



A Textron Company

ALERT SERVICE BULLETIN

505-23-36

PSL #1741

7 November 2023

MODEL AFFECTED: 505

SUBJECT: CYCLIC CONTROL TUBE SUPPORT ASSEMBLY
SLS-030-212-003, INSPECTION OF.

HELICOPTERS AFFECTED: Serial numbers 65011 through 65464, 65468,
65470, 65471, and 65473 through 65475.

[Serial number 65465 through 65467, 65469, 65472,
and 65476 and subsequent will have the intent of this
bulletin accomplished prior to delivery.]

COMPLIANCE: **PART I** – Within 50 flight hours or 30 days, whichever
occurs first, after the release date of this bulletin.

PART II – Within 90 days of the accomplishment of
PART I, as required by **PART I**.

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

DESCRIPTION:

Bell has identified that the fixed support assemblies SLS-030-212-003 may have gapping with the bearing of the control tube assembly M207-20M209-043. Although very unlikely, if not corrected, it could lead to the cracking of the fixed support and a potential catastrophic failure and loss of cyclic control of the helicopter. This Alert Service Bulletin is being published to require a one-time inspection for the gapping condition and replacement of parts if dimensions are beyond specified criteria. **PART I** of this ASB requires a one-time detailed visual inspection of the fixed support using a 10X magnifying glass. It also requires measuring the dimensions of the control tube assembly rod end bearing and between the bushings of the fixed support. If the

difference between those two dimensions is found to be greater than 0.035 inch but equal to or less than 0.050 inch (0.889 and 1.27 mm) washers are to be installed between the bearing and bushings on each side when the cyclic control tube assembly is installed and also requires accomplishment of **PART II**. **PART II** requires a Fluorescent Penetrant Inspection (FPI) of the fixed support. If a crack is found during **PART I** or **PART II** inspections, or if the existing dimension is more than 0.050 inch (1.27 mm), the fixed support is to be replaced per **PART III** of this bulletin prior to the next flight.

Applicability of this bulletin to any spare part shall be determined prior to its installation on an affected helicopter.

APPROVAL:

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

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 **PART I** of this bulletin.
Approximately 3.0 man-hours are required to complete **PART II** of this bulletin.
Approximately 8.0 man-hours are required to complete **PART III** of this bulletin.
This estimate is 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 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 and labor. 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 I	\$220.00
PART II	\$330.00
PART III	\$880.00

To receive parts, labor, under warranty:

- Comply with the instructions contained in this Bulletin no later than the applicable date in the **COMPLIANCE** section.
- 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 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.

Part Number	Nomenclature	Qty (Note)
MS24665-151	COTTER PIN	2 (1)
NAS1149E0416P	WASHER	2 (2)
SLS-030-212-003	FIXED SUPPORT	1 (3)
NAS1097AD5-5-5	RIVET	10 (3)
NAS1097AD5-6	RIVET	4 (3)
NAS1097AD5-7	RIVET	4 (3)

NOTES:

1. Required for accomplishment of **PART I, II, and III** of this bulletin.
2. May be required for accomplishment of **PART I, II, III** of this bulletin. Requirement will be based on dimensional verification of the parts/components.
3. Required for accomplishment of **PART III** 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>
2100-00345-00	CHEMICAL FILM	1 QT (1)	C-100
2100-00044-00	CORROSION PREVENTIVE COMPOUND (GR 1)	1 PT (1)	C-101

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2100-09016-02	CORROSION PREVENTIVE COMPOUND (GR 2)	1 PT (1)	C-104
2230-00425-00	EPOXY POLYAMIDE PRIMER	1 PT (1)	C-204
2010-12481-01	SEALANT (MIL-PRF-81733)	1 PT (1)	C-251
2100-06673-00	ISOPROPYRIL ALCOHOL	1 GAL (1, 2)	C-385
2000-00713-00	TAPE (1 INCH WIDE)	1 ROLL (1)	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. 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:

505-MM, Maintenance Manual, Chapters 53 and 67.
 BHT-ALL-SPM, Standard Practice Manual, Chapters 3, 4, 6 and 9.
 BHT-ALL-SRM, Standard Repair Manual, Chapter 3.

PUBLICATIONS AFFECTED:

505-IPC, Illustrated Parts Catalogue, Chapter 67.

