



# INSTALLATION GUIDE

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## POLARIS RANGER TURBO SYSTEM



# INTRODUCTION

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## **WELCOME TO YOUR NEW POLARIS RANGER TURBO SYSTEM.**

With a boost level of 5 psi and high-volume design, you are sure to get the additional horsepower you are looking for with minimal stress on the motor. Your Polaris Ranger will see a dramatic horsepower increase to the wheels, from 54 RWHP to near and above 105 RWHP and from 45 FTLBS torque stock to 70 FTLBS of torque with the turbo system.

This system will fit all 2 door and 4 door Polaris Ranger Northstar models and Rangers with a rear mounted factory exhaust.

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## **INSTALLATION TIME:**

A professional mechanic can install the system in about 6 hours, while a home garage mechanic usually needs 8-10 hours or more.

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## **DISCLAIMER:**

While there are no internal engine modifications required, we still recommend that the installation technician have adequate experience in power sports mechanics. Proper installation is imperative for safe operation.

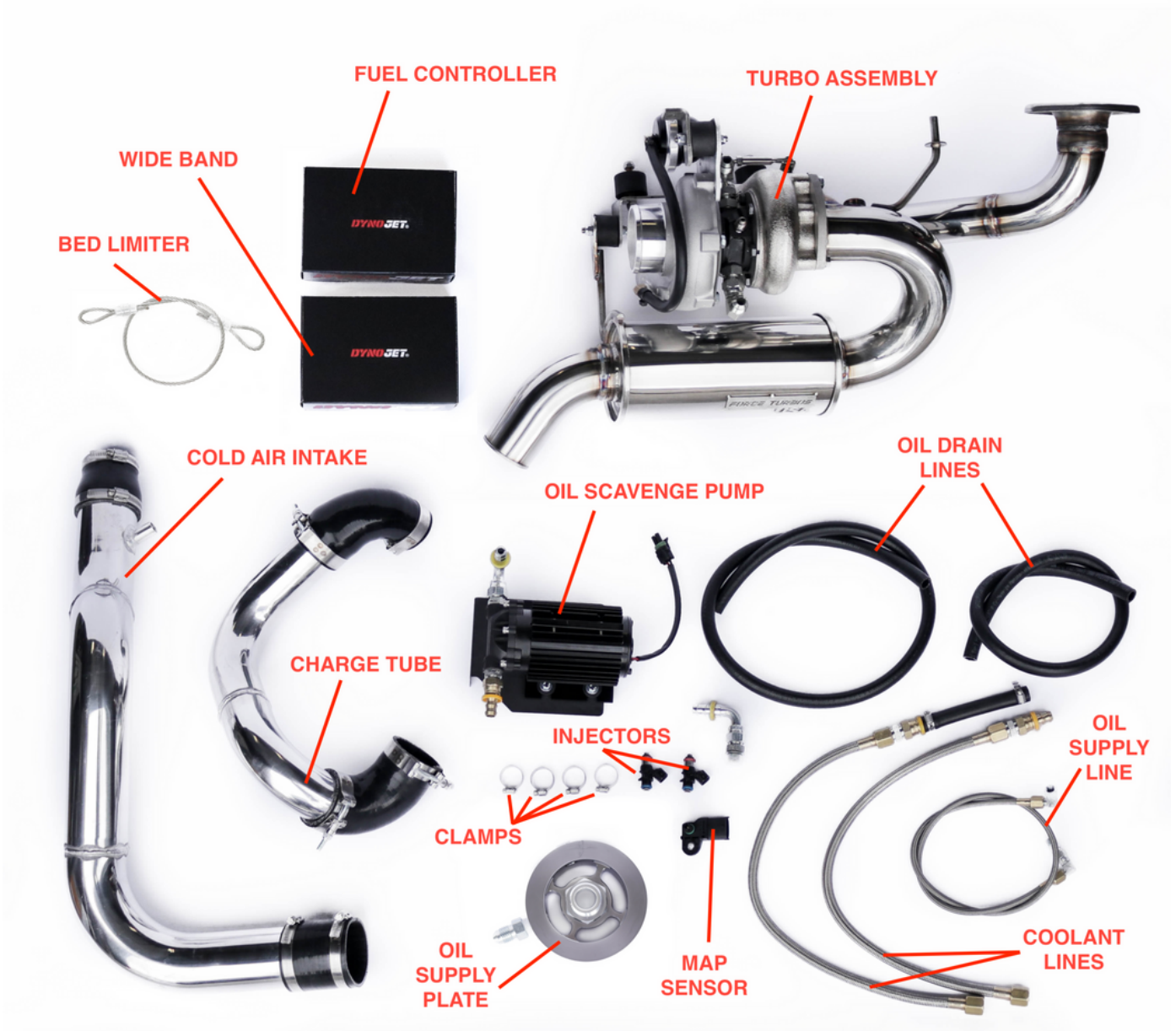
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## **INSTALLATION VIDEO:**

