A Mahindra Aerospace Company

PO Box 881, Morwell, Victoria 3840, Australia
Ph + 61 (0) 3 5172 1200
Fax + 61 (0) 3 5172 1201
www.gippsaero.com.au

SB-GA8-2021-210
Issue 1

MANDATORY

Service Bulletin

Subject:

Flight Control Circuit Colour Coding

Applicability:

This Service Bulletin is applicable to the aircraft serial numbers identified in Table 1.

Table 1: Applicability

PART	APPLICABILITY
GA8	All aircraft until serial number GA8-20-262
GA8-TC 320	All aircraft until serial number GA8-TC 320-20-261

Amendments:

Issue 1: Initial Issue. Refer to GAE11#2777.

Background:

This Mandatory Service Bulletin details the inspection and rectification, if required, of the colour coding applied to the elevator and rudder circuits of the primary flight control system and is the result of an inconsistency identified by an operator in the colour codes in the Service Manual and the colours applied to new elevator control cables.

Colour coding is provided by GippsAero as an assembly aid, with the normal duplicate inspections of the control system ensuring correct operation, however, this Bulletin ensures that colour codes are applied consistently to all aircraft. The colour codes described in this Service Bulletin will be adopted for all future GA8-family technical publications and takes precedence over the data provided in Chapter 27 of the Service Manuals applicable to the GA8 and GA8-TC 320 aircraft.

Compliance

For applicable aircraft, within eighteen months from issuance of this Service Bulletin.

Weight and Balance

This Service Bulletin has negligible effect on empty weight and empty weight centre of gravity.

Approval

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

Parts and Materials:

The parts required to incorporate this Service Bulletin are detailed in Table 2.

Table 2: Parts required.

ITEM	PART NUMBER	DESCRIPTION	QTY
1	MIL-PRF-85285 Type I, Class H, or equivalent	TOPCOAT, POLYURETHANE, YELLOW	A/R
2	MIL-PRF-85285 Type I, Class H, or equivalent	TOPCOAT, POLYURETHANE, RED	A/R
3	MIL-PRF-85285 Type I, Class H, or equivalent	TOPCOAT, POLYURETHANE, BLUE	A/R
4	MIL-PRF-85285 Type I, Class H, or equivalent	TOPCOAT, POLYURETHANE, WHITE	A/R

Parts Availability:

Parts can be obtained locally. If any assistance is required; please contact GippsAero;

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: PARTS@gippsaero.com.au

Labour:

Approximately 2 hours should be allocated to completing the requirements of this Service Bulletin.

This estimate does not include time required to do normal maintenance preparation or set up equipment.

Warranty:

Aircraft covered by warranty may claim the direct cost of incorporating the requirements of this Service Bulletin by contacting GippsAero Customer Service:

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: SUPPORT@gippsaero.com.au

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.

Rudder Circuit - Forward

1. Remove the cover for the rudder pedal levers located inboard of the pilots rudder pedals (which correspond to the left-hand crew seat). Stow cover and hardware.
2. Inspect the rudder pedal levers and the attaching rudder cables. Check that the outboard rudder pedal lever and cable both have yellow colour coding. Check that the inboard rudder pedal lever and cable both have red colour coding. If correct advance to step 6. Otherwise, carry out the applicable steps 3, 4, and/or 5 as necessary to produce the correct colour coding.
3. Paint the outboard rudder pedal lever with item 1 (YELLOW) as depicted in Figure 1. Avoid painting in proximity to the connection to the rudder cable. The paint should extend approximately two inches along the outboard rudder pedal lever. Ensure any incorrect colour coding is completely obscured or removed.
4. Paint the inboard rudder pedal lever with item 2 (RED) as depicted in Figure 2. Avoid painting in proximity to the connection to the rudder cable. The paint should extend approximately two inches along the outboard rudder pedal lever. Ensure any incorrect colour coding is completely obscured or removed.
5. Paint the rudder cable terminals at the forward end of the aircraft as indicated in Figure 3; the cable on the port side of the aircraft with item 1 (YELLOW) and the cable on the starboard side with item 2 (RED). Ensure any incorrect colour coding is completely obscured or removed. The rudder cables may have plastic sleeves to provide the colour coding.
6. Re-install the rudder pedal lever cover with existing hardware, if serviceable.

