Centrifugal Fan Installation and Operation

MODEL # CF __ - __ __ __ - __ __ (1750 RPM)

MODEL # CHS __ - __ __ __ - __ __ (3450 RPM)

Owner's Manual

MANUAL # PNEG-163-C

✓OK

_____ 1. All wire connections
_____ 2. Tip clearance on blade
_____ 3. Fan blade torqued to torque specs
_____ 4. Grill guard in place and tight
_____ 5. Fuse in place, extra fuse provided
_____ 6. Motor rotation correct
_____ 7. Contactor engages properly
_____ 8. Running amperage
_____ 9. Vibration
_____ 10. All fasteners tight
_____ 11. Indicator light
_____ 12. All decals and serial number tag
_____ 13. Aesthetic appearance
_____ 14. Manual

Tester Signature_____

Date_____

TABLE OF CONTENTS

Roof Warning, Operation & Safety....4
Safety Alert Decals....5
Safety Alert Decal Location....6
Installation Instructions....8
- Fan Pad Location....8
- Checklist Before Installing The Fan....9
- Installation....9

Fan Specifications....10
Fan Installation....13
- Machine To Earth Ground....13
- Proper Installation Of The Ground Rod....13
- Previously Installed Units....13

Fan Operation....14
- Start-Up....14
- Maintaining Grain Quality....14
- Grain Storage....14
- Equilibrium Moisture Chart....14
- Approximate Allowable Holding Time For Field-Shelled Corn....14
- Approximate Hours Of Fan Time To Change Bin Temperature....15

Fan Service....16
- Lubrication....16
- Hub Bolt Torque Requirement For Fan Blades....17
- Fan Troubleshooting Chart....17

Fan Parts....18
- 3HP Centrifugal Fan....18
- 3HP 1PH Centrifugal Control Box....19
- 3HP 3PH Centrifugal Control Box....20
- 5HP Centrifugal Fan....21
- 5HP 1PH Centrifugal Control Box....22
- 5HP 3PH Centrifugal Control Box....23
- 7.5HP Centrifugal Fan....24
- 7.5HP 1PH Centrifugal Control Box....25
- 7.5HP 3PH Centrifugal Control Box....26
- 10HP Centrifugal Fan....27
- 10HP 1PH Centrifugal Control Box....28
- 10HP 3PH Centrifugal Control Box....29
- 15HP Centrifugal Fan....30
- 15HP 1PH Centrifugal Control Box....31
- 15HP 3PH Centrifugal Control Box....32
- 20HP Centrifugal Fan....33
- 20HP 3PH Centrifugal Control Box....34
- 25HP Centrifugal Fan....35
- 25HP 3PH Centrifugal Control Box....36
- 30HP Centrifugal Fan....37
- 30HP 3PH Centrifugal Control Box....38
- 40HP Centrifugal Fan....39
- 40HP 3PH Centrifugal Control Box....40
- 50HP Centrifugal Fan....41
- 50HP 3PH Centrifugal Control Box....42
- 30-50HP 1750 RPM Double Inlet Centrifugal Fan 460V....43
- 30-50hp 1750 Prm Centrifugal Fan....44

Fan Wiring....45
- 240 Volt 1PH (3 And 5HP)....45
- 240 Volt 1PH (7.1/2HP)....46
- 240 Volt 1PH (10HP)....47
- 240 Volt 1PH (15HP) Baldor....48
- 240 Volt 1PH (15hp) Marathon....49
- 240 Volt 3PH (All Horsepowers)....50
- 480 Volt 3PH (All Horsepowers)....51
- 575 Volt 3PH (All Horsepowers)....52

Notes....53
Warranty....54

GSI DOES NOT WARRANT ANY ROOF DAMAGE CAUSED BY EXCESSIVE VACUUM OR INTERNAL PRESSURE FROM FANS OR OTHER AIR MOVING SYSTEMS. ADEQUATE VENTILATION AND/OR "MAKEUP AIR" DEVICES SHOULD BE PROVIDED FOR ALL POWERED AIR HANDLING SYSTEMS. GSI DOES NOT RECOMMEND THE USE OF DOWNWARD FLOW SYSTEMS (SUCTION). SEVERE ROOF DAMAGE CAN RESULT FROM ANY BLOCKAGE OF AIR PASSAGES. RUNNING FANS DURING HIGH HUMIDITY/COLD WEATHER CONDITIONS CAN CAUSE AIR EXHAUST OR INTAKE PORTS TO FREEZE.

Fan Operation

Thank you for choosing a GSI product. It is designed to give excellent performance and service for many years.

This manual describes the operation of the GSI Centrifugal Fan. It is designed for medium to high static pressures, and comes equipped with either a 1750 RPM or 3450 RPM motor.

The principal concern of the The GSI Group Inc. (GSI) is your safety and the safety of others associated with grain handling equipment. This manual is written to help you understand safe operating procedures, and some of the problems that may be encountered by the operator or other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment, or who are in the area. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation, where serious injury or death may occur.

Safety Alert Symbol

The symbol shown is used to call your attention to instructions concerning your personal safety. Watch for this symbol; it points out important safety precautions. It means "ATTENTION", "WARNING", "CAUTION", and "DANGER". Read the message and be cautious to the possibility of personal injury or death.

WARNING! BE ALERT!

Personnel operating or working around electric fans should read this manual. This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

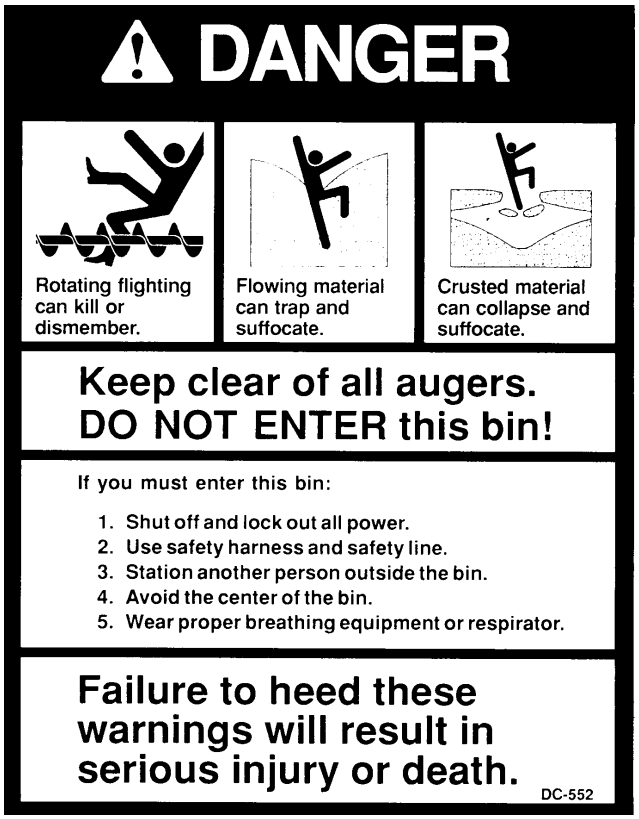
The GSI Group Inc. recommends contacting your local power company, and having a representative survey your installation so the wiring is compatible with their system, and adequate power is supplied to your unit.

Safety decals should be read and understood by all people in the grain handling area. The bottom right decal should be present on the inside bin door cover of the two ring door, 24" porthole door cover and the roof manway cover.

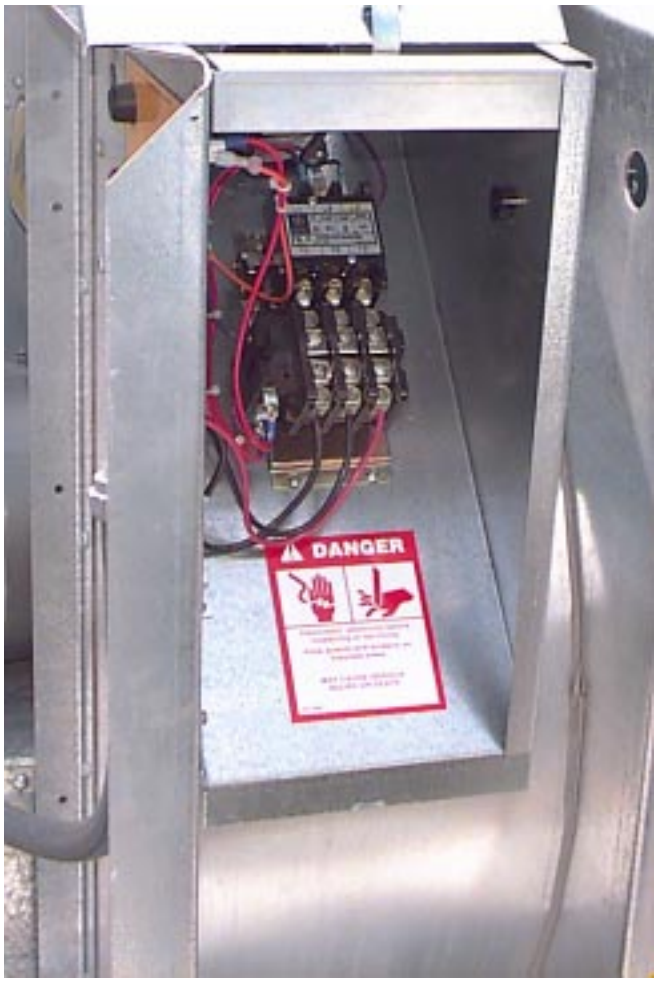
If a decal is damaged or is missing contact:

The GSI Group Inc.
1004 E. Illinois St.
Assumption, IL 62510
217-226-4421

A free replacement will be sent to you.



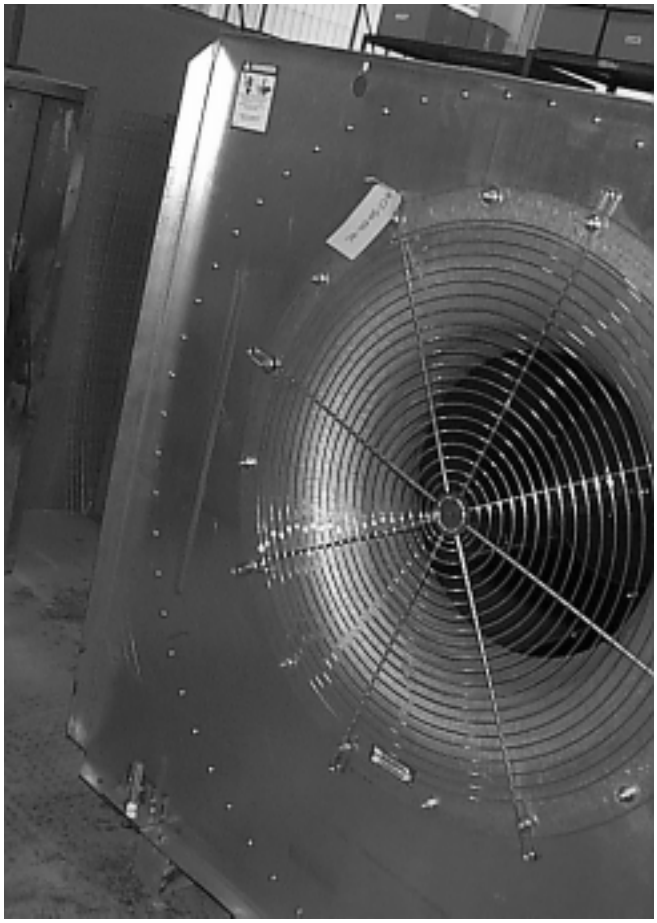
Single Inlet Centrifugal Fan



Danger decals on the front and back of the centrifugal fan and inside the control box.

Double Inlet Centrifugal Fan

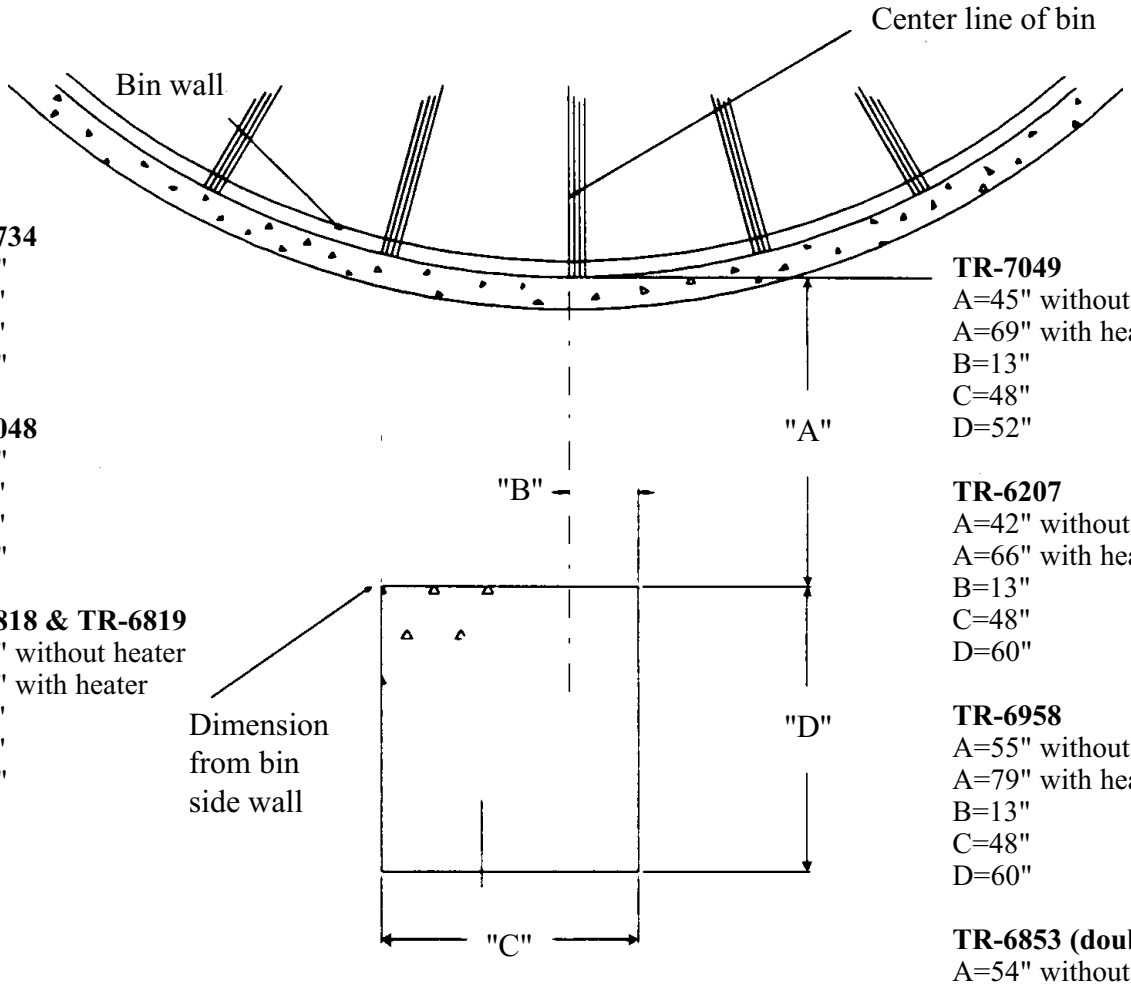
Danger decals on the front and back of the centrifugal fan and inside the control box.



Fan Pad Location

Fan pad should be poured level with top of bin foundation for all centrifugal fans. The pad for GSI heaters is not required. If a downwind heater is to be installed at a later date, then it would be recommended to pour fan pad 48" wide and 84" long. Fan discharge should be centered on line of bin.

IMPORTANT! FAN PAD AND FAN MUST BE LEVEL AND SMOOTH FOR PROPER OPERATION. VIBRATION PROBLEMS CAN RESULT FROM IMPROPER FAN LEVELING.



TR-4734
A=20"
B=10"
C=40"
D=40"

TR-7048
A=45"
B=10"
C=40"
D=48"

TR-6818 & TR-6819
A=32" without heater
A=56" with heater
B=13"
C=48"
D=52"

TR-7049
A=45" without heater
A=69" with heater
B=13"
C=48"
D=52"

TR-6207
A=42" without heater
A=66" with heater
B=13"
C=48"
D=60"

TR-6958
A=55" without heater
A=79" with heater
B=13"
C=48"
D=60"

TR-6853 (double inlet)
A=54" without heater
A=78" with heater
B=28"
C=100"
D=60"

Note: Front of pad should be perpendicular to bin wall. Recommended thickness for fan pad is 4" minimum. Surface of pad should be level with surface of bin foundation. Pad for heater not required.

Figure 1: Fan pad installation guidelines.

Checklist Before Installing The Fan

1. One of the most important factors for installation is providing adequate power to run the unit. Undersized wire can lead to voltage drop and can cause motor overheating and shortened life. Therefore, it is necessary to know the distance from the unit to available transformer and the horsepower of your fan unit. These two factors will determine the size of wire needed for efficient operation. See Fan Specifications on the following pages.

2. GSI recommends contacting your local power company, and having a representative survey your installation so the wiring is compatible with their system, and adequate power is supplied to your unit.

3. Each fan motor should be wired through a fused or circuit breaker disconnect switch.

4. Refer to Fan Specifications on pages 9 and 10 for the recommended slow blow fuse or breaker size to use when installing your particular fan.

5. Standard electrical safety practices and codes should be used. (Refer to National Electrical Code Standard Handbook by National Fire Protection Association).

6. A qualified electrician should make all electrical wiring installations.

Installation

1. Be sure that the disconnect and the fan are well grounded. See machine to earth ground on page 13.

2. Rotate the fan blade to be sure that it revolves easily and does not rub the housing.

3. Check all fasteners on motor mounts, fan blades and other bolted items to make sure they are tight. If any are loose, check for proper clearance and retighten fasteners. They may have loosened in shipping.

4. Fans should be mounted to set level and solid. It may be necessary to shim one or more corners of the foot mount to achieve a solid mounting. Fans not solidly mounted and properly shimmed may have excess vibration in them.

5. Check and retighten all electrical connections. They may have loosened in shipping.

ALWAYS DISCONNECT AND LOCK OUT POWER BEFORE WORKING ON OR AROUND HEATER

1750 Rpm Fan Specifications

FAN HORSEPOWER	3				5				7.1/2				10			
RPM																
PHASE	1	3			1	3			1	3			1	3		
VOLTS	230	230	460	575	230	230	460	575	230	230	460	575	230	230	460	575
FULL LOAD AMPS	15	12	6	3.6	25	14	7	5.5	35	22	11	7.9	40	28	14	10.2
MINIMUM WIRE SIZE	Copper Wire				Copper Wire				Copper Wire				Copper Wire			
50' RUN	10	12	14	14	8	10	12	12	8	10	12	12	6	6	10	10
100' RUN	8	12	12	12	6	10	12	12	6	10	12	12	6	6	10	10
200' RUN	6	8	10	10	4	8	12	12	4	8	12	12	4	4	8	8
300' RUN	4	6	8	8	2	6	10	10	2	6	10	10	2	3	6	6
MINIMUM WIRE SIZE	Aluminum Wire				Aluminum Wire				Aluminum Wire				Aluminum Wire			
50' RUN	8	10	12	12	6	8	10	10	6	8	10	10	4	4	8	8
100' RUN	6	10	10	10	4	8	10	10	4	8	10	10	4	4	8	8
200' RUN	4	6	8	8	2	6	10	10	2	6	10	10	2	2	6	6
300' RUN	2	4	6	6	0	4	8	8	0	4	8	8	0	2	4	4
FUSE SIZE (SLOW BLOW)	25	20	10	10	40	25	15	15	60	40	20	20	80	60	30	30
BREAKER SIZE	30	20	15	15	40	30	15	15	60	40	20	20	80	60	30	30

FAN HORSEPOWER	15				20			25			30			40			50		
RPM	1750				1750			1750			1750			1750			1750		
PHASE	1	3			3			3			3			3			3		
VOLTS	230	230	460	575	230	460	575	230	460	575	230	460	575	230	460	575	230	460	575
FULL LOAD AMPS	61	42	21	14	50	25	19.2	66	33	25	74	37	29	94	47	37	112	56	46
MINIMUM WIRE SIZE	Copper Wire				Copper Wire			Copper Wire			Copper Wire			Copper Wire			Copper Wire		
50' RUN	4	6	10	10	4	10	10	2	8	8	2	6	6	1	6	6	1	6	6
100' RUN	4	6	10	10	4	10	10	2	8	8	2	6	6	1	6	6	1	6	6
200' RUN	2	4	8	8	2	6	6	1	6	6	0	4	4	00	4	4	00	4	4
300' RUN	1	3	6	6	1	4	4	0	4	4	00	3	3	0000	2	2	0000	2	2
MINIMUM WIRE SIZE	Aluminum Wire				Aluminum Wire			Aluminum Wire			Aluminum Wire			Aluminum Wire			Aluminum Wire		
50' RUN	2	4	8	8	2	8	8	0	6	6	0	4	4	0	4	4	0	4	4
100' RUN	2	4	8	8	2	8	8	0	6	6	0	4	4	0	4	4	0	4	4
200' RUN	0	2	4	4	0	4	4	00	4	4	00	2	2	000	2	2	000	2	2
300' RUN	00	2	3	3	0	2	2	00	2	2	000	2	2	0000	0	0	0000	0	0
FUSE SIZE (SLOW BLOW)	80	60	30	30	80	40	40	100	60	60	150	80	80	200	100	100	200	100	100
BREAKER SIZE	100	60	30	30	80	40	40	100	60	60	150	80	80	200	100	100	200	100	100

3500 Rpm Fan Specifications

FAN HORSEPOWER	3				5				7.1/2				10			
RPM	3450				3450				3450				3450			
PHASE	1	3			1	3			1	3			1	3		
VOLTS	230	230	460	575	230	230	460	575	230	230	460	575	230	230	460	575
FULL LOAD AMPS	14.5	7.8	3.9	3	19.5	12	6	4.8	33	18.8	9.4	7.2	40	24	12	9.6
MINIMUM WIRE SIZE	Copper Wire				Copper Wire				Copper Wire				Copper Wire			
50' RUN	10	12	14	14	10	12	14	14	8	10	14	14	6	6	10	10
100' RUN	8	12	12	12	8	12	12	12	8	10	12	12	6	6	10	10
200' RUN	6	8	10	10	6	8	10	10	6	8	10	10	4	4	8	8
300' RUN	4	6	8	8	4	6	8	8	3	6	8	8	2	3	6	6
MINIMUM WIRE SIZE	Aluminum Wire				Aluminum Wire				Aluminum Wire				Aluminum Wire			
50' RUN	8	10	12	12	8	10	12	12	6	8	12	12	4	4	8	8
100' RUN	6	10	10	10	6	10	10	10	6	8	10	10	4	4	8	8
200' RUN	4	6	8	8	4	6	8	8	4	6	8	8	2	2	6	6
300' RUN	2	4	6	6	2	4	6	6	2	4	6	6	0	2	4	4
FUSE SIZE (SLOW BLOW)	25	20	10	10	40	25	15	15	60	40	20	20	80	60	30	30
BREAKER SIZE	30	20	15	15	40	30	15	15	60	40	20	20	80	60	30	30

