



A Textron Company

## ALERT SERVICE BULLETIN

**505-24-38**

**PSL # 1891**

24 January 2024

**MODEL AFFECTED:** 505

**SUBJECT:** VERTICAL STABILIZER ASSEMBLY, TOP END CAP ASSEMBLY, INSPECTION OF.

**HELICOPTERS AFFECTED:** Serial numbers 65011 through subsequent.

**COMPLIANCE:** **PART I** - Within 10 flight hours following the release date of this bulletin.

**PART II** – Prior to next flight, as required by **PART I** or **PART III**.

**PART III** - Every 25 flight hours following the accomplishment of **PART I** or **II** of this bulletin.

### DESCRIPTION:

Bell has received reports of the top end cap assemblies of the vertical stabilizer assembly found cracked, and in two cases, departure of the NAV/VOR/GS antenna and tuning weight from the helicopters while in flight.

**PART I** of this Alert Service Bulletin (ASB) requires a one-time detailed inspection of the top end cap assembly. **PART II** provides instructions for the replacement of the top end cap assembly if found cracked. **PART III** of this bulletin provides the instructions for a recurring detailed inspection of the top end cap assembly.

This is a temporary measure to address a safety of flight concern. A redesign of the top end cap assembly will be the terminating action to the recurring inspections of **PART III** of this bulletin in a future revision of this ASB.

### APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

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Approved for public release.

## CONTACT INFO:

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering  
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

## MANPOWER:

Approximately 2.0 man-hours are required to complete the **PART I** of this bulletin.  
Approximately 3.0 man-hours are required to complete the **PART II** of this bulletin.  
Approximately 1.0 man-hour is required to accomplish **PART III** of this bulletin.

These estimates are based on hands-on time and may vary with personnel and facilities available.

## WARRANTY:

Owners / Operators of Bell Helicopters who comply with the instructions in this bulletin will be eligible to receive replacement part and labor as applicable, listed in the bulletin. The [www.mybell.com](http://www.mybell.com) portal allocates specific warranty entitlement for an aircraft by serial number. The Product Service Letter (PSL) number which will be listed below the bulletin number on the introduction page. This is going to be a required field when submitting a claim on the Bulletins Tab for replacement parts, labor, and/or freight. If you receive an ASB or TB that does not have a PSL number, then there is no warranty entitlement for that bulletin.

Labor entitlement: Yes, **PART II** only. \$330.00 USD

To receive parts, labor, under warranty:

- If required by **PART I** or **PART III**, comply with the instructions for **PART II** contained in this Bulletin no later than 12 months from date of release of this Bulletin.
- If there is a PSL number identified in the bulletin you will be required to enter this PSL number which will validate warranty entitlement for the selected aircraft. Please ensure that you use the Bulletin tab on the warranty section on [www.mybell.com](http://www.mybell.com) portal to file your claim.

**NOTE:** A user guide on how to submit a claim can be found here:  
[How to Submit PSL Bulletin Claims.](#)

**MATERIAL:**

**Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
SLS-030-701-125	TOP END CAP ASSEMBLY	1 (1)
NAS9301B-4-01	RIVET	14 (1)
NAS9301B-4-02	RIVET	4 (1)

**NOTE 1:** Only required for accomplishment of **PART II** of this bulletin.

**Consumable Material:**

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
COMMERCIAL	ORGANIC FINISH (PAINT)	1 GAL (1,3)	C-245
2010-12481-01	SEALANT (MIL-PRF-81733)	1 PT (1,4)	C-251
2100-06673-00	ISOPROPYL ALCOHOL	1 GAL (1,4)	C-385
2000-00713-00	TAPE	1 ROLL (1,2)	C-454

\* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual.

**NOTES:**

1. Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.
2. Required for accomplishment of **PART I** of this bulletin.
3. Required for accomplishment of **PART II** of this bulletin.
4. Required for accomplishment of **PART I** and **II** of this bulletin.
5. Toluene 2110-06227-00 (C-306) or Ethyl Alcohol (C-339) can be used as an alternate.