ACCOMPLISHMENT INSTRUCTIONS:

PART I – One-time detailed visual inspection of fixed support SLS-030-212-003.

1. Prepare the helicopter for maintenance.
2. Remove belly panel (120AB) ([DMC-505-A-53-10-02-00A-520A-A](#)).

CAUTION

MOST PARTS OF THE FLIGHT CONTROLS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

3. Remove cyclic control tube assembly ([DMC-505-A-67-12-07-00A-520A-A](#)). Retain hardware for installation in later steps.
4. Using a 10X magnifying glass and bright light source, perform a detailed visual inspection of the fixed support (1, Figure 1, sheet 1 of 4) paying particular attention in the area around the fixed support bushings (2).

-NOTE-

In Figure 1, sheet 2 of 4, the cyclic control tube assembly (3) is shown installed to the fixed support (1), but the measurements taken in the next step are to be taken with the control tube assembly (3) removed from the fixed support (1).

5. Measure dimensions of cyclic control tube assembly rod end bearing and gap between the two bushings of the fixed support (Figure 1, sheet 2 of 4, Section A-A).
 - a. If the difference in dimensions is equal to or less than 0.035 inch (0.889 mm), go to step 7.
 - b. If difference in dimensions is more than 0.035 inch (0.889 mm) but equal to or less than 0.050 inch (1.27 mm) go to step 6. **PART II** must be accomplished within the **COMPLIANCE** time of 90 days following accomplishment of **PART I**.
 - c. If the difference in dimensions is more than 0.050 inch (1.27 mm), **PART III** must be accomplished prior to the next flight. Go to step 9.

6. Using NAS1149E0416P washers, install one washer on each side between the bushings (2) and cyclic control tube assembly (3) rod end bearing at installation in the next step.

CAUTION

MOST PARTS OF THE FLIGHT CONTROLS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

7. Install cyclic control tube assembly (3) ([DMC-505-A-67-12-07-00A-720A-A](#)).
8. Install the forward belly panel (120AB) ([DMC-505-A-53-10-02-00A-720A-A](#)).
9. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART I** of this Alert Service Bulletin.

PART II – Fluorescent penetrant inspection of fixed support SLS-030-212-003.

1. Prepare the helicopter for maintenance.
2. Remove belly panel (120AB) ([DMC-505-A-53-10-02-00A-520A-A](#)).

CAUTION

MOST PARTS OF THE FLIGHT CONTROLS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

3. Remove cyclic control tube assembly ([DMC-505-A-67-12-07-00A-520A-A](#)). Retain hardware for installation in later steps.
4. Remove bushings (2, Figure 1, sheet 1 of 4) from fixed support (1).
5. Remove the primer on each side of the fixed support (1) in the area indicated (Figure 1, sheet 1 of 4, **NOTE 1**).
6. Thoroughly clean fixed support (1) with isopropyl alcohol (C-385).

7. Perform fluorescent penetrant inspection of the fixed support (Figure 1, sheet 1 of 4, **NOTE 1**) (BHT-ALL-SPM, Chapter 6).
 - d. If a crack is detected, **PART III** of this bulletin must be accomplished prior to the next flight. Go to step 13.
 - e. If no cracks are detected, go to step 8.
8. Apply chemical film (C-100) to any exposed bare metal (BHT-ALL-SPM, Chapter 3 and BHT-ALL-SRM, Chapter 3).
9. Apply epoxy polyamide primer (C-204) on unprotected metal (BHT-ALL-SPM, Chapter 4).

-NOTE-

The installation of the bushings (2) in the following step is to be a thermal fit, where the bushings are to be cooled, and if necessary, the bore area of the fixed support (1) is to be heated (do not exceed 100°C (212°F)).

10. Wet install bushings (2) to fixed support (1) using epoxy polyamide primer (C-204) (BHT-ALL-SPM, Chapter 9).

CAUTION

MOST PARTS OF THE FLIGHT CONTROLS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

-NOTE-

If NAS1149E0416P washers were required in step 6 of **PART I**, ensure that they are again installed during the next step.

11. Install cyclic control tube assembly ([DMC-505-A-67-12-07-00A-720A-A](#)).
12. Install the forward belly panel (120AB) ([DMC-505-A-53-10-02-00A-720A-A](#)).
13. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART II** of this Alert Service Bulletin.

