



2018-2022 X3 120 Base Tuning Pack

SKU(s): 2018-2022 S-R (001FC0019)

By purchasing this kit, you agree to and understand the following:

- This is a high-performance upgrade!!!! Although we have gone through great lengths to build safety into the upgraded tuning, the fact is installing any performance enhancing product from any company requires care in both operation and/or installation. Poor fuel, improper setup or any number of things that are done incorrectly can damage your engine/vehicle.
- You have likely voided the sound and exhaust emission standards of your state, county or country if applicable.
- This upgrade is intended for OFF ROAD or for racing use only.
- The fuel requirements must be adhered to!!!! Poor fuel can destroy an engine in seconds!!!
- Due to the variability of fuel quality and other factors, Evolution Powersports (EVP) bears no responsibility for damage caused to your vehicle by the installation of EVP products. The warranty on our parts is 90 days from the date of purchase. Evolution Powersports, at its discretion will determine whether a part meets the warranty requirements. In no case is there any warranty from EVP for your vehicle. We assume no liability for damage to vehicle or personal injury from installing or using any of our products.
- The installation of some aspects of this kit are technical and mechanical in nature with opportunities to make mistakes – mistakes that can be very costly!!! If you are not qualified to install this kit, don't do it!!
- This kit will make your vehicle faster, climb higher and accelerate more quickly and take a longer distance to brake than a stock tuned vehicle. If you are not capable of controlling the vehicle with the added performance, do not install the kit.
- Do not ever allow a child or an unqualified driver to operate this vehicle!!!!!!!!!!!!!!!
- The Multi Map option must be used carefully – running in “95 octane mode” with poor fuel can damage your engine quickly. Absolutely no warranty is expressed or implied due to the possibility of running the engine in the wrong mode.
- (NOTE: ALL OCTANE RATINGS ARE BASED UPON HOW THE US MEASURES OCTANE: APPROXIMATE CONVERSIONS OF US OCTANE TO EUROPE AND ASIA: 91 US = 95 EUROPE AND ASIA, 93 US = 98 EUROPE AND ASIA, 95 US = 102 EUROPE AND ASIA.
- By installing our products on your vehicle, you agree to the above terms and conditions.



INCLUDED PARTS

Stage S-R
(1) X3 Intercooler Assembly w/fan
(1) EVP X3 Charge Tubes

REQUIRED TOOLS

T-30 Torx Socket
Compressed Air
Flat Head Screwdriver
Di Electric Grease
Mityvac MV8255
10mm Wrench

All Stages:

- Step 1:** Remove OEM charge tube from turbo to throttle body
- Step 2:** Install Intercooler/fan assembly into vehicle
- Step 3:** Install EVP charge tubes
- Step 4:** Connect intercooler fan to OEM harness plug (there is a provision for this on the 120 hp version.)

Stage S-R:

- Step 1:** OEM Wastegate crack pressure must be raised to **6 lbs.** (see wastegate adjustment procedure)
- Step 2:** Use only 91 Octane or better fuel

Stage 1,2,3:

- Step 1:** OEM Wastegate crack pressure must be raised to **7 lbs.** (see wastegate adjustment procedure)
- Step 2:** Install 18 XDS/XRS fuel pump assembly (see last page)
- Step 3:** Use only GOOD 91 Octane or better fuel
- Step 4:** Recommended: Re-gap OEM Spark Plugs to 20 Thousandths (0.020)



Installation Steps:

NOTE: Engine must be cold to do this install.

Step 1: Use compressed air to blow out dirt and dust around the fuel rail and injector seats.

Step 2: Using a T30 socket, remove the (2) Torx screws securing the fuel rail to the plenum.

Step 3: Lift the fuel rail upward and back (without removing the injectors) – this will make it easier to disconnect injector plugs. Squeeze the retainer clips to release plugs from injectors and remove.

Step 4: Move fuel rail to the passenger side of the engine so it is easier to work on. Use a small flat blade screwdriver to remove the injector clips securing the injectors to the fuel rail – make note of their orientation as they will be installed the same on the new injectors.

