# QUEST
# PELLET STOVE

# QUEST PELLET STOVE
# CUT-A-WAY DIAGRAM PARTS LIST

**lescription**

.Door Assembly - Brown
Door Assembly - Black
Door Assembly - Slate
A. Top Window Clip
B. Window Wash Bracket
C. Side Window Clip
D. Lower Window Clip
E. Door Gasket, 1/2 diam. 6'
F. Side Glass
G. Center Glass
H. Hinge Pin

. Door Handle Assembly Brown
Door Handle Assembly Black
Door Handle Assembly Slate
Door Latch
Wood Door Handle
Shoulder Bolt
Wave Washer
Flat Washer

. Ash Pan
. Ultra Grate
. Brick Clip (pkg. of 2)
. Louvers (Gold - option)

.Heat Exchanger Baffle
.Brick Panel
.Door Hinge Bracket
0.Heat Exchange Scraper Rod
1.Shoulder Bolt with Roller

2.Comb. Fan Mounting Gasket
3.Comb. Fan (Freestanding)
Combustion Fan (Insert)
4.Combustion Fan Motor Only
5.Low Limit Snap Switch

6.Hopper Lid Support Bracket

**Description**

17.Hopper Lid - Black
Hopper Lid - Brown
Hopper Lid - Slate

18.Pedestal - Black
Pedestal - Brown
Pedestal - Slate

19.Right Side Panel - Black
Right Side Panel - Brown
Right Side Panel - Slate

20.Left Side Panel - Black
Left Side Panel - Brown
Left Side Panel - Slate

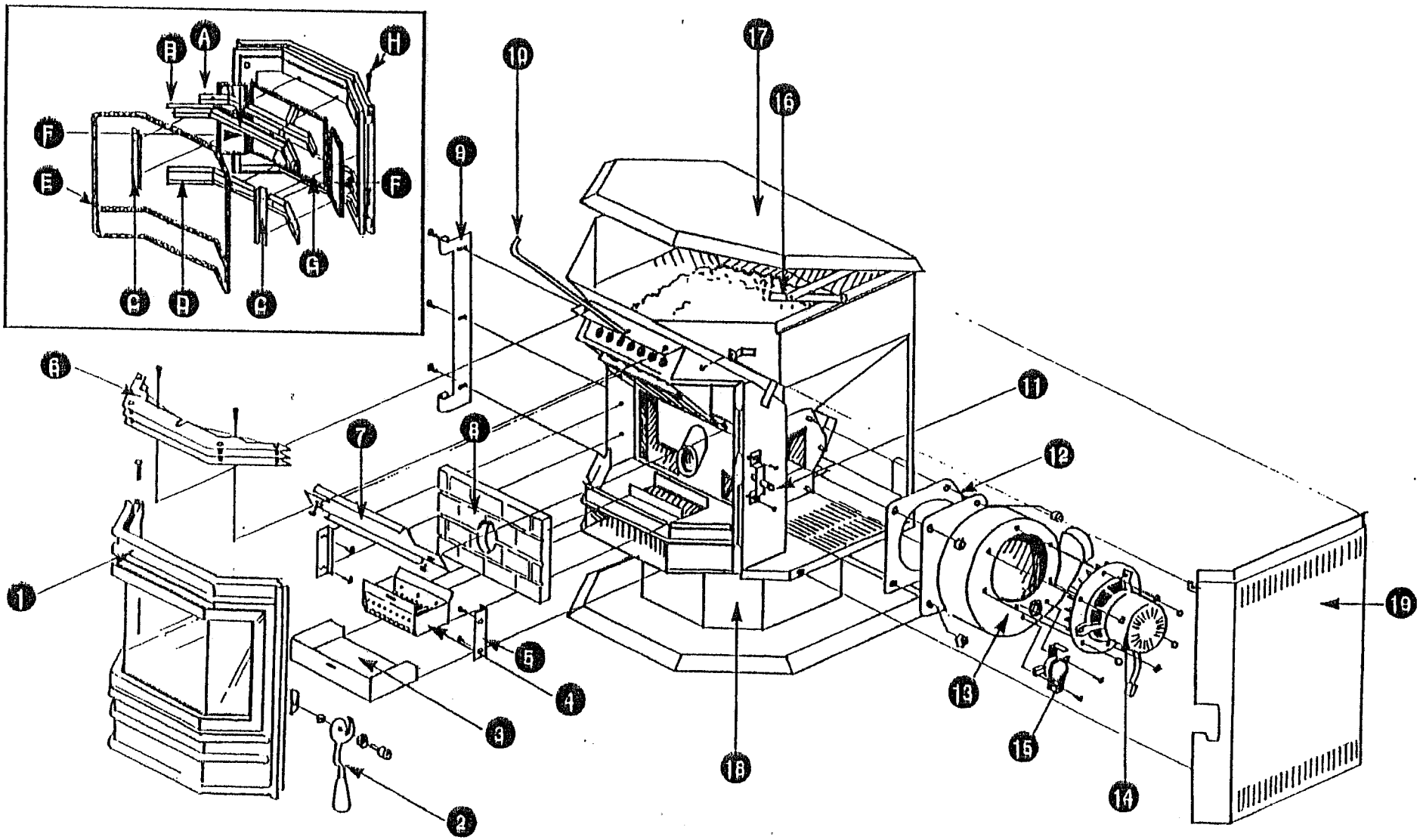
21.Control Board
22.Control knobs

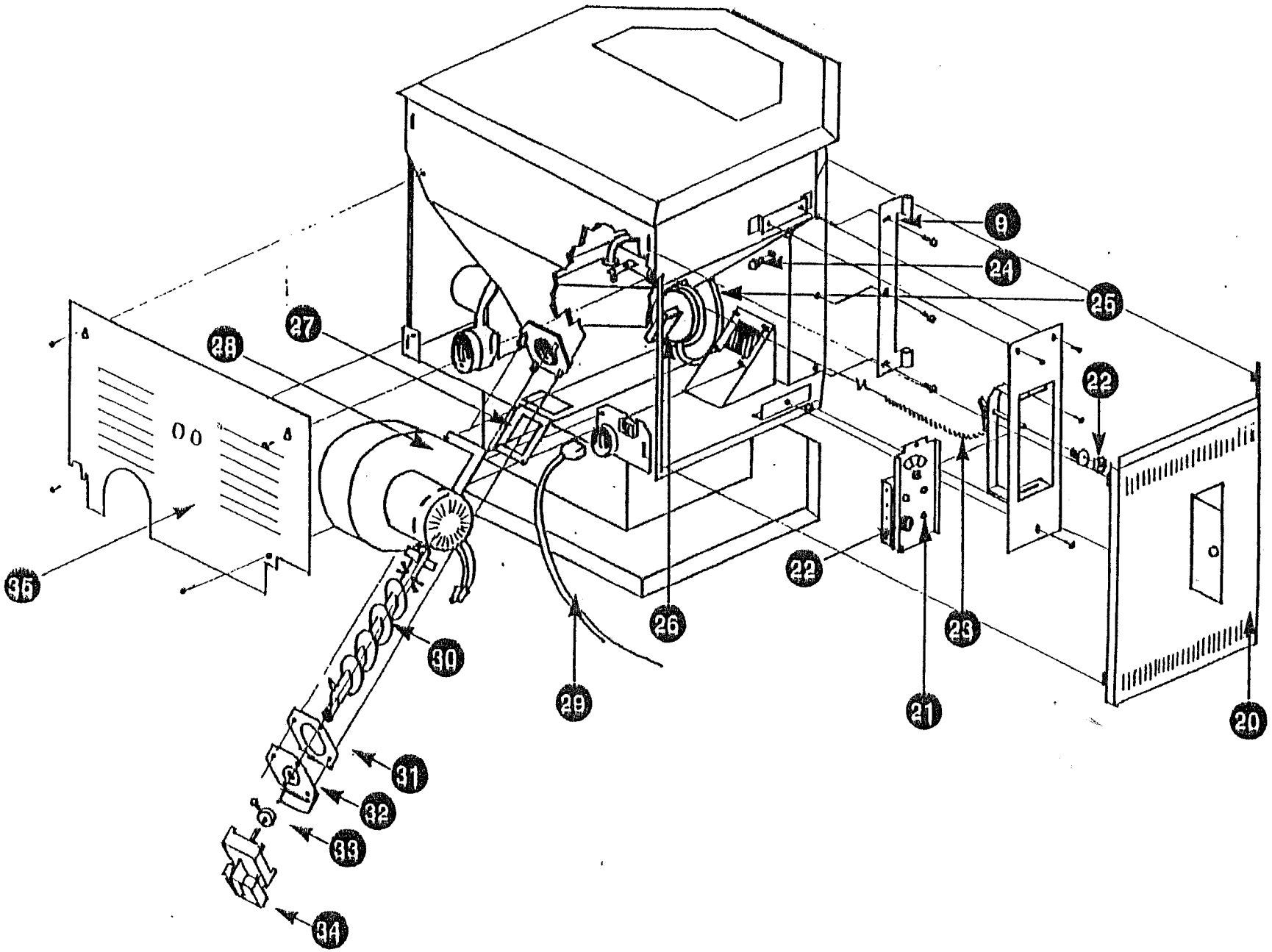
23.Damper Cable (Freestanding)
* Damper Cable ( Insert)
* Cable Clamp

