

Temporary Maintenance Instruction TMI 139-564

Display controllers - Operation test

All AW139 Helicopters

The technical content of this document is approved under the authority of DOA nr. EASA.21J.005.

The present TMI will be evaluated for its introduction in the standard set of Technical Publication.

If no further notice is received, the present document expires on: February 07th 2024.

2023-02-07

Introduction

This TMI provides the instructions and requirements to perform the Display controllers Operation test

Following procedure contained in this TMI updates and supersedes the contents of the relative Data Module inside IETP:

ANNEX	DATA MODULE CODE	DATA MODULE TITLE
Annex 1	39-B-31-61-00-00A-320B-A	Central display system - Display controllers - Operation test

Following procedure contained in this TMI is not included in any existing Data Module inside IETP:

ANNEX	DATA MODULE CODE	DATA MODULE TITLE
Annex 2	39-B-31-61-00-00B-320B-A	Central display system - Display controllers - Operation test

The content of this TMI will be endorsed within the applicable Maintenance Manual at the earliest opportunity.

**ANNEX 1
Central display system - Display controllers - Operation test**

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Table 1 References

Data Module	Title
39-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
39-A-12-41-00-00A-510A-A	External electrical power - Disconnect procedure
39-A-12-41-00-00A-730A-A	External electrical power - Connect procedure
39-B-31-61-00-00B-320B-A	Central display system - Display controllers - Operation test

Table 2 Access points

Access Panel / Door Id	Data Module
No Access Point	

Table 3 Zones

Access Panel / Door Id	Data Module
No Zones	

Preliminary Requirements

Required Conditions

Table 4 Required Conditions

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance	39-A-00-20-00-00A-120A-A
The external electrical power must be connected to the helicopter	39-A-12-41-00-00A-730A-A

Support Equipment

Table 5 Support Equipment

Nomenclature
No Support Equipment

Supplies

Table 6 Supplies

Nomenclature
No Supplies

Spares

Table 7 Spares

Nomenclature
No Spares

Safety Conditions

No Safety Condition

Procedure

Note

If the release Primus Epic Phase 7 software or lower is installed, refer to [39-B-31-61-00-00B-320B-A](#).

- 1 **Number 2 Cursor-Control Device (CCD2) (Number 1 Display Controller (DC1) OFF).**
- 1.1 Get access to the circuit breakers panel (3, [Figure 1](#)) in the cockpit. Then, open the DISPLAY PFD CONTR CPLT circuit breaker. Make sure that the AVIONIC FAULT caution comes in view on ground.
- 1.2 Push the left DISPLAY SELECT button on the CCD2 (7) to do the selection of the Number 2 Multi-Function-Display (MFD2) (4).
- 1.3 Make sure that the cursor is in view on the softkey bar on the top page of the MFD2 (4).
- 1.4 Turn the inner knob on the CCD2 (7) . Make sure that the CAS message list scrolls on the MFD2 (4).
- 1.5 Move the joystick on the CCD2 (7) to the LEFT direction. Make sure that the cursor moves on the menu bar to the left.
- 1.6 Move the joystick to the RIGHT direction. Make sure that the cursor moves on the menu bar to the right.
- 1.7 Move the joystick to the DOWN direction. Make sure that the cursor moves on the menu bar to the down.
- 1.8 Move the joystick to the UP direction. Make sure that the cursor moves on the menu bar to the up.
- 1.9 Move the joystick on MAP and push the ENTER button on the CCD2 (7). Make sure that the MFD2 (4) shows the MAP page.
- 1.10 Turn the outer knob on the CCD2 (7) . Make sure that the map range changes on the MFD2 (4).
- 1.11 Push the ENTER button on the CCD2 (7). Make sure that the MFD2 (4) shows the MAP pull-down menu.
- 1.12 Move the joystick on the CCD2 (7) to the DOWN direction. Make sure that the cursor moves on the selected menu to the down.
- 1.13 Move the joystick to the UP direction. Make sure that the cursor moves on the selected menu to the up.
- 1.14 Push the CVS button on the CCD2 (7). Make sure that the CAS message list shows the green advisory-message CVS NOT INSTALLED.
- 1.15 Push the SVS button on the CCD2 (7). Do the following steps:

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- 1.15.1 If Aircraft Personality Module (APM) options do not enable the SVS, make sure that the CAS message list shows the green advisory-message SVS NOT INSTALLED.
- 1.15.2 If Aircraft Personality Module (APM) options enable the SVS:
- If the helicopter receives a valid GPS signal, make sure that the 3-D terrain alternates from displayed/not displayed on Number 2 Primary-Flight-Display (PFD2) (5).
 - If the helicopter does not receive a valid GPS signal, make sure that the Synthetic Vision annunciation alternates from SVS POS/SVS OFF on PFD2 (5).
- 1.16 Push the right DISPLAY SELECT button to get the selection of the PFD2 (5).
- 1.17 Make sure that the cursor is in view on the PFD2 (5) as a square around one of the four shown frequencies.
- 1.18 Do the selection of the COM1 frequency with the joystick (the square cursor is set around the related frequency).
- 1.19 Tune the set frequency with the inner and outer knobs of the CCD2 (the KHz with the inner knob, the MHz with the outer knob).
- 1.20 Push the ENTER button on the CCD2 (7). Make sure that the frequency changes from active/standby.
- 2 Number 1 Cursor-Control Device (CCD1) (Number 1 Display Controller (DC1) OFF).**
- 2.1 Push the right DISPLAY SELECT button on the CCD1 (8) to do the selection of the Number 1 Multi-Function Display (MFD1) (2).
- 2.2 Make sure that the copilot cursor automatically moves to the MFD1 (2).
- 2.3 Turn the inner knob on the CCD1 (8). Make sure that the CAS message list scrolls on the MFD1 (2).
- 2.4 Move the joystick on the CCD1 (8) to the DOWN direction. Make sure that the movement has no effect on the MFD1 (2).
- 2.5 Move the joystick to the UP direction. Make sure that the movement has no effect on the MFD1 (2).
- 2.6 Move the joystick to the LEFT direction. Make sure that the movement has no effect on the MFD1 (2).
- 2.7 Move the joystick to the RIGHT direction. Make sure that the movement has no effect on the MFD1 (2).
- 2.8 Push the CVS button on the CCD1 (8). Make sure that the CAS message list shows the green advisory-message CVS NOT INSTALLED.
- 2.9 Push the SVS button on the CCD1 (8). Do the following steps:
- 2.9.1 If Aircraft Personality Module (APM) options do not enable the SVS, make sure that the CAS message list shows the green advisory-message SVS NOT INSTALLED.
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- 2.9.2 If Aircraft Personality Module (APM) options enable the SVS:
- If the helicopter receives a valid GPS signal, make sure that the 3-D terrain alternates from displayed/not displayed on PFD2 (5).
 - If the helicopter does not receive a valid GPS signal, make sure that the Synthetic Vision annunciation alternates from SVS POS/SVS OFF on PFD2 (5).
- 2.10 Push the left DISPLAY SELECT button to get the selection of the Number 1 Primary-Flight-Display (PFD1) (1). Make sure that the cursor comes into view on the PFD1 as a square around one of the four shown frequencies.
- 2.11 Tune the preset frequency with the inner and outer knobs of the CCD1 (8) (the KHz with the inner knob, the MHz with the outer knob).
- 2.12 Push the ENTER button on the CCD1 (8). Make sure that the frequency does not change from active/standby.
- 3 Number 2 Display Controller (DC2) (Number 1 Display Controller (DC1) OFF).**
- 3.1 Push the BRG O button on the DC2 (6).
- 3.2 Make sure that the annunciations that follow come in view on the display for the short range navigation mode (on the HSI area of the PFD2 (5)):
- First push of the button: VOR1
 - Second push of the button: ADF1 (optional or ADF)
 - Third push of the button: FMS1.
- 3.3 Push the BRG “diamond” button on the DC2 (6).
- 3.4 Make sure that the annunciations that follow come in view on the display for the short range navigation mode (on the Hsi area of the PFD2 (5)):
- First push of the button: VOR2
 - Second push of the button: ADF2 (or ADF)
 - Third push of the button: FMS2.
- 3.5 Push the NAV button on the DC2 (6).
- 3.6 Make sure that the annunciations that follow come in view on the PFD2 (5) above the HSI window:
- First push of the button:
 - VOR2 (if NAV frequency is even)
 - LOC2 (if NAV frequency is odd)
 - Second push of the button:
 - VOR1 (if NAV frequency is even)
 - LOC1 (if NAV frequency is odd).

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- 3.7 Push the LNAV button on the DC2 (6).
- 3.8 Make sure that the annunciations that follow come in view on the PFD2 (5) above the HSI window:
- First push of the button: FMS2
 - Second push of the button: FMS1.
- 3.9 Make sure that the NAV source is set to FMS1 or FMS2.
- 3.10 Push the PRV button on the DC2 (6). Then, make sure that the annunciations that follow come in view on the PFD2 (5):
- First push of the button: VOR2 annunciation in cyan color (preview mode)
 - Second push of the button: VOR1 annunciation in cyan color (preview mode)
 - Third push of the button: no annunciation.
- 3.11 Make sure that the NAV source is set to FMS1 or FMS2. Also make sure that the PRV option has no effect (no annunciation).
- 3.12 Push the HSI button on the DC2 (6). Then, make sure that the HSI window formats come in the view on the PFD2 (5):
- First push of the button: compass arc format
 - Second push of the button: hover format
 - Third push of the button: compass full format.
- 3.13 Do the initialization of the GPS position from the MCDU2 (6M). Then, make sure that the position shown on the MCDU2 agrees with the location of the test position.
- 3.14 Load a Flight Plan.
- 3.15 Push the MAP button on the DC2 (6). Then, make sure that the PFD2 (5) shows the information that follow:
- First push of the button: FMS MAP in view in the HSI window (compass arc format)
 - Second push of the button: FMS MAP goes out from the HSI window (compass arc format).
- 3.16 Push the WX (or the WX/TERR) button on the DC2 (6). Then, make sure that the PFD2 (5) shows the information that follow:
- 3.16.1 If the WX or the EGWPS are not installed, no annunciation is in view.
- 3.16.2 If the WX only is installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the Absolute Terrain is in view in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Third push of the button: the WX label goes out of view from the PFD.
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- 3.16.3 If the EGWPS only is installed:
- First push of the button: the Absolute Terrain and SA Terrain comes in view after some seconds with a green TAWS annunciation in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Second push of the button: the Absolute Terrain comes in view after some seconds with a white SA TERR OFF annunciation in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Third push of the button: the Absolute Terrain goes out of view from the HSI window of the PFD.
- 3.16.4 If the WX and the EGWPS are installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the WX label goes out of view and the Absolute Terrain and SA Terrain comes in view after some seconds in the HSI window (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Third push of the button: the Absolute Terrain comes in view after some seconds in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Fourth push of the button: no Weather or Terrain is in view in the HSI window of the PFD.
- 3.17 Turn the ALT SEL knob on the DC2 (6) clockwise (counterclockwise). Then, make sure that the altitude on the altitude tape of the PFD2 (5) increases (decreases) and the relevant bug moves up (down).
- 3.18 Turn the BARO knob on the DC2 (6) clockwise (counterclockwise). Make sure that the barometric set value and the tape altitude of the PFD2 (5) increases (decreases).
- 4 **Number 2 Cursor-Control Device (CCD2) and Number 1 Cursor-Control Device (CCD1) with MAU (s) failure (Number 1 Display Controller (DC1) OFF).**
- 4.1 Open the MAU1 PRI PWR and the MA1 AUX PWR circuit breakers on the circuit breakers panel (3). Then, make sure that the MAU1 caution comes in view on the PFD1 (1) and PFD2 (5).
- 4.2 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the softkey bar on the top page of the MFD2 (4).
- 4.3 Turn the inner knob on the CCD2 (7) . Make sure that the CAS message list scrolls on the MFD2 (4).
- 4.4 Push the right DISPLAY SELECT button on the CCD1 (8). Make sure that the cursor is in view on the softkey bar on the top page of the MFD1 (2).
- 4.5 Turn the inner knob on the CCD1 (8) . Make sure that the CAS message list scrolls on the MFD1 (2).
- 4.6 Close the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers. Make sure that the MAU1 caution goes out of the view on the PFD1 (1) and the PFD2 (5).