Step 5: Apply di electric (silicone) grease on the top and bottom O-rings of the new injectors.

Step 6: Install the injectors into the fuel rail in the same orientation as they were removed.

Step 7: Reinstall clips making sure they are installed onto the injectors in the groove the same as they were on the OEM injectors.

Step 8: Reconnect injector plugs.

Step 9: Reinstall fuel rail hold down bolts – **DO NOT OVERTIGHTEN.**

Step 10: Push start button, but do not start the engine – check for fuel leaks – if there is any leaking of fuel from the injectors or fuel rail, this must be addressed prior to running the engine.

Wastegate Adjustment: ***(only for tunes that require it)***

NOTE: See picture on next page for clarification of this procedure.

Step 1: Remove panel between the seats that allows access to the turbocharger

Step 2: Using a small flat blade screwdriver, remove the clip that holds the wastegate actuator rod onto the wastegate arm

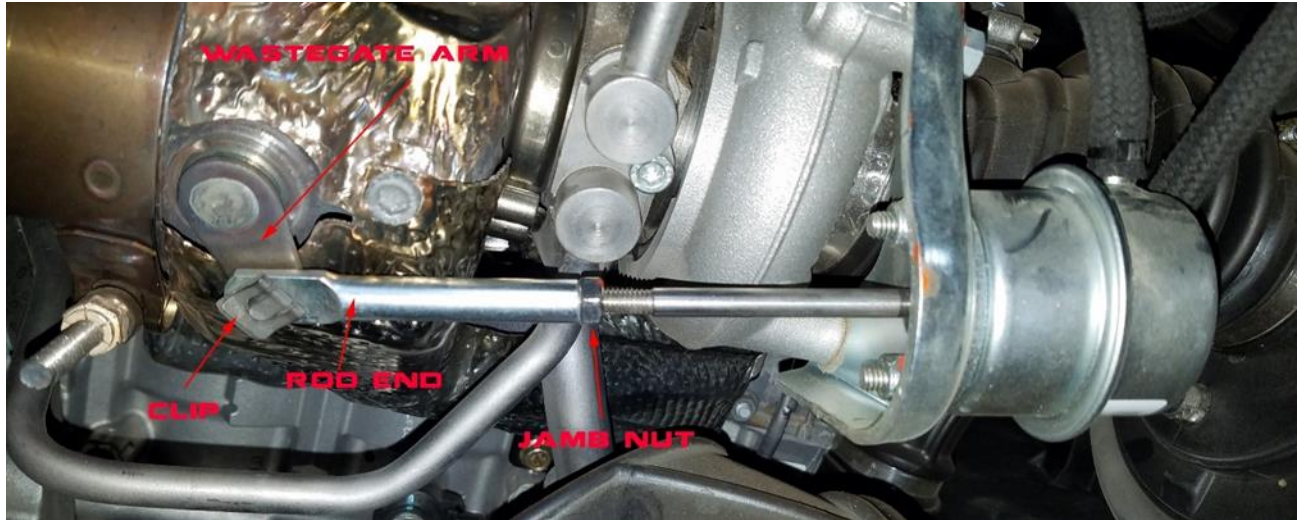
Step 3: Using a 10mm wrench, loosen the jamb nut on the wastegate rod

Step 4: Remove the wastegate rod end from the wastegate arm. Screw the rod end clockwise to shorten the arm to raise the crack pressure. Conversely, lengthen the rod to lower the crack pressure. Check crack pressure with Mityvac. Please see our YouTube video for the correct way to do this <https://youtu.be/qOg2MnBfl08>

Step 5: Check pressure 3 times to make sure it is correct

Step 6: Put the wastegate rod end back onto the wastegate arm.

Step 7: Reinstall the clip and tighten the jamb nut.