NOTE:

The rudder cables are identical except for the colour coding, hence earlier aircraft will have the same part number for both left and right rudder cables.

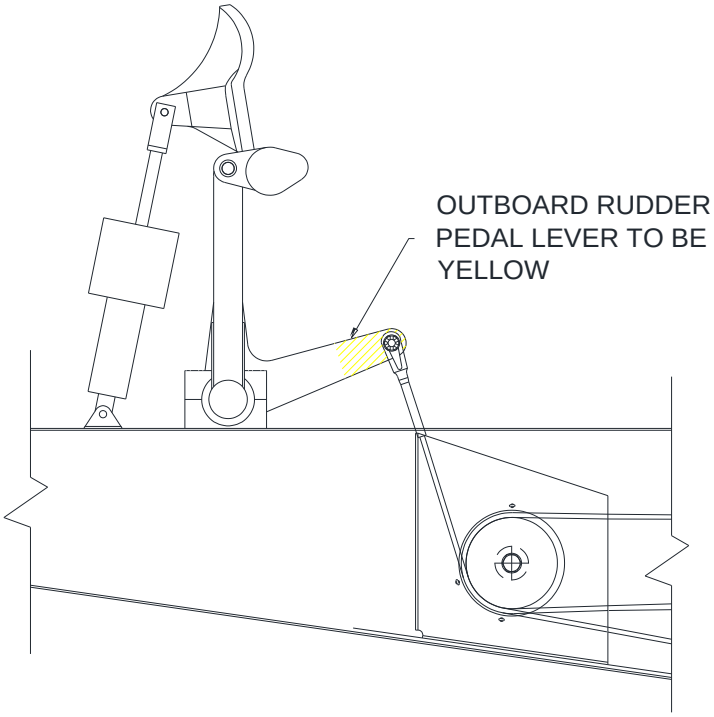
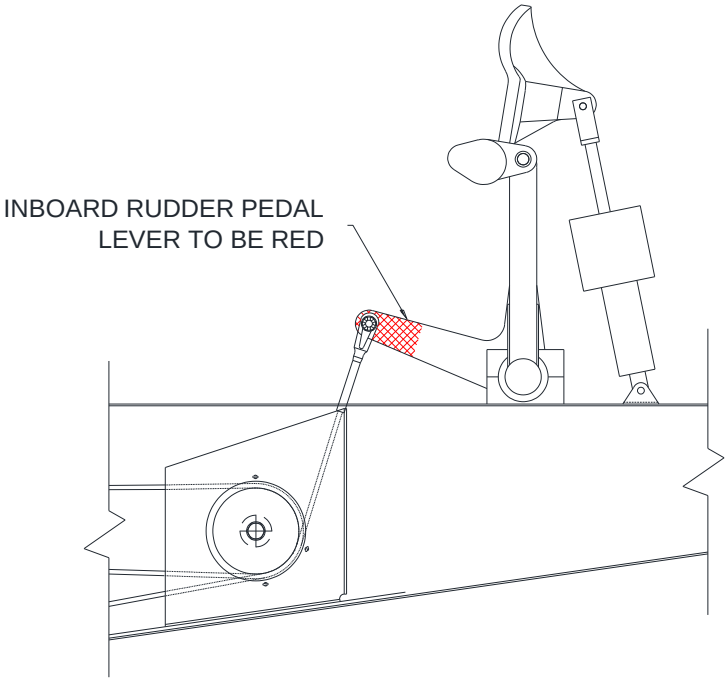


