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# **OWNER'S MANUAL**

## **FIRE DETECTION AND SUPPRESSION SYSTEM KIT FOR HD30SL DRYER**

**Installation instructions**

**Operating instructions**

**K653**

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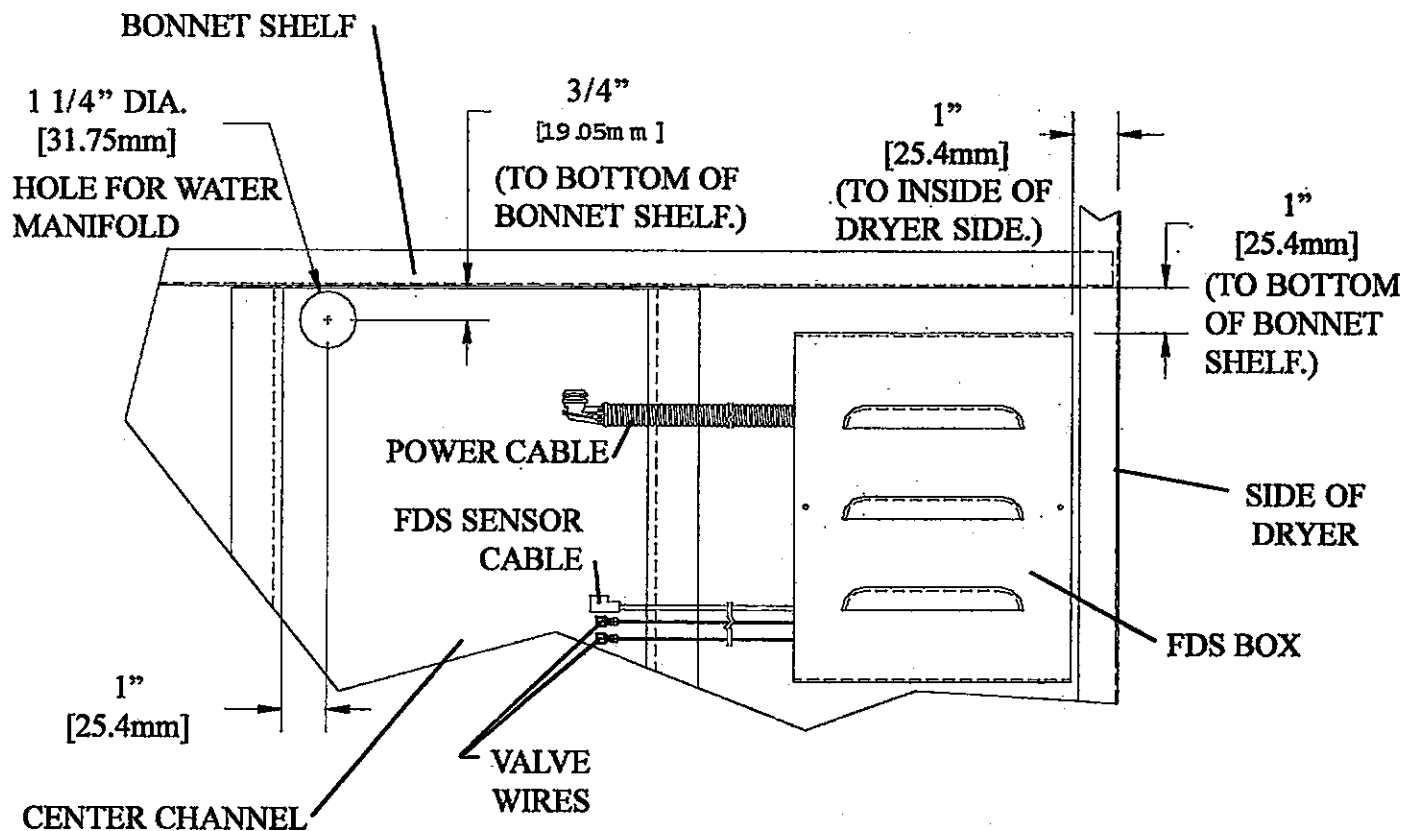
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# **K653 INSTALLATION INSTRUCTIONS**

## **DISCONNECT POWER, OPEN DOORS AND REMOVE PANELS**

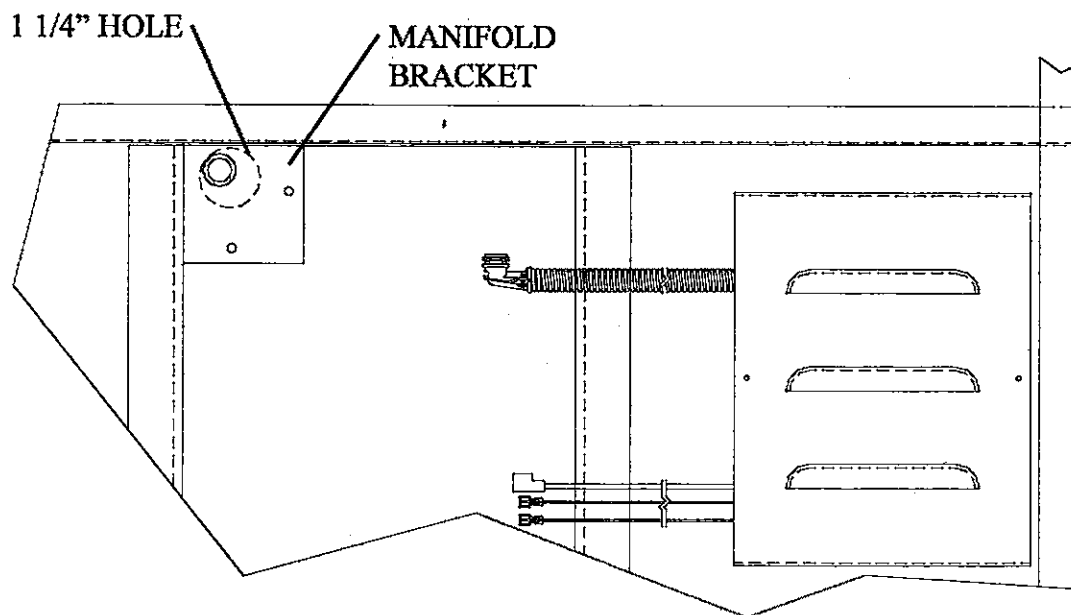
1. Disconnect power to dryer.
2. Open the rear control box door.
3. Remove upper rear back.
4. Open upper front access door.
5. Open front timer control box door.
6. Open and remove lint door.
7. Remove front panel.



