

# INSTALLATION INSTRUCTIONS

# Dual Catch Can Kit

# 02-21 Subaru EJ Turbo Document# 19-0299

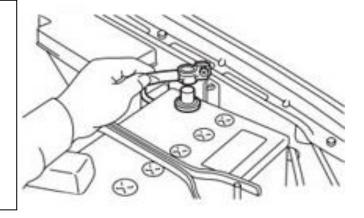
Support: info@radiumauto.com

Instructions are based on a vehicle with an OEM turbocharger and top-mount intercooler. If a front-mount intercooler or rotated turbo are used, some steps may not apply and the installation may have to be modified accordingly. Furthermore, please know the Subaru model year and engine code as this document is split into the following 3 sections:

- 1. 2002-2003 EJ205
- 2. 2004-2005 EJ205 2006-2007 EJ255 2004-2021 EJ257
- 3. 2008-2014 EJ255

# 1. 02-03 EJ205 ENGINE

Using a 10mm wrench, remove the negative terminal from the battery.



# 2. 02-03 EJ205 ENGINE

Remove the intercooler by loosening 1 hose clamp on the throttle body and 1 on the small coupler coming off the turbocharger outlet. Remove the bolts from the mounts on each side of the intercooler. Unbolt the recirculation valve from the intercooler (leave it connected to the hose).

Unbolt the hard black crank breather tube from the bottom of the intercooler. Carefully lift out the intercooler and set aside.



# 3. 02-03 EJ205 ENGINE

Locate the two threaded holes on the RH strut tower. These are the threaded bosses that the catch can kit will use for mounting.

See note below if these holes are used for some other parts.



NOTE: If the mounting bosses in the previous step are already being used, these parts will need to be relocated.

For example, the resistor pack and buzzer bracket shown will need to be addressed.

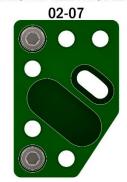
If the cruise control module is still present on the vehicle, please purchase Radium P/N: 13-0110, Cruise Control Relocation Bracket (sold separately).



#### 5. 02-03 EJ205 ENGINE

Using the two supplied M6x1mm socket head bolts and a 5mm Allen Wrench, secure the billet mount directly to the RH strut tower, as shown.

# **MOUNTING HOLE LOCATIONS** SUBARU IMPREZA MODEL YEAR







#### 6. 02-03 EJ205 ENGINE

Using the three supplied M8x1.25mm socket head bolts and a 5mm Allen Wrench, mount the bracket directly to the billet mount, as shown.

# 7. 02-03 EJ205 ENGINE

Lubricate the 4 adapter fitting O-rings. Secure the 6AN fittings into one can and the 8AN fittings into the other can with the low profile fittings in the side ports.

If the optional 20-0024 was purchased, this is the time to install the fitting(s). Cut the hose(s) to length and place the petcock drain valve(s) in a convenient location.

Mount the 6AN fitting catch can in the location closest to the firewall and the 8AN fitting catch can towards the front of the vehicle. Apply medium strength thread locker to the flat-head M5 screw threads. Using a 3mm Allen wrench, fasten the catch cans in the bracket's countersink holes, as shown. Do not install any other mounting screws at this time.

Disconnect the recirculation hose from the turbo air inlet pipe.

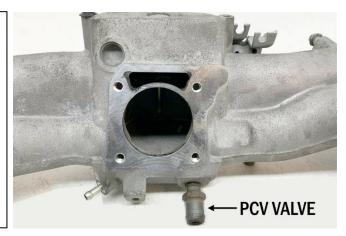
Remove the hose with the recirculation valve still attached and set aside.

Next, remove the throttle body by loosening and removing the 4 mounting bolts. If the gasket is not damaged, it can be reused.



# 9. 02-03 EJ205 ENGINE

Unlike later models, the early model (02-03) PCV valve is screwed into the intake manifold port (as shown). Furthermore, it uses a large 5/8" barb diameter.



TO TURBO INLET

# 10. 02-03 EJ205 ENGINE

The diagram shows how the PCV system works from the factory (not with a catch can installed).

Disconnect and remove the hose that routes from the 3-way TEE to the PCV valve on the intake manifold. This hose will not be reused.