PART III – Replacement of fixed support SLS-030-212-003.

1. Prepare the helicopter for maintenance.
2. If not already accomplished, remove belly panel (120AB) ([DMC-505-A-53-10-02-00A-520A-A](#)).

CAUTION

MOST PARTS OF THE FLIGHT CONTROLS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

3. If not already accomplished, remove cyclic control tube assembly ([DMC-505-A-67-12-07-00A-520A-A](#)). Retain hardware for installation in later steps.
4. Remove the copilot collective stick and grip assembly ([DMC-505-A-67-11-18-00A-520A-A](#)).

-NOTE-

Removal of carpet or cabin floor protectors may be required to perform the following step.

5. Remove left cockpit floor assembly ([DMC-505-A-53-10-03-00A-520A-A](#)).
6. If necessary, remove anti-chafing tape on the floor of the cabin that cover rivets of the fixed support (1) ([DMC-505-A-51-20-02-00A-921A-A](#)).
7. Remove the fixed support rivets (4, 5, and 6) holding fixed support (1) to the floor assembly (Figure 1, sheet 3 of 4). Discard fixed support and rivets.
8. Temporarily locate new fixed support (1, Figure 1, sheet 1 of 4) in position under cockpit floor assembly. Using a pen or pencil, transfer rivet holes through the floor to the new fixed support (1). Remove the fixed support and verify that holes align with the pilot holes of the fixed support and there is sufficient edge distance.
9. Drill transferred holes of fixed support (1) to 0.157 inch (3.988 mm) using a #22 drill bit. Deburr holes.
10. Install fixed support (1) using wet installed rivets (4, 5, and 6) with sealant (C-251) (Figure 1, sheet 3 of 4).
11. Apply epoxy polyamide primer (C-204) over the installed rivets (4, 5, and 6).

12. Touch up organic finish of the floor assembly as required (BHT-ALL-SPM, Chapter 4).

-NOTE-

In Figure 1, sheet 2 of 4, the cyclic control tube assembly (3) is shown installed to the fixed support (1), but the measurements taken in the next step are to be taken with the control tube assembly (3) removed from the fixed support (1).

13. Measure dimensions of the cyclic control tube assembly rod end bearing and gap between the two bushings (2) of the fixed support (1) (Figure 1, sheet 2 of 4, Section A-A).
- a. If the difference in dimensions is equal to or less than 0.035 inch (0.889 mm), go to step 15.
 - b. If difference in dimensions is more than 0.035 inch (0.889 mm) but equal to or less than 0.050 inch (1.27 mm) go to step 14.
 - a. If difference in dimensions is more than 0.050 inch (1.27 mm), contact Product Support Engineering at productsupport@bellflight.com with the findings for guidance to next actions required.
14. Using NAS1149E0416P washers, install one washer on each side between the bushings (2) and cyclic control tube assembly (3) rod end bearing at installation in the next step.

CAUTION

MOST OF THE FLIGHT CONTROLS PARTS ARE INSTALLED THROUGH OPENINGS IN THE FUSELAGE STRUCTURE. BE CAREFUL NOT TO LET THE PARTS FALL OR MOVE ON THE OPENING OF THE WALLS WHEN THESE ARE DISCONNECTED OR DAMAGE TO THE PARTS CAN OCCUR.

15. Install cyclic control tube assembly ([DMC-505-A-67-12-07-00A-720A-A](#)).
16. Do a rigging check of the cyclic control tube assembly ([DMC-505-A-67-12-00-00A-360A-A](#), Figure 1).
- b. If following the rigging check it identifies lack of clearance, contact Product Support Engineering at productsupport@bellflight.com with the findings for guidance to next actions required.

17. Install anti-chafing tape (C-246) if removed in previous steps ([DMC-505-A-53-10-03-00A-520A-A](#), Figure 1 and [DMC-505-A-51-20-02-00A-921A-A](#)).
18. Install left cockpit floor assembly ([DMC-505-A-53-10-03-00A-720A-A](#)).
19. Install copilot collective stick and grip assembly ([DMC-505-A-67-11-18-00A-720A-A](#)).
20. Install carpet and/or floor protectors that were removed.
21. Install the forward belly panel (120AB) ([DMC-505-A-53-10-02-00A-720A-A](#)).
22. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART III** of this Alert Service Bulletin.

