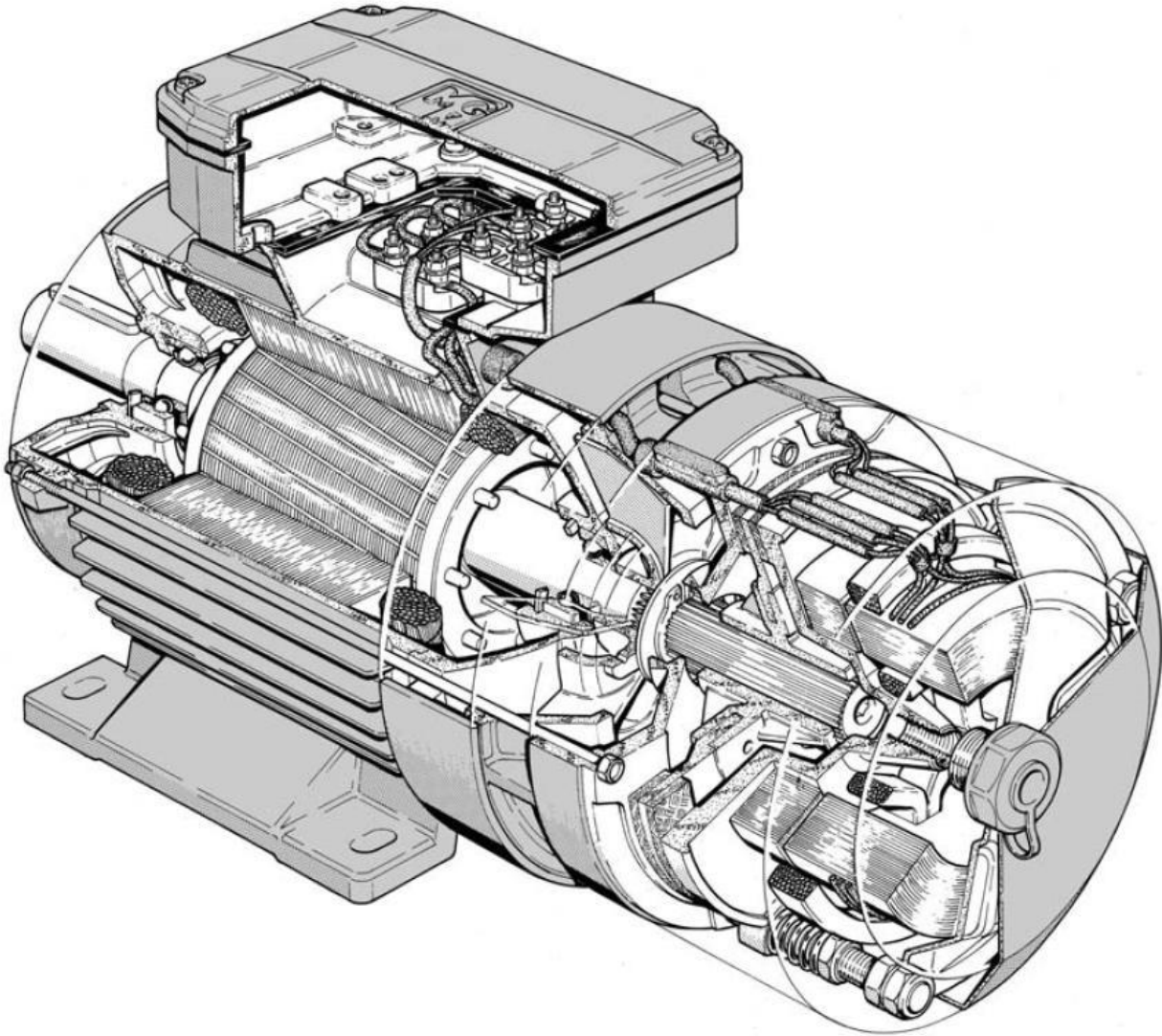


# MGM Brake Motor

## Brake Torque Adjustment (BA)

### Additional Instruction



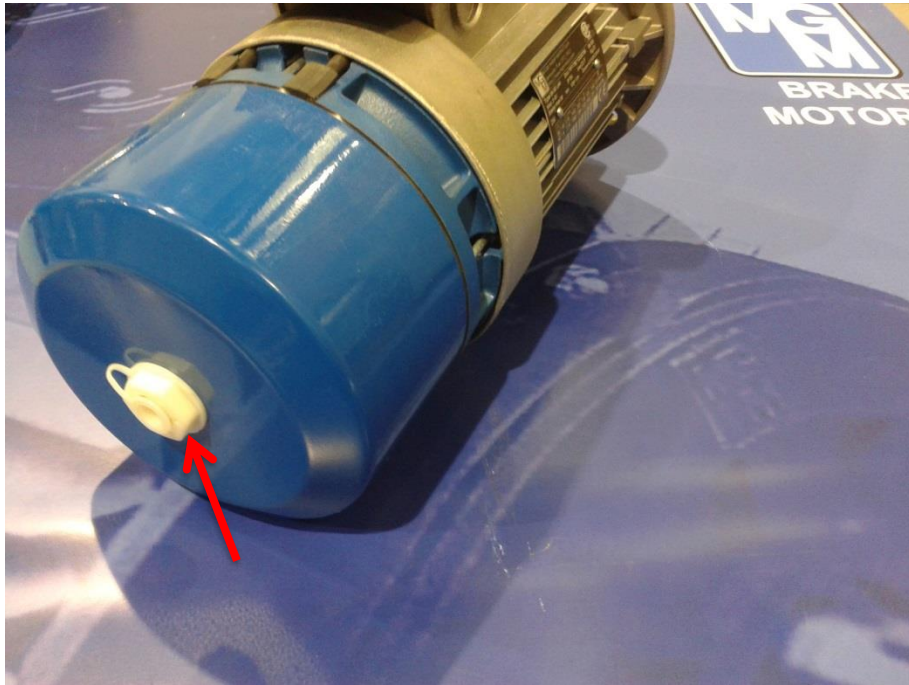
**Maintenance operations must be carried out only by qualified personnel and only after having disconnected the plant or the motors from the electrical supply. Inadequate inspections and maintenance can produce personal injury or property damage.