Also, remove the connection going from the 3-way TEE to the turbo inlet. Follow the next step regarding this same hose.



#### 11. 02-03 EJ205 ENGINE

Follow the hose to the turbo inlet pipe. This OEM hose will not be reused.

Remove the clamp (shown). Install the provided  $\chi''$  rubber cap onto the now vacant barb nipple on the turbo inlet pipe.

The 5/8" barbs found on the PCV valve and the 3-way TEE (shown) will be converted to 3/8" to be compatible with the 6AN hose end fittings. Two short 5/8" hoses will be constructed.



### 13. <u>02-03 EJ205 ENGINE</u>

First, insert the large side of the included 3/8'' barb to 5/8'' barb reducing couplers into each end of the provided 5/8'' hose (as shown). These connections do NOT require clamps.

Cut the 5/8" hose in half. These hoses will be trimmed to length in a later step.



# 14. 02-03 EJ205 ENGINE

One section of 5/8'' hose will secure to the PCV valve that is screwed into the intake manifold. The other section of 5/8'' hose will attach to the large 3-way TEE barb.

Lineup the 5/8'' hoses and strategically cut to length for best fitment. Secure the hoses with the OEM clamps.



# 15. 02-03 EJ205 ENGINE

Attach the provided 3/8" hose to the plastic reducing barb fitting from the 3-way TEE in the previous step. A clamp is not necessary for this connection.

As shown, route the hose back towards the firewall. Lineup the 3/8" hose to the 6AN 90 degree hose end. Ensure the hose is not kinked or pinched. Allow some slack for engine movement and cut to length.



Using oil lubrication, install the 90 degree PushLok hose end into the 3/8" hose until all barbs are fully engaged. NOTE: clamps are not necessary for PushLok hose ends.

Orient the hose end on the top catch can fitting and tighten using an 11/16" wrench. The hose routing should resemble this picture.



# 17. 02-03 EJ205 ENGINE

Attach the cut section of the provided 3/8" hose to the plastic reducing barb fitting from the PCV valve. A clamp is not necessary for this connection.

Route the 3/8'' hose similar to the previous hose. Lineup the 3/8'' hose to the 6AN straight hose end on the catch can side fitting. Ensure the hose is not kinked or pinched. Allow some slack for engine movement and cut to length.

Using oil lubrication, install the straight PushLok hose end into the 3/8" hose until all barbs are fully engaged. NOTE: clamps are not necessary for PushLok hose ends. The hose end should be horizontal and pointing toward the firewall. This will ensure proper fitment for the heat shield in later steps. Tighten all fittings in place.

# 18. 02-03 EJ205 ENGINE

As shown, use the included cable zip-ties to keep the hoses away from moving and/or hot engine parts such as the downpipe and turbocharger.



#### 19. 02-03 EJ205 ENGINE

Install a section of  $\frac{1}{2}$ " hose onto the 3-way TEE in the location shown. To secure, reuse the OEM clamp.

NOTE: Leave this hose unconnected at the other end as it will connect to the included TEE fitting near the coolant tank in later steps.



Reinstall the recirculation hose back onto the turbo air inlet pipe and route it as it was originally.

As shown, the throttle body can be reinstalled.

NOTE: Before reinstalling the intercooler, it is a good idea to clean the inside to get rid of any previous oil build up.



# 21. 02-03 EJ205 ENGINE

As shown, disconnect and remove the hose that runs from the black metal crossover tube to the turbo air inlet pipe. This hose will NOT be reused.

NOTE: the OEM hoses that connect from the vertical valve cover breather ports to the crossover tube will remain connected and unmodified.



# 22. 02-03 EJ205 ENGINE

Connect one end of the provided ½" hose to the crossover tube. Next, route the hose over to the 90 degree hose end on the top port of the catch can. Cut the hose to length and install onto the hose end, as shown in blue. NOTE: Push Lok hose ends do NOT require hose clamps.

Clock the hose end for best fitment and tighten.



#### 23. 02-03 EJ205 ENGINE

Connect one end of the provided  $\frac{1}{2}$ " hose to the turbo inlet pipe hose barb. Next, route this hose to the catch can side port. Cut the hose to length and install on the straight hose end, as shown in red. NOTE: Push Lok hose ends do NOT require hose clamps.

