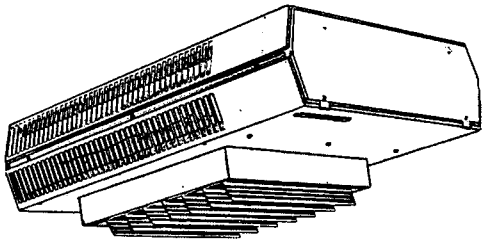
TASKMASTER

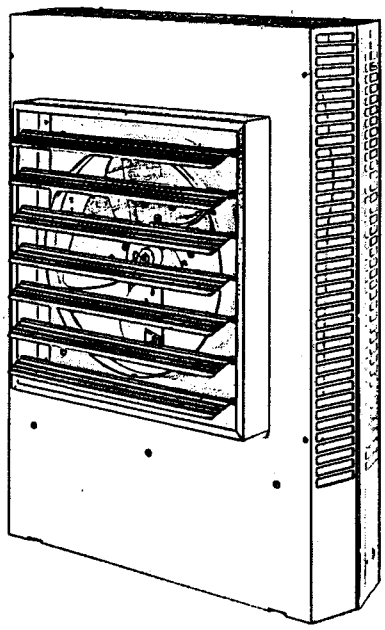
5100 SERIES

INSTALLATION INSTRUCTIONS & PARTS LIST

TPI Corporation
P.O. Box 4973
Johnson City, TN
37602-4973
America's Comfort Conditioning Company

Horizontal or Vertical Mounting
Industrial / Commercial
Unit Heater





ATTENTION: Read carefully before attempting to install, operate or service the TaskMaster Unit Heater. Retain these installation instructions for future use.

PRODUCT FEATURES

Forced air electric unit heater available in 208, 240/208, 227, 480, 550 or 600 volt as standard.

Ten standard heating capacities of 3.3 KW/11,260 BTUH thru 50.0 KW/170, 600 BTUH.

208 and 240/208 volt models are single phase field convertible to three phase on 3.3 thru 10.0 KW Models. (Single phase only available on 3.3, 5.0, 7.5 and 10 KW 277 volt models.

Specially designed inlet louver allows the fan to pull cool air evenly across the high mass all-steel element.

Outward drawn venturi and adjustable louver assembly further directs the outlet air in a uniform pattern to meet specific air pattern requirements in either the horizontal or vertical mounting position.

Optional wall/ceiling or vertical mounting brackets (as required).

Four position weld nuts supplied in case top and back for field mounting by threaded rods or eye bolt with chain. (Hardware supplied by others).

Optional radial or anemostat diffusers lending air pattern versatility when mounted vertically.

Modular control kits for field installation. Disconnect switch, thermostat, summer fan switch, heat recovery thermostat. All kits with spade terminals (Except disconnect switch).

Single point terminal board wiring of integral control kits.

24 volt low voltage control circuit standard on all contactor and transformer models.

Roomy control box with access door locked into position by two (2) 1/4 turn fasteners for ease of installation.

Revised 10/00
Form 9632

IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

PROPER LOCATION INSTRUCTIONS

Once the total heating load is calculated, the quantity and capacity of the unit heaters must be determined. because a large number of low-capacity heaters provides more uniform heat distribution. This approach is recommended when the area will be occupied by a relatively large number of sedentary personnel, (i.e. working on production lines and at benches.)

A large number of smaller capacity unit heaters tends to prevent hot drafts, reduces noise levels, and increases diversity of load to help reduce electrical demand and operating costs.

In warehouses where even heat distribution and constant temperatures are less important, a smaller number of high capacity units can be used -- in many cases reducing installation cost. To maintain reasonable heat distribution and reduce severe stratification even in lower bay areas, the total air volume of the space should pass through the unit heaters about three times per hour. (Take total cubic feet and divide by 20 in order to determine proper total heater CFM rating.)

It is important that the rated voltage of the heating equipment match the supply voltage. Supply voltage in excess of the heater rated voltage can damage equipment. Supply voltage lower than the rated heater voltage will decrease heater output as well as run the risk of damaging some components.

Horizontal unit heaters are recommended in low bay areas with maximum 15 to 18 foot ceilings. These should be concentrated along outside wall or other areas of greatest heat loss; spaced to set up a generally circular air movement, each heater supporting the air stream of the other. Additional vertical down below unit heaters with appropriate accessory diffusers can be located to counteract ceiling heat losses (see Figure 1 Location charts).

GENERAL SAFETY INFORMATION / CAUTION:

Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

To avoid possible electrical shock, be sure the electrical current is turned off at the main switch prior to wiring or servicing of unit.

If the power disconnect is not integral and is out-of-sight, lock it in the open position and tag to prevent unexpected application of power prior to performing any service or maintenance of the unit.

The unit when installed must be electrically grounded in accordance with the National Electrical Code and standard industry practice.

Make certain that the power source conforms to the requirements of your equipment. See Table 2 on page 6 for wire and circuit size

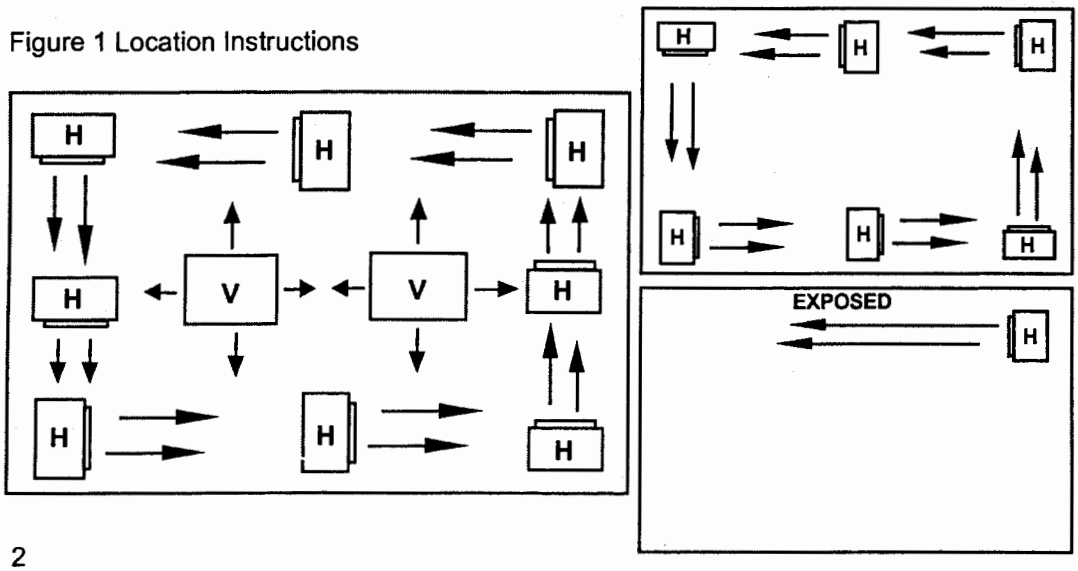
Check heater voltage and phase on rating label to confirm that it matches the electric service supply.

Wiring diagrams of the heater and supply connections are permanently attached to the inside of the heater access door. All terminals are coded in accordance with the wiring diagram. Accessory wiring are shown on the unit wiring diagram and supporting literature.

The heater must be mounted at least 7' above the floor to prevent accidental contact with the fan blade which could cause injury. Install unit so there are no obstructions to the intake or discharge. Maintain clearances as shown on Table 1, 2, Fig. 1 & 2.

The wall/ceiling mounting structure and anchoring provisions must be on sufficient strength to support the combined weight of the heater and mounting bracket.

Figure 1 Location Instructions



PRINCIPLES OF OPERATION

Upon a call for heat from the floor level or unit mounted optional accessory thermostat, the unit fan motor and heating elements shall be energized and remain ON until temperature reaches setting of thermostat; at which time the heating elements shall be deenergized.

The fan motor shall continue to run and purge heater casing of residual heat until setting of fan override is reached, then the fan motor shall be deenergized.

For those units with a factory installed two speed fan switch (25-50KW), the unit as shipped from the factory is set to "low" speed. Customer option to set to "high" speed. For those units available with subdivided circuits, the accessory two stage thermostat (optional) will, upon a call for heat, energize fan motor and the first stage heating element. Should temperature continue to fall, the thermostat shall energize the second stage heating element.

Upon a rise in space conditions towards setting of the thermostat, the two stages of heating elements shall be deenergized in reverse sequence.

The fan motor shall continue to run and purge heater casing of residual heat until setting of fan override is reached, then the fan motor shall be deenergized.

The accessory unit mounted stratification thermostat will energize the unit heater fan motor upon a rise in temperature above its setting.

When the unit mounted stratification thermostat closes on a temperature rise and at the same time the floor thermostat calls for heat, the motor shall be energized immediately and the heating element shall be energized, as previously described.

The automatic reset safety high limit shall deenergize the heating elements and control circuits should the temperature exceed the setting of this device. The fan safety override shall energize fan motor any time the setting of this device is exceeded so as to purge heater casing of excess residual heat.

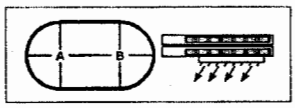
When the accessory fan switch is placed in the ON position (for summer air circulation), the unit heater fan motor shall be energized.

NOTE: The wall thermostat is to be set to the OFF position during this mode of operation (units with contactors).

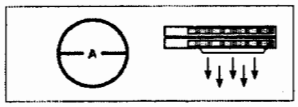
For those accessory thermostats equipped with an integral fan switch, place the switch in the HEAT, or AUTO position for operation of the fan and elements which shall then be under control of the thermostat as described above.

When switch is placed in the OFF position, the unit shall be deenergized. When switch is placed in the FAN position, elements shall be deenergized and fan shall be immediately energized.

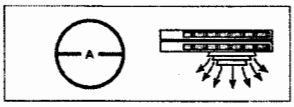
VERTICAL DISCHARGE UNITS - AIR PATTERNS



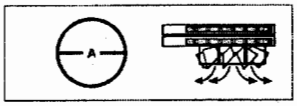
Louver Diffuser (Standard)



General Distribution (No Diffuser)



Anemostat Diffuser (Optional)



Radial Diffuser (Optional)

TABLE 1

USED ON	MAX MTG HT.	A	B	STOCK NO.	MAX MTG HT.	A	MAX MTG HT.	A	STOCK NO.	STOCK NO.	MAX MTG HT.		A	
											45°	OPEN	45°	OPEN
3.3 & 5.0 KW	9	20	10	STD	9	15	--	--	N/A	N/A	--	--	--	--
7.5 & 10.0 KW	12	40	22	STD	12	30	10	30	AD5120	RD5120	0	14	36	30
15.0 & 20.0 KW	18	52	30	STD	18	40	15	38	AD5120	RD5120	14	21	42	35
25.0 & 30.0 KW	22	75	42	STD	22	55	17	50	AD5150	RD5150	20	30	62	44
40.0 & 50.0 KW	24	84	47	STD	24	64	20	60	AD5150	RD5150	18	28	68	54

STD = Standard N/A = Not Applicable

Optional diffusers lend added air pattern versatility to individual vertical down blow installations as shown in above illustations.

INSTALLATION INSTRUCTIONS
TASKMASTER -- 5100 SERIES UNIT HEATER

ATTENTION: READ INSTRUCTION CAREFULLY

All electric unit heaters are shipped fully assembled. Installation includes hanging the unit, mounting the built-in and remote accessories, wiring of optional control devices, and electrical wiring to the unit.

To insure proper delivery of the heated air to desired areas, follow the mounting height and air projection tables include in these instructions. Follow Fig. 1 & 2 for minimum wall and ceiling clearances.

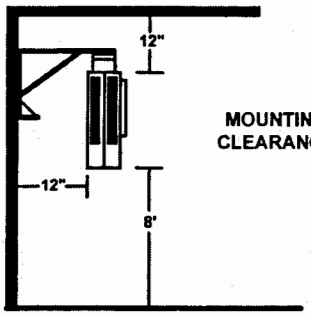


FIG. 1
HORIZONTAL DISCHARGE

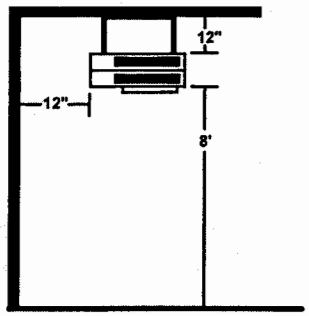


FIG. 2
VERTICAL DISCHARGE

The wall and/or ceiling structure must be sufficient to support the combined weight of the heater and any mounting bracket and accessories.

Be sure power source is deenergized before installing heater. Check heater voltage and phase listed on heater date tape on back of unit to make sure they are the same as the electrical service supplied.

Certain units are adaptable from single to three phase service. Follow instructions noted on the unit wiring diagram for this conversion. Units that carry a dual voltage rating (HF) require specific wiring changes when converting from 240 to 208 volt service supplied.

Open the access panel (2 1/4 turn fasteners).

Remove the desired knock-out(s) on back of the heater.

Install any optional accessories following their installation instructions before mounting unit. Following the correct unit/accessory wiring diagram, connect the power supply, electrical ground and accessories to the correct terminals or termination points using accepted practices.

NET JUNCTION BOX VOLUME		
KW	CUBIC INCHES	CC
3.3 - 5	74.4	1219
7.5 - 10	198	3245
15.0 - 20	198	3245
25.0 - 50	341	5592

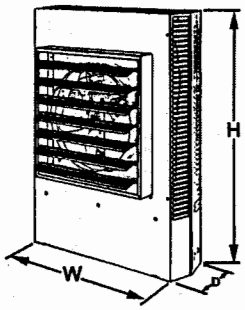
Heaters may be mounted in the horizontal or vertical air discharge configuration using factory optional supplied accessory mounting equipment or using special hardware facilities supplied by others.

After the installation is complete, replace the access panel.

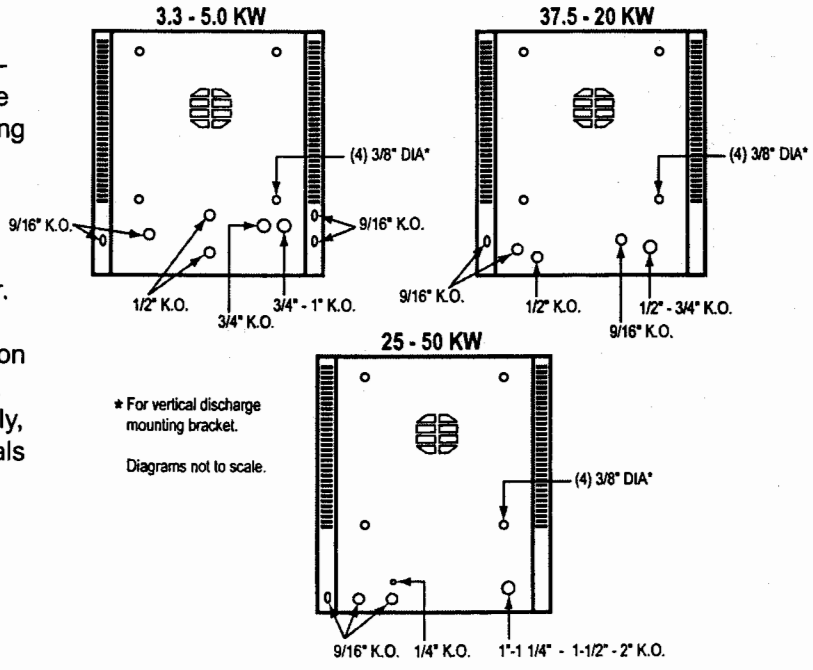
Set the controls (thermostat, switch) at their desired control point and apply power to the unit.

Check correct operation.

