CHIMNEY TOP INDUCER

Model: FSGD Series Chimney Inducer Fan with Integral Damper

ITEMS INCLUDED IN KIT:

1 – FSGD Chimney Top Inducer Fan
1 – Chimney Top Fan Control

* CAU Combustion Air Damper/
FAD fresh air damper - not included*

The FSGD series Chimney top Inducer Fan with integral Damper is designed for use with non-condensing gas and oil-fired equipment, and for gas fireplace installations where adequate ventilation cannot be achieved with a naturally vented chimney; due to building de-pressurization, wind loads, low chimney height, and oversized or undersized chimney vent sizing. The system includes a flue damper to close off the chimney to stop infiltration or exfiltration of air when the fireplace is not used, and a draft-proving pressure switch. The FSGD Series Chimney top Inducer system is not designed to vent multiple fireplaces, so if a multiple flue vents more than one fireplace, separate inducers must be used on each fireplace flues.

⚠ WARNING:

- **Read the installation instructions carefully and save for future reference.**
- **The installation of this equipment shall be in accordance with all Existing Codes and Regulations.**
- **For continued safe operation, the Inducer and vent system combination is required to be cleaned, inspected and maintained annually by a qualified agency.**
- **Failure to properly maintain the Inducer and vent system combination can lead to Death, Personal Injury and or Property Damage.**
- **A Carbon Monoxide alarm MUST be installed when venting gas fired fireplaces. Refer to the appliance manufacturer's installation instructions.**
- **In fireplace applications, the FSGD Series Chimney top Inducer system is only for use as a venting option or 24-volt or 750 mV powered gas log fireplace applications. Refer to the appliance manufacturer's instructions for proper application, wiring and installation.**
- **This flue gas exhaust equipment is not to be used with incinerators, incinerating toilets, or condensing type or solid-fuel burning appliance. DO NOT use this equipment with wood or solid-fuel burning fireplaces.**

READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION.

This device MUST be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of solid or gas-fuel burning fireplace appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By: _____ Phone: _____ Installation Date: _____

FLUE SENTINEL

MFG BY: FIELD CONTROLS

P/N 46668900 Rev E 03/19

SYSTEM OPERATION

The FSGD Series Chimney Top Inducer systems are designed for chimney vented 24-volt or 750 mV powered gas log fireplace appliances, and non-condensing gas and oil-fired heating equipment.

1. Fireplace operation is started by switching an ON/OFF wall switch or through a fireplace remote control switch to the "ON" position. The Chimney Top Fan Control starts the inducer fan at full speed, after 20-30 seconds the Chimney Top Fan Control lowers to a fan speed set by the installer; the fan speed is set to the minimum amount of airflow needed to ventilate the fireplace installation. During the fan start-up period, the damper blades are rotating into the open position. Once the damper has opened fully and the fan operation has closed the pressure switch, located within the FSGD wiring compartment, the fireplace burner will light.
2. To stop the fireplace operation, the ON/OFF wall switch or the fireplace remote control is switched to the "OFF" position. De-activating either switch removes power to the inducer motor and to the damper drive; this allows the damper to rotate to the closed position, which seals the chimney to reduce continual airflow in or out through the chimney.

TO THE HOME OWNER

For continued safe operation, It is recommended that the gas log set, vent and inducer be examined annually by a qualified service agency for deterioration or corrosion. The inspection should be performed prior to each heating season.

⚠ WARNING:
DO NOT burn wood, coal, wax logs, trash or any other fuel beside natural, LP, or propane gas in the fireplace, unless the Flue Sentinel FSGD is removed from the chimney. Use of unintended fuels may create a serious fire and safety hazard, and severely damage the chimney and/or FSGD!

INSTALLATION SAFETY INSTRUCTIONS

⚠ WARNING:
The Field Controls FSDG Chimney top Inducer system must be installed by a qualified agency in accordance with the manufacturer's installation instructions.
The definition of a qualified agency is "...Any individual, firm, corporation, or company whom either in person or through a representative is engaged in, and is responsible for installation and operation of solid or gas-fuel burning fireplace appliances, who is experienced in such work, familiar with all the precautions required, and has complied with the requirements of the authority having jurisdiction".

1. Safety inspection of a venting system must be performed before and after installing a FSDG Chimney Top Inducer system on an existing chimney or vent. Procedures to follow are those recommended latest version of:
    - NFPA 211 Standard for Fireplaces, Vents and Solid Fuel-Burning Appliances, The International Mechanical Code and / or International Residential Code, NFPA 58, NFPA 54/ANSI Z223.1 or refer to the General Installation Inspection section of this manual.
2. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.
3. This equipment is designed to overcome minor negative pressure conditions. To ensure extreme negative pressure does not exist, **A COMPLETE GENERAL INSTALLATION INSPECTION MUST BE PERFORMED!** See the General Installation Inspection section of this manual.
4. Airflow adjustment **MUST** be made to ensure proper operation and appliance efficiency. This should be done at the fireplace hearth opening using a velocity meter, match or smoke stick. Adjust the airflow by reducing the fan speed down while still maintaining airflow into the hearth opening.

GENERAL GUIDELINES FOR SELECTING THE FSDG CHIMNEY TOP INDUCER FAN

1. Measure the total opening area of the hearth in square inches. If the fireplace is open on more than one side, make sure to include all open areas, by measuring the total open length (or perimeter for round) and multiply by the height for each opening to obtain area in square feet.

   Example 1: Single sided fireplace
   Measured hearth width (W) = 40 inches
   Measured hearth height (H) = 36 inches
   Calculated opening square feet = (W x H) = 40 X 36 = 1440 square inches

2. Determine if the fireplace is vented with a single or a double flue system. A chimney top transition will be required to connect the two flues to a single inducer. The rated venting capacity is reduced to account for the typical transition pressure drop, see Table 1.

3. Determine if the installed size of the flue is oversized or undersized, based on the 1/10th Rule of Thumb method for sizing the flue size for a given fireplace opening.
   Flue sizing rule of thumb, flue effective open area = 1/10TH of the fireplace opening area

   Example 2: From example 1 the fireplace opening = 1440 square inches
   Rule of thumb the desired flue area = 1440 ÷ 10 = 144 square inch flue area

4. Determine if the installed flue is undersized or oversized. An oversized flue sizing will have no effect on selecting the proper chimney top inducer, but if the actual flue size is less than 75% of the rule of thumb desired flue area, the next large size inducer will be required.

   To determine the actual installed flue area, measure the inner diameter (ID) of a round flue tile or vent pipe. For rectangular flue tile, measure the inside length (L) and width (W) of the opening of the title. If a flue liner is installed measure the ID of the flue liner. Using the flue size measurement values, use Table 2 to determine the area of the flue pipe. If the chimney has a double flue use the measurement of both flues combined to determine the total flue area. Compare the calculated rule of thumb sizing area to the measured actual flue area. If the measured area is less than 75% of the Rule of thumb sizing area, use the next larger model FSGD when selecting the fan.