**

Please carefully read all the safety precautions and warnings in the standard MGM wiring and maintenance manuals before proceeding with this instruction.

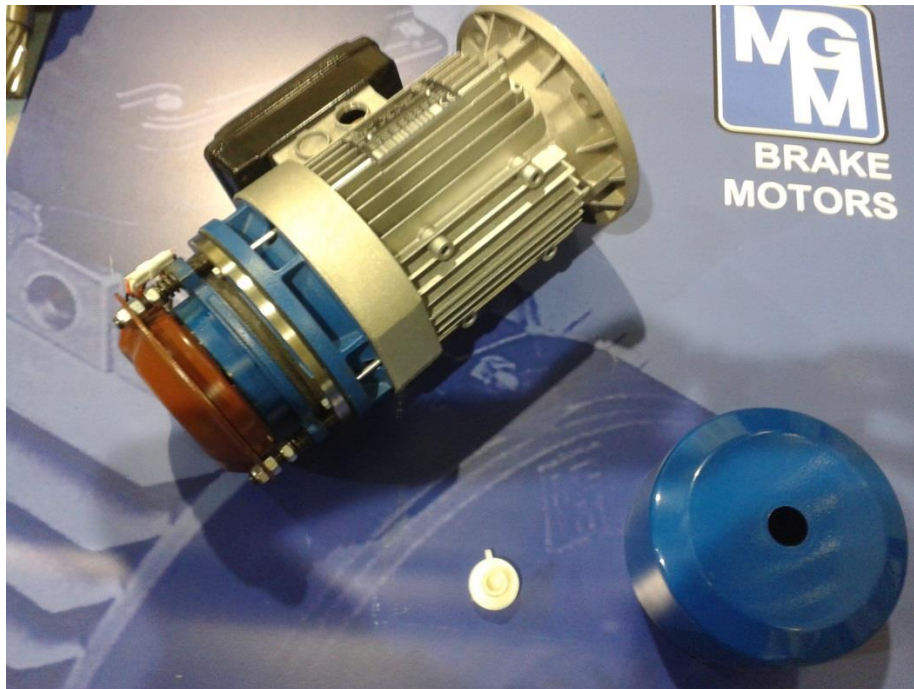
Standard wiring and maintenance manual can be found on the MGM website  
[www.mgmelectricmotors.com](http://www.mgmelectricmotors.com).

