

# neuma®

## INFORMATION PACKAGE

- INTRODUCTION AND VISION PAGE 1
- NEUMA 4: PRODUCT SPECIFICATIONS PAGE 2
- GRIP MODELS PAGE 3
- QUICK START PAGE 4
- INTERACTIVE OWNER FOLLOW-UP:
  - MACHINE SETUP PAGE 5
  - MAINTENANCE PAGE 6
- TROUBLESHOOTING PAGE 7-10

## INTRODUCTION

Carson Hill has been tattooing professionally for over 25 years, and is the founder and creator of Neuma Tattoo Machines. His foundational training was in 1998, before the rotary machine had been embraced by the tattoo community. This resulted in designing Neuma Tattoo Machines such that they feel like using a coil, have a similar effect on skin as a coil, with the reliability, predictability, low maintenance, and ergonomics of a pen-style rotary.

Neuma tattoo machines are built around custom made German-engineered motors chosen for their superior performance. These motors are ideal for use in battery operated applications where current is at a premium.

## VISION

*"Neuma's vision, simply put, is to innovate, create, and empower the artists of the tattoo community. Our goal is to anticipate and address the changing needs and desires of artists and to provide them with superior products."*

*Tattoo artists are continually adapting to modern and advanced technology. While we see that as an important aspect of our growth, we also know the value of what has been achieved by countless masters for more than a hundred years. It is our intent to bridge the advanced technology of today with the strengths and deeply rooted fundamentals of tattoo history."*

Carson Hill, Neuma Creator





# NEUMA 4: PRODUCT SPECIFICATIONS

## MOTOR

8.5W 9V 6.8mNm Faulhaber Motor

## OPERATING RANGE

5-9V

## MAX. OPERATING SPEED

9,000RPM (150Hz)

## COMPATIBLE WITH MOST BATTERIES

## AVAILABLE IN HARD OR SOFT HIT

## INCLUDING 4 INTERCHANGEABLE CAMS

### IDEAL FOR:

LINING

FAST SHADING

BLENDING  
SLOWER SHADING

SLOW HAND  
MOVEMENT  
COLOR  
PACKING



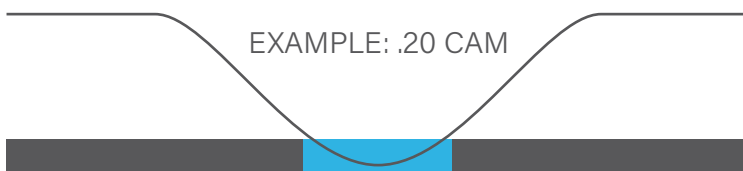
20%

28%

33%

40%

NEEDLE CYCLE SPENT IN THE SKIN



EXAMPLE: .20 CAM

MOTOR ASSEMBLY



BEARING ARMS

brass or aluminium



CAM



SPRING

standard or heavy duty



GRIP



## VARIATIONS

### AVAILABLE GRIP SIZES (mm)

27, 33, 33 Shift, 38

### AVAILABLE WEIGHT RANGE (in grams)

115-370

### AVAILABLE STROKE LENGTHS (mm)

2.75, 3.6, 4.2

### STRIKE FORCE VARIATIONS (flywheel):

Aluminum (1g), Brass (5g)

# GRIP MODELS



We have designed the Neuma 4 so that the grips cover the full length of the machine, which prevents cross-contamination of the machine itself. The grips we offer are anodized aluminum or stainless steel, which can be autoclaved or cold-sterilized for a totally clean practice.

BLACK ABYSS COPPER METEORITE MIDNIGHT SILVER HEAT STEEL

2  
8  
MM  
Ø



3  
3  
MM  
Ø



3  
3  
MM  
Ø



SHIFT

3  
8  
MM  
Ø





# QUICK START

## MOTOR ASSEMBLY

Power & strike force variation



## ATTENTION:

Neuma 4 uses a 9 Volt motor. **Adjust your power supply** to the recommended operating range of 5-9V before powering on your Neuma 4 to avoid damaging any of the components.

