

# SPORT ASSEMBLY INSTRUCTIONS CYLINDER KIT

(PLEASE READ CAREFULLY!!)  
XX-MXS-EBAMXS3144

## 1. INTRODUCTION

You purchased a MXS SPORT cylinder kit and we would like to thank you for your custom and the continued trust in our offering expressed by this your purchase. After several months of testing, we're proud to be able to present you a high-end product which adequately represents our long-standing experience in the field of scooter races and competitions. These assembly instructions will provide you with all the guidance you need in order to make the most of this new high-end engine package and obtain the best results possible.

## 2. CYLINDER KIT - CONTENT

- Cylinder MXS SPORT
- Cylinder head MXS SPORT
- Piston
- Piston ring
- Piston pin
- Piston clip (x2)
- Gasket bag (1x 0,5mm, 1x 0,3mm, 2x 0,1mm)
- Assembly instructions

## 3. ASSEMBLY INSTRUCTIONS

### 3.1 ASSEMBLY OF THE PISTON

Firstly, you need to mount a new small end bearing and lubricate it. Assemble the piston together with its pin on your crankshaft. When assembling the piston, pay particular ATTENTION to the direction of the assembly process, the arrow indicates where the exhaust outlet is. Then, you need to place the piston clips into their groove on the piston. ATTENTION! If you do not succeed in placing them into their groove at once and if you slightly warp them in consequence, you must DISPOSE them immediately and throw them away. In fact, these two little pieces of steel can cause irreversible damage to your engine if they are not properly placed into their grooves. That's why we would like to encourage you to buy a few pairs so you can make sure that you install them without deforming them. Once the piston is in place without the mounted piston ring, you need to do the squish.

### 3.2 SETUP THE 'SQUISH'

The setup of the squish is paramount when assembling a high-end cylinder kit. This part of the process will determine the performance and the reliability of your engine. Put the thickest gasket within the set onto the base plate. Lubricate the cylinder sleeve with 2-stroke oil and then put the cylinder into his slot. Mount the cylinder head, and then screw up the 4 nuts diagonally at 12Nm. Then turn the crankshaft manually on in order to ensure that the piston does not touch the cylinder head at TDC. Get yourself a 0.8 mm solder wire and a calliper. Place a bit of solder wire into the hole of the spark plug and thread it into the cylinder by creating an 90° L-shape that is parallel to the piston pin so that it can be squashed between the edge of the piston and the squish band of the cylinder head. Turn the crankshaft on manually and elevate the squish wide at the calliper ideally it should be between 0.65 and 0.8mm. In order to obtain a good squish value, you need to try on gaskets with various thicknesses, as delivered together with the cylinder kit, until you found the right one.

For a more in-depth explanation of the fine-tuning procedure, please watch our online-tutorial at <http://www.maxisccoot.com/magazine> or call our staff over the telephone.

### 3.3 FINAL ASSEMBLY

Once the squish has been accurately fine-tuned, you need to lubricate the piston ring groove and mount it onto the piston. Now, mount the cylinder and the gasket and the cylinder head again and then finally screw the 4 nuts diagonally at 12Nm.

## 4. THE RUNNING-IN

Before you start your engine, make sure you have a „too big“ main jet in your carburettor (rich carburetion). Once the engine got started, let it run idle for about 20 to 30 minutes. Subsequently, let the engine cool down for about 10 minutes, then start it again. Repeat this procedure at least twice. When you're done with all this, please ride your scooter for 20 km whilst accelerating until mid-range maximum. Once you're past this stage, too, you can drive in the upper speed range without forgetting to make any requisite adjustments to the carburettor and the CVT setup.

## 5. RECOMMENDED ENGINE CONFIGURATION

An engine must be seen as a coherent ensemble. If the organs of the latter are not compatible, you're looking at an engine which will never reach its full potential power. We therefore recommend the powerful configuration set out below, which corresponds to the MXS SPORT cylinder kit.

