A Textron Company

ALERT SERVICE BULLETIN 505-17-02

PSL #2003

20 November 2017

Revision A, 11 September 2024

MODEL AFFECTED: **505**

SUBJECT: **TRANSMISSION OIL MANIFOLD ASSEMBLY, INSPECTION AND CLAMP INSTALLATION MODIFICATION OF.**

HELICOPTERS AFFECTED: **PART I and PART II: Serial numbers 65011 through 65490, 65492 through 65498, 65500 through 65505, 65507, 65509 through 65511, 65514, 65515, 65517 through 65531, 65533, 65535, 65537, 65540, 65541, 65548 through 65551, 65553, 65554, 65559, 65562 through 65568, 65570 through 65574, 65576, 65578 through 65580, 65582, 65584, 65585, 65587, and 65594.**

[**Only** the helicopter serial numbers listed above **are affected** by this bulletin.]

[Serial numbers not listed above and 65631 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: **PART I**: Within 25 flight hours following the release date of **Revision A** of this bulletin, and every 25 flight hours thereafter until accomplishment of **PART II.**

PART II: Prior to next flight as required by **PART I**, or within 100 flight hours or 6 months, whichever comes first, after the release date of **Revision A** of this bulletin.

DESCRIPTION:

Following the initial release of this Alert Service Bulletin (ASB), and incorporation of this change to the model 505 design, Bell has received additional reports of fouling of the

transmission oil manifold assembly freewheel pressure line with the left side of the transmission restraint assembly.

Bell is releasing **Revision A** of this ASB to provide revised instructions for the oil manifold assembly installation to prevent this condition. **PART I** of this bulletin requires an initial inspection of the oil manifold installation and a recurring inspection requirement until **PART II** can be accomplished. **PART II** of this bulletin provides revised instructions for the oil manifold installation on the truss assembly and is considered a terminating action to this bulletin.

Owners/operators having accomplished the intent of the initial release of this bulletin **are required** to perform the intent of **Revision A** of this bulletin.

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 0.5 man-hour is required to complete **PART I** of this bulletin.
Approximately 1.5 man-hour is required to complete **PART II** 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 II** only $165.00 USD

To receive parts, labor, and/or freight 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)
AS21919WDG19Y	CLAMP	2 (1,2)

NOTES:

1. The previous MS21919WDG19 clamp is obsolete and has been superseded to the AS21919WDG19Y clamp.
2. The MS21919WDG19 clamp is an acceptable alternate.

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.

Part Number	Nomenclature	Qty (Note)	Reference *
2110-07015-00	Solvent, Drycleaning, Degreaser	1 GAL (1)	C-304
2110-00010-00	Aliphatic Naphtha	1 GAL (1)	C-305
2010-10345-01	High Adhesion Sealant	1 PT (1)	C-308
2110-06257-00	Methyl Ethyl Ketone	1 GAL (1)	C-309
5060-60160-00	Abrasive cloth or paper	1 SHEET (1)	C-423
Commercially Available	Cloth, Cleaning, Low-Lint	A/R	C-516

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

NOTE 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.

SPECIAL TOOLS:

Digital protractor (or equivalent).

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-505-MM Maintenance Manual, Chapters 53 and 63.
BHT-ALL-SPM Standard Practices Manual, Chapter 2.

PUBLICATIONS AFFECTED:

BHT-505-IPB Illustrated Parts Breakdown, Chapter 63.
BHT-505-MM Maintenance Manual, Chapter 63.

