



Pitbike crankshaft starter

User Manual V1.1

Contents

Foreword	2
Contents of delivery	3
Usage and First Start of the Engine	8
The cordless drill.....	8
The first start attempt	8
FAQ.....	9
The lock screw on the drill chuck has broken off. What now?	9
I can't get the broken drill chuck lock screw out. What can I do?	9
My cordless drill is unable to turn the motor over completely and stops or the drill chuck lock screw keeps breaking off.....	10

Foreword

Thank you for choosing the DRILLSTARTER product. In the following instructions, you will find all the important information regarding the assembly and operation of the starter.

Note: A standard commercial cordless drill (or a 220V drill) is required for operation. Furthermore, a 30mm diameter hole must be drilled in the center of the alternator cover.

The installation and operation are at your own risk, and liability for consequential damages, whether to property or persons, is excluded.

Technical and craft skills are required for the installation. If these skills are lacking, please consult a professional for the installation.

Contents of delivery

1 x Drive Unit

- ① Drill chuck element
- ② Buffer element
- ③ Socket element
- ④ Sleeve holder

1x Freewheel Unit

- ⑤ Pin with round shaft
- ⑥ Freewheel with pressed-in bearing
- ⑦ Locking screw with countersunk washer

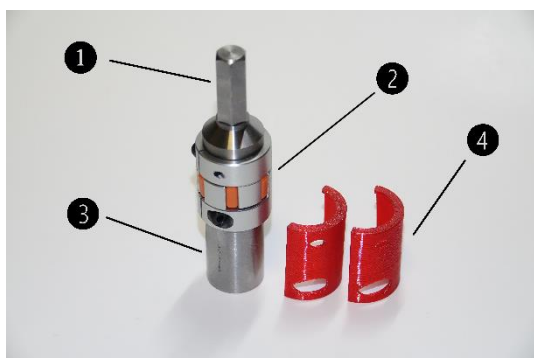
1x Locking key

1x Lock nut

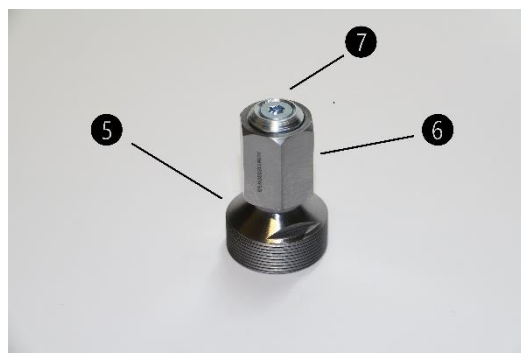
1x Drill chuck counter screw

Overview

Complete Drive Unit



Complete Freewheel Unit



Locking key



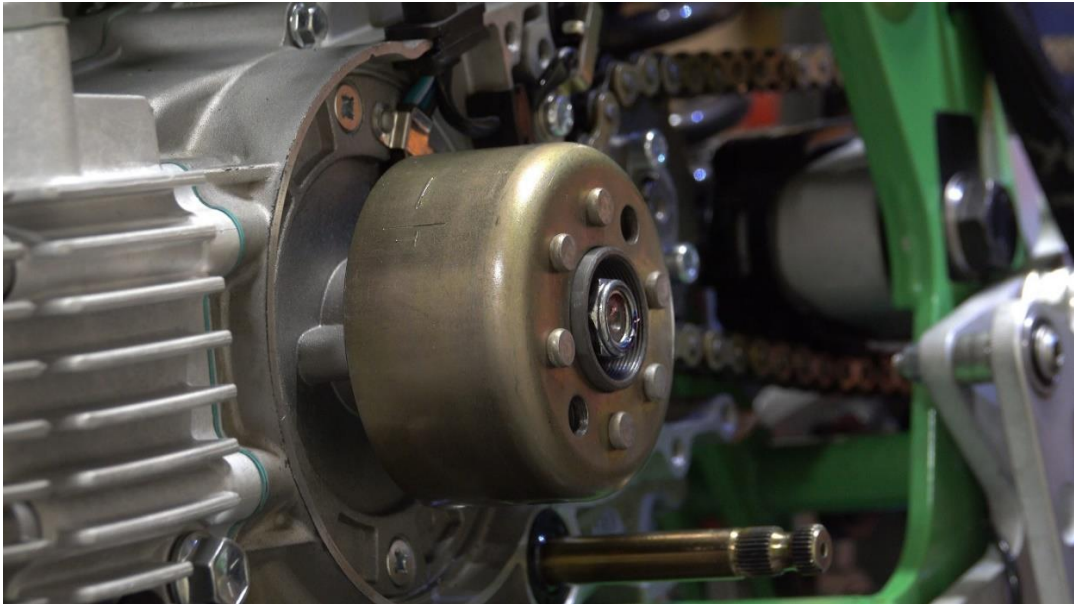
Lock nut & Drill chuck counter screw



Installation of the freewheel unit into the vehicle

Required tools: Flywheel holder and step drill

- 1) Remove the alternator cover of the engine (**Illustration: Daytona Anima 190 FSM**)



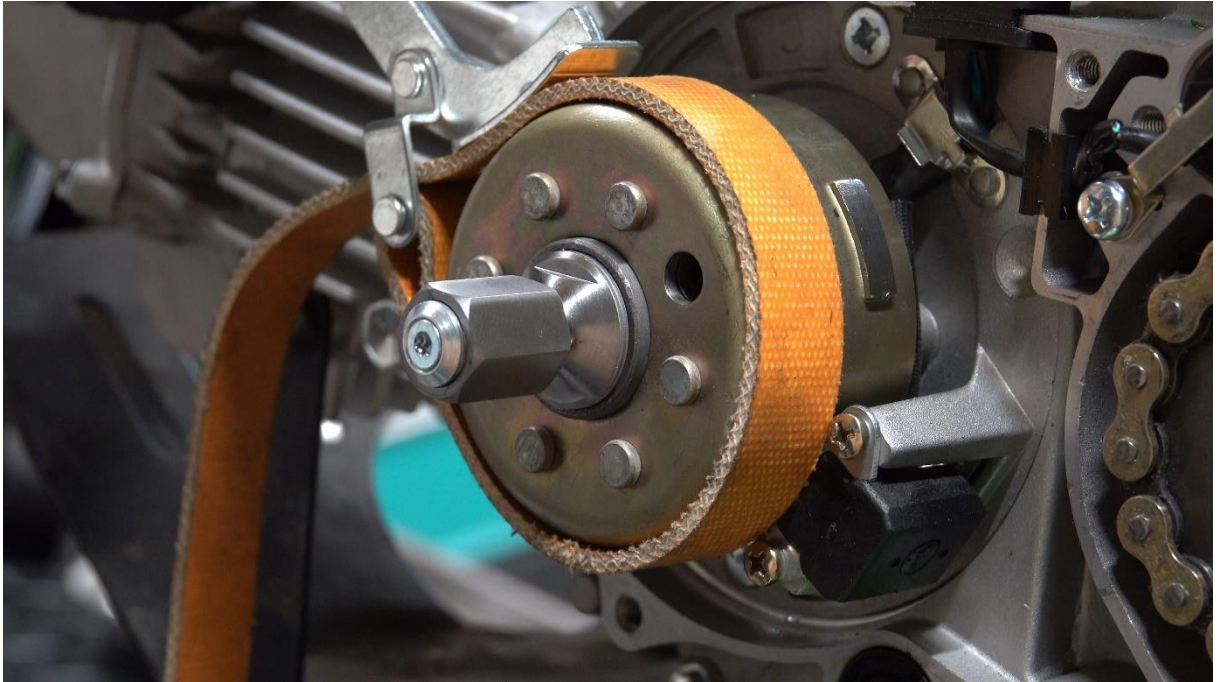
- 2) Place the freewheel unit on the flywheel and screw it into the thread for the flywheel puller.

