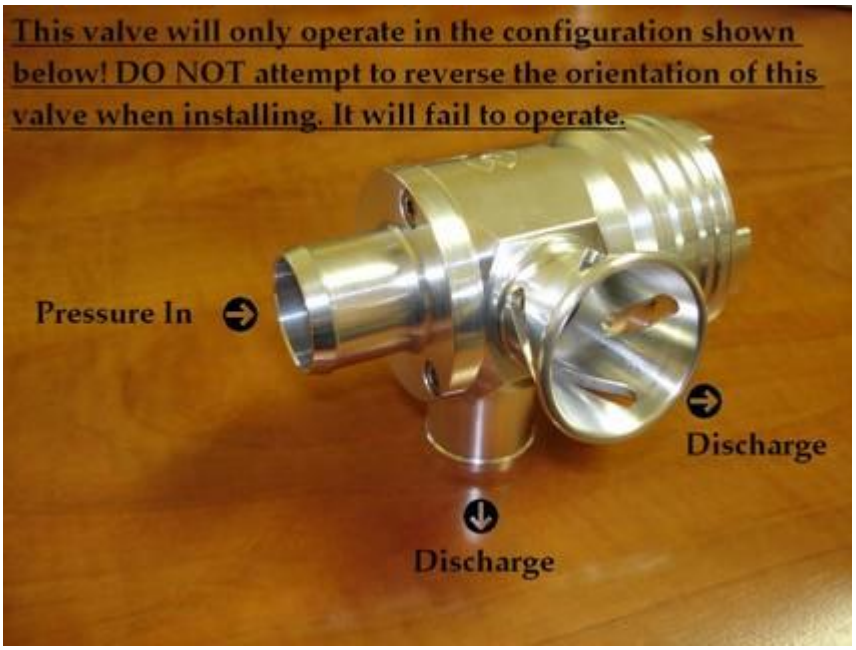
Engineered for Performance

Thank you for purchasing the all-new Forge Motorsport SPLT-R hybrid re-circulating and atmospheric bypass valve. This valve is to be used as a direct replacement for the standard Bosch plastic bypass valve fitted as OEM. The SPLT-R valve offers fully adjustable spring pre-load and even the option of converting the valve to fully re-circulating or even fully atmospheric operation if desired.

This valve must be installed in such an orientation that the pressure enters the bottom port of the valve and discharges from the side ports. Reversal of this orientation may prevent the valve from operating optimally or even altogether. Please see the photographs below:



Adjustment of the SPLT-R valve is done by turning the ratcheting adjustment knob located on the top of the valve. Turning the knob clockwise will stiffen the spring for higher levels of boost retention, while turning the knob counter-clockwise will loosen the spring tension for lower levels of boost retention.

The spring used in the SPLT-R valve is a conical (i.e.: collapsible) progressive rate spring designed to retain a wide range of boost levels depending upon the adjustment of the valve.

The adjustment knob is ratcheted and there are 8 "clicks" per 1 full revolution of the knob (360 degrees). There are also roughly 6 and one half full revolutions of the knob available enabling about 53 "clicks" to provide a wide range of adjustment. This ratcheting feature also allows the user to keep track of their adjustments for varying boost levels. i.e.: a different boost level for pump gas vs. race gas.

Once the valve has been fitted to the vehicle, adjustment of the spring pre-load may be undertaken to appropriately tune the valve to the boost output level of the given application onto which it is being installed. Each user will need to adjust their valve so that it will hold boost all the way to the specified redline of their application under wide open throttle without experiencing any valve fluttering at full-boost throttle lift.

If valve fluttering is felt at full-boost throttle lift, this is typically an indication that the valve is adjusted too stiffly.

If the valve is leaking under wide open throttle before the specified redline of the application is reached, this typically means that the valve is adjusted too softly.

Please note that valve fluttering under partial throttle conditions or partial boost throttle lift is a normal occurrence as IS NOT an indication of compressor surging. Partial throttle or partial boost valve flutter is solely an indication that the valve is responding directly in a completely normal way to an inconsistent pressure differential on either side of the throttle body as it is being modulated. Compressor surging would only be experienced if full-boost throttle lift valve flutter is experienced under prolonged circumstances and is not corrected immediately.

Please take note: the adjustment knob on the SPLT-R valve is NOT a means by which to adjust the atmospheric noise level of the valve. It is solely a means by which to adjust spring pre-load. We have specifically designed this product with specific tolerances that restrict re -circulating and atmospheric function to a level that will ensure no adverse effects on the engine management system (ECU), fuel trims, mass airflow meter, etc. This ensures no possibility for check engine lights or fault codes of any kind unless in such an instance where the user may be using the valve fully atmospherically.

As mentioned previously, this valve is capable of being setup in 3 possible ways:

- Hybrid - Atmospheric AND Re -circulating Operation
- 100% Re -circulating
- 100% Atmospheric (Done at the users own risk of possible incompatibility with their application)

Each setup requires that the valve ports be setup in a specific way. The discharge ports and included plug are removable and interchangeable.

Direct from us, the valve is setup for **Hybrid re-circulating and atmospheric operation and** the blanking plug is not used. Nothing will need to be changed prior to installation for the use of this setup. See below:

If the user chooses to setup the valve in a **100% recirculating configuration,** the discharge horn will need to be removed (unscrewed) and replaced with the blanking plug on the body of the valve. Nothing else will need to be changed for this configuration of the valve. Please see below:

If the user so chooses to setup the valve in a **100% atmospheric configuration**, again, which is done at the users own risk of a possible rich fuel condition and subsequent fault code and/or check engine light, they may do so by setting up the valve as outlined below.

The atmospheric discharge horn will remain; however, it will need to be relocated to the side of the valve on which the recirculating port was previously installed. The recirculating port itself will need to be removed and the blanking plug will be placed where the atmospheric horn was previously, as shown below.