   Example 3: Determine size ratio of a single round installed flue pipe.
   (Measured flue pipe area (Table 2) ÷ rule of thumb flue area (step 3) x 100 = Percentage of flue size
   Measured installed round flue pipe ID = 12 inches
   Area from Table 2 for round pipe = 113 square inches for 12" ID pipe
   Rule of thumb flue area from Example 2 = 144 square inches
   (113 sq in ÷ 144 sq in) x 100 = 78%: measured flue pipe is 78% of the desired flue size
   The ratio is larger than 75%, therefore the next size larger chimney fan is not required

   Example 4: Determine size ratio of a double rectangular installed flue pipe system.
   Measure installed rectangular tile inside dimensions: 8-3/8" length x 8-3/8" width x 2 flues
   From measured inside dimensions, determine that tiles are nominal 10 x 10 size
   Area from Table 2 for rectangular tile = 55 square inches for nominal 10 x10 size
   Total area - 2 x 55 sq in = 110 square inches (two 10 x 10 flues)
   Rule of thumb flue area from Example 2 = 144 square inches
   (110 sq in ÷ 144 sq in) x 100 = 76%: installed flue pipe is 76% of the rule of thumb flue size

The ratio is larger than 75%, but since this is a double flue installation the next size larger chimney fan will be required, due to the resticting effect of the required double-flue transition (max capacity of FSGD-8 is less than the hearth opening for the double-flue systems, see Table 1).

SELECTING CHIMNEY INDUCER FAN

Compare the calculated fireplace opening area (sq in) calculated in step 1 to either the single flue installation or double flue installation column on Table 1. Select the chimney top inducer fan from the model column that corresponds to the value of the Maximum fireplace hearth column that is equal to or less than the calculated hearth opening (step 1).

Example 5: Select chimney inducer fan for example 3

Fireplace opening sq in (step 1) = 1440 sq in.

Single round tile = 78 % of rule of thumb flue area. Increased unit size not required

Referring to Table 1 under the single flue installation column, the FSDG-8 has a maximum capacity of 1728 sq inches. With the installation having a 1440 sq inch fireplace opening the FSDG-8 would be selected.

Table 1- Unit sizing chart

MAXIMUM FIREPLACE HEARTH OPENING (SQUARE INCHES)		MODEL
SINGLE FLUE INSTALLATION	DOUBLE FLUE INSTALLATIONS	
1728	1296	FSGD-8
3600	2592	FSGD-12
Venting capacity is based on 36 CFM per square foot of hearth opening for gas log venting applications		

Table 2 - Flue Area Sizing Chart

Sizing rectangular clay chimney liner				
Nominal size (OD)		Approximate (ID)		Effective open area (in²)
WIDTH	LENGTH	WIDTH	LENGTH	
4.5	8.5	3	7	19
4.5	13	3	11	31
8	8	6.875	6.875	37
8.5	8.5	7	7	38
8	12	6	10	52
8.5	13	6.5	11	62
8.5	18	6.5	15.5	92
10	10	8.375	8.375	55
12	12	9.75	9.75	75
12	16	9.25	13	102
13	13	11	11	95
13	18	10.75	15.5	142
16	16	13.5	13.5	143
18	18	15	15	177
16	20	13	17	185
20	20	16.5	16.5	214
20	24	16.25	20.25	272
24	24	20.5	20.5	330

Sizing round clay chimney liner or metal vent pipe		
Nominal size (ID) inches	Approximate (OD) inches	Effective open area (in²)
6	8	28
7	9	38
8	10	50
10	12	79
12	14	113
14	16	154
15	17	177
16	18	201
18	20	254
20	22	314
22	24	380
24	26	452

INSTALLING FSGD CHIMNEY TOP INDUCER SYSTEM

WARNING: Failure to install, maintain and/or operate the Chimney Top Inducer vent system in accordance with manufacturer's instructions can result in conditions, which may cause Death, Bodily Injury and/or Property Damage.

1. The FSGD Series Chimney Top Inducer unit is designed to mount on top of the chimney. The damper housing will allow the flue to mount inside the damper section if the flue tile or vent pipe is not higher than ¾" above the chimney cap (see Figure 1 for illustration of mounting clearances). The other installation consideration is whether the Chimney Top Inducer is to vent a single flue or double flue fireplace. The FSGD Series Chimney top Inducer system is not designed to vent multiple fireplaces, so if a multiple flue vents more than one fireplace, separate inducers must be used on each fireplace flues.

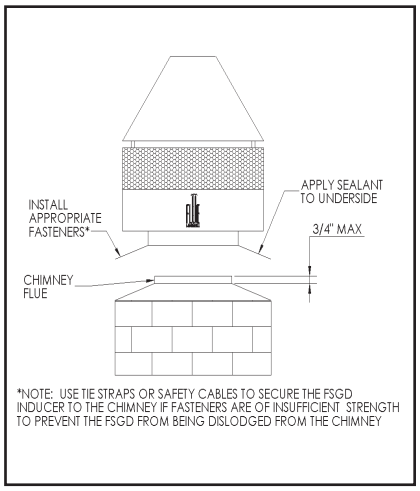


FIG 1

2. Remove Chimney Top Inducer Fan from its box and inspect unit for damage. If the carton has been crushed or mutilated, check unit very carefully for damage. Rotate blower wheel to ensure that the motor and blower wheel rotate freely. DO NOT install if any damage is apparent. Before mounting the Chimney Top Inducer loosen the screws that secure the housing flashing covers that enclose the damper assembly (see Figure 5). Remove the flashing covers to allow easier access to the mounting flanges for fastening the Chimney Top Inducer.

3. Installing the Chimney Top Inducer system over a single flue, if the flue does not extend over ¾" above the chimney cap (see Figure 1):
   a. Place Chimney Top inducer over the chimney flue and mark the location of the mounting holes.
   b. Pre-drill the mounting holes sized for the type of fasteners being used to secure the inducer.
   c. Apply a generous amount of high temperature silicone or equivalent sealant on the mounting flanges on the bottom of the inducer.
   d. Position the Inducer over the chimney flue and secure with appropriate fasteners.
   e. Install tie straps or safety cables to secure the FSGD inducer to the chimney if fasteners are of insufficient strength to prevent the FSGD from being dislodged from the chimney.

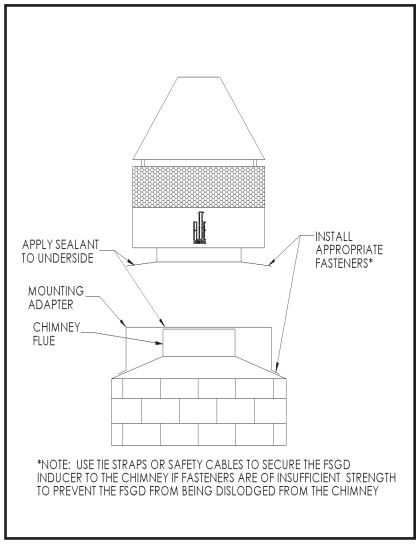


FIG 2

4. Installing the Chimney Top Inducer system over a single flue, if the flue extends over ¾" above the chimney cap (see Figure 2), or will not fit inside the FSGD damper housing.
   a. Measure the chimney tile size and height of flue above the chimney cap and fabricate a corrosion
   b. Cut a hole in the center of the mounting adapter equal to the size of the chimney tile or equal to the inside dimensions of the Chimney Top Inducer damper section (see Figure 3). Do not make the hole larger than the damper opening.
   c. Place mounting adapter over the chimney flue and mark the location of the mounting holes.
   d. Pre-drill the mounting holes sized for the type of fasteners being used to secure the mounting bracket.
   e. Apply a generous amount of high temperature silicone or equivalent sealant on the mounting flanges on the bottom of the mounting adapter and secure with appropriate fasteners.
   f. Apply a generous amount of high temperature silicone or equivalent sealant on the mounting flanges of the Chimney Top Inducer, then position the Inducer over the center hole in the bracket and secure with appropriate fasteners.
   g. Install tie straps or safety cables to secure the FSGD inducer to the chimney if fasteners are of insufficient strength to prevent the FSGD from being dislodged from the chimney.