Orientate this hose end horizontally pointing towards the front of the vehicle for proper fitment with the heat shield.

Secure the hoses together with the included zip ties, as shown.



Cut a ½" section out of the hose shown. This cut should be made just behind the coolant tank. Next, install the provided TEE fitting in line with the branch of the TEE pointing toward the throttle body.

Route the loose  $\chi''$  hose under the hoses in the area, as depicted in green. Cut it to length and secure to the included TEE fitting. A clamp is not required on these connections.



# 25. 02-03 EJ205 ENGINE

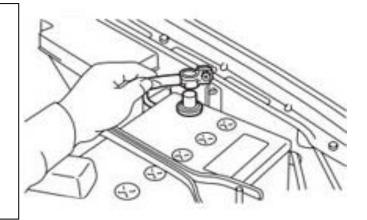
Slide the heat shield into position. Using a 3mm Allen wrench, secure the heat shield in place using the four M5 button-head screws, as shown. Do NOT use thread locker on these screws. **Installation complete**. *NOTE: Because of engine variances, it is normal to have left over parts that will not be used.* 

Check the oil level in the catch cans regularly by simply unscrewing the dipsticks. To drain, service, or clean out the catch cans, simply remove the heat shield and unscrew the lower half of the catch can bodies. The condensing filtration media can be cleaned with any standard degreaser.

#### 1. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using a 10mm wrench, remove the negative terminal from the battery.





#### 2. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Remove the intercooler by loosening 1 hose clamp on the throttle body and 1 on the small coupler coming off the turbocharger outlet. Remove the bolts from the mounts on each side of the intercooler. Unbolt the recirculation valve from the intercooler (leave it connected to the hose).

Unbolt the hard black crank breather tube from the bottom of the intercooler. Carefully lift out the intercooler and set aside.

NOTE: If removing the 2015+ STi "sound generator tube" to increase accessibility, see Subaru intake hose P/N: 46013AG020 (if still using the OEM intake).



Find the large engine harness on the RH strut tower. The large connector will first need to be separated from the mounting bracket. Using a flat blade, simultaneously push the internal locking tab and pull apart to separate.



# 4. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

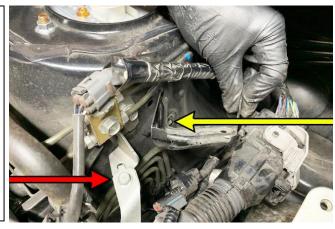
Using a 10mm socket, remove the engine harness mount (yellow arrow). This bracket and bolt will not be reused. Some vehicles will use 2 bolts in this location. These are the threaded bosses that the catch can kit will use for mounting.

Using a 10mm socket, temporarily unscrew the mounting bracket bolt (red arrow) from the power steering mount.

#### 5. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using needle nose pliers, dislodge the O2 sensor connector plastic stay from the brake hard line mount shown.

Unplug the O2 sensor connector.





#### 6. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using a 10mm socket, temporarily remove the two M6 bolts that secure the power steering reservoir.



Using a flat blade, carefully push the engine harness connector tab inwards while simultaneously rotating the large swinging lock to separate the connectors.

Pull the front portion of the engine harness forward and around the brake and power steering bracket and brake hard line mount. Reconnect the large engine harness connectors. Make sure the connectors are fully engaged and the lever is closed.

To gain the required clearance for the catch cans, position the large engine connectors lower than the power steering hose on the RH strut tower.

#### 7. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using the two supplied M6x1mm socket head bolts and a 5mm Allen Wrench, secure the billet mount directly to the RH strut tower, as shown.





# 8. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using the three supplied M8x1.25mm socket head bolts and a 5mm Allen Wrench, mount the bracket directly to the billet mount, as shown.



### 9. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Lubricate the 4 adapter fitting O-rings. Secure the 6AN fittings into one can and the 8AN fittings into the other can with the low profile fittings in the side ports.

If the optional 20-0024 was purchased, this is the time to install the fitting(s). Cut the hose(s) to length and place the petcock drain valve(s) in a convenient location.