**FIGURE 1**

## **FDS MANIFOLD ASSEMBLY INSTALLATION**

8. Drill (or use hole saw) a 1 1/4" dia. hole in the rear channel and back of dryer as shown in Fig. 1.
9. Position the FDS manifold assembly in the upper left of the 1 1/4" dia. hole as in Fig. 2. Mark the center of the two mounting screws. Drill two #24 (.152" dia.) holes. Install the FDS manifold with two #8 X 1/2" self-drilling sheet metal screws.
10. To support the front end of the FDS manifold use the pipe clamp supplied with the kit. Position the pipe clamp at the front end of the FDS manifold and mark approximate center of pipe clamp mounting hole on the bonnet shelf. Drill 3/16" dia. hole and install pipe clamp using nut and screw supplied.

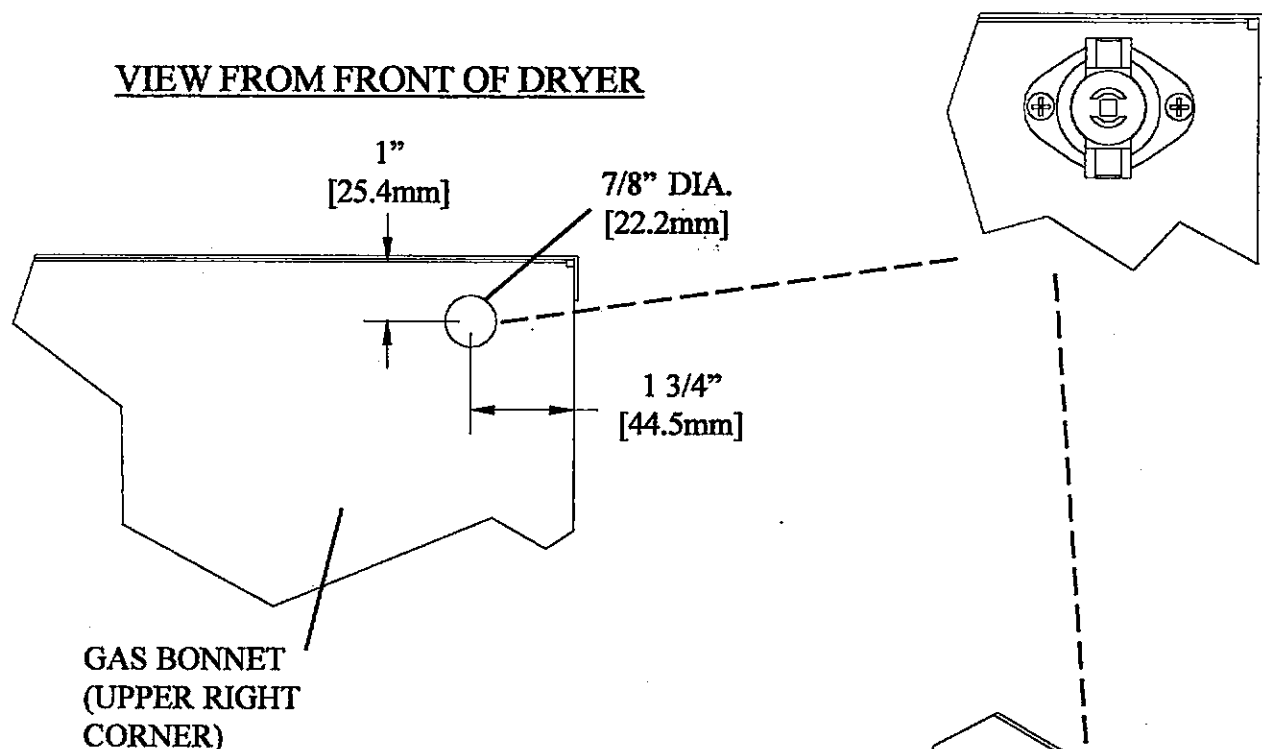


**FIGURE 2**

## FDS BONNET THERMOSTAT INSTALLATION

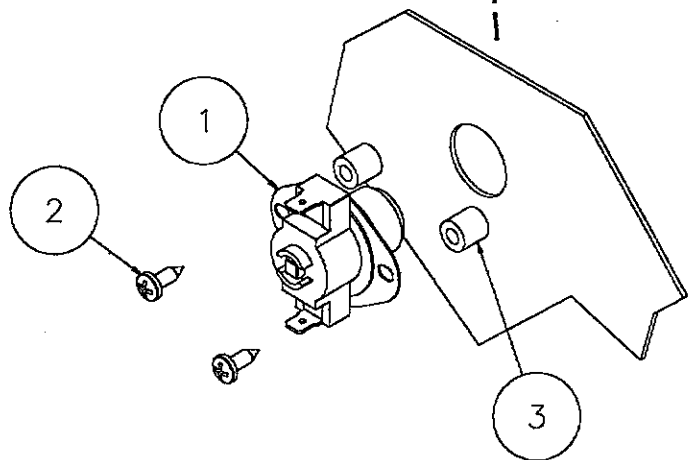
11. Drill (or use hole saw) a 7/8" dia. hole in the front upper right corner of the gas bonnet as shown in Fig. 3.

