

**I. INDUSTRIAL RISK INSURERS:**

IRI Industrial Risk Insurers (formerly FIA Factory Insurance Association) is composed of a group of Insurance Companies. IRI is concerned with all phases of fire protection and other perils insured against by its members. They set certain standards for members and policyholders pertaining to boilers and boiler safety controls.

IRI will accept or not accept each plant or job on its own merits. They examine the boiler and furnace construction, the flame safeguard control system, and the fire protection equipment for the building. The final acceptance is based on a field inspection. IRI does not approve individual components but accepts the listings of U.L. (Underwriters' Laboratories), FM (Factory Mutual) and AGA (American Gas Association).

IRI Trim is normally required on boilers 10 HP (400,000 BTU Input) and larger. IRI Trim can be required on any size boiler where a serious production interruption is possible.

IRI Bulletin "Burner Management for Single Burner Gas Fired and Oil Fired Boiler-Furnaces P.3.6" would apply to Parker Steam and Water Boilers.

**II. CONTROLS:**

The controls listed below are required on Parker Steam and Hot Water Boilers to comply with IRI and UL Requirements. The FM (Factory Mutual), IRM (Improved Risk Mutuals), and Kemper Insurance groups will normally accept boilers with IRI Trim even though some items they do not require are included. Since standards are often revised and new interpretations made, it is always advisable to consult the local IRI office for approval before ordering the boiler to be certain the controls listed below meet current standards.

**1. FLAME SAFEGUARD SYSTEM:**

- A. Atmospheric gas burners up to 5,000M BTU Input.** Fireye M or Honeywell RM Series Electronic Flame Safeguard and Electric Pilot Safety Shutoff Valve provide non-recycling electronic flame supervision with electric ignition, 10 second trial for ignition and intermittent pilot. Boilers between 2,500 and 5,000 MBTU Input that are equipped with modulating or two stage firing are furnished with interrupted pilots.
- B. Atmospheric gas burners above 5,000M BTU Input.** Same as A., above except all boilers have interrupted pilots.
- C. All Power Burners, Oil, Gas and Gas/Oil Fired.** Fireye E110 Series (M Series with on-off Firing) Electronic Flame Safeguard provides non-recycling electronic flame supervision. This system features Ultraviolet or Infrared flame detection, electric ignition, prepurge, and 10 second trial for ignition. Burners for two stage or modulating firing include a high fire air interlock and interlocked low fire light off. Gas and Gas/Oil Fired have gas pilots with electric pilot valves. NOTE: A gas pilot may be required even on straight oil fired boilers (Consult local IRI office for requirements).

**2. SAFETY LOCKOUT ALARM:**

This alarm is required to indicate safety lockout. A low water alarm, if furnished, may be used as both low water and safety lockout alarm.

**3. AUTOMATIC SAFETY SHUT-OFF FUEL VALVES:**

- A. Gas Fired:** Two approved motorized safety shut-off gas valves must be installed on all burners. A normally open fully ported electrically operated valve must be installed between the two safety shut-off valves. During installation this valve must be piped outside of the room to a safe point of discharge.
- B. Oil Fired:** Two approved safety shut-off electric oil valves must be installed on all boilers.

**4. GAS COCKS:**

One is required to be installed upstream of all controls and a second gas cock is required to be installed downstream of the motorized electric gas valves to facilitate leakage testing of the valves.

**5. LOW WATER CUT-OFF:**

One is required to be factory installed and wired to immediately open a circuit to the fuel valves when a low water condition exists. The low water cut-off is manual reset.

**6. MANUAL RESET HIGH LIMIT AND OPERATING CONTROL:**

These controls provide shutdown when the pressure or temperature reaches the set point. The high limit is for the excess pressure or temperature and shuts the boiler down only if the operating control fails to function.

**7. GAS PRESSURE REGULATORS:**

Main and pilot line gas pressure regulators are required on all boilers.

**8-9. FUEL PRESSURE SWITCHES:**

- A. Gas Fired:** High and low gas pressure switches are required on all burners to provide gas pressure supervision. They are interlocked to accomplish non-recycling safety shutdown in the event of either high or low fuel gas pressures.
- B. Oil Fired:** A low oil pressure switch is required on all burners. It is interlocked to accomplish non-recycling safety shutdown in the event of low fuel oil pressure.