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- 4.7 Open the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Then, make sure that the MAU2 caution comes in view on the PFD1 (1) and PFD2 (5).
- 4.8 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the softkey bar on the top page of the MFD2 (4).
- 4.9 Turn the inner knob on the CCD2 (7) . Make sure that the CAS message list scrolls on the MFD2 (4).
- 4.10 Push the right DISPLAY SELECT button on the CCD1 (8). Make sure that the cursor is in view on the softkey bar on the top page of the MFD1 (2).
- 4.11 Turn the inner knob on the CCD1 (8) . Make sure that the CAS message list scrolls on the MFD1 (2).
- 4.12 Close the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Make sure that the MAU2 caution goes out of the view from the PFD1 (1) and the PFD2 (5).
- 5 Number 2 Cursor-Control Device (CCD2) (Number 2 Display Controller (DC2) OFF).**
- 5.1 Close the DISPLAY PFD CONTR CPLT circuit breaker on the circuit breakers panel (3).
- 5.2 Open the DISPLAY PFD CONTR PLT circuit breaker. Make sure that the AVIONIC FAULT caution comes in view on the MFD2 (4).
- 5.3 Push the left DISPLAY SELECT button on the CCD2 (7), then the right button and then the left button again. Make sure that the cursor moves to the MFD2 (4), then to the PFD2 (5) and then to MFD2 (4) again.
- 5.4 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the movements have no effect.
- 5.5 Push the right DISPLAY SELECT button on the CCD2 (7) to move the cursor to the PFD2 (5).
- 5.6 Tune one of the shown frequencies with the inner and outer SET knobs. Then push the ENTER button and make sure that the it has no effect.
- 6 Number 1 Cursor-Control Device (CCD1) (Number 2 Display Controller (DC2) OFF).**
- 6.1 Push the right DISPLAY SELECT button on the CCD1 (8) then the left button and then the right button again. Make sure that the cursor moves to the MFD1 (2), then to the PFD1 (1) and then to MFD1 (2) again.
- 6.2 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu to the same directions of the joystick movement.
- 6.3 Push the left DISPLAY SELECT button on the CCD1 (8) to move the cursor to the PFD1 (1).
- 6.4 Tune one of the shown frequencies with the inner and outer SET knobs. Then push the ENTER button to make sure that it operates correctly.
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- 7 **Number 1 Display Controller (DC1) (Number 2 Display Controller (DC2) OFF).**
- 7.1 Push the BRG O button on the DC1 (9).
- 7.2 Make sure that the annunciations that follow (for the short range navigation mode) come in view on the HSI area of the PFD1 (1):
- First push of the button: VOR1
 - Second push of the button: ADF1 (Optional or ADF)
 - Third push of the button: FMS1.
- 7.3 Push the BRG “diamond” button on the DC1 (9).
- 7.4 Make sure that the annunciations that follow (for the short range navigation mode) come in view on the HSI area of the PFD1 (1):
- First push of the button: VOR2
 - Second push of the button: ADF2 (or ADF)
 - Third push of the button: FMS2.
- 7.5 Push the NAV button on the DC1 (9).
- 7.6 Make sure that the annunciations that follow come in view on the PFD1 (1) above the HSI window:
- First push of the button:
 - VOR1 (if NAV frequency is even)
 - LOC1 (if NAV frequency is odd)
 - Second push of the button:
 - VOR2 (if NAV frequency is even)
 - LOC2 (if NAV frequency is odd).
- 7.7 Push the LNAV button on the DC1 (9).
- 7.8 Make sure that the annunciations that follow come in view on the PFD1 (1) above the HSI window:
- First push of the button: FMS2
 - Second push of the button: FMS1.
- 7.9 Make sure that the NAV source is set to FMS1 or FMS2.
- 7.10 Push the PRV button on the DC1 (9). Then, make sure that the annunciations that follow come in view on the PFD1 (1):
- First push of the button: VOR2 annunciation shown in cyan color (preview mode)
 - Second push of the button: VOR1 annunciation shown in cyan color (preview mode)
 - Third push of the button: no annunciation.