12. Position the TUX613 thermostat over the center of the 7/8" dia. hole. Using two #8 X 1/2" self-drilling sheet metal screws and two TU15938 spacers mount the TUX613 thermostat as shown in Fig. 3.



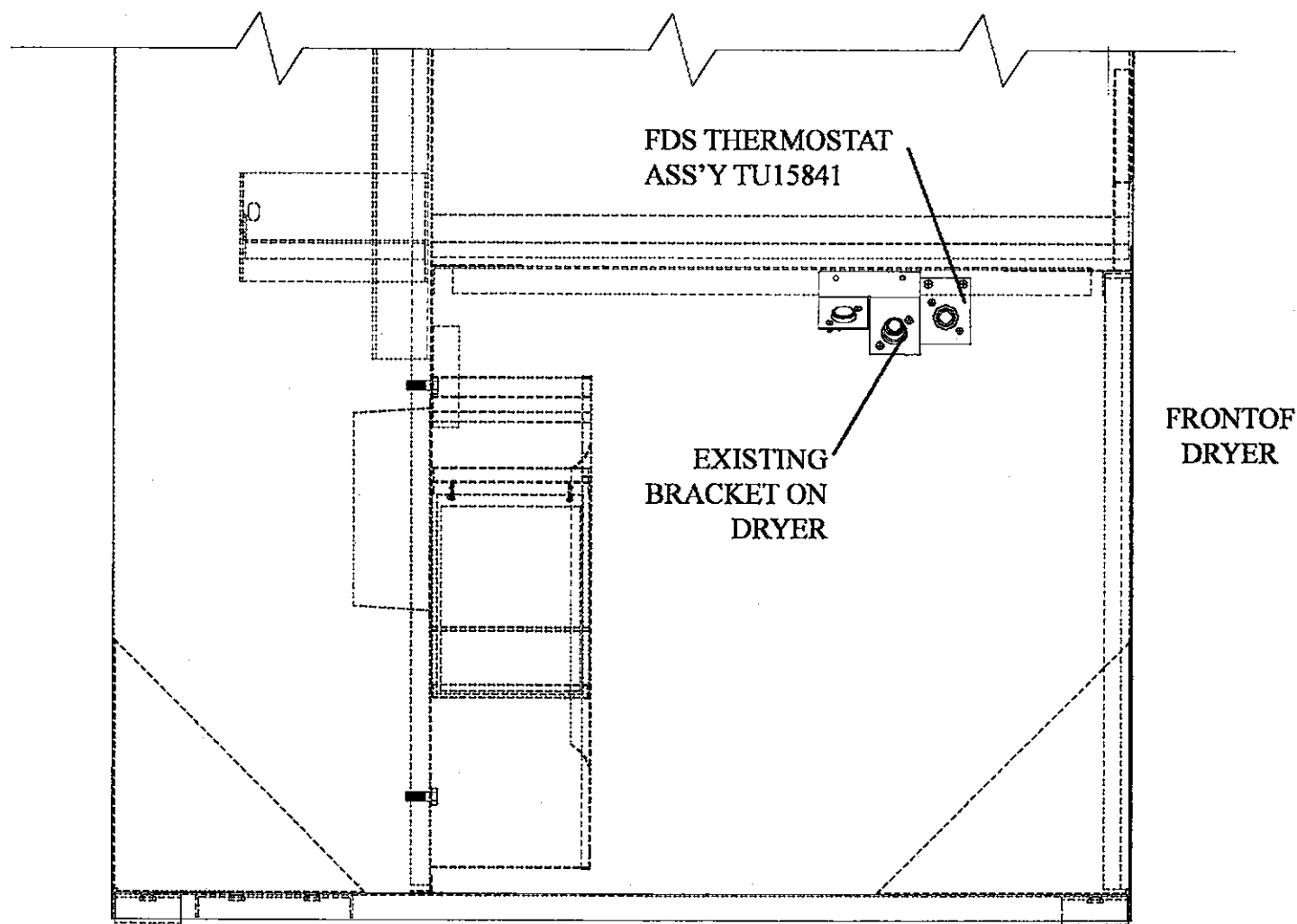
**FIGURE 3**

Ref. No.	Part No.	Description
1	TUX613	Thermostat, 280 Deg.
2	TU7733	Screw, Machine #8
3	TU15839	Spacer



## **FDS BELOW THE BASKET THERMOSTAT INSTALLATION**

13. Mount the TUX613 thermostat with bracket below the basket and to the right of the existing thermostat bracket assembly using two #8 X 1/2" self-drilling sheet metal screws. See Figure 4 for illustration.



**FIGURE 4**

## **FDS Control Box Assembly Mounting**

14. Remove the FDS control box cover. Position the FDS control box assembly as shown in Fig. 1 (1" from the bonnet shelf and 1" from the side of the dryer. Attach the FDS control box assembly to the back of the dryer using four #8 X 1/2" self-drilling sheet metal screws.