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

## **ELECTRICAL LOAD DATA:**

Not affected.

## **REFERENCES:**

BHT-ALL-SPM, Standard Practices Manual, Chapter 4.  
BHT-ALL-SRM, Structural Repair Manual, Chapter 3.  
505-MM, Maintenance Manual, Chapters 33 and 34.

## **PUBLICATIONS AFFECTED:**

None affected.

## **ACCOMPLISHMENT INSTRUCTIONS:**

### **PART I – One-time detailed inspection of the vertical stabilizer assembly, top end cap assembly.**

1. Prepare the helicopter for maintenance.

-NOTE-

Helicopters serial number 65011 through 65169 have been delivered with five tuning weight washers SLS-030-701-139 and one tuning weight SLS-030-701-137 installed. Serial numbers 65170 and subsequent will have one tuning weight SLS-030-701-141 installed (Figures 1 and 2).

2. Remove the NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-520A-A](#)).
3. Secure the NAV/VOR/GS antenna coaxial cable so that it does not fall into the vertical stabilizer assembly.
4. Remove any residual sealant (C-251) that may be present on the top end cap and tuning weight.
5. Using isopropyl alcohol (C-385) clean the surface of the top end cap assembly and allow to dry.
6. Perform a detailed inspection for any cracks of the top end cap assembly in area indicated (Figure 3).
  - a. If no cracks are found, go to step 7.

- b. If a crack is found, replacement of the cracked top end cap assembly, by accomplishment of **PART II**, shall be accomplished prior to next flight. Complete the remaining steps of **PART I** following accomplishment of **PART II**.

-NOTE-

Steps 7 through 11 will only need to be performed once. These steps create a form-in-place gasket for ease of removal/installation of the tuning weight for accomplishment of **PART III**.

-NOTE-

Ensure that the full surface of the top end cap assembly that is exposed is covered with the tape (C-454) preventing sealant (C-251) squeeze-out sticking to the surface. Tape may also be extended to the side surfaces of the top end cap assembly.

7. Apply tape (C-454) to the top end cap assembly in the area indicated (Figure 4).

-NOTE-

Lightly abrade the glossy topcoat finish on the surface of the tuning weight(s) where the sealant (C-251) is to be applied. This will provide improved adhesion of the sealant. The quantity of sealant applied shall be sufficient to meet the thickness requirements of step 9.

8. Apply sealant (C-251) to the mating surface of the tuning weight(s) that will be seated against the top end cap assembly.

-NOTE-

For the next step, the final thickness of sealant (C-251) applied shall be 0.020 to 0.025 inch (0.508 to 0.635 mm) thick.

9. Install the tuning weight(s) to the surface of the top end cap assembly. Apply sufficient torque to the retaining screws (2, Figure 1 and 2) until sealant (C-251) squeeze-out occurs between the top end cap assembly and the tuning weight. Allow the sealant to cure.
10. Once the sealant (C-251) has cured, remove the tuning weight(s).
11. Remove the tape (C-454) from the top end cap assembly.

-NOTE-

The application of sealant in the Maintenance Manual procedure in the following step is to be omitted.

12. Install the NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-720A-A](#)).
13. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART I** of this Alert Service Bulletin.

**PART II – Replacement of vertical stabilizer, top end cap assembly SLS-030-701-125.**

-NOTE-

Typical processes and repair procedures can be found in the BHT-ALL-SRM Structural Repair Manual in Chapter 3.

1. Prepare the helicopter for maintenance.
2. If not already accomplished, remove NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-520A-A](#)).
3. Remove anti-collision light assembly ([DMC-505-A-33-43-01-00A-520A-A](#)).
4. Remove the rivets (1 and 2, Figure 5) holding the top end cap assembly (3) to the vertical stabilizer assembly.

