

# TB074 (Rev1) - Adding Additional E-Stop Buttons

## Overview

This document describes how to properly add additional E-stop buttons to a machine with M15, M39, or M400 controls.

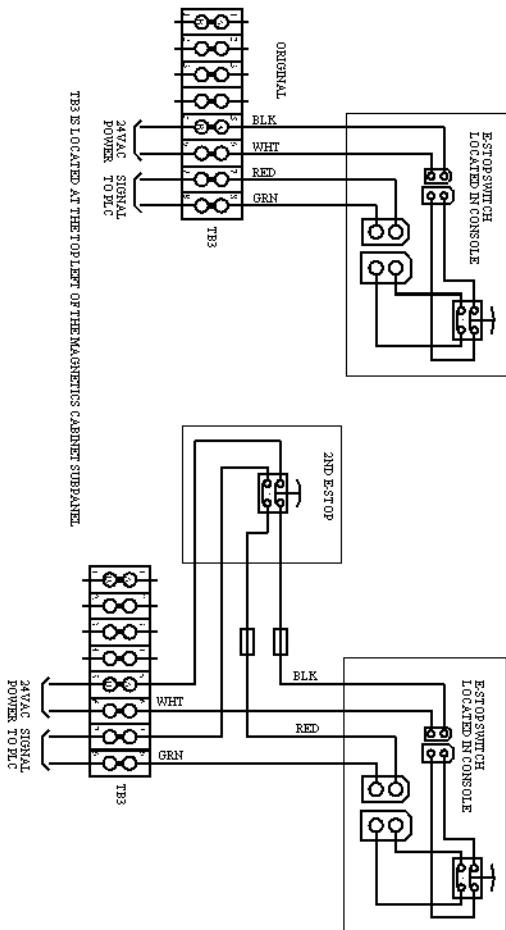
## Theory of E-stop Circuit Operation

The E-stop button is actually a double pole, normally closed switch that locks into an open state when pressed. It operates, as a fail-safe, on two separate circuits. The first job of the E-stop switch is to notify the PLC that the E-stop circuit has been tripped. The PLC notifies the operator of this action via a message and then shuts down the servo drive, spindle, coolant, etc. and cancels the current job. The second circuit opens the power to the E-STOP contactor, which drops out the drive power, spindle, and coolant contactors and turns off the servo drive, thus shutting the machine down. The redundancy of these systems makes for safer operation and both are needed on any installed E-stop buttons.

If a Centroid-qualified technician does not do the following work, your warranty may be void.

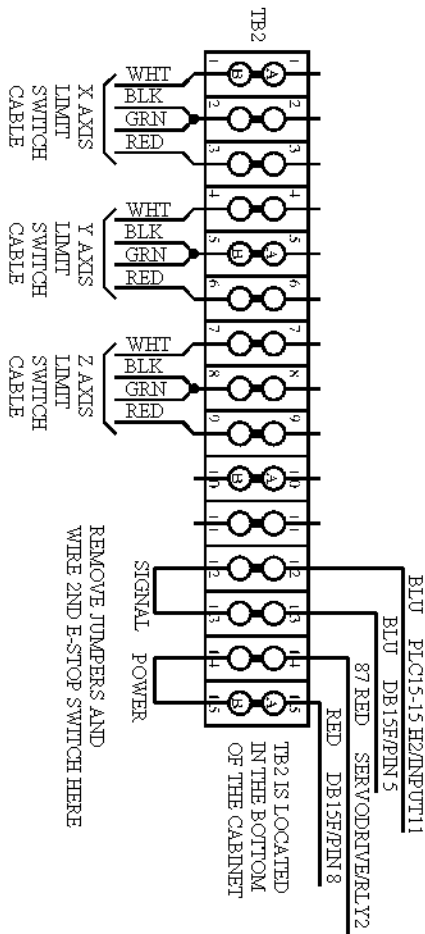
## Connecting on a M400

The diagram below shows the connection of E-Stop switches on a M400/M400S.



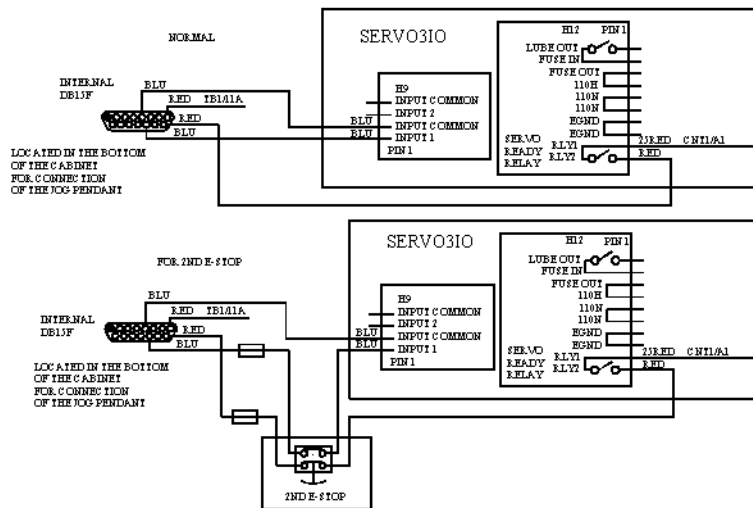
## Connecting on a M39

The diagram below shows the connection of a 2nd E-Stop on a M39



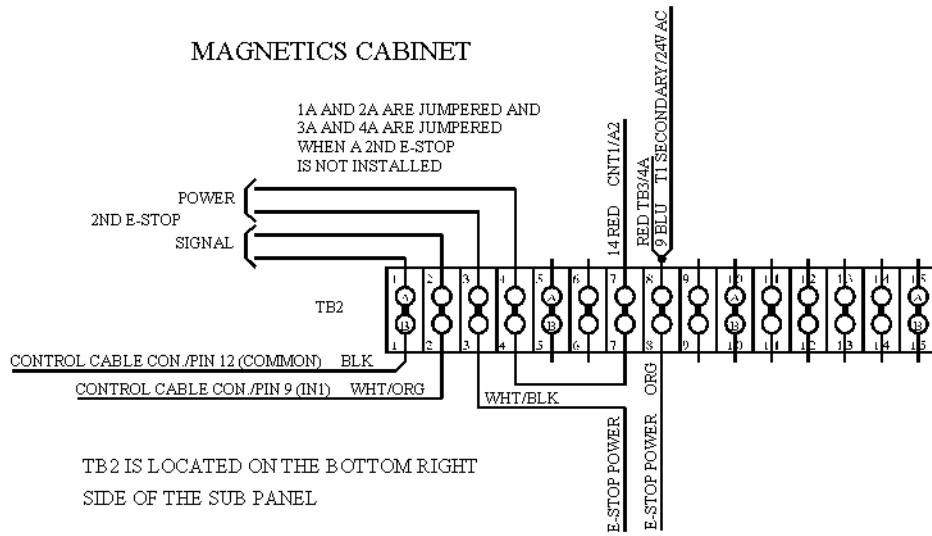
## Connecting on an M39S

The diagram below shows the connection of a 2nd E-Stop on a M39S



## Connecting on an M15

The diagram below shows the connection of a 2nd E-Stop on a M15-9/M15-10



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## Document History

Rev1 Created on **1999-08-16**