**While oiling other parts**, a Q-Tip to keep the inside of the motor assembly clean.

**Warranty is void** if the motor has been opened.

## BEARING ARM

Strike force variation



**To change the bearing arm**, use the provided Allen key through the access hole on the inner housing to loosen the set screw. The larger hole on the bearing arm should be facing up.

## CAM

Stroke profile & length



**To oil the cams**, use one drop of oil in the center hole and on the „teeth“ of the cam, every 50-100 hours of use, or after cleaning or changing cams.

New generation cams have both stroke profile and length printed on the back.

Note: Cams do not spin when installed in the motor assembly.

## SPRING

Tension & stability



All Neuma 4 grips are interoperable with all N4 machine variations. Try a steel grip with an aluminum motor housing or vice-versa for a shift in center of gravity.

**To adjust needle depth**, twist end cap against the grip until the desired depth is achieved.

## GRIP

Size and weight variation



### To switch grips:

1. Unscrew grip until threads are no longer engaged.
2. Remove grip from motor assembly
3. Insert motor assembly into alternate grip.
4. Tighten grip onto motor assembly to attach

**NOTE:** Anodized aluminum grips will lose their lustre and color after extended chemical cleaning and/or autoclaving. Do not autoclave brass or powder-coated aluminum grips.



### HANDLE WITH CARE

Internal damage can occur to the motor, cams, bearings, and/or electrical components if your machine is dropped or subjected to unusual abuses or other impact force(s).



### KEEP DRY

Internal damage can occur to the motor, cams, bearings, and/or electrical components if your machine is dropped or subjected to unusual abuses or other impact force(s).



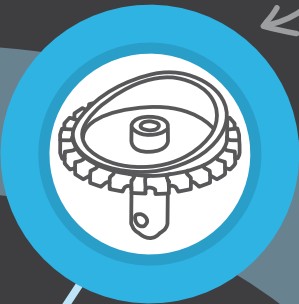
### CORRODIBLE

Aluminum surfaces are subject to corrosion with the use of chemicals.

## MACHINE SETUP



click the icons for instructive videos



### CAMS

Click here to determine the best cam configuration(s) for the style and/or method for tattooing you prefer.



### GRIPS

Click here to learn about grip selection and the ways your grips can change your machine.



### BEARING ARMS

Click here to learn about the uses for the different bearing arms and how to swap them.



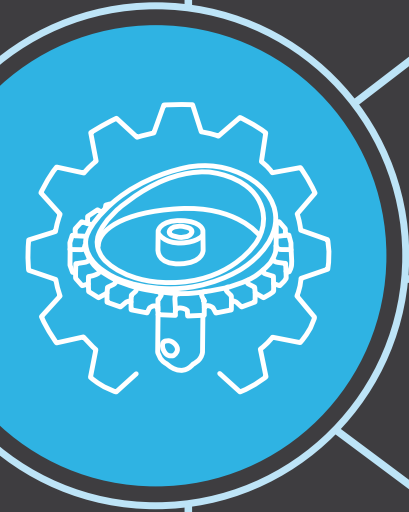
### BAGGING

Click here to see our recommended ways to properly bag your machines, for best coverage.



### SPRINGS

Click here to learn about the different springs we offer and when you would choose to change them.





# MAINTENANCE



click the icons for instructive videos



# OVERHEATING

Make sure the cam is oiled, one drop into the hole in the back side of the cam, every 50-100 hours of operation. Also, when swapping between cams and/or after cleaning, be sure that the new cam has been oiled.

Check to make sure that the Anti-Rotation Pin (located on the inside-side of the inner housing where the cam sits) is straight and free from debris. Do not to apply force to the motor shaft.