ACCOMPLISHMENT INSTRUCTIONS:

PART I: Transmission oil manifold assembly initial and recurring inspection

1. Prepare the helicopter for maintenance.
2. Remove upper-left mid-fuselage access panel (DMC-505-A-53-40-03-00A-520A-A).
3. Inspect clamps (2, Figure 1, sheet 1 of 5) securing the manifold assembly (1) to make sure they have a tight grip and exhibit no easy movement on the truss tube (3).
   a. If movement of the oil manifold assembly (1) is not possible without much effort, go to step 4.
   b. If movement of the oil manifold assembly (1) is possible without much effort, following completion of the **PART I** inspection, comply with **PART II** of this bulletin prior to next flight.
4. Inspect the oil pressure line (5) and transmission restraint assembly (4) for damage.
   a. If no damage is found, go to step 5.

b. If there is damage to the oil pressure line (5) replace before next flight.

c. If damage has occurred to the transmission restraint assembly (4), or the oil pressure line (5), report findings to Product Support Engineering at productsupport@bellflight.com. Once a disposition has been provided and appropriate maintenance actions taken, go to step 5.

(1) Include helicopter serial number in the subject line of the email.

(2) Include the ASB number 505-17-02-RA in the subject line of the email.

(3) Provide total time in service of the helicopter.

5. Position clamps (2, Figure 1, sheet 1 of 5) and oil manifold assembly (1) on the truss assembly (3) to provide a minimum clearance of 0.300 inch (7.62 mm) between the oil pressure hose (5, Figure 1, sheet 2 of 5) and the transmission restraint assembly (4).

6. Install upper-left mid-fuselage access panel (DMC-505-A-53-40-03-00A-720A-A).

7. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART I** of this Alert Service Bulletin.

8. Repeat **PART I** every 25 flight hours until **PART II** of this ASB is accomplished.

PART II: Transmission oil manifold assembly clamp replacement

1. Prepare the helicopter for maintenance.

2. If not already accomplished, remove upper-left mid-fuselage access panel (DMC-505-A-53-40-03-00A-520A-A).

3. Remove clamps (2, Figure 1, sheet 1 of 5) securing the oil manifold assembly (1) to the truss assembly (3) and discard (DMC-505-A-63-22-10-00A-520A-A). Retain nuts (6), washers (7), and screws (8) for later steps at installation.

4. Clean the truss tube (3) with dry cleaning solvent (C-304) in the area where clamps are to be installed.

5. Inspect oil manifold assembly (1) oil pressure hose (5) for contact with the transmission restraint assembly (4).

a. If no damage is found, go to step 6.

b. If there is damage to the oil pressure line (5) replace before next flight.

c. If damage has occurred to the transmission restraint assembly (4), or the oil pressure line (5), report findings to Product Support Engineering (PSE) at

productsupport@bellflight.com prior to going to step 6. Once a disposition has been provided, and appropriate maintenance actions taken, go to step 6.

(1) Include helicopter serial number in the subject line of the email.

(2) Include the ASB 505-17-02-RA number in the subject line of the email.

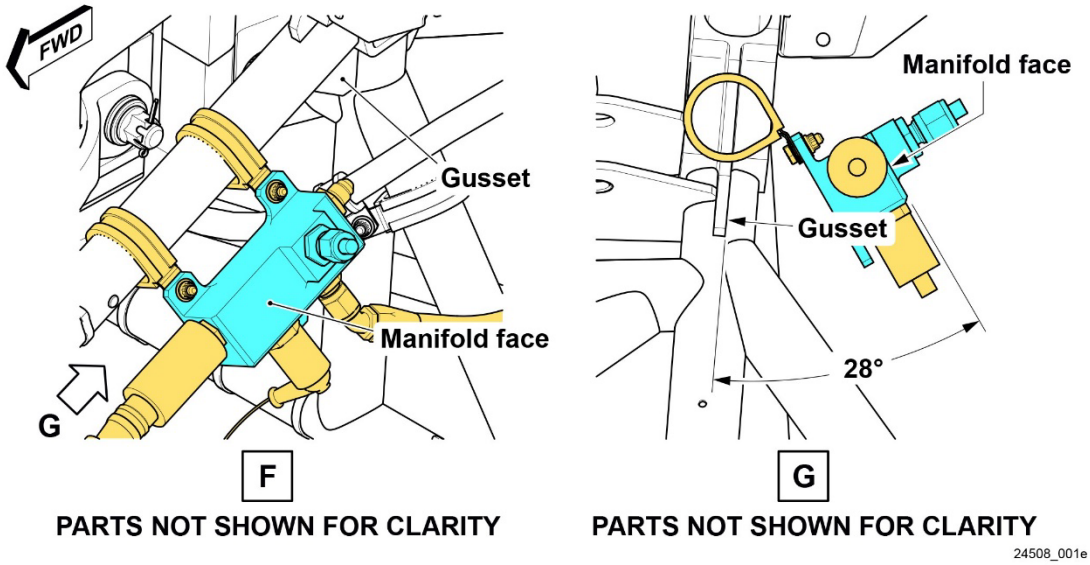
(3) Provide total time in service of the helicopter.

