



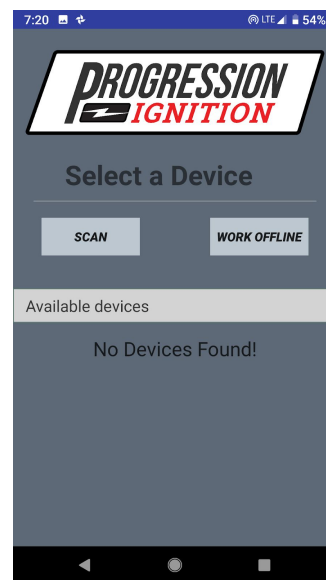
Tuner App Guide ver.1

Section 1: Connecting

1. Install the Progression Ignition Tuner app on your phone or tablet. It is available for iPhone/iPad on the App Store and for Android devices on the Google Play Store. **Your device must have Bluetooth 4.0 or higher.** If your device is Android, you must give permission to access Location when asked. That is a requirement of Android. The app doesn't use location information.
2. Open the app. **Power to the distributor must be ON to connect to the app.**

a. Connection Screen-

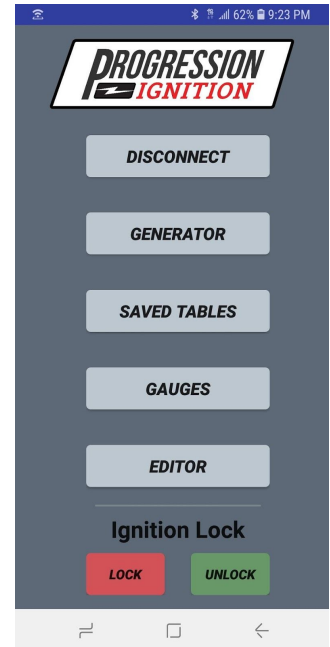
- i. **SCAN** - Press to scan for any distributors within range. Bluetooth devices normally have a range of around 30 ft. The distributor may have a lower range due to being under the hood. Any available distributors will show up under Available Devices. The distributor's Bluetooth name includes the unique serial number. Press the name of your distributor to connect to it. If the Main screen opens, the app is connected. If the app gets disconnected for any reason, the app automatically returns to the Connection screen.
- ii. **WORK OFFLINE** - Press to open the app without connecting to a distributor. Some features will be disabled.



Section 2: Main Screen

1. Main Screen-

- i. **DISCONNECT** - Press to disconnect from the distributor. If you are working offline, this button will read CONNECT and will open the Connection screen.
- ii. **GENERATOR** - Press to create a new timing table from scratch. See Section 3.
- iii. **SAVED TABLES** - Press to open the folder where all saved timing tables are stored. See Section 5.
- iv. **GAUGES** - Pressing will open a screen that displays RPM, MAP (manifold absolute pressure) and timing advance in real time.
- v. **EDITOR** - This button downloads the current timing table from the distributor and displays it. **THIS IS IMPORTANT!** This button ALWAYS displays the table that is currently running the engine. The editor can edit all aspects of the table as well as Rev Limit. See Section 4.
- vi. **Ignition Lock**- this is a theft prevention feature that prevents the engine from starting.
 1. **LOCK**- This button begins the lock process. You have 20 seconds to turn off the ignition in order for the lock to be complete. Once the ignition is turned off within 20 seconds, the lock is complete, **THE ENGINE WILL NOT START AGAIN**. If the ignition is not turned off within 20 seconds, the engine will continue to run and start normally.
 2. **UNLOCK** - This button sends the unlock command to the distributor. After pressing, you will see a confirmation message and the engine can start normally.



Section 3: Generator

The GENERATOR allows you to enter some basic information and create a custom timing table. The default values are typical for a mild performance V8. Keep in mind that the distributor has a range from 10 deg. BTDC to 50 deg. BTDC. Cranking is always at 10 deg. BTDC and is not adjustable.

