A Textron Company

TECHNICAL BULLETIN 407-19-128

22 April 2019

MODEL AFFECTED: **407**

SUBJECT: **TAILBOOM 407-030-801-219, MODIFICATION OF**

HELICOPTERS AFFECTED: **Serial numbers 53000 through 53900, 53911 through 54299, and 54300 and subsequent.**

COMPLIANCE: At customer's option.

DESCRIPTION:

This Technical Bulletin provides instructions to modify 407-030-801-219 tailboom assembly into a 407-030-801-221 tailboom assembly. The 407-030-801-219 tailboom assembly is useable on helicopter serial numbers 53000 through 53900, and 53911 through 54299. The 407-030-801-217, 407-030-801-221, and 407-030-801-221FM tailboom assemblies are useable on helicopter serial numbers 54300 and subsequent. 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
LIGHT Tel: 450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 8 man-hours are required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

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)
407-030-060-101A	Magnetometer support	1
407-030-061-101A	Connector bracket	1 (1)
407-030-061-101B	Connector bracket	1 (2)
MS20470AD4	Rivet	14 (3)
100-317-1	Replacement Dataplate	1 (4)
MS20470AD3	Rivet	2 (3)(4)

NOTES:

1. Used aft of tail rotor gearbox support location.
2. Used at bulkhead BS 120.75 location.
3. Rivet length to be determined at installation.
4. Only required if original tailboom assembly dataplate replacement is required.

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 *
2230-00441-00	Epoxy Primer	5 QT KIT (1)	C-246
2010-05988-00	Sealant, Corrosion Inhibitor	2.5 OZ (1)	C-251
2230-05688-00	Paint Remover	1 PT (1)	C-436
2110-00010-00	Aliphatic Naphtha	1 GAL (1)	C-305
2100-06673-00	Isopropyl Alcohol	1 GAL (1)	C-385
5060-60154-00	Abrasive Cloth or Paper	9"x11" (1)	C-406
5040-60115-00	Abrasive Pad	4"x30' (1)	C-407
2110-06227-00	Toluene	1 GAL (1)	C-306
2000-07650-00	Tape, Aluminum Foil	Roll (2" wide) (1)	C-439
Commercial	Low-lint Cleaning Cloth	A/R	C-516
Commercial	Cheesecloth	A/R	C-486
2100-00052-00	Bonderite M-CR 1132 Aero	1	C-099

* 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:

Vibrating stylus.

WEIGHT AND BALANCE:

	Longitudinal		Lateral*	
Weight	**Arm**	**Moment**	**Arm**	**Moment**
+0.46 pounds	256.1 inch	+117.8 inch-pounds	Not affected	Not affected
+0.209 kgs	6502 mm	+1359 kg x mm/100	Not affected	Not affected

* In lateral calculations, - is left and + is right.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM, Maintenance Manual
BHT-ALL-SRM, Structural Repair Manual
BHT-ALL-SPM, Standard Practices Manual
BHT-ELEC-SPM, Electrical Standard Practices Manual

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.

   a. Gain access to bulkhead BS 42.59 (1, Figure 1), bulkhead BS 120.75 (2) and aft of tail rotor gearbox support (3) by removing tailboom, horizontal stabilizer and tail rotor gearbox fairing (BHT-407-MM-5, Chapter 53).

2. Magnetometer support installation.

   a. Locate magnetometer support (4, Figure 1) on bulkhead (1) from existing tooling holes.

   b. Mark area of contact of magnetometer support (4) to bulkhead (1).

c. Remove magnetometer support (4) and mask outside of marked area of bulkhead (1) plus 0.25 inch (6.35 mm) around using aluminum foil tape (C-439).

d. Remove primer inside masked area of bulkhead (1) using paint remover (C-436) (BHT-ALL-SPM, Chapter 4).

e. Remove aluminum foil tape (C-439).

f. Locate magnetometer support (4) on bulkhead (1) from existing tooling holes, align magnetometer support (4) and frame tooling holes and transfer quantity 10 holes from magnetometer support (4) to bulkhead (1).

g. Remove magnetometer support (4) and deburr holes (BHT-ALL-SRM, Chapter 3).

h. Apply chemical film (C-099) to exposed metal surface of bulkhead (1) and magnetometer support (4) (BHT-ELEC-SPM, Chapter 8).

i. Install magnetometer support (4) to bulkhead (1) using rivets (7) in wet sealant (C-251) (BHT-ALL-SRM, Chapter 3).

j. Perform bond resistance test between magnetometer support (4) and bulkhead (1) (BHT-ELEC-SPM, Chapter 8). Make sure bonding resistance meets electrical bond Class R-II.

k. Seal edges of magnetometer support (4) (BHT-ELEC-SPM, Chapter 8) using sealant (C-251).

l. Apply epoxy primer (C-246) to all remaining exposed structure and rivets (7).

