Ignition Conversion Kit Instructions

Applies: **All UEAS Models Built Prior to March, 2013**

Description and Application

Prior to March, 2013 all UEAS models were built at the factory with a separate Time Delay Relay (reference P/N 221388) and utilized DSI Control Module circuit board P/N 195265.

All UEAS models built at the factory after March, 2013 **do not** use a separate Time Delay Relay and utilizes a different DSI Control Module circuit board (reference P/N 269867). This circuit board has the time delay "built in" so as to eliminate the need for a separate time delay relay.

This set of instructions provide the steps required to convert models built prior to March, 2013 to current ignition control specifications.

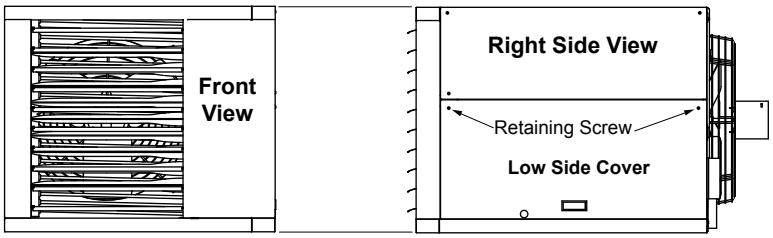
Ignition Conversion Kit P/N 1006137		
Qty	**P/N**	**Description**
1	**269867**	Ignition Control
1	**221211**	Wiring Diagram Label
1	**D303109**	Instruction Form

Installation Instructions

WARNING

This ignition conversion kit is to be installed by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, series injury and or property damage. The qualified agency performing this work assumes responsibility for this installation.

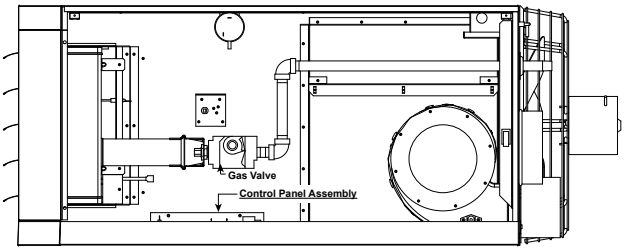
1. **Turn off the gas supply at the shutoff valve upstream of the combination valve and turn off the electrical supply powering the unit.**
2. Locate "Right Side" of unit and remove the two retaining screws as shown in the sketch below.



Note: Model 260 or 310 shown above.
(Models 130 & 180 have a single access cover)

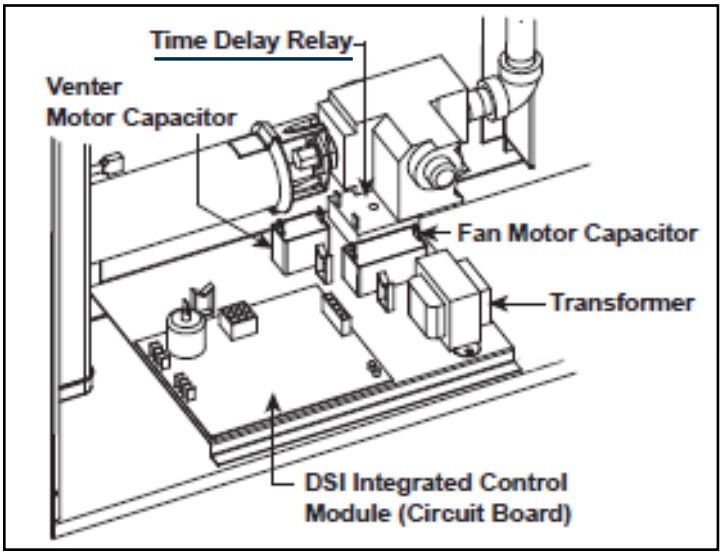
The "Low Side Cover" can now be tilted out at the bottom and removed to access ignition system components.

