Main Rotor Flight Controls - Adjustment / Test

5-1 Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)

A. Applicable Documents

(1) Main information

62-00-00, 5-1 ..... Adjustment - Checking and Correcting Horizontal (Y) and Vertical (Z) Vibrations
67-00-00, 6-1 ..... Checks - Flight Controls
67-11-00, 5-1 ..... Adjustment - Cyclic Stick Balance
67-12-00, 5-1 ..... Adjustment - Collective Stick Balance
67-12-00, 5-2 ..... Adjustment - Fine Pitch Engagement
76-11-03, 5-1 ..... Adjustment - Collective Pitch Anticipator

(2) Conditional information

53-51-00, 4-1 ..... Removal / Installation - Upper Cowlings
53-51-00, 4-2 ..... Removal / Installation - Lower Fairings
62-33-00, 4-1 ..... Removal / Installation - Housing / Swashplate / Hub Coupling
67-10-00, 4-1 ..... Removal / Installation - Servocontrol Input Rod
67-10-00, 8-1 ..... Rework - Subsequent to Interference Between Servocontrol and Flared Housing Yoke
67-12-00, 4-2 ..... Removal / Installation - Collective Control Friction Mechanism
67-12-00, 5-3 ..... Adjustment - Low Pitch Stop After Autorotation Flight

(3) General information

24-00-00, 2-1 ..... Electrical Power Supply on the Ground
24-00-00, 3-1 ..... General Safety Instructions - Electrical Power Supply System
29-00-00, 2-1 ..... External Hydraulic Power Supply
60-00-00, 3-1 ..... General Safety Instructions - Mechanical Assemblies
67-00-00, 3-1 ..... General Safety Instructions - Flight Controls
67-00-00, 3-2 ..... Safetying of the Stop Screws with the TECHNOVIT Resin

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B. Special Tools

Commercial ..... spring balance
350A94-2785-00 ..... flight controls adjustment kit
350A94-2785-01 ..... flight controls adjustment kit

C. Materials

CM 683 ..... locking compound
CM 6069 ..... resin
CM 776 ..... lockwire

Commercial ..... black heat-shrinkable sheath

D. Routine Replacement Parts

AMM Fig.	AMM Item	Description	Reference
Figure 501	(17)	Lockwasher	(P/N 23350AC080LE)

E. Job Set-up

(1) Comply with the general safety instructions for the mechanical assemblies (60-00-00, 3-1).

(2) Comply with the general safety instructions for the electrical power supply system (24-00-00, 3-1).

(3) Comply with the general safety instructions for the flight controls (67-00-00, 3-1).

(4) Remove the MGB cowlings (53-51-00, 4-1).

(5) Remove the lower fairings (53-51-00, 4-2).

NOTE

The overall adjustment of the linkages and the consequent checks are intended particularly for the scenario of a total removal / installation of the flight controls, which is very rarely undertaken entirely.

In general, only partial checks or adjustments are undertaken in the context of a specific operation which has only limited effects on the existing adjustments.

In order to make each adjustment independent, the procedures described below take into account the configuration for performing the operation and subsequent reversion to flight configuration after each of the adjustments.

In the case of an overall adjustment of the flight control linkages, the various operations should be performed in the sequence described in the work card, ignoring the reversion to flight configuration sequences.

F. Procedure

Figure 501

(1) Identification and positioning of the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] used for adjusting the main rotor flight controls.

Identification	Part No.	Position	Purpose
Collective lateral rigging pin (4)	350A94-2706-11	*Figure 501 Sheet 1*	Locking of the collective channel
Longitudinal rigging pin (8)	350A94-2706-12	*Figure 501 Sheet 1*	Locking of the pitch channel
SAMM servocontrol rigging pins (12)	350A94-2706-13	*Figure 501 Sheet 2*	Locking of the servocontrol lever
Roll channel rigging pins (3)	350A94-2706-16	*Figure 501 Sheet 1*	Locking of the roll channel
Deflection measurement scale (13)	350A94-2796-00 (PRE MOD 072999) 350A94-2796-01 (POST MOD 072999)	*Figure 501 Sheet 2*	Measurement of the deflection
7 degree adjustment template (15)	350A94-3701-00	*Figure 501 Sheet 2*	Adjustment of the pitch change rods
Cyclic swashplate locking set (14)	355A94-3745-01	*Figure 501 Sheet 2*	Locking of the cyclic swashplates

(2) Adjustment of the pitch change rods to 7 degrees:

(a) Configuration for adjusting the pitch change rods in neutral (7 degrees):

- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-12.
  SAMM servocontrol rigging pins (12) 350A94-2706-13.
  Roll channel rigging pins (3) 350A94-2706-16.
  Cyclic swashplate locking set (14) 355A94-3745-01.

(b) Procedure:

- Align the yellow sleeve along the aircraft centerline (0˚ azimuth).
- Adjust the yellow pitch change rod to be able to slide the 7 degrees template (15) 350A94-3701-00 between the STARFLEX and the upper sleeve plate.
- Remove the 7 degrees template (15) 350A94-3701-00.
- Orientate, tighten, safety and seal the spherical bearing end-fittings of the pitch change rod (62-33-00, 4-1).
- Repeat the operation for the blue pitch change rod and the red pitch change rod, after aligning each corresponding sleeve along the aircraft centerline (0˚ azimuth).

NOTE

- *The yellow pitch change rod remains the datum rod and its length may only be modified during adjustment of the neutral position at 7˚ using the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01].*
- *The length of the red and blue pitch change rods may be modified during adjustment of the blade tracking.*

(c) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] from the aircraft.

AFTER THE FLIGHT SUBSEQUENT TO ADJUSTMENT OF THE MAIN ROTOR CONTROLS, IF THERE IS INTERFERENCE BETWEEN THE FORWARD LH SERVOCONTROL AND THE FLARED HOUSING YOKE, APPLY WORK CARD (67-10-00, 8-1).

(3) Adjustment of the servocontrol input rods:

(a) Configuration for adjustment of the servocontrol input rods:

- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-12.
  SAMM servocontrol rigging pins (12) 350A94-2706-13.
  Roll channel rigging pins (3) 350A94-2706-16.
  Cyclic swashplate locking set (14) 355A94-3745-01.
- Disconnect the servocontrol input rods from the servocontrols (67-10-00, 4-1).

(b) Procedure:

- Adjust the yokes on the servocontrol input rods such that the servocontrol input rod attachment pins can be installed on the servocontrols without strain.
- Further to adjusting the length of a rod, make sure that red safety groove on the end piece is not visible.
- Tighten and safety the adjustment systems for the servocontrol input rods (67-10-00, 4-1).

(c) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [

350A94-2785-01] from the aircraft.

(4) Adjustment of collective rod below bottom structure (POST MOD 073879)

NOTE

Do this procedure only if there is an interference or if the clearance is not sufficient in the flight controls, in the part between the mixing unit and the input rods (67-00-00, 6-1).

(a) Remove the collective rod.

(b) Remove and discard the black sheaths and make sure that you do not cause scratches to the rod.

(c) Adjust the length of the rod as necessary:

- Nominal dimension: 1098 mm ± 0,5 mm (43.209 to 43.248 in.),
- Maximum dimension: 1103 mm ± 0,5 mm (43.406 to 43.444 in.),
- Minimum dimension: 1093 mm ± 0,5 mm (43.012 to 43.051 in.).

(d) Make sure that there is no interference and that the clearance is correct (67-00-00, 6-1).

(e) Torque the nuts on the ball end fittings to between 18 and 22 N.m (160 and 194 in.-lb).

(f) Fold the tabs of the lockwashers.

(g) Seal the end fittings with a black heat-shrinkable sheath (20.02.06.410 MTC).

