



27W-6-808-12 Type R / Type S BPV

BPV for Civic Type R & Integra Type S

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INTRODUCTION

In this installation guide we have provided step by step instructions to install the 27WON Performance Bypass Valve for Civic Type R & Integra Type S.

Advisory:

- Installation in FL5/DE5 is relatively easy due to the extra space between engine and radiator. FK8 installation is more difficult.
- The engine bay will be hot after recent vehicle operation. Allow the vehicle to cool or use a fan to cool the engine bay before working on the vehicle.



TOOLS:

- 3/8" Ratchet (1)
- 1/4" Ratchet (1)
- 3/8" Torque Wrench (1)
- Wrench, 10mm (1)
- 5.5mm Socket (1)
- 10mm Socket (1)
- 10mm Socket - Deep (1)
- 12mm Socket (1)
- 14mm Socket (1)
- 3/8" 3 in Extension (1)
- Needle Nose Pliers (1)
- Shop Towels/Rags (1)
- 3" Extension (1/4" Drive) (1)



PARTS:

- 27WON Bypass Valve (1)
- Worm Gear Clamp (1)
- M6 x1 .0 x12mm flanged bolt (3)
- BPV Lubricant (1)
- O-ring Large (1)
- O-ring Small (1)

Step 1 — Getting Started



- First and foremost; THANK YOU for becoming a part of the 27WON Family. We hope to REDEFINE your experience of the aftermarket with the highest level Parts, Customer Service, Packaging, & Support
- ① These instructions were written with a 2018 Honda Civic Type R. FL5 and DE5 install process similar. Install in FL5/DE5 is much easier due to the extra space between the engine and the radiator
- ① You will proceed to remove the OEM Bypass Valve from the vehicle in the coming steps

Step 2 — Remove Hoses From EVAP Solenoid



- Use needle nose pliers to loosen both OEM spring clamps and slide them up the hoses
- Pull the Boost Feed and EVAP Dump hoses off the EVAP solenoid

Step 3 — Remove OEM Intake tube



- Using the 5.5mm socket and ratchet, loosen the two OEM clamps securing the intake tube
- Remove the valve cover breather pipe from the intake tube
 - This breather pipe is secured with a permanent OEM clamp. This clamp cannot be removed easily so the pipe will need to be pulled free without removing the clamp. This can be difficult the first time. This permanent clamp will be replaced with the provided regular hose clamp during re-installation
- Remove the OEM intake tube from the vehicle

Step 4 — Remove Coolant Hard Lines



- Remove (2) 10mm bolts securing the hard coolant line to the inlet pipe and move out of the way
 - ① If you are working on a FL5 or DE5 this coolant line will not be present
- Remove (2) 10mm bolts securing lower hard water pipe

Step 5 — Unbolt Turbo Inlet Pipe



- Use a 10mm socket and ratchet to remove the bolt shown

Step 6 — Remove Wire Loom



- ① There are 2 bolts holding this bracket. The lower one is well hidden (yellow arrow)
- Use a ¼ inch ratchet, 10mm deep socket, and 3 inch extension, remove the 10mm bolt shown
- Remove the lower 10mm bolt as shown

Step 7 — Unplug Wastegate Connector



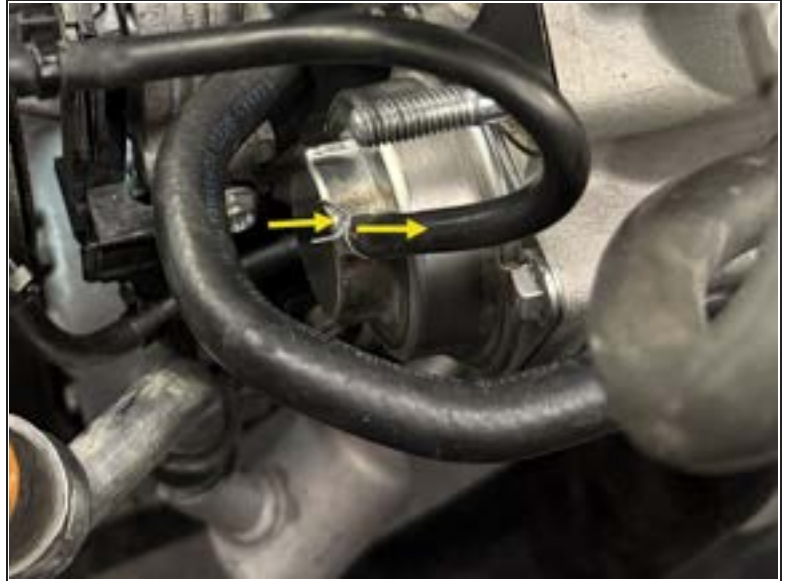
- Unplug the wastegate actuator by pressing the tab shown, and pulling the plug downward