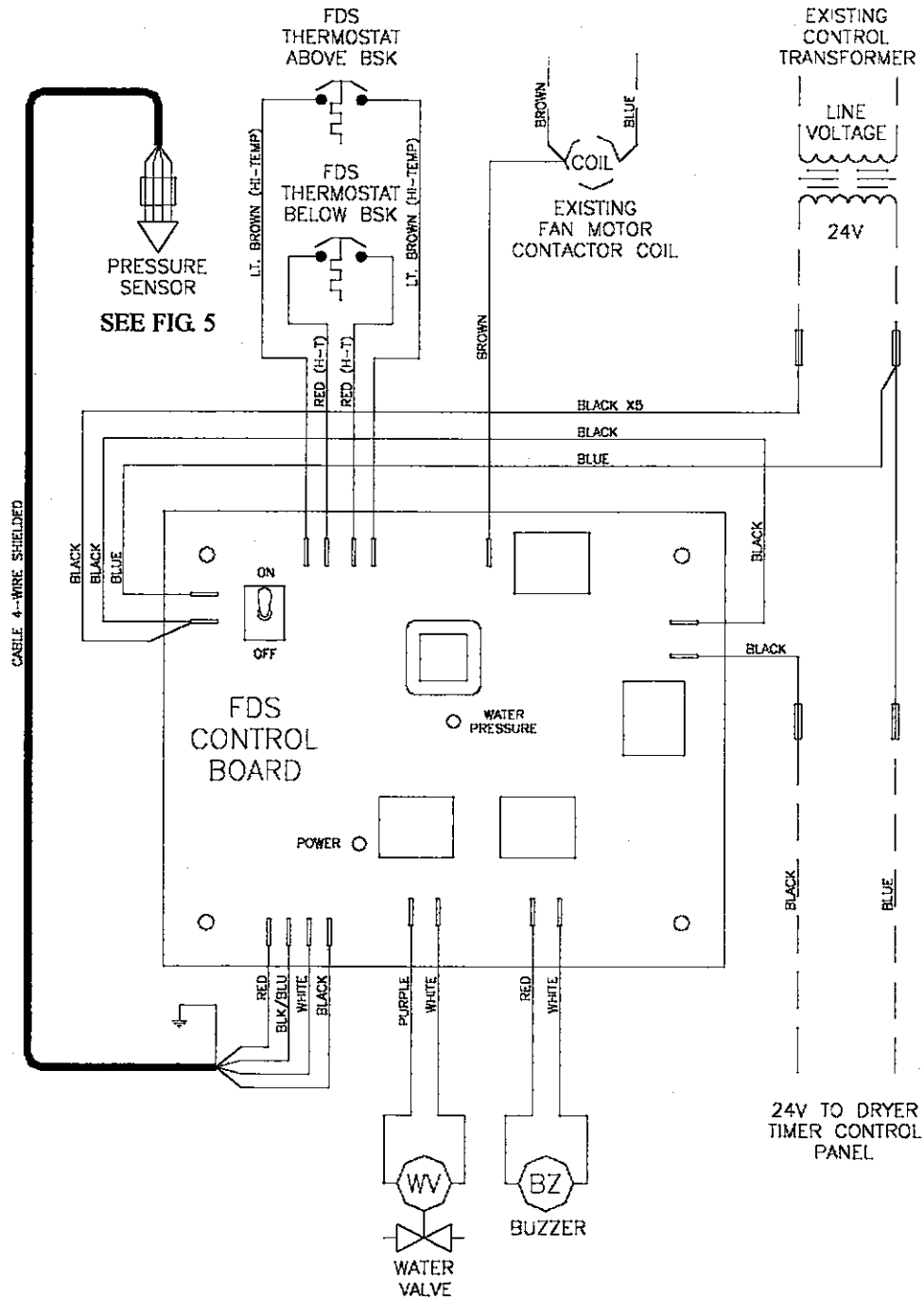
## **FDS CONTROL WIRING**

15. Remove the nut from the 90-degree elbow on the power cable of the FDS control box assembly. Feed the wires and the 90 degree elbow into the rear control box area using the open 7/8" dia. hole in the bonnet shelf. Secure the 90-degree elbow with the nut.
16. Disconnect the black and blue wires that connect to the 24V transformer wires. Connect the black X5, black, and blue wires from the FDS control box assembly as shown on TWL2210 wiring diagram.
17. Connect the brown wire from the FDS control box assembly to the same terminal as the existing brown wire on the fan contactor coil (A1) as shown on TWL2210 wiring diagram.
18. Connect the purple wire and the white wire to the water valve as shown on TWL2210 wiring diagram.
19. Remove junction box cover on the FDS manifold assembly. Punch out one of the 7/8" knockouts. Insert the 7/8" bushing supplied with kit. Feed the gray cable w/plug through the 7/8" bushing. Connect the plug to the pressure sensor (the wires coming off the plug should be on the opposite side from the pressure sensor) See Figure 5. Close junction box with cover.
20. Connect the four wires that came with the FDS thermostats (two light brown hi-temp and two red hi-temp) to the four wires in the rear control box that come from the FDS control box assembly.
21. Feed the two light brown hi-temp and two red hi-temp through the E-stop wire cable that runs from the rear control box to the front timer control box.
22. Feed the two light brown hi-temp wires that are now in the front timer control box through the same hole as the existing hi-limit bonnet thermostat wires. Add a 1/4" insulated terminal to each wire and connect to the FDS bonnet thermostat.
23. Feed the two red hi-temp wires that are now in the front timer control box, down the right side of the dryer jacket following the same path that the existing thermostat wires take. Add a 1/4" insulated terminal to each wire and connect to the FDS below the basket thermostat.
24. Use wire ties supplied to bundle any loose wires.