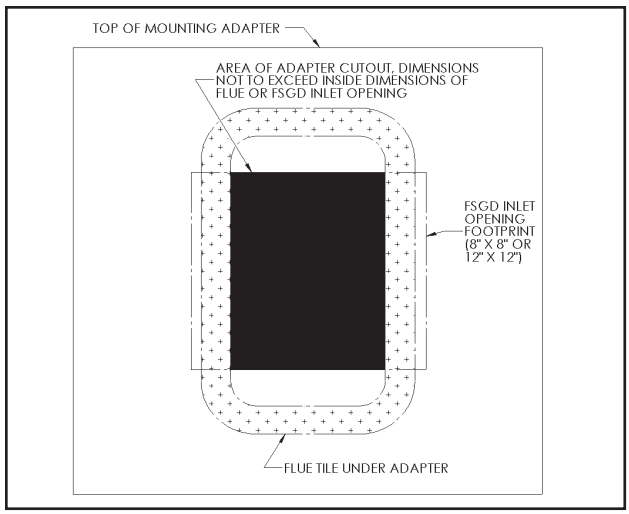


FIG 3

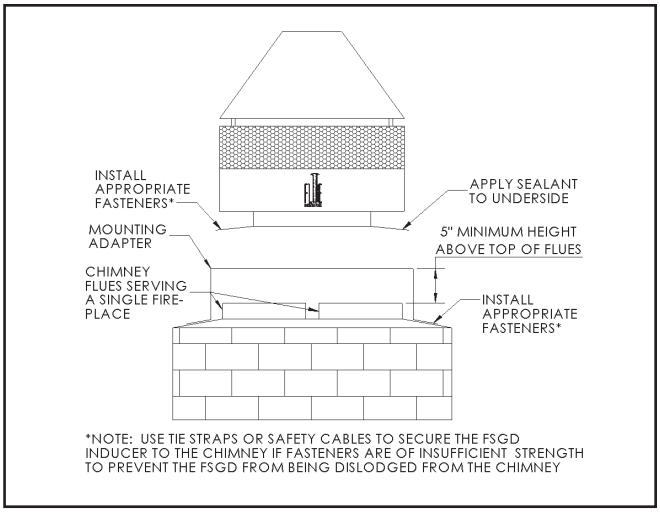


FIG 4

5. Installing the Chimney Top Inducer system over a double flue system, serving a single fireplace. (See Figure 4).

   a. Measure the chimney tile size and height of flue above the chimney cap and fabricate a corrosion resistant mounting adapter that fits over the top of both flues. The height above the top of the flue tile must be increased by at least 5" above the flue outlet; this is needed to allow both flues to vent (See Figure 4).

   b. Cut a hole in the center of the mounting adapter equal to the size of the inside dimensions of the Chimney Top Inducer damper section (See Figure 3). Do not make the hole larger than the damper opening.

   c. Place the fabricated mounting adapter over the chimney flues and mark the location of the mounting holes.

   d. Pre-drill the mounting holes sized for the type of fasteners being used to secure the mounting adapter.

   e. Apply a generous amount of hightemperature silicone or equivalent sealant on the mounting flanges on the bottom of the mounting adapter and secure with appropriate fasteners.

   f. Apply a generous amount of hightemperature silicone or equivalent sealant on the mounting flanges on the damper section of the Chimney Top Inducer, then position the Inducer over the center hole in the mounting adapter and secure with appropriate fasteners.

   g. Install tie straps or safety cables to secure the FSGD inducer to the chimney if fasteners are of insufficient strength to prevent the FSGD from being dislodged from the chimney.

FIG 5

FIG 6

6. Remove the FSGD wiring compartment cover, as shown in Figure 6.
7. Install liquid-tight or other approved conduit from the building along the outer surface of the chimney to the wiring compartment on the FSGD (see Figure) and complete the wiring procedure as directed in the FSGC control box installation procedure. Note that the FSGD draft inducer requires both 120VAC and 24VAC control wiring to be connected from the FSGC control box; most building codes require low voltage wiring to be installed in conduit separately from 120V wiring.
8. Replace the flashing covers on the sides of the Inducer after wiring is complete.

FSGC CONTROL BOX INSTALLATION

Installation Preparations:

1. Turn off the gas supply to the fireplace.
2. If externally powered, disconnect power to the fireplace.

FSGC Fan Controller Installation:

1. The controller is for intended for indoor installation only. Protect from moisture and install in a location with maximum ambient temperature not to exceed 104°F, with adequate ventilation/volume to allow heat dissipation from the internal transformer.
2. Attach the two mounting brackets to opposite ends of the controller, using the four supplied blunt-tipped self-tapping screws, in any of the three attachment locations on either end of the controller (See Figure 7)

CAUTION! *DO NOT USE LONGER SCREWS THAN THOSE SUPPLIED (3/8"), OR SHARP-POINTED SCREWS TO ATTACH THE MOUNTING BRACKETS!*

Interior wiring/components may be damaged.

3. Mount the controller to a surface using appropriate fasteners.

CAUTION! *USE CAUTION TO AVOID DRILLING OR INSTALLING SCREWS INTO OBSCURED WIRING, GAS PIPING, OR OTHER HAZARDS WHEN INSTALLING MOUTNING SCREWS!*

4. Remove the FSGC wiring compartment cover. (Fig 8)
5. Complete wiring of FSGC control box to the FSGD chimney fan, fireplace, and optional CAU or FAD combustion air device, following wiring diagrams as appropriate for the installation.
6. Permanently install the warning tag in a prominent location on the gas valve wiring near the fireplace gas valve (See Figure 10). This warning tag MUST be installed as a warning for maximum flue temperature and that the FSGD chimney fan & damper MUST be removed before burning wood, coal, trash, or any fuel besides those for which it is intended.