3. Now the ignition system components can be seen, as shown in the sketch below.

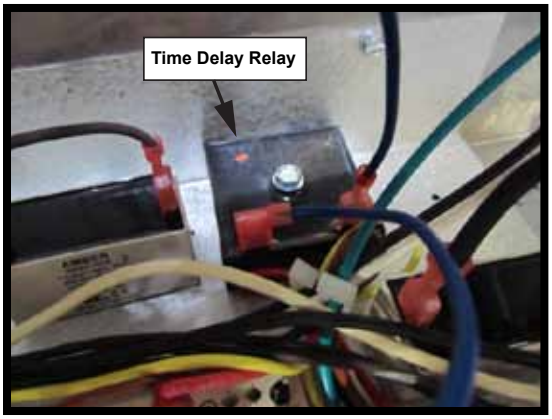


Installation Instructions (cont'd)

4. Looking at the DSI Control Module (circuit board), notice the that the Time Delay Relay is a separate component located in the upper right side next to the circuit board as shown in the sketch below.



5. Notice that the time delay relay has two electrical terminals with a blue wire attached to each therminal as shown below.

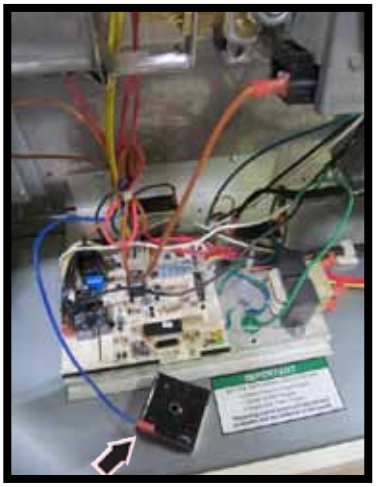


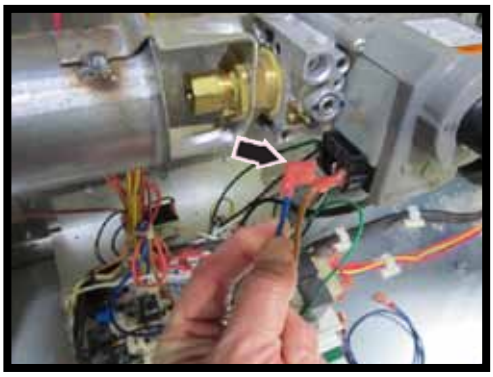
6. Remove and discard the one center hold down screw that retains the relay to the unit.

   Now remove the time delay relay and set it (with its two blue wires still attached to the time delay relay electrical terminals) in front of the circuit board as shown in the photo on the right.

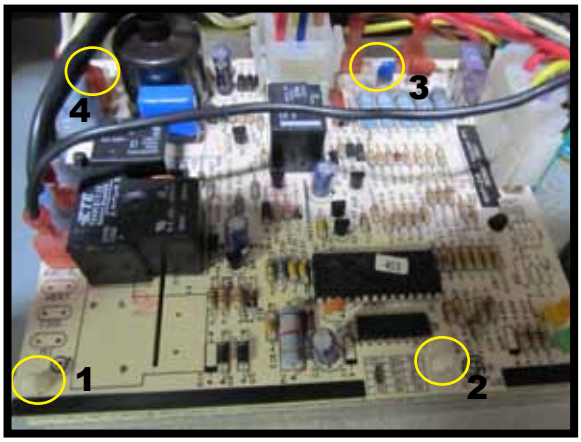
   Next remove and discard the one blue wire that is attached to the time delay relay electrical terminal (see arrow) and the other end of this same wire that is attached to the gas valve terminal (see arrow).

7. Remove the remaining blue wire that is attached to the other electrical terminal on the time delay relay as indicated with arrow in picture shown below on the left and connect it to the gas valve electrical terminal (reference arrow) as shown below in the picture on the right.



