

No. EC120-76-010

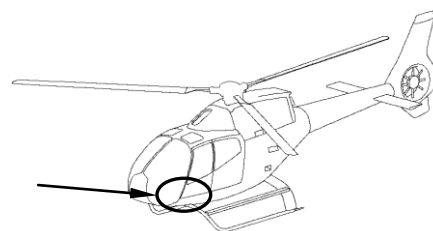
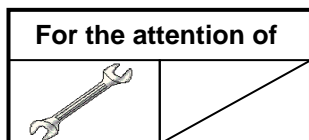
Civil version(s): B

SERVICE BULLETIN

CORRECTIVE MEASURE

ENGINE CONTROLS

Replacement of the twist grip drive tube



Revision No.	Date of issue
Revision 0	2021-03-26

Summary:

The purpose of this Service Bulletin is to replace the bonded drive tube coupling of the twist grip with a coupling secured with rivets to avoid any risk of disengagement of this coupling.

Compliance:

Airbus Helicopters recommends compliance with this Service Bulletin.

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1. PLANNING INFORMATION

1.A. EFFECTIVITY

1.A.1. Helicopters/installed equipment or parts

Helicopters with a serial number:

- less than or equal to 1701,
- between 8001 and 8034, both numbers inclusive.

1.A.2. Non-installed equipment or parts

On LH and RH twist grips, all Part Numbers.

1.B. ASSOCIATED REQUIREMENTS

Not applicable.

1.C. REASON

Airbus Helicopters has been informed of several cases of debonding of the drive tube coupling of the twist grip causing the system to no longer operate.

Consequently, at the end of autorotation training with engine recovery, this debonding leads to the loss of the "engine fuel flow control" function. The pilot is thus forced to remain in autorotation until landing.

For this reason, Airbus Helicopters has developed this Service Bulletin, to replace the bonded drive tube coupling of the twist grip with a coupling secured with rivets. Airbus Helicopters recommends compliance with this Service Bulletin.

Compliance with this Service Bulletin makes the following Service Bulletin obsolete:
No. EC120-05-014.

1.D. DESCRIPTION

This Service Bulletin consists in:

- if the optional dual control is missing: replacing the drive tube equipped with a bonded coupling by a drive tube equipped with a coupling secured with rivets on the LH or RH collective stick,
- if the optional dual control is installed: replacing the drive tube equipped with a bonded coupling by a drive tube equipped with a coupling secured with rivets on the LH and RH collective stick.

1.E. COMPLIANCE

1.E.1. Compliance at H/C manufacturer level

Helicopters/installed equipment or parts:

Airbus Helicopters recommends compliance with the instructions of [paragraph 3.](#) of this Service Bulletin as per operational and contractual constraints.

Non-installed equipment or parts:

Not applicable.

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1.E.2. Compliance in service

Helicopters/installed equipment or parts:

The work must be performed on the helicopter by the operator.

Airbus Helicopters recommends compliance with paragraph 3. of this Service Bulletin during one of the next inspections as per operational constraints and as per the following table No. 1.

Table No. 1		
Configuration	Paragraph to comply with	Kit P/N
Without optional dual control	Comply with paragraph 3. except for paragraphs 3.B.3. and 3.B.5.	C120A00-7890-071
With optional dual control	Comply with paragraph 3. except for paragraph 3.B.5.	C120A00-7890-071 C120A00-7890-171

Non-installed equipment or parts:

Before installing the twist grip identified in [paragraph 1.A.2.](#) of this Service Bulletin, check stocks and "discard/modify" when applicable as per [paragraph 3.B.5.](#)

1.F. APPROVAL

Approval of modifications:

The information or instructions relate to modification A00789, which was approved on July 22, 2016 under the authority of EASA Design Organization Approval No. 21J.700 for civil version helicopters subject to an Airworthiness Certificate.



Approval of this document:

The technical information contained in this Service Bulletin Revision 0 was approved on February 10, 2021 under the authority of EASA Design Organization Approval No. 21J.700 for civil version helicopters subject to an Airworthiness Certificate.

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1.G. MANPOWER



For compliance with this Service Bulletin, Airbus Helicopters recommends the following staff qualifications:

Qualification: -1 Mechanical Technician,
-1 Electrical Technician.



The Estimated Man-hours are indicated for reference purposes only and based on a standard helicopter configuration.

Estimated Man-hours: - 2 hours for the Mechanical Technician and 2 hours for the Electrical Technician for the replacement of the drive tube of the LH or RH twist grip,
- 4 hours for the Mechanical Technician and 3 hours for the Electrical Technician for the replacement of the drive tube of the LH and RH twist grip.



Estimated helicopter downtime is indicated for reference purposes only, based on a standard helicopter configuration.

- Helicopter downtime is estimated at one and a half days for replacing the drive tube of the RH twist grip.
- Helicopter downtime is estimated at one day for replacing the drive tube of the LH and RH twist grip.

1.H. WEIGHT AND BALANCE



Helicopter without optional dual control:

Weight: +0.092 kg.

Longitudinal moment: +0.2 m.kg.

Lateral moment: -0.06 m.kg.

Helicopter with optional dual control:

There is no change in weight and moment.

1.I. POWER CONSUMPTION

Not applicable.

1.J. SOFTWARE UPGRADES/UPDATES

Not applicable.

