

OPERATION MANUAL TX200

Multi-Refrigerant

RECOVER & SELF EVACUATE

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BEFORE USING THE TX200

Check for any shipping damage. Place a claim with carrier if damage is discovered.

DO NOT USE A DAMAGED UNIT.

Complete and return the Warranty Card within 90 days to activate technical support and warranty coverage.

Warranty claims can not be honored unless this warranty card is on file within 90 days of purchase.

The TX200 should not be operated or serviced by any person who has not read all the contents of this manual. Failure to read and comply with these instructions or any one of the limitations noted herein can result in serious injury and/or property damage.

These general instructions deal with the normal operation and maintenance situations encountered with the TX200. The instructions should not be interpreted to anticipate every possible contingency.

It is the responsibility of the technician to operate the TX200 in accordance with all specifications and laws which may apply.

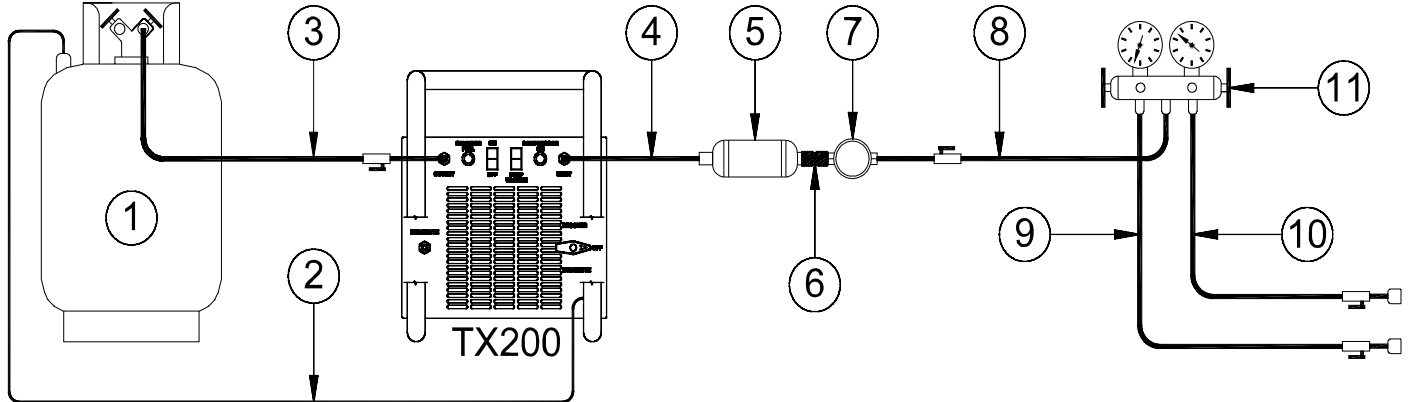
A few minutes spent reading these instructions can make an operator aware of dangerous practices to avoid and precautions to take for his own safety and the safety of others.

A regular schedule of inspection of the TX200 should be established and records maintained with special attention given to valves and hoses.

SAFETY PRECAUTIONS

- ! The TX200 is designed to recover most common refrigerants, including, but not limited to R12, R22, R134a and R502. Do not use the TX200 to recover high pressure refrigerants which have working pressures above 400 PSIG (27 Bar) at 120° F (49° C).
- ! Wear safety glasses and protective gloves. Refrigerant has a very low boiling point and can cause frostbite.
- ! Follow the TX200 operating procedures sequentially to avoid prematurely disconnecting hoses or opening valves which may release refrigerant to the atmosphere.
- ! Do not expose the TX200 to moisture or operate in wet areas.
- ! Use the TX200 in locations with mechanical ventilation that provides at least four air changes per hour.
- ! Hoses used with the TX200 must have shutoff devices within 12 inches (30 cm) of the connection point to the cooling system being serviced to minimize the release of refrigerant when being disconnected.
- ! Disconnect power before performing any maintenance or service on the TX200.
- ! Avoid using an extension cord with the TX200. If necessary, use a good condition, 3-wire grounded, 14 AWG (2.5 mm²) extension cord of the shortest possible length.
- ! Connect the TX200 to a properly protected, grounded receptacle. Do not over load the circuit.

RECOVER



- | | | | |
|------------------|----------------------------|------------------|----------------------------|
| 1. Various Sizes | Cylinder with OFP Switch | 7. 026-80007-00 | Sight Glass |
| 2. 025-80115-00 | OFP Cord | 8. 360-80223-00 | Yellow Hose - 8 ft (2.4 m) |
| 3. 360-80223-00 | Yellow Hose - 8 ft (2.4 m) | 9. 360-80197-00 | Blue Hose - 6 ft (1.8 m) |
| 4. 360-80226-02 | Yellow Hose - 2 ft (0.6 m) | 10. 360-80196-00 | Red Hose - 6 ft (1.8 m) |
| 5. 026-80089-00 | Filter | 11. 026-80200-00 | Gauge Manifold |
| 6. 023-80004-01 | Connector 1/4 FFL-1/4 FFL | | |

Close all valves and turn TX200 valve to OFF.

