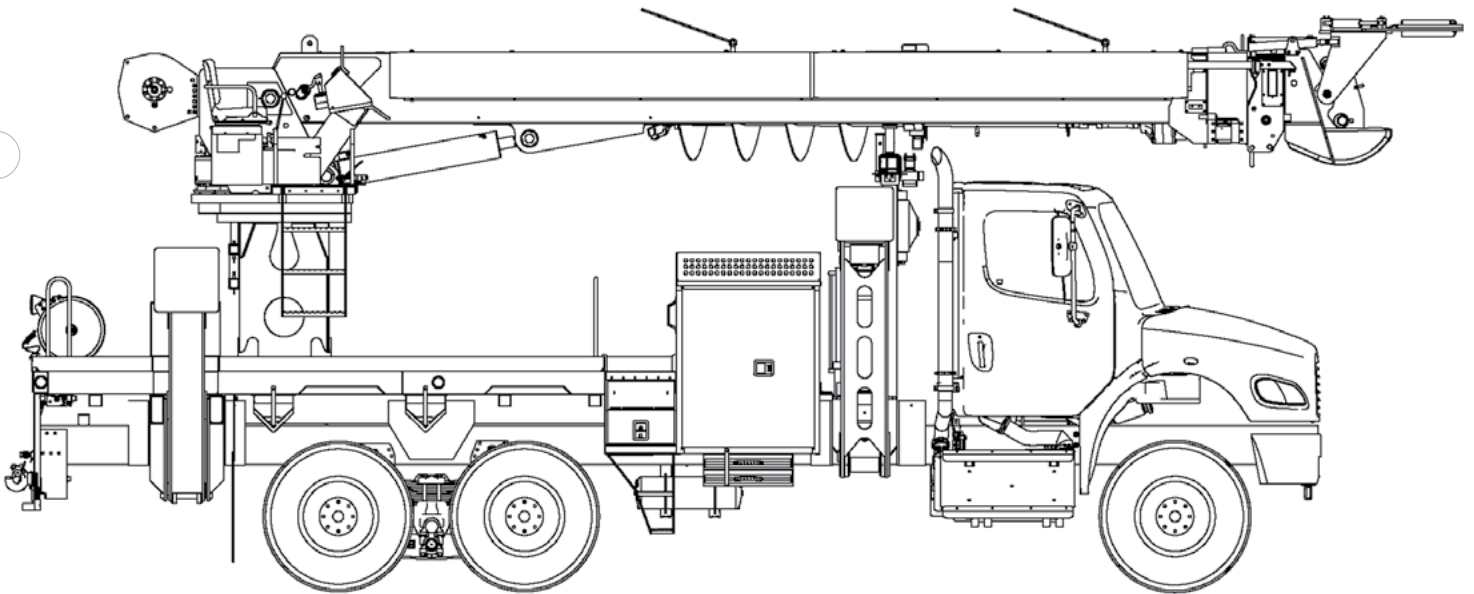




# TECH TIPS

CABLE REPLACEMENT FOR GENERAL 3RD AND 4TH STEEL SECTIONS

NO. 116



**SERVICE CALL:**  
CABLE REPLACEMENT FOR  
GENERAL 3RD AND 4TH STEEL  
SECTIONS



**MODEL(S):**  
GENERAL DIGGER DERRICK




**TOOLS NEEDED:**  
5000 LB OVERHEAD CRANE  
ADEQUATE SUPPORT STANDS  
FOR BOOM SECTIONS  
IDENTIFICATION AIDS FOR PARTS  
AND HYDRAULIC CONNECTIONS  
FOR REASSEMBLING


TEREX UTILITIES TECHNICAL SUPPORT TEAM

PHONE: 1-844-TEREX4U (1-844-837-3948) | EMAIL: [UTILITIES.SERVICE@TEREX.COM](mailto:UTILITIES.SERVICE@TEREX.COM)

**! WARNING**



**Injection Hazard**  
Fluid escaping under pressure can penetrate skin and result in death or serious injury.



Relieve pressure before disconnecting hydraulic lines.  
Stay clear of leaks and pin holes. Use a piece of cardboard or wood to search for leaks. Do not use hand.  
Fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this type of injury, or gangrene will result.



