DYNAGEN™

TOUGH Series™ PRO Thomson Actuator

Calibration Procedure via TE600A

Revision History

VERSION	DATE	NOTES
3.0	2020	
A1	04/2023	Document rebranded and contact information updated.

Contents

1 Introduction

The Thomson Actuator is used as a method for mechanical automatic speed control for the various speeds desired, with full control through the TE600A controller. Cattron's engineers have coded and programmed new firmware available for the TE600A controller for uncomplicated access and satisfying results. The Thomson Actuator was developed to relieve customers of the task of having to physically change the speed of their engines, and to reduce unnecessary travel to and from the areas where the engines are located.

1.1 Specifications

| Specification	Rating
Voltage	12 VDC
Load	45 N (10 lbf)
Current	4 Amps
Stroke	50.8 mm (2 inches)

2   Navigating the Thomson Actuator

Follow these steps in navigating the Thomson Actuator:

1. The first step is ensuring that the speed of the engine matches the speed on the TE600A controller.

2. Via RapidCore, update the unit firmware version to 1.16.20.dfu or various updated firmware versions, as shown below. Press **OK** via RapidCore to program the firmware to the desired unit.
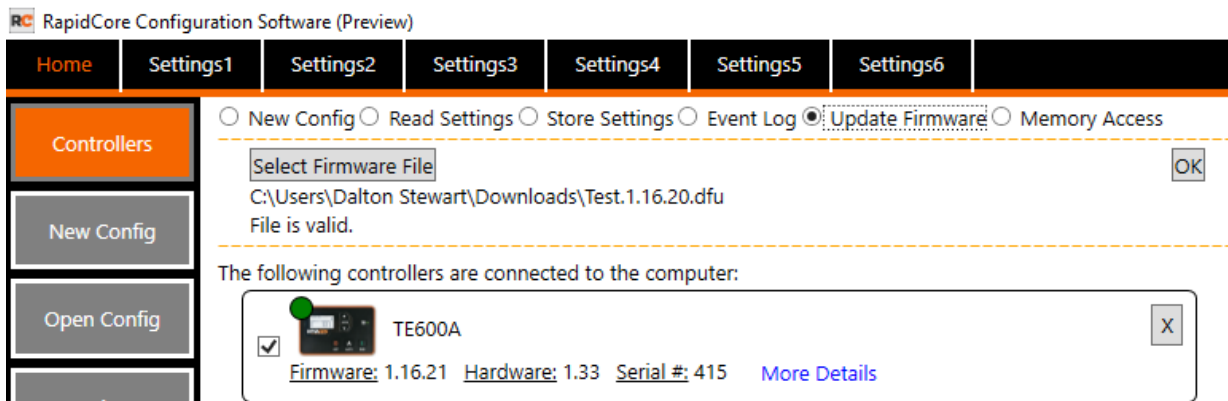
3. Enter the OFF Mode via the TE600A unit by pressing the OFF button.

4. Press the MENU button, and a **PASSCODE** requirement will appear on the unit screen. Press the UP arrow button to set the number and then press the ENTER button to lock the number in place. Do this for each number in the PASSCODE, set to 0-0-0-0, as shown below.