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- 7.11 Make sure that the NAV source is set to FMS1 or FMS2. Also make sure that the PRV has no effect (no annunciation).
- 7.12 Push the HSI button on the DC1 (9). Then, make sure that the HSI window formats that follow come in view on the PFD2 (5):
- First push of the button: compass arc format
 - Second push of the button: hover format
 - Third push of the button: compass full format.
- 7.13 Do the initialization of the GPS position from the MCDU1 (8M). Then, make sure that the position shown on the MCDU1 agrees with the location of the test position.
- 7.14 Load a Flight Plan.
- 7.15 Push the MAP button on the DC1 (9). Then, make sure that the information that follow come in view on the PFD1 (1):
- First push of the button: FMS MAP comes in view in the HSI window (compass arc format)
 - Second push of the button: FMS MAP goes out of view from the HSI window (compass arc format).
- 7.16 Push the WX (or the WX/TERR) button on the DC1 (9). Then, make sure that the PFD1 (1) shows the information that follow:
- 7.16.1 If the WX or the EGWPS are not installed, no annunciation is in view.
- 7.16.2 If the WX only is installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the Absolute Terrain is in view in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Third push of the button: the WX label goes out of view from the PFD.
- 7.16.3 If the EGWPS only is installed:
- First push of the button: the Absolute Terrain and SA Terrain comes in view after some seconds with a green TAWS annunciation in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Second push of the button: the Absolute Terrain comes in view after some seconds with a white SA TERR OFF annunciation in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
 - Third push of the button: the Absolute Terrain goes out of view from the HSI window of the PFD.
- 7.16.4 If the WX and the EGWPS are installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the WX label goes out of view and the Absolute Terrain and SA Terrain comes in view after some seconds in the HSI window (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
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- Third push of the button: the Absolute Terrain comes in view after some seconds in the HSI window of the PFD (If the helicopter does not have a valid GPS position, make sure that the HSI shows Compass Arc Format with black background and the amber annunciation TERR is in view)
- Fourth push of the button: no Weather or Terrain is in view in the HSI window of the PFD.

7.17 Turn the ALT SEL knob on the DC1 (9) clockwise (counterclockwise). Then, make sure that the altitude on the altitude tape of the PFD1 (1) increases (decreases) and the relevant bug moves up (down).

7.18 Turn the BARO knob on the DC1 (9) clockwise (counterclockwise). Make sure that the barometric set value and the tape altitude of the PFD1 (1) increases (decreases).

8 Number 2 Cursor-Control Device (CCD2) and Number 1 Cursor-Control Device (CCD1) with MAU (s) failure (Number 2 Display Controller (DC2) OFF).

8.1 Open the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers on the circuit breakers panel (3). Make sure that the MAU1 caution comes in view on the PFD1 (1) and the PFD2 (5).

8.2 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the MFD2 (4).

8.3 Turn the inner knob on the CCD2 (7) . Make sure that the CAS message list scrolls on the MFD2 (4).

8.4 Push the right DISPLAY SELECT button on the CCD1 (8). Then, make sure that the cursor comes in view on the MFD1 (2).

8.5 Turn the inner knob on the CCD1 (8) . Make sure that the CAS message list scrolls on the MFD1 (2).

8.6 Close the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers. Make sure that the MAU1 caution goes out of the view on the PFD1 (1) and the PFD2 (5).

8.7 Open the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Then, make sure that the MAU2 caution comes in view on the PFD1 (1) and PFD2 (5).

8.8 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor comes in view on the MFD2 (4).

8.9 Turn the inner knob on the CCD2 (7) . Make sure that the CAS message list scrolls on the MFD2 (4).

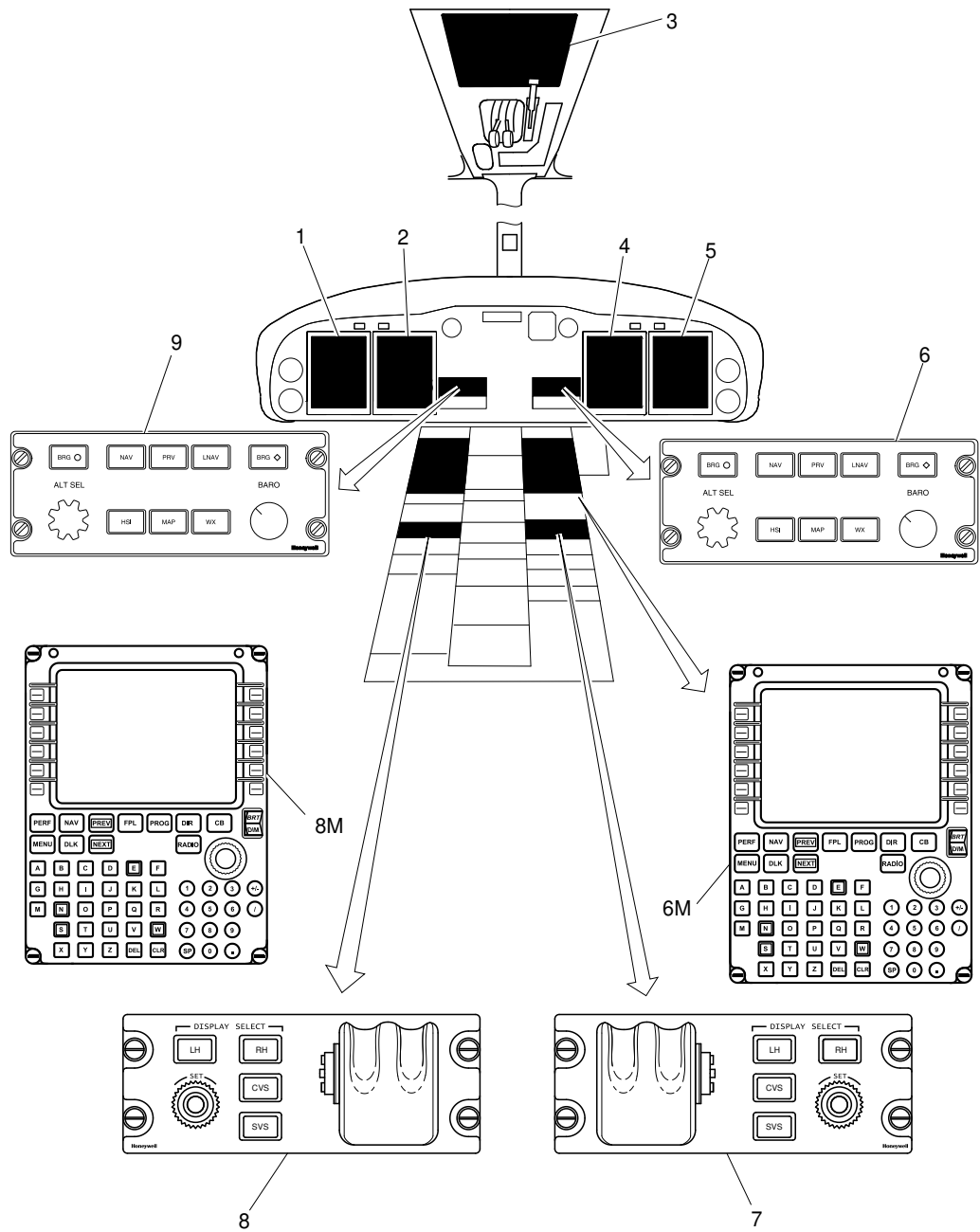
8.10 Push the right DISPLAY SELECT button on the CCD1 (8). Then, make sure that the cursor comes in view on the MFD1 (2).

