

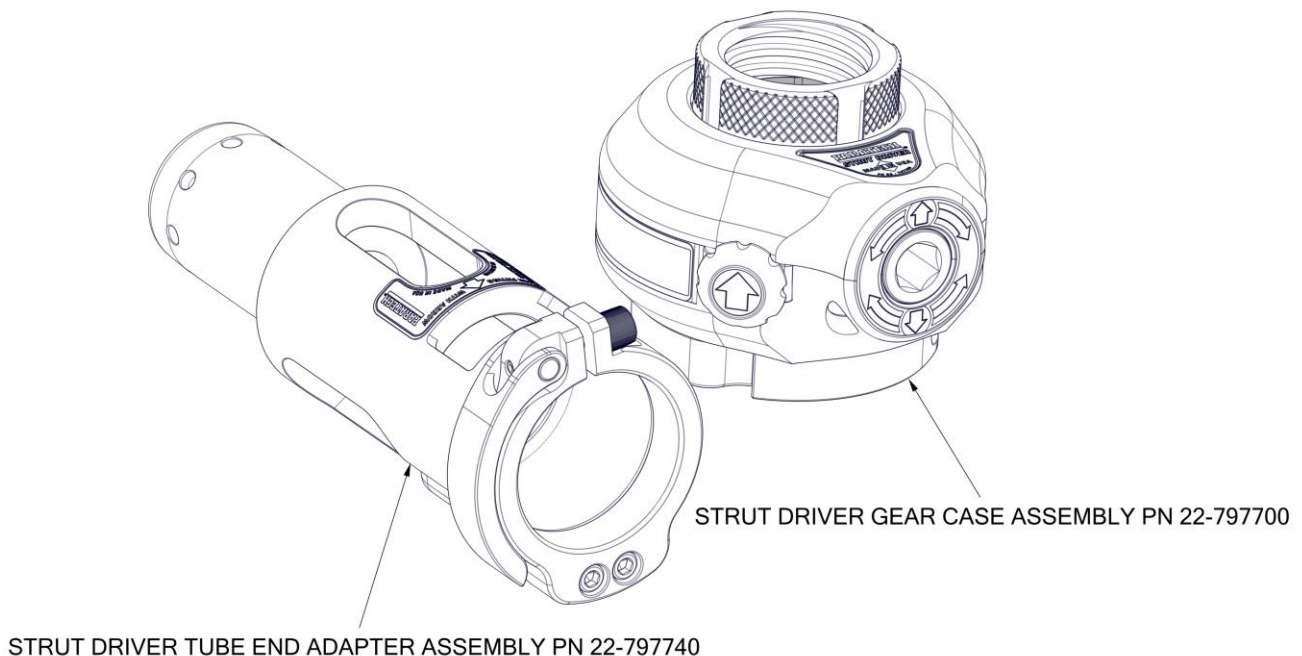


INSTRUCTION SHEET STRUT DRIVER RETROFIT KIT PN: 22-79SDRF

COMPONENTS: - Note: Each kit comes with one Strut Driver Gear Case Assembly, one Strut Driver Tube End Adapter Assembly, and a One-Time-Use Threadlocker Capsule. See FIGURE-1

1. STRUT DRIVER GEAR CASE ASSEMBLY, PN 22-797700: 3:1 ratio gearbox that takes the torque supplied by the user input to rotate the locknut to raise and lower the screw of the strut. Includes new locknut to insure smooth rotation and load carrying capability. Attaches to the top of AcmeThread Strut Tubes using a lever actuated quick clamp.
2. STRUT DRIVER TUBE END ADAPTER ASSEMBLY, PN 22-797740: Installs onto the tube end of AcmeThread Struts and Extensions using a lever actuated quick clamp.
3. ONE-TIME-USE THREADLOCKER CAPSULE, PN 22-670417: Used during the reassembly of the Male Screw End on the end of the AcmeThread screw. (Not Pictured)