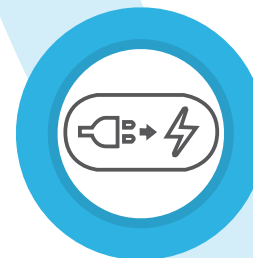
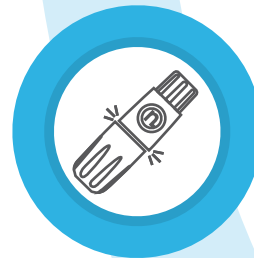
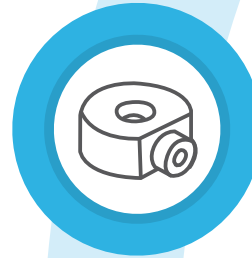
Check the Bearing (attached to the side of the Bearing Arm under the Cam). It should roll smoothly without resistance. If it feels rough or stuck, it needs to be replaced.

Has the machine ever been dropped or sustained a hard impact? This is the number one cause of motor malfunction. They are built very well but a hard hit can require motor replacement.

Clean the inside of the inner housing in the cavity that houses the Cam mechanism. Occasionally, you may need to remove the Bearing Arm to clean beneath it.

Check that your power supply has enough output, and that you are operating between 5-9 volts, test another outlet and/or another power supply or battery to be certain where the problem exists.

You can also rotate the cam to insert the Anti-Rotation Pin to another "tooth". Lift the cam up slightly and gently rotate to a different tooth, then lower again. Be sure no to apply pressure to the pin, which can bend the Pin.



## LOUD NOISE

Check to see that the Bearing Arm is not installed upside-down. The hole through the center is larger on one side, and the larger opening should face towards the opening, or towards the Cam.

Try using another cartridge. Sometimes a cartridge can be faulty and some brands do not function well.

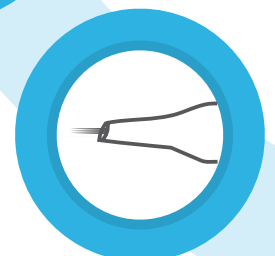
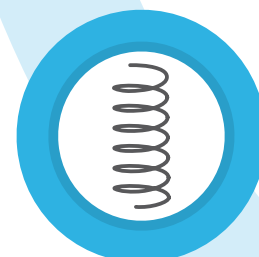
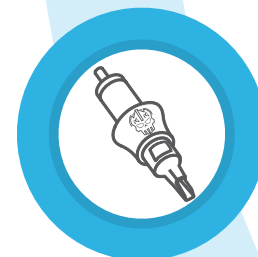
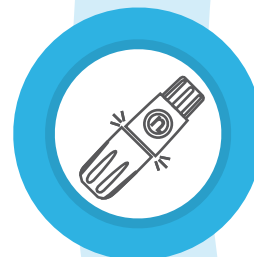
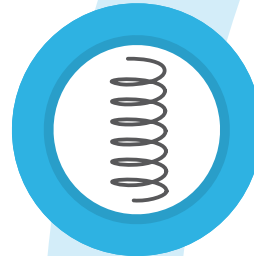
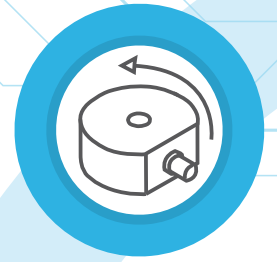
Springs are installed stretched to 2 inches. After some time, they can begin to compress. Remove and stretch the spring back to 2 inches for proper tension, being careful not to overstretch.

Has the machine been dropped or sustained any impact? This is the number one cause of malfunction. They are built very well, but a hard hit can require a motor replacement.

Is there a cartridge installed while the machine is making a loud noise? Neuma tattoo machines are not meant to be run without a cartridge installed. Install a cartridge and recheck.

Have you tried a Heavy-Duty Spring? These are available for certain circumstances, such as if an artist uses a high voltage or a very short throw, causing the cam to be under less tension.

Have you tried applying a small amount of additional tension to the system by lengthening the needle depth? Sometimes a very small amount of adjustment (1-10th to 1/4th of a turn) will do the trick.



