## Learn Circuit Troubleshooting

<table>
<thead>
<tr>
<th>Error code</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Hardware fault detected. Contact an authorised Service Centre.</td>
</tr>
<tr>
<td>104, 105</td>
<td>During the first step of the Learn Circuit, check that the inspiratory port and air inlet filter of the Astral device are clear of obstructions; and the circuit is not connected to the inspiratory port. Repeat Learn Circuit. If the problem persists, contact an authorised Service Centre.</td>
</tr>
<tr>
<td>106</td>
<td>Hardware fault detected. Contact an authorised Service Centre.</td>
</tr>
</tbody>
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| 113        | 1. Check that supplemental oxygen is not added during the Learn Circuit.  
2. During the first step of the Learn Circuit, check that the inspiratory port and air inlet filter of the Astral device are clear of obstructions; and the circuit is not connected to the inspiratory port. Repeat Learn Circuit. If the problem persists, contact an authorised Service Centre. |
| 121        | Device Test cannot detect the correct circuit adapter.  
**Single limb with expiratory valve:**  
1. Check that the valve control line and proximal pressure line are connected to the single limb adapter correctly. Refer to Connecting a single limb circuit with expiratory valve in the User Guide for further information.  
2. Check that the single limb circuit adapter is firmly inserted and adapter cover is installed correctly. Refer to Fitting the circuit adapter in the User Guide for further information.  
**Double limb:**  
1. Check that the double limb circuit adapter is firmly inserted and adapter cover is installed correctly. Refer to Fitting the circuit adapter in the User Guide for further information.  
**Single limb with intentional leak:**  
1. Check the single limb leak adapter is firmly inserted and adapter cover is installed correctly. Refer to Fitting the circuit adapter in the User Guide for further information. Repeat Learn Circuit. If the problem persists, contact an authorised Service Centre. |
| 122        | Hardware fault detected. Contact an authorised Service Centre. |
| 123        | Air Inlet Filter is not detected.  
Check that the air inlet filter is clean, dry and correctly installed. Replace if necessary. Refer to Replacing the air filter in the User Guide for further information. Repeat Learn Circuit. If the problem persists, contact an authorised Service Centre. |
| 124, 125   | Hardware fault detected. Contact an authorised Service Centre. |
| 204        | Unable to learn the circuit.  
1. Ensure that the circuit is not moved until completion of the test.  
2. Check the circuit and attached accessories for blockages.  
3. Ensure that there are no sharp bends or kinks in the circuit and the patient end is not blocked.  
4. If using humidification, ensure that the humidifier tub is not overfilled.  
5. Follow the on-screen instructions carefully:  
   • circuit should not be blocked during step 2  
   • circuit should be completely blocked during step 3.  
If the problem persists, contact your clinician or an authorised Service Centre. |
| 205        | The measured circuit resistance exceeds safe operating limits for this device.  
1. Check the circuit and attached accessories for blockages.  
2. Ensure that there are no sharp bends or kinks in the circuit and the patient end is not blocked.  
3. If using humidification, ensure that the humidifier tub is not overfilled.  
4. Follow the on-screen instructions carefully:  
   • circuit should not be blocked during step 2  
   • circuit should be completely blocked during step 3.  
If the problem persists, contact your clinician or an authorised Service Centre. |
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<td>206</td>
<td>Hardware fault detected. Contact an authorised Service Centre.</td>
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| 303        | Unable to calibrate oxygen sensor.  
1. Check that supplemental oxygen is not added during the Learn Circuit.  
2. Repeat Learn Circuit.  
If the problem persists, contact an authorised Service Centre. |
| 404, 405, 406 | Hardware fault detected. Contact an authorised Service Centre. |
| 409        | Learn Circuit was unable to complete due to excessive leak from the circuit.  
1. Check that the circuit is completely blocked during the third step of the Learn Circuit.  
2. Ensure that the circuit is assembled correctly and there are no leaks in the circuit.  
3. Check that the circuit adapter is firmly inserted.  
4. This circuit may not be compatible with the Astral device. Try another circuit.  
Repeat Learn Circuit. If the problem persists, contact an authorised Service Centre. |
| 415        | Hardware fault detected. Contact an authorised Service Centre. |
| 420        | The measured circuit compliance exceeds safe operating limits for this device.  
Check that the circuit is assembled correctly and completely blocked during the third step of the Learn Circuit.  
If the problem persists, contact your clinician or an authorised Service Centre. |
| 426        | Hardware fault detected. Contact an authorised Service Centre. |
| 504        | Unable to learn the circuit.  
1. Ensure that the circuit is not moved until completion of the test.  
2. Check the circuit and attached accessories for blockages.  
3. Ensure that there are no sharp bends or kinks in the circuit and the patient end is not blocked.  
4. If using humidification, ensure that the humidifier tub is not overfilled.  
5. Follow the on-screen instructions carefully:  
   • circuit should not be blocked during step 2  
   • circuit should be completely blocked during step 3.  
If the problem persists, contact your clinician or an authorised Service Centre. |
| 505        | The measured circuit resistance exceeds safe operating limits for this device.  
1. Check the circuit and attached accessories for blockages.  
2. Ensure that there are no sharp bends or kinks in the circuit and the patient end is not blocked.  
3. If using humidification, ensure that the humidifier tub is not overfilled.  
4. Follow the on-screen instructions carefully:  
   • circuit should not be blocked during step 2  
   • circuit should be completely blocked during step 3.  
If the problem persists, contact your clinician or an authorised Service Centre. |
| 506, 512   | Hardware fault detected. Contact an authorised Service Centre. |
| 600        | Unable to calibrate Expiratory Flow Sensor.  
1. Check the circuit adapter is clean, dry and firmly inserted.  
   • If the adapter is wet, then removing the adapter and vigorously shaking to clear water can be effective. Re-insert adapter firmly and repeat Learn Circuit.  
   • If the adapter is not clean, then it will need to be replaced.  
2. If using a small diameter paediatric breathing circuit, consider using an anti-bacterial filter or a 22-mm adapter on the expiratory adapter port.  
3. Repeat Learn Circuit and ensure that the circuit is not moved until completion of the test.  
If the problem persists, contact an authorised Service Centre. |