-NOTE-

Secure the anti-collision light cable assembly and the NAV/VOR/GS antenna coaxial cable assembly to ensure they do not fall into the vertical stabilizer assembly.

5. Remove the top end cap assembly (3).
6. Remove any residual sealant (C-251) that may be present on the vertical stabilizer assembly.
7. Using isopropyl alcohol (C-385) clean the surface of the top end cap assembly and allow to dry.
8. Apply sealant (C-251) to the faying surfaces of the top end cap assembly that will be in contact with the vertical stabilizer assembly.

9. Insert NAV/VOR/GS antenna coaxial cable connector (3430AT1P1) through the opening in the replacement top end cap assembly (3, Figure 5).
10. Install replacement top end cap assembly (3) using the rivets (1 and 2) indicated, wet installed with sealant (C-251).
11. Apply sealant (C-251) around the top end cap assembly and the vertical stabilizer assembly, including the openings at each end of the top end cap assembly (Figure 6).

-NOTE-

Organic finish (paint coating) required will vary between helicopters depending on the color of the vertical stabilizer assembly.

12. Apply organic finish to the top end cap and vertical stabilizer assembly as required. Allow sufficient time to dry prior to accomplishment of the next steps (BHT-ALL-SPM, Chapter 4).
13. Install the anti-collision light assembly ([DMC-505-A-33-43-01-00A-720A-A](#)).
14. If not previously accomplished, perform the steps 7 through 11 of **PART I**.

-NOTE-

The application of sealant in the Maintenance Manual procedure in the following step is to be omitted.

15. Install the NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-720A-A](#)).
16. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART II** of this Alert Service Bulletin.

### **PART III – Recurring detailed inspection of the vertical stabilizer, top end cap assembly SLS-030-701-125.**

1. Prepare the helicopter for maintenance.
2. Remove the NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-520A-A](#)).
3. Secure the NAV/VOR/GS antenna coaxial cable so that it does not fall into the vertical stabilizer assembly.

