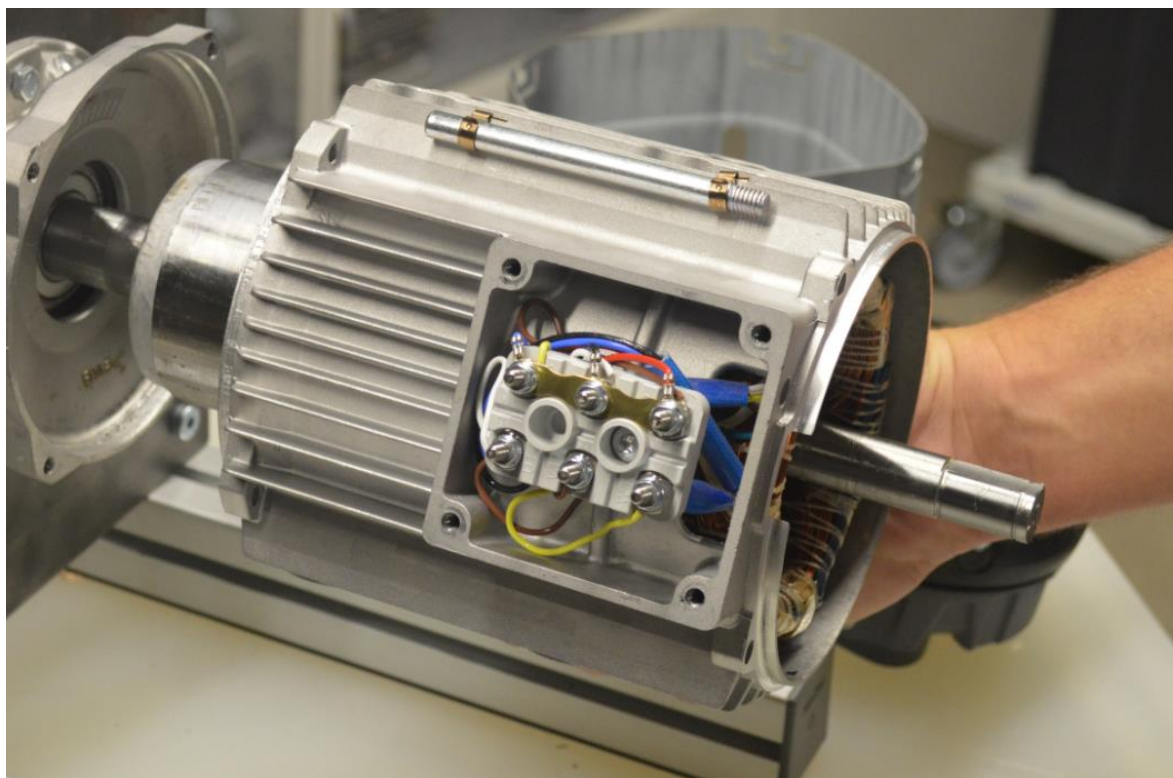


# Basics of Maintenance

## Motor Stator Replacement



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1	Scope of Work
2	Safety
3	Required Tooling
4	Old Stator Removal
5	New Stator Installation
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# Scope of Work

The purpose of this presentation is to educate you on the proper way to replace an SEW-Eurodrive motor stator in a safe manner. The scope of work requires a basic mechanical knowledge of hands tools and safety procedures for electrical equipment.

Instructions and Tooling are for DR..71 – DR..132S Motors



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# Safety

Always follow the proper lockout/tagout procedures as well as all local safety rules and regulations.

It is advisable to utilize the proper safety equipment, such as gloves and safety glasses when performing any work on the product.

Never work on  
a motor that  
has not been  
disconnected  
from the power  
source



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# Required Tooling

What you will need –

- Dead-blow Hammer
- Philips Tip Screw Driver
- Flat Tip Screw Drivers (Medium)
- Torx Bits
- Metric Nut Drivers
- Rags and Cleaner
- External Circlip Pliers
- Torque Wrench/Driver



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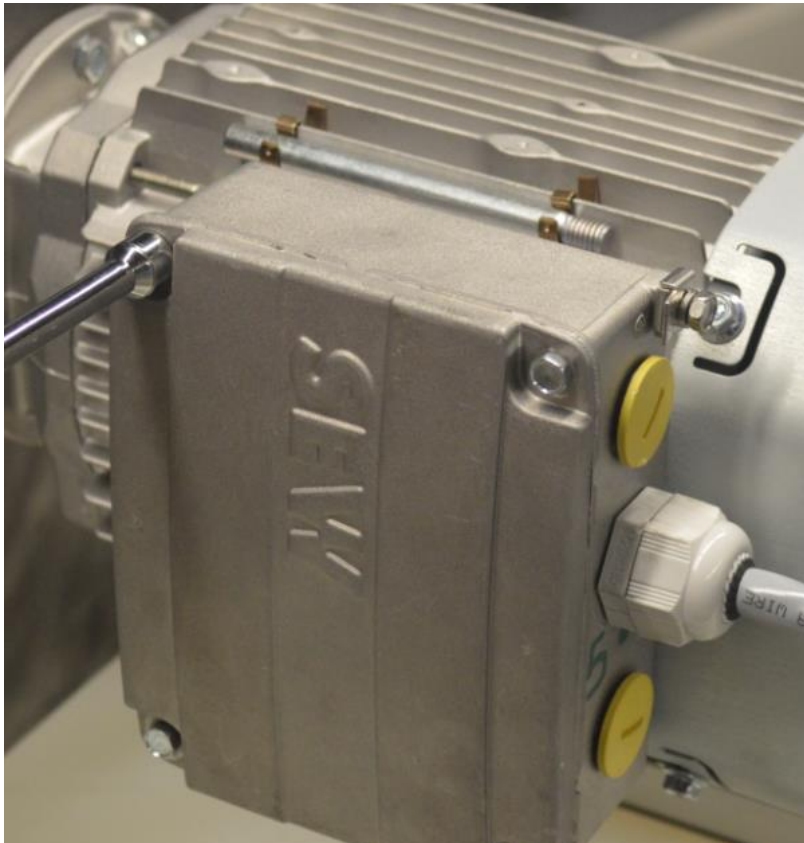
# Old Stator Removal