24.High Limit Snap Switch
25.Pressure Switch Hose
26.Pressure Switch
27.Conv. Fan Mounting Gasket
28.Convection Fan
29.Power Cord

30.Auger
31.Auger Retention Plate Gasket
32.Auger Retention Plate
33.Auger Colar & Set Screw
34.Auger Motor

35.Rear Inspection Panel - Black
Rear Inspection Panel - Brown
Rear Inspection Panel - Slate


A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19


9
24
25
22
27
28
35
30
26
29
22
23
21
20
31
32
33
34

# WIRING HARNESS / HOOKUP DIAGRAM

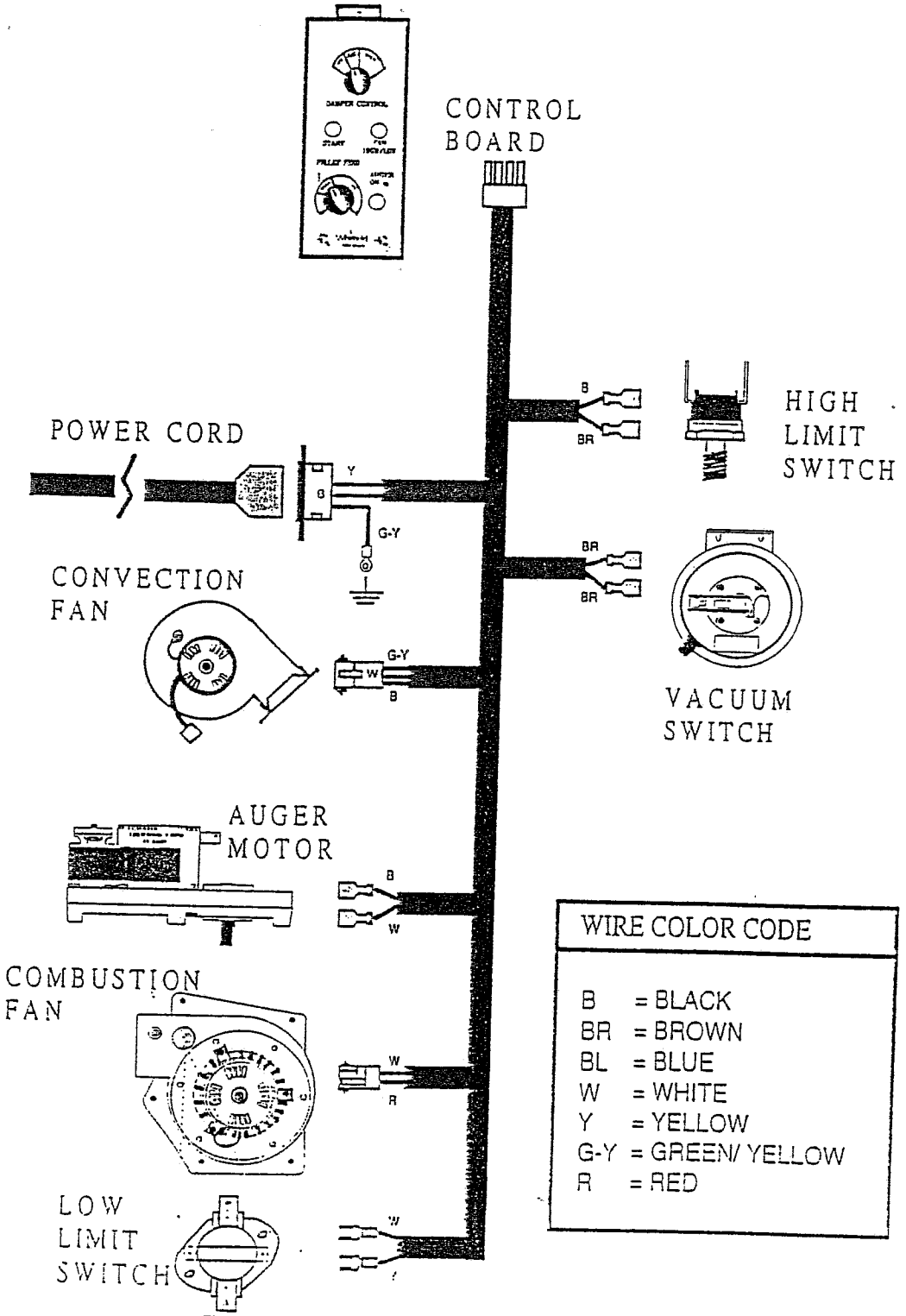
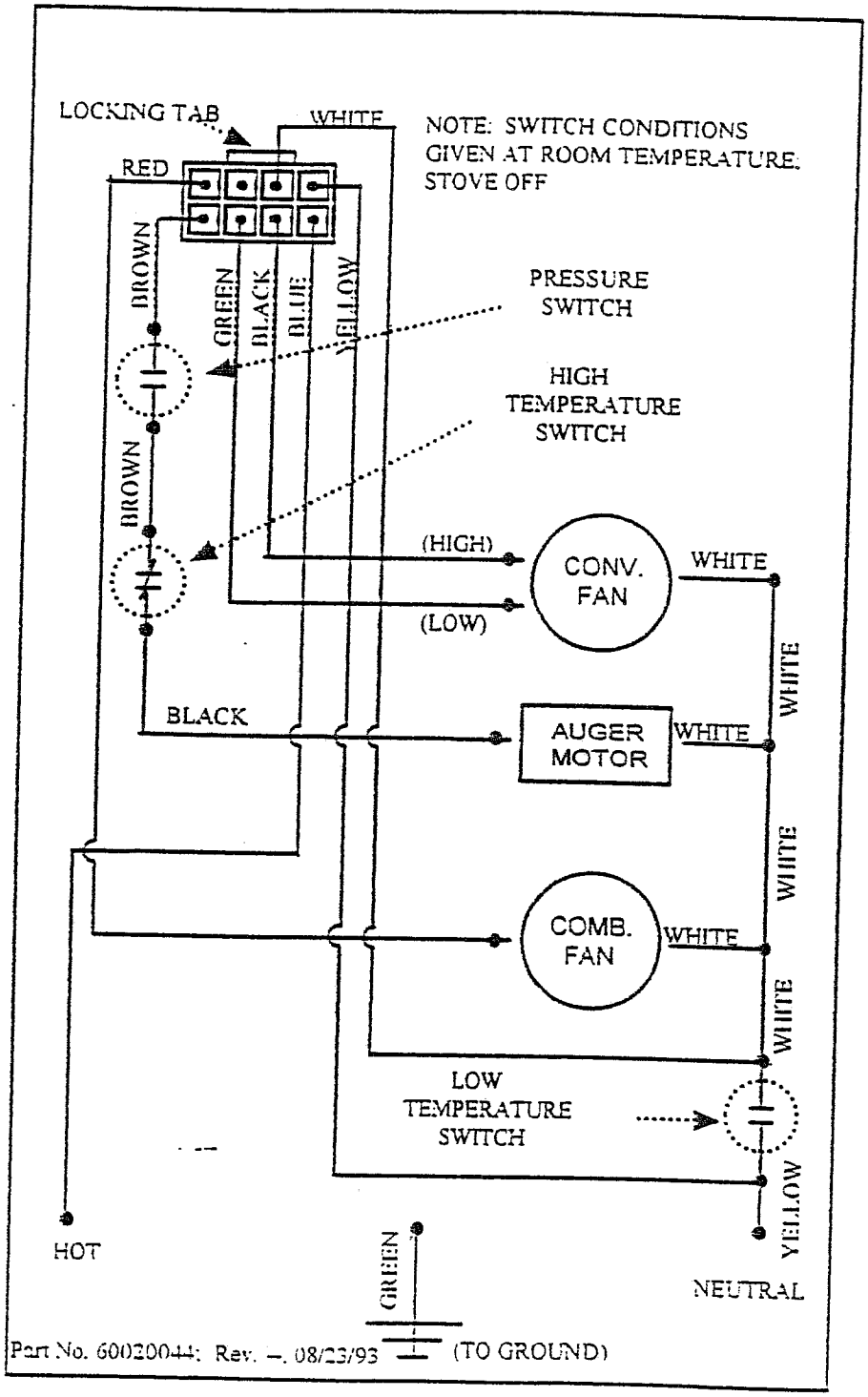