FAN HORSEPOWER	15			20			30			40			50		
RPM	3450			3450			3450			3450			3450		
PHASE	3			3			3			3			3		
VOLTS	230	460	575	230	460	575	230	460	575	230	460	575	230	460	575
FULL LOAD AMPS	42	21	14	46	23	19	92	46	38	112	56	46	112	56	46
MINIMUM WIRE SIZE	Copper Wire			Copper Wire			Copper Wire			Copper Wire			Copper Wire		
50' RUN	6	10	10	6	10	10	2	6	6	1	6	6	1	6	6
100' RUN	6	10	10	6	10	10	2	6	6	1	6	6	1	6	6
200' RUN	4	8	8	4	6	6	0	4	4	00	4	4	00	4	4
300' RUN	3	6	6	3	4	4	00	3	3	0000	2	2	0000	2	2
MINIMUM WIRE SIZE	Aluminum Wire			Aluminum Wire			Aluminum Wire			Aluminum Wire			Aluminum Wire		
50' RUN	4	8	8	4	8	8	0	4	4	0	4	4	0	4	4
100' RUN	4	8	8	4	8	8	0	4	4	0	4	4	0	4	4
200' RUN	2	4	4	2	4	4	00	2	2	000	2	2	000	2	2
300' RUN	2	3	3	2	2	2	000	2	2	0000	0	0	0000	0	0
FUSE SIZE (SLOW BLOW)	60	30	30	80	40	40	150	80	80	200	100	100	200	100	100
BREAKER SIZE	60	30	30	80	40	40	150	80	80	200	100	100	200	100	100

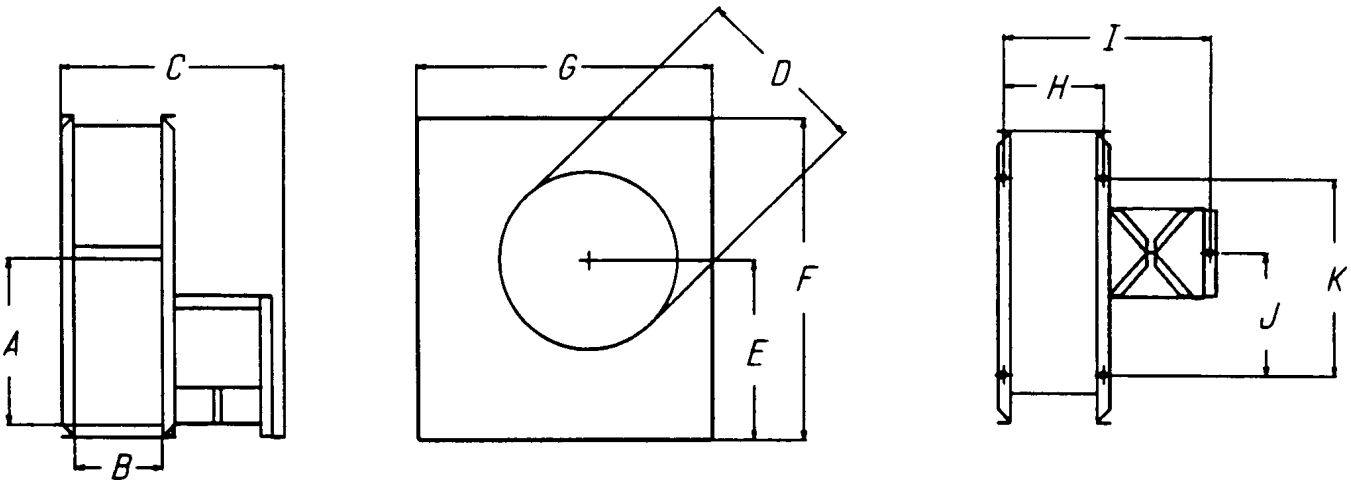


Figure 2: Fan dimensions

1750 Rpm Fan

FAN	A	B	C	D	E	F	G	H	I	J	K
3HP	23.9/16	13.1/2	41.1/8	24.7/8	25.1/4	46.13/16	42.15/16	15.11/16	31.1/8	22.7/16	37.1/16
5HP	27.3/8	14.1/4	31.1/8	27.3/8	27.3/4	51.1/8	45.1/8	16.1/2	29.3/16	19.7/16	31.3/4
7.1/2HP	27.3/8	18	34.7/8	27.3/8	27.3/4	51.1/8	45.1/8	20.1/4	32.15/16	19.7/16	31.3/4
10HP	30.1/4	16.15/16	34.3/16	30	30.3/16	54.7/16	49.9/16	19.1/8	34.13/16	20.1/2	34.5/16
15HP	30.1/4	19.1/2	39.5/16	30	30.3/16	54.7/16	49.9/16	21.11/16	34.13/16	20.1/2	34.5/16
20HP	33.1/4	19.9/16	39.9/16	33.1/2	32.15/16	56.1/2	51.3/4	21.3/4	37.7/16	22.3/8	38.7/16
25HP	33.1/4	21.7/8	41.13/16	33.1/2	32.15/16	56.1/2	51.3/4	24.1/16	39.3/4	22.3/8	38.7/16
30HP	33.1/4	21.7/8	43.3/8	36.1/2	33.3/8	58.11/16	54.5/8	23.3/8	42.5/16	23.1/4	41.5/16
40HP	33.1/4	23.11/16	45.7/8	36.1/2	33.3/8	58.11/16	54.5/8	25.13/16	44.1/8	23.1/4	41.5/16
30-50HP double	33.1/4	44	92.1/16	33.1/2	32.15/16	56.1/2	51.3/4	46.1/4	89.9/16	21.1/16	38.7/16

3500 Rpm Fan

FAN	A	B	C	D	E	F	G	H	I	J	K
3HP	16.1/2	8.1/8	26.15/16	16.1/2	17.3/8	34.13/16	32.3/4	10.3/8	24.15/16	13.15/16	22.1/8
5HP	16.1/2	10	28.13/16	16.1/2	17.3/8	34.13/16	32.3/4	12.3/16	26.13/16	13.15/16	22.1/8
7.1/2HP	19	10	29.9/16	20.1/2	20.11/16	39	37.3/16	12.3/16	27.9/16	12.11/16	20.11/16
10HP	19	11	30.9/16	20.1/2	20.11/16	39	37.3/16	13.3/16	28.9/16	12.11/16	20.11/16
15HP	19	13	32.9/16	20.1/2	20.11/16	39	37.3/16	15.3/16	30.9/16	12.11/16	20.11/16
20HP	23.9/16	12.9/16	40.3/16	24.7/8	25.1/4	46.13/16	42.15/16	14.3/4	38.3/16	18.7/16	29
30HP	23.9/16	14.1/16	41.11/16	24.7/8	25.1/4	46.13/16	42.15/16	16.1/4	39.11/16	18.7/16	29
40HP	23.9/16	16.1/2	44.1/16	24.7/8	25.1/4	46.13/16	42.15/16	18.11/16	42.1/8	18.7/16	29
50HP	27.3/8	15.3/4	45.1/16	27.3/8	27.3/4	51.1/8	45.1/8	17.15/16	43.1/8	20.1/4	32.11/16

Note: All Dimensions in inches.

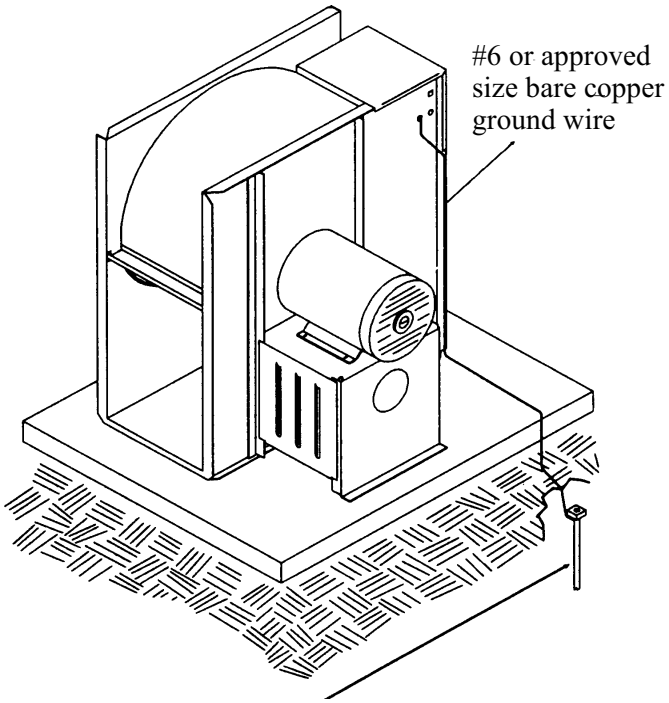


Figure 3: Use a #6 or approved size bare copper ground wire. Install a 5/8" diameter 8' long copper-clad ground rod, 2' away from the foundation and 1' below the surface of the ground or in accordance with local requirements.

Machine To Earth Ground

It is very important that a machine to earth ground rod be installed at the fan. This is true even if there is a ground at the pole 15 feet away. This ground needs to be as close to the fan as possible, but no more than 8 feet away. The ground rod should be connected to the fan control panel with at least a #6 solid bare copper ground wire, or in accordance with local requirements. The machine to earth ground provides additional safety if there is a short. It also provides the grounding necessary for long life and operation of the solid state circuit boards used on control circuits and the electronic ignition systems.

Proper Installation of the Ground Rod

(Ground rods and wires are not supplied by GSI). It is recommended that the rod not be driven into dry ground. The following steps ensure proper ground rod installation:

1. Dig a hole large enough to hold 1 to 2 gallons of water.
2. Fill hole with water.
3. Insert rod through water and jab it into the ground.
4. Continue jabbing the rod up and down, the water will work its way down the hole, making it possible to work the rod completely into the ground. This method of installing the rod gives a good conductive bond with the surrounding soil.
5. Connect the bare copper ground wire to the rod with the proper ground rod clamp.
6. Connect the bare ground wire to the fan control boxes with a grounding lug. See Figure 3.
7. Ground wire must not have any breaks or splices. Insulated wire is not recommended for grounding.

Dig a hole large enough to hold 1 or 2 gallons of water. Work the ground rod into the earth until it is completely in the ground.

Previously Installed Units

It is recommended that previously installed units be checked to see that a machine to earth ground has been installed by an electrician.

Start-up

On initial start-up of the fan, run it momentarily to make sure that the fan blade is rotating in the proper direction and airflow is correct. If not, change motor direction using instructions on the motor.

Proper installation and start-up ensures many years of trouble-free operation.

Maintaining Grain Quality

To properly maintain the quality of stored grain, it is necessary to keep the grain dry, cool and insect free. Any one of these problems can contribute to spoilage. Wet, warm grain promotes insect growth as well as grain spoilage. Cool, dry grain can keep for long periods of time.

It is recommended that the grain be kept cool (avoid freezing as freezing can reduce quality). Grain should be cooled through the fall and winter, warmed in the spring and summer.

Grain Storage

Average grain temperature should be above 35°F in the winter and below 65°F in the summer. Always try to keep the grain within 10-15°F of the average monthly outside temperature. This means grain may need to be aerated on warm days during the winter to stay above 35°F when freezing temperatures are predominate. During the summer it may be necessary to aerate the grain on cool nights, so the 65°F temperature is not exceeded during the hot days of summer.

Conditions and requirements may vary from area to area. We suggest that you contact your local Agriculture Extension Office or State Ag. University for more exact guidelines.

If the grain is to be stored more than one year, it has to be recooled the following fall and winter, repeating the process as long as the grain is in storage. **Frequent and regular inspection (at least weekly during fall and spring) is the best prevention against grain spoilage).**

Equilibrium Moisture Chart

Air Temperature	Percentage Relative Humidity													
	35	40	45	50	55	60	65	70	75	80	85	90	95	100
20°F	11.2	11.7	12.7	13.7	14.5	15.1	16.2	17.1	18.0	19.6	21.2	23.5	25.8	29.1
30°F	10.8	11.3	12.2	13.1	13.9	14.6	15.5	16.4	17.4	18.7	20.2	22.5	25.0	28.3
40°F	10.5	11.0	11.7	12.5	13.3	14.0	14.8	15.5	16.6	17.8	19.4	21.5	24.2	27.5
50°F	10.1	10.6	11.3	12.0	12.7	13.3	14.1	14.8	15.8	16.9	18.6	20.5	23.4	26.7
60°F	9.7	10.2	10.9	11.6	12.1	12.7	13.4	14.2	15.0	16.0	17.8	19.5	22.6	25.9
70°F	9.0	9.7	10.4	11.1	11.5	12.0	12.8	13.5	14.5	15.4	16.8	18.5	21.3	24.5
80°F	8.3	9.1	9.8	10.5	10.8	11.2	12.1	13.0	13.9	14.8	15.8	17.4	20.0	22.8

Safe moisture for normal winter storage of shelled corn is about 15%. Grain to be stored through the summer or long term, needs to be 1 to 3 points dryer.

Approximate Allowable Holding Time For Field-shelled Corn, To Maintain Grade*

Grain (°F) Temperature	15% days	18% days	20% days	22% days	24% days	26% days	28% days	30% days
40°F	898	195	85	54	38	28	24	20
50°F	451	102	46	28	19	16	13	11
60°F	242	63	26	16	10	8	6.5	5.5
70°F	147	37	13	8	5	4	3.5	3
80°F	109	27	10	6	4	3	2.5	2

*Allowable holding time for field-shelled corn at various grain temperatures and moisture

Drying fronts and/or temperature fronts move through grain at different rates depending on bin and fan size and different moistures and temperatures.

The table below lists the approximate time required to completely change the temperature of a bin. Current conditions can cause this time to vary greatly. Therefore, this should only be used as a guide.

It may be necessary to run the fan only part of a day because of changing weather conditions. It would be necessary to run it a few hours each day on several days to complete the temperature change.

Approximate Hours Of Fan Time To Change Bin Temperature (1750 Rpm)

Fan Size H. P.	Approx. 32 ft. to eave-approx. hours of fan time required							Approx. 45 ft. to eave		
Bin Dia.	**27**	**30**	**33**	**36**	**42**	**48**	**60**	**42**	**48**	**60**
3	68	76	83	92	NR	NR	NR	NR	NR	NR
5	56	62	68	75	90	NR	NR	NR	NR	NR
7.5	51	53	58	62	72	85	NR	89	NR	NR
10	46	48	52	57	68	79	NR	82	96	NR
15	43	46	49	53	61	69	91	74	85	NR
20	NR	40	43	46	53	62	81	65	75	97
25	NR	40	40	42	48	55	72	60	68	86
30	NR	37	37	40	46	53	69	57	64	83
40	NR	38	38	39	41	47	60	52	58	76
App. BU	**16,500**	**20,500**	**25,000**	**30,000**	**41,500**	**55,000**	**88,000**	**54,000**	**71,000**	**113,500**

- Bushels are rounded and approximate.
- The hours required are based on clean grain. HIgh moisture grain and grain containing fines or foreign material will require more time to complete the air change.

NR

- Not Recommended: Bins in the NR range, may require fan(s) of a different size to get the cool time into the accepted range.
- Bins requiring more than 100 hours of aeration to totally change the temperature may require continuous aeration at about 1/10th cfm per bushel or some other acceptable method.

Approximate Hours Of Fan Time To Change Bin Temperature (3500 Rpm)

Fan Size H. P.	Approx. 32 ft. to eave-approx. hours of fan time required									Approx. 45 ft. to eave		
Bin Dia.	**21**	**24**	**27**	**30**	**33**	**36**	**42**	**48**	**60**	**42**	**48**	**60**
3	71	82	93	NR	NR	NR	NR	NR	NR	NR	NR	NR
5	54	62	70	79	89	99	NR	NR	NR	NR	NR	NR
7.5	48	56	64	73	82	91	NR	NR	NR	NR	NR	NR
10	43	48	55	62	70	77	93	NR	NR	NR	NR	NR
15	36	40	44	50	55	61	75	89	NR	90	NR	NR
20	34	38	42	48	53	59	71	85	NR	86	NR	NR
30	NR	NR	37	41	46	51	61	72	97	74	87	NR
40	NR	NR	NR	36	40	44	52	61	81	63	74	97
50	NR	NR	NR	NR	36	39	46	54	71	56	65	85
App. BU	**10,000**	**13,000**	**16,500**	**20,500**	**25,000**	**30,000**	**41,500**	**55,000**	**88,000**	**54,000**	**71,000**	**113,500**

- Bushels are rounded and approximate.

NR

- Not Recommended: Bins in the NR range, may require fan(s) of a different size to get the cool time into the accepted range.

Motors used in GSI fan units are all standard NEMA frame motors and are specially designed for use in crop drying applications. Most of the replacement parts for these motors are handled by authorized service stations of the various motor manufacturers.

1. Always disconnect and lock out power before working on or around fan motor and electrical components.

2. Malfunctioning electrical components should be checked by a qualified electrician.

3. For extra motor life, any electric motor should be run for 30 minutes, once a month. This will help eliminate any damaging moisture build-up in the motor and bearings.

4. If excess vibration shows up at some point when the fan has been running smoothly, check the blade for these conditions:

   a. Fans setting idle in the summer offer an excellent place for mud dobbers to build their nests. A mud dobber nest on the back of the fan blade will cause the fan to be out of balance and vibrate.

   b. Also, mice have been known to nest in the back of a blade. When the fan is started the centrifugal force kills the mice, but throws the blade out of balance.

Lubrication

This is a ball bearing motor. The bearings have been given initial lubrication at the factory. Motors without regreasing capability are factory lubricated for normal bearing life.

Relubrication Intervals (Motors With Regreasing Capability)

New motors having been in storage for over a year should be relubricated by the procedure noted in the chart to ensure long operating life.

Hours of Service Per Year	Suggested Relube Interval		
	Nemaframe Size		
	42 to 215T	254 to 326T	364 to 447T
5000 Hrs.	5 years	3 years	1 years
Continuous Normal Application	2 years	1 years	9 months
Seasonal Service Motor is idle for 6 months or more	1 year (beginning of season)	1 year (beginning of season)	1 year (beginning of season)
Continuous high ambients, dirty or moist locations, high vibration or where shaft end is hot (pumps-fans)	6 months	6 months	3 months

Lubricant

Baldor motors are pre-greased normally with Shell Oil Company's "Dolium R". Several equivalent greases which are compatible with the Baldor furnished grease are Chevron Oil's "SRI No. 2" and Texaco Inc.'s "Premium RB".

Procedure

Overgreasing bearings can cause premature bearing failure. If motor is equipped with Alemite fitting, clean tip of fitting and apply grease gun. Use 1 to 2 full strokes on motors in NEMA 215 frame and smaller. Use 2 to 3 strokes on NEMA 254 thru NEMA 365 frame. Use 3 to 4 strokes on NEMA 404 frames and larger. On motors having drain plugs, remove grease drain plug and operate motor for 20 minutes before replacing drain plug.

On motors equipped with slotted head grease screw, remove screw and apply grease tube to hole. Insert 2 to 3 inch length of grease string into each hole on motors in NEMA 215 frame and smaller. Insert 3 to 5 inch length on larger motors. Motors having grease drain plugs, remove plug and operate motor for 20 minutes before replacing drain plug. **Keep grease clean. Lubricate motors at standstill. Remove and replace drain plugs at standstill. Do not mix petroleum grease and silicone grease in motor bearings.**

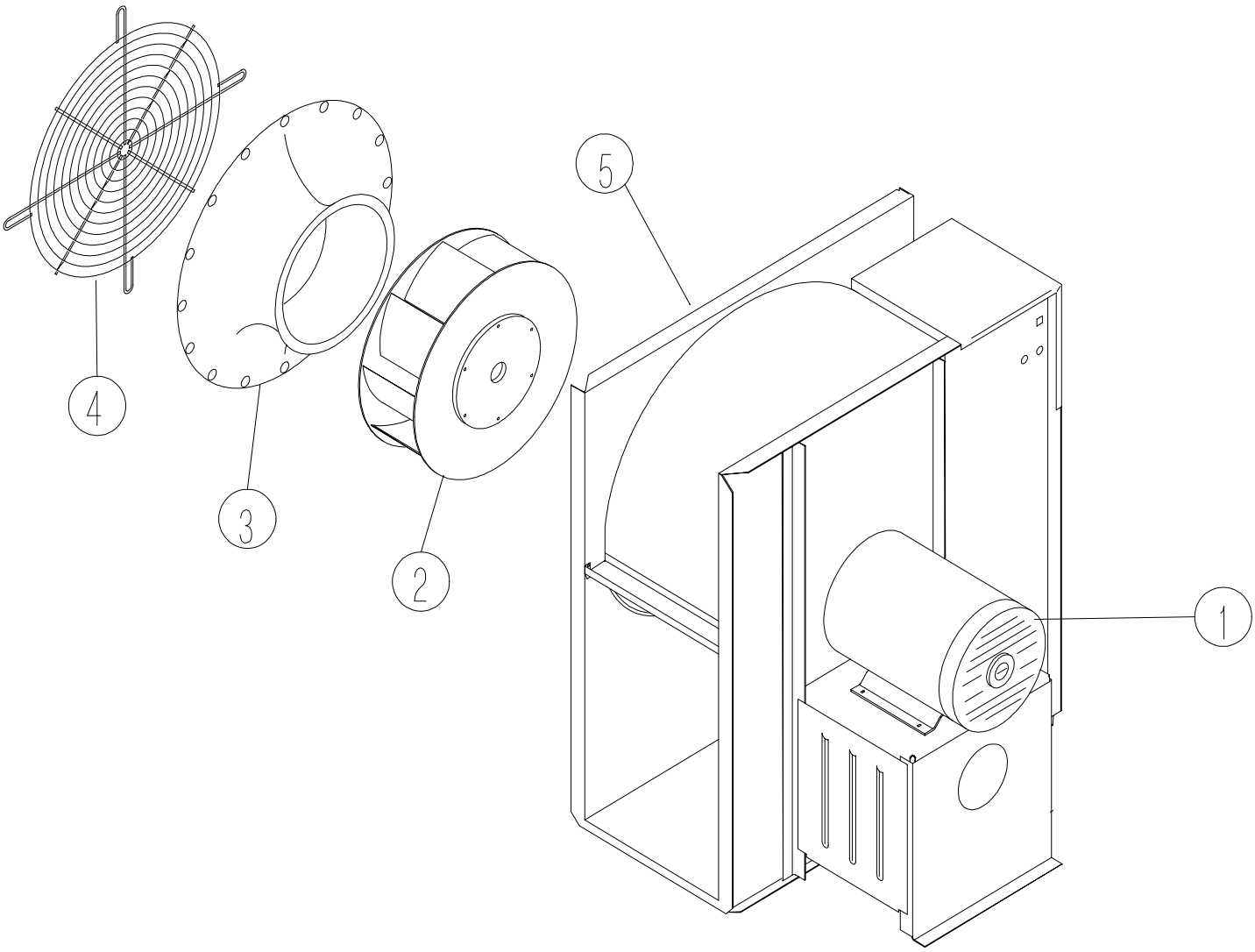
Hub Bolt Torque Requirement For Fan Blades

A. 3-15HP 3500RPM fans.....16ft. lbs. (Browning)
B. 20-50HP 3500RPM fans.....29ft. lbs. (Browning)
C. 3-50HP 1750RPM fans.....29ft. lbs. (Browning)
D. 3-7.5HP 1750RPM fans.....125ft. lbs. Trantorque)
E. 10-20HP 1750RPM fans.....160ft. lbs. Trantorque)
F. 30-50HP 1750RPM fans.....200ft. lbs. Trantorque)

Fan Troubleshooting Chart

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Fan will not run	Blown fuse or breaker in disconnect switch	Replace fuses or reset breakers
	Main power not turned on	Turn power on at all disconnects ahead of the unit
	Defective wiring or loose connection	Follow wiring diagram and tighten any loose connections
	Incorrect wire size	See wire size charts for proper wire size and change if needed
	Overload kicked out	Check manual reset, push in to reset
	Defective motor	Replace motor
	Defective magnetic contactor	Check the magnetic contactor
Fan runs for a short period of time then shuts off	Undersize wiring	Check to see that power supply wires are the proper size, contact your local power company.
	Low line voltage at the installation. Power failure	Call power company after making sure wire size is correct
	Magnetic contactor malfunctioning	Change magnetic contactor
	Defective start/stop button	Replace necessary part
	Wrong heater strip	Replace with proper heater strip
Fan makes ticking noise	Fan blade hitting fan housing	Stop fan and turn off electricity. Remove fan screen and check to see if fan blade is hitting the housing. Adjust motor position to obtain proper clearance.
	Motor bearing bad	Replace motor bearing
Fan vibrates	Fan not level	Level fan
	Fan has dirt deposit on blade	Clean blade
	Motor shaft is bent	Replace motor
	Blade not mounted properly on shaft	Mount blade properly on shaft
	Blade out of balance	Replace or have blade rebalanced