Step 1 – Disconnect all power sources to the motor and perform Lockout/Tagout

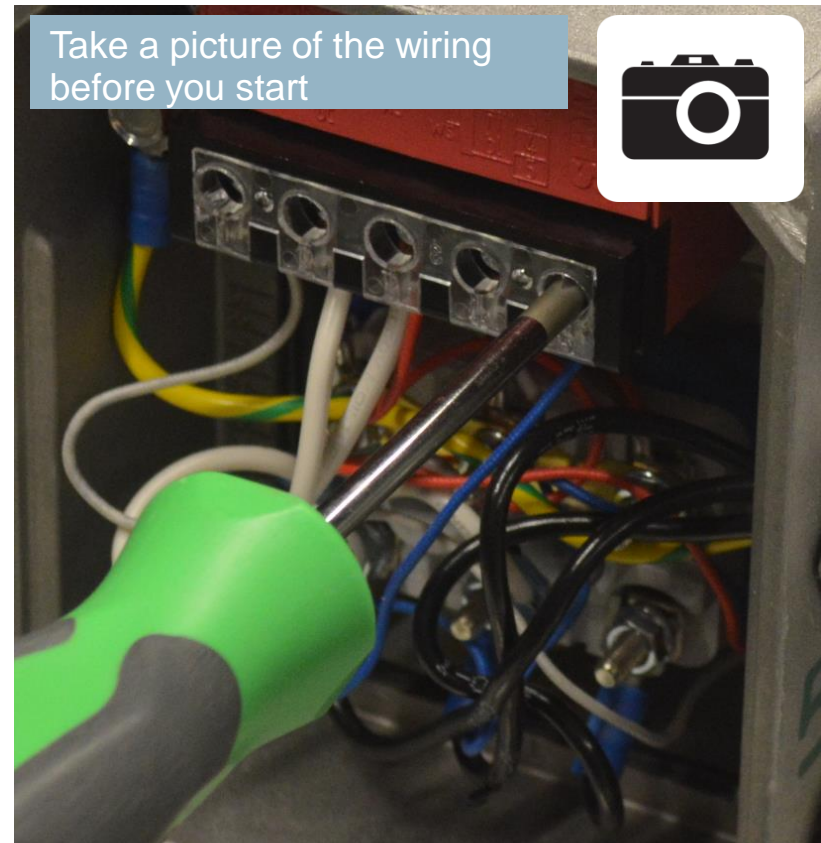


# Old Stator Removal

Step 2 – Remove the terminal box cover and disconnect all of the wiring



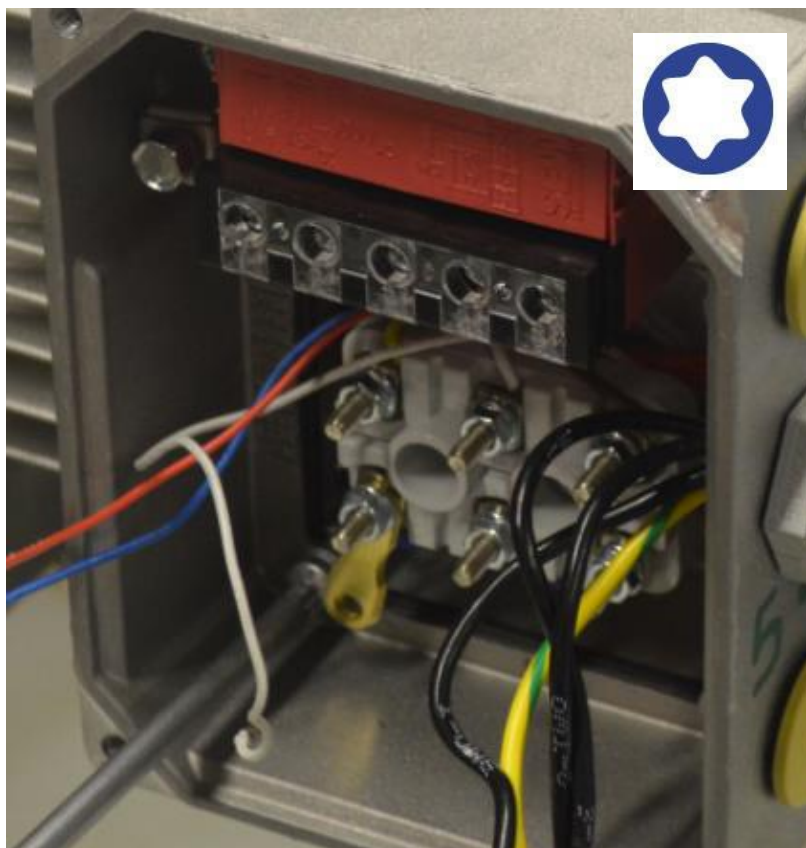
Tooling - M8 Nut Driver



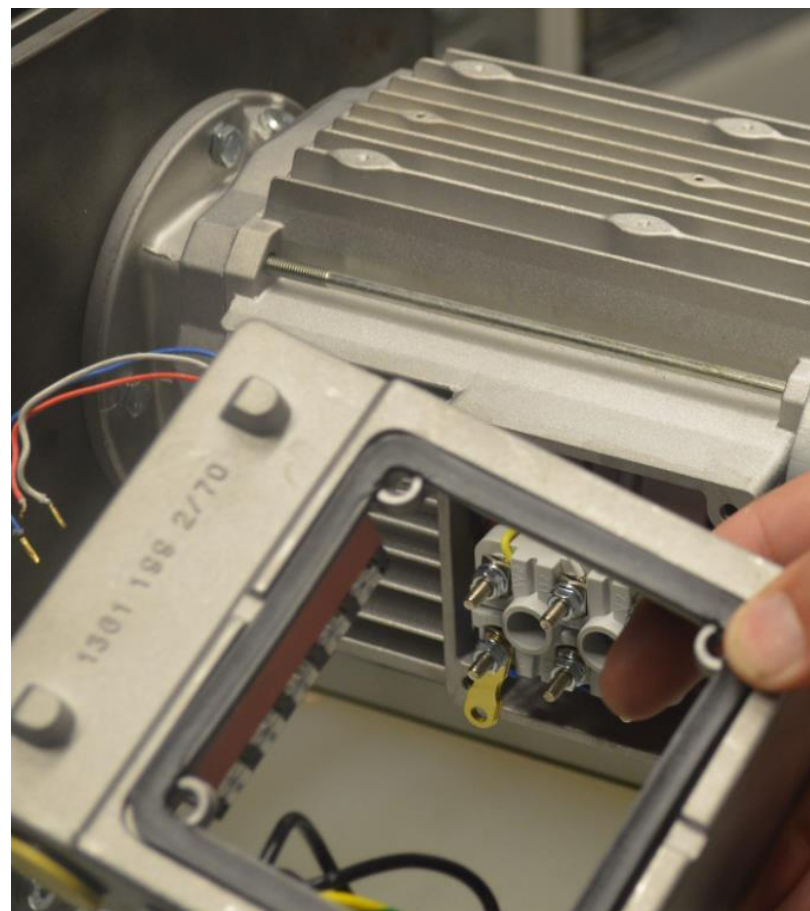
Tooling - M7 Nut Driver & Philips Screwdriver