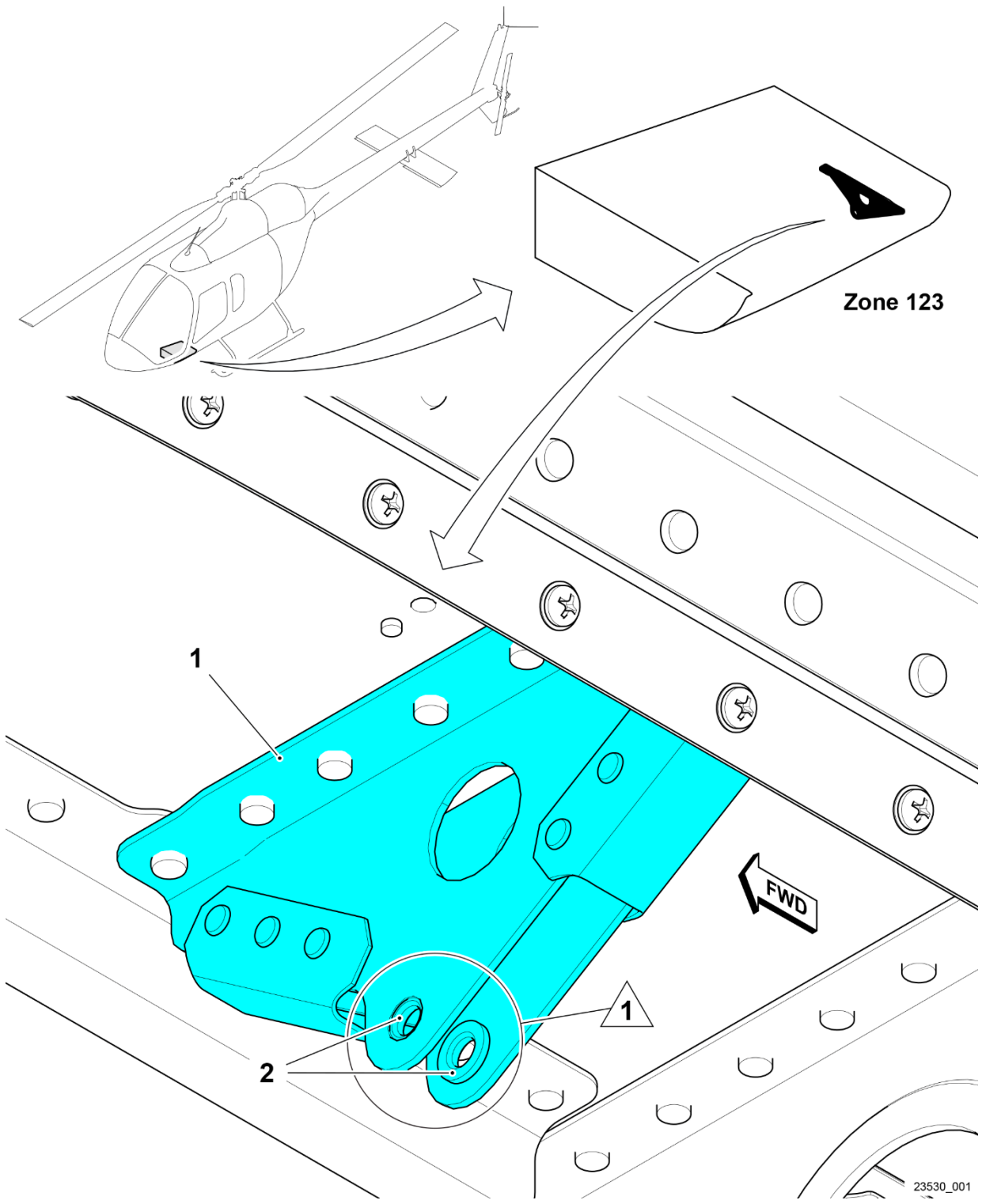


Figure 1 – Cyclic Control Tube and Fixed Support Assemblies (sheet 1 of 4)