DIMENSIONS



DIMENSIONS (INCHES)			
KW	H	W	D
3.3 - 5.0	17-3/4	14-15/32	6-1/2
7.5 - 10.0	24-5/16	21-1/2	6-1/2
15.0 - 20.0	28-11/16	21-1/2	6-1/2
25.0 - 50.0	34	29-1/4	10-1/16



* For vertical discharge mounting bracket.

Diagrams not to scale.

INSTALLATION INSTRUCTIONS
TASKMASTER -- 5100 SERIES UNIT HEATER (part 2)

HORIZONTAL -- AIR DISCHARGE MOUNTING
SHOWN IN: FIGURE 5 & 6

Swivel hanger brackets may be used to suspend unit heaters from either the wall (figure 5) or the ceiling (figure 6). Attach hanger base "A" to top of heater with the four 5/16 X 18 caps screws and lockwashers (provided in envelope).

Attach main hanger frame "B" to wall or ceiling in desired location using lag screws "C" or other suitable attachments (supplied by others).

Lift heater into position inserting stud "D" through hole in main hanger frame and attach lock nut "provided in envelope) "E" tightening to within two turns of being tight.

Swivel heater to desired position, tighten lock nut.

Figure 5
WALL MOUNT
HORIZONTAL DISCHARGE

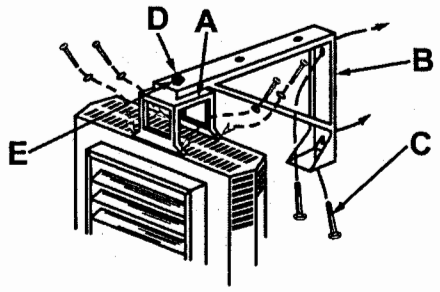
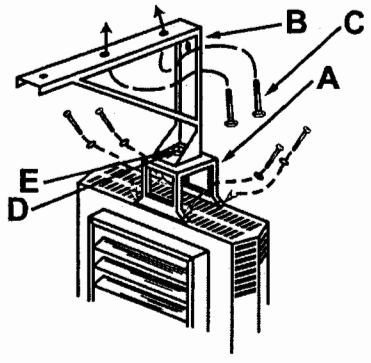


Figure 6
CEILING MOUNT
HORIZONTAL DISCHARGE



VERTICAL -- AIR DISCHARGE MOUNTING
SHOWN IN: FIGURE 7

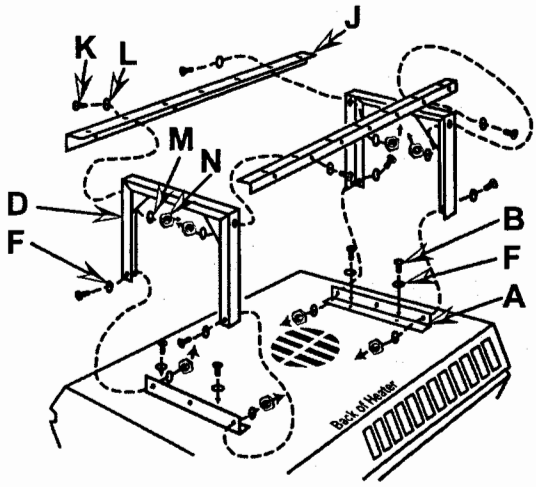
Attach short angle brackets "A" to back of heater with four 5/16 X 18 capscrews "B", lockwashers "F". Be sure vertical leg of angle brackets face top and bottom of heater.

Attach inverted U frames "D" to short angle brackets with four 5/16 X 18 capscrews "K", washers "L", lockwashers "M" and nuts "N".

Attach long angle brackets "J" to inverted frames "D" with four 5/16 X 18 capscrews "K", washers "L", lockwashers "M" and nuts "N".

Attach heater and bracket assembly to ceiling in desired location using customer supplied equipment sufficient to support the assembly.

Figure 7
CEILING MOUNT
VERTICAL DISCHARGE



NOTE: When mounting heater using 5/16" all thread rod (by others) do not screw the rod more than 1/2" beyond the inside of the case.

5100 SERIES UNIT HEATER
ELECTRICAL DATA (Table 2)

CATALOG NUMBER	KW RATING	BTU/HR (000)	HEATER / MOTOR VOLTAGE	HEATER PHASE	CONTROL VOLTAGE	AMPS PER PHASE	BRANCH CIRCUIT PROTECTION SIZE(A)	SUPPLY WIRE SIZE 60° C AWG **
F1F5130	3.3	11.2	208	1	208	15.9	20	12
F2F5130	3.3	11.2	208	1	208	15.9	20	12
			208	3	208	9.2	15	14
HF1B5103	3.3/2.5	11.2/8.5	240/208	1	240/208	13.7/11.9	20/15	12/14
HF2B5103	3.3/2.5	11.2/8.5	240/208	1	240/208	13.7/11.9	20/15	12/14
			240/208	3	240/208	7.9/6.9	10/10	14/14
G1G5103	3.3	11.2	277	1	277	11.9	15	14
P3P5103CA1	3.3	11.2	480	3	24	4	15	14
F1F5105	5.0	17.1	208	3	208	24.1	35	8
F2F5105	5.0	17.1	208	1	208	24.1	35	8
F2F5105	5.0	17.1	208	1	208	24.1	35	8
			208	1	208	24.	35	8
HF1B5105	5.0/3.7	17.1/12.8	240/208	1	240/208	20.9/18.1	30/25	10/10
HF2B5105	5.0/3.7	17.1/12.8	240/208	1	240/208	20.9/18.1	30.25	10/10
			240/208	3	240/208	12.1/10.4	20/15	12/14
G1G5105	5.0	17.1	277	1	277	18.1	25	10
P3P5105CA1	5.0	17.1	480	3	24	6.1	15	14
F2F5107CA1	7.5	25.6	208	1	24	36.1	50	6
			208	3	24	20.8	30	10
HF2B5107CA1	7.5/5.6	25.6/19.2	240/208	1	24	31.3/27.1	40/35	8/8
			240/208	3	24	18.1/15.6	25/20	10/12
G1G5107CA1	7.5	25.6	277	1	24	27.1	35	8
P3P5107CA1	7.5	25.6	480	3	24	9.1	15	14
			208	3	24	27.8	35	8
HF2B5110CA1	10.0/7.5	34.1/25.6	240/208	1	24	41.6/36.1	60/50	4/6
			240/208	3	24	24/20.8	30/30	8/10
G1G511OCA1	10.0	34.1	277	1	24	36.1	50	6
P3P5110CA1	10.0	34.1	480	3	24	12.1	20	12
F3F5115CA1	15.0	51.2	208	3	24	41.7	60	4
HF3B5115CA1	15.0/11.2	51.2/38.4	240/208	3	24	36.1/31/3	50/40	6/8
P3P5115CA1	15.0	51.2	480	3	24	18.1	25	10
HF3B5120CA1	19.5/14.6	67.2/50.5	240/208	3	24	47.8/41.1	60/60	4/6
P3P5120CA1	20.0	68.3	480	3	24	24.1	35	8
F3F5125CA1	25.0	83.3	208	3	24	69.5	90	2
HF3B512CA1	25.0/18.7	85.3/64.0	240/208	3	24	60.2/52.1	80/70	3/4
P3P5125	25.0	85.3	480	3	24	30.1	40	8
F3F5130CA1	30.0	102.4	208	3	24	83.4	110	2*
HB3B5130CA1	30.0/22.5	102.4/76.8	240/208	3	24	72.3/62.5	100/80	2/3
P3P5130CA1	30.0	102.4	480	3	24	36.2	50	6
F3F5140CA1	40.0	136.5	208	3	24	111.2	150	1/0*
HF3B5140CA1	40.0/30.0	136.5/102.4	240/208	3	24	96.4/83.4	124/110	1*/2*
P3P5140CA1	39.0	133.1	480	3	24	47	60	4
F3F5150CA1	49.6	169.9	208	3	24	139	175	2/0*
HF3BB5150CA1	50.0/37.5	170.6/128.0	240/208	3	24	120.5/104.3	175/150	2/0* 1/0*
P3P5150CA1	50.0	170.6	480	3	24	60.3	80	3
U3H5105CA4***	5.0	17.1	600/240	3	240	5.1	15	14
U3H5107CA4	7.5	25.6	600/240	3	240	7.7	15	14
U3H5110CA4	10.0	34.1	600/240	3	240	10.2	15	14
U3H5115	15.0	51.2	600/240	3	240	15.5	20	12
U3H5120CA4	20.0	68.3	600/240	3	240	20.3	25	10
U3H5125CA4	25.0	85.3	600/240	3	240	24.5	35	8
U3H5130CA4	30.0	102.4	600/240	3	240	29.4	40	8
U3H5140CA4	40.0	136.5	600/240	3	240	39.8	50	6
U3H5150CA4	50.0	170.0	600/240	3	240	49.4	60	4
T3H5105CA4N	5.0	17.1	550/240	3	240	5.25	15	14
T3H5107CA4N	7.5	25.6	550/240	3	240	7.88	15	14
T3H5110CA4N	10.0	33.8	550/240	3	240	10.5	15	14
T3H5115CA4N	15.0	51.2	550/240	3	240	15.76	20	12
TEH5120CA4N	20.0	68.3	550/240	3	240	21.1	30	10
T3T5125CA1N	25.0	85.3	550	3	24	26.3	35	8
T3T5130CA1N	30.0	102.4	550	3	24	31.5	40	8
T3T5140CA1N	40.0	136.5	550	3	24	42	60	4
T3T5150CA1N	50.0	170.6	550	3	24	52.55	70	4

* Use 75 degree C Wire **Use Copper Conductors on all heaters ***This unit (only) built in 7.5 & 110KW case size.

5100 SERIES UNIT HEATER

AIR DELIVERY DATA

FAN MOTOR DATA

CFM at OUTLET	FPM at OUTLET	TEMPETURE RISE °F	HP	Motor RPM	MAX. MTG		AIR THROW	WEIGHT LBS.
					Horizontal	Vertical		
400	1030	26	1/125	1550	9	9	12 Ft.	25
400	1030	26	1/125	1550	9	9	12 Ft.	25
400	1030	26	1/125	1550	9	9	12 Ft.	25
400	1030	26	1/125	1550	9	9	12 Ft.	25
400	1030	26	1/125	1550	9	9	12 Ft.	25
400	1030	26	1/125	1550	9	9	12 Ft.	27
400	1030	40	1/125	1550	9	9	12 Ft.	25
400	1030	40	1/125	1550	9	9	12 Ft.	25
400	1030	40	1/125	1550	9	9	12 Ft.	25
400	1030	40	1/125	1550	9	9	12 Ft.	25
400	1030	40	1/125	1550	9	9	12 Ft.	25
400	1030	40	1/125	1550	9	9	12 Ft.	27
700	1000	34	1/50	1550	10	12	22 Ft.	50
700	1000	34	1/50	1550	10	12	22 Ft.	50
700	1000	34	1/50	1550	10	12	22 Ft.	50
700	1000	34	1/50	1550	10	12	22 Ft.	50
700	1000	45	1/50	1550	10	14	22 Ft.	50
700	1000	45	1/50	1550	10	14	22 Ft.	50
700	1000	45	1/50	1550	10	14	22 Ft.	50
700	1000	45	1/50	1550	10	14	22 Ft.	50
1100	1580	43	1/20	1550	11	20	32 Ft.	65
1100	1580	43	1/20	1550	11	20	32 Ft.	65
1100	1580	43	1/20	1550	11	20	32 Ft.	65
1100	1580	57	1/20	1550	11	20	32 Ft.	65
1100	1580	57	1/20	1550	11	20	32 Ft.	65
2000/1800	1300/1100	40/44	1/12	1550/1250	12	22	45 Ft.	120
2000/1800	1300/1100	40/44	1/12	1550/1250	12	22	45 Ft.	120
2000/1800	1300/1100	40/44	1/15	1550/1250	12	22	45 Ft.	120
2000/1800	1300/1100	47/53	1/12	1550/1250	12	20	40 Ft.	120
2000/1800	1300/1100	47/53	1/12	1550/1250	12	20	40 Ft.	120
2000/1800	1300/1100	47/53	1/15	1550/1250	12	20	40 Ft.	120
3100/2800	2000/1800	40/45	1/4	1550/1310	15	25	55 Ft.	120
3100/2800	2000/1800	40/45	1/4	1550/1310	15	25	55 Ft.	120
3100/2800	2000/1800	40/45	1/4	1550/1310	15	25	55 Ft.	120
3100/2800	2000/1800	51/56	1/4	1550/1310	15	22	50 Ft.	120
3100/2800	2000/1800	51/56	1/4	1550/1310	15	22	50 Ft.	120
3100/2800	2000/1800	51/56	1/4	1550/1310	15	22	50 Ft.	120
558	929	30	1/125	1300	9	9	12 Ft.	50
700	1000	34	1/50	1550	10	12	22 Ft.	50
700	1000	45	1/50	1550	10	14	22 Ft.	50
1100	1580	43	1/20	1550	11	20	32 Ft.	65
1100	1580	43	1/20	1550	11	20	32 Ft.	65
2000/1800	1300/1100	40/44	1/12	1550/1250	12	22	45 Ft.	120
2000/1800	1300/1100	47/53	1/12	1550/1250	12	22	40 Ft.	120
3100/2800	2000/1800	40/45	1/4	1550/1310	15	25	55 Ft.	120
3100/2800	2000/1800	51/56	1/4	1550/1310	15	22	50 Ft.	120
680	971	25.1	1/125	1300	9	9	12 Ft.	50
680	971	37.6	1/50	1550	10	12	22 Ft.	50
680	971	50.2	1/50	1550	10	14	22 Ft.	50
1080	1542	47.4	1/20	1550	11	20	32 Ft.	65
1080	1542	63.2	1/20	1550	12	18	37 Ft.	65
1980/1780	1290/1150	43/48	1/12	1550/125	12	22	45 Ft.	120
1980/1780	1290/1150	52/58	1/12	1550/125	12	20	40 Ft.	120
2900/2650	1870/1160	47/52	1/4	1550/131	15	25	55 Ft.	120
2900/2650	1870/1160	59/66	1/4	1550/131	15	22	50	120

5100 SERIES UNIT HEATER
TROUBLE SHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Thermostat calls for heat, but heater does not function.	1. Open (blown) fuse 2. INCORRECT WIRING 3. Thermal cut-out open, deenergizing heater element and control circuit.	1. Replace fuses, check for cause. (see Replacement Parts List for fuse size) 2. CHECK WIRING CONNECTIONS 3. Check for the following: --- Correct supply volts and phase --- Correct control wiring (heater control must be thru thermostat control wiring section only). --- Power interruption to heater during heater operation. --- Restriction of air around heater 1-5 minute fan purge after thermostat off.
Fan motor runs "HOT"	1. Dust accumulation or excessive dirt on motor 2. Dirt accumulation 3. Motor needs lubrication.	1. Clean fan motor and casing of grease and oil accumulation. 2. Clean louvers and between heating elements. 3. See Maintenance.
Fan motor runs, but no heat.	1. Element contactor not operating correctly. 2. Element fuse blown.	1. Check wiring for open circuit. Replace contactor if defective 2. Replace fuses, check for cause. (see Replacement Parts List for fuse size)

MAINTENANCE

CAUTION: Make certain that the power source is disconnected before attempting to service or disassemble any componet. If the power disconnect is out of the line of sight, lock it in the OPEN position and tag to prevent the application of power.

ELECTRICAL

Once a year inspect the control panel wiring to make certain insulation is intact and all connections are tight. Inspect all heater and relay contacts. If the contacts appear badly pitted or burned, replace the contactor / relay.

