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Aeronautical

A C C E S S O R I E S™

450 INDUSTRIAL PARK RD, PINEY FLATS,
TENNESSEE 37686-4419 USA

TELEPHONE: 423-538-5151 TOLL FREE: 800-251-7094
TELEFAX: 423-538-8469 E-MAIL: sales@aero-access.com
techsupport@aero-access.com

Technical Bulletin

TB No. AA-16061
No Revision
September 26, 2016

SUBJECT: Removable Crew Door Kit Upgrade

PARTS AFFECTED: Removable Crew Door Installation Kit
P/N 429-650-001

MODELS AFFECTED: Bell Helicopter Textron Canada Limited model 429 helicopters with subject Removable Crew Door Installation Kit installed in accordance with FAA STC No. SR00741DE.

COMPLIANCE: At Customer option.

DESCRIPTION: This Technical Bulletin is being issued to allow the owner to upgrade their Removable Crew Door Installation Kit.

FAA/ODA APPROVAL: The engineering aspects of this Technical Bulletin are FAA/ODA approved.

MANPOWER: Approximately 3.0 man-hours.
(Man-hours are based on hands-on time and may vary with personnel or facilities available).

IF OWNERSHIP OF AIRCRAFT HAS CHANGED, PLEASE FORWARD THIS BULLETIN TO NEW OWNER

LOG OF REVISIONS

Date	Revision	Description	Affected Pages
9/26/16	NR	Original Release	All

Reviewed:



Engineering

1.0 MATERIALS REQUIRED

**429 Removable Crew Door Cable Assembly Upgrade Kit
P/N TB-16061-001**

Quantity	Part Number	Description
1	429-652-103	Cable Assy, LH
1	429-652-104	Cable Assy, RH
2	429-652-125	Eyelet Fitting
3	NAS1329C06-75	Rivnut
10	140-009A8T16	Washer
2	NAS1149C0332R	Washer
6	NAS1149CN616R	Washer
6	MS51957-28	Screw
2	MS35650-304	Nut
4	MS24665-151	Pin, Cotter
1	AA-16061	Technical Bulletin – 429 Removable Crew Door Kit Upgrade

Customer Supplied Consumable Materials

Quantity	Description
AR	AMS-S-8802 - Sealant (Alt: MIL-PRF-81733)
AR	MIL-PRF-23377, Type I Class C2 - Epoxy Polyamide Primer
AR	Isopropyl Alcohol
AR	3M 5453 – PTFE Glass Cloth Tape (Teflon tape) (Alt: 3M 5451) (2" wide – recommended)

2.0 WEIGHT AND BALANCE

Not affected

3.0 PUBLICATIONS AFFECTED

Installation Instructions, Removable Crew Door Installation Kit, report AA-11079

Instructions for Continued Airworthiness, Removable Crew Doors, report AA-11071

4.0 ADDITIONAL INFORMATION

Any questions regarding this bulletin should be addressed to:

Aeronautical Accessories

Attn: Technical Support

450 Industrial Park Rd

Piney Flats, TN 37686-4419

Email: techsupport@aero-access.com

1-800-251-7094

5.0 ACCOMPLISHMENT INSTRUCTIONS:

(Refer to Figures 1 through 4)

1. Remove the existing Removable Crew Door and attaching hardware and retain for reinstallation (ref. AA-11071).

NOTE

If aircraft is equipped with Automatic Crew Door Opener Kit, disconnect cylinder end from bracket on Removable Crew Door, prior to removing (ref. AA-09074).

NOTE

Lay the Removable Crew Door on a protected surface with the exterior surface facing downward, to protect the painted surface from damage.

2. Remove and retain interior trim panel and all attaching hardware from the inside of the Removable Crew Door (ref. BHT-429-MM, Chapter 25).

NOTE

For the L/H Removable Crew Door only: When removing the MS35214-43 Screws (qty 3) that attach the Cupholder, ensure the NAS43DD3-16FC Spacers (qty 3) between the trim panel and the Removable Crew Door, are secured. Retain Screws and Spacers.

