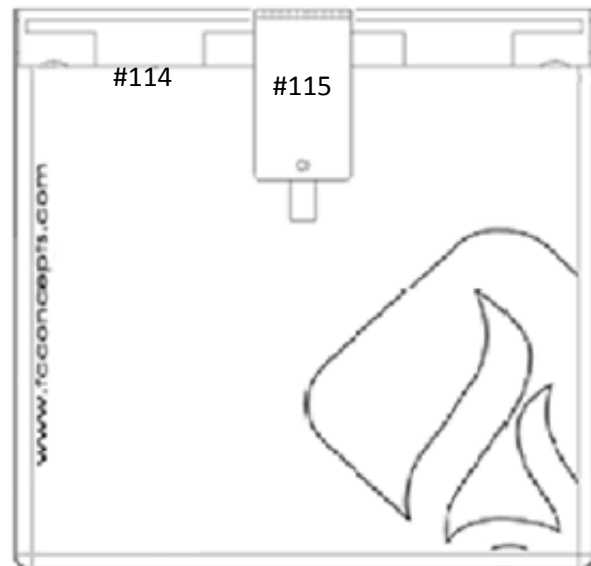


#112



#114

#115



ILLUSTRATED PARTS DIAGRAM

ITEM	PART NUMBER	DESCRIPTION	EFFECTIVE
ASSY	FCC-PFS-20-BK	20" PED FIRE-SAFE Assembly Black Storage Case	All
ASSY	FCC-PFS-20-TN	20" PED FIRE-SAFE Assembly Tan Storage Case	All
ASSY	FCC-PFS-20-CUS	20" PED FIRE-SAFE Assembly Custom Storage Case	All
ASSY	FCC-PFS-18-BK	18" PED FIRE-SAFE Assembly Black Storage Case	All
ASSY	FCC-PFS-18-TN	18" PED FIRE-SAFE Assembly Tan Storage Case	All
ASSY	FCC-PFS-18-CUS	18" PED FIRE-SAFE Assembly Custom Storage Case	All
ASSY	FCC-PFS-16-BK	16" PED FIRE-SAFE Assembly Black Storage Case	All
ASSY	FCC-PFS-16-TN	16" PED FIRE-SAFE Assembly Tan Storage Case	All
ASSY	FCC-PFS-16-CUS	16" PED FIRE-SAFE Assembly Custom Storage Case	All
101	PFS-20-BL-KIT	20" Suppression Bladder Replacement Kit	All
101	PFS-18-BL-KIT	18" Suppression Bladder Replacement Kit	All
101	PFS-16-BL-KIT	16" Suppression Bladder Replacement Kit	All
102	QU2400BKD	(2) AAA Duracell-Quantum High Performance Battery	Temp IndicatorV2
102	DURMX2500B2PK	(2) AAAA Duracell Alkaline Photo Batteries	Temp IndicatorV1
103	FCC-PFS-ZL	Zipper Assist	All
104	FCC-15104	1/8" Allen Wrench	20"/18"/16"
105	FCC-151405	(2) 2" Adhesive Back FR Hook Velcro Direct Mount	18"/16"
106	PFS-RED-STRAP	Red Glove Strap	All
107	FCC-L10-010	Large Thermal-Guard Gloves	All
108	FCC-RSD-20	20" Support Ring Tool	20" Unit
108	FCC-RSD-18	18" Support Ring Tool	18" Unit
108	FCC-RSD-16	16" Support Ring Tool	16" Unit
109	FCC-SGL	Safety Glasses	If Ordered
110	FCC-PFS-PLACARD	PED FIRE-SAFE Interior Placard	All
111	PFS-5-CL-SL	5" Clear Plastic Tag Snap Lock	All
112	FCC-PFS-USER	PED FIRE-SAFE USER GUIDE	20"/18"/16"
113	127759	(2) 4" Adhesive Back FR rated Velcro	20"/18"/16"
114	PFS-20-BLACK	20" Black Kydex Storage Container	20" Unit
115	PFS-20-BK-TAB	20" Black Kydex Storage Container Security Tab	20" Unit
114	PFS-20-TAN	20" Tan Kydex Storage Container	20" Unit
115	PFS-20-TN-TAB	20" Tan Kydex Storage Container Security Tab	20" Unit
114	PFS-18-CUSTOM	20" Custom Kydex Storage Container	20" Unit
115	PFS-18-CUST-TAB	20" Custom Kydex Storage Container Security Tab	18" Unit
114	PFS-18-BLACK	18" Black Kydex Storage Container	18" Unit
115	PFS-18-BK-TAB	18" Black Kydex Storage Container Security Tab	18" Unit
114	PFS-18-TAN	18" Tan Kydex Storage Container	18" Unit
115	PFS-18-TN-TAB	18" Tan Kydex Storage Container Security Tab	18" Unit
114	PFS-18-CUSTOM	18" Custom Kydex Storage Container	18" Unit
115	PFS-18-CUST-TAB	18" Custom Kydex Storage Container Security Tab	18" Unit
114	PFS-16-BLACK	16" Black Kydex Storage Container	16" Unit
115	PFS-16-BK-TAB	16" Black Kydex Storage Container Security Tab	16" Unit
114	PFS-16-TAN	16" Tan Kydex Storage Container	16" Unit
115	PFS-16-TN-TAB	16" Tan Kydex Storage Container Security Tab	16" Unit
114	PFS-16-CUSTOM	16" Custom Kydex Storage Container	16" Unit
115	PFS-16-CUST-TAB	16" Custom Kydex Storage Container Tab	16" Unit