8.11 Turn the inner knob on the CCD1 (8) . Make sure that the CAS message list scrolls on the MFD1 (2).

8.12 Close the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Make sure that the MAU2 caution goes out of the view on the PFD1 (1) and the PFD2 (5).

Requirements After Job Completion

- 1 Disconnect the external electrical power from the helicopter. Refer to [39-A-12-41-00-00A-510A-A](#)



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Figure 1 Central display system - Display controllers - Operational check

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ANNEX 2
Central display system - Display controllers - Operation test

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References

Table 1 References

Data Module	Title
39-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)
39-A-12-41-00-00A-510A-A	External electrical power - Disconnect procedure
39-A-12-41-00-00A-730A-A	External electrical power - Connect procedure
39-B-31-61-00-00A-320B-A	Central display system - Display controllers - Operation test

Table 2 Access points

Access Panel / Door Id	Data Module
No Access Point	

Table 3 Zones

Access Panel / Door Id	Data Module
No Zones	

Preliminary Requirements

Required Conditions

Table 4 Required Conditions

Conditions	Data Module/Technical Publication
The helicopter must be safe for maintenance	39-A-00-20-00-00A-120A-A
The external electrical power must be connected to the helicopter	39-A-12-41-00-00A-730A-A

Support Equipment

Table 5 Support Equipment

Nomenclature
No Support Equipment

Supplies

Table 6 Supplies

Nomenclature
No Supplies

Spares

Table 7 Spares

Nomenclature
No Spares

Safety Conditions

No Safety Condition

Procedure

Note

If the release of Primus Epic Phase 8 software is installed, refer to [39-B-31-61-00-00A-320B-A](#).

- 1 **Number 2 Cursor-Control Device (CCD2) (Number 1 Display Controller (DC1) OFF).**
 - 1.1 Get access to the circuit breakers panel (3, [Figure 1](#)) in the cockpit. Then, open the DISPLAY PFD CONTR CPLT circuit breaker. Make sure that the AVIONIC FAULT caution comes in view on ground.
 - 1.2 Push the left DISPLAY SELECT button on the CCD2 (7) to do the selection of the Number-2 Multi-Function Display (MFD2) (4).
 - 1.3 Make sure that the cursor is in view on the softkey bar on the top page of the MFD2 (4).
 - 1.4 Move the joystick on the CCD2 (7) to the LEFT direction. Make sure that the cursor moves on the menu bar to the left.
 - 1.5 Move the joystick to the RIGHT direction. Make sure that the cursor moves on the menu bar to the right.
 - 1.6 Move the joystick to SYSTEM and push the ENTER button on the CCD2 (7). Make sure that the MFD2 (4) shows the SYSTEM pull-down menu.
 - 1.7 Move the joystick to the DOWN direction. Make sure that the cursor moves on the menu bar to the down.
 - 1.8 Move the joystick to the UP direction. Make sure that the cursor moves on the menu bar to the up.
 - 1.9 Push the right DISPLAY SELECT button to get the selection of the Number-2 Primary-Flight Display (PFD2) (5).
 - 1.10 Turn the inner knob on the CCD2 (7). Make sure that the scroll function has no effect on the CAS message list of the MFD2 (4).
 - 1.11 Make sure that the cursor is in view on the PFD2 (5) as a square around one of the four shown frequencies.
 - 1.12 Do the selection of the COM1 frequency with the joystick (the square cursor is set around the related frequency).
 - 1.13 Tune the set frequency with the inner and outer knobs of the CCD2 (the KHz with the inner knob, the MHz with the outer knob).
- 2 **Number 1 Cursor-Control Device (CCD1) (Number 1 Display Controller (DC1) OFF).**