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1.K. REFERENCES

The following documents are required for compliance with this Service Bulletin:

Standard Practices Manual (MTC) :

- MTC : 20-01-01-301 : Use of greases - Miscellaneous products used on helicopters
- MTC : 20-02-01-418 : Protection of electrical wiring during maintenance operations - General
- MTC : 20-02-05-404 : Assembly by screws and nuts - Joining
- MTC : 20-02-06-101 : Safeying assemblies: General - Safeying and locking assemblies
- MTC : 20-02-06-402 : Safeying with lockwire - Safeying and locking assemblies
- MTC : 20-04-01-102 : Use of cleaning products on individual parts and on aircraft - Cleaning
- MTC : 20-04-01-402 : Cleaning of removed individual parts with liquid solvents - Cleaning
- MTC : 20-06-01-101 : General rules for bonding with adhesives - Bonding with adhesives
- MTC : 20-06-01-102 : Bonding method - Bonding with adhesives
- MTC : 20-07-03-406 : Instructions applicable when working on an aircraft electrical circuit and power generating systems - Technical instructions
- MTC : 20-07-03-408 : Appearance checks on an aircraft after an inspection or repair - Technical instructions
- MTC : 20-08-05-103 : Monitoring of parts in operation - marking - service life customization - General rules applicable to aircraft

Aircraft Maintenance Manual (AMM) :

- AMM : 24-00-00, 3-1 : General Safety Instructions - Electrical Power Supply System
- AMM : 67-00-00, 3-1 : General Safety Instructions - Rotors Flight Controls
- AMM : 67-10-00, 4-2 : Removal / Installation - Collective Levers
- AMM : 67-10-00, 8-2 : Replacement - Control Box on the Collective Levers
- AMM : 76-12-00, 4-4 : Removal / Installation - Twist Grip Position Switch
- AMM : 76-12-00, 4-5 : Removal / Installation - Lock Assy

Information Notice:

- IN 3643-I-00 : Introduction of the digital Service Bulletin reporting R-TeX
- IN 3481-I-00: The Marketplace: an AirbusWorld eOrdering service

1.L. OTHER AFFECTED PUBLICATIONS



The modification will be integrated into the following manual:

Illustrated Parts Catalog (IPC).

Revision of the document IPC will be updated on the customer's order.

1.M. PART INTERCHANGEABILITY OR MIXABILITY

Interchangeability:

PRE MOD and POST MOD components are not interchangeable.

Mixability:

Mixing between PRE MOD and POST MOD components is prohibited.

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2. EQUIPMENT OR PARTS INFORMATION

2.A. EQUIPMENT OR PARTS: PRICE - AVAILABILITY - PROCUREMENT

Price

For any information on the price of modification kits and/or components or for assistance, contact the Airbus Helicopters Network Sales and Customer Relations Department.

Availability

Delivery lead times will be indicated by the Sales and Customer Relations Department on the operator's request.

Procurement

Order the required quantity from the Airbus Helicopters Network Sales and Customer Relations Department:

Airbus Helicopters
Etablissement de Marignane
Direction des Ventes et Relations Client
13725 MARGNANE CEDEX
FRANCE

NOTE

On the purchase order, please specify the mode of transport, the destination and the serial numbers of the helicopters to modify.

2.B. LOGISTIC INFORMATION

Not applicable.

2.C. EQUIPMENT OR PARTS REQUIRED PER HELICOPTER/COMPONENT

Kits to be ordered for one helicopter or one assembly:

Designation	Qty	New P/N	Item	Old P/N	Instruction
<u>Retrofitting the RH collective stick tube</u>		<u>C120A00-7890-071</u>			
Equipped pilot drive tube	1	C761A2012103	1	C761A2012101	Discard
Harness protection	1	C761A2145201	2		
Self-locking hexagonal nut	1	ASN52320BH050N	3		
Lockwasher	1	23351CA050	4		

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Kits to be ordered for one helicopter with optional dual control:

Designation	Qty	New P/N	Item	Old P/N	Instruction
<u>Retrofitting the LH collective stick tube</u>		<u>C120A00-7890-171</u>			
Equipped co-pilot drive tube	1	C761A2013103	5	C761A2013101	Discard
Harness protection	1	C761A2146201	6		
Split bush	1	C761A2147201	7		

Consumables to be ordered separately:

As per the Work Cards and Tasks indicated in this Service Bulletin and the table below:

Designation	Qty	Consumable P/N	CM	Item
Lockwire	AR	EN3628-0,5	777	8
Grease	AR	DCSEA382	150	9
Adhesive	AR	ECS2255.10	6215	10
White satin polyurethane paint	AR	ECS2066.30-2665	4161	11

You can order the consumables from the AirbusWorld Marketplace through e-ordering (IN 3481-I-00). If you cannot get access to e-ordering, please contact your Logistic Focal Point.

2.D. EQUIPMENT OR PARTS TO BE RETURNED

Not applicable.

