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› Robertshaw 712-017 Pilot Ignitor System Instruction Manual

## Robertshaw 712-017

# Robertshaw 712-017 Pilot Ignitor System

Model: 712-017

Instruction Manual

## 1. INTRODUCTION

The Robertshaw uni-line 712 series pilot ignition system features flame rectification with solid-state logic and flame sensing. This system provides automatic sequencing to ensure proper operation of an intermittent pilot ignition device. The 712 series pilot ignition system is designed for quick and easy installation, and includes comprehensive instructions and troubleshooting information. These systems are available with various gas valve types to suit a wide range of furnace applications, handling up to 720,000 BTU (natural gas) depending on the model. The SP845 lockout ignition control, used in the 712 lockout uni-kits, provides 90 seconds of spark followed by a six-minute time delay (purge) period between ignition attempts. After three unsuccessful tries, if no pilot flame is sensed, the SP845 enters a 1-hour lockout period. If the demand for heat persists after this lockout, the unit will automatically repeat the three ignition attempts.

### Key Features

- Converts conventional standing pilot systems to intermittent pilot systems.
- Suitable for use with residential and commercial heating equipment.
- Includes 720-070 valve, 780-715 module, wiring harness, spark/sensor probe, and mounting hardware.
- Inlet/outlet dimensions: 1/2 x 3/4 inches.
- BTU capacity: 200,000 NG (Natural Gas).

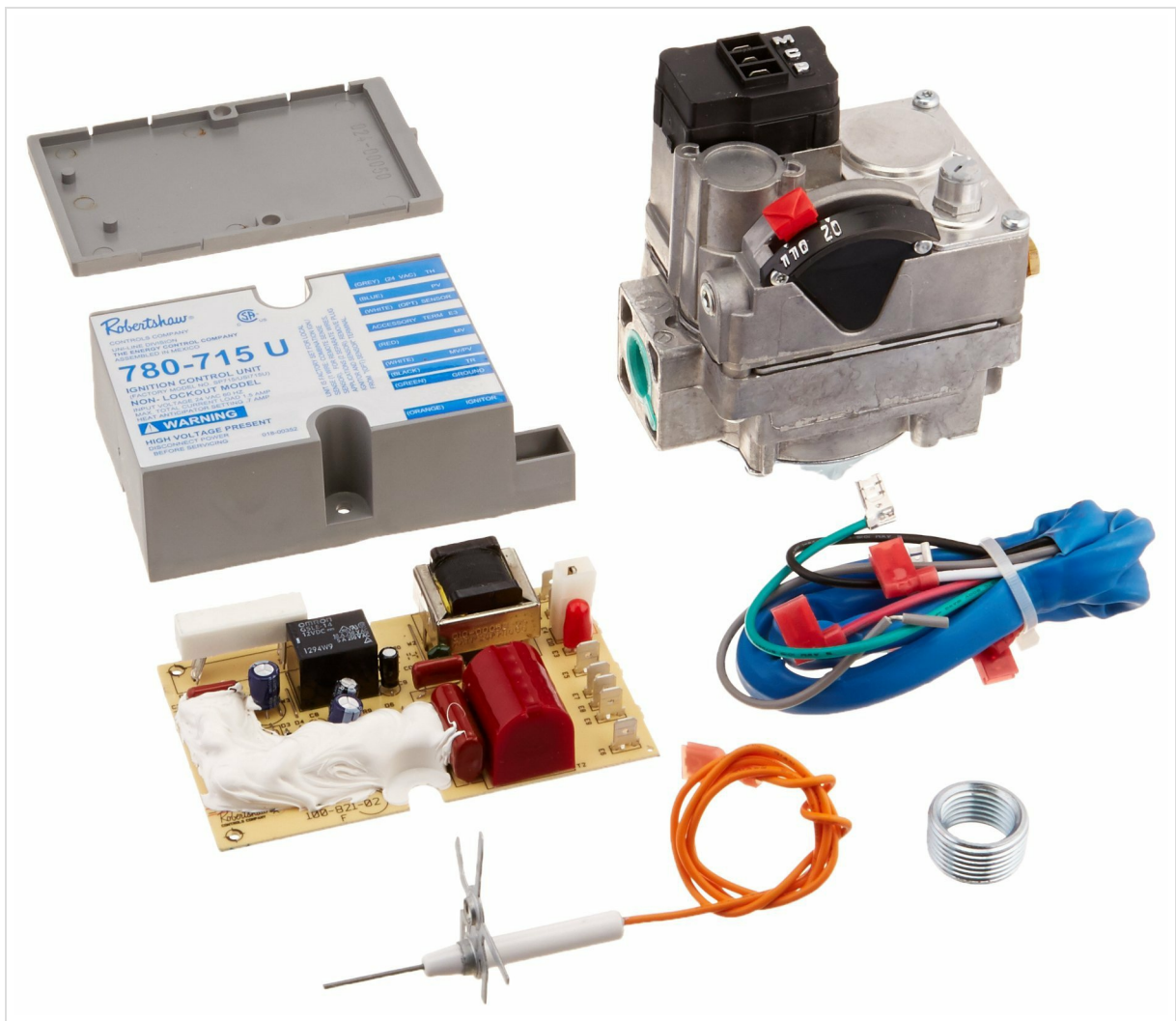


Figure 1: Overview of the Robertshaw 712-017 Pilot Ignitor System components, including the valve, module, and wiring.

## 2. SAFETY INFORMATION

**WARNING:** Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

- Always disconnect electrical power and shut off the gas supply to the appliance before performing any service.
- Installation and service must be performed by a qualified installer, service agency, or gas supplier.
- Ensure all wiring connections comply with local and national electrical codes.
- Check for gas leaks after installation or service using a soap solution; never use an open flame.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- This product is designed for natural gas (NG) applications. Refer to product specifications for compatibility with other gas types.