NOTE

Inspect removed interior trim panel for wear or damage and repair or replace, per customer discretion.

3. At Lower Hinge Bracket location, remove the MS24665-151 Cotter Pin and 140-009A8T16 Washer securing the Cable Assembly's 429-652-123 Eyelet Fitting to the MS20392-1R9 Straight Pin on the 429-651-137 (L/H) / 429-651-138 (R/H) Tab (ref. Figure 1). Discard hardware.
4. Carefully remove the Cable Assembly's 429-652-123 Eyelet Fitting and the 140-009A8T16 Washers from the MS20392-1R9 Straight Pin (ref. Figure 1). Discard Washers.
5. At the Removable Crew Door's OEM handle location: Remove the MS24665-151 Cotter Pin and NAS1149C0332R Washer securing the Cable Assembly's 429-652-125 Eyelet Fitting to the OEM handle rod (ref. Figure 1). Discard Cotter Pin and Washer.
6. Remove MS51957-28 Screw and NAS1149CN532R Washer (4 places) that secures the MS21919WCG2 Clamps to the NAS1329C06-75 Rivnuts and the Cable Assembly to the Removable Crew Door (ref. Figure 1). Discard Clamps and hardware.
7. Pull the Cable Assembly through the existing cutout in the Removable Crew

Door (ref. Figure 1).

NOTE

If required, in order to pass through the opening in the Removable Crew Door, remove the 429-652-125 Eyelet Fitting from the Cable Assembly. Discard Eyelet Fitting, if removed.

8. Remove the 429-652-101 (L/H) / 429-652-102 (R/H) Cable Assembly and discard.

NOTE

Inspect area of Removable Crew Door where Cable Assembly was removed to ensure no damage has occurred before beginning installation of new cable assembly.

9. Orient 429-652-103 (L/H) / 429-652-104 (R/H) Cable Assembly to the inside of Removable Crew Door (ref. Figure 2).
10. Carefully insert the aft end (threaded end) of the Cable Assembly into the existing cutout in the Removable Crew Door (ref. Figure 2).
11. Accessing the threaded (aft) end of the Cable Assembly through the opening for the Removable Crew Door's OEM handle, install MS35650-304 Nut and 429-652-125 Eyelet Fitting to the .35 inch dimension shown in Figure 2. Tighten Nut against the end (fwd) of the Eyelet Fitting to lock the adjustment in place.

NOTE

Ensure the 429-652-125 Eyelet Fitting is installed to the .35 inch adjustment and is aligned in the same plane as the 429-652-123 Eyelet Fitting at the fwd end of the Cable Assembly, prior to tightening Nut (ref. Figure 2).

12. Temporarily install the 429-652-125 Eyelet Fitting on the Removable Crew Door's OEM handle rod and secure in place using NAS1149C0332R Washer and MS24665-151 Cotter Pin (ref. Figure 2). Temporarily secure Cotter Pin.
13. At Lower Hinge Bracket location, temporarily install 140-009A8T16 Washers (qty 4) onto existing MS20392-1R9 Straight Pin on the 429-651-137 (L/H) / 429-651-138 (R/H) Tab (ref. Figure 2).
14. Temporarily install the Cable Assembly's 429-652-123 Eyelet Fitting to the MS20392-1R9 Straight Pin using 140-009A8T16 Washer and MS24665-151 Cotter Pin (ref. Figure 2). Temporarily secure Cotter Pin.

NOTE

Ensure there is no twist in the wire rope and the 429-652-123 Eyelet Fitting is still aligned in the same plane as the 429-652-125 Eyelet Fitting at the aft end of the Cable Assembly, prior to installation. Slightly adjust 429-652-125 Eyelet Fitting at the aft end of the Cable Assembly, if required.

15. At the Upper Hinge Bracket location, rotate 429-651-133 (L/H) / 429-651-134 (R/H) Handle to release both Upper and Lower Hinge Assembly's from the Upper and Lower Brackets (ref. AA-11071, Instructions for Continued Airworthiness, Removable Crew Doors).