Figure 29 - Electrical Component Wiring Diagram

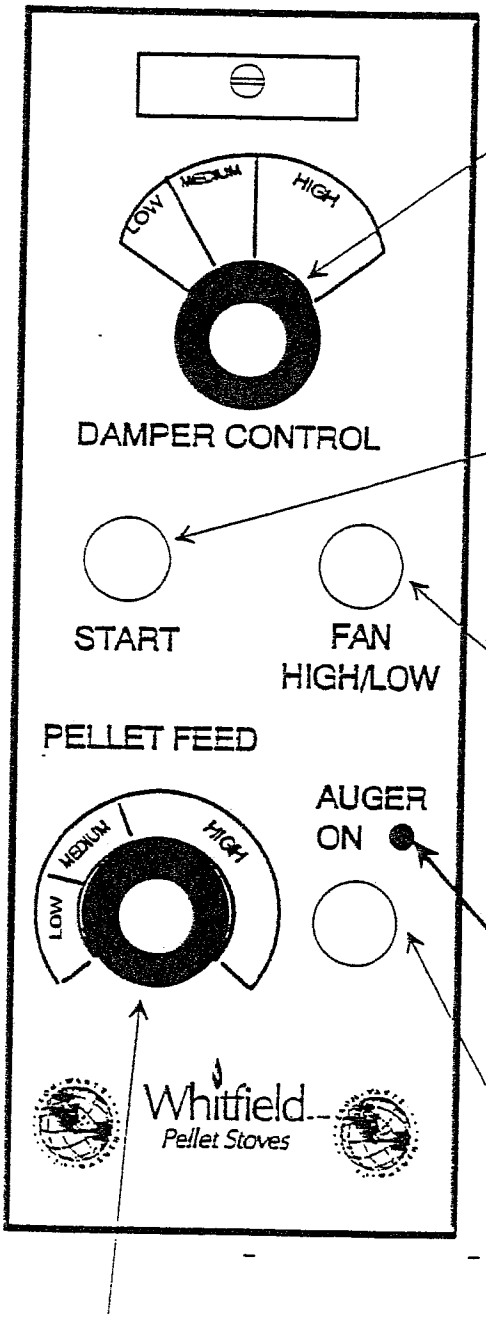
# QUEST WIRING DIAGRAM



# QUEST CONTROL BOARD

PN # 13655900 (BASIC CONTROL BOARD)

PN # 13645900 (CONTROL BOARD KIT - INCLUDES BUSHING, NUT, ETC.)




DAMPER CONTROL:

Controls combustion air via cable linkage to the damper.

START SWITCH:

The push button START SWITCH activates the 30 min. timer supplying power to the stove.

HIGH/LOW FAN: Convection fan

Two position fan control. Once changes the fan speed , twice returns to original setting. NOT AN ON/OFF SWITCH.

AUGER ONLIGHT:

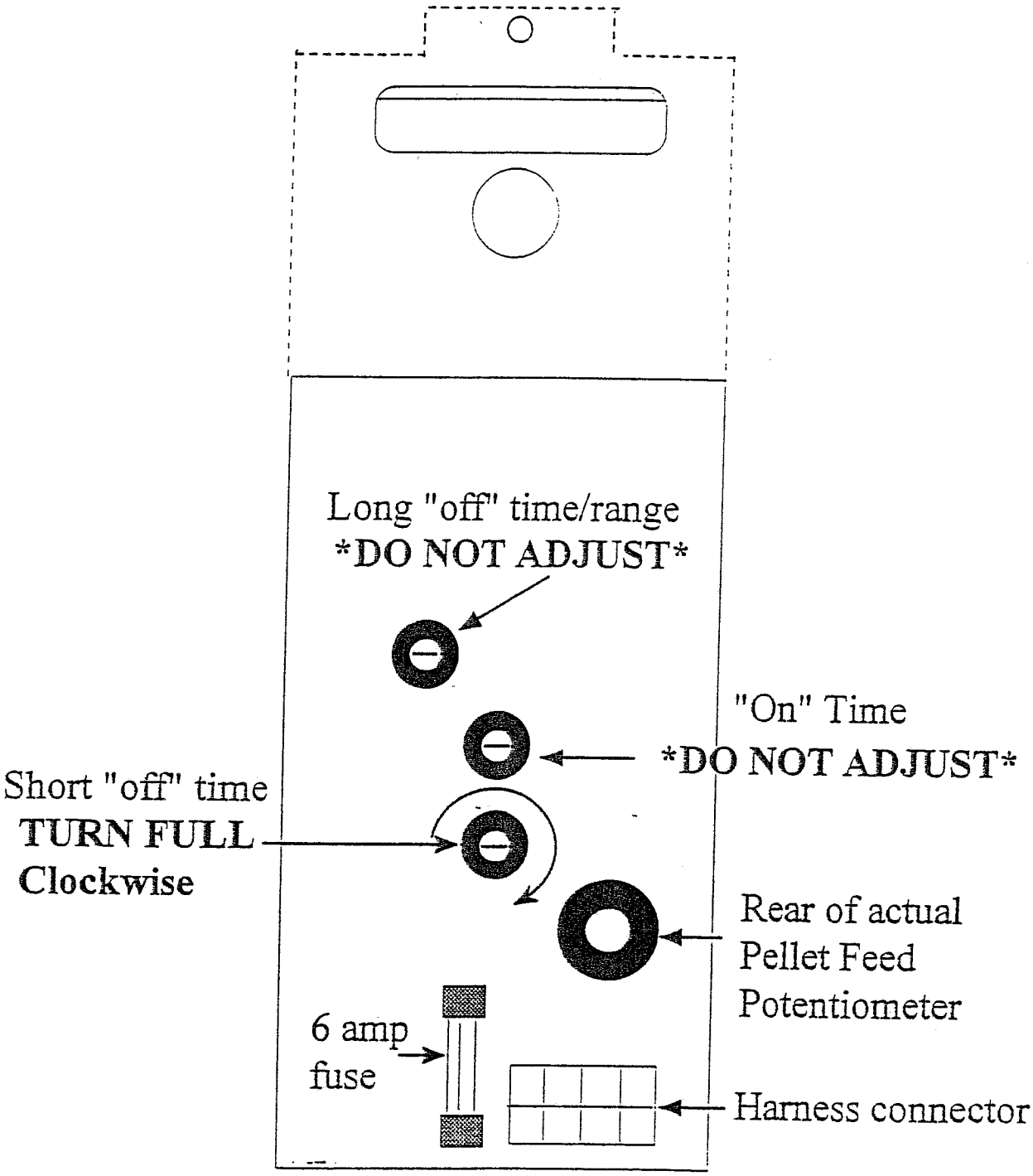
Indicates the actual "ON" time of the auger motor.

AUGER ON TOUCH BUTTON:

Provides power to the auger feed timer that controls the duty cycle of the auger motor

PELLET FEED:

Controls fuel feed rate. This is done by controlling the "OFF" time of the auger motor.




REAR VIEW OF QUEST CONTROL BOARD

NOTE: Control Board Back Pictured with the VALOX Cover removed and most components not shown for clarity.

# Appendix B

## Control Board Adjustment

**WARNING: The following procedure for reducing High End feed rate is to be used only when all other steps have been taken to eliminate fuel "piling" in the grate.**

1. Unplug the power cord from the wall or the back of the stove.

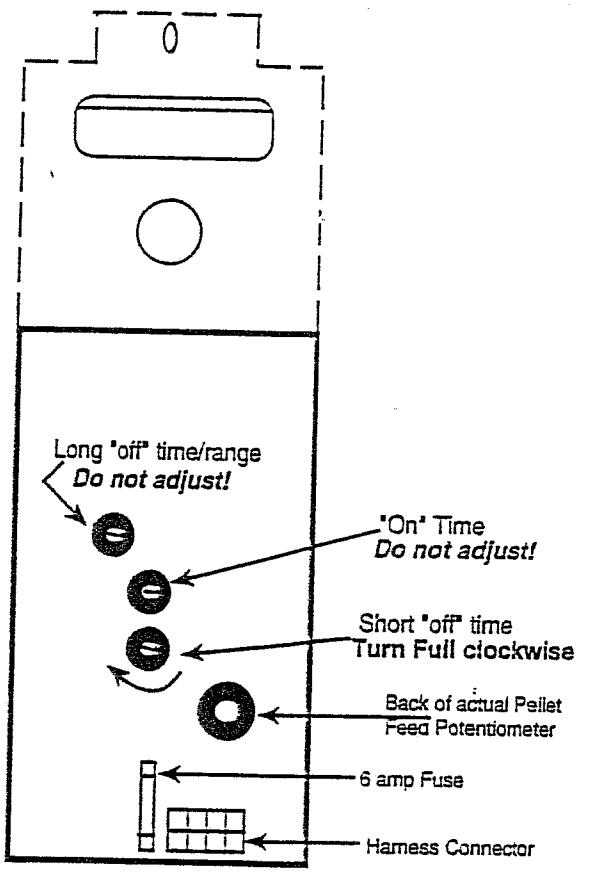
2. a). Disconnect the control board cable connector. b). Loosen the set screw on the Damper Control Knob with the 1/16" hex head wrench, supplied.
c). Using a 1/4" socket or nut-driver, remove the #8 Tek screw at the top of the control board and take the board out of the stove.

