

Installation and Operation Instructions for

PENNANT[®]
includes **LOW TEMP PENNANT**[®]
with **Laars Linc**[®]

Hydronic Boiler
Model PNCH

Water Heater
Model PNCV

Sizes 500-2000

U.S. Reg. 2,765,423

FOR YOUR SAFETY: This product must be installed and serviced by a professional service technician, qualified in hot water boiler installation and maintenance. Improper installation and/or operation could create carbon monoxide gas in flue gases which could cause serious injury, property damage, or death. Improper installation and/or operation will void the warranty. For indoor installations, as an additional measure of safety, Laars strongly recommends installation of suitable Carbon Monoxide detectors in the vicinity of this appliance and in any adjacent occupied spaces.

⚠ WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a nearby phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency, or gas supplier.

⚠ AVERTISSEMENT

Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones dans le bâtiment où vous vous trouvez.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

Item	Description	Size	Size	Size	Size	Size	Size	Size	Size
		500	750	1000	1250	1500	1750	2000	
Internal Components									
<i>See Figure 49 on page 106</i>									
17	Base Assembly	5C1020	7C1020	10C1020	12C1020	15C1020	17C1020	20C1020	
18	Chamber, Front	5C2003	7C2003	10C2003	12C2003	15C2003	17C2003	20C2003	
18A	Chamber, Left Side, Front	5C2015	5C2015	5C2015	5C2015	5C2015	5C2015	5C2015	
18B	Chamber, Right Side, Front	5C2016	5C2016	5C2016	5C2016	5C2016	5C2016	5C2016	
19	Chamber, Rear	5C2006	7C2006	10C2006	12C2006	15C2006	17C2006	20C2006	
20	Chamber Assembly, Left, Bottom	5C2602	5C2602	5C2602	5C2602	5C2602	5C2602	5C2602	
21	Chamber Assembly, Right, Bottom	5C2200	5C2200	5C2200	5C2200	5C2200	5C2200	5C2200	
22	Chamber, Top	5C2001	7C2001	10C2001	12C2001	15C2001	17C2001	20C2001	
23	Chamber, Side, Top	5C2002	5C2002	5C2002	5C2002	5C2002	5C2002	5C2002	
24	Exhaust Plenum	5C2007	10C2007	10C2007	20C2007	20C2007	20C2007	20C2007	
25	Bracket, Chamber, Front	5C2009	7C2009	10C2009					
	Bracket, Chamber, Front Left				12C2011	15C2011	17C2011	20C2011	
26	Bracket, Chamber, Front Right				12C2009	15C2009	17C2009	20C2009	
27	Divider, Chamber, Front						15C2010	20C2002	
27A	Divider, Upper, Chamber, Front				15C2005	15C2005			
27B	Divider, Lower, Chamber, Front				15C2002	15C2002			
28	Cover, Chamber	5C2004	7C2004						
	Cover, Chamber, Front Left			10C2004	12C2010	15C2004	17C2010	20C2010	
29	Door, Chamber Access	5C2005	5C2005	5C2005	5C2005	5C2005	5C2005	5C2005	
		(1)	(1)	(1)	(2)	(2)	(2)	(2)	
30	Cover, Chamber, Front Right			10C2010	12C2008	15C2004	17C2008	20C2008	
32	Ignitor, Hot Surface, with Gasket	2400-286	2400-286	2400-286	2400-286	2400-286	2400-286	2400-286	
		(1)	(1)	(2)	(2)	(2)	(2)	(2)	
33	Tile, Side (Right and Left)	T2015600	T2015600	T2015600	T2015600	T2015600	T2015600	T2015600	
		(2)	(2)	(2)	(2)	(2)	(2)	(2)	
34	Tile, Front	T2017300							
		(1)							
35	Tile, Front, Left Side		T2016200	T2016800	T2016800	T2016800	T2016800	T2016800	
			(1)	(1)	(1)	(1)	(1)	(1)	
35A	Tile, Front, Right Side		T2016300	T2017100	T2017900	T2017100	T2017900	T2017100	
			(1)	(1)	(1)	(1)	(1)	(1)	
35B	Tile, Front, Center				T2016900	T2016900	T2016900	T2016900	