<https://youtu.be/5elMkHwIQcU>

# INCLUDED PARTS

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# TOOLS NEEDED

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- Pliers
  - Needle nose
  - Straight cut
  - Slip joint
  - Wire cutters
- Wrenches
  - 11mm
  - 13mm
  - 14mm
  - 7/8"
- Sockets
  - 8mm
  - 10mm
  - 11mm
  - 1/4"
  - 1"
- Allen/Torx Bits
  - 8mm allen
  - T20
  - T25
  - T30
  - T40
- Drill Bits
  - 1" hole saw
  - Basic drill bit set
- Miscellaneous
  - Hammer/Mallet
  - Spring Puller
  - Flathead Screwdriver
  - Center punch
  - Razor blade
  - Spanner Wrench
  - 90 degree Pick

# STOCK VEHICLE

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# STEP 1: DISASSEMBLY

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## REMOVE THE FOLLOWING PARTS:

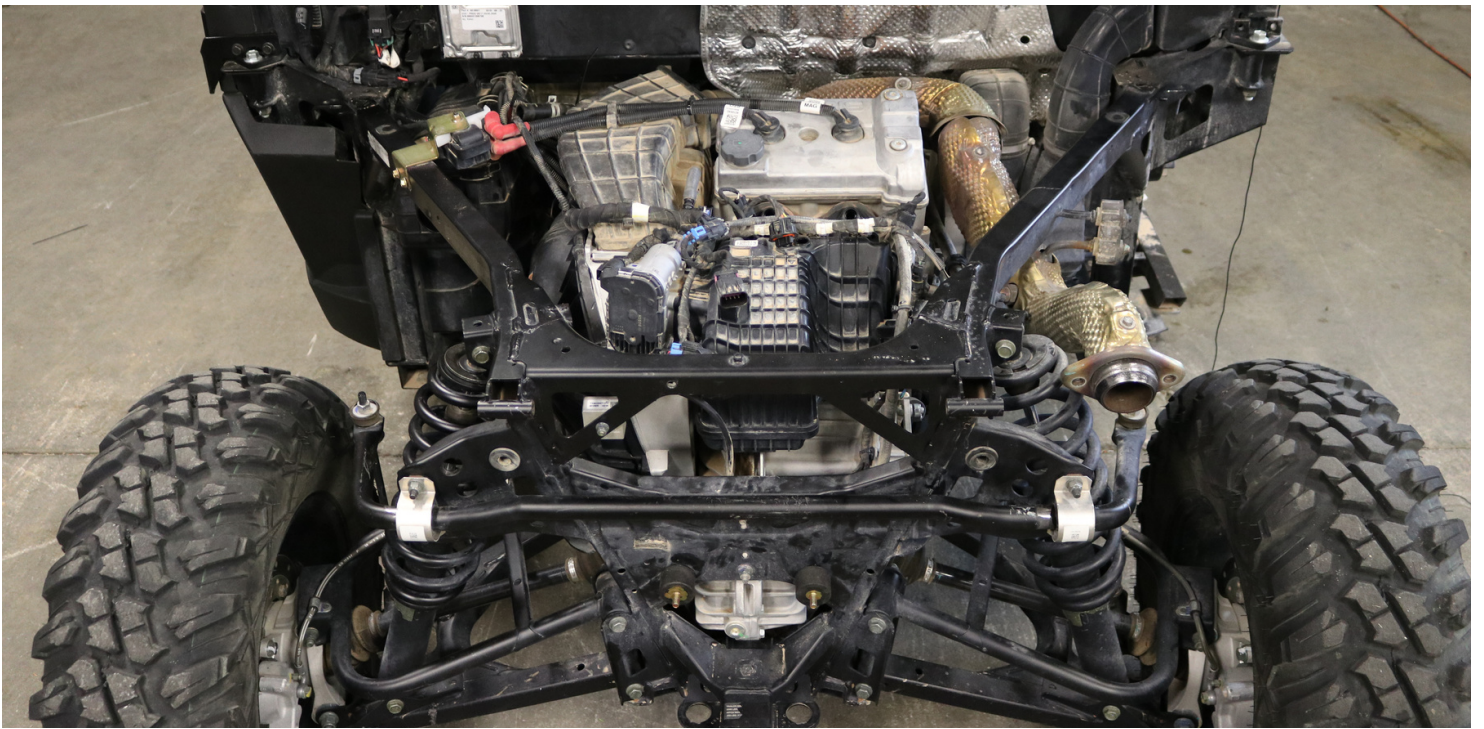
- Bed
- Exhaust
- Stock map sensor
- Stock intake
- Back seats
- Rear passenger door
- Rear passenger quarterpanel
- Stock injectors
- Oil filter

## LOOSEN THE FOLLOWING PART:

- Fuel rail

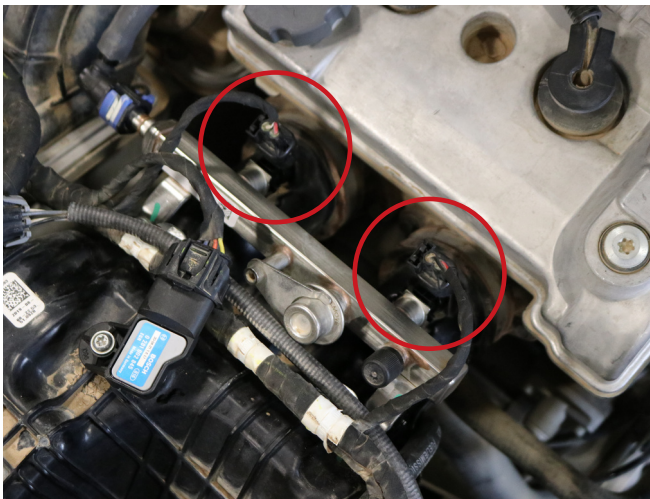
# DISASSEMBLED VEHICLE

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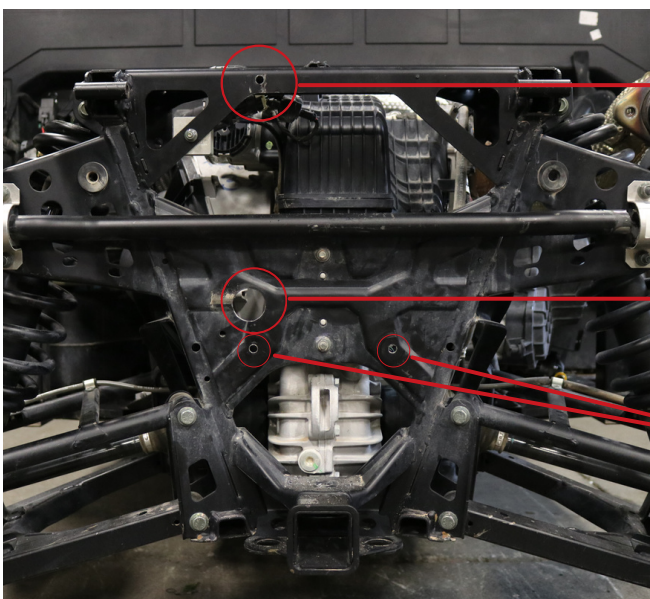


