

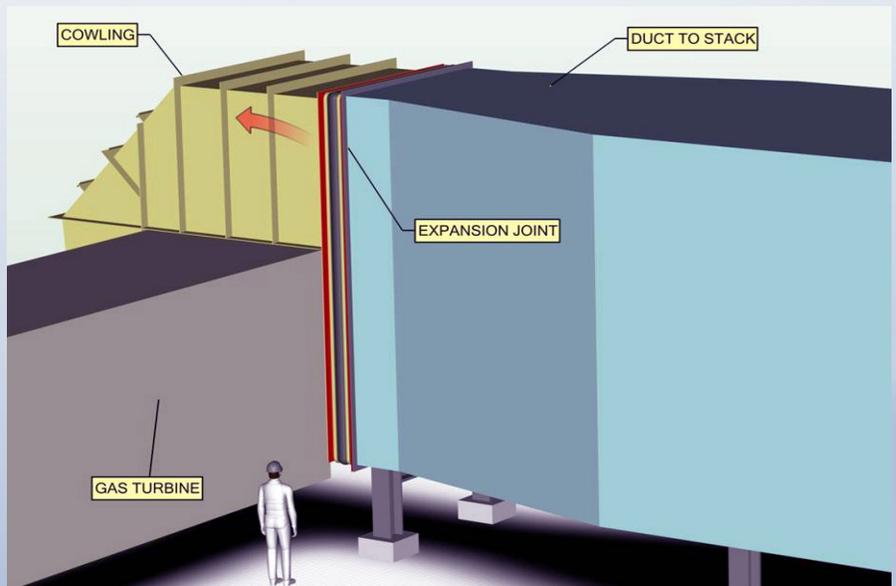
7EA Turbine Exhaust Expansion Joint Repair Solution

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Expansion joint damage presents a common challenge in 7EA turbine exhaust systems. EagleBurgmann offers operators a cost-effective, turnkey solution to address this challenge.

For nearly 40 years, advances in the design, materials and testing have enabled turbine manufacturers to operate with increased firing temperatures and airflow. These advances have resulted in higher exhaust gas temperatures and increased loading that affect the exhaust system during turbine startup, operation and shut down.

With peaker plants operating a greater number of start/stop cycles that must handle higher transient thermal stress and loading, the increased movement and vibration can cause problems with the connecting ducting and expansion joints. The aft/exhaust expansion joint for 7EA turbines is designed to accommodate thermal expansion of the exhaust frame assembly. The expansion joint, located between the exhaust plenum/cowl and the downstream exhaust transition duct, commonly fails at the top of the expansion joint due to excessive angulation.



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This unexpected angulation occurs as the cowl section of the exhaust frame assembly settles away from the expansion joint initiating over-extension of the top of the expansion joint. Ultimately this over-extension causes the fabric belt to tear on the top of the exhaust joint as shown in the "Before Repair" photograph below.



Before Repair

To minimize costs, EagleBurgmann has engineered multiple turnkey design options to limit the repair to only the damaged sections of the expansion joint. Design and solution recommendations are based on findings after a site inspection of the existing damaged expansion joint is completed.

If you are experiencing this problem with your expansion joint, give us a call to discuss possible options or to schedule an onsite inspection by an expansion joint specialist.



After Repair

Turnkey repairs completed on a GE 7EA turbine expansion joint at a 157MW cogeneration power plant