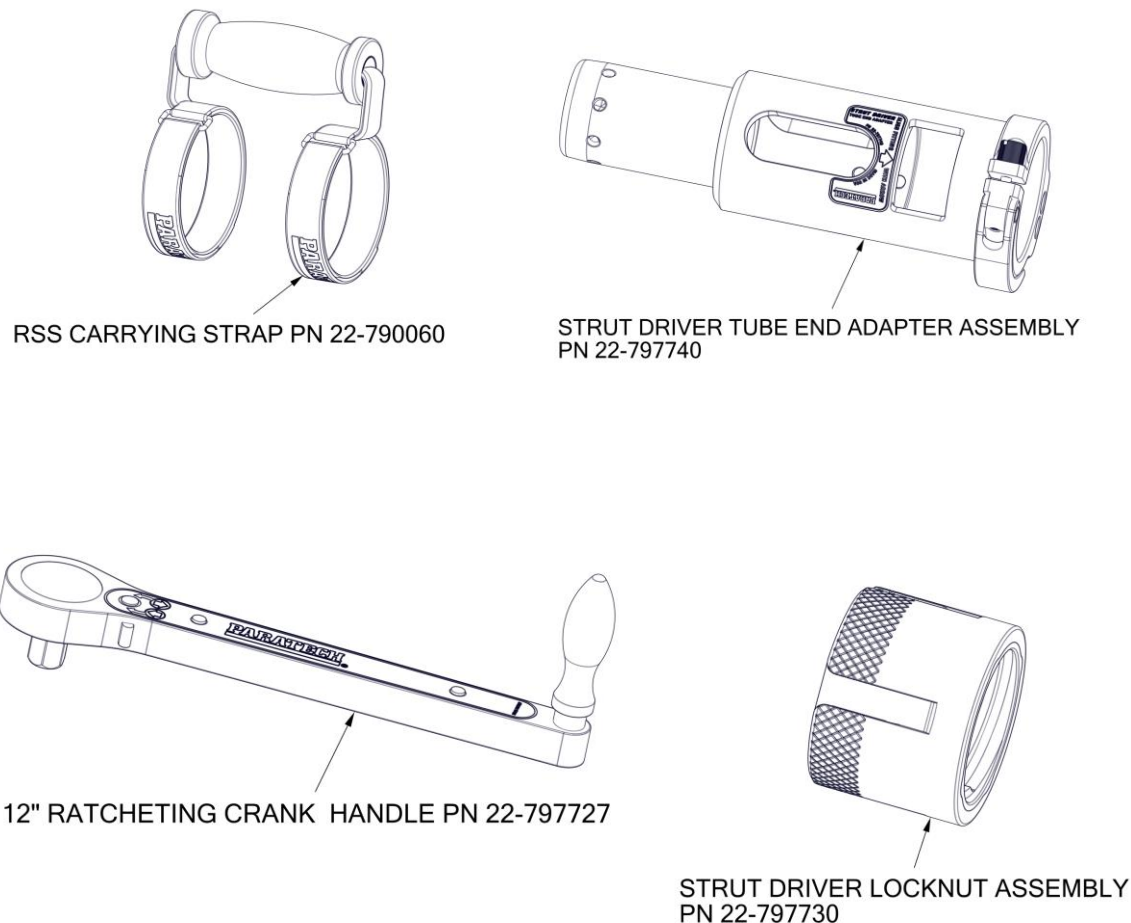
FIGURE-1



OPTIONAL COMPONENTS: See FIGURE-2

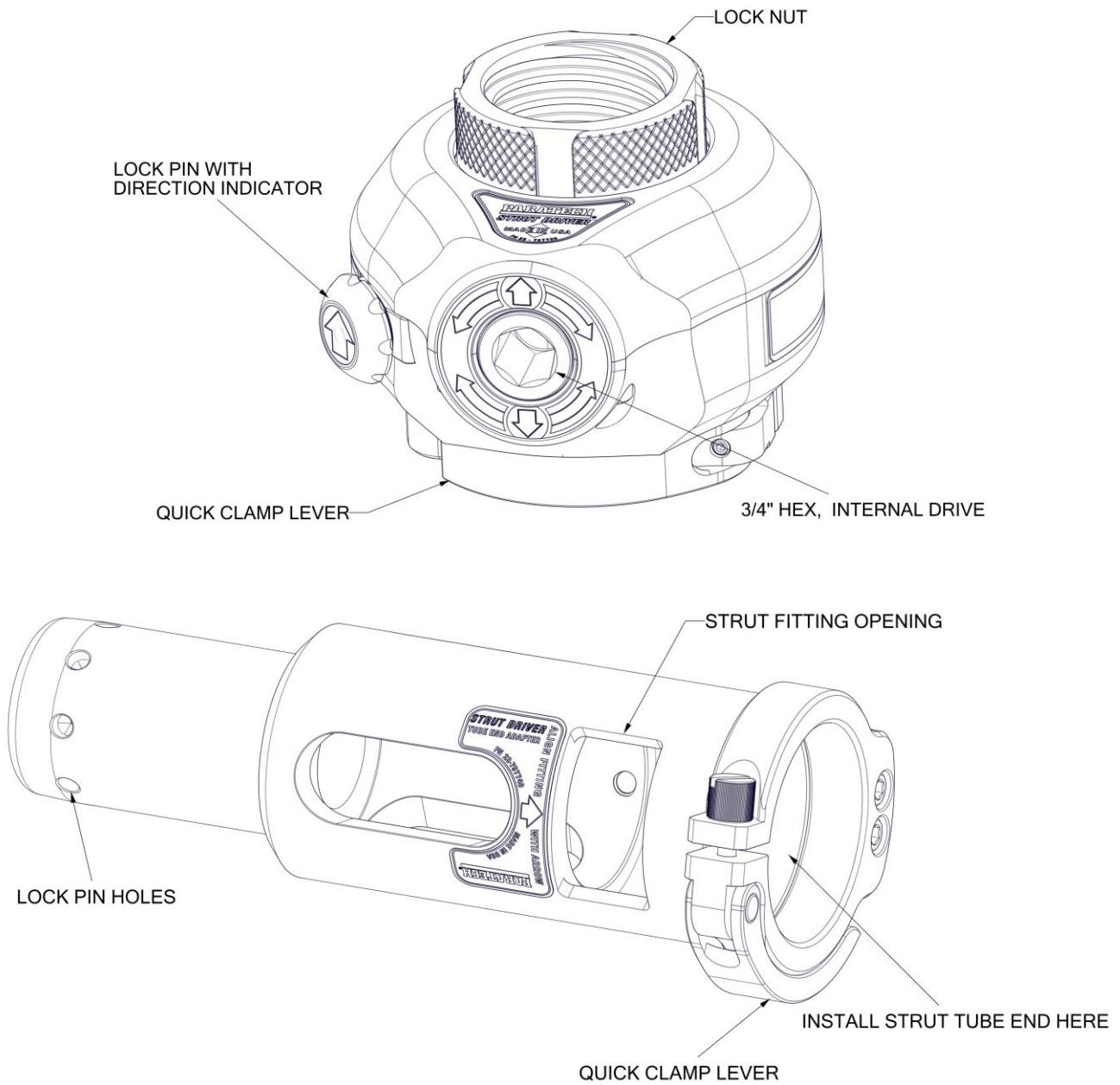
1. 12" Ratcheting Crank Handle, PN 22-797727: 12" long ratcheting handle with integrated $\frac{3}{4}$ " hex bit. Component weight, 2.55 lbs. (1.16 kg).
2. Strut Driver Tube End Adapter Assembly, PN 22-797740: Installs onto the tube end of Ac-meThread Struts and Extensions using a lever actuated quick clamp. Component weight, 4.3 lbs. (2 kg).
3. RSS Carrying Strap, PN 22-790060: Made from reinforced black ballistic nylon; features soft durable EPDM foam grip and Velcro strap-style attachment. Installs anywhere along the Ac-meThread Strut body; best mounted at the Strut center of gravity to assist with easy transport. To adjust the position of the handle, simply loosen the Velcro strap and slide to the desired location. The strap should not block the product label when in use. Component weight, .4 lbs. (.2 kg).
4. Strut Driver Locknut Assembly, PN 22-797730: Insures smooth rotation and load carrying capabilities of existing locknut. Component weight, .8 lbs. (.4 kg).