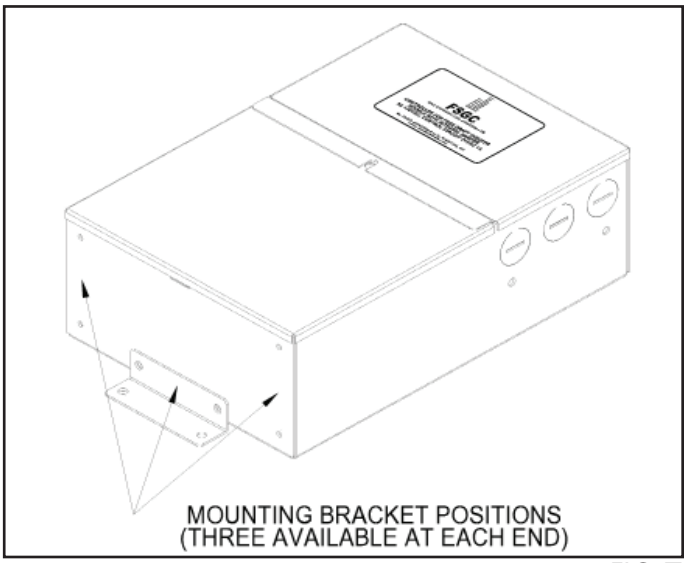


FIG 7

FIG 8

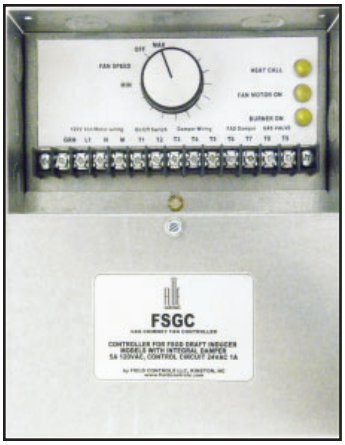


FIG 9

FIG 10

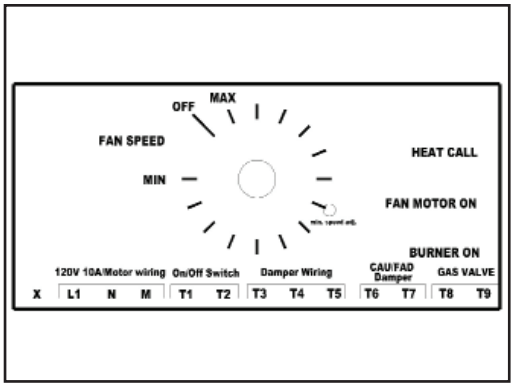


FIG 1

FSGD CHIMNEY TOP INDUCER SETUP AND OPERATION

1. Set the FSGC Control Box speed control knob to the maximum speed position (see Figure 9). Open the gas supply valve and light the pilot on the gas log set. Set the valve to the operation position (refer to gas log set manufacturers instruction for pilot setup procedure) if the fireplace has a standing pilot.
2. Prepare to start the fireplace. Switch on the fireplace ON/OFF switch and the fireplace remote control (if used) to the "ON" position. The FSGD fan will start operating at maximum speed and the damper will start rotating to the open position. After 15-30 seconds, the fireplace gas log set will light and begin operating.
3. Allow the fireplace to operate for 10 to 15 minutes to allow the chimney to warm up. Reduce the fan speed by rotating the control knob clockwise and check the air flow along the top edge of the hearth opening (see Firgure 15). Use a airflow meter, smoke stick or match to ensure airflow is going into the hearth. Continue to lower the fan speed until spillage or airflow into the hearth slows. Then increase the fan speed by rotating the control knob counter-clockwise 2 or 3 dial tick marks and recheck for airflow into the hearth.

NOTE: If the burner goes out as the fan speed is reduced, rotate the speed contol knob counter-clockwise until the burner starts. This position will be the minimum air flow setting for the fan.

NOTE: The FSGC speed control has a minimum fan speed adjustment that may be adjusted if desired. Access the adjustment screw by inserting a small Phillips screwdriver through the hole behind the small circle at the 4 o'clock position on the speed scale (see Figure 11).

4. Switch the fireplace ON/OFF switch or remote controlto the "OFF" position; the burner will shut off. Wait 60 seconds for the inducer to stop and the damper to fully close.
5. Recheck the system operation by switching the ON/OFF or remote switch to the "ON" position. The inducer will start at maximum speed and the damper will start rotating to the open position. After 15-30 seconds the fireplace burner will light and after a short period the fan speed will lower to the lower adjusted speed preset in step 3. Wait for 10 to 15 minutes to allow the chimney to warm up, then check for air flow along the top edge of the hearth opening. If the observed airflow is less than seen in step 3 or if spillage occurs rotate the speed control knob counter-clockwise to increase the airflow of the fan.
6. Replace the FSGC Control Box wiring cover after completing speed control adjustment and all general inspection checkout procedures are complete.

WARNING: Replace the FSGC wiring compartment cover after wiring is complete.

⚠ WARNING: GENERAL INSTALLATION INSPECTION MUST BE PERFORMED!

GENERAL INSTALLATION INSPECTION

Follow all recommended procedures for a safety inspection of an appliance, in accordance with National Codes. The following procedure will help evaluate the venting system. It is intended as a guide to aid in determining whether the venting system is properly installed and is in a safe condition for continuous use. This procedure should be recognized as a generalized procedure which cannot anticipate all situations. Accordingly, in some cases, deviation from this procedure may be necessary to determine safe operation of the equipment. If it is determined that a condition exists which could result in unsafe operation, the appliance should be shut off, tagged or locked out, and the owner advised of the unsafe condition. Corrections must be made before the appliance is put into continuous operation. The following steps should be followed in making a safety inspection.

1. Visually inspect the venting system for proper size and determine that there is no flue gas spillage, blockage, restriction, leakage, corrosion or other deficiency which could cause an unsafe operation.
2. Insofar as practical, close all building doors, fireplace dampers, windows and all doors in area in which the appliance is located. Turn on clothes dryers, any exhaust fans, such as range hoods and bathroom exhausts so they operate at maximum speed. Do not operate a whole-house exhaust fan. If, after completing Steps 3 through 7 it is believed sufficient combustion air is not available, refer to the National Flue Gas Code A.N.S.I.Z223.1, or any applicable local codes for guidance.
3. Place in operation the appliance being inspected. Follow the lighting instructions and adjust thermostat (if applicable) so appliance will operate continuously.
4. Determine that the burner is operating properly and that the main burner ignition operates satisfactorily, by interrupting and re-establishing the electrical power or on-off switch of the appliance in any convenient manner. Test the safety circuits to determine if they are operating properly by disconnecting the FSGD & CAU (if used) wire(s) from first T5 and then T7 independantly.
5. Visually determine that the burner is burning properly; i.e., no floating, lifting or flashbacks. This can indicate reduced available combustion air to burner.
6. If appliances are equipped with high and low flame control or flame modulation, check for proper burner operation at low flame.
7. Test for spillage at the barometric draft control opening (if applicable) and burner inlet air location or fireplace hearth opening after 30 minutes of burner operation. Use a draft gauge, flame of a match or candle, smoke from a cigarette, cigar or pipe. If spillage occurs, adequate air is not available. Shut off heating appliance thermostat and check for spillage around the barometric draft control, burner inlet air location or fireplace is occurring and make up air is required.
8. Turn on all fuel burning appliances within the same room so that they will operate at their maximum input. Then repeat Steps 5 through 7.
9. Return doors, windows, exhaust fans, fireplace dampers and any other fuel-burning appliances to their previous condition of use.

WIRING THE OPTIONAL CAU COMBUSTION AIR UNIT OR THE FAD FRESH AIR DAMPER TO THE CHIMNEY TOP CONTROL (DIAGRAMS 3 & 4)

Install the CAU or FAD Combustion Air Damper following instructions included with the device.

Install appropriate 24 VAC wiring from the FSGC control box to the pig tail connection wiring supplied with the CAU or FAD units.

Refer to wiring diagram 3 or 4:

1. Remove the jumper wire from terminals "T5" and "T7".
2. Connect terminal "T1" to the "BROWN" or "RED" wire on the pig tail wire assembly of the CAU or FAD damper units.
3. Connect terminal "T3" to the "BLACK" or "WHITE" wire on the pig tail wire assembly of the CAU or FAD damper units.
4. Connect terminal "T6" to the "ORANGE" or "BLUE"wire on the pig tail wire assembly of the CAU or FAD
5. Connect terminal "T7" to the "YELLOW" wire on the pig tail wire assembly of the CAU or FAD damper units.

