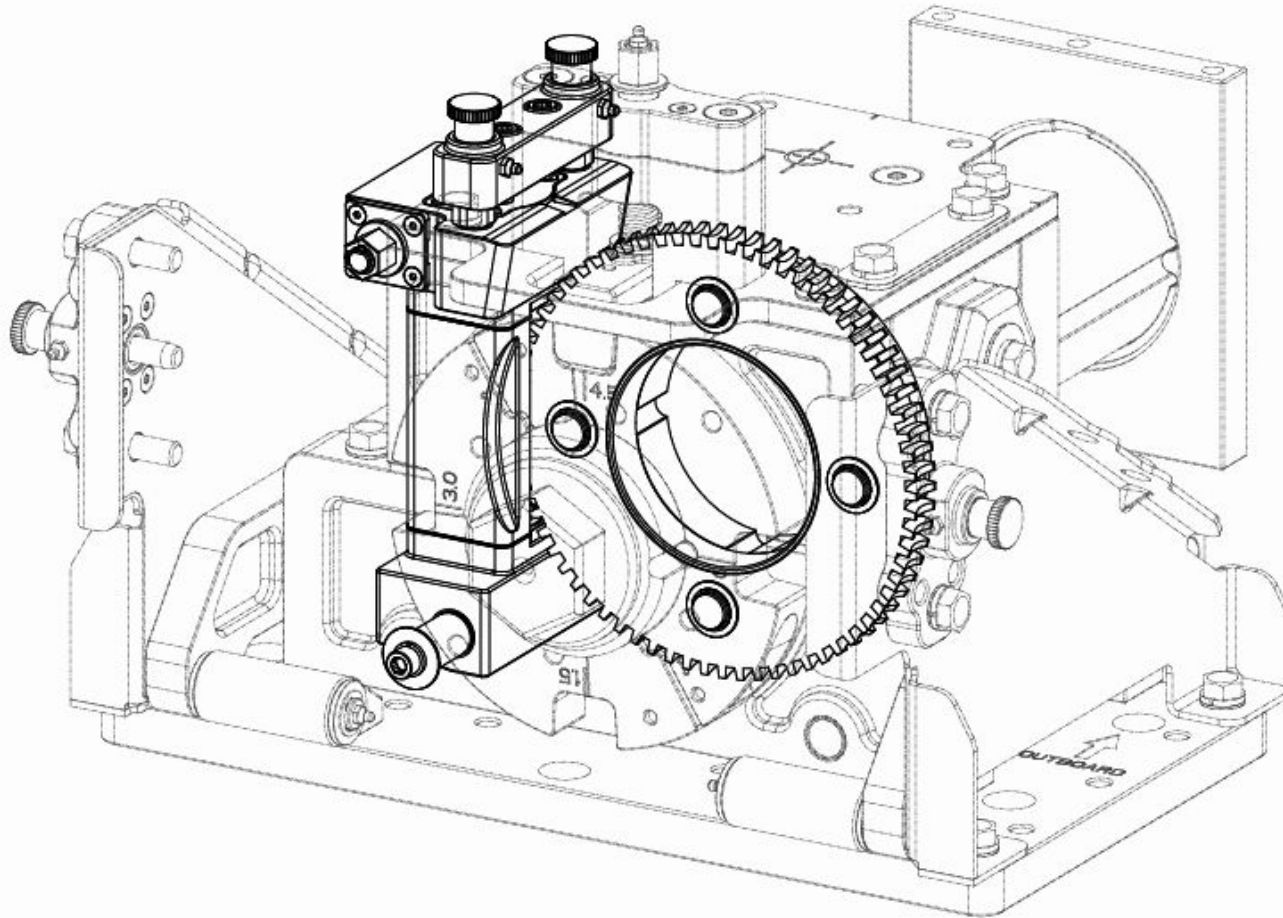
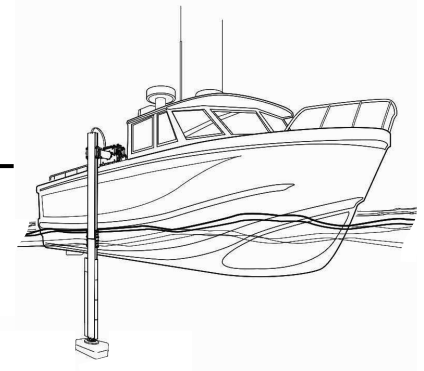




