

# Service Bulletin

## Subject:

Installation of a HAFEX (Halon Alternative Fire Extinguisher)

## Applicability:

Table 1: Applicability

PART	APPLICABILITY
Part A	Aircraft with horizontal mounting of fire extinguisher, refer to Figure 1
Part B	Aircraft with inclined mounting of fire extinguisher, refer to Figure 2

## Amendments:

Issue 1: Initial Issue. Refer to GAE11#2763.

## Background:

This optional Service Bulletin details the installation of a HAFEX (Halon Alternative Fire Extinguisher) in the same location as the existing portable hand-held fire extinguisher. The production of Halon 1211 (BCF – BromoChlorodiFluoromethane) is scheduled to be ceased due to environmental concerns in accordance with the Montreal Protocol as Halon is an ozone depleting substance. GippsAero has provided various different Halon 1211 fire extinguishers for the GA8 and GA8-TC 320 model aircraft throughout the course of manufacturing. The most recent is the Chubb 103335, others include the Chubb 101183 and B0150S.

For aircraft built after early to mid 2009 with the fire extinguisher mounted horizontally the replacement will be a direct substitute as detailed in Part A of this Service Bulletin. For older aircraft with the fire extinguisher mounted on the inclined section of the centre console new nut plates will need to be installed to match the hole pattern of the newer installations as detailed in Part B of this Service Bulletin. Two options are provided in Part B depending on whether access to the internal face of the inclined panel of the centre console is possible.

## Compliance

This modification may be installed at the owner's discretion.

The installer shall verify the suitability of this option in conjunction with existing modifications/repairs to the aircraft. Contact GippsAero if clarification is required.

## Weight and Balance

For the weight and balance requirements refer to Table 2.

Table 2: Weight and Balance Data

Description	WEIGHT		ARM		MOMENT	
	(kg)	(lb)	(mm)	(in)	(kg.mm)	(in.lb)
Incorporation of Part A of this Service Bulletin	0.3	0.66	1145	45.1	344	29.8
Incorporation of Part B of this Service Bulletin	0.4	0.88	950	37.4	380	32.9

## Approval

This Service Bulletin has been approved in accordance with the requirements of Australian Civil Aviation Safety Regulation 21.095 (1998).