Step 8 — Unclip Hose from Bracket



- Unclip the vacuum hose from the clips on the vacuum line retainer bracket

Step 9 — Undo Clamps On Hard Lines



- Using needle nose pliers, undo the clamp as shown and free the rubber hose from the hardline
- Follow the line down and find the lower clamp holding the hose onto the BPV
- Undo the lower clamp and free the rubber hose from the BPV
- Remove the rubber hose from the car and set aside

Step 10 — Remove Turbo Inlet Pipe



- ① Turbo inlet pipe assembly is shown off the car here because the bolts are hard to see installed on vehicle
- The (2) 12mm bolts are shown off the car to better demonstrate their location
- Remove the Inlet Pipe by removing the (2) 12mm bolts shown above, a deep 12mm socket and ~3" extension work best here. These bolts will be reused

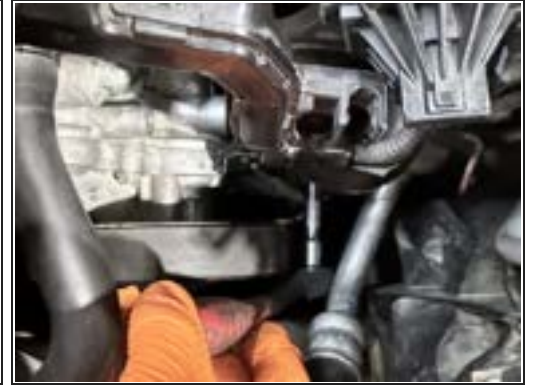
Step 11 — Remove OEM Bypass Valve (BPV) from Turbo - FL5/DE5 ONLY

- ① For FK8 application, skip to step 12
- Use a 10mm wrench to remove the three bolts securing the OE BPV to the turbocharger
 - ① We have found that a short ratcheting wrench works best here
- Note the orientation of the BPV nipple. The 27WON BPV will need the nipple facing the same way once installed
- Remove the OE BPV from the engine bay. This is done by lowering the BPV under the hard coolant line and AC line
 - This is done by lowering the BPV under the hard coolant line and AC line, then pulling it up along the radiator in the path shown

Step 12 — Remove OEM Bypass Valve (BPV) from Turbo - Part 1 for FK8 ONLY

① FK8 application only. Skip to Step 14 for FL5/DE5

- Loosen the wire loom by pulling up on loom to unclip it from it's location
- Unplug connector from wastegate solenoid. Then move entire line towards passenger fender area of the vehicle
- Remove clamp from vacuum line by pinching then sliding down then remove vacuum hose from metal line
- Use a 10mm socket and ratchet to remove the two(2) bolts circled in blue
- Slide vacuum line assembly down under the coolant hose and place out of the way as shown

Step 13 — Remove OEM Bypass Valve (BPV) from Turbo - Part 2 for FK8 Only**⚠ FK8 application only**

- Note the orientation of the BPV nipple. The 27WON BPV will need the nipple facing the same way once installed
- Use a 10mm wrench to remove the three bolts securing the OE BPV to the turbocharger
 - ① We have found that a short ratcheting wrench works best for the top two bolts, while a 10mm socket and 3 inch extension works best for the bottom bolt (as shown)
- Remove the OE BPV from the engine bay. This is done by pulling the valve slightly out and then out through the top towards the turbocharger

Step 14 — Familiarize with 27WON BPV



- Nipple
- Knurled ring
- Bottom-side
- O-rings & Mounting Hardware
- If you've disassembled the valve for any reason then make sure the knurled ring is very tight

