

Accessory

Installation Instructions

Tile-Lined Masonry Chimney Kit

General Information

Description

Tile-lined Masonry Kit Number 904202 permits the venting of an 80% induced draft furnace to be vented into a properly sized masonry lined chimney, without installing a metal liner. The kit can be used on model numbers *L1RA and *GC1RA Upflow Category I Furnaces.

This kit is only to be used on upflow installations only. The kit is not intended to be used with horizontally installed furnaces, or on furnaces where the lateral vent length exceeds the length specified in Table 2.

Safety Statement

The installer should pay particular attention to the words: NOTE, CAUTION and WARNING. NOTES are intended to clarify or make the installation easier. CAUTIONS are given to prevent equipment damage. WARNINGS are given to alert the installer that personal injury and/or equipment or property damage may occur if installation procedures are not handled properly.

This furnace should be installed in accordance with all national and local building and safety codes and requirements, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z233.1 - (latest edition) or in Canada, The National Canadian Installation Code CAN/CGA B149.1 or B149.2- (latest edition), and other applicable codes.

This furnace shall not be connected to a chimney flue serving a separate appliance designed to burn solid fuel.

This kit is permitted to be used in any building in which the space surrounding the furnace is not depressurized by more than 0.02 in w.c. (5 Pa) below outdoor pressure by equipment such as exhaust fans or clothes dryers.



CAUTION:

For your safety, read and understand the instructions before installing the kit.



WARNING:

Improper installation may create a condition where the operation of the product could cause personal injury or property damage.

Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for assistance or additional information. Consult a qualified installer, service agency or the gas supplier.



CAUTION:

This product must be installed in strict compliance with the enclosed installation instructions and any applicable local, state, and national codes including but not limited to building, electrical and mechanical codes.

Minimum clearances to combustibles for the furnace that the kit is applied shall be maintained. This kit shall not be used on any model other than the models listed in Table 1. The room temperature surrounding the furnaces and vent connectors shall be 60°F (42°C) or warmer.

Notes for Vent Table

1. Seal any unused openings in the venting system. Inspect the venting system for proper size and horizontal pitch, as required in the National Fuel Gas Code, ANSI Z233.1 or CaAN/CGA B149 Canadian Installation Codes, and these instructions. Determine that there is not blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
2. The vent tables are designed for two 90° elbows or equivalent. If additional elbows are used, five feet should be subtracted for each elbow from the above values.

Tile - Lined Masonry Chimney Kit Model Listing for Instructions

APPROVED FURNACE MODEL NUMBERS	TILE-LINED MASONRY CHIMNEY KIT NUMBER	FURNACE FLUE OUTLET SIZE
*L1RA 045(C,N)-08A *GC1RA045(C,N)08A *L1RA 054(C,N)-12A *GC1RA054(C,N)12A *L1RA 072(C,N)-12A *GC1RA072(C,N)12A *L1RA 072(C,N)-12B *GC1RA072(C,N)12B *L1RA 072(C,N)-16B *GC1RA072(C,N)16B *L1RA 090(C,N)-12B *GC1RA090(C,N)12B *L1RA 090(C,N)-16B *GC1RA090(C,N)16B *L1RA 108(C,N)-16B *GC1RA108(C,N)16B *L1RA 108(C,N)-20C *GC1RA108(C,N)20C *L1RA 126(C,N)-20C *GC1RA126(C,N)20C	904202	4"

Table 1

- High altitude installation input rates shall be derated starting at 2000 ft. altitude. Sea Level input rates shall be used for chimney sizing and venting guidelines. Refer to High Altitude Kit and LP conversion Kit numbers 904090A and 904091A.
- Vent connector length is limited to 1-1/2 ft. for each inch of vent connector diameter.
- Vent connectors shall not be upsized more than two sizes greater than the listed appliance vent outlet diameter.
- For multiple appliance installations, the flow area of the chimney shall not exceed 7 times the smallest draft hood outlet area.

Masonry Chimney Application Requirements

If a clay tile-lined masonry chimney is used, an alternative venting design might be required, such as a listed chimney lining system or this listed chimney adapter kit. ONE OF THE FOLLOWING METHODS SHALL BE USED TO DETERMINE IF AN ALTERNATIVE VENTING DESIGN IS NOT REQUIRED.

In the U.S.A. - Refer to Sections 11,2,9 and 11.3.18 of the NFGC or authority having jurisdiction to determine whether relining is required. If relining is required, use a listed metal liner, Type B vent, or a listed alternative venting design, such as this listed chimney adapter kit (with a furnace listed for use with this kit), a listed chimney lining system, or a Type B common vent.