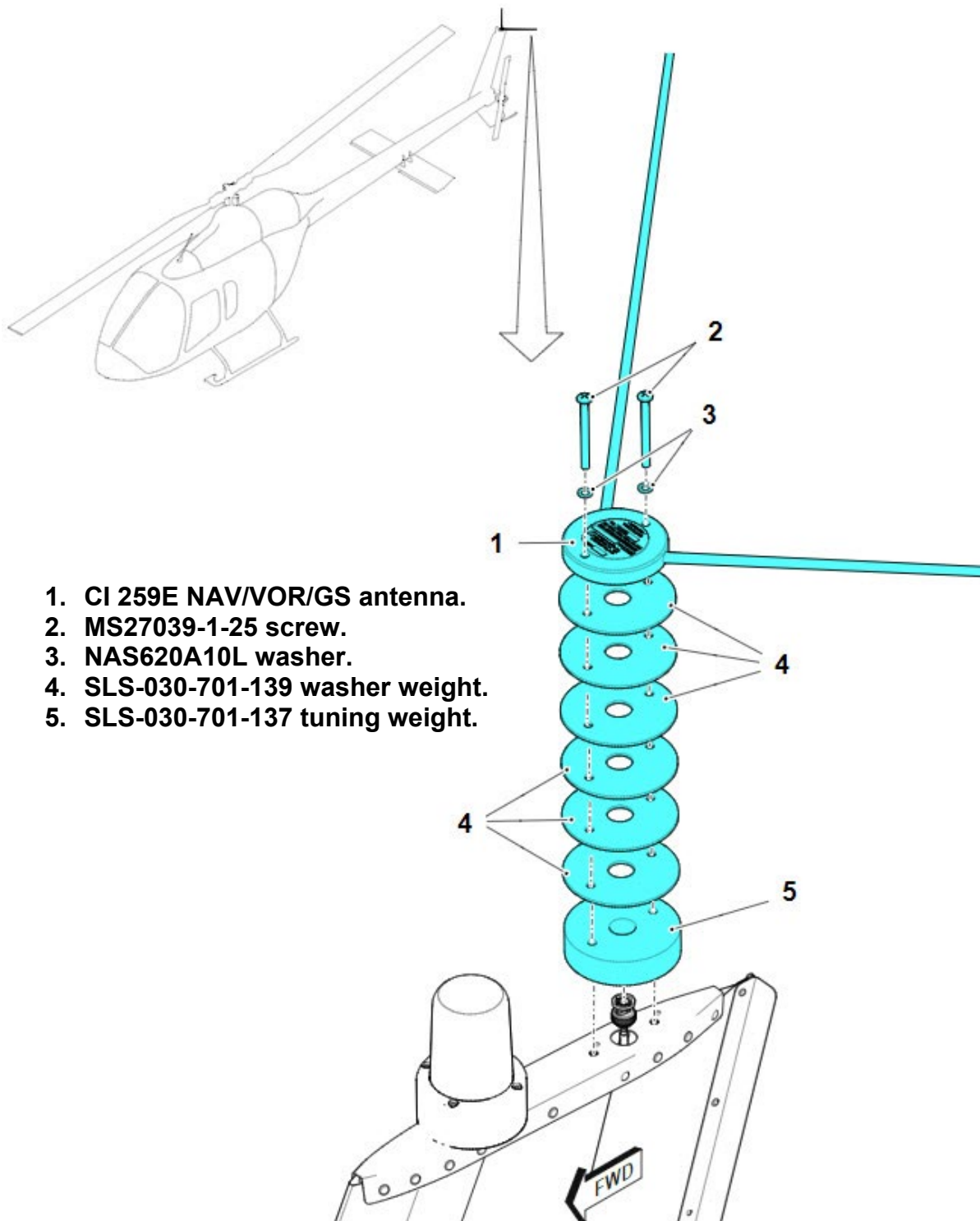
4. Perform a detailed inspection for any cracks of the top end cap assembly in area indicated (Figure 3).
  - a. If no cracks are found, go to step 5.
  - b. If a crack is found, replacement of the cracked top end cap assembly, by accomplishment of **PART II**, shall be accomplished prior to next flight.

-NOTE-

The application of sealant in the Maintenance Manual procedure in the following step is to be omitted.