Item	Description	Size	Size	Size	Size	Size	Size	Size	Size
36	Tile, Rear	500	750	1000	1250	1500	1750	2000	
		T2015700 (1)			(1)	(1)	(2)	(2)	
37	Tile, Rear, Left Side		T2017500	T2016600	T2016600	T2016600	T2016600	T2016600	T2016600
			(1)	(1)	(1)	(1)	(1)	(1)	(1)
37A	Tile, Rear, Right Side		T2016600	T2016600	T2018100	T2016600	T2018100	T2016600	T2016600
			(1)	(1)	(1)	(1)	(1)	(1)	(1)
37B	Tile, Rear, Center		T2017200	T2017200	T2017200	T2017200	T2017200	T2017200	T2017200
			(1)	(1)	(1)	(1)	(2)	(2)	
38	Tile, Bottom	T2015500							
		(1)							
39	Tile, Bottom, Left Side		T2017400	T2017400	T2017400	T2017400	T2017400	T2017400	T2017400
			(1)	(1)	(1)	(1)	(1)	(1)	(1)
39A	Tile, Bottom, Right Side		T2016500	T2017400	T2018000	T2017400	T2018000	T2017400	T2017400
			(1)	(1)	(1)	(1)	(1)	(1)	(1)
39B	Tile, Bottom, Center		T2015900	T2015900	T2015900	T2015900	T2015900	T2015900	T2015900
			(1)	(1)	(1)	(2)	(2)	(2)	

Heat Exchanger Components
See Figure 50 on page 107

41	Heat Exchanger, Copper	R2014901	R2014902	R2014903	R2026701	R2014904	R2026702	R2014905
		R2027801	R2027802	R2027803	R2027804	R2027805	R2027806	R2027807
42	Water Barrier, Inlet/outlet	20305101	20305101	20305101	20305101	20305101	20305101	20305101
43	Water Barrier, Inlet	10338300	10338300	10338300	10338300	10338300	10338300	10338300
44	Gasket, Header	S0095100	S0095100	S0095100	S0095100	S0095100	S0095100	S0095100
		(2)	(2)	(2)	(2)	(2)	(2)	(2)
45	Cover, In/Out, Glass-Lined Cast Iron	10364504	10364504	10364504	10364504	10364504	10364504	10364504
		10364501	10364501	10364501	10364501	10364501	10364501	10364501
46	Well, Temperature Control	RE2058300	RE2058300	RE2058300	RE2058300	RE2058300	RE2058300	RE2058300
47	Gasket, Flange	S0063700	S0063700	S0063700	S0063700	S0063700	S0063700	S0063700
		(2)	(2)	(2)	(2)	(2)	(2)	(2)
48	Flange, Cast Iron	10391302	10391302	10391302	10391302	10391302	10391302	10391302
		S2115601	S2115601	S2115601	S2115601	S2115601	S2115601	S2115601
49	Relief Valve, Boiler, 75 PSI	RA2138800	RA2138801	RA2138801	RA2138801	RA2138802	RA2138802	RA2138802

Item	Description	Model 500	Model 750	Model 1000	Model 1250	Model 1500	Model 1750	Model 2000
72	Terminal Bus (12 Position)	E2342600	E2342600	E2342600	E2342600	E2342600	E2342600	E2342600
73	Transformer	E2310400	E2310400	E2310400	E2318800 (x2)	E2318800 (x2)	E2318800 (x2)	E2318800 (x2)
74	Circuit Breaker	E2106200	E2106200	E2106200	E2318800	E2318800	E2318900	E2318900
75	Switch, Rocker (main power) <i>not shown</i>	E2343300	E2343300	E2343300	E2343300	E2343300	E2343300	E2343300
Gas Train Components								
See Figure 49 on page 106								
76	Manifold, Gas Supply	5C6700	7C6700	10C6700	12C6700	15C6700	17C6700	20C6700
77	Valve, Ball	V2003100	V2003100	V2003200	V2003300	V2003300	V2003300	V2003300
Burner Trays								
Note: Burner Manifold Assemblies contain item numbers 78 through 81.								
	Burner Manifold Assy, 3 Burners, Right, Nat	5C6600	5C6600		5C6600	5C6600	5C6600	5C6600
		(1)	(1)		(2)	(1)	(1)	(1)
	Burner Manifold Assy, 3 Burners, Left, Nat	5C6500	5C6500		5C6500	5C6500	5C6500	5C6500
		(1)	(2)		(3)	(1)	(2)	(2)
	Burner Manifold Assy, 4 Burners, Right, Nat			10C6600		10C6600	10C6600	10C6600
				(1)		(1)	(1)	(2)
	Burner Manifold Assy, 4 Burners, Left, Nat			10C6500		10C6500	10C6500	10C6500
				(2)		(2)	(2)	(4)
	Burner Manifold Assy, 3 Burners, Right, LP	5C6620	5C6620		5C6620	5C6620	5C6600	5C6600
		(1)	(1)		(2)	(1)	(1)	(1)
	Burner Manifold Assy, 3 Burners, Left, LP	5C6520	5C6520		5C6520	5C6520	5C6500	5C6500
		(1)	(1)		(3)	(1)	(2)	(2)
	Burner Manifold Assy, 4 Burners, Right, LP			10C6620		10C6620	10C6620	10C6620
				(1)		(1)	(1)	(2)
	Burner Manifold Assy, 4 Burners, Left, LP			10C6520		10C6520	10C6520	10C6520
				(2)		(2)	(2)	(4)
78	Valve, Gas, Combination	V2017600	V2017600	V2017600	V2017600	V2017600	V2017600	V2017600
		(2)	(3)	(3)	(5)	(5)	(6)	(6)
79	Valve, Manual Shutoff	V2000200	V2000200	V2000200	V2000200	V2000200	V2000200	V2000200
		(2)	(3)	(3)	(5)	(5)	(6)	(6)
80	Orifice, Gas, Natural	L2013000	L2013000	L2013000	L2013000	L2013000	L2013000	L2013000
		(6)	(9)	(12)	(15)	(18)	(21)	(24)