## 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.



TECH TIP 116 | RELEASED 04.24.2023 | VERSION 1.0  
©TEREX UTILITIES. ALL RIGHTS RESERVED

# CONTENTS

## TECH TIP#116

4

| Remove auger and digger head  
| Disconnect hydraulic hoses  
| Attach lifting device

**INTRODUCTION**  
**STEP 1 - STEP 3**

5

| Remove boom assembly

**STEP 4 - STEP 8**

6

**STEP 9 - STEP 11**

7

| Remove 3rd and 4th stages

**STEP 12 - STEP 13**

8

| Remove 4th stage

**STEP 14**

9

**STEP 15**

10

| Install 4th stage

**STEP 16**

11

| Install 3rd stage

**STEP 17**

12

| Install 3rd and 4th into second

| Reassembly

**STEP 18**

## INTRODUCTION

Reference maintenance manual, parts kit sheets and quick reference for parts location and torque values.

Grease wear pads during installation. Apply anti-seize or loctite as needed to fasteners.

Note: The main boom must be removed before the inner sections are removed.

## STEP 1

Remove the auger and digger head. Any other equipment options may be removed to assist in the handling of the boom during removal.

## STEP 2

Disconnect all the hydraulic hoses from the rear of the boom for digger slide tubes, pole guides and extension cylinders.

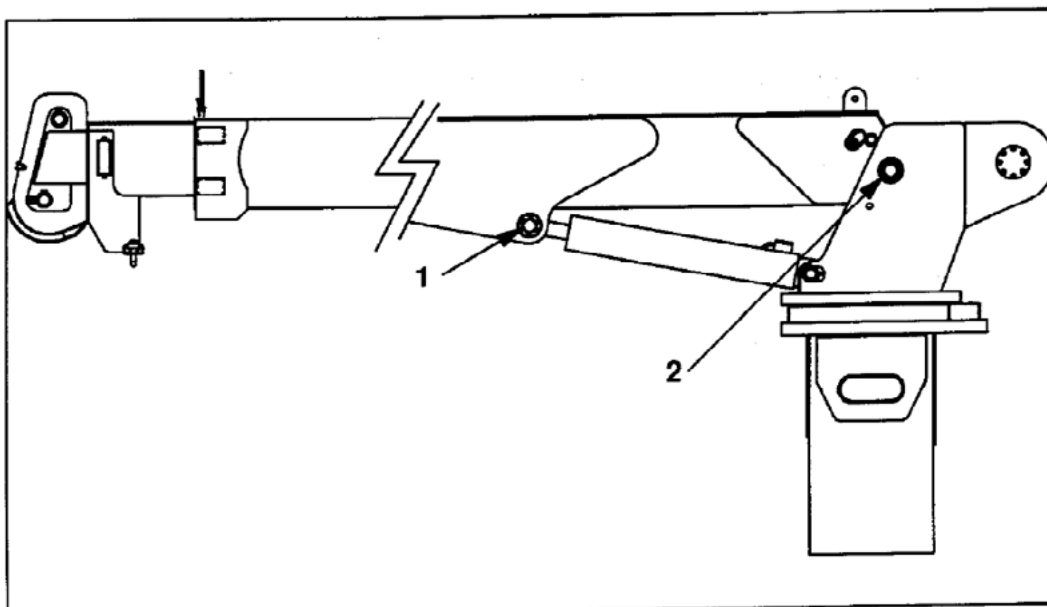


Escaping fluid under pressure can penetrate skin causing serious injury.

Relieve pressure before disconnecting hydraulic lines. Keep away from leaks and pin holes. Use a piece of cardboard or paper to search for leaks. **DO NOT** use your hand.

## STEP 3

Attach a suitable lifting device and rigging to support the main boom assembly. Support the two lift cylinders and remove the pin (1) for the rod eye end of the lift cylinders. Remove the main boom pivot pin (2) to completely disconnect the boom assembly.



## STEP 4

After removal, set the boom assembly on suitable supports in an upside-down position for further disassembly of the sections.

## STEP 5

Attach a suitable holding device, such as a chain come-a-long to the main boom and the 2nd, 3rd and 4th stages to keep the sections from unexpectedly extending out. Remove the fasteners (1) that are securing the 3rd extension catrac to the main boom.



Unsecured boom sections may unexpectedly extend during disassembly, causing damage and serious injury.