CLEANING

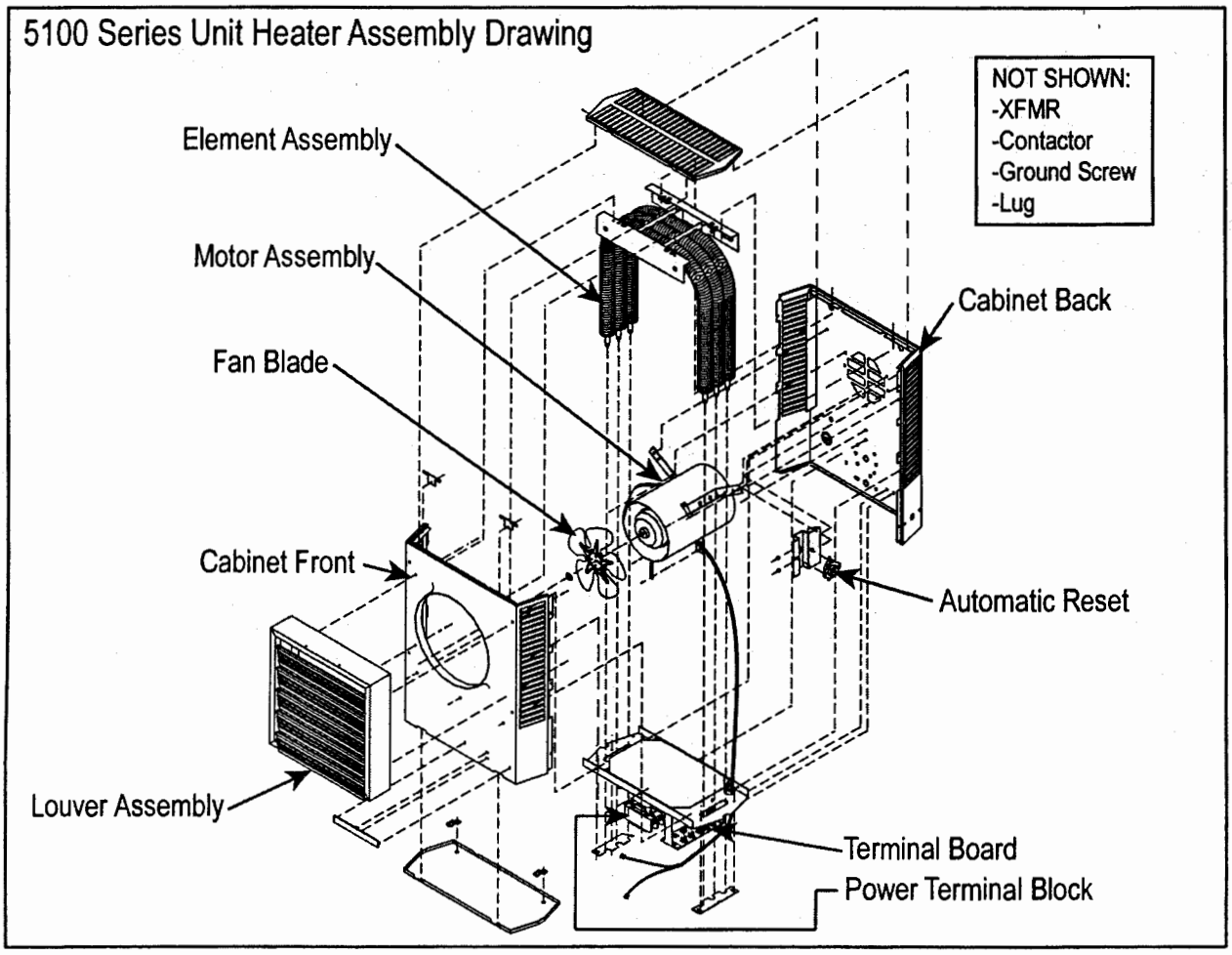
Clean the unit casing, fan and motor once a year. A dirty motor will tend to run hot and eventually will be damaged internally. Any rust spots on the casing should be cleaned and repainted.

LUBRICATION

All units up to 20KW have fan motors that are permanently lubricated so that only occasional cleaning is required. Units above 20KW have fan motors lubricated for 5 years of continuous duty of 10 years of intermittent operations. When required, remove the oil access plug on back of heater at motor intake grill, open oil cap, fill with S.A.E. No. 10 electric motor oil, replace plugs and access plug.

5100 SERIES UNIT HEATER
WIRING DIAGRAM SCHEDULE

DIAGRAM NO.	MODEL CODE PREFIX	MODEL CODE SIZE AND CONTROL SYSTEM		
WD5101	FIF-GIG-HFIB	5103N	5105N	
WD5104	GIG	5107CAIL	5110CAIL	
WD5106	F2F-HF2B	5103N	5105N	
WD5113	F2F	5107CAIL	5110CAIL	
WD5114	HF2B	5107CAIL	5110CAIL	
WD5138	P3P	5103CAIL	5105CAIN	5107CAIN
	P3P	5110CAIN	5115CAIN	5120CAIN
WD5121	F3F	5115CAIL		
WD5122	HF3B	5115CAIL	5120CAIL	
WD5125	F3F	5125CAIL	5130CAIL	5140CAIL
	F3F	5125CAIL		
WD5126	HF3B	5125CAIL	5130CAIL	5140CAIL
	HF3B	5150CAIL		
WD5139	P3P, T3T	5125CAIN	5130CAIN	
WD5140	P3P	5140CAIN		
WD5141	P3P	5150CAIN		
WD5142	U3H, T3H	5105CA4N	5107CA4N	5110CA4N
		5115CA4N	5120CA4N	
WD5143	U3H	5125CA4N	5130CA4N	5140CA4N
		5150CA4N		
WD5144	T3T	5140CAIN	5150CAIN	



5100 SERIES UNIT HEATER
PARTS LIST - CATALOG NUMBERS

HEATER MODEL	MOTOR	ELEMENT ASSEMBLY	AUTOMATIC RESET	FAN OVERRIDE	XFMR	CONTACTOR	POWER TERMINAL BLOCK
F1F5103N	56562-012	60715-001	57640-006	56811-001			56815-001
F25103N	56562-012	60715-011	57640-006	56811-001			56815-001
HF1B5103N	56562-017	60715-002	57604-006	56811-001			56815-001
HF2B5103N	56562-017	60715-012	57604-006	56811-001			56815-001
G1G5103N	56562-016	60715-007	57604-006	56811-001			56815-001
P3P5103CA1N	56562-018	60715-008	57604-006	56811-001	60719-006	58027-041	56815-001
F1F5105N	56562-012	60715-003	57604-006	56811-001			56815-001
F2F5105N	56562-012	60715-004	57604-006	56811-001			56815-001
HF1B5105N	56562-017	60715-005	57604-006	56811-001			56815-001
HF2B5105N	56562-017	60715-006	57604-006	56811-001			56815-001
G1G5105N	56562-016	60715-009	57604-006	56811-001			56815-001
P3P5105CA1N	56562-018	60715-010	57604-006	56811-001	60719-006	58027-041	56815-001
F2F5107CA1L	56823-011	56954-004	57604-003	56811-001	60719-001	58027-031	56815-001
HF2B5107CA1L	56823-012	56954-006	57604-003	56811-001	60719-001	58027-021	56816-001
G1G5107CA1L	56824-002	56954-001	57604-003	56811-001	60719-005	58027-021	56815-001
P3P5107CA1N	56824-011	56954-002	57604-003	56811-001	60719-006	58027-041	56815-001
F2F5110CA1L	56823-011	56954-003	57604-003	56811-001	60719-001	58027-036	56816-001
HF2B5110CA1L	56823-012	56954-004	57604-003	56811-001	60719-001	58027-036	56816-001
G1G5110CA1L	56824-002	56954-007	57604-003	56811-001	60719-005	58027-031	56816-001
P3P5110CA1N	56824-011	56954-008	57604-003	56811-001	60719-006	58027-041	56815-001
F3F5115CA1L	56825-001	56954-009	57604-004	56811-001	60719-001	58027-036	56816-001
HF3B5115CA1L	56825-002	56954-010	57604-004	56811-001	60719-001	58027-031	56816-001
P3P5115CA1N	56825-003	56954-011	57604-004	56811-001	60719-006	58027-041	56815-001
HF3B5120CA1L	56825-002	56954-012	57604-004	56811-003	60719-001	58027-036	56816-001
P3P5120CA1N	56825-003	56954-013	57604-004	56811-003	60719-006	58027-041	56815-001

HEATER MODEL	MOTOR	ELEMENT ASSY.	AUTO. RESET	FAN OVERRIDE	XFMR	S.D. FUSE 6 RQD	S.D. FUSE 2 RQD	CONTACTOR 2 RQD	POWER TERMINAL BLOCK	FAN
F3F5125CA1L	56943-001	56954-017	57640-005	56811-002	60719-009	50836-012	41280-002	50378-025	57097-001	57112-001
HF3B5125CA1L	56943-002	56954-018	57640-005	56811-002	60719-009	50836-012	41280-007	50378-025	57097-001	57112-001
P3P512CA1N	56944-001	56954-019	57640-005	56811-002	60719-012			50378-016	57098-001	57090-001
F3F5130CA1L	56943-001	56954-020	57640-005	56811-002	60719-009	50836-003	41280-008	50378-025	57097-001	57112-001
HF3B5130CA1L	56943-002	56954-021	57640-005	56811-002	60719-009	50836-012	41280-002	50378-025	57097-001	57112-001
P3P5130CA1N	56944-001	56954-022	57640-005	56811-002	60719-012			50378-016	57098-001	57090-001
F3F5140CA1L	56945-001	56954-023	57640-005	56811-002	60719-009	50836-003	41280-004	50378-025	57097-001	57112-001
HF3B5140CA1L	56945-002	56954-024	57640-005	56811-002	60719-009	50836-003	41280-003	50378-025	57097-001	57112-001
P3P5140CA1N	56946-001	56954-025	57640-005	56811-002	60719-012			50378-016	57098-001	57090-001
F3F5150CA1L	56945-001	56954-026	57640-005	56811-003	60719-009	50836-003	41280-005	50378-034	57097-001	57112-001
HF3B5150CA1L	56945-002	56954-027	57640-005	56811-003	60719-009	50836-003	41280-004	50378-025	57097-001	57112-001
P3P5150CA1N	56946-001	56954-028	57640-005	56811-003	60719-012	57110-001	57111-008	50378-016	57097-001	57090-001

KW	FAN BLADE	TERMIAL BOARD	GROUND CONN.	MOTOR CAPACITOR	LOUVER
3.3 - 5	56806-001	56809-001	1458	–	(5) 56986-001
7.5 - 10	50551-002	56809-001	1458	–	(7) 56986-003
15 - 20	56813-001	56809-001	1458	–	(7) 56986-003
25 - 30	57114-001	56809-001	3981	57100-001	(9) 56987-001
40 - 50	57115-001	56809-001	3981	57100-001	(9) 56987-001

5100 SERIES UNIT HEATER
PARTS LIST - CATALOG NUMBERS - 600 VOLT MODELS

	U3H5105CA4N	U3H5107CA4N	U3H5110CA4N	U3H5115CA4N	U3H5120CA4N
MOTOR	56562-017	56823-012	56823-012	56825-002	56825-002
ELEMENT ASSY.	56954-029	56954-030	56954-031	56954-032	56954-035
AUTO RESET LIMIT	57640-003	57640-003	57640-003	57640-004	57640-004
FAN OVERRIDE	56811-001	56811-001	56811-001	56811-001	56811-003
XFMR	57641-003 (100VA)	57641-001 (150VA)	57641-001	57641-002 (300VA)	57641-002
CONTACTOR	58027-043	58027-043	58027-043	58027-043	58027-043
POWER TRML. BLOCK	56817-001	56815-001	56815-001	56815-001	56815-001
FAN BLADE	51554-002	51554-002	51554-002	56813-001	56813-001
TERMINAL BLOCK	56809-001	56809-001	56809-001	56809-001	56809-001
GROUND CONN.	1458	1458	1458	1458	1458
LOUVER	56986-003 (7)	56986-003 (7)	56986-003 (7)	56986-003 (7)	56986-003 (7)

	U3H5125CA4N	U3H5130CA4N	U3H5140CA4N	U3H5150CA4N	
MOTOR	56943-002	56943-002	56943-002	56945-002	
ELEMENT ASSY.	56954-003	56954-003	56954-036	56954-037	
AUTO. RESET LIMIT	57640-005	57640-005	57640-005	57640-005	
FAN OVERRIDE	56811-002	56811-002	56811-002	56811-003	
XFMR	57641-001	57641-001	57641-004(350VA)	57641-004	
CONTACTOR	58027-043 (2)	58027-043 (2)	58027-043 (2)	58027-043 (2)	
POWER TRML. BLOCK	57098-001	57098-001	57098-001	57098-001	
FAN BLADE	57114-001	57114-001	57115-001	57115-001	
TERMINAL BOARD	56809-001	56809-001	56809-001	56809-001	
GROUND CONN.	3981	3981	3981	3981	
LOUVER	56986-004(9)	56896-004(9)	56986-004(9)	56986-004(9)	
XFMR PRI FUSE BLOCK	57643-001	57643-001	57643-001	57643-001	
XFMR PRI FUSE (2)	57644-001 (2)	57644-001 (2)	57644-001 (2)	57644-001 (2)	
FAN SPEED SW	57112-001	57112-001	57112-001	57112-001	
MOTOR CAPACITOR	57100-001	57100-001	57100-001	57100-001	

	T3H5105CA4N	T3H5107CA4N	T3H5110CA4N	T3H5115CA4N	T3H5120CA4N
MOTOR	56562-017	56823-012	56823-012	56815-002	56825-002
ELEMENT ASSY.	56954-061	56954-054	56954-055	56954-056	54929-006
FAN OVERRIDE	66811-001	56811-001	56811-001	56811-001	56811-001
XFMR	57641-003	57641-003	57641-001	57614-002	57641-002
CONTACTOR	58027-043	58027-043	58027-043	58027-043	58027-043
POWER TRML. BLOCK	56815-001	56815-001	56815-001	56815-001	56815-001
FAN BLADE	51554-002	51554-002	51554-002	56813-001	56813-001
TERMINAL BOARD	56809-001	56809-001	56809-001	56809-001	56809-001
GROUND CONN.	1458	1458	1458	1458	1458
LOUVER	56986-003(7)	56986-003(7)	56986-003(7)	56986-003(7)	56986-003(7)

	T3T5125CA1N	T3T5130CA1N	T3T5140CA1N	T3T5150CA1N	
MOTOR	56943-002	56943-002	56945-002	56945-002	
ELEMENT ASSY.	56954-057	56954-058	56954-059	56954-060	
AUTO RESET LIMIT	57640-005	57640-005	57640-005	57640-005	
FAN OVERRIDE	56811-002	56811-002	56811-002	56811-002	
XFMR	60719-018	60719-018	60719-018	60719-018	
CONTACTOR	58027-043 (2)	58027-043 (2)	58027-043 (2)	58027-043 (2)	
POWER TRML. BLOCK	57098-001	57098-001	57098-001	57098-001	
FAN BLADE	57114-001	57114-001	57114-001	57114-001	
TERMINAL BOARD	56809-001	56809-001	56809-001	56809-001	
GROUND CONN.	3981	3981	3981	3981	
LOUVER	56986-004 (9)	56986-004 (9)	56986-004 (9)	56986-004 (9)	
FAN SPEED SWITCH	57112-001	57112-001	57112-001	57112-001	
MOTOR CAPACITOR	57100-001	57100-001	57100-001	57100-001	