Patent #8094520

HIGHTOWER

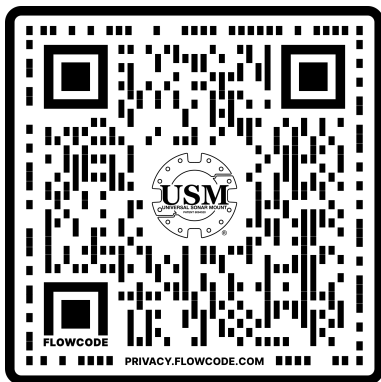
GEAR DRIVE **SERVICE MANUAL**



SCAN FOR VIDEO



SCAN FOR ALL
USM VIDEOS



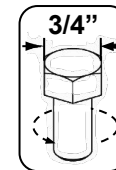
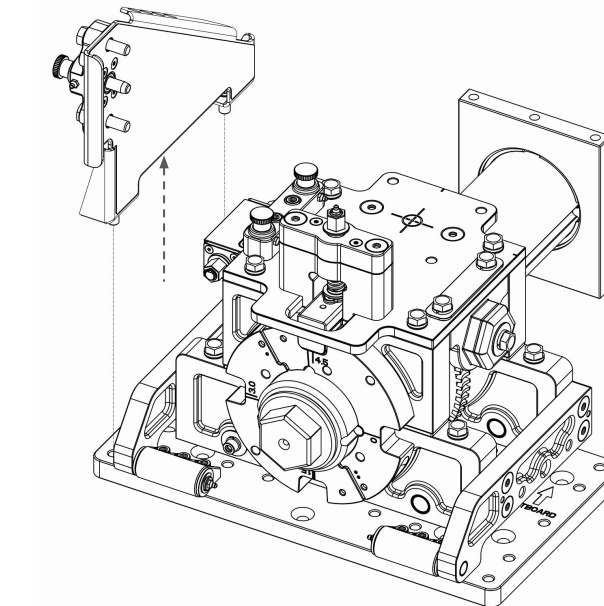
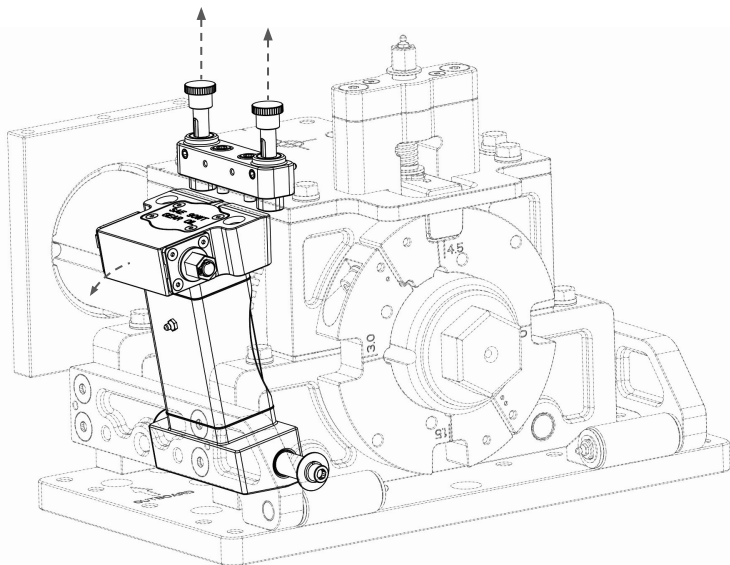
All lubricants available at universalsonarmountparts.com

PREPARE LUBRICANTS - You will need the *USM Gear Oil*, *Aquashield*, and *CMD Extreme Pressure Lube*.

1

DISENGAGE GEAR TOWER - With the Shear Tower engaged, pull the Lock Pins upwards to release the Gear Tower.

