



Secondary C02 Commissioning Check List V.5

Unit Model:	Unit Serial:	Unit Voltage:
Date(s) of Commissioning:	NAP Technician(s):	Refrigerant Type:

Important Notes:

1. The refrigerant type must come from the contractor or compressor racks. Do not reference the nameplate or drawings.
2. Any specific setpoint/parameter change(s), that deviates from RAE's standard, must be detailed in the "Check List Notes" at the end of this check list.
3. *If there are any superheat setpoint/refrigerant changes in the Carel, you must verify that it changed in the Emerson Controller.
4. Any contractor misses or specific changes must be detailed in the "Check List Notes" at the end of this check list.
5. A copy of this check sheet is to be sent to Rocklin Pankhurst and Daniel Kinzer. All RAE nonconformances must be detailed in the Trip Report.

<u>Binder Page</u> <u>Location</u>	<u>Sequence</u>	<u>Check Points</u>	<u>Response</u>
34-45	1.	Verify the operation/installation of the Generac Battery Backups. <i>Reference the Generac Installation and Commissioning Procedure.</i>	Yes/No
45-48	2.	Register the Generac Battery Backups.	Yes/No
	3.	Verify refrigerant receiver level is acceptable. <i>Get with contractor or technician on this. Receiver will be located inside the rack house.</i>	Yes/No Receiver %:
	4.	Report and document any damage to equipment.	Good/Damaged
	5.	Verify there are no leaks on the equipment.	Yes/No
	6.	The correct stickie drawings are inside the door of the Secondary C02. The model number on the drawings, nameplate, voltage, and commissioning form should match. ☐	Yes/No
28	7.	VFD parameters are setup correctly.	Yes/No
29	8.	*Emerson controller parameters are setup correctly.	Yes/No
	9.	Are all ball valves open? <u>Does not include bypass valve.</u>	Yes/No
	10.	Verify all transducer valves are open. Packing nuts should be tight.	Yes/No
	11.	Verify suction transducers are mounted on the correct circuit. <i>You should be able to unplug the harness from the transducer. An alarm will initiate on the Emerson Controller.</i>	Yes/No
	12.	Verify EEV's are mounted on the correct circuit. <i>You should be able to unplug the harness from the EEV. An alarm will initiate on the Emerson Controller.</i>	Yes/No
32	13.	Verify operation of Level Switches. <i>All three switches should be blinking correctly.</i>	Yes/No
	14.	Verify the operation of the emergency condensing unit (ECU). <i>Go to evaporator page, scroll up/down until you see "Emergency ECU", change "Manual ECU EN" to a "Y". After you run it, change it back to "N".</i>	Yes/No
	15.	Verify tank level. <i>Your tank level should be 35-50% full. Get with contractor if C02 level is too high/low.</i>	Tank Level:
	16.	Verify drier cores have been changed out. <i>This information will come from the contractor.</i>	Yes/No



	17.	Verify operation, rotation, and amps of both pumps. <i>After you verified one pump is running correctly, shut off that pump circuit breaker. The Carel will switch to the next pump. After verifying operation, turn on the pump circuit breaker. <u>Check pump amps on the LINE side of the VFD, not the LOAD.</u></i>	Yes/No Pump-1 Amps L1 L2 L3 Pump-2 Amps L1 L2 L3
	18.	Upload new program in Carel. <i>You may verify adjustable parameters/setpoints before uploading a new one.</i>	Yes/No
	19.	On the Carel, set and record the following. <i>Go to Bullseye, Unit Config, and Unit Setup.</i> 1. Store Number. 2. Rack Assign (comes from contractor). 3. Circuits (should remain at 4). 4. *Refrigerant (comes from contractor).	Yes/No Store Number: Rack Assign: Circuits: Refrigerant:
8	20.	Set the time and date on the Carel. <i>Go to bullseye, settings, date/time.</i>	Yes/No
	21.	Find the IP address. <i>Hold down alarm & enter, go to settings, TCP/IPv4 settings, change enable to "DHCP/AutoIP", update unit config to confirm. Walmart will assign a new IP address that starts with "55". It will automatically update once the controller is whitelisted.</i>	Yes/No Carel IP Address:
	22.	Change the EEV Staging Sequence to 1, 3, 2, 4. <i>Go to Bullseye, Evaporator, and scroll up/down till you find the staging sequence.</i>	Yes/No
30	23.	**Set and record the Load. Find and locate the MBH on the Case Load PDF and input in Care <u>after</u> all cases have been open. Reference "Setting VFD Speed and Bypass Valve" document.	Yes/No MBH:
30	24.	**After setting the Load, open the bypass valve per the Carel. Reference "Setting VFD Speed and Bypass Valve" document.	Yes/No
	25.	**If you have low DP at design (< 8psi), there is no system head. You need to increase your VFD speed to induce more DP. Bump the VFD speed a little at a time until your DP is running (>15psi). Increase your speed enough, so it does not interfere with your thermosiphon. Go to Bullseye, Pumps, and Manual VFD Speed.	Manual VFD Speed:
	26.	Record the final bypass valve position.	Bypass Position:
	27.	Verify the supply/tank temperature will satisfy cases. <i>Reference the caseloads for air temp.</i>	Yes/No Supply Temp:
31	28.	Verify temperature approach (°F) is acceptable. <i>Difference between your saturated suction temp (SST) and vessel temp.</i>	Yes/No Vessel Temp: SST:
6	29.	Verify there are no alarms/faults on the Carel Controller. <i>Go to the alarm page to verify. If there's an alarm you cannot get to go away, you must verify it's okay to leave as-is before leaving the jobsite.</i>	Yes/No
	30.	Record the following setpoints. <i>Go to Bullseye, Evaporator, and scroll up/down till you find the setpoints.</i>	*SH Setpt: StgUpThresh: StgDownThresh: SupplyTemp Stpt:
8	31.	Once you're happy with everything on the Carel, finalize Commissioning on Carel Controller. <i>Reference "Carel User Guide" and find "Finalize Commissioning". Follow Steps 1-7.</i>	Yes/No
9-18	32.	Verify operation and commissioning of the Carel Boss Controller. <i>Note: you only need to do this once per store. <u>Note the IP Address that starts with "55".</u></i>	Yes/No/Not Applicable Boss IP Address:



Check List Notes

- 1.
- 2.
- 3.
- 4.
- 5.