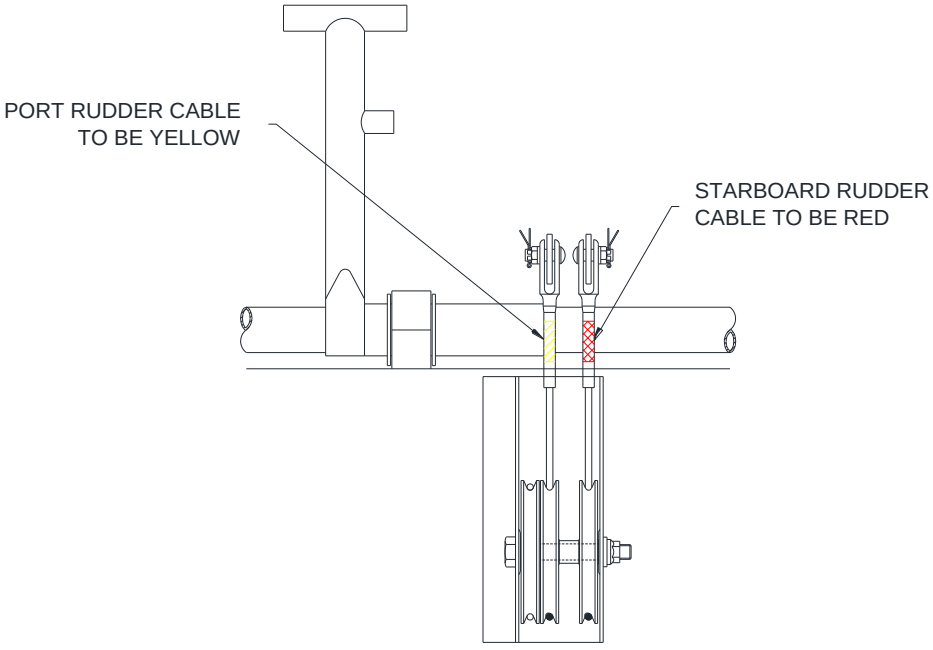
Figure 1 – Outboard Rudder Pedal Lever



RUDDER PEDAL ASSEMBLY

VIEW LOOKING PORT

Figure 2 – Inboard Rudder Pedal Lever



RUDDER PEDAL ASSEMBLY

VIEW LOOKING FORWARD

Figure 3 – Rudder Cable Assemblies

Rudder Circuit - Aft

1. Remove the access panel from the underside of the tailcone and stow with hardware.
2. From inside the tail cone, inspect the forward face of the bulkhead at station 229.75 (the bulkhead immediately aft of the elevator walking beam assembly) to ensure the apertures through which the rudder cables route are colour coded correctly. Check above the upper starboard pulley for yellow and the upper port pulley for red. Note the rudder cables cross in the floor at station 57.5 hence the colour coding at the bulkhead will be on opposite sides when compared to the rudder pedals. If correct advance to step 4. Otherwise carry out step 3.
3. Place a small dot of paint of approximately 0.375” diameter using item 1 (YELLOW) above the upper starboard pulley and item 2 (RED) above the upper port pulley as illustrated in Figure 4. Ensure any incorrect colour coding is completely obscured or removed. Note that at the factory the colour coding is embodied as a small rectangular patch around the aperture which cannot be fully applied in the field due to the presence of the pulley brackets.
4. Inspect the rear end of the rudder cables for correct colour coding; starboard yellow and port red. It may be necessary to remove the circular access panel on the side of the rear tailcone between the bulkhead at station 229.75 and the aft bulkhead and/or articulate the rudder. If correct advance to step 6. Otherwise proceed with step 5.
5. Apply the correct colour coding to the rear end of the rudder cable assemblies using item 1 (YELLOW) for the starboard cable and item 2 (RED) for the port cable as depicted in Figure 5 and Figure 6. Removing any fairings, as required. Ensure any incorrect colour coding is completely obscured or removed. The rudder cables may have plastic sleeves to provide the colour coding.
6. Apply colour coding to the rudder horn as illustrated in Figure 7. Removing any fairings, as required.
7. Re-install any removed fairings.