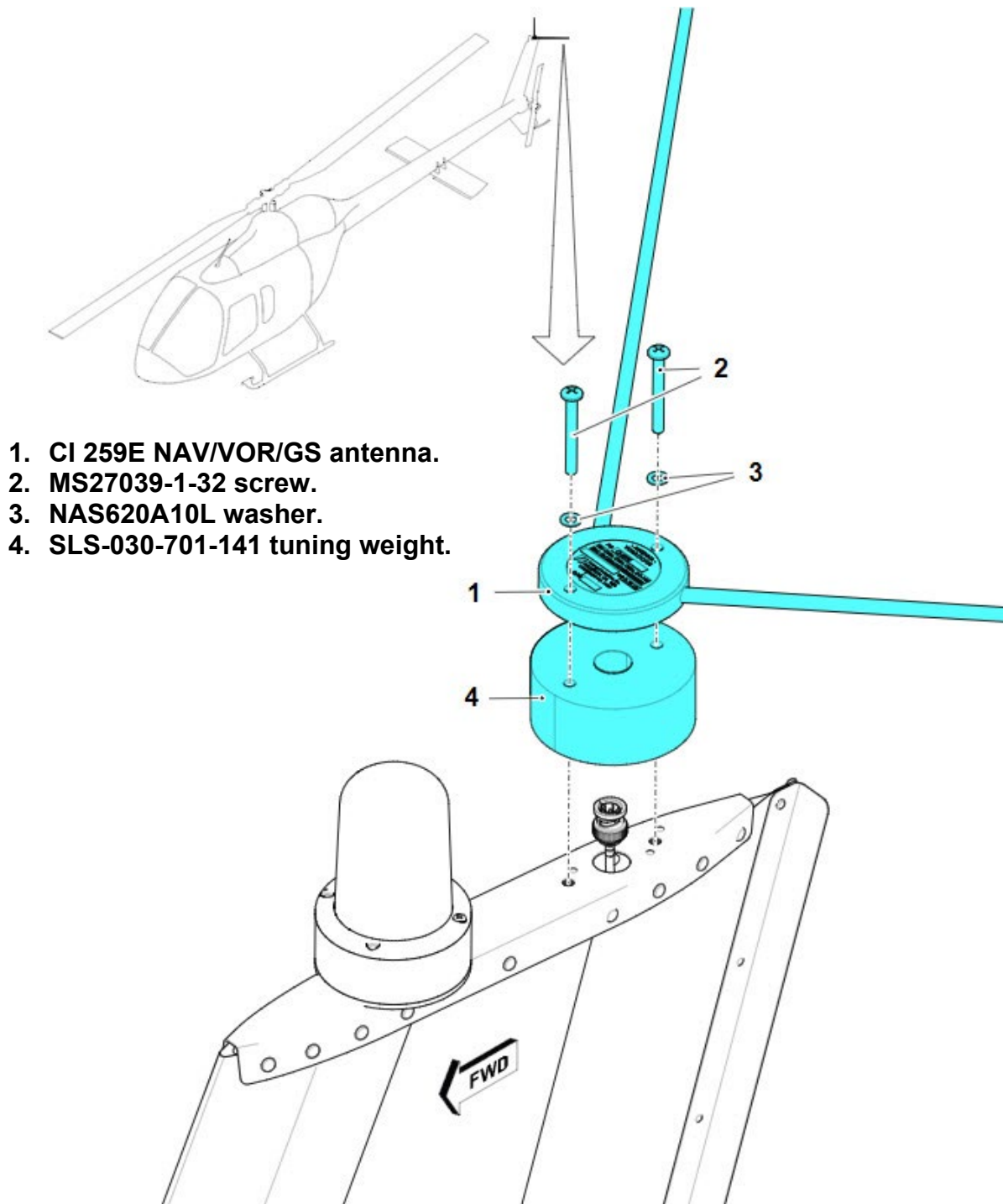
5. Install the NAV/VOR/GS antenna and tuning weight(s) ([DMC-505-A-34-52-02-00A-720A-A](#)).
6. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART III** of this Alert Service Bulletin.