11.C Parts Illustrations

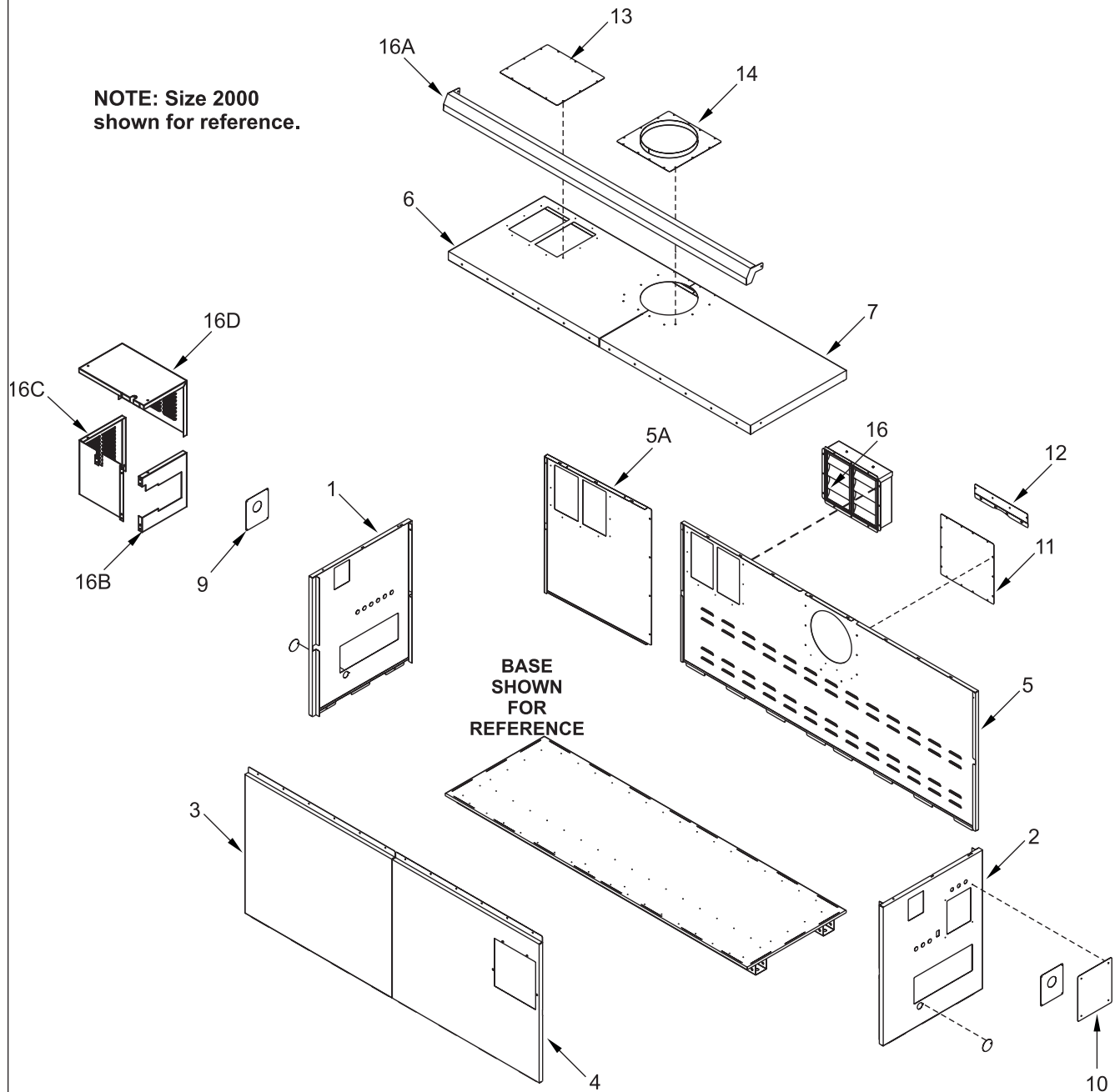


Figure 48. Sheet Metal