Step 15 — Setup 27WON BPV



- Apply a small amount of supplied lubricant or engine oil to both O-rings prior to installation
- Insert large O-ring into groove on bottom-side and press down firmly to secure
- Insert small O-ring into groove on bottom-side and press down firmly to secure

Step 16 — Mount 27WON BPV - FL5/DE5 Only

❗ Skip to Step 17 for FK8 application

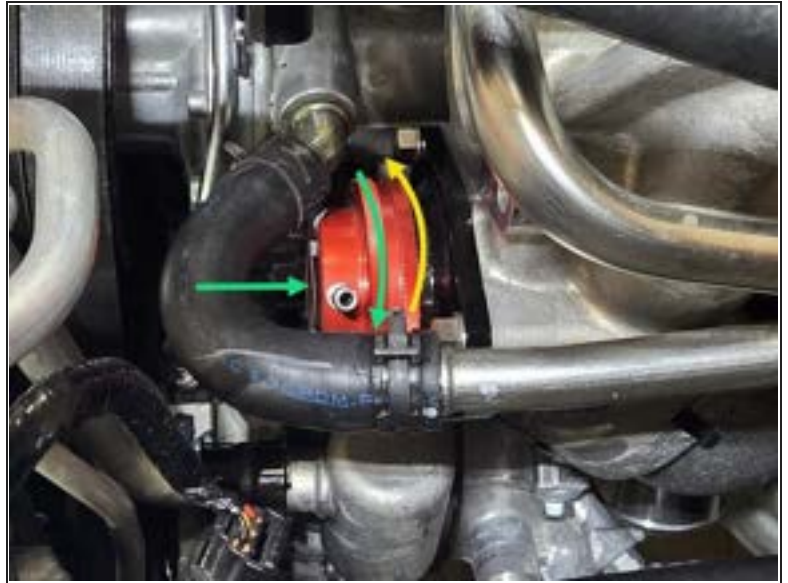
- Note the location of the openings on the turbocharger flange. These must align with the 27WON BPV during installation. The 27WON BPV will go into the engine bay the same route that the OE BPV came out. Place BPV into position
- You may need to rotate the coolant line spring clamp circled in purple to provide more clearance
- Guide the first fastener through the BPV mounting hole and thread onto turbocharger as shown. Leave finger tight
- Thread second fastener until finger tight
- The last mounting hole is underneath and not visible. Using your fingers, hand thread remaining fastener into the turbocharger. Leave finger tight
- Use a ratcheting wrench to tighten all three mounting bolts to snug (7-9 ft-lbs)

Step 17 — Install 27WON BPV - FK8 application only

❗ Skip to next step for FL5/DE5 application

- Note the location of the openings on the turbocharger flange. These must align with the 27WON BPV during installation. The 27WON BPV will go into the engine bay the same route that the OE BPV came out
- Pinch clamp on coolant line with a set of pliers then slide towards middle of hose. You will not be removing the hose itself
- For access to get BPV in place if your turbo has a stud here then remove top right stud on turbocharger flange by unscrewing it using your hand. Most turbos will not have studs here
- Guide the first fastener through the BPV mounting hole and thread onto turbocharger as shown. Leave finger tight
- Thread second fastener until finger tight
- The last mounting hole is underneath and not visible. Using your fingers, hand thread remaining fastener into the turbocharger. Use a ratcheting wrench to tighten all three mounting bolts to snug (7-9 ft-lbs)
- Reinstall coolant clamp in the original location on hose. Reinstall turbocharger stud if removed earlier

Step 18 — Confirm BPV Oriented Correctly



- Confirm BPV fitting is pointed in approximately the direction as shown. It should come correctly oriented. If you can't get vacuum line on the BPV then you can adjust the nipple position as per below
 - To adjust nipple position loosen the knurled ring 1-2 turns
 - Once loose, rotate the top portion "W" until proper alignment is achieved. Hold top "W" portion in place while rotating knurled ring in opposite direction to tighten
- ⚠ This needs to be tight so it does not vibrate loose!