## Step 1.1: Remove Rear Cover

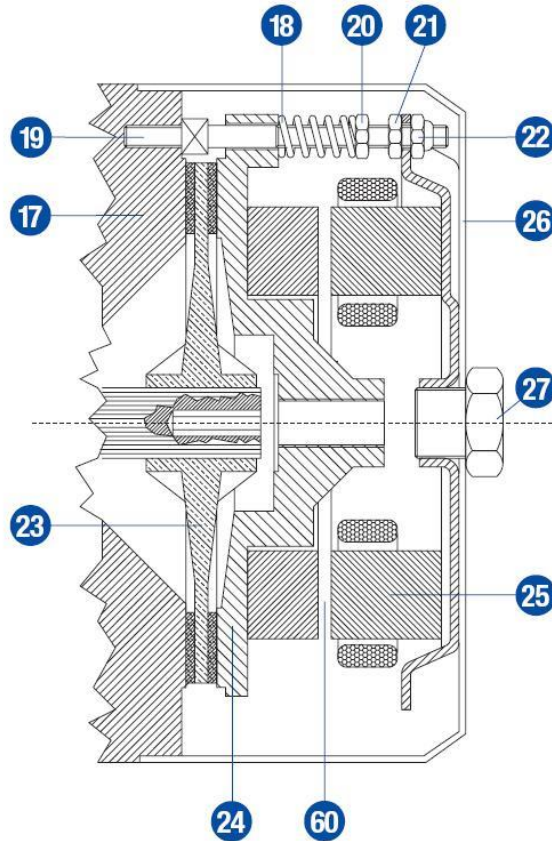
Using a large Crescent Wrench remove the white plastic nut retaining the rear cover on the motor.



The motor looks as shown below after cover has been removed.