Mount the 6AN fitting catch can in the location closest to the firewall and the 8AN fitting catch can towards the front of the vehicle. Apply medium strength thread locker to the flat-head M5 screw threads. Using a 3mm Allen wrench, fasten the catch cans in the bracket's countersink holes, as shown. Do not install any other mounting screws at this time.



Disconnect the recirculation hose from the turbo air inlet pipe.

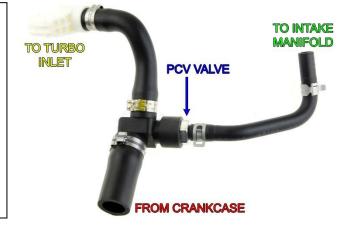
Remove the hose with the recirculation valve still attached and set aside.

Next, remove the throttle body by loosening and removing the four mounting bolts. If the gasket is not damaged, it can be reused.



# 11. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

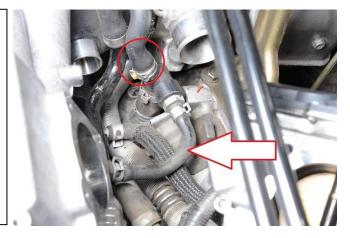
The 3-way TEE and PCV valve for the crankcase hoses will now be visible. The PCV valve is screwed into the 3-way TEE (shown). Unlike the early models, late model PCV valves have a 3/8'' barb diameter. The diagram shows how the PCV system works from the factory (not with the catch can installed).



#### 12. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Disconnect and remove the hose (arrow) that routes from the 3-way TEE to the intake manifold. This hose will not be reused.

Also, remove the connection going from the 3-way TEE to the turbo inlet pipe (circled). This hose may be held on with a crimp-style clamp. Peel back or carefully cut the banding to undo the crimp. Follow the next step regarding this same hose.



#### 13. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Follow the hose to the turbo inlet pipe. This OEM hose will not be reused.

These engines will have an electrical connector tube on the OEM hose that connects to the turbo inlet pipe. This PCV leak detection plug is used to communicate to the computer for diagnostic purposes. In particular, for cases when the PCV system is mistakenly disconnected.

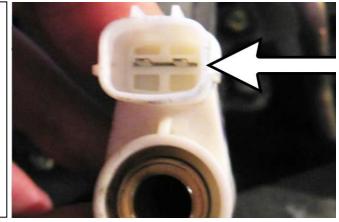
For OEM and aftermarket turbo inlets that support this diagnostic connector, leave it attached to the turbo inlet pipe. Install the provided  $\frac{1}{2}$ " rubber cap onto the now vacant barb nipple of the diagnostic connector.



For aftermarket turbo inlets that do NOT support the OEM diagnostic connector, extra parts may need to be purchased. All that matters is that this port on the turbo inlet must be blocked off or plugged in some manner.

To eliminate the diagnostic connector, simply separate it from it's post using a flat blade. It will pop off as it has an internal O-ring seal.

Using needle nose pliers, carefully pull to dislodge the small metal jumper shunt (shown) inside the PCV leak detection diagnosis connector. It is not a resistor.



# 15. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Attach this piece to the wiring harness female terminals, as shown.



#### 16. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Insulate this wiring junction with electrical tape to prevent accidental shorting. The mating connector should be tucked out of the way.



# 17. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Attach one end of the provided 3/8" hose to the PCV valve barb on the 3-way TEE.

NOTE: for securing the hose, the OEM spring will be snug.



As shown, route the hose back towards the firewall. Lineup the 3/8" hose to the 6AN 90 degree hose end. Ensure the hose is not kinked or pinched. Allow some slack for engine movement and cut to length.



#### 19. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Using oil lubrication, install the 90 degree PushLok hose end into the 3/8" hose until all barbs are fully engaged. NOTE: clamps are not necessary for PushLok hose ends.

Orient the hose end on the top catch can fitting and tighten using an 11/16" wrench. The hose routing should resemble this picture.



# 20. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

As shown, attach the cut section of the provided 3/8" hose to the intake manifold's barb fitting and secure using a spring clamp.



#### 21. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Route the 3/8'' hose similar to the previous hose. Lineup the 3/8'' hose to the 6AN straight hose end on the catch can side fitting. Ensure the hose is not kinked or pinched. Allow some slack for engine movement and cut to length.

