Using Your Fish Tuning Digital DSP5 Switch

The first section covers the functions of the switch when the ignition is on. The second section covers configuring the switch by pressing buttons while you turn on the ignition.

The Features of Your New Digital DSP5 Switch

- Instantly change to any tune with one button press
- Lock it in any tune till the password is entered
- Always be on your chosen tune when you turn the key on. No more cold morning starts on the wrong tune!
- May be configured to start with a password required so strangers can't easily change tunes
- Wired Valet mode on LB7 and LLY trucks
- Simulated Valet mode on LBZ and LMM trucks
- A high idle function for implementing the built-in high idle function GM put in LB7, LLY and LBZ trucks
- Supports 1-5 and 5-1 tuning so your small tune can always be on position 1 and your big tune on position 5

Document conventions

- Button presses will be shown using: **1**, **2**, **3**, **4** or **5**.
- The current display will be shown using: **A**, **B**, **H**, **L**, **U**, **a**, **K**, **n**, etc....

Default Settings

- Start locked off
- Password set to: 1, 2, 3, 4
- Password length set to four
- Valet tune set to 5
- Tune reverse feature turned off

Lock Mode

- Any time you see an **L** or a **U** displayed, the switch is locked. **U** means you're in valet mode and **L** just means it's locked.
- If a **U** is displayed you must enter the lock code to return the switch to normal operation.
- If an **L** is displayed and the switch has start locked enabled, you must enter the lock code to exit
- If an **L** is displayed and the switch does not have start locked enabled, you may enter the password or turn off the power to exit.

Button Combinations That Work With the Ignition On

Changing Tunes

- Press any single button to instantly switch tunes. The display will indicate the current tune.
- Press and hold any single button until the display changes to **P** and the switch will be locked in that tune until you enter the lock code. This lasts even through key off/key on cycles and overrides the default start up tune. As soon as you enter the password this will be forgotten. This mode restricts access to the valet and high idle modes. This is called tune locked mode.

Adjusting Brightness

- Press buttons **1** and **2** together to increase brightness.
- Press buttons **4** and **5** together to decrease brightness.
- 30 seconds after the last adjustment, the setting will be saved.

Valet Mode

- Wired valet mode works with LB7 and LLY ECMs. Wired valet mode does not work with LBZ or LMM ECMs.
- On all ECM types selecting valet mode selects the valet tune so if you set a tune up on your LBZ or LMM as a valet tune, you can have a valet mode.
- If you've connected the yellow valet wire to the correct pin of your LB7 or LLY ECM and valet mode is implemented in your DSP5 tune, then the valet mode will work. Otherwise, only the valet tune will be selected.
- Press buttons **1** and **5** together for five seconds to set valet mode. Valet mode requires entering your password to disable. Valet mode lives through key off. You will know you're in valet mode because the display will display a **U** (the closest letter to V on a seven segment display).
- Once you enter valet mode, the truck will remain there until you enter your secret password. If you forget your password, you will have to follow the factory reset instructions at the end of this document to get out of valet mode.

Disabling the Start Locked Mode

- If you've enabled start locked mode, pressing and holding buttons **3** and **5** until **L** appears and then entering the password will disable start locked mode. After correctly entering the password a **u** will appear to indicate that the start locked feature has been disabled.

High Idle Mode

- High idle mode is supported on LB7, LLY and LBZ trucks.
- High idle may not be engaged if the switch is locked.
- To engage high idle, press and hold buttons **2** and **4** until an **H** appears, about two seconds. When enabled, high idle pulls the yellow wire to +12V. Exit high idle mode by pressing a button to select a tune.
- High idle is persistent, so if you enable high idle just before turning off the truck, it will still be enabled when you next start the truck. Perfect for remote starts in the morning or getting the cab cooled off on a hot day.
- If your switch is set to start locked it will start in high idle mode. The first press will exit high idle and be taken as the first number of the password.
- If you put the truck in valet mode or tune locked mode, high idle will be inaccessible.

Changing the Password

- Everything about passwords will be covered in the passwords section of this document.

Button Combinations That Work at Power-On

Note that none of these work if the switch is currently in start locked, tune locked or valet mode. The one exception is turning off Always Start in Valet which will work when the switch is locked. If you keep your switch in start locked mode, you will need to disable start locked mode before using these features, and then turn it back on when you're finished.

Setting the Default Start-Up Tune

- Hold any single button during power up to set the default start-up tune.

Setting the Valet Tune

- To change the valet tune, start by turning off locked mode.
- Then press and hold buttons **1** and **3** while turning on the key.
- Hold the buttons until the display changes to a little **u**.
- Release the buttons and enter the password.
- Wait for the display to show **8**.
- Now press the button corresponding to your valet tune.
- Put the truck in valet mode and make sure you get what you want.

Setting the Always Start in Valet Flag

- Always Start in Valet mode tells the switch to always be in valet mode when you turn on the key.

