

Code Name KUMI Type 7511 & Type 490

There are two versions of our new motor.

One resembles the 7511 type motor: "Code name KUMI 7511 Type".

The other, which is one of the more popular motor types for the P.T.W. line, based on the 490 type motor: "Code name KUMI 490 Type".

You may have already noticed, that the difference between the two motors is simply in the outer appearance and not in performance.

Future orders of the P.T.W. as well as Challenge Kits will all include the "Code name KUMI 7511 Type" motor.

For those who have the 2012 model P.T.W. (and prior), may purchase the "Code name KUMI 490 Type" motor; and will be able to enjoy the performance of the new motor without having to purchase a new grip.



The two motors share these performance features.

Maximum revolutions	Over 10,000rpm
Maximum Torque	Over 1600gcm
Maximum Current	Over 57.31W

Even with the heaviest load to our new motor (which is in Semi-Auto firing), it is able to churn out over 40,000 rounds. In addition, these two motors support all P.T.W. models.

However, when using either the SUPER MAX or the MAD MAX models, the set position for the Motor Pinion is different; therefore please confirm the part number when purchasing the motor.

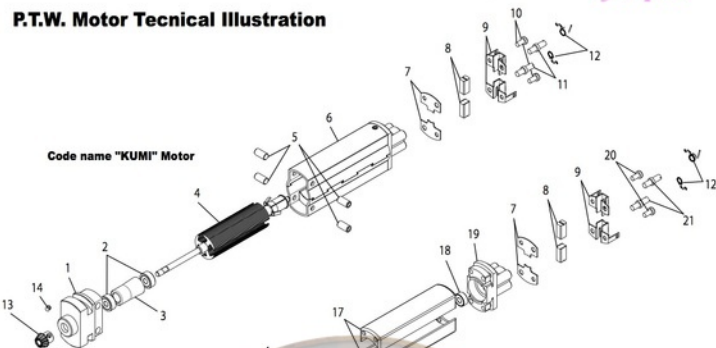
Furthermore, the core of the performance found in the two new motors lay in the new Rotor: "Code name KUMI Rotor"; this rotor is compatible with all rotors used after the 490 type rotor model.

By all means please consider exchanging the part, not after the existing part is worn and needs exchanging, but from a standpoint of enhancing the motor with high performance parts.

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P.T.W. Motor Technical Illustration

Code name "KUMI" Motor



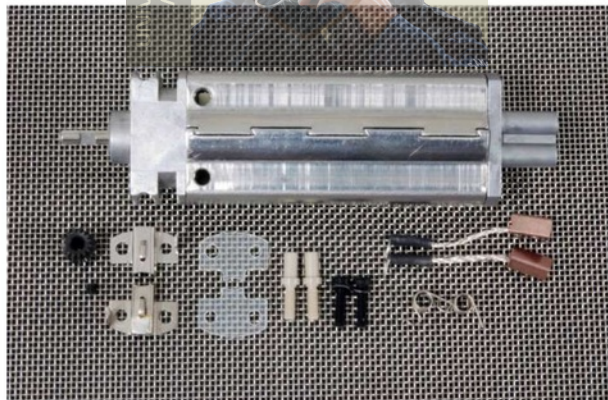
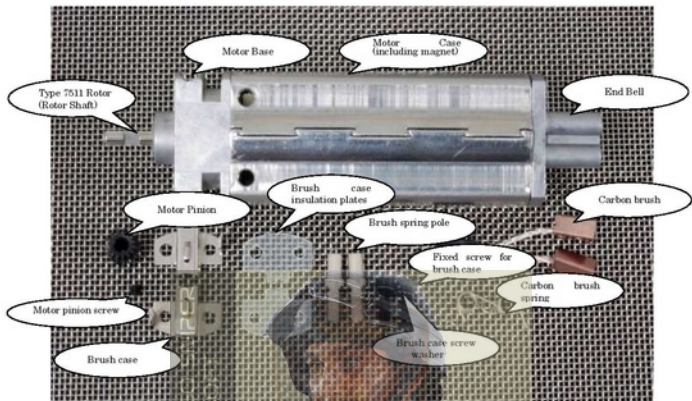
Type 490 Motor