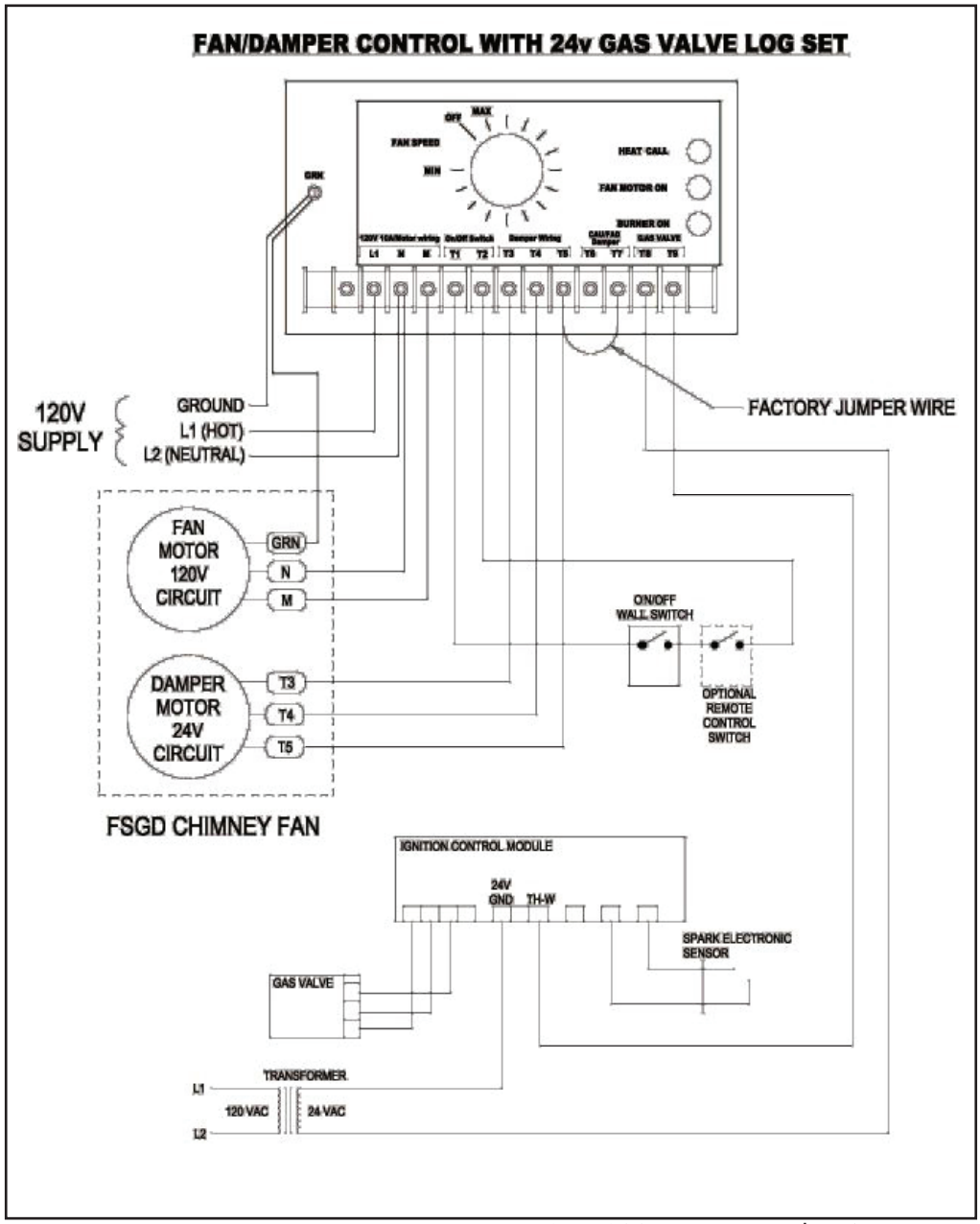


DIAGRAM 1: FSGC with 24V Log Set

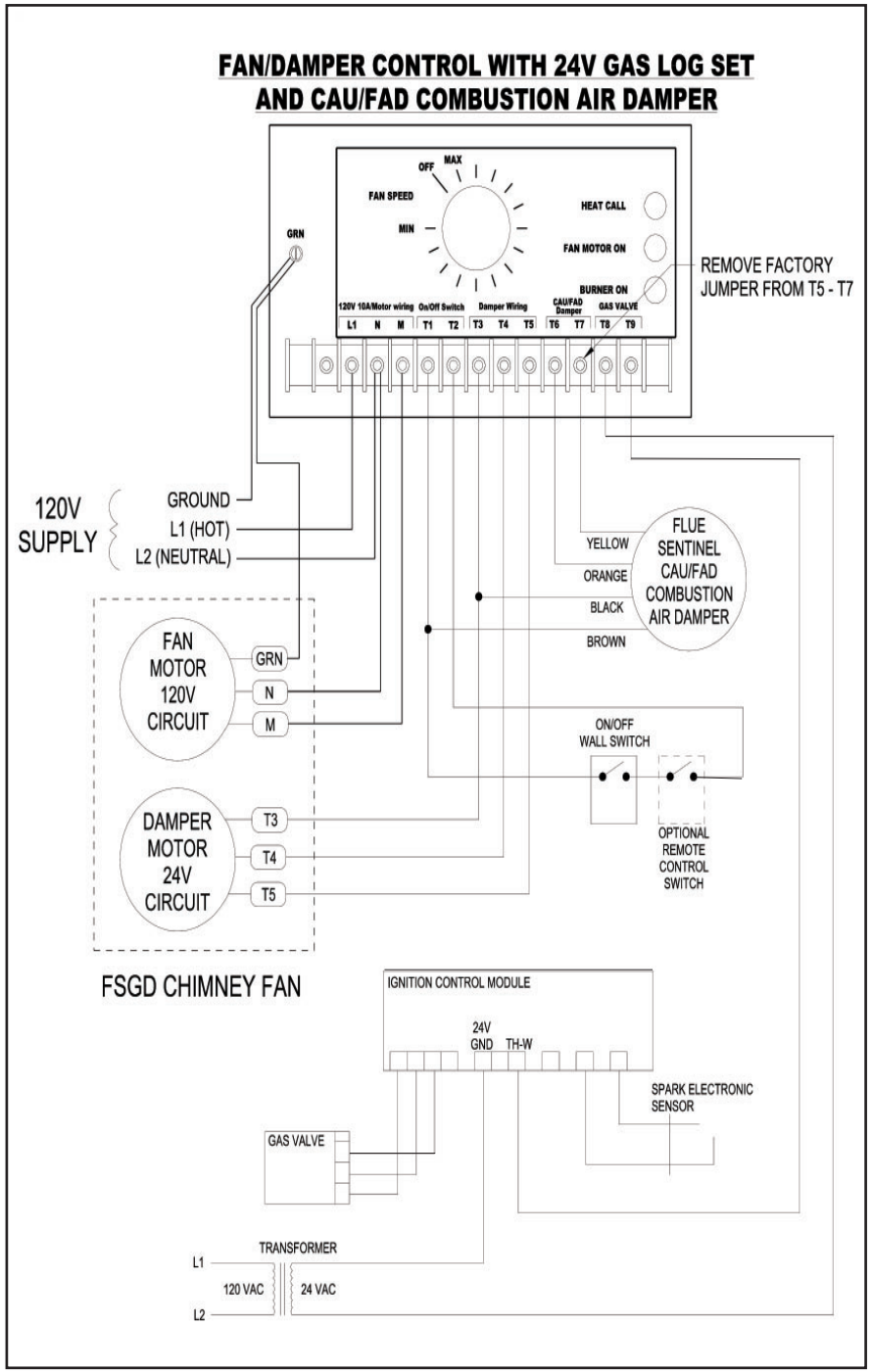


DIAGRAM 3:
FSGC with 24V Log Set & CAU-FAD COMBUSTION AIR DAMPER