MINIMUM EQUIPMENT LIST (MEL)

FIRE CONTAINMENT CONCEPTS, LLC.		MASTER MINIMUM EQUIPMENT LIST			
13155 MARKET AVENUE N. HARTVILLE, OHIO 44632 1 (800) 877-2204		REVISION NO: Original DATE: 11/15/2017		PAGE NO: 10	
1. SYSTEM, SEQUENCE NUMBERS & ITEM	REPAIR CATEGORY				
	2. NUMBER INSTALLED				
	3. NUMBER REQUIRED FOR DISPATCH				
	4. REMARKS AND EXCEPTIONS				
26 FIRE PROTECTION					
60-1 P.E.D. FIRE-SAFE Fire Containment & Suppression System	D	3	0	Not required for flight.	
60-2 P.E.D. FIRE-SAFE Temperature Indicator	D	1	0	P.E.D..Fire-Safe installed temperature indicator may be inoperative and will not affect the abilities of the unit to contain and extinguish a fire. O-Procedures require immediate landing if the system is deployed for any reason without a means to verify internal temperatures.	

GENERAL EFB FIRE SAFETY

STANDARD OPERATING PROCEDURES (Recommendation)

EFB Dangers and Early Warning Signs:

Electronic Flight Bags (EFB) units are powered by rechargeable lithium batteries which are susceptible to experiencing thermal runaway events. Lithium battery fires are extremely dangerous and difficult to extinguish as portable halon extinguishers are successful in momentarily knocking down initial flames but must be cooled by water or another non-alcoholic beverage to cool and extinguish. Thermal runaway events may involve venting of smoke, flammable vapors, fire and subsequent explosions which lithium metals and electrolyte may be ejected from the EFB unit. Any of these events experienced in a cockpit can lead to potentially catastrophic events. For this reason, it is of the utmost importance for crew members to remain proactive by taking immediate action when early warning signs to a potential overheat event may occur. Any EFB showing early warning signs should be removed from the cockpit area and proactive EFB fire prevention procedures followed. Early warning signs may include:

- Damaged devices
- Higher than normal operating temperatures
- Electrical burning smell
- Screen delamination.
- Devices which have been recalled due to fire, smoke or explosive dangers.
- Any EFB which is of any concern to crew members.

Proactive EFB Fire Prevention Procedures:

1. Power down the device and remove all charging capabilities.
2. Remove the P.E.D. FIRE-SAFE from its stored location.
3. Don the provided fire-resistant gloves and safety glasses.
4. Open the P.E.D. FIRE-SAFE leather flap to reveal zipper and open.
5. Place the EFB inside of the P.E.D. FIRE SAFE, close the zipper, and return the flap to its starting position.
6. Power the temperature indicator Relocate the P.E.D. FIRE-SAFE to a secured area that is accessible to the cabin crew yet removed from passengers and flight sensitive areas.
7. Check frequently and provide temperature and status update to the pilot in command (PIC).
8. Upon landing either at the intended destination or a diversionary airport the P.E.D. Fire Safe should be removed from the aircraft as soon as possible and handled or opened by Airport or qualified fire personnel only.

EFB Firefighting Procedures for EFB's In Unstable Condition:

In the case lithium battery is in an unstable condition (i.e., the fire is actively burning expelling dense smoke or the device appears to be expanding or popping from heat). the device should not be moved until Cooled.

1. Don any available personal protective equipment (PPE) including provided Thermal-Guard gloves.
2. Extinguish the fire with a halon or water hand-held extinguisher, or nonflammable liquid.
3. Crew members should self-evaluate the condition and hazard in picking up the device after a full thermal discharge event. If there is no imminent danger to crew, passengers or the continued safe operations of the aircraft, continue to cool the device and let the device rest without touching for at least 15 minutes.
4. When the device is adequately cooled place the device inside of the P.E.D. Fire-Safe and power the on-board temperature indicator.
5. Relocate the P.E.D. Fire-Safe to a secured area that is accessible to the cabin crew yet removed from passengers and flight sensitive areas.
6. Check frequently and provide Temperature and status update to the pilot in command (PIC).
7. Upon landing either at the intended destination or a diversionary airport the P.E.D. Fire-Safe should be removed from the aircraft as soon as possible and handled or opened by Airport or qualified fire personnel only. The P.E.D. Fire-Safe must then be returned to the manufacture for evaluation replacement.