## Step 2.1: Identify Components



17: Motor Housing

18: Brake spring

19: Brake stud

20: Brake spring adjusting nut

21: Brake coil adjusting nut

22: Brake coil adjusting nut

23: Brake disc

24: Brake moving element

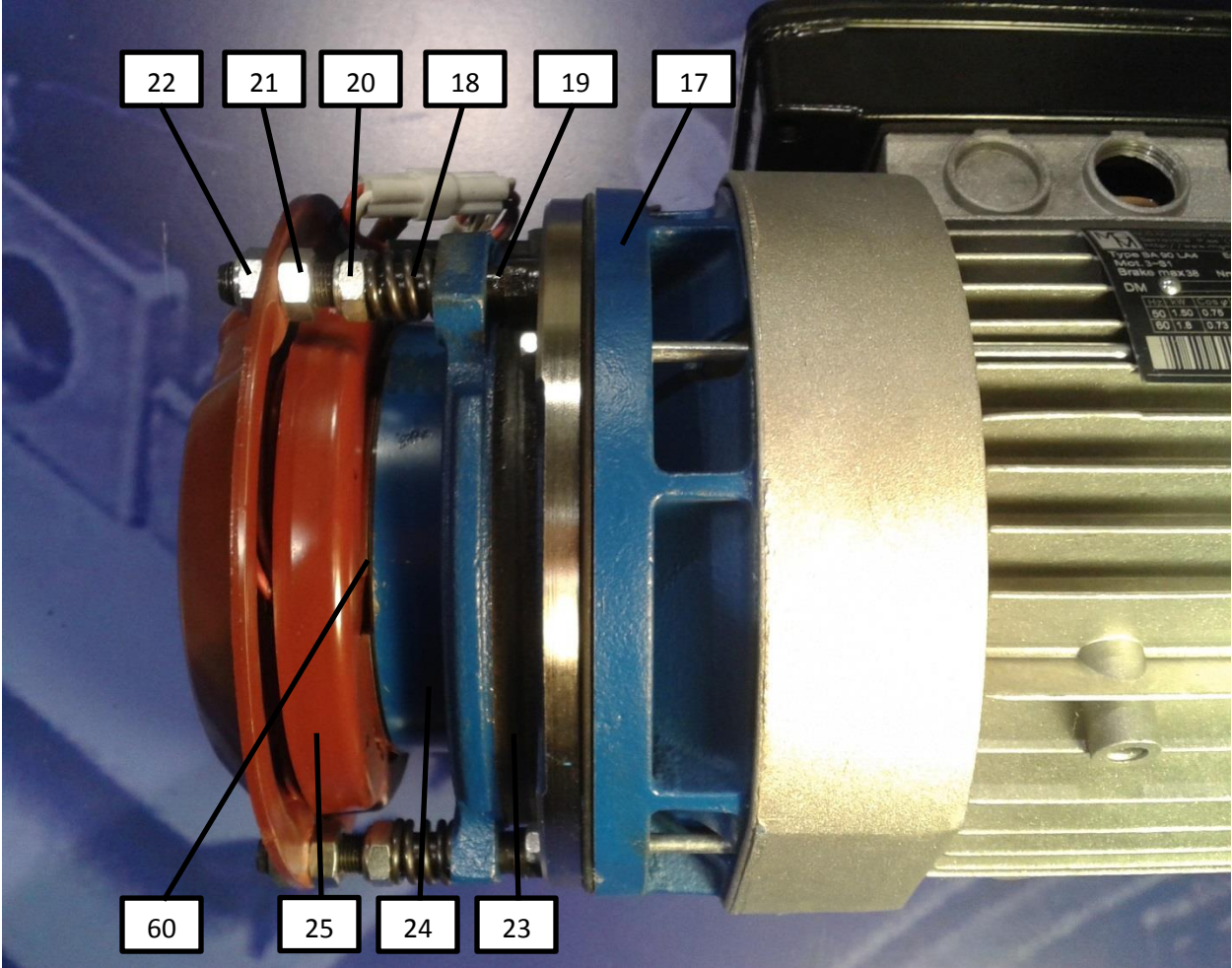
25: Brake coil

26: Rear housing cover

27: Cover attaching nut

60: Air gap

**Step 2.2: Identify components on motor**



\*Items 26 and 27 not shown for clarity

### Step 3.1: Select the spring compression according to the desired braking torque

The Brake torque is inversely proportional of the spring (18) compression H.



BA series motors are provided as standard with a brake torque set to 60 - 70% of the maximum admissible brake torque indicated on the nameplate. The following table shows the standard compression values of the brake springs (18) with AC or DC brake coil.

Frame Size	AC brake coil		DC brake coil	
	Spring Compression H (in)	Spring Compression H (mm)	Spring Compression H (in)	Spring Compression H (mm)
71	0.472	12.0	0.492	12.5
80	0.472	12.0	0.492	12.5
90	0.630	16.0	0.630	16.0
100	0.591	15.0	0.591	15.0
112	0.650	16.5	0.650	16.5
132	0.669***	17.0***	0.669***	17.0***
160	0.807*	20.5*	0.748**	19.0**
180	1.398*	35.5*	1.259**	32.0**
200	1.398*	35.5*	1.259**	32.0**
225	1.240*	31.5*	1.240**	31.5**

If you want to set the brake torque at a specific value you can find diagram of the brake torque as a function of the spring compression for each type of motor in the MGM catalogue, page 23, available on our website (<http://www.mgmelectricmotors.com/technical/catalogues.asp>).