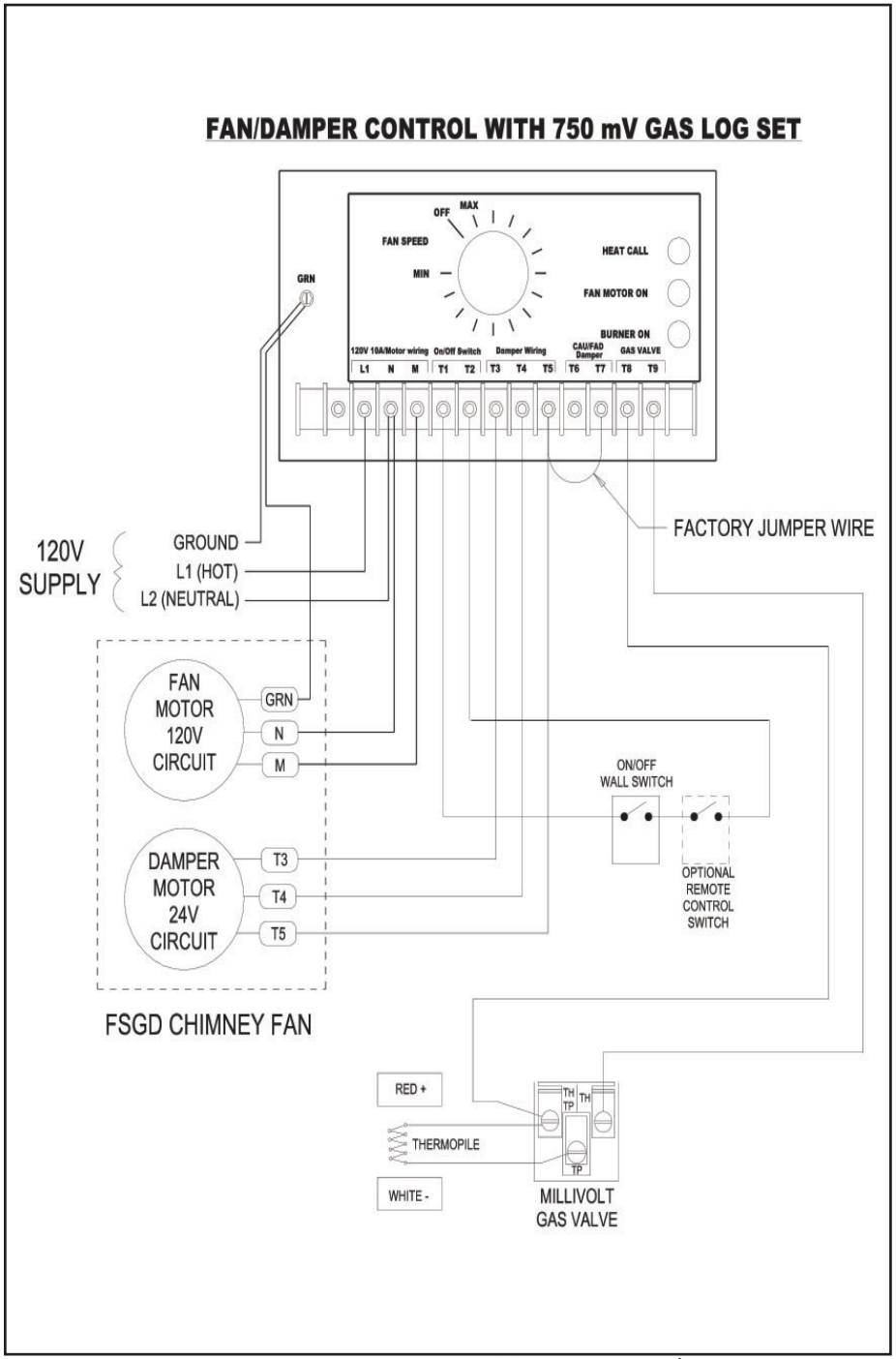


DIAGRAM 2: FSGC with 750mV Log Set

P/N 46668900 Rev E 03/19

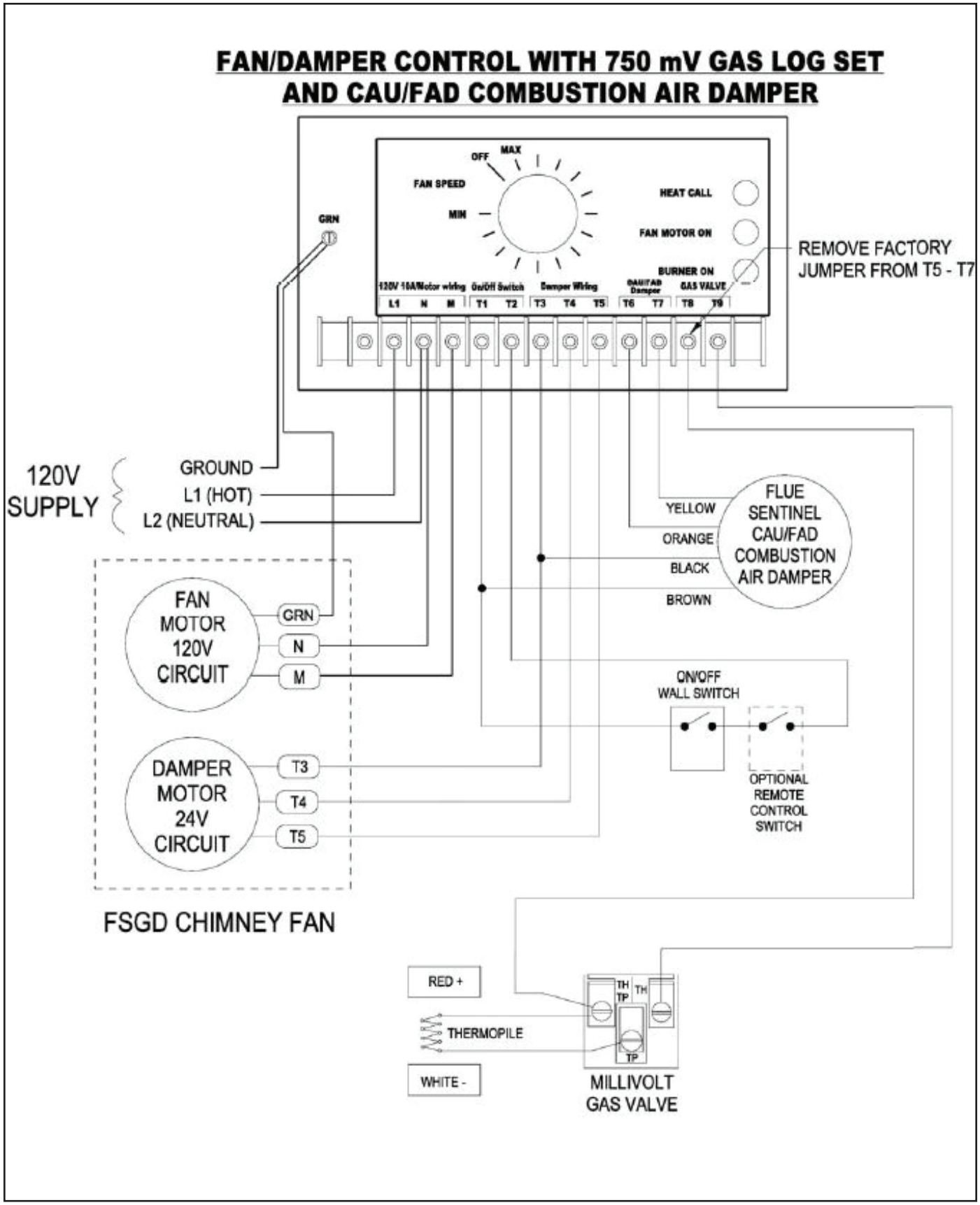


