# Cylinder Head Stud Kit – Installation Instructions

## Preparation – very important

1. Clean all 14 holes using compressed air.
2. Use a new M12x1.5 tap and retap all 14 holes to M12x1.5 standard (OEM DEPTH). This will clean threads.
3. Fill all 14 holes with nitro solvent. Use a small brush to clean each hole. This will remove all dirt and grease.
4. Use compressed air to blow out the nitro solvent and debris from each hole. After this operation, the thread will be shiny and silver.

## Assembly

### *1. Engine block preparation*

1. Clean the engine block surface with nitro solvent.
2. At the end of the stud, there is a hexagonal socket (hex broach) intended only to assist with installing/removing the studs from the engine block – not for applying torque. Do not use it to tighten the stud with torque.
3. The hex broach is only to facilitate assembly/disassembly – the stud should stop on its own in the thread, **using the force of the fingers themselves (hand tight)**. The stud is essentially a spring; system tension is generated by tightening the nut.

### *2. Engine head preparation*

1. Clean the engine head surface with nitro solvent.
2. Additionally, wipe the surface with a paper towel and blow with compressed air to remove any fibers and dust.

### *3. Cylinder head gasket installation*

1. Place the cylinder head gasket onto the studs.
2. It is recommended to use Loctite 3020 to temporarily hold the gasket in the correct position.

### *4. Washer installation*

1. Place the original washers (4 mm thick) onto each cylinder head stud.
2. The washer surfaces and the areas where they contact the cylinder head must be clean and dry. Do not lubricate the washers.
3. Lubricate only the stud threads from the nut side and the underside of each nut with molybdenum grease (not included).

This procedure ensures an even distribution of clamping force on each stud.

### *5. Nut installation and tightening*

1. First, hand-tighten the nuts with your fingers until they lightly contact the washer.
2. Then tighten the nuts in three stages, following the proper sequence (from the center outward, cross pattern):
    - Stage 1: 40 Nm
    - Stage 2: 80 Nm
    - **Stage 3: 120 Nm**

### *6. Important notes*

- Keep all surfaces clean and apply the recommended grease only on the threads and underside of the nuts.
- Following these rules will prevent:
    - premature stretching of the studs,
    - rotation of the studs while tightening the nuts,
    - uneven tension in the cylinder head.