- CYLINDER KIT: MXS SPORT
- CRANKSHAFT: 10mm piston pin Polini, Malossi, Stage6, Motoforce...
- EXHAUST PIPE: best performance Yasuni /C16, also possible other sport exhausts, even original style pipe (Sito, etc.)...
- INTAKE KIT: Big Valve MXS RACING, Polini Big Valve...
- CARBURETTOR: min.17,5mm for original style exhaust pipes and min.19mm in combination with „sport“ exhausts
- IGNITION: Original, PVL, MVT etc...
- SPARK PLUG WITH ORIGINAL IGNITION KIT: B9HS or equivalent / with internal rotor-type ignition: B10HS or equivalent etc...

## 6. MAINTENANCE INSTRUCTIONS

A well-adjusted engine performs well and is reliable. That's why we recommend to review the state of your engine approximately every 500km. Ideally, once the running-in is completed, you need to measure the compression of your cylinder with the help of an compression gauge. Obtaining this value will allow you to get to know the initial compression of your cylinder kit so you can take appropriate measures should the latter decrease at some point. You can find any spare parts you may require for an exchange of your MXS SPORT cylinder kit in our online-shop.

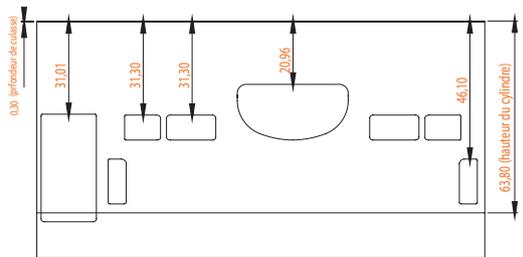
## 7. POWER CURVE OF THE SPORT CYLINDER KIT



(Test trial without any preparation of the cylinder kit / the engine)  
With adequate components, the maximum horse power is 16HP at 11500 rpm and 11Nm at 10500 rpm (at rear wheel).

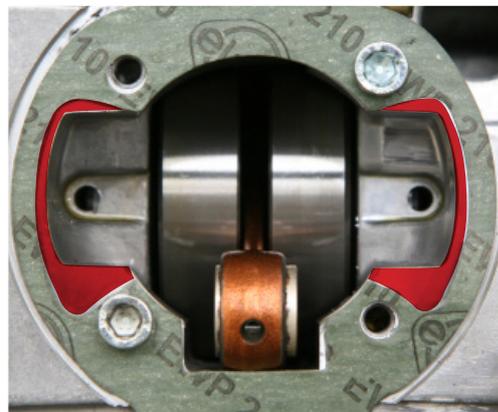
## 8. ANGLE AREA TIMINGS OF THE SPORT CYLINDER

- Exhaust duct: 190°
- Intake lateral ducts: A,B windows: 124°
- C window: 126°



## 9. OPTIMISATION OF THE SPORT CYLINDER KIT

This phase is not necessary but recommended if you want to make the most of the potential of your MXS SPORT kit. Mill the part that is shown in red on the picture carefully, with the help of a file or a electric power tool. Carefull! Do not perforate the crank case! In the event that you do perforate the case, you can repair it by affixing material from the other side of the crank case with the help of special double-component Epoxy for aluminium. Do you need further information? Our MXS CUSTOM tuning team, which developed this cylinder, offers the installation of the kit, plus the tuning and further preparation of your vehicle in order to enable you to gain more precious horsepower. Do not hesitate and contact us over the telephone or via email to [mxscustom@maxisccoot.com](mailto:mxscustom@maxisccoot.com).



## 10. GARANTIE - EXCLUSIONS

We warrant that the MXS SPORT cylinder kit is free of any manufacturing defects which could have been detected before the mounting of the kit. Fair tear and wear caused by customary usage of the engine or by accidents (including a disassembly, faulty mounting, faulty maintenance, outside-of-the-norm usage...) or by a modification of the product which has not been foreseen and specified by the vendor are not subject of aforementioned warranty. For further information, please write to [info@maxisccoot.com](mailto:info@maxisccoot.com).