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3. ACCOMPLISHMENT INSTRUCTIONS

3.A. GENERAL

- Read and comply with the instructions for the use of greases as per Work Card 20-01-01-301 (MTC).
- Read and comply with the rules for protecting electrical wiring during maintenance operations as per Work Card 20-02-01-418 (MTC).
- Read and comply with the rules for assembly by screws and nuts as per Work Card 20-02-05-404 (MTC).
- Read and comply with the general principles on safetying assemblies as per Work Card 20-02-06-101 (MTC).
- Read and comply with the instructions for safetying with lockwire as per Work Card 20-02-06-402 (MTC).
- Read and comply with the bonding methods with adhesives as per Work Card 20-04-01-102 (MTC).
- Read and comply with the instructions for cleaning removed individual parts with liquid solvents as per Work Card 20-04-01-402 (MTC).
- Read and comply with the general instructions for bonding with adhesives as per Work Card 20-06-01-101 (MTC).
- Read and comply with the bonding methods with adhesives as per Work Card 20-06-01-102 (MTC).
- Read and comply with the general instructions on electrical power as per Task 24-00-00, 3-1 (AMM).
- Read and comply with the general instructions on the rotor flight controls as per Task 67-00-00, 3-1 (AMM).

3.B. WORK STEPS

3.B.1. Preliminary steps

- Disconnect all the electrical power supplies as per Work Card 20.07.03.406 (MTC).
- Install the appropriate access equipment.
- Remove the RH collective stick, and, if the optional dual control is installed, remove the LH collective stick as per Task 67-10-00, 4-2 (AMM).

3.B.2. Replacement of the drive tube equipped with the RH twist grip:

NOTE 1

Only the procedure with the twist grip installed on the RH side is described. Use the same procedure if the twist grip is installed on the LH side.

3.B.2.a. Removing the equipped drive tube ([Figure 1](#))

- Remove the control unit (a) as per Task 67-10-00,8-2 (AMM).
- Mark a line on the eccentric (r) and the bottom of the RH collective stick (ab).

NOTE 2

The lines indicate the initial position of the eccentric (r) before removal.

- Remove the screw (b).
- Remove the equipped drive tube (q) from the RH collective stick (ab).
- Remove and discard the lockwire (c).
- Remove the screws (d), (e), the nut (g) and the washers (f).
- Discard the nut (g).

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- Remove the lock assembly (h).
- Remove the screw (i).
- Remove and discard the lockwasher (k).
- Remove the cam (l).
- Remove the external bush (m).
- Remove the screws (n) and the washers (o) and (p).
- Remove the eccentric (r) and the internal bush (ma).
- Remove the split bush (s) from the equipped drive tube (q).
- Discard the equipped drive tube (q).

3.B.2.b. Installing the new equipped drive tube ([Figure 2](#))

- Clean the bushes (m), (ma), the eccentric (r) and the split bush (s).
- Lubricate the internal and external parts of the bush (s) with grease (9).
- Position the split bush (s) inside the RH collective stick (ab).
- Install the new drive tube (1) inside the RH collective stick (ab).
- Align the locking hole on the drive tube (1), the hole on the split bush (s), the hole on the RH collective stick tube (ab) and the hole on the grip (t).



CAUTION

MAKE SURE THAT THE HOLES ARE CORRECTLY ALIGNED TO PREVENT ANY DAMAGE TO THE DRIVE TUBE (1) DURING THE INSTALLATION OF THE SCREW (b).

- Install the screw (b) to lock the drive tube (1).
- Perform a feel check or a visual check (using a lamp) of the protrusion of the stud (ba) of the screw (b) inside the new drive tube (1).

NOTE 3

The screw (b) must be level with the grip (t).

- Lubricate the surfaces of the internal bush (ma) in contact with the eccentric (r) and the new equipped drive tube (1) with grease (9).
- Install the internal bush (ma) on the eccentric (r).
- Position the eccentric (r) on the RH collective stick (ab) as identified previously.
- Install the eccentric (r) on the new equipped drive tube (1) with the washers (o), (p) and the screws (n).
- Torque the screws (n) to the standard value.
- Lubricate the surfaces of the external bush (m) in contact with the eccentric (r) and the new equipped drive tube (1) with grease (9).
- Install the external bush (m) on the eccentric (r).
- Install the cam (l).
- Align the hole of the screw (i) located on the cam (l) and the hole located on the end of the new equipped drive tube (1) as per Section A-A.
- Install a new lockwasher (4).
- Install the screw (i), then torque to the standard value.
- Fold the lugs of the new lockwasher (4) on the cam (l) and the screw (i).
- Clean the bonding area of the harness protection (2).
- Install the control unit (a) as per Task 67-10-00,8-2 (AMM).

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- Position the groove (R) of the harness protection (2) to avoid interference with the screw (i) as per Detail C.
- Bond the harness protection (2) to the new equipped drive tube (1) with 3 spots of adhesive (10) as per Detail C.
- Install the lock assembly (h) using the screws (d), (e), the new nut (3) and the washers (f).
- Torque the screws (d) and (e) to the standard value.
- Safety the screws (d) and (e) with lockwire (8).
- Adjust the electromagnet (hb) as per Task 76-12-00, 4-5 (AMM).
- Adjust the position switch (ha) as per Task 76-12-00, 4-4 (AMM).
- Apply a circle of paint (11) with a diameter of 10 mm on the electromagnet (hb) of the lock assembly (h) as per Detail D.

NOTE 4

Apply a circle of paint on the electromagnet (hb) only if there is no circle already painted on it.