## STEP 6

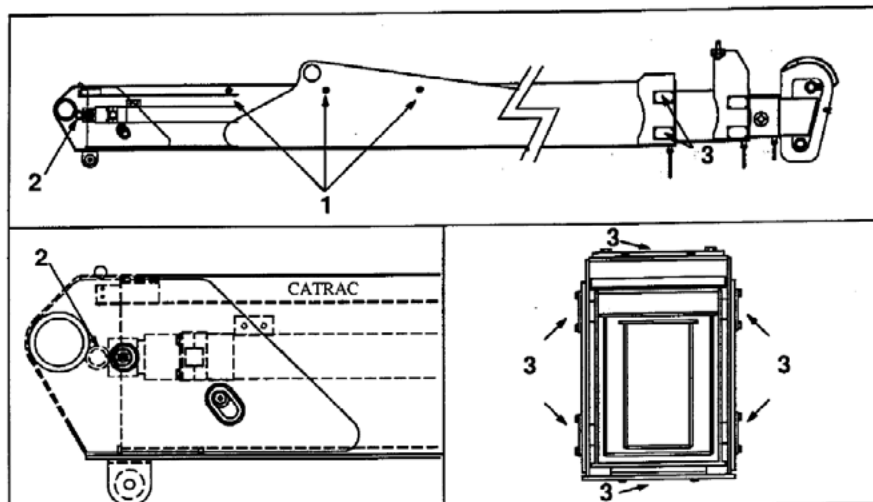
Remove the 2nd stage extension cylinder pin (2) from the rod end. Attach a suitable lifting device to the 2nd stage boom assembly to aid in the removal of the main boom tip wear pads (3) from the top, bottom and sides. Note the shim location if present.

## STEP 7

Secure the main boom section to prevent movement. Attach a suitable lifting device to the 2nd, 3rd and 4th section assembly. Remove the previously installed holding device and carefully remove all three sections by sliding out the section assembly from the main boom.

## STEP 8

After removal, set the section assemblies onto suitable supports in an upside-down position for further disassembly of sections.



## STEP 9

Remove the 2nd stage extension cylinder trunnion bolts (2). Note the shim placement if present.

Using a suitable lifting device, pull out the 2nd stage extension cylinder (3) enough to disconnect the catrac and hoses from the 3rd stage extension cylinder (1).

Remove the 2nd stage extension cylinder (3) from the boom assembly. **Figure 3**

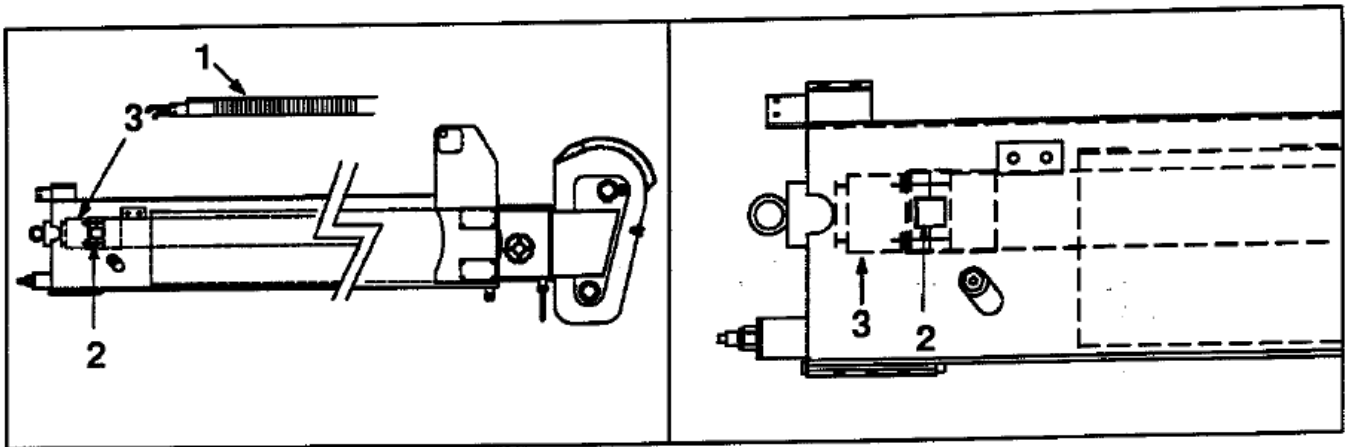
## STEP 10

Remove the snap rings and pin (1) for the 3rd stage extension cylinder. Remove both locknuts, springs (2) and sheaves (3) from the rear of the 2nd stage cable anchor bracket.