MENU button   ENTER button   UP button
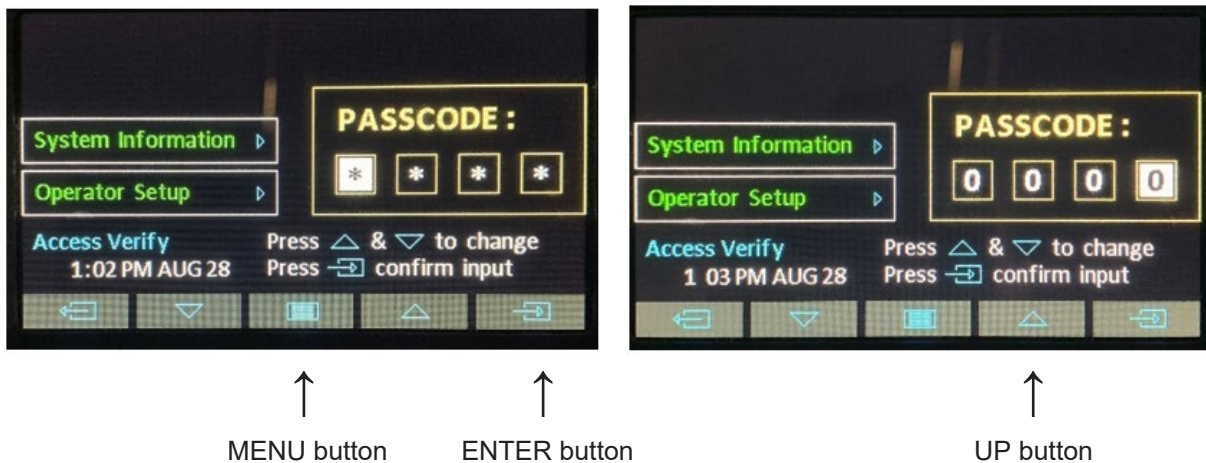
5. Press the DOWN arrow button until the "Miscellaneous" menu appears on the TE600A unit screen. Press the ENTER button to locate the menu for the Thomson Actuator.
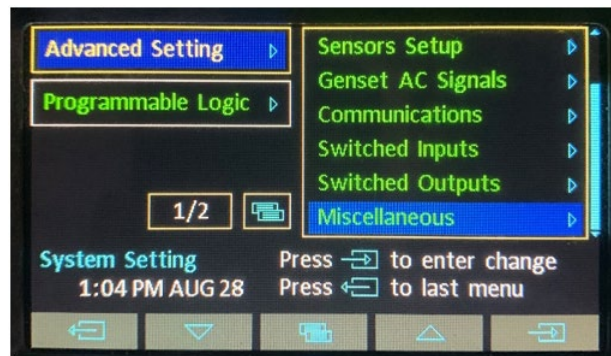
DOWN button   ENTER button

6. Press the DOWN arrow button to access the "Thomson Actuator" menu. Press the ENTER button to open this menu.
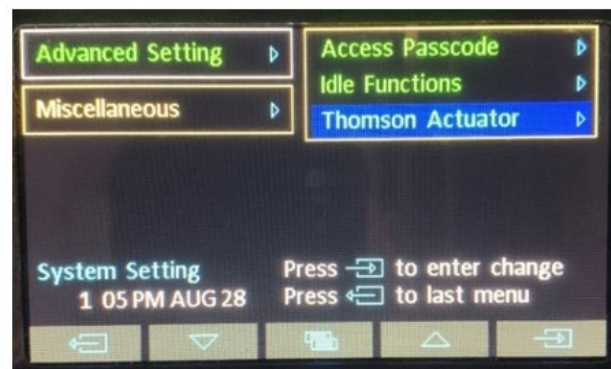
7. Hover over the "Actuator" setting and press the ENTER button, and then press the UP/DOWN buttons until "**Enable**" appears on the screen, as shown below. Press ENTER again to lock the Enable setting.

3   Tracking Range

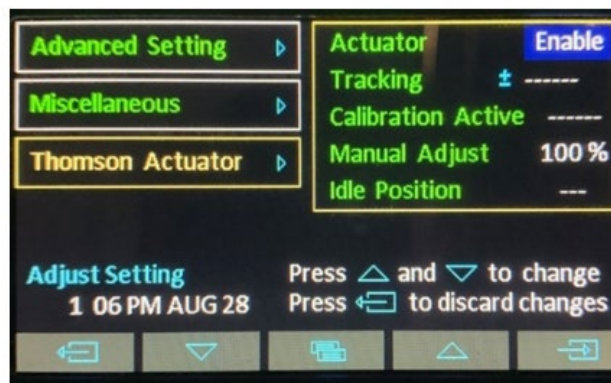The Tracking Range is programmed into the TE600A to act as a deadband. Setting the RPM in the Tracking Range allows the engine to proceed at levels over and under the desired RPM. The actuator is calibrated to guide the engine speed back to the desired RPM in the Tracking Range, due to the load increasing or decreasing the RPM past the Tracking Range value.

