



Thomson Actuator Calibration Procedure



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Introduction

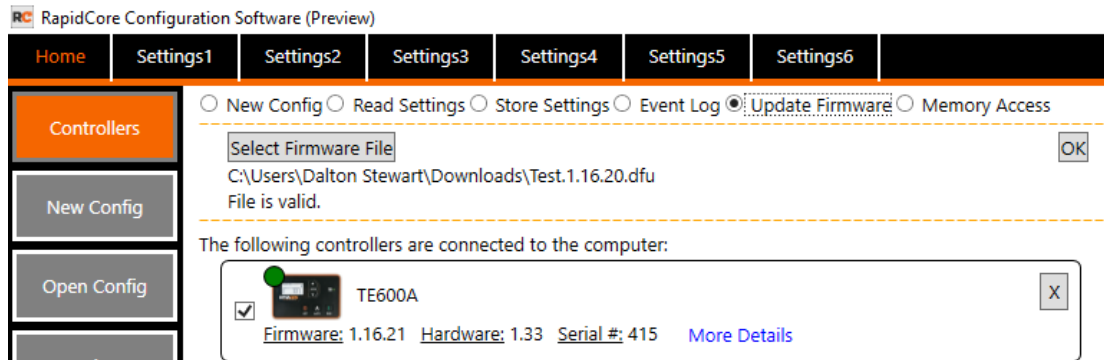
The Thomson actuator is used as a method for mechanical automatic speed control for various speeds desired, with full control through the TE600 controller. DynaGen's Engineers have coded and programmed new firmware available to the TE600 controller for uncomplicated access and satisfying results. The Thomson actuator was initiated to reduce customers from having to physically change the speed of their engines, and to decrease unnecessary travel to and from the area of the Engines.

Specifications

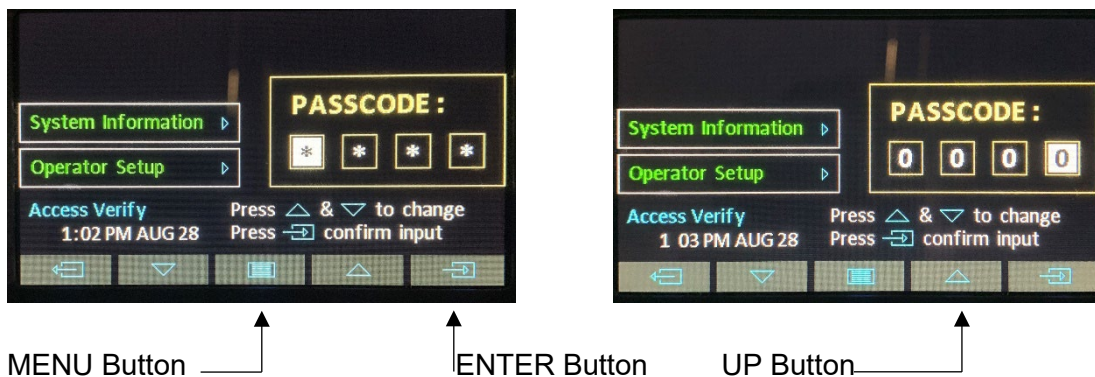
Specification	Rating
Voltage	12 VDC
Load	45 N (10 LBS)
Current	4 Amps
Stroke	50.8mm (2")

Navigating Thomson Actuator

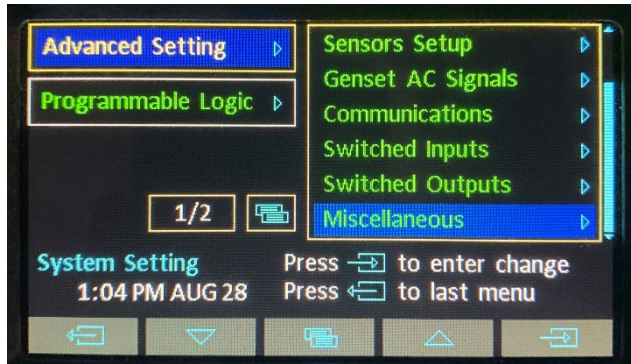
- The first step is assuring that the speed of the engine matches the speed on the TE600 Unit screen.
- Via RapidCore, update the unit firmware version to 1.16.20.dfu. or various updated firmware versions. Press **OK** via RapidCore to program the firmware to the desired unit.