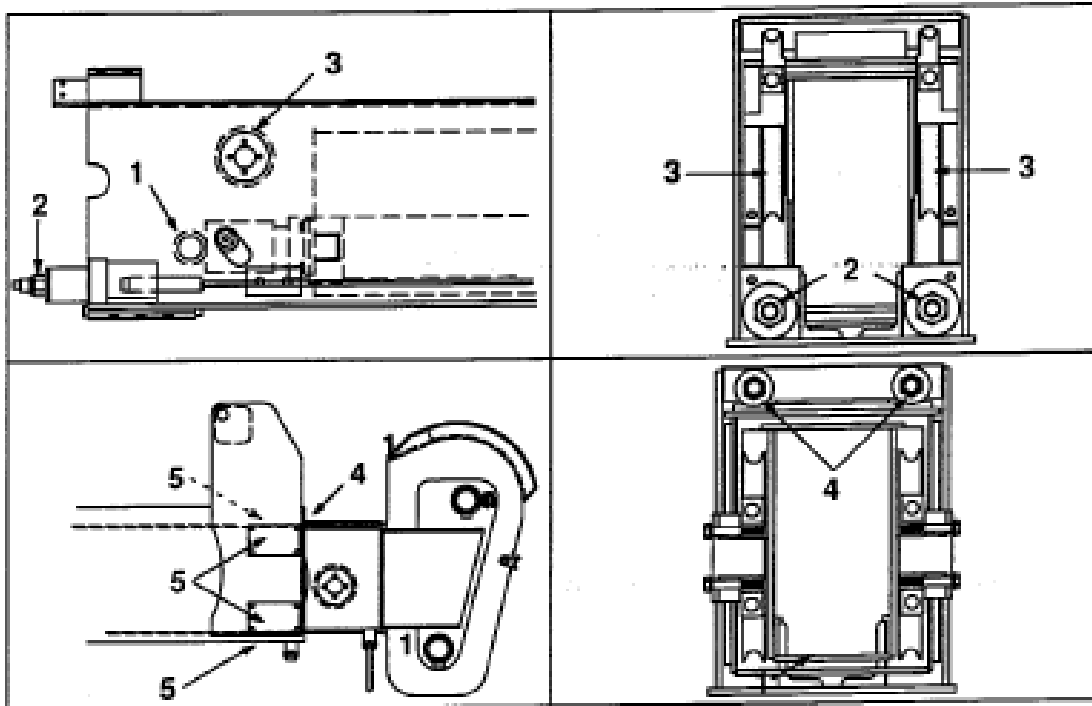
Fasten the ends of the cables to the 3rd stage to prevent binding during the removal of the 3rd and 4th stage boom assembly. **Figure 4**

## STEP 11

Relieve the spring tension by loosening the lock nuts (4) from the front anchor block. Remove the six mount bolts from the front anchor block.



**FIGURE 3**



**FIGURE 4**

## STEP 12

Using a suitable lifting device, support the 3rd stage assembly to aid in the removal of the boom tip wear pads (5). Note the shim location for the wear pads if present. Before removal of the 3rd and 4th stage boom assembly anchor the 2nd boom to keep it stationary. Using a suitable lifting device slide out the 3rd and 4th stage boom assembly from the 2nd stage. During removal use a device to hold the front cable bracket and cables to the bottom of the 3rd stage section. **Figure 4**

## STEP 13

After removal set the sections assembly onto suitable supports in an upside-down position for further disassembly of the sections.

## STEP 14

Remove the 3rd stage extension cylinder trunnion bolts (1). Note the location of shims if present.

Remove both retraction cable sheaves (2) at the rear of the 3rd stage section to prevent damage during the removal of the extension cylinder.

Using a suitable lifting device, remove the 3rd stage extension cylinder (3). Holding the cables away during the removal of the extension cylinder.