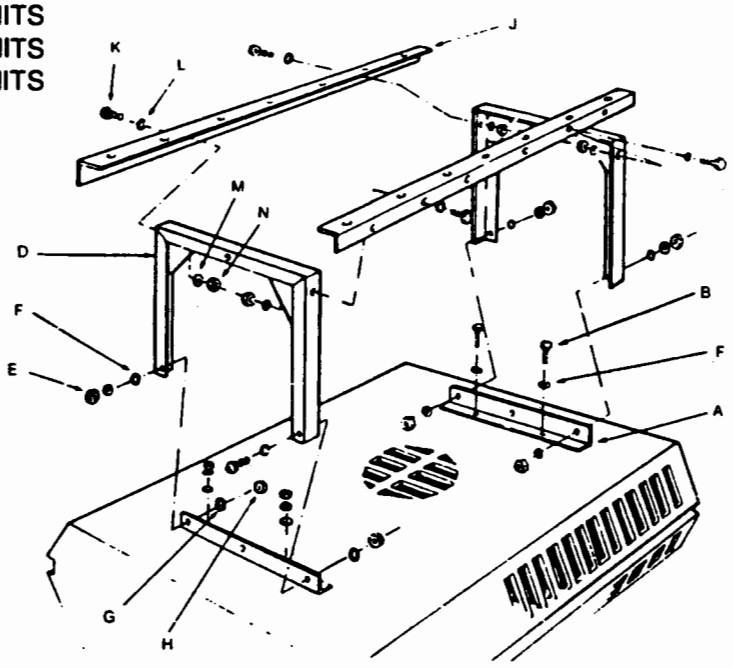
SERIES 5100

TASKMASTER

Installation Instructions

CEILING HANGER BRACKET • TASKMASTER SERIES
VERTICAL DISCHARGE AIR DELIVERY

MODEL V5105	USE WITH 5102-5105 UNITS
MODEL V5120	USE WITH 5107-5120 UNITS
MODEL V5150	USE WITH 5125-5150 UNITS



MODEL V5105 IS FOR USE WITH 5102 THRU 5105 HEATERS.
MINIMUM MOUNTING DISTANCES FOR 5102 THRU 5105 HEATERS:
12" FROM CEILING AND ADJACENT SURFACES
7' FROM FLOOR TO FRONT EDGE OF HEATER FRONT VENTURI

MODEL V5120 IS FOR USE WITH 5107 THRU 5120 HEATERS
MODEL V5150 IS FOR USE WITH 5125 THRU 5150 HEATERS
MINIMUM MOUNTING DISTANCES FOR 5107 THRU 5150 HEATERS:
18" FROM CEILING
24" FROM ADJACENT SURFACES
7' FROM FLOOR TO FRONT EDGE OF HEATER FRONT VENTURI

1) Attach short angle brackets "A" to back of heater with four $^{5}/_{16}$-18 bolts "B", lockwashers "F". Be sure vertical leg of angle brackets face top and bottom of heater.

2) Attach inverted U frames "D" to short angle brackets with four $^{5}/_{16}$-18 bolts "E", washers "F", lockwashers "G", and nuts "H", oriented as shown.

3) Attach long angle brackets "J" to inverted U frames "D" with four $^{5}/_{16}$-18 bolts "K", washers "L", lockwashers "M" and nuts "N".

4) Attach heater and bracket assembly to ceiling in desired location using customer supplied hardware sufficient to support the assembly.

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Photo/Design 615/764-3346

56620-004
REV 05/96

SERIES 5100
TASKMASTER

FSW5112 • TASKMASTER SERIES
REMOTE (WALL MOUNT) LOW VOLTAGE SUMMER FAN SWITCH

LOW VOLTAGE SWITCH FOR USE ON TASKMASTER HEATERS WITH SUFFIX CODE "CA1" ONLY.

THIS ACCESSORY PACKAGE CONTAINS A REMOTE FAN SWITCH AND A LOW VOLTAGE RELAY FOR UNIT MOUNTING.

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING SWITCH. USE THIS SWITCH ONLY ON UNITS WITH 24 VOLT CONTROL CIRCUITS. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. ALL CONDUCTORS FROM SWITCH TO UNIT MUST BE COPPER. ALL WIRING TO BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) AND EXISTING LOCAL CODE REQUIREMENTS.

1) Disconnect heater from power supply.
2) Remove 7/8" dia. knockout from heater back for control wiring from switch:
   Models 5102 thru 5105
   7/8" dia. knockout is located 2½" to right of heater back center and 3 5/16" from bottom of heater.
   Models 5107 thru 5120
   7/8" dia. knockout is located 5½" to left of heater back center and 1½" from bottom of heater.
   Models 5125 thru 5150
   7/8" dia. knockout is located 5 1/16" to left of heater back center and 3⅝" from bottom of heater.
3) Mount switch bracket assembly in remotely located utility box with appropriate cover. Note location of "top" on switch bracket.
4) Wire switch according to wiring diagram located on inside of heater bottom panel. Attach leads 2 and 4 from switch to heater terminals 2 and 4 on heater terminal board.
5) Assemble cover to utility box.
6) Assemble knob to switch shaft.
7) Remove paper backing from "Heat-Fan" decal and affix to utility box cover above switch knob.

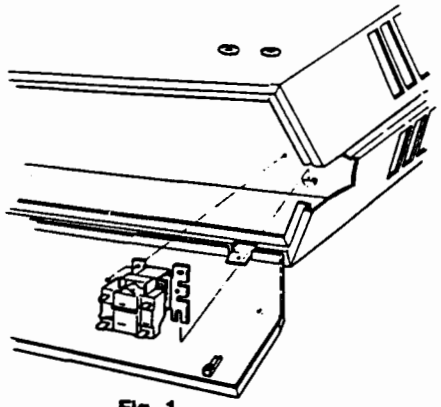

Fig. 1
2 - 5KW

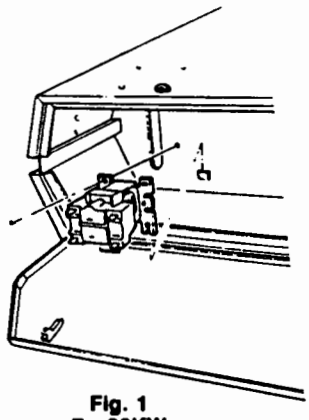

Fig. 1
7 - 20KW

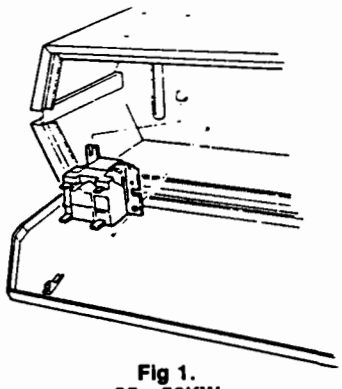

Fig 1.
25 - 50KW

8) **Fig. 1** Mount low volt relay in wiring compartment. Slip long leg of relay base under raised section of control mounting plate and attach diagonally opposite corner of relay base to control mounting plate with the No. 8 sheet metal screw supplied.
   NOTE: Models 5102 thru 5105
   Relay is mounted next to heater power terminal block
   Models 5107 thru 5150
   Relay is mounted next to heater control terminal board
9) Wire relay according to wiring diagram located on inside of heater bottom panel. Attach relay leads 6, 8, 7 & 9 to terminals 6, 8, 7 & 9 on terminal board.
10) After installation is complete, restore power to heater and check for proper operation.
    NOTE: For summer fan operation only thermostat must be in OFF position.

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Photo/Design 615/764-3346

Form 58621-067
REV 05/96

SERIES 5100

TASKMASTER

Installation Instructions

TW1510, TW1512
REMOTE MOUNTING
LINE VOLTAGE THERMOSTAT
SINGLE STAGE
TW1510 (SPST)
TW1512 (DPST)

1) Disconnect heater from supply.

2) Mount wall thermostat in desired location.

3) Wire the thermostat to the heater following the wiring diagram located on the heater. All wiring to be in accordance with local and/or national codes.

4) Restore power to the heater.

5) Check for proper thermostat operation.

Instructions d'installation

THERMOSTAT À TENSION COMPOSÉE
TW1510, TW1512
INSTALLATION À DISTANCE
À UN ÉTAGE
TW1510 (SPST)
TW1512 (DPST)

1) Débranchez le radiateur de l'alimentation de courant.

2) Installez le thermostat mural à l'endroit désiré.

3) Connectez le thermostat au radiateur en suivant le schéma de filerie situé sur le radiateur. Toute la filerie doit être en conformité avec les codes national et local.

4) Remettez le radiateur sous tension.

5) Vérifiez au bon fonctionnement.

IN USA:
TPI Corporation
P.O. Box 4973
Johnson City, TN 37602

Form 56621-072

SERIES 5100

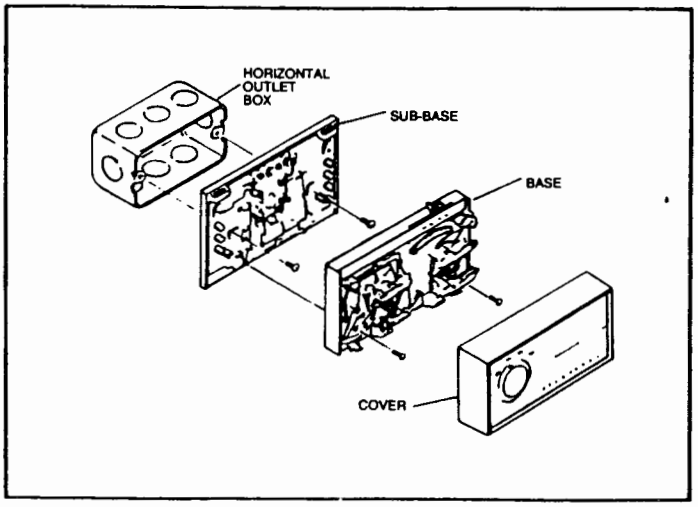
TASKMASTER

Installation Instructions

TFS5102 • TASKMASTER SERIES
REMOTE MOUNTING
24 VOLT OPERATION
TWO STAGE CONTROL & INTEGRAL FAN SWITCH

1) Disconnect heater from power supply.
2) At the desired location, run the thermostat cable through the hole in the center of the thermostat mounting sub-base. Leave about three inches of wire for connections. For the correct number of wires, see appropriate heater or control package wiring diagram and instructions.
3) Attach the sub-base directly to the wall or on a HORIZONTAL outlet box. Level the sub-base with a spirit level.
4) Connect the wires to the sub-base following the wiring diagram. Complete installation of wiring on the heater and/or control package. Plug the cable entrance hole to prevent drafts from affecting thermostat operation.
5) Remove the thermostat cover by pulling up the bottom edge until it snaps free of the locking springs. Set the heat anticipator to correspond with the primary system control (relay, etc.). The tabs along the top inside edge fit the sockets on the upper corners of the sub-base.
6) Hang the thermostat on the sub-base and tighten the two captive screws on the thermostat base. Replace cover by hooking cover tabs into the thermostat base and pushing down until the cover snaps into the locking springs.
7) Restore power to the heater and check for correct operation.

FAN SWITCH	**SYSTEM SWITCH**	**FUNCTION**
On	Off	Fan on - heat off
On	Auto	Fan on - stat cycles 2 stages heat
Auto	Off	Fan off - heat off
Atuo	Auto	Fan cycles with first stage heat - stat cycles 2 stages heat



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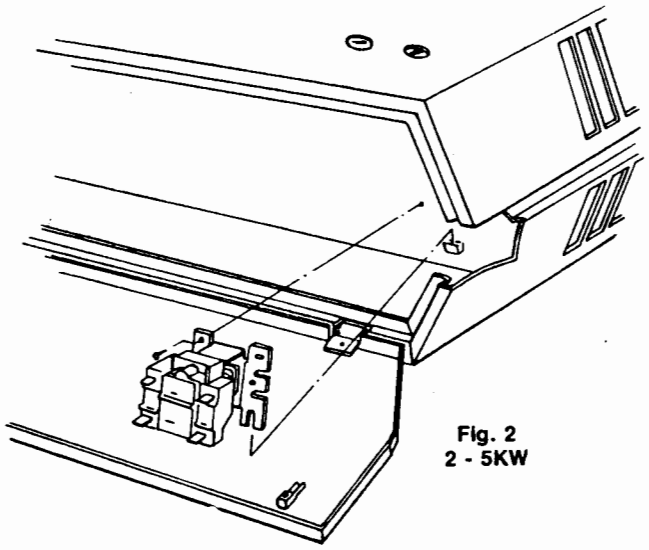

Fig. 2
2 - 5KW

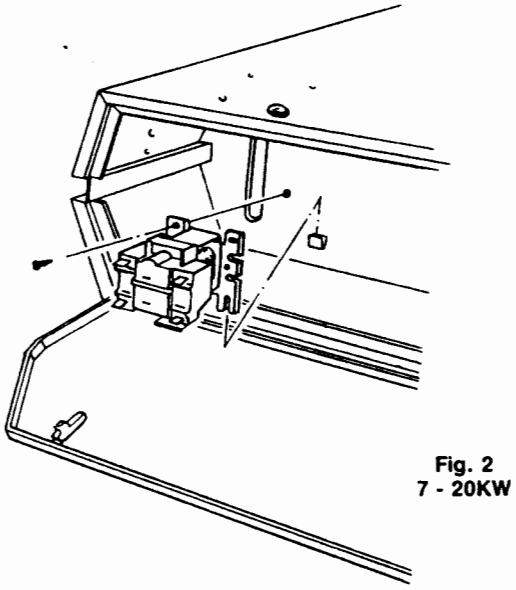

Fig. 2
7 - 20KW

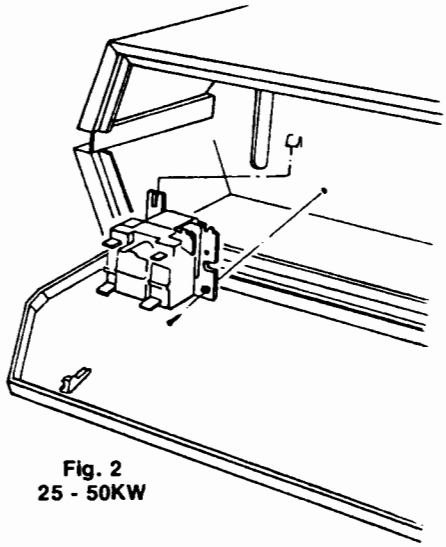

Fig. 2
25 - 50KW

8) **Fig. 2** Mount low volt relay in wiring compartment. Slip long leg of relay base under raised section of control mounting plate and attach diagonally opposite corner of relay base to control mounting plate with the No. 8 sheet metal screw supplied.

NOTE: Models 5102 thru 5105
Relay is mounted next to heater terminal block
Models 5107 thru 5150
Relay is mounted next to heater terminal board

9) Wire relay according to wiring diagram located on inside of heater bottom panel. Attach relay leads 6, 8, 7 & 9 to terminals 6, 8, 7 & 9 on terminal board.

10) After installation is complete, depress the reset button to insure continuity before applying power. After power is available to unit, check for proper operation.

TPI Corporation
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SERIES 5100
TASKMASTER

Installation Instructions

Dust Shield — Taskmaster Series
For Horizontal Air Delivery Units

Model DS5105	**Use with 5102-5105 Units**
Model DS5120	**Use with 5107-5120 Units**
Model DS5150	**Use with 5125-5150 Units**

1) **Install the hanger base "A" on the heater following the instruction sheet packed with the combination wall/ ceiling bracket or the hanger base.**

2) **Attach the hanger bracket to the wall or ceiling as desired following instructions packed with the bracket.**

3) **Following the correct illustration below:**

   Fig. A Wall Mounted Bracket
   Fig. B Ceiling Mounted Bracket .
   Fig. C Customer Supplied Bracket or Direct Connection to Building Structural Member.

Position the dust shield as shown and insert the bolt of the hanger base "A" through the hole in the dust shield, attach to the hanger bracket or structural member and attach the lock nut "E" and complete installation as per the bracket installation sheet.