3. Carefully remove the valox cover from the back of the board.

4. a). Take a moment to identify the four potentiometers on the back of the board. There are three small ones and one larger(which is the back of the Pellet Feed Knob). b). Go to the third small potentiometer from the top (see figure ) and remove the pink protective coating with a small screw driver or knife blade.

5. Using a small screwdriver, turn the adjustment screw on this potentiometer clockwise through its full rotation. This adjustment will reduce high end fuel feed rate by 1/4 to 1/2 pound per hour. Pile-up with the particular brand of fuel should be eliminated. **NOTE: Do not adjust the top two potentiometers!**

6. Replace the valox cover and re-install the Control board into the stove. Turn the damper actuation rod and then verify that the damper knob is properly indexed for a full open or full closed setting.




**Rear View of Quest Control Board**

NOTE: Control Board Back Pictured with VALOX Cover removed and most components not shown for clarity

Figure 31 -- Control Board Adjustment

## Appendix C

1. In Trouble shooting a Quest Stove, the following negative pressure (MAGNEHELIC) readings measured at the firebox may be used:

| Damper Full Open | Damper Closed |
|---|---|
| -0.17 Cold | -0.04 Cold |
| -0.10 Hot | -0.02 Hot |

The access port for taking the readings is found on the front side of the stove, just above the door latch. Be sure your Magnehelic Gauge is hooked up on the "low pressure" (Vacuum) side.

2. Feed Rates on a factory specification control board should be as follows:

Lowest Feed Rate:

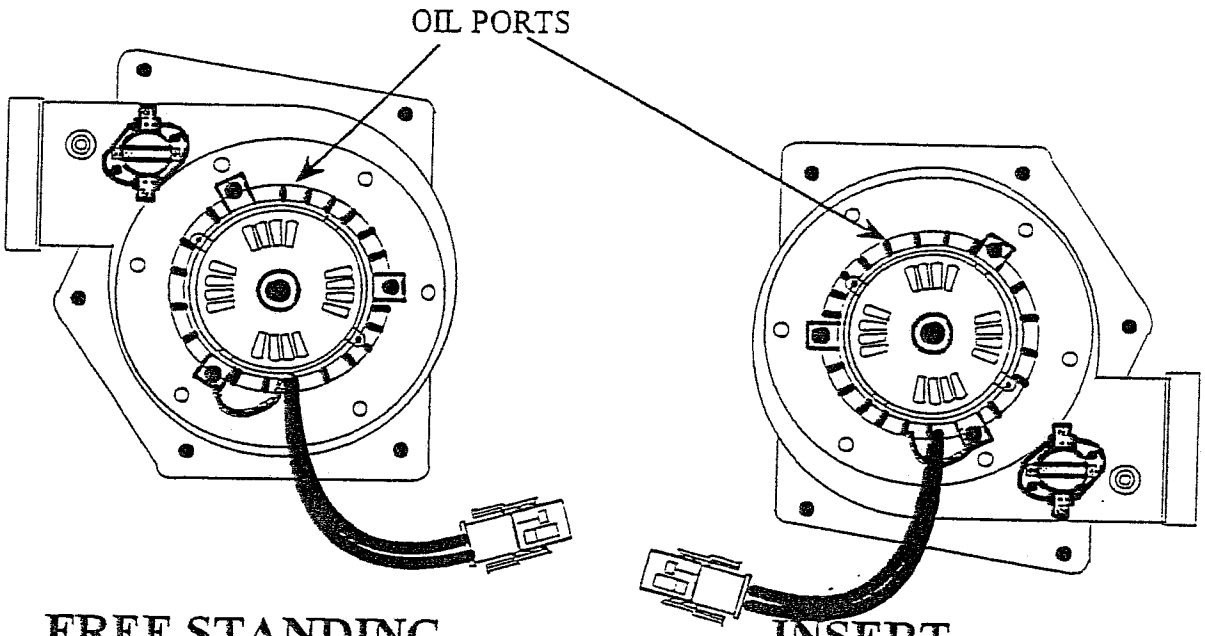
On Time: 1.5 seconds Off Time: 9.5 seconds

Highest Feed Rate:

On Time: 1.5 seconds Off Time: 1.7 seconds *

*The procedure detailed on the previous page allows an increase in the High End "off time" to approximately 2.1 seconds. This change results in less High End feed rate.

# QUEST COMBUSTION FAN :




**FREE STANDING CONFIGURATION**

**INSERT CONFIGURATION**

FASCO PN # 7021- 8843 TYPE U21B HP 1/70

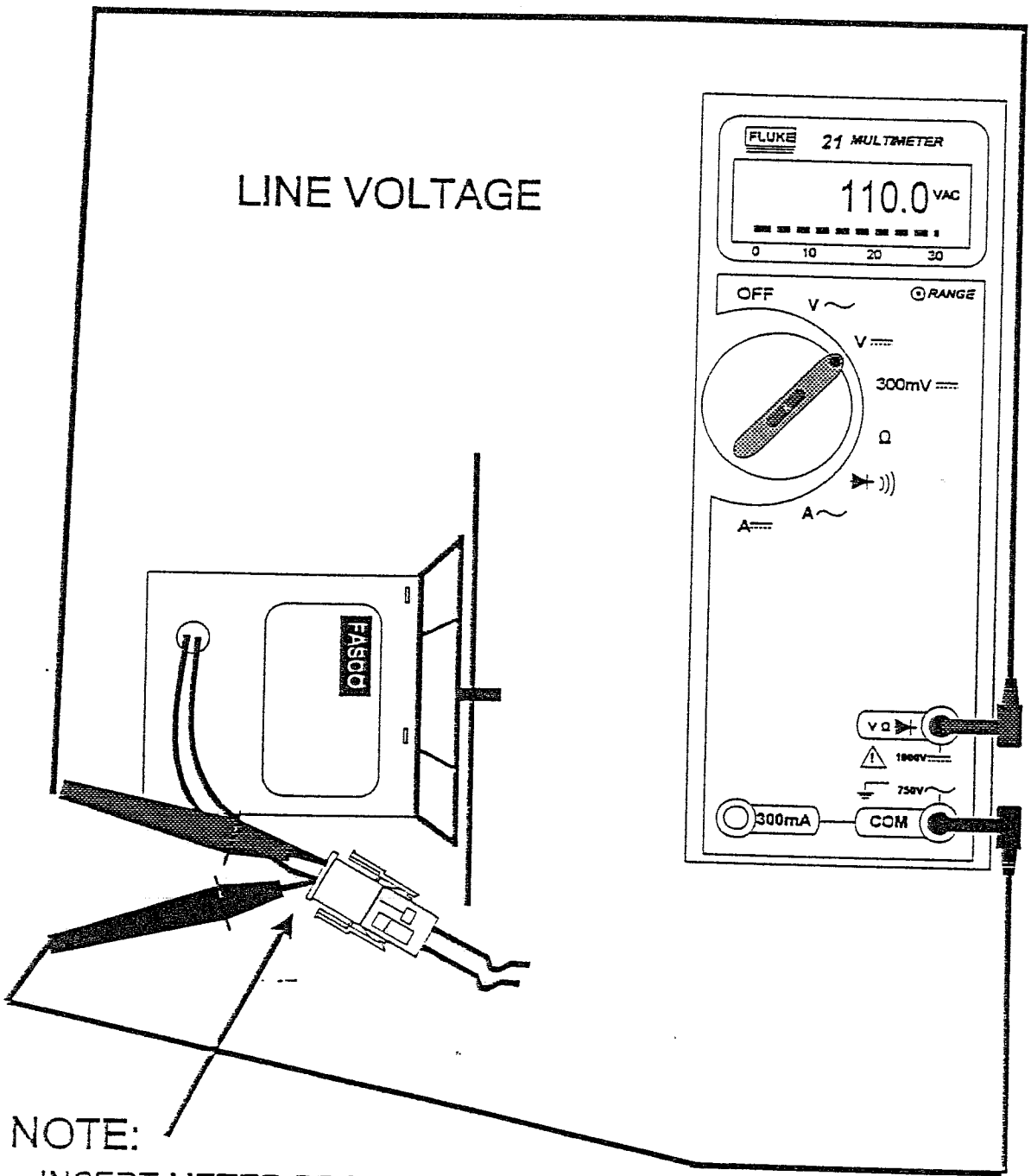
115 V 60 HZ .95 AMP CLASS "B"

