

# Turbine Mechanical Equipment – Trip Handle

## Features

- Trip handle assembly
- Directional valve
- Limit switch
- Mechanical and electrical installation
- Hydraulic flushing procedure
- Initial set-up
- Directional valve control
- Limit switch



## Overview

The turbine trip handle assembly is designed to allow for the manual de-pressurization of the turbine trip header. Once the trip handle is pulled to the TRIP position, the turbine trip header is connected to the hydraulic system drain line thereby closing all steam admission valves. This valve acts to de-pressurize the trip header in the same manner as the testable dump manifold. A limit switch provides feedback to the DCS as to the position of the trip handle.

## Directional Valve

The manual turbine trip valve is a hand-lever operated, spool type, directional control valve. This valve conforms to ISO industry standard sub plate mounting requirements and features a robust operating lever. The operating lever and valve spool are detented to maintain the selected position of the valve.

## Limit Switch

The limit switch included within the turbine trip handle assembly is mounted directly to the directional valve. The limit switch has a sealed set of contacts that are controlled by a permanent magnet and a push-pull plunger design.

The switch is SPDT (form C) including both a NO and NC contact. This switch is disengaged (NC contacted) when the trip handle is in the RESET position.

## Mechanical and Electrical Installation

The turbine trip handle is installed with the handle in the upright, vertical position. The limit switch may be wired using the N.U. or N.C contact.

## Hydraulic Flushing Procedure

The turbine trip handle directional control valve should be in the TRIP position during the flushing of the hydraulic piping.

The flush should continue in this state until two consecutive fluid samples meet an ISO cleanliness code of 14/11 or better.

The trip handle should be returned to the RESET position after the flushing is complete.

## Initial Set-up

The turbine trip handle assembly is tested at the factory before shipment to the field. After the field

installation of the assembly is complete, the operation of the limit switch should be locally checked to assure that it properly makes contact in the RESET position.

## Directional Control Valve

During outages, the turbine trip handle should be cycled several times to verify its smooth and proper operation.

## Limit Switch

The limit switch is not field repairable. The limit switch should be replaced at the first sign of any faulty operation.

©2017 Emerson. All rights reserved. The Emerson logo is a trademark and service mark of Emerson Electric Co. Ovation™ is a mark of one of the Emerson Automation Solutions family of business units. All other marks are the property of their respective owners. The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.