# WIRING DIAGRAM

TWL2210

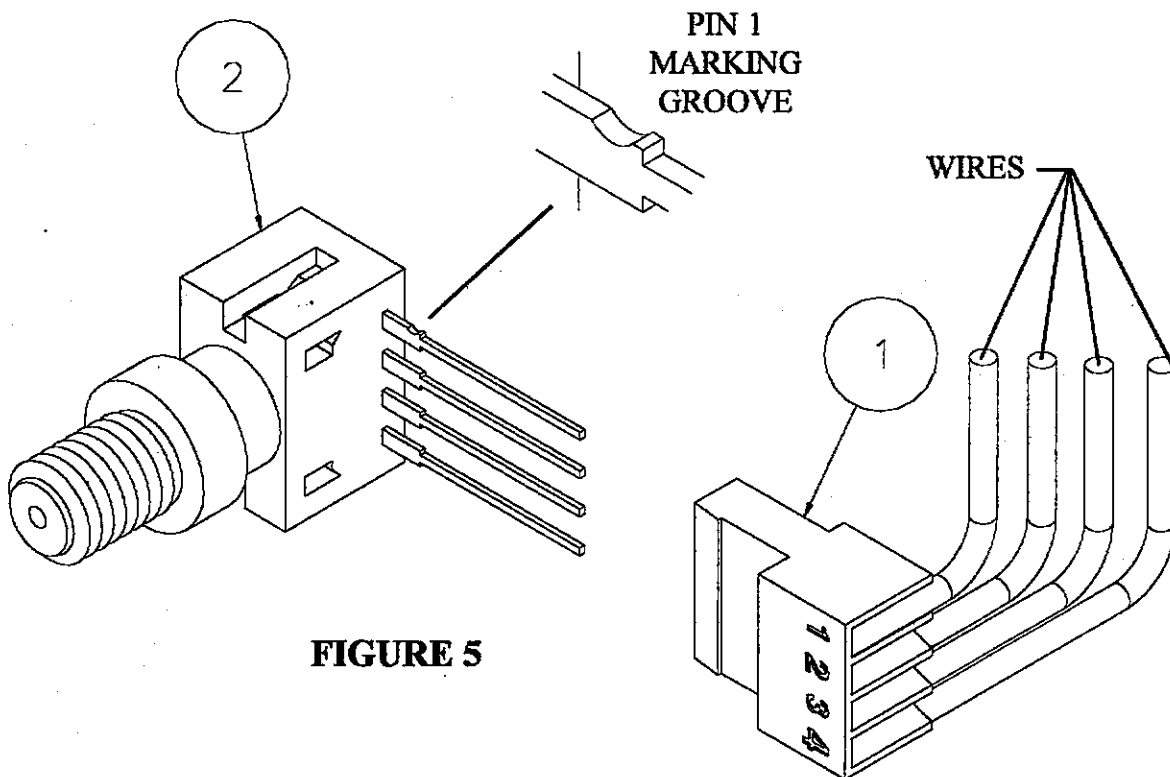
HD30SLG LAUNDRY DRYER NON-REVERSING  
FIRE DETECTION AND SUPPRESSION SYSTEM



10/15/03



## LOCATING PIN 1 CONNECTION



**FIGURE 5**

Ref. No.	Part No.	Description
1	TU15825	Connector, 4 Contact
2	TU15823	Sensor, Pressure

## **CLOSE DOORS AND MOUNT PANELS**

- 25. Remount front panel.
- 26. Reinstall lint door
- 27. Close front timer control box door.
- 28. Close upper front access door.
- 29. Close rear control box door.

## **RECONNECT POWER TO DRYER AND CHECK FDS**

- 30. Reconnect power to dryer.
- 31. Check power to the FDS control. The toggle switch on the FDS board should be in the up position and the red LED that is located on the lower left side should be illuminated.
- 32. The FDS buzzer should be on intermittently (alarm-low or no water pressure).
- 33. When water is connected the FDS manifold a second red LED will illuminate and the buzzer will turn off.
- 34. To check the FDS operation short across the terminals on one of the FDS thermostats (both FDS thermostats are normally open). Disconnect water valve if water connected to FDS manifold if you do not want to have the water come on.

## **WATER CONNECTION REQUIREMENTS**

Contact your local water company or the proper municipal authority for information regarding local codes.

**IMPORTANT:** It is your responsibility to have ALL plumbing connections made by a qualified professional to assure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

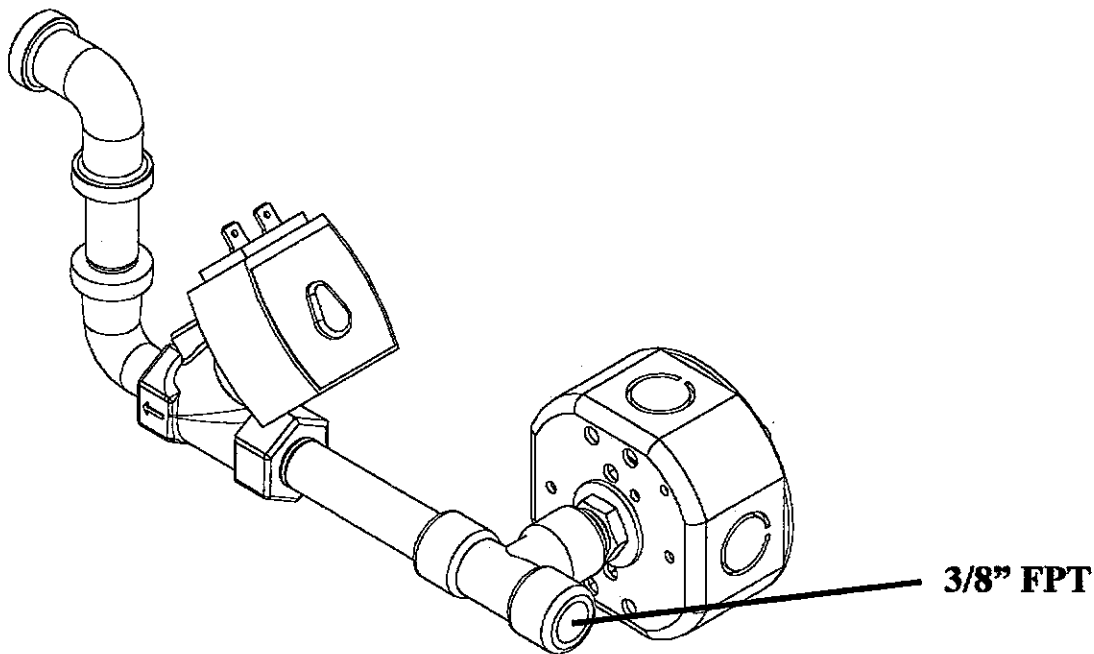
**IMPORTANT:** It is the installation or owners responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided.