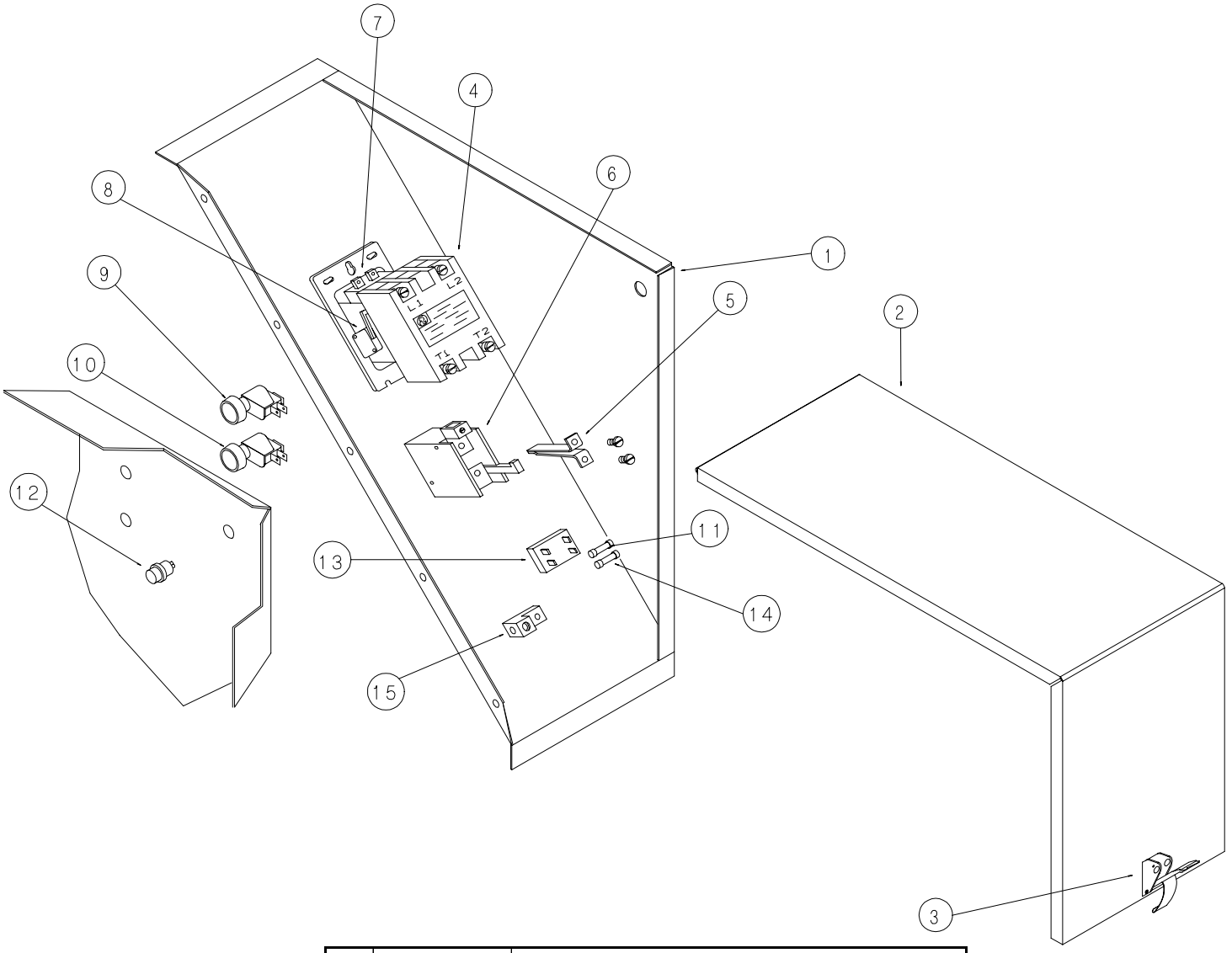
3hp Centrifugal Fan Parts



1750 RPM

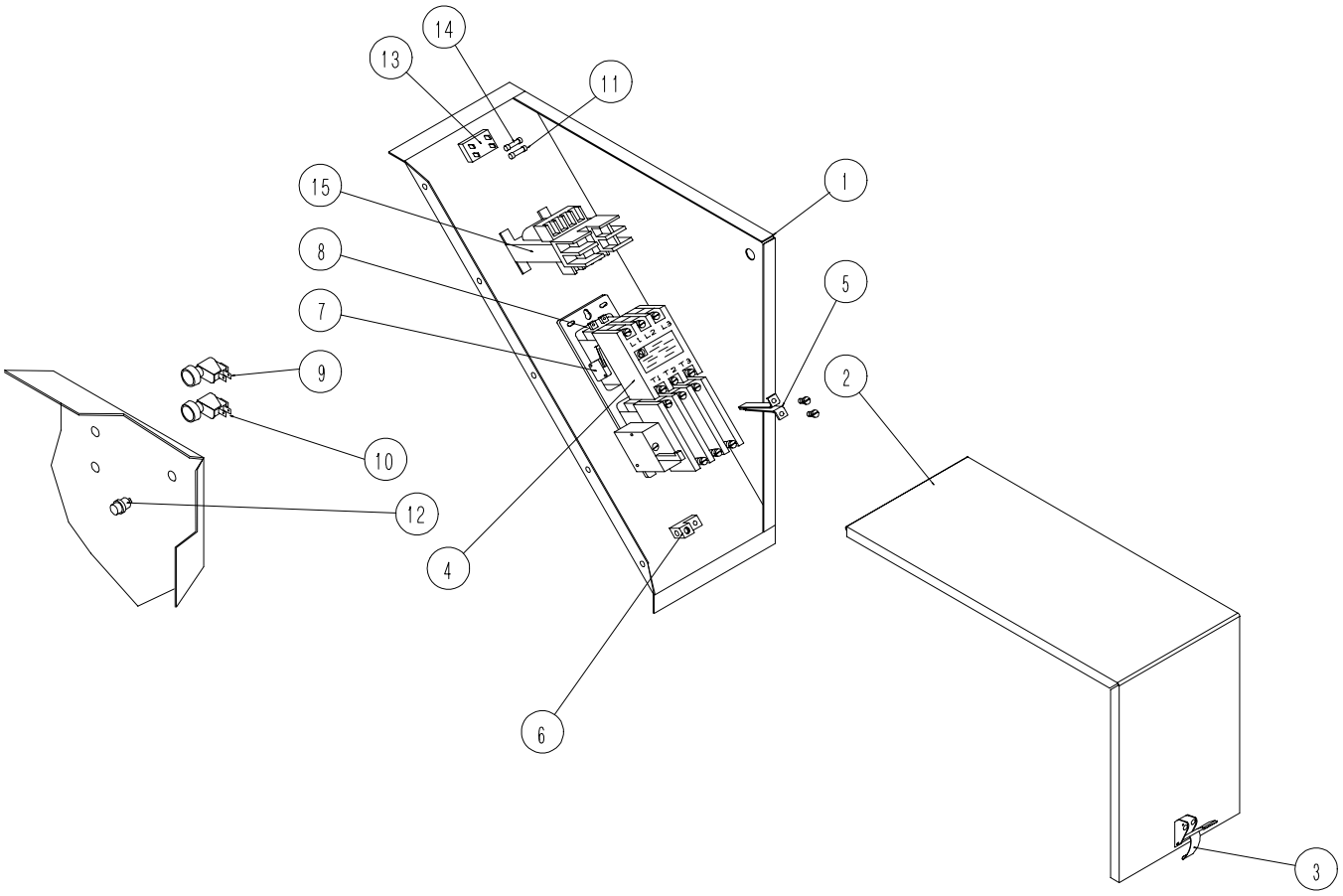
Key	Part Number	Description
1	CH-6879	3 HP 1 PH Centrifugal Fan Motor
1	CH-6866	3 HP 3 PH Centrifugal Fan Motor
2	CH-6878	3 HP 22" Blade and Hub Assembly
3	FH-5473	22" Inlet Cone
4	FH-5488	22" Grill Guard
5	C-7062	3 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5474	3 HP 1 PH 3500 RPM Motor
1	FH-5475	3 HP 3 PH 3500 RPM Motor
2	FH-5464	3 HP 15" Blade and Hub Assembly
3	FH-5471	15" Inlet Cone
4	FH-5486	15" Grill Guard
5	C-7090	3 HP 3500 RPM Housing Assembly

3hp 1ph Centrifugal Control Box Parts



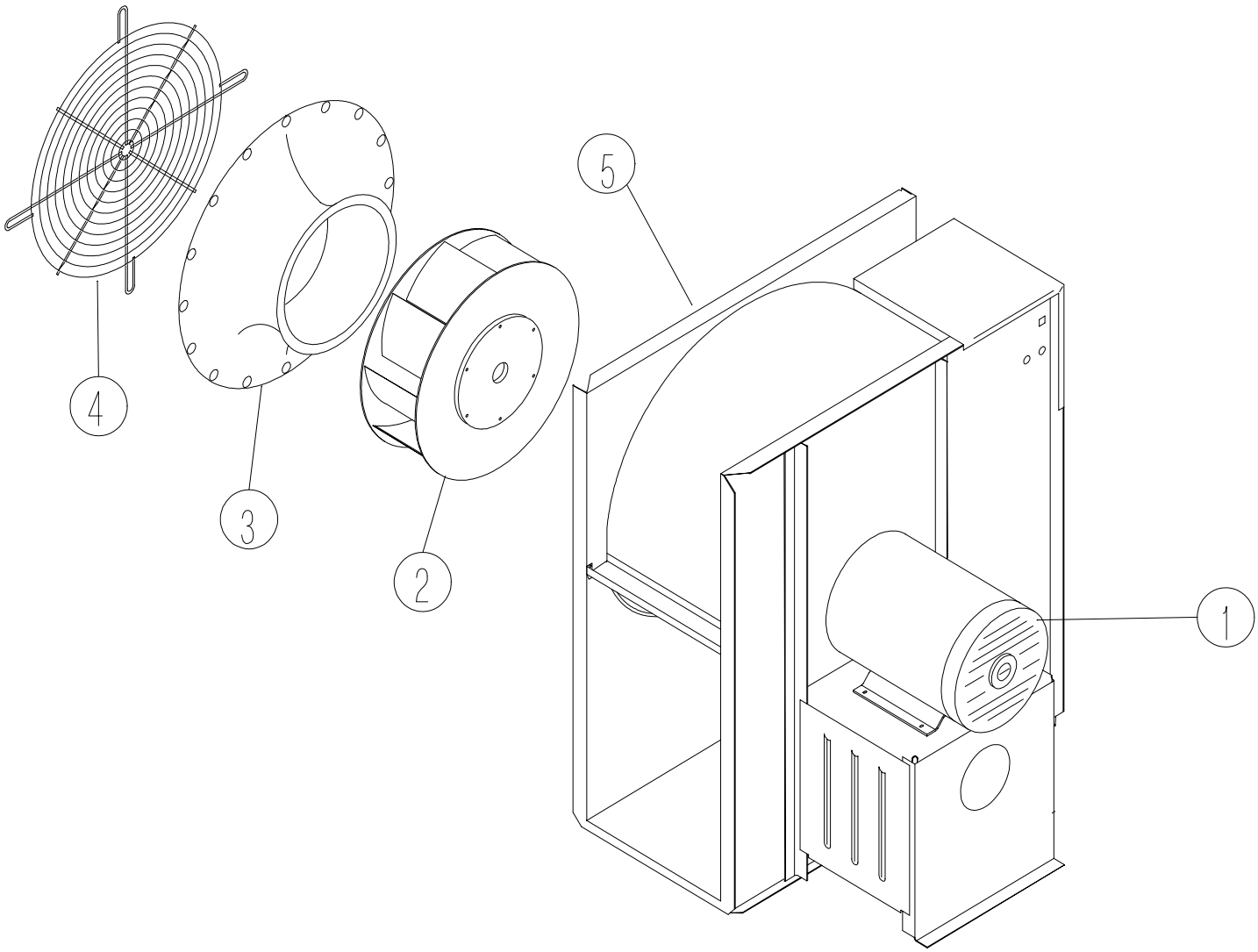
Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-1039	30 Amp Contactor
5	FH-5440	C163B Heat Strip
6	*FH-1003	Overload Relay
7	FH-5568	220V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	00147938	1/4 Amp Fuses
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	FH-1059	5 Amp Fuse
15	FH-6634	Grounding Lug

3hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1151	30 Amp Starter
5	FH-5438	C125B Heat Strip (230V)
5	FH-6971	C630A Heat Strip (460V)
5	FH-6971	C630A Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5568	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	TFH-2021	Red Light (110V)
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

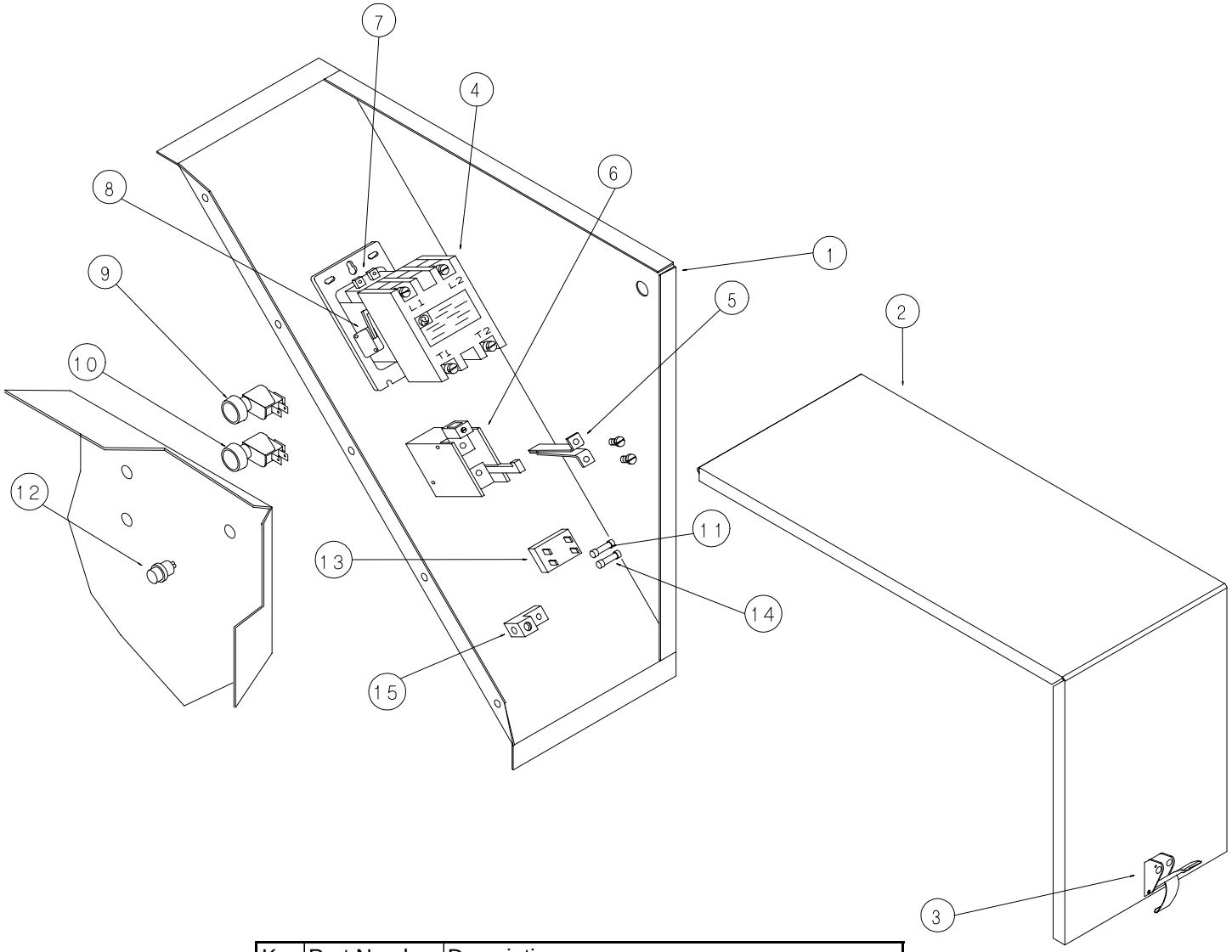
5hp Centrifugal Fan Parts



1750 RPM

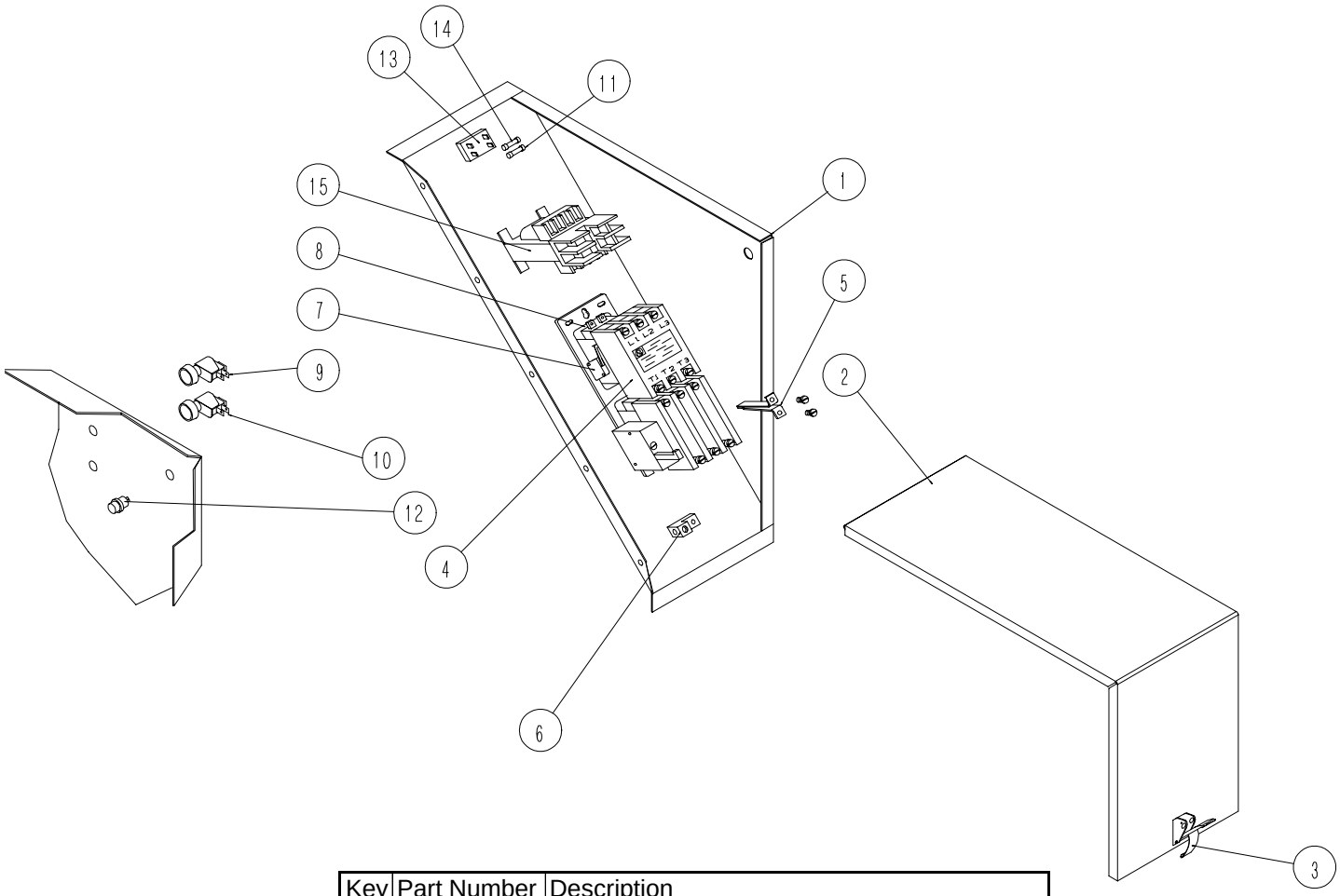
Key	Part Number	Description
1	CH-1044	5 HP 1 PH Centrifugal Fan Motor
1	CH-1045	5 HP 3 PH Centrifugal Fan Motor
2	C-956	5 HP Blade and Hub Assembly
3	C-962	24" Inlet Cone
4	CH-3692	24" Grill Guard
5	C-7068	5 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5476	5 HP 1 PH 3500 Motor
1	FH-5477	5 HP 3 PH 3500 Motor
2	FH-5465	5 HP 15" Blade and Hub Assembly
3	FH-5471	15" Inlet Cone
4	FH-5486	15" Grill Guard
5	C-7091	5 HP 3500 RPM Housing Assembly

5hp 1ph Centrifugal Control Box Parts



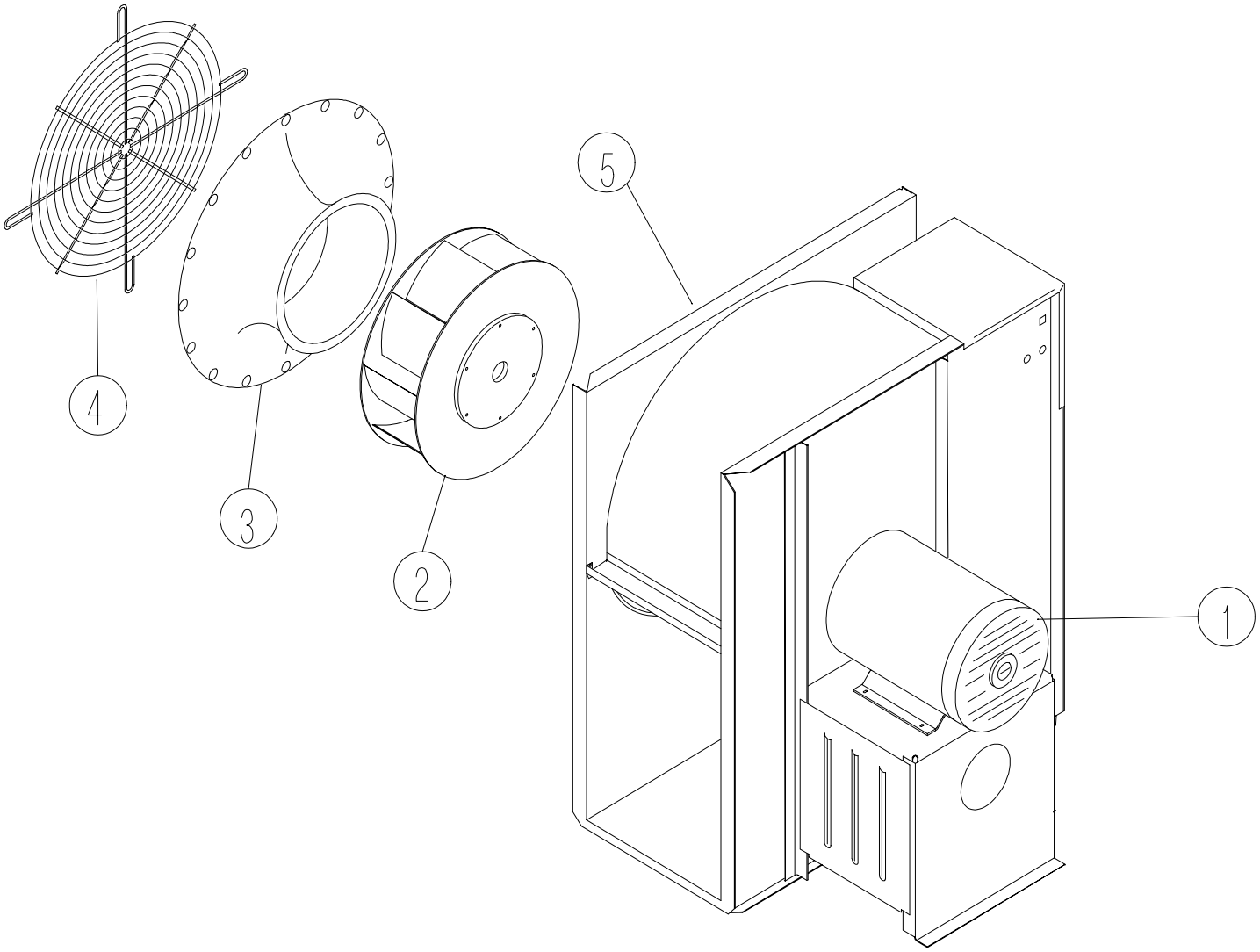
Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-1037	40 Amp Contactor
5	FH-5445	C250B Heat Strip
6	*CH-1027	Overload Relay
7	FH-5568	220V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug

5hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1151	30 Amp Starter
5	FH-5441	C180B Heat Strip (230V)
5	FH-5436	C955A Heat Strip (460V)
5	FH-5737	C778A Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5568	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

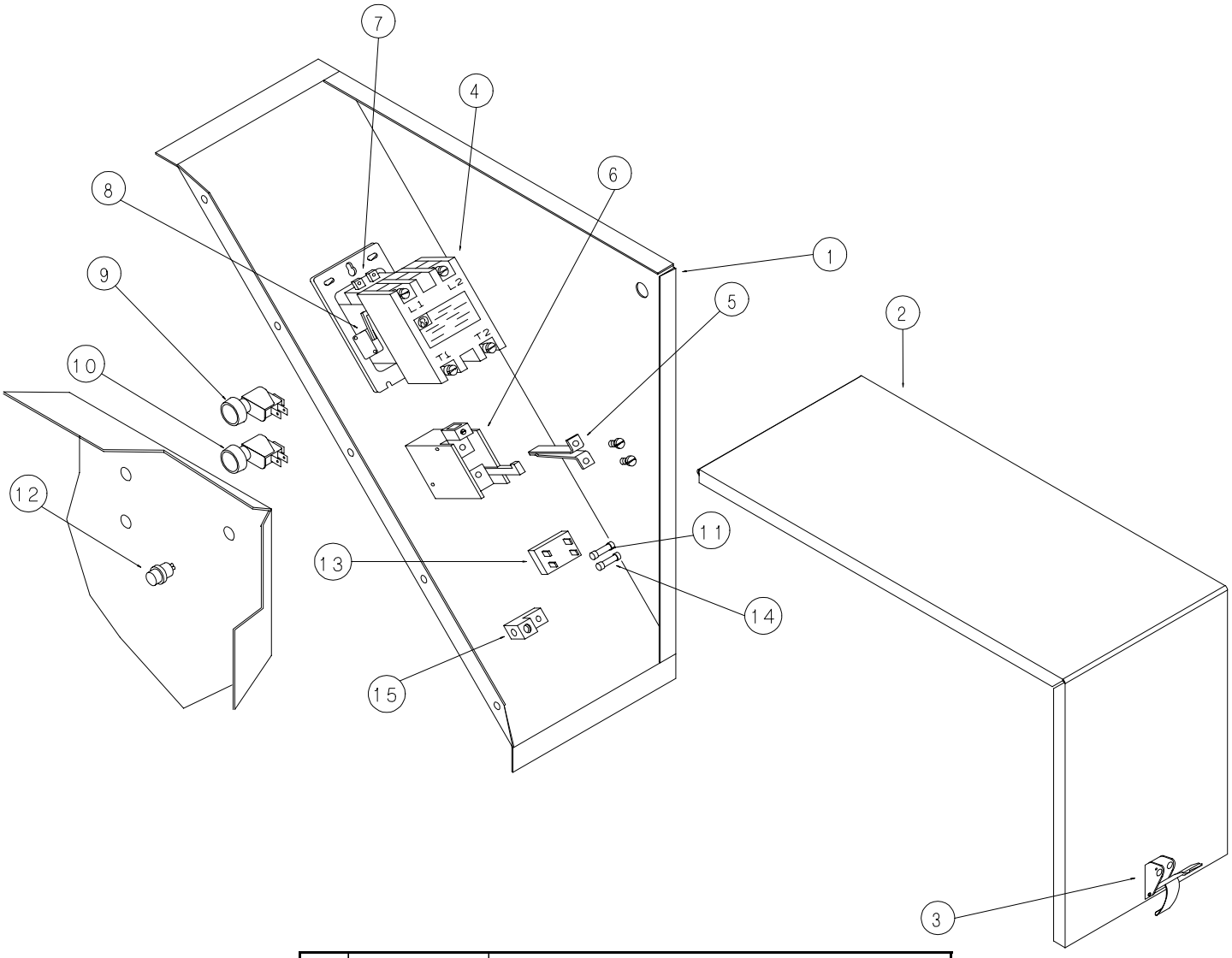
7.5hp Centrifugal Fan Parts



1750 RPM

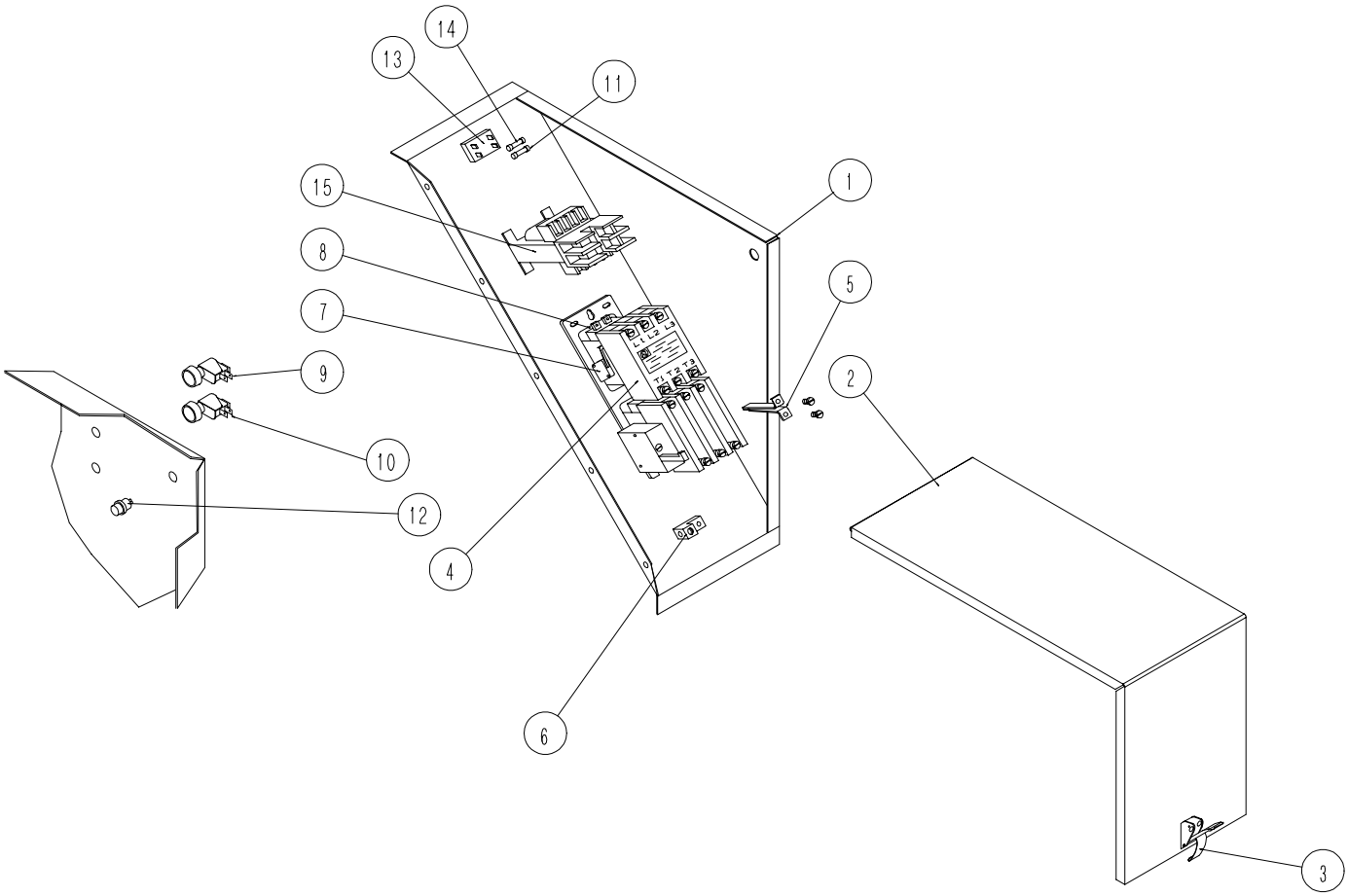
Key	Part Number	Description
1	CH-1046	7 1/2 HP 1 PH Centrifugal Fan Motor
1	CH-1047	7 1/2 HP 3 PH Centrifugal Fan Motor
2	C-957	7 1/2 HP Blade and Hub Assembly
3	C-962	24" Inlet Cone
4	CH-3692	24" Grill Guard
5	C-7069	7 1/2 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5478	7 1/2 HP 1 PH 3500 RPM Motor
1	FH-5479	7 1/2 HP 3 PH 3500 RPM Motor
2	FH-5466	7 1/2 HP 18" Blade and Hub Assembly
3	FH-5472	18" Inlet Cone
4	FH-5487	18" Grill Guard
5	C-7092	7 1/2 HP 3500 RPM Housing Assembly

7.5hp 1ph Centrifugal Control Box



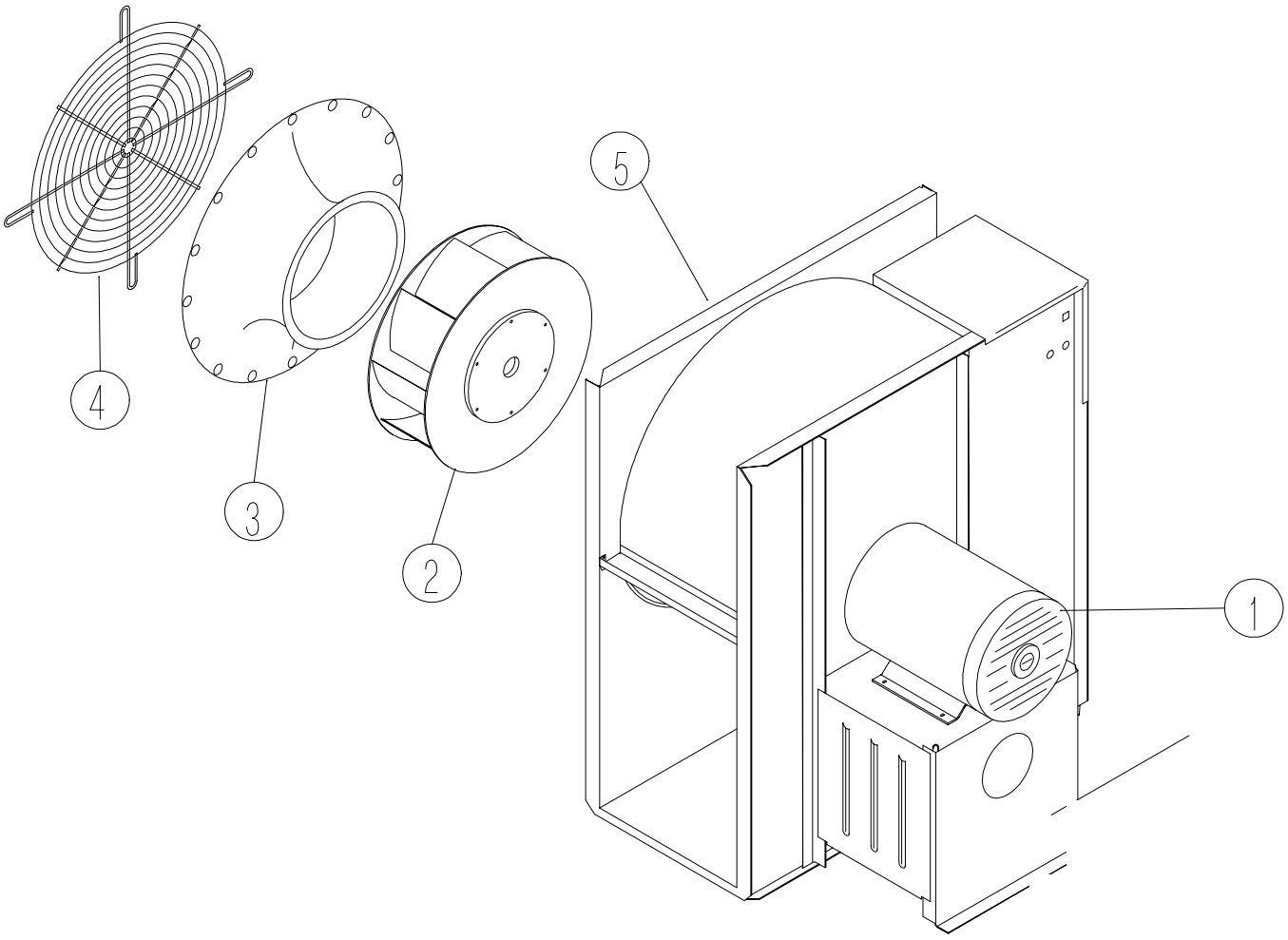
Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-1037	40 Amp Contactor
5	FH-5456	C330B Heat Strip
6	*CH-1027	Overload Relay
7	FH-5568	220V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug

7.5hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1151	30 Amp Starter
5	FH-5446	C273B Heat Strip (230V)
5	FH-5439	C151B Heat Strip (460V)
5	FH-5438	C125B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5568	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	TFH-2021	Red Light (110V)
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

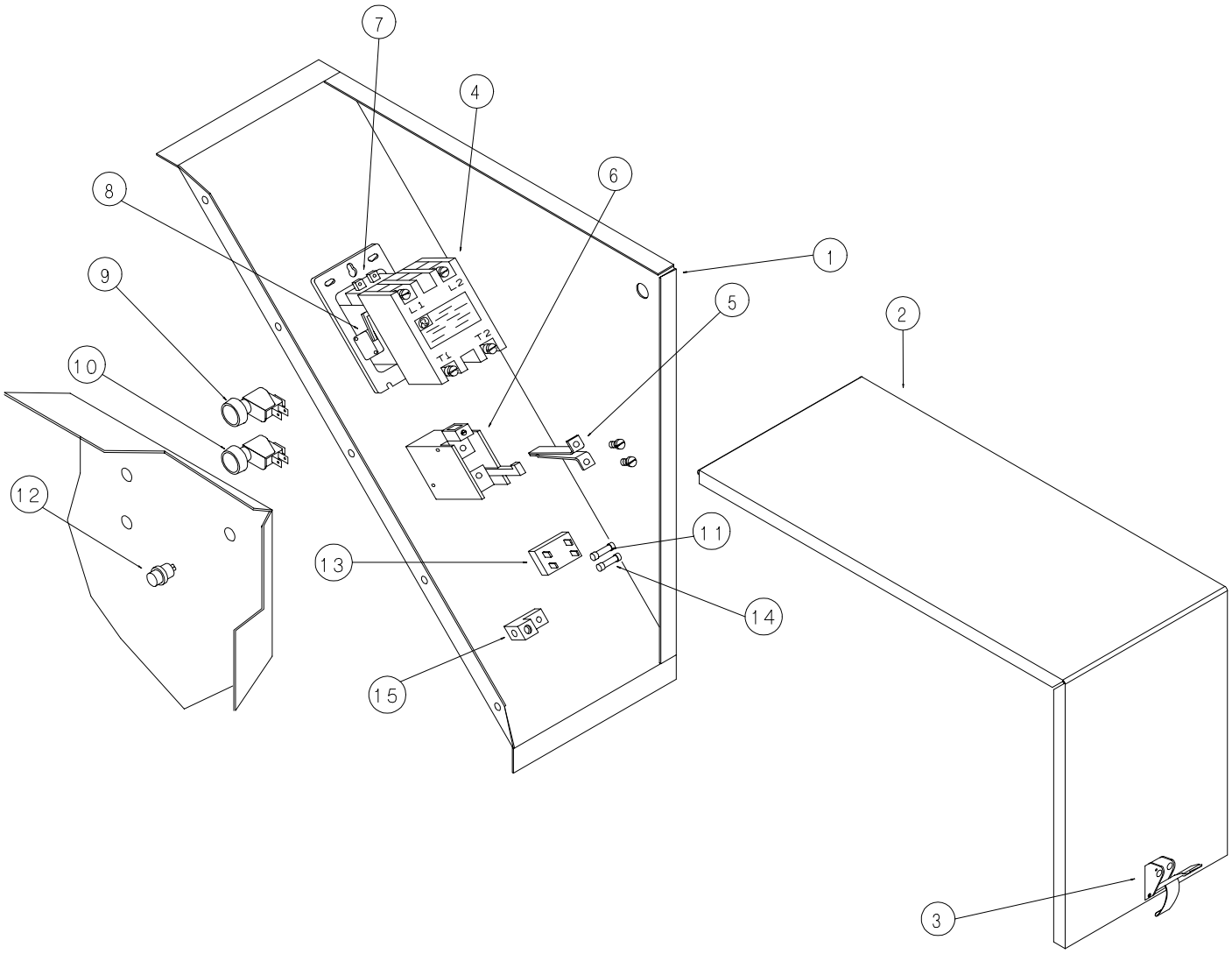
10hp Centrifugal Fan Parts



1750 RPM

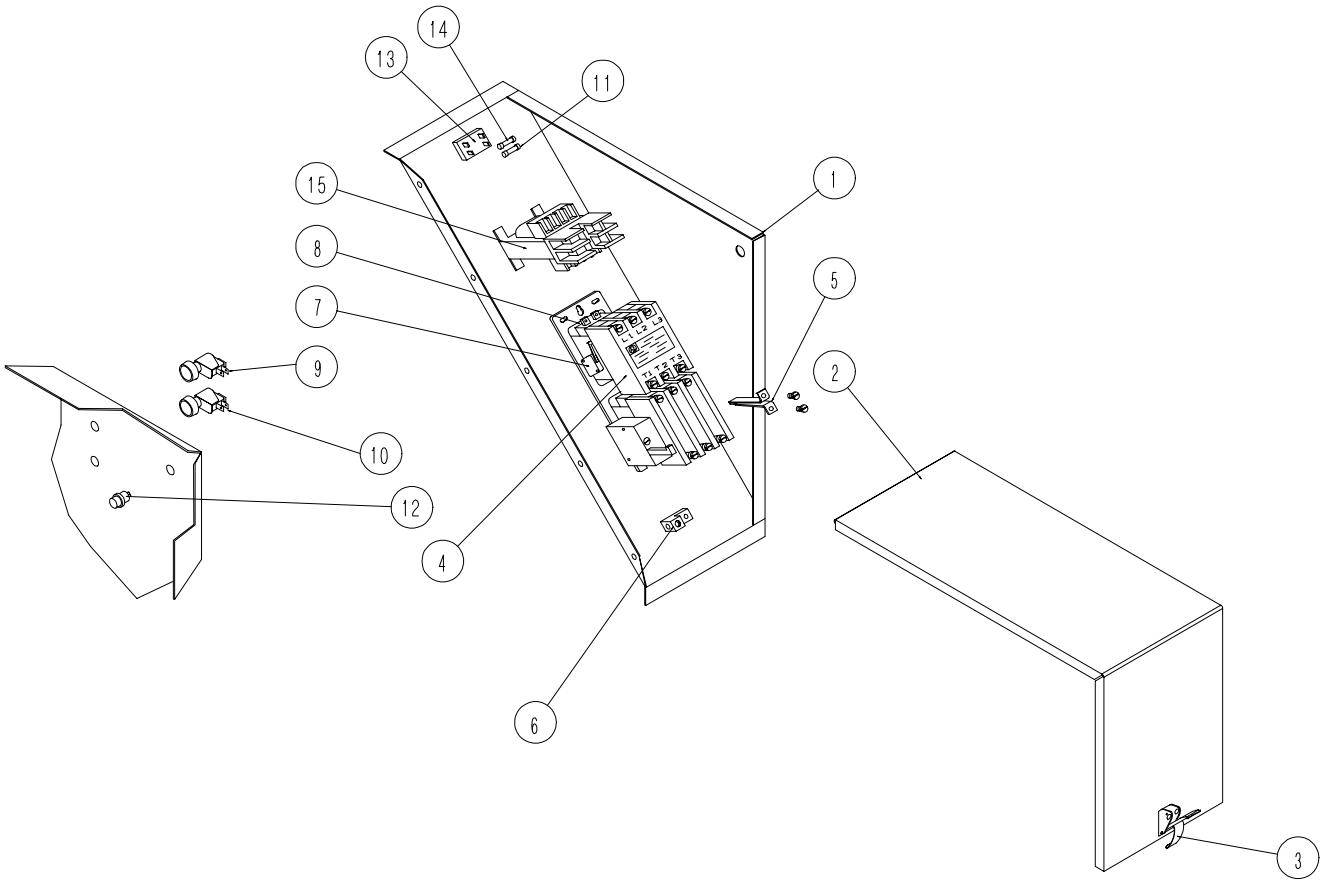
Key	Part Number	Description
1	CH-1048	10 HP 1 PH Centrifugal Fan Motor
1	CH-1049	10 HP 3 PH Centrifugal Fan Motor
2	C-958	10 HP Blade and Hub Assembly
3	C-963	27" Inlet Cone
4	F-3530	27" Grill Guard
5	C-7070	10 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5480	10 HP 1 PH 3500 Motor
1	FH-5481	10 HP 3 PH 3500 Motor
2	FH-5467	10 HP 18" Blade and Hub Assembly
3	FH-5472	18" Inlet Cone
4	FH-5487	18" Grill Guard
5	C-7093	10 HP 3500 RPM Housing Assembly

