Service Call:
Adjusting System Relief Valve Pressure

Tools Required:
Hydraulic Pressure Gauge (0-5000 PSI)
9/16 or 3/4 inch wrench
Set of standard Allen wrenches

Model(s):
Commander Series Digger Derrick

- Repair procedures shall be completed by a person trained and qualified on the repair of this machine.

- Immediately tag and remove from service a damaged or malfunctioning machine.

- Read this procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.

- Consult your unit specific maintenance manual
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.
When setting system relief it must be verified that system pressure is present at the base of the lift cylinders. If system pressure is not present or improperly set, the unit may not be able to lift the capacities shown on the load chart. This is the reason why pressure is checked at the base of the lift cylinders or by hooking into Hydraulic Overload Protection (HOP).

**Step 1**
Determine gauge installation location:
- Units with HOP
  - Use port G1 on HOP manifold
- Units without HOP
  - Tee gauge in the control line for lift up between cylinder and control valve.
485770 HOP Manifold Shown for G1 Location

Individual sensing valve may also be located under the rider seat on the command post
Step 2
Install the gauge in the location indicated in step one. The boom must be supported by the boom rest or the lift cylinders must be retracted fully before attempting to install the gauge.

| 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
Operate unit to bring hydraulic fluid to normal operating temperature.

Step 4
Raise boom to full elevation or attach to a solid object with the load line. The object must be heavier than what is indicated on the load chart.

Set throttle to maximum setting and engage lift up control. Verify on the gauge that the pressure is set to what is shown on the unit placard.
If pressure is not at desired level, locate return manifold in pedestal. (Manifold shown below)

Adjust CW to increase setting or CCW to decrease setting. Adjust to specification listed on the quick reference page in the unit manual.

Return manifold with the current style system relief cartridge.
See below for system relief location on the control valve for units with joystick controls.

Adjust the system relief on Relief Valve Low (RVL) for units with joystick controls. The relief is on the bottom of the manifold assembly.

If it doesn’t have a relief manifold, then the curbside outrigger relief valve must be set 300 psi higher than system pressure.
Step 5
For units with duel lift relief settings, X-Boost and the Terex General always set the higher pressure first.

- For units with X-Boost you will set the pressure with the boom angle 55 degrees and higher.
- Pressure for the General will be set at 0 degrees and lower with 3000 psi on the main relief valve located on the relief manifold or relief valve lower (RVL) on joystick units.
- When setting secondary lift relief for units with X-Boost, set the lift relief valve located in the mast according to the system or lift relief in the quick reference in the manual.