**10. PARKER-LITE SEQUENCE INDICATOR SYSTEM:**

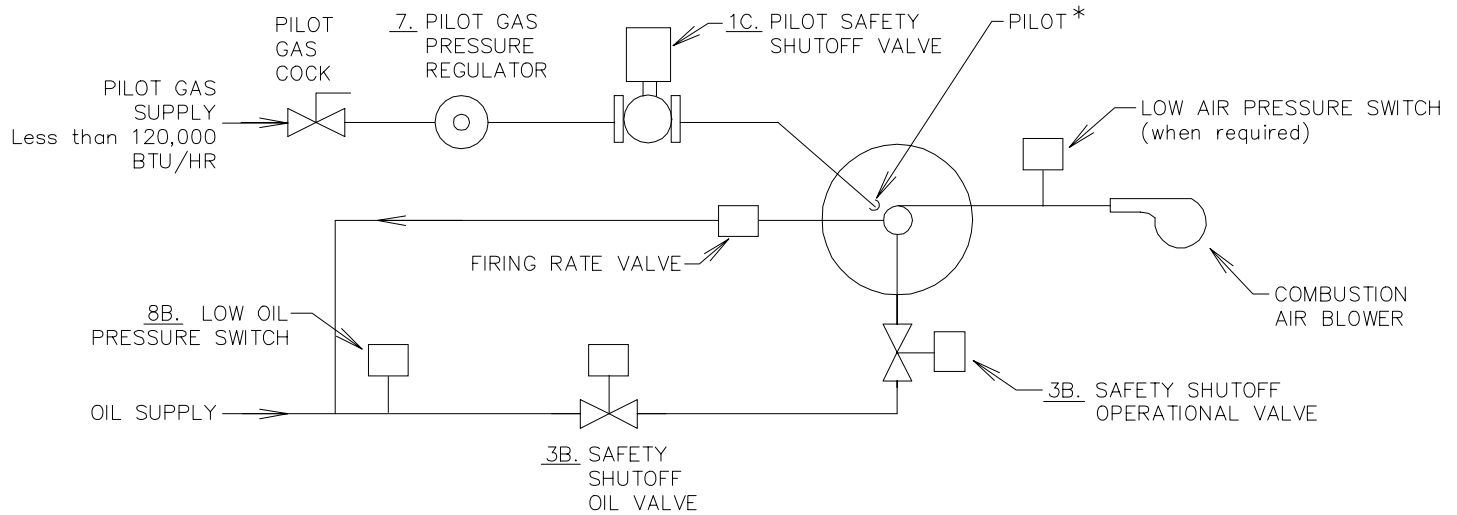
Recommended by the Boiler Manufacturer to provide a visual indication of the state of operation of the burner. Lights may be provided for:

- A. Atmospheric Gas:** Control Power On, Level Safe, Limit Safe, Pilot On and Burner On.
- B. Power Burners:** Control Power On, Level Safe, Limit Safe, Call for Heat, Pilot On, Main Fuel and Flame Failure.

