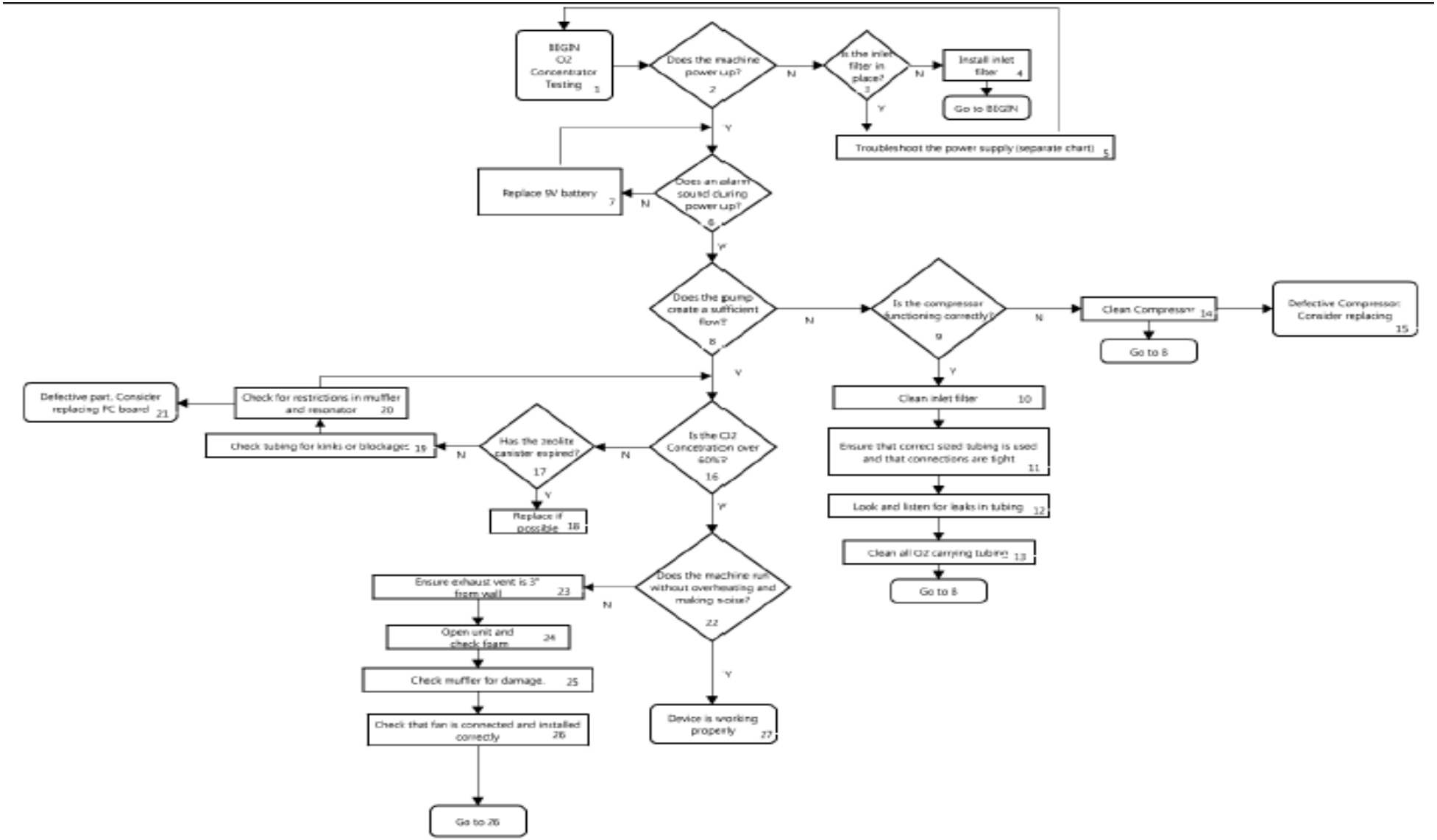
EQUIPMENT

Oxygen Concentrator Repair and Troubleshooting



Description

#	Text Box	Explanation
1	Begin O2 Concentrator Testing	Start the diagnostic process for a work order on O2 Concentrator.
2	Does the machine power up?	With unit plugged in, and power switch turned on, the display should light up and compressor should run, making noise.
3	Is the inlet filter in place?	Some models require the compressor inlet filter to be in place in order for machine to start. For all other models, proceed to step 5.
4	Install inlet filter	If available, install the foam inlet filter.
5	Troubleshoot the power supply (separate chart)	Use a multimeter at the leads of the compressor to ensure that sufficient voltage is reaching the machine. If insufficient, there may be a problem with the wiring or fuse. See flowchart on Power Supply and BTA skills on Power Supply.
6	Does the alarm sound during power up?	Both display lights and an audible alarm should sound after power switch is turned on.
7	Replace 9V battery	Unplug machine, ensure current battery has correct polarity, and replace with a new battery if necessary.
8	Does the pump create a sufficient flow?	Flow is identifiable by the floating ball in the flow meter and by bubbles in the humidifier. To check if there is sufficient flow, remove humidifier and place finger at air outlet. When outlet is covered, the ball should fall down. When outlet is unobstructed the ball should float. When flow rate is set to highest setting (5 liters per minute) the ball should be at its highest level in flow meter.
9	Is the compressor functioning correctly?	Check voltage into leads of compressor, and then check flow rate at exit. If the compressor is not producing max flow rate at sufficient voltage (120V), the compressor is not functioning correctly. (Proceed to 13)
10	Clean inlet filter	Foam inlet filter should be cleaned weekly by washing with soap and water. Ensure filter is dry before

		replacing. See BTA skills on Filters (Plumbing)
11	Ensure that correct sized tubing is used and that connections are tight.	Check that the diameter of all O2-carrying tubing matches the machine inlet diameters. Ensure that all connections are tight. Also ensure that the tubing being used cannot diffuse O2. See BTA skills on Connections (Plumbing)
