Quick Install Guide

The Powerjection III features a revolutionary new way to program your fuel injection system. You no longer need to build a map by pro-gramming hundreds of individual cells. Instead, using a laptop, you simply enter a few basic inputs and the Powerjection software designs a profile for you. The inputs you will need to enter are as follows:

Estimated Rear Wheel Torque (If you enter a wrong number, it can be easily changed later - see special note on next page)
Type of Intake Manifold
Type of Camshaft (determined by your engine's vacuum reading at 900 rpm)
Number of Cylinders (can only be 6 or 8)
Number of Injectors (4 for single throttle body, 8 for a dual setup)
Tach Input (this will either come from the coil or from a spark box, such as an MSD-6A, if used)

Your Powerjection III comes with the following profile already loaded. If this matches your engine or is close to it, then you only need to bolt on the throttle body, hook up a few wires, and start driving. You do not need to connect to a laptop. Review the supplied Instruction Booklet and follow the instructions given on pages 3 through 7. Here is the profile that is loaded into your system now:

1. Small Block Base Profile V2.1 (Similar to a ZZ4 crate engine)

300 ft. lbs. of rear wheel torque
Dual plane Manifold (Typhoon, Crosswind, Performer RPM, Air-Gap*)
Camshaft (16-18 inches of vacuum at 900 rpm)
8 cylinders
4 injectors
Idle Speed is less than 1,250. System is optimized for 900 rpm idle.
IAC controls idle speed
Tach input from the coil (car does not have a spark box such as MSD-6A)
Adaptive Learning is "On."
Note: This profile is optimized for an rpm range under 4,500. This means that precise Adaptive Learning will occur in speed ranges from 1,000 to 4,500 rpm. Additional Adaptive Learning will continue to take place outside of those rpm ranges.

If the supplied base profile does not suit your engine, then you will need to connect a laptop to your system. The laptop needs to be a PC with one of the following operating systems: XP, Vista, or Windows 7. We have a few other profiles already loaded on the Dashboard install disc. These additional profiles are listed below. If any of these suit your engine, you can easily substitute one of these for the one already loaded into the EMS. Go to page 7 of the Instruction Booklet and see the section titled "Opening the Dashboard on Your Laptop." Then jump to the "File" section on page 12. In Step 4 you can choose any of the already loaded profiles. Follow the instructions on Page 12 on selecting a new profile and substituting it for the one already loaded into system from the factory.

If none of the supplied profiles suit your engine, then you can quickly and easily design your own or if one of the supplied profiles is close, you can make whatever minor changes are needed to match your engine. This might be as simple as changing the torque number or maybe the cam (vacuum) info. See page 8 of the Instruction Booklet titled "Creating Your Base Profile."

For the advanced tuner, the Instruction Booklet shows you how to further refine the system to your needs starting on page 13. We do not recommend that anyone attempt these advanced tuning steps unless you are thoroughly familiar with tuning an EFI system. Unless you have a really radical engine, you will not need to utilize any of the advanced tuning procedures. The profile that you can easily program yourself in conjunction with our Adaptive Learning feature will provide outstanding performance on the vast majority of vehicles.

Here are descriptions of the additional maps available to you on the Stage III Dashboard Software disc.

2. Big Block Base Profile V2.1

450 ft. lbs. of rear wheel torque
Dual plane Manifold (Typhoon, Crosswind, Performer RPM, Air-Gap*)
Camshaft (15-17 inches of vacuum at 900 rpm)
8 cylinders
4 injectors
Idle Speed is less than 1,250. System is optimized for 900 rpm idle.
IAC controls idle speed (continued on back of this page)
Tach input from the coil (car does not have a spark box such as MSD-6A)
Adaptive Learning is "On."
Note: This map is optimized for an rpm range under 4,500. This means that precise Adaptive Learning will occur in speed ranges from 1,000 to 4,500 rpm. Additional Adaptive Learning will continue to take place outside of those rpm ranges.

3. Small Block Base Profile (Follower Disabled) V2.1

This profile is the same as Profile #1 (loaded into your system from the factory) except there is no automatic IAC control over idle. The IAC motor steps will need to be set manually based on coolant temperature.