10hp 1ph Centrifugal Control Box Parts



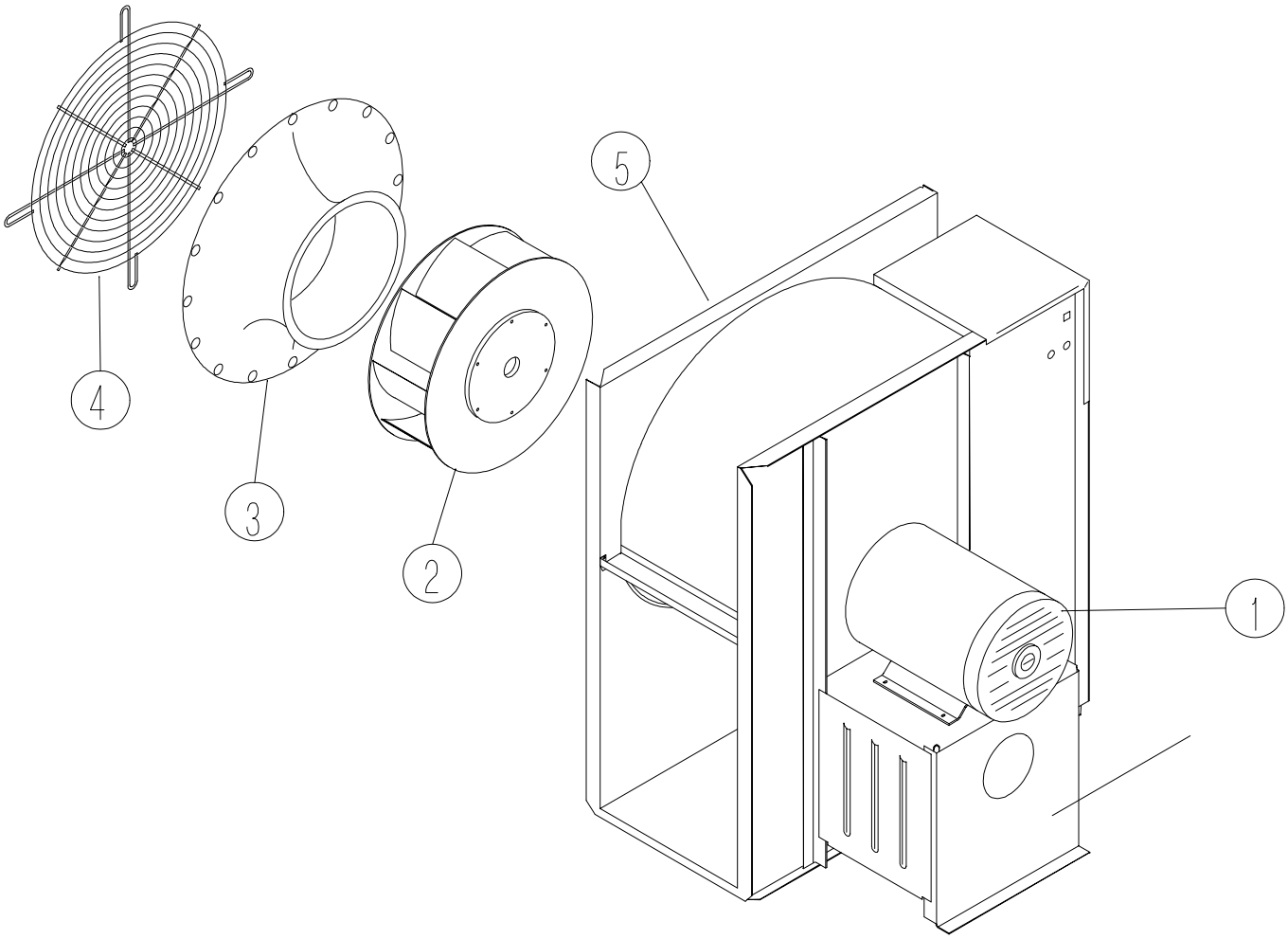
Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-3649	50 Amp Contactor
5	FH-5450	F487B GE Heater Strip
6	*FH-6335	Overload Relay
7	FH-5568	220V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug

10hp 3hp Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1149	40 Amp Starter (230V Only)
4	*CH-1151	30 Amp Starter (460V Only)
5	FH-5447	C303B Heat Strip (230V)
5	FH-5441	C180B Heat Strip (460V)
5	FH-5439	C151B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5568	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

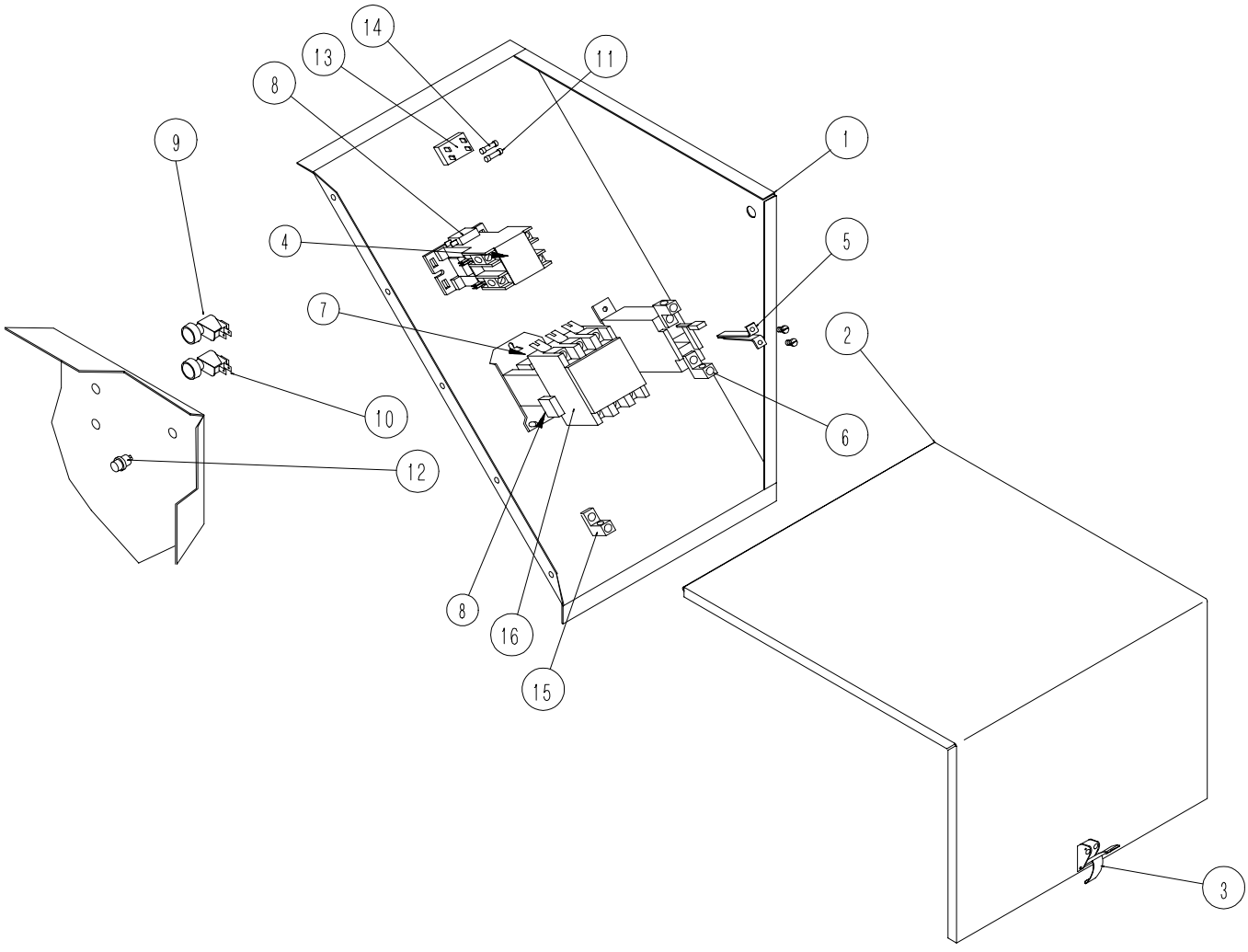
15hp Centrifugal Fan Parts



1750 RPM

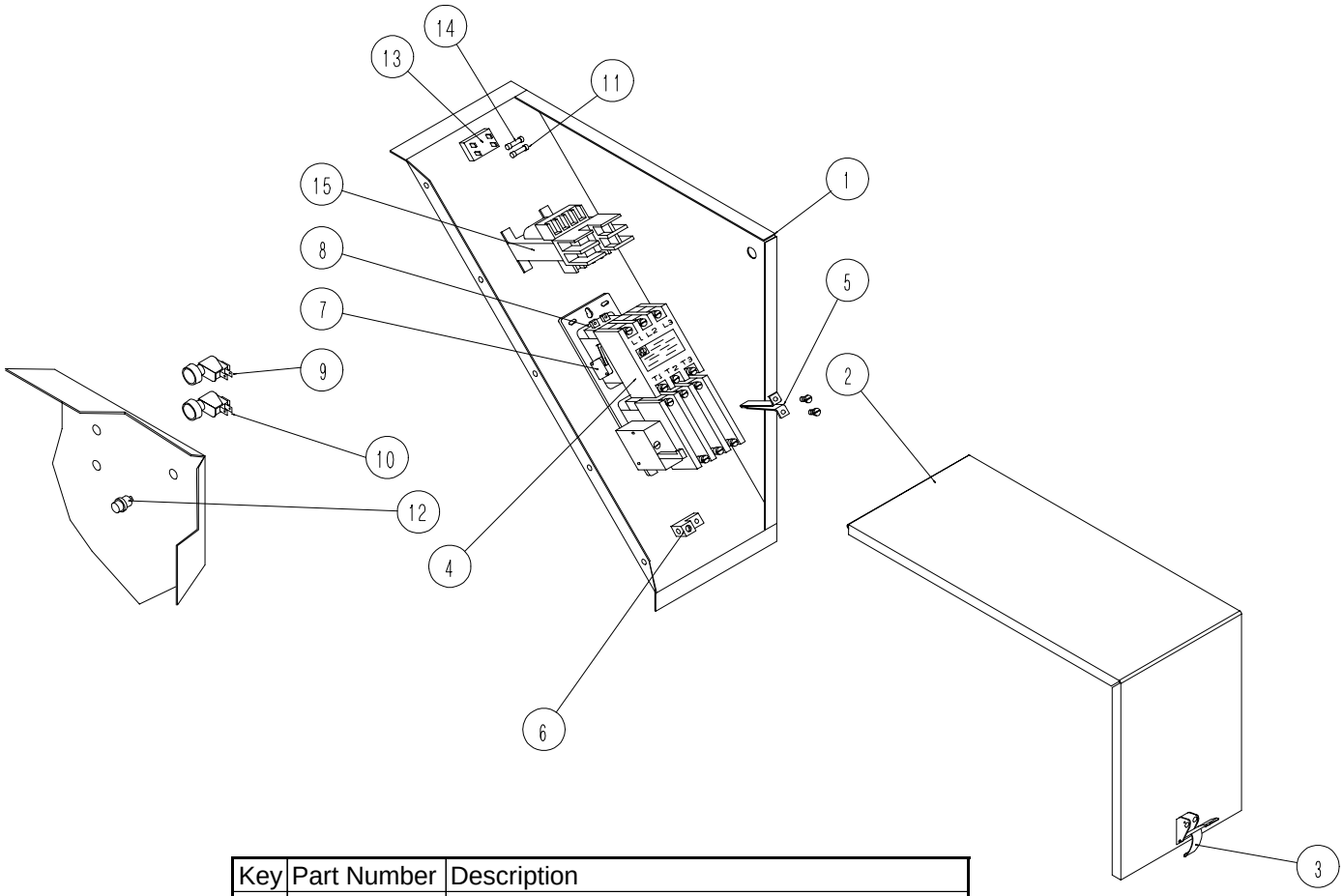
Key	Part Number	Description
1	CH-5753	15 HP 1 PH Centrifugal Fan Motor
1	CH-1050	15 HP 3 PH Centrifugal Fan Motor
2	C-960	15 HP Blade and Hub Assembly
3	C-963	27" Inlet Cone
4	F-3530	27" Grill Guard
5	C-7071	15 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5483	15 HP 3 PH 3500 Motor
2	FH-5468	15 HP 18" Blade and Hub Assembly
3	FH-5472	18" Inlet Cone
4	FH-5487	18" Grill Guard
5	C-7094	15 HP 3500 RPM Housing Assembly

15hp 1ph Centrifugal Control Box Parts



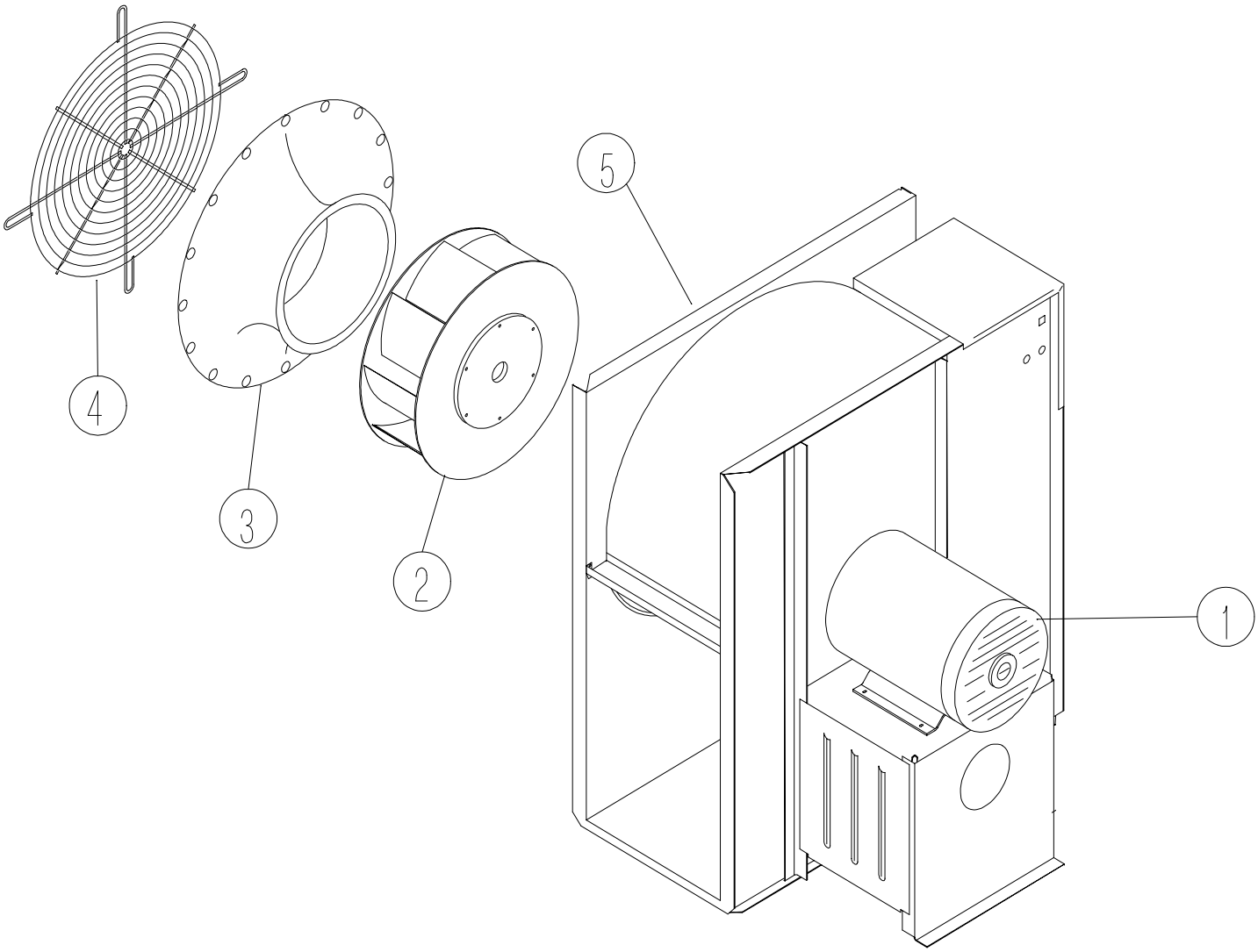
Key	Part Number	Description
1	C-6891	Large Centrifugal Control Box
2	C-6889	Large Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-1039	30 Amp Contactor
5	FH-5453	C658B Heat Strip
6	*FH-6335	Overload Relay
7	FH-5568	220V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug
16	TFH-2018	75 Amp Contactor

15hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1150	60 Amp Starter (230V)
4	*CH-1151	30 Amp Starter (460V Only)
5	FH-5739	C400B Heat Strip (230V)
5	FH-5445	C250B Heat Strip (460V)
5	FH-5442	C198B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5568	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

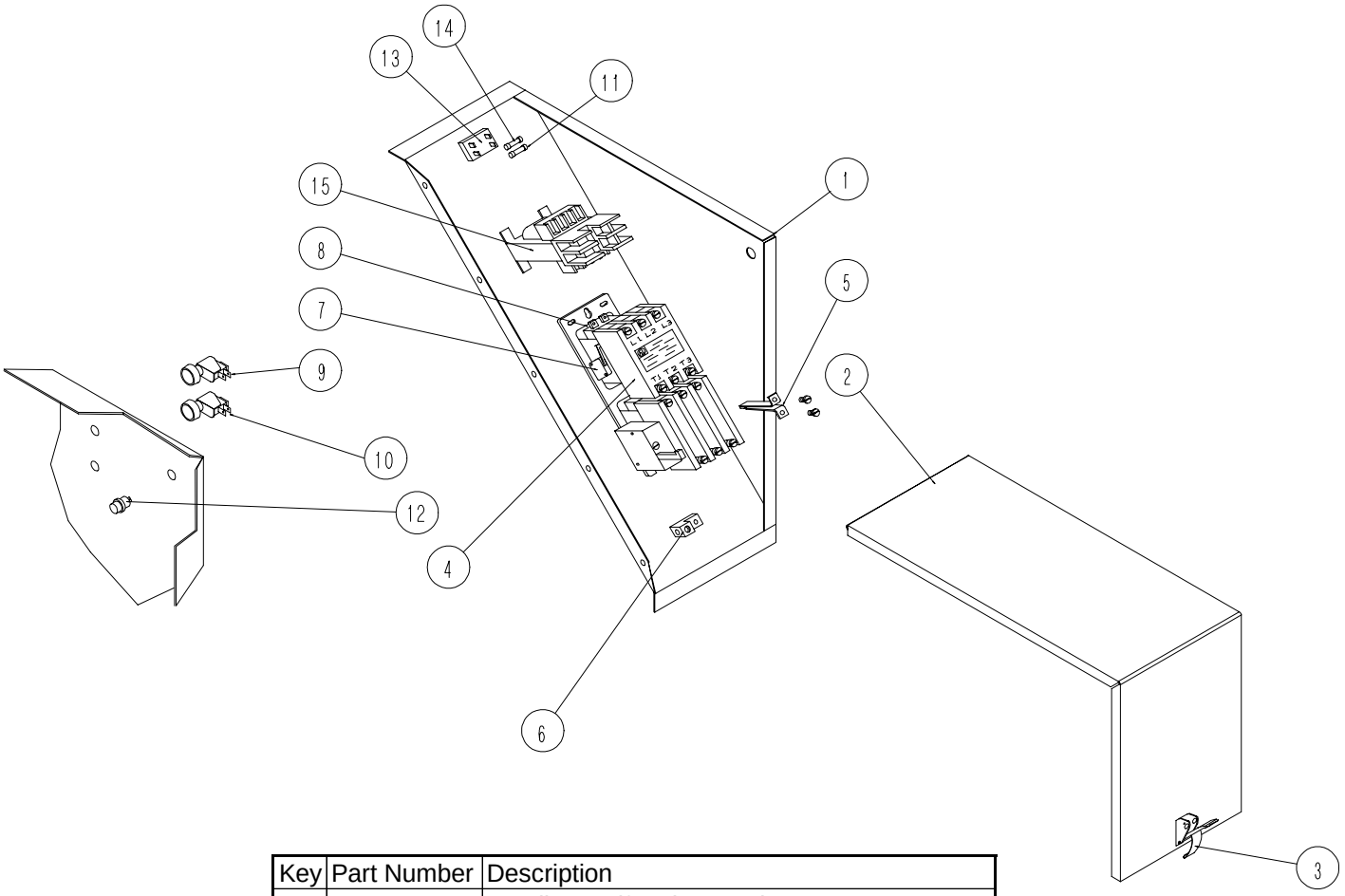
20hp Centrifugal Fan Parts



1750 RPM

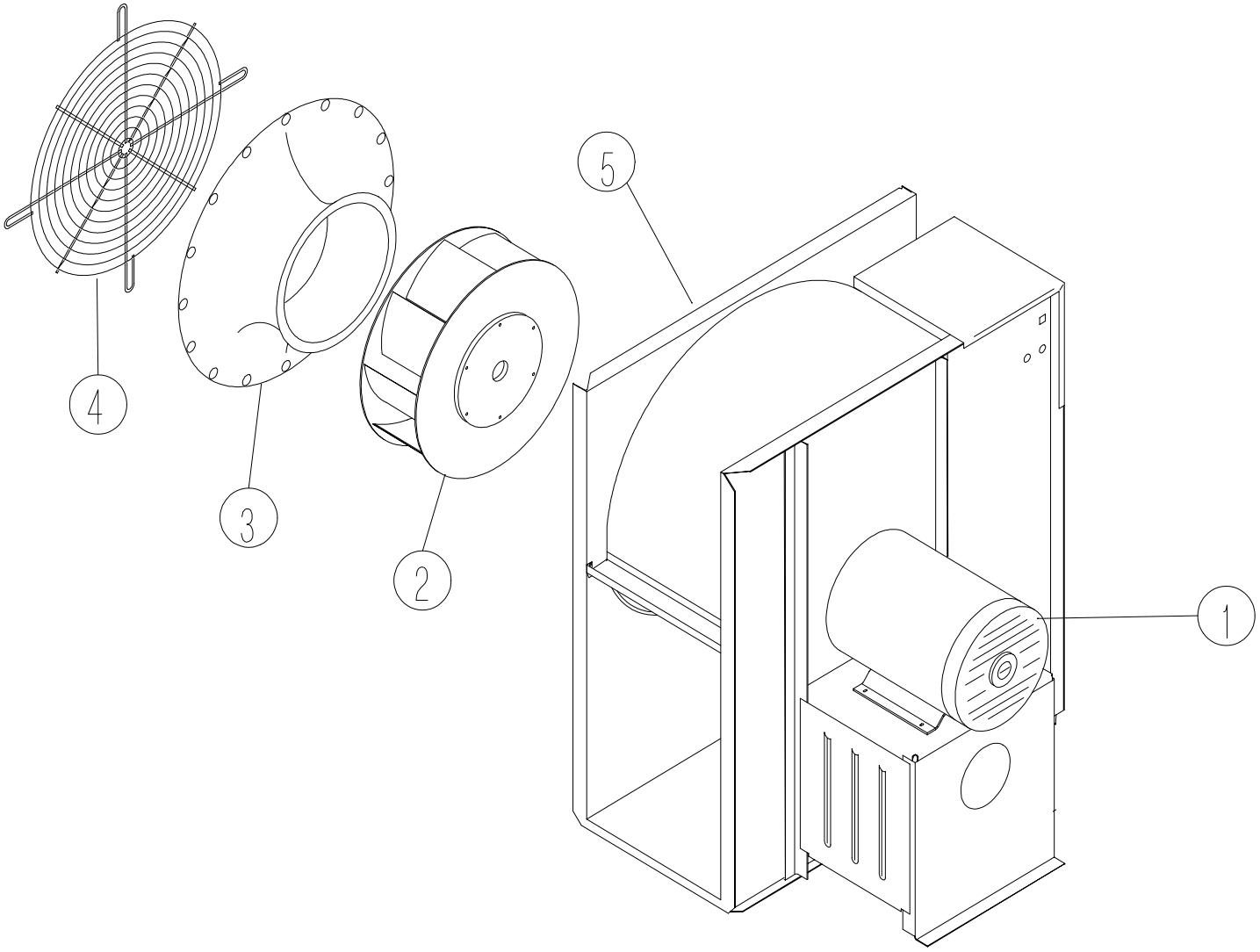
Key	Part Number	Description
1	CH-1051	20 HP 3 PH Centrifugal Fan Motor
2	CH-2076	20 HP Blade and Hub Assembly
3	CH-2047	30" Inlet Cone
4	CH-6877	30/33" Grill Guard
5	C-7072	20 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5484	20 HP 3 PH 3500 RPM Motor
2	FH-5469	20 HP 22" Blade and Hub Assembly
3	FH-5473	22" Inlet Cone
4	FH-5488	22" Grill Guard
5	C-7095	20 HP 3500 RPM Housing Assembly

20hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6945	Small Centrifugal Control Box
2	C-6947	Small Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*CH-1150	60 Amp Starter (230V)
4	*CH-1151	30 Amp Starter (460V)
5	FH-6893	C500B Heat Strip (230V)
5	FH-5447	C303B Heat Strip (460V)
5	FH-5444	C228B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5572	460V Contactor Coil (60 amp)
7	FH-5569	460V Contactor Coil (30-40 amp)
7	FH-5567	120V Contactor Coil (30-40 amp)
8	FH-5565	Auxilliary Contact Points
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

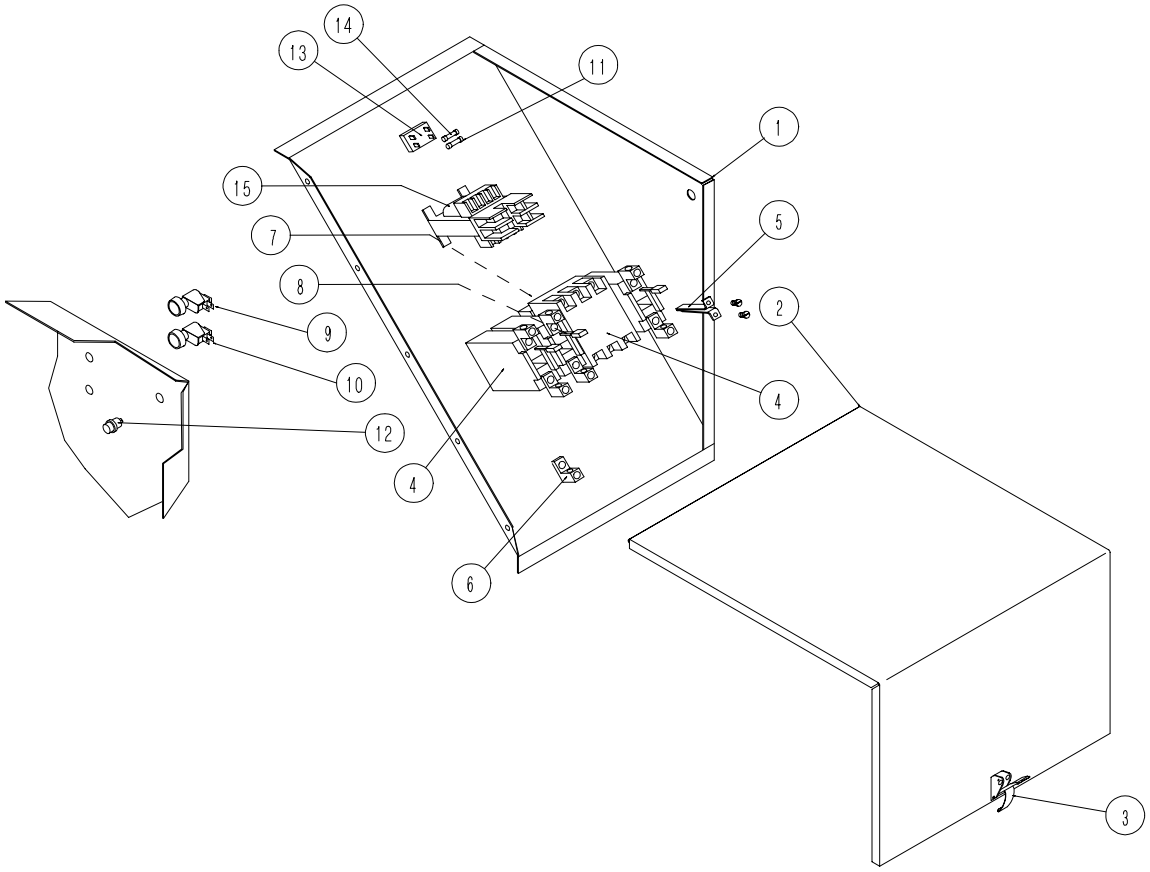
25hp Centrifugal Fan Parts



1750 RPM

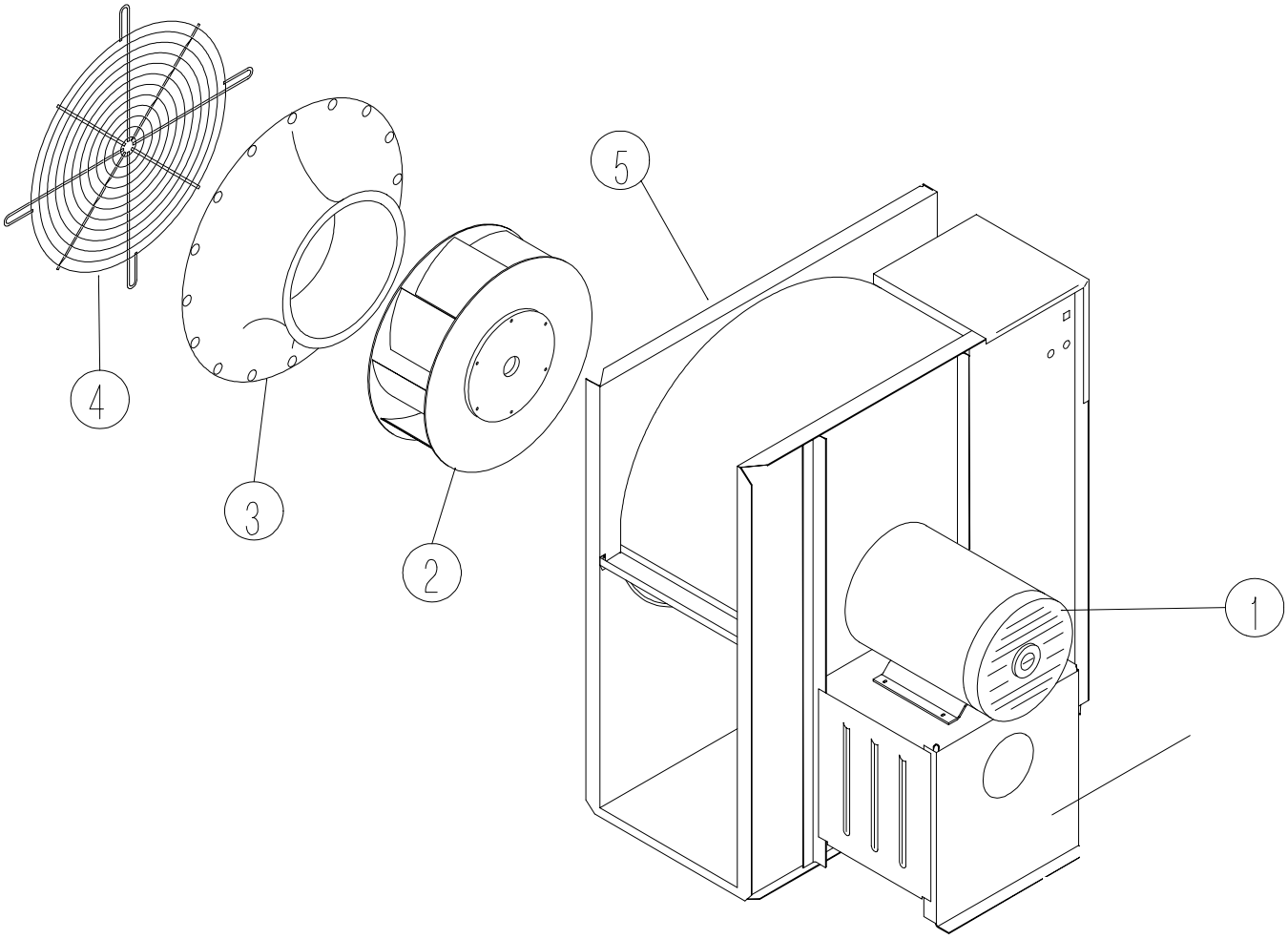
Key	Part Number	Description
1	C-2049	25 HP 3 PH Centrifugal Fan Motor
2	C-2046	25 HP Blade and Hub Assembly
3	CH-2047	30" Inlet Cone
4	CH-6877	30/33" Grill Guard
5	C-7073	25 HP 1750 RPM Housing Assembly

25hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6891	Large Centrifugal Control Box
2	C-6889	Large Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*HH-2056	75 Amp Starter (230V)
4	*CH-1149	40 Amp Starter (460V)
5	FH-5453	F658B Heat Strip (230V)
5	FH-5448	C366B Heat Strip (460V)
5	FH-5447	C303B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5574	220V Contactor Coil
7	FH-5569	460V Contactor Coil
7	FH-5567	120V Contactor Coil
8	FH-5566	Auxilliary Contact Points (230V)
8	FH-5565	Auxilliary Contact Points (460V)
9	FH-1000	Stop Switch
10	FH-999	Start Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

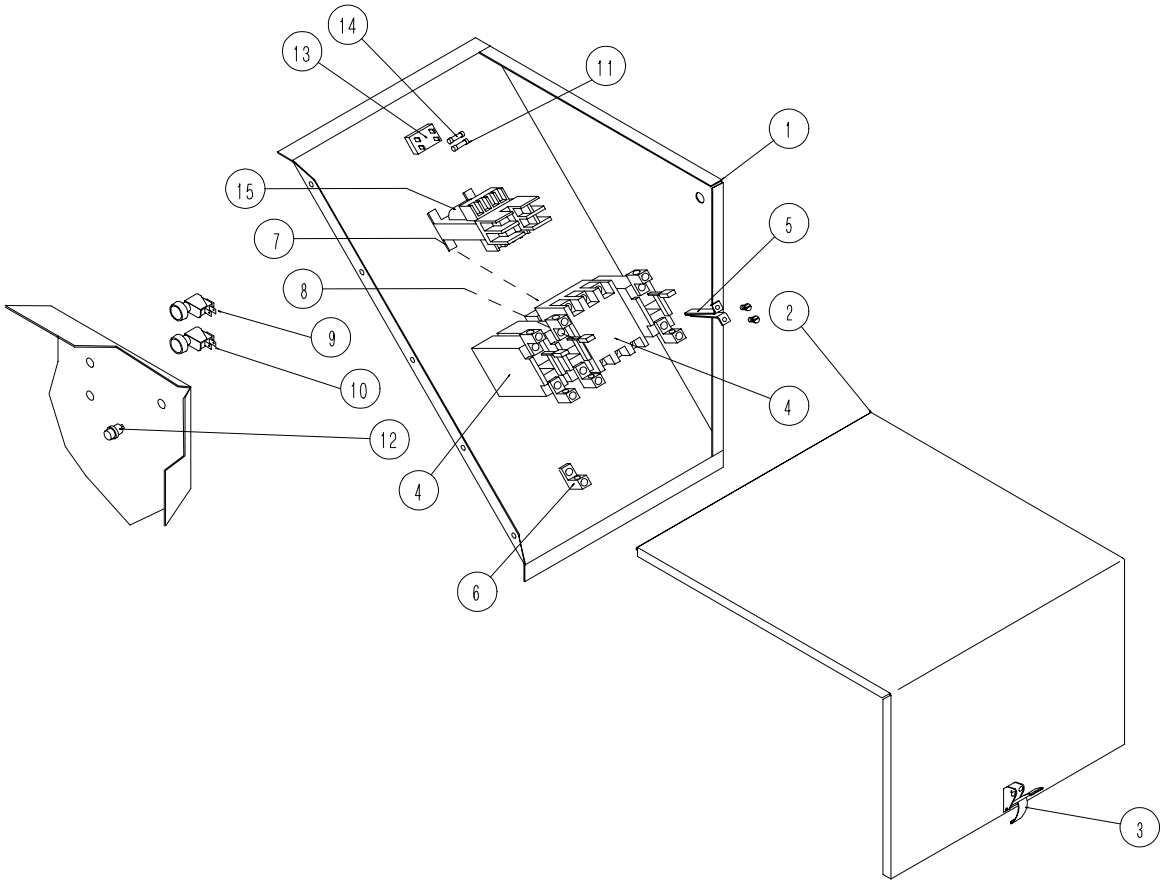
30hp Centrifugal Fan Parts



1750 RPM

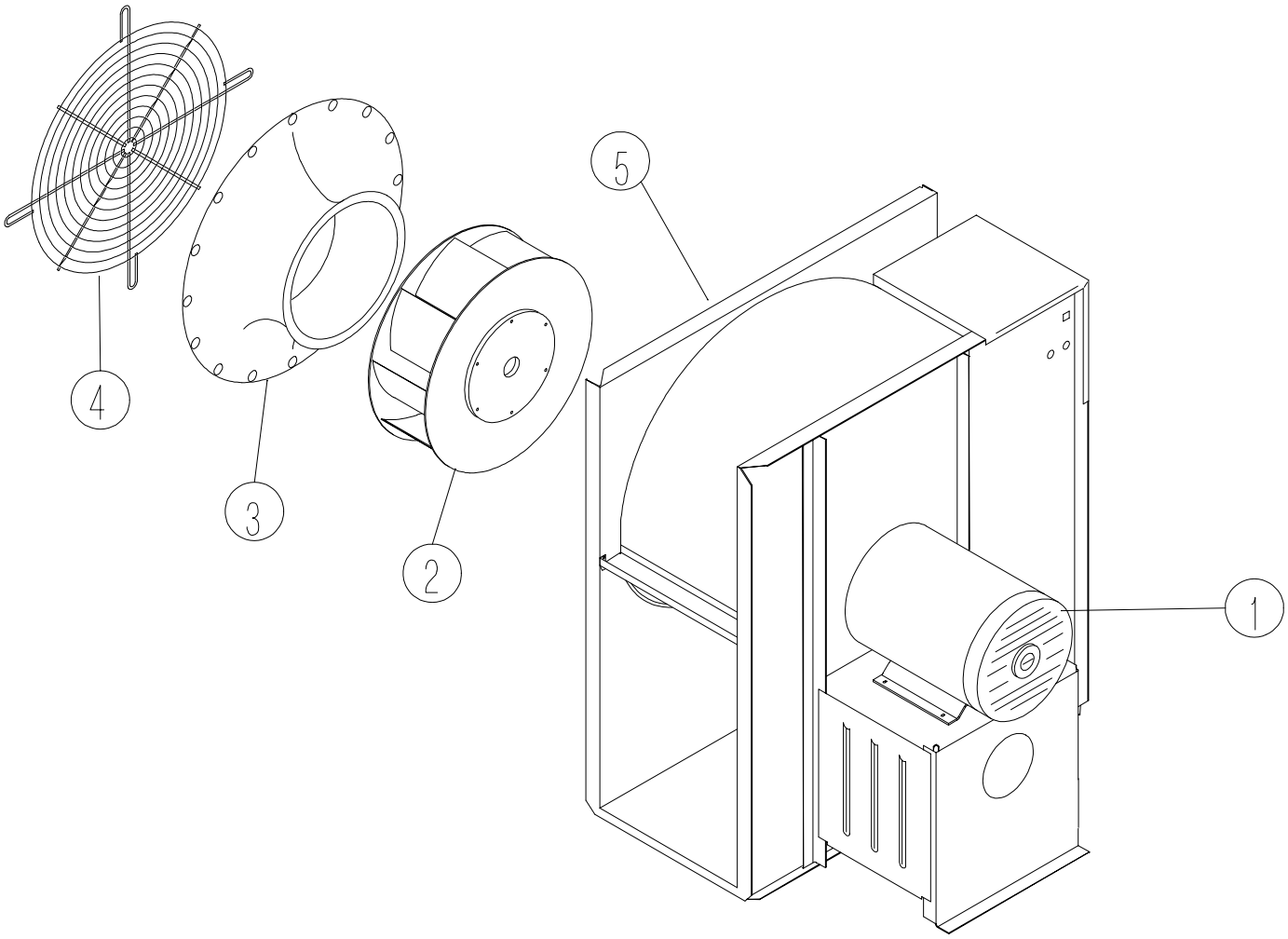
Key	Part Number	Description
1	TFH-2011	30 HP 3 PH Centrifugal Fan Motor
2	C-7319	30 HP Blade and Hub Assembly
3	CH-6876	33" Inlet Cone
4	CH-6877	30/33" Grill Guard
5	C-7067	30 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	FH-5485	30 HP 3 PH 3500 RPM Motor
2	FH-5470	30 HP 22" Blade and Hub Assembly
3	FH-5473	22" Inlet Cone
4	FH-5488	22" Grill Guard
5	C-7096	30 HP 3500 RPM Housing Assembly

30hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6891	Large Centrifugal Control Box
2	C-6889	Large Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	*HH-2056	75 Amp Starter (230V)
4	*CH-1150	60 Amp Starter (460V)
5	FH-5738	F914B Heat Strip (230 V)
5	FH-5739	C400B Heat Strip (460V)
5	FH-5456	C330B Heat Strip (575V)
6	FH-6634	Grounding Lug
7	FH-5574	220V Contactor Coil
7	FH-5572	460V Contactor Coil
7	FH-5570	120V Contactor Coil
8	FH-5566	Auxilliary Contact Points (230V)
8	FH-5565	Auxilliary Contact Points (460V)
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6968	575V-110V Transformer (575V Only)

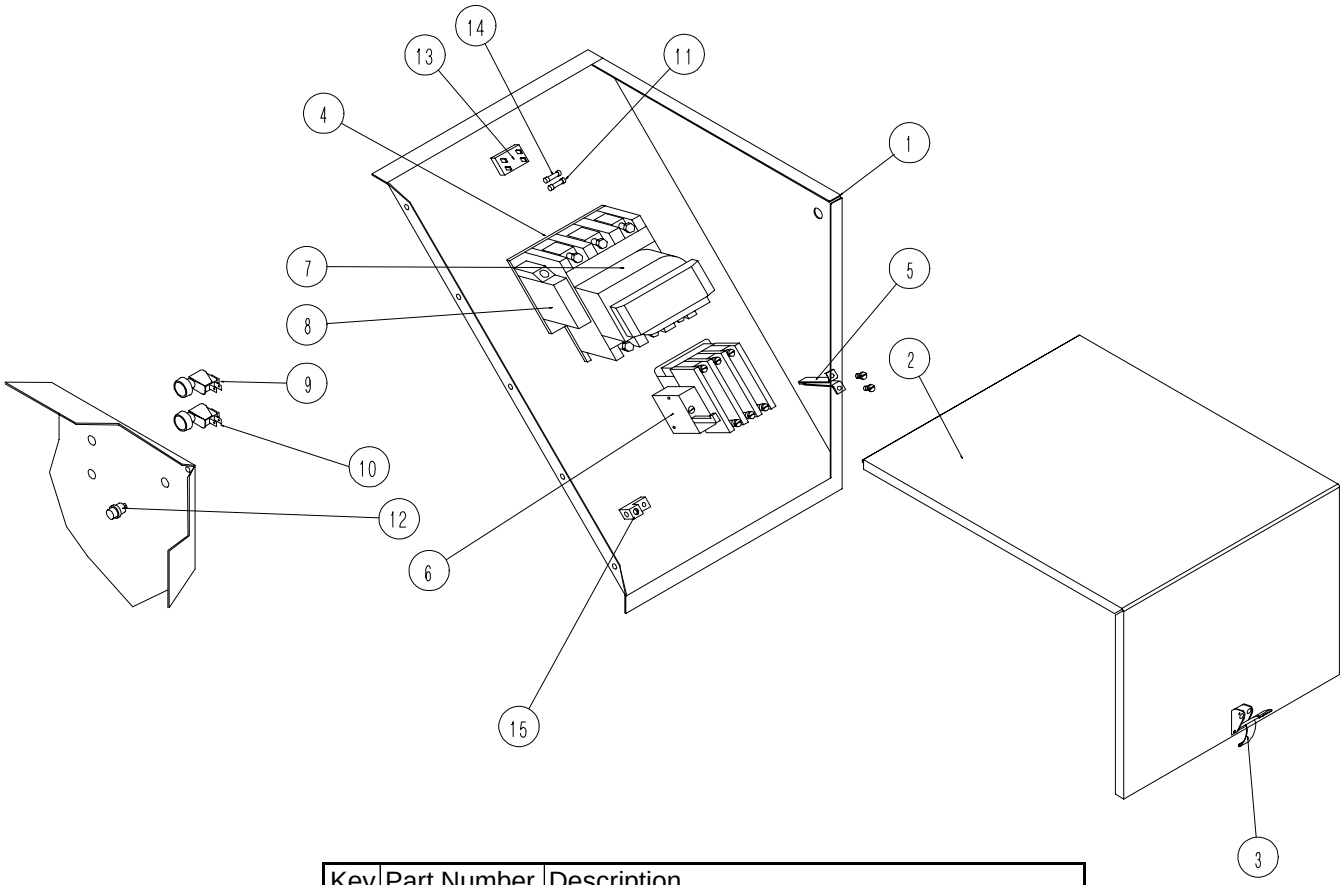
40hp Centrifugal Fan Parts



1750 RPM

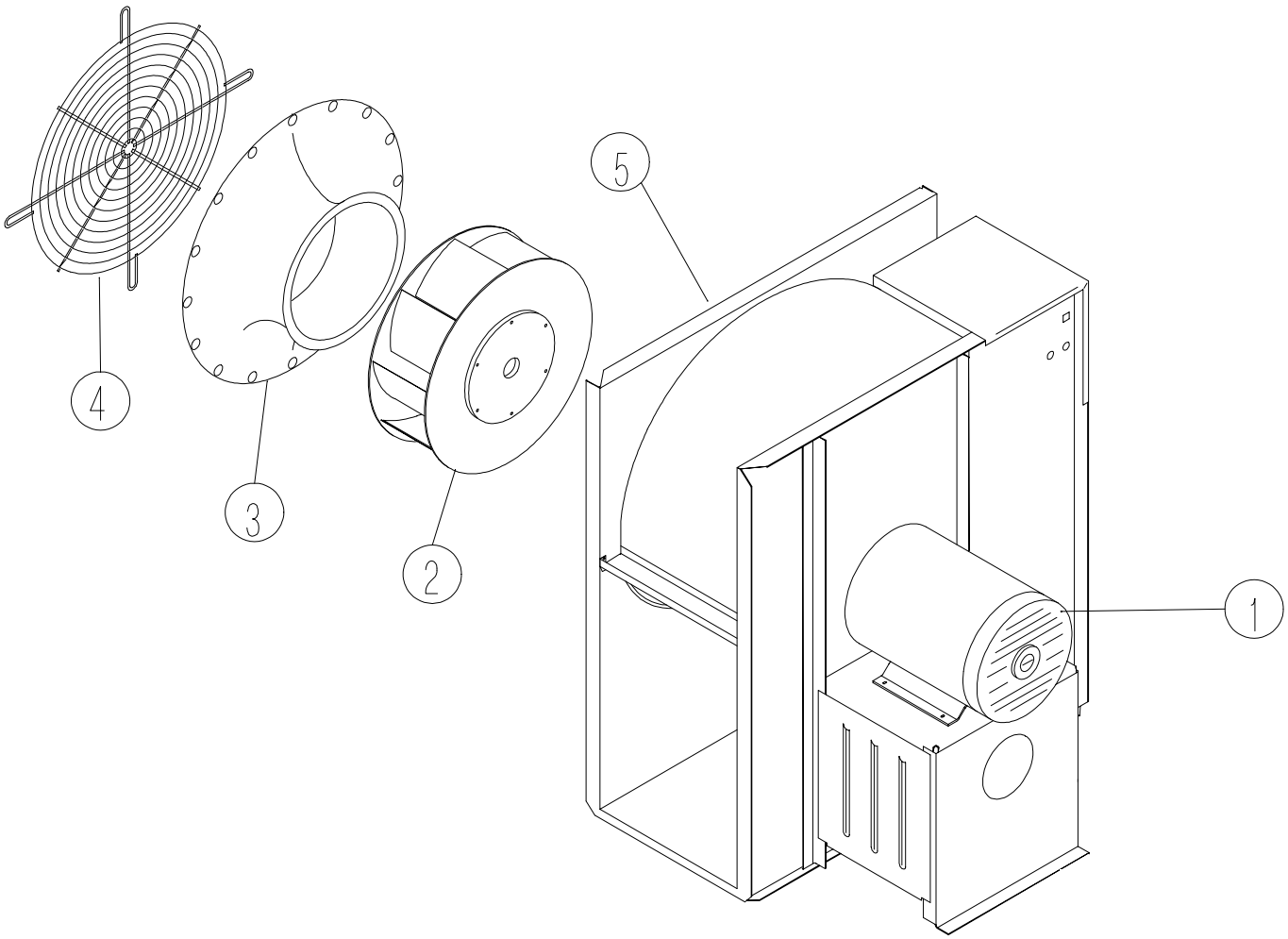
Key	Part Number	Description
1	CH-6848	40 HP 3 PH Centrifugal Fan Motor
2	C-7320	40 HP Blade and Hub Assembly
3	CH-6876	33" Inlet Cone
4	CH-6877	30/33" Grill Guard
5	C-7127	40 HP 1750 RPM Housing Assembly
	3500 RPM	
Key	Part Number	Description
1	CH-5582	40 HP 3 PH 3500 RPM Motor
2	FH-5758	40 HP 22" Blade and Hub Assembly
3	FH-5473	22" Inlet Cone
4	FH-5488	22" Grill Guard
5	C-7097	40 HP 3500 RPM Housing Assembly

40hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6891	Large Centrifugal Control Box
2	C-6889	Large Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-5733	120 Amp Contactor (230V)
4	*CH-1150	60 Amp Starter (460V)
5	FH-5740	F118C Heat Strip (230 V)
5	FH-6892	C460B Heater Strip (460V)
5	FH-5739	C400B Heater Strip (575V)
6	*CH-5742	3 Pole Overload (230V Only)
7	FH-5574	220V Contactor Coil
7	FH-5572	460V Contactor Coil
7	FH-5570	120V Contactor Coil
8	FH-5566	Auxilliary Contact Points (230V)
8	FH-5565	Auxilliary Contact Points (460V)
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1052	Heater Interlock
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug
NS	FH-6968	575V-110V Transformer (575V Only)

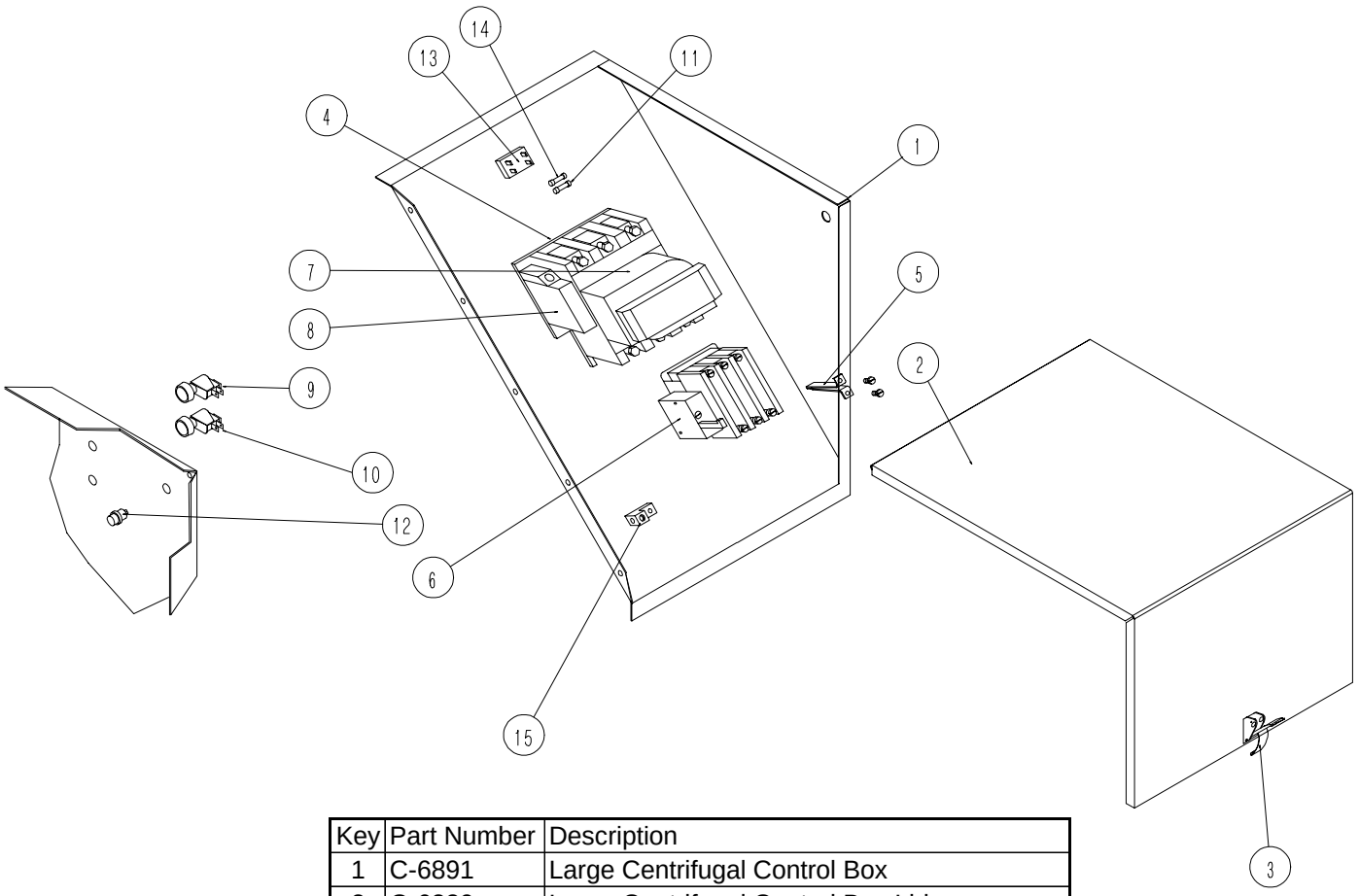
50hp Centrifugal Fan Parts



3500 RPM

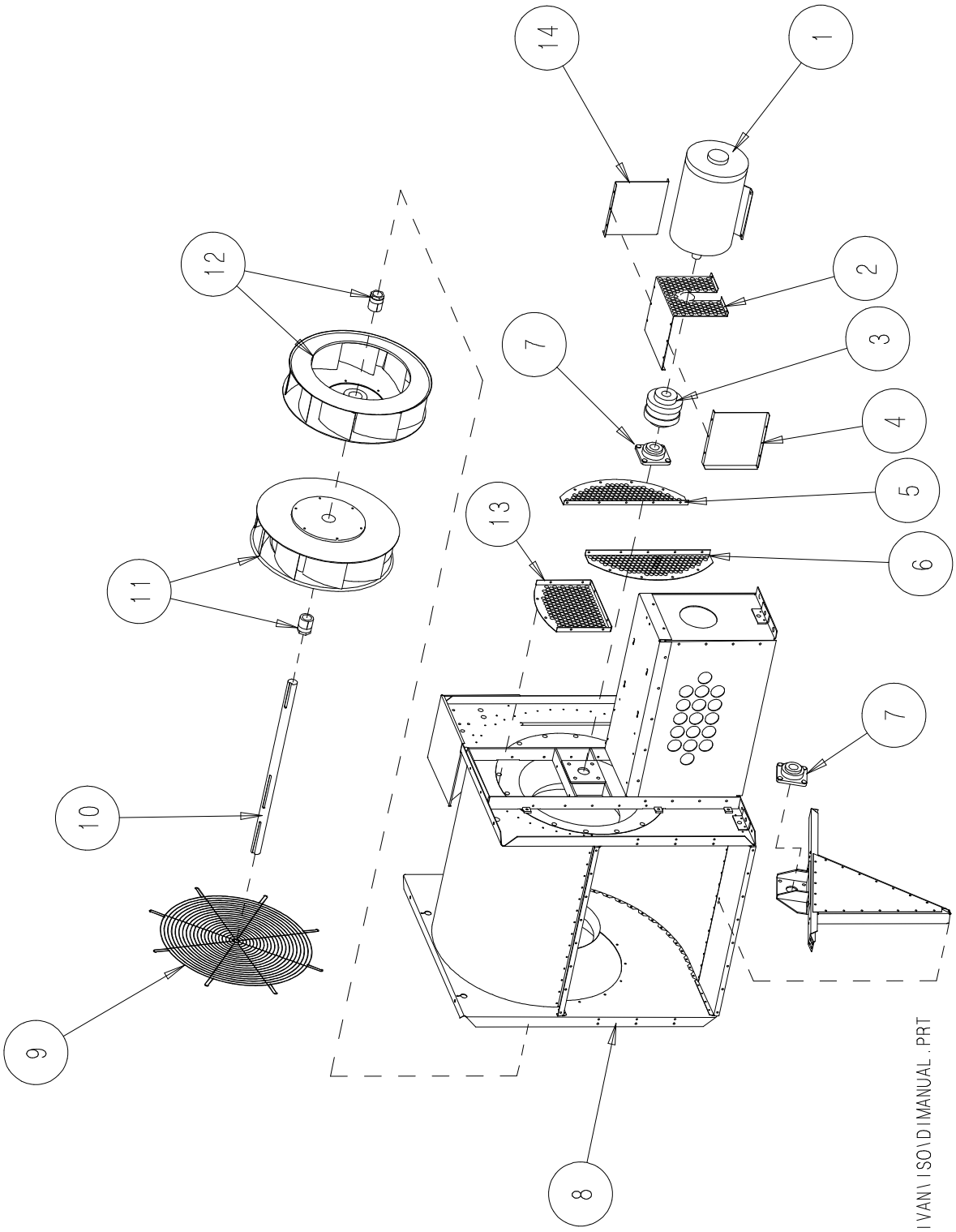
Key	Part Number	Description
1	CH-5583	50 HP 3 PH 3500 RPM Motor
2	FH-5852	50 HP 24" Blade and Hub Assembly
3	C-962	24" Inlet Cone
4	CH-3692	24" Grill Guard
5	C-7198	50 HP 3500 RPM Housing Assembly

50hp 3ph Centrifugal Control Box Parts



Key	Part Number	Description
1	C-6891	Large Centrifugal Control Box
2	C-6889	Large Centrifugal Control Box Lid
3	FH-4429-1	Spring Latch
4	CH-5734	150 Amp Contactor (230V)
4	*CH-1150	60 Amp Starter (460V)
5	FH-5741	F133C Heat Strip (230V)
5	FH-6892	C460B Heater Strip (460V)
5	FH-5454	F772B Heater Strip (575V)
6	*CH-5742	3 Pole Overload (230V Only)
7	FH-5574	220V Contactor Coil
7	FH-5572	460V Contactor Coil
7	FH-5570	120V Contactor Coil
8	FH-5566	Auxilliary Contact Points (230V)
8	FH-5565	Auxilliary Contact Points (460V)
9	FH-999	Start Switch
10	FH-1000	Stop Switch
11	FH-1059	5 Amp Fuse
12	07097476	Red Light (220V)
12	TFH-2021	Red Light (110V)
13	FH-1058	Fuse Holder
14	00147938	1/4 Amp Fuses
15	FH-6634	Grounding Lug
NS	FH-6968	575V-110V Transformer (575V Only)

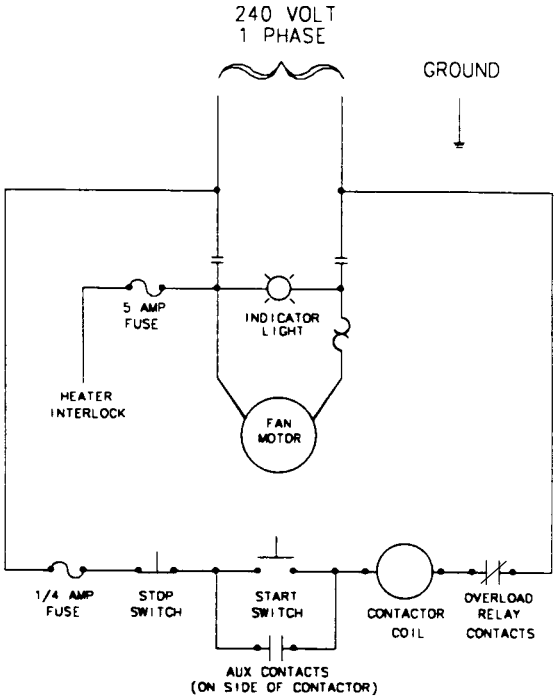
30-50hp 1750 Rpm Centrifugal Fan 460v



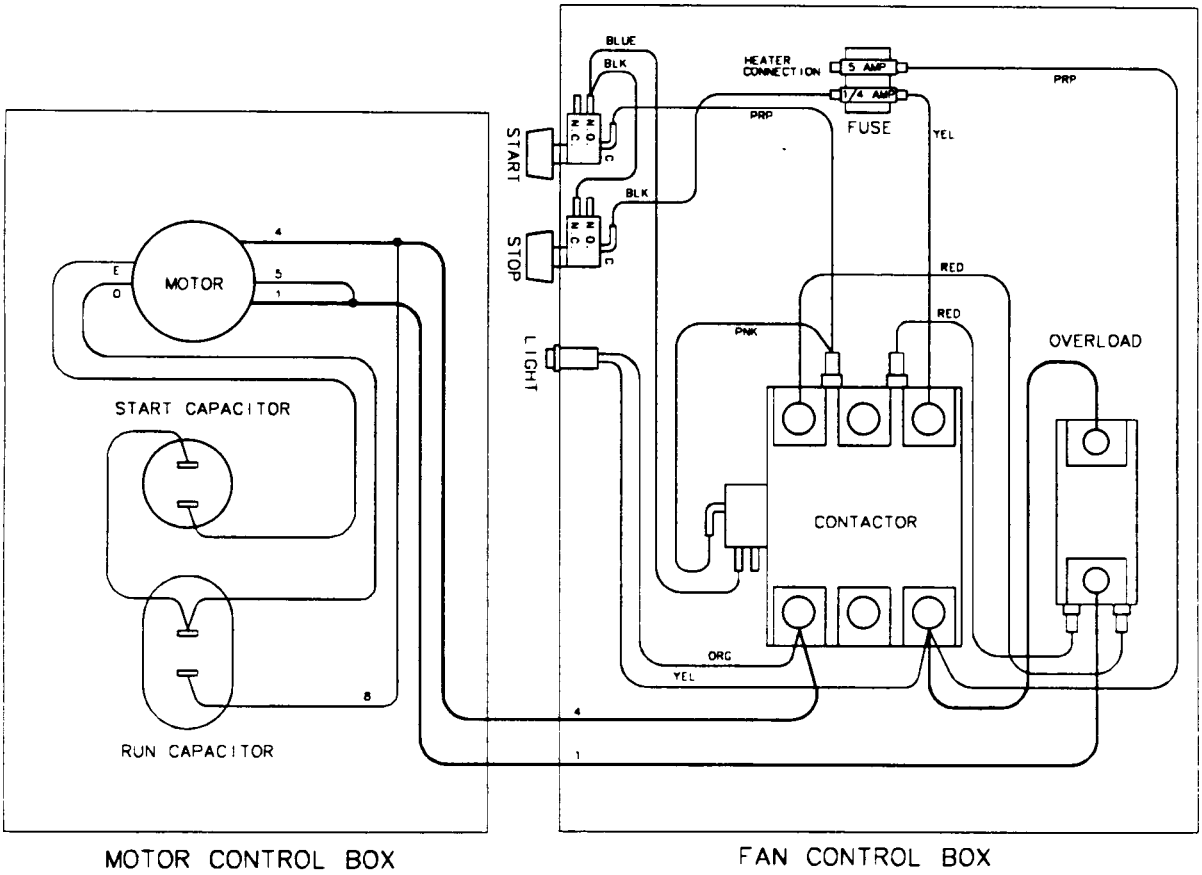
30-50hp 1750 Rpm Centrifugal Fan

Key	Part Number	Description
1	CH-6863	Motor 50 HP 3 PH
1	CH-6848	Motor 40 HP 3 PH
1	TFH-2011	Motor 30 HP 3 PH
2	C-7443	Coupling Guard Top 40 & 50 HP
2	C-7464	Coupling Guard Top 30 HP
3	C-7422	Coupling Type S Size 10 2" Bore
3	C-7423	Coupling Insert Type S Size 10
3	C-7424	Coupling Type S Size 10 2.1/8" Bore
3	C-7425	Coupling Type S size 10 1.7/8" Bore
4	C-7445	Coupling Guard Left-Hand 30 HP
4	C-7447	Left-Hand Coupling Guard Side 40 & 50HP
5	C-7449	Right-Hand Motor Inlet Guard
6	C-7450	Left-Hand Motor Inlet Guard
7	C-7293	Bearing Flange 4 Bolt 2" Bore
8	C-7312	30-50 HP Double Inlet Direct Drive Housing
9	CH-6877	Grill Guard 30-33"
10	C-7311	Double Inlet Drive Shaft
11	C-7044	Double Inlet Blade Standard 50 HP & Hub
11	C-7041	Double Inlet Blade Standard 30 HP & Hub
11	C-6931	Double Inlet Blade Standard 40 HP & Hub
12	C-7045	Double Inlet Blade Reverse 50 HP & Hub
12	C-7042	Double Inlet Blade Reverse 30 HP & Hub
12	C-6930	Double Inlet Blade Reverse 40 HP & Hub
13	C-7448	Top Motor Inlet Guard-Double Inlet Cent.
14	C-7446	Right-Hand Coupling Guard Side-40 & 50HP
14	C-7444	Coupling Guard Right-Hand 30 HP