(h) Install the rod on the aircraft, install the bolts, torque the nuts to between 20 and 22 N.m. (178 and 194 in.-lb) and install the cotter pins.

(5) Adjustment of the collective pitch stops:

NOTE

The value of the fine pitch stop adjustment may be modified following the autorotation test during the check flight (67-12-00, 5-3).

(a) Configuration for adjustment of the collective pitch stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Longitudinal rigging pin (8) 350A94-2706-12.
  Roll channel rigging pins (3) 350A94-2706-16.
  Collective lateral rigging pin (4) 350A94-2706-11.
  Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the rear left servocontrol input rod.
- Set the vernier of the deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 to zero.
- Remove the collective lateral rigging pin (4) 350A94-2706-11.

(b) "Fine pitch" stop adjusting procedure:

1 Unlock the fine pitch stop screw (11):

- POST MOD 073206 and PRE MOD 073102 : remove the resin CM 6069 from the fine pitch stop screw (11).
- POST MOD 073102 : cut and remove the lockwire CM 776 from the fine pitch stop screw (11) and locknut (16).

2 Loosen locknut (16) of the fine pitch stop screw (11).

3 Move and hold (but do not force) the collective lever in the fine pitch position.

4 Pre-adjust the fine pitch stop screw (11) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "A" = 23,5 mm $\pm$ 0,5 mm (.906 in.; .944 in.) and adjust the value "A" in order to achieve the data "COL PITCH" displayed on "FADEC DATA" page of VEMD at 10,8 $\pm$ 0,2 %.

5 Tighten locknut (16) of fine pitch stop screw (11) to the required torque.

6 Lock the fine pitch stop screw (11):

- POST MOD 073206 , safety with resin CM 6069 (67-00-00, 3-2).
- POST MOD 073102 , safety locknut (16) and fine pitch stop screw (11) with lockwire CM 776.

(c) "Coarse pitch" stop adjusting procedure:

1 Unlock the coarse pitch stop screw (5):

- POST MOD 073206 and PRE MOD 073102 : remove resin CM 6069 from the coarse pitch stop screw (5).
- POST MOD 073102 : cut and remove lockwire CM 776 from the coarse pitch stop screw (5) and from the locknut (16).

2 Loosen locknut (16) of the coarse pitch stop screw (5).

3 Move and hold (but do not force) the collective lever in the coarse pitch position.

4 Adjust the coarse pitch stop screw (5) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "B" = 22 mm $\pm$ 0,5 mm (.847 in.; .885 in.).

5 Tighten locknut (16) of coarse pitch stop screw (5) to the required torque.

6 Lock the coarse pitch stop screw (5):

- POST MOD 073206 , safety with resin CM 6069 (67-00-00, 3-2).
- POST MOD 073102 , safety locknut (16) and coarse pitch stop screw (5) with lockwire CM 776.

7 Perform the combined stick deflection check (paragraph 9).

(d) Check of the deflection of the front left servocontrols

1 Install the following tools from the flight control adjustment kit (PRE MOD 072999) [350A94-2785-00] or from the flight control adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the front left servocontrol input rod.

2 Set the digital vernier to 0.

3 Remove the pins from the collective lever.

4 Do a check of the deflection values:

- Coarse pitch B (positive): 19 mm ± 0,5 mm (.729 to .767 in.).
- The fine pitch is achieved with the 10,8 ± 0,2 % shown on the "FADEC DATA" page of the VEMD.

(e) Check of the deflection of the rear right servocontrols

1 Install the following tools from the flight control adjustment kit (PRE MOD 072999) [350A94-2785-00] or from the flight control adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the rear right servocontrol input rod.

2 Set the digital vernier to 0.

3 Remove the pin from the collective lever.

4 Do a check of the deflection values:

- Coarse pitch B (positive): 21,9 mm ± 0,5 mm (.843 to .881 in.).
- The fine pitch is achieved with the 10,8 ± 0,2 % shown on the "FADEC DATA" page of the VEMD.

(f) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] from the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(6) Adjustment of the roll stops:

(a) Configuration for adjustment of the roll stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install on the aircraft the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01]:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-12.
  Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the rear left servocontrol input rod.

(b) "LH lateral" stop adjusting procedure:

1 Unlock the LH lateral stop screw (2):

- POST MOD 073206 and PRE MOD 073102 : remove the resin CM 6069

from the LH lateral stop screw (2).
- POST MOD 073102 :
  Unlock locknut (17),
  Discard locknut (17),
  Cut and remove the lockwire CM 776 from LH lateral stop screw (2).

2 Move and hold (but do not force) the cyclic stick to the left.

3 Adjust LH lateral stop screw (2) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "A" = 17 mm ± 0,5 mm (.650 in.; .688 in.).

NOTE

Cyclic stick position must be checked inside cockpit.

4 Tighten locknut (16) of LH lateral stop screw (2) to the required torque.

5 Lock the LH lateral stop screw (2):

- Lock locknut (17).
- POST MOD 073206 , safety with resin CM 6069 (67-00-00, 3-2).
- POST MOD 073102 , safety LH lateral stop screw (2) with lockwire CM 776.

(c) "RH lateral" stop adjusting procedure:

1 Unlock the RH lateral stop screw (1):

- POST MOD 073206 and PRE MOD 073102 : remove the resin CM 6069 (20.02.06.410 MTC) from the RH lateral stop screw (1).
- POST MOD 073102 :
  Unlock locknut (17),
  Discard locknut (17),
  Cut and remove lockwire CM 776 from RH lateral stop screw (1).

2 Move and hold (but do not force) the cyclic stick to the right.

3 Adjust RH lateral stop screw (1) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "B" = 24 mm ± 0,5 mm (.926 in.; .964 in.).

NOTE

Cyclic stick position must be checked inside cockpit.

4 Tighten locknut (16) of RH lateral stop screw (1) to the required torque.

5 Lock the RH lateral stop screw (1):

- Lock locknut (17).
- POST MOD 073206 , safety with resin CM 6069 (67-00-00, 3-2).
- POST MOD 073102 , safety RH lateral stop screw (1) with lockwire CM 776.

6 Perform the combined stick deflection check (paragraph 9).

(d) Check of the deflection on the right servocontrol

1 Install on the aircraft the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or from the flight control adjustment kit POST MOD 072999 [350A94-2785-01 on the aircraft]:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Longitudinal rigging pin (8) 350A94-2706-12.
- Roll channel rigging pin (3) 350A94-2706-16.
- Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the right servocontrol.

2 Set the digital vernier to 0.

3 Remove the pin from the roll lever.

4 Move the cyclic stick to the left and make sure that the deflection of the right roll servocontrol is:

B (positive): 18,2 mm $\pm$ 0,5 mm (.697 to .736 in.).

5 Move the cyclic stick to the right and make sure that the deflection of the right roll servocontrol is:

A (negative): 21,6 mm $\pm$ 0,5 mm (.831 to .870 in.).

(e) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(7) Adjustment of the pitch stops:

(a) Configuration for adjustment of the pitch stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-16.
  Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the front left servocontrol input rod.

(b) "Nose-down" stop adjusting procedure:

1 Unlock the nose-down stop screw (9):

- POST MOD 073206 and PRE MOD 073102 : remove the resin CM 6069 (20.02.06.410 MTC) from the nose-down stop screw (9).
- POST MOD 073102 : cut and remove lockwire CM 776 from the nose-down stop screw (9) and locknut (16).

2 Loosen locknut (16) of nose-down stop screw (9).

3 Move and hold (but do not force) the cyclic stick forward.

4 Adjust the nose-down stop screw (9) in order to achieve a displacement

of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "A" = 37 mm ± 0,5 mm (1.437 in.; 1.476 in.).

NOTE

Cyclic stick must be checked inside cockpit.

5 Tighten locknut (16) of nose-down stop screw (9) to the required torque.

6 Lock the nose-down stop screw (9):

- Safety locknut (16) and nose-down stop screw (9) using lockwire CM 776.

(c) "Nose-up" stop adjusting procedure:

1 Unlock the nose-up stop screw (7):

- POST MOD 073206 and PRE MOD 073102 : remove the resin CM 6069 from the nose-up stop screw (7).
- POST MOD 073102 : cut and remove the lockwire CM 776 from the nose-up stop screw (7) and locknut (16).

2 Loosen locknut (16) of nose-up stop screw (7).

3 Move and hold (but do not force) the cyclic stick backwards.

4 Adjust the nose-up stop screw (7) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "B" = 31 mm ± 0,5 mm (1.200 in.; 1.240 in.).

NOTE

Cyclic stick must be checked inside cockpit.

5 Tighten locknut (16) of nose-up stop screw (7) to the required torque.

6 Lock the nose-up stop screw (7):

- POST MOD 073206 , safety with resin CM 6069 (67-00-00, 3-2).
- POST MOD 073102 , safety locknut (16) and nose-up stop screw (7) using lockwire CM 776.

7 Perform the combined stick deflection check (paragraph 9).

(d) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] from the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(8) Checking adjustment values as per table below

control configurations	Lever/stick Position	Reading on the input rod	Reading area	Stroke in mm (in.)	Sleeve incidence angle for reference
Longitudinal, pinned. Lateral, pinned.	Collective pitch, low pitch	LH	Check "COL PITCH" value displayed on "FADEC DATA" page on VEMD at 10,8 ± 0,2 %.		0˚25’
Longitudinal, pinned. Lateral, pinned.	Collective pitch, high pitch	LH	B	22 ± 0,5 (.866 ± .019)	14˚
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, rightward	LH	B	24 ± 0,5 (.945 ± .019)	7˚
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, leftward	LH	A	17 ± 0,5 (.669± .019)	5˚
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, nose-up	Forward	B	31 ± 0,5 (1.22 ± .019)	9˚45’
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, nose-down	Forward	A	37 ± 0,5 (1.456 ± .019)	11˚55’

(9) Check of the combined stick deflections:

(a) Ensure that the "Left" and "Right" roll stops can be reached via the other two channels by slow motions in the following configurations:

Collective on stop	and	pitch on stop
fine pitch		nose-up
fine pitch		nose-down
coarse pitch		nose-up
coarse pitch		nose-down

(b) If the stops cannot be reached, adjust the stop or stops concerned.

(10) Adjustment of the microswitches in the pitch channel to light up the amber "LIMIT" caption on the instrument panel:

CAUTION

THIS OPERATION MAY BE PERFORMED WITH OR WITHOUT HYDRAULIC ASSISTANCE.

(a) Configuration for adjustment of the microswitches in the pitch channel in order to

light up the "LIMIT" caption on the instrument panel:

1 With hydraulic assistance:

- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-16.
  Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the front left servocontrol input rod.
- Switch on the aircraft electrical system (24-00-00, 2-1).
- Switch on both aircraft hydraulic systems (29-00-00, 2-1).

2 Without hydraulic assistance:

- Install the following tools from the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-16.
  Deflection measurement scale (13) 350A94-2796-00 or 350A94-2796-01 on the front left servocontrol input rod.
- Switch on the aircraft electrical system (24-00-00, 2-1).

(b) Procedure:

- Loosen the "nose-down" position microswitch locknut (10).
- Position the cyclic stick forwards in order to achieve a displacement of the vernier on the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "A" = 27,5 mm + 0 mm / - 0,5 mm (1.083 in. / - .020 in.) (PRE MOD 073520) or "A" = 33,6 mm + 2 mm / - 0,5 mm (1.303 to 1.401 in.) (POST MOD 073520).
- Adjust the "nose-down" position microswitch (10) in order to light up the amber "LIMIT" caption on the instrument panel.
- Apply locking compound CM 683 to the locknut (10).
- Move the cyclic stick to the front stop and check that the amber "LIMIT" caption on the instrument panel remains lit.
- Tighten the "nose-down" position microswitch locknut (10).
- Loosen the "nose-up" position microswitch locknut (6).
- Position the cyclic stick backwards in order to achieve a displacement of the vernier on the deflection measurement scale 350A94-2796-00 or 350A94-2796-01 to a value "B" = 25 mm + 0 mm / - 0,5 mm (.984 in. + 0 in. / - .020 in.) (PRE MOD 073520) or "B" = 27,6 mm + 2 mm / - 0,5 mm (1.067 to 1.165 in.) (POST MOD 073520).
- Adjust the "nose-up" position microswitch (6) in order to light up the amber "LIMIT" caption on the instrument panel.
- Move the cyclic stick to the back stop and check that the amber "LIMIT" caption on the instrument panel remains lit.
- Apply locking compound CM 683 to the locknut (6).
- Tighten the "nose-up" position microswitch locknut (6).

(c) If necessary, revert the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] or flight controls adjustment kit POST MOD 072999 [350A94-2785-01] from the aircraft.

- If adjustment with assistance: switch off both aircraft hydraulic systems (29-00-00, 2-1).
- Switch off the aircraft electrical system (24-00-00, 2-1).

(11) If necessary, complete the main rotor flight control adjustments by applying the following work cards:

- Adjustment of the collective anticipator control (76-11-03, 5-1).
- Checking of the collective friction (67-12-00, 4-2).
- Adjustment of the fine pitch engagement (67-12-00, 5-2).
- Adjustment of the cyclic stick balance (67-11-00, 5-1).
- Adjustment of the collective stick balance (67-12-00, 5-1).

(12) Check of the main rotor flight control operating loads:

NOTE

This check must be performed when all the main rotor controls have been adjusted and all the control rods have been reconnected.

(a) Switch on both aircraft hydraulic systems (29-00-00, 2-1).

(b) Release the friction controls on the collective and cyclic channels.

(c) Install the collective lateral rigging pin (4) 350A94-2706-11 and the roll rigging pin (3) 350A94-2706-16.

(d) Using a spring balance, check over the entire pitch travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 9 N (2.02 lbf).

(e) Remove the collective lateral rigging pin (4) 350A94-2706-11, leaving in place the roll rigging pin (3) 350A94-2706-16, and install the longitudinal rigging pin (8) 350A94-2706-12.

(f) Using a spring balance, check over the entire travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 14 N (3.14 lbf).

(g) Remove the roll rigging pin (3) 350A94-2706-16, leaving in place the longitudinal rigging pin (8) 350A94-2706-12 and install the collective lateral rigging pin (4) 350A94-2706-11.

(h) Using a spring balance, check over the entire roll travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 7 N (1.57 lbf).

(i) Remove all the tools in the flight controls adjustment kit PRE MOD 072999 [350A94-2785-00] from the aircraft.

(j) Switch off both aircraft hydraulic systems (29-00-00, 2-1).

(k) Adjust the friction controls on the collective and cyclic channels.

G. Close-up

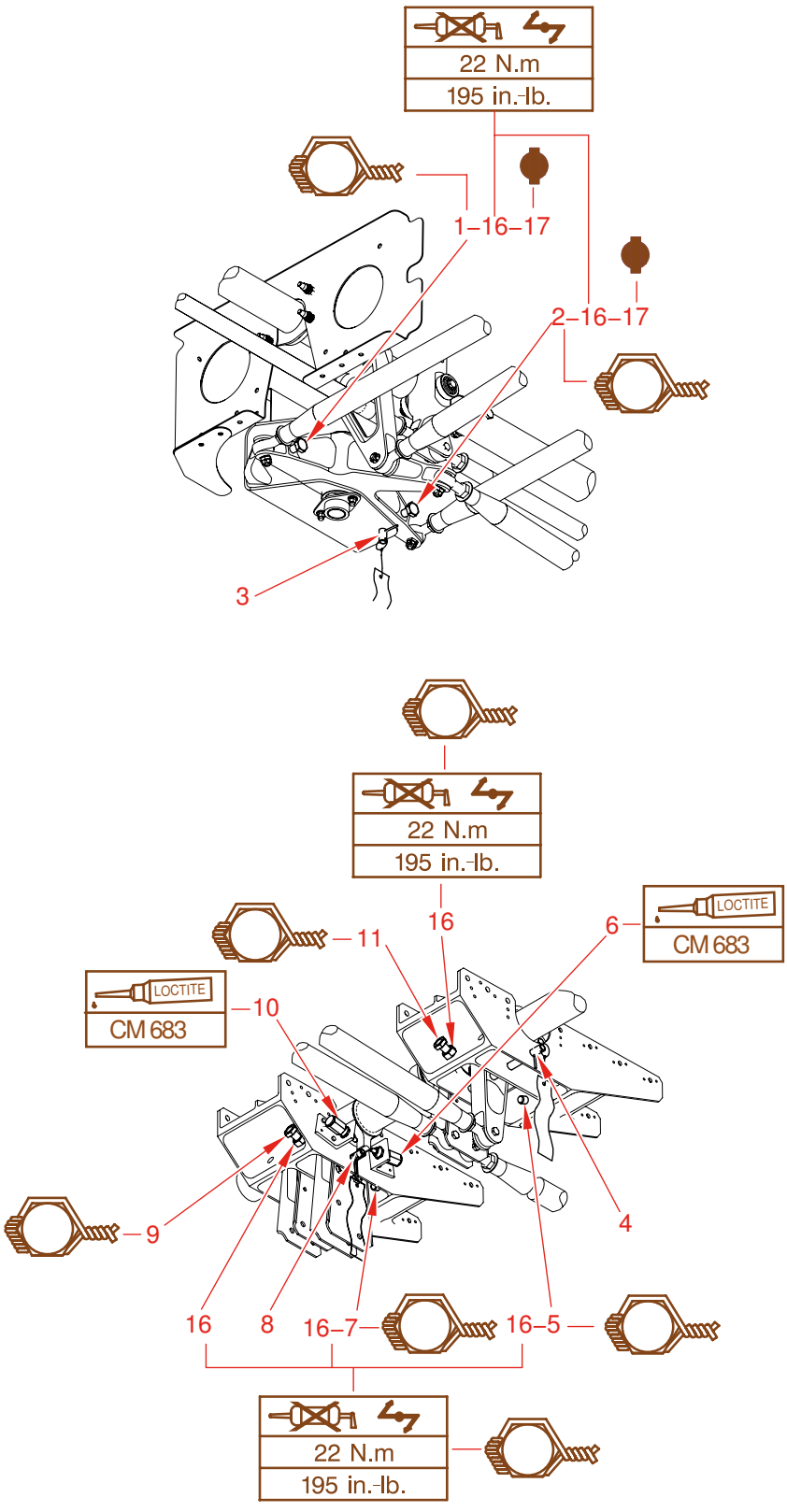
(1) Perform the checks after maintenance on the flight controls (67-00-00, 6-1).

(2) Install the lower fairings (53-51-00, 4-1).

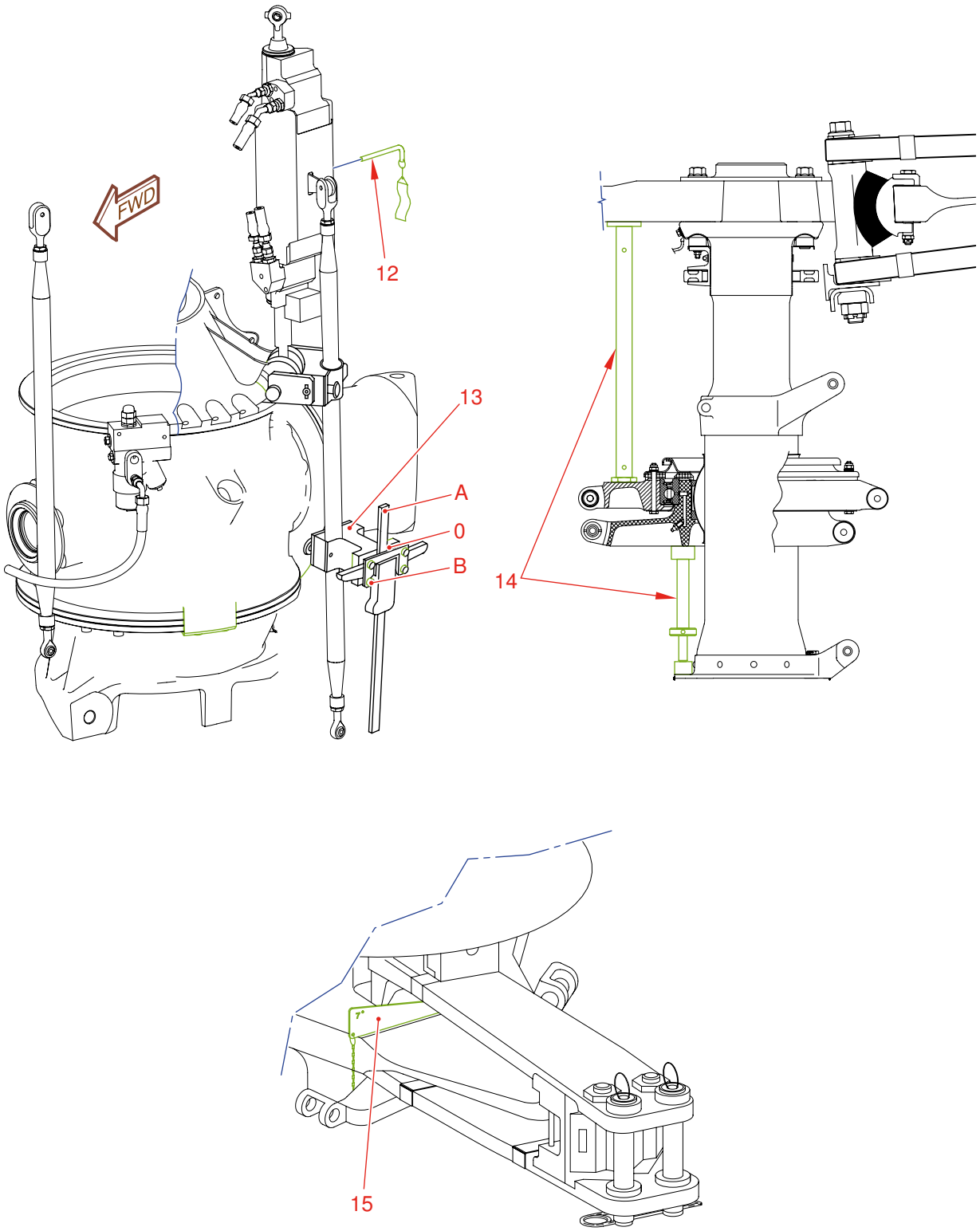
(3) Install the MGB cowlings (53-51-00, 4-2).

(4) If the pitch change rods have been adjusted, perform a blade tracking check (62-00-00, 5-1).

(5) If the fine pitch stop has been adjusted, perform a check flight with an autorotation test.



Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)
Figure 501 (Sheet 1)



Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)
Figure 501 (Sheet 2)

END OF MODULE

Main Rotor Flight Controls - Adjustment / Test

5-1 Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)

A. Applicable Documents

(1) Main information

62-00-00, 5-1 ..... Adjustment - Checking and Correcting Horizontal (Y) and Vertical (Z) Vibrations
67-00-00, 6-1 ..... Checks after maintenance - Flight Controls
67-11-00, 5-1 ..... Adjustment - Cyclic Stick Balance
67-12-00, 5-1 ..... Adjustment - Collective Stick Balance
67-12-00, 5-2 ..... Adjustment - Fine Pitch Engagement
76-11-04, 5-1 ..... Adjustment - Collective Pitch Anticipator

(2) Conditional information

53-51-00, 4-1 ..... Removal / Installation - Upper Cowlings
53-51-00, 4-2 ..... Removal / Installation - Lower fairings
62-33-00, 4-1 ..... Removal / Installation - Housing / Swashplate / Hub Coupling
67-10-00, 4-1 ..... Removal / Installation - Servo-control Input Rod
67-10-00, 8-1 ..... Rework - Subsequent to interference between servocontrol and flared housing yoke
67-12-00, 4-2 ..... Removal / Installation - Collective Control Friction Mechanism
67-12-00, 5-3 ..... Adjustment - Low Pitch Stop After Autorotation Flight

(3) General information

24-00-00, 2-1 ..... Electrical Power Supply on the Ground
24-00-00, 3-1 ..... General Safety Instructions - Electrical Power Supply System
29-00-00, 2-1 ..... Hydraulic Power Supply on the Ground
60-00-00, 3-1 ..... General Safety Instructions - Mechanical Assemblies
67-00-00, 3-1 ..... General Safety Instructions - Flight Controls
20.02.06.409 MTC
20.02.06.410 MTC

B. Special Tools

Commercial ..... spring balance
350A94-2785-01 ..... flight controls adjustment kit

C. Materials

CM 683 ..... locking compound
CM 6069 ..... resin
CM 776 ..... lockwire
Commercial ..... black heat-shrinkable sheath

D. Routine Replacement Parts

AMM Fig.	AMM Item	Description	Reference
Figure 501	(17)	Lockwasher	(P/N 23350AC080LE)

E. Job Set-up

(1) Comply with the general safety instructions for the mechanical assemblies (60-00-00, 3-1).

(2) Comply with the general safety instructions for the electrical power supply system (24-00-00, 3-1).

(3) Comply with the general safety instructions for the flight controls (67-00-00, 3-1).

(4) Remove the MGB cowlings (53-51-00, 4-1).

(5) Remove the lower fairings (53-51-00, 4-2).

NOTE

The overall adjustment of the linkages and the consequent checks are intended particularly for the scenario of a total removal / installation of the flight controls, which is very rarely undertaken entirely.

In general, only partial checks or adjustments are undertaken in the context of a specific operation which has only limited effects on the existing adjustments.

In order to make each adjustment independent, the procedures described below take into account the configuration for performing the operation and subsequent reversion to flight configuration after each of the adjustments.

In the case of an overall adjustment of the flight control linkages, the various operations should be performed in the sequence described in the work card, ignoring the reversion to flight configuration sequences.

F. Procedure

Figure 501

(1) Identification and positioning of the flight controls adjustment kit [350A94-2785-01] used for adjusting the main rotor flight controls.

Identification	Part No.	Position	Purpose
Collective lateral rigging pin (4)	350A94-2706-11	*Figure 501 Sheet 1*	Locking of the collective channel
Longitudinal rigging pin (8)	350A94-2706-16	*Figure 501 Sheet 1*	Locking of the pitch channel

Identification	Part No.	Position	Purpose
SAMM servocontrol rigging pins (12)	350A94-2706-13	*Figure 501 Sheet 2*	Locking of the servocontrol lever
Roll channel rigging pins (3)	350A94-2706-11	*Figure 501 Sheet 1*	Locking of the roll channel
Deflection measurement scale (13)	350A94-2796-13	*Figure 501 Sheet 2*	Measurement of the deflection
7 degree adjustment template (15)	350A94-3701-00	*Figure 501 Sheet 2*	Adjustment of the pitch change rods
Cyclic swashplate locking set (14)	355A95-3745-01	*Figure 501 Sheet 2*	Locking of the cyclic swashplates

(2) Adjustment of the pitch change rods to 7 degrees:

(a) Configuration for adjusting the pitch change rods in neutral (7 degrees):

- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-16.
  SAMM servocontrol rigging pins (12) 350A94-2706-13.
  Roll channel rigging pins (3) 350A94-2706-11.
  Cyclic swashplate locking set (14) 355A95-3745-01.

(b) Procedure:

- Align the yellow sleeve along the aircraft centerline (0˚ azimuth).
- Adjust the yellow pitch change rod to be able to slide the 7 degrees template (15) 350A94-3701-00 between the STARFLEX and the upper sleeve plate.
- Remove the 7 degrees template (15) 350A94-3701-00.
- Orientate, tighten, safety and seal the spherical bearing end-fittings of the pitch change rod (62-33-00, 4-1).
- Repeat the operation for the blue pitch change rod and the red pitch change rod, after aligning each corresponding sleeve along the aircraft centerline (0˚ azimuth).

NOTE

- *The yellow pitch change rod remains the datum rod and its length may only be modified during adjustment of the neutral position at 7˚ using the flight controls adjustment kit [350A94-2785-01].*
- *The length of the red and blue pitch change rods may be modified during adjustment of the blade tracking.*

(c) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.

CAUTION

AFTER THE FLIGHT SUBSEQUENT TO ADJUSTMENT OF THE MAIN ROTOR CONTROLS, IF THERE IS INTERFERENCE BETWEEN THE FORWARD LH SERVOCONTROL AND THE FLARED HOUSING YOKE, APPLY WORK CARD 67-10-00, 8-1.

(3) Adjustment of the servocontrol input rods:

(a) Configuration for adjustment of the servocontrol input rods:

- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-16.
  SAMM servocontrol rigging pins (12) 350A94-2706-13.
  Roll channel rigging pins (3) 350A94-2706-11.
  Cyclic swashplate locking set (14) 355A95-3745-01.
- Disconnect the servocontrol input rods from the servocontrols (67-10-00, 4-1).

(b) Procedure:

- Adjust the yokes on the servocontrol input rods such that the servocontrol input rod attachment pins can be installed on the servocontrols without strain.
- Further to adjusting the length of a rod, make sure that red safety groove on the end piece is not visible.
- Tighten and safety the adjustment systems for the servocontrol input rods (67-10-00, 4-1).

(c) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.

(4) Adjustment of collective rod below bottom structure:

NOTE

Do this procedure only if there is an interference or if the clearance is not sufficient in the flight controls, in the part between the mixing unit and the input rods (67-00-00, 6-1).

(a) Remove the collective rod.

(b) Remove and discard the black sheaths and make sure that you do not cause scratches to the rod.

(c) Adjust the length of the rod as necessary:

- nominal dimension: 1098 mm $\pm$ 0,5 mm (43.209 to 43.248 in.),
- maximum dimension: 1103 mm $\pm$ 0,5 mm (43.406 to 43.444 in.),
- minimum dimension: 1093 mm $\pm$ 0,5 mm (43.012 to 43.051 in.).

(d) Make sure that there is no interference and that the clearance is correct (67-00-00, 6-1).

(e) Torque the nuts on the ball end fittings to between 18 to 22 N.m (160 to 194 in.-lb).

(f) Fold the tabs of the lockwashers.

(g) Seal the end fittings with a black heat-shrinkable sheath (20.02.06.410 MTC).

(h) Install the rod on the aircraft, install the bolts, torque the nuts to between 20 to 22 N.m (178 to 194 in.-lb) and install the cotter pins.

(5) Adjustment of the collective pitch stops:

NOTE

The value of the fine pitch stop adjustment may be modified following the autorotation test during the check flight (67-12-00, 5-3).

(a) Configuration for adjustment of the collective pitch stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Longitudinal rigging pin (8) 350A94-2706-16.
  Roll channel rigging pins (3) 350A94-2706-11.
  Collective lateral rigging pin (4) 350A94-2706-11.
  Deflection measurement scale (13) 350A94-2796-13 on the rear left servocontrol input rod.
- Set the vernier of the deflection measurement scale (13) 350A94-2796-13 to zero.
- Remove the collective lateral rigging pin (4) 350A94-2706-11.

(b) "Fine pitch" stop adjusting procedure:

1 Unlock the "fine pitch" stop screw (11):

- Remove the resin CM 6069 from the "fine pitch" stop screw (11).
- Cut and remove the lockwire from the "fine pitch" stop screw (11) and locknut (16).

2 Loosen locknut (16) of the "fine pitch" stop screw (11).

3 Move and hold (but do not force) the collective lever in the fine pitch position.

4 Pre-adjust the "fine pitch" stop screw (11) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "A" (negative) = -23,5 mm ± 0,5 mm (.906 in.; .944 in.) and adjust the value "A" in order to achieve the data "XPC" displayed on "EECU" page of VEMD at 10,8 ± 0,2%.

5 Tighten locknut (16) of "fine pitch" stop screw (11) to the required torque.

6 Lock the "fine pitch" stop screw (11):

- Safety locknut (16) and "fine pitch" stop screw (11) with lockwire CM 776.

(c) "Coarse pitch" stop adjusting procedure:

1 Unlock the "coarse pitch" stop screw (5):

- Remove resin CM 6069 from the "coarse pitch" stop screw (5).
- Cut and remove lockwire from the "coarse pitch" stop screw (5) and from the locknut (16).

2 Loosen locknut (16) of the "coarse pitch" stop screw (5).

3 Move and hold (but do not force) the collective lever in the coarse pitch position.

4 Adjust the "coarse pitch" stop screw (5) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "B" (positive) = 22 mm ± 0,5 mm (.847 in.; .885 in.).

5 Tighten locknut (16) of "coarse pitch" stop screw (5) to the required torque.

6 Lock the "coarse pitch" stop screw (5):

- Safety locknut (16) and "coarse pitch" stop screw (5) with lockwire CM 776.

7 Perform the combined stick deflection check (paragraph 9).

(d) Check of the deflection of the front left servocontrols:

1 Install the following tools from the flight control adjustment kit [350A94-2785-01] on the aircraft:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Deflection measurement scale (13) 350A94-2796-13 on the front left servocontrol input rod.

2 Set the digital vernier to 0.

3 Remove the pins from the collective lever.

4 Do a check of the deflection values:

- Coarse pitch B (positive) = 19 mm ± 0,5 mm (.729 to .767 in.).
- The fine pitch is achieved with the 10,8 ± 0,2% shown on the "EECU" page of the VEMD.

(e) Check of the deflection of the rear right servocontrols:

1 Install the following tools from the flight control adjustment kit [350A94-2785-01] on the aircraft:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Deflection measurement scale (13) 350A94-2796-13 on the rear right servocontrol input rod.

2 Set the digital vernier to 0.

3 Remove the pin from the collective lever.

4 Do a check of the deflection values:

- Coarse pitch B (positive) = 21,9 mm ± 0,5 mm (.843 to .881 in.).
- The fine pitch is achieved with the 10,8 ± 0,2% shown on the "EECU" page of the VEMD.

(f) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(6) Adjustment of the roll stops:

(a) Configuration for adjustment of the roll stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install on the aircraft the following tools from the flight controls adjustment kit [350A94-2785-01]:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Longitudinal rigging pin (8) 350A94-2706-16.
  Deflection measurement scale (13) 350A94-2796-13 on the rear left servocontrol input rod.

(b) "LH lateral" stop adjusting procedure:

1 Unlock the LH lateral stop screw (2):

- Remove the resin CM 6069 from the LH lateral stop screw (2).
- Unlock locknut (17).
- Discard locknut (17).
- Cut and remove the lockwire from LH lateral stop screw (2).

2 Move and hold (but do not force) the cyclic stick to the left.

3 Adjust LH lateral stop screw (2) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "A" (negative) = -17 mm $\pm$ 0,5 mm (.650 in.; .688 in.).

NOTE

Cyclic stick position must be checked inside cockpit.

4 Tighten locknut (16) of LH lateral stop screw (2) to the required torque.

5 Lock the LH lateral stop screw (2):

- Lock locknut (17).
  Lock LH lateral stop screw (2) with lockwire CM 776.

(c) "RH lateral" stop adjusting procedure:

1 Unlock the RH lateral stop screw (1):

- Remove the resin CM 6069 from the RH lateral stop screw (1).
- Unlock locknut (17).
- Discard locknut (17).
- Cut and remove lockwire from RH lateral stop screw (1).

2 Move and hold (but do not force) the cyclic stick to the right.

3 Adjust RH lateral stop screw (1) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "B" (positive) = 24 mm $\pm$ 0,5 mm (.926 in.; .964 in.).

NOTE

Cyclic stick position must be checked inside cockpit.

4 Tighten locknut (16) of RH lateral stop screw (1) to the required torque.

5 Lock the RH lateral stop screw (1):

- Lock locknut (17).
  Lock RH lateral stop screw (1) with lockwire CM 776.

6 Perform the combined stick deflection check (paragraph 9).

(d) Check of the deflection on the right servocontrol:

1 Install on the aircraft the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:

- Collective lateral rigging pin (4) 350A94-2706-11.
- Longitudinal rigging pin (8) 350A94-2706-16.
- Roll channel rigging pin (3) 350A94-2706-11.
- Deflection measurement scale (13) 350A94-2796-13 on the right servocontrol.

2 Set the digital vernier to 0.

3 Remove the pin from the roll lever.

4 Move the cyclic stick to the left and make sure that the deflection of the right roll servocontrol is:

B (positive) = 18,2 mm $\pm$ 0,5 mm (.697 to .736 in.).

5 Move the cyclic stick to the right and make sure that the deflection of the right roll servocontrol is:

A (negative) = -21,6 mm $\pm$ 0,5 mm (.831 to .870 in.).

(e) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] on the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(7) Adjustment of the pitch stops:

(a) Configuration for adjustment of the pitch stops:

- Disconnect the servocontrol input rods from the servocontrol input levers (67-10-00, 4-1) and keep them parallel to the servocontrols.
- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-11.
  Deflection measurement scale (13) 350A94-2796-13 on the front left servocontrol input rod.

(b) "Nose-down" stop adjusting procedure:

1 Unlock the "nose-down" stop screw (9):

- Remove the resin CM 6069 from the "nose-down" stop screw (9).
- Cut and remove lockwire from the "nose-down" stop screw (9) and locknut (16).

2 Loosen locknut (16) of "nose-down" stop screw (9).

3 Move and hold (but do not force) the cyclic stick forward.

4 Adjust the "nose-down" stop screw (9) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "A" (negative) = -37 mm ± 0,5 mm (1.437 in.; 1.476 in.).

NOTE

Cyclic stick must be checked inside cockpit.

5 Tighten locknut (16) of "nose-down" stop screw (9) to the required torque.

6 Lock the "nose-down" stop screw (9):

- Safety locknut (16) and "nose-down" stop screw (9) using lockwire CM 776.

(c) "Nose-up" stop adjusting procedure:

1 Unlock the "nose-up" stop screw (7):

- Remove the resin CM 6069 from the "nose-up" stop screw (7).
- Cut and remove the lockwire from the "nose-up" stop screw (7) and locknut (16).

2 Loosen locknut (16) of "nose-up" stop screw (7).

3 Move and hold (but do not force) the cyclic stick backwards.

4 Adjust the "nose-up" stop screw (7) in order to achieve a displacement of the vernier of the deflection measurement scale 350A94-2796-13 to a value "B" (positive) = 31 mm ± 0,5 mm (1.200 in.; 1.240 in.).

NOTE

Cyclic stick must be checked inside cockpit.

5 Tighten locknut (16) of "nose-up" stop screw (7) to the required torque.

6 Lock the "nose-up" stop screw (7):

- Safety locknut (16) and "nose-up" stop screw (7) using lockwire CM 776.

7 Perform the combined stick deflection check (paragraph 9).

(d) Revert if necessary, the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.
- Connect up the servocontrol input rods to the servocontrol input levers (67-10-00, 4-1).

(8) Checking adjustment values as per table below

Control configurations	Lever/stick Position	Reading on the input rod	Reading area	Stroke in mm (in.)	Sleeve incidence angle for reference
Longitudinal, pinned. Lateral, pinned.	Collective pitch, low pitch	LH	Check "XPC" value displayed on "EECU" page on VEMD at 10,8 ± 0,2%.		0˚25’
Longitudinal, pinned. Lateral, pinned.	Collective pitch, high pitch	LH	B	22 ± 0,5 (.866 ± .019)	14˚
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, rightward	LH	B	24 ± 0,5 (.945 ± .019)	7˚
Collective pitch, pinned. Longitudinal, pinned.	Cyclic stick, leftward	LH	A	17 ± 0,5 (.669± .019)	5˚
Collective pitch, pinned. Lateral, pinned.	Cyclic stick, nose-up	Forward	B	31 ± 0,5 (1.22 ± .019)	9˚45’
Collective pitch, pinned. Lateral, pinned.	Cyclic stick, nose-down	Forward	A	37 ± 0,5 (1.456 ± .019)	11˚55’

(9) Check of the combined stick deflections:

(a) Ensure that the "Left" and "Right" roll stops can be reached via the other two channels by slow motions in the following configurations:

Collective on stop	and	pitch on stop
Fine pitch		nose-up
Fine pitch		nose-down
Coarse pitch		nose-up
Coarse pitch		nose-down

(b) If the stops cannot be reached, adjust the stop or stops concerned.

(10) Adjustment of the microswitches in the pitch channel to light up the amber "LIMIT" caption on the instrument panel:

CAUTION

THIS OPERATION MAY BE PERFORMED WITH OR WITHOUT HYDRAULIC ASSISTANCE.

(a) Configuration for adjustment of the microswitches in the pitch channel in order to light up the "LIMIT" caption on the instrument panel:

1 With hydraulic assistance:

- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-11.
  Deflection measurement scale (13) 350A94-2796-13 on the front left servocontrol input rod.
- Switch on the aircraft electrical system (24-00-00, 2-1).
- Switch on both aircraft hydraulic systems (29-00-00, 2-1).

2 Without hydraulic assistance:

- Install the following tools from the flight controls adjustment kit [350A94-2785-01] on the aircraft:
  Collective lateral rigging pin (4) 350A94-2706-11.
  Roll channel rigging pins (3) 350A94-2706-11.
  Deflection measurement scale (13) 350A94-2796-13 on the front left servocontrol input rod.
- Switch on the aircraft electrical system (24-00-00, 2-1).

(b) Procedure:

- Loosen the "nose-down" position microswitch locknut (10).
- Position the cyclic stick forwards in order to achieve a displacement of the vernier on the deflection measurement scale 350A94-2796-13 to a value "A" (positive) = 33,6 mm + 2 mm / - 0,5 mm (1.303 to 1.401 in.).
- Adjust the "nose-down" position microswitch (10) in order to light up the amber "LIMIT" caption on the instrument panel.
- Move the cyclic stick to the front stop and check that the amber "LIMIT" caption on the instrument panel remains lit.
- Puch each "nose-down" position microswitch (10) one after the other and make sure that the "LIMIT" light comes on.
- Apply locking compound CM 683 to the locknuts of the "nose-down" positions microswitches (10) (20.02.06.409 MTC).
- Tighten the locknuts of "nose-down" position microswitches (10).
- Loosen the "nose-up" position microswitch locknut (6).
- Position the cyclic stick backwards in order to achieve a displacement of the vernier on the deflection measurement scale 350A94-2796-13 to a value "B" (negative) = -27,6 mm + 2 mm / - 0,5 mm (1.067 to 1.165 in.).
- Adjust the "nose-up" position microswitch (6) in order to light up the amber "LIMIT" caption on the instrument panel.
- Move the cyclic stick to the back stop and check that the amber "LIMIT" caption on the instrument panel remains lit.
- Apply locking compound CM 683 to the locknut (6) (20.02.06.409 MTC).
- Tighten the "nose-up" position microswitch locknut (6).

(c) If necessary, revert the aircraft to flight configuration:

- Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.
- If adjustment with assistance: switch off both aircraft hydraulic systems (29-00-00, 2-1).
- Switch off the aircraft electrical system (24-00-00, 2-1).

(11) If necessary, complete the main rotor flight control adjustments by applying the following work cards:

- Adjustment of the collective anticipator control (76-11-04, 5-1).

- Checking of the collective friction (67-12-00, 4-2).
- Adjustment of the fine pitch engagement (67-12-00, 5-2).
- Adjustment of the cyclic stick balance (67-11-00, 5-1).
- Adjustment of the collective stick balance (67-12-00, 5-1).

(12) Check of the main rotor flight control operating loads:

NOTE

This check must be performed when all the main rotor controls have been adjusted and all the control rods have been reconnected.

(a) Switch on both aircraft hydraulic systems (29-00-00, 2-1).

(b) Release the friction controls on the collective and cyclic channels.

(c) Install the collective lateral rigging pin (4) 350A94-2706-11 and the roll rigging pin (3) 350A94-2706-11.

(d) Using a spring balance, check over the entire pitch travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 9 N (2.02 lbf).

(e) Remove the collective lateral rigging pin (4) 350A94-2706-11, leaving in place the roll rigging pin (3) 350A94-2706-11, and install the longitudinal rigging pin (8) 350A94-2706-16.

(f) Using a spring balance, check over the entire travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 14 N (3.14 lbf).

(g) Remove the roll rigging pin (3) 350A94-2706-11, leaving in place the longitudinal rigging pin (8) 350A94-2706-16 and install the collective lateral rigging pin (4) 350A94-2706-11.

(h) Using a spring balance, check over the entire roll travel of the pilot and copilot cyclic sticks, that the low speed operating load is less than or equal to 7 N (1.57 lbf).

(i) Remove all the tools in the flight controls adjustment kit [350A94-2785-01] from the aircraft.

(j) Switch off both aircraft hydraulic systems (29-00-00, 2-1).

(k) Adjust the friction controls on the collective and cyclic channels.

G. Close-up

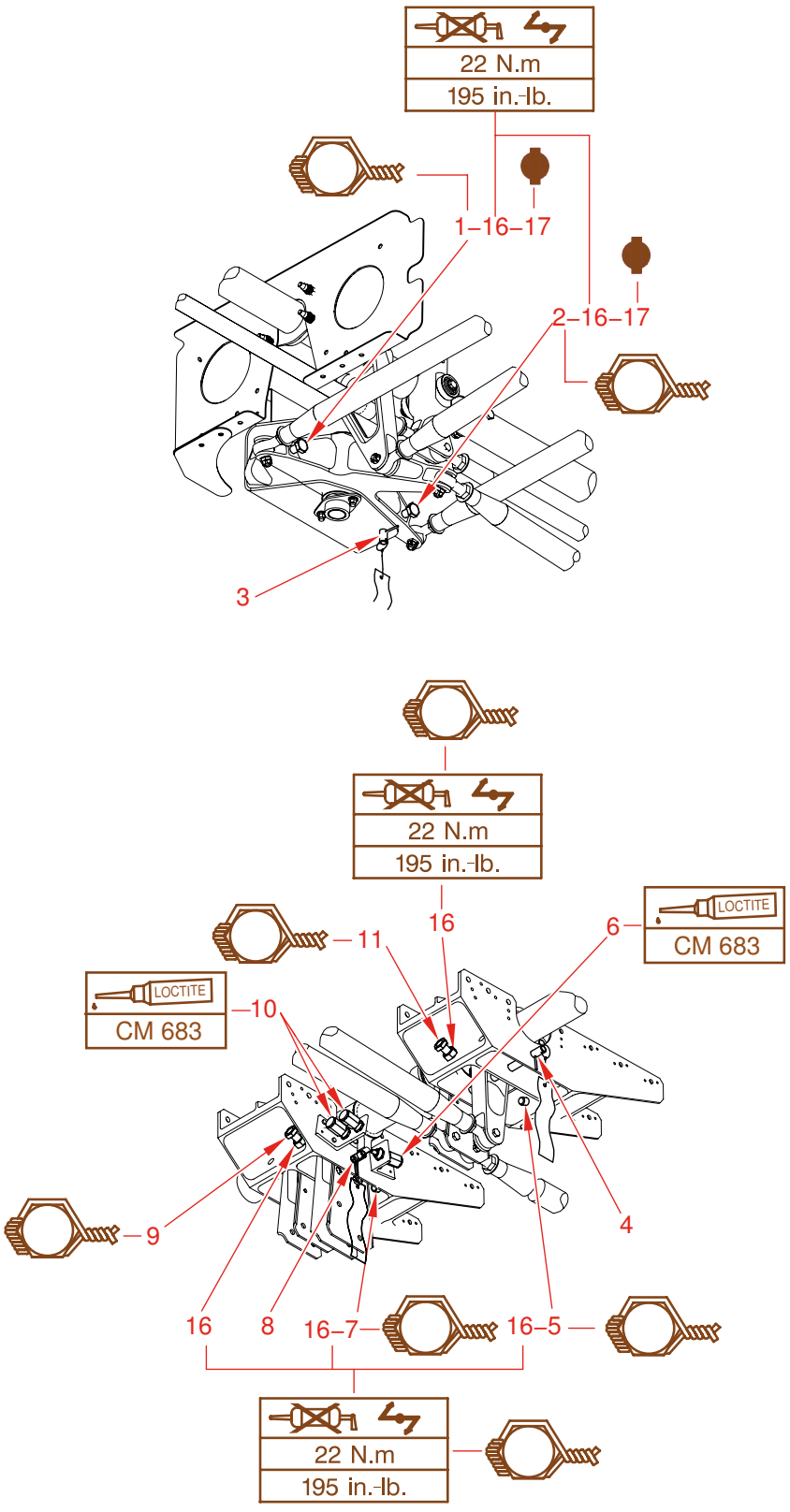
(1) Perform the checks after maintenance on the flight controls (67-00-00, 6-1).

(2) Install the lower fairings (53-51-00, 4-1).

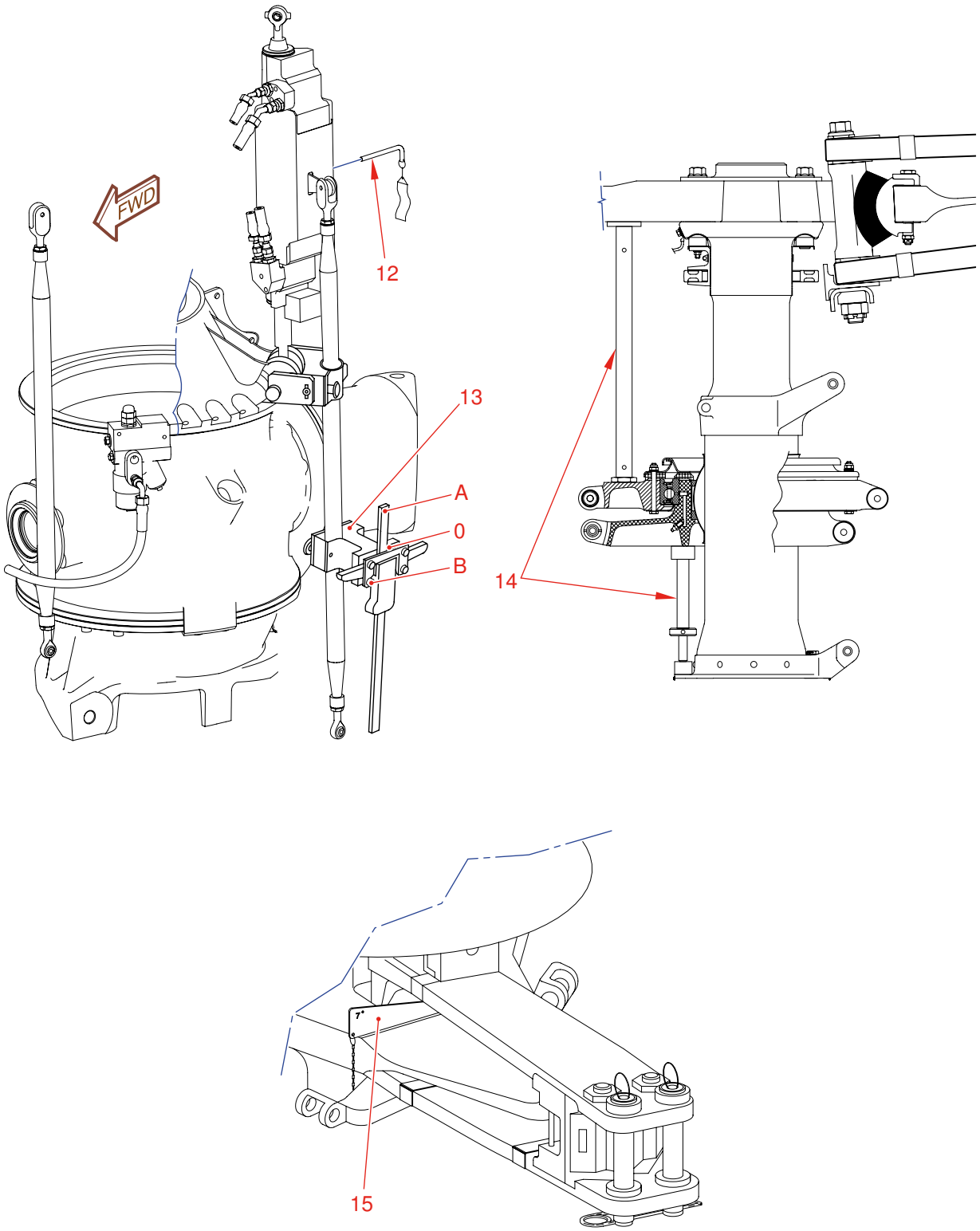
(3) Install the MGB cowlings (53-51-00, 4-2).

(4) If the pitch change rods have been adjusted, perform a blade tracking check (62-00-00, 5-1).

(5) If the fine pitch stop has been adjusted, perform a check flight with an autorotation test.



Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)
Figure 501 (Sheet 1)



Adjustment - Main Rotor Flight Controls (dual hydraulic system - without Auto-pilot)
Figure 501 (Sheet 2)

END OF MODULE