Step 19 — Reinstall Lines Part 1 - FK8 Only

① Skip to Step 21 for FL5/DE5 fitment

- Slide vacuum line assembly back towards motor then under the coolant hose and as shown
- Use a 10mm socket and ratchet secure the (2) bolts shown
- Reattach vacuum line to metal tube. Slide clamp up (not pictured) and secure at top
- Move wiring that you placed out of the way earlier back into place, then plug connector to solenoid
- Secure wire loom by pushing down on loom to clip it to it's location

Step 20 — Reinstall Lines Part 2 - FK8 Only



- Re-attach vacuum line onto your new 27WON BPV
- Using a set of pliers, slide down spring clamp to secure line to BPV
- Route vacuum line up and over the coolant line

Step 21 — Reinstall the Turbo Inlet Pipe



- To demonstrate the location of the mounting bolts, the turbo inlet pipe is shown off the car
- Reinstall the two OE 12mm bolts with a 12mm socket and a 3" extension
- Use torque wrench, 3" extension and 12mm socket to secure TIP to turbo at **18 ft-lbs**

Step 22 — Reinstall Vacuum Line



- Re-insert the previously removed vacuum line into the clips on the TIP wire loom
- Install the upper portion of the vacuum line over the hardline as shown
- Using a set of pliers, slide up spring clamp to secure the line as shown
- ① **FL5/DE5 Only.** For FK8 fitment skip to next step
 - Re-attach vacuum line onto your new 27WON BPV
 - Using a set of pliers, slide down spring clamp to secure line to BPV

Step 23 — Mount the Hard Lines to the Turbo Inlet Pipe



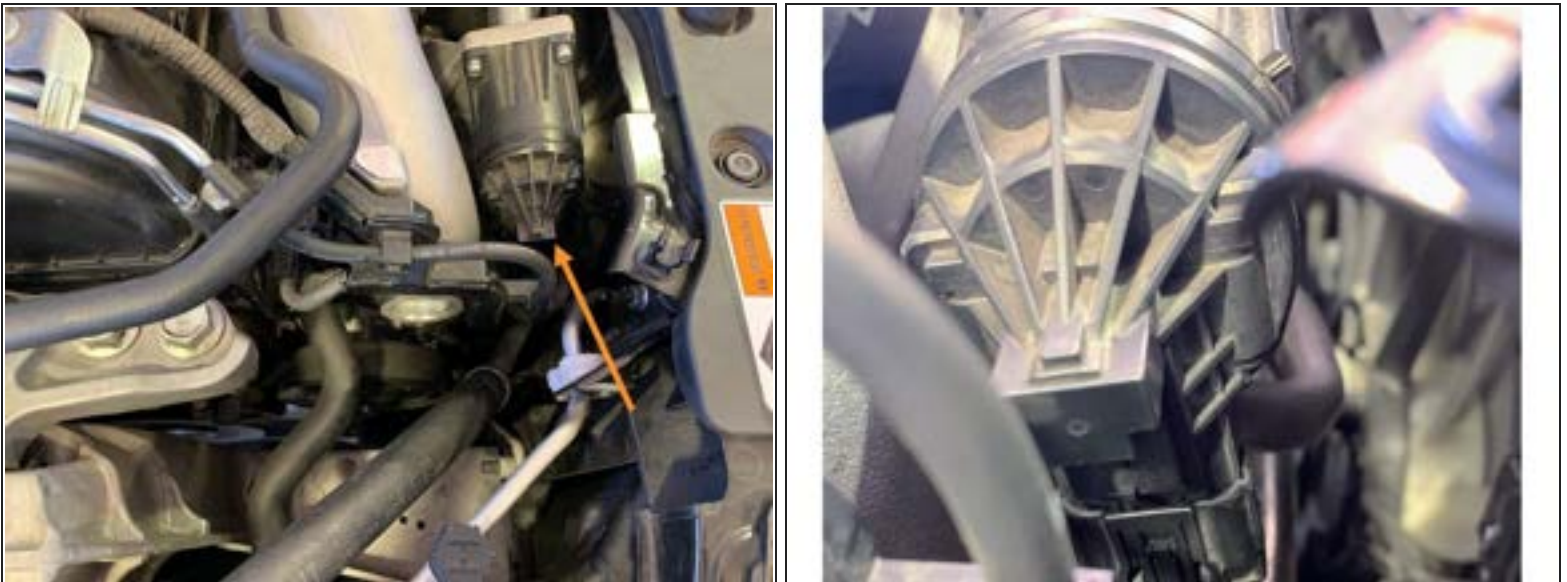
- Reinstall the (2) OE 10mm bolts to mount the top hard line to the intake pipe
 - ☒ If you are working on a FL5 or DE5 this coolant line will not be present
- Reinstall the (2) OE 10mm bolts to mount the bottom hard line to the intake pipe
- Reinstall the OE 10mm bolt to mount the turbo inlet pipe as shown
- Torque all 10mm bolts to **10-12 ft-lbs**

