

'Permanent Roof Support Set' construction by utilizing the TS 90, the XT 150 and the Omni 150 support systems.

Setting procedure of the TS90 temporary support system.

1.
Prior to installing the TS 90 temporary support system, examine the roof and bar down where necessary. Make safe according to your mine's standard.
2.
Clean the floor to solid ground prior to placing the prop into position.
3.
Lift the prop and extend the inner tube to the required length.
4.
When fully extended place the pin through the inner pipe into the lowest adjusting pin hole from the release direction.
5.
Place the prop into position and lift.
6.
Ensure that the prop handle faces 90 degrees inwards and that the hydraulic jack faces the release position.
7.
Before pumping the jack make sure that the jack release valve is tightly closed.
8.
Connect the jacking handle to the jack.
9.
Whilst keeping the prop steady, pump and keep raising the inner tube until the loadspreader makes contact with the roof.
10.
The headboard is to be aligned to suit fracture orientation.
11.
Pump the jacking handle repeatedly until the prop is tight.
12.
The TS 90 prop is now correctly installed

13.

It is important that the TS 90 hydraulic –mechanical prop system be installed according to your mines' standard.

14.

Once installed, all further activities can be performed under the protection of the TS 90 props.

XT 150 sacrificial friction prop - installation for permanent support set.

1.

Mark the roof, clean the floor to solid, and place the XT 150 prop complete with its pre-stressing unit into position.

2.

Attach the headboard with the catch securing it to the top of the prop.

3.

Lift the prop and the secured headboard until vertical.

4.

Ensure that the pre-stressing device has good purchase with the floor and that the inlet valve is clear of grit.

5.

Affix the lifting tool onto the collar of the outer tube.

6.

Jack up the inner tube and headboard by levering the lifting tool until contact is made with the roof.

8.

Apply force to the lifting tool thereby solidly locking the prop into position.

9.

Remove the lifting tool.

10.

Couple the high pressure nozzle, which is used to pressurize the pre-stressed device, to the filler pistol hose.

11.

Remove the plastic cap from the inlet valve of the pre-stressing device.

12.
Slide the filler nozzle over the inlet valve and activate the pump by pressing the filler pistol lever.

13.
Pressurise the prop until the pump stalls.

Omni 150 sacrificial hydraulic prop - installation for permanent support set.

0.
A permanent support set can be constructed by either using the frictional XT 150 or the hydraulic Omni 150 sacrificial prop system.

1.
Clean the floor to solid ground prior to placing the prop.

2.
Attach the headboard onto the prop then lift and place the prop into position with the filler valve facing away from the face.

3.
Clean the filler nozzle from grit before attaching to the inlet valve.

4.
Remove the plastic valve cover and attach the filler nozzle to the inlet valve and activate the pump by pressing the filler pistol.

5.
Commence pumping to extend the prop continuously guiding the prop and the headboard towards the selected position on the roof.

6.
Note the attached wedges which are used to lock the inner tube of the prop once contact with the roof has been reached.

7.
Pressurize the prop until the desired load has been reached, or the pump stalls.

8.
Once the prop has been fully set then slide the wedges downwards thereby centring the inner tube to the outer tube of the prop. The prop is now safely installed.

9.

Detach the filler nozzle from the inlet valve.

10.

Both, the hydraulic Omni 150- and the friction XT 150 sacrificial props are now permanently set into their pre-determined positions.

Constructing the temporary platform between permanent sacrificial props during set building.

1.

Horizontally mount the two adjustable stability beams to the props on both sides of the installation by utilising the supplied U-bolts.

2.

Stabilize the beams and tighten the bolts before placing gum planks across the span of both beams.

3.

This temporary platform enables the supplementary construction of the permanent roof support structure.

4.

A set-clamp was developed to fit onto the props to facilitate different types of upper permanent crossbeams.

5.

Split the set clamps and affix onto the four permanently installed XT 150 or Omni 150 sacrificial props.

6.

Slide the set-clamp upwards into position levelling with the brackets on the opposite and adjacent props. Leave enough room between set-clamp channel and the roof to accommodate the crossbeams and selected types of aerial coverage.

7.

Tighten the set clamps securely to the props with the channels of the brackets facing one another at equal height.

8.

Place beams into the set clamps channels and lock firmly with the supplied bolts.

9.

Aerial coverage according to your mines' standards is then placed ontop of the beams thereby accommodating 'fall of ground'.

Remote removal of the TS 90 temporary hydraulic-mechanical prop.

1.
The remote release tool and sling allows the TS 90 temporary support system to be remotely released and recovered from a safe position.
2.
This protects workers should a rockfall occur during the removal of the prop.
3.
Attach the remote release tool to the valve of the hydraulic jack. Ensure that it fits securely and is angled past the upright prop.
4.
Loop and hook the short length of chain around the carrying handle.
5.
Join the hook which is attached to the release cable to the adjusting pin.
6.
Move to a safe supported area.
7.
Take up any cable slack
8.
Jerk the release cable firmly.
9.
The release tool is pulled over releasing pressure within the jack.
10.
Simultaneously, the adjusting pin is pulled out allowing the inner tube to slide down thereby releasing the prop.
11.
The TS90 prop must never be removed without utilising the remote release sling.