Figure 1 – Horizontal Mounting of Fire Extinguisher

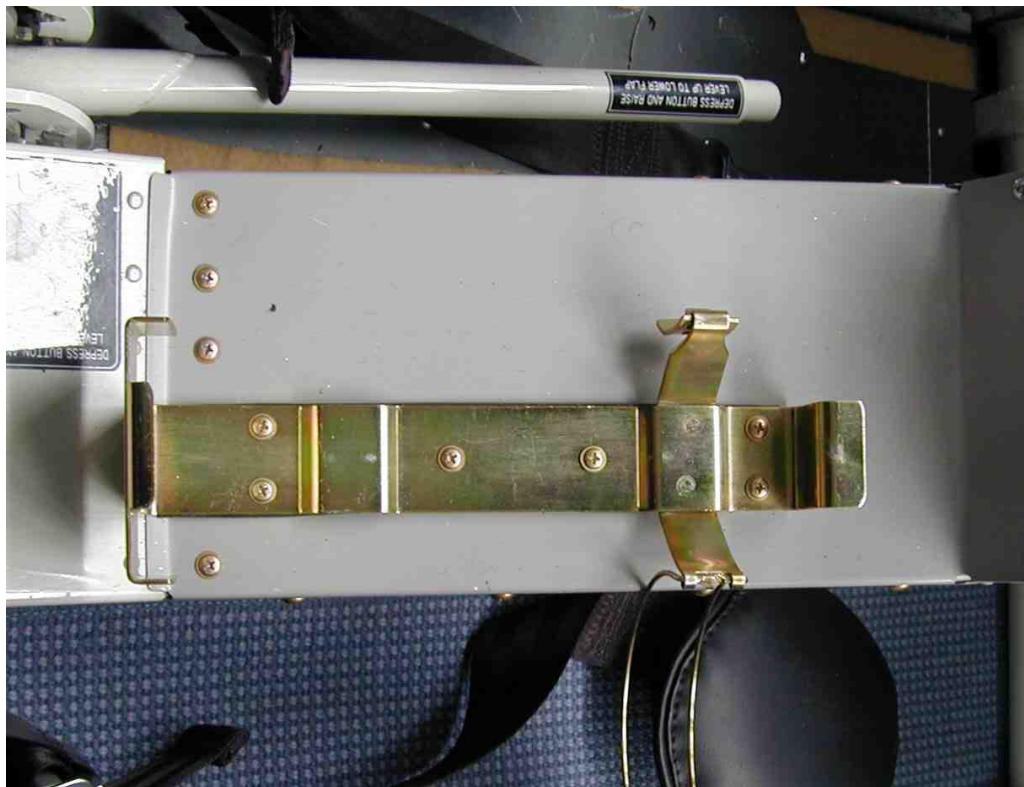


Figure 2 – Inclined Mounting of Fire Extinguisher

## Parts and Materials:

The parts in Table 3 and Table 4 may be ordered as a kit – P/No. GA8-SB-2021-208-001

The parts required to incorporate this Service Bulletin are detailed in Table 3.

**Table 3:** Parts required.

ITEM	PART NUMBER	DESCRIPTION	QTY
1	P3APP003010D	FIRE EXTINGUISHER	1
2	P3APP003020B	BRACKET	1

Hardware required to incorporate Part A or B of this Service Bulletin are detailed in Table 4.

**Table 4:** Hardware required for Part A or B

ITEM	PART NUMBER	DESCRIPTION	QTY
3	AN970-3	PENNY WASHER	4
4	AN525-10R6	SCREW, WASHER HEAD	4

The parts in Table 5 and Table 6 may be ordered as a kit – P/No. GA8-SB-2021-208-002

Hardware required to incorporate Part B of this Service Bulletin are detailed in Table 5.

**Table 5:** Hardware required for Part B

ITEM	PART NUMBER	DESCRIPTION	QTY
5	MS21047-L3	NUT PLATE, SELF-LOCKING, TWO LUG, LOW HEIGHT	4
6	NAS1097AD3-3	RIVET, SOLID, 100 DEG, FLUSH SHEAR HEAD	8

Additional items required for Part B2 of this Service Bulletin is detailed in Table 6 and Table 7.

**Table 6:** Hardware required for Part B2.

ITEM	PART NUMBER	DESCRIPTION	QTY
7	CR3212-4-02	100° FLUSH HEAD, BLIND RIVET	20

**Table 7:** Compounds required for Part B2

ITEM	PART NUMBER	DESCRIPTION	QTY
C1	BMS10-11 Type 1, Class A, Grade A <sup>1</sup>	PRIMER EPOXY, ALUMINIUM	A/R
C2	MIL-PRF-85285 Type I, Class H	TOPCOAT, POLYURETHANE	A/R

### **NOTE:**

*Rivet lengths given are indicative and actual required rivet length must be determined on installation.*

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<sup>1</sup> Acceptable alternatives are: BMS10-79 Type II, Class A, Grade A  
MIL-PRF-23377 Type I, Class C2  
MIL-PRF-23377 Type II, Class C2

## Parts Availability:

Parts can be obtained directly from GippsAero using the following contact details.

Tel: +61 (0)3 5172 1200  
Fax: +61 (0)3 5172 1201  
Email: [PARTS@gippsaero.com.au](mailto:PARTS@gippsaero.com.au)

## Labour:

Approximately 1 hour should be allocated to completing the requirements of Part A of this Service Bulletin.  
Approximately 2 hours should be allocated to completing the requirements of Part B1 of this Service Bulletin.  
Approximately 3 hours should be allocated to completing the requirements of Part B2 of this Service Bulletin.

## Warranty:

This is an optional modification. The cost of installation is not eligible for warranty claims, however, component warranties are provided by the respective manufacturers.