Connect the TX200, filter, sight glass and gauge manifold as shown.

Connect red and blue hoses from gauge manifold to the appropriate ports on the cooling system to be recovered.

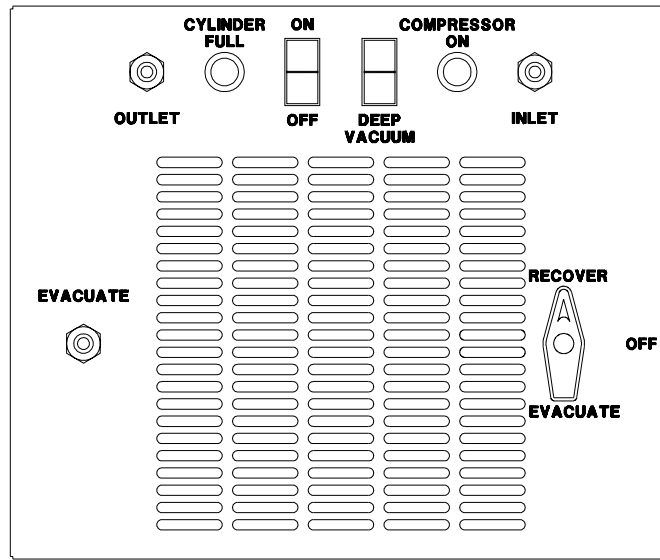
Connect Hose 3 to the liquid port of Cylinder 1. Do not rely on the colors of the valve knobs to indicate liquid or vapor. Check the embossed printing on the knobs.

Cylinder 1 must have an Overfill Protection (OFP) level switch. Disconnect TX200 from power source while connecting the OFP cord to the level switch. Do not force the plug into the OFP level switch. Look at the pins in the plug and align them with sockets in the OFP level switch.

Connect TX200 Power Cord to a properly protected, grounded receptacle. Avoid using an extension cord with the TX200. If necessary, use a good condition, 3-wire grounded, 14 AWG (2.5 mm²) extension cord of the shortest possible length.

The TX200 is now ready to recover refrigerant.

RECOVER (Continued)



Open all hose valves and the liquid valve on the cylinder.

Turn the TX200 valve to RECOVER.

Press the top of the ON/OFF Switch. The switch will illuminate to indicate that power is on.

The COMPRESSOR ON Light will illuminate and the TX200 will begin recovering refrigerant.

The CYLINDER FULL Light will illuminate if the cylinder fills to capacity.

The TX200 will recover refrigerant until a vacuum is indicated on the low side gauge.

The compressor will turn off and the COMPRESSOR-ON Light will turn off.

DO NOT TURN THE TX200 OFF OR DISCONNECT HOSES.

A small quantity of liquid refrigerant will probably remain in the cooling system. This liquid will vaporize and increase the pressure in the cooling system as components again warm to ambient temperature.

The TX200 will again start to recover refrigerant if pressure increases to a preset level. The compressor will turn on and the COMPRESSOR-ON Light will illuminate.

Allow this sequence to repeat until the COMPRESSOR-ON light stays off for at least two minutes.

The DEEP VACUUM Switch can be pressed to draw a deeper vacuum if desired.

Push bottom of the ON/OFF Switch to turn off the TX200.

Turn the TX200 valve to OFF.

Close all hose and cylinder valves and disconnect the TX200 from the cooling system.

PURGE AIR FROM THE CYLINDER

Refrigerant recovered into the cylinder may also contain Air. This Air will increase the pressure in the cylinder and slow recovery. Large quantities of Air may even cause the TX200 to stop recovering due to a high-pressure shutdown.

Check the pressure in the cylinder to determine the need to purge Air as follows:

Connect the High Side Gauge (on Gauge Manifold) to the Vapor Valve of the cylinder. Determine the ambient temperature and compare the gauge pressure to the pressure shown in the **Air Purge Charts** on the next page.

Charts for Bars with Centigrade Degrees and PSIG with Fahrenheit Degrees are provided.

If the cylinder pressure is greater, slowly open the Gauge Manifold Valve and allow Air to slowly escape until the pressure equals that shown in the chart.

This purge process can be performed anytime during a recovery and while the cylinder is still above ambient temperature after a recovery procedure.