The Tracking setting is located directly below the Actuator setting and is used for adjusting the RPM value, as follows:

- Hover over the "Tracking" setting

- Press the UP/DOWN arrow buttons to change the RPM value

- Press ENTER again to lock the value in place, after the desired value is chosen
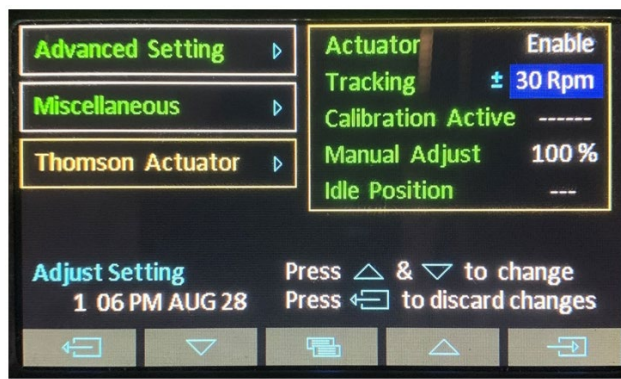
4 Calibration Procedure

The Calibration Procedure is accessible in this same menu, directly below "Tracking".

There are three settings in this procedure – Calibration Active, Manual Adjust, and Idle Position – each of which will be discussed in this section.

Use the DOWN arrow button to access each one.

4.1 Calibration Active

"Calibration Active" is used to specify the Active Number. This is the Calibration Active Number programmed specifically for the actuator. It will enable the actuator calibration and allow the TE600A unit to possess full control of the Thomson Actuator.

"Calibration Active" is located directly below the "Tracking" setting.

- Scroll down to "Calibration Active" and press the ENTER button to allow adjustment of the value

- Using the UP/DOWN arrow buttons, select the number 2039

- Press the ENTER button again to lock the number in place
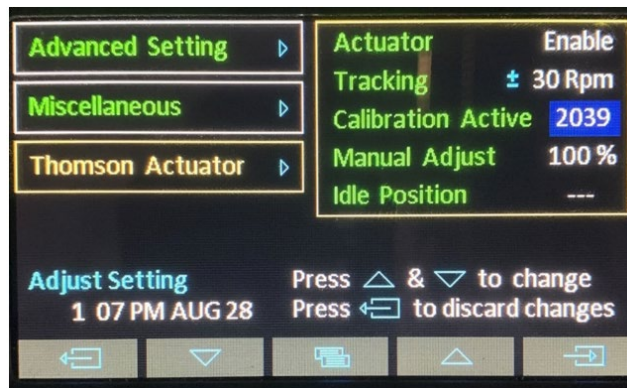
4.2 Manual Adjust

After the Calibration Active Number 2039 is entered into the controller, allowing it to possess full control of the Thomson Actuator, the user can proceed to the next step in the calibration process.

"Manual Adjust" is located directly below the "Calibration Active" setting.

- Scroll down to "Manual Adjust" and press ENTER

- Manual Adjust is programmed in the firmware to be set at 100%. Setting a value to the Manual Adjust parameter 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 parameter downward by values of one will cause the actuator to decline in exact decrements

- Press the ENTER button again to lock the number in place

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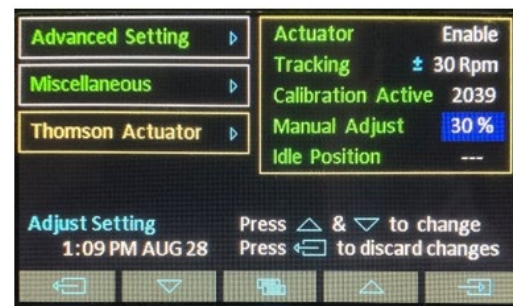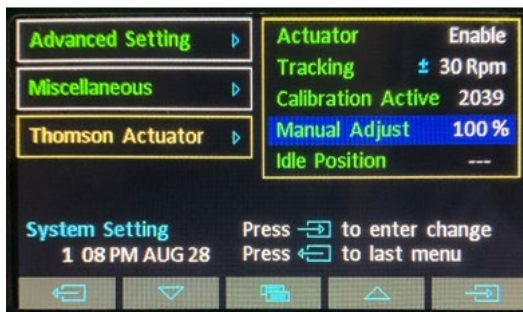
4.3   Idle Position

"Idle Position" is used for entering a value. Idle Position percent is the small amount of the actuator stroke that is locked, and it cannot proceed below or above this specific percentage.