## Accomplishment Instructions:

### **WARNING:**

**IT IS THE RESPONSIBILITY OF ALL PERSONNEL TO ENSURE WORK HEALTH AND SAFETY REQUIREMENTS ARE MET AT ALL TIMES. ALL PERSONNEL MUST COMPLY WITH ALL WORK HEALTH AND SAFETY REQUIREMENTS AS DEFINED OR RECOMMENDED BY:**

- AIRCRAFT MAINTENANCE AND OPERATION MANUALS;
- RELEVANT NAA REGULATIONS AND ADVISORY DOCUMENTATION;
- ORGANISATION MANUALS, INCLUDING NAA ENDORSED OPERATIONAL AND MAINTENANCE MANUALS; AND
- RELEVANT LOCAL, STATE AND FEDERAL GOVERNMENT REQUIREMENTS.

### **WARNING:**

**READ THE APPLICABLE MATERIAL SAFETY DATA SHEET (MSDS) FOR ANY CONSUMABLE USED DURING THE ACCOMPLISHMENT OF THIS SERVICE BULLETIN AND EMPLOY ANY RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE) CONTAINED THEREIN.**

### **NOTE:**

*Unless otherwise specified, reference to the GA8 or GA8-TC 320 Service Manual and FAA Advisory Circular (AC) 43.13-1B & -2B should be made when carrying out the procedures prescribed in this Service Bulletin. In case of a discrepancy between the Service Manual and the AC, the Service Manual takes precedence.*

### **NOTE:**

*Read all the applicable instructions prior to initiating any work.*

## **PART A – AIRCRAFT WITH HORIZONTAL MOUNTING OF FIRE EXTINGUISHER**

1. Remove Chubb 103335 BCF Fire Extinguisher unit from bracket by unlatching the two straps.
2. Uninstall the Chubb mounting bracket by removing the 4 x AN525-10R6 screws.
3. Fasten item 2, the Umlaut P3APP003020B, bracket in the same location using 4 x item 4, AN525-10R6 screws, from previous installation if serviceable, and 4 x item 3, AN970-4 washers.
4. Mount item 1, the Umlaut P3APP003010D, Fire Extinguisher unit to the installed bracket by latching the two straps, ensure the pressure gauge is visible for inspection.

## PART B1 – AIRCRAFT WITH INCLINED MOUNTING OF FIRE EXTINGUISHER

This part is for installations where access to the internal side of the inclined panel is possible. The top panel of the inclined section of the centre console should be able to be uninstalled by removing the attaching screws from the side panels. Alternatively access panels exist in the centre console or adjacent floor structure.

### **CAUTION:**

**BE VERY CAREFUL TO NOT DAMAGE ANY ADJACENT STRUCTURE OR SYSTEMS DURING THIS INSTALLATION.**

1. Remove the BCF Fire Extinguisher unit from bracket by unlatching the strap(s).
2. Uninstall the previous mounting bracket by removing the screws.
3. Mark the position of the lower right hand hole in the location depicted in Figure 4 (View B).
4. Use item 2, the Umlaut P3APP003020B, bracket as a template to mark the other three hole locations using the holes with the red circles as shown in Figure 3.