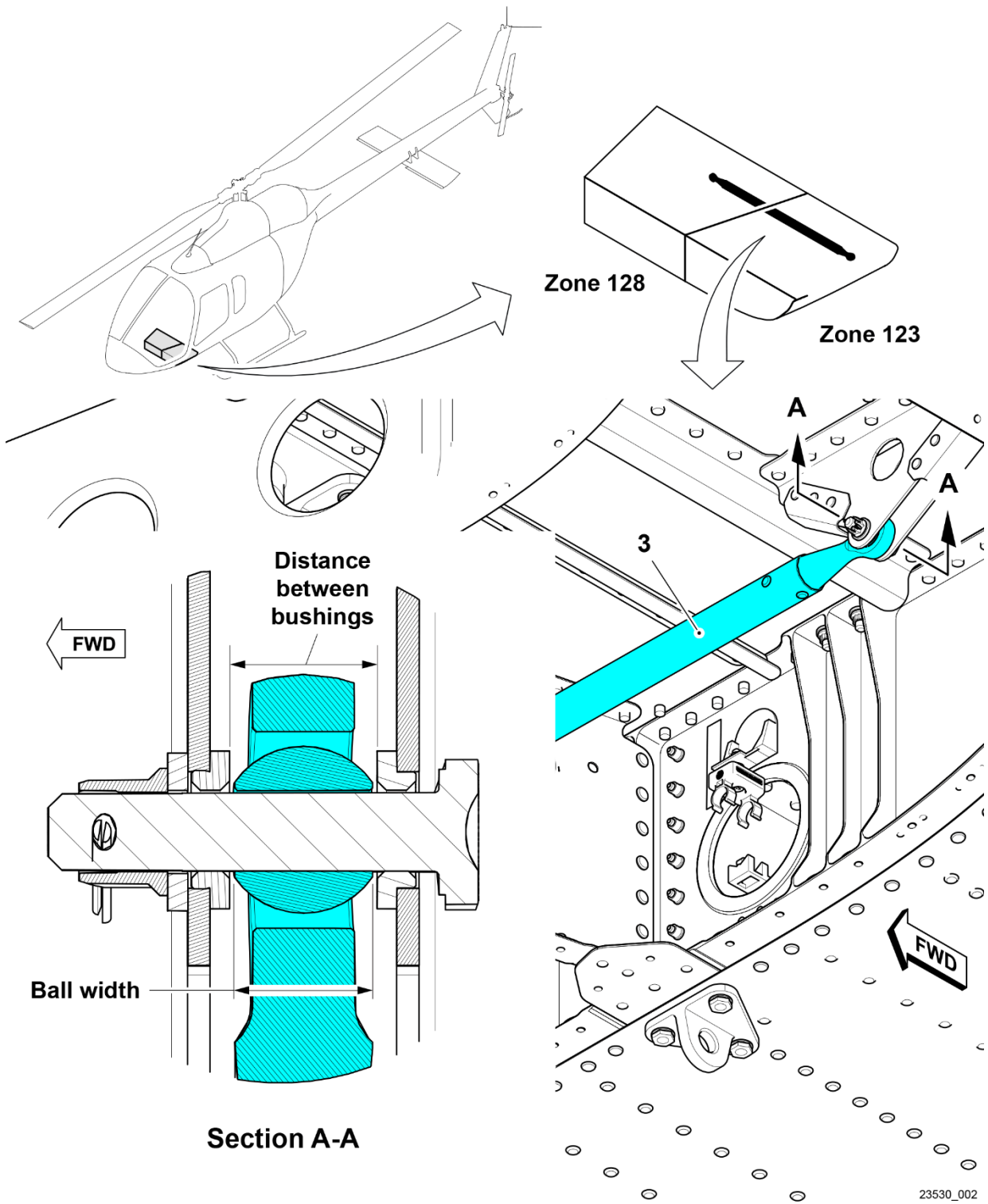


Figure 1 – Cyclic Control Tube and Fixed Support Assemblies (sheet 2 of 4)