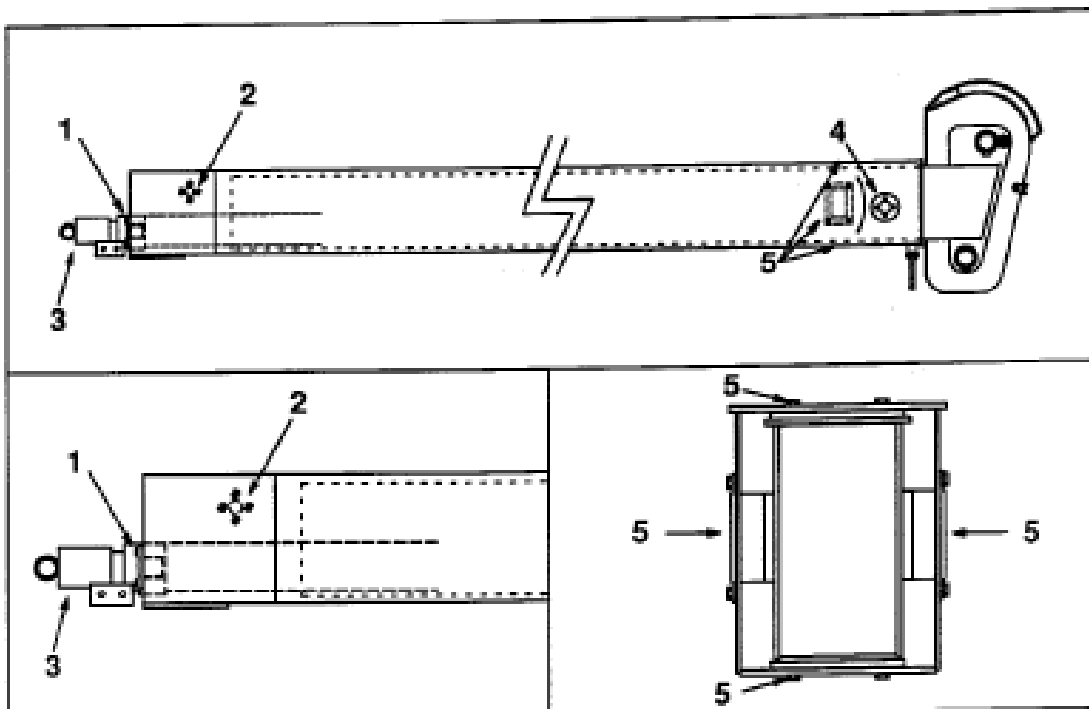
Remove both extension sheaves (4) at the inside front end of the 3rd stage section.

Use a suitable lifting device to aid in the removal of the wear pads (5) at the front of the 3rd stage section. Note shim location if present.

Secure the 3rd stage section for the removal of the 4th stage section.

Remove the lock nuts, springs and front cable bracket and lay the cables to the rear of the 3rd stage section.

Using a suitable lifting device, remove the 4th stage section.





## STEP 15

Preparation for all the stage sections before assembling into each respective stage section:

Inspect all the stages for any worn or damaged components. Position all sections upside-down on a suitable support.

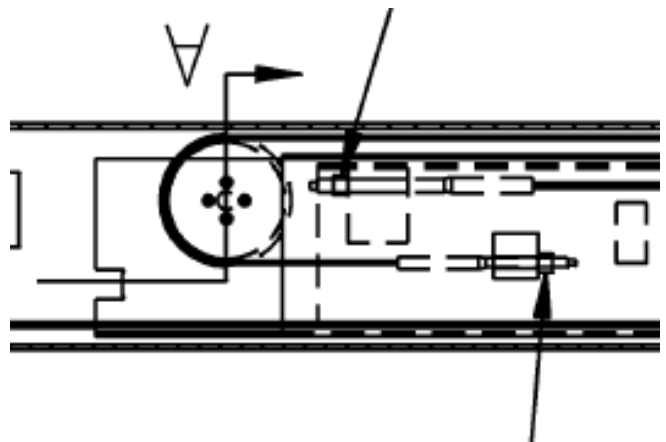
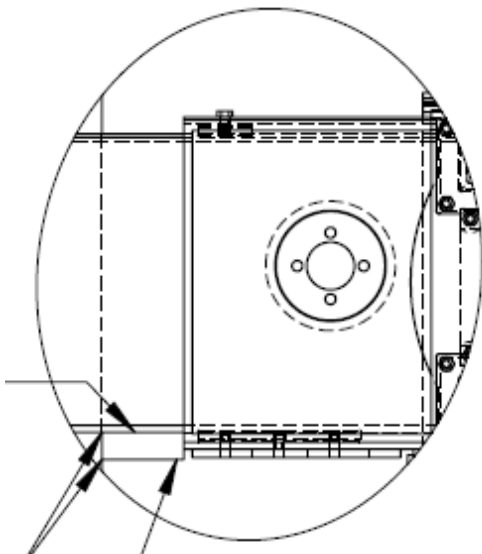
Locate the stop block welded on the bottom of the 4th stage and cut loose the welds. This will aid the connections of the long cables to the rear of the 3rd stage.