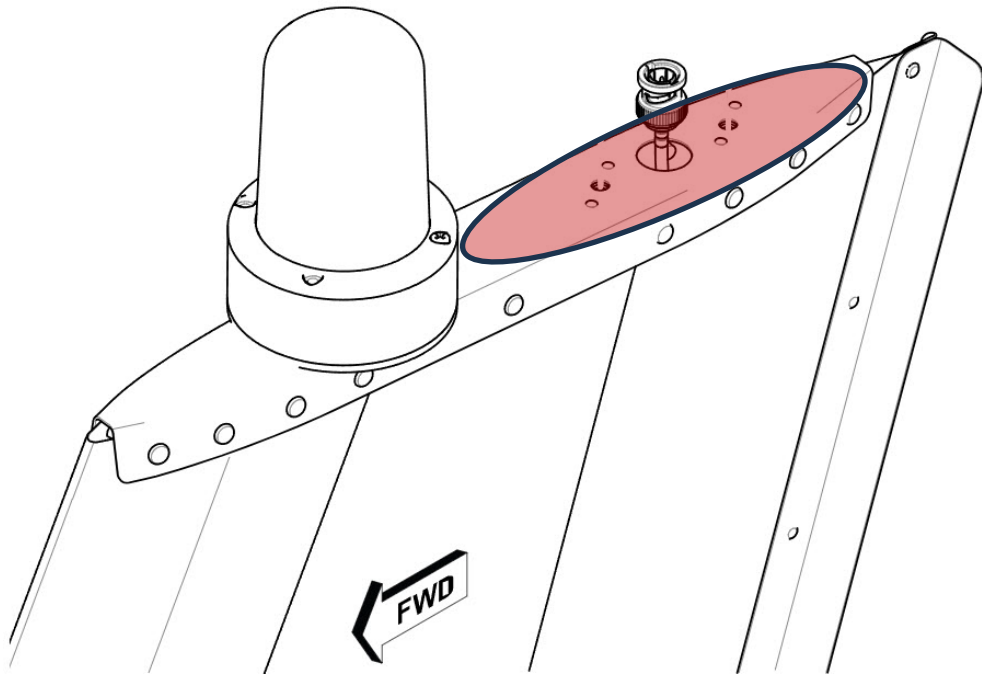


1. CI 259E NAV/VOR/GS antenna.
2. MS27039-1-25 screw.
3. NAS620A10L washer.
4. SLS-030-701-139 washer weight.
5. SLS-030-701-137 tuning weight.

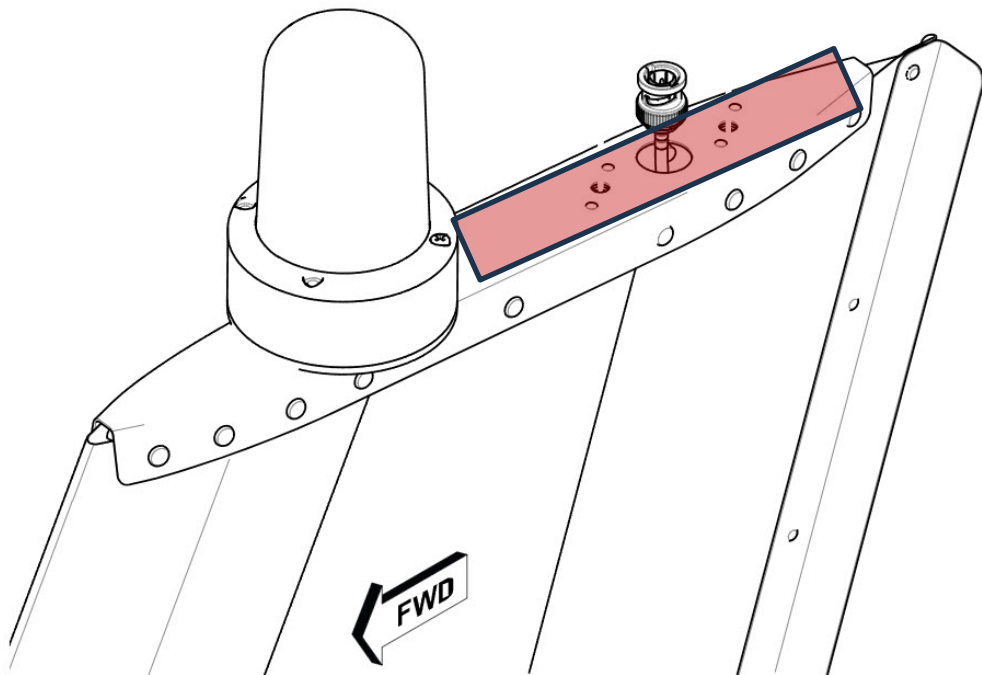
**Figure 1 – NAV/VOR/GS Antenna and Tuning Weight Installation  
(helicopter serial numbers 65011 through 65169)**