6. Lightly abrade the location on the truss where the clamps are to be installed using 400 grit or more abrasive cloth or paper (C-423) (Figure 1, sheets 1 and 3 of 5). Clean with aliphatic naphtha (C-305) or MEK (C-309).

7. Install replacement clamps (2) with sealant (C-308) (Figure 1, sheets 1 and 3 of 5) using screws (8), washers (7), and nuts (6) retained from step 3. Tighten the nuts (6) sufficiently allowing movement of the oil manifold assembly (1).

-NOTE-

As alternate method to digital protractor in the next step. Set angle position to approximately 28 degrees between manifold face in reference to upper truss fitting gusset face.



8. As needed, using a digital protractor (or equivalent), “zero” the protractor to the cabin floor as waterline reference point (Figure 1, sheet 4 of 5, View D). Using the “zeroed” protractor, adjust the angle of the oil manifold assembly (1) to approximately 21° (Figure 1, sheet 4 of 5, View E).

9. Verify that there is a minimum clearance of 0.300 inch (7.62 mm) between the oil pressure hose (5, Figure 1, sheet 2 of 5, View A) and the transmission restraint

assembly (4). Adjust the angle of the oil manifold assembly as required per step 8 until measured gap is satisfactory.

10. Torque nuts (6) 30 to 40 inch-pounds (3.39 to 4.52 Nm), plus tare torque (measured at installation) (BHT-ALL-SPM, Chapter 2).

-NOTE-

Measured from the beginning of mixing, sealant (C-308) will have a maximum tack-free time of 40 hours. The maximum full cure time of sealant (C-308) is 72 hours.

11. Clean-up any sealant (C-308) squeeze out around edges of clamps (2). Allow sufficient time for sealant (C-308) to cure.

12. Install upper-left mid-fuselage access panel (DMC-505-A-53-40-03-00A-720A-A).

13. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART II** of this Alert Service Bulletin.