- Install the RH collective stick on the LH side as per Task 67-10-00,4-2 (AMM).

3.B.3. Replacement of the drive tube equipped with the LH twist grip:

NOTE 5

Only the procedure with the twist grip installed on the LH side is described. Use the same procedure if the twist grip is installed on the RH side.

3.B.3.a. Removing the equipped drive tube ([Figure 3](#))

- Remove the control unit (u) as per Task 67-10-00,8-2 (AMM).
- Remove the screw (v).
- Remove the equipped drive tube (w) from the LH collective stick (ad).
- Remove the snap ring (y) and the split bush (x).
- Discard the split bush (x).
- Remove the split bush (ac) from the equipped drive tube (w).
- Discard the equipped drive tube (w).

3.B.3.b. Installing the new equipped drive tube ([Figure 4](#))

- Clean the split bushes (7), (ac) and the snap ring (y).
- Lubricate the external parts of the split bush (ac) with grease (9).
- Lubricate the inside of the split bush (7) with grease (9).
- Place the split bush (ac) in the LH collective stick (ad).
- Install the new split bush (7) on the new equipped drive tube (5) using the snap ring (y).
- Place the new equipped drive tube (5) in the LH collective stick (ad).
- Align the locking hole located on the new drive tube (5), the hole on the split bush (ac), the hole on the LH collective stick (ad) and the hole on the grip (z).



CAUTION

MAKE SURE THAT THE HOLES ARE CORRECTLY ALIGNED TO PREVENT ANY DAMAGE TO THE EQUIPPED DRIVE TUBE (5) DURING THE INSTALLATION OF THE SCREW (v).

- Install the screw (v) to lock the new equipped drive tube (5).

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- Perform a feel check or a visual check (using a lamp) of the protrusion of the stud (va) of the screw (v) inside the new equipped drive tube (5).

NOTE 6

The screw (v) must be level with the grip (z).

- Clean the bonding area of the harness protection (6).
- Install the control unit (u) as per Task 67-10-00,8-2 (AMM).
- Align the groove (R) of the harness protection (6) between 2 rivets (ae) as per Detail B and Section A-A.
- Bond the harness protection (6) to the new equipped drive tube (5) with 3 spots of adhesive (10) as per Detail B.
- Install the LH collective stick on the RH side as per Task 67-10-00,4-2 (AMM).

3.B.4. Final steps

- Clean and restore the work areas and the helicopter as per Work Card 20.07.03.408 (MTC).
- Connect all the electrical power supplies as per Work Card 20.07.03.406 (MTC).
- Remove the appropriate access equipment.

3.B.5. Work steps for non-installed equipment or parts

- For the RH collective stick, all Part Numbers, comply with paragraph 3.B.2.
- For the LH collective stick, all Part Numbers, comply with paragraph 3.B.3.

NOTE 7

The LH and RH twist grips must only be adjusted when they are installed on the helicopter.

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3.C. RECORD OF COMPLIANCE

Compliance with this document:

Record full compliance with this Service Bulletin, with the revision number, in the helicopter documents.

Record compliance with this Service Bulletin (see IN 3643-I-00 for instructions):
QR code or hypertext link



NOTE 8

The recording of compliance with Service Bulletins in the R-Text tool does not replace the recording in the helicopter documents.