# Old Stator Removal

Step 3 – Loosen/remove the (4) Torx screws and the terminal box



Tooling – Torx Bit Driver TX25



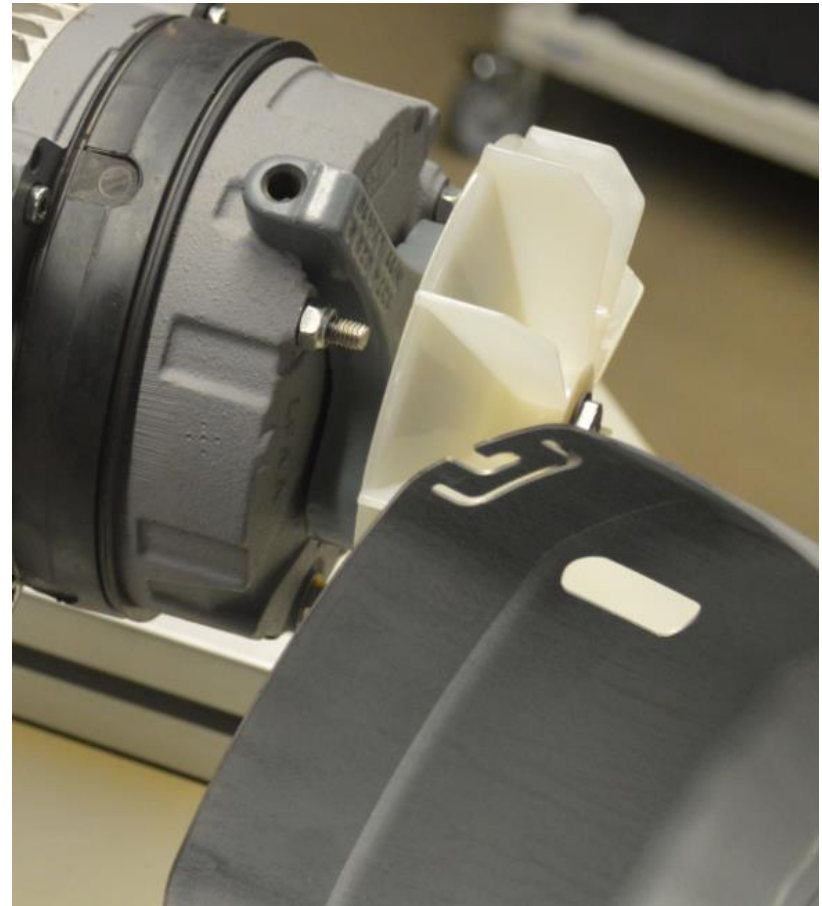


# Old Stator Removal

Step 4 – Loosen/remove the (4) fan guard screws and the fan guard

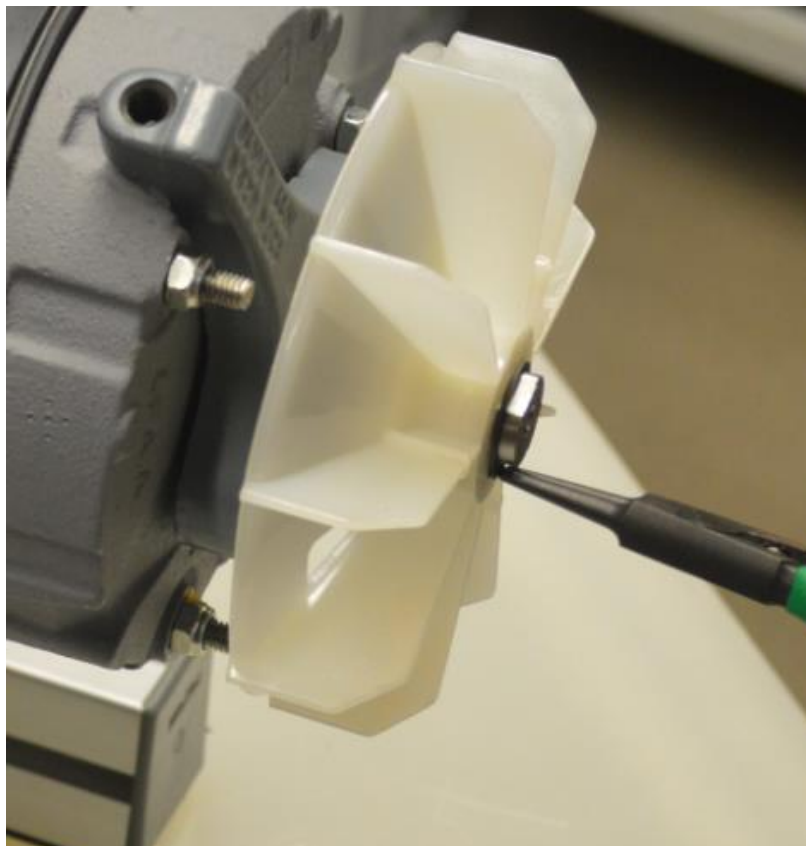


Tooling – M8 Nut Driver

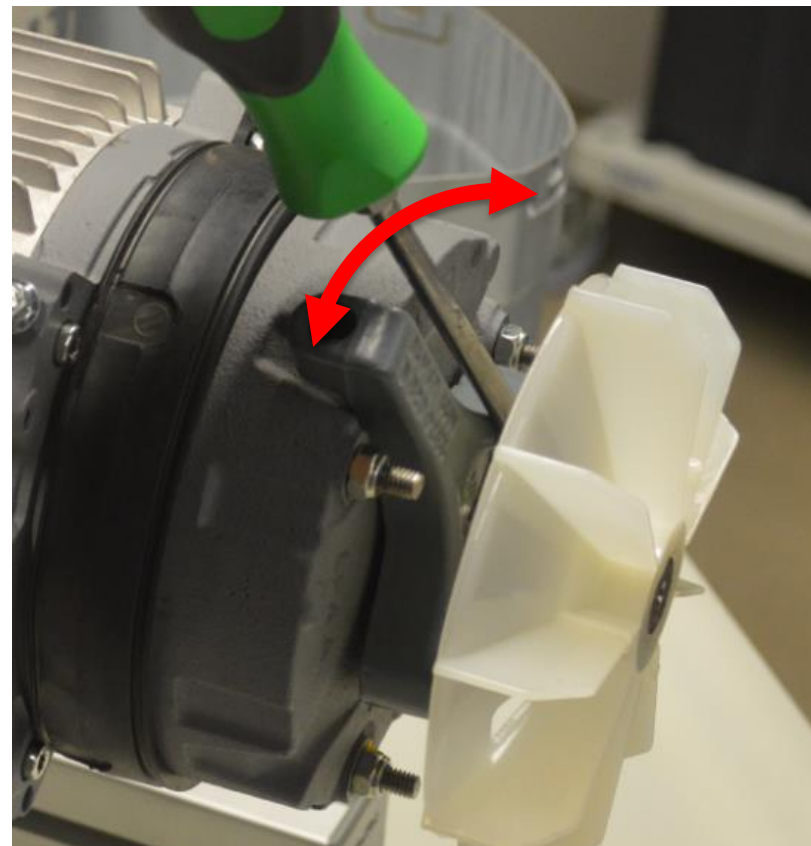


# Old Stator Removal

Step 5 – Remove the fan circlip and pry off the fan



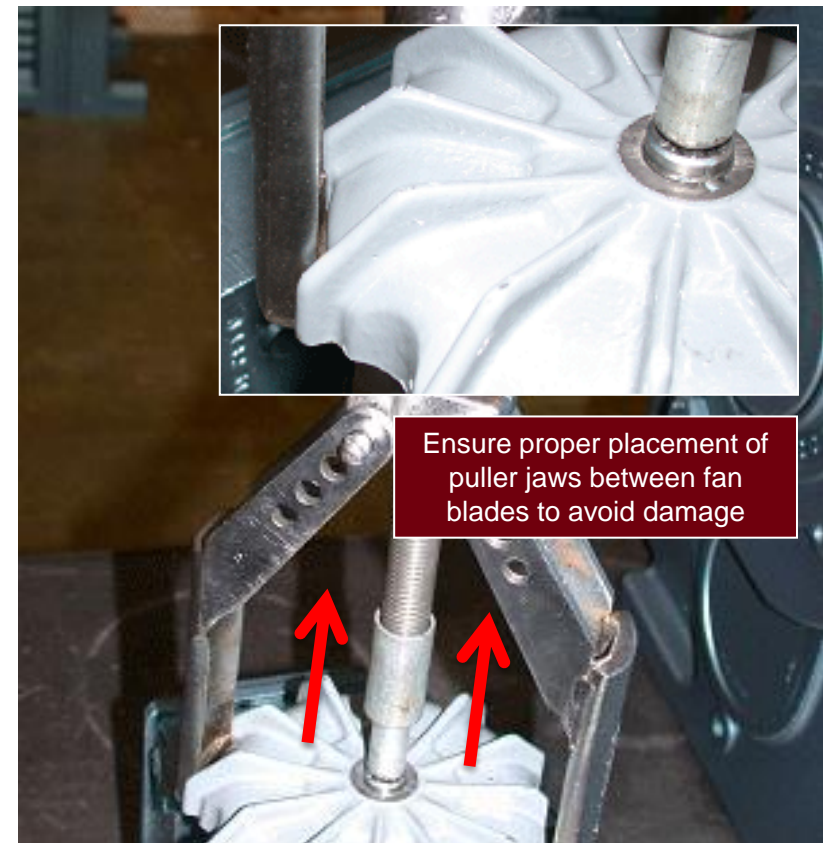
Tooling – Small External Circlip Pliers



Tooling – Medium Flat Tip Screwdriver

# New Stator Installation

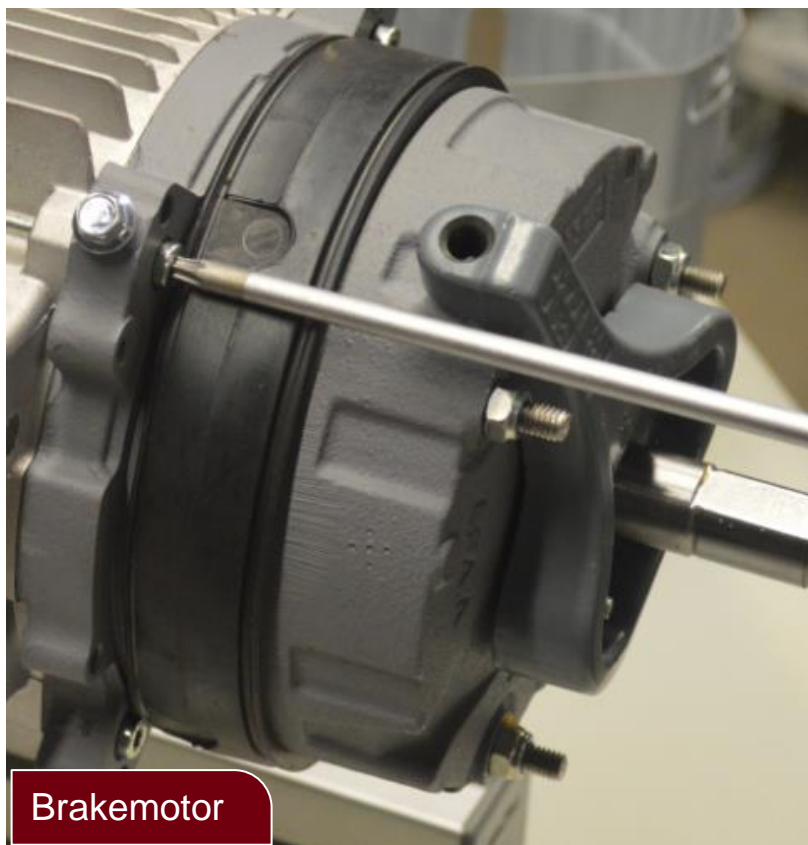
## Step 5.1 – Properly removing aluminum or cast Iron fans



Tooling – Adjustable Gear Puller

# Old Stator Removal

## Step 6 – Loosen/remove the (4) tension rods



Brakemotor



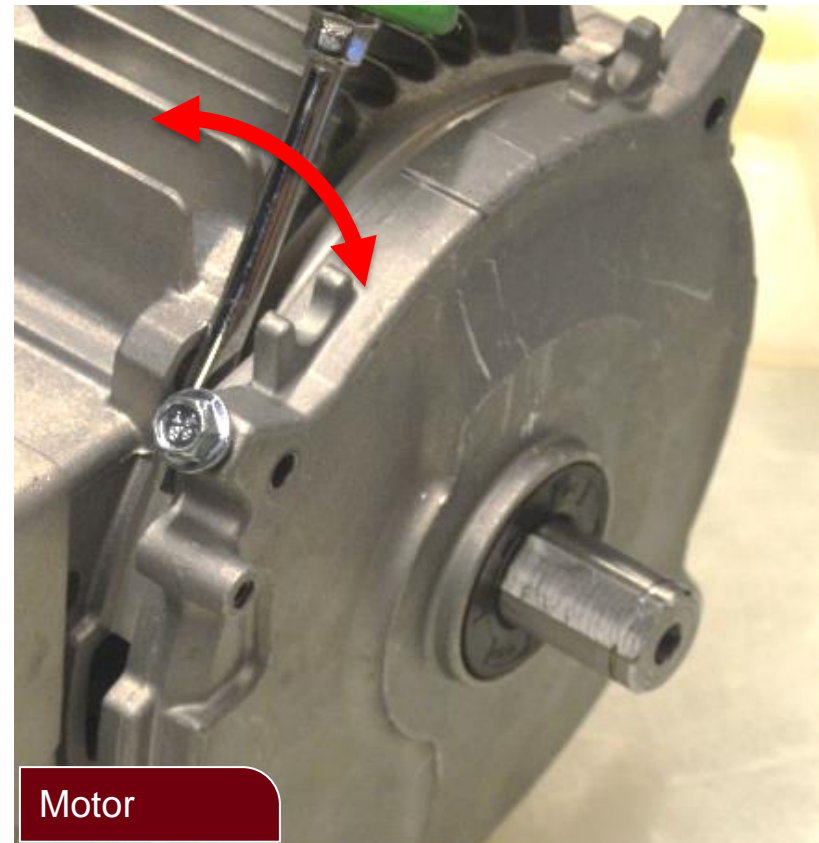
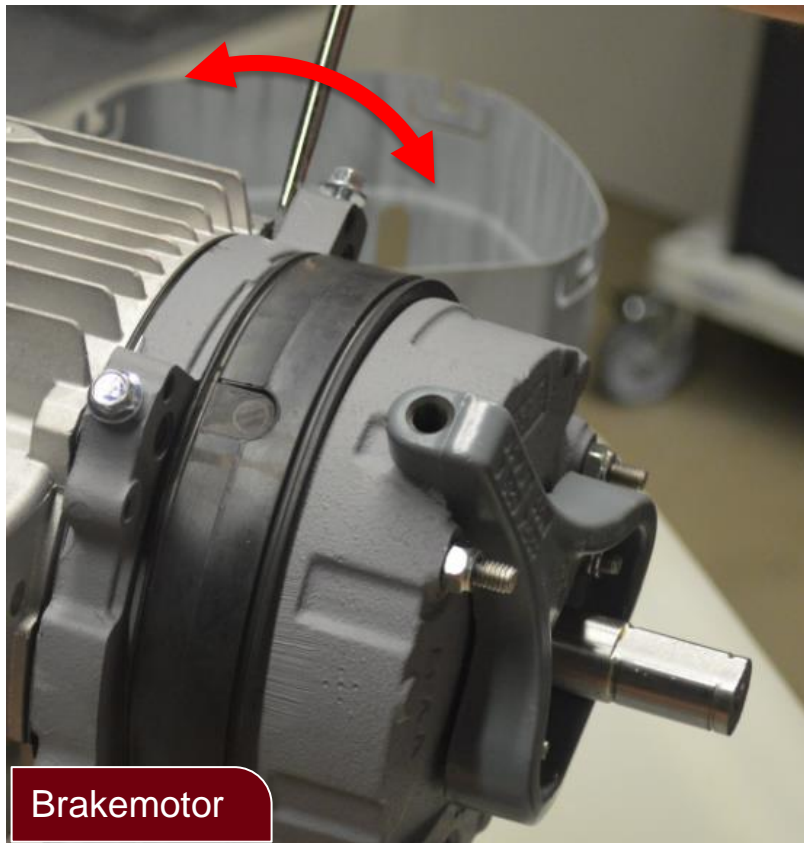
Motor