Components.

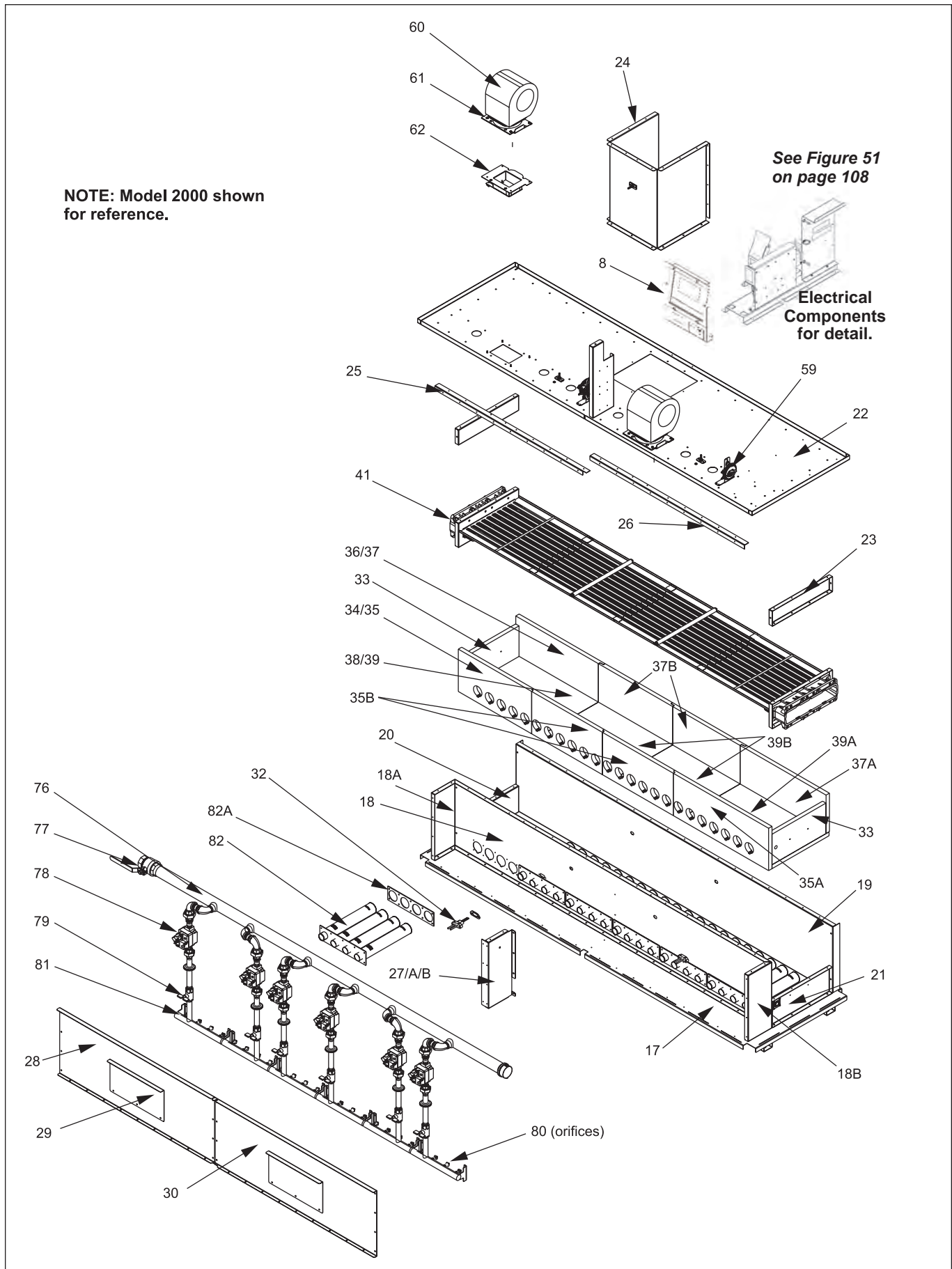


Figure 49. Internal Components.