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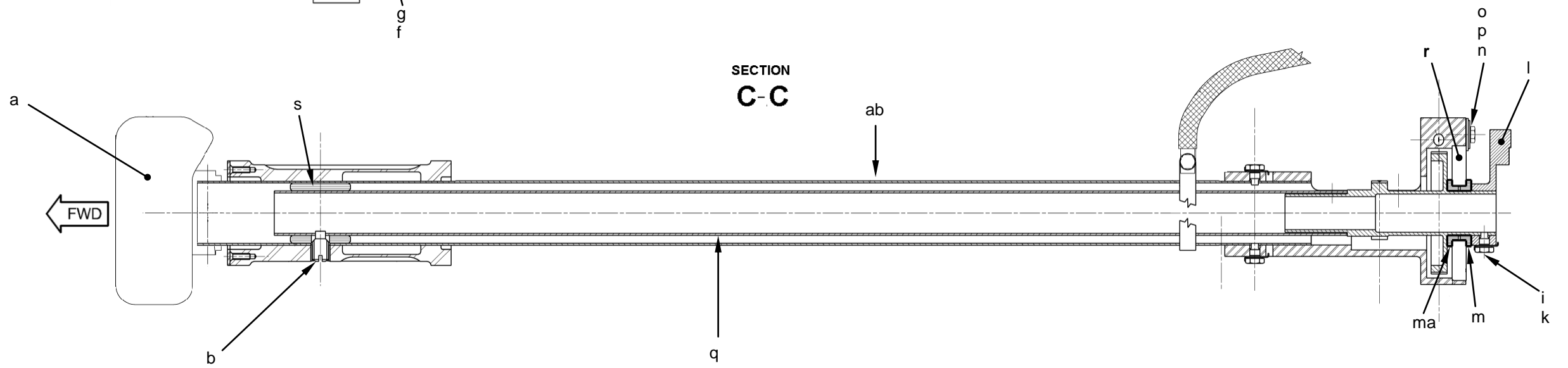
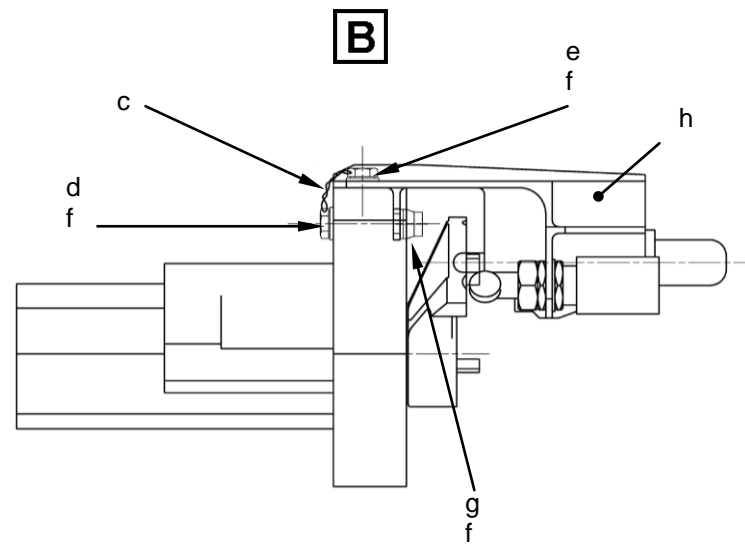
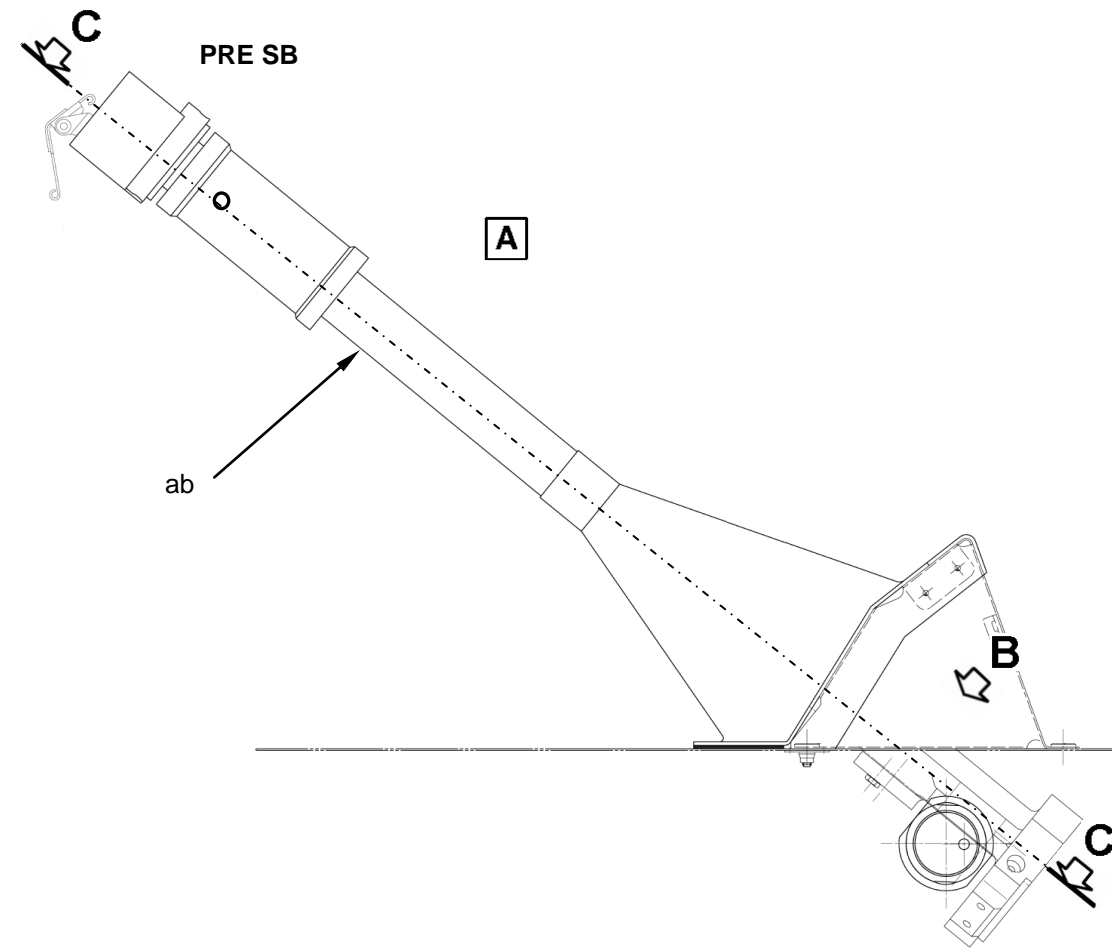
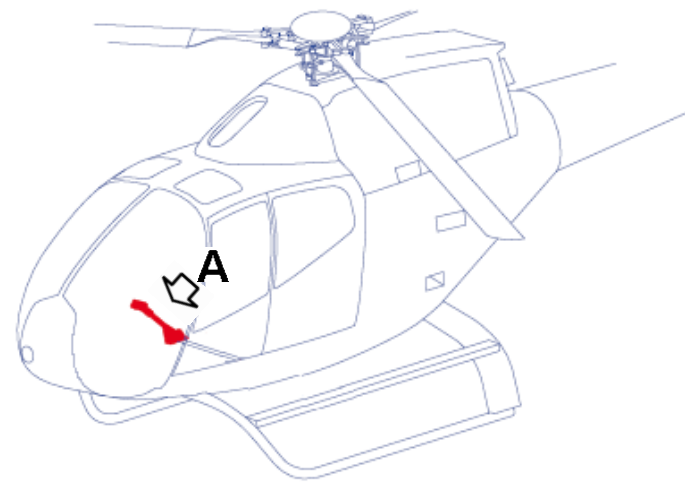
Identification of modifications on equipment or parts:

- Identify the parts as per the table below and/or Work Card 20-08-05-103 (MTC):

Designation	Old P/N	New P/N	Marking type
RH twist grip	C761AXXXXXXX	C008A0761071	Pen
LH twist grip	C761AXXXXXXX	C008A0761072	Pen

3.D. OPERATING AND MAINTENANCE INSTRUCTIONS

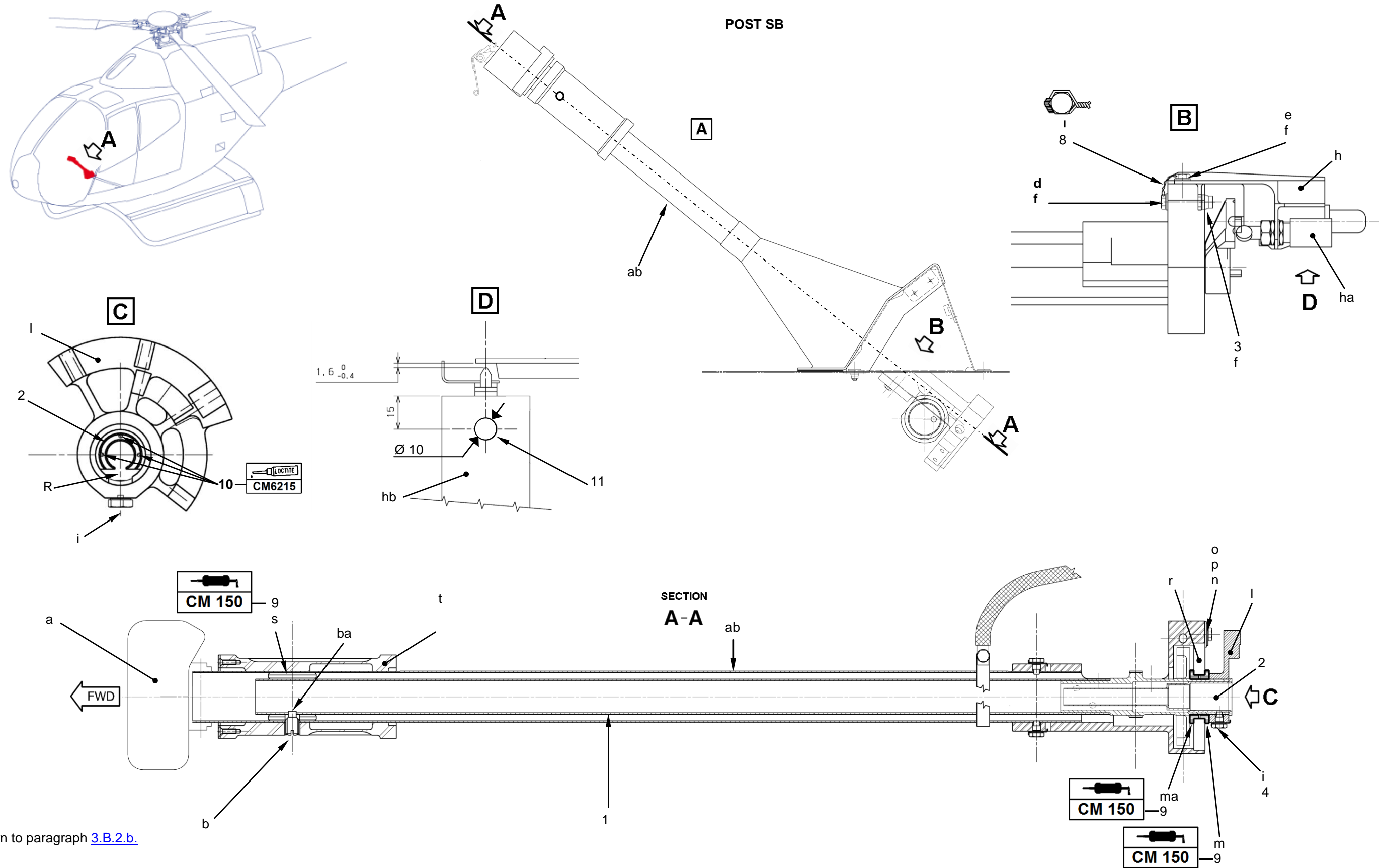
Not applicable.