3

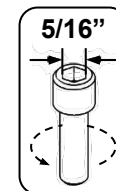
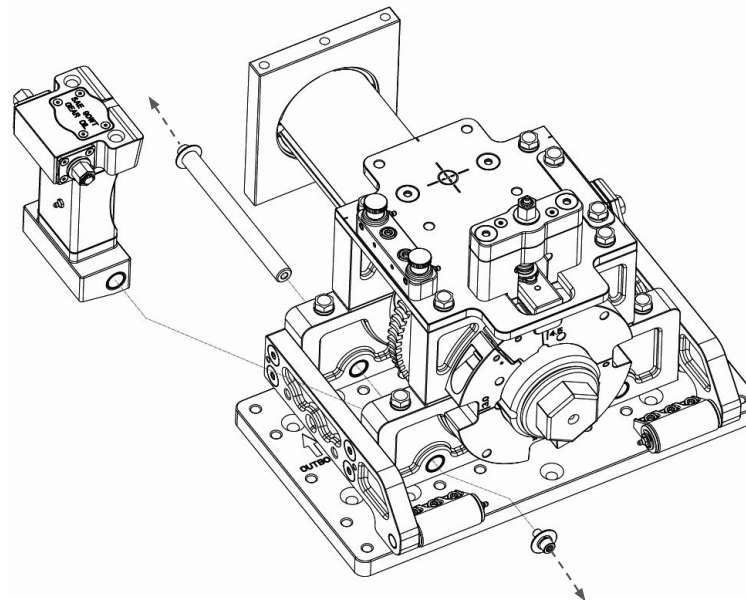


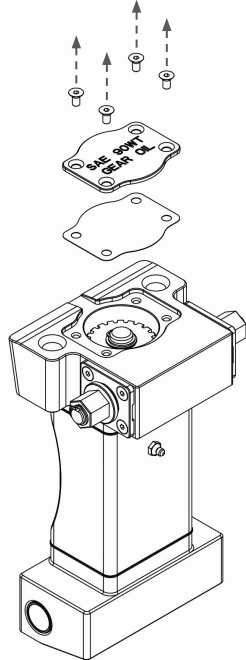
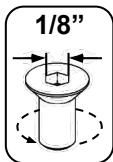
REMOVE HINGE BRACKET - If your Hightower came equipped with the **HINGE** option, temporarily remove the Hinge Bracket if it obstructs the Gear Tower.

2

REMOVE GEAR TOWER - Remove the pin and set the Gear Tower aside.

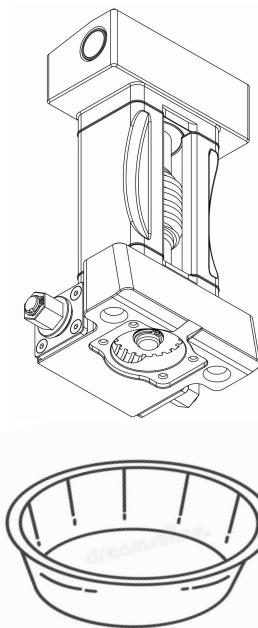
4





REMOVE OIL CAP - Carefully remove and set aside the four screws, oil cap and gasket.

5



DRAIN & INSPECT OIL - Allow the oil to drain completely, This will take several minutes. Small sparkles in the oil are normal.

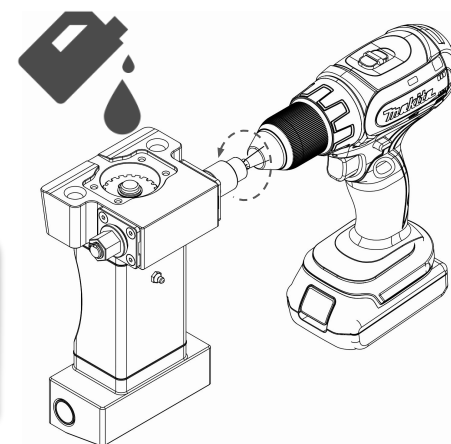
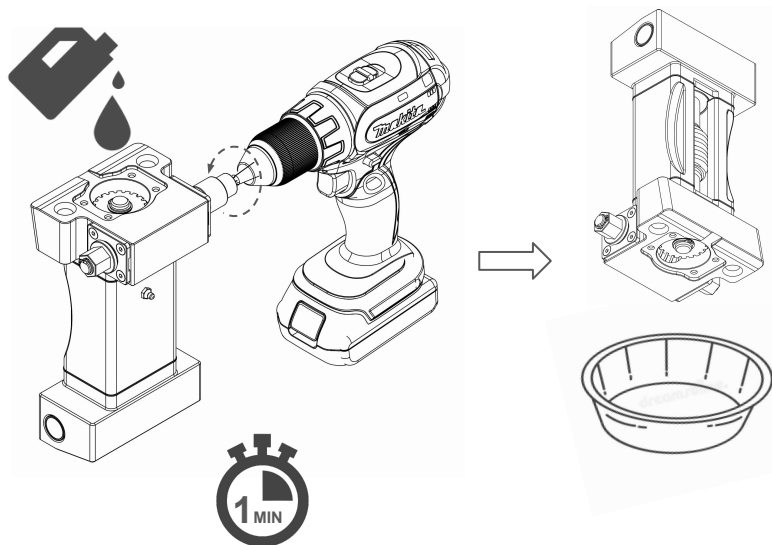
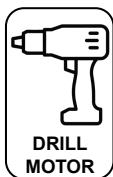
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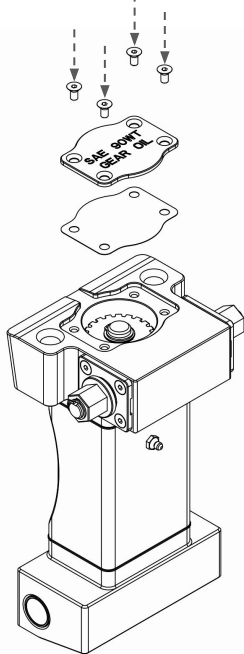
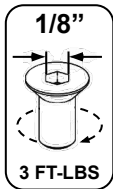
FLUSH GEARBOX, IF NEEDED - If you find that there are *larger metal fragments* or the *oil is cloudy*, fill your gearbox with fresh oil and engage the drill for at least one minute. Drain once again.

