



# TURBINE TIPS



Turbine Tips provided by Pond and Lucier, LLC. ®

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**May 2007**

**Subject:** Flex hosing for Flow Dividers  
**Applies to:** All GE gas turbines operating on liquid fuel

Flow dividers on GE gas turbines typically come with rigid tubing on the ten discharge lines. See Fig. 1 below. Also, the supply side is typically a 2-inch pipe connected to the center element of the flow divider. These connections must not provide a strain on the flow divider or it will cease to freely turn.

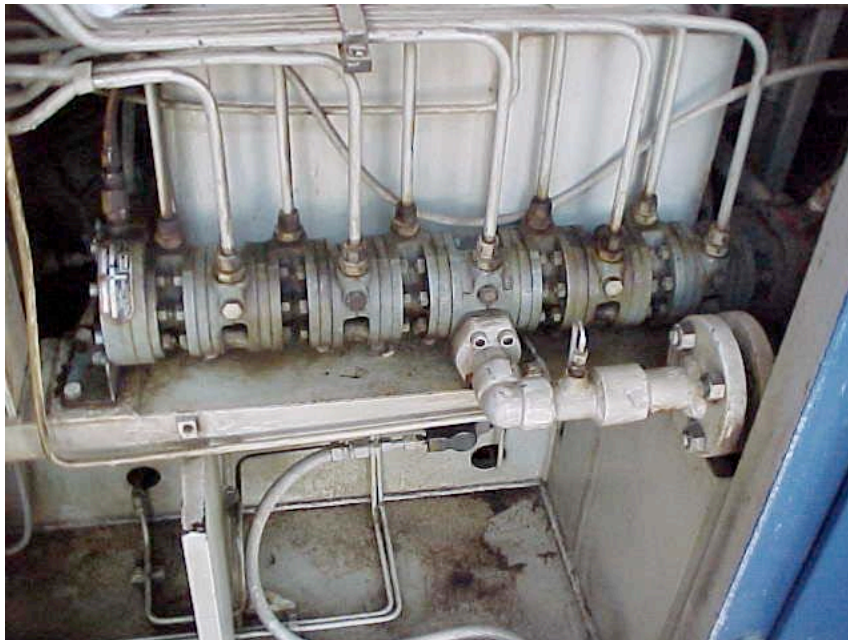


Fig. 1: Typical Flow Divider with rigid tubing and supply pipe for GE Frame 5

For turbines having a selector valve to read fuel pressures for each combustor, there are an additional ten tubing lines as shown in Fig. 2 and 3 below. The supply pipe provides another rigid connection.

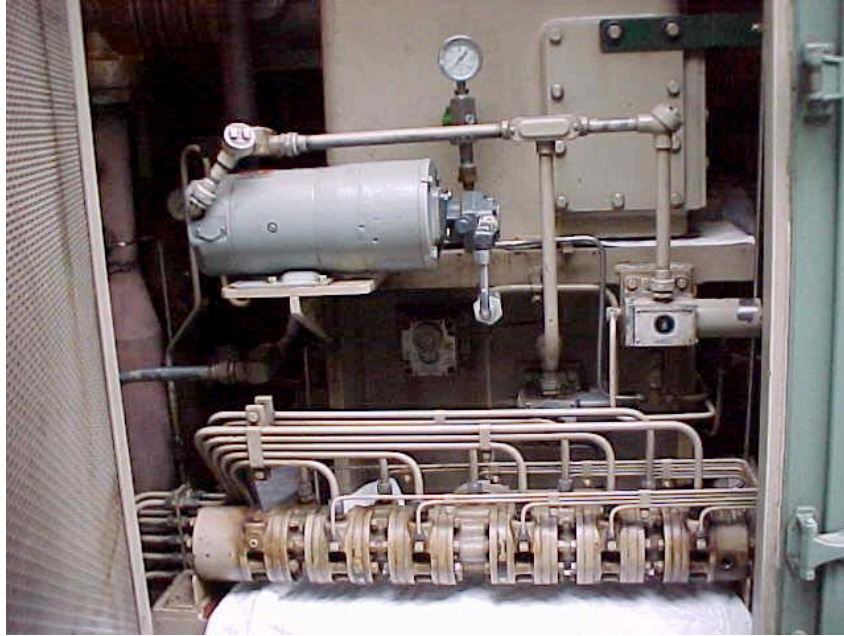


Fig. 2: Typical Flow Divider with 20 Rigid Tubing Lines

The tubing in Fig 3 below has been disconnected and reconnected several times when the flow divider has been changed. This can result in fuel leaks. Notice the problem at the selector valve.

