

Navigator 540

Transmitter



Spares replacement procedures

Measurement made easy

Navigator 540 transmitter

1 Introduction

These procedures must be carried out by a trained technician.

Tools required

- Anti-static strap
- Flat-bladed screwdriver
- T8 x 40 Torx screwdriver
- No. 2 Pozidriv screwdriver
- Small nylon-headed hammer
- 2.5 mm diameter drift

2 For more information

Further information is available from:
www.abb.com/analytical

or by scanning these codes:



Sales



Service

3 Safety

Warning.

These procedures must be carried out by a trained technician.

ELECTRICAL

- Isolate all high voltage supplies to the transmitter before performing replacement procedures.
- Transmitter boards and modules are vulnerable to electrostatic damage. Wear an anti-static strap at all times during these replacement procedures.
- Ensure all electrical connections are kept dry at all times.

GENERAL

- Shut off the external sample supply to the wet-section before performing replacement procedures. When a procedure is complete, restore power to the transmitter, sample to the wet-section at the correct flow rate and, if necessary, calibrate the wet-section – refer to the wet-section Operating Instructions (OI/ASO550-EN [sodium] / OI/AHM550-EN [hydrazine] / OI/ADS550-EN [dissolved oxygen]) for calibration instructions.
- Dispose of the old components in accordance with the guidelines contained in the Operating instructions (see document references above).

4 Replacement procedures

Note. These procedures are best performed on a clean flat surface.

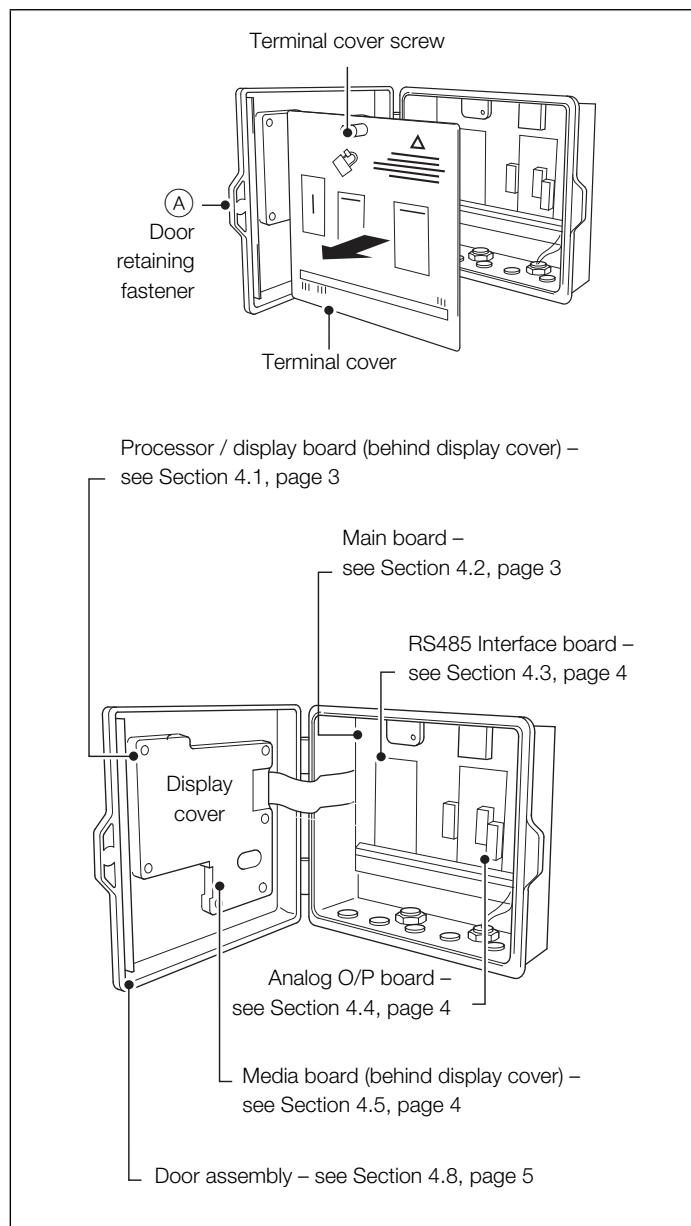


Fig. 4.1 Navigator 540 transmitter – replacement procedures

4.1 Replacing the processor / display board

Processor / display board (part number AW500 050).

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.2:

2. Remove the 6 Torx screws (B) securing display cover and remove processor / display board cover (C).
3. Disconnect the 50-way Flexi-cable (D) from processor / display board (E).
4. Remove software key board-mount (F) and any software keys fitted.
5. Remove media board (G) if fitted.
6. Remove the 2 snap rivets (H) and lift processor / display board (E) out of the door.
7. Fit the new replacement processor / display board in the reverse order of removal, using new snap rivets (supplied).

