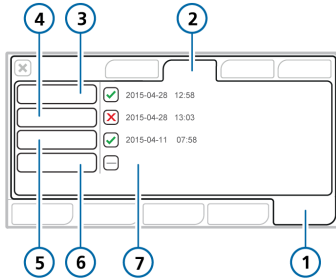# HAMILTON-C2/C3 Preoperational Checks

Perform the preop check after setting up the ventilator with a new breathing circuit and/or flow sensor and before connecting the patient.

- Tightness test
- Flow sensor calibration
- O2 sensor calibration (if needed)
- CO2 sensor calibration (if needed)
- Alarm tests (as desired)

1 Accessing the Tests & calib window

1. Do either of the following:
   - Touch **System** > **Tests & calib** (see below).
   - In the Standby window, touch **Preop check**.
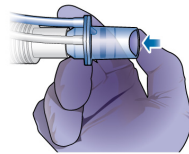2. Touch the button for the desired operation.

1	System	5	O2 sensor
2	Tests & calib	6	CO2 sensor
3	Tightness	7	Time/date of last test, calibration
4	Flow sensor		

2 Performing the Tightness test

⚠ **Follow infection-control procedures to disinfect your hands before blocking the flow sensor in step 4.**
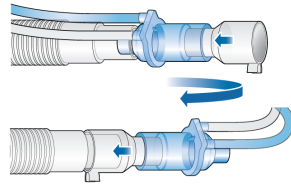
1. Set up ventilator for ventilation, complete with breathing circuit, flow sensor, and optional CO2 airway adapter you will use on the patient.*
2. In the System > Tests & calib window, touch **Tightness**.
3. When prompted, disconnect the breathing circuit at the patient side of the flow sensor.

4. When prompted, block the flow sensor opening (wearing a glove is recommended).
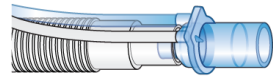
When done, pass ✓or fail ✕ and date/time of completion are displayed.

3 Calibrating the flow sensor

1. Touch **Flow sensor**.
2. When prompted, attach the calibration adapter to the flow sensor and flip them 180° so the adapter is directly connected to the limb (as shown here).

3. When prompted, flip the flow sensor/adapter 180° again, so the flow sensor is directly connected to the limb, and remove the calibration adapter.

When done, pass ✓or fail ✕ and date/time of completion are displayed.
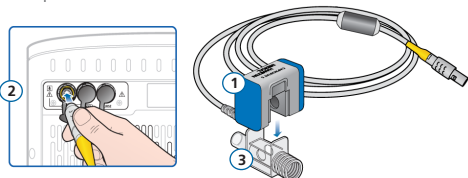
4 Calibrating the O2 sensor (if needed)

1. Touch **System** > **Tests & calib**.
2. Touch **O2 sensor**.

When done, pass ✓or fail ✕ and date/time of completion are displayed.

For details, see the HAMILTON-C3 Coaxial and Dual limb Circuit Setup Quick Reference Cards (PN ELO2020-119-TW, ELO2020-120-TW).

⑤ Calibrating the CO2 sensor/adapter (if needed)

1. Connect the CO2 adapter (**1**) to the **CO2** port (**2**) on the ventilator, and ensure CO2 monitoring is enabled (**System > Sensors On/Off**).

2. Wait at least 2 minutes for the device to warm up.

3. If it is connected, disconnect the CO2 sensor (**3**, above) from the breathing circuit.

4. Attach the CO2 sensor to the adapter.

   Keep these components away from all sources of CO2, including the patient's and your own exhaled breath, as well as the ventilator exhaust port.

5. Touch **System** > **Tests & calib**.

6. Touch **CO2 sensor**.

   Do *not* move the components during calibration.

   When done, pass ✓or fail ✗, and date/time of completion are displayed.

⑥ Alarm tests

During ventilator startup, the ventilator performs a self-check that also verifies proper alarm function, including generation of an audible alarm sound.

You are *not* required to perform additional alarm tests.

If the preoperational check fails

Check breathing circuit
No disconnection, properly connected, leakage

✗ Calibration fails

Check flow sensor
Properly connected

✗ Calibration fails

Check exp valve set
Properly installed and seated

✗ Calibration fails

Repeat test without humidifier

If successful, check humidifier setup for leaks — *✗ Calibration fails*

Replace breathing circuit, flow sensor, exp valve set
Properly connected and seated

✗ Calibration fails

Have ventilator serviced