



KTM and Husky 150, 250 and 300 2018-on TPI Power Kit

Please read the following instructions carefully before installing your parts.

Prior to Installation

Make sure the following common TPI issues are checked before fitting this kit:

- clean/replace the in-tank fuel filter and the inline fuel filter
- check/clean the earth strap connection to the frame
- check/clean the plug lead connection at both ends (at the coil and at the cap)
- check/clean the pressure sensor and hose that's fitted to the back of the cylinder. On the 2020+ models also check/clean the ambient pressure sensor mounted under the tank
- check the condition of the bore/piston/rings. If necessary perform a compression test to make sure the reading is within 10% of the normal reading on a fresh engine using the same gauge. Even moderate top end wear may cause significant running issues on a TPI due to fluctuations in crank pressure readings due to blowby past the rings.

Any of the above issues can cause bogging, spluttering, rich or lean running and will generally lead to very poor engine performance and possibly engine damage.

Installation:

1. Install your new TSP Billet Head or Head Insert

Please refer to your owner's manual for the correct procedure for removing and refitting your new TSP head. Our heads are designed to work with the stock cylinder height. In order to achieve the correct squish clearance and compression ratio you must use a stock base gasket thickness at all future rebuilds. Generally, on the KTM/Husky bikes the stock base gasket thickness will result in a deck height of ~0.0mm (outer edge of the piston crown level with the top of the cylinder at Top Dead Centre). Please make sure you read the info on the Billet Head packaging for specific info relating to the compression ratio you have chosen plus other installation tips.

2. Install the ECU

Remove the seat and connect the ECU to the harness via the ECU connector. Rotate the locking clamp until it clicks into position. Secure the ECU using the four rubber mounts. Replace the seat.

3. Install the new spark plug (if provided)

For all 250 and 300 models you must run an 8 heat range plug, whether one is provided with the kit or not. We suggest the following NGK plugs: BPR8EIX, BR8EIX, BR8EG, BPR8ES or BR8ES. Running the stock 7 plug on a modified engine may result in engine damage.

150 models may use either an 8 or a 9 heat range plug depending on the riding conditions. For normal riding the stock plug is fine. For harsh conditions or constant high revving riding use a 9 heat range plug in any one of the following NGK codes: BPR9EIX, BR9EIX, BR9EG, BPR9ES or BR9ES.

Tighten the plug to approx. 27nm

4. Powervalve setting

For normal trailriding or offroad racing set the gold powervalve preload adjuster so that it is recessed approx. 1.5mm in from the outer aluminium housing. Use the stock powervalve spring. This will give the strongest and most linear midrange power on most bikes.

Setting the powervalve preload to 1.0mm in from the housing will give a stronger hit to the midrange power, and likewise setting it to 2.0mm will soften the midrange hit.

For Hard Enduro style riding on the 300's you can further reduce the mid/top hit by using one of the optional Green powervalve springs with the gold preload adjuster set approx. 2.4mm recessed into the outer housing. This will give the flattest and most linear torque delivery with minimal hit as the engine revs out.

5. Initial Test Ride and Air Screw tuning

Individual TPI bikes may run slightly richer or leaner than others, even when in good mechanical condition. You can adjust the large flat blade screw (Air Screw) on the left side of the throttle body to adjust air/fuel mix and maximise performance, especially at part throttle. Make sure you spend some time to find the ideal Air Screw setting for your individual bike. Do not worry about idle speed while testing air screw settings.

Always use the 'Fast Idle' knob when starting the bike from cold and leave it out until the bike has warmed up. This will help to avoid plug fouling on startup. Start the engine and warm up gently.

Check for any obvious issues, coolant leaks, engine warning lights, etc. Do not proceed any further until issues have been resolved otherwise engine damage may result.

Starting with the stock Air Screw position, test by progressively closing the screw in 0.5 turn increments until you achieve the best running with no sign of hanging idle or lean running. Fine tune in smaller increments as necessary until the low throttle roll-on response is crisp and clean without spluttering or hanging. Common settings: 20-21 models; 3-4 turns out, 18-19 models; 0.5-1.5 turns out. Some bikes will differ to these specs and that is OK as long as the bike is running well.

6. Idle Speed adjustment

Once the Air screw is set for good running, especially at part throttle, then think about idle speed... if its too high or too low then fit the supplied spring and bolt to the throttle body and adjust idle speed back to around 1500rpm. Do not use the air screw to adjust the idle speed! See our video on our website or YouTube for instructions on how to fit the idle bolt/spring.

7. Fuel

Assuming you have chosen an appropriate compression ratio for your elevation and riding conditions we suggest using 98 RON pump fuel or similar. This equates to approx. 91-92 AKI (R+M/2) pump fuel in the USA and other countries.

8. Ignition maps

Ignition Map 1 is Hard (crisp, tuned map designed for normal riding conditions)

Ignition Map 2 is Soft/Safe (more fuel everywhere and less ignition advance)

For deep sand riding or prolonged high speed riding/racing always use ignition Map 2 to keep the engine as safe as possible. Using Map 1 for these conditions may cause engine damage in some cases.

TSP assumes no liability for any loss, damage or injury resulting from fitting this kit. If you do not agree to this condition please return your purchase for a full refund.

Release of Liability: PLEASE READ CAREFULLY!

By purchasing and installing Two Stroke Performance branded parts the customer agrees to the following terms:

1. I agree that I am the owner of the parts/vehicle/motorcycle or am acting as an authorised representative of the owner.
2. I accept sole responsibility for requesting and authorising the modification and/or installation of the parts.
3. I understand that the parts I am installing may affect or void manufacturer warranty, vehicle/motorcycle insurance, vehicle/motorcycle registration and it may be illegal to operate my modified vehicle/motorcycle on public roads.
4. I understand that by installing these parts and undertaking modifications to my vehicle/motorcycle there may be resulting issues such as reduced mechanical reliability, sudden and unexpected mechanical failure, difficulty in controlling the vehicle, complete loss of control of the vehicle, or any other unforeseen issue which may arise to cause loss or damage to property, personal injury or even death.
5. Due to the high performance nature of two stroke engines and the ongoing tuning and maintenance required by them I accept that Two Stroke Performance does not offer warranty of any kind on parts once they have been installed on an engine.
6. I understand these terms and accept that I am installing these parts at my own risk and I, as the owner or owner's authorised representative, release Two Stroke Performance and its Distributors from any and all liability or claim that may arise through any loss, damage or injury incurred as a result.

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