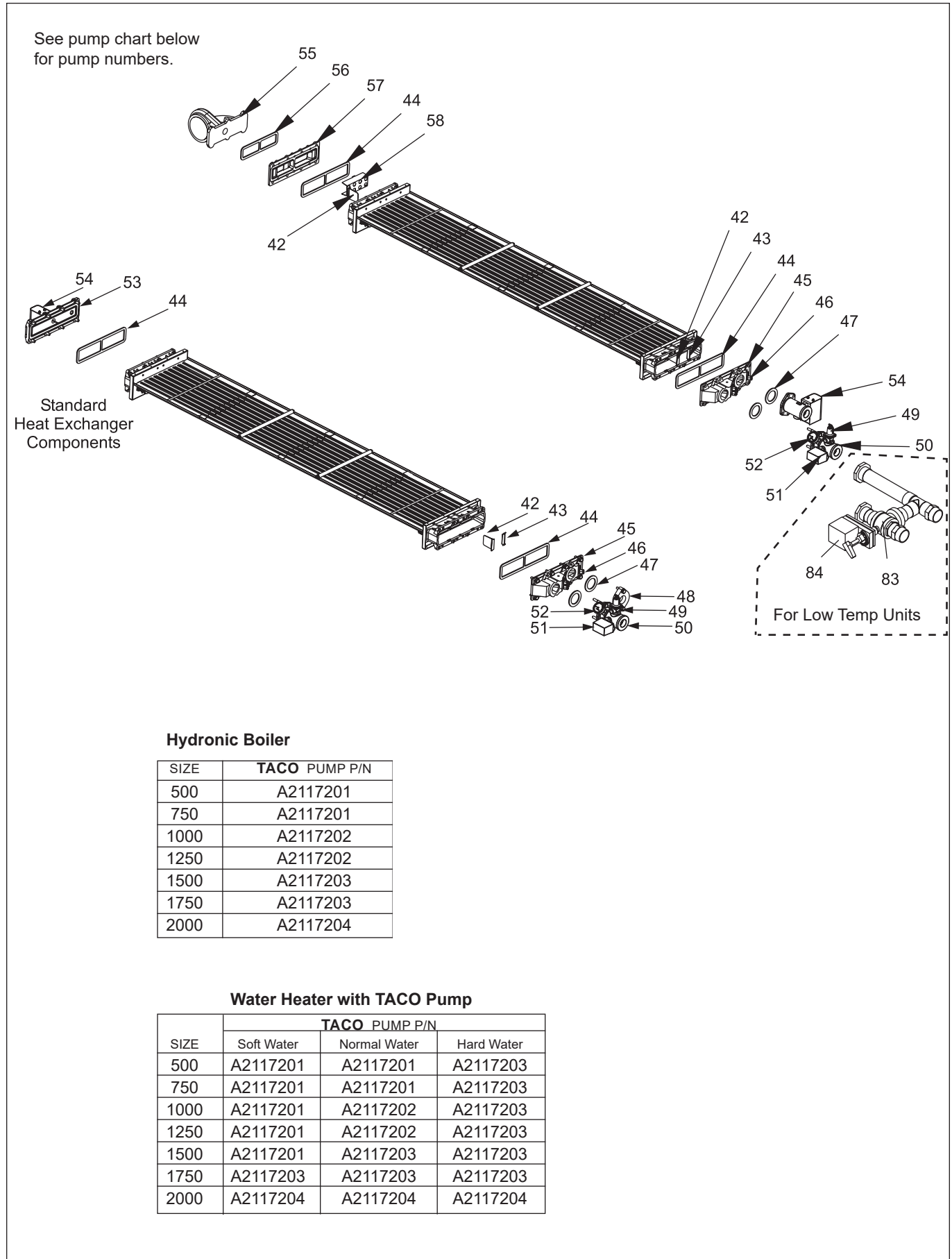
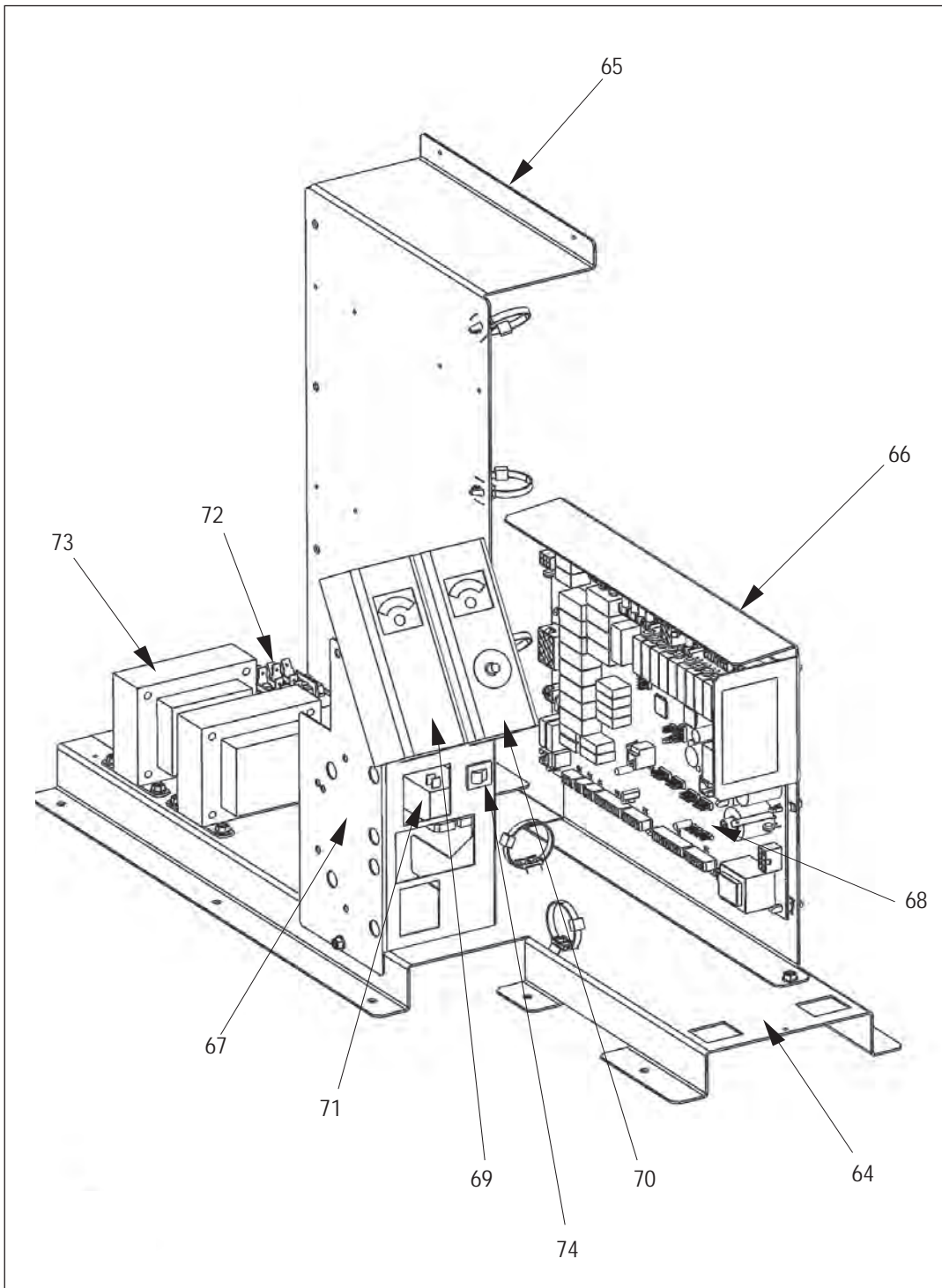


Figure 50. Heat Exchanger Components.



All Manuals (Install & Operate, Start Up, and Service Manuals) can be downloaded at



www.laars.com

For LAARS Product and Service VIDEOS



<https://www.youtube.com/user/LaarsHeating>

Figure 51. Electronic Components.

Laars Heating Systems Company reserves the right to change specifications, components, features, or to discontinue products without notice.



H2379700C