In Canada (also permitted in the U.S.A.) an 80 percent AFUE, hot surface ignition, Category I, fan assisted furnace is permitted to be vented into a clay tiled-lined masonry chimney that is exposed to the outdoors below the roof line, provided:

MULTIPLE APPLIANCES— (a single furnace common-vented with a draft hood-equipped water heater(s) into a chimney.)

- Vent connector is Type-B double-wall, and
- The furnace is common vented with at least 1 draft hood equipped appliance, and
- The combined appliance input rating is less than the maximum capacity, given in Table 3, and
- The authority having jurisdiction approves.

Interior Chimneys Only

Capacity of masonry chimney flue with type B double-wall vent connectors serving a single furnace equipped with the tile-lined masonry chimney kit.

Type B double wall connector diameter - D (inches)

To be used with chimney areas within the size limits at the bottom of the table

Heigh H (ft)	Lateral L (ft)	3"	4"	5"	6"	7"	8"
		Appliance Input Rate in Thousands of BTU per Hour					
		NAT Max.	NAT Max.	NAT Max.	NAT Max.	NAT Max.	NAT Max.
6	2	28	52	86	130	180	247
	5	25	49	2	117	165	230
8	2	29	55	93	145	198	266
	5	26	52	88	134	183	247
	8	24	48	83	127	175	239
10	2	31	61	103	162	221	298
	5	28	57	96	148	204	277
	10	25	50	87	139	191	263
15	2	35	67	114	179	250	336
	5	35	62	107	164	231	313
	10	28	55	97	153	216	296
	15	NA	48	89	141	201	281
20	2	38	74	124	201	274	375
	5	36	68	116	184	254	350
	10	NA	60	104	172	237	332
	15	NA	NA	97	159	220	314
	20	NA	NA	83	148	206	296
30	2	41	82	137	216	303	421
	5	NA	76	128	198	281	392
	10	NA	67	115	184	263	373
	15	NA	NA	107	171	243	353
	20	NA	NA	91	159	227	332
	30	NA	NA	NA	NA	188	288
50	2	NA	92	161	251	351	477
	5	NA	NA	151	230	323	445
	10	NA	NA	138	215	304	424
	15	NA	NA	127	199	282	400
	20	NA	NA	NA	185	264	376
	30	NA	NA	NA	NA	NA	327
Minimum internal area of chimney (inch²)		12	19	28	38	50	63
Maximum internal area of chimney (inch²)		49	88	137	198	269	352