Note: Left-hand thread! Also, ensure that there is some corrosion protection such as grease or copper paste on the thread. The thread is already coated with copper paste when delivered.

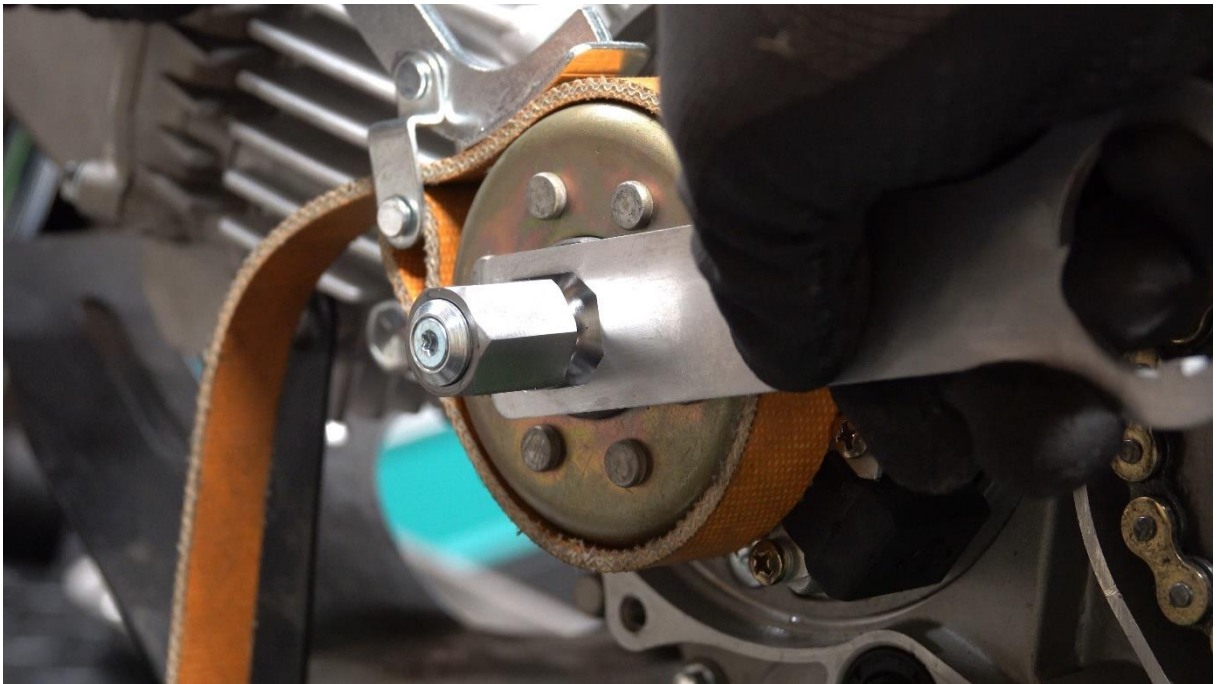
Note: Before the freewheel unit is inserted, make sure that the magnet flywheel and the central nut are tight. Tighten it if in doubt. A loose flywheel will lead to crankshaft damage even without using the DRILLSTARTER.