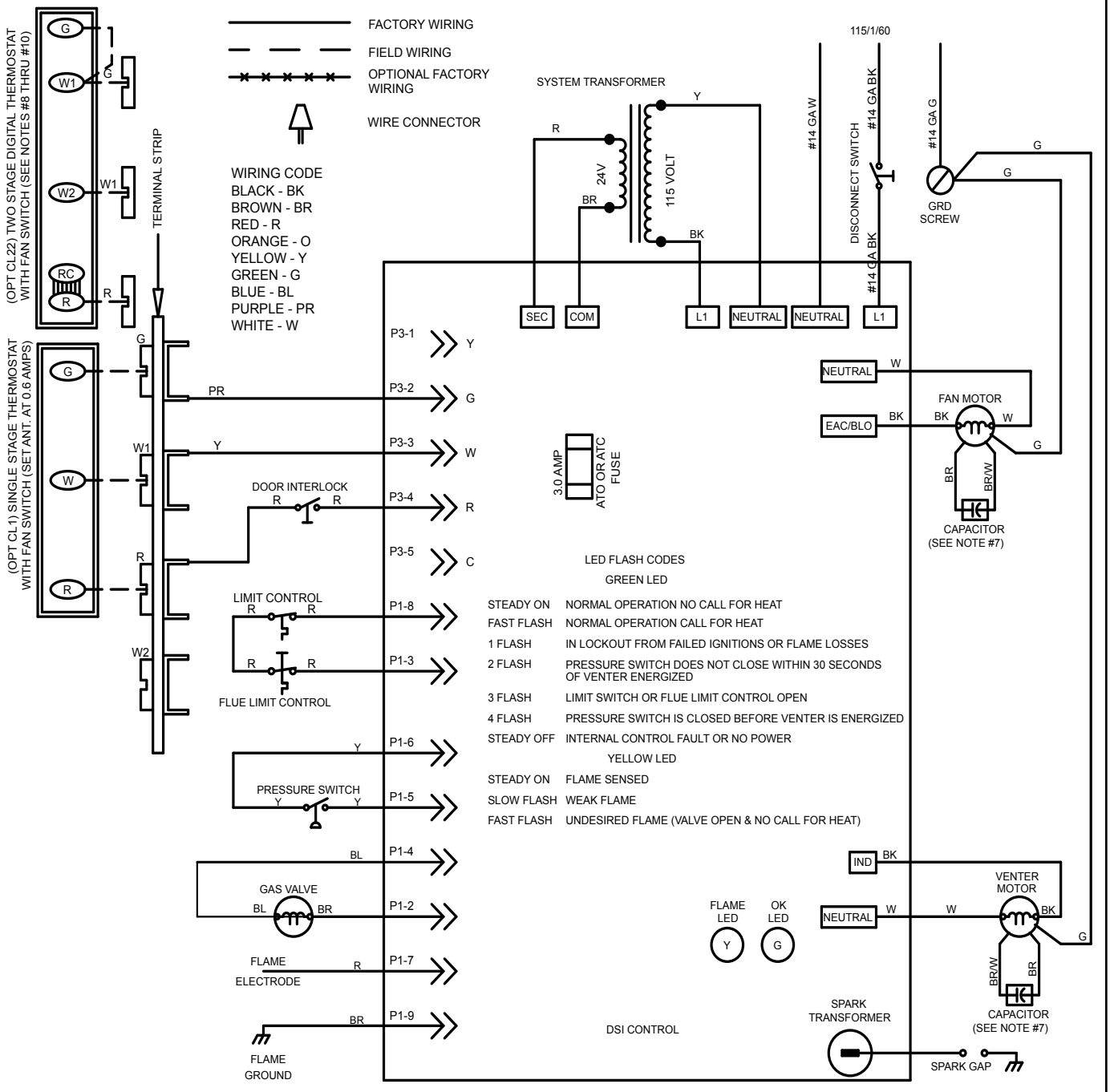


8. Remove all wires & plugs attached to the DSI Control Module (circuit board). Then “squeeze” the tops of the four white bayonet style posts (shown in ellipses) to release the circuit board. Now remove and discard the board. Reference photo shown below.



9. Install the new DSI Control Module (circuit board) P/N 269867 that was included in this kit onto the four white bayonet style posts.
10. Change the wiring diagram label on the heater. Place the label that was included in this kit, P/N 221211 over top of the existing one. It is a shelf adhesive label.
11. Using the wiring diagram shown on page 4, reconnect all plugs and wire connections. (**Note,** the old wiring diagram is shown on page 5. Use it for reference ONLY!)
12. Turn on the electric and gas. Relight the unit following the instructions on the lighting instruction plate.
13. Power up unit and using the units Installation manual, verify proper operation.