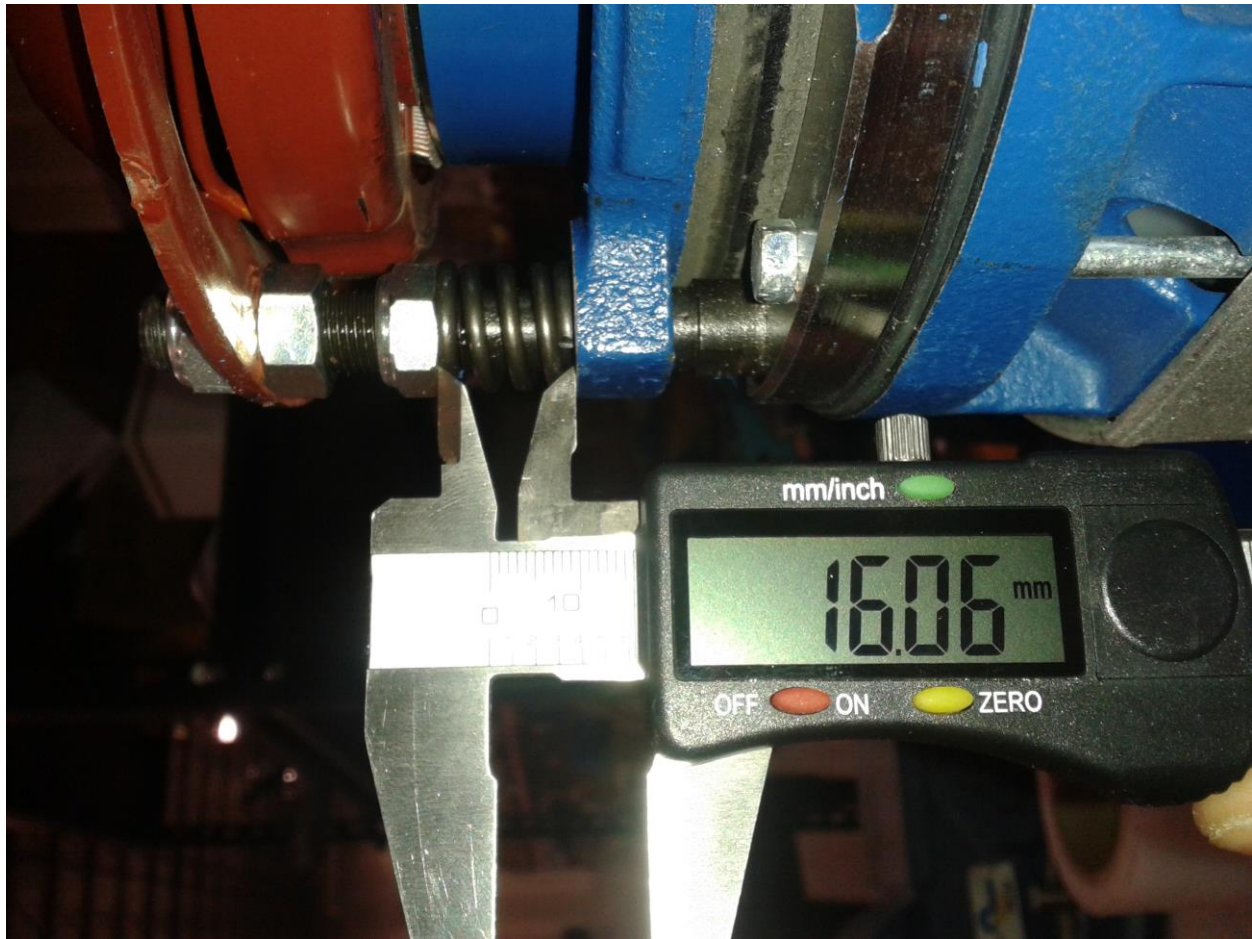
\* : The brake assembly of motor series BA, BAF 160÷225 with AC brake has 6 springs.

\*\* : The brake assembly of motor series BA 160÷225 with DC brake has 3 springs. The 3 springs must be put on 3 brake adjusters situated at 120° to assure an uniform braking action.

\*\*\*: The brake assembly of motor series BA, BAPV, BAF 132 with AC brake coil have the springs bright silver colored. The brake assembly of motor series BA, BAPV 132 with DC brake coil have the springs black colored.