3. Horizontal stabilizer connector bracket installation.

a. Locate connector bracket (6, Figure 1) on bulkhead BS 120.75 (2) from existing tooling holes in bulkhead (2) and pilot holes in bracket (6).

b. Mark area of contact of connector bracket (6) to bulkhead (2).

c. Open holes to rivet (7) size (BHT-ALL-SRM, Chapter 3).

d. Remove connector bracket (6) and deburr holes (BHT-ALL-SRM, Chapter 3).

e. Mask outside of marked area of bulkhead (2) plus 0.25 inch (6.35 mm) around using aluminum foil tape (C-439).

f. Remove primer inside masked area of the bulkhead (2) using paint remover (C-436) (BHT-ALL-SPM, Chapter 4) and prepare surface for electrical bonding (BHT-ELEC-SPM, Chapter 8).

g. Apply chemical film (C-099) to exposed metal surface of bulkhead (2) and connector bracket (6) (BHT-ELEC-SPM, Chapter 8).

h. Remove aluminum foil tape (C-439).

i. Install connector bracket (6) to bulkhead (2) using rivets (7) in wet sealant (C-251) (BHT-ALL-SRM, Chapter 3).

j. Perform bond resistance test between connector bracket (6) and bulkhead (2) (BHT-ELEC-SPM, Chapter 8). Make sure bonding resistance meets electrical bond Class R-II.

k. Seal edges of connector bracket (6) (BHT-ELEC-SPM, Chapter 8) using sealant (C-251).

l. Remove terminal board (8), insulator strip (9), screws (10), washers (11), nuts (12), ground stud screw (13), lock washer (14), washer (15), nut (16), and decals (17 and 19).

m. Apply epoxy primer (C-246) to all remaining exposed structure and rivets (7).

4. Tail rotor gearbox connector bracket installation.

a. Locate connector bracket (5, Figure 1) on aft side of tail rotor gearbox support casting (3) approximately 0.05 inch (1.27 mm) below corner of casting (3) and with the rivet pilot holes centered 0.33 inch (8.38 mm) from the edge of the casting (3) flange web.

b. Mark area of contact of connector bracket (5) to tail rotor gearbox support casting (3).

c. Mark the location of the connector bracket (5) pilot holes on the tail rotor gearbox support casting (3).

d. Remove connector bracket (5) and mask outside of marked area on the tail rotor gearbox support casting (3) plus 0.25 inch (6.35 mm) around using aluminum foil tape (C-439).

e. Drill the located holes in the tail rotor gearbox support casting (3), open pilot holes in connector bracket (5) and deburr holes (BHT-ALL-SRM, Chapter 3).

f. Remove primer in masked area of tail rotor gearbox support casting (3) using paint remover (C-436) (BHT-ALL-SPM, Chapter 4) and prepare surface of the tail rotor gearbox support casting (3) for electrical bonding (BHT-ELEC-SPM, Chapter 8).

g. Apply chem film (C-099) to exposed metal surface of tail rotor gearbox casting (3) and connector bracket (5) (BHT-ELEC-SPM, Chapter 8).

h. Remove aluminum foil tape (C-439).

i. Install connector bracket (5) to tail rotor gearbox casting (3) using rivets (7) in wet sealant (C-251) (BHT-ALL-SRM, Chapter 3).

j. Perform bond resistance test between connector bracket (5) and tail rotor gearbox casting (3) (BHT-ELEC-SPM, Chapter 8). Make sure bonding resistance meets electrical bond Class R-II.

k. Seal edges of connector bracket (5) (BHT-ELEC-SPM, Chapter 8) using sealant (C-251).

l. Remove ground stud screw (13), lock washer (14), washers (15), nut (16) and decal (18).

m. Apply epoxy primer (C-246) to all remaining exposed structure and rivets (7).