7

REFILL GEARBOX - Fill the Gear Tower all the way up with the *USM Gear Oil*. Engage the drill to circulate the oil.

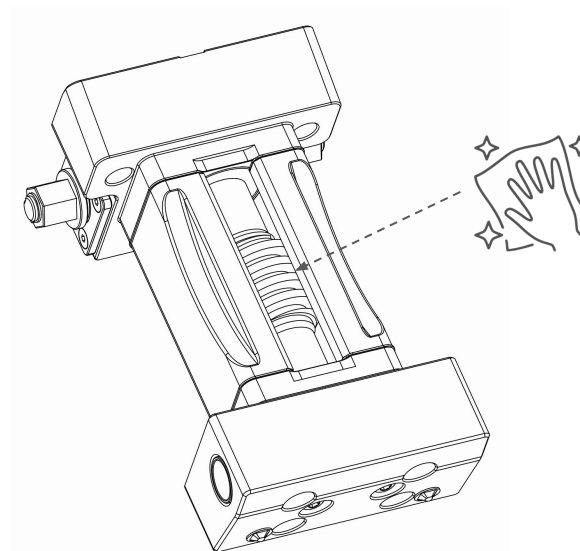
8





REINSTALL OIL CAP - Replace the gasket, oil cap and four flathead screws. Torque gently by hand. Wipe away excess oil.

9

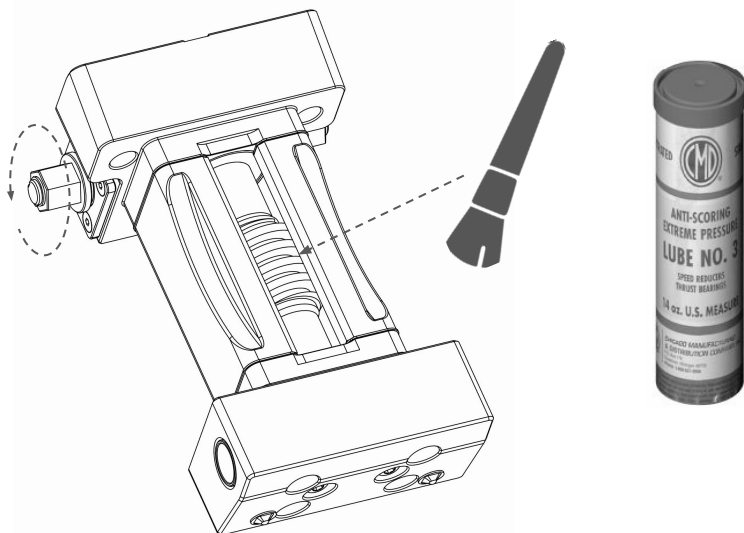


CLEAN WORM GEAR - Wipe away any dirty, residual grease on the worm gear.

