Pressure Accuracy Verification for Philips Respironics V200 Esprit

Use this guide to conduct pressure accuracy verification tests for the Philips Respironics V200 Esprit.

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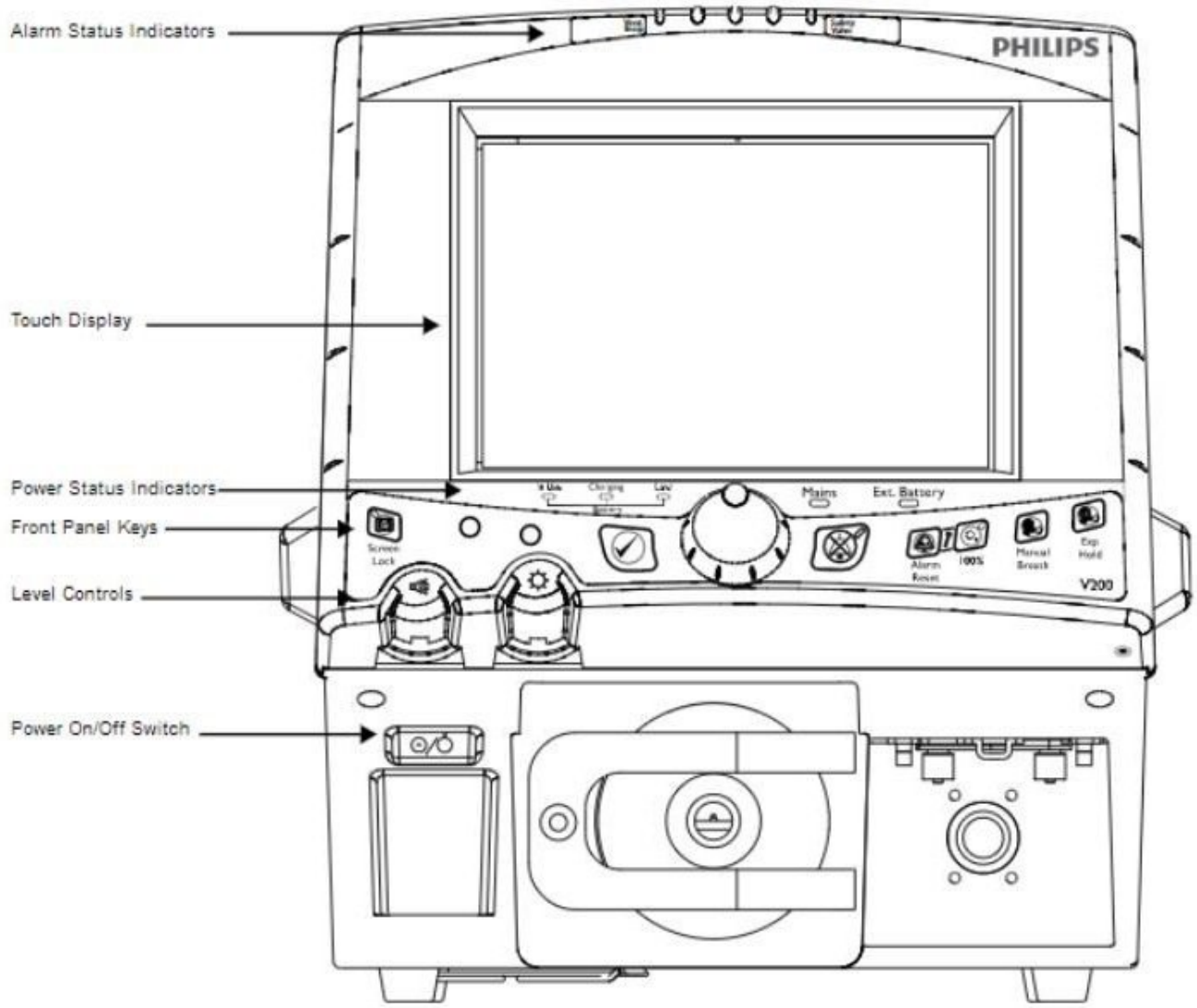

Figure 8-2: Front Panel — Text Version

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INTRODUCTION

This guide is for the Philips Respironics V200 / Espirit Ventilator, Part Number 580-1000-02 H. This pressure accuracy test verifies the accuracy of the inhalation and exhalation pressure transducers. This test requires a patient circuit and analyzer. Information in this guide was sourced from the [document|7525|Service Manual] in chapter 8.5.5 on pages 8-21 and 8-22. For further information on the Inhalation/Exhalation Pressure Transducer and and Exhalation Valve, please see chapter 5.8.16 on page 5-25.