NOTE: The dust shield is to be positioned on the same axis as the heater.

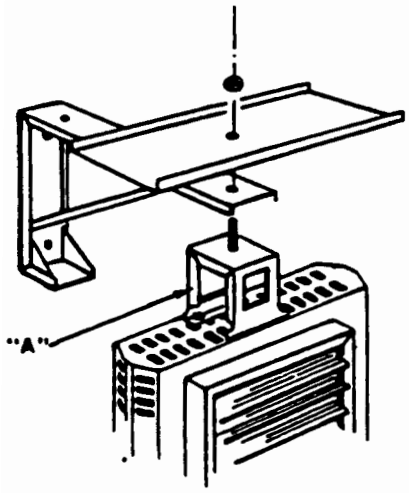

Fig. A

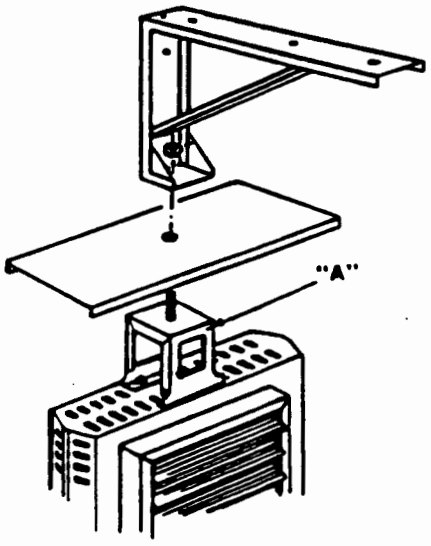

Fig. B

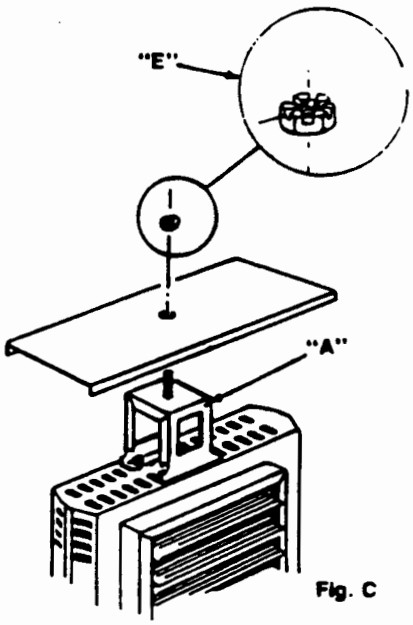

Fig. C

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56621-101
REV 05/96

SERIES 5100

TASKMASTER

Installation Instructions

A6176
REMOTE MOUNTED
24 VOLT CONTROL
SINGLE STAGE THERMOSTAT

1) Disconnect heater from power supply.

2) Place the wall plate at the desired location so that the cable entrance hole is in the lower left hand corner.

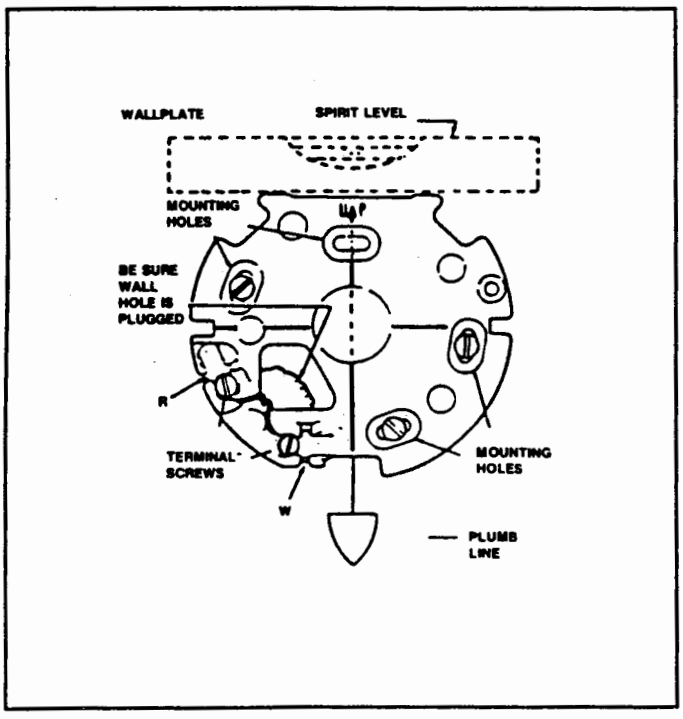
3) Bring the thermostat cable through the bottom entrance hole. For the correct number of wires, see the appropriate heater or control package wiring diagram and instructions.

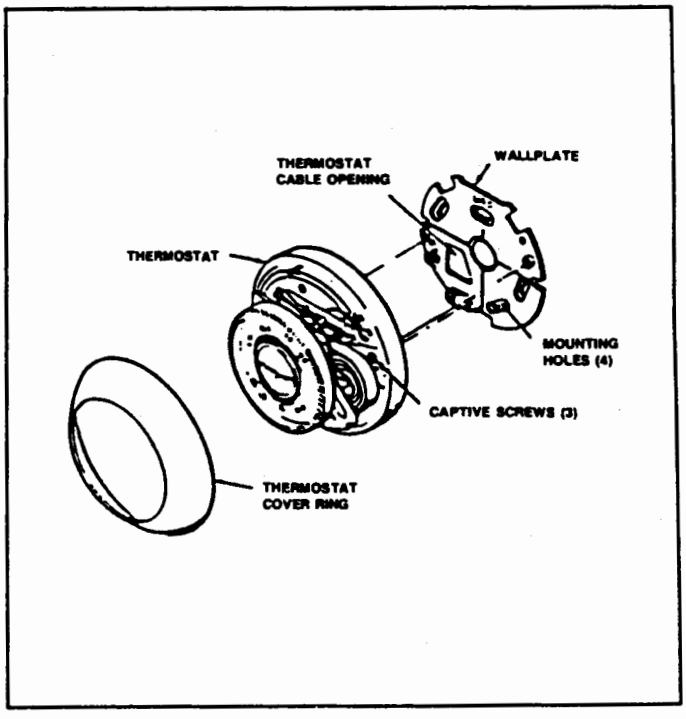
4) Fasten the wall plate to the wall. Accurately level as shown below and tighten the mounting screws. Plug the cable entrance hole to prevent drafts from affecting the operation of the thermostat.

5) Before mounting the thermostat, set the heat anticipator to correspond with the system primary control (relay, etc.) Align the thermostat over the wallplate and tighten the 3 captive mounting screws.

6) Replace thermostat cover ring (slip fit) and set desired temperature.

7) Restore power to heater and check operation of thermostat.





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56621-103

SERIES 5100

TASKMASTER

Installation Instructions

TW123 – TASKMASTER SERIES
REMOTE MOUNTING
24 VOLT OPERATION
TWO STAGE CONTROL

1. Disconnect heater from power supply.

2. At the desired location, run the thermostat cable through the hole in the center of the thermostat mounting sub-base. Leave about three inches of wire for connections. For the correct number of wires, see appropriate heater or control package wiring diagram and instructions.

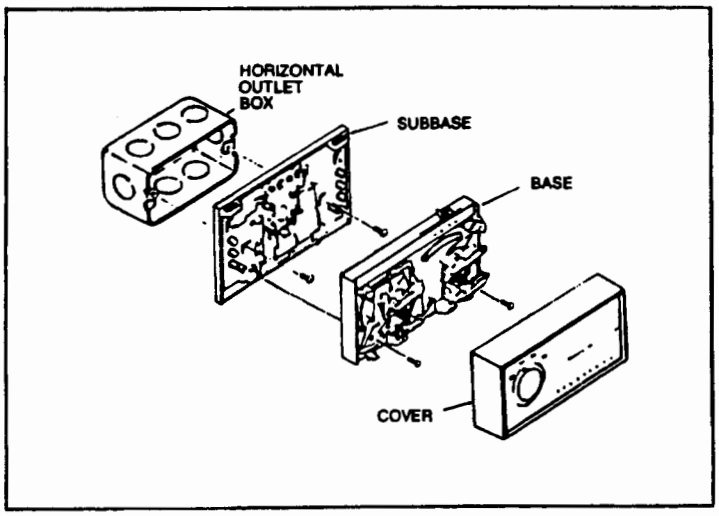
3. Attach the sub-base directly to the wall or on a HORIZONTAL outlet box. Level the sub-base with a spirit level.

4. Connect the wires to the sub-base following the wiring diagram. Complete installation of wiring on the heater and/or control package. Plug the cable entrance hole to prevent drafts from affecting thermostat operation.

5. Remove the thermostat cover by pulling up the bottom edge until it snaps free of the locking springs. Set the heat anticipators to .25 amp. After usage, readjust as needed. The tabs along the top inside edge fit the sockets on the upper corners of the sub-base.

6. Hang the thermostat on the sub-base and tighten the two captive screws on the thermostat base. Replace cover by hooking cover tabs into the thermostat base and pushing down until the cover snaps into the locking springs.

7. Restore power to heater and check for correct operation. The thermostat will, on a fall in space temperature below its setting, energize the 2 stages of heating in sequence. On a rise in space temperature towards the stat setting, the sequence is reversed.



Form 56621104
Rev 05/96

SERIES 5100

TASKMASTER

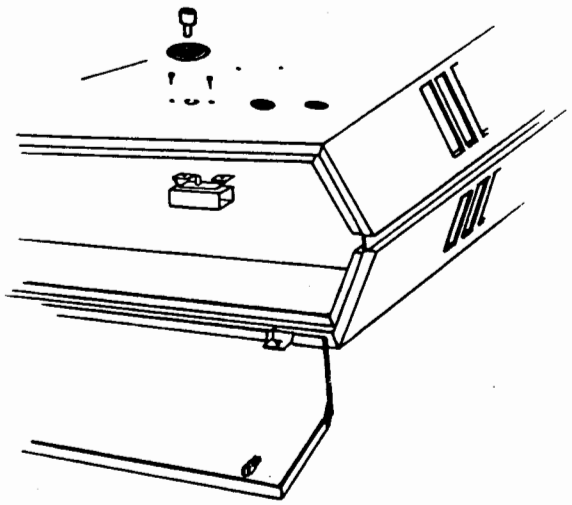
Installation Instructions

DCS252 POWER DISCONNECT SWITCH • TASKMASTER SERIES
RATING - 2 POLE 25 AMP 277 VAC RESISTIVE

READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING SWITCH. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. CHECK HEATER DATA TAPE TO INSURE THAT HEATER ELECTRICAL RATING DOES NOT EXCEED THE POWER DISCONNECT ELECTRICAL RATING.

SUPPLY WIRES MUST BE COPPER CONDUCTORS ONLY.

ALL WIRING TO BE IN ACCORDANCE WITH CSA, NEC AND LOCAL CODES. DO NOT REMOVE SWITCH OR FISHPAPER BARRIER FROM SWITCH MOUNTING BRACKET. DO NOT INTERRUPT POWER TO HEATER WHILE THE UNIT IS OPERATING IN ORDER TO PERFORM NORMAL MAINTENANCE SERVICE. ANY POWER INTERRUPTION DURING NORMAL OPERATION WILL PREVENT THE FAN FROM PURGING THE UNIT OF RESIDUAL HEAT.



1) Remove ½" (13mm) dia. knockout and two adjacent small knockouts from heater back.

   NOTE: ½" (13mm) dia. knockout is located on the heater back center approximately 3½" (89mm) from the bottom of heater with the two small knockouts on either side.

2) Remove paper backing from "ON-OFF" decal, align with the ½" (13mm) dia. knockout hole and affix to heater back with "ON" toward top of heater.

3) Rotate switch shaft clockwise to the ON position.

4) With flat portion of switch shaft toward top of heater, attach switch bracket to heater back by means of the two No. 8 sheet metal screws supplied.

5) Push knob on switch shaft and check alignment of knob pointer with "ON-OFF" decal.

6) Wire switch according to wiring diagram located on inside of bottom panel. Attach switch leads T1 and T2 to L1 and L2 of heater terminal block.

   Attach switch leads L1 and L2 to incoming supply conductors L1 and L2 by suitable means.

7) Restore power to unit and check for proper operation.

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Form 56628-002
REV 05/96

SERIES 5100

TASKMASTER

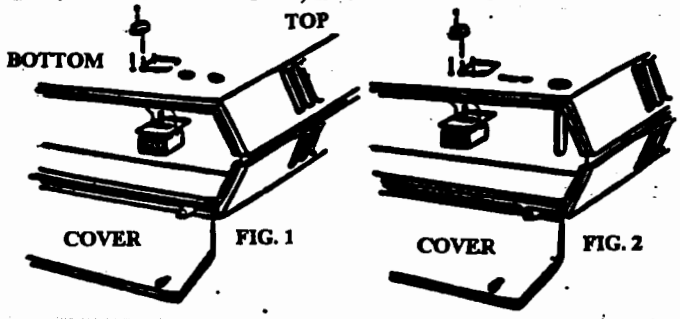
Installation Instructions

DCS253 POWER DISCONNECT SWITCH • TASKMASTER SERIES
RATING – 3 POLE 40 AMP 600 VAC RESISTIVE

READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING SWITCH. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. CHECK HEATER DATA TAPE TO INSURE THAT HEATER ELECTRICAL RATING DOES NOT EXCEED THE POWER DISCONNECT SWITCH'S ELECTRICAL RATING.

SUPPLY WIRES MUST BE COPPER CONDUCTORS ONLY.

ALL WIRING MUST BE IN ACCORDANCE WITH NEC AND LOCAL CODES. KIT CONSISTS OF: THE DISCONNECT SWITCH ASSEMBLY WITH KNOB AND LEADWIRES, TWO #8 MOUNTING SCREWS, "ON-OFF" DECAL, INSTALLATION INSTRUCTIONS.



1) Locate and remove knockouts where switch is to be mounted.
   a. For heater Model No's 5103 thru 5105 (Fig. 1)
   Remove 1/2" dia. knockout and two adjacent small knockouts from heater back.
   NOTE: 1/2" dia. knockout is located on the back center approximately 3 1/2" from the bottom of heater with a small knockout on either side.

   b. For heater Model No's 5107 thru 5115 (Fig. 2)
   Remove 5/8" wide knockout slot and two adjacent small knockout slots from heater back.
   NOTE: 5/8" wide knockout slot is located on the heater back approximately 3 1/2" from the bottom of heater with a small knockout on either side.

2) Remove the knob from the switch by loosening the screw in the center of the knob and pulling it off.

3) Connect the incoming power supply leads to terminals L1-L2-L3 of the disconnect switch. Connect the incoming ground lead to the grounding screw (or lug).

4) Mount the switch inside the heater control compartment, with the shaft extending through the knockout, using the two #8 x 5/16 phillips head screws provided. The switch should be oriented so the side with the data label is facing the open side of the compartment (visible when installed).

5) Connect the lead wires on the switch, marked T1-T2-T3 to the heater power terminal block marked L1-L2-L3.

6) Install the knob and tighten the screw.

7) Attach the "ON-OFF" decal located per Fig.1. Peel off the backing paper, position carefully then press firmly onto the heater cabinet. Note that knob rotation clockwise is "ON" and counterclockwise is "OFF".

8) Check all connections for tightness and electrical clearances. Close cover and latch, then restore electrical power and check heater in each mode of operation.

REV 05/96 #56628-004

SERIES 5100
TASKMASTER

Installation Instructions

TASKMASTER SERIES

T5100, T5102, T5122, TC5102 and TC5103 Built-in Thermostat Kits (for Field Installation in the 5100 Series Unit Heaters.

T5100 Provides SPST line voltage control for single phase heaters up to 277V, 25A.
or
Pilot duty control (24-277 volt) for contactor equipped heaters.