Using oil lubrication, install the straight PushLok hose end into the 3/8" hose until all barbs are fully engaged. NOTE: clamps are not necessary for PushLok hose ends. The hose end should be horizontal and pointing toward the firewall. This will ensure proper fitment for the heat shield in later steps. Tighten all fittings in place.

Use the included cable zip-ties to keep the hoses away from moving and/or hot engine parts such as the downpipe and turbocharger.



The 5/8'' barb found on the 3-way TEE (shown) will be converted to 1/2'' to be compatible with the 8AN hose end fittings. One short 1/2'' hose will be constructed.

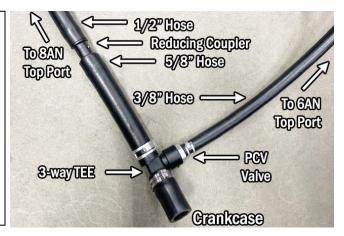
Install a short section of 5/8" hose onto the 3-way TEE in the location shown. Secure with a spring clamp.



# 23. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Cut the hose to length for best fitment and attach the reducing coupler. Now attach a section of %" hose to the reducing coupler as shown. NOTE: Clamps are not required for either side of the reducing coupler.

Leave this %'' hose unconnected at the other end as it will connect to the included TEE fitting near the coolant tank in later steps.



#### 24. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Reinstall the recirculation hose back onto the turbo air inlet pipe and route it as it was originally.

As shown, the throttle body can be reinstalled.

NOTE: Before reinstalling the intercooler, it is a good idea to clean the inside to get rid of any previous oil build up.



#### 25. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

As shown, disconnect and remove the hose that runs from the black metal crossover tube to the turbo air inlet pipe. This hose will NOT be reused.

NOTE: the OEM hoses that connect from the vertical valve cover breather ports to the crossover tube will remain connected and unmodified.



Connect one end of the provided ½" hose to the crossover tube. Next, route the hose over to the 90 degree hose end on the top port of the catch can. Cut the hose to length and install onto the hose end, as shown in blue. NOTE: Push Lok hose ends do NOT require hose clamps.

Clock the hose end for best fitment and tighten.



#### 27. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Connect one end of the provided  $\frac{1}{2}$ " hose to the turbo inlet pipe hose barb. Next, route this hose to the catch can side port. Cut the hose to length and install on the straight hose end, as shown in red. NOTE: Push Lok hose ends do NOT require hose clamps.

Orientate this hose end horizontally pointing towards the front of the vehicle for proper fitment with the heat shield.

Secure the hoses together with the included zip ties, as shown.

### 28. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

Cut a  $\chi''$  section out of the hose. This cut should be made just behind the coolant tank. Next, install the provided TEE fitting in line with the branch of the TEE pointing toward the throttle body.

Route the loose  $\frac{1}{2}$ " hose under the hoses in the area, as depicted in green. Cut it to length and secure to the included TEE fitting. A clamp is not required on these connections.



#### 29. 04-05 EJ205 / 06-07 EJ255 / 04-21 EJ257 ENGINES

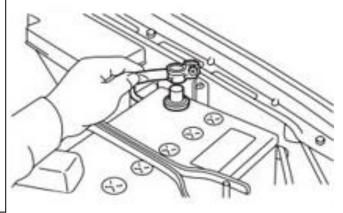
Slide the heat shield into position. Using a 3mm Allen wrench, secure the heat shield in place using the four M5 button-head screws, as shown. Do NOT use thread locker on these screws. **Installation complete**. *NOTE: Because of engine variances, it is normal to have left over parts that will not be used.* 

Check the oil level in the catch cans regularly by simply unscrewing the dipsticks. To drain, service, or clean out the catch cans, simply remove the heat shield and unscrew the lower half of the catch can bodies. The condensing filtration media can be cleaned with any standard degreaser.



# NOTE: IF THE VEHICLE HAS THE EARLY MODEL EJ255 ENGINE WITH AN ALUMINUM INTAKE MANIFOLD, USE THE INSTRUCTIONS ABOVE.

Using a 10mm wrench, remove the negative terminal from the battery.



### 2. 08-14 SUBARU EJ255 ENGINE

Using a 10mm socket wrench, remove two M6 bolts from the bypass valve.