- Enter Off mode via the TE600 unit by pressing the **OFF** button.
- Press the **MENU** button, a **PASSCODE** requirement will appear on the unit screen. Press the arrow **UP** button then, press the **ENTER** button to lock the number in place. Do this for each number, 0-0-0-0.

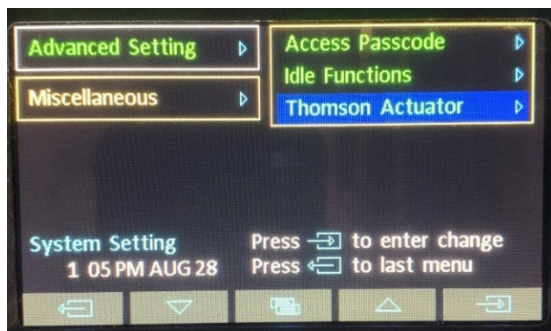


- Press the arrow **DOWN** button until Miscellaneous menu appears on the TE600 unit screen. Press **ENTER** to locate Thomson Actuator Menu.

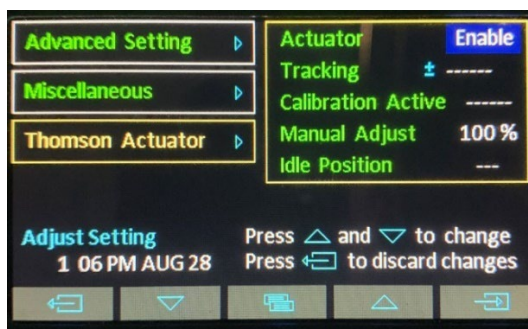


DOWN Button  ENTER Button 

- Press the arrow **DOWN** button to access the Thomson Actuator Menu. Press the **ENTER** button to open the menu.



- Hovering over the ACTUATOR setting press **ENTER**, then press the **UP/DOWN** button until **ENABLE** appears on the screen. Press **ENTER** to secure ENABLE.

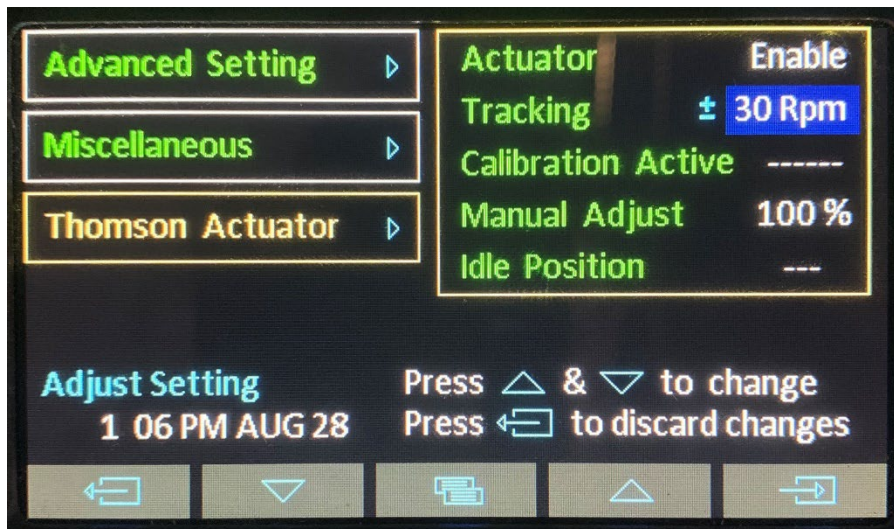


Tracking Range

The Tracking Range is programmed into the TE600 to act as a deadband. Setting the RPM on the Tracking Range allows the engine to proceed over and under the desired RPM. The actuator is calibrated to guide the engine speed back to the desired RPM in the Tracking Range, due to the load increasing or decreasing the RPM past the Tracking Range value.