Tooling – Torx Driver: TX25 for DR..71/80, TX30 for DR..90/100, TX45 for DR..112/132S



# Old Stator Removal

Step 7 – Carefully pry the brake/end-shield from the stator

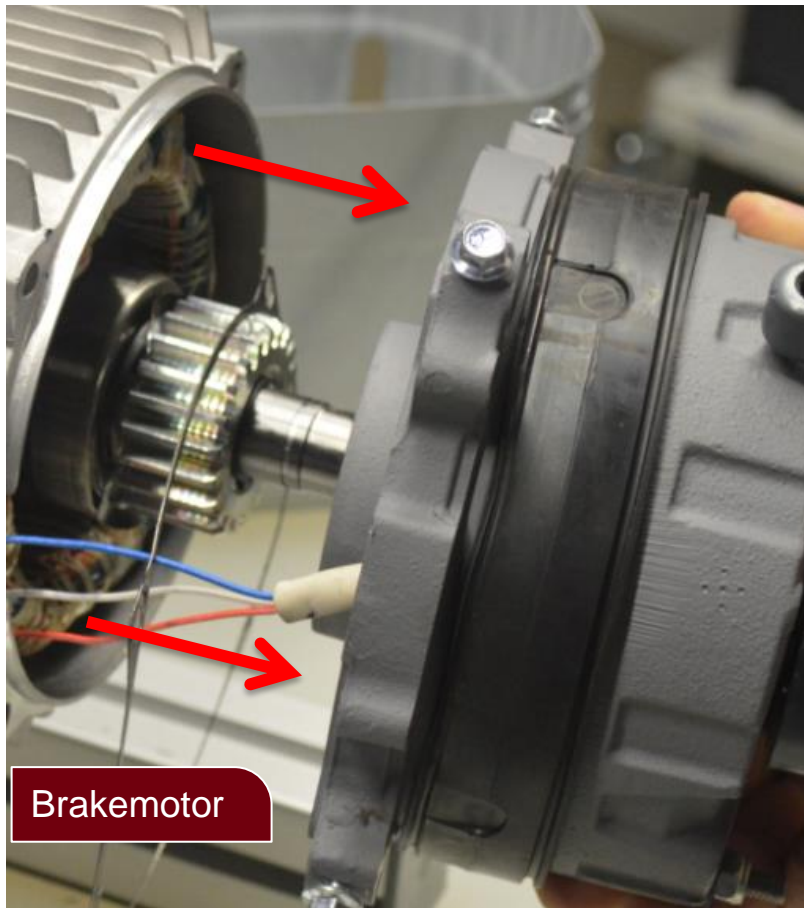


Tooling – 2 Medium Flat Tip Screwdrivers

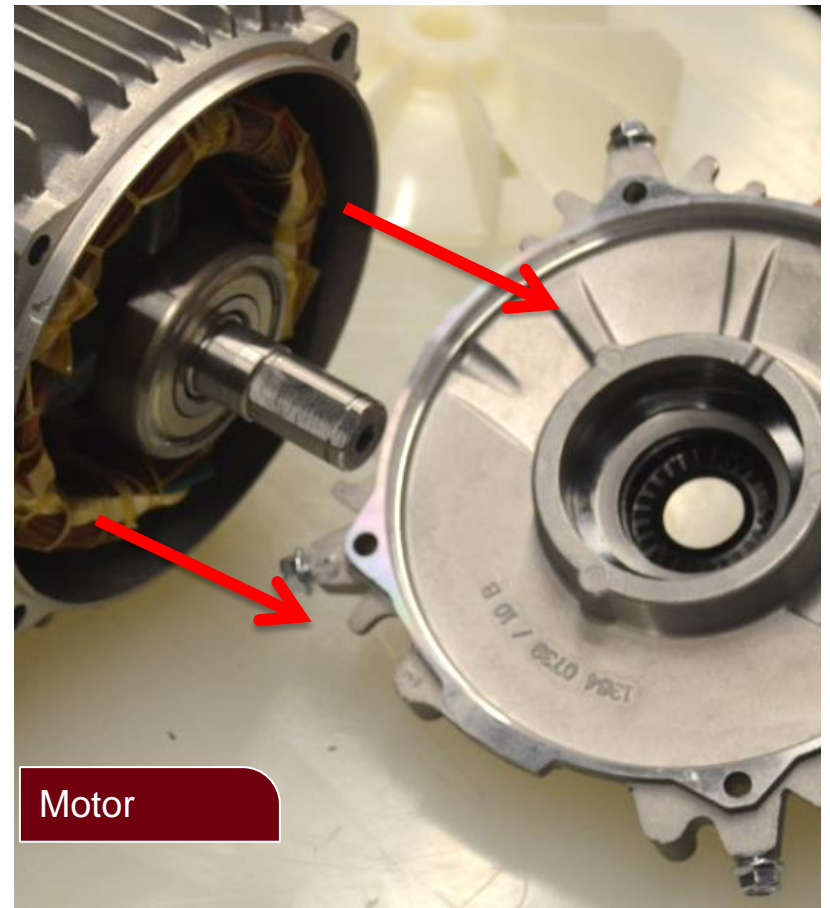


# Old Stator Removal

Step 8 – Carefully remove brake/end-shield from the stator



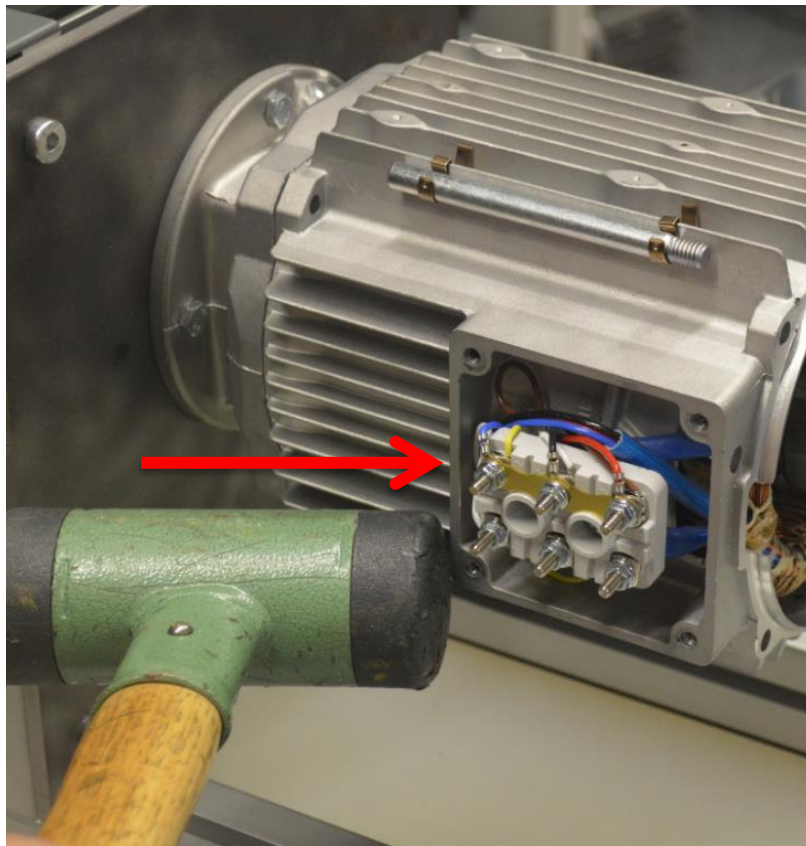
Brakemotor



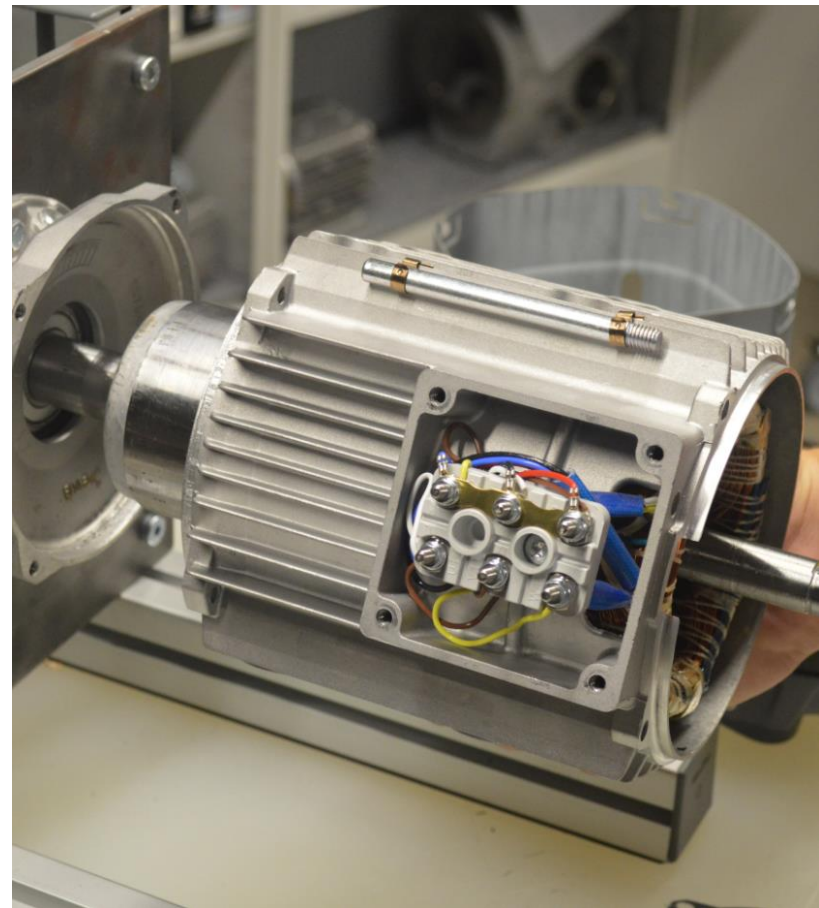
Motor

# Old Stator Removal

Step 9 – Lightly tap the stator at the terminal recess corners and remove stator

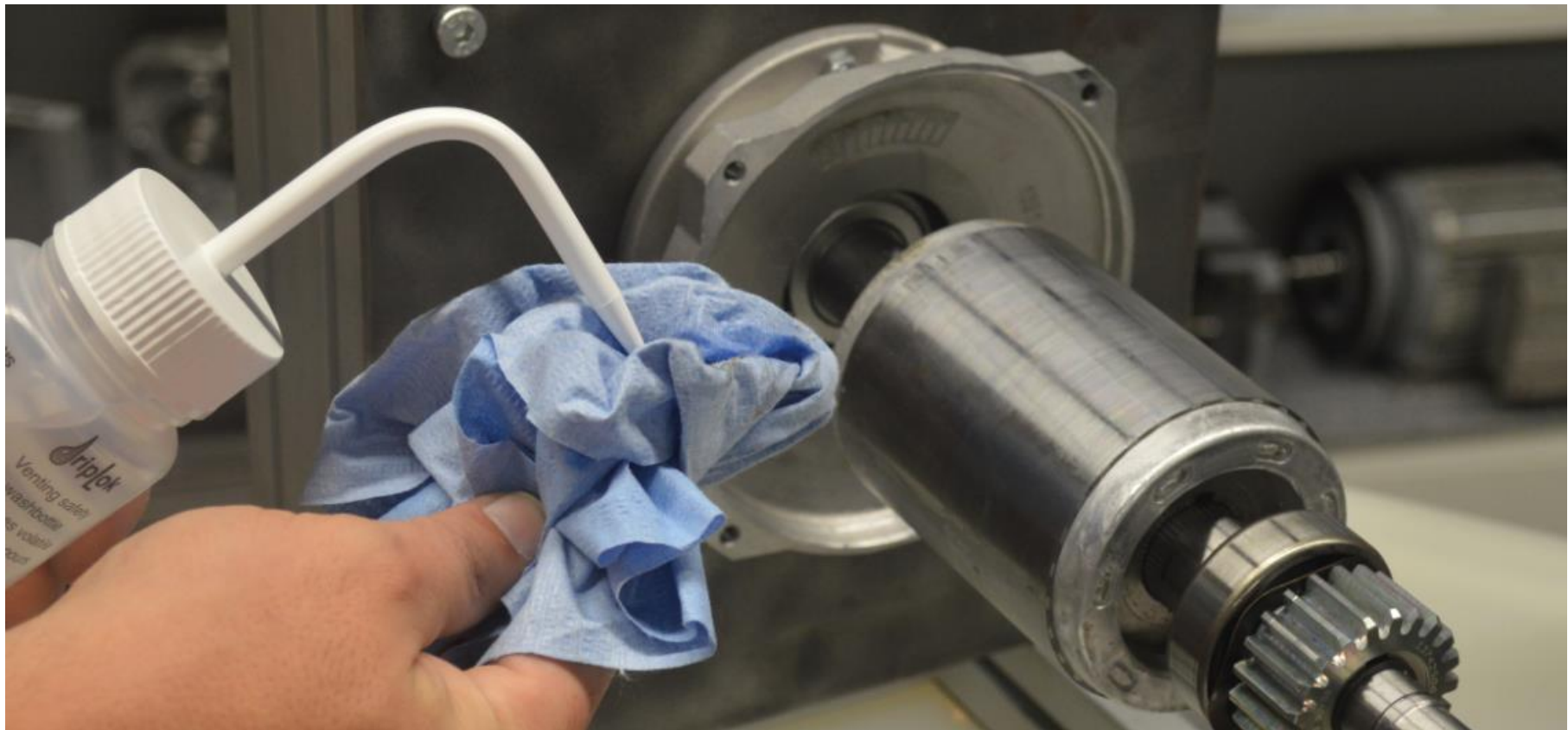