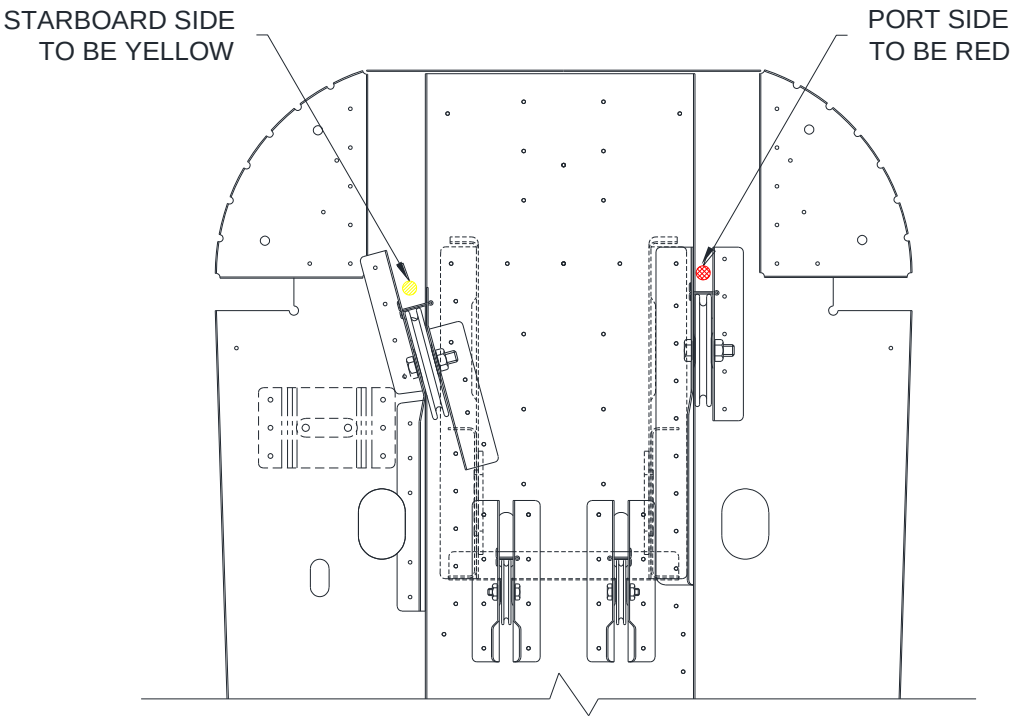


Figure 4 – Bulkhead Assembly