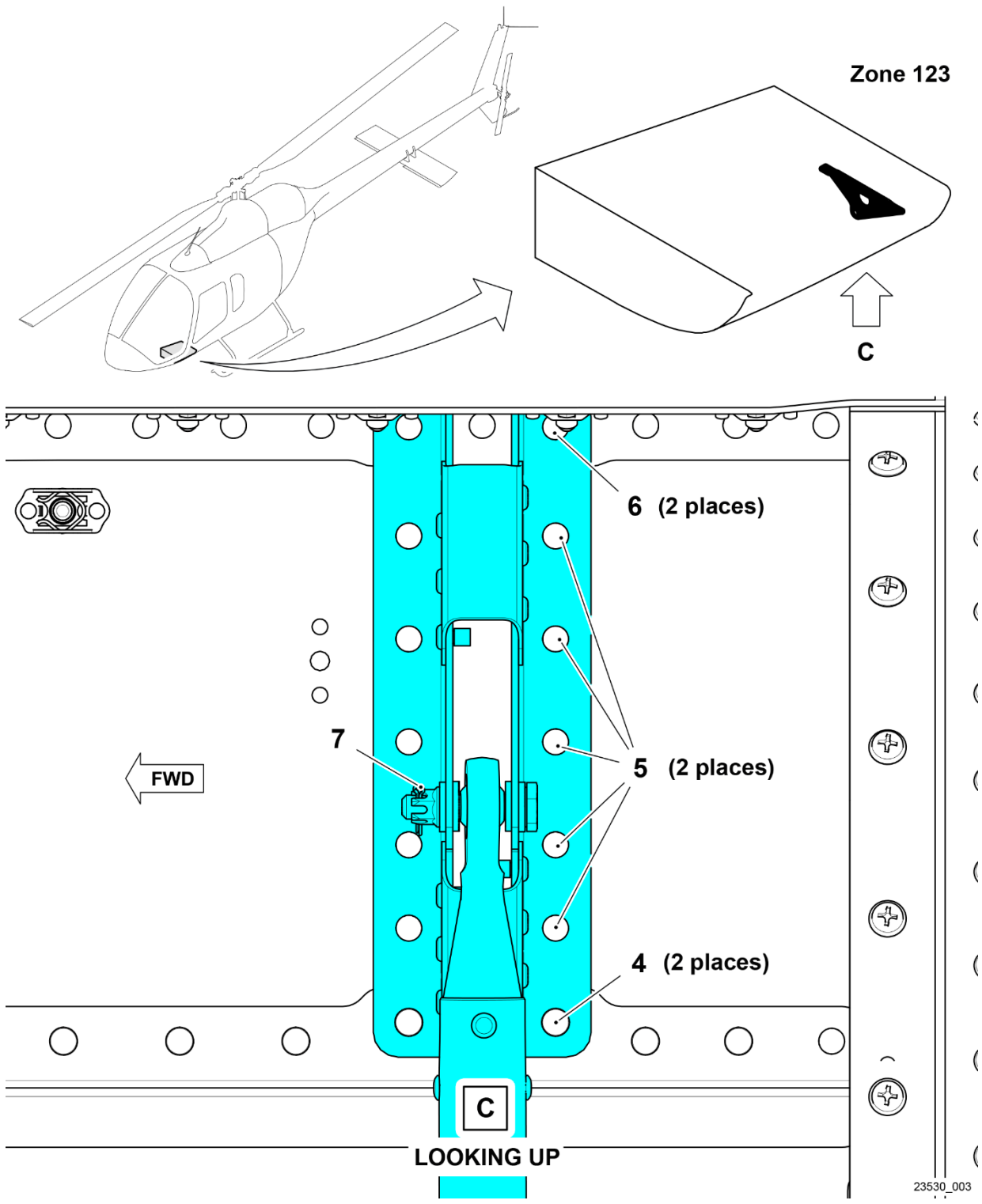


Figure 1 – Cyclic Control Tube and Fixed Support Assemblies (sheet 3 of 4)

1. Cyclic tube support SLS-030-212-003
2. Bushings
3. Cyclic tube assembly M207-20M209-043
4. Rivet NAS1097AD5-6 Qty 2
5. Rivet NAS1097AD5-5 Qty 10
6. Rivet NAS1097AD5-7 Qty 2
7. Cotter pin MS24665-151

NOTE



Area that the FPI is to be performed on the Control tube support.

23530_004

Figure 1 – Cyclic Control Tube and Fixed Support Assemblies (sheet 4 of 4)