

## **Service Call:**

### Adjusting Single Stick Controls

## **Tools Required:**

13 mm 12 pt. Box End Wrench

Open End Wrenches:

- 5/16", 3/8", 7/16", 1/2"

1/4" Drive Socket Set

1/4" Drive Socket 13mm 12pt

Flat Blade Screwdriver

Hook Shaped O-ring Pick

3/8" Drive Ratchet w/12" extension

5/16" Allen Socket

## **Model(s):**

All Terex Models Using a Multi-function Single Stick Control

## Tech Tip Safety Rules



### **Danger**

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

### **Do Not Perform Maintenance Unless:**

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

## Introduction:

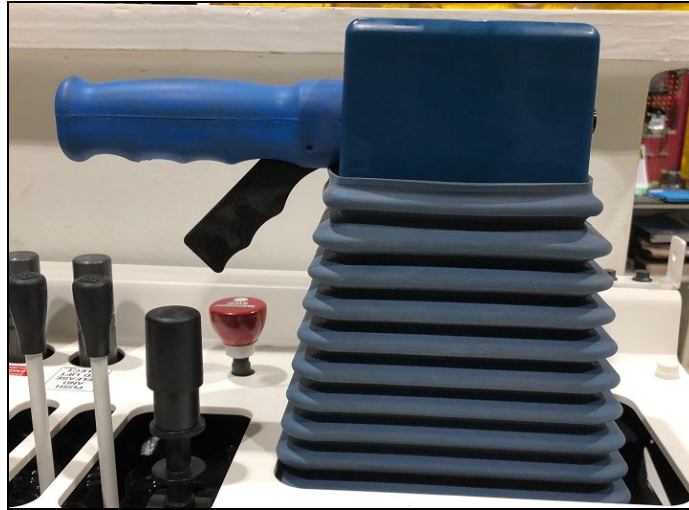
Many Terex models use Single Stick Controls at the platform to operate boom functions. There are 2 different types of Single Stick controls, a 3 Function Single Stick and a 4 Function Single Stick Control. The 3-way controller will operate 3 boom functions along with the enable valve/switch. The 4-way controller will operate 4 boom functions and the enable valve/switch.

If the boom functions are slow from the upper controls, it is possible that one or more of the control rods may be out of adjustment, worn, or loose.

3 Function Single Stick control can be used on open or closed center systems and can be identified by a black cap.



The 4 Function Single Stick control will be blue in color and can be used on open center systems and pilot operated systems.



The following provides a step-by-step procedure to adjust the single stick controls.

## Step 1

Position the unit in a suitable location that has no overhead obstructions and set the outriggers.

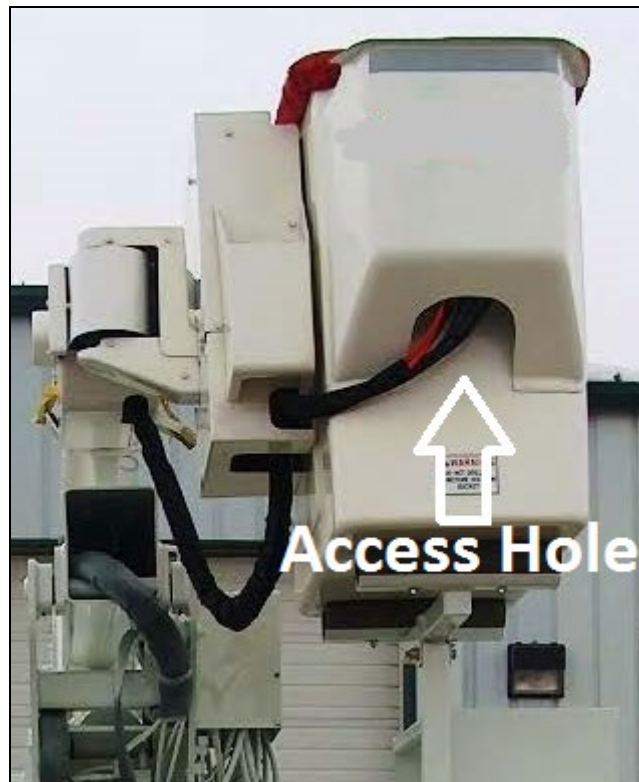
## Step 2

Using the lower controls, position the platform close to the ground to allow safe access to the single stick controller.