**Figure 2 – NAV/VOR/GS Antenna and Tuning Weight Installation  
(helicopter serial numbers 65170 and subsequent)**

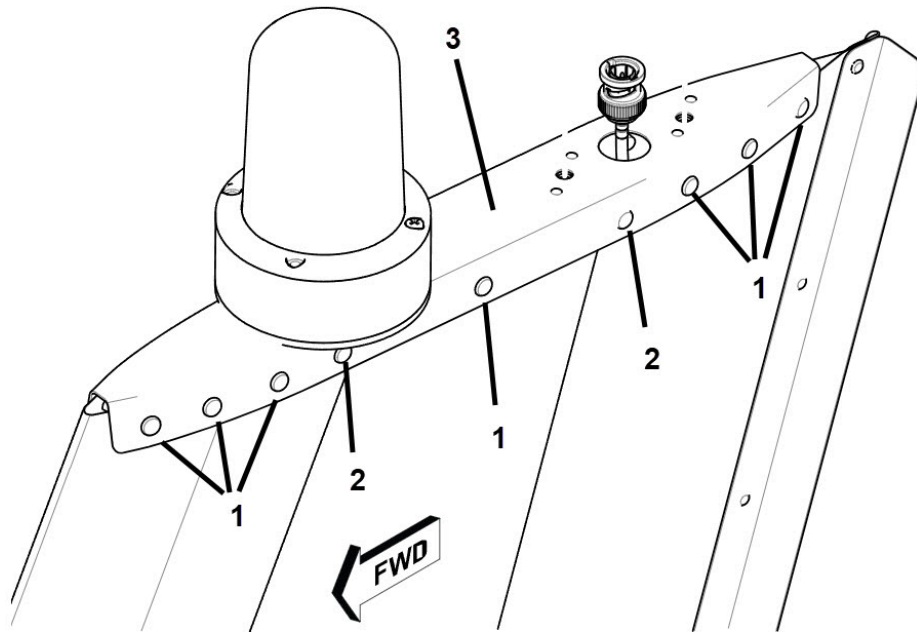


**Figure 3 – Area of Detailed inspection**

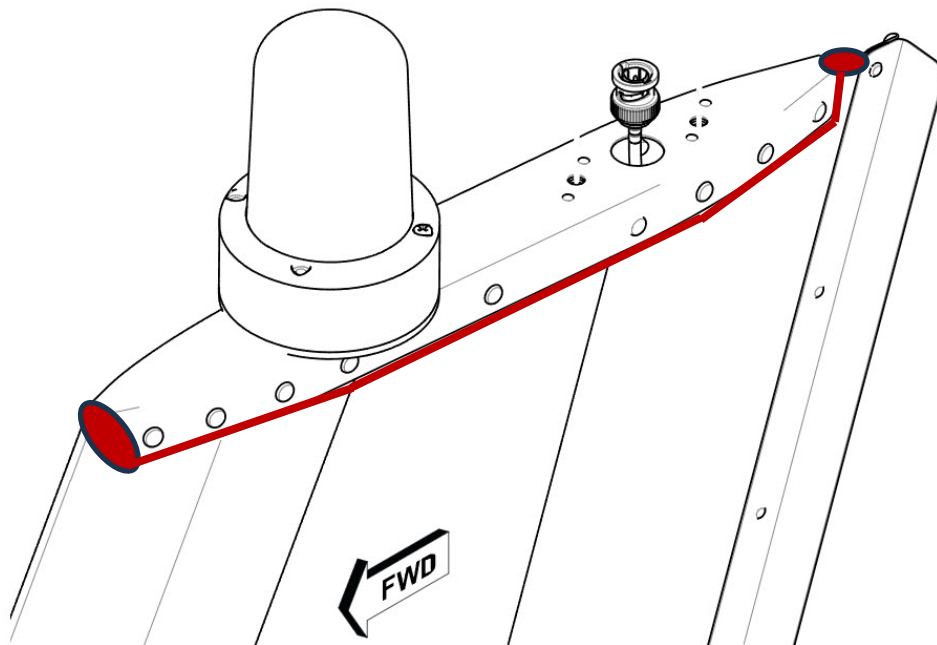


**Figure 4 – Area to Apply Tape (C-454)**

1. NAS9301B-4-01 rivet.
2. NAS9301B-4-02 rivet.
3. SLS-030-701-125 top end cap assembly.



**Figure 5 – Location of Rivets  
(left side shown – right side is the same)**



**Figure 6 - Locations for Sealant (C-251) Application  
(apply to both sides)**