Table 2. Single Furnace

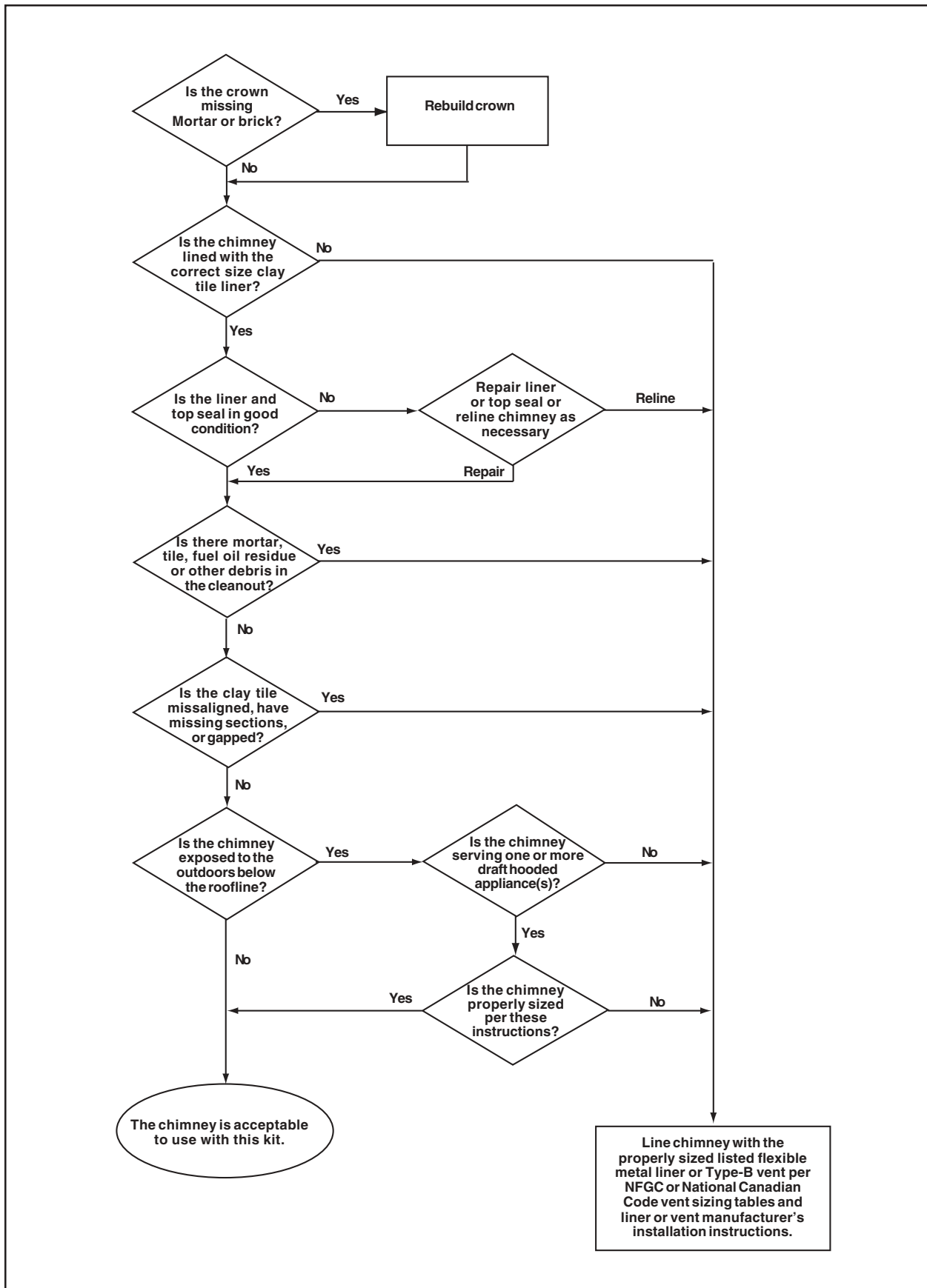


Figure 1. Chimney Inspection Chart

If all of these conditions cannot be met, an alternative venting design is required, such as this listed chimney adaptor kit (with a furnace listed for use with this kit), a listed chimney lining system or a Type-B common vent.

SINGLE APPLIANCE — (A single furnace vented into a chimney) - Category I, fan assisted furnaces without draft hoods are not permitted to be vented into clay tile-lined masonry chimneys that are exposed to the outdoors below the roof line.

Installation of Chimney Kit Assembly

The Tile Lined Chimney Kit is for use on *L1RA and *GC1RA furnaces.

1. Disconnect power and shut off the gas supply to the furnace.
2. Turn off gas supply to the furnace at the manual valve.
3. Remove burner access door.

4. Attach the chimney kit onto the flue outlet of the furnace.
5. Secure the chimney kit to the furnace in two places.
6. Route the wire harness from the chimney kit through the low voltage hole, into the furnace cabinet. (See Figure 4)
7. Remove the insulated wire from the Main Air switch and connect it to the chimney kit wire harness lead. (See Figure 5)
8. Connect the second lead from the chimney kit wire harness to the primary limit terminal.
9. Secure the wire harness from the chimney kit to the cabinet with the wire clips provided.
10. All excess wire should be fastened inside the furnace with the cable tie wrap provided in the parts bag.

Interior and Exterior Chimneys

Capacity of masonry chimney flue with type B double-wall vent connectors serving a furnace equipped with the tile-lined masonry chimney kit, and one or more draft hooded appliances.

Type B double wall connector diameter - D (inches)

Height H (ft)	Lateral L (ft)	3"	4"	5"	6"	7"	8"
		Appliance Input Rate in Thousands of BTU per Hour					
		NAT Max.	NAT Max.	NAT Max.	NAT Max.	NAT Max.	NAT Max.
6	1	21	40	67	101	141	201
	2	28	52	85	124	173	232
	3	34	61	97	143	203	270
8	1	22	41	69	105	148	210
	2	29	53	86	127	179	240
	3	34	62	98	145	206	276
10	1	22	42	71	108	153	216
	2	29	54	87	129	184	247
	3	35	63	100	148	209	281
15	1	23	44	74	114	164	229
	2	31	55	89	134	192	260
	3	35	64	102	153	215	292
20	1	24	46	77	119	173	239
	2	31	56	91	138	199	270
	3	35	65	104	157	222	301
30	1	25	48	82	127	187	255
	2	32	58	95	145	209	287
	3	36	66	104	163	233	316
50	1	25	51	89	143	213	294
	2	32	61	102	161	235	326
	3	36	69	115	180	260	357