**WARNING:** Water must be supplied to FDS for the system to work properly.

The connection point to the FDS is a 3/8" FPT, the FDS must be supplied with a minimum water pipe the size of 3/8" and be provided with a minimum of 30 PSI (2.07 bars) and a maximum of 100 PSI (6.89 bars) of pressure.

If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions must be made to protect these water lines from freezing.

**WARNING:** If the water in the supply line, water solenoid valve, or pressure sensor freezes, the FDS will be INOPERATIVE.



## **FDS**

### **Fire Detection and Suppression system**

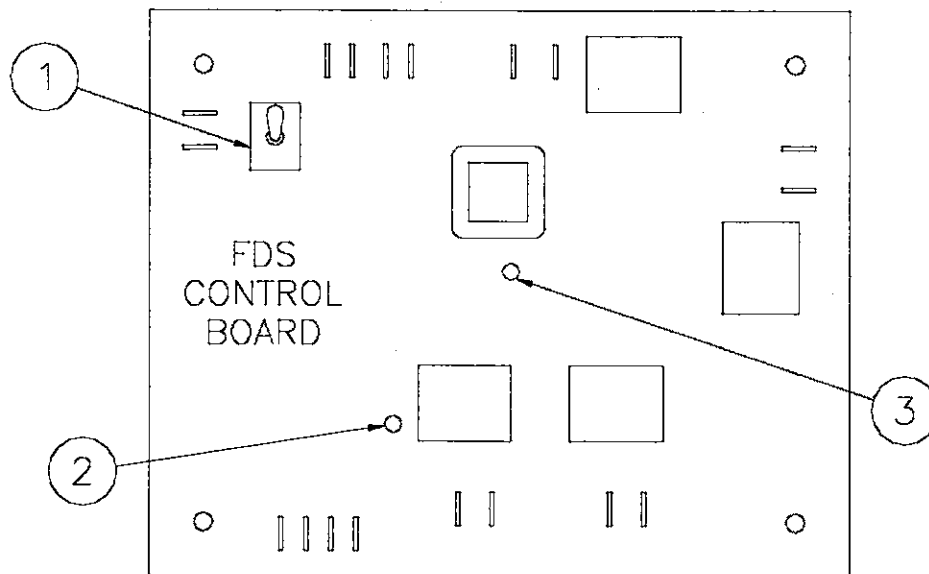
The FDS control detects a fire in a dryer basket when one of two thermostats reaches a set point. The FDS control then breaks power to the main dryer control. An alarm buzzer is activated and a water valve is opened. The water valve stays open until a predetermined volume of water is sprayed into the dryer basket. The alarm buzzer stays activated until the FDS control is reset.

**CAUTION: This system is designed as an additional safety feature only. It does not prevent a fire nor does it guarantee to extinguish a fire.**

#### **FEATURES**

1. Power Led
2. Water Pressure Led
3. Water Pressure Sensor
4. Low or No Pressure (Intermittent Buzzer)
5. Alarm (Buzzer on Continuously)

### **FDS BOARD DESCRIPTION**



- |                                     |   |
|-------------------------------------|---|
| <b><u>1. ON - OFF SWITCH</u></b>    | <b><u>Turns the power on and off to the FDS Control Board.</u></b>                  |
| <b><u>2. POWER LED</u></b>          | <b><u>Illuminated when FDS Control Board has power.</u></b>                         |
| <b><u>3. WATER PRESSURE LED</u></b> | <b><u>Illuminated when FDS Control Board sees water pressure above 10 psig.</u></b> |

## **FDS OPERATION**

### **• MONITOR FOR FIRE (STAND-BY)**

Power and water pressure leds are illuminated.

Buzzer off.

Dryer main control has power.

Water valve off.

### **• MONITOR FOR FIRE (LOW OR NO WATER PRESSURE)**

Power led is illuminated.

Water pressure led off.

Buzzer on intermittently.

Dryer main control has power.

Water valve off.

### **• FIRE DETECTED (FDS THERMOSTAT(S) CLOSE)**

Power and water pressure leds are illuminated.

Buzzer on continuously.

Power to main control disconnected.

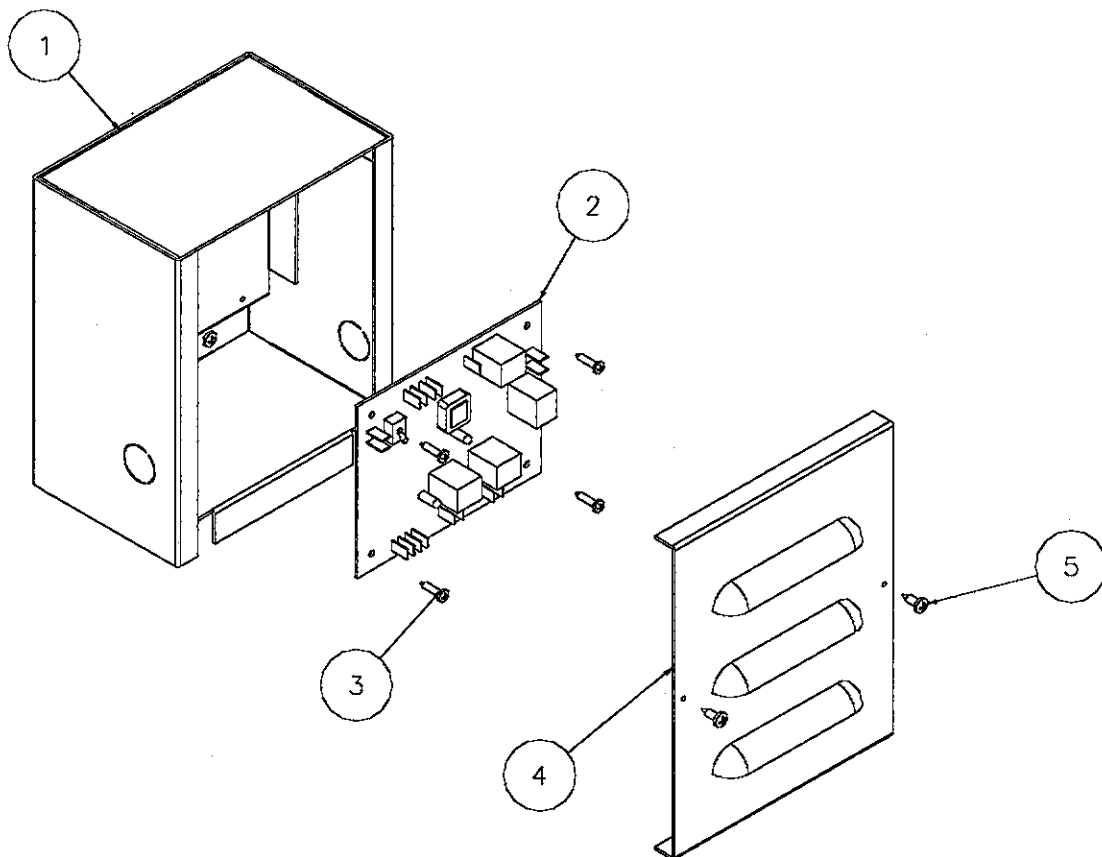
Water valve opens (Two to six minutes approximately depending on water pressure).