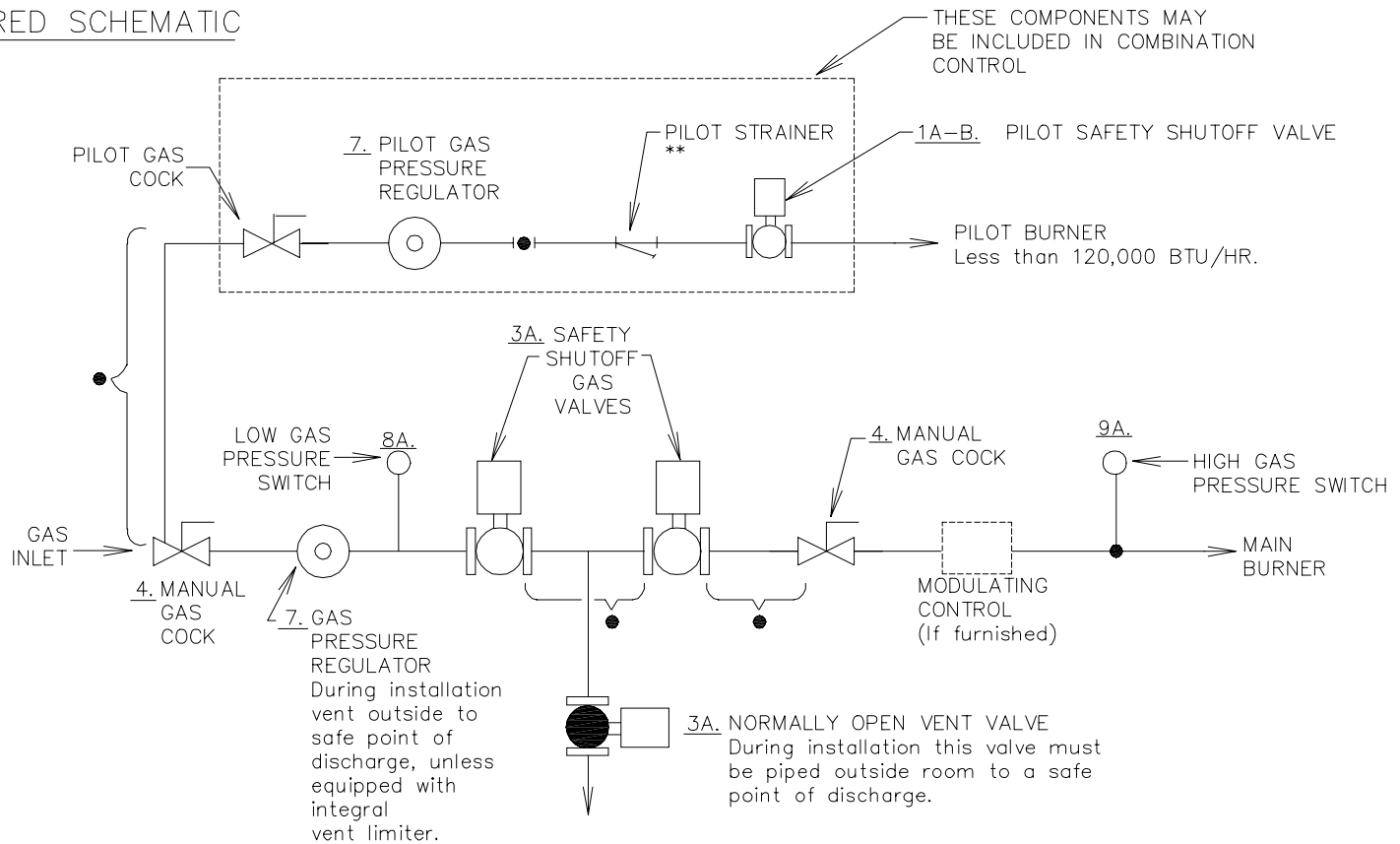
# INDUSTRIAL RISK INSURERS (I.R.I.) FUEL TRAIN SCHEMATICS

## OIL FIRED SCHEMATIC

\* Note: Gas/Oil Burners are standard with gas pilots for both fuels. Straight Oil-Fired are standard with direct spark ignition unless gas pilot is specified. Consult local IRI office for requirement.



## GAS FIRED SCHEMATIC



\*\* NOT FURNISHED ON POWER GAS OR GAS/OIL FIRED.

● PLUGGED PRESSURE TAP FOR LEAKAGE TESTING & GAS PRESSURE READINGS

PARTLIB\IRI.DWG

USED ON	PARKER STEAM & HOT WATER BOILERS	PART NAME	FUEL LINE PIPING	
FOR	GAS & OIL FUEL TRAIN SCHEMATICS FOR I.R.I. SPECIFICATIONS			
BY	RPC	DATE	9C	
CH.				
APPROVED				
<b>PARKER BOILER CO.</b> 5930 BANDINI BLVD. LOS ANGELES, CALIF. 90040			SCALE	NONE
			SUPERCEDES NO.	5A
			DWG. NO.	101-210 I.R.I.