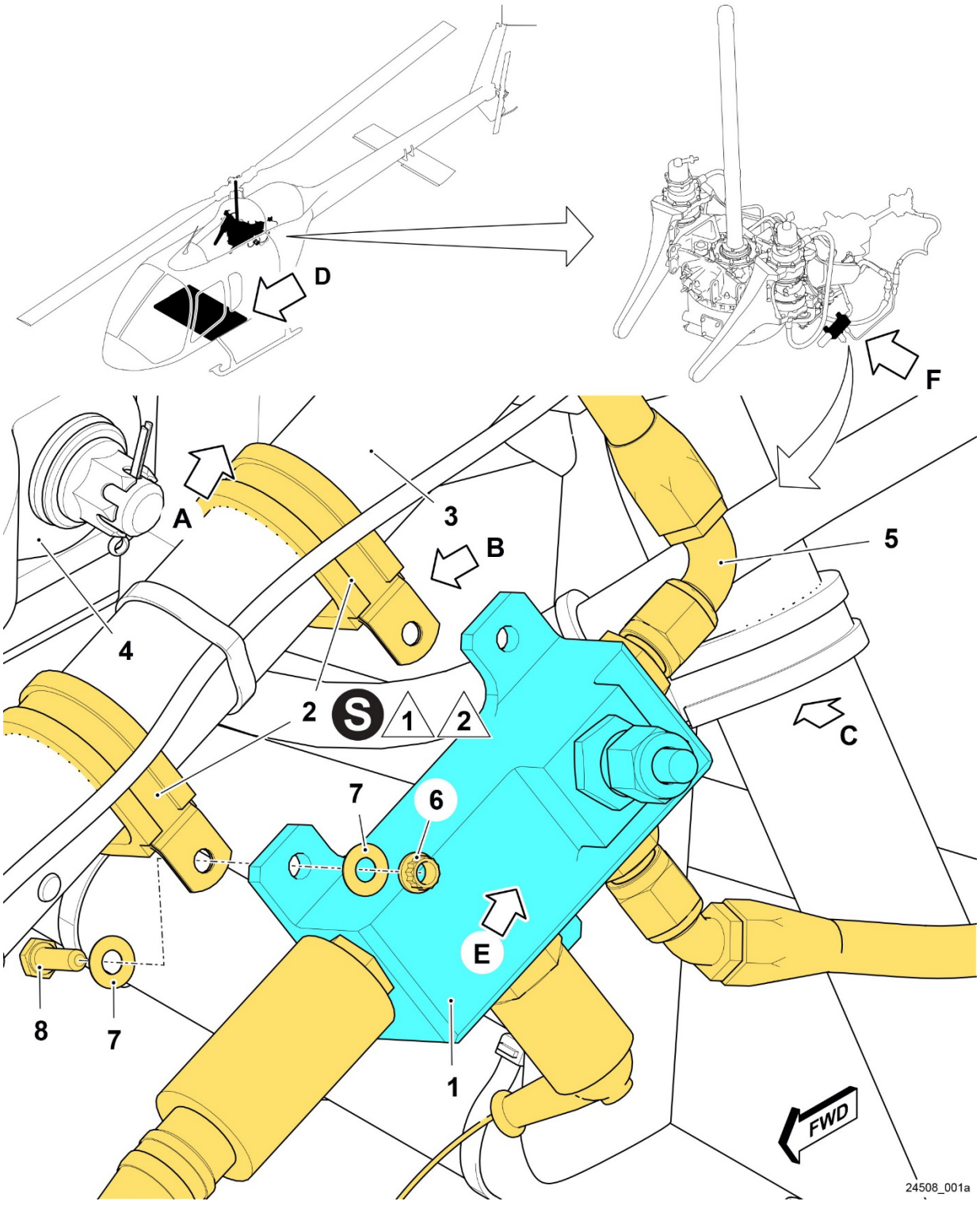


Figure 1 – Typical Transmission Oil Manifold Assembly Installation (sheet 1 of 5)