Tooling – Dead-blow Hammer



# Old Stator Removal

Step 10 – Inspect the rotor assembly for any defects and thoroughly clean the parts



Tooling – Cleaner and Rags

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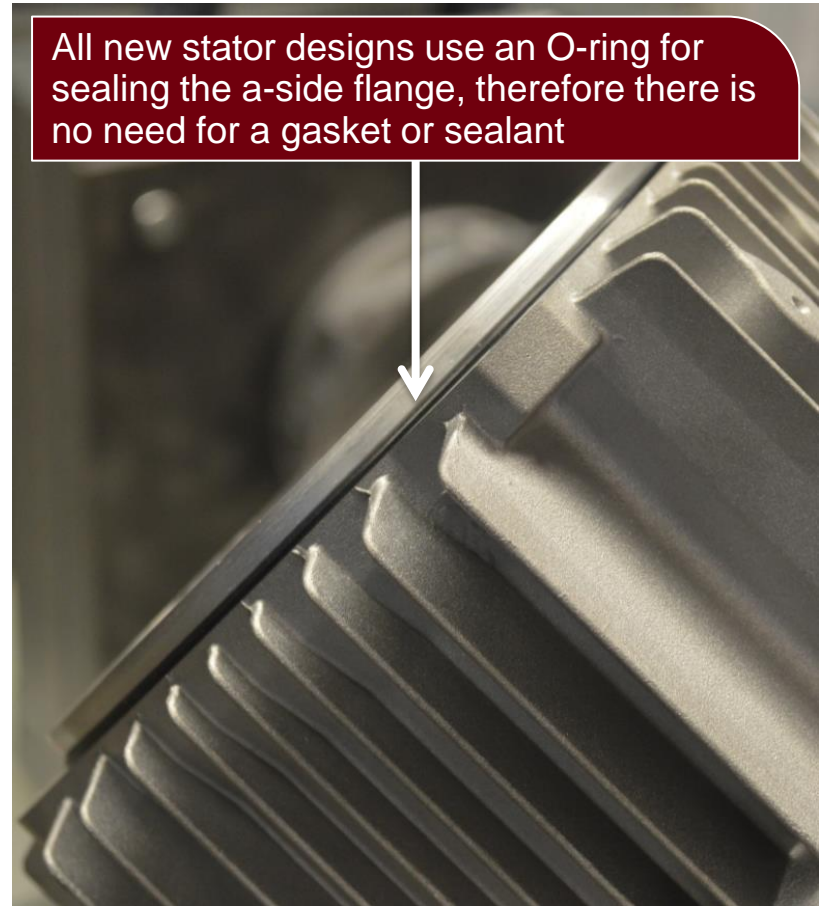
# New Stator Installation

Step 1 – Carefully slide the new stator into place without damaging the windings

If only rotating the stator, you need to make sure the gasket or sealant is replaced

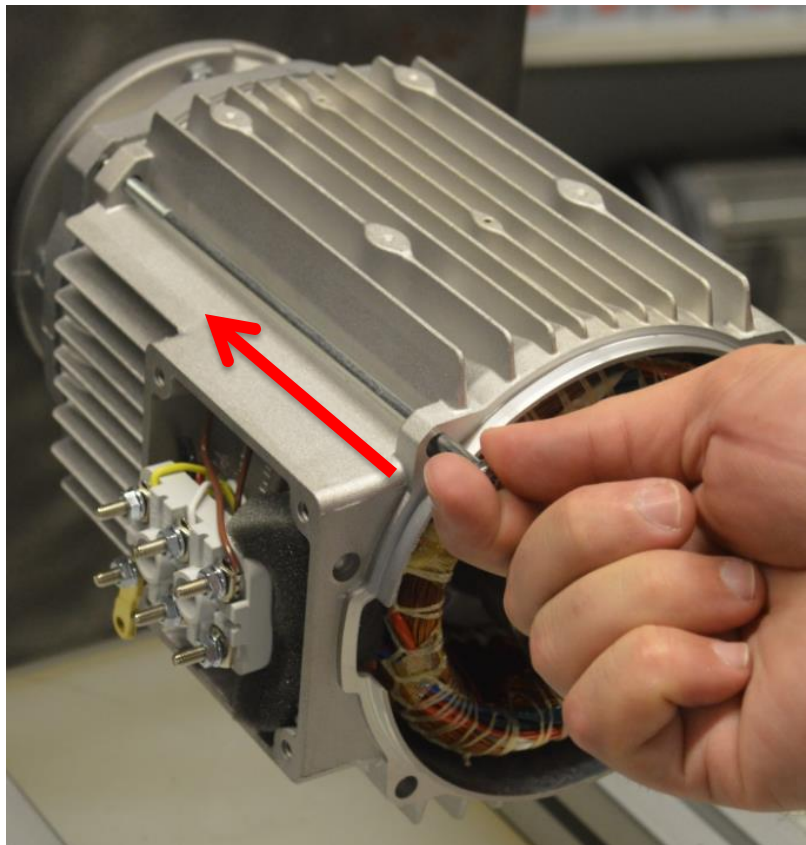


All new stator designs use an O-ring for sealing the a-side flange, therefore there is no need for a gasket or sealant