T5102 Provides double pole line voltage control breaking all ungrounded conductors for single phase heaters up to 277V, 25 amperes.
or
Two pole line cycling control for 3 phase heaters up to 240 volts, 25 amps but does *not* break all ungrounded conductors on 3 phase applications.

T5122 Provides two stage low voltage (24V) control for two stage heaters. Two separate circuits are controlled by the same sensing element. Switches controlling these circuits are calibrated to make or break in sequence.

TC5102 is a thermostat and relay for use with 480 & 600 volt heaters to control the fan motor. It provides for sensing of heat accumulation (strat-stat) near the ceiling and switches the fan motor on to recirculate and recover this heat.

TC5103 provides control of the fan motor on 208, 240 & 277 volt heaters to recover and recirculate the statified heat accumulated near the ceiling.

Please read each installation instruction carefully before beginning installation.

INSTALLATION INSTRUCTIONS T5100, T5102, T5122

1) CAUTION:
To avoid possible electric shock, turn heater OFF at distribution panel. On heaters equipped with a disconnect switch, rotate switch to the OFF position.

2) Unlock the 2 screws on the control panel door and let door swing down. Some models have an additional center door catch. Squeeze catch to open.

3) Remove ½ (13mm) dia. thermostat bulb exit knockout from back of heater, Fig. 1. Feed thermostat bulb and capillary thru knockout.
CAUTION: Keep capillary tubing away from internal electrical components.

4) Remove 2 small thermostat bulb clip knockouts on the rear of the heater, see Fig. 1. Insert 2 bulb clips (supplied). Snap thermostat bulb into clips.

5) Remove the three stat mounting knockouts from side of control compartment: 1) 9/16 & 2) 3/16. Remove backing from label (supplied). Align label with thermostat shaft hole and position as in Fig. 1. Press label on heater side as shown.

6) Note orientation of leg on thermostat bracket (see Fig. 1). Position *only* as shown.
Install thermostat with the 2 No. 8 mounting screws provided.

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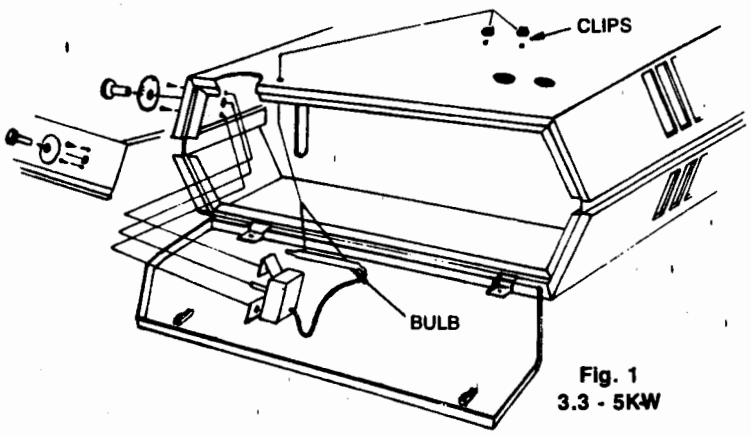


Fig. 1
3.3 - 5KW

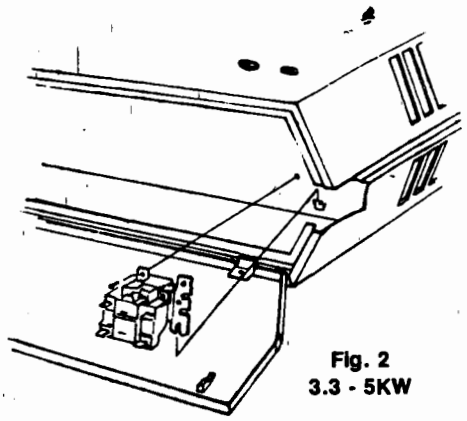


Fig. 2
3.3 - 5KW

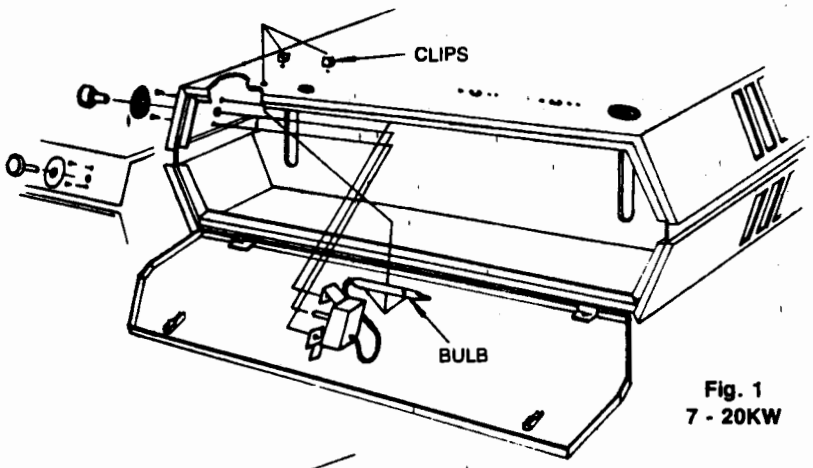


Fig. 1
7 - 20KW

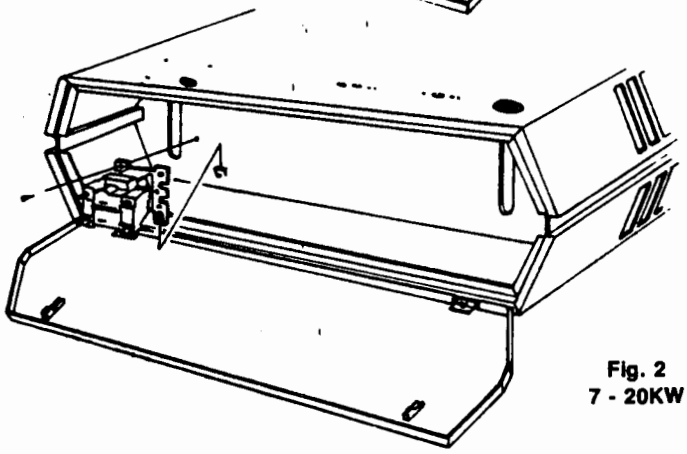


Fig. 2
7 - 20KW

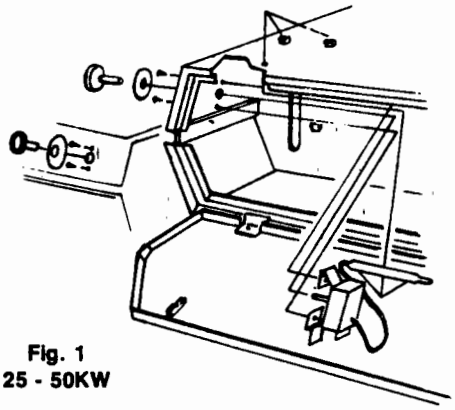


Fig. 1
25 - 50KW

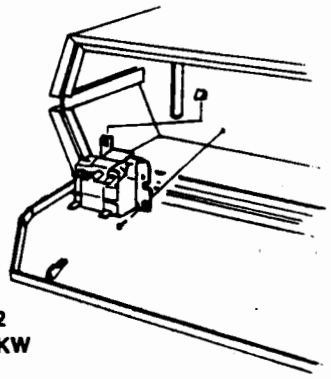


Fig. 2
25 - 50KW

7) Install knob by pushing onto thermostat shaft.
8) Connect lead wires from the thermostat to the control terminal board as shown in the wiring diagrams located on the inside of the control panel door.
9) Set thermostat for desired turn on temperature. Rotate thermostat knob fully clockwise. When the room temperature has reached the comfort level turn thermostat counterclockwise until it clicks off. The thermostat may require one or two additional settings to maintain your desired comfort level.

HEAT RECOVERY THERMOSTAT TC5102, TC5103

9) The TC5102 thermostat package requires a relay to operate the fan motor. Install the thermostat by following steps 1 through 8.
10) Install the relay by slipping extended relay leg under mounting lip on control panel. Mount relay with one No. 8 screw as shown in Fig. 2. Each lead wire is marked for proper terminal location; connect lead wires as indicated on the wiring diagram located on the inside of the control panel door.
11) Set the thermostat for desired turn on temperature for fan control.

SERIES 5100

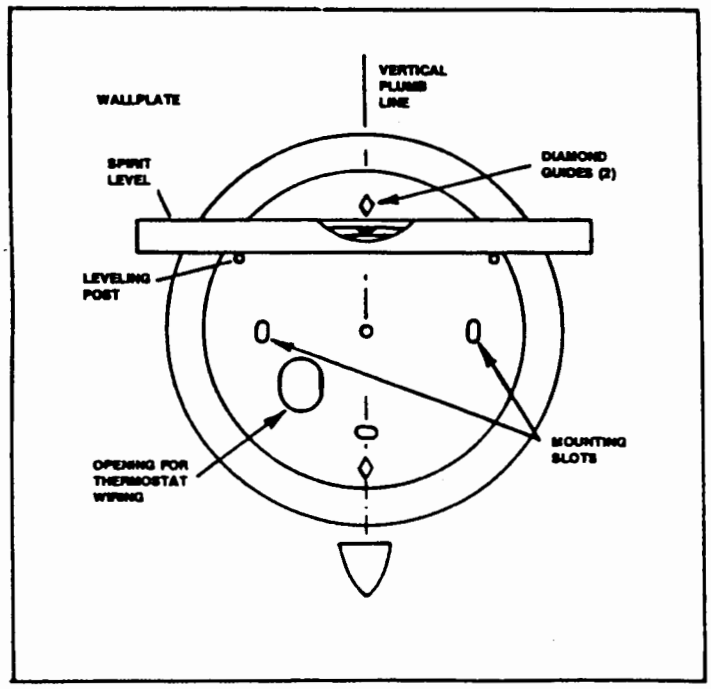
TASKMASTER

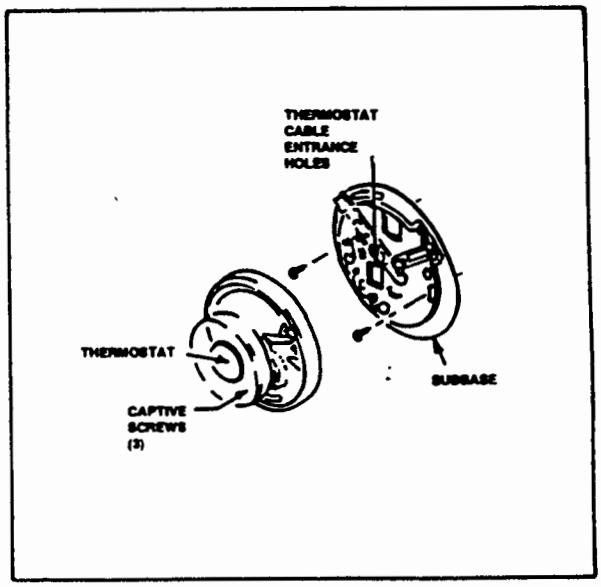
P. O. Box 4973 CRS
Johnson City, TN 37602-4973

Installation Instructions

TFS5101
REMOTE MOUNTING
24 VOLT CONTROL
SINGLE STAGE THERMOSTAT & INTEGRAL FAN SWITCH

1) Disconnect heater from power supply.
2) Place the fan switch thermostat sub-base at the desired location so that the cable entrance is in the lower left hand corner.
3) Bring the low voltage thermostat cable through the bottom entrance hole, leaving about three inches of wire for connections. For the correct amount of wires, see appropriate heater or control package wiring diagram.
4) Fasten the sub-base to the wall. Accurately level as shown below and tighten mounting screws furnished. Plug the cable entrance hole to prevent drafts from affecting operation.
5) Before mounting the thermostat, set the heat anticipator to correspond with the system primary control (relay, etc.) Align the thermostat over the sub-base and tighten the three captive mounting screws.
6) Replace thermostat cover ring (slip fit) and set the desired temperature.
7) Restore power to heater and check for correct operation. When the switch is OFF, the unit shall be deenergized. With the switch on FAN, only the unit fan motor shall operate. With the switch set to HEAT, both the fan motor and heating element(s) shall be cycled from the thermostat through the appropriate control relay(s).





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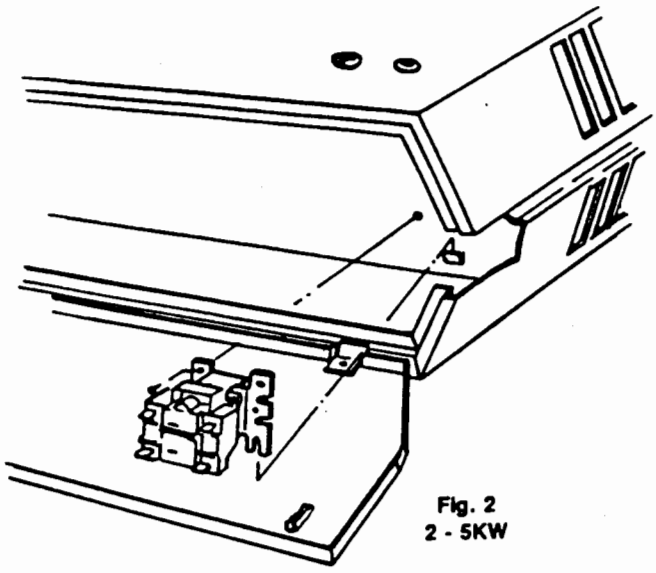

Fig. 2
2 - 5KW

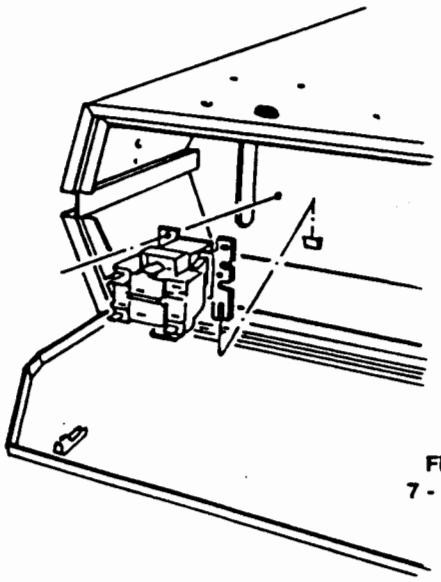

Fig. 2
7 - 20KW

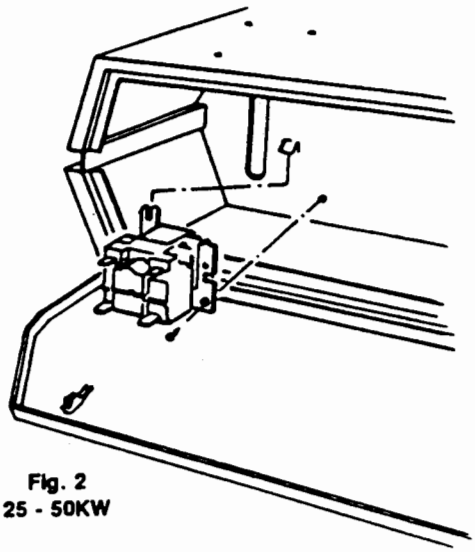

Fig. 2
25 - 50KW

8) Fig. 2 Mount low volt relay in wiring compartment. Slip long leg of relay base under raised section of control mounting plate and attach diagonally opposite corner of relay base to control mounting plate with the No. 8 sheet metal screw supplied.

NOTE: Models 5102 thru 5105
Relay is mounted next to heater terminal block
Models 5107 thru 5150
Relay is mounted next to heater terminal block

9) Wire relay according to wiring diagram located on inside of heater bottom panel. Attach relay leads 6, 8, 7 & 9 to terminals 6, 8, 7 & 9 on terminal board.

10) After installation is complete, depress the reset button to insure continuity before applying power. After power is available to unit, check for proper operation.