Step 24 — Install Wire Loom



- ① There are 2 bolts holding this bracket. The lower one is well hidden (yellow arrow)
- Using the OE 10mm bolt reinstall the upper part of the wire loom as shown
- Using the OE 10mm bolt reinstall the lower part of the wire loom as shown

Step 25 — Reconnect Electrical Wastegate Plug



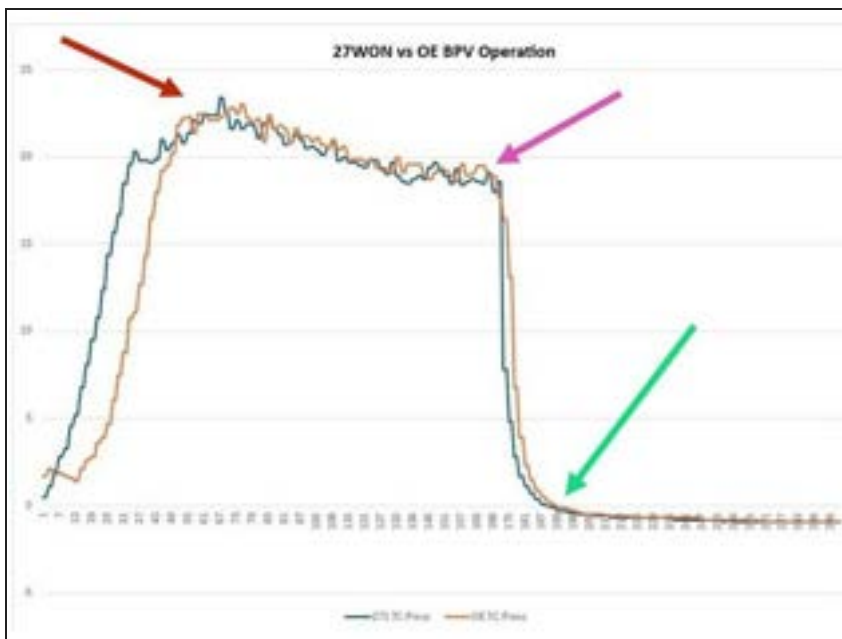
- Plug in the pigtail of electronic wastegate

Step 26 — Install Intake Tube



- Reinstall the intake tube as shown and secure the clamps with a 5.5mm socket
- Secure the hard pipe with the provided 11-20mm hose clamp as shown
 - ⓘ OE Clamp is shown and cannot be reused
- Use needle nose pliers to clamp the OEM spring clamps for the EVAP silicon Boost feed and EVAP dump hoses

Step 27 — Notes on Proper BPV Operation



- ⓘ The 27WON BPV is designed to provide OE like boost control and trouble free operation. Periodic service is necessary. If the valve is not serviced it may cease to perform correctly. This could shorten the life of your turbocharger. See instructions at the end of this guide for BPV service

- ① BPV service should happen around every third oil change (12,000-15,000 miles). Spare lubrication is included for this
- ① This chart shows good BPV operation for both the OE BPV and the 27WON BPV. Your boost control should look something like this
 - Notice there is not a spike in boost pressure as the turbocharger spools up
 - Notice there is not a spike in pressure when letting off throttle
 - Notice the time to go from purple arrow to green arrow. This is time to vent TC pressure. You see 27WON and OE are very similar

Step 28 — Notes on Proper BPV Operation



- ① Improper BPV operation can trigger CEL
- ① P2261: Turbocharger BPV Issue. This may trigger for reasons not related to BPV. Check boost control using the example on the previous step to make sure your BPV is working properly. OE BPV can throw this code when the rubber seal tears

