

DOT-Lok MPE Programming Overview

DOT-Lok is easily programmed via the optional Windows-based uCal Programmer.

After the system is installed on the fork truck and the software in your computer, plug the USB cable from the controller into your computer and the 4-way microfit connector into the programming port on the DOT-Lok module. Open up the DOT-Lok software by double clicking the DOT-Lok icon on your Desktop. Turn the ignition key to the “ON” position – do not start the truck.

At this point, click on the “Read” button in the DOT-Lok software. The numbers that appear on the left-hand side of the screen are the current settings in the control module. If you want to change any of these settings, click on the “COPY Parameters” button, this sends a copy of all the “Current Settings” to the “New Settings” section. Changes to the programming settings can only be made in the “New Settings” area. Once a setting(s) is changed in the “New Settings” area, click the “Program” button at the bottom-right of the page, you will get a momentary “Programming Successful” sign.

New (June 07) As idle and wide-open-throttle readings can vary slightly between trucks, it is important accurate data be input into the APPS Calculator. This is now easily done via the “Capture” feature on the APPS Calculator Screen. With the ignition key in the “ON” position and no throttle pressure applied, click the “Capture Idle” button. Note the number inserted into the **Idle APPS1 (V)** box. Next, apply and hold maximum throttle pedal pressure and click Capture WOT. Note the number inserted into the WOT APPS1 (v) box. If you have two APPS system, numbers will also appear in the APPS2 boxes. Next, input values if not present for Engine Brake Max Throttle and Enable Gear Max Throttle for APPS1. That completed, left click on the Calculate APPS2 button (values will appear in the APPS2 box). Finally left click on Copy to Main Screen and the Exit buttons. These values will now populate the Engine Braking boxes.

To help with base throttle settings, take the Idle APPS1 value and add .16 and insert in Throttle Set Delay (V). Add .08 to APPS1 idle and insert into Throttle Release Delay. For Engine Braking, insert same number put into Throttle Set Delay (V) for Engine Brake Max Throttle. Lastly, add .15 to Engine Brake Max Throttle value and input into Enable Gear Max Throttle. Please Note: On dual APPS systems, changes to Engine Brake values **MUST** be made via the APPS Calculator.

The generic settings that come on the truck are designed to reduce excessive plugging, but not hinder truck operation. Basic operation of a truck with a shift light, Throttle Delay and Engine Braking enabled would be as follows:

With the truck in Neutral, raise the engine RPM’s – notice the Shift Light will loose power (go out). The transmission will not shift above the RPM where the shift light went out. Next, drive the truck. Again notice when the shift light goes “out”. The transmission will not shift above this speed.

Finding the above shift parameters acceptable, next (and in a safe area) drive the truck at full speed. With your foot still on the accelerator pedal (keep it fully depressed), shift the

transmission. The engine will automatically idle down to the voltage settings found under Engine Braking Max Throttle. The truck will further NOT shift until the driver removes their foot from the accelerator pedal.

While these settings may be great for most operations, they may not be ideal for all. Let's take a look at these now.

Speed Limit High

Truck speed is measured in Hertz. The truck's transmission will NOT shift directions when the Hertz speed the truck is traveling is above the speed set in this box. After driving the truck you decide you want a "hotter" shift speed, you would raise the "Speed Limit High" number. Also raise the "speed limit low" settings. General speaking the "low" speed is about 10% lower than the high.

Speed Limit High/Low Delay

This is the delay between when the "ok" to shift parameters are met and when the signal is relayed to the transmission.

Throttle Delay

Like Speed Limit High, raise Throttle Set Delay if you want to be able to shift at higher RPMs or lower if you want lower shift RPMs. Again, Throttle Release Delay is about 10% below the set delay. The Throttle Delay "mS" is the delay between when the "ok" to shift RPMs is recorded to when the shift signal is sent to the transmission. The idea behind the delay is to allow the mass of the engine to return to idle.

Engine Brake

Engine brake max throttle limits the throttle voltage when shifting above acceptable shift parameters. Unlike above, set Enable Gear Max Throttle about 10-15% above Engine Brake Max throttle. NOTE: When changing these values on a dual apps truck, do so on the APPS Calculator page and copy over.

NOTE: Never set the Throttle Delay Voltage nor the Engine Brake Voltage values below the idle value for the truck.

Traction Control

Traction Control prevents tire spin when a forklift operates on slick surfaces such as ice, oil, water, dust and ash covered surfaces. The system even limits tire spinning when the inching pedal is dumped at high engine RPMs. Move detailed information to come.

For more in-depth descriptions of all DOT-Lok topics, go to the help menu in the DOT-Lok screen.

Once final settings are agreed upon, the file can be saved like any other Windows file. Further, when programming other like trucks, just open the DOT-Lok file.