IN USA:
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Johnson City, TN 37602
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SERIES 5100

TASKMASTER

Installation Instructions

FS5101 • TASKMASTER SERIES
UNIT MOUNTED LINE VOLTAGE SUMMER FAN SWITCH
FOR USE ON UNITS WITH 208, 240 or 277 VOLT SUPPLY ONLY

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING SWITCH. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. BE SURE TO INSTALL THE APPROPRIATE MODEL SWITCH ON THE CORRECT UNIT.

1) Disconnect heater from supply.

2) Remove appropriate knockouts for switch being used. Refer to Fig. 1.

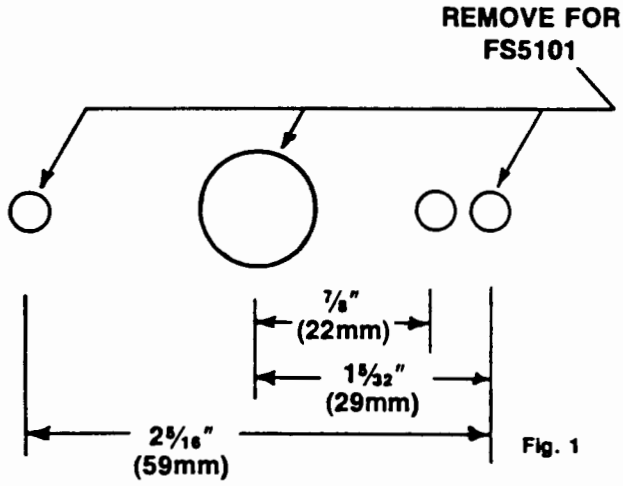

Fig. 1

Models 5102 thru 5105 - Fig. 2
Knockout group is located on heater back center approximately 1⅛" (29mm) from bottom of heater.

Models 5107 thru 5120 - Fig. 3
Knockout group is located on heater back approximately 3¼" (83mm) from bottom of heater with the 9/16" (14mm) dia. knockout located approximately 3¾" (95mm) to the right of the back center.

Models 5125 thru 5150 - Fig. 4
Knockout group is located on heater back approximately 1¾" (44mm) from bottom of heater with the 9/16" (14mm) dia. knockout located approximately 5" (127mm) to the left of the back center.

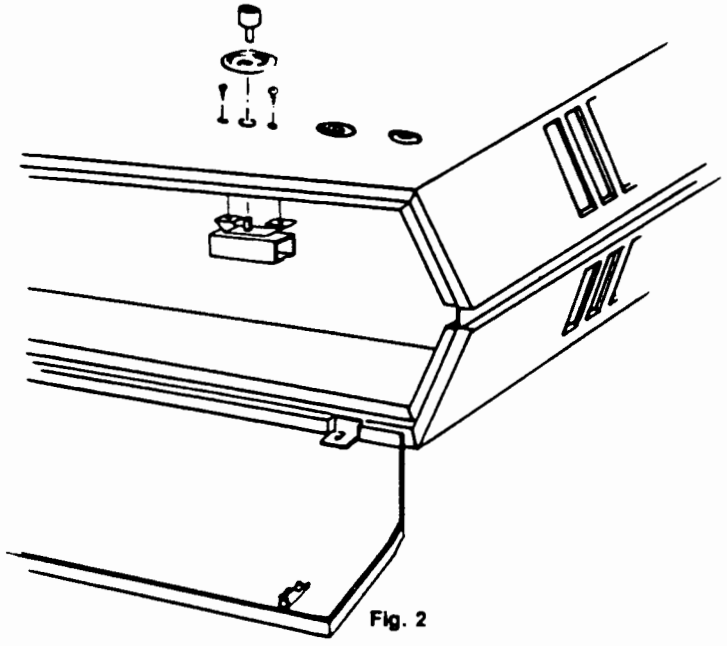
Fig. 2

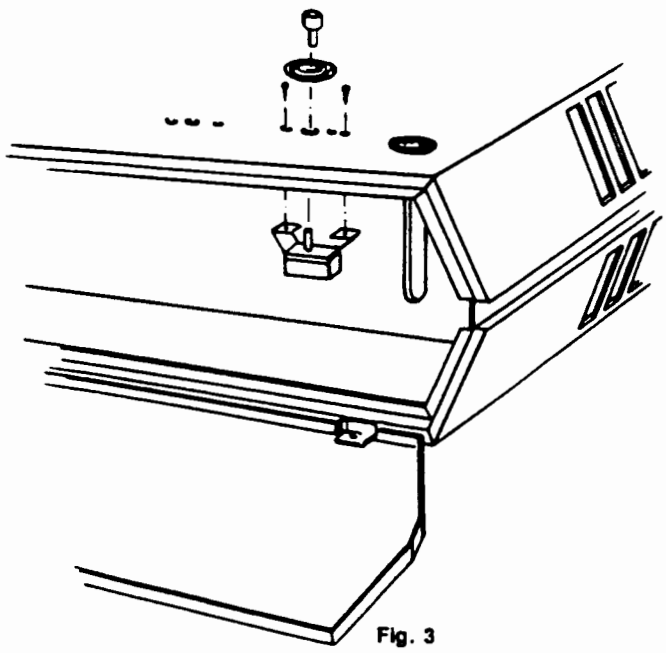
Fig. 3

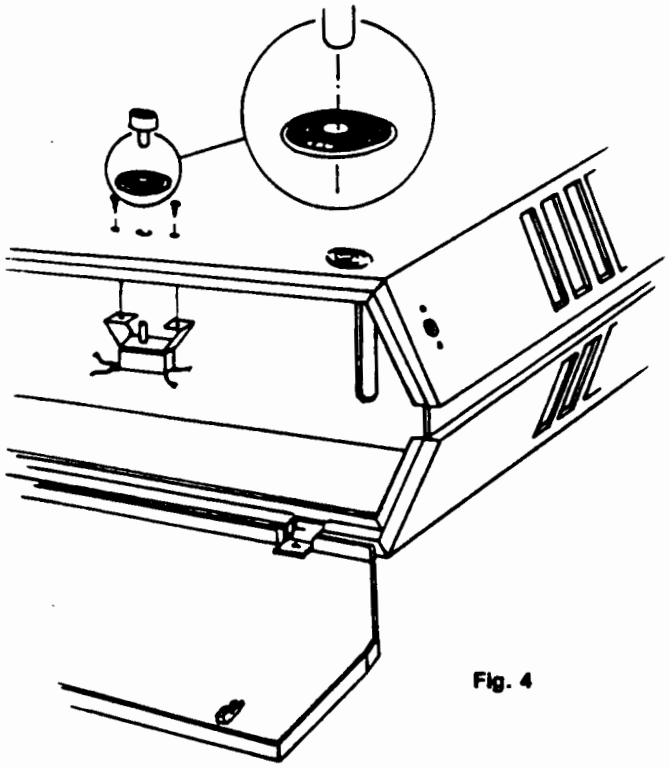

Fig. 4

3) Remove paper backing from "Fan-Heat" decal, align with large knockout hole and affix to heater back with "Heat" toward bottom of heater.

4) Rotate switch shaft clockwise to the fan position.

5) With flat portion of switch shaft toward bottom of heater, attach switch bracket assembly to heater back with the two No. 8 sheet metal screws supplied.

6) Push knob on switch shaft and check alignment of knob pointer and "Fan-Heat" decal.

7) Wire switch according to wiring diagram located on inside of heater bottom panel. Attach switch leads 7 & 9 to terminals 7 & 9 on terminal board.

8) After installation is complete, depress RED reset button to insure unit continuity before applying power. After power is available to unit, check for proper operation.

NOTE: For summer fan operation only, thermostat must be in OFF position.

IN USA:
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SERIES 5100

TASKMASTER

Installation Instructions

FS5102 • TASKMASTER SERIES
UNIT MOUNTED LINE VOLTAGE SUMMER FAN SWITCH
FOR USE ON EITHER 480 or 600 VOLT SUPPLY

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING SWITCH. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. BE SURE TO INSTALL THE APPROPRIATE MODEL SWITCH ON THE CORRECT UNIT.

1) Disconnect heater from supply.

2) Remove appropriate knockouts for switch being used. Refer to Fig. 1.

Models 5102 thru 5105 - Fig. 2
Knockout group is located on heater back center approximately 1⅛" (29mm) from bottom of heater.

Models 5107 thru 5120 - Fig. 3
Knockout group is located on heater back approximately 3¼" (83mm) from bottom of heater with the 9/16" (14mm) dia. knockout located approximately 3¾" (95mm) to the right of the back center.

Models 5125 thru 5150 - Fig. 4
Knockout group is located on heater back approximately 1¾" (44mm) from bottom of heater with the 9/16" (14mm) dia. knockout located approximately 5" (127mm) to the left of the back center.

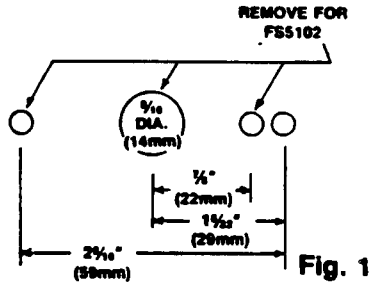

Fig. 1

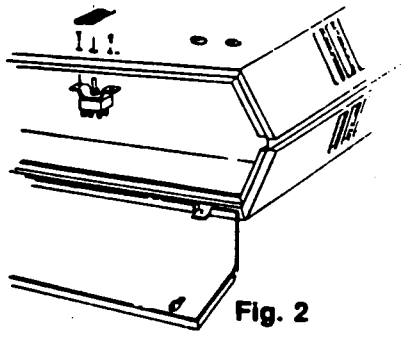
Fig. 2

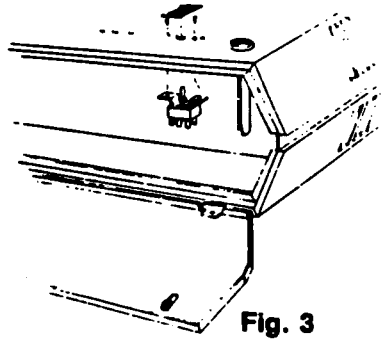
Fig. 3

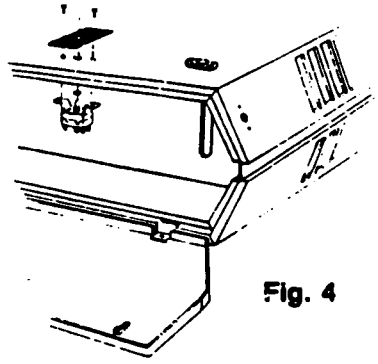
Fig. 4

3) Remove paper backing from "Fan-Heat" decal, align with large knockout hole and affix to heater back with "Heat" toward bottom of heater.

4) Attach switch bracket assembly to heater back with the two No. 8 sheet metal screws supplied.

5) Push knob on switch shaft and check alignment with decal.

6) Wire switch according to wiring diagram located on inside of heater bottom panel. Attach switch leads 7 & 9 to terminals 7 & 9 on terminal board.

7) After installation is complete, restore power and check for proper operation.

NOTE: For summer fan operation only, place thermostat in OFF position.

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Form 56628-008
REV 05/96

SERIES 5100
TASKMASTER

FSW5111 • TASKMASTER SERIES
REMOTE (WALL MOUNT) SUMMER FAN SWITCH

LINE VOLTAGE SWITCH FOR USE ONLY ON TASKMASTER HEATERS WITH A POWER SUPPLY OF 208, 240 or 277 VOLT SERVICE.

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING SWITCH. DO NOT USE THIS SWITCH ON UNITS WITH 480 or 600 VOLT MOTOR CIRCUIT. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING SWITCH. ALL CONDUCTORS FROM SWITCH TO UNIT MUST BE COPPER. ALL WIRING TO BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) AND EXISTING LOCAL CODE REQUIREMENTS.

1) Disconnect heater from power supply.

2) Remove 7/8" dia. knockout from heater back for control wiring from switch.

   Models 5102 thru 5105
   7/8" dia. knockouts located 2½" to right of heater back center and 3 5/16" from bottom of heater.

   Models 5107 thru 5120
   7/8" dia. knockout is located 5½" to left of heater back center and 1½" from bottom of heater.

   Models 5125 thru 5150
   7/8" dia. knockout is located 5 1/16" left of heater back center and 3 5/8" from bottom of heater.

3) Mount switch bracket assembly in remotely located utility box by others with appropriate cover. Note location of "top" of switch bracket.

4) Wire switch according to wiring diagram located on inside of heater bottom panel. Attach leads 7 & 9 from switch to heater terminals 7 & 9 on heater terminal board.

5) Assemble cover to utility box.

6) Assemble knob to switch shaft.

7) Remove paper backing from "Heat-Fan" decal and affix to utility box cover above switch knob.

8) After installation is complete, restore power to heater and check for proper operation.

   NOTE: For summer fan operation only thermostat must be in OFF position.

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Form 56628-009
REV 05/96

SERIES 5100

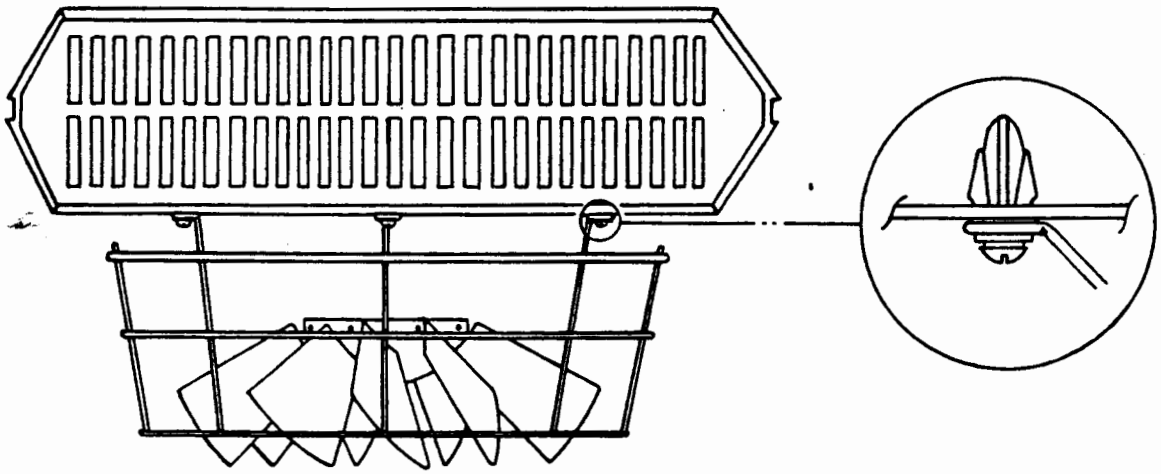
TASKMASTER

Installation Instructions

RADIAL DIFFUSER • TASKMASTER SERIES

MODEL RD5120 USE WITH 5107-5120 UNITS
MODEL RD5150 USE WITH 5125-5150 UNITS

READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING DIFFUSER. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING DIFFUSER. CHECK MODEL NUMBER OF DIFFUSER TO INSURE INSTALLATION ON PROPER SIZE UNIT. IMMERSE NYLON PUSH NUTS (BAG ASSY) IN WATER FOR AT LEAST ½ HOUR BEFORE INSTALLING.



1) Remove lower frame assembly from front of heater and discard. Louver frame assembly is attached to the heater front with four sheet metal screws.
2) Insert the four nylon push nuts (bag assy) into the square holes located around the venturi opening on the heater front. A slight tap with a flat surface may be required to fully seat the nylon push nuts in the square holes.