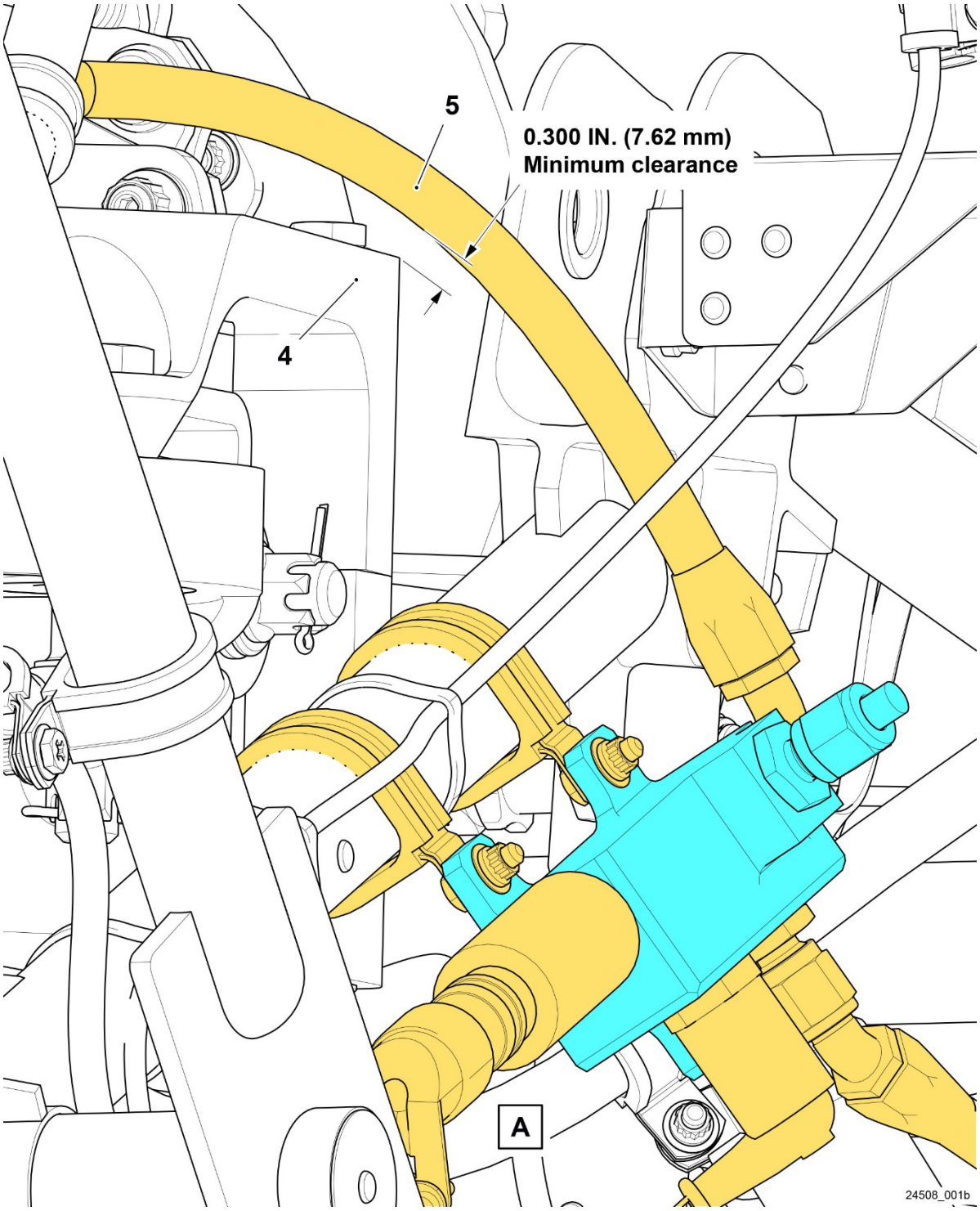


Figure 1 – Typical Transmission Oil Manifold Assembly Installation (sheet 2 of 5)