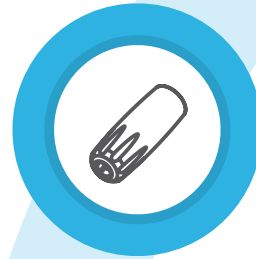


# GRIP FIT ISSUE

Do you possibly own one of the first 100 Neuma 4 machines ever made? If you do, we are happy to update the machine to the new design. Please refer to the repair form in the support section of this site.



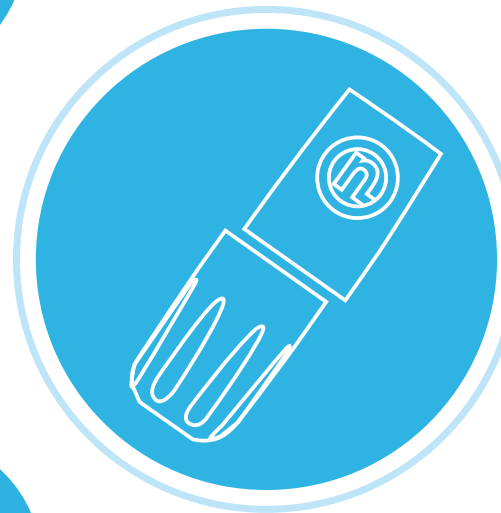
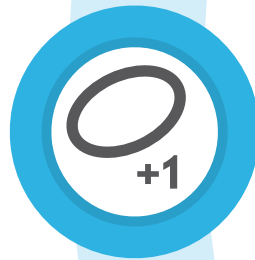
Is there any debris or build-up of any kind on the threads? Use a toothbrush or tube brush to clean out the inside of the machine and clear the threads



It is possible that the friction between the inner wall of the grip and the O-ring is too tight. Apply a drop or 2 to each side of the O-ring to reduce this friction.



If the Grip feels too loose, an additional O-ring can be applied to the inner housing, just below the threads in the thread relief. This will provide more friction.



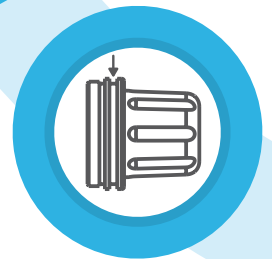
If the Grip feels too loose, you can clean off any excess oil on the O-Ring and the inner wall of the Grip(s) being used. This will help increase friction between the grip and housing.



Is there any debris or build-up of any kind on the housing threads? Use a toothbrush to clean the threads, also- if there are any crossed or damaged threads, the machine will need repair.



Does your machine have a third O-Ring, located on the Adjustment Knob? If not, we can upgrade your machine to include this part. This will increase friction between the grip and housing, and reduce any wiggle between them.



## LOSING POWER

Check your RCA cord first. Most often, the machine is not having any issue at all, but the RCA cord or even the battery is having an issue. Test with other cords and batteries first, as they fail much easier.

Ensure your power supply has enough output, and that you are operating between 5-9 volts, test another outlet and/or another power supply or battery and be sure the amperage is sufficient.

Does the RCA jack feel loose? If it has become loose, there is potential for an electrical short. Refer to the repairs form in the support section of this site for instructions.

Ensure the cam is oiled, one drop into the motor shaft hole every 50-100 hours of use. When swapping between cams and/or after cleaning, ensure the new cam has been oiled.

Check to make sure that the Anti-Rotation Pin (located on the inside-side of the inner housing where the cam sits) is straight and free from debris. Do not to apply force to the motor shaft.

Does the RCA jack turn inside its housing? If it has become loose, there is potential for an electrical wiring short. Please refer to the repairs form in the support section of this site for instructions.

Neuma Brand RCA cords can be repaired if they become damaged after time. Please refer to our YouTube page for a quick illustration of this process. There is a link to our YouTube at the top right of this site.