Multi Map Installation:

(For customers that have purchased the Vmap Multi Map Option)

Multi Map enables customers to use the “Sport Mode” and “ECO Mode” switch to select different tunes. Included is a new switch cover labeled “**Race Gas**” and “**Pump Gas**”. Customers can switch between tunes using this feature.

Step 1: Remove the factory sport/eco mode switch

Step 2: Install the Supplied EVP 95 Oct/91 Oct switch

Step 3: For a Stage 4RWI Tune with the Multi Map Option – 95 Octane Fuel is required

Step 4: How to make 95 Octane:

- Or mix 1.5 gallons of 110 octane race fuel to 3.5 gallons of 91 Octane
- Or mix 2.5 gallons of 100LL or 100 octane race fuel to 2.5 gallons of 91 Octane

NOTE: You must be careful using this function – Running in “RACE GAS MODE” when “PUMP GAS” is in the tank can damage your engine.

Clutching:

The X3 engine tuned makes best power around **7900-8100 RPMS**. Strongly consider a clutch kit from us or another reputable company to get the best performance and belt life out of your vehicle.

2018 Fuel Pump Installation:

- Step 1:** Remove plastics covering fuel tank. See picture below for location
- Step 2:** Locate the arrow on the top of the fuel pump. The arrow will face the passenger side of the vehicle.
- Step 3:** Unplug electrical connector going into the top of the pump.
- Step 4:** Unhook fuel hose by removing the red clip from the connection. Then push down on the fitting while pushing in on the back side of the fitting – then lift the fitting off the pump assembly.
- Step 5:** Rotate pump assembly cap counterclockwise and remove. Remove assembly.



- Step 6:** Install the 2018 fuel pump assembly in the reverse order. Make sure to reinstall the rubber gasket at the top of the fuel tank or the tank will leak.



Tuning Tables:

Stock Injector + Stock Fuel Pump

Stock Injector ECU Flash	HP	Boost (lbs)	Wastegate Crack Pressure (lbs)	Fuel (Octane)	Recommended Exhaust
<i>Stock</i>	120	8	3	91	Stock
<i>Stage 1SR</i>	172	13	6	91	Stock or Aftermarket

Stock Injector + Upgraded Fuel Pump

Stock Injector ECU Flash	HP	Boost (lbs)	Wastegate Crack Pressure (lbs)	Fuel (Octane)	Recommended Exhaust
<i>Stage 1</i>	192	16	6	91	Stock
<i>Stage 2</i>	196	17	8	91	Stock or Aftermarket
<i>Stage 3R-91</i>	200	17.5	8	91	Stock or Aftermarket
<i>Stage 3R-93</i>	205	18	8	93	Stock or Aftermarket

Big Injector

Big Injector ECU Flash	HP	Boost (lbs)	Wastegate Crack Pressure (lbs)	Fuel (Octane)	Recommended Exhaust
<i>Stage 3RWI</i>	205	18	8	93	Stock
<i>Stage 4RWI</i>	215	20	9	95	Stock or Aftermarket
<i>Stage 4 X100</i>	225	22	11	100	Stock or Aftermarket
<i>Stage 5 X85</i>	235	22	11	E85	Stock or Aftermarket



INSTALLATION INSTRUCTIONS

Thank you for choosing Evolution Powersports products. If you require further assistance, please call our Tech Support @ (715) 247-3862

Note: This product is exempt from the emission standards and related requirements of 40 C.F.R. § 1051 as provided by 40 C.F.R. § 1051.620, and California law [e.g., vehicle code §§ 27156 and 38391]. This product is sold only for use in connection with EPA certified, purpose-built, nonroad vehicles used solely for closed course, nonroad competition/racing and not used for any recreational purpose or on public highways or right of ways maintained by and open to the public. This product is sold only in connection with machines that do not fall under state and/or federal noise or emission standards/regulations. Purchasers who/that purchase this product represent and warrant that the product is purchased only in connection with EPA -certified, emission-regulations-exempt and noise-regulations-exempt competition/racing vehicles as interpreted under applicable state and/or federal law. Questions: Call Evolution Powersports at (715) 247-3862.

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