74 CFM @ FREE AIR
or 42 CFM @ 0.6 in WC static pressure and 400 deg. F

3000 RPM (nominal)

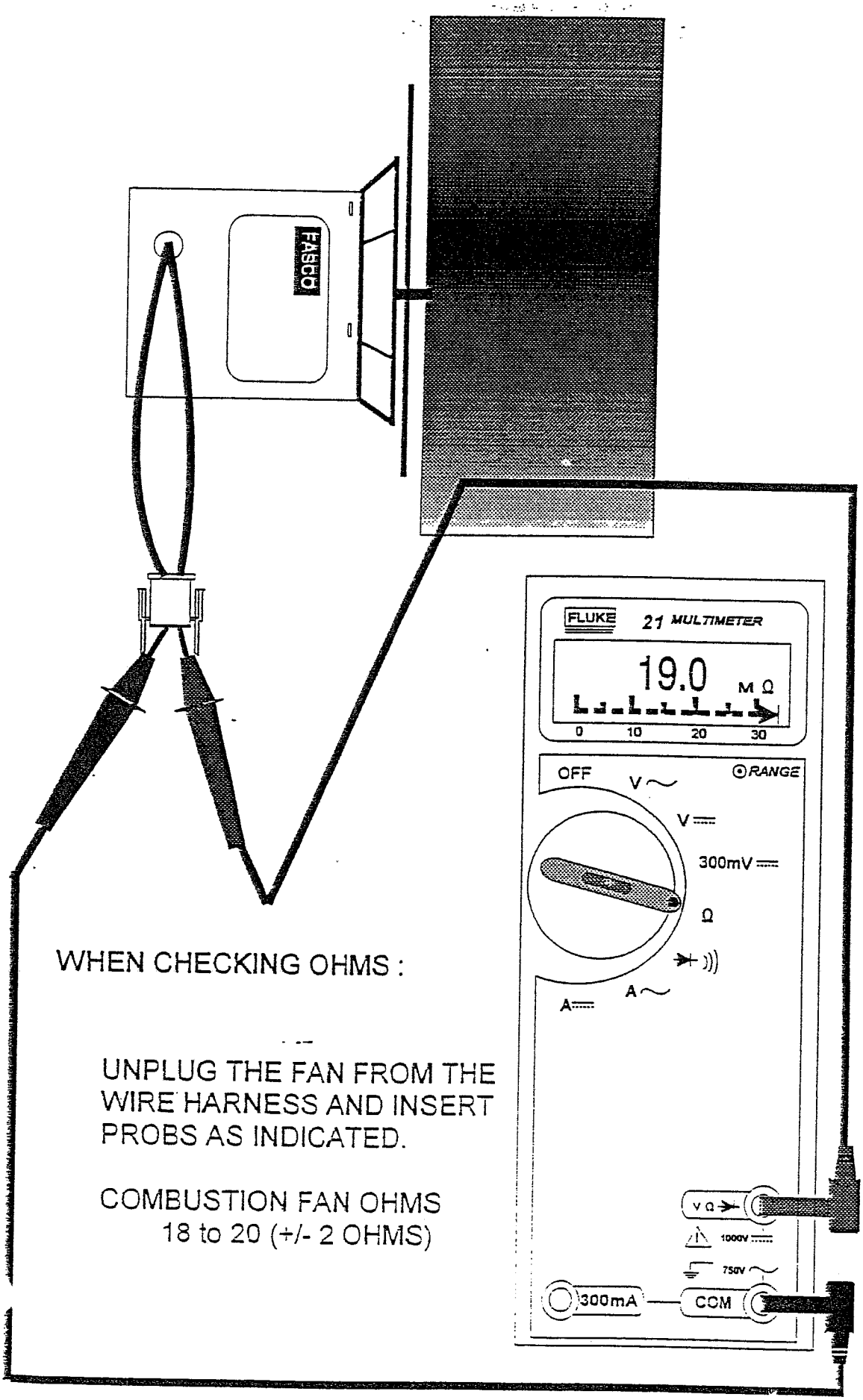
THERMALLY PROTECTED (Non-variable speed)

# VOLTAGE READING TAKEN AS SHOWN -94'




NOTE:

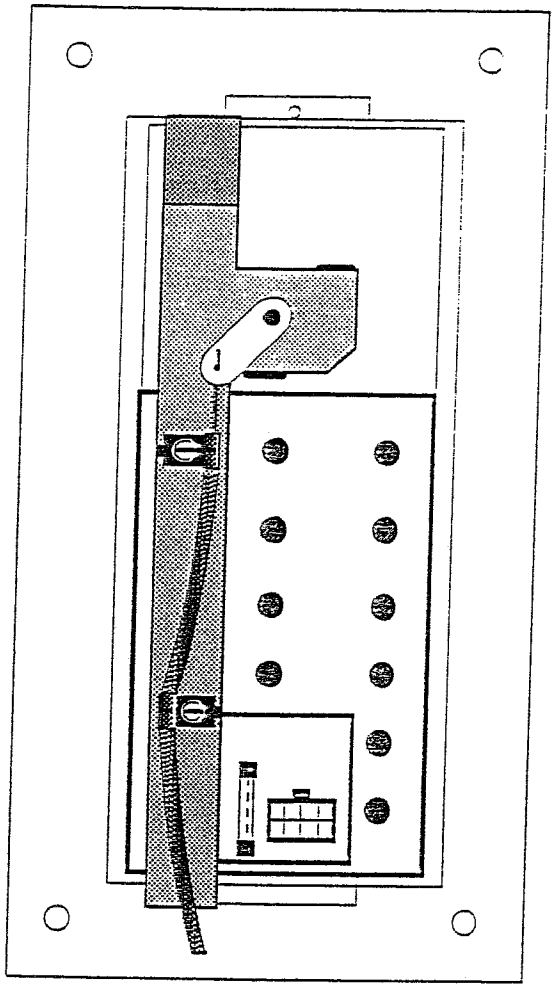
INSERT METER PROBS FROM THE MOTOR SIDE OF THE PLUG!
(YOU DO NOT NEED TO UNPLUG FROM THE WIRE HARNESS)



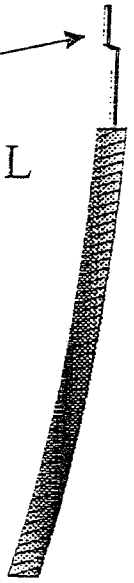

WHEN CHECKING OHMS :

UNPLUG THE FAN FROM THE WIRE HARNESS AND INSERT PROBS AS INDICATED.

COMBUSTION FAN OHMS
18 to 20 (+/- 2 OHMS)

