

# TFS Series



## Operating and Maintenance Instructions For TFS Series Hydraulic Flange Spreaders



1025 Conroy Place, Easton PA 18040  
Phone: 610-250-5800 \* Fax: 610-250-2700  
Toll-Free: 1-888-TORCUP-1

E-mail: [sales@torcup.com](mailto:sales@torcup.com) \* Website: [www.torcup.com](http://www.torcup.com)

## **OPERATION**

Important: Do not operate the tool before reading these instructions.

The TFS Series Flange Spreader Model TFS-10H is designed for spreading and lifting. It generates 10,000 lbs of spreading force at the feet by using hydraulic power. It is extremely versatile and can be used wherever lifting power is needed.

The TFS Flange Spreader is simple to use. To spread the feet, connect the hydraulic cylinder to a hydraulic pump and pressurize it. To close the feet, release the pressure of the pump. The cylinder has a spring return.

The TFS Flange Spreader only needs 0.09” or 2.3mm clearance to engage the feet. It has a separating capacity of 3” spread under full load. The high strength alloy steel forged feet close automatically when the pressure is released.

Note: When using the TFS Flange Spreader for flange spreading, it is recommended that two TFS Flange Spreaders be used. Place the Flange Spreaders on opposite sides of the flange for even spreading.

## **MAXIMUM SPREADER EXTENSION**

A red mark will appear on the shaft of the center foot when maximum safe extension is achieved.

Creating pressure beyond the 10,000 PSI rated capacity may result in injury.

## **MAINTENANCE**

Treat the TFS Flange Spreader like any other precision tool. Keep it clean and free from moisture. Simply wipe it down with a cloth or paper towel after use.

All internal parts are lubricated at the factory and do not need cleaning or lubrication.

All the materials used in the TFS Flange Spreader were chosen through extensive research. All parts are rated for their intended use, and do not need field repair. Improper assembly, modification or substitution of other parts is unsafe, will void the warranty and could damage the tool.

## **FOOT REPLACEMENT**

When it is necessary to replace a foot on the TFS Flange Spreader, follow these steps:

1. Close the feet. The center foot should be aligned with the out side feet.
2. Loosen the two flat head allen screws on the bottom of the feet being replaced.
3. Remove the old feet and position the new feet in its place.
4. Tighten the two flat head allen screws.

Note: It is very important that the flat head allen screws be properly tightened. The required torque value is 40 Ft/lbs.

### **SAFETY TIPS**

Always wear the appropriate protective equipment, such as safety glasses and gloves.  
Use cribbing or blocking under any load being lifted with the tool, where possible.  
Never place any body part between the tool and the equipment being worked on.  
Creating pressure beyond 10,000 PSI rated capacity may result in injury.

### **ASSEMBLY/DISASSEMBLY INSTRUCTION**

The TFS Flange Spreader is delivered assembled and ready to use. If it is necessary to disassemble the TFS Flange Spreader for repairs, follow the assembly instructions carefully when re-assembling. Failure to follow these instructions may damage one or more components.

### **TOOL STORAGE**

Wipe tool clean with a cloth or paper towel. Close feet and return to carrying case.

Note: The TFS Flange Spreader should be kept in the ready position when not in use.

### **DISASSEMBLY INSTRUCTIONS**

Should it become necessary to disassemble the TFS Flange Spreader, follow these steps:

1. Close the feet by retracting the center foot until it is aligned with the outside feet.
2. Position the TFS Flange Spreader on its side. The side with the roll pin should be facing up.
3. Look down through the hole of the pin; you should be looking into the slot on the side of the piston.
4. Connect the cylinder to a pump. Open the feet by slowly pressurizing the hydraulic cylinder and watch the piston travel down.
5. Continue opening the feet until you have located the hole in the middle of the slot on the side of the piston.
6. Line up the hole in the slot with the roll pin in the sidewall of the housing.
7. Push the roll pin down through the wall of the housing into the hole in the side of the piston. A hammer and punch may be used to push the roll pin into the housing and piston.
8. Extend the cylinder to the maximum extension mark on the piston.
9. Pressurize the cylinder to 1,000 PSI.
10. Turn the subassembly counter-clockwise until it is completely unscrewed and slides out easily. The subassembly consists of the adaptor, piston and center foot.
11. Release the pressure to retract the cylinder and disconnect the cylinder from the pump.
12. Loosen the set screw in the front of the housing with a 5/32" allen wrench. Remove the cylinder by turning it counterclockwise.