FIGURE-2



STRUT DRIVER RETROFIT FEATURES:

FIGURE-3



BASIC SAFETY PRECAUTIONS:

- Equipment operation must always be conducted by trained personnel.
- The recommended method for operating the Strut Driver is using the optional hand crank PN 22-797727 or 1/2" drive 12" with a 3/4" hex male socket. The use of power drivers may cause the load to lift too quickly possibly causing instability of the load and causing personal injury. Warning, drill life will be radically reduced if used with the Strut Driver.
- Do not use powered impact tools. The repeated shock loads could potentially overstress components of the Gear Case Assembly and cause failure.
- The Strut Driver Tube End Adapter Assembly is required to secure the AcmeThread Strut tube during lift. With the addition of a Strut Extension, a second Tube End Adapter Assembly is required.
- To avoid the possibility of serious injury or death, stay clear of the loads and keep others away.
- Do not exceed the rated capabilities of the Strut Driver or AcmeThread Strut. Excessive loads may result in personal injury.
- Control the load at all times with stabilization struts or cribbing. If using stabilization struts, always install them first at a lower angle with respect to the ground and object being lifted; **45°- 55°** is optimal. If cribbing is used, crib for every inch of lift.
- Always perform a lift using the Strut Driver equipped AcmeThread strut at a **60°- 80°** angle or greater with respect to the ground and object being lifted.
- A vertical lift using the Strut Driver equipped AcmeThread strut directly under a load is acceptable at 90°.
- DO NOT rapidly drop a load supported by the Strut Driver. Lower the load carefully by SLOWLY turning the crank handle counter clockwise.
- DO NOT use an extension or "cheater bar" onto the crank handle or ratchet handle for added leverage.
- DO NOT exceed 70 LBS or handle force or, 70 LBS-FT of torque when using the Strut Driver.
- If using the Strut Driver in combination with HFS, the Strut Driver should be extended first, not exceeding its 6,000 LB (2721.5 kg) rating. The HFS can then be operated to lift within its 10,000 lbs (4535.9 kg) load rating.

ASSEMBLY OF THE STRUT DRIVER RETROFIT KIT:

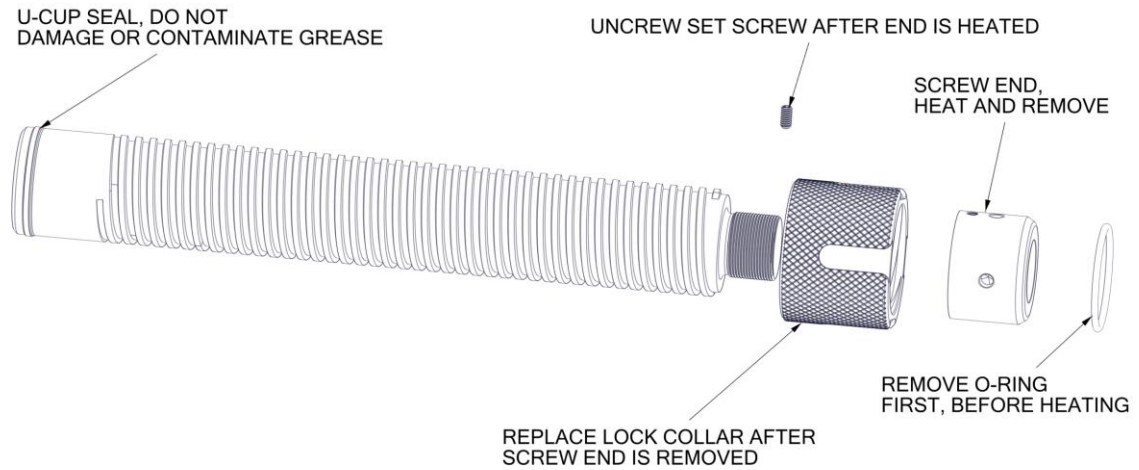
Note: The Strut Driver Retrofit Kit can be attached and used with most existing AcmeThread Struts; however, is not recommended for use with 22-796212 AcmeThread Strut 12-15 in / 31-38 cm. The length of any given strut is increased by 6.15" (15.6 cm) after installation of the Strut Driver.

A. SCREW ASSEMBLY

1. Remove the Acme Screw Assembly from the Strut Tube by simply pulling out the screw. Pay close attention not to damage the U-cup seal or contaminate the grease on the other end of the screw assembly.
2. Remove the O-ring from the end of the strut screw by stretching it over the Screw End.
3. The Male Screw End and Set Screw have been installed at the factory using a thread locker that may need to be heated to facilitate removal. This can be accomplished with the use of a hand-held propane torch or equivalent. (See FIGURE 4). Loosen the 1/4-20 Set Screw and unscrew the

Male Screw End from the Screw using a spanner or strap wrench. While the components are still hot, remove the remaining threadlocker from the threads.