10

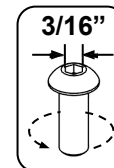
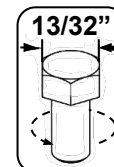
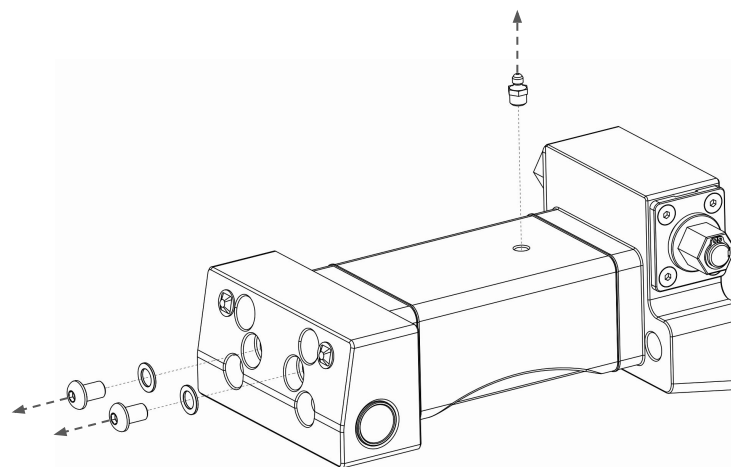
GREASE WORM GEAR - Apply *CMD Extreme Pressure Lube* to the Worm Gear while rotating the Drive Nut. Grease all around.

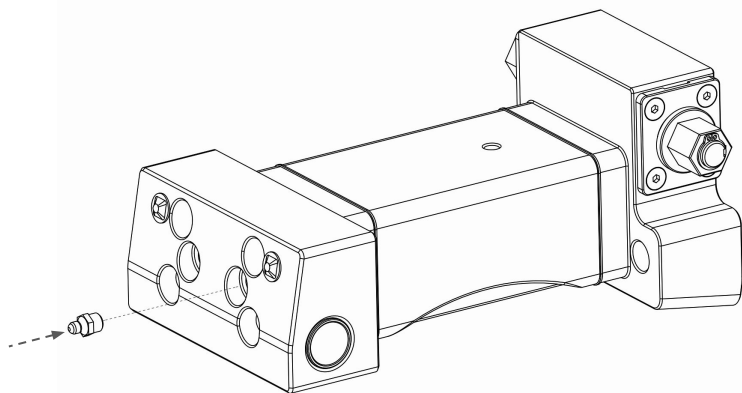
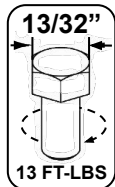
11



REMOVE ZERK FITTING & PLUGS - Remove the Zerk fitting and the two Button Head Screws on the bottom of the Gear Tower.

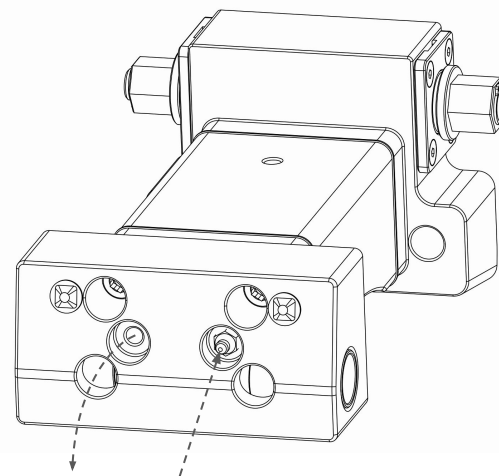
12





RELOCATE ZERK FITTING - Screw the Zerk fitting into one of the holes at the bottom of the Gear Tower.

13

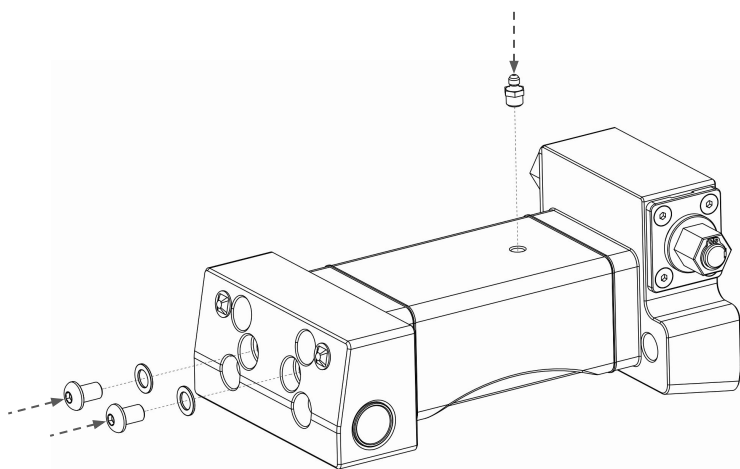
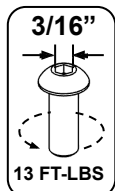
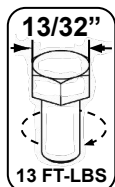


GREASE LOWER BEARING - Pump *Aquashield* into the lower grease port until only clean, bright blue grease comes out.