After the cylinder has cooled to ambient temperature, the Air can be purged to the pressure in a Standard Refrigerant Pressure/Temperature Chart.

NOTE:

A High-Pressure-Shutdown can be detected by noting that the Compressor-On Light goes OFF and there is still positive pressure at the Inlet of the TX200.

The Condenser Fan will continue to run and the TX200 Compressor may cycle Off and On as the outlet pressure rises and falls.

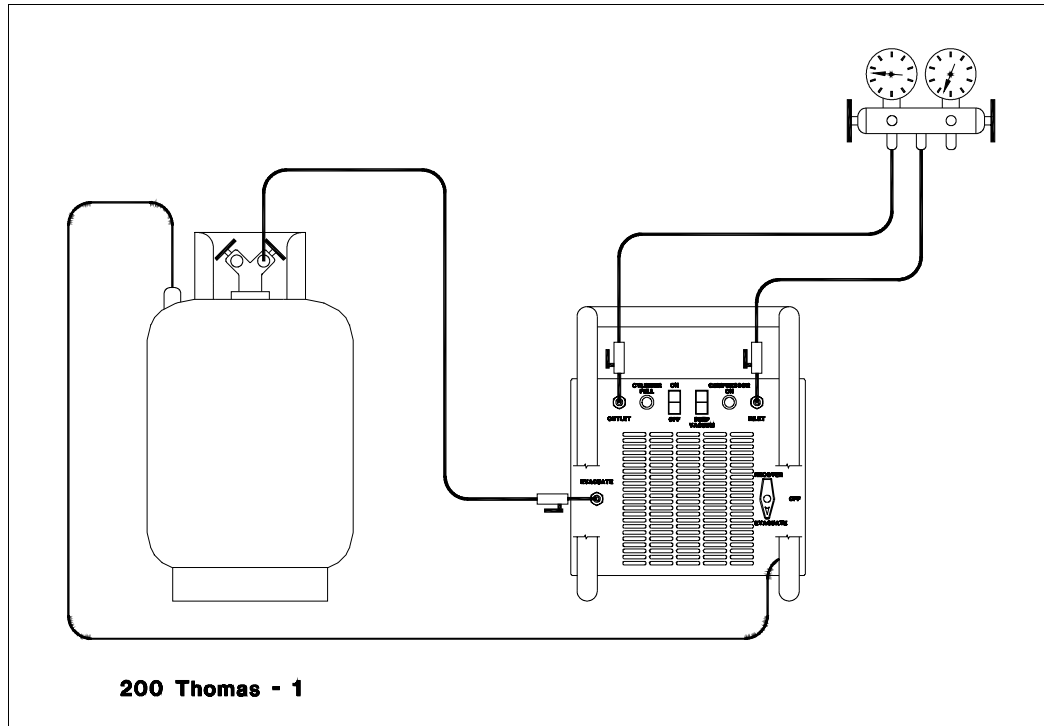
PURGE CHARTS

AIR PURGE CHART (PSIG)				
°F	R12	R22	R502	R134a
30	42	76	89	40
32	44	79	92	42
34	46	82	96	44
36	48	85	99	46
38	50	88	103	49
40	52	93	107	51
42	54	97	111	54
44	57	100	114	56
46	59	103	118	59
48	61	107	123	61
50	64	111	127	64
52	66	115	131	67
54	69	120	135	70
56	72	123	140	72
58	74	127	145	76
60	77	132	149	78
62	80	137	154	82
64	83	143	158	85
66	85	145	164	88
68	88	150	169	92
70	92	156	174	95
72	95	160	179	97
74	98	165	185	104
76	102	170	190	107
78	105	177	196	110
80	108	182	201	114
82	112	187	207	118
84	115	193	213	123
86	118	200	219	127
88	123	205	226	130
90	127	210	232	135
92	130	217	238	140
94	135	223	245	145
96	138	228	251	148
98	143	235	258	153
100	147	243	265	157
102	150	248	272	163
104	155	255	279	167
106	160	265	286	173
108	165	271	294	180
110	168	278	301	185
112	173	286	309	190
114	178	293	317	195
116	183	301	325	200
118	188	309	333	207
120	193	317	341	213

