



RETRACTABLE PILOT

OPERATING AND MAINTENANCE MANUAL

MODEL: FT-RP1

Operating Features and Settings for the “FT-RP1” (Retractable Fuel Gas / Propane Pilot)

- **Input Power** – None required for Pilot. Refer to Pilot Monitoring & Ignition manual
- Retractable to Grade level for ease of maintenance
- Wind Proof Pilot System when used in conjunction with the Pilot Wind Shroud & Waste Gas Slip Stream
- Energy Efficient Fuel Consumption
 - o Fuel Gas – 25 scfh (0.71 m³/hr)
 - o Propane – 12 scfh (0.34 m³/hr)
 - o Normal Operating pressure – 14.5 psig (100 kPag)
- 310 Stainless steel pilot nozzle for extended life expectancy
- Pilot body is 10 feet long and is 100% stainless steel
- Enclosed pulley is 100% stainless steel and ensures cable cannot jump off of pulley
- Stainless steel pilot retracting cable
- Pilot is positioned inside the Pilot Wind Shroud which ensures the pilot will never blow out.
- Wind shroud and Waste Gas Slip Stream ensure wind cannot blow the flare gas away from the pilot under any wind direction or wind speed, which mean less pilots are required than pilot systems that are positioned above the stack tip.
- Pilot is positioned below the top of the tip which adds years of life to the pilot and Ignition system (if provided).
- Pilot provided with a Pilot Monitoring & Ignition System that is also retractable to grade with the pilot.
- A retractable pilot ensures that maintenance can be completed from grade without the need of expensive plant shutdowns.
- A Pilot maintains a continuous source of waste gas ignition that can easily be monitored to ensure the pilot is operating properly. Electronic spark Ignitors cannot be properly monitored, which can lead to flame out conditions which can also lead to hazardous conditions.
- Pilots can be provided with either a straight or 45° nozzle. Most are provided with the 45° nozzle as it provides a better source of ignition. Occasionally a straight (inline) nozzle is better suited (usually on dual flare stacks), than a 45° nozzle as it keeps the pilot flame centrally located between the two flare tips.
- For this Flare System each pilot is provided with a 45° pilot nozzle.

Operating Instructions for the “FT-RP1” (Retractable Pilot)

1. Ensure the Pilot has been installed by Qualified Personnel in accordance with the Vendor Manuals.
2. Pilots are provided with the pilot nozzle at a 45° angle. Since the Pilots provided have a Nozzle at a 45° angle to the main body you must ensure the pilot system is either Retracted to grade in the Horizontal position (for testing only) or raised to the top of the flare system prior to Pilot ignition. **“Caution”** Failure to do this may result in the pilot flame damaging the retracting cable, which could cause the cable to break. **“Never”** raise or lower a 45° pilot **to or from** the top of the flare while the pilot is ignited.
3. Open the fuel gas isolation Valve (by others) to the Pilot and ensure the Regulator Set pressure is 14.5 psig (close valve after checking pressure).
4. Since the Pilot is supplied with a Pilot Monitoring and Ignition System it can be raised to the top of the flare prior to ignition (Refer to Pilot Monitoring & Ignition manual) or tested in the horizontal position.
5. To put the pilot in the horizontal position for Inspection or removal from the Tracking system refer to the drawing on page#7 and follow the steps below:
 - a. Ensure the pilot is lowered and sitting on the stop “A”
 - b. Insert pin “B” (hanging on chain) into hole in tracking “C”
 - c. Rotate winch handle counterclockwise until pilot is lowered to desired position
6. To return the Pilot to the Vertical position, rotate the winch handle clockwise. Once the pilot is getting close to vertical, push it towards the stack and remove pin “B” from hole “C” and insert the pin into hole “D”.
7. The pilot should now be raised until it is above the Gate assembly. Hose guides must be attached to the fuel hose at 10 foot intervals with two stainless hose clamps. The hose guides keep the wind from blowing the hose around, so they must be installed. The tracking supports are every 6’ so it is easy to use the tracking supports as a guide when installing the hose guides.
8. The pilots Lower Standoff leg is adjustable to ensure the pilot goes inside the Wind Shroud and the Lock-in plate engages to the Shroud, keeping the pilot centered in the shroud and at the proper height. When the pilot is getting close to the top ensure the Lock-in engages with the shroud. If not a slight adjustment of the Lower Standoff Leg may be required.
9. Prior to igniting the pilot you must follow all Safety procedures including any Company safety procedures for an open flame. **As a minimum you must THOROUGHLY CHECK:**
 - a. **GAS HAS NOT SETTLED IN LOW SPOTS.**
 - b. **PIPING AND VALVES ARE NOT LEAKING OR OPEN.**
 - c. **THE FUEL SUPPLY LINE TO PILOT IS SECURELY CONNECTED.**
 - d. **THERE ARE NO COMBUSTABLE TRANSIENT VAPOR CLOUDS IN THE AREA**
 - e. **ENSURE ALL AIR HAS BEEN PURGED (REMOVED) FROM THE FLARE**