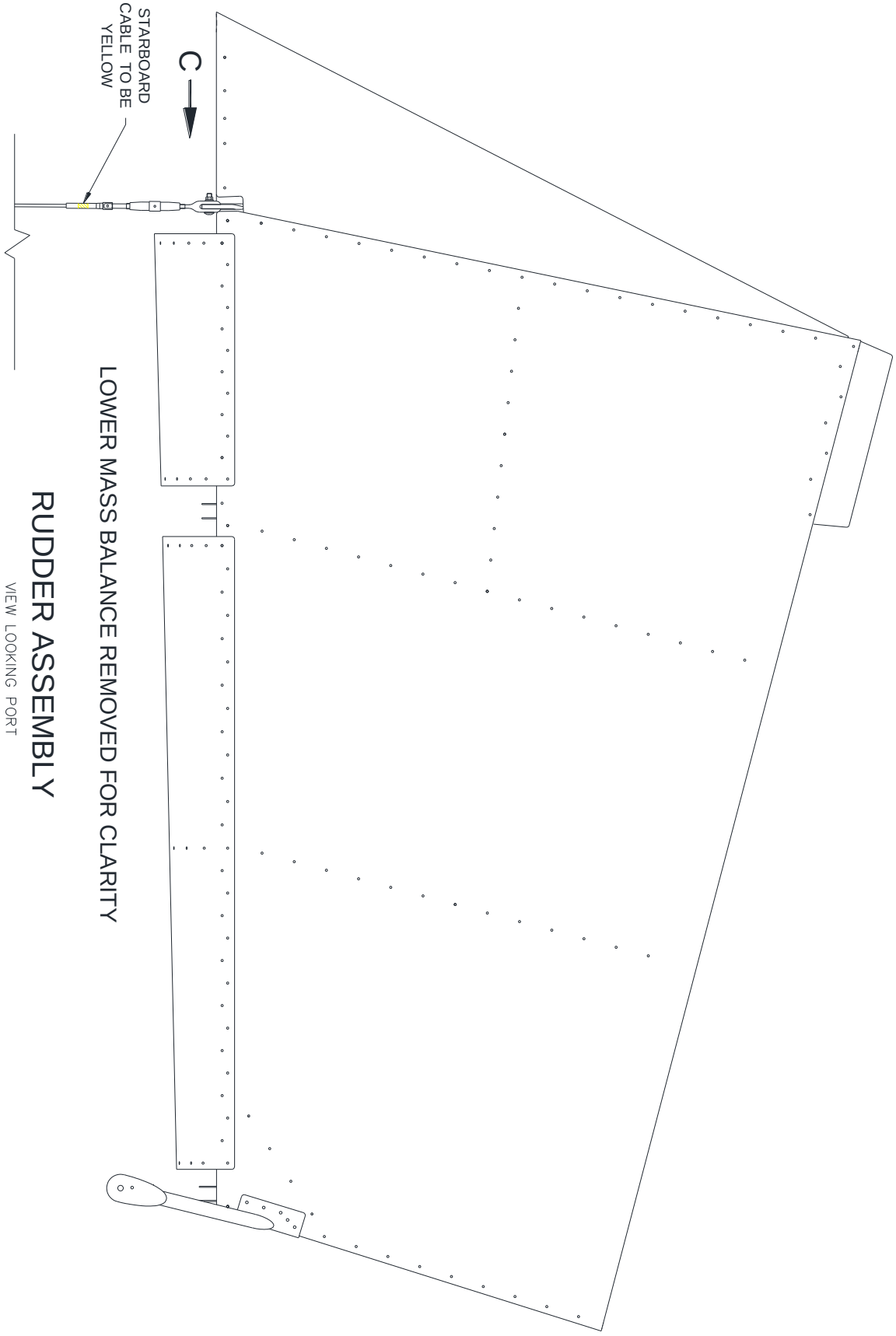


Figure 5 – Rudder Assembly (Starboard Side)