### **NOTE:**

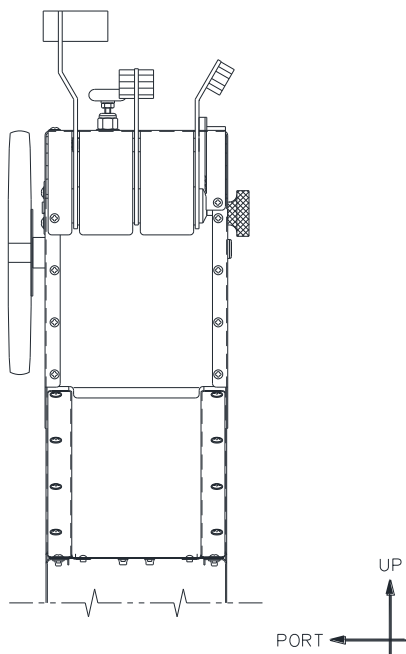
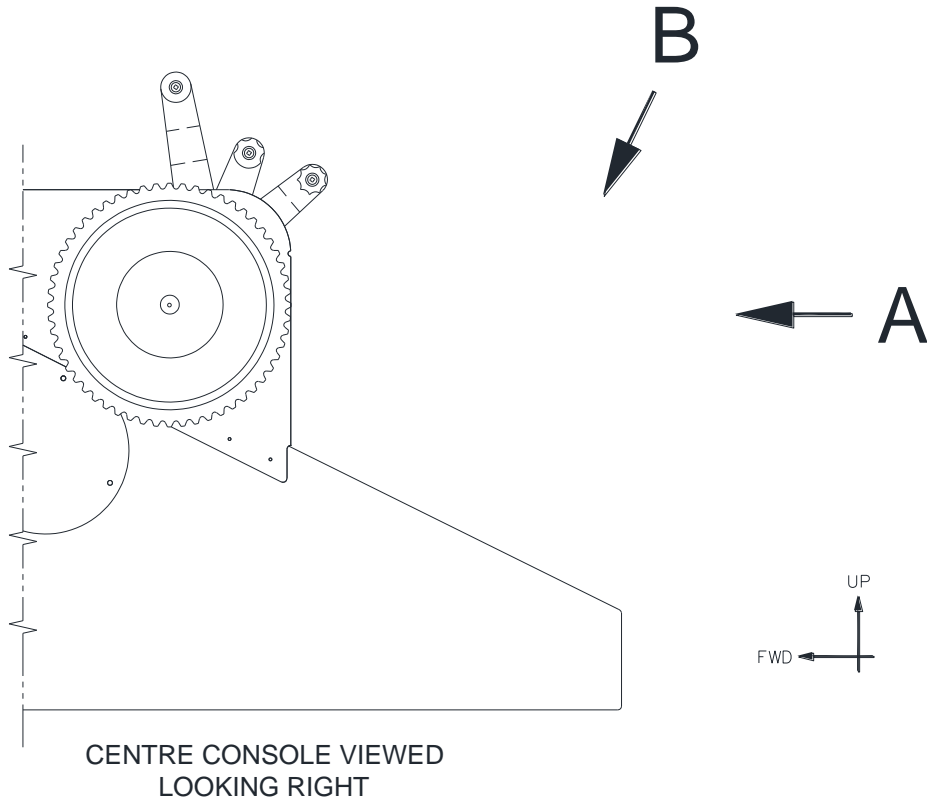
*Hole locations may be displaced laterally by 0.5" to provide a minimum edge distance of 0.5" to any pre-existing holes.*

5. Drill the four holes using a #9 drill (0.196 inches).
6. Use item 5, MS21047-L3 nut plates, as a template to mark the locations for the two rivets holes either side of the 0.196" holes, as depicted in Figure 4 (View B).
7. Drill the eight holes using a #40 drill (0.098 inches).
8. Gain access to the underside of the inclined panel on the centre console via access panels.
9. Install 4 x item 5, MS21047-L3 nut plates, using 8 x item 6, NAS1097AD3-3 rivets.
10. Re-fit access panels.
11. Fasten item 2, the Umlaut P3APP003020B, bracket onto the nut plates using 4 x item 4, AN525-10R6 screws, and 4 x item 3, AN970-4 washers.
12. Mount item 1, the Umlaut P3APP003010D, Fire Extinguisher unit to the installed bracket by latching the two straps, ensure the pressure gauge is visible for inspection.