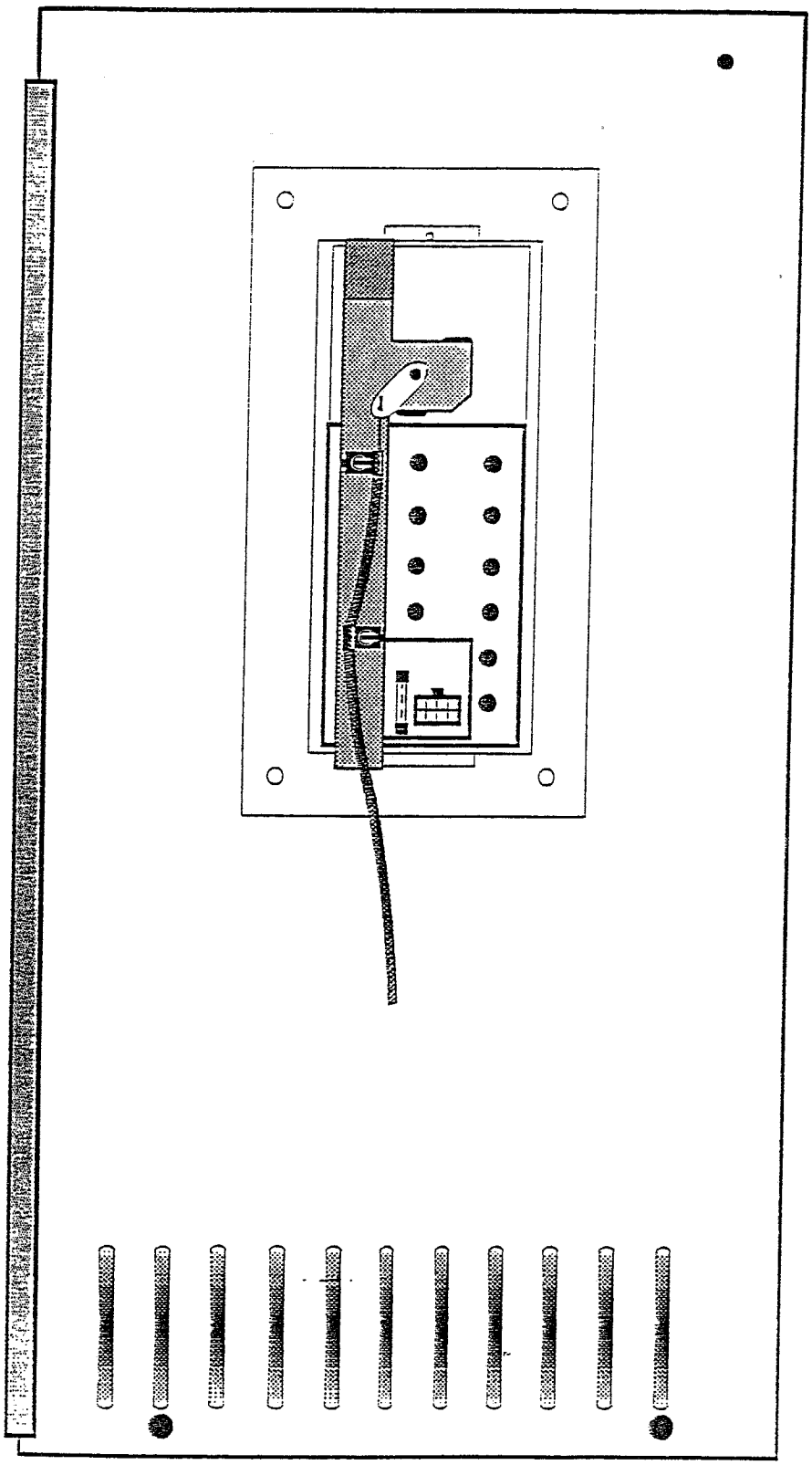


REAR VIEW OF THE CONTROL PANEL BRACKET WITH THE DAMPER CABLE IN PLACE

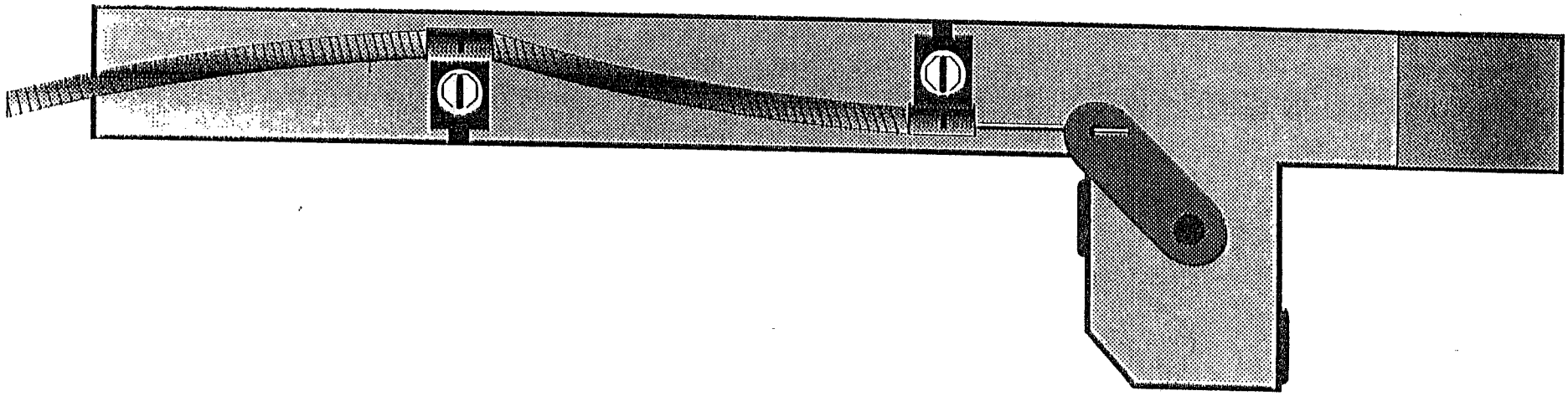


DAMPER CONTROL CABLE END FOR THE BACK OF THE CONTROL PANEL

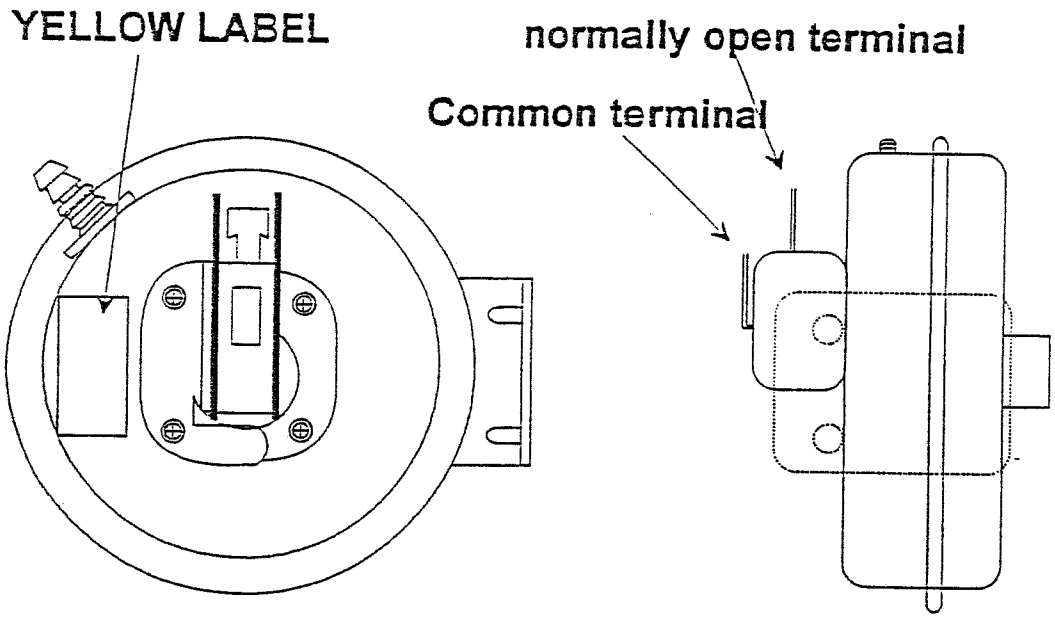
DAMPER CONTROL CABLE END FOR THE DAMPER GATE IN THE EXHAUST TRANSDUCT



REAR VIEW OF THE QUEST CONTROL PANEL MOUNTED ON THE LEFT SHROUD.



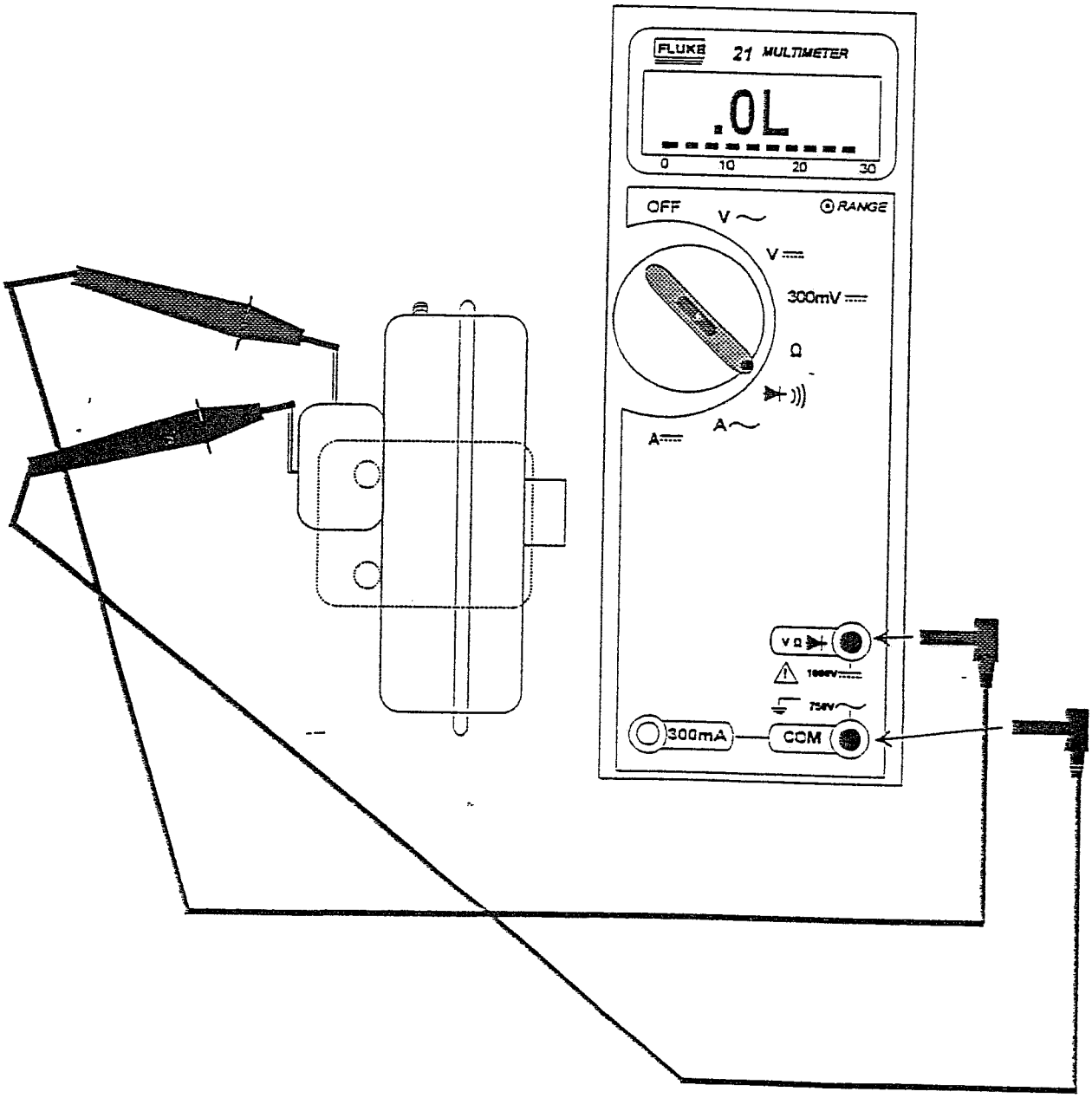
# VACUUM SWITCH - (Negitive Pressure)

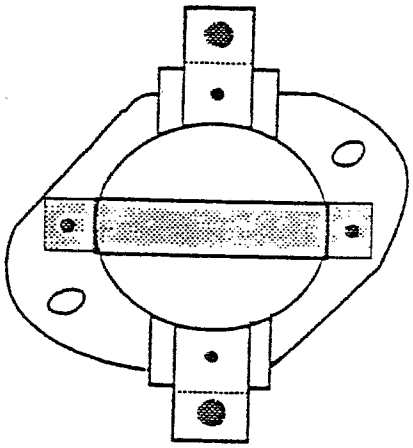



**YELLOW LABEL** PN# 13620014

ELECTRICAL SWITCH: Single pole, normally open, snap acting contacts. Contacts change on pressure rise @ -0 .15" W.C.