Water valve closes after predetermined volume of water has sprayed into basket.

**CAUTION:** Do not attempt operation of dryer following an activation of the FDS system and have the dryer inspected by a qualified installer, service technician, or gas supplier.

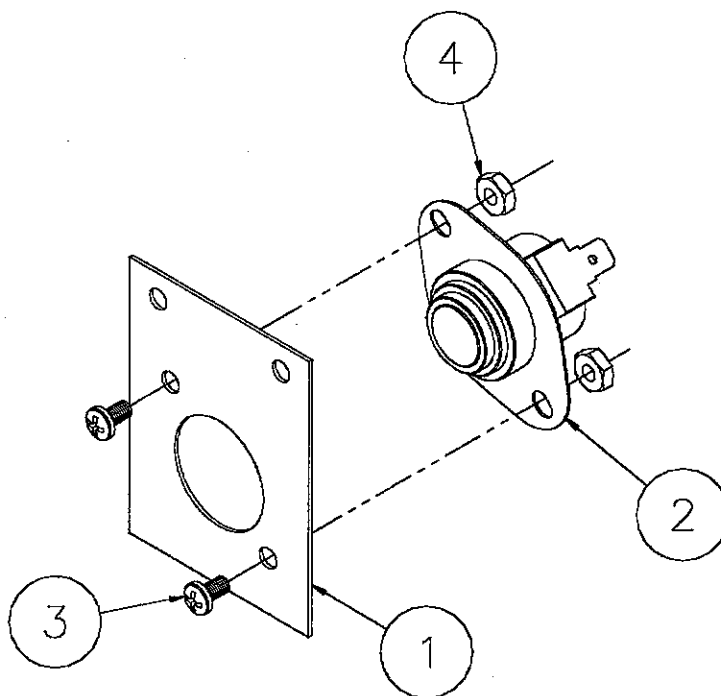
FDS can be reset by turning power off to the FDS board.

## CONTROL BOX ASSEMBLY



<u>Ref.</u> <u>No.</u>	<u>Part No.</u>	<u>Description</u>
1	TUL221	W/A, FDS Box
2	TU15814A	Board, FDS
3	F540	Screw, #6
4	TUL222	Cover, FDS Box
5	TU7733	Screw, #8