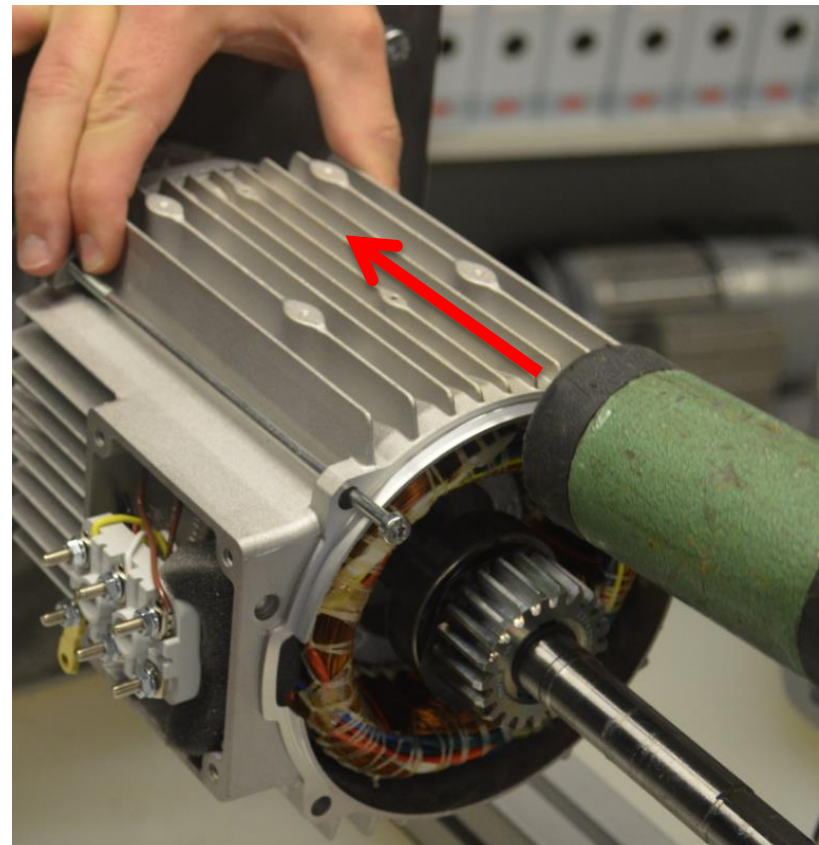


# New Stator Installation

Step 2 – Align the stator with the flange and gently tap the stator into place



Tooling – Tension Rod



Tooling – Dead-blow Hammer

# New Stator Installation

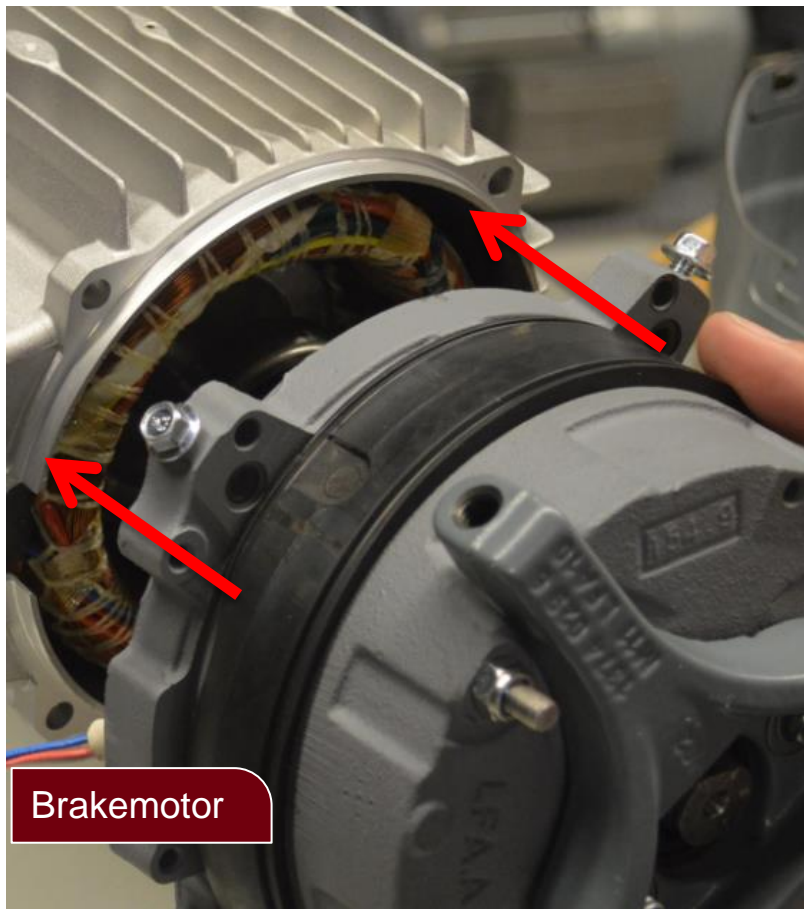
Step 3 – Install the B-side gasket onto the stator





# New Stator Installation

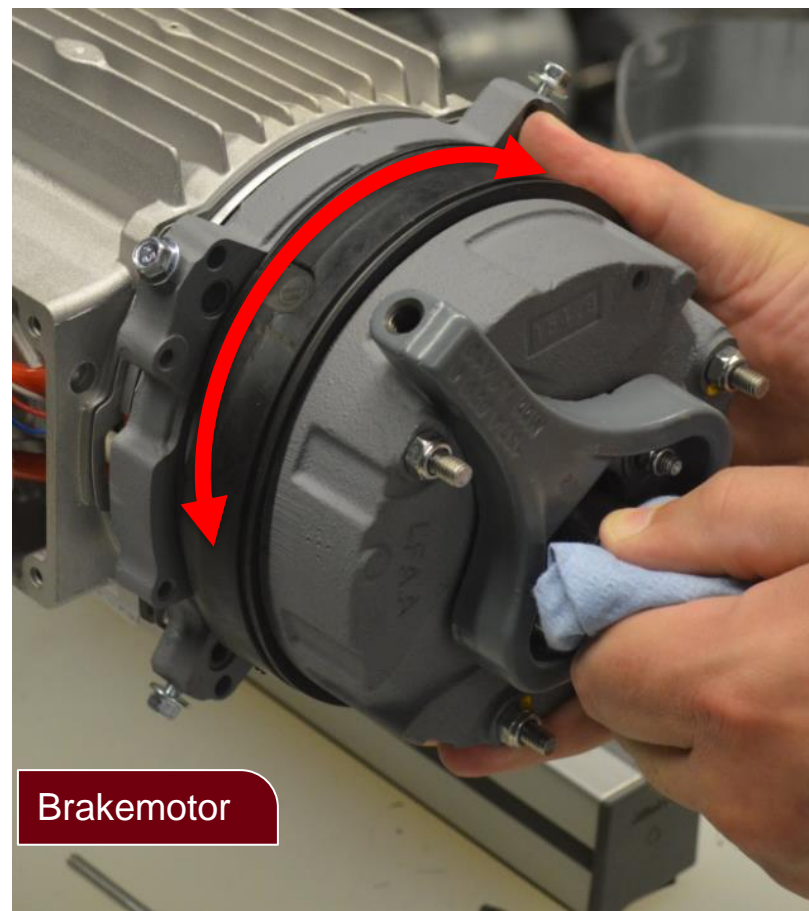
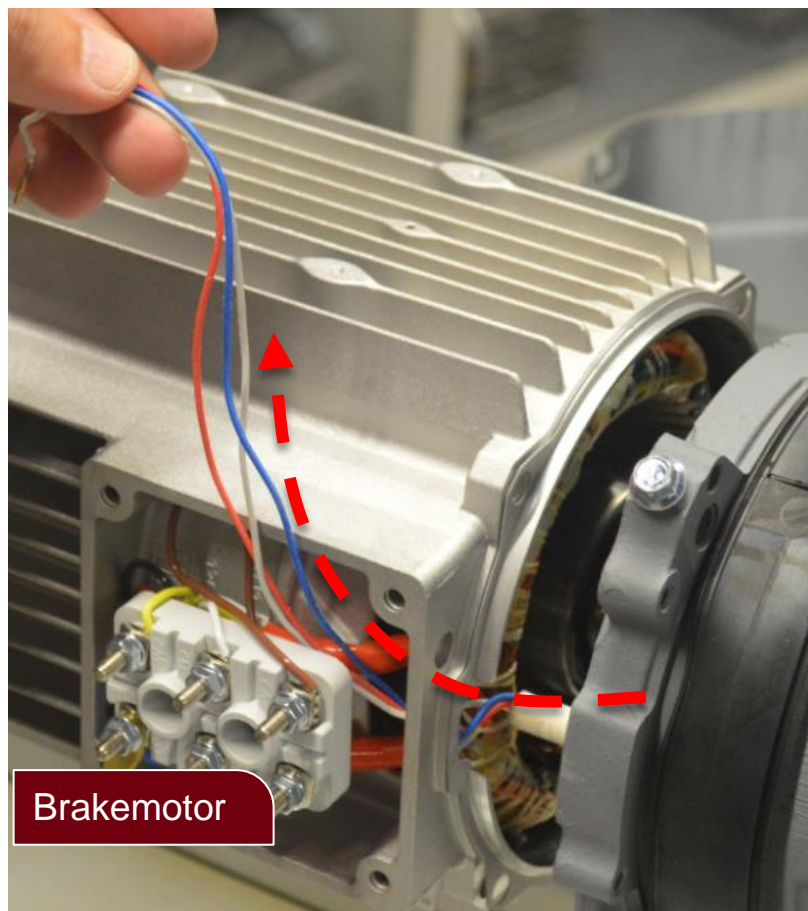
Step 4 – Slide brake assembly onto the rotor end or the end shield for non-brakemotors





# New Stator Installation

Step 5 – Insert the brake wires through the stator opening and align the rotor carrier