-NOTE-

If sufficient space is not available to vibro etch the -221FM number on the existing tailboom dataplate, order a 100-317-1 replacement dataplate and vibro etch the 407-030-801-221FM in the part number field and transcribe the existing tailboom assembly serial number in the replacement dataplate serial number field. An example is shown below.

5. On the tailboom assembly dataplate, using a vibrating stylus, lightly vibro etch through the existing -219 assembly number and reidentify below with -221FM (example provided below).

6. The modified tailboom assembly 407-030-801-221FM is considered as an alternate to the 407-030-801-117 and 407-030-801-221 tailboom assemblies and may be returned to inventory or installed on a 407 helicopter serial number 54300 and subsequent.

7. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.

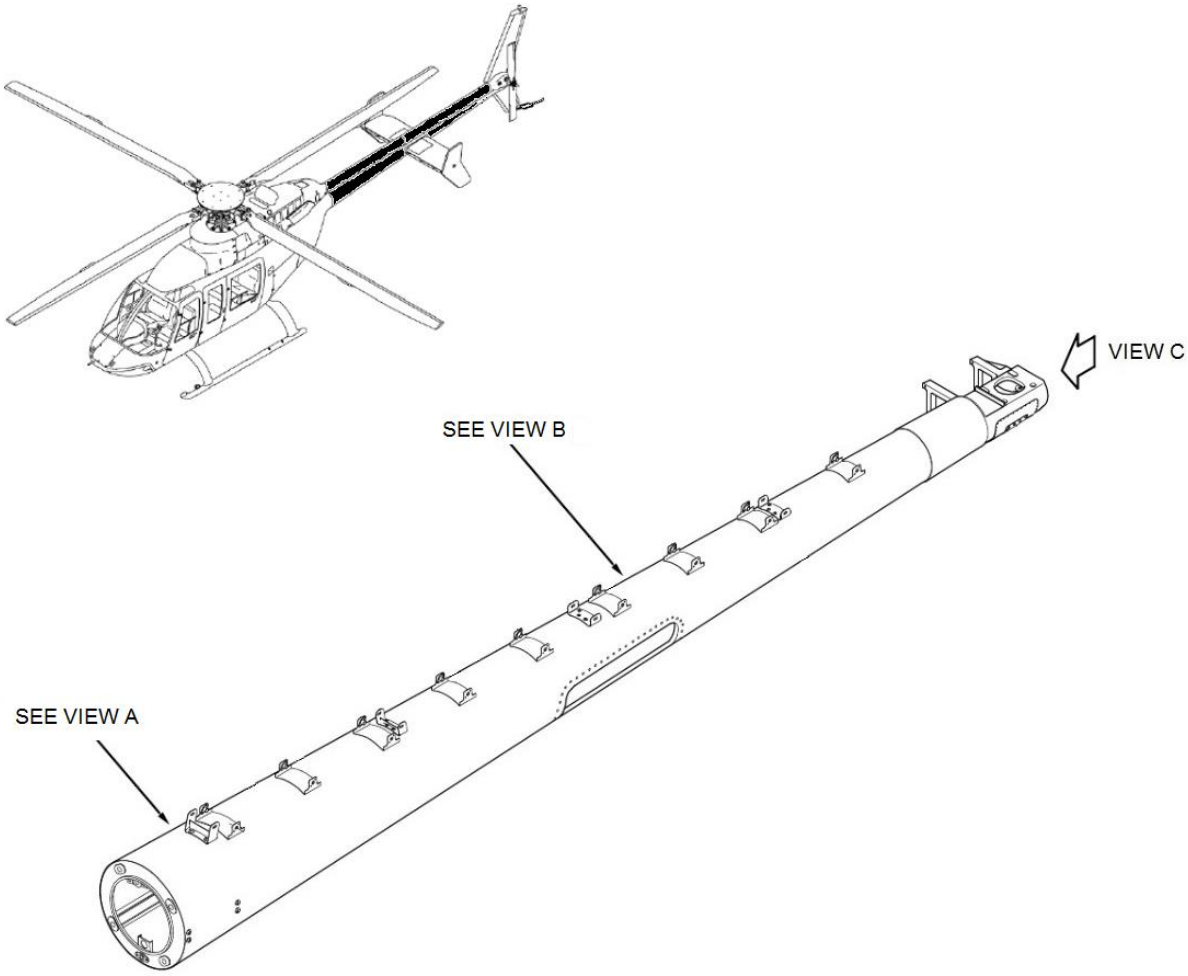


Figure 1 - Tailboom Assembly (Sheet 1 of 4)