### Step 3.2: Checking the spring compression H

Use a vernier caliper to measure the spring compression H like in the following picture.



**DO NOT INSTALL THE BRAKE RELEASE TOOL WHILE CHECKING THE SPRING COMPRESSION.**

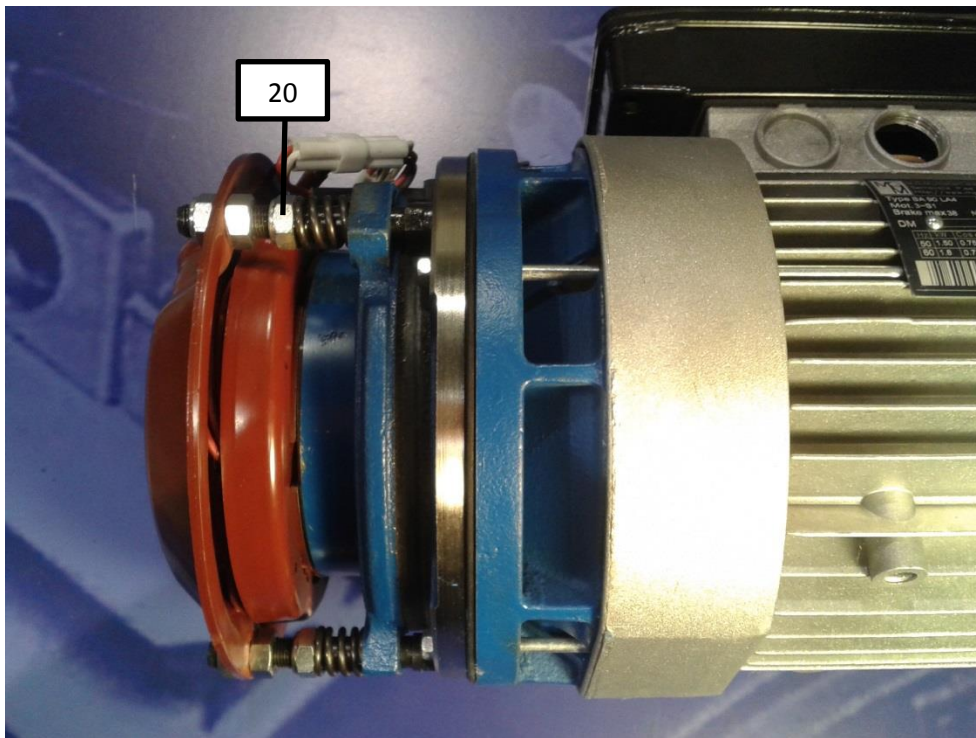
You have to check the spring compression on the three (six for size 132 and up) stud of the brake assembly and found the same value. The compression of the springs must be as uniform as possible.

### Step 3: Adjusting the spring compression

If the spring compression  $H$  is too small, turn each of the **brake spring adjusting nut (Item 20)** away from the brake disc (Counterclockwise if looking at the motor from the brake end) until you read the desired value on the vernier caliper. Doing this means you increase the length  $H$  and you decrease the final brake torque.

If the spring compression  $H$  is too big, turn each of the **brake spring adjusting nut (Item 20)** towards the brake disc (Clockwise if looking at the motor from the brake end) until you read the desired value on the vernier caliper. Doing this means you decrease the length  $H$  and you increase the final brake torque.