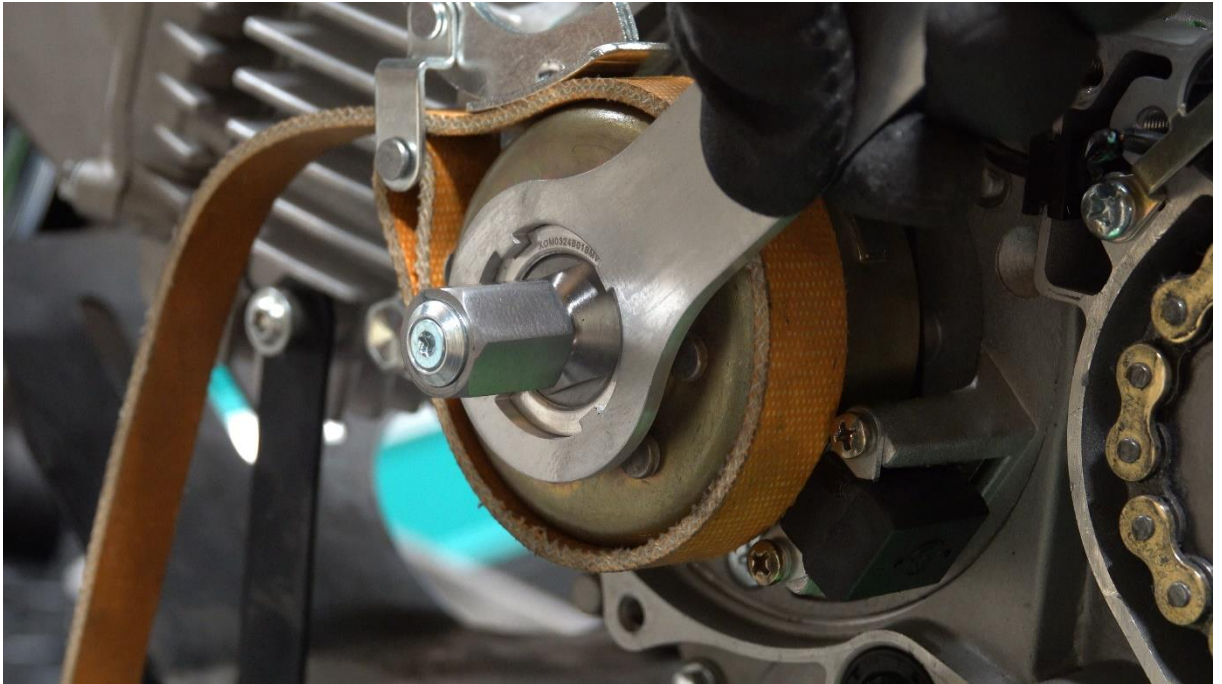
- 3) Attach a flywheel holder



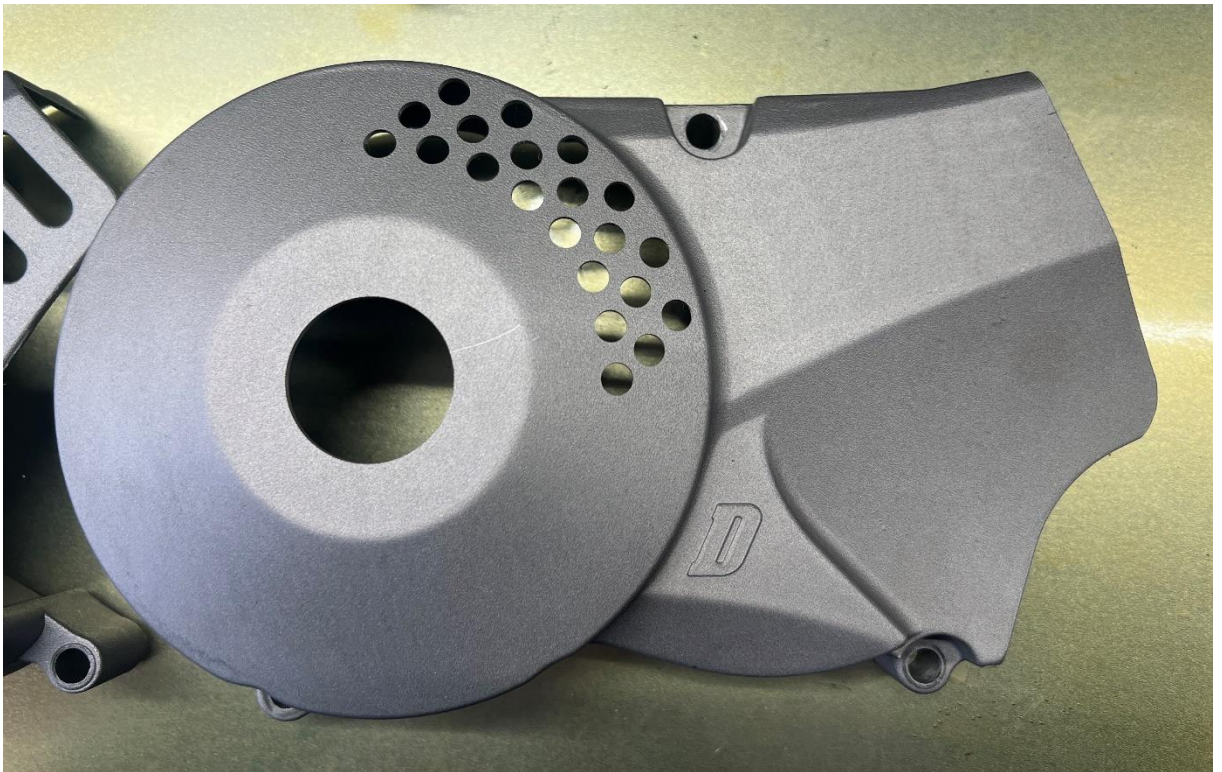
- 4) Tighten the freewheel unit using the included wrench.



