Navigator 550
Hydrazine wet-section

1 Introduction

These procedures must be carried out by a trained technician.

Tools required
- Pozidrive screwdriver
- Slot-head terminal screwdriver
- Anti-static strap.

2 For more information

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

or by scanning these codes:

Sales  Service
Warning. These procedures must be carried out by a trained technician.

**CHEMICAL**
- Ensure personal protective equipment (PPE) such as gloves and eye protection are worn during any maintenance.
- Observe all health and safety procedures for handling chemicals.
- To familiarize yourself with handling precautions, dangers and emergency procedures, always review the Material Safety Data Sheets prior to handling containers, reservoirs and delivery systems that contain chemical reagents and standards.
- Take care if cleaning any spillages and observe all relevant safety instructions. Wipe up any spillages using clean water.
- Perform general cleaning of the wet-section using a damp cloth only – mild detergent can be used as a cleaning aid. Do not use Acetone or any organic solvents.

**ELECTRICAL**
- Isolate all high voltage supplies to the transmitter before performing replacement procedures.
- The wet-section is vulnerable to electrostatic damage. Wear an anti-static strap or dismantle the wet-section on an anti-static workbench.
- 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/AHM550-EN) for calibration instructions.
- Dispose of the old components in accordance with the guidelines contained in the Operating instructions (OI/AHM550-EN).

---

**Fig. 4.1 Low level dissolved oxygen wet-section – replacement procedures**

- Modbus cable assembly – see Section 4.1, page 3
- PCB housing seals, PCB cover and PCB – see Section 4.1, page 3
- Constant-head assembly, pressure switch assembly and pressure switch cable – see Section 4.4, page 4
- Solenoid valve assembly and solenoid valve cable – see Section 4.4, page 4
- Flowmeter assembly and flowmeter cable – see Section 4.2, page 3
4.1 Replacing the PCB housing seals, PCB cover and PCB

Part numbers:

- PCB housing seals: AW503 051
- PCB cover: AW503 052
- PCB: AW503 050

Referring to Fig. 4.2:

1. Remove and retain the 4 PCB cover fixing screws and washers (A) and remove the PCB cover (B).
2. If replacing PCB housing seals, remove and discard housing seal (C).
3. Disconnect all cables from the PCB (D), loosen all cable glands and remove cables.
4. Remove and retain the 4 PCB housing fixing screws and washers (E) and remove the PCB housing (F).
5. If replacing PCB housing seals, lift PCB housing seal (G) out of the groove and discard.
6. Remove and retain the 2 PCB fixing screws and washers (H) and remove the PCB (D).
7. If replacing PCB housing seals, fit the new (large) PCB housing seal (G) in the groove (a small amount of silicone sealant or grease can be used to help retain the seal in place).
8. Fit the new PCB to the rear of the main case using the 2 PCB retaining screws and washers (H).
9. Refit the PCB housing (E) using the 4 PCB housing fixing screws and washers (D).

Referring to Fig. 4.3 and Table 4.1 for terminal connection details:

9. Make cable connections at the new PCB.

Referring to Fig. 4.2:

10. If replacing PCB housing seals, fit the new (small) PCB housing seal (C) between the PCB cover (B) and PCB housing (F) (a small amount of silicone sealant or grease can be used to help retain the seal in place).
11. Refit the PCB cover (B) using the 4 PCB cover fixing screws and washers (A), ensuring PCB housing seal (C) is located correctly in its groove.

---

4.2 Replacing the flowmeter assembly and flowmeter cable

Part numbers:

- Flowmeter: AW503 068
- Flowmeter cable: AW503 086

Referring to Fig. 4.4:

1. Disconnect the flowmeter cable (A) from the flowmeter (B), remove the sample inlet tubing (C) from the flowmeter inlet spigot (D). If replacing cable(s), refer to Section 4.1 for cable disconnection details and remove / discard the cable.
2. Disconnect the flowmeter (B) from the QD connector (E) above the flowmeter by pressing the ring and pulling the flowmeter away.
3. Fit the new flowmeter / cable in the reverse order of removal.

---

![Fig. 4.2 Replacing the PCB housing seals, PCB cover and PCB](image1)

![Fig. 4.3 Wet section PCB cable entries](image2)

![Fig. 4.4 Replacing the flowmeter assembly and flowmeter cable](image3)
4.3 Replacing the constant-head assembly, pressure switch assembly and pressure switch cable

Part numbers:
- Constant-head assembly: AW503 075
- Pressure switch assembly: AW503 077
- Pressure switch cable: AW503 085

Referring to Fig. 4.5:
1. Remove all tubing A to the constant-head assembly.
2. Carefully disconnect the 2 spade connectors B at the rear of pressure switch C. If replacing the cable, refer to Section 4.1, page 3, for cable connection details and remove / discard the cable.
3. Unscrew the 2 securing screws D on the upper faces of the constant head body support arms E and remove the constant-head assembly complete with pressure switch.
4. If replacing the pressure switch, unscrew the 4 retaining screws F (note that the nuts G are constrained in the support bracket and may fall out when screws are removed).
5. Fit a replacement pressure switch and new O-ring H in the reverse order of removal – note the orientation (LOW) is always uppermost.
6. If replacing the cable, fit in the reverse order of removal and connect the 2 spade connectors B to the rear of the pressure switch, otherwise re-connect the existing spade connectors.
7. Secure the constant-head assembly, complete with pressure switch, in the reverse order of removal.

4.4 Replacing the solenoid valve assembly and solenoid valve cable

Part numbers:
- Solenoid valve assembly: AW503 053
- Solenoid valve cable: AW503 080

Referring to Fig. 4.6:
1. Remove all tubing connected to the valve A.
2. Unclip the valve cable connector B from the valve body. If replacing cable(s), refer to Section 4.1 for cable connection details and remove / discard the cable.
3. Unscrew the 2 retaining screws C that hold the plate D to the bracket E and withdraw the valve assembly A and plate D.
4. Unscrew the 2 valve securing screws and nuts F and remove the valve.
5. Ensure the valve cable connector is facing downwards and fit the new valve assembly to the plate D using the 2 valve securing screws and nuts F.
6. Refit the plate D to the bracket E using the 2 retaining screws C.
7. If replacing the cable, fit in the reverse order of removal and re-clip the cable connector B to the underside of the new valve body.
8. Reconnect all tubing to the new valve.

Fig. 4.5 Replacing the constant-head assembly, pressure switch assembly and pressure switch cable

Fig. 4.6 Replacing the solenoid valve assembly and solenoid valve cable
4.5 Replacing the Modbus cable assembly

Modbus cable part numbers:

- AW503 090 / 1.5 m (4.9 ft.)
- AW503 091 / 5 m (16.4 ft.)
- AW503 092 / 10 m (32.8 ft.)
- AW503 093 / 20 m (65.6 ft.)

Referring to Section 4.2, page 3:

1. Remove the wet-section PCB cover.

Referring to Fig. 4.7:

2. Loosen cable gland at the wet-section PCB housing and disconnect the Modbus cable from the terminal block connections marked black, red, screen, green and white.

3. Withdraw the Modbus cable from the PCB housing and main case assembly and discard.

4. Feed the replacement Modbus cable into the main case via the guide channel at the top, feed through the gland and remake connections to the black, red, screen, green and white PCB wet-section terminals and at the transmitter.

5. Refit the PCB cover by reversing the removal procedure.

Fig. 4.7 Replacing the Modbus cable assembly
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

© ABB 2018