GENERAL LITHIUM BATTERY FIRE SAFETY

Standard Operating Procedures Recommendation:

General Lithium-Battery Fire Safety

Company Name utilizes a P.E.D. Fire-Safe (fire containment bag/ suppression system) from Fire Containment Concepts to help combat the growing danger of lithium-ion related battery fires. Flight crews should be vigilant of any PED's or other devices using lithium batteries for over temperature.

Proactive Utilization of The PED Fire-Safe

Flight crews should be proactive in looking for signs of possible lithium battery over temperature. Lithium batteries and PED devices most commonly provide early indication that their internal cells are entering a thermal runaway condition. These early signs may include:

- Damaged devices
- Higher than normal operating temperatures
- Electrical burning smell
- Screen delamination.
- Devices which have been recalled due to fire, smoke or explosive dangers.

At the first sign of potential over-heat condition, the P.E.D. Fire-Safe should be utilized and the User Instructions followed.

The P.E.D. Fire Safe is equipped with an LED temperature monitoring indicator and color-coded status indicator. If the device is utilized for any condition listed above the temperature should be monitored by the flight crew. The P.E.D. FIRE-SAFE is equipped with an internal automatic bladder suppression system designed to rupture and extinguish an internal fire threat. The temperature at which the Bladders are designed to rupture is **400°F/204°C +/- 10%**. There are as many as (9) individual suppression bladders based on which unit is being utilized. In most scenarios it may only require one bladder to fully extinguish the fire with the remaining bladders on standby should they be needed.

If the green safe status light and temperature indicated inside the P.E.D. FIRE-SAFE remains below **400°F/204°C**, the flight may continue to destination as normal at the discretion of the flight crew. If the yellow caution light or indicated temperature rises to greater than **400°F/204°C** for a period beyond 5 minutes, a diversion and emergency landing should be accomplished as a precaution. If the red warning light or indicated temperature rises to greater than **750°F/400°C**, a diversion and emergency landing should be accomplished. **If for any reason the temperature cannot be verified inside the PED FIRE-SAFE or if the flight crew suspects continued temperature increases can be expected, a diversion and emergency landing should be accomplished as a precaution by the flight crew.**

In the case of a second PED is experiencing the early warning signs of thermal runaway the bag may be reopened away from passengers, crew and flight sensitive areas to place the additional device inside of the unit providing the temperature indicated is at or below ambient temperature and the exterior of the bag does not feel warm to the touch. No more than 2 devices may be put into the containment system at any one time.

If the P.E.D. Fire-Safe is deployed as a precautionary measure and the temperature indicated within the device displays a temperature of **130°C (266°F)** or greater, the P.E.D. Fire Safe **must be** returned to the manufacturer for recertification or replacement prior to further utilization.

Aircraft Dispatch with a faulty or malfunctioning temperature indicator installed on the P.E.D. Fire-Safe is permitted utilizing MEL/NEF procedures. In the event crew members elect to deploy the P.E.D. Fire-Safe for any reason with a deferred or malfunctioning Temperature Indicator, a diversion and emergency landing should be accomplished as a precaution. Upon landing either at the intended destination or a diversionary airport the P.E.D. Fire-Safe should be removed from the aircraft as soon as possible and handled or opened by Airport or qualified fire personnel only. The P.E.D. Fire-Safe must then be returned to the manufacture for replacement.

GENERAL LITHIUM BATTERY FIRE SAFETY

Firefighting Procedures for a PED in an Unstable Condition-

In the case lithium battery is in an unstable condition (i.e., the fire is actively burning expelling dense smoke or the device appears to be expanding or popping from heat). the device should not be moved until Cooled.

- 1) Don any available personal protective equipment (PPE) including provided Thermal-Guard gloves.
- 2) Extinguish the fire with a halon or water hand-held extinguisher, or nonflammable liquid.
- 3) Cool a smoking/overheating device with water from any available source, a nonalcoholic beverage, or an aqueous extinguisher.
- 4) Crew members should self-evaluate the condition and hazard in picking up the device after a full thermal discharge event. If there is no imminent danger to crew, passengers or the continued safe operations of the aircraft, continue to cool the device and let the device rest without touching for at least 15 minutes
- 5) When the device is adequately cooled place the device inside of the P.E.D. FIRE-SAFE and power the on-board temperature indicator.
- 6) Relocate the P.E.D. Fire-Safe to a secured area that is accessible to the cabin crew yet removed from passengers and flight sensitive areas.
- 7) Check frequently and provide Temperature and status update to the pilot in command (PIC).
- 8) Upon landing either at the intended destination or a diversionary airport, the P.E.D. Fire Safe should be removed from the aircraft as soon as possible and handled or opened by Airport or qualified fire personnel only. The P.E.D. Fire-Safe must then be returned to the manufacture for evaluation replacement.