Directly below the ACTUATOR setting, the TRACKING setting is available for adjustment.

- Hovering over TRACKING setting.
- Press the **ENTER** button to change the value.
- Press **ENTER** again to lock the value, after the desired value is chosen.

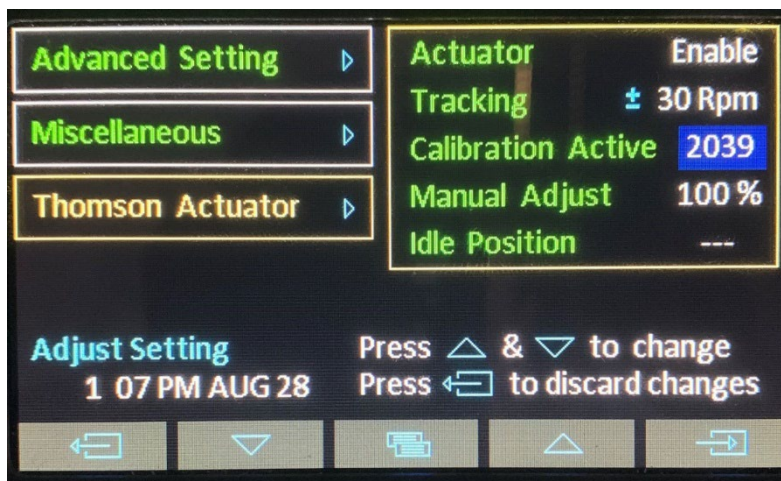


Calibration Procedure

Calibration Active:

Directly below the TRACKING setting, CALIBRATION ACTIVE is available for adjustment. This is the Calibration Active Number programmed specifically for the actuator. It will enable the actuator calibration, allowing the TE600 unit to possess full control over the Thomson actuator.

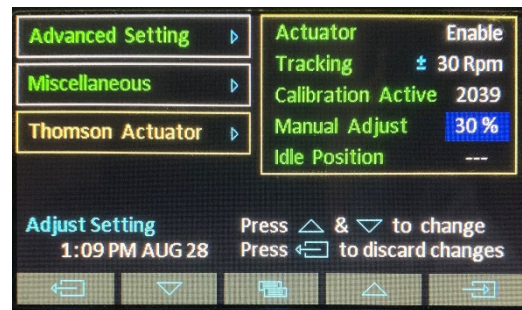
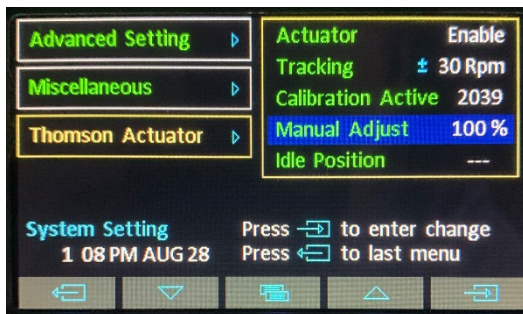
- Press the **ENTER** button to allow value adjusting.
- Using the **UP/DOWN** buttons select the number 2039
- Press **ENTER** to lock the number in place.



Manual Adjust:

After the CALIBRATION ACTIVE 2039 is entered into the controller possessing full control of the Thomson actuator the user can proceed to the next step in the calibration process.

The MANUAL ADJUST setting is directly below the CALIBRATION ACTIVE setting. The MANUAL ADJUST is programmed in the firmware to be set at 100%. Setting a value to the MANUAL ADJUST will precisely move the actuator to the desired location before start up. 100% is the maximum distance that the actuator can extend. Subtracting the percent of the MANUAL ADJUST downwards by values of one, it will cause the actuator to decline in exact decrements.