# 3. 08-14 SUBARU EJ255 ENGINE

Using a 12mm socket remove the three M8 bolts that secure the intercooler.



#### 4. 08-14 SUBARU EJ255 ENGINE

Using a flat head screwdriver, loosen the intercooler outlet hose clamp.



Move the intercooler back and forth to dislodge. Do not lose the turbo outlet gasket on the intercooler inlet. Carefully pull the intercooler upwards and remove from the vehicle.



# 6. 08-14 SUBARU EJ255 ENGINE

Find the large engine harness on the RH strut tower. The large connector will first need to be separated from the mounting bracket. Using a flat blade, simultaneously push the internal locking tab and pull apart to separate.



#### 7. 08-14 SUBARU EJ255 ENGINE

Using a 10mm socket, remove the engine harness mount. These bolts and bracket will not be reused.

These are the threaded bosses that the catch can kit will use for mounting.



# 8. 08-14 SUBARU EJ255 ENGINE

Using needle nose pliers, dislodge the wiring loom's plastic stay, as shown.



Unlatch the grey lock on the engine harness connector.



# 10. 08-14 SUBARU EJ255 ENGINE

Pully pivot the grey latch. This will disconnect the electrical plug.



#### 11. 08-14 SUBARU EJ255 ENGINE

Using a 10mm socket, temporarily unscrew the mounting bracket bolt from the power steering mount.

Pull the front portion of the engine harness forward and around the brake and power steering bracket and brake hard line mount. Reconnect the large engine harness connectors. Make sure the connectors are fully engaged and the lever is closed.

To gain the required clearance for the catch cans, position the large engine connectors lower than the power steering hose on the RH strut tower.



# 12. 08-14 SUBARU EJ255 ENGINE

Pull the front portion of the engine harness forward and around the brake and power steering bracket and brake hard line mount. Reconnect the large engine harness connectors. Make sure the connectors are fully engaged and the lever is closed.

To gain the required clearance for the catch cans, position the large engine connectors lower than the power steering hose on the RH strut tower.



Using the two supplied M6x1mm socket head bolts and a 5mm Allen Wrench, secure the billet mount directly to the RH strut tower, as shown.

# MOUNTING HOLE LOCATIONS

SUBARU IMPREZA MODEL YEAR



#### 13. 08-14 SUBARU EJ255 ENGINE

Using the three supplied M8x1.25mm socket head bolts and a 5mm Allen Wrench, secure the bracket directly to the billet mount, as shown.



#### 14. 08-14 SUBARU EJ255 ENGINE

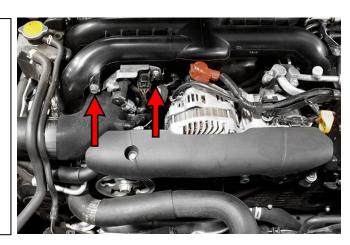
Lubricate the 4 adapter fitting O-rings. Secure the 6AN fittings into one can and the 8AN fittings into the other can with the low profile fittings in the side ports.

If the optional 20-0024 was purchased, this is the time to install the fitting(s). Cut the hose(s) to length and place the petcock drain valve(s) in a convenient location.

Mount the 6AN fitting catch can in the location closest to the firewall and the 8AN fitting catch can towards the front of the vehicle. Apply medium strength thread locker to the flat-head M5 screw threads. Using a 3mm Allen wrench, fasten the catch cans in the bracket's countersink holes, as shown. Do not install any other mounting screws at this time.

# 15. 08-14 SUBARU EJ255 ENGINE

For accessibility, remove the bolts (shown) that hold the wastegate solenoid bracket. Temporarily move the wastegate solenoid assembly to the side.



Using pliers, disconnect and remove the hose that runs from the black plastic molded crossover tube to the turbo air inlet pipe. This hose will NOT be reused.

NOTE: after this hose is removed, use the provided vacuum cap to plug this port on the turbo inlet pipe.



# 17. 08-14 SUBARU EJ255 ENGINE

On each side of the engine there are 2 vertical crankcase vent ports on the valve covers (4 total). The rearward port crankcase hoses will NOT be modified. For the frontmost ports, leave the hoses connected to the valve covers.