Note: Before disassembling the tool, mark the position of the cylinder in reference to the housing.

## ASSEMBLY INSTRUCTIONS

When reassembling, follow these steps:

1. Make sure all parts are available and in working order.
2. Clean all the parts with a degreasing solvent.
3. Screw the cylinder all the way housing.
4. Position the outside feet against the bottom of the housing. Be sure to place the feet, which are marked left and right, on the appropriate sides of the housing. The countersunk screw holes should be facing out, and not against the bottom of the housing.
5. Insert the flat head allen screw in the screw holes on the outside feet, and tighten them with a 5/16" allen wrench to 35-40 Ft/lbs.
6. Place the center foot on the top of the piston. The countersunk screw holes will be facing up.
7. Insert the flat head allen screw in the screw holes on the center foot and tighten them with a 1/4" allen wrench to 25-30 Ft/lbs.
8. Screw the adaptor into the piston all the way until the shoulder on the adaptor touches the top of the piston. Torque to approximately 35 Ft/lbs. Note: The adaptor has left hand threads.
9. Lightly lubricate the outside of the piston.
10. Connect the hydraulic cylinder to a pumps through the quick disconnect attached to the cylinder. Use 10,000 PSI W.P. rated hydraulic hose. Extend the cylinder by pressurizing the pump. Maintain full pressure on the cylinder while executing step 11.
11. Insert subassembly inside the housing. The subassembly consists of the center foot, piston, and adaptor. Screw the assembly clockwise into the front of the piston rod, until the adaptor stops against the cylinder rod.
12. Release the hydraulic pressure from the cylinder and the center foot will retract.
13. Install the roll pin in the hole on the side of the housing, use a hammer if necessary. The roll pin will ride in the slot on the side of the piston, if everything is properly assembled.
14. Check the feet again to be sure they are still aligned. Check the alignment of the cylinder in reference to the housing (this should have been marked in disassembly). Insert the set screw in the hole provided in the front of the housing. Tighten the set screw to the cylinder. Do not tighten the set screw too tight, for future removal of the cylinder may be too difficult.
15. Pressurize and depressurize the cylinder to check that the tool is operating properly.

## TROUBLE SHOOTING

Problem	Possible Causes	Possible Solutions
Cylinder doesn't cycle in and out.	<ol style="list-style-type: none"> <li>1. Insufficient hydraulic pressure and flow.</li> <li>2. Quick disconnect not completely engaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for sufficient supply of hydraulic oil.</li> <li>2. Check the quick disconnects as they must be fully engaged and in good repair. Check the pump.</li> <li>3. When using pneumatic pumps, check that there is sufficient air pressure and check the air supply hose.</li> </ol>
Dirt or contaminated oil circulating in the system	<ol style="list-style-type: none"> <li>1. External or internal parts are not clean.</li> <li>2. Dirty filter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Change the oil and clean the pump.</li> <li>2. Check the internal filter.</li> </ol>
Oil level low	<ol style="list-style-type: none"> <li>1. Leaking pump, hose or filter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the oil level and refill to proper level.</li> <li>2. Replace hoses and/or gaskets.</li> </ol>
Air in system	<ol style="list-style-type: none"> <li>1. Improperly purged hoses.</li> </ol>	<ol style="list-style-type: none"> <li>1. Bleed system and check for cause of air in system.</li> </ol>
Piston will not return	<ol style="list-style-type: none"> <li>1. Damaged piston rod.</li> <li>2. Improper connections.</li> <li>3. Broken return spring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for obstructions around rod.</li> <li>2. Check quick disconnects to make sure they are fully engaged.</li> <li>3. Replace spring.</li> </ol>
Ram leaks around piston	<ol style="list-style-type: none"> <li>1. Worn seals.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace seals</li> </ol>

## LIMITED WARRANTY

The product is warranted against defects in workmanship and materials for 13 months from date of delivery to customer.

Warranty does not cover ordinary wear and tear, abuse, misuse, overloading or altered products.