Assembly Guidelines

Outer Forms Scaffold & Stairs

These Assembly Guidelines provide guidance for the correct and safe assembly of the Scaffold and Stairs when used in conjunction with Manhole Form Hire outer forms.

Disclaimer

These Assembly Guidelines are provided as a general guide only and represent recommended best practice for assembling the Outer Forms Scaffold and Stairs, and associated components supplied by Manhole Form Hire.

Manhole Form Hire does not control site conditions, supervision, competency of personnel, or the manner in which equipment is assembled, used, or maintained. As such, Manhole Form Hire accepts no responsibility or liability for any loss, damage, injury, or incident arising from the use, misuse, incorrect assembly, modification, or application of the equipment.

It is the responsibility of the end user to:

- ensure all persons involved are competent, trained, and suitably supervised
- conduct a site-specific risk assessment for the use of the equipment that captures the equipment's use in the Safe Work Method Statement (SWMS), including manual handling and lifting tasks
- verify that the equipment is suitable for the intended application and site conditions
- comply with all relevant Work Health and Safety legislation, Australian Standards, and industry requirements.

These guidelines do not replace professional engineering advice, site-specific procedures, or statutory obligations.

Note:

The Outer Forms Scaffold is certified for use with Manhole Form Hire form drums only and must not be used with any other brand of formwork.

SafeSmart Access Stairs are approved for use only in conjunction with the Outer Form Scaffold.

Do not substitute or modify any components. Only components supplied by Manhole Form Hire are to be used, as the Outer Form Scaffold system is specifically designed and certified to suit Manhole Form Hire form drums.

If you are unsure about correct assembly, compatibility, or require further documentation, please contact your nearest Manhole Form Hire branch on 1300 MH FORM (1300 643 676).

Contents

Minimum PPE Requirements

The following minimum PPE requirements are recommended for the assembly of manhole forms in addition to any site requirements.



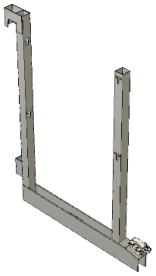

The use of a ladder may be required during the assembly and disassembly phase of the scaffold.

Always assess your own physical capabilities before attempting any manual handling task. Manhole Form Hire highly recommend using mechanical aids for the assembly of manhole forms. If you have any doubts about your ability to safely perform a task, seek assistance from a coworker.

Equipment Required

Item	Qty	Illustration
Tape Measure	1	
Nylon Mallet	1	
26mm Ratchet Podger or Adjustable Spanner	1	
1 × 4 Leg 8mm Grade 100 Chain Sling	1	
Platform Ladder and Step Ladder	2	

Component Breakdown

Component	Illustration	Tare Weight Each
Scaffold Arm		16kg
Scaffold Arm with Clamp (Stair Access)		24kg
Scaffold Pipe		6kg
Stair Tread Plate		10kg
Scaffold Tread Plate		10kg
Balustrade		3kg
Lateral Stability Sleeve & Brace (supplied with use of partial scaffolds)		Sleeve: 3kg Short: 3kg Long: 4kg
Safe Smart 9 Step Stair Ladder WLL: 225kg		60kg
Adjustastairs Step Extension		

Outer Forms Scaffold Rating

The Manhole Form Hire Outer Forms Scaffold rating has been engineered and assessed for a rating of:

Maximum working load limit 225kg per platform tread for personnel and equipment.

The engineering certification can be found on Page 1&2 of Outer Scaffold Dimensions & Weights Drawing SAP-OUTERSCAF-V0, available on the Manhole Form Hire website under the Work at Height Platforms. Further documentation can be found by scanning the QR code on the side of the equipment.

Outer Forms Scaffold Assembly

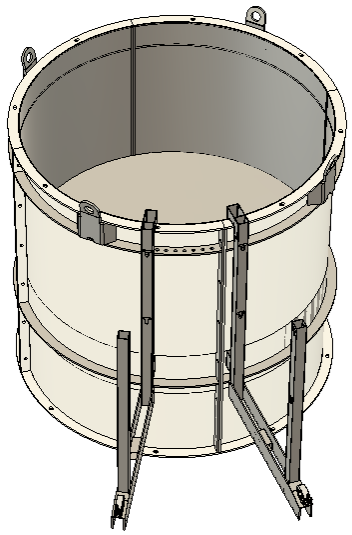
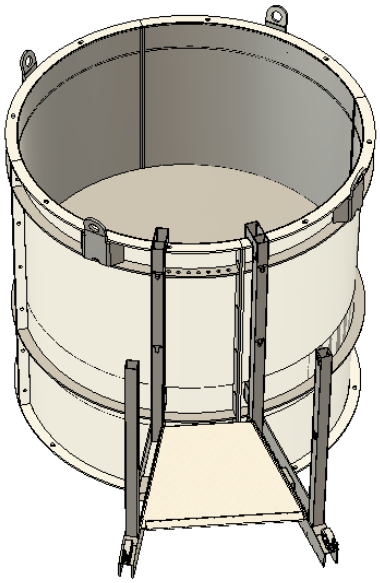
Information that follows is the best practice for building Manhole Form Hires Working at Heights Scaffold for Outer Forms and the correct steps that need to be followed to ensure that it is done in a