## 3. PACKAGE CONTENTS

Verify that all components are present before beginning installation:

- Robertshaw 720-070 Gas Valve
- Robertshaw 780-715 Ignition Module

- Wiring Harness
- Spark/Sensor Probe Assembly
- Mounting Hardware
- Installation and Operating Instructions

## 4. INSTALLATION

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Installation of the Robertshaw 712-017 Pilot Ignitor System should be performed by a qualified service technician. Refer to the detailed installation instructions provided with the product for specific wiring diagrams and mounting procedures.

1. **Preparation:** Disconnect all electrical power to the appliance and shut off the main gas supply.
2. **Remove Old System:** Carefully remove the existing pilot system and associated components, if applicable.
3. **Mount Components:** Mount the new 720-070 gas valve and 780-715 ignition module in appropriate locations, ensuring proper ventilation and access for service.
4. **Connect Gas Piping:** Connect the gas piping to the new valve, ensuring all connections are tight and leak-free.
5. **Wire Connections:** Connect the wiring harness to the ignition module, spark/sensor probe, and appliance controls according to the provided wiring diagram. Ensure all electrical connections are secure.
6. **Leak Test:** Restore gas supply and perform a thorough leak test on all gas connections using a non-corrosive soap solution.
7. **Electrical Test:** Restore electrical power and test the system operation as described in the operating instructions.

**Important:** Always verify proper operation and safety controls after installation.

## 5. OPERATING INSTRUCTIONS

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The Robertshaw 712-017 Pilot Ignitor System operates automatically in response to a call for heat from the thermostat.

1. **Call for Heat:** When the thermostat calls for heat, the ignition module initiates a sequence.
2. **Spark Ignition:** The module sends a spark to the pilot burner, attempting to ignite the pilot flame.
3. **Flame Sensing:** Once the pilot flame is established, the flame sensor detects its presence, signaling the module.
4. **Main Burner Ignition:** Upon successful pilot ignition, the main gas valve opens, allowing gas to flow to the main burners, which are then ignited by the pilot flame.
5. **Heat Cycle Completion:** The system continues to operate until the thermostat's call for heat is satisfied, at which point the main burner and pilot flame are extinguished.

### Lockout Feature (SP845 Control)

- The SP845 lockout ignition control provides 90 seconds of spark during each ignition attempt.
- If ignition is not achieved, there is a six-minute time delay (purge) before the next attempt.
- After three unsuccessful ignition attempts, the SP845 enters a 1-hour lockout period.
- If the demand for heat is still present after the 1-hour lockout, the unit will automatically repeat the three ignition attempts.

## 6. MAINTENANCE

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Regular maintenance ensures the longevity and efficient operation of your Robertshaw 712-017 Pilot Ignitor System. All maintenance should be performed by a qualified service technician.

- **Annual Inspection:** Have the entire heating system, including the pilot ignitor, inspected annually by a qualified technician.
- **Cleanliness:** Ensure the pilot burner and flame sensor are free from dust, lint, and debris. A dirty sensor can prevent proper flame detection.
- **Wiring Check:** Periodically check all wiring connections for tightness and signs of wear or damage.
- **Gas Pressure:** Verify that the gas pressure to the valve is within the manufacturer's specified range.
- **Component Integrity:** Inspect the gas valve and ignition module for any visible signs of damage or corrosion.

## 7. TROUBLESHOOTING

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Before attempting any troubleshooting, ensure all safety precautions are followed, including disconnecting power and gas supply. If you are not a qualified technician, contact a professional for assistance.

| Problem  | Possible Cause   | Solution  |
|--|--|---|
| No ignition/Pilot not lighting                 | No power to the module, no gas supply, faulty spark/sensor probe, dirty pilot burner, module in lockout. | Check power supply, verify gas valve is open, inspect and clean pilot assembly, check for module lockout (wait 1 hour or reset power if applicable), test spark/sensor probe. |
| Main burner does not ignite after pilot lights | Weak pilot flame, faulty flame sensor, main gas valve issue.   | Adjust pilot flame, clean or replace flame sensor, check main gas valve operation.  |
| System goes into lockout frequently            | Intermittent pilot ignition failure, low gas pressure, faulty module.                                    | Inspect pilot assembly for obstructions, verify gas pressure, test or replace ignition module.  |

For detailed troubleshooting steps and diagnostic procedures, refer to the complete manual provided with your system or consult a qualified HVAC technician.

## 8. SPECIFICATIONS

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| Feature                    | Detail   |
|----------------------------|--|
| Model Number               | 712-017  |
| Manufacturer               | Standard Plumbing Supply   |
| Item Weight                | 3 pounds   |
| Product Dimensions         | 3 x 3 x 4.13 inches  |
| Included Components        | 720-070 Valve, 780-715 Module, Wiring Harness, Spark/Sensor Probe, Mounting Hardware |
| Inlet/Outlet (Gas Valve)   | 1/2 x 3/4 inches   |
| BTU Capacity (Natural Gas) | 200,000 BTU  |
| Ignition Type              | Intermittent Pilot   |
| Lockout Control            | SP845 (90 sec spark, 6 min purge, 3 tries, 1 hr lockout)                             |

## 9. WARRANTY AND SUPPORT

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Robertshaw products are manufactured to high-quality standards. For specific warranty information, please refer to the documentation included with your purchase or visit the official Robertshaw website.

For technical support, service, or replacement parts, please contact a qualified HVAC professional or Robertshaw customer service directly. When contacting support, please have your model number (712-017) and purchase date available.

**Robertshaw Website:** [www.robertshaw.com](http://www.robertshaw.com)