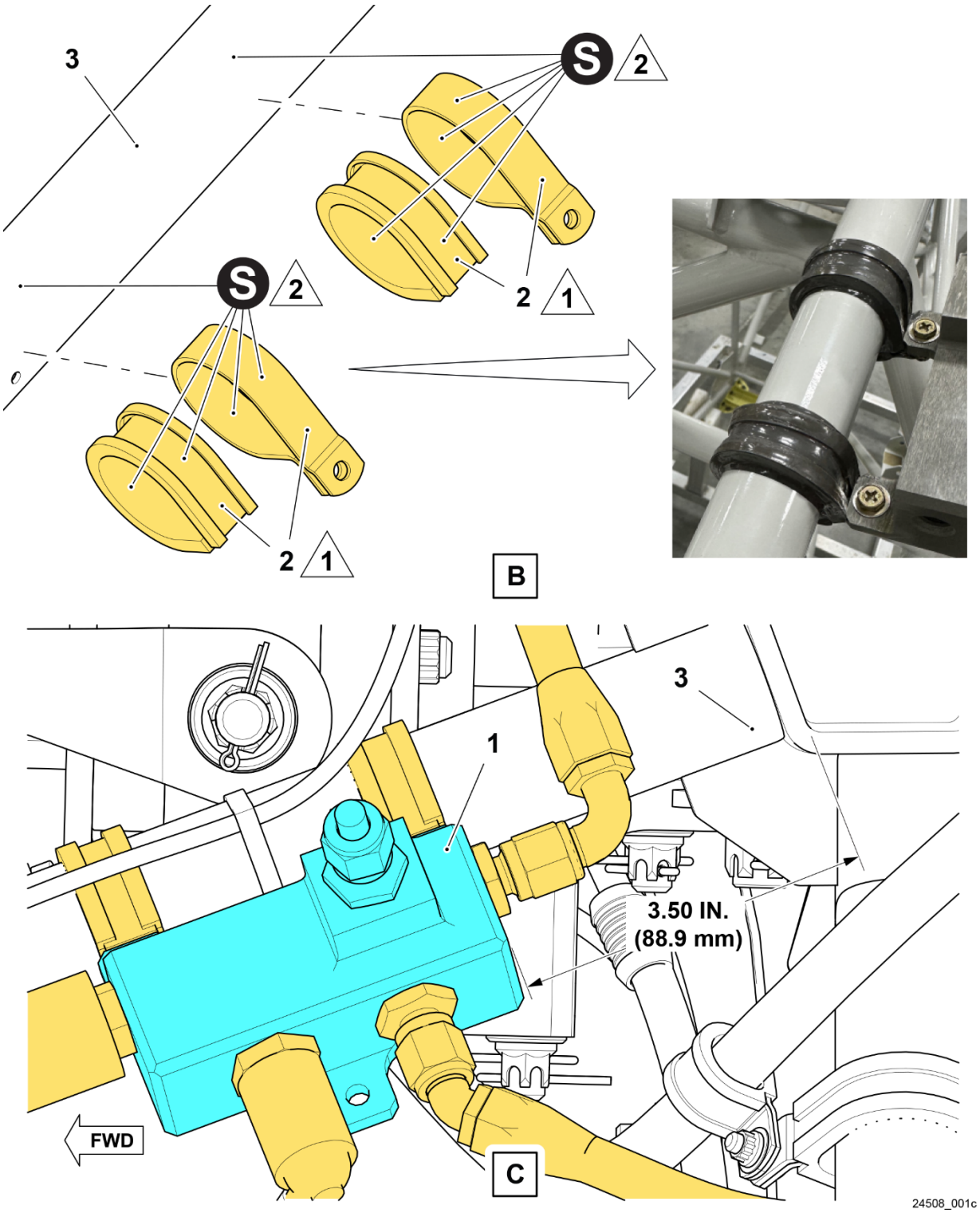


Figure 1 – Typical Transmission Oil Manifold Assembly Installation (sheet 3 of 5)