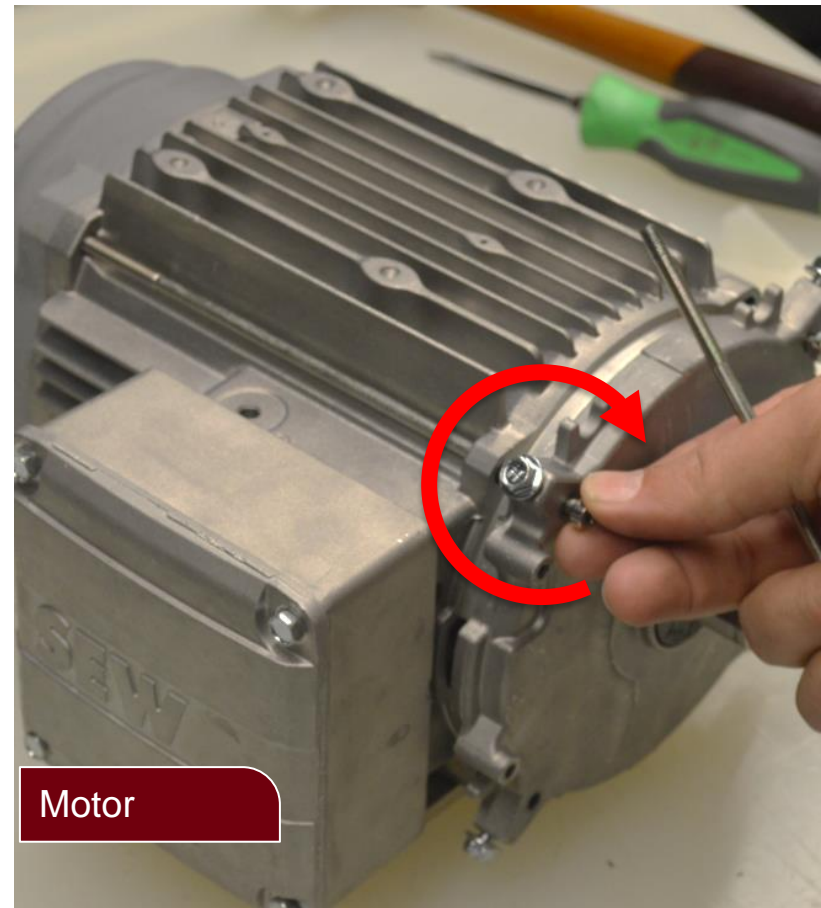


# New Stator Installation

Step 6 – Insert the tension rods to align the brake or end shield with the stator



Brakemotor



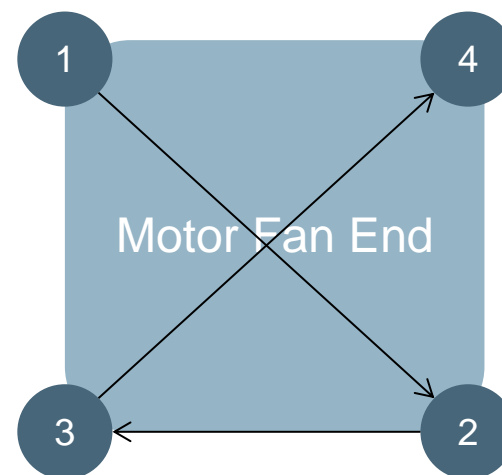
Motor

# New Stator Installation

Step 7 – Tighten the tension rods in a diametrically opposed pattern to the correct torque



Motor Type	Torque Nm	Torque lb-in
DR..71/80	5	45
DR..90/100	9	80
DR..112/132S	25.5	225



Tooling – Torx Driver: TX25 for DR..71/80, TX30 for DR..90/100, TX45 for DR..112/132S



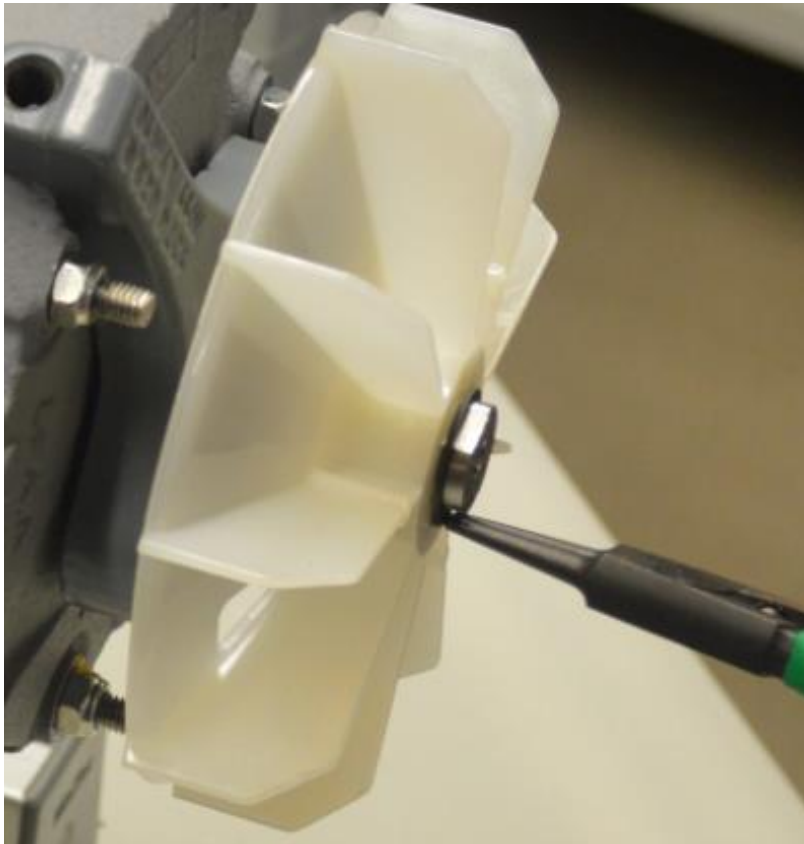
# New Stator Installation

Step 8 – Verify that there is no gap between the stators and flanges/end shields

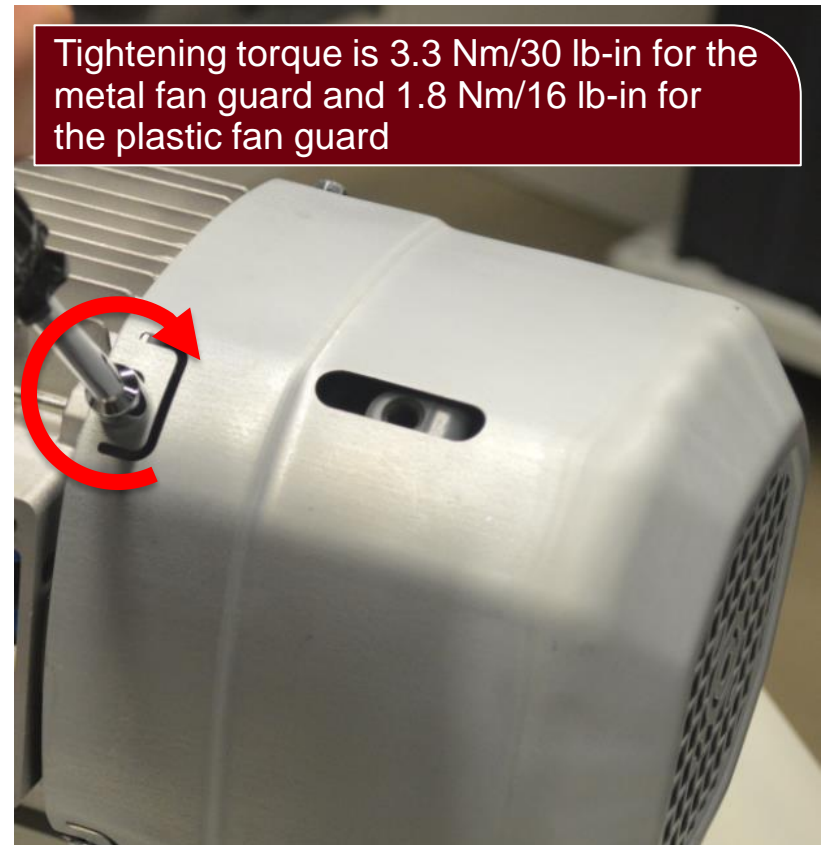


# New Stator Installation

## Step 9 – Reinstall the fan and fan guard



Tooling – Small External Circlip Pliers

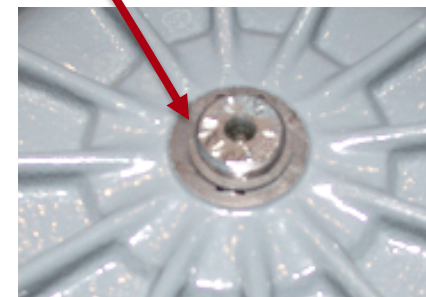
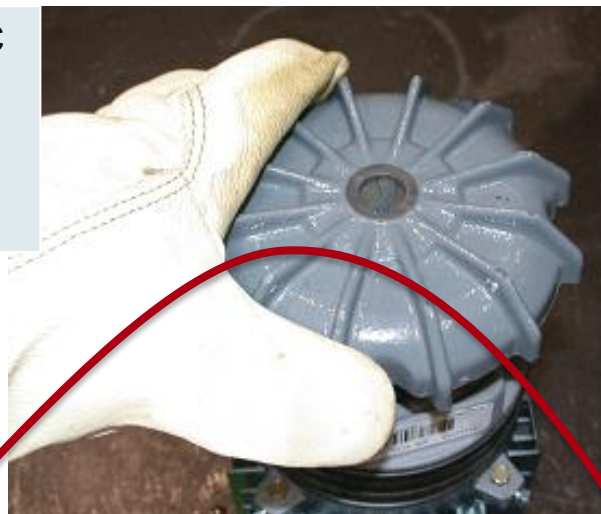