Table 3. Two or More Draft Hooded Appliances

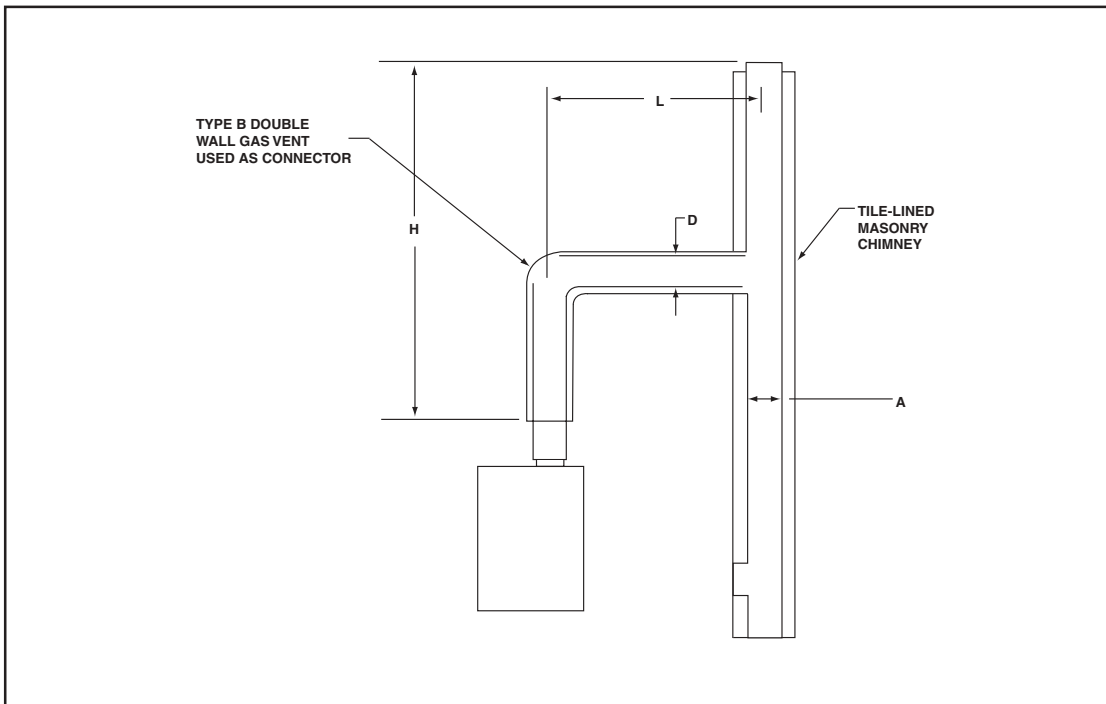


Figure 2. Table 1 shall be used when A type B, double walled vent connector is attached to a tile lined masonry chimney serving a single furnace.