- 1. Engine type-** Select the number of cylinders in the engine. 4, 6 or 8. This **MUST** match the cylinder count of the distributor you are using.
- 2. Fix Timing at-** Select the checkbox and enter a value between 10-20 degrees. This will generate a table with all cells having the same value.
- 3. Idle Speed-** Enter the RPM that your engine typically idles at.
- 4. Idle Timing-** Enter the desired timing at the idle speed you entered in the previous step. Keep in mind that Idle Advance does not affect cranking.
- 5. Max RPM-Based Timing-** This is roughly equivalent to "centrifugal" advance in a traditional distributor. Enter the desired timing at the "All In" RPM that is specified in the next step.
- 6. All In RPM-** This is the RPM at which the Max RPM Based Advance will be reached.
- 7. Max Vacuum Advance-** Enter how many degrees of vacuum advance will be **ADDED** to the RPM-Based Timing value at high vacuum.
- 8. Start Vacuum Advance at-** Enter the MAP value at which vacuum advance begins to be added to the RPM-Based Timing value. Vacuum advance starts at 0 degrees and increases as MAP decreases. **See note on next page about vacuum.*
- 9. Max Vacuum Advance at-** Enter the MAP value at which the Max Vacuum Advance value is added to rpm based. **See note on next page about vacuum.*
- 10. Rev Limit-** The rev limiter will cut the spark at the specified RPM. Range is 2000-9990 RPM.
- 11. GENERATE TABLE-** Press to generate the table and view it. The table will **NOT** be sent to the distributor until you press the Send or Save button. See Section 4.

The screenshot shows a mobile application interface for configuring an engine. The top status bar displays icons for signal, battery, and time (9:46 PM) along with 24% battery. The app interface has a dark blue header with a back arrow. Below the header, there are several input fields with labels and units:

- Engine Type:** A dropdown menu showing '4' and 'Cylinders'.
- Fix Timing at:** A checkbox that is currently unchecked, followed by a text input field containing '10' and the unit 'Degrees'.
- Idle Speed:** A text input field containing '600' and the unit 'RPM'.
- Idle Advance:** A text input field containing '16' and the unit 'Degrees'.
- Max RPM-Based Advance:** A text input field containing '30' and the unit 'Degrees'.
- "All In" RPM:** A text input field containing '3000' and the unit 'RPM'.
- Max Vacuum Advance:** A text input field containing '8' and the unit 'Degrees'.
- Min Vacuum Adv. at:** A text input field containing '80' and the unit 'KPa'.
- Max Vacuum Adv. at:** A text input field containing '20' and the unit 'KPa'.
- Rev Limit:** A text input field containing '5000' and the unit 'RPM'.

At the bottom of the form is a large button labeled 'GENERATE TABLE'. Below the button are three navigation icons: a home icon, a square icon, and a back arrow.

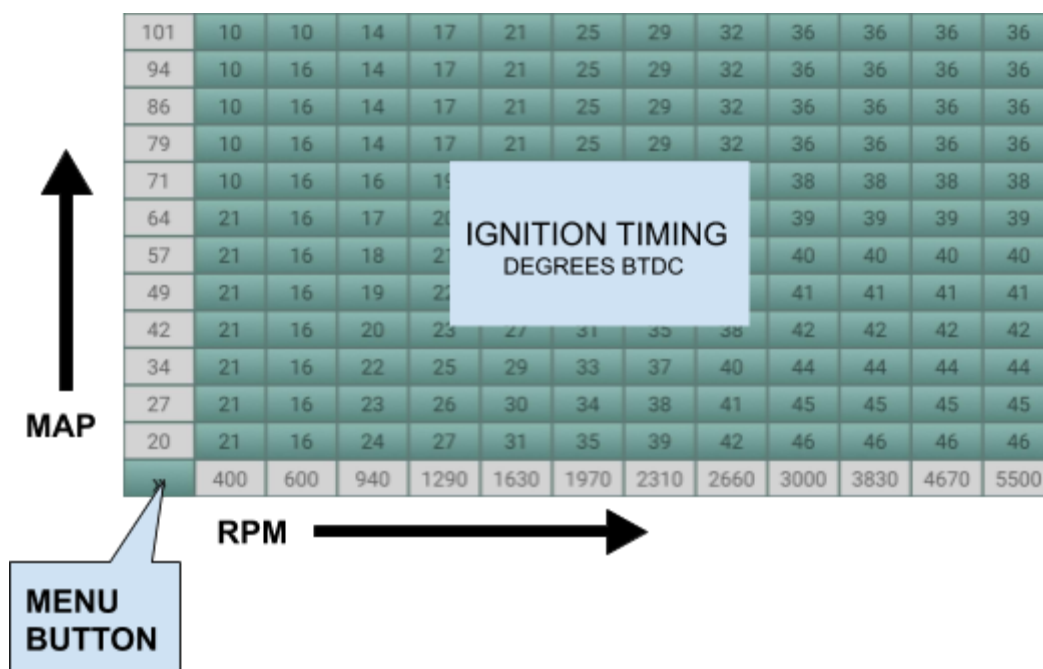
*This distributor has a manifold absolute pressure (MAP) sensor to measure engine vacuum or pressure in the intake manifold. The unit of measurement is kiloPascals (kPa). Here is a comparison of traditional vacuum readings at sea level:

| | | |
|---------------|----------|---------|
| WOT | 0 in/hg | 101 kPa |
| Part Throttle | 8 in/hg | 72 kPa |
| Idle | 17 in/hg | 44 kPa |
| Deceleration | 24 in/hg | 20 kPa |

Why use kPa of pressure instead of the traditional in/hg of vacuum? Vacuum is always relative to atmospheric pressure. It doesn't measure the ACTUAL pressure in the intake manifold. This negatively affects your ability to tune the engine. The MAP sensor must also be able to measure pressures above atmospheric in turbo and supercharged applications.

Section 4: Table Editor

1. The table editor allows you to change the ignition timing, and also lets you change the RPM and MAP breakpoints. Changes happen instantly and can be made with the engine running or not. Pressing the button in the lower left corner brings up a menu.



2. Pressing a timing cell brings up the Selection Menu at the bottom of the screen as shown below. To select more than one cell, press another cell in any direction. The app will select all cells in between, as if the two selected cells were the corners of a rectangle.

| | | | | | | | | | | | | |
|----------------|----|----|----|----|------|----|------|----|--------|----|----|----|
| 101 | 10 | 10 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 94 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 86 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 79 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 71 | 10 | 16 | 16 | 19 | 23 | 27 | 31 | 34 | 38 | 38 | 38 | 38 |
| 64 | 21 | 16 | 17 | 20 | 24 | 28 | 32 | 35 | 39 | 39 | 39 | 39 |
| 57 | 21 | 16 | 18 | 21 | 25 | 29 | 33 | 36 | 40 | 40 | 40 | 40 |
| 49 | 21 | 16 | 19 | 22 | 26 | 30 | 34 | 37 | 41 | 41 | 41 | 41 |
| 42 | 21 | 16 | 20 | 23 | 27 | 31 | 35 | 38 | 42 | 42 | 42 | 42 |
| 34 | 21 | 16 | 22 | 25 | 29 | 33 | 37 | 40 | 44 | 44 | 44 | 44 |
| 27 | 21 | 16 | 23 | 26 | 30 | 34 | 38 | 41 | 45 | 45 | 45 | 45 |
| 20 | 21 | 16 | 24 | 27 | 31 | 35 | 39 | 42 | 46 | 46 | 46 | 46 |
| Selection Menu | + | | - | | Edit | | Send | | Cancel | | | |

- a. Pressing the **+** or **-** button increments the selected cells up or down by one degree.
- b. The **Edit** button allows you to type in a value.
- c. The **Send** button transmits the edited table to the distributor.
IMPORTANT- The table is not saved until you press the Save button in the corner Menu.

