

# Maintenance of Solar Tracker ST44M3VXP or ST40M3VXP with Linear motors SM4SX00M3XCX



This document includes maintenance periods and full maintenance procedures for solar linear motor with 520mm stroke. To provide motor's optimal function, please obey the maintenance periods and follow the maintenance procedures carefully.

## **1. Maintenance periods**

### Once per 2 months:

- Connect positioning module to computer, resolve and clear warnings or possible errors
- Clean holes in motor housing and motor cap for draining condensed water
- Re-set time

### Once per a year:

- Visually check for possible corrosion on tracker shaft
- Fix screws on all connectors properly (positioning module's side and motor's side)
- Visually check all cables for possible fractures, pinched points (blue motor cables, supply cables, photovoltaic cables)
- Make sure that photovoltaic cables have not slipped out of position in a way that they could be strained due to tracker movement
- Greasing motor's moving parts (described below)

### After 7 years:

- Expected motor lifetime expiry, replacing motor with mechanical gears is suggested (described below)

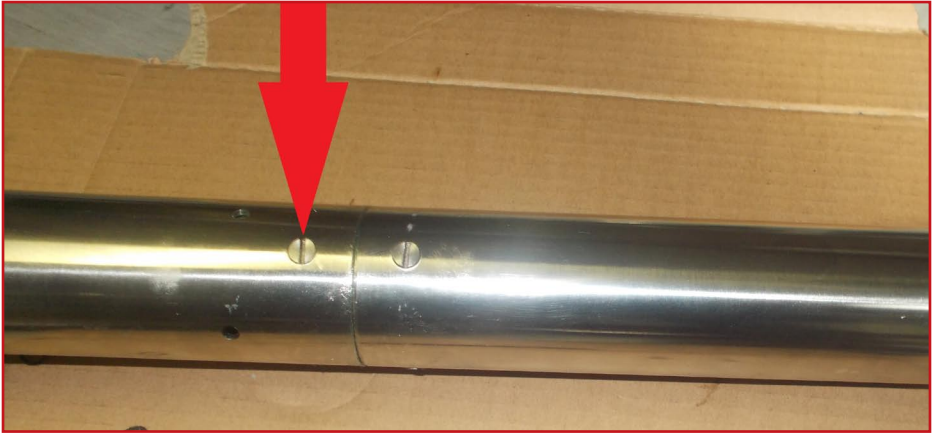
## **2. Greasing motor's moving parts**

### 2.1. Before disassembling motor, please acquire:

- 3 replacing rubber O-rings with diameter 7mm and thickness 1mm
- 1 replacing rubber O-ring with diameter 40mm and thickness 2mm
- Mechanical grease (Molydal LCH 250 or similar)

### 2.2 Disassembling motor

- Disconnect motor cable and dismount motor from tracker
- ATTENTION!!!** Get help so tracker is held in place when dismounting the motor to prevent swinging. Then fix it into stable position with a piece of rope (wind shouldn't move it)
- Then re-connect motor and drive it to fully extended position (necessary for further actions)
- Screw IN the upper 3 screws on motor housing to release longer pipe and pull longer and shorter pipes apart



- Hold by longer pipe and hit motor's piston onto a wooden block and longer pipe should slowly slip of the motor internals

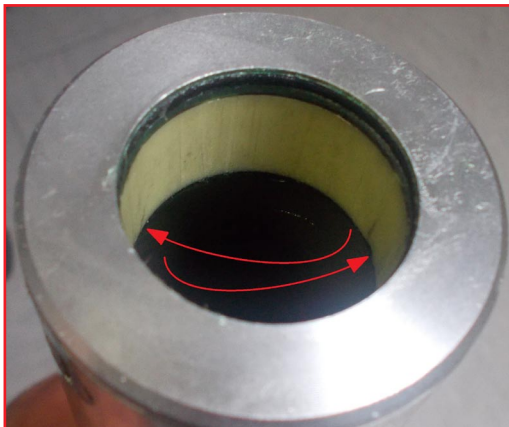




- Grease the spindle

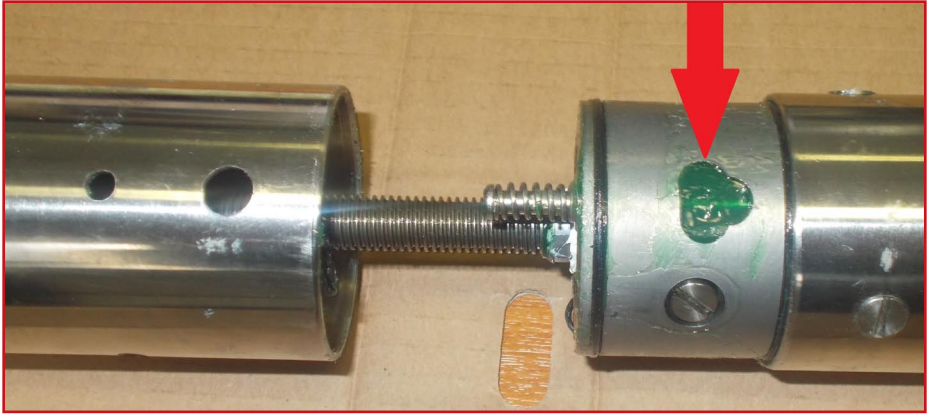


- Insert grease under and on edge's plastic surface of motor housing so piston is greased when moving. Also apply thin layer of grease onto moving piston.

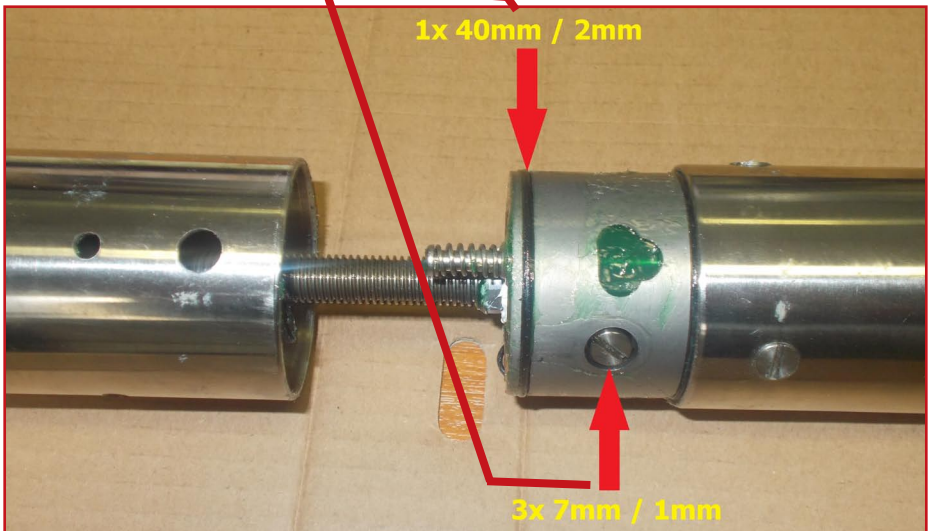


Insert grease under the edge of motor housing

- Fill up the hole of »End switch« pin with grease



- Replace rubber O-rings



- Reassemble motor in opposite sequence of disassembly

### 3.Replacing motor together with mechanical gears

3.1. Before disassembling motor, please acquire:

- 3 replacing rubber O-rings with diameter 7mm and thickness 1mm
- 1 replacing rubber O-ring with diameter 40mm and thickness 2mm

3.2.Disassembling motor

- Disconnect motor cable and dismount motor from tracker

**ATTENTION!!!** Get help so tracker is held in place when dismantling the motor to prevent swinging. Then fix it into stable position with a piece of

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