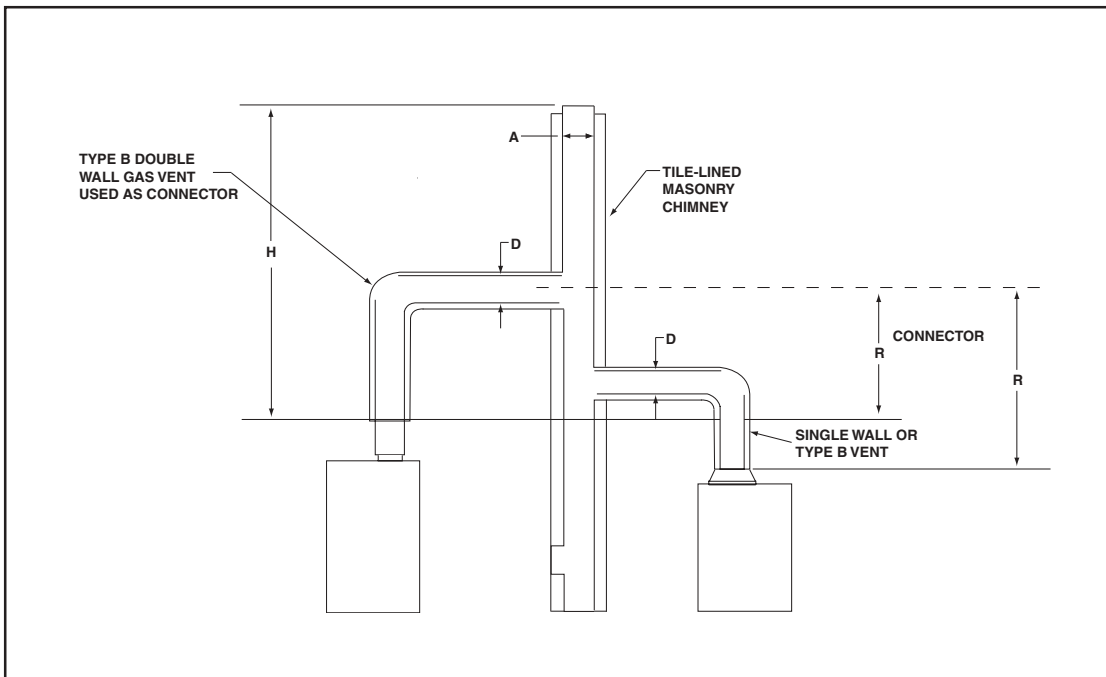


Figure 3. Table 2 shall be used when A type B, double walled vent connector is attached to a tile lined masonry chimney serving one or more draft hood equipped appliances.

⚠ WARNING:

The wire should be secured away from the burner compartment, or from any live metal or rotating part.

11. Attach the proper size of vent pipe and fasten the pipe to the chimney kit securely. (See Tables 2 and 3 for proper size)

Instructions to place the furnace into operation

1. Verify that all the electrical connections that were made while installing the chimney kit are secure.
2. Inspect the vent system for any leakage, corrosion, or restrictions.
3. As practical, close all doors and windows including doors that are in the same room as the furnace. Turn on all exhaust fans (range hoods, bathroom fans) not including summer exhaust fans. Fireplace dampers should be closed.
4. Turn on the power to the furnace and open manual gas valve.
5. Adjust the thermostat to allow the furnace to operate for at least 10 minute.
6. Once the furnace has operated, check for vent gas spillage at the draft openings with the open flame of a match or candle.
7. If the furnace is installed where it is common vented to another draft hooded appliance(s) (i.e. water heater), follow operating instructions and adjust for continuous operation.
8. Check for spillage at the draft hood of the other appliance(s) and again at the chimney kit.
9. If there is any flue gas spillage from any of the draft hoods, the vent system and the connections must be corrected.
10. Once proper installation and operation are verified, turn off all the appliance, return fans and vent dampers to their original position.
11. The installation instruction for the chimney kit should be located near or around the furnace for future reference.

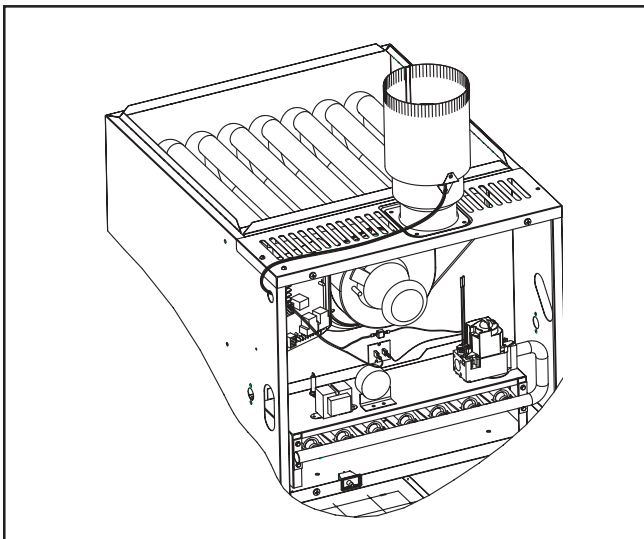


Figure 4.

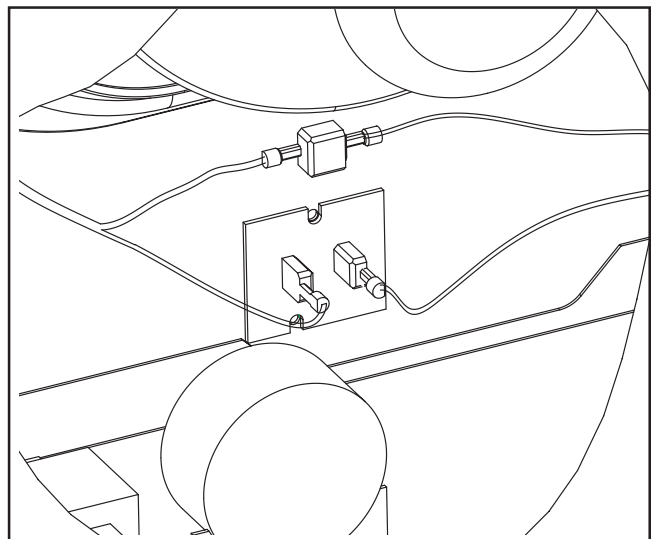


Figure 5.



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