

## SLATE™ Application Note

### Slate Fuel/Air module update, 104.2 / 03.33.18540.01, for FW revisions 3.20 or later

Service pack 3.33.20230.01.ssp is intended for Slate systems with firmware revisions 3.20, or greater, that include a SLATE Fuel Air Ratio module (R8001C6001) and one or more Slate Low Torque Actuators (LTA). This service pack provides extra monitoring in the Fuel/Air module for LTA memory corruptions that can cause improper actuator operation. This process can be skipped if the LTA version is 10.5 or greater, however it is highly recommended since a failed LTA could be replaced with an older version.

**Note:** *Italicized* steps have detailed instructions in application note "Module Replacement\_rev4-03.17.2020.pdf" included in the zip file.

**Important** – the steps below need to be followed in sequence to avoid re-commissioning the fuel air curves while the burner is running. The instructions include backing up your Fuel/Air module, installing service pack "Modules upgrade 03.33.20230.01.ssp", updating the Fuel/Air module and restoring the Fuel/Air module back to proper operation

1. **Check Fuel Air version.** If the version is 104.2 / 03.33.18540.01 or greater this means the Fuel Air module includes the updates provided by "Modules upgrade 03.33.20230.01.ssp". Refer to document "Module Replacement\_rev4-03.17.2020.pdf", section C, for instructions on verifying firmware revision. If replacing a LTA with fault 37 go to step 10. Otherwise, no other steps are required.
2. **Next check the Slate LTA version.** This can be done by going to the Detailed Register Viewer in the generic pages. Expand the Fuel/Air ratio control section then Actuator Diagnostics. Confirm the firmware version for LTAs that are configured as Actuator 1, 2, 3 and/or 4. The example below shows Actuator 1. If all LTAs are V 10.5 or greater you can choose to stop at this point. However, it is recommended that you still perform the update since it is possible to replace an actuator with an older firmware revision.

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Detailed Register Viewer

Click a module/category to expand/collapse.  
Click a value to edit.  
For colors description see the table to the right.

m1: Base

m2: Burner control

m3: Limit control

m4: Fuel/Air ratio control

Actuator Diagnostics

Name	Number	Value
Actuator 1 firmware version	326	10.3

## Upgrading a Slate Fuel/Air module to 104.2 / 03.33.18540.01

3. **Save current configurations** – Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section A, for instructions on saving the config set.
4. **Save the Fuel Air combustion curves** – Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section B, for instruction on saving the Fuel Air curve sets
5. **Install Fuel Air service pack "Modules upgrade 03.33.20230.01.ssp"** – Copy "Modules upgrade 03.33.20230.01.ssp" to a USB drive. Download from [Slate Resources](#) under the Slate Tools section, subsection “Firmware Updates and Service Packs”.
6. **Firmware update** - Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section E, for instructions on how to update the Fuel/Air firmware. Be sure to select firmware option “Fuel Air module version 104.2”.
7. **Load configuration** - Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section F, for instructions on how to restore the config set saved in step 3.
8. **Safety verification** - The Fuel/Air parameters will need to be Safety Verified after new firmware is loaded. Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section G, for instructions.
9. **Fuel air curves** – Restore the Fuel Air curves saved in step 4. Refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section H, for instructions.
10. **Replace LTA having Fault 37** – Replace the LTA with a new unit. Note: a changed serial number causes curve invalidation and the need for safety verification, as was required during the initial commissioning.
11. **Enable fuel air control** – If required, refer to document “Module Replacement\_rev4-03.17.2020.pdf”, section I, for instructions
12. **Verify curve(s)** – Only required if the LTA was replaced
13. **Optional** – Backing up your Slate system is recommended and can be done using the improved and additional functions available when **Export and Import Configurations V1.0** or later is installed. The service pack can be downloaded from the Slate website by clicking on this link [Export and Import Configurations V1.0.zip](#). The zip file includes the service pack, and the application note that describes the backup options.