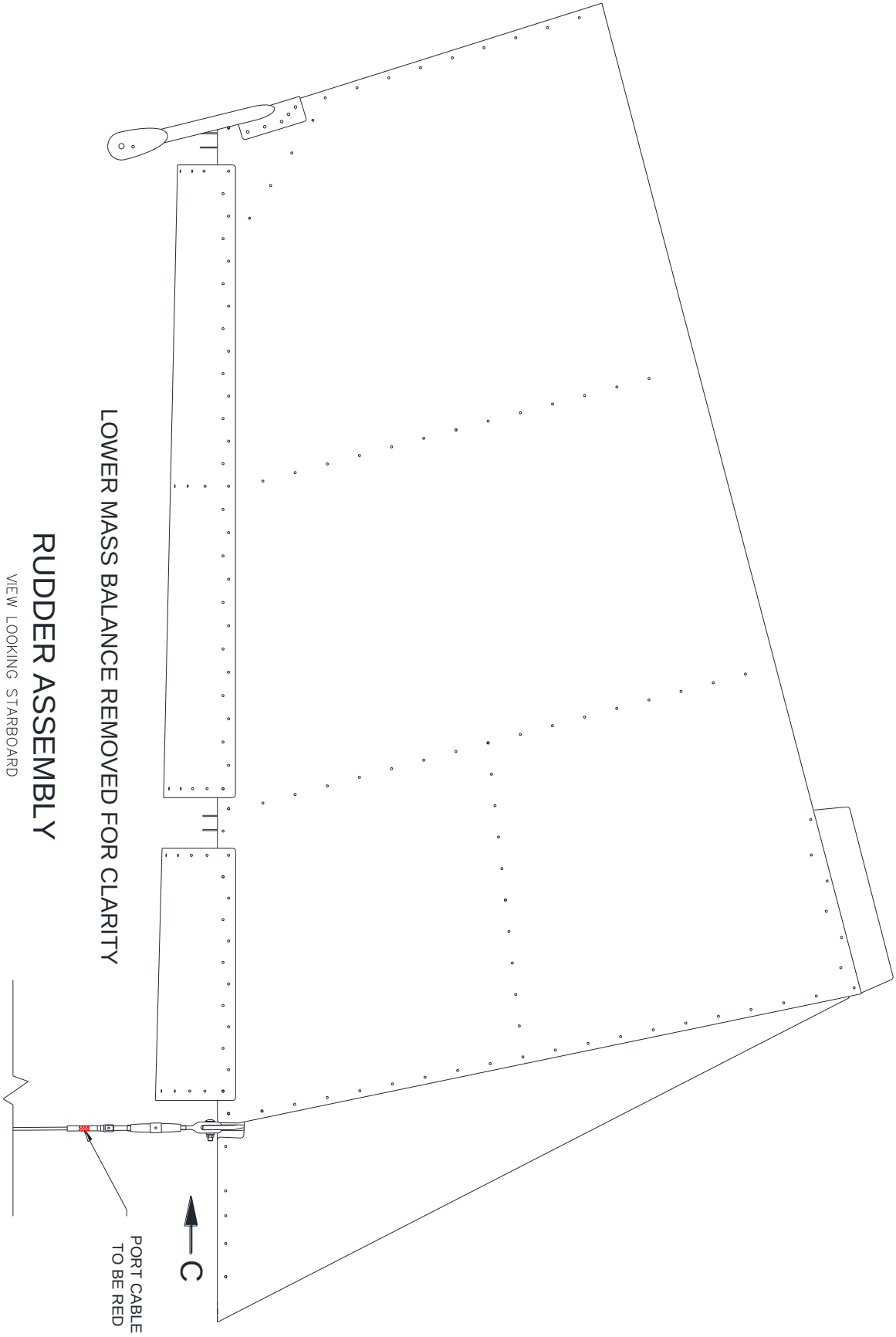


Figure 6 – Rudder Assembly (Port Side)