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Figure 1 - RH collective stick

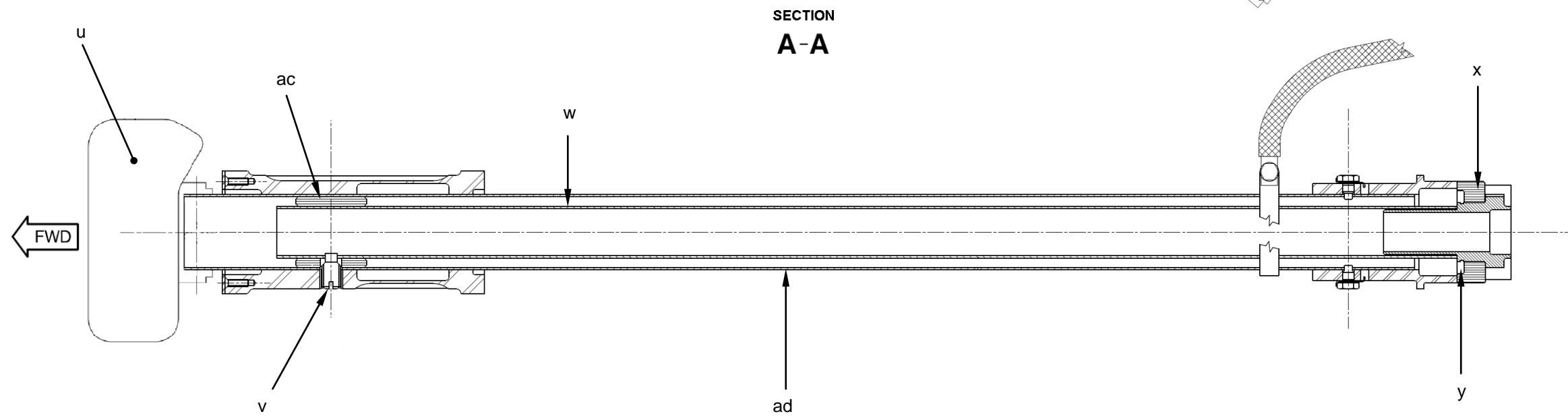
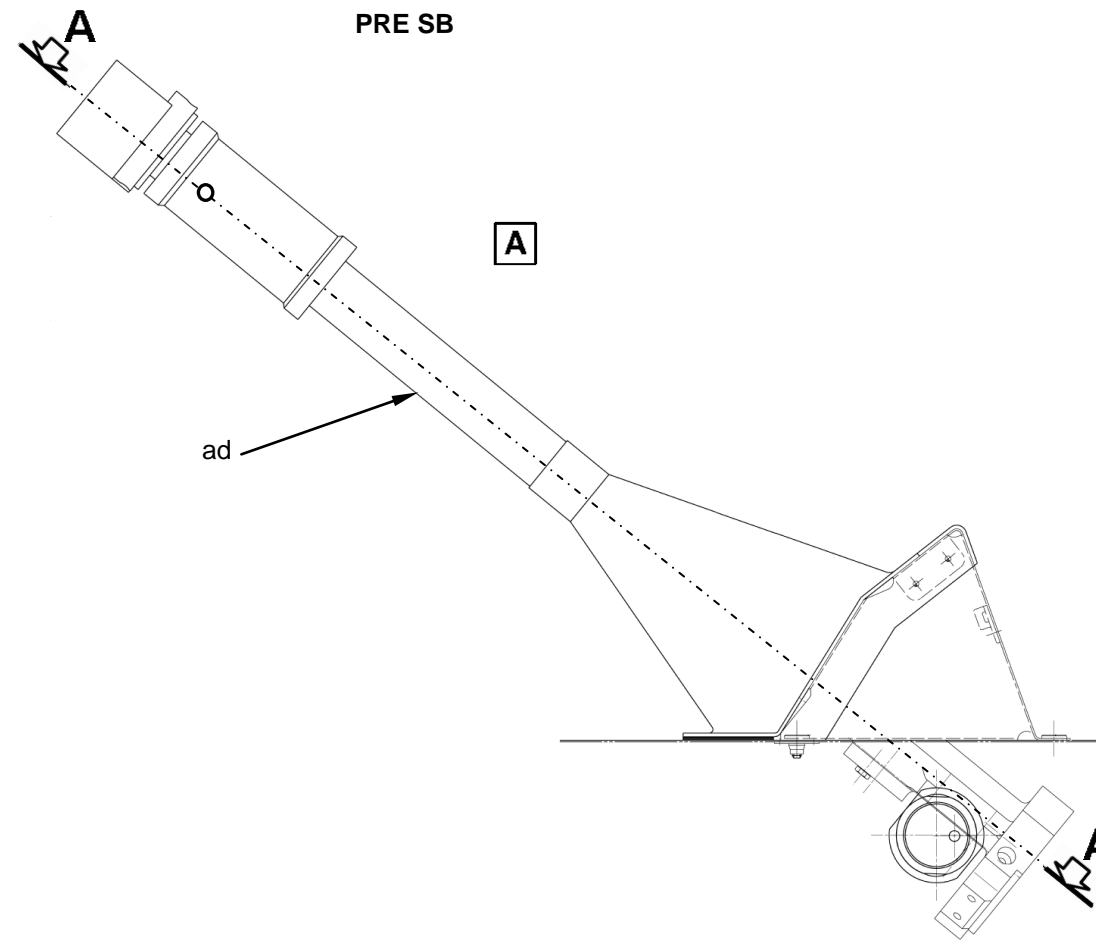
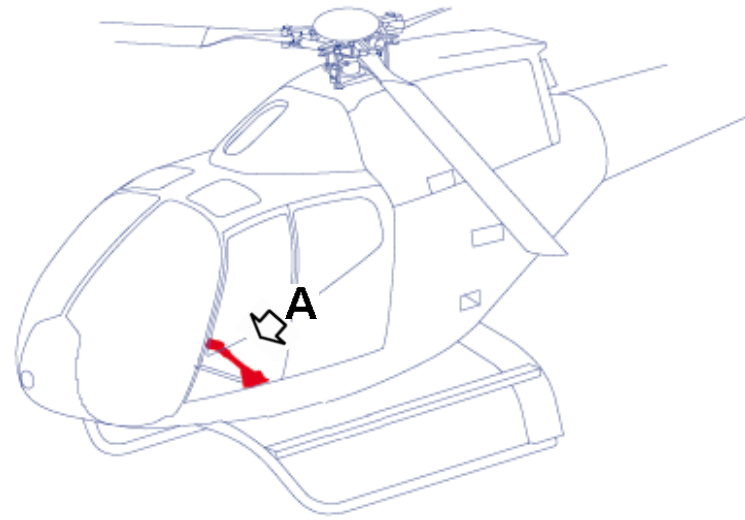
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Figure 2 - RH collective stick

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Figure 3 - LH collective stick

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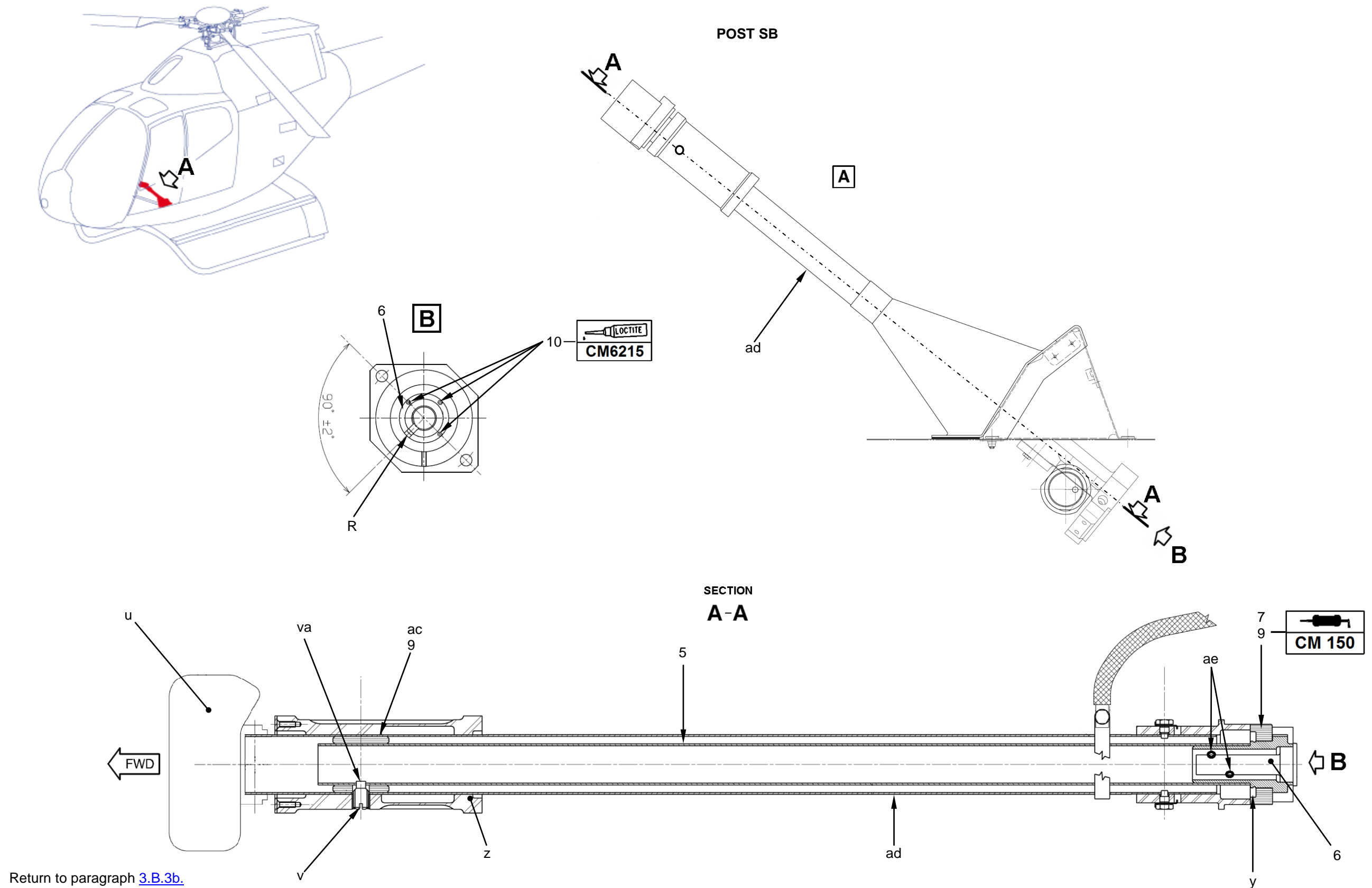


Figure 4 - LH collective stick