Normally open switch will read as indicated





# LOW LIMIT SNAP SWITCH

PN # 12057601 (CERAMIC)

LOCATED ON THE COMBUSTION FAN
IF EXHAUST TEMPERATURES EXCEED
140 degrees F, THE SWITCH CLOSES.

THE SWITCH REMAINS CLOSED UNTIL
EXHAUST TEMPERATURES DROP BELOW
120 degrees F.

NOTE:

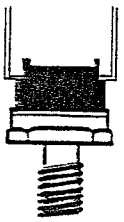
TWO WAYS THIS SWITCH FAILS:

STUCK CLOSED = POWER TO UNIT IS ALWAYS ON. THE STOVE MUST BE UNPLUGED TO SHUT IT OFF.

STUCK OPEN= THE STOVE WILL SHUT OFF WITHIN 30 MIN. FROM START UP.

(SAMPLE JUMPER WIRE USED TO BY PASS)

# HIGH LIMIT SNAP SWITCH



BRASS
SCREW-IN
BODY

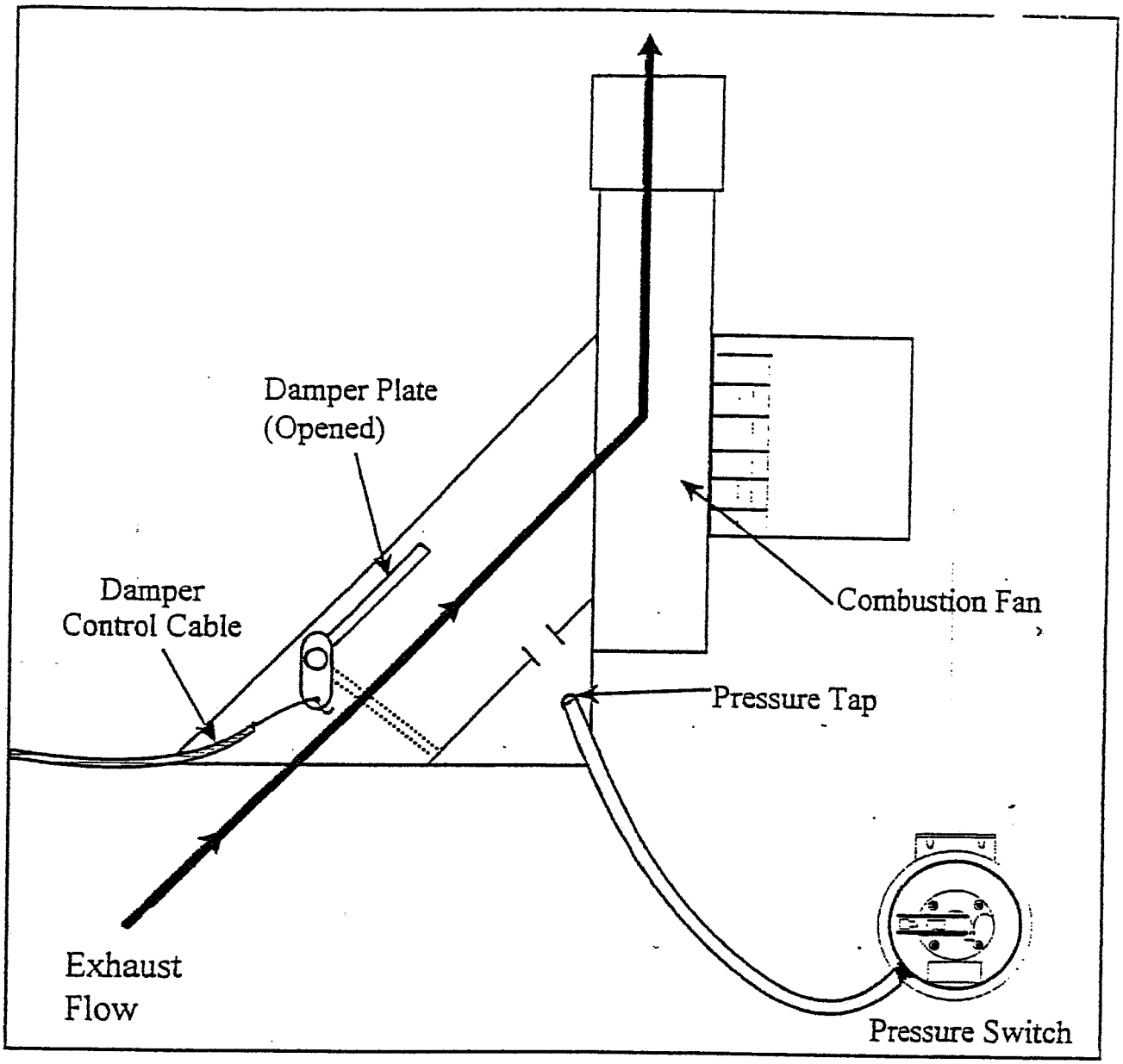
PN # 13027801 - 250 degree F

Therm-O-Disc 36TM31

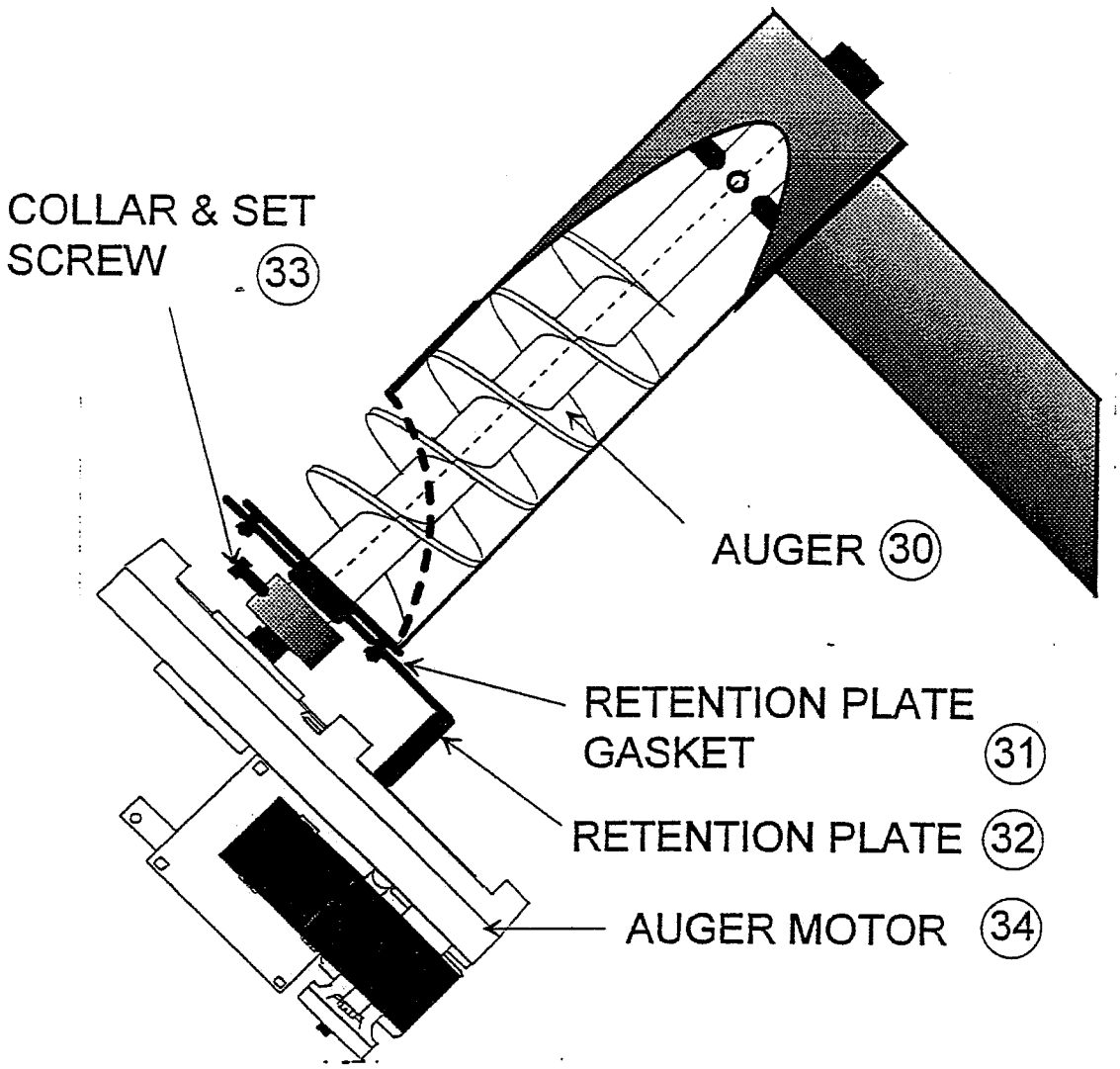
Normally closed switch. Opens when stove body temperature RISES above 250 degrees F. Resets when temperature drops below 230 degrees F.