PARTS:

- Adult Patient Circuit Tube (2)

42-inch smooth bore
P/N 1003643

- Patient circuit wye (1)

22 mm
P/N 1003070

- Analog output port signal selector (1)

P/N 1010891

- Test lung (1)

1-liter, hard sided
P/N 1021671

- Coupling (2)

silicone
P/N C06348

- Tee (1)

plastic w/ silicone coupling
P/N C06260 or equivalent

- Connector (1)

11 mm OD
P/N C06335 or equivalent

- Cork (1)

silicone
P/N 1001735 or equivalent

- Remote alarm test cable adaptor (1)

P/N 1027817

- Remote alarm test cable (1)

P/N 1027818

- Oxygen sensor adapter (1)

P/N 1001736

- Tubing (1)

silicone, 3/16-in. ID x 6.5 ft. PAP
P/N C06686

Step 1 — Pressure Accuracy Verification for Philips Respironics V200 Esprit

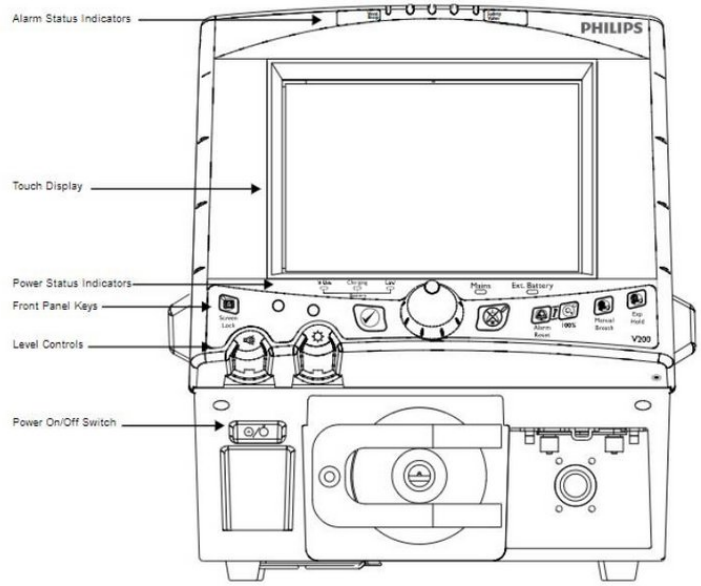


Figure 8-2: Front Panel — Text Version

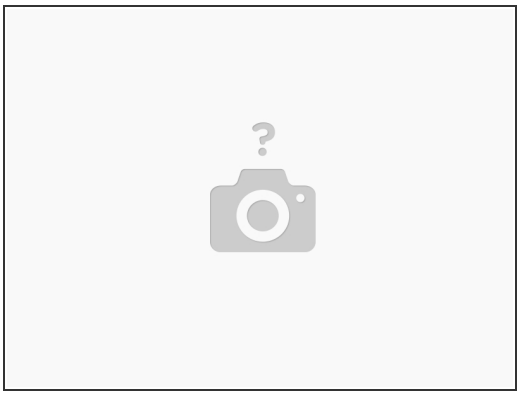
- Put ventilator into diagnostic mode (page 8-21 in Service Manual):
- Begin with ventilator powered off.
- Press ALARM RESET and 100% O2 keys located on the right of the front panel key section (as shown in Figure 8-2) for approximately 5 seconds while turning ventilator power on.
- Touch OK to enter diagnostic mode.

Step 2


Figure 8-19: Pressure Accuracy Test Configuration

- Connect a patient circuit and analyzer to the ventilator as shown in Figure 8-19 (page 8-21 in Service Manual).

Step 3



- Set the analyzer's function to read cmH2O by setting pressure range to measure at least 120 cmH2O (page 8-21 in Service Manual).