## Step 3

Remove covers at the upper controls to access the single stick controller. On some models the covers are not designed to be removed, instead unbolt the control head assembly from the mounting bracket and remove through the access hole in the bottom of the cover.



## Step 4

Using a 13mm 12 pt. socket or a flat blade screw driver, remove the 2 screws that hold the cap onto the controller and remove cap.

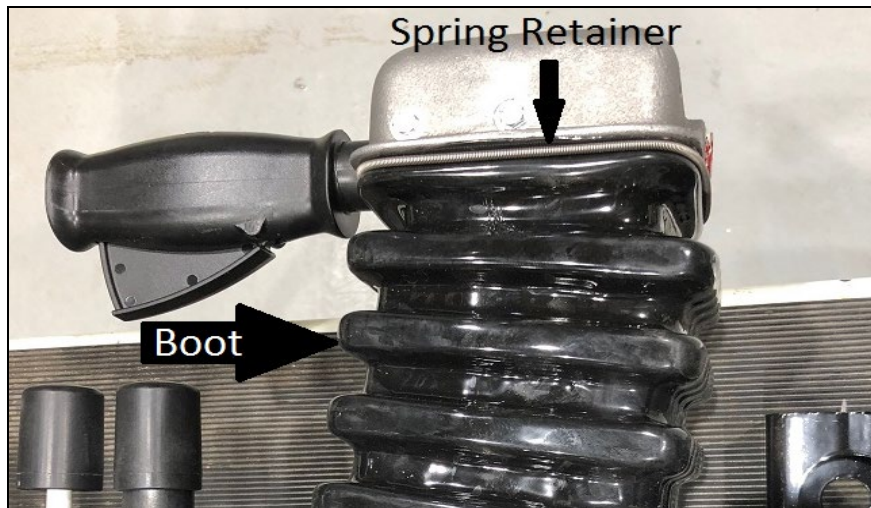


## Step 5

Once the cap is removed, now remove the boot. On some units, a hook shaped O-ring pick may be required to access the spring retainer.



Remove boot by carefully sliding it up and over the cap and handle.



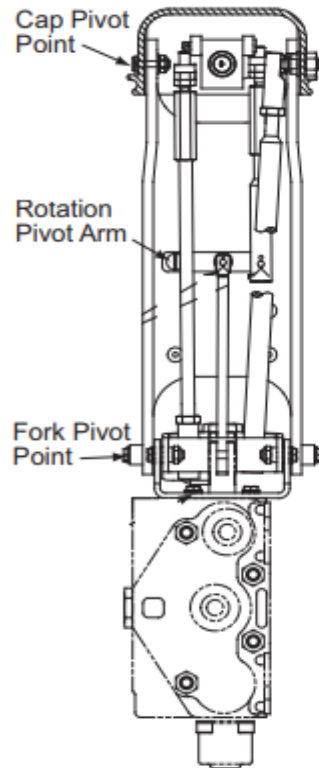
## Step 6

Clean and inspect the upper control valve area by using compressed air and/or Brakleen. Inspect the upper control valve area.



## Step 7

Check for loose or worn bushings at the Single Stick Controller ladder/handle support. Replace and/or tighten as necessary.