4. Boosted (10 PSI) Base Profile V2.1

        520 ft. lbs. of rear wheel torque
        Dual plane Manifold (Typhoon, Crosswind, Performer RPM, Air-Gap, or blower manifold*)
        Camshaft (14-16 inches of vacuum at 900 rpm)
        8 cylinders
        4 injectors
        Idle Speed is less than 1,250. System is optimized for 900 rpm idle.
        IAC controls idle speed
        Tach input from the coil (car does not have a spark box such as MSD-6A)
        Adaptive Learning is "On."
        Note: This map is optimized for an rpm range up to 6,500. This means that precise Adaptive Learning will occur in speed ranges from 1,000 to 6,500 rpm. Additional Adaptive Learning will occur outside of those rpm ranges. Note that due to a wider range (1,000 to 6,500 compared to 1,000 to 4,500 on other maps) the Adaptive Learning on the wider range will not be as detailed as on the narrower range. This will have negligible effect on the overall operation of your vehicle.

5. Manual Tune Mode Profile V2.1

        400 ft. lbs. of rear wheel torque
        Dual plane Manifold (Typhoon, Crosswind, Performer RPM, Air-Gap*)
        Camshaft (14-16 inches of vacuum at 950 rpm)
        8 cylinders
        4 injectors
        Idle Speed is less than 1,250. System is optimized for 900 rpm idle.
        IAC controls idle speed
        Tach input from the coil (car does not have a spark box such as MSD-6A)
        Adaptive Learning is "On."
        Note: This profile is optimized for an rpm range under 6,500. This means that precise Adaptive Learning will occur in speed ranges from 1,000 to 6,500 rpm. Additional Adaptive Learning will occur outside of those rpm ranges. Note that due to a wider range (1,000 to 6,500 compared to 1,000 to 4,500 on other maps) the Adaptive Learning on the wider range will not be as detailed as on the narrower range. This will have negligible effect on the overall operation of your vehicle.

* If you build your own profile, you will see that in the manifold selection you can choose the Typhoon or the Crosswind (among others). However the difference between these two styles of manifolds is fairly small so if all the other parameters of the base profile that comes with the system suit your engine, and you are running either of these two styles of manifolds, the base profile will work for you.

**Manual Tune Mode is for the tuner who prefers building a map on a cell by cell basis. This is a very time consuming and laborious way to build a map and is the method that has been used for years by other EFI manufacturers and tuners. We don't see the benefit but want to have it available for those tuners who prefer to use it. Note that using this method should only be attempted by experienced EFI tuners.

Important Note regarding Torque Input: If you enter a figure that is higher than the torque your engine is making, your engine will run too rich. So if you are seeing a rich condition, the first thing you should try ito do is to lower your torque figure. Remember that our system is designed around rear wheel torque figures. So if you have dyno numbers from an engine dyno you need to reduce your torque number by 20% to allow for losses through the driveline. If you enter a torque number that is too low, your engine will run too lean. This must be corrected immediately as a lean condition can cause severe engine damage. If you suspect a lean condition check your spark plugs and also inspect your exhaust outlets. If the inner part of the exhaust tips are whitish or lacking in color, you are too lean.

Calculating Your Torque: If you are not sure what your engine's torque is, and if you have a crate engine, most crate engine suppliers provide torque figures. These will be engine dyno torque numbers and will have to be reduced by 20% for the purposes of the Powerjection III system. Another way to get an approximation of your engine's torque is to use an onlline calculator found on the Professional Products website. You will need to know your engine's cubic inch displacement and your compression ratio. You can enter these values and get an approximate torque figure. Again, this is engine torque so reduce it by 20% to get a rear wheel torque figure to use in developing the map for your EFI. (400 engine dyno flywheel torque x 80% = 320 rear wheel torque) Go to the Professional Products website (www.professional-products.com) and look on the left side of the home page for a link called "Handy Formulas." When you get to the Handy Formula page look for the calculator called "CID To Torque Comp Ratio." Enter your displacement in cubic inches and read your estimated engine torque opposite your compression ratio. Or if your engine displacement is in liters, you can use the calculator called "Liters To Torque Comp Ratio." Of all the values you have to enter when developing your own profile for the Powerjection III, the rear wheel torque is one of the most important, so please try to get as accurate a figure as you can.