Current Wiring Diagram



OPERATING SEQUENCE

1. SET THERMOSTAT AT LOWEST SETTING; FAN SWITCH AT "AUTO" POSITION.
2. TURN ON MANUAL GAS VALVE.
3. TURN ON POWER TO UNIT.
4. SET THERMOSTAT AT DESIRED SETTING.
5. THERMOSTAT CALLS FOR HEAT, ENERGIZING THE VENTER MOTOR.
6. VENTER PRESSURE SWITCH CLOSES, FIRING UNIT AT FULL RATE.
7. BURNER FLAME IS SENSED, AND IN 30 SECONDS THE BLOWER MOTOR IS ENERGIZED.
8. IF THE FLAME IS EXTINGUISHED DURING MAIN BURNER OPERATION, THE INTEGRATED CONTROL SYSTEM CLOSES THE MAIN VALVE AND MUST BE RESET BY INTERRUPTING POWER TO THE CONTROL CIRCUIT (SEE LIGHTING INSTRUCTIONS).
9. SET FAN SWITCH AT "ON" POSITION FOR CONTINUOUS BLOWER OPERATION.

FIELD CONTROL WIRING

TOTAL WIRE LENGTH	DISTANCE FROM UNIT TO CONTROL	MIN. RECOMMENDED WIRE GUAGE
150'	75'	#18 GA. WIRE
250'	125'	#16 GA. WIRE
350'	175'	#14 GA. WIRE