10. Once all Safety procedures have been followed, refer to the Pilot Monitoring & Ignition Manual for correct pilot ignition operation.
11. To manually ignite the pilot for testing purposes, ensure the pilot is in the horizontal position per #5 above. Ignite the pilot at the nozzle labeled “E” with a flint striker, or Hand Held Torch. Be careful not to get burnt, the pilot flame is approximately 8” long, and can burn almost invisibly in bright sunlight.
12. **The winches used are equipped with an auto brake. Make sure that the auto brake is adjusted correctly and working properly. Refer to the owner’s manuals for instruction. The manual will be shipped with the winch. We have provided links below for reference as well. Failure in following these instructions may result in injury or damage to the pilot system.**

Winch Manuals

Hand Winch

1. **Shelby Model 5352**
<http://www.shelbyindustries.com/custdocs/5352%20winch%20manual.pdf>
2. **Gebuwin Model TL70**
<https://www.dropbox.com/s/y9npk8qjf5sqyv7/GBA%20TL70.pdf?dl=0>

Drill Drive

1. **Thern Worm Gear Model 4WM2**
http://www.thern.com/wp-content/uploads/A7535G-0613_4WM2.pdf

Electric Winch

1. **Thern Model 4WP2D**
<http://www.thern.com/wp-content/uploads/A8328D-0114-4WP2D.pdf>

Maintaining the “FT-RP1” (Retractable Pilot)

1. A Preventative Maintenance program is available and recommended to ensure the Pilot system remains in top operating condition.
2. As a minimum once a year retract the Pilot system and inspect all parts for any damage and ensure the Pilot Nozzle is not damaged.
2. Inspect Bi-annually to ensure there are no accumulations of liquids in the Regulator.
3. Operating conditions generally determines the life of the pilot nozzle and plugging of the Fuel Filter, but as a general rule the system will last a minimum of two years, in most conditions up to 5 years.

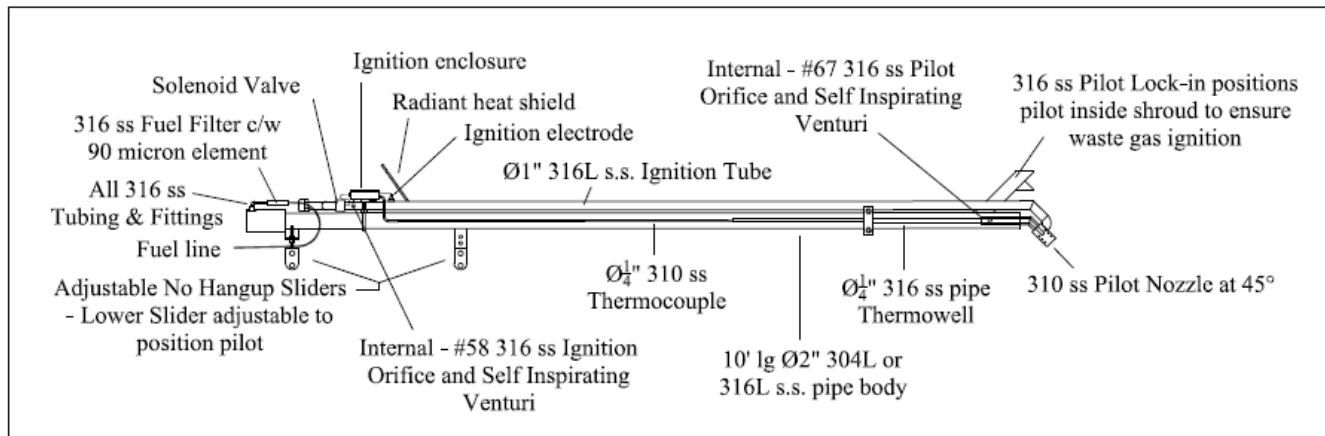
Troubleshooting for the “FT-RP1” (Retractable Pilot)

Refer To Drawings on Page #6 & #7

1. If the pilot has failed to ignite the waste gas first check to ensure the fuel gas supply has not been interrupted causing the pilot to go out.
2. Check that the fuel gas supply Regulator is at 14.5 psig. Check that the fuel is not flooded with condensate.
3. If above is good retract the pilot and inspect for nozzle damage or flooding from liquid carryover that may have damaged the fuel hose, if damage is found replacement parts must be ordered from the factory.
4. If damage is found and the inside of the nozzle looks clean the fuel supply may have plugged the Parker filter element or pilot orifice.
5. Remove the element and replace with a new element.
6. Remove the pilot orifice by disconnecting the fuel hose from the Parker Inline Fuel Filter. Loosen the Lock nut at the base of the pilot and slide the Orifice assembly from inside the pilot body.
7. Remove the orifice and clean. The Pilot orifice is a #67 Drill bit, do not drill the orifice out with a larger bit than a #67 or it will not work.
8. In severe conditions such as liquid carry over the fuel hose may get too hot and internally collapse, ensure the fuel hose is not plugged or restricted.

For further assistance or to order parts please call the Manufacturer
at 403-742-2212

FT-RP1 RETRACTABLE PILOT



FT-RP1 RETRACTABLE PILOT AT BASE OF FLARE