Step 4

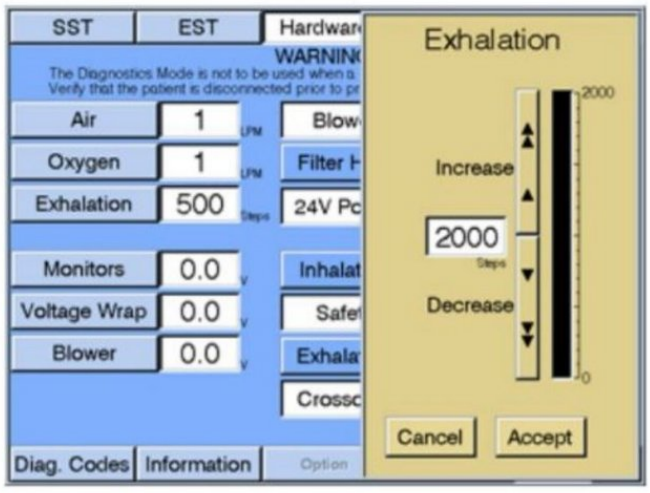


Figure 8-18: Diagnostic Mode - Selecting Exhalation Position

- On the Hardware screen, touch safety (white background, as shown in figure 8-18 on page 8-21 of Service Manual) to energize the safety solenoid.

Step 5

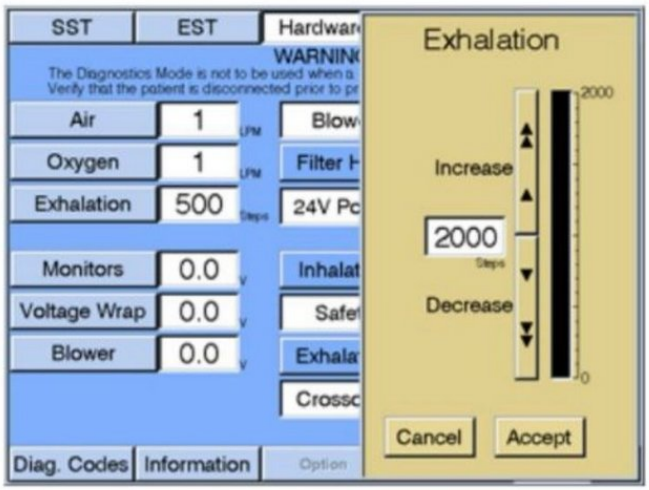


Figure 8-18: Diagnostic Mode - Selecting Exhalation Position

- On the Hardware screen, touch Exhalation (blue background, seen in Figure 8-18, found on page 8-21 of the Service Manual).

Step 6

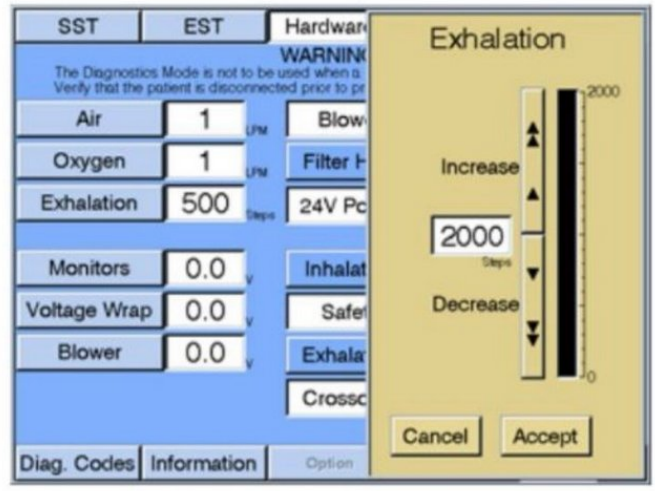


Figure 8-18: Diagnostic Mode - Selecting Exhalation Position

- On the Hardware screen, touch Air (blue background, seen in the top left area of Figure 8-18 on page 8-21 of the Service Manual).