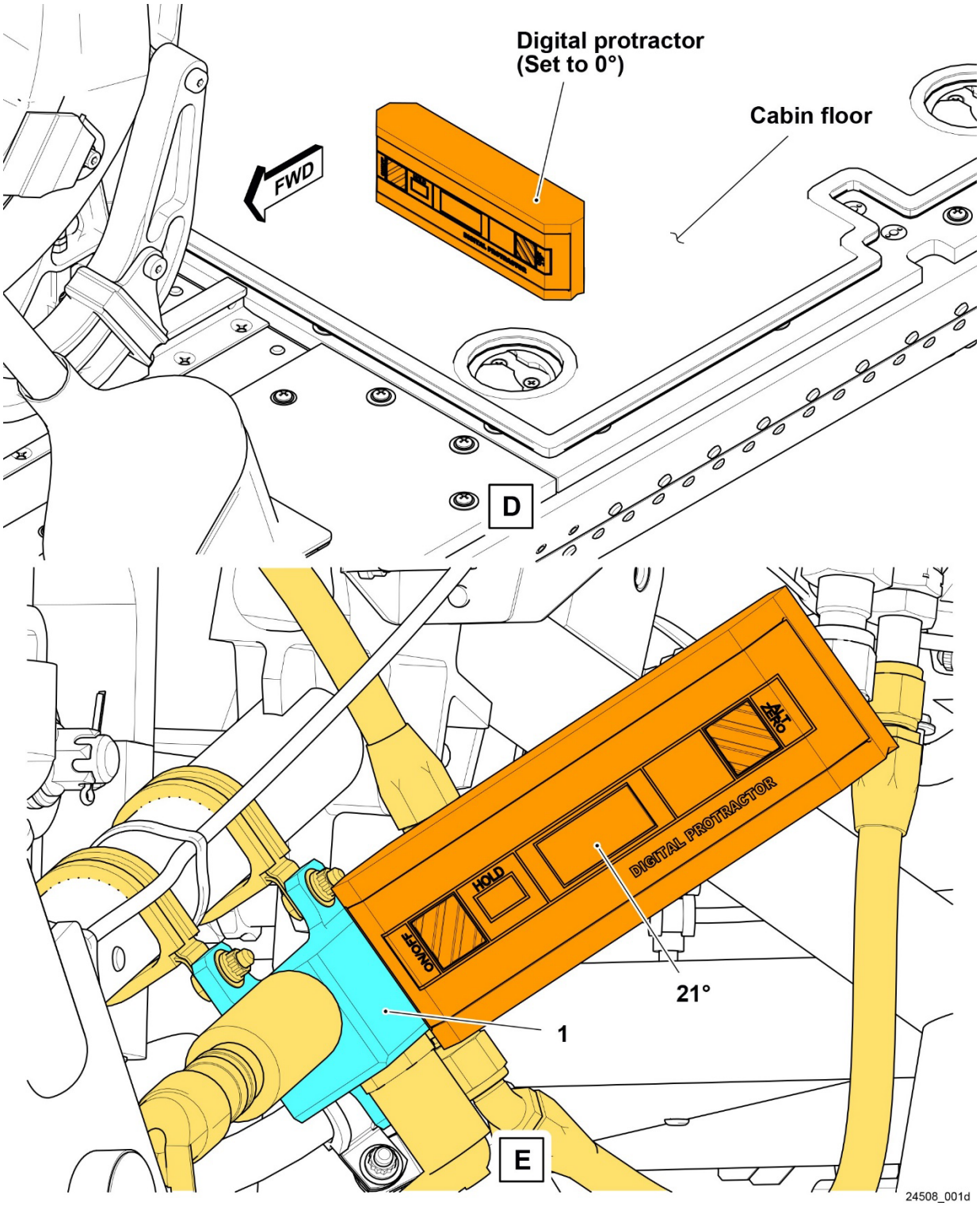


Figure 1 – Typical Transmission Oil Manifold Assembly Installation (sheet 4 of 5)

1. **Oil manifold assembly**
2. **Clamp (AS21919WDG19Y)** 1
3. **Truss assembly**
4. **Transmission restraint assembly**
5. **Hose**
6. **Nut**
7. **Washer**
8. **Screw**

S **SEALANT (C-308)** 2

NOTES

1 **Clamp MS21919WDG19 is an acceptable alternate to the clamp AS21919WDG19Y.**

2 **Sealant (C-308) is to be applied between the rubber of the clamp and the truss assembly, between the aluminum portion of the clamp and the rubber, overcoating of the whole clamp, and edge sealing on the side of the clamps.**

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Figure 1 - Typical Transmission Oil Manifold Assembly Installation (sheet 5 of 5)