3. To change a RPM or MAP breakpoint, simply press the desired breakpoint to bring up the edit window as shown below.

| | | | | | | | | | | | | |
|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 101 | 10 | 10 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 94 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 86 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 79 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 71 | 10 | 16 | 16 | 19 | 23 | 27 | 31 | 34 | 38 | 38 | 38 | 38 |
| 64 | 21 | 16 | 17 | 20 | 24 | 28 | 32 | 35 | 39 | 39 | 39 | 39 |
| 57 | 21 | 16 | 18 | 21 | 25 | 29 | 33 | 36 | 40 | 40 | 40 | 40 |
| 49 | 21 | 16 | 19 | 22 | 26 | 30 | 34 | 37 | 41 | 41 | 41 | 41 |
| 42 | 21 | 16 | 20 | 23 | 27 | 31 | 35 | 38 | 42 | 42 | 42 | 42 |
| 34 | 21 | 16 | 22 | 25 | 29 | 33 | 37 | 40 | 44 | 44 | 44 | 44 |
| 27 | 21 | 16 | 23 | 26 | 30 | 34 | 38 | 41 | 45 | 45 | 45 | 45 |
| 20 | 21 | 16 | 24 | 27 | 31 | 35 | 39 | 42 | 46 | 46 | 46 | 46 |
| » | 400 | 600 | 940 | 1290 | 1630 | 1970 | 2310 | 2660 | 3000 | 3830 | 4670 | 5500 |

- a. Pressing the **+** or **-** button increments the value up or down. Double tap the number field to bring up a keyboard to type in a new value.

- b. The **Send** button transmits the edited table to the distributor.
IMPORTANT- The table is not saved until you press the Save button in the corner Menu.

4. Pressing the button in the lower left corner brings up the corner Menu as shown below.

| | | | | | | | | | | | | |
|-----------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 101 | 10 | 10 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 94 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 86 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 79 | 10 | 16 | 14 | 17 | 21 | 25 | 29 | 32 | 36 | 36 | 36 | 36 |
| 71 | 10 | 16 | 16 | 19 | 23 | 27 | 31 | 34 | 38 | 38 | 38 | 38 |
| Send | | | | 20 | 24 | 28 | 32 | 35 | 39 | 39 | 39 | 39 |
| | | | | 21 | 25 | 29 | 33 | 36 | 40 | 40 | 40 | 40 |
| Save | | | | 22 | 26 | 30 | 34 | 37 | 41 | 41 | 41 | 41 |
| | | | | 23 | 27 | 31 | 35 | 38 | 42 | 42 | 42 | 42 |
| Rev Limit | | | | 25 | 29 | 33 | 37 | 40 | 44 | 44 | 44 | 44 |
| | | | | 26 | 30 | 34 | 38 | 41 | 45 | 45 | 45 | 45 |
| Load Last Saved Table | | | | 27 | 31 | 35 | 39 | 42 | 46 | 46 | 46 | 46 |
| | | | | | | | | | | | | |
| » | 400 | 600 | 940 | 1290 | 1630 | 1970 | 2310 | 2660 | 3000 | 3830 | 4670 | 5500 |

- a. The **Send** button transmits the table to the distributor. The distributor will IMMEDIATELY use this table to run the engine. However, if you turn off power to the distributor, the table will be lost from distributor memory.
- b. The **Save** button transmits the table to the distributor AND saves it in distributor permanent memory AND saves it to phone memory. **If you want to keep the changes you have made you must press Save!!!** The distributor can only store ONE table in its permanent memory. The app will store all saved tables in the Saved Tables folder accessible from the Main screen. See Section 5.
- c. Pressing the **Save** button allows you to name the table as well. If you don't type in a name, the time stamp will be used for the name. If you wish to make changes to a table but also keep the table you started with, you must give the new table a different name.
- d. The **Rev Limit** button allows you to change the RPM at which the rev limiter cuts spark. **Press Save if you want to permanently keep this change!**
- c. The **Load Last Saved Table** button gives you a way to revert to the table that was last saved in permanent memory. For example, you are running the engine and you make a change and press **Send**. Then, if you decide that you don't like the

change, press **Load Last Saved Table** to revert to the table that you saved last.

Section 5: Saved Tables

1. Pressing the **SAVED TABLES** button on the Main screen brings up the list of tables that you have saved as shown below.
 - a. Each table is time stamped with the date and time that it was first saved.
 - b. **IMPORTANT** When a table is saved repeatedly, the old version is overwritten with the new one. If you don't want to overwrite the old version, you must change the name when you save.
 - c. If you press a table name, it will open but it will NOT transmit to the distributor until you press **Send** or **Save** in the corner menu.
 - d. To delete a table on Android, long press a table name. To delete a table on iOS, swipe left on the name. An option to delete the table will appear.