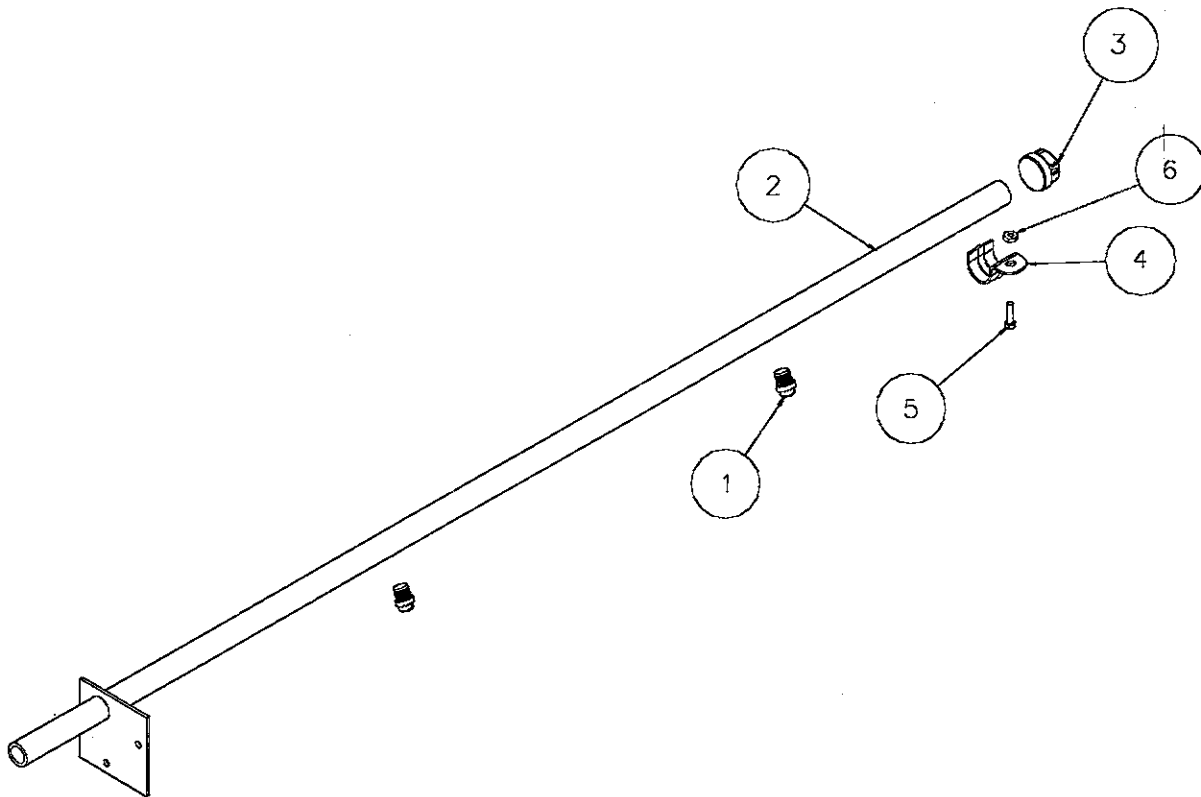
## BASKET HI-LIMIT THERMOSTAT



Ref.

No.	Part No.	Description
TU15841 Complete Thermostat Assembly		
1	TU15840	Bracket, Thermostat
2	TUX613	Thermostat, 280 Deg.
3	TU3624	Screw, R.H. Machine #8
4	TU3400	Nut, R.H. Machine #8

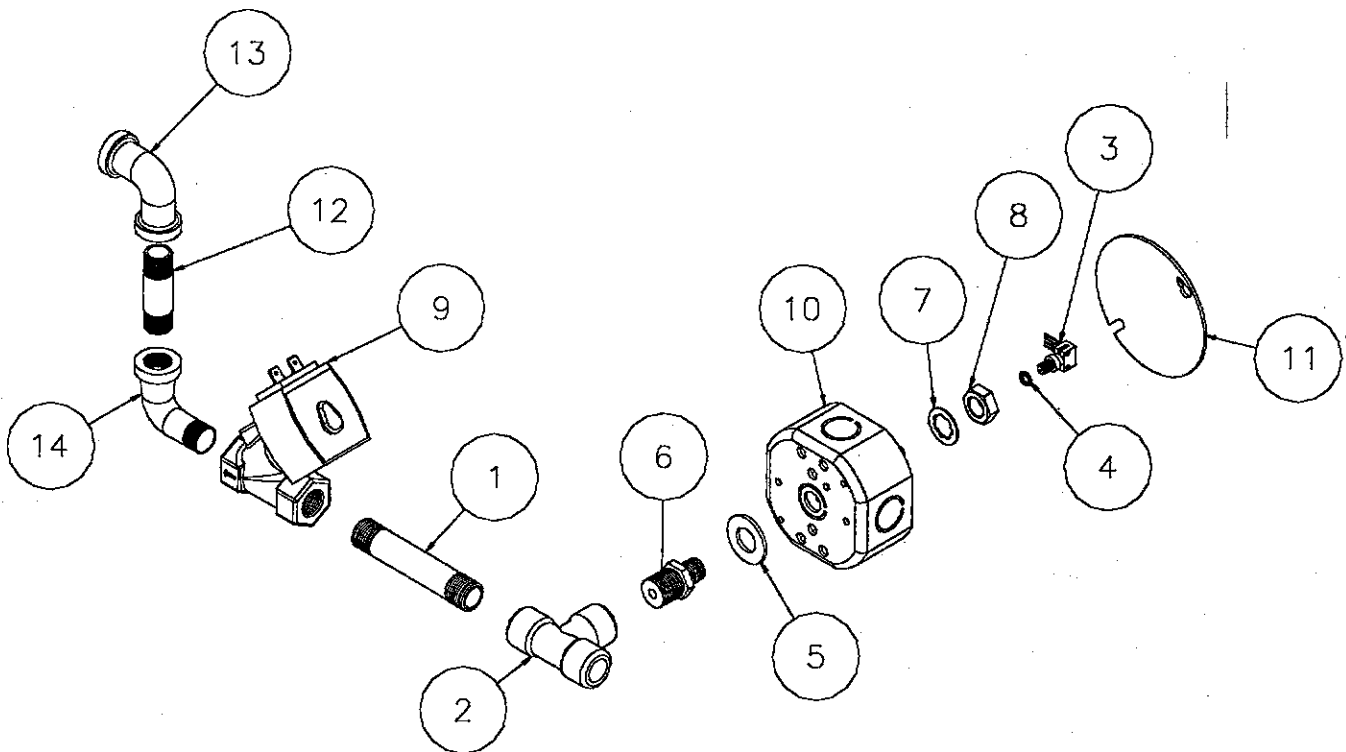
## WATER MANIFOLD ASSEMBLY



Ref. No.	Part No.	Description
1	TUX609	Water Nozzle, Full Jet
2	TU15844	W/A, Water Manifold, HD30SL (2 Nozzles)
3	TUX608	End Cap, 3/8"
4	C332	Clamp
5	TU2686	Screw, Machine #8-32
6	SB-00810-0	#8-32 Nut



## VALVE AND SENSOR ASSEMBLY



Ref. No.	Part No.	Description
1	390401246	Nipple, Pipe 3/8"
2	SF247	Tee, 3/8"
3	TU15823	Sensor, Pressure
4	TU15824	O-Ring, Pressure Sensor
5	TU14449	Washer, Flat, 9/16
6	TUX606	Fitting, Pressure Sensor
7	OP251	Washer, Int. Tooth, 1/2"
8	OP235	Nut, Jam, 1/2"
9	F1289	Valve, Solenoid 24V/60, 3/8" NPT
10	TUX605	Junction Box
11	TU2335	Cover, Junction Box
12	PT345	Nipple, Pipe 3/8"
13	TU11702	Elbow, 3/8" Std
14	390501057	Elbow, 3/8" Street