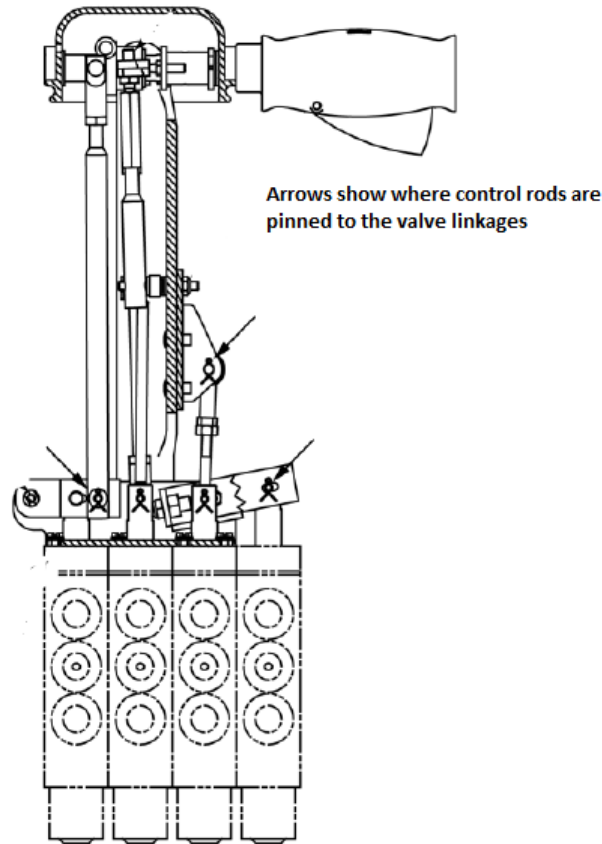
Check for worn bushings at these pivot points

## Step 8

While holding the control rod with the proper sized wrench, loosen jam nuts at each end of the control rod.



On some units one end of the control rod will be pinned to the valve linkage and will need to be unpinned to adjust it.

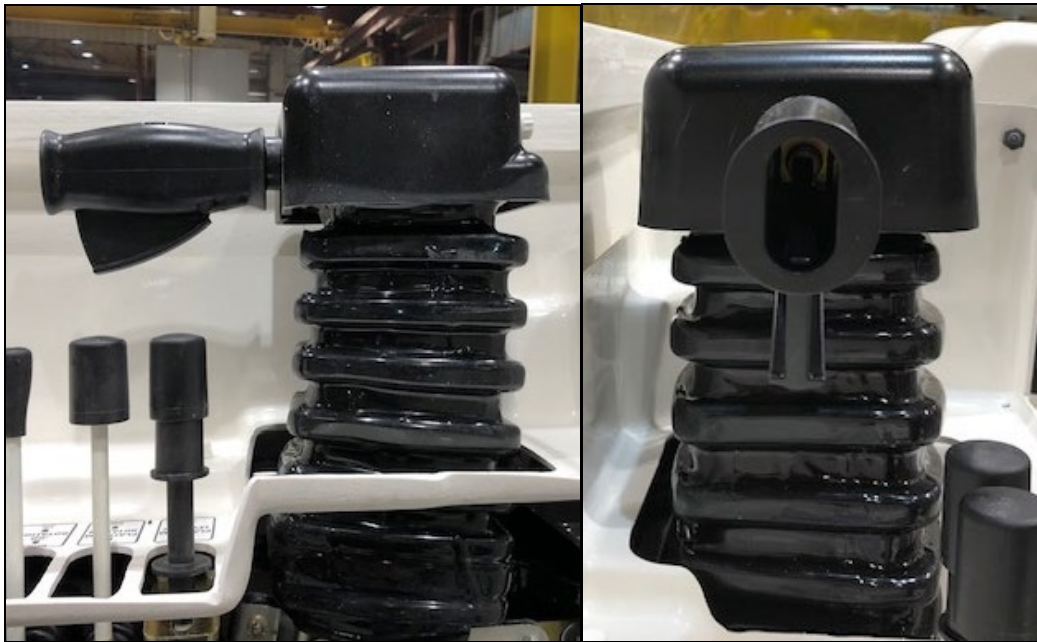


## Step 9

Turn the control rod in the proper direction to adjust. Turning it counter-clockwise will lengthen the control rod and turning it clockwise will shorten the control rod. Adjust the control rod to have full travel of the spool in the valve in both directions.

## Step 10

When the single stick controller is properly adjusted, the top of the controller should sit level and the handle grip should be in a vertical position.



**Example of a properly adjusted single stick controller**



**Example of a controller that is not properly adjusted**

## **Step 11**

Adjust enable lever linkage to have full travel of valve spool when squeezed and when released will have slight free play in lever.

## **Step 12**

Reassemble the single stick controller and perform a full operational test on all functions. Each function must be able to operate independently with no linkage interference or binding. All functions should have a free travel in neutral. When the single stick controller is moved, no boom movement can occur unless the enable valve/switch is engaged.