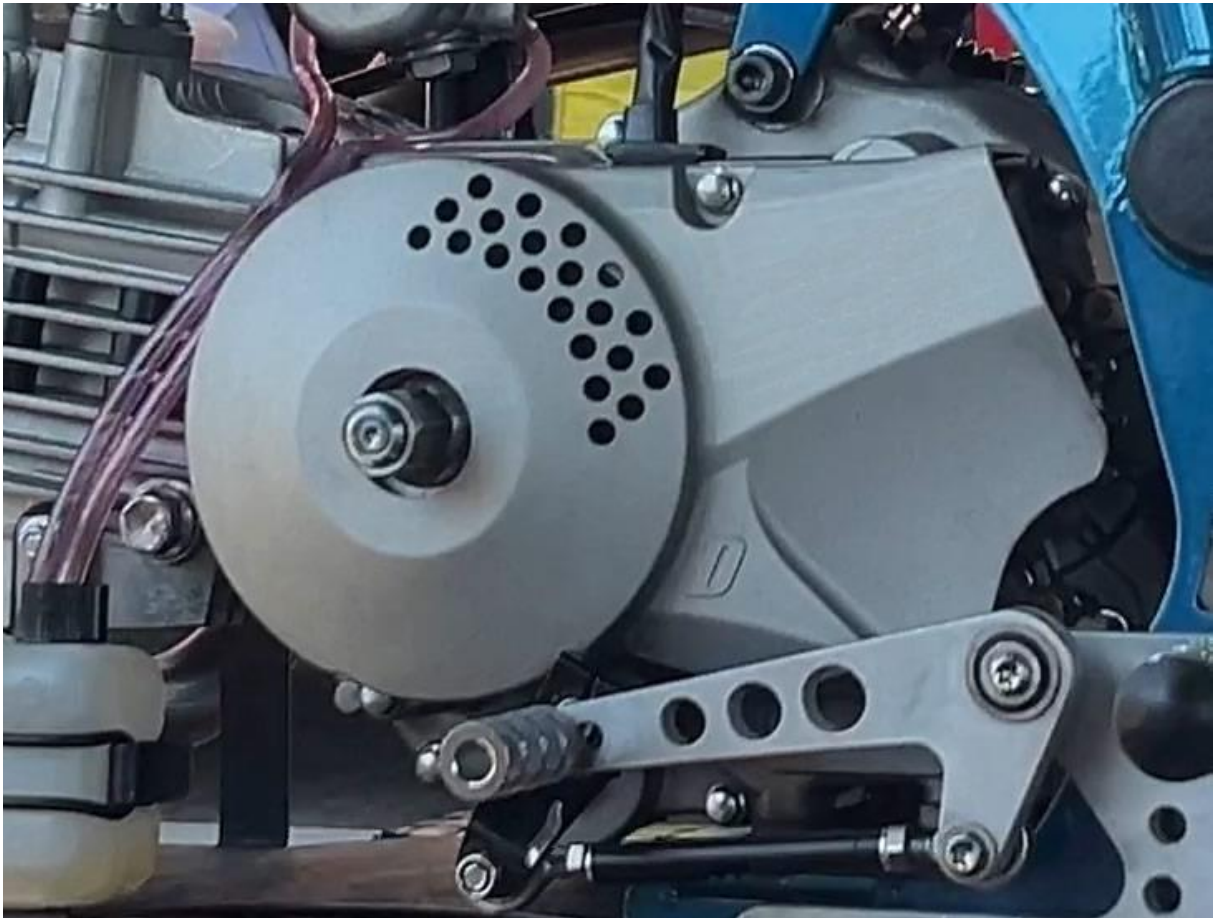
- 5) Screw in the lock nut and tighten it as well.