Verify that the short terminal end will slide into the cable anchor blocks. If there is a high spot in the swage, sand off just enough to allow the terminal to fully seat in the block. The short terminal ends are to be installed on the 4th stage anchor blocks.

With the 4th stage upside down, 2 each of the long cable P/N 432935 are installed in the top anchor closest to the rear of the fourth on each side with the special nut installed to be facing the rear of 4th stage.

Thread special nut P/N 412340 with red loctite on the terminal end to have 2 inches of exposed threads from the face of the cable retainer block to the end of the threads and tac weld the nut to the terminal anchor block. Prime the weld area to protect it from rust.

2 of the short cable, P/N 432936, are installed in the lower cable anchor block forward on each side with the special nut facing forward of the 4th stage. Thread special nut P/N 412344 with red loctite on the terminal end to have 2 inches of exposed threads from the face of the cable retainer block to the end of the threads and tac weld the nut to the terminal anchor block. Prime the weld area to protect it from rust.



## STEP 16

Loop the two short cables at the rear of the 4th stage not to drag the cables on the floor. Route the two longer cables forward along the top sides of the 4th as the boom is sitting on the supports.

Install a temporary rod through sheave pin hole and loop the cable around and route the cable to the rear. Using a suitable device (bungie straps) secure the cables to prevent damage or binding when installing the 4th stage.

At the rear of the 4th stage secure the long cable terminal ends past the end of the 4th stage and secure to the short cable. Note: remove the securement after the 4th is installed in the 3rd.

With the cables in place, use a suitable lifting device and move the 4th stage section so the rear is aligned with the front of the 3rd stage.

Secure the 3rd stage section down for the installation of the 4th stage section. Unloop the short cables and slide it into the 3rd stage section. Make sure not to cross the cables.

Start installing the 4th stage making sure the two long cables are not being pinched. As the 4th stage is being slid into the 3rd, remove the cable securement devices and check for cable binding or pinching.



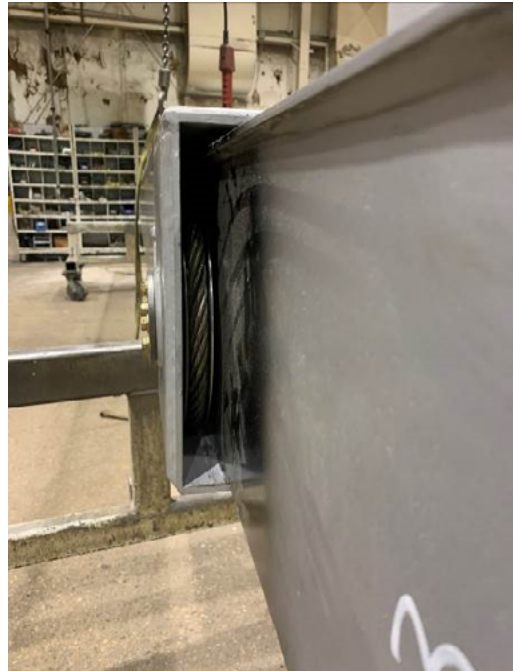
## STEP 17

With the 4th and 3rd stage boom sections upside-down, remove the securement device previously installed holding the long cable. Reinstall the previously removed sheaves at the rear of the 3rd stage section. The short cable is routed over the large sheave and routed forward along the bottom of the 3rd stage towards the boom tip sheave head.



Install the long terminal ends into the cable terminating block and then install springs and lock nuts.

Reinstall previously removed sheaves at the 3rd boom tip and at the rear pull the long cables into the sheaves.