**Remember to set the same spring compression on every stud in order to have a brake torque as uniform as possible.**



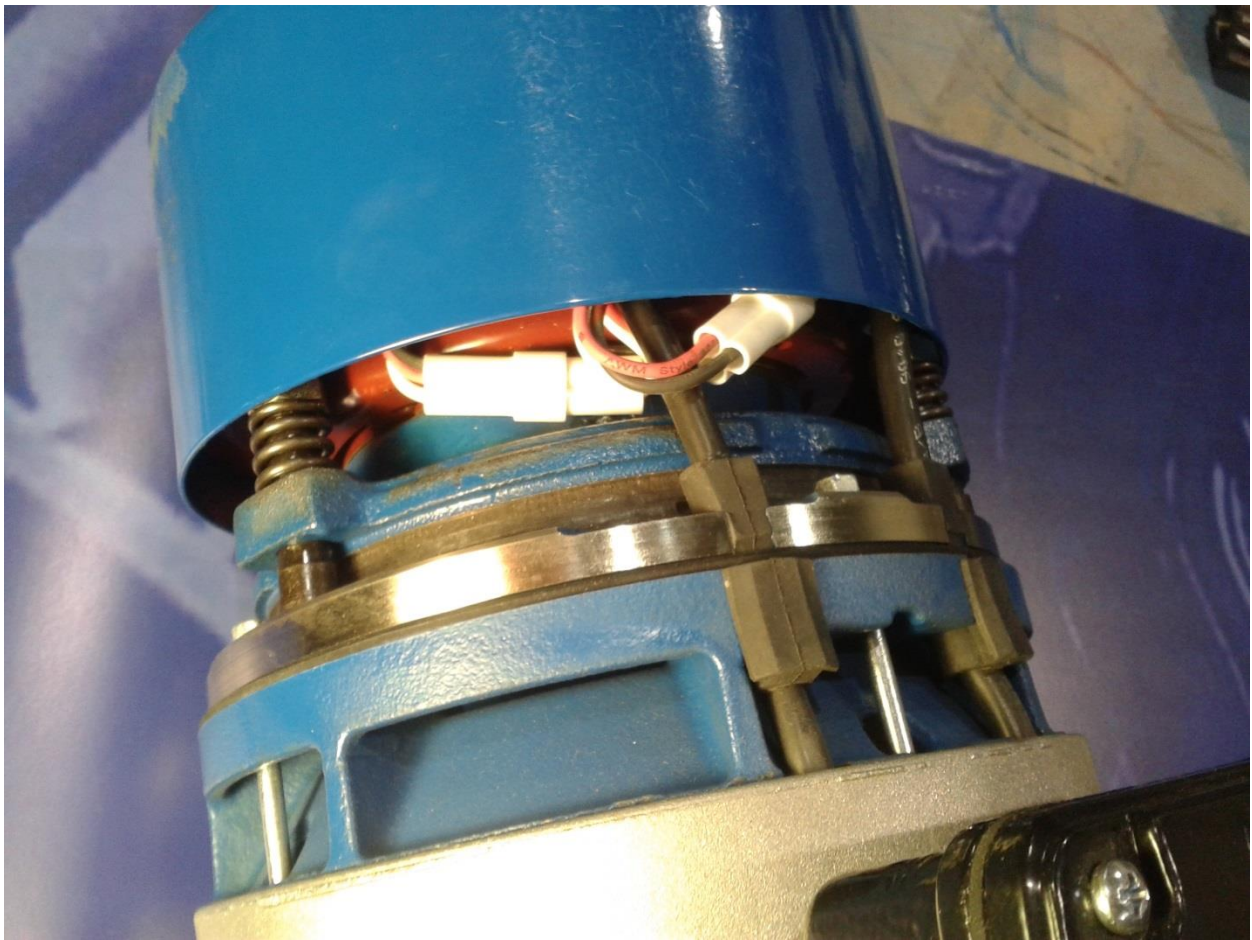
**To increase the brake torque, decrease the length  $H$  by turning “20” toward the brake disc (Clockwise when looking at motor from brake end)**

**To decrease the brake torque, increase the length  $H$  by turning “20” away from the brake disc (Counterclockwise when looking at motor from brake end)**

**You can repeat the operation for the other stud. Remember to set the same spring compression on every stud in order to have a brake torque as uniform as possible.**

#### **Step 4: Reassembling rear cover**

Use caution when reassembling rear cover. Ensure that wires are in the correct location when fastening the rear cover. The connectors should be in the location and orientation shown below. Check to make sure that the wires are not and cannot contact the brake disc with the cover in place. If caution is not exercised the wires may contact the brake disc causing immediate motor failure



**The connectors need to be tucked down between the brake moving element and the brake coil. Most importantly insure that the wires cannot contact the brake disc.**