Tooling – M8 Nut Driver

# New Stator Installation

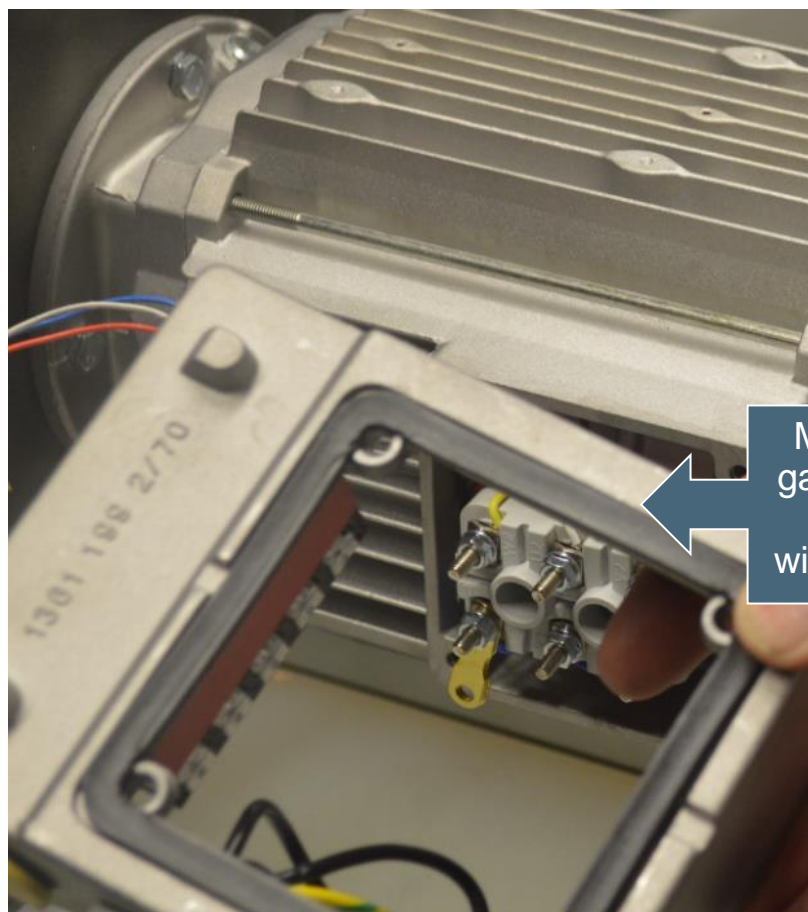
## Step 9.1 – Reinstall the Aluminum or Cast Iron fan

1. Heat the Fan in an oven to ~ 250 °F / 120 °C  
Lightly coat the rotor end with oil
2. Install the metal fan
3. Install the circlip

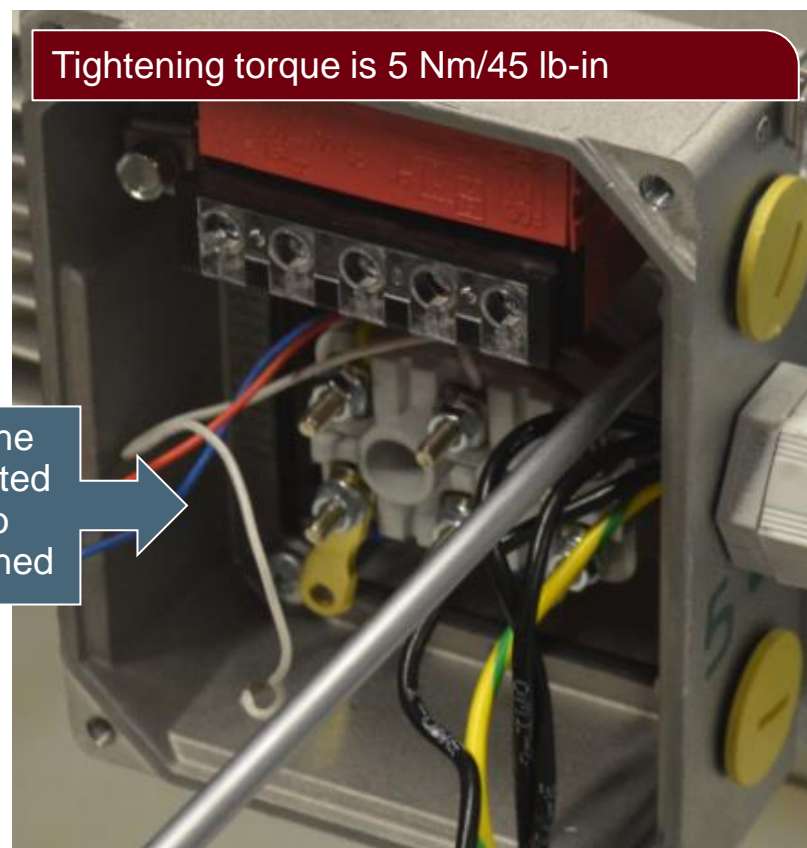


# New Stator Installation

## Step 10 – Reinstall the terminal box gasket and terminal box onto the stator



Make sure the  
gasket is seated  
and that no  
wiring is pinched



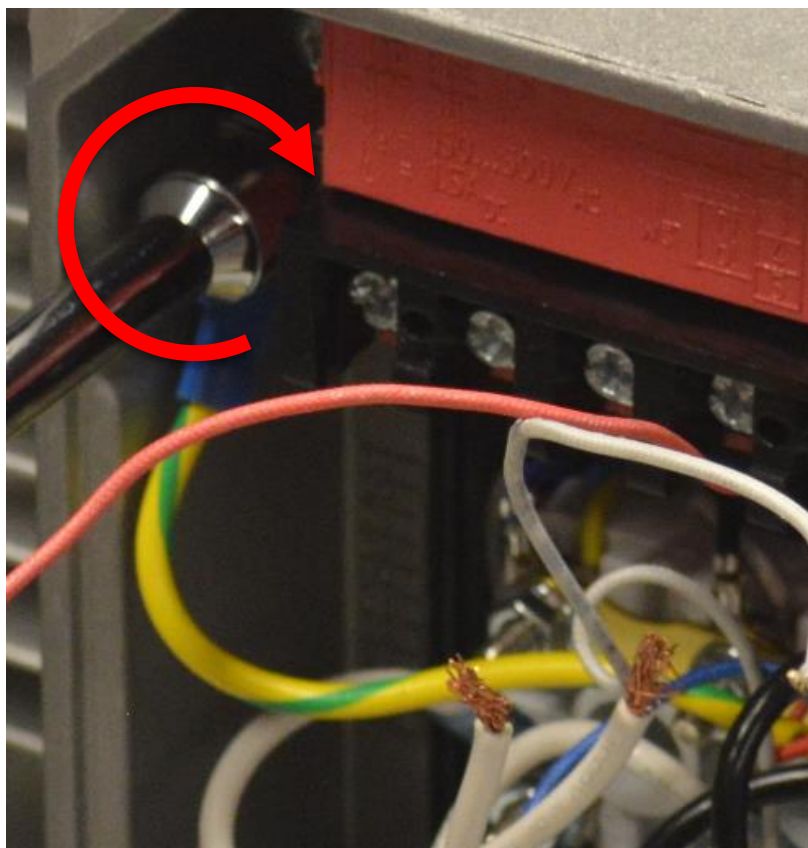
Tightening torque is 5 Nm/45 lb-in

Tooling – T25 Torx Driver

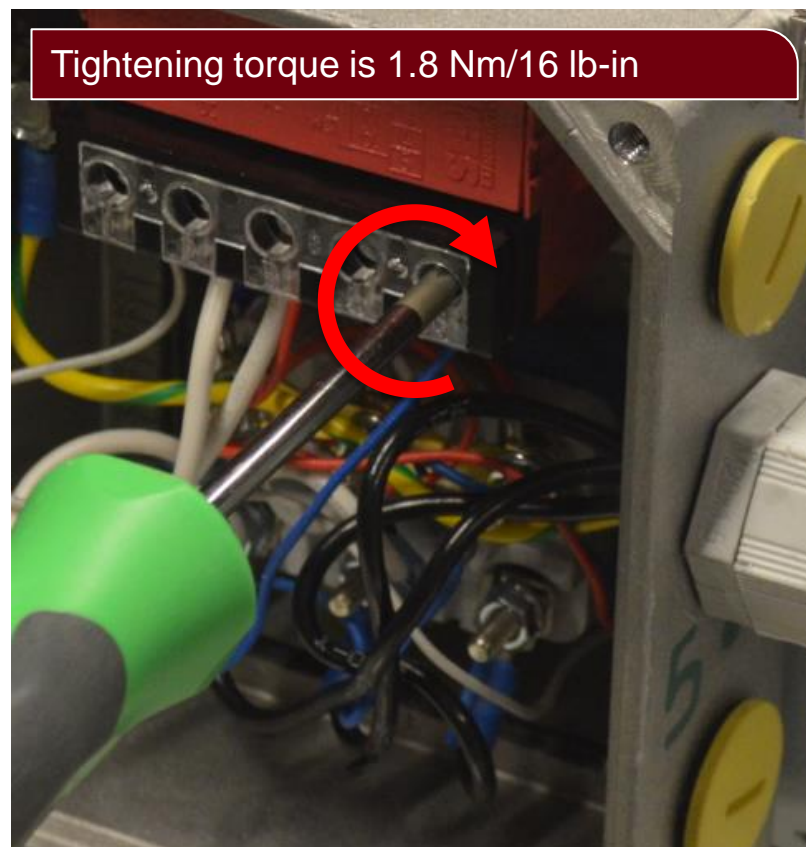


# New Stator Installation

Step 11 – Starting with the ground, rewire the terminal and power connections



Tooling – M7/M8 Nut Driver



Tooling – Philips Head Screw Driver



# New Stator Installation

## Step 12 – Reinstall the terminal box cover

Tightening torque is 4 Nm/36 lb-in



At this point you are ready to run the motor in the same manner before the stator was replaced. It is important to check all connections before operating any attached equipment

Tooling – M8 Nut Driver

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# Review

This presentation provided a basic overview of replacing a stator and should enable you to achieve the following –

1. Safely remove an old motor stator
2. Safely install a new motor stator
3. Always inspect parts for damage
4. Never force anything together / parts should easily fit together
5. Avoid stripping out hardware by applying the proper amount of torque
6. If you ever feel uncomfortable with any of the work, stop immediately and seek direction from you local SEW-Eurodrive representative