14

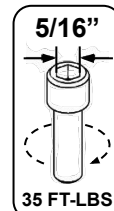
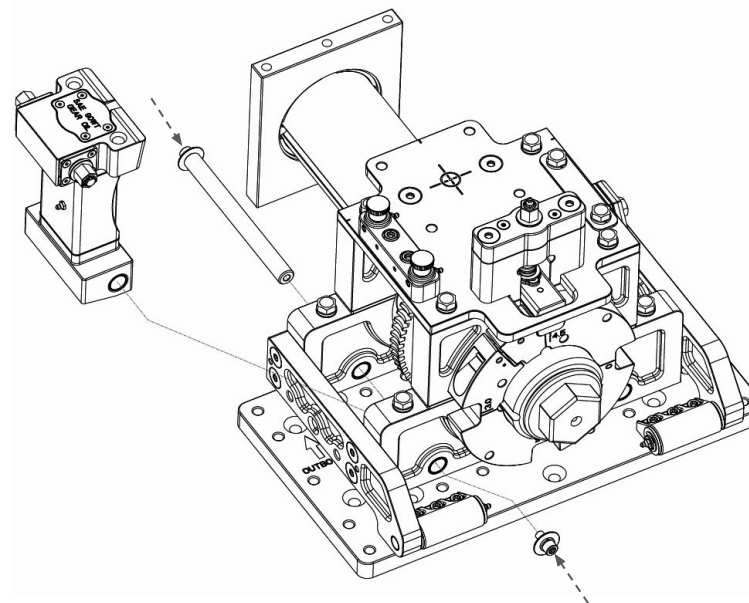
REPLACE ZERK FITTING & PLUGS - Replace the Zerk fitting and Button Head Screws in their original locations. Wipe away any excess grease.

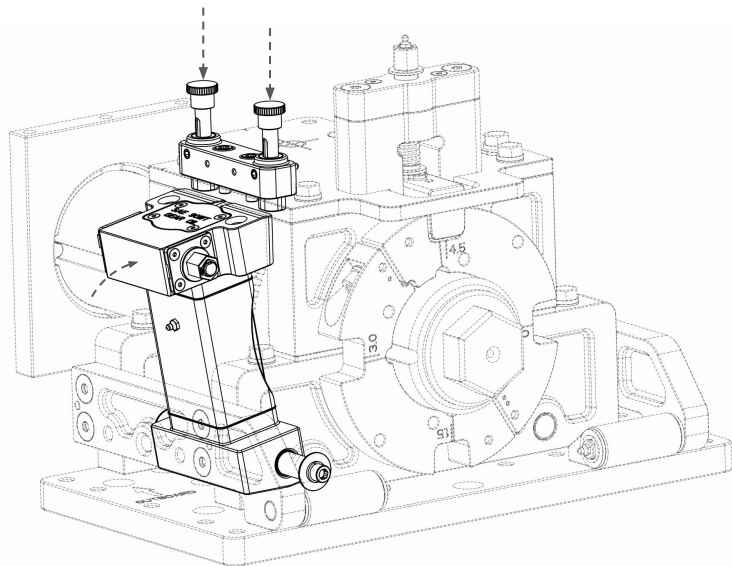
15



REINSTALL GEAR TOWER - Replace the Gear Tower and install the pin, screws and washers.