12	Look and listen for leaks in tubing	While air is flowing, listen for sound of escaping O2 and run hand over tubing to feel stream. If holes exist, tube should be replaced, not patched. See BTA skills on Leaking (Plumbing)
13	Clean all O2-carrying tubing	Dirt or water droplets could block the airway. See BTA skills on Blockages (Plumbing)
14	Clean compressor	See BTA skills on cleaning/lubricating (Motors)
15	Defective Compressor: Consider replacing	If compressor is clean, and is still not producing correct flow rate it is probably faulty and needs to be replaced.
16	Is the O2 Concentration over 60%?	See BTA skills for Oxygen Concentration Measurement (Mechanical-Calibration)
17	Has the zeolite canister expired?	Zeolite canisters should be replaced every 25,000 hours. The granules start black and appear gray when they are no longer efficient for use.
18	Replace if possible	If available, replace expired zeolite canisters with new granules.
19	Check tubing for kinks or blockages	Ensure that all O2-carrying tubes are elongated and not twisted or bent. See BTA skills on Blockages (Plumbing)
20	Check for restrictions in muffler and resonator.	A restricted muffler would prevent waste gas from exiting the system freely. Disconnect the muffler and operate unit to see if this fixes concentration.
21	Defective part: Consider replacing PC board.	PC board could have tears or kinks that may be irrecoverable.
22	Does the machine run without overheating and making excessive noise?	The unit should not feel hot to the touch or make loud excessive noises.
23	Ensure exhaust vent is at least 3” from wall.	The exhaust pipe should be far enough away from external obstructions that the waste gas can flow freely into the atmosphere.

24	Open unit and check foam	Foam inside the machine degrades over time and can fall into compressor. Clean and replace foam if possible. See BTA skills on Cleaning (Mechanical)
25	Check muffler for damage	Ensure all tubing to muffler is intact and connected. Check muffler for cracks, damages. Consider replacing if broken.
26	Check that fan is connected and installed correctly	Ensure leads to fan are connected correctly. Check that fan is installed in correct direction of airflow.
27	Device is working properly.	With sufficient air flow and O2 concentration, the machine can be returned to service.