240 Volt 1ph (3 And 5hp)

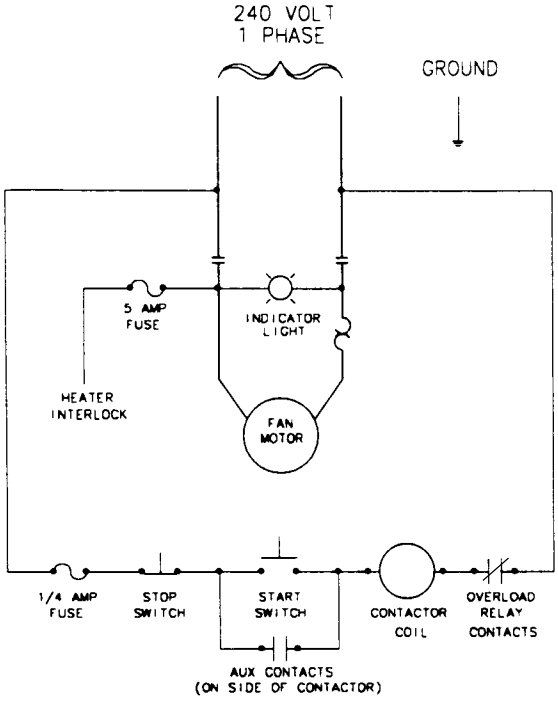


Schematic

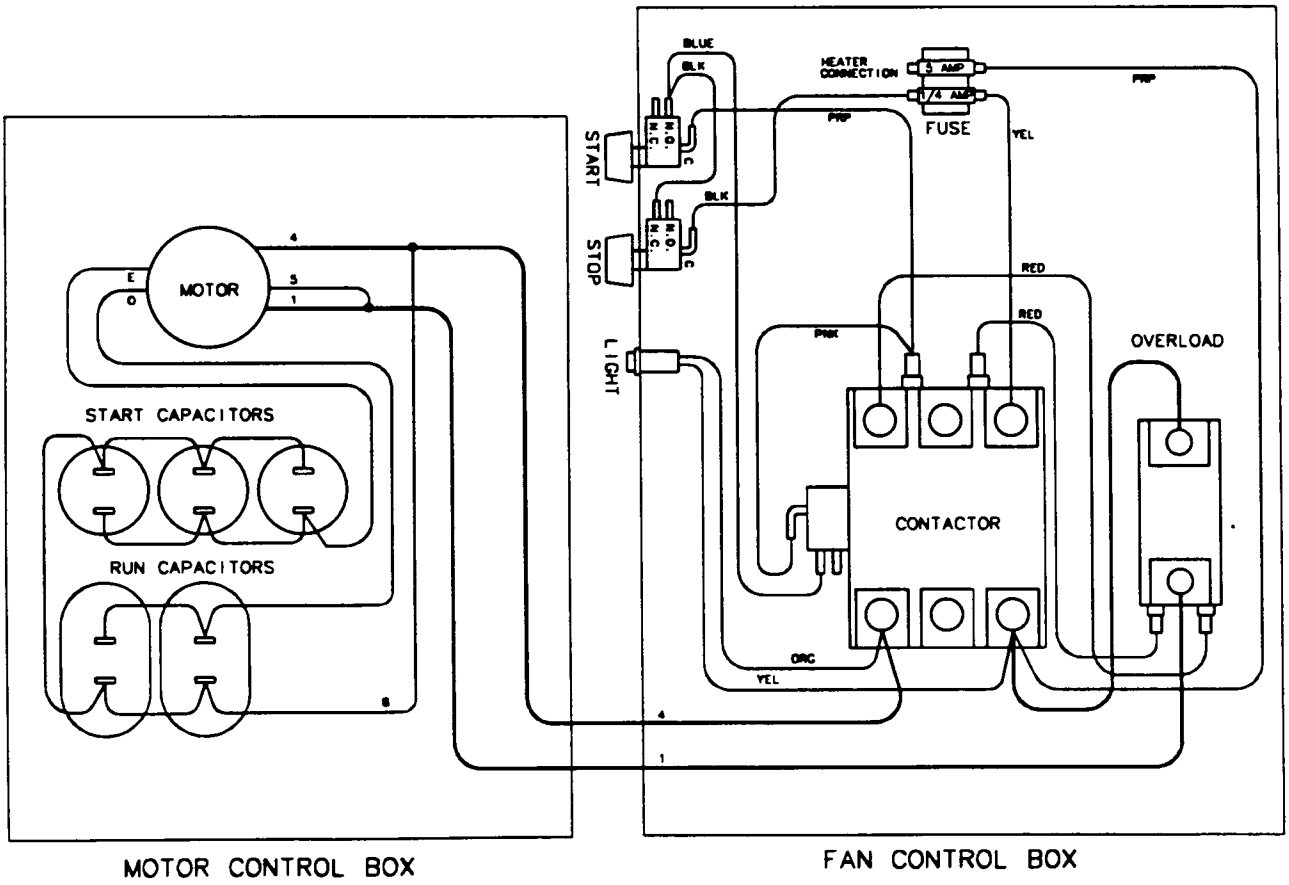


Wiring Diagram

240 Volt 1ph (7.1/2hp)

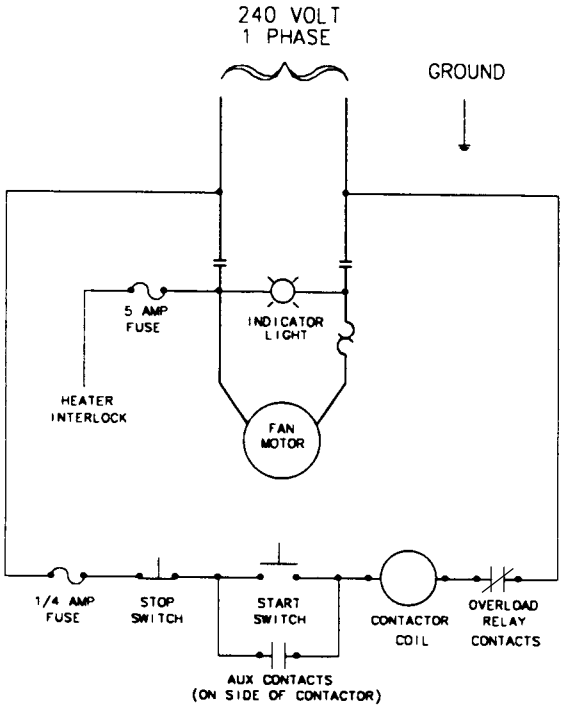


Schematic

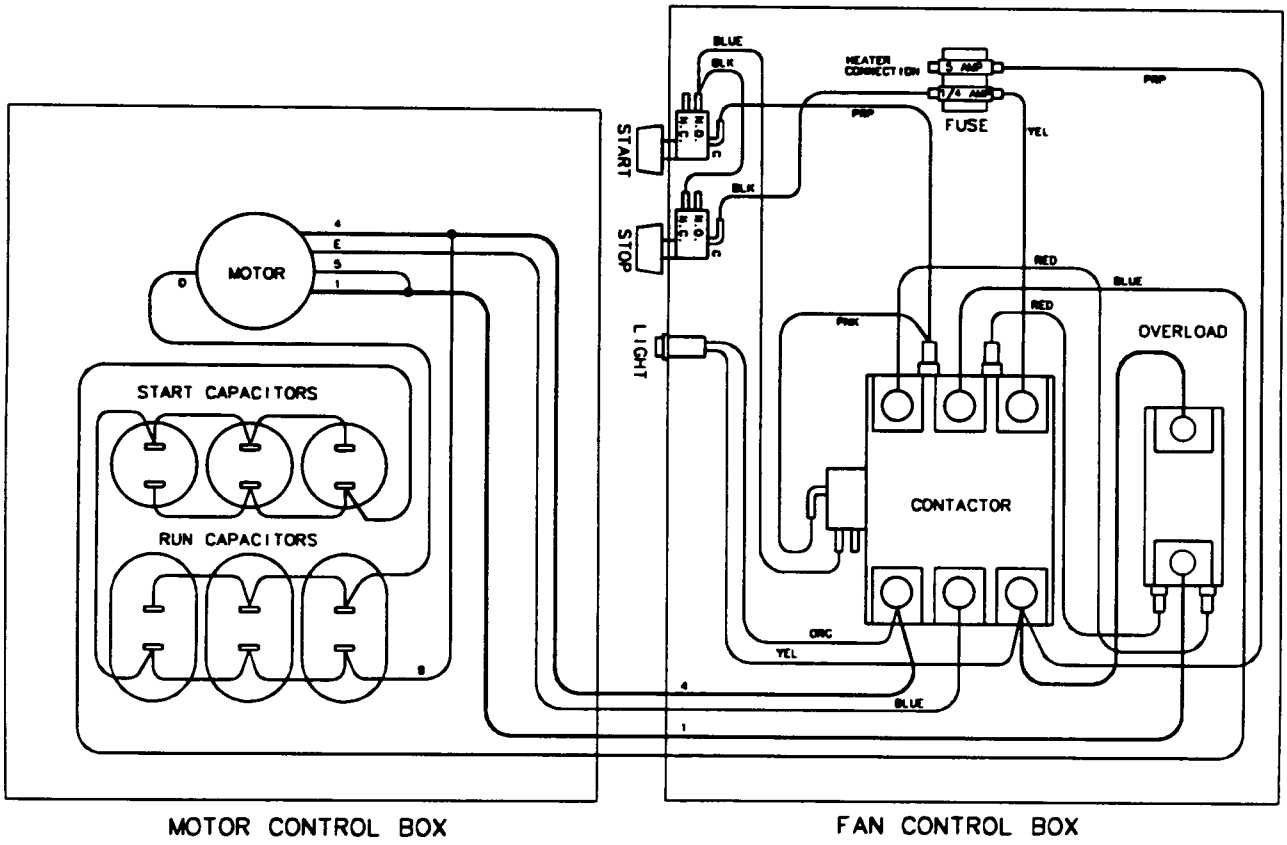


Wiring Diagram

240 Volt 1ph (10hp)

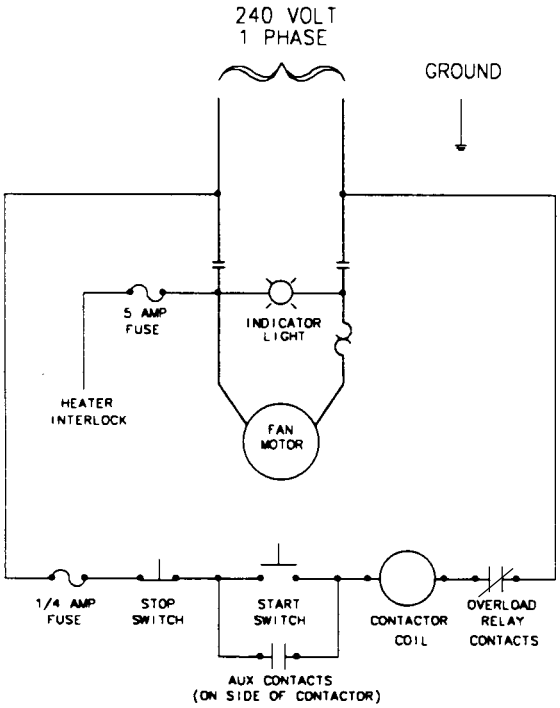


Schematic

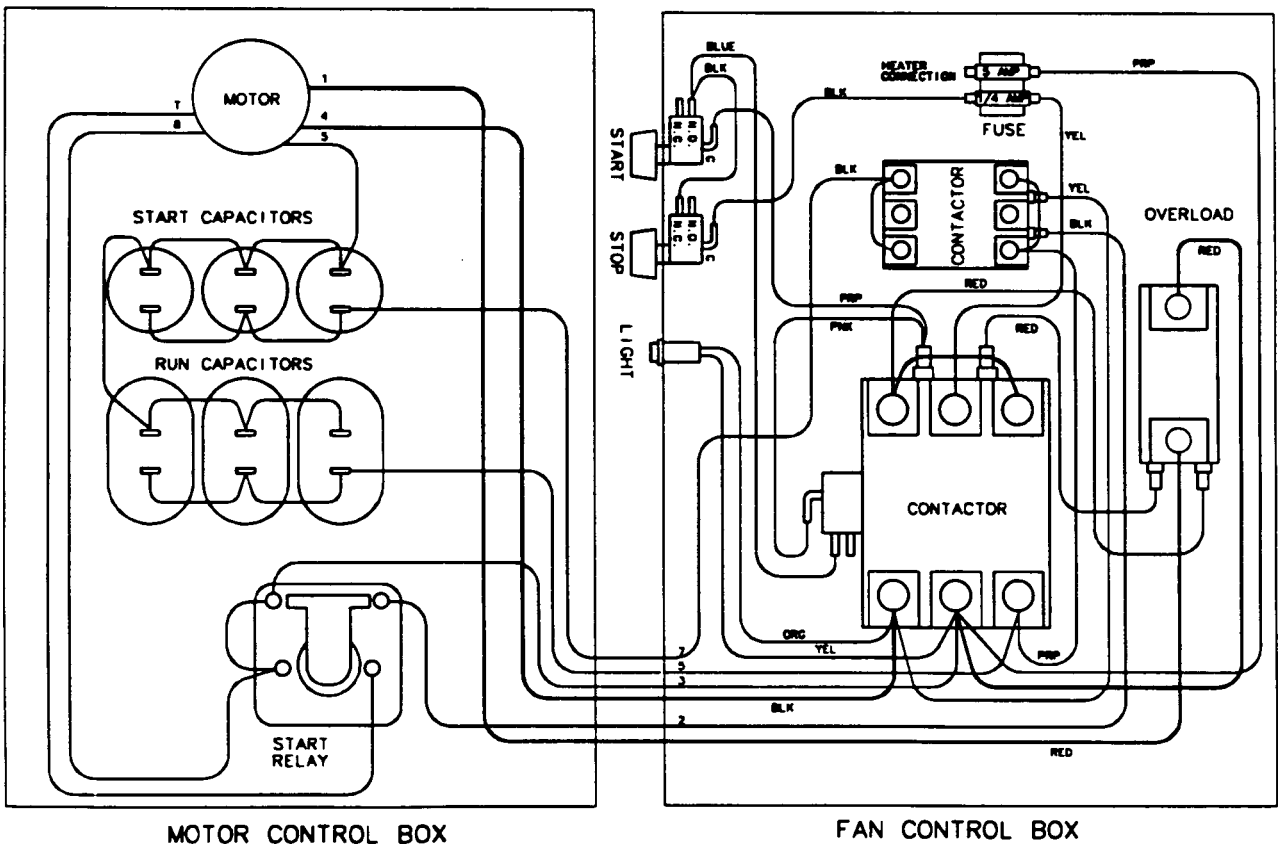


Wiring Diagram

240 Volt 1ph (15hp Baldor)

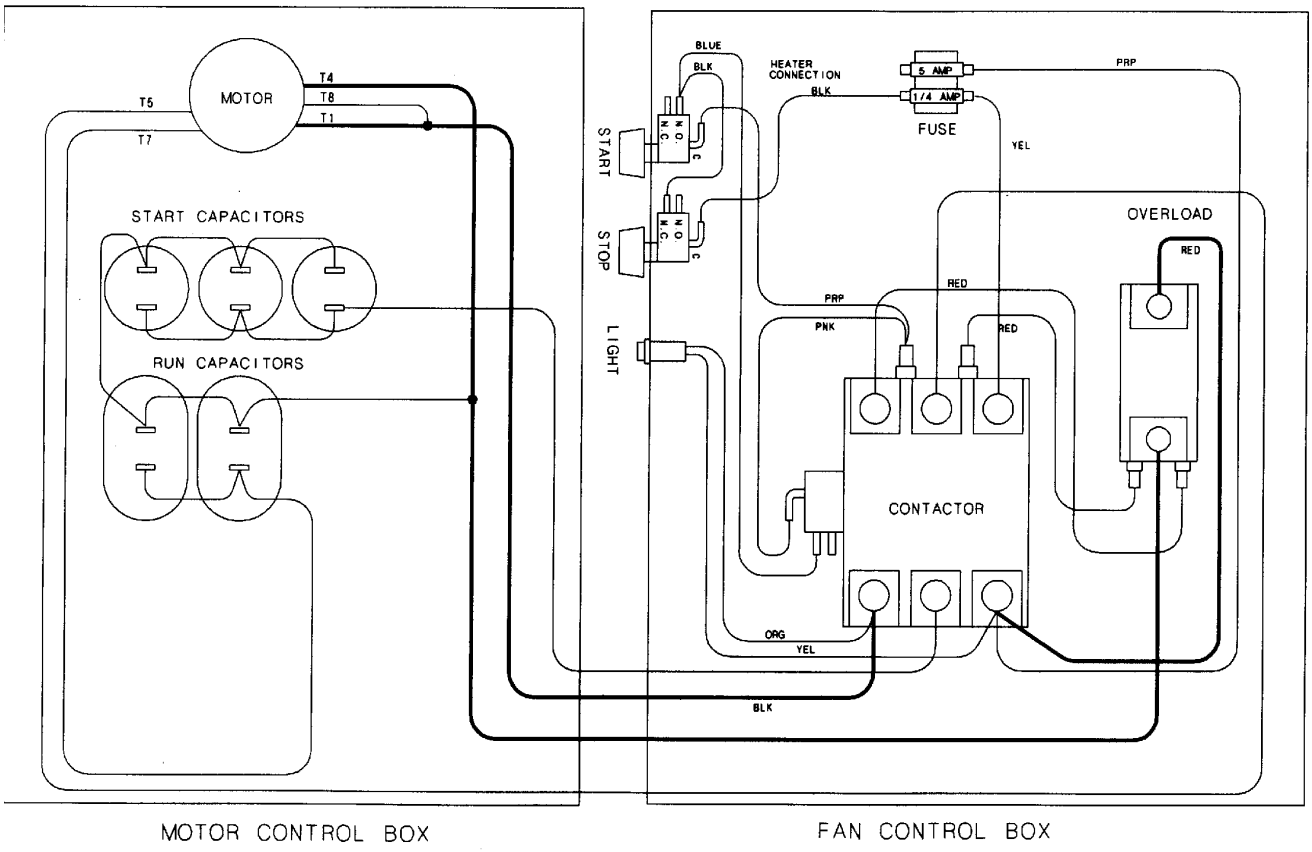


Schematic



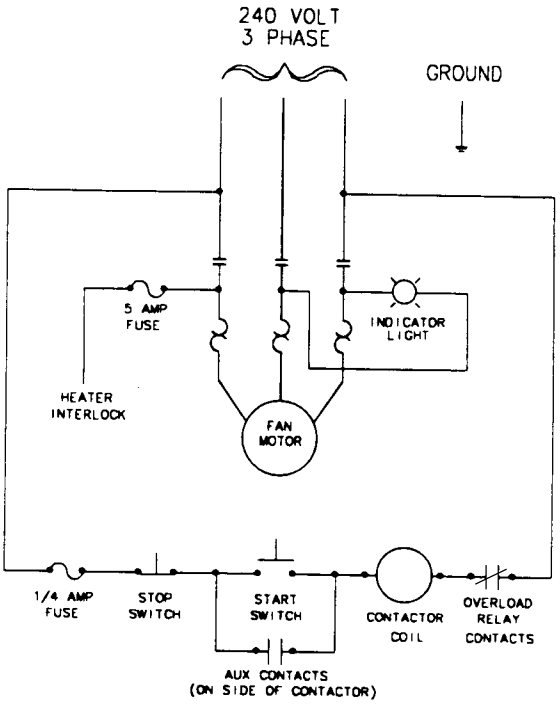
Wiring Diagram

240 Volt 1ph (15hp Marathon)

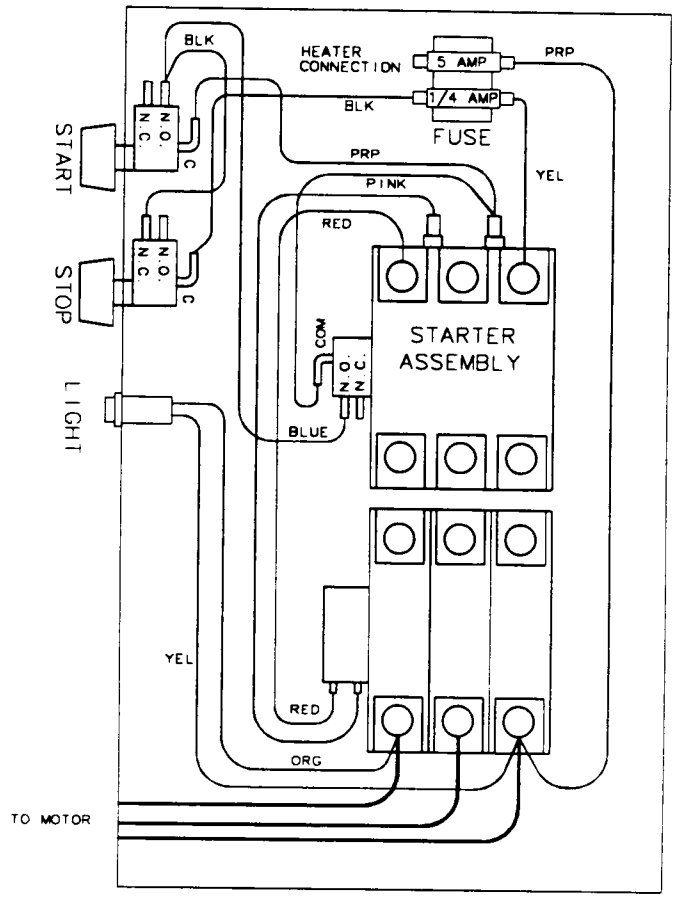


Wiring Diagram

240 Volt 3ph (All Horsepowers)

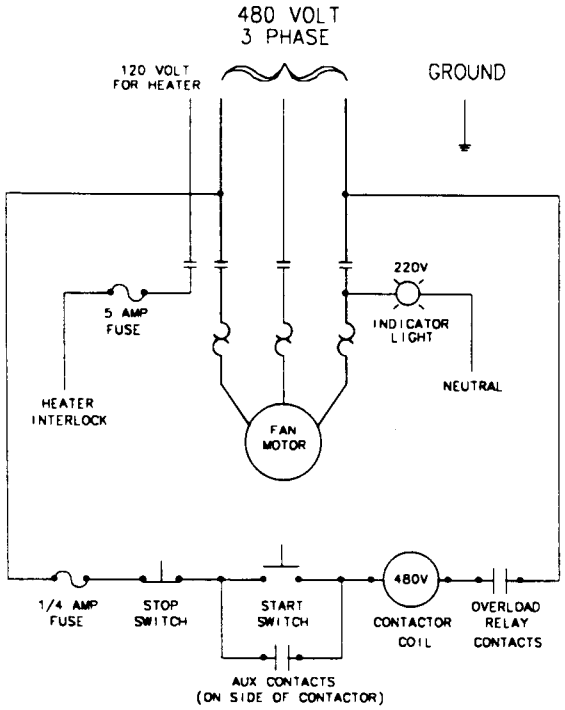


Schematic

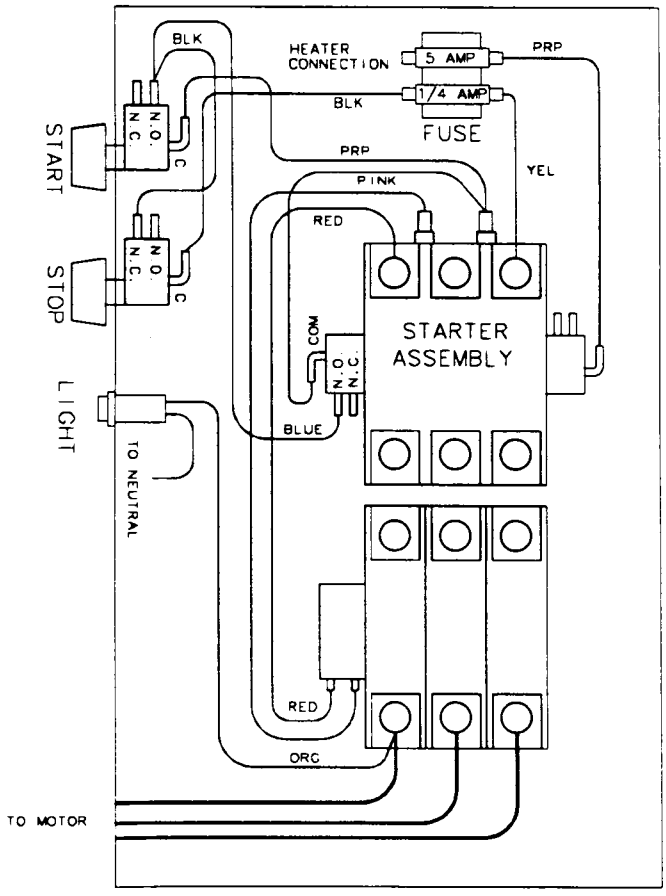


Wiring Diagram

480 Volt 3ph (All Horsepowers)

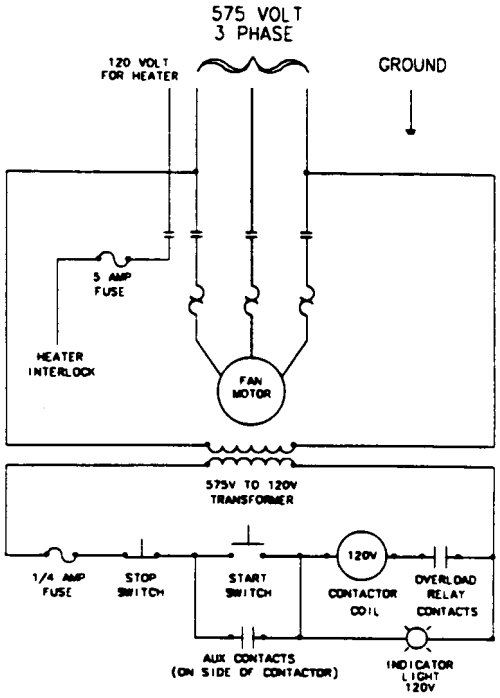


Schematic

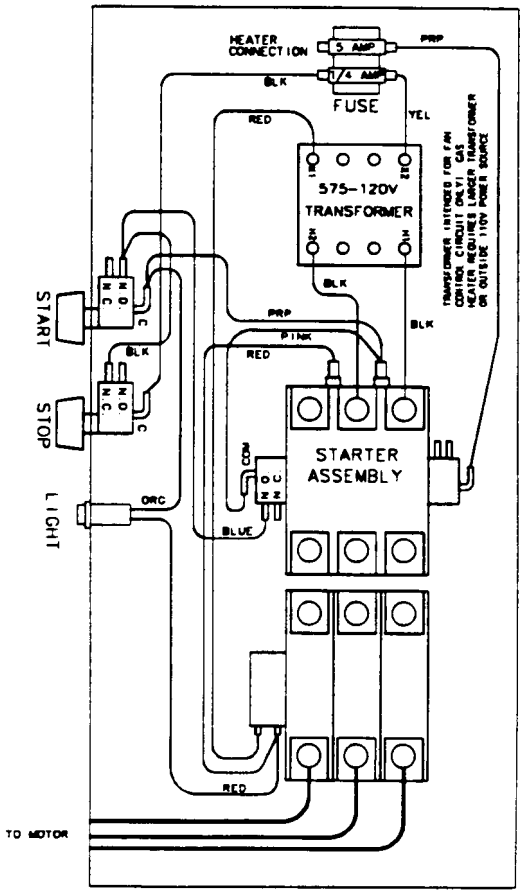


Wiring Diagram

575 Volt 3ph (All Horsepowers)



Schematic



Wiring Diagram

NOTES

THE DAVID MANUGACTURING CO. (GSI) WARRANTS ALL PRODUCTS MANUFACTURED BY GSI TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF 12 MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER OF SUCH PRODUCTS. GSI'S ONLY OBLIGATION IS, AND PURCHASER'S SOLE REMEDY SHALL BE FOR GSI, TO REPAIR OR REPLACE, AT GSI'S OPTION AND EXPENSE, PRODUCTS THAT, IN GSI'S SOLE JUDGMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM GSI'S FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF GSI SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

EXCEPT FOR THE ABOVE STATED EXPRESS LIMITED WARRANTIES, GSI MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH (i) PRODUCT MANUFACTURED OR SOLD BY GSI OR (ii) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCT OR PRODUCTS.

IN NO EVENT SHALL GSI BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF ANTICIPATED PROFITS OR BENEFITS. PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE LIMITED TO THAT STATED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. GSI SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIVE OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF GSI.

GSI ASSUMES NO RESPONSIBILITY FOR FIELD MODIFICATIONS OR ERECTION DEFECTS WHICH CREATE STRUCTURAL OR STORAGE QUALITY PROBLEMS. MODIFICATIONS TO THE PRODUCT NOT SPECIFICALLY COVERED BY THE CONTENTS OF THIS MANUAL WILL NULLIFY ANY PRODUCT WARRANTY THAT MIGHT HAVE BEEN OTHERWISE AVAILABLE.

THE FOREGOING WARRANTY SHALL NOT COVER PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY COVERS ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO RESEARCH AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY APPLY TO THE LOCATION AND INSTALLATION.

THE GSI GROUP

1004 E. Illinois St.
Assumption, IL 62510
Phone 217-226-4421
Fax 217-226-4498

April 1998