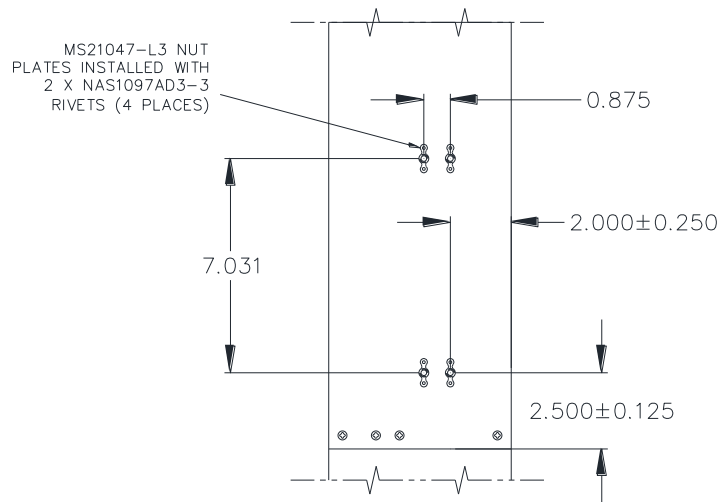


Hole patterns for  
installation of  
P3APP003020B

**Figure 3**



**CENTRE CONSOLE VIEWED  
LOOKING FORWARD**



**FIRE EXTINGUISHER  
MOUNTING PANEL**

**Figure 4**

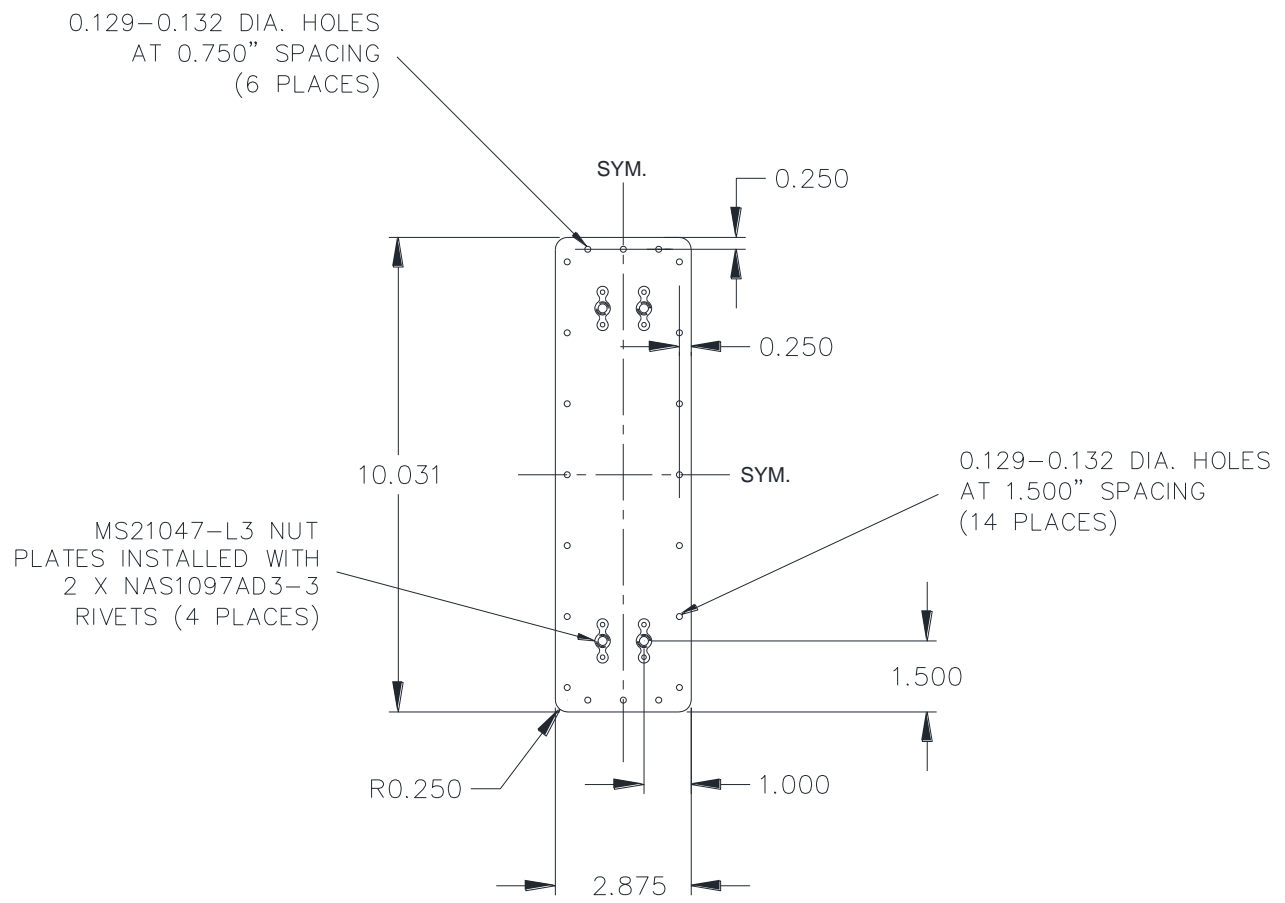
## **PART B2 – AIRCRAFT WITH INCLUDED MOUNTING OF FIRE EXTINGUISHER**

This part is for installations where access to the internal side of the inclined panel is not possible.