DIAGRAM 4: FSGC with 750mV Log Set & CAU-FAD COMBUSTION AIR DAMPER

FSGC CONTROLLER INTERNAL WIRING

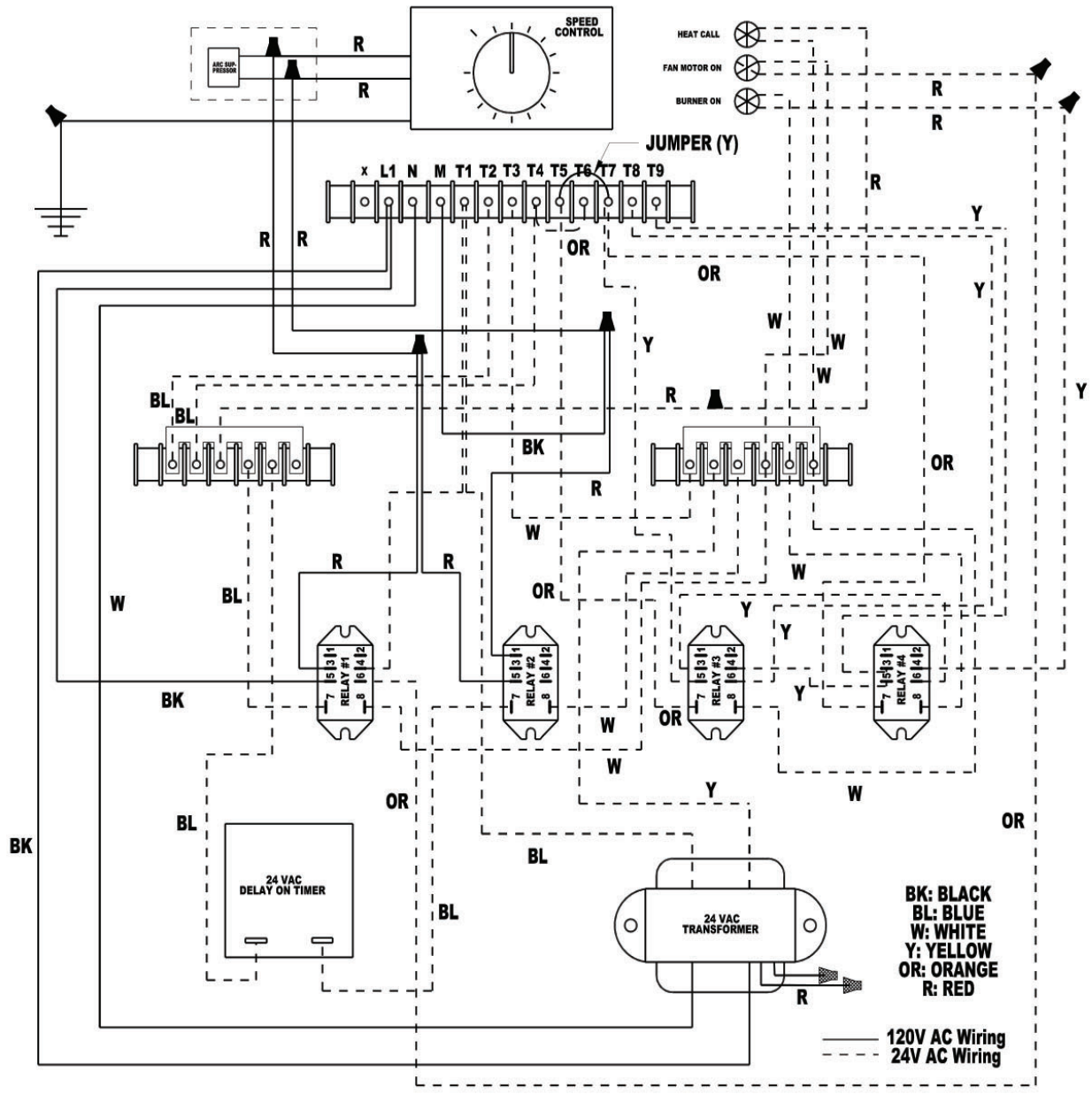
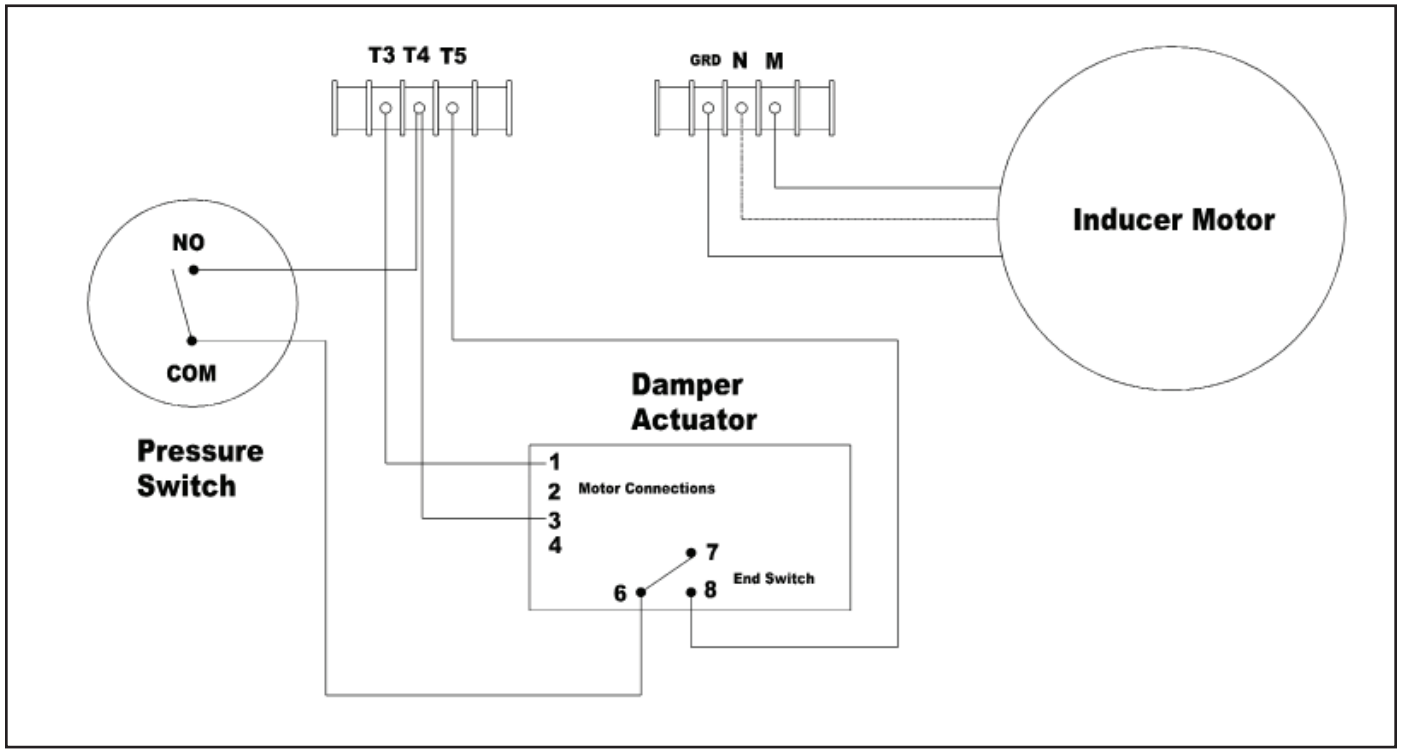