Using pliers, disconnect and remove the OEM spring clamps on each side of the black plastic molded crossover tube.



#### 18. 08-14 SUBARU EJ255 ENGINE

Prior to removing the black plastic molded crossover tube, the throttle body connector and the knock sensor will need to be disconnected.



#### 19. 08-14 SUBARU EJ255 ENGINE

Remove the M6 bolts that secure the black plastic molded crossover tube using a 10mm socket wrench. This will NOT be reused. Reinstall the single bolt for the blowoff recirculation valve and reconnect the knock sensor and throttle body connectors.



After unplugging the secondary injection connector, you will find the 3-way junction behind the intake manifold. This includes the crankcase vent which send vapors to the turbo inlet pipe as well as the PCV valve which routes vapors to the intake manifold. NOTE: The diagram shows how the PCV system works from the factory (not with the catch can installed).

Remove the connection going from the 3-way junction to the turbo inlet pipe.



# 21. 08-14 SUBARU EJ255 ENGINE

This hose that connects the 3-way junction to the turbo inlet pipe may be held on with a crimp-style clamp. Peel back the banding to undo the crimp.



#### 22. 08-14 SUBARU EJ255 ENGINE

Separate the white connector from the 3-way junction, as shown.



# 23. 08-14 SUBARU EJ255 ENGINE

Press the grey connector thumb tab to unlock and release the white connector, as shown.

NOTE: This white electrical connector tube is a PCV leak detection plug. It is used to communicate to the computer for diagnostic purposes. In particular, for cases when the PCV system is mistakenly disconnected.

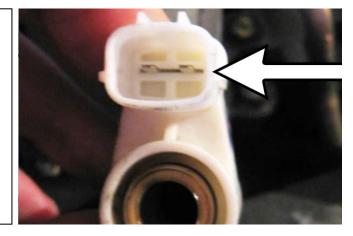


Using a flat head screwdriver, remove the grey wiring connector from the black tube, as shown.



# 25. 08-14 SUBARU EJ255 ENGINE

Using needle nose pliers, carefully pull to dislodge the small metal jumper shunt (shown) inside the PCV leak detection diagnosis connector. It is not a resistor.



# 26. 08-14 SUBARU EJ255 ENGINE

Attach this piece to the wiring harness female terminals, as shown.



# 27. 08-14 SUBARU EJ255 ENGINE

Insulate this wiring junction with electrical tape to prevent accidental shorting. The mating connector should be tucked out of the way.



Next, remove this same hose connection from the turbo inlet pipe. This hose will NOT be reused.



# 29. 08-14 SUBARU EJ255 ENGINE

Unlike older PCV valves, this PCV valve has no threads. Instead it simply pushes into the 3-way junction and has a 3/8" barb diameter. Gently pull it out of the 3-way junction.

Follow the PCV valve hose to the intake manifold. Using pliers remove the hose from the intake manifold barb. This OEM hose will not be reused.



#### 30. 08-14 SUBARU EJ255 ENGINE

Install the provided 3/8'' hose to the OEM PCV valve. Secure with the included spring clamp.



#### 31. 08-14 SUBARU EJ255 ENGINE

Push the PCV valve back into the 3-way junction.

Loop the hose around towards the firewall.



Route this 3/8" hose toward the top port of the rearmost catch can. Cut the 3/8" hose for best fitment. Ensure the hose is not kinked or pinched.

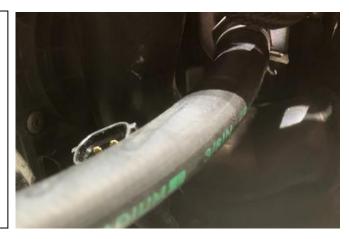
Using light lubrication, install the 90 degree Push-Lok hose end into the 3/8" hose until all barbs are fully engaged. NOTE: Push Lok hose ends do NOT require hose clamps.

Orient the hose end on the top catch can fitting and tighten using a 11/16" non marring wrench. The hose routing should resemble this picture.

# 33. 08-14 SUBARU EJ255 ENGINE

Attach the remaining 3/8'' hose to the intake manifold's barb fitting and secure with a spring clamp, as shown.