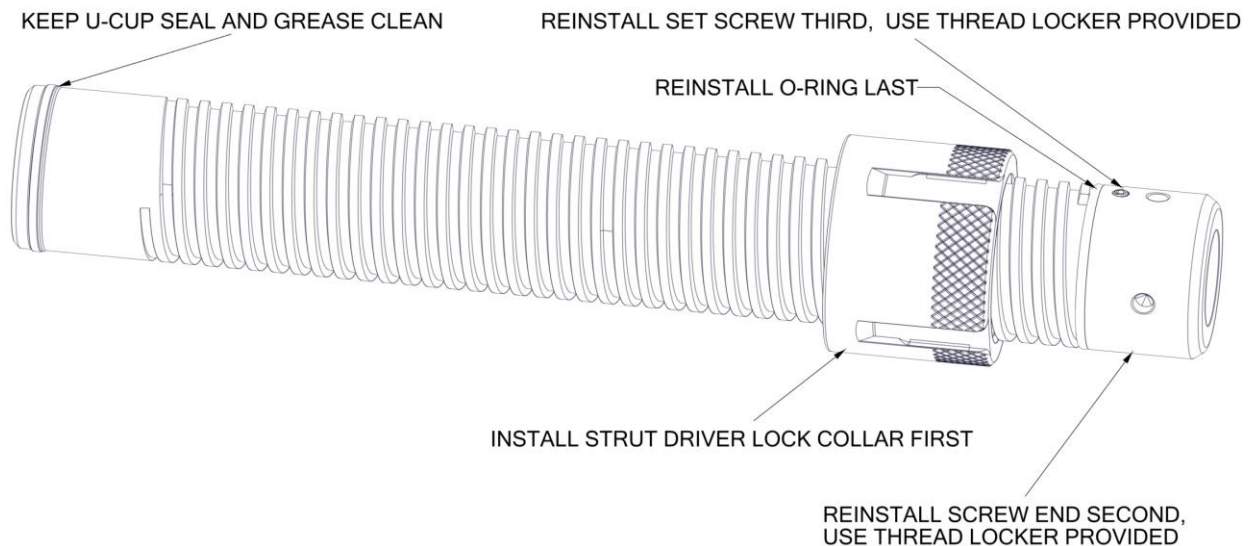
FIGURE 4



Caution: The screw assembly will be hot. Protect personnel and surroundings

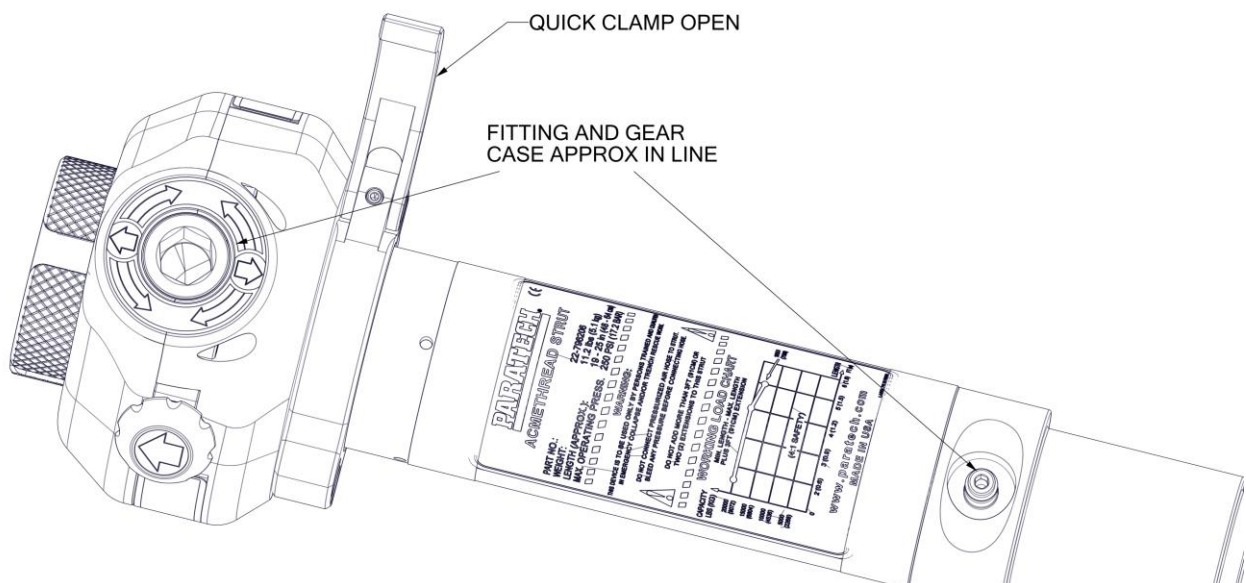
4. Remove the Lock Collar and allow time for all the components to cool.
5. If not already done so, remove the Lock Collar from the Gear Case Assembly by pulling straight out. Install the Lock Collar onto the Acme Screw with the notch side up as shown in FIGURE 5.
6. Reinstall the Male Screw End using the Capsule of Loctite® 271 on the threads of the Acme Screw and ¼-20 set screw. Torque both until snug. Reinstall the O-ring over the Male Screw End. Set aside for later installation.

FIGURE 5



1. Release the Yellow Clamp Lever on the bottom of the Gear Case Assembly by rotating 90° and slip Assembly over the top of the Strut Tube. Orientation is unimportant but good practice would be to visually align the hex drive of the Gear Case with the Fitting on the Strut Tube End. Be sure the Tube End seats squarely on the bottom of the Gear Case Assembly. (See FIGURE 6)

Diagram illustrating the quick clamp mechanism. The clamp is labeled "PARATECH". The adjustment knob is labeled "TIGHTEN OR LOOSEN FOR PROPER CLAMP TENSION". The clamp body is labeled "QUICK CLAMP CLOSED". The clamp body also features markings for "19-25 INCH" and "48-64 CM".