Removable with a 5/8" wrench.

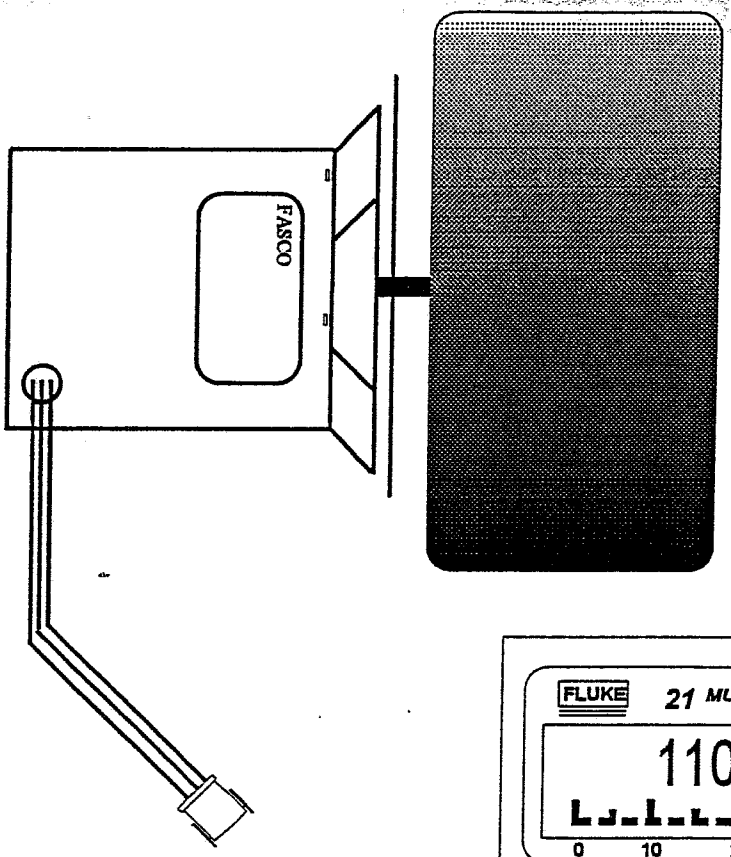
Top View of Exhaust Flow Through Damper Assembly and Combustion Fan.

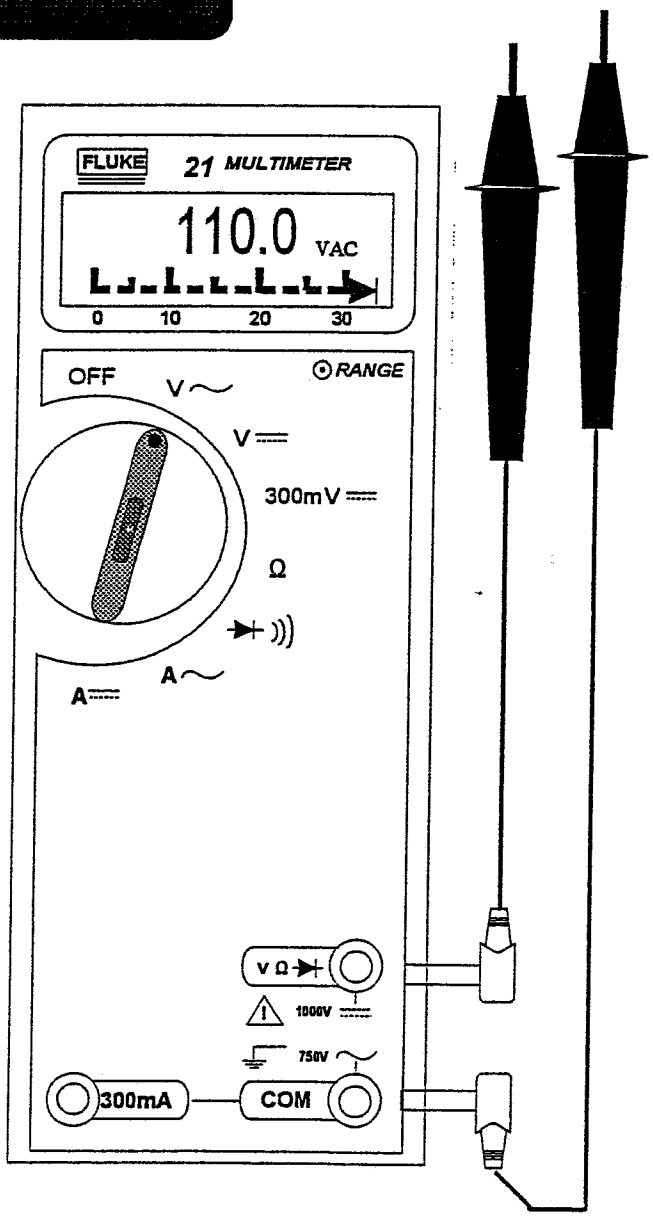


# QUEST AUGER SYSTEM CUT-A-WAY VIEW




| | | |
|---|---|---|
| (30) | AUGER | 13652100 |
| (31) | AUGER RETENTION PLATE GASKET | 61050003 |
| (32) | AUGER RETENTION PLATE | 13640072 |
| (33) | AUGER COLLAR & SET SCREW | 12041300 |
| (34) | AUGER MOTOR | 12046300 |

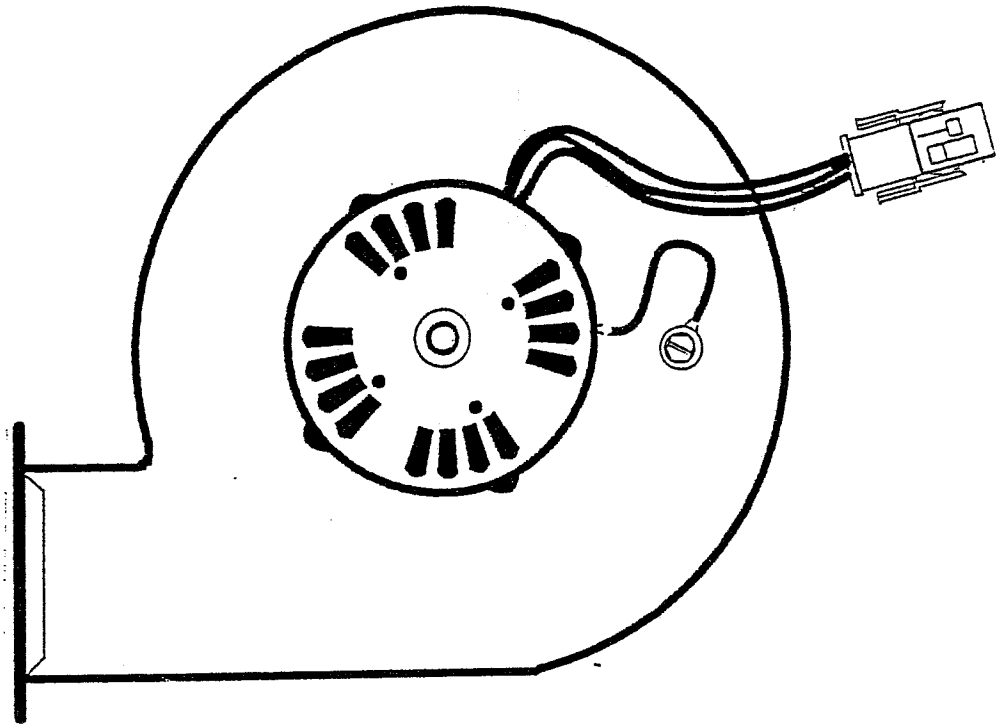



## VOLTAGE READINGS

**NOTE:**

INSERT METER PROBES FROM THE MOTOR SIDE OF THE PLUG!
(YOU DO NOT NEED TO UNPLUG FROM THE WIRE HARNESS)



CONVECTION FAN : PN# 13646109

FASCO # 7021-8699 TYPE U21B HP 1/35

115 V — 60 HZ 1.2 AMP CLASS "B"

2000 and 1400 RPM NOMINAL

THERMALLY PROTECTED