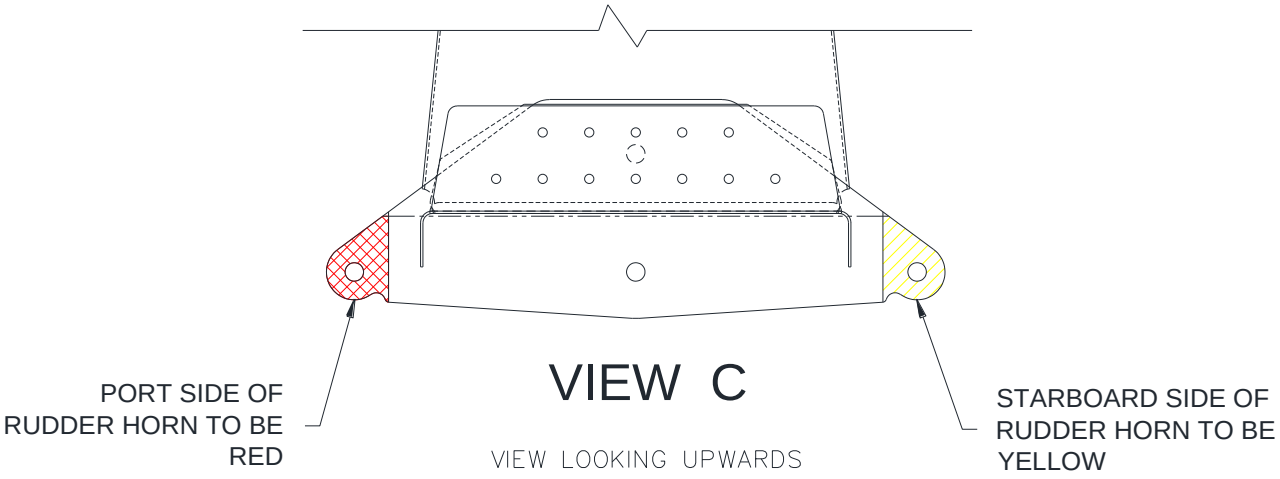


Figure 7 – Rudder Horn

Elevator Circuit - Forward

1. Remove the floor access panel adjacent to the control column to facilitate inspection of the forward end of the elevator cables.
2. Inspect the swaging on the elevator cables connected to the control column lever for correct colour coding. The elevator down cables routes forward and should be blue and the elevator up cable routes aft and should be white. If correct advance to step 4. Otherwise proceed with step 3.
3. Paint the elevator down cable swage with item 3 (BLUE) and the elevator up cable swage with item 4 (WHITE) as depicted in Figure 8. Ensure any incorrect colour coding is completely obscured or removed.
4. Re-install floor access panel with existing hardware, if serviceable.

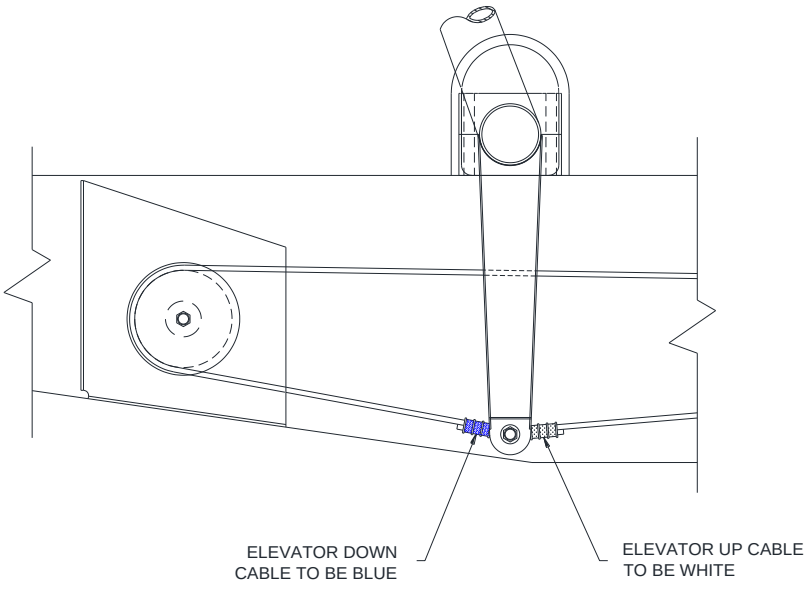


Figure 8 – Elevator Circuit (Forward)

Elevator Circuit - Aft

1. Inspect the elevator walking beam and cable assemblies. Check the elevator down cable and the upper arm of the walking beam are colour coded blue, and the elevator up cable and lower arm of the walking beam are white. If correct advance to step 3. Otherwise complete step 2.
2. Paint the swage on the elevator down cable and the lug on the upper arm of the elevator walking beam with item 3 (BLUE). Paint the swage on the elevator up cable and the lug on the lower arm of the elevator walking beam with item 4 (WHITE) as illustrated in Figure 9. Ensure any incorrect colour coding is completely obscured or removed.
3. Re-installed all removed access panels with existing hardware, if serviceable.

Rudder and Elevator Circuits

1. Conduct duplicate inspections of the rudder control circuit by independent and appropriately licenced personnel to ensure the full, free, smooth operation of the rudder surface in the correct sense. Ensure the nose wheel tyre is not damaged in this process.
2. Conduct duplicate inspections of the elevator control circuit by independent and appropriately licenced personnel to ensure the full, free, smooth operation of the elevator surface in the correct sense.

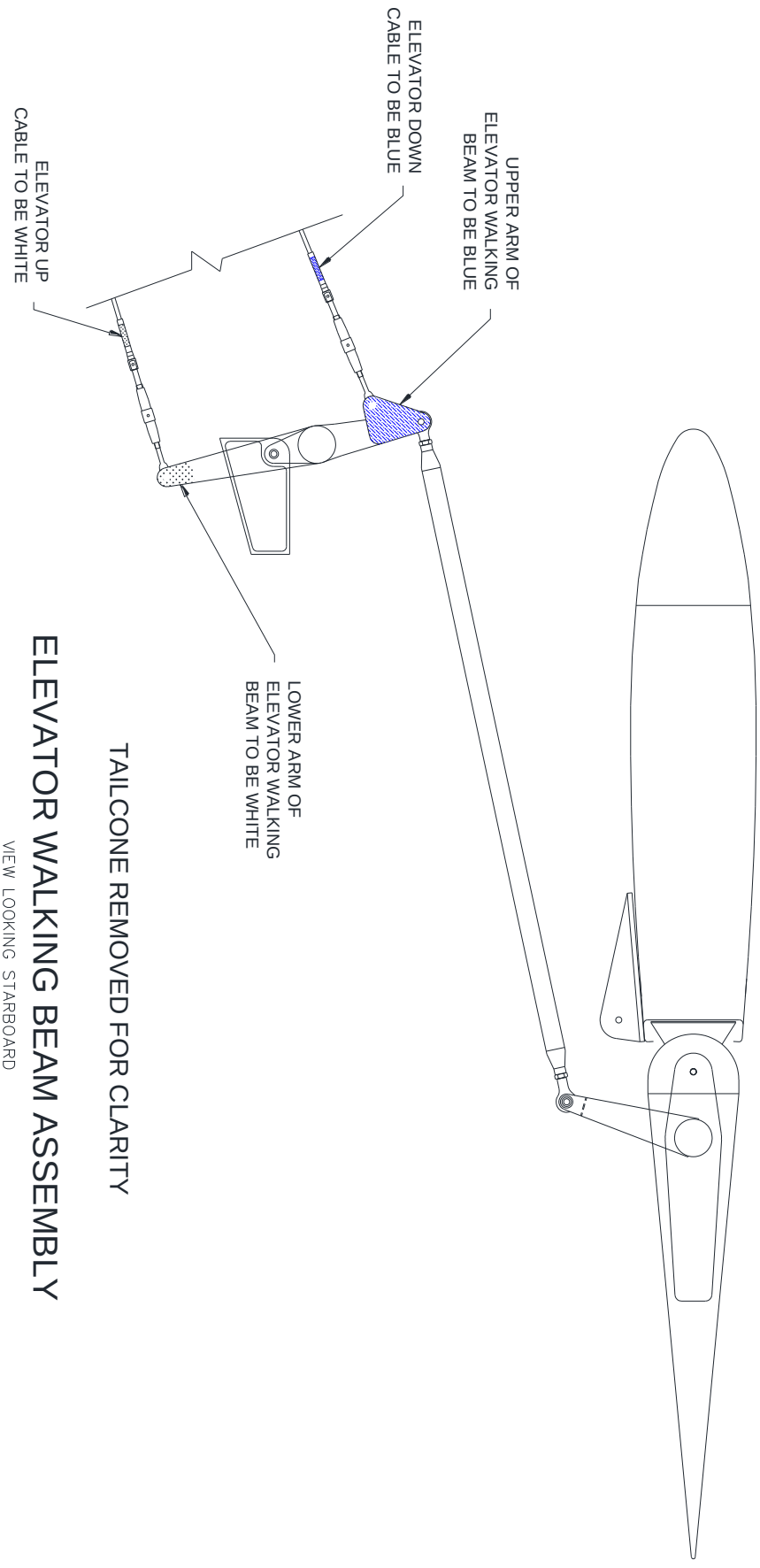


Figure 9 – Elevator Circuit (Aft)

Documentation:

Update aircraft logbook to reflect incorporation of this Service Bulletin.

Continuing Airworthiness:

There are no additional continuing airworthiness requirements introduced by this Service Bulletin.

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-GA8-2021-210 **Issue 1**

Aircraft Serial Number: GA8-_____

Service Bulletin SB-GA8-2021-210 Issue 1 has been incorporated in the above aircraft.

Date of Incorporation:_____

_____
Signed

Print Name: _____

Please post, fax or email this compliance notice to:

GippsAero
Attn: Technical Publications
Email: TECHPUBS@gippsaero.com.au
P.O. Box 881
Morwell Victoria 3840
Australia
Fax.: +61 03 5172 1201