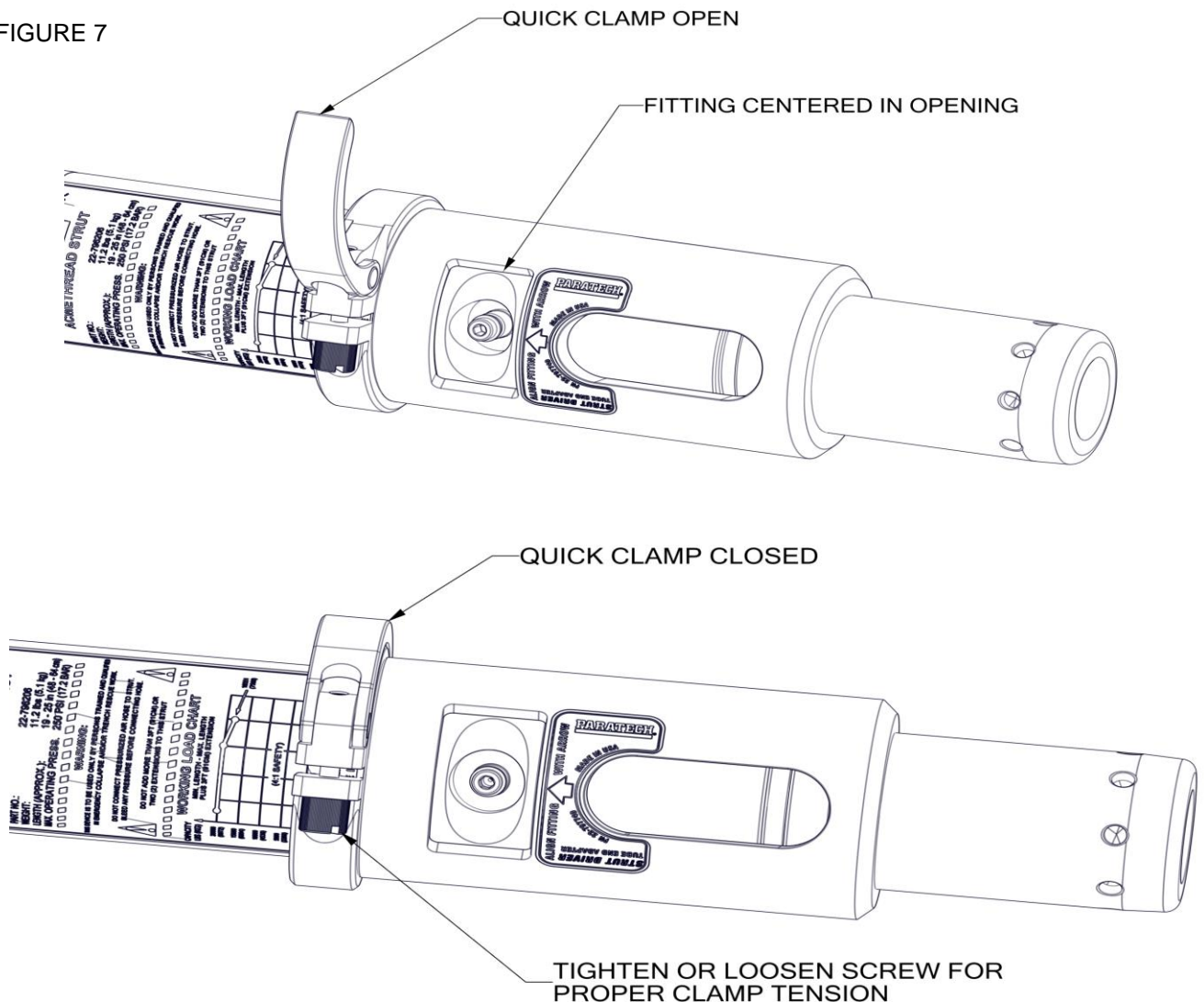


2. Actuate the clamp by rotating the Yellow Clamp Lever and tightening clamp around the tube. The clamp tightness can be adjusted by loosening or tightening the large thumbscrew by hand or slot head screwdriver. (See FIGURE 6)
3. Reinstall the Screw Assembly into the Strut Tube by inserting it through the Gear Case Assembly seal end first. Allow the Locknut to begin to enter the Gear Case Assembly until it bottoms out.
4. Rotate the Locknut until the wrench slots engage the pins. This will engage the Locknut with the internal gearing of the Gear Case Assembly.

C. TUBE END ADAPTER ASSEMBLY

1. The Tube End Adapter Assembly installs over the existing Tube End of the Strut. Release the Yellow Clamp Lever on the top of the Adapter by rotating 90°. Insert the Tube End until it bottoms out in the Adapter. (See FIGURE 7)

FIGURE 7



2. Orientate the Adapter until the fitting in the Strut Tube can be seen without obstruction.
3. Actuate the clamp by rotating the Yellow Clamp Lever and tightening clamp around the tube. The clamp tightness can be adjusted by loosening or tightening the large thumbscrew by hand or slot head screwdriver.

STRUT DRIVER OPERATION:

1. Couple the Tube End Adapter Assembly onto any compatible Paratech base and make sure the Lock Pin is secure.
2. To prevent movement and/or sliding, make sure to secure the base per application requirements using ratchet belt(s), chain(s) or picket(s).
3. Install a Paratech base to the Male Screw End per application requirements and make sure the Lock Pin is secure.
4. When locating the Strut Driver unit, be sure that the Gear Case is in a position so the Ratcheting Crank Handle will not be obstructed and can rotate the full 360°. And the gear box lock-pin can be accessed.
5. There are three different methods for extending the Acme Screw on the Strut Driver.
 - Unscrew the Acme Screw as the Locknut stays engaged with the Gear Case Assembly.
 - Use the Ratcheting Crank Handle to turn the $\frac{3}{4}$ " hex that will rotate the Locknut therefore, extending the screw. Using this method will require the user to hold the screw to stop it from turning with the Locknut.
 - Manually pull out the Acme Screw with the composite Locknut and rotate the Locknut back down into the Gear Case Assembly engaging the wrench slots with the drive-pins.
6. To maximize the lift efficiency and safety, **always position the Strut Driver at a 60°- 80° angle** or greater with respect to the ground and object being lifted. Stabilization Struts or cribbing should always be installed first and used for backup. If using stabilization struts, always install them first at a lower angle with respect to the ground and object being lifted; **45°- 55°** is optimal. If cribbing is used, crib an inch for every inch of lift. (See FIGURE-10)
7. To lift, make sure the lock-pin is pointing toward the strut screw (See FIGURE 8), and turn the crank handle clockwise. Continue until the amount of lift required is reached. During the lift, continue to turn down the Lock Collars of the Stabilization Struts to make contact with the tube body, shoring the load, or crib for every inch of lift.
8. Once the lift is completed and the Strut Driver is ready to be retracted, turn the gearbox lock-pin toward the strut tube (See FIGURE 9), and rotate the hand crank counterclockwise which will cause the screw to retract. Loosening the stabilization strut Lock Collar(s) no more than 1" from the tube end throughout the decent or do not allow more than 1" of gap between cribbing and structure being lifted.