## STEP 17 (Continued)

With a suitable lifting device reinstall previously removed 3rd stage extension cylinder. Reinstall trunnion blocks, shims (if originally present) and bolts. Refer to torque values in the unit specific maintenance manual.



## STEP 18

With the 2nd stage section secured upside-down on a suitable support, use a lifting device to align the 3rd stage assembly to the 2nd stage boom tip. Reinstall the 3rd and 4th stage assembly into the 2nd stage section.





At the 2nd stage boom tip, reinstall the short cable terminating block with mounting fasteners.

Reinstall the stop block previously removed and weld it into place. Connect auxiliary hydraulics to the 3rd stage extension cylinder to aid in the installation of the rod end pin and snap rings into the 2nd stage section.

Install the long cable terminal ends and springs. Start the lock nuts onto the terminal ends.

Reinstall the previously removed 2nd stage boom tip wear pads if present, using a suitable lifting device.



## STEP 19

Install the previously removed stop P/N 407831 by welding at the 4th stage location. Prime and paint the work areas.

With auxiliary hydraulics attached to the 3rd stage extension cylinder, carefully retract the 3rd and 4th stage sections.

If the cables are too short or improperly installed, compression springs at the 2nd stage boom tip will fully compress and damage cable and sheaves.

Start with the retract cables (short cable) compression spring adjustment at the 2nd stage boom tip anchor block.

Tension the cable by adjusting the nuts with red loctite so that the compression springs are fully compressed. Do not tighten the cable beyond that point. A measurement of 2-3/4" from the spring to the end of the threads should be obtained.



## STEP 19 (Continued)

Using suitable supports for the sections with the 2nd stage stationary, fully extend the 3rd and 4th stage sections to ensure that the compression springs do not travel beyond full compression causing damage to the cables and sheaves. Retract and extend the extension several times, rechecking the compression springs for proper adjustment.

Using suitable supports for the sections with the 2nd stage stationary, fully extend the 3rd and 4th stage sections to ensure that the compression springs do not travel beyond full compression causing damage to the cables and sheaves. Retract and extend the extension several times, rechecking the compression springs for proper adjustment.



## STEP 20

With a suitable lifting device, reinstall the previously removed 2nd stage extension cylinder leaving room for the catrac hydraulic hose connections.

Reinstall the 3rd stage catrac and make hydraulic connections to the 3rd stage extension cylinder.

Slide the 2nd stage extension cylinder into trunnion bracket and reinstall the trunnion blocks, shims (if previously present) and bolts. Refer to the unit specific maintenance manual for torque values.



Escaping fluid under pressure can penetrate skin causing serious injury.

Relieve pressure before disconnecting hydraulic lines. Keep away from leaks and pin holes. Use a piece of cardboard or paper to search for leaks. DO NOT use your hand.

## STEP 21

Secure the main boom stationary upside-down on suitable supports. With a suitable lifting device, reinstall the 2nd stage extension assembly. Carefully slide the assembly into the main boom section to prevent damage to the catrac.

Reinstall the previously removed 2nd stage extension cylinder rod pin and snap rings.

Reinstall the catrac mount bolts through the main boom into the catrac. Reinstall the main boom tip wear pads and shim if required. To aid in the installation of wear pads use a suitable lifting device.

## STEP 22

With a suitable lifting device roll over the main boom and extension assembly in preparation to install the main boom assembly.

## STEP 23

With a suitable lifting device, position the main boom assembly to reinstall the main boom hinge pin to turret.

Reinstall the lift cylinder rod eye pin. Refer to the unit specific maintenance manual quick reference section for torque values of both lock nuts.

Reinstall digger head, auger and optional equipment that was previously removed. Reconnect all hydraulic hoses previously disconnected.

Complete a function check for all proper boom functions and to check for hydraulic leaks. For assistance, please call Terex Utilities Technical Support at: 1-844-837-3948



Escaping fluid under pressure can penetrate skin causing serious injury.

Relieve pressure before disconnecting hydraulic lines. Keep away from leaks and pin holes. Use a piece of cardboard or paper to search for leaks. **DO NOT** use your hand.





FOR FURTHER ASSISTANCE,  
CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM  
PHONE: **1-844-TEREX4U (1-844-837-3948)** | EMAIL: **[UTILITIES.SERVICE@TEREX.COM](mailto:UTILITIES.SERVICE@TEREX.COM)**

---