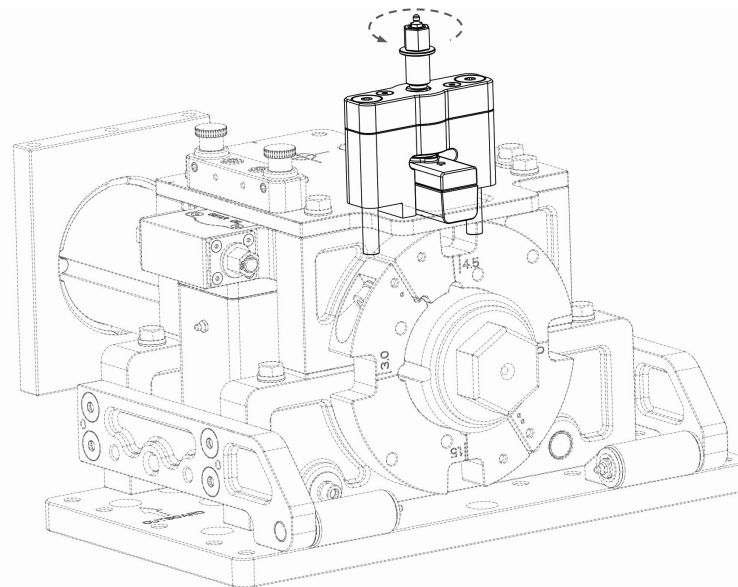
16





ENGAGE GEAR TOWER - Re-engage the Gear Tower and depress the Lock Pins.

17



DISENGAGE SHEAR TOWER - With the Z-Pole in the *deployed position*, unload the Shear Tower.

18

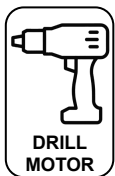
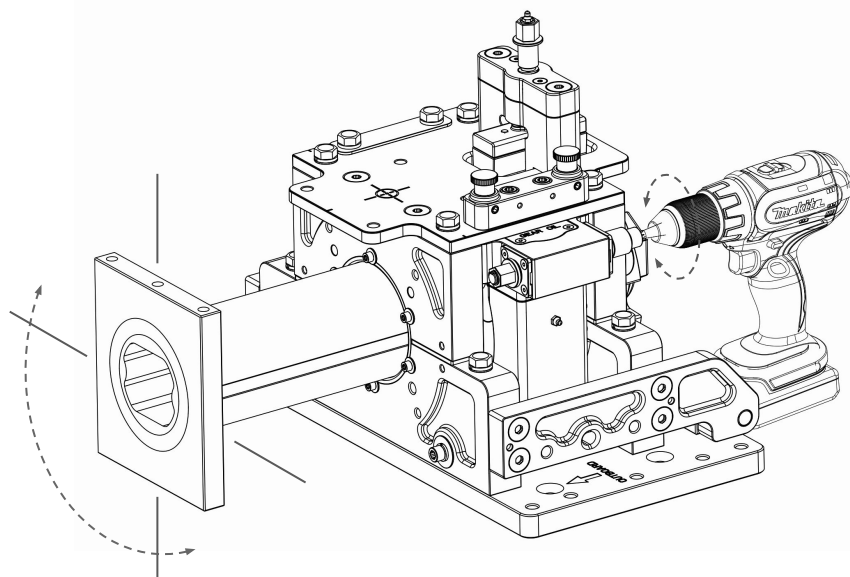


**SPEED
WRENCH**

ACTUATE GEAR TOWER - With the Shear Tower *disengaged*, use a drill to power the Gear Drive in both directions, covering at *least* the range you will be using during operation.

19

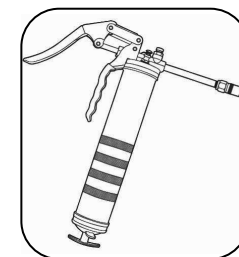
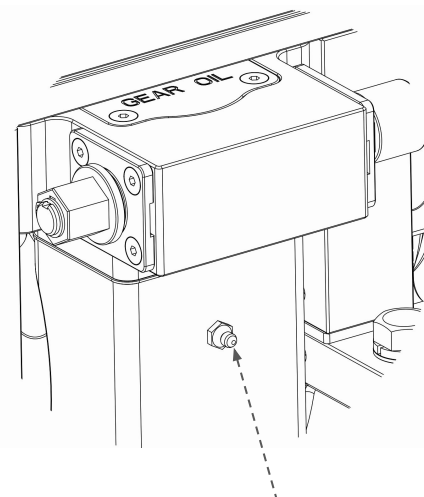
GREASE GEAR TOWER - While you are operating the drill, use a grease dispenser to *continually* add CMD Extreme Pressure Lube to the Zerk fitting on the Gear Tower.



**DRILL
MOTOR**



**3/4
DRIVER**



5
Page