### **CAUTION:**

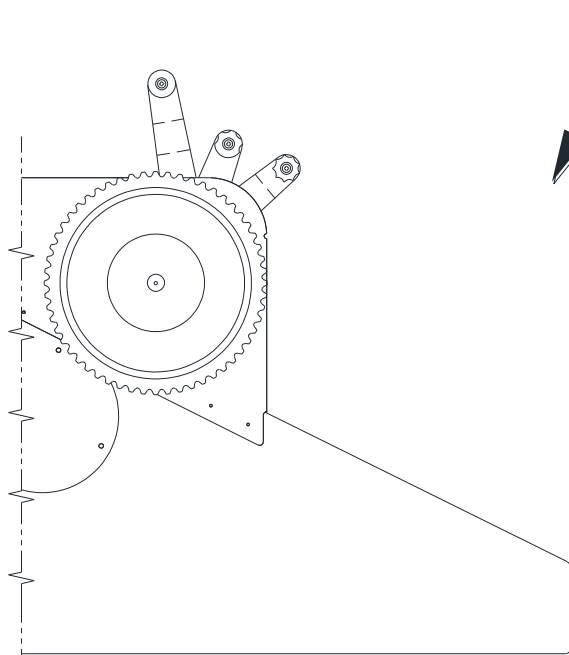
#### **BE VERY CAREFUL TO NOT DAMAGE ANY ADJACENT STRUCTURE OR SYSTEMS DURING THIS INSTALLATION.**

1. Fabricate a doubler from Aluminium Alloy 2024-T3 QQ-A-250/5 of 0.040" gauge in accordance with the dimensions in Figure 5. Prime the doubler with MIL-PRF-23377 Type I or II, Class C2 or equivalent, then topcoat the external surface with MIL-PRF-85285 Type I, Class H or equivalent. For reference the factory standard colour is Satin Horizon Grey.
2. Mark the fastener hole on the lower right of the doubler in the location depicted in Figure 5, then use item 2, the Umlaut P3APP003020B, bracket as a template to mark the other three hole locations using the holes with the red circles as shown in Figure 3. Drill the four holes using a #9 drill (0.196 inches). Use item 5, MS21047-L3 nut plates, as a template to mark the locations for the two rivets holes either side of the 0.196" holes, as depicted in Figure 5. Drill the eight holes using a #40 drill (0.098 inches).
3. Install 4 x item 5, MS21047-L3 nut plates, using 8 x item 6, NAS1097AD3-3 rivets. Drill 20 rivet holes with 0.129 to 0.132 inch diameter and 0.25 inch edge distance, 7 on each long side, starting from the lateral centreline at 1.5 inch spacing, and 3 on each short side, starting from the longitudinal centreline, at 0.75 inch spacing. Countersink the 20 rivets holes to 100°.
4. Remove the BCF Fire Extinguisher unit from bracket by unlatching the strap(s).
5. Uninstall the previous mounting bracket by removing the screws.
6. Carefully create the cut-out depicted in Figure 6.
7. Attach the doubler to the inclined panel on the centre console using 20 x item 7, CR3212-4-02 rivets.
8. Fasten item 2, the Umlaut P3APP003020B, bracket onto the nut plates using 4 x item 4, AN525-10R6 screws, and 4 x item 3, AN970-4 washers.
9. Mount item 1, the Umlaut P3APP003010D, Fire Extinguisher unit to the installed bracket by latching the two straps, ensure the pressure gauge is visible for inspection.