- 6) Prepare the alternator cover and drill a 30mm diameter hole in the center of the cover using a step drill.



- 7) Place the alternator cover back on and check the fit of the drilled hole.



Usage and First Start of the Engine

The cordless drill

Use a cordless drill (or a 220V drill) with at least two speeds. The speed of the second gear should be at least 1500 rpm. The battery voltage should be at least 18V or more. The higher the voltage, the more torque. Depending on which engine you want to start, torque could be an important parameter. Be sure to use a drill with a quick stop function. This helps you find the right position to start the engine.

Note: Do not start your engine in first gear! The speed is too low for this, and the compressive forces are high at low speeds. There is a risk of injury!

Note: Do not use an impact driver! This will destroy the freewheel unit.

The first start attempt

- For the first start, insert the drive unit into the drill chuck and tighten it securely. Ensure the drive unit is firmly seated in the chuck.
- Check if the battery is fully charged.
- Set the drill to second gear.
- Choose the drilling mode on the drill.

Note: Never engage the hammer drill function. This can destroy the freewheel unit!

- Set the running direction to counter-clockwise (left).
- Insert the drive unit into the the freewheel unit.

Note: Pay attention to axial alignment. The buffer element can compensate for some misalignment. However, misalignment during mounting and starting stresses the components unnecessarily and can lead to premature failure.

• Find the right starting position for operating the drill trigger by turning the entire drill anti-clockwise. The drill's quick stop function is very helpful here. As you turn, you will find areas with a lot of resistance and areas with hardly any resistance, similar to driving uphill and downhill. Within 2 revolutions (4-stroke cycle) there are 2 consecutive uphill climbs. The best position is shortly after the 2nd uphill climb. This position gives the drill time to build up "inertia" as soon as the trigger is pressed.

- Once you've found the position, hold the drill firmly with both hands and press the trigger.

FAQ

The lock screw on the drill chuck has broken off. What now?

Unscrew the broken screw from the shaft. In such a case, a counter screw suitable for most drill drivers is included in the delivery (M6x27mm left). Before you screw the drill chuck back onto the shaft, secure the thread generously with high-strength screw locking fluid. Then put the counter screw back in and wait a day until the locking fluid has hardened. Counter screws are available in the shop.

I can't get the broken drill chuck lock screw out. What can I do?

Please note that the screw has a left-hand thread. To remove it, you must turn it clockwise. If the tear-off edge is very short, it can be difficult to remove the screw.

Proven methods are:

- Make a slot in the remaining piece with a Dremel. Then use a flat screwdriver and hammer to move it in the direction of rotation.
- Put on an M6 nut and use a welding device to create a connection between the nut and the remaining piece. Then unscrew the screw using an open-end wrench.



My cordless drill is unable to turn the motor over completely and stops or the drill chuck lock screw keeps breaking off.

- The cordless drill/screwdriver used is too weak for the combustion engine used.
- The decompression unit of the combustion engine is not working properly.

Check the function of the decompressor and also check the **valve clearance**. On larger engines from 190ccm, the decompressor lever is pre-tensioned with a spring. The tension of the spring can give way over time. Insert a harder spring or over-tighten the spring by one turn.

