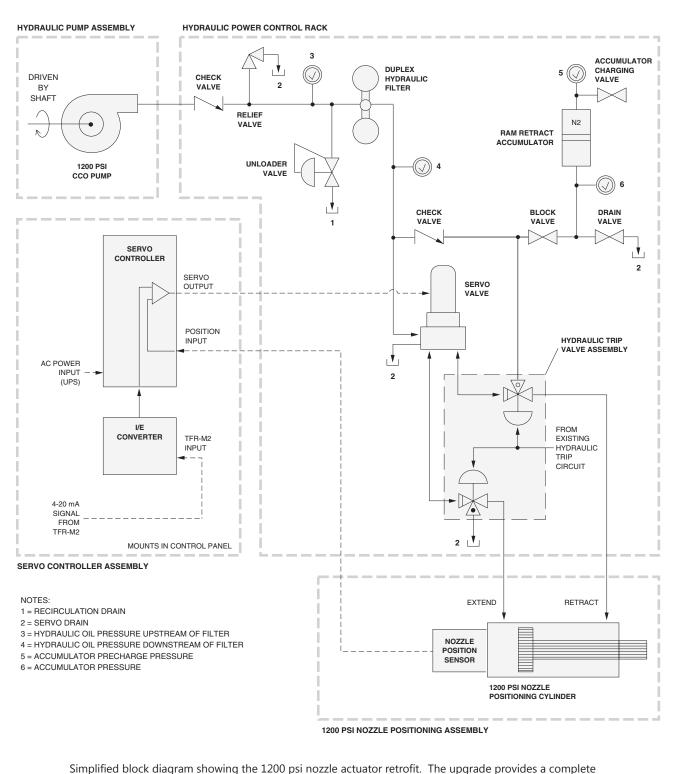
## GAS TURBINE 1200 PSI NOZZLE ACTUATOR RETROFIT

MAY 2012



Simplified block diagram showing the 1200 psi nozzle actuator retrofit. The upgrade provides a complete retrofit of and existing nozzle actuator hydraulic system and controls with upgraded, more reliable components.





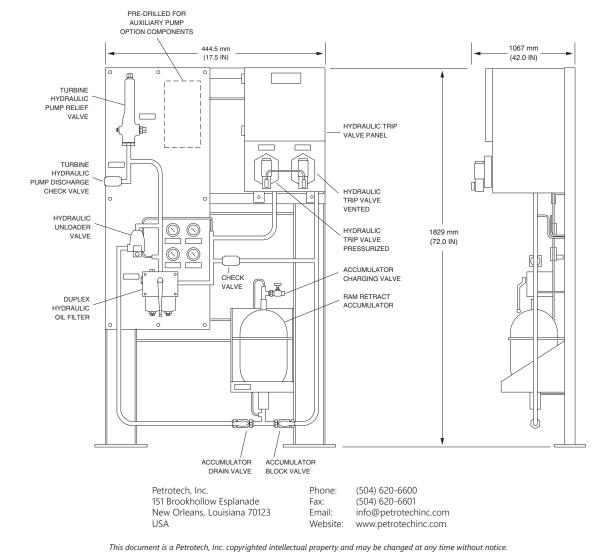
## **SCOPE OF SUPPLY**

The 1200 psi nozzle actuator retrofit, includes:

- One (1) hydraulic power control rack, hot-dipped galvanized channel iron, assembled and ready for installation. The rack (shown above) includes:
- One (1) Moog servo control valve.
- Two (2) hydraulic trip valves for fail-safe operation.
- One (1) 316 SS enclosure for servo valve and trip valves, with drain connection.
- One (1) hydraulic unloader valve.
- One (1) hydraulic pump relief valve.
- One (1) accumulator for fail-safe operation, with 316 SS mounting bracket.
- One (1) duplex hydraulic filter.
- Four (4) 2.5" pressure gages, 0-2000 psi.
- Two (2) hydraulic check valves.
- Two (2) hydraulic ball valves, 0-2000 psi working pressure.
- One (1) hydraulic needle valve, 0-6000 psi working pressure.
- One (1) 316 SS mounting plate.
- One (1) lot, 316 SS fittings and 1/2" 316 SS tubing.
- One (1) lot, nametags for all rack-mounted items.

Additional space (pre-drilled) is provided on the hydraulic accessories mounting rack for an optional auxiliary hydraulic pump relief valve, check valve, and hydraulic pump discharge block valves.

- One 1200 psi hydraulic pump assembly, includes:
- One (1) 1200 psi hydraulic pump.
- One (1) pump mounting plate and shaft connector.
- One (1) servo controller assembly, includes:
- One (1) Moog servo controller.
- One (1) Moog I/E module.
- One (1) 1200 psi nozzle positioning assembly, includes:
- One (1) nozzle position sensor.
- One (1) 1200 psi hydraulic nozzle positioning cylinder.
- One (1) adapter from cylinder shaft to existing nozzle linkages.
- Four (4) flexible steel-braided hoses.
- Does not include:
- Nozzle linkages.
- Electric auxiliary pump.
- · Installation materials or services.



## HYDRAULIC POWER CONTROL MOUNTING RACK