DIAGRAM 5: FSGC Internal Wiring Diagram



FSGD Internal Wiring, DIAGRAM 6

TROUBLESHOOTING

- No Fireplace operation:
  - Inducer Fan does not activate. Refer to No Inducer fan motor operation
  - Inducer Fan operates but the burner does not light. Refer to Burner does not light

- No Inducer fan motor operation:
  - Make sure the fan speed control knob is not set to "OFF" position.
  - Check for voltage on terminal block
    - Voltage reading of 120v (building voltage can vary between 108v to 132v) between terminals "L1" and "N".
      - If reading is, lower voltage or zero check supply power from circuit breaker.
    - Voltage reading of 24v (if 120v present between "L1" and "N") between terminals "T1 and "T3".
      - If reading is, lower voltage or zero; check internal 24v transformer connections and transformer output.
    - Voltage reading of 24v (if 24v present between "T1" and "T3") between terminals "T2 and "T3".
      - If reading is, lower voltage or zero; check wall switch or remote control wiring or switch operation.
      - If reading is 24v;
        - Check voltage reading between terminals "M" and "N"
          - If 120v is not present between "M" and "N", check wire connections on "RELAY 1" and "RELAY 2" and the condition of the relays (see Diagram 5).
          - If 120v is present between "M" and "N", check wire connection or power to the motor connection at the Inducer wiring block

Fan Runs but Burner does not light: follow these diagnostic procedures in the order listed below.

- Turn on the fireplace switch and verify nominal 24V AC exists from T2 to T3 terminals on the FSGC.
- Check for nominal 24V from T3 to T4 on the FSGC control box:
  - If no voltage is present, check 24V transformer and wiring to T3 and T4, check FSGC Control Relay #1 operation and wiring.
  - If low voltage is present, check line voltage and 24V transformer. Disconnect wire from T4, if voltage increases to nominal 24VAC, check damper actuator motor.
- Check for nominal 24V from T3 to T5 terminals on the FSGC control box:
  - If low or no voltage:
    - Check for FSGD damper operation. If Damper does not open:
    - Check for nominal 24VAC on the FSGC fan terminals T3 and T4. If voltage is nominal, check internal wiring to damper actuator, see Diagram 6.
    - Remove the actuator motor cover (see Fig. 14); if the damper actuator terminals have nominal 24VAC from terminals 1 to 3 and damper does not open, check dampers for binding or damage: disconnect or turn off power to the actuator terminals 1 &3, press upward on the yellow button on bottom of the damper actuator, and operate dampers manually by rotating the shaft coupling back and forth. DO NOT manually operate damper with power to terminals 1 & 3.
    - Verify that the red actuator motor DIP switches 1, 2, & 3 are all in the OFF position (see Fig. 14).
    - Replace damper actuator if necessary.
    - If the damper opens, check for nominal 24V AC from T3 to T5, if no voltage:
    - Check wiring and operation of the FSGD pressure switch, connection of the rubber pressure tube to the switch, and to the pressure tap fitting in the side wall of the FSGD inside the wiring compartment. Pull the rubber tube off of the pressure switch and blow through the tube to clear moisture and debris. Replace pressure switch if necessary.
    - Remove the actuator motor cover (see Fig. 14) and check continuity from damper actuator motor terminals 6 & 8. Replace actuator if there is no continuity with the damper fully open.
  - If nominal 24VAC is present, check voltage from T3-T7 as described below. If no fault is found, check wiring and operation of FSGC Control Relays #3 & #4.
- Check for nominal 24VAC from T3 to T7:
  - If no voltage is present:
    - If CAU or FAD combustion air damper is not used, check T5-T7 jumper wire for continuity.
  - If CAU or FAD damper is used, check for nominal 24VAC from T3 to T6:
    - If voltage is present, check CAU or FAD for proper wiring and operation.

MAINTENANCE

Vent System: Inspect vent annually for looseness, for evidence of corrosion and build up of soot; clean if necessary.

FSGD Chimney Fan/Damper:

1. Remove the FSGD housing flashing covers as instructed in the Installation Section (Fig 5).
2. Remove the FSGD wiring compartment cover, see Fig 6.
3. Loosen the fan assembly hinge screws and retaining screws underneath each side of the fan assembly as shown in Figure 12, and rotate the fan assembly back from the damper assembly (Fig 13).
4. Inspect the Fan and Damper Assemblies and clean/repair as necessary. No lubrication to fan motor or damper assembly is required.
5. Pull the rubber tube off of the pressure switch and blow through to clear moisture and debris. Push the tube back onto the pressure switch port, no clamp is required.

FIG 12

FIG 13

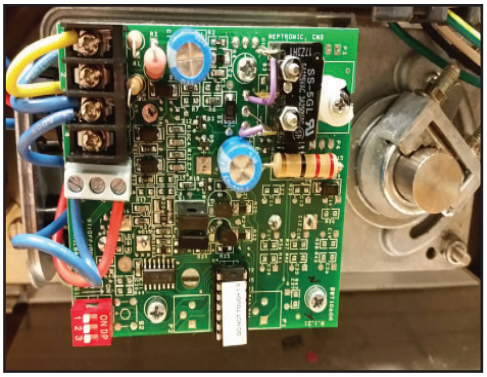


FIG 14

CAUTION: *Avoid applying excess pressure on the blower wheel when cleaning off any build-up of material. This will cause an imbalance of the blower wheel which results in excessive vibration and premature motor failure.*

Gas Log Set: Refer to the manufactures instruction for annual maintenance requirements.

REPLACEMENT PARTS

Part Number	*Description*
46701400	FSGD-8/12 Replc Motor
46701100	FSGD-8 Replc Blower Wheel
46701200	FSGD-12 Replc Blower Wheel
46701300	24V Damper Actuator FSGD Replc
46701500	Pressure Switch FSGD Replc

This manual may be downloaded and printed from the Field Controls website (www.fieldcontrols.com)

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