Step 7

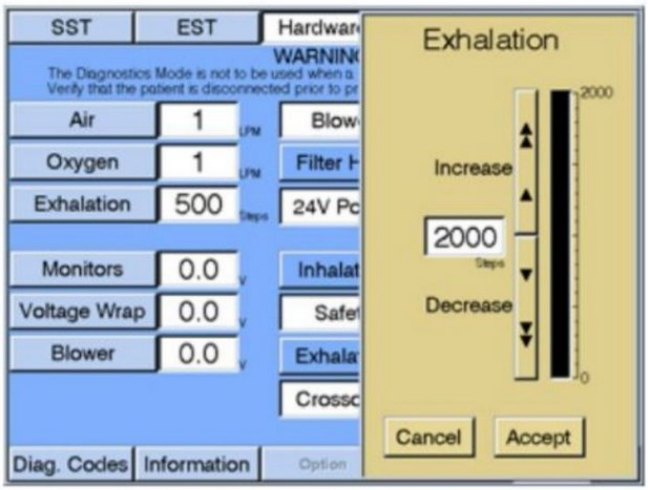


Figure 8-18: Diagnostic Mode - Selecting Exhalation Position

- On the Hardware screen, touch Exhalation and adjust the steps until the analyzer pressure reads 100 +- 5 cmH2O (95 to 105 cmH2O).
- Information found on page 8-21 of the Service Manual.

Step 8

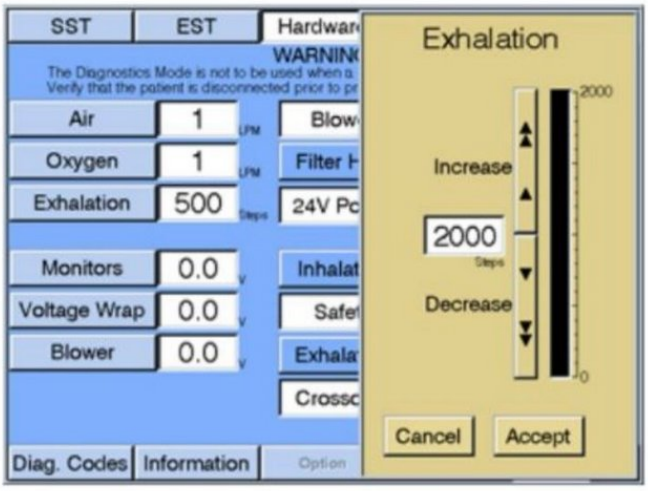
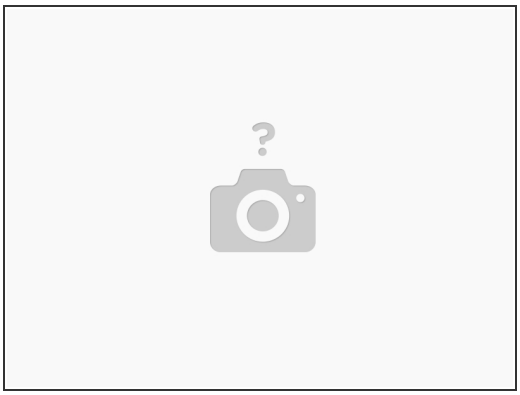


Figure 8-18: Diagnostic Mode - Selecting Exhalation Position

- Check that the Inhalation Pressure and Exhalation Pressure displays on the Hardware screen read within ± 10% of the analyzer display.
- Example: If the analyzer's display reads 98.7 cmH2O, 10% of the display is 9.87 cmH2O, and ± 10% of the analyzer display would be 88.83 to 108.57 cmH2O (-10% = 98.7 - 9.87 = 88.83 cmH2O, and + 10% = 98.7 + 9.87 = 108.57 cmH2O).
- Information found of page 8-21 of the Service Manual.

Step 9



- Pressure accuracy test is complete.

If Inhalation/Exhalation pressure readings are out of range at 100 cmH2O, recommended troubleshooting and repair is as follows and can be found in the [document|7525|Service Manual] in Chapter 8.7.5 page 8-44:

1. Check for leaks at circuit connections, test lung, filters, etc.
2. Check for kinked or cut tubing from inhalation module to SOL4, and from SOL4 to sensor PCB.
3. Check for kinked or cut tubing from exhalation pressure tap to SOL3, and from SOL3 to sensor PCB.
4. Check for leaks at the oxygen sensor/oxygen valve connection.
5. Replace the sensor PCB.
6. Replace the 3-station solenoid.