- Press and hold buttons **3** and **5** at power-up and then enter the password to toggle this between on and off.
- When turning off Always Start in Valet mode, you will be required to enter your password twice.
- Always Start in Valet mode is the only power-on button press that will work when the switch is locked.

Setting the Start Locked Flag

- Once you set this, the switch will always start at your chosen start-up tune, but the display will show **L** at start-up and will not accept commands until you correctly enter the password. This is useful if you want to be able to loan your truck to a friend.
- To enable the start locked feature, press and hold buttons **1** and **2** at power-up and then enter the password.

Setting Simpler Modes

- The digital switch has a lot of features, for some people it has to many features. This enables you to disable some of the features.
- These are 3 modes:
  - o **Mode 1:** All features enabled
  - o **Mode 2:** Valet and High idle disabled
  - o **Mode 3:** All features disabled (All that works is press to change tunes)
- Press and hold buttons **1**, **3** and **5** at power-up and then enter the password to enter this setting. Then press button **1**, **2** or **3** to select your chosen mode. The display should show the number 1, 2 or 3 verifying your selection. The press **5** to save your selection.
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Tune Reverse Feature

- Some tuners like to make tune 1 the biggest tune. This feature allows telling the switch to select tune 5 when **1** is pressed and tune 1 when **5** is pressed.
- Holding buttons **2** and **4** together at power-up will reverse the current order of the tune buttons. Each time you do this, the state will toggle. A small letter **r** or **n** will show up telling you if the state has been set to normal or reversed.

The Password

- The default password is 1, 2, 3, 4, 1, 2, 3, 4. If your password is less than eight digits long you will only need to enter the first password length digits of the password.
- The password length may be set to anything between four and eight characters long.
- When you see an **L** or **U** displayed the only way out is to enter the password or turn off the power. If you're in valet, tune locked or start locked mode, powering down will not help as it will still be locked or in valet mode at power up.
- The password length when shipped is four and so the out of the box password is 1, 2, 3, 4.

Changing the Password

- Pressing buttons **1** and **4** together for five seconds will let you enter a new password. At the **L**, enter the current lock code, at the **E** enter a new lock code and then at the **a**, enter the new lock code a second time. If you do all three steps correctly the new code will be saved and an **H** will appear (indicating that Happiness has been achieved☺), otherwise, you'll see an **F** for failure.

Password functionality

- When locked, the display shows **L**, in valet mode it shows **U**. While entering the password the display will show **A**, **B**, **C** and then the current tune. If it shows **A**, **B**, **C**, (**L/U**), you entered the password wrong and need to try again.
- If you have more than a four character password, the display uses as much of the series **A**, **B**, **C**, **d**, **E**, **F**, **7** as needed. The letters tell you which digit you're entering.
- When you're holding buttons to reach a place requiring a password, the display will change to **P** to acknowledge that your request has been accepted. Upon releasing the buttons, the display will change to either **L** or **U**.

Adjusting Password Length

- The password length may be adjusted to 4, 5, 6, 7 or 8 digits long depending on the level of security you desire.
- To change the password length first turn off start locked mode.
- Then press and hold buttons **4** and **5** while turning on the key.
- Hold the buttons until the display changes to **K**.
- Release the buttons and enter the password.
- Wait for the display to show **8**.
- Now press one button:
- **1** for a password length of four (625 combinations)
- **2** for a password length of five (3,125 combinations)
- **3** for a password length of six (15,625 combinations)
- **4** for a password length of seven (78,125 combinations)
- **5** for a password length of eight (390,625 combinations)
- The password is now set to the default 1, 2, 3, 4, 1, 2, 3, 4. You only need as much of that as your choice requires so if you chose a password length of six the password would be 1, 2, 3, 4, 1, 2.

Restoring Your Switch to the Factory Defaults

- These instructions are on the FishTuning web site, www.fishtuning.com/DigitalDSP5.

Installing Your Digital DSP5 Switch

We recommend disconnecting the battery before unplugging the connectors from the ECM.

There are four or five wires to hook up:

- Connect the black wire to a good ground
- Connect the red wire to switched 12V
- Connect the yellow wire to the valet pin on your ECM. Not available on LBZ or LMM.
- Connect the orange wire to the high idle pin or pins on your ECM. Not available on LMM. Note that this wire connects to 12V and if inserted into the wrong hole may damage your ECM. Please make sure that your ECM supports high idle mode and triple check that you've inserted this wire into the correct hole in the correct connector before re-connecting the batteries
- Connect the last wire to the DSP5 input pin on your ECM

	LB7 (Blue)	LLY (purple)	LBZ /LMM(Gray)
DSP5 wire	Blue connector, pin 69	Grey connector, pin 32	Connector 1 (the larger one), pin 46
Valet wire	Blue connector, pin 31	Black connector, pin 1	Wired Valet Mode not supported
High idle wire	Blue connector, pin 71	Gray connector, pin 6	Connector 1 (the larger one), Pins 8 and 60(LBZ only)

Please insulate and tie up any unused wires. Especially the orange high idle wire; it supplies 12V when active and if it's touching ground and you enable the high idle function, it won't be pretty.