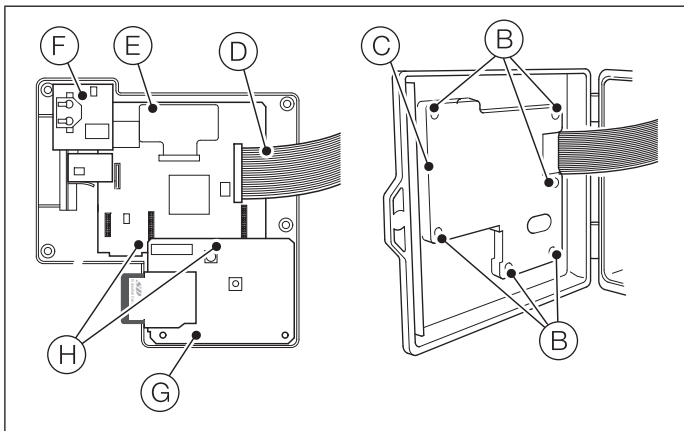


Fig. 4.2 Replacing the processor / display board

4.2 Replacing the main board

Main board (part number AW500 051).

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.3:

2. Unscrew terminal cover screw (B) using the Pozidriv screwdriver and remove terminal cover (C).
3. Remove communications board (D) (if fitted) by pulling it away from main board (E).
4. Remove any module boards (F, G, H) (if fitted) by disconnecting board wiring to the terminal blocks on each board and unscrewing the board-retaining screw(s) (I).
5. Disconnect all connections to main board terminals (J), remove the 3 screws and associated clamp washers (K) and any connections to these 3 screws.
6. Unscrew the 5 Torx screws (L) securing the main board to the transmitter case and lift the main board (E) out.
7. Disconnect the 50-way the media card (M) cable from the underside of the main board.
8. Fit the new replacement board, refit the communication and module board(s), all connections and the terminal cover in the reverse order of removal / disconnection.

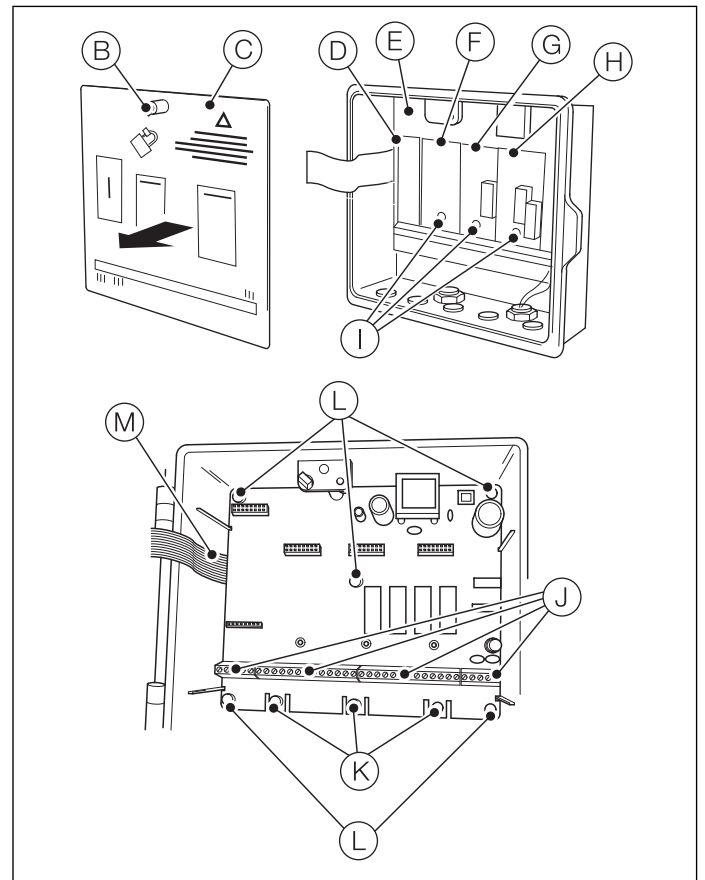


Fig. 4.3 Replacing the main board

4.3 Replacing the RS485 interface board

RS485 interface board (part number AW500 052)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.3, page 2:

2. Unscrew terminal cover screw (B) using the Pozidriv screwdriver and remove terminal cover (C).
3. Remove RS485 interface module board (F) by disconnecting board wiring to the terminal block and unscrewing the board retaining screw (I).
4. Fit the replacement RS485 interface module board, all connections and refit terminal cover (C) in the reverse order of removal / disconnection.

4.4 Replacing the analog O/P board

Analog O/P module board (part number AW500 053)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the retaining fastener ¼ turn anti-clockwise (↺).