Idle Position:

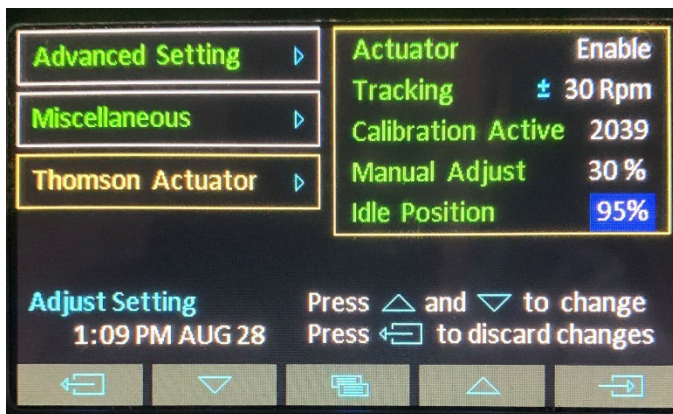
Directly below Adjust, IDLE POSITION is available for entering a value. IDLE POSITION percent is the small amount of the actuator stroke that is locked and can not proceed below or above the specific percentage.

- Press the **ENTER** button to adjust the value.
- Press **ENTER** again after the desired value is located. If the actuator is pushing then set the Idle value to 5%. If the actuator is pulling then set the Idle value to 95%.
- Adjust the throttle cable so that at 5% or 95% it approximately gives the user the Idle speed.

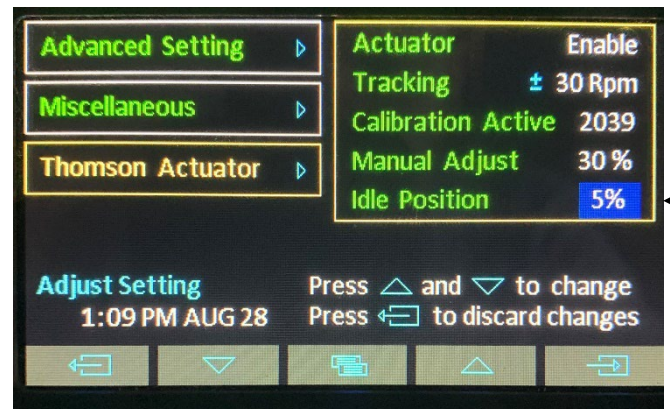
Pull: The actuator stroke can not proceed above 95%.

Push: The actuator stroke can not proceed below 5%.

Pull



Push

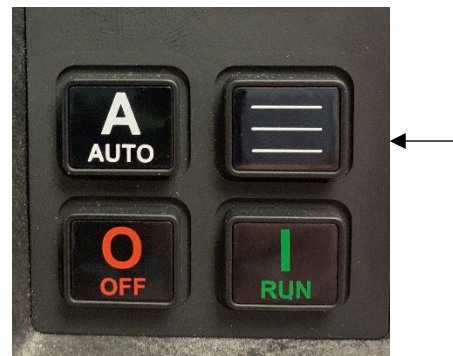
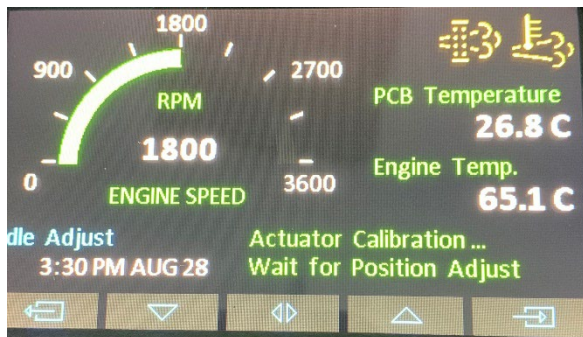


Actuator Calibration Run:

After each step from this document is complete the TE600 unit is ready for the Actuator Calibration Run.

- Hold the OFF button for three seconds to exit the Thomson Actuator MENU.
- Press **AUTO** to force the controller into AUTO mode.
- Press the **RUN** button to begin the Calibration RUN.

During the Actuator Calibration Run a message in green font will appear on the bottom right of the screen stating, "Wait for Position Adjust". Press the **ADJUST** button to the right of the **AUTO** button on the controller. Once that is complete "Calibration All Done!" Will appear as the message on the screen. Press the Off button to return to OFF mode.



Button for "Position Adjust"



The Calibration process is complete!