NOTE

Ensure Removable Crew Door is supported to prevent damage to the Upper and Lower Hinge Assembly's when released from the Upper and Lower Brackets.

16. Temporarily tie Handle in release position (ref Figure 3).
17. Activate the Removable Crew Door's OEM handle to open upper and lower hinges at the aft of the Removable Crew Door and temporarily tie Removable Crew Door's OEM handle in the open position, ensuring no damage to handle or Removable Crew Door (ref Figure 3).
18. Position 429-652-103 (L/H) / 429-652-104 (R/H) Cable Assembly by lightly pulling in the location and direction of the arrows shown in Figure 2, to apply tension on the wire rope.
19. While maintaining tension, adjust position of the Cable Assembly until there is .7 inch minimum of exposed wire rope at the front end of the tube and the wire rope is exiting the tube in a parallel line to the eye of the 429-652-123 Eyelet Fitting, as shown in Figure 2.
20. Ensure .9 -1.0 inch is maintained between the top portion of the tube and the beveled edge on the Removable Crew Door, as shown in Figure 2.

NOTE

If the final location of the Cable Assembly results in interference between any of the mounting tabs (qty 3) to any of the existing Rivnuts, trim the tab as shown in "Tab Detail" in Figure 2, ensuring minimum 1.5 edge distance is maintained.

21. Temporarily secure Cable Assembly in the determined, final position and carefully match drill Removable Crew Door .189 - .193 inch diameter (3 places), using the holes from the tabs of the Cable Assembly as a guide (ref. Figure 2).

NOTE

Use of a drill stop is highly recommended when drilling the holes through the inner skin of the Removable Crew Door for the Rivnuts.

22. Carefully release the Removable Crew Door's OEM handle from the open position to release tension on the Cable Assembly (ref Figure 3).
23. At the Lower Hinge Bracket location, remove the temporarily installed MS24665-151 Cotter Pin and 140-009A8T16 Washer along with the Cable Assembly's 429-652-123 Eyelet Fitting and 140-009A8T16 Washers (qty 4) from the MS20392-1R9 Straight Pin on the 429-651-137 (L/H) / 429-651-138 (R/H) Tab (ref. Figure 2). Retain washers and cotter pin.
24. At the aft end of the Cable Assembly, remove the temporarily installed MS24665-151 Cotter Pin, NAS1149C0332R Washer and 429-652-125 Eyelet Fitting from the Removable Crew Door's OEM handle rod (ref. Figure 2). Retain washer and cotter pin.
25. With both ends of the Cable Assembly unattached and the aft end of the of the tube portion remaining installed in the through hole in the Removable Crew Door, position Cable Assembly to gain required access to the holes (qty 3) that were drilled in section 21.
26. Add two coats of Epoxy Polyamide Primer, per MIL-PRF-23377, Type I Class C2, to all outside surfaces of NAS1329C06-75 Rivnuts, prior to installation.
27. Install NAS1329C06-75 Rivnut (qty 3) in the inner skin of the Removable Crew Door at the drilled hole locations (ref. Figure 2).
28. Re-position Cable Assembly into location and install using NAS1149CN616R Washer and MS51597-28 Screw (3 places). Install threaded fasteners with tips wet using AMS-S-8802 Sealant (alt: MIL-PRF-81733). Torque Screws to 7-9 in-lbs (ref. Figure 2).
29. At Lower Hinge Bracket location, re-install 140-009A8T16 Washers (qty 4) onto existing MS20392-1R9 Straight Pin on the 429-651-137 (L/H) / 429-651-138 (R/H) Tab (ref. Figure 2).
30. Re-install the Cable Assembly's 429-652-123 Eyelet Fitting to the MS20392-1R9 Straight Pin using 140-009A8T16 Washer and MS24665-151 Cotter Pin (ref Figure 2). Fully secure Cotter Pin.
31. At the Upper Hinge Bracket location, untie the Handle (ref. Figure 3) from the release position and re-install the Upper and Lower Hinge Assembly's, while rotating the Handle to the fully engaged position.