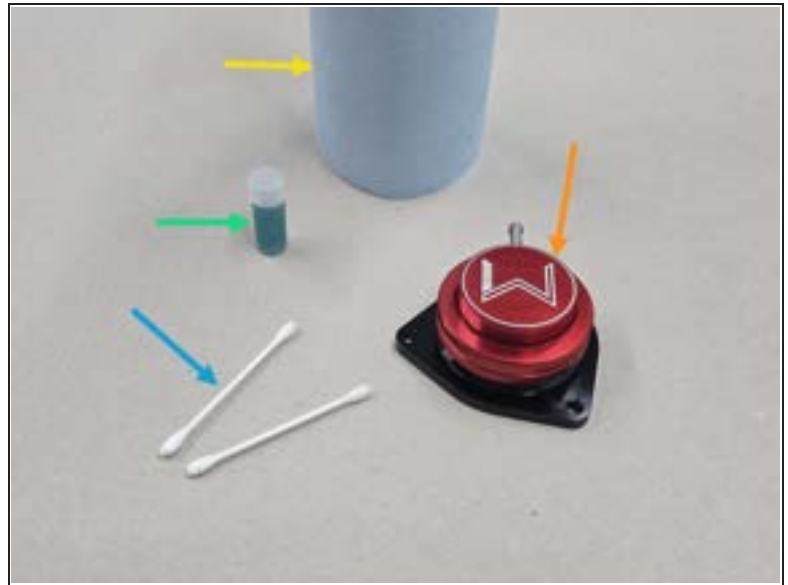
- ① A properly functioning BPV will make some noises when it vents. With an OE intake you might not hear these. With an open filter intake you'll hear all the noises. A "Psssst" or "whooshing" sound is normal
- ① If your turbocharger is not able to vent quick enough (for various reasons) it can make an audible noise. This 'flutter' or 'choo choo' sound is from compressor surge. This can reduce the life of the turbocharger. If you hear this noise, check out your entire boost control system including BPV
- ① Watch this video <https://www.youtube.com/watch?v=2QaajARc...> at around 15-17s there is an example of compressor surge from the throttle plate closing

Step 29 — I Dare You to REDEFINE



- This completes the installation of your 27WON BPV
- We hope you were impressed with your 27WON experience and love your new parts for years to come. Email us at sales@27won.com or call us at 571-271-0271 with any questions or concerns
- Please Leave a review here: <https://store.27won.com/1-5t-10th-and-11...>
- Share your experience using #27WON on Instagram and Facebook
- Continue to the next steps for cleaning and lubrication of BPV

Step 30 — Maintenance & Lubrication Instructions



- The 27WON BPV will require maintenance every three oil changes or so depending your driving conditions
 - ① If you are constantly driving in dusty environments we recommending bumping your maintenance up to two oil changes or so
- To perform maintenance properly, you will need the following items
 - 27WON BPV removed from your vehicle
 - Clean paper towels / shop towels
 - Provided vial of high temp grease
 - A couple of Q-tips, or another instrument for applying the grease

Step 31 — Disassemble & Clean BPV Components



- Twist the knurled ring on the BPV counter clockwise to loosen the BPV cap as shown
 - Remove the cap and set it to the side
- Flip the BPV over and press on the center of the internal piston as shown
 - ⚠ It is important to press as close to the center as possible. If the piston is pressed off to one side it can become crooked and stuck inside of the BPV
- With the BPV fully disassembled, wipe all of the parts clean with shop towels
 - ① You can use a cleaning solution here if your BPV is especially dirty, just make sure any solution is fully wiped out before you apply grease to the internal components

Step 32 — Lubricate BPV Components



- With the components all clean, generously apply the provided grease as shown:
 - Inside of BPV body
 - BPV upper o-ring
 - BPV piston
- Properly lubed components should appear as shown

Step 33 — Reassemble BPV



- Insert the piston back into the BPV body in the orientation shown
 - ① Just as when it came out, the piston will need to be pressed in as even as possible
- Place the BPV cap back onto the body as shown
 - Ensure the BPV spring sits inside of the piston indent circled in green
- Hand tighten the knurled ring onto the BPV body as shown
 - ⚠ Ring must be fully tight or engine vibration can work it loose
- Use your finger to push the piston from the bottom a few times. The piston should return smoothly to the closed position
- Reinstall your 27WON BPV!