AIR PURGE CHART (BARS)				
°C	R12	R22	R502	R134a
0	3.03	5.45	6.34	2.90
1	3.15	5.63	6.59	3.01
2	3.28	5.79	6.76	3.10
3	3.38	6.00	6.97	3.28
4	3.52	6.34	7.24	3.45
5	3.66	6.55	7.52	3.66
6	3.79	6.76	7.76	3.81
7	3.93	6.97	8.00	3.97
8	4.07	7.18	8.22	4.12
9	4.24	7.40	8.43	4.28
10	4.41	7.66	8.76	4.41
11	4.57	7.91	9.02	4.57
12	4.73	8.17	9.28	4.73
13	4.89	8.43	9.54	4.89
14	5.05	8.69	9.80	5.05
15	5.22	8.95	10.06	5.24
16	5.38	9.21	10.33	5.42
17	5.54	9.47	10.60	5.60
18	5.70	9.73	10.88	5.79
19	5.87	9.99	11.17	5.97
20	6.07	10.34	11.66	6.34
21	6.28	10.64	11.95	6.59
22	6.48	10.94	12.25	6.83
23	6.69	11.24	12.55	7.07
24	6.90	11.59	12.90	7.31
25	7.11	11.93	13.24	7.56
26	7.31	12.28	13.59	7.80
27	7.52	12.63	13.94	8.04
28	7.73	12.98	14.29	8.28
29	7.94	13.32	14.63	8.52
30	8.14	13.79	15.10	8.76
31	8.35	14.12	15.48	9.04
32	8.55	14.44	15.86	9.32
33	8.80	14.76	16.27	9.59
34	9.05	15.14	16.67	9.87
35	9.30	15.52	17.08	10.15
36	9.55	15.89	17.49	10.43
37	9.79	16.27	17.90	10.71
38	10.04	16.65	18.31	10.99
39	10.29	17.03	18.71	11.26
40	10.62	17.59	19.24	11.52
41	10.83	18.03	19.65	11.81
42	11.08	18.47	20.06	12.09
43	11.32	18.92	20.47	12.42
44	11.60	19.38	20.91	12.77
45	11.88	19.83	21.38	13.12
46	12.16	20.29	21.85	13.47
47	12.44	20.75	22.32	13.82
48	12.73	21.20	22.80	14.16
49	13.01	21.66	23.27	14.51
50	13.29	22.12	23.74	14.86

EVACUATE TX200

The TX200 is designed to recover different refrigerants. A small amount of refrigerant always remains in the internal components of the TX200 after each recovery procedure. This residual refrigerant needs to be evacuated from the TX200 prior to recovering a different refrigerant. The following procedure will remove all residual refrigerant.



Connect TX200 as shown.

Turn TX200 Valve to EVACUATE.

Open low side valve on Gauge Manifold.

Press top of ON/OFF Switch.

Open all three hose valves.

Open liquid valve on Cylinder.

All refrigerant will be evacuated from the TX200 and stored in the Cylinder. The COMPRESSOR ON Light will go off.

Press and hold the DEEP VACUUM Switch for 30 seconds.

Press bottom of the ON/OFF Switch.

Close liquid valve on Cylinder.

Close all hose valves.

Close low side valve on Gauge Manifold.

Turn TX200 Valve to OFF.

CONDENSER MAINTENANCE

Clean the Condenser to maintain high efficiency performance of the TX200. Disconnect power and remove the Cover. Blow compressed air through the cooling fins of the Condenser to remove any debris.

Replace the Cover before applying power to the TX200.

FILTER REPLACEMENT

Replace the Filter according to the following:

After every Job Involving a Compressor Burn-out

After every 20 Jobs Involving Normal Service

PROBLEMS & SOLUTIONS

On rare occasion the TX200 may seem to be performing differently or not at all. Experience has shown that varying operating conditions can affect the performance characteristics of the TX200. The temperature of the cooling system will affect how the TX200 performs.

Following are typical problems with explanations of the possible cause and solution.

PROBLEM: My TX200 was recovering refrigerant and the Compressor On light went OFF which indicates the cooling system should be in a vacuum. However, the Manifold Gauge still shows a pressure.

SOLUTION Determine if the Condenser Fan is still running. The fan can be heard and air flow through the TX200 can be felt. If the fan **is running**, the high pressure switch has shut the TX200 off due to an over-pressure condition.

Turn the Power Switch OFF and then ON. The condition may correct itself.

This over-pressure will typically be due to excessive pressure in the cylinder caused by Air. Check the cylinder pressure and purge air as described previously.

PROBLEM: My TX200 worked fine all last Summer. I got it out today for the first service job this Spring and it is very slow in evacuating the cooling system.

SOLUTION: Today's Spring temperature may be much lower than the average temperatures during the summer months.

The refrigerant in the cooling system will not be under as high a pressure at lower temperatures and the TX200 will take longer to draw a vacuum. More cycles may be required to completely recover the refrigerant.

PROBLEM: I can not get the TX200 to draw a vacuum.

SOLUTION: Check Manifold Gauge and Hoses for restrictions or leaks.