"Idle Position" is located directly below the "Manual Adjust" parameter.

- Scroll down to "Idle Position" and press ENTER

- The user can now set a value:

    o   If the actuator is pushing, then set the Idle Position value to 5%

    o   If the actuator is pulling, then set the Idle Position value to 95%

- Press ENTER again after the desired value is located to lock it in place

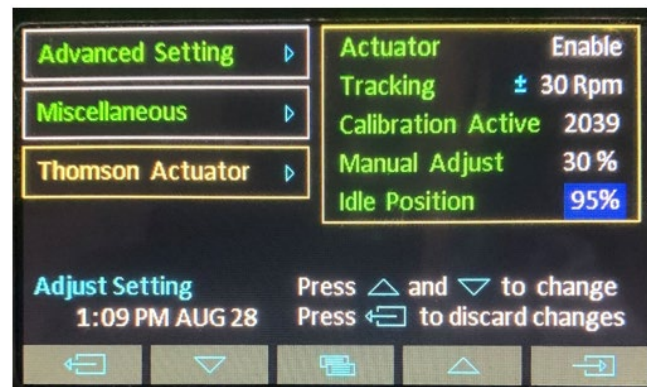- Adjust the throttle cable so that at 5% or 95%, it approximately gives the user the Idle speed

Push: The actuator stroke cannot proceed below 5%.

Pull: The actuator stroke cannot proceed above 95%.
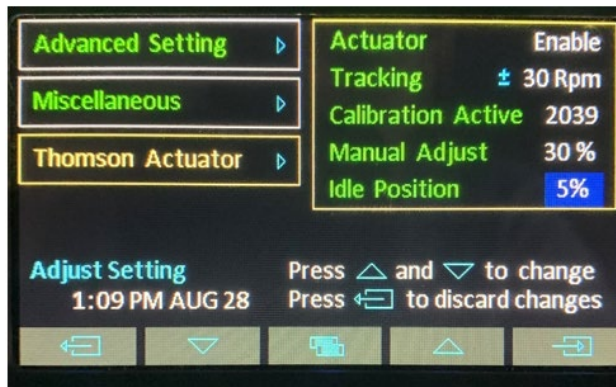
**Push**   **Pull**

5 Actuator Calibration Run

After every step in this document is completed, the TE600A unit is ready for the Actuator Calibration Run, as follows:

1. Hold the OFF button for three seconds to exit the Thomson Actuator Menu.

2. Press the AUTO button to force the controller into AUTO Mode.

3. 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", as shown.
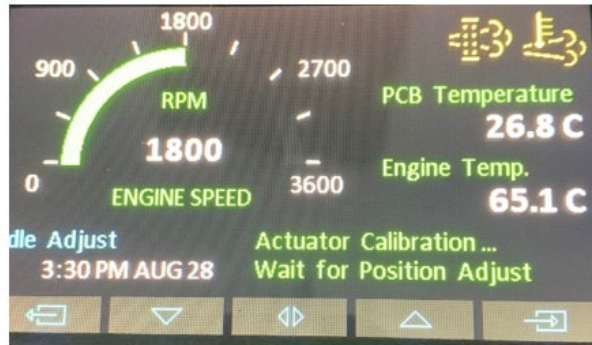
4. Press the **ADJUST** button to the right of the **AUTO** button on the controller, as shown below.
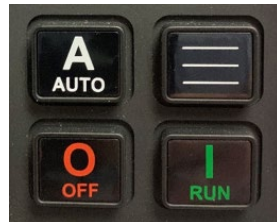
← Button for "Position Adjust"

5. Once that is completed, the message "Calibration All Done!" will appear on the bottom right of screen in green font, as shown below.

6. Press the OFF button to return to the OFF Mode.

6 Technical Support

For remote and communication control systems support, parts and repair, or technical support, visit us online at: www.cattron.com/contact.