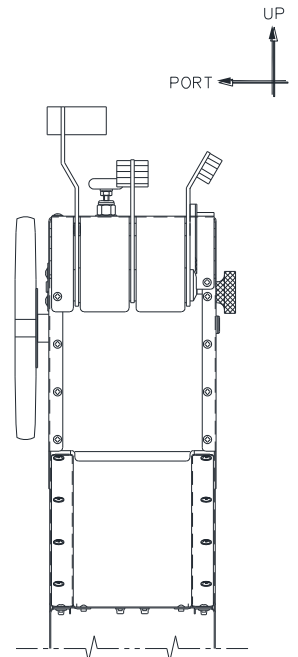
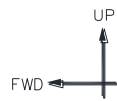


**Figure 5**



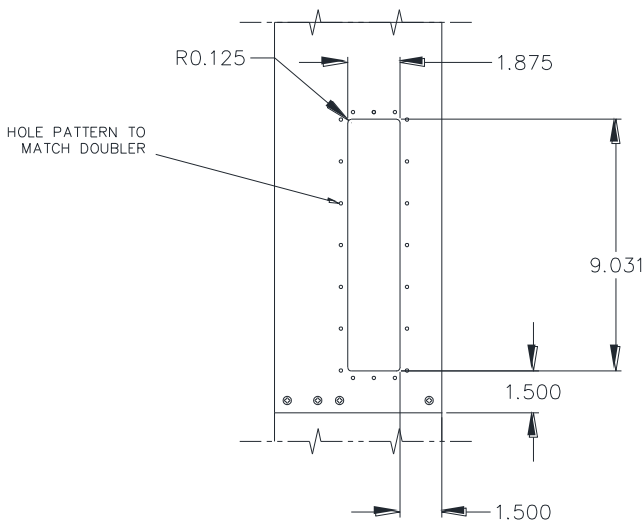


CENTRE CONSOLE VIEWED  
LOOKING RIGHT



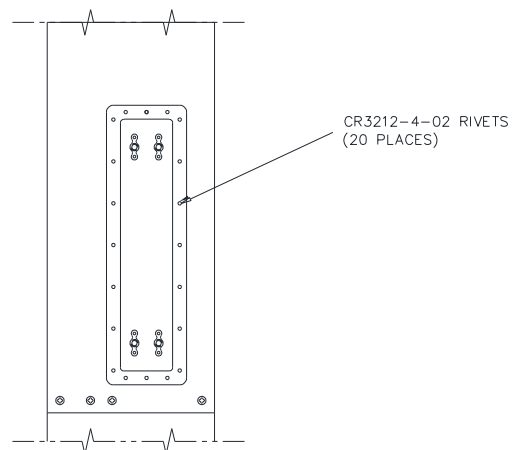
VIEW A

CENTRE CONSOLE VIEWED  
LOOKING FORWARD



VIEW C  
STAGE 1

FIRE EXTINGUISHER  
MOUNTING PANEL  
CUT-OUT GEOMETRY



VIEW C  
STAGE 2

FIRE EXTINGUISHER  
MOUNTING PANEL  
DOUBLER INSTALLATION

Figure 6

**Documentation:**

Update aircraft logbook to reflect incorporation of Part A, Part B1 or Part B2 of this Service Bulletin, as applicable.

**Continuing Airworthiness:**

There are no additional continuing airworthiness requirements introduced by this Service Bulletin. At time of publishing of this Service Bulletin; the Component Maintenance Manual with Illustrated Parts List from the manufacture Umlaut was CMM 26-24-01 for the Fire Extinguisher and CMM 26-24-03 for the Bracket. Refer to the label of the fire extinguisher for current maintenance data.

**Compliance Notice:**

Complete the Document Compliance Notice and return to GippsAero by mail, fax or email.

## DOCUMENT COMPLIANCE NOTICE



A Mahindra Aerospace Company

Document:

**SB-GA8-2021-208**

**Issue 1**

Aircraft Serial Number: GA8-\_\_\_\_\_

Service Bulletin SB-GA8-2021-208 Issue 1 has been incorporated in the above aircraft.

Date of Incorporation: \_\_\_\_\_

\_\_\_\_\_  
Signed

Print Name: \_\_\_\_\_

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