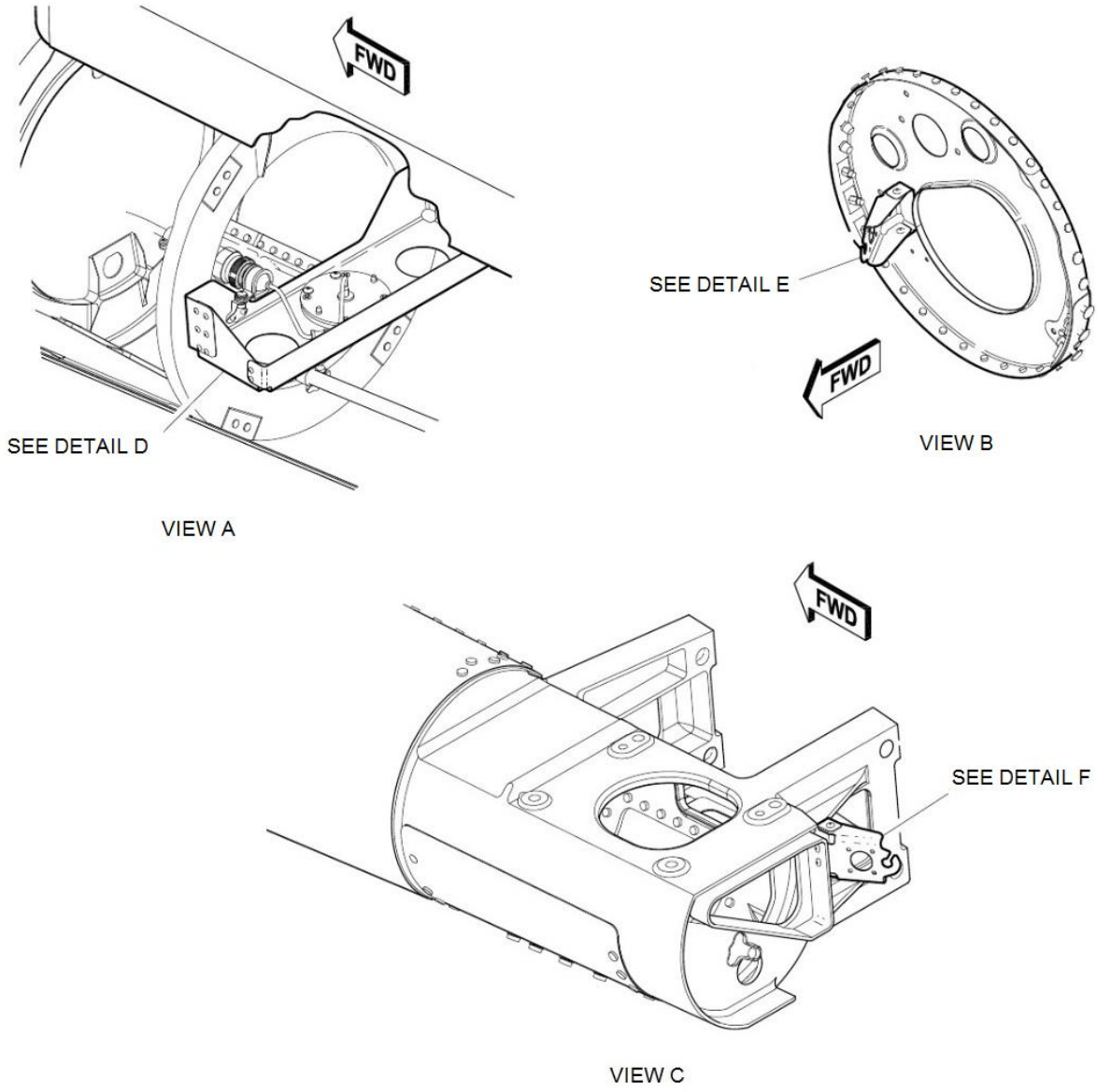


Figure 1 - Tailboom Assembly (Sheet 2 of 4)