FIGURE 8
LIFT/ EXTEND

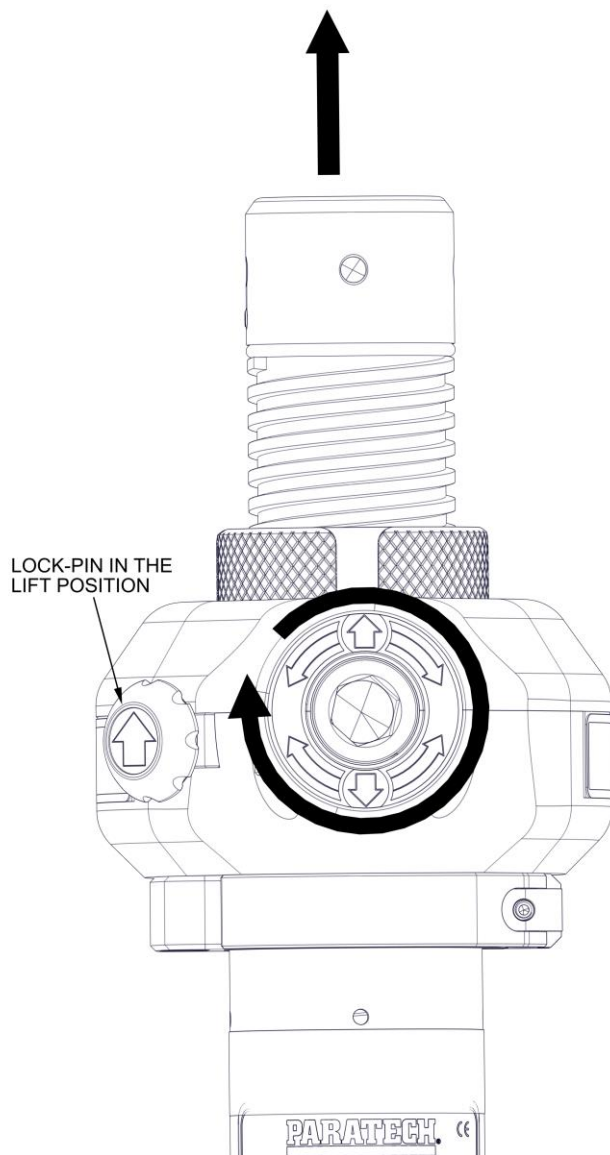


FIGURE 9
LOWER/RETRACT

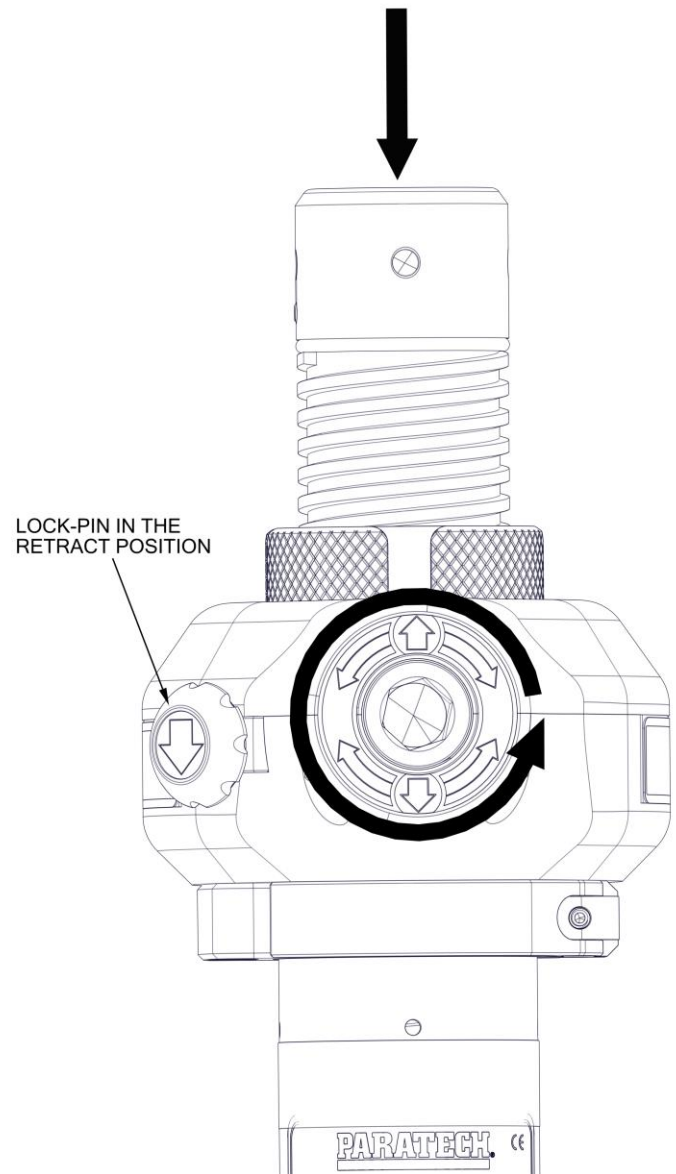
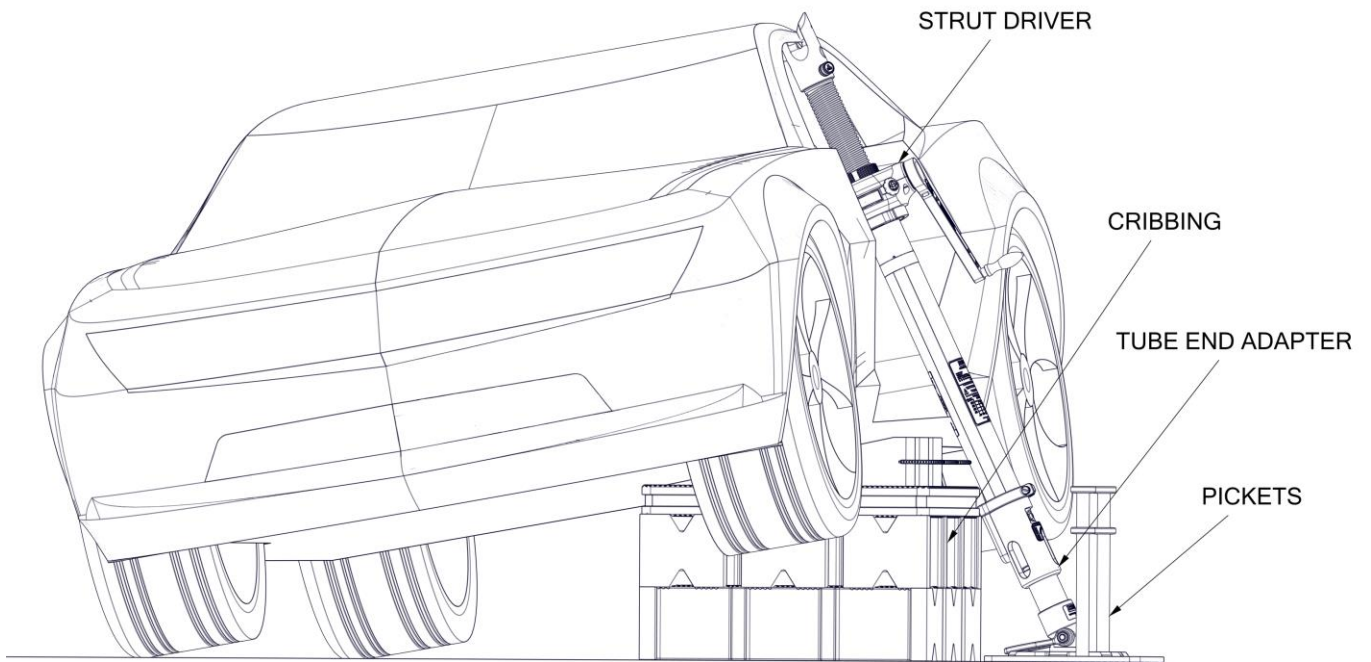


FIGURE 10



TOOL MAINTENANCE:

- Periodically lubricate the AcmeThread shaft with a high quality dry spray lubricant, such as DuPont Teflon Dry Lubricant, and keep free of dirt and debris.
- To clean, wipe all exposed surfaces with clean warm water and soft cloth.
- Maintenance of the Gear Case Assembly is to be conducted by qualified Paratech personnel only.

STRUT DRIVER LIMITED WARRANTY

Each **STRUT DRIVER** or component thereof, manufactured by Paratech Incorporated, has been thoroughly inspected and properly adjusted before shipment to insure the highest quality and the greatest possible reliability.

Paratech Incorporated (hereinafter referred to as "Seller") hereby warrants the **STRUT DRIVER** or component thereof to the original retail buyer only against defects in material and workmanship under normal use and service for a period of five years from the date of purchase. This warranty shall constitute the sole warranty of the Seller with respect to the **STRUT DRIVER** or component thereof. **THE SELLER HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The Seller neither assumes nor authorizes any other person to assume for it any other obligations or liabilities in connection with the sale or use of this product.

Should there be any defects in the material or workmanship of the **STRUT DRIVER**, buyer should return the defective product to the factory for inspection with shipping prepaid within one year from the date of purchase. If inspection shows that the **STRUT DRIVER** or a component thereof is defective and that such defects were not caused by negligence, misuse, accident or unauthorized service, the product sold hereunder will be repaired or replaced at the option of the Seller, without charge, FOB at the factory, Frankfort, Illinois.

THIS REMEDY SHALL BE THE EXCLUSIVE REMEDY FOR BREACH OF WARRANTY WITH RESPECT TO THE STRUT DRIVER OR COMPONENTS THEREOF. THE SELLER SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY WITH RESPECT TO THE STRUT DRIVER AND COMPONENTS THEREOF FROM ANY DELAY IN THE PERFORMANCE OF THE REMEDY HEREUNDER.

PARATECH®

PARATECH INCORPORATED
P.O. BOX 1000
1025 LAMBRECHT ROAD
FRANKFORT, ILLINOIS 60423-7000

TELEPHONE (815) 469-3911
FAX (815) 469-7748