Referring to Fig. 4.3, page 3:

2. Unscrew terminal cover screw (B) using the Pozidriv screwdriver and remove terminal cover (C).
3. Remove the analog O/P module board (H) by disconnecting board wiring to the terminal block and unscrewing the right board retaining screw (I).
4. Fit the replacement analog O/P module board, all connections and the refit terminal cover (C) in the reverse order of removal / disconnection.

4.5 Replacing the media board

SD media board (part number AW500 054),

USB media board (part number AW500 055)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.2, page 3:

2. Remove the 6 Torx screws (B) securing the display cover and remove processor / display board cover (C).
3. Remove media board (G) by pulling it away from the main board.
4. Fit the replacement media board and refit processor / display board cover (C) in the reverse order of removal.

4.6 Replacing / Upgrading the Profibus communications board

Profibus communications board (part number AW500 058)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.3, page 3:

2. Unscrew terminal cover screw (B) using the Pozidriv screwdriver and remove terminal cover (C).
3. Remove the communications board (D) (if fitted) by pulling the board away from the main board (E).
4. Fit the replacement / upgrade Profibus communications board and refit the terminal cover (C) in the reverse order of removal.

4.7 Replacing / Upgrading the Ethernet communications board

Ethernet communications board (part number AW500 059)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.3, page 3:

2. Unscrew terminal cover screw (B) using the Pozidriv screwdriver and remove terminal cover (C).
3. Remove the communications board (D) (if fitted) by pulling the board away from the main board (E).
4. Fit the replacement / upgrade Ethernet communications board and refit the terminal cover (C) in the reverse order of removal.

4.8 Replacing the door assembly

Door assembly ABB (part number AW500 056)

Door assembly blank (part number AW500 057)

Referring to Fig. 4.1, page 2:

1. Open the transmitter door by turning the door retaining fastener (A) ¼ turn anti-clockwise (↺).

Referring to Fig. 4.4:

2. Remove the 6 Torx screws (B) securing the display cover and remove processor / display board cover (C).
3. Disconnect the 50-way Flexi-cable (D) from processor / display board (E).
4. Remove software key board-mount (F) and any software keys by pulling them away from processor / display board (E).
5. Remove media board (G) (if fitted) by pulling it away from processor / display board (E).
6. Remove the 2 snap rivets (H) and lift processor / display board (E) out of door (I).
7. Using the small nylon-headed hammer and 2.5 mm diameter drift, remove (and discard) the 2 coiled spring pins (J) from the door hinges and remove door (I).
8. Fit the replacement door, existing processor / display board, media card (if fitted), software key board mount / software keys and the display cover in the reverse order of removal / disconnection using the new spring pins and snap rivets (supplied).

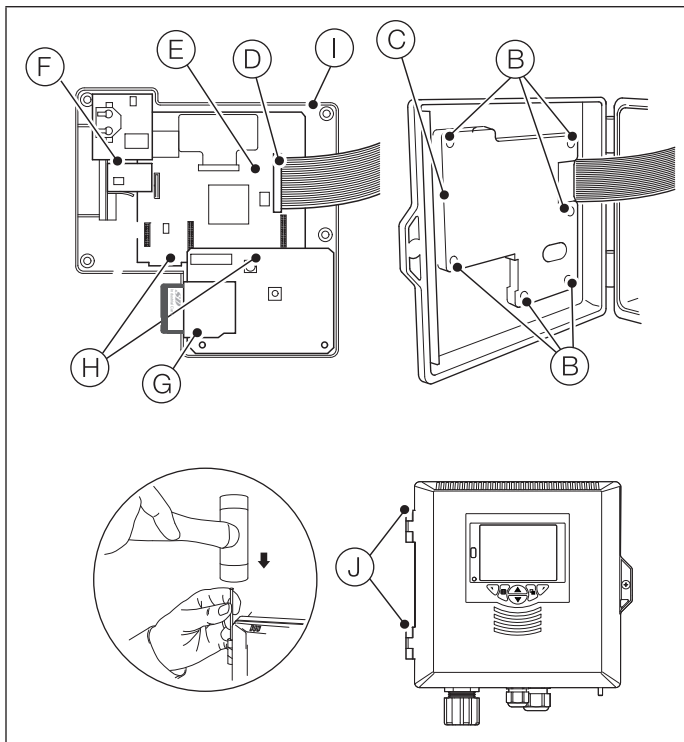


Fig. 4.4 Replacing the door assembly

Notes

ABB Limited
Measurement & Analytics

Oldends Lane
Stonehouse
Gloucestershire
GL10 3TA
UK
Tel: +44 (0)1453 826661
Fax: +44 (0)1453 829671
Email: instrumentation@gb.abb.com

ABB Inc.
Measurement & Analytics

125 E. County Line Road
Warminster
PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

abb.com/measurement



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