

## **Installation Instruction Translation for Siebenrock – Power-Kit**

### **NOTE:**

- Use these installation suggestions at your own risk. These instructions have not been tested by independent installers. If you have any doubt about your ability to install electrical parts, please contact a professional installer. Please use BMW repair manual!
- Installation of this engine kit may need to be reported and/or inspected and/or approved by your country/state vehicle authorities such as DOT in the US or TUV in Germany.

### **Preparation:**

- Drain motor oil; perform disassembly and installation when motor is cold.
- Check the condition of the bronze socket in piston rod hole.  
Piston rod socket internal dimension: Nominal dimension 22.015 + 0.005mm, wear limit: 22.04mm
- Motorcycles with over 40000km:
  - Check the piston rod and crank shaft bearings using BMW shop manual and specs.
  - Check tightness of the tie rods and use Locktight if necessary.
  - Clean all sealing surfaces and make sure all oil supply holes are free and clear of any sealing compound, Locktite etc.
  - Push both small O-rings (nr. 1 in photo 2) on upper the tie rods.

### **Preparation of the cylinder:**

- Push the pushrod protection tubes (nr. 4 in photo 2) in the cylinder. Make sure the flange on the pushrod protection tube is 1mm under the edge of the cylinder flange (see photo right).
- Push the pushrod rubber seals (nr. 5) on the pushrod protection tubes. Make sure the marking on the rubber is pointing outwards perpendicular to ground.
- Set the large O-ring (nr. 2) in to the groove on the cylinder foot.

### **Preparation of the pistons:**

Install the piston rings in the order 1, 2, 3. Make sure not to break the hard and brittle piston rings when spreading the rings open during installation. "TOP" on the piston ring needs to be pointing up towards the piston head. Do not remove the rings from their packaging before installation to avoid installing rings in incorrect location.

1. Oil ring (bottom)
2. Compression ring 2.0mm (middle)
3. Compression ring 1.75mm (top)

### **Piston installation in cylinder:**

- Oil the cylinder walls and piston shell.
- Determine installation side of pistons.
- Install the first piston pin circlip. Make sure the arrow on the piston head shows towards the exhaust valve (towards the front). Make sure the circlip is properly seated in the groove and can be turned it with flat head screwdriver.
- Oil the piston pin and the opening and press the piston pin ¼ ways in the hole. Do not use force and make sure the pin goes in straight and does not tilt. Heat can be used if the pin is hard to push in.
- Turn the piston rings so that the opening on the second ring shows up and the other two are each shifted 120 degrees. See photo left.
- Press the rings together using ring compressor and insert the pistons in the cylinder up to the piston pin.

**Cylinder installation:**

- Turn the crankshaft to TDC position (both valves closed).
- Slide the cylinder with pistons on the tie rods.
- Set the piston rod centered to the piston pin hole (check position through the hole).
- Oil the piston pin hole on the crankshaft.
- Press in the piston pin by hand through the piston and the hole on the crankshaft up the second circlip recess.
- Install the second circlip. Make sure it is properly in the recess!

**Cylinder head installation:**

- Install the cylinder head based on BMW specs and instructions.
- Clean and inspect all sealing surfaces
- Set the cylinder head gasket. Pay attention to the push rod openings.
- Set in the push rods.
- Install rocker arms with washers and bearing blocks. Pay attention to the direction of the rocker arm shaft. Tighten screws hand tight and then in three steps in criss-cross pattern to 35 + 4 Nm.

**Valve adjustment:**

Intake 0.15mm exhaust 0.20mm.

Check the valve clearance again after 500km and then set to new specs after 1000km (BMW specs 0.10mm / 0.15mm). Check and set valves when motor is cold.

**Preparation before starting:**

- Use new motor oil and oil filter.
- Install new spark plugs and clean air filter.
- Check and clean the carburetor, jets (original specs), control and adjust gas and choke cables, sync the carburetor, ignition timing and adjustment.

**Break-in procedure:**

Follow the BWM break-in procedure for the first 1000km.

Change the oil and oil filter after 1000km (operating temperature). Do not use synthetic oil before 15000km! Check the tightness of cylinder head bolts after 1000km (cold motor): loosen the cylinder head bolts slightly and retighten to 35 +4Nm. Then check the valve clearance.

These instructions are at our current level of knowledge. Technical issues subject to change. Legal requirements do not exist.