   NOTE: Immerse the nylon push nuts (bag assy) in water for at least ½ hour before using.
3) Assemble the internal tooth star washer and flat washer to the mounting screw (bag assy).
4) Line up the diffuser mounting holes with the nylon push nuts mounted in the heater front (step 2). Insert the mounting screws (step 3) through the diffuser mounting eyes and tighten the screws.
5) Adjust diffuser vanes for desired air deflection.
6) Place unit in operation.

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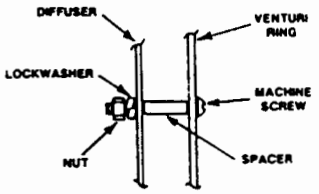
56628-011

SERIES 5100
TASKMASTER

ANEMOSTAT DIFFUSER • TASKMASTER SERIES

MODEL AD5120 USE WITH 5107-5120 UNITS
MODEL AD5150 USE WITH 5125-5150 UNITS

READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING DIFFUSER. BE SURE TO DEENERGIZE POWER SOURCE TO UNIT BEFORE INSTALLING DIFFUSER. CHECK MODEL NUMBER OF DIFFUSER TO INSURE INSTALLATION ON PROPER SIZE UNIT.



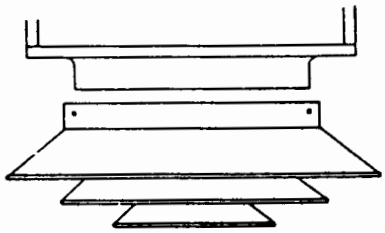


FIG. 1

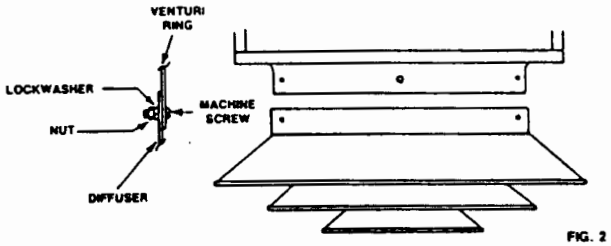


FIG. 2

For Heaters 5107-5110 Use Diffuser AD5120 - See Fig. 1
For Heaters 5125-5150 use Diffuser AD5150 - See Fig. 1

1) Discard ¼ - 20 x ½" (13mm) long machine screws (bag assy).
2) Line up holes in diffuser and the venturi ring on the heater front.
3) Insert the ¼ - 20 x 1" (25mm) long machine screws through the venturi ring holes with the machine screw head on the *inside* of the venturi (See Note Below).
4) Slip the spacer over the machine screw. Insert the machine screw through the diffuser hole, install the lockwasher, nut; then tighten. (See detail above). (three places).
5) Place heater in operation.

NOTE

1) Machine screw head *must* be on the *inside* of the venturi ring.
2) Caution must be exercised when mounting the diffuser so as not to damage the fan blade.

For Heaters 5112-5120 ONLY - See Fig. 2 Use Diffuser AD5120

1) Discard ¼ - 20 x 1" (25mm) long machine screws and ⅝" (16mm) long spacers.
2) Line up holes in diffuser and venturi ring (heater front).
3) Insert ¼ - 20 x ½" (13mm) long machine screws through venturi ring and diffuser holes with the machine screw head on the *inside* of the venturi.
4) Attach the lockwasher, nut and tighten. (three places)
5) Place unit in operation.

NOTE

1) Machine screw heads *must* be on the *inside* of the venturi ring.
2) Caution must be exercised when mounting the diffuser so as not to damage the fan blade.

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SERIES 5100

TASKMASTER

Installation Instructions

TC1602

LINE VOLTAGE
CEILING MOUNTED
SAVE-A-WATT
THERMOSTAT

1) Disconnect heater from power supply.
2) Use wiring rated for the voltage supplied to the heater. Route the wiring from the heater to the thermostat per electrical codes. Connect to the heater terminals #7 & 9 as shown on the heater wiring diagram for the "Strat-Stat".
3) Remove the front cover of the thermostat by unscrewing the single screw in the front.
4) Remove knockout where necessary for wiring.
5) Attach thermostat to mounting surface. A wooden panel should be placed between the thermostat and the mounting surface if it is brick, metal or concrete.
6) Run wiring through the knockout holes. The wiring should not interfere with the adjusting knob or the dial.
7) Complete the wiring connections to the thermostat, replace the cover, restore power to the unit, and check for proper operation.

Instructions d'installation

THERMOSTAT
ECONOMIQUE
À TENSION COMPOSÉE
MONTÉ AU PLAFOND

TC1602

1) Débranchez le radiateur du courant d'alimentation.
2) La tension d'utilisation des fils doit être la même que celle du courant d'alimentation du radiateur. Faites passer la filerie du radiateur au thermostat en conformitê avec les codes électriques, connectez les fils au bornes du radiateur 7 & 9 comme montré sur le schéma de filerie pour le "thermostat de stratification".
3) Otez le couvercle frontal du thermostat en enlevant la seule vis située à l'avant.
4) Enlevez les rondelles défonçables utiles pour faire passer les fils.
5) Si la surface de montage est en briques, métal ou ciment pour installer le thermostat, une petite planche en bois doit être montée entre ce dernier et la surface de montage.
6) Faites passer la filerie à travers les trous faits par les rondelles défonçables. Les fils ne doivent pas gêner le mouvement du bouton de réglage ou du cadran.
7) Après avoir connecté les fils au thermostat, replacez le couvercle, remettez le radiateur sous tension puis vérifiez au bon fonctionnement.

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SERIES 5100

TASKMASTER

Installation Instructions

DCS323, DCS632, DCS 633
POWER DISCONNECT SWITCH • TASKMASTER SERIES

RATING	DCS323	3 POLE	32 AMPS	600 VAC RESISTIVE
	DCS632	2 POLE	63 AMPS	600 VAC RESISTIVE
January 1990	DCS633	3 POLE	63 AMPS	600 VAC RESISTIVE

WARNING: Open supply circuit disconnect switch before servicing unit. Failure to do so may result in personal injury or death from electrical shock.

NOTE: Before installing disconnect switch, check heater data tape to ensure that heater electrical rating does not exceed the switch electrical rating.

NOTE: All wiring must be done in accordance with National and Local Electrical Codes. Supply conductors to unit must be copper.

NOTE: The power disconnect switch kits may be either of two types. Determine which type you have and follow the appropriate instructions.

DISCONNECT SWITCHES WITH TERMINAL SHIELD. REFER TO FIGURES 1 AND 2 .

1. Disconnect heater from power supply.
2. Locate and remove large knockout and two adjacent small knockouts from heater where switch is to be mounted.
   a. 7-20 KW Units — 5/8" wide knockout slot is located centered on the heater back approximately 3 1/2" from the bottom of the unit with a small knockout on each side. See Figure 1.

   NOTE: In some instances due to restricted space in the control compartment of 480 and 600 volt heaters, the disconnect switch accessory model DCS633 must be mounted to the cabinet front using three knockouts (a 1/2" with a 3/16" on each side) located on front left 2 1/2" from bottom.

   b. 25-50 KW Units — 13/32" diameter knockout is located on left hand side of heater front with the small knockout on either side. See Figure 2.
3. Remove paper backing from "ON-OFF" decal and affix it to heater above large knockout hole with lettering toward top of heater.
4. Attach switch bracket assembly to heater with the two No. 8 screws provided.

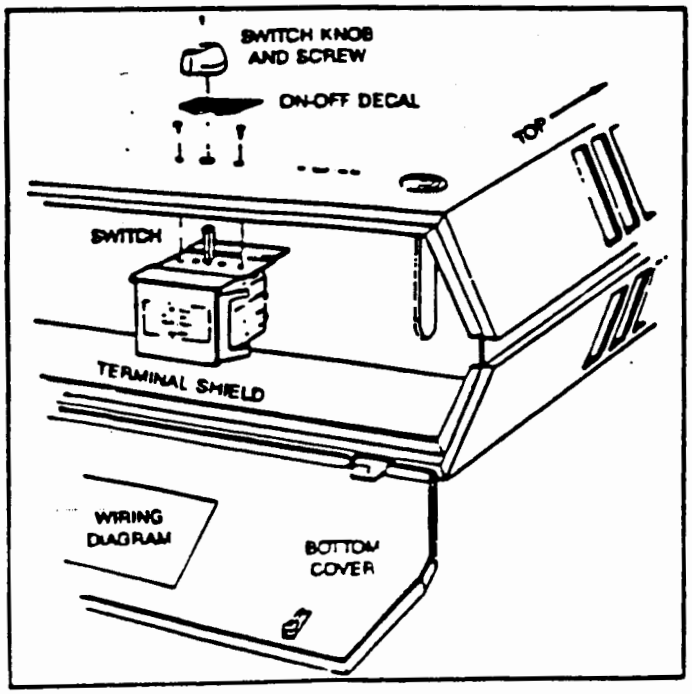

FIGURE 1 - Switch Location on 7-20 KW Unit

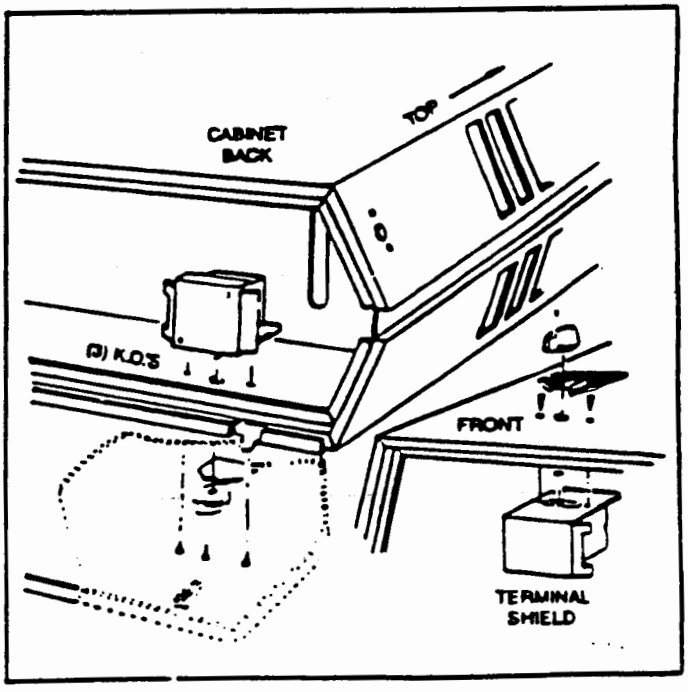

FIGURE 2 - Switch Location on 25-50 KW Unit

9581

NOTE: Switch bracket assembly must be attached to heater with switch terminal barrier section toward bottom of heater; data and caution tapes on switch bracket must be plainly visible after installation. Do not remove fiber barrier from switch mounting bracket.

5. Loosen switch knob screw, push knob on switch, check for proper alignment with "ON-OFF" decal and tighten knob screw. When the switch shaft is turned fully counterclockwise, the switch will be in the "OFF" position.
6. Wire switch according to wiring diagram located on inside of heater bottom cover.
   a. Attach switch leads T1, T2 and T3 to L1, L2 and L3 of heater terminal block.
   b. Attach switch leads L1, L2 and L3 to incoming conductors L1, L2 and L3 by suitable means.

   NOTE: Switch Model DCS632 has lads marked T1, T2 and L1, L2 only.

DISCONNECT SWITCH KITS WITHOUT TERMINAL SHIELD. REFER TO FIGURES 3 and 4.

1. Refer to steps 1 and 2 from above instructions.
2. Remove the knob from the switch by loosening the screw in the center of the knob and pulling it off.
3. Connect the incoming power supply leads to terminals L1 - L2 - L3 of the disconnect switch. Connect the incoming ground lead to the grounding screw (or lug). On some models with adequate access the switch may be mounted (step 4) prior to connecting the supply wiring.
4. Mount the switch inside the heater control compartment, with the shaft extending through the knockout, using the two #8 x 5/16" phillips head screws provided. The switch should be oriented so the side with the data label is facing the open side of the compartment (visible when installed). Be careful to position all electrical wiring so that it is not pinched or otherwise damaged.
5. Connect the leadwires on the switch, marked T1 - T2 - T3 to the heater power terminal block marked L1 - L2 - L3. Switch model DCS632 will have only leadwires marked T1 - T2 and L1 - L2.
6. Install the knob and tighten the screw.
7. Attach the "ON-OFF" decal located per Figure 3. Peel off the backing paper, position carefully then press firmly onto the heater cabinet. Note that knob rotation clockwise is "ON" and counterclockwise is "OFF."
8. Check all connections for tightness and electrical clearances. Close cover and latch, then restore electrical power and check heater in each mode of operation.

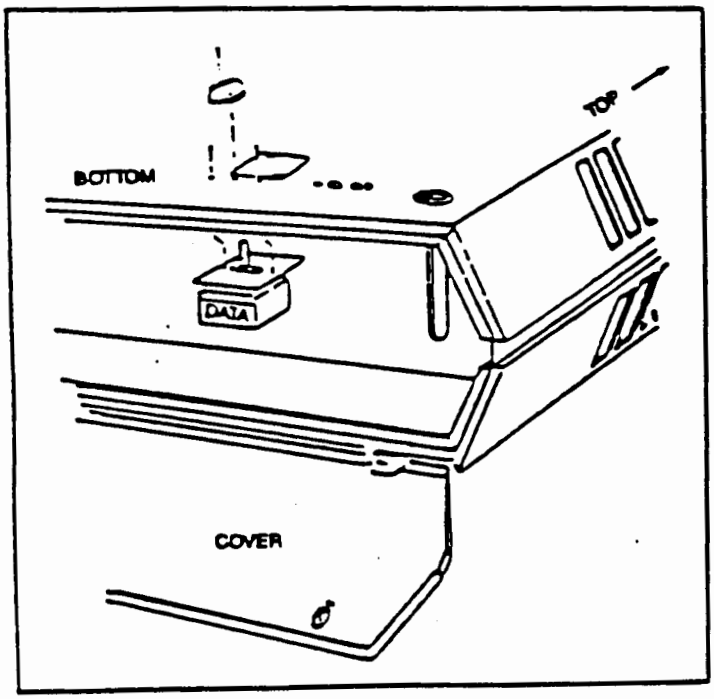

FIGURE 3 - Switch Location on 7-20 KW Unit

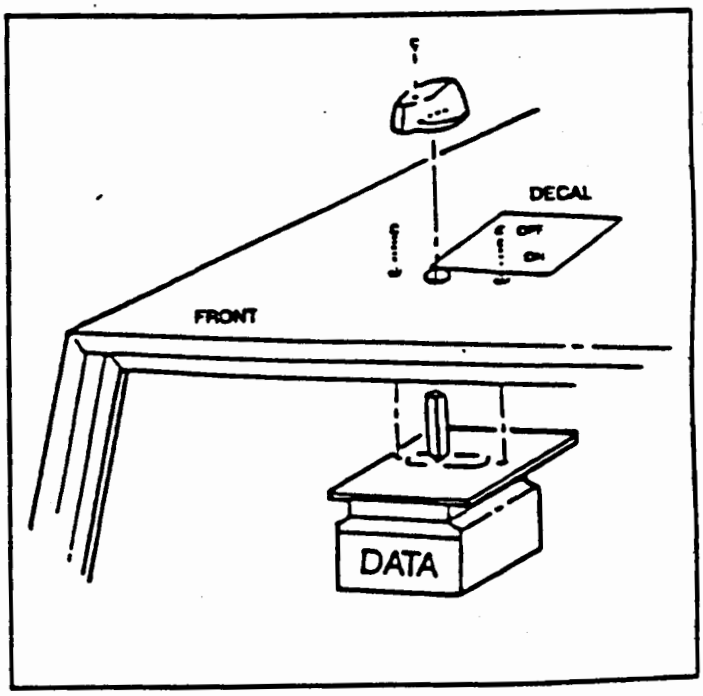

FIGURE 4 - Switch Location on 25-50 KW Unit