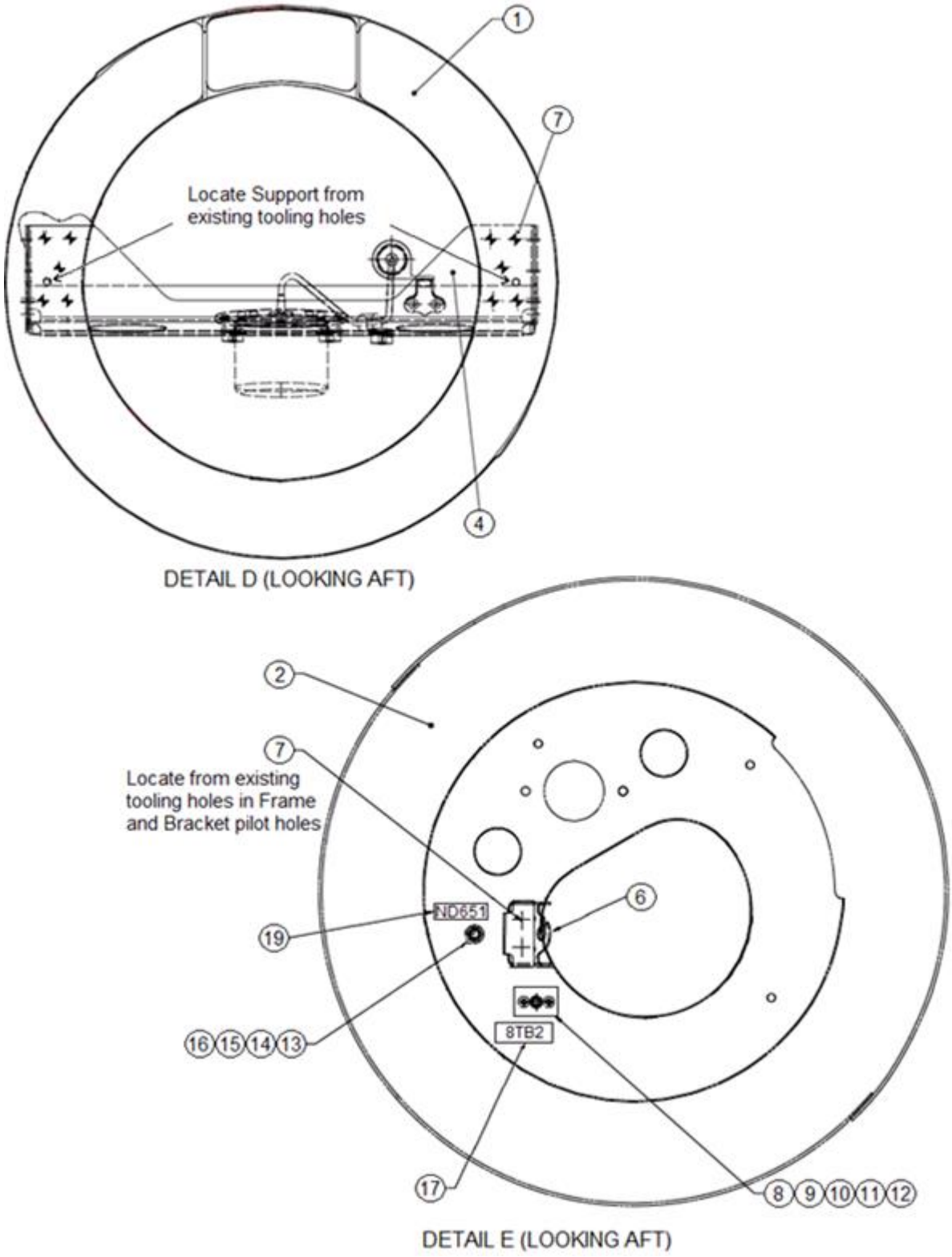
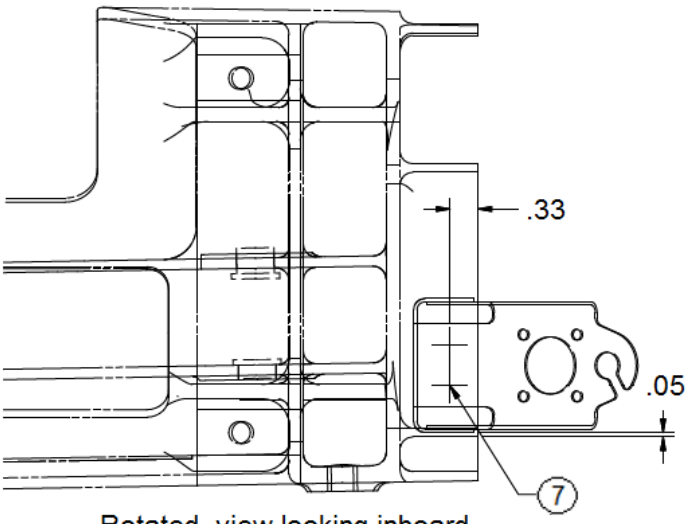
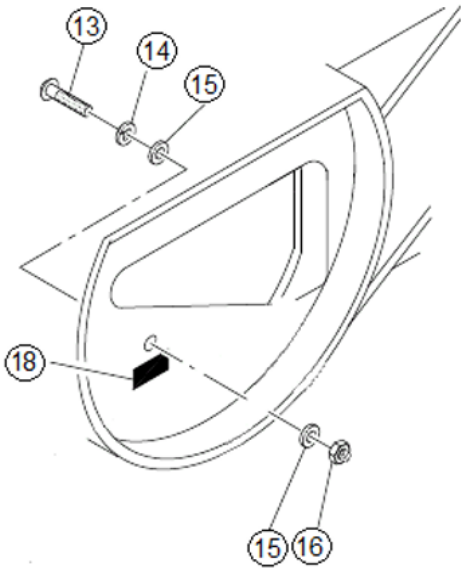
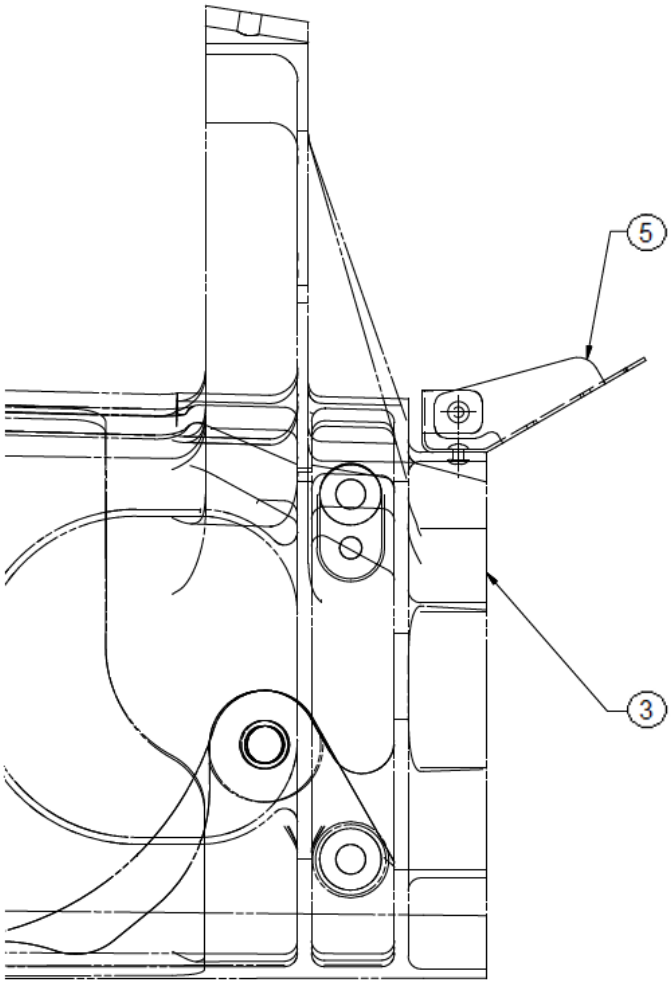


Figure 1 - Tailboom Assembly (Sheet 3 of 4)



Rotated, view looking inboard





1- Bulkhead 42.59
2- Bulkhead 120.75
3- Tail Rotor Gearbox Support
4- Magnetometer Support
P/N 407-030-060-101A
5- Connector Bracket
P/N 407-030-061-101A
6- Connector Bracket
P/N 407-030-061-101B
7- Rivets (MS20470AD4-X) Qty 14
8- Terminal Board
9- Insulation Strip
10- Screw MS35206-215
11- Washer NAS1149DN432J
12- Nut MS21042L04
13- Ground Stud Screw
MS35207-265
14- Lock Washer MS35338-43
15- Flat Washer NAS1149D0316H
16- Nut MS35650-302
17- Decal 8TB2
18- Decal ND650
19- Decal ND651

DETAIL F (LOOKING DOWN)

Figure 1 - Tailboom Assembly (Sheet 4 of 4)