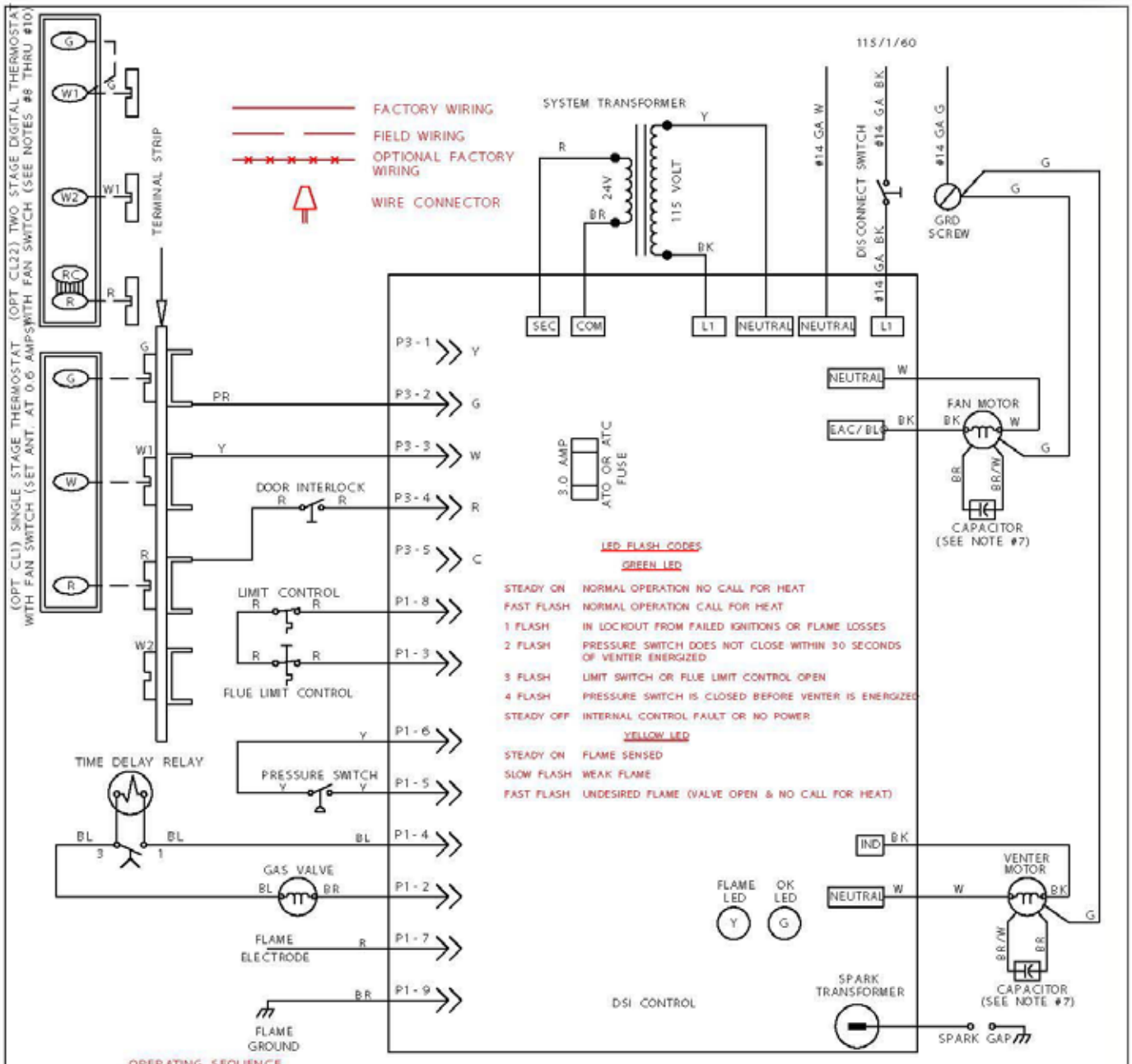
NOTES

1. THE FOLLOWING CONTROLS ARE FIELD INSTALLED OPTIONS: THERMOSTAT
2. DOTTED WIRING INSTALLED BY OTHERS.
3. CAUTION: IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105° C. EXCEPT FOR SENSOR LEAD WIRE, FLUE LIMIT CONTROL AND LIMIT WIRING WHICH MUST BE 150° C.
4. LINE AND FAN MOTOR BRANCH WIRE SIZES SHOULD BE OF A SIZE TO PREVENT VOLTAGE DROPS BEYOND 5% OF SUPPLY LINE VOLTAGE.
5. USE #14 GA. WIRE FOR LINE WIRING ON THE UNIT.
6. USE #18 GA. WIRE FOR CONTROL WIRING ON THE UNIT.
7. CAPACITOR IS REMOTE MOUNTED.
8. VERIFY JUMPER ON CL22 THERMOSTAT TERMINALS R TO RC.
9. FAN SWITCH OR LOW STAGE OF CL22 THERMOSTAT ENERGIZES THE BLOWER MOTOR.
10. HIGH STAGE OF CL22 THERMOSTAT INITIATES A CALL FOR HEAT.

UEAS SERIES: AG1

WD# 230300 REV. #3

Old Wiring Diagram - **REFERENCE ONLY**



OPERATING SEQUENCE

1. SET THERMOSTAT AT LOWEST SETTING, FAN SWITCH AT "AUTO" POSITION.
2. TURN ON MANUAL GAS VALVE.
3. TURN ON POWER TO UNIT.
4. SET THERMOSTAT AT DESIRED SETTING.
5. THERMOSTAT CALLS FOR HEAT, ENERGIZING THE VENTER MOTOR.
6. VENTER PRESSURE SWITCH CLOSES, FIRING UNIT AT FULL RATE.
7. BURNER FLAME IS SENSED, AND IN 30 SECONDS THE BLOWER MOTOR IS ENERGIZED.
8. IF THE FLAME IS EXTINGUISHED DURING MAIN BURNER OPERATION, THE INTEGRATED CONTROL SYSTEM CLOSES THE MAIN VALVE AND MUST BE RESET BY INTERRUPTING POWER TO THE CONTROL CIRCUIT (SEE LIGHTING INSTRUCTIONS).
9. SET FAN SWITCH AT "ON" POSITION FOR CONTINUOUS BLOWER OPERATION.

NOTES

1. THE FOLLOWING CONTROLS ARE FIELD INSTALLED OPTIONS: THERMOSTAT.
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250'	125'	#16 GA. WIRE
350'	175'	#14 GA. WIRE

WIRING CODE
BLACK - BK
BROWN - BR
RED - R
ORANGE - O
YELLOW - Y
GREEN - G
BLUE - BL
PURPLE - PR
WHITE - W

UEAS SERIES: AG1
WD# 230300 REV. #2

Additional References

The following form was shipped with your unit from factory or additional copies can be obtained from your factory representative:

- Installation/Operation/Maintenance manual - **Form I-UEAS (P/N 221232)**

The following forms can be obtained from your factory representative:

- Replacement Parts **- Form P-UEAS (P/N 269865)**
- Replacement Valves & Ignition Controls by Serial No. Code - **Form P-VALVES (P/N 263995)**

NOTES:

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