P.E.D. FIRE-SAFE FOUR-YEAR WARRANTY

1) Limited 4-year Warranty:

Fire Containment Concepts (“Manufacturer”) provides to its customers a four (4) year Limited Warranty against defects in material or workmanship of the **P.E.D. Fire-Safe or Product** (“Product”), subject to the terms and conditions described herein below. Manufacturer warrants that during the warranty period the product delivered to the original purchaser will be free from defects in material or workmanship so long as the product remains in the ownership of the original purchaser, Product has not been activated or deployed, Product has been properly stored in storage case or in a manner as not to result in physical damage to the system, and product has been properly inspected and maintained per Manufacturers Maintenance Procedures. The Manufacturer reserves the right to amend any or all of the maintenance requirements from time to time. The maintenance requirements in effect at any given time must be complied with in order to maintain warranty coverage. The warranties shall be valid from the date of receipt.

2) Repairs Completed Under Warranty:

If a product complies in all respect with the warranty provisions set forth above, Manufacturer will make all adjustments, repairs, modifications, corrections, or replacements at Manufacturer’s expense; provided, however that Product has been properly inspected and otherwise treated in accordance with Manufacturer’s requirements, Operating Instructions, Maintenance Procedures, applicable service bulletins, and the provisions of this limited warranty, and provided that Product has not been activated or deployed. Manufacturer shall use its best efforts to make all adjustments, modifications, corrections, or replacements under this warranty within Thirty (30) Business days or less from receipt of a Product.

3) Repairs Not Covered by Warranty:

If Product fails to comply in any respect with the limited warranty set forth in Section 1, any and all repairs will be the sole responsibility of the original purchaser.

4) Return of Product under Limited Warranty Provisions:

Purchaser must complete the online Material Return Authorization (“MRA”) form located on the manufacturer’s website or contact the manufacturer to receive the MRA forms in another manner such as via mail, email, or fax. Manufacturer must receive written notice of failure of a Product to comply with this warranty within thirty (30) days of discovery of such failure. Purchaser shall return the defective Product to the Manufacturer or its Approved Representative. Purchaser shall pay all costs of shipping the defective part to and from Manufacturer or its Approved Representative. All items shipped to Manufacturer or its Approved Representative must be prepared for shipment in accordance with the requirements of the Maintenance procedures, must be adequately packed to prevent damage in transit, and, if desired, insured by Purchaser. All items returned for replacement shall be shipped prepaid to the Manufacturer’s current address provided on the MRA form.

5) Service costs—Product Not Found Defective (No Fault Found):

In the event that Manufacturer determines that any Product returned is not defective or not covered by this Limited Warranty, customer shall be responsible for service and handling charges “No Fault Found” shall mean a returned product that is damaged or fails to operate properly as a result of operator error, abuse, or misuse or other causes not covered by this limited warranty.

6) Failure to Maintain in Accordance with Manufacturer’s Maintenance Requirements:

Failure to service Product in exact and specific compliance with the Manufacturer’s prescribed Maintenance Requirements herein below or as amended from time to time shall immediately void this limited warranty.

7) Product Registration

This limited warranty becomes effective upon receipt of the product. Warranty Registration Form is included in the User Manual and available online at www.fcconcepts.com. Failure to submit this provided form or register online within 30 days of receipt of the product shall void this Limited Warranty.

8) Product Transfer

Not applicable
(Continued)

PED FIRE-SAFE FOUR-YEAR WARRANTY

(Limited 4Year Warranty Continued)

9) Maintenance Requirements:

Purchaser shall, prior to, or simultaneously with shipment, send a separate written warranty claim to the Manufacturer or its Approved Representative, advising that a Product is to be shipped for Warranty claim purposes and shall include a description of the failure, and airway bill number. Purchaser is hereby authorized to use any selected Shipping Agent or as otherwise mutually agreed, for goods returned to the Manufacturer or its Approved Representative. Shipments are to be conspicuously marked with Purchaser's and Manufacturer's name. Except when otherwise stated, all shipping and insurance shall be at the Purchaser's expense.

Note: Please visit our website at www.fcconcepts.com for the most current PED FIRE-SAFE maintenance procedures.