# STEP 2: ASSEMBLY

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1. Install injectors and MAP sensor



3/8" hole

1" hole

3/8" holes

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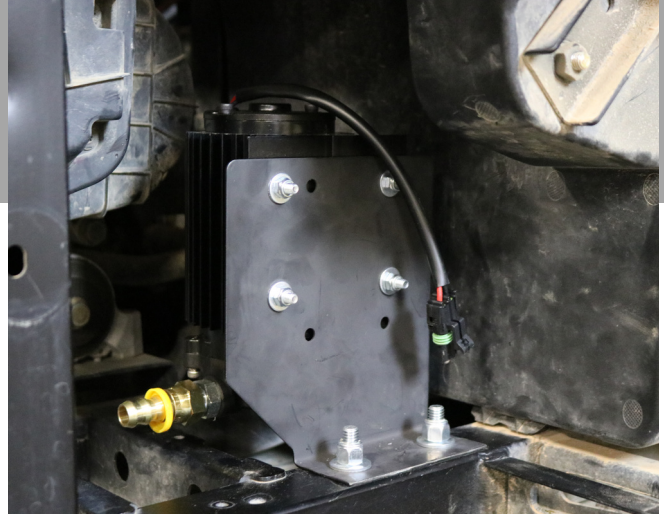
2. Mount turbo and make marks for bottom mounting studs 3" from transmission bolt on either side. Once those are drilled and you've mounted your turbo, you will drill the actuator bracket hole. Next, you'll drill your oil drain hole 1 7/8" above left bottom mounting hole

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3. Under right hand quarter panel that was removed, drill two 3/8" holes for oil pump bracket



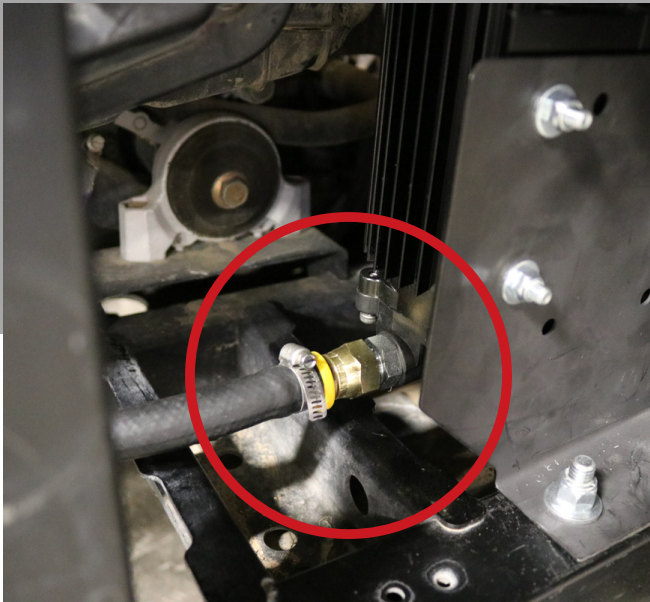
4. Install oil pump. Wire the power and ground wires into any "accessory on" wires. We usually connect the tail light power and ground. Test the operation of the pump prior to starting



5. Mount turbo system. Install rubber mounts first, line up the exhaust flange, and install the two exhaust bolts and springs. Next, install nuts on the rubber mounting studs, line up your bracket mount, and install nut and bolt