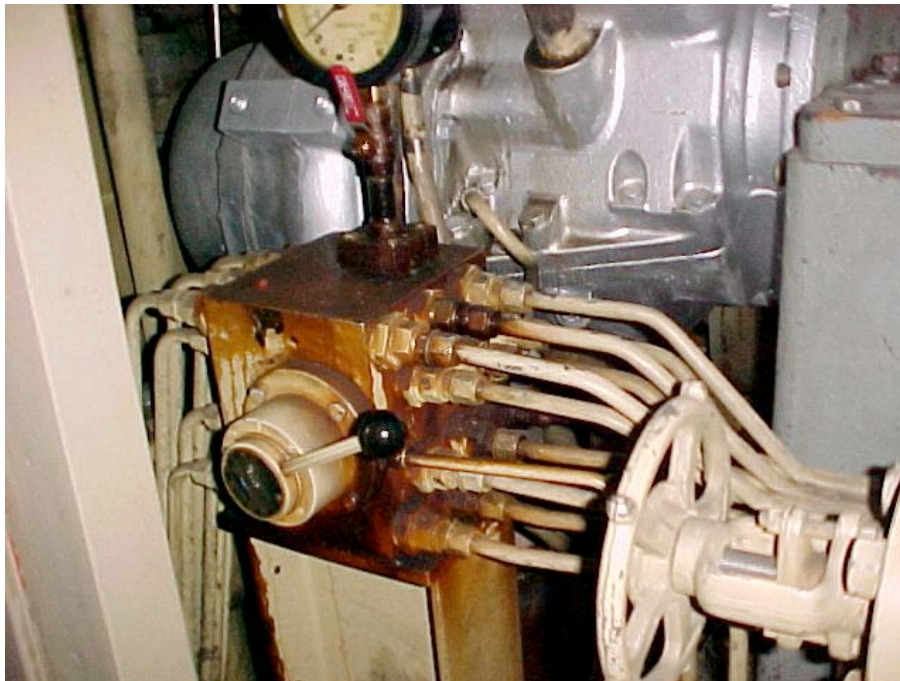


Fig. 3: Flexible hosing replaces rigid tubing for 20 connections

Flow dividers must be installed in a strain-free condition to function correctly. If a force of any kind is present on tandem-designed flow dividers (GE frame 5 or 6 gas turbines), the internal gear elements will stop turning, and a turbine trip will occur. Or if you are starting the turbine, the flow divider will not turn if under strain, and a “failure to fire” situation will occur.

If flow dividers replacement is a common happenstance at your gas turbine due to dirty fuel, consider a conversion to high-pressure flex hosing with AN fittings. See Fig. 4 below.

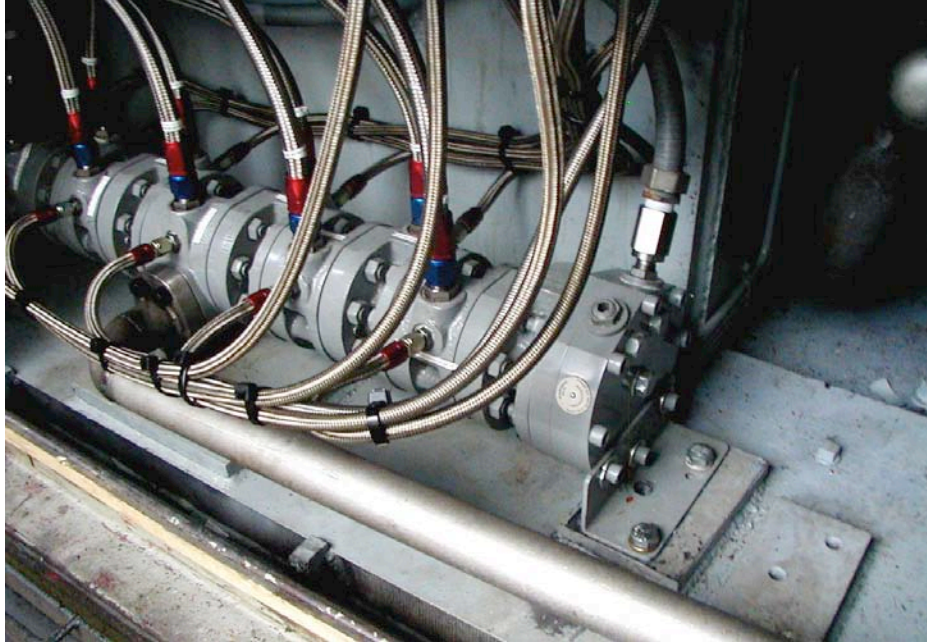


Fig. 4: Flexible hosing replaces rigid tubing for 20 connections

For more information about the purchase and installation of high-pressure flexible hosing for flow dividers, contact the offices of PAL Engineering. Call Dave Lucier: Cel: 518-330-4801.