#### 34. 08-14 SUBARU EJ255 ENGINE

Route this 3/8" hose in a similar manner but to the side port of the rearmost catch can. Cut the hose for best fitment and install it fully on the straight PushLok hose end using oil lubrication. NOTE: Push Lok hose ends do NOT require hose clamps.

This straight 6AN hose end should be horizontal and pointing toward the firewall. This will ensure proper fitment for the heat shield in later steps. Tighten all fittings in place.

Keep the hoses away from moving parts and hot areas. Secure them with the included zip ties.



#### 35. 08-14 SUBARU EJ255 ENGINE

On the RH side of the engine, follow the short frontmost valve cover hose up until it mates to the diagnostic connector. Attach the included %'' hose to the barb on the opposing side of the connector. Secure with a spring clamp.



Install the provided plastic  ${\cal H}''$  to  ${\cal H}''$  90 degree elbow into the top portion of the 3-way junction. Point it directly upwards.

Run a short section of %'' hose up towards the new crossover hose. Merge the 2 hoses using the included TEE fitting, as shown.

NOTE: These barbs do NOT require hose clamps.



# 37. 08-14 SUBARU EJ255 ENGINE

Next, install a section of  $\ensuremath{\mathscr{V}}\xspace^{\prime\prime}$  hose on the turbo inlet tube and secure with a spring clamp.

NOTE: of the 2 ports that have been modified on the turbo inlet pipe, this port is closest to the turbocharger. The front turbo inlet pipe port was already blocked off with a vacuum cap in an earlier step.



#### 38. 08-14 SUBARU EJ255 ENGINE

Run this  $\chi''$  hose to the frontmost catch can side port. Cut the hose to length. Using oil lubrication install the straight PushLok hose end to the hose. NOTE: Push Lok hose ends do NOT require hose clamps.

Tighten the hose to the catch can using a 11/16" non marring wrench.



#### 39. 08-14 SUBARU EJ255 ENGINE

On the LH side of the engine, follow the short frontmost valve cover hose up until it mates to the diagnostic connector. Attach the remaining %'' hose to the barb on the opposing side of the connector. Secure with a spring clamp.



Run the  $\frac{1}{2}$ " hose towards the included TEE fitting and cut to length. Using oil lubrication install the hose to the TEE fitting, as shown. Hose clamps are NOT required for the TEE fitting barbs.



#### 41. 08-14 SUBARU EJ255 ENGINE

To install the provided plastic "Y" fitting to the new crossover hose, a section of the crossover hose will need to be removed. Put the "Y" fitting as close to the catch can as possible. This will require the end portion of the crossover hose to be cut 1.75" (45mm) long.



# 42. 08-14 SUBARU EJ255 ENGINE

Run a  $\frac{1}{2}$ " hose from the "Y" fitting to the frontmost catch can top port and cut to length. Using oil lubrication install the 90 degree Push Lok hose end to the hose. NOTE: Push Lok hose ends do NOT require hose clamps.

Tighten the hose to the catch can fitting using an 11/16" non-marring wrench.

NOTE: Push Lok hose ends do NOT require hose clamps.



#### 43. 08-14 SUBARU EJ255 ENGINE

Make sure all of the hose ends are positioned correctly and tight.



Attempt to slide the heat shield into position. Depending on the vehicle, there is a chance the power steering hose may be contacting the heat shield. If this is the case, the OEM bracket will need to be tweaked slightly for added clearance.



### 45. 08-14 SUBARU EJ255 ENGINE

Slide the heat shield into position. Using a 3mm Allen wrench, secure the heat shield in place using the four M5 button-head screws, as shown. Do NOT use thread locker on these screws.



#### 46. 08-14 SUBARU EJ255 ENGINE

Install everything in reverse order. Be sure the front-most turbo inlet port is plugged, as shown. Installation Complete. *NOTE: Because of engine variances, it is normal to have left over parts that will not be used.* 

Check the oil level in the catch cans regularly by simply unscrewing the dipsticks. To drain, service, or clean out the catch cans, simply remove the heat shield and unscrew the lower half of the catch can bodies. The condensing filtration media can be cleaned with any standard degreaser.



The diagrams below illustrate how routing works with the PCV valve open and closed.