6. Install the charge tube and cold air intake



7. Run oil drain line from turbo to oil pump & run other oil line from oil pump to oil pan



8. Find and remove drain plug on the driver's side in front of clutches



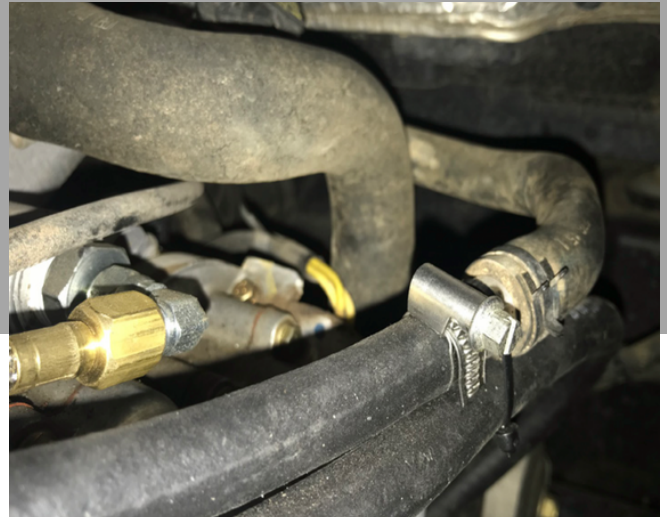
9. Install oil drain fitting into case and install new oil drain line



10. Remove coolant line from water pump under right hand throttle body and cut off first 90° section in stock line



11. Install new coolant line from water pump to turbo



12. Install other coolant line with coupler into stock hose that was cut



13. Run coolant line to the back of the vehicle and zip tie lines away from exhaust



14. Install oil filter sandwich plate and reinstall oil filter



15. Install oil line from turbo to sandwich plate

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## 16. Install Dynojet products

- Route wideband O2 sensor and harness through the cabin of the vehicle, securing to the other lines running under the raised platform in the cabin
- Flash DJT file into your vehicle. When the screen asks “Do you want to delete all incompatible?” Hit yes. Once the tune is flashed into the ECU, the Dynojet Powervision will be married to your vehicle
- Once Dyno jet is Married to your vehicle. Plug your Powervision into a (Windows) computer with the supplied USB cable. Select the PV Info and stock tune. Email the these items to Force Turbos to get vehicle specific tune
- Once tune is received from Force Turbos, plug your Powervision into a (Windows) computer with the supplied USB cable. Download the attached tune(s) and locate them in your target folder (usually Downloads folder). Copy & paste or drag & drop the tune file(s) onto the POWERVISION drive. When prompted, hit yes to copy the files. Once copied, the tunes are on the tuner. Eject the device, unhook it from the computer, then plug it back into your vehicle and upload the appropriate tune to your ECU. The latest installed tune files will show up last in the tune list on the Powervision screen. If we attached multiples of the same tune, make sure you copy all files. Only the correct tunes will show up on the Powervision screen when hooked up to the vehicle and communication is established with the ECU. Turn key on, select newly loaded tune and flash to ECU. Leave key on until flash is complete. Once flash is complete, press the center oval button and turn key off until everything powers down

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## 17. Set up gauges:

- Press center button on Powervision. Go to device tools, go to screen set up, and select screen 1.
  - Position 1 select = AFR 1 this will show up once the vehicle has been started and the wideband has had time to calibrate
  - Position 2 select = Engine speed
  - Position 3 elect = Barometric pressure or BAP
  - Position 4 select = Manifold atmospheric pressure or MAP
- After setting up gauges hit the return arrow until you are back to home screen. Screen should be set up with select parameters

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**IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT FORCE TURBOS AT [WWW.FORCETURBOS.COM](http://WWW.FORCETURBOS.COM). WE APPRECIATE YOUR BUSINESS.**

# VEHICLE WITH TURBO SYSTEM

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