- 2.1 Push the right DISPLAY SELECT button on the CCD1 (8) to do the selection of the Number-1 Multi-Function Display (MFD1) (2).
- 2.2 Make sure that the copilot cursor automatically moves to the MFD1 (2).
- 2.3 Move the joystick on the CCD1 (8) to the DOWN direction. Make sure that the cursor moves on the menu bar to the down direction.
- 2.4 Move the joystick to the UP direction. Make sure that the cursor moves on the menu bar to the up direction.
- 2.5 Move the joystick to the LEFT direction. Make sure that the cursor moves on the menu bar to the left.
- 2.6 Move the joystick to the RIGHT direction. Make sure that the cursor moves on the menu bar to the right direction.
- 2.7 Do the selection of the DC ELECT page.
- 2.8 Push the ENTER button on the CCD1 (8). Make sure that the DC ELECT page comes into view on the MFD1 (2).
- 2.9 Push the left DISPLAY SELECT button to get the selection of the Number-1 Primary-Flight Display (PFD1) (1). Make sure that the cursor comes into view on the PFD1.
- 2.10 Do the selection of the COM1 frequency with the joystick (the square cursor is set around the related frequency).
- 2.11 Tune the set frequency with the inner and outer knobs of the CCD1 (8) (the KHz with the inner knob, the MHz with the outer knob).
- 3 **Number 2 Display Controller (DC2) (Number 1 Display Controller (DC1) OFF).**
- 3.1 Push the BRG O button on the DC2 (6).
- 3.2 Make sure that the annunciations that follow come in view on the display for the short range navigation mode (on the HSI area of the PFD2 (5)):
 - First push of the button: VOR1
 - Second push of the button: ADF1 (optional or ADF)
 - Third push of the button: FMS1.
- 3.3 Push the BRG “diamond” button on the DC2 (6).
- 3.4 Make sure that the annunciations that follow come in view on the display for the short range navigation mode (on the HSI area of the PFD2 (5)):
 - First push of the button: VOR2
 - Second push of the button: ADF2 (or ADF)

- Third push of the button: FMS2.
- 3.5 Push the NAV button on the DC2 (6).
- 3.6 Make sure that the annunciations that follow come in view on the PFD2 (5) above the HSI window:
- First push of the button:
 - VOR2 (if NAV frequency is even)
 - LOC2 (if NAV frequency is odd)
 - Second push of the button:
 - VOR1 (if NAV frequency is even)
 - LOC1 (if NAV frequency is odd).
- 3.7 Push the LNAV button on the DC2 (6).
- 3.8 Make sure that the annunciations that follow come in view on the PFD2 (5) above the HSI window:
- First push of the button: FMS2
 - Second push of the button: FMS1.
- 3.9 Make sure that the LNAV source is set to FMS1 or FMS2.
- 3.10 Push the PRV button on the DC2 (6). Then, make sure that the annunciations that follow come in view on the PFD2 (5):
- First push of the button: VOR2 annunciation in cyan color (preview mode)
 - Second push of the button: VOR1 annunciation in cyan color (preview mode)
 - Third push of the button: no annunciation.
- 3.11 Make sure that the NAV source is set to FMS1 or FMS2. Also make sure that the PREV option has no effect (no annunciation).
- 3.12 Push the HSI button on the DC2 (6). Then, make sure that the HSI window formats come in the view on the PFD2 (5):
- First push of the button: compass arc format
 - Second push of the button: hover format
 - Third push of the button: compass full format.
- 3.13 Do the initialization of the GPS position from the MCDU2 (6M). Then, make sure that the position shown on the MCDU2 agrees with the location of the test position.
- 3.14 Load a Flight Plan.
- 3.15 Push the MAP button on the DC2 (6). Then, make sure that the PFD2 (5) shows the information that follow:
- First push of the button: FMS MAP in view in the HSI window (compass arc format)

- Second push of the button: FMS MAP goes out from the HSI window (compass arc format).
- 3.16 Push the WX (or the WX/TERR) button on the DC2 (6). Then, make sure that the PFD2 (5) shows the information that follow:
- 3.16.1 If the WX or the TAWS are not installed, no annunciation is in view.
- 3.16.2 If the WX only is installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the WX label goes out of view from the PFD.
- 3.16.3 If the TAWS only is installed:
- First push of the button: the TAWS MAP comes in view after some seconds in the HSI window
 - Second push of the button: the TAWS MAP goes out of view from the HSI window.
- 3.16.4 If the WX and the TAWS are installed:
- First push of the button: the WX label is in view on the left bottom side of the PFD
 - Second push of the button: the WX label goes out of view and TAWS MAP comes in view after some seconds in the HSI window
 - Third push of the button: the TAWS MAP goes out of view from the HSI window.
- 3.17 Turn the ALT SEL knob on the DC2 (6) clockwise (counterclockwise). Then, make sure that the altitude on the altitude tape of the PFD2 (5) increases (decreases) and the relevant bug moves up (down).
- 3.18 Turn the BARO knob on the DC2 (6) clockwise (counterclockwise). Make sure that the barometric set value and the tape altitude of the PFD2 (5) increases (decreases).
- 4 **Number 2 Cursor-Control Device (CCD2) and Number 1 Cursor-Control Device (CCD1) with MAU (s) failure (Number 1 Display Controller (DC1) OFF).**
- 4.1 Open the MAU1 PRI PWR and the MA1 AUX PWR circuit breakers on the circuit breakers panel (3). Then, make sure that the MAU1 caution comes in view on the PFD1 (1) and PFD2 (5).
- 4.2 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the MFD2 (4).
- 4.3 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD2 menu to the same directions of the joystick movement.
- 4.4 Push the right DISPLAY SELECT button on the CCD1 (8). Make sure that the cursor is in view on the MFD1 (2).
- 4.5 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu to the same directions of the joystick movement.