Item#	Description	quantity	price(US\$)
1	Motor Base for N7511	1	US\$11.33
2	Motor Base Bearing (Large size RI-618ZZ)	set of 2	US\$9.52
3	Motor Base Sleeve	1	US\$3.00
4	N7511 Rotor Assembly (Black color shaft)	1	US\$61.80
5	Motor Base set screw for N7511 (M4*8 Hex)	set of 4	US\$1.90
6	Magnet Case Assembly for N7511 with Endbell and Bearing	1	US\$102.76
7	Brush Case Plate	set of 2	US\$0.85
8	Carbon Brush Ag-30	set of 2	US\$2.91
9	Brush Case	set of 2	US\$4.95
10	Brush Case set screw for N7511 (Whrite color MD*5)	set of 2	US\$0.95
11	Brush Spring Pole for N7511	set of 2	US\$5.92
12	Brush Spring	set of 2	US\$0.49
13	Motor Pinion Gear for P.T.W.2/3/4/CQBR	1	US\$12.19
14	Motor Pinion screw (M2.5*2.5 Hex)	1	US\$0.47
15	Motor Base for 490	1	US\$21.00
16	Motor Base set screw for 490 (M3*8 Hex)	set of 4	US\$1.90
17	Magnet Case Set for 490	set of 2	US\$89.52
18	Endbell Bearing (Small size RI-518ZZ)	1	US\$7.62
19	Endbell for 490	1	US\$15.38
20	Brush Case set screw (Black color MD*10 with shim)	set of 2	US\$0.95
21	Brush Spring Pole for 490	set of 2	US\$5.92

NEW 7511 Type Motor Assembly Manual

Parts that comprise of the New 7511 Motor



Starting the Assembly Procedure.

Prepare a #0 Flat Head Screwdriver (to use on the Brush Spring Pole), #0 Phillips Head Screw Driver, and a 1.27mm Hex Wrench. The motor comes pre assembled with many of the screws utilizing resin to secure the screws, therefore using any tools that are not specified may likely damage the screws.



Place the Brush Case Insulation plate onto the End Bell. This part requires to be placed in the correct position. The large hole is located on the right side when viewing the picture (installing the Brush Spring Pole).



As seen in the illustration, the Brush Case is covered.



Refer to the photo as you temporarily secure the Brush Spring Pole.

For this procedure, tools are not necessary. The magnet has polarity which the direction is marked in red on the End Bell. Place the that onto the Brush Spring Pole (the top is marked in red).



Temporarily secure the Brush Case Screw along with the Brush Case Screw Washer onto the hole of the Carbon Brush Terminal. At this stage, there is no need to tighten the screws (as seen in the photo).



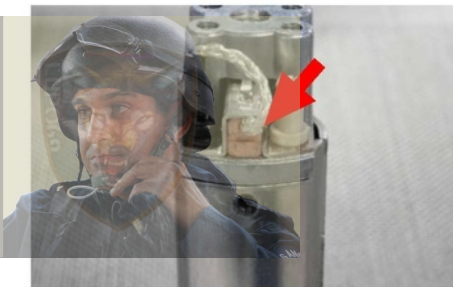
Tighten the Brush Spring Pole. Over tightening will cause the Spring Pole to damage, or cause the Brush Case to warp; therefore take caution while working on this procedure.



Tighten the Brush Case Screw.
Similar to the Spring Pole, do not over tighten the screws.
In addition, take caution to not have the cord protrude past the arrow section.



Insert the Carbon Brush into the Brush Case.
Confirm the front and back motion is smooth.
Using the picture as reference, insert it so that the cord is above the arrow.
In the event that the Brush is hard to move, use a screw driver and gently adjust the case.



Install the Brush Spring.
Confirm the movement once again, this time with the Spring installed.



Using the picture as reference, bend the Carbon Brush Cord.

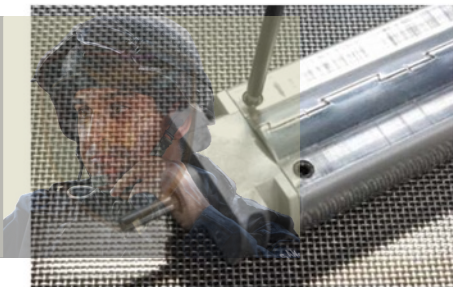
If the cord is bent in this manner, soldering the motor cord will become much easier.



Tighten the 4 Motor Base Socket Screws.

Adjust the screws evenly on all four sides till they are flush.

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Insert the Motor Pinion Washer to the Rotor Shaft, then set the Motor Pinion. The Motor Pinion Washer consists of: 2 Large size Black for the MAX model, as well as 1 Small Black for the standard model. Apply superglue to the Motor Pinion Screw then tighten.



Cyclic Test

Use the enclosed cyclic test Motor Cord (NM16-AC17 USS5.3), and connect that to the Motor; attach that to the lowest voltage/milliamp battery, then run the motor for approximately 2 minutes. If no abnormal sound is produced during the test, then it is complete.



Disassembly Procedures

Prior to disassembly of the NEW 7511 Motor, use a burner to heat the Motor Pinion Screw to remove it. Next, remove the Brush Case and loosen the Motor Base Screw prior to removing the Rotor. Please be aware that the Rotor will not come off by simply removing the Motor Base Screw.



Output Properties

Please refer to the right figures for the Output Properties of the NEW 7511 Motor.

Cautionary Points.

The source of the high performance for the NEW 7511 Motor comes from the Neodymium Magnet.

However, even with this most powerful magnet, will rapidly lose its magnetism if it is immersed in prolonged high temperature. We strongly recommend that prolonged full auto fire is avoided and to maintain a core temperature environment of less than 80 degrees centigrade.