NOTE

Rigging of the Removable Crew Door is best accomplished using two personnel to prevent damage.

32. Accessing the aft end of the Cable Assembly through the Removable Crew Door's OEM handle opening, ensure the previously installed 429-652-125 Eyelet Fitting is installed to the .35 inch adjustment and is aligned in the same plane as the 429-652-123 Eyelet Fitting at the fwd end of the Cable Assembly without any twist in the wire rope (ref. Figure 2).
33. Install the 429-652-125 Eyelet Fitting onto the Removable Crew Door's OEM handle rod and secure in place using NAS1149C0332R Washer and MS24665-151 Cotter Pin (ref. Figure 2). Temporarily secure Cotter Pin.
34. Perform a functional check for Removable Crew Door rigging per AA-11071, Instructions for Continued Airworthiness for Removable Crew Doors, Section 7.0.

NOTE

Ensure Removable Crew Door is supported to prevent damage to the Upper and Lower Hinge Assembly's when released from the Upper and Lower Brackets.

35. On the inside surface of the retained interior trim panel, clean the faying surface area that will contact the Cable Assembly tube using Isopropyl Alcohol, allow to fully dry, and install 3M 5453 Teflon Tape (ref. Figure 4).
36. Re-install the interior trim panel and all attaching parts, using the retained hardware, to the inside of the Removable Crew Door (ref. BHT-429-MM, Chapter 25).

NOTE

For the L/H Removable Crew Door only: Ensure the retained NAS43DD3-16FC Spacers (qty 3) are installed between the trim panel and the Removable Crew Door when re-installing the Cupholder to the L/H interior trim panel.

37. Install the upgraded Removable Crew Door assembly to the airframe using the retained hardware (ref. BHT-429-MM, Chapter 52).
38. Perform a functional check of the L/H and R/H Removable Crew Doors per AA-11071, Instructions for Continued Airworthiness for Removable Crew Doors, Section 6.0.

NOTE

If aircraft is equipped with Automatic Crew Door Opener Kit, connect cylinder end to bracket on Removable Crew Door (ref. AA-09074).

39. Removable Crew Door Kit Upgrade installation complete.

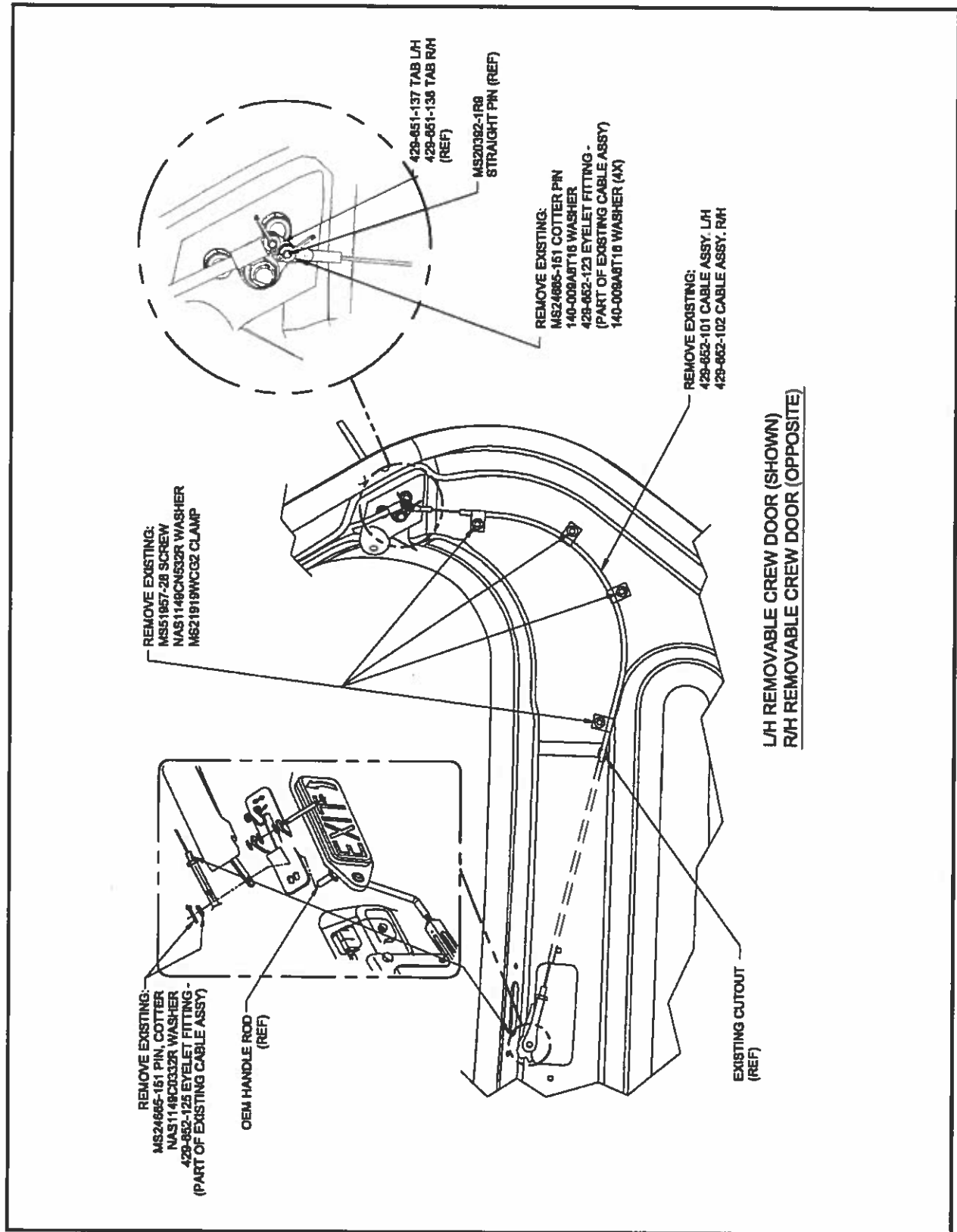


FIGURE 1 – CABLE ASSEMBLY REMOVAL

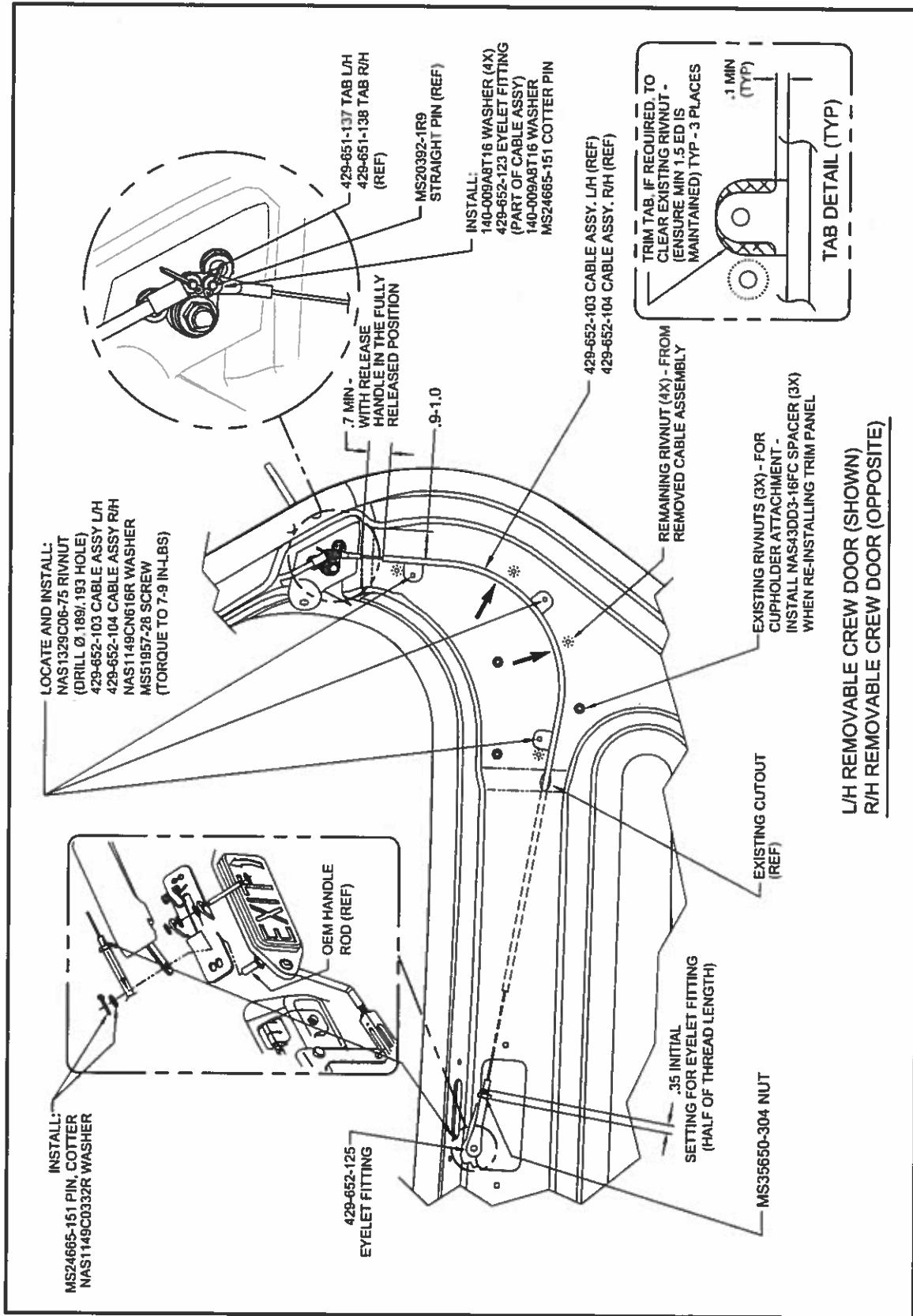
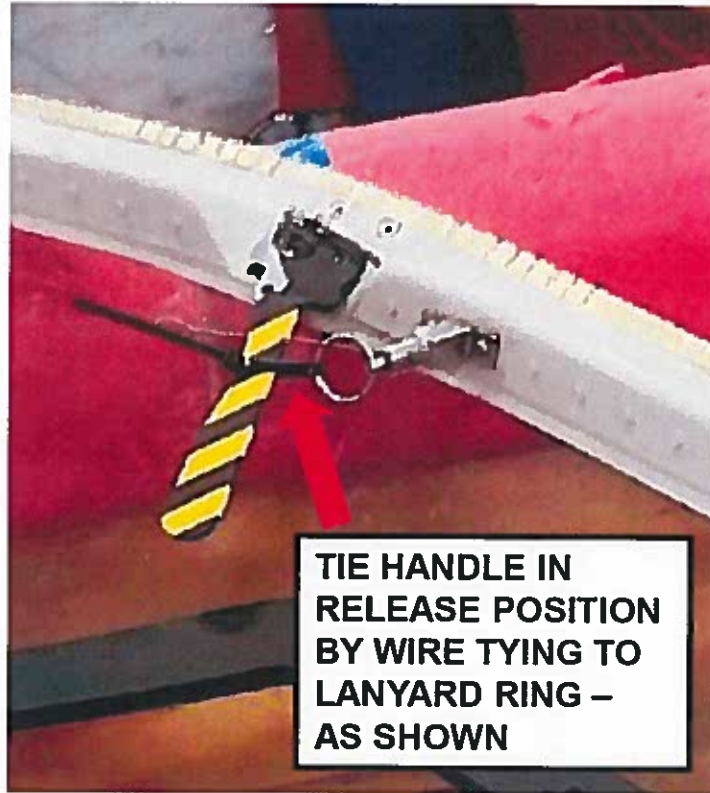
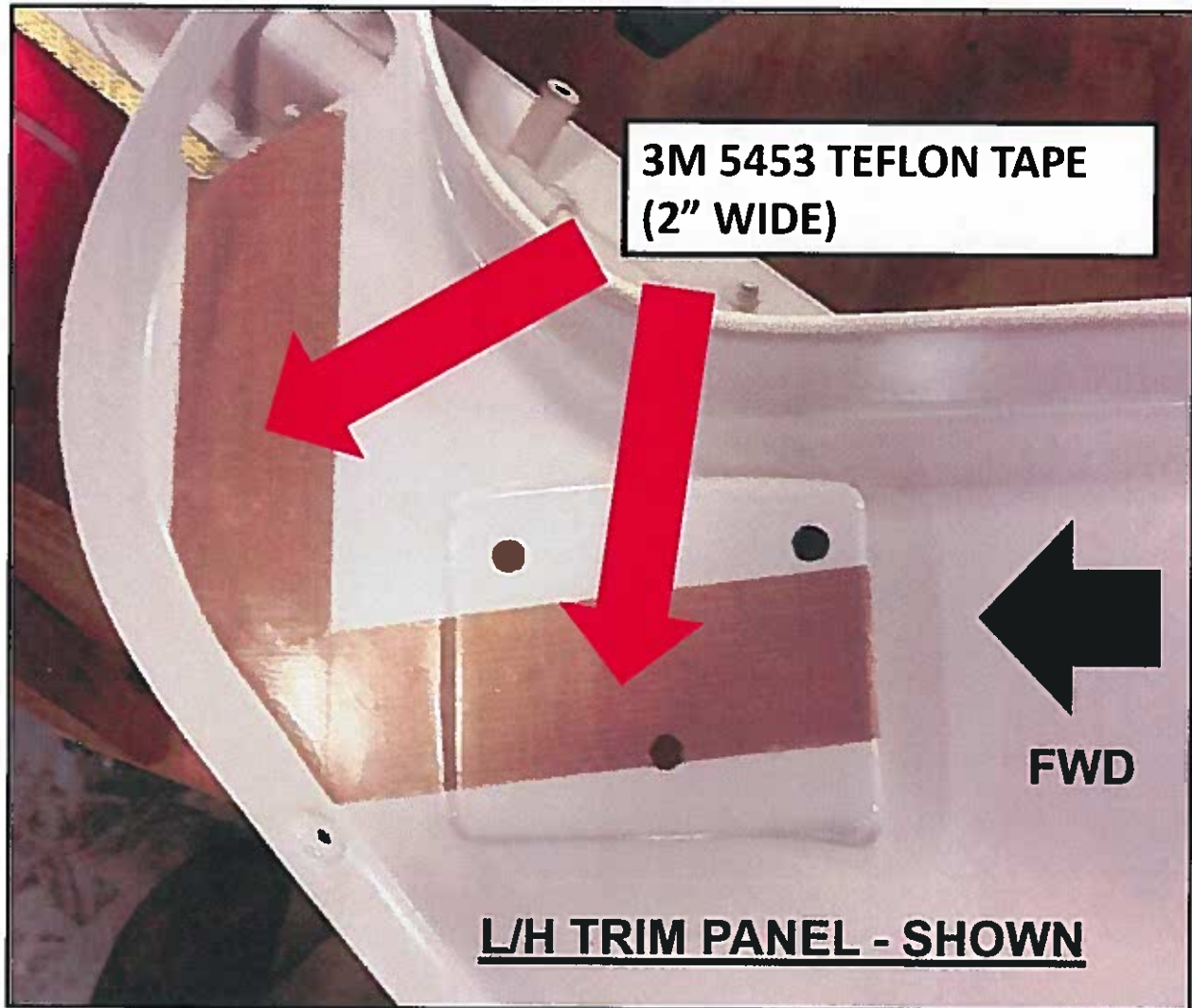


FIGURE 2 – CABLE ASSEMBLY INSTALLATION



**FIGURE 3 – SECURING OF HANDLES FOR RIGGING
OF NEW CABLE ASSEMBLY INSTALLATION**



**FIGURE 4 – INSTALLATION OF TEFLON TAPE ON TRIM PANEL
(L/H – SHOWN / R/H – OPPOSITE)**