- 4.6 Close the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers. Make sure that the MAU1 caution goes out of the view on the PFD1 (1) and the PFD2 (5).
- 4.7 Open the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Then, make sure that the MAU2 caution comes in view on the PFD1 (1) and PFD2 (5).
- 4.8 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the MFD2 (4).
- 4.9 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD2 menu to the same directions of the joystick movement.
- 4.10 Push the right DISPLAY SELECT button on the CCD1 (8). Make sure that the cursor is in view on the MFD1 (2).
- 4.11 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu to the same directions of the joystick movement.
- 4.12 Close the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers. Make sure that the MAU2 caution goes out of the view from the PFD1 (1) and the PFD2 (5).
- 5 **Number 2 Cursor-Control Device (CCD2) (Number 2 Display Controller (DC2) OFF).**
- 5.1 Close the DISPLAY PFD CONTR CPLT circuit breaker on the circuit breakers panel (3).
- 5.2 Open the DISPLAY PFD CONTR PLT circuit breaker. Make sure that the AVIONIC FAULT caution comes in view on the MFD2 (4).
- 5.3 Push the left DISPLAY SELECT button on the CCD2 (7), then the right button and then the left button again. Make sure that the cursor moves to the MFD2 (4), then to the PFD2 (5) and then to MFD2 (4) again.
- 5.4 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD2 menu to the same directions of the joystick movement.
- 5.5 Push the right DISPLAY SELECT button on the CCD2 (7) to move the cursor to the PFD2 (5).
- 5.6 Tune one of the shown frequencies with the inner and outer SET knobs. Then push the ENTER button to make sure that it operates correctly.
- 6 **Number 1 Cursor-Control Device (CCD1) (Number 2 Display Controller (DC2) OFF).**
- 6.1 Push the right DISPLAY SELECT button on the CCD1 (8) then the left button and then the right button again. Make sure that the cursor moves to the MFD1 (2), then to the PFD1 (1) and then to MFD1 (2) again.
- 6.2 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu to the same directions of the joystick movement.
- 6.3 Push the left DISPLAY SELECT button on the CCD1 (8) to move the cursor to the PFD1 (1).

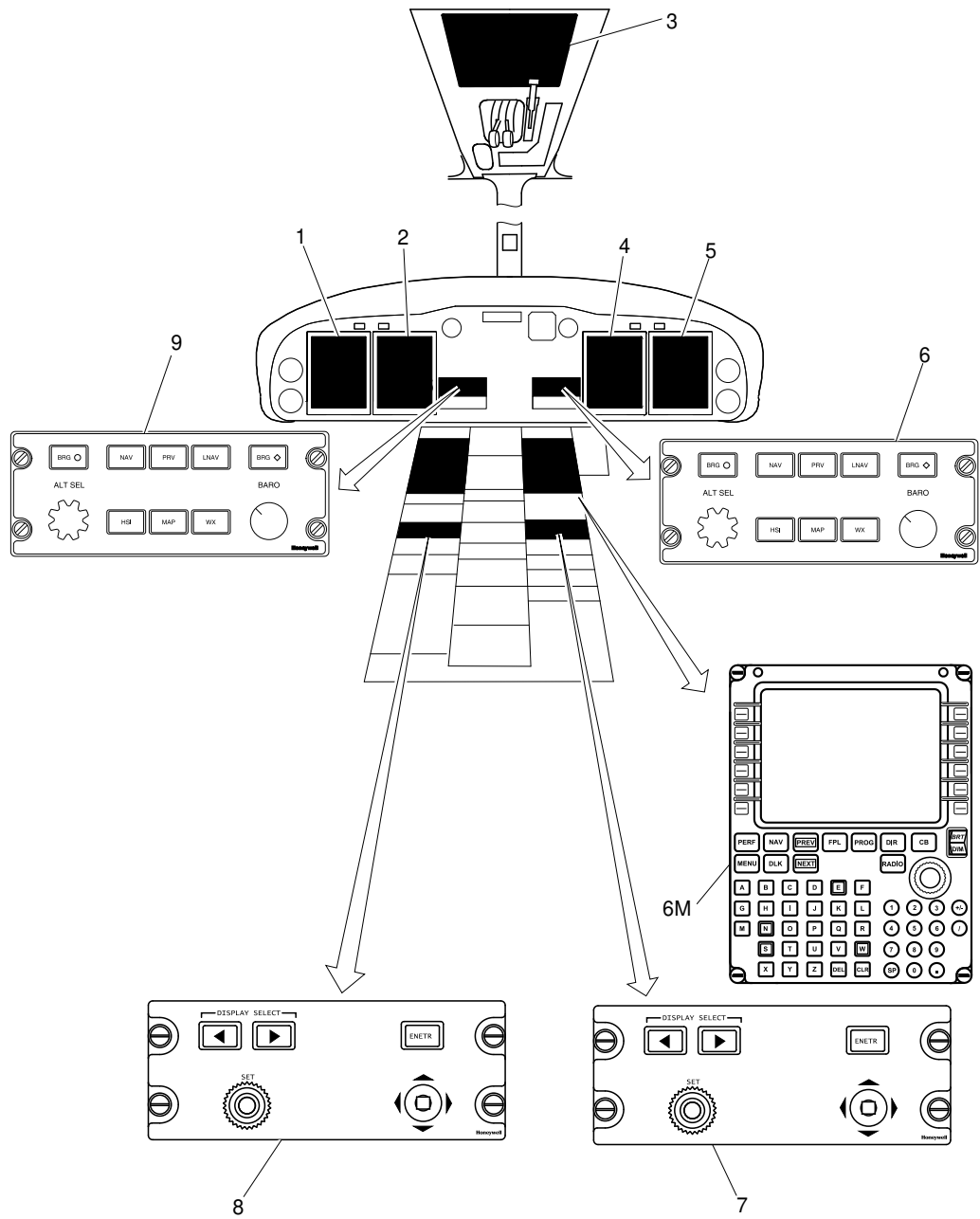
-
- 6.4 Tune one of the shown frequencies with the inner and outer SET knobs. Then push the ENTER button to make sure that it operates correctly.
- 7 **Number 1 Display Controller (DC1) (Number 2 Display Controller (DC2) OFF).**
- 7.1 Push the BRG O button on the DC1 (9).
- 7.2 Make sure that the annunciations that follow (for the short range navigation mode) come in view on the HSI area of the PFD1 (1):
- First push of the button: VOR1
 - Second push of the button: ADF1 (Optional or ADF)
 - Third push of the button: FMS1.
- 7.3 Push the BRG “diamond” button on the DC1 (9).
- 7.4 Make sure that the annunciations that follow (for the short range navigation mode) come in view on the HSI area of the PFD1 (1):
- First push of the button: VOR2
 - Second push of the button: ADF2 (or ADF)
 - Third push of the button: FMS2.
- 7.5 Push the NAV button on the DC1 (9).
- 7.6 Make sure that the annunciations that follow come in view on the PFD1 (1) above the HSI window:
- First push of the button:
 - VOR1 (if NAV frequency is even)
 - LOC1 (if NAV frequency is odd)
 - Second push of the button:
 - VOR2 (if NAV frequency is even)
 - LOC2 (if NAV frequency is odd).
- 7.7 Push the LNAV button on the DC1 (9).
- 7.8 Make sure that the annunciations that follow come in view on the PFD1 (1) above the HSI window:
- First push of the button: FMS1
 - Second push of the button: FMS2.
- 7.9 Make sure that the NAV source is set to FMS1 or FMS2.
- 7.10 Push the PREV button on the DC1 (9). Then, make sure that the annunciations that follow come in view on the PFD1 (1):
- First push of the button: VOR1 annunciation shown in cyan color (preview mode)
 - Second push of the button: VOR2 annunciation shown in cyan color (preview mode)
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- Third push of the button: no annunciation.
- 7.11 Make sure that the NAV source is set to FMS1 or FMS2. Also make sure that the PREV has no effect (no annunciation).
- 7.12 Push the HSI button on the DC1 (9). Then, make sure that the HSI window formats that follow come in view on the PFD1 (1):
- First push of the button: compass arc format
 - Second push of the button: hover format
 - Third push of the button: compass full format.
- 7.13 Push the MAP button on the DC1 (9). Then, make sure that the information that follow come in view on the PFD1 (1):
- First push of the button: FMS MAP comes in view in the HSI window (compass arc format)
 - Second push of the button: FMS MAP goes out of view from the HSI window (compass arc format).
- 7.14 Push the WX (or the WX/TERR) button on the DC1 (9). Then, make sure that the PFD1 (1) shows the information that follow:
- First push of the button: the TAWS MAP is in view in the HSI window
 - Second push of the button: the TAWS MAP goes out of view from the HSI window.
- 7.15 Turn the ALT SEL knob on the DC1 (9) clockwise (counterclockwise). Then, make sure that the altitude on the altitude tape of the PFD1 (1) increases (decreases) and the relevant bug moves up (down).
- 7.16 Turn the BARO knob on the DC1 (9) clockwise (counterclockwise). Make sure that the barometric set value and the tape altitude of the PFD1 (1) increases (decreases).
- 8 **Number 2 Cursor-Control Device (CCD2) and Number 1 Cursor-Control Device (CCD1) with MAU (s) failure (Number 2 Display Controller (DC2) OFF).**
- 8.1 Open the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers on the circuit breakers panel (3).
- 8.2 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor is in view on the MFD2 (4).
- 8.3 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD2 (4) menu to the same directions of the joystick movement.
- 8.4 Push the right DISPLAY SELECT button on the CCD1 (8). Then, make sure that the cursor comes in view on the MFD1 (2).
- 8.5 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu bar to the same directions of the joystick movement.
- 8.6 Close the MAU1 PRI PWR and the MAU1 AUX PWR circuit breakers.

- 8.7 Open the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers.
- 8.8 Push the left DISPLAY SELECT button on the CCD2 (7). Then, make sure that the cursor comes in view on the MFD2 (4).
- 8.9 Move the joystick on the CCD2 (7) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD2 (4) menu to the same directions of the joystick movement.
- 8.10 Push the right DISPLAY SELECT button on the CCD1 (8). Then, make sure that the cursor comes in view on the MFD1 (2).
- 8.11 Move the joystick on the CCD1 (8) to the LEFT/RIGHT and UP/DOWN directions. Then, make sure that the cursor moves on the MFD1 menu to the same directions of the joystick movement.
- 8.12 Close the MAU2 PRI PWR and the MAU2 AUX PWR circuit breakers.
- 8.13 Close the DISPLAY PFD CONTR PLT circuit breaker.

Requirements After Job Completion

- 1 Disconnect the external electrical power from the helicopter. Refer to [39-A-12-41-00-00A-510A-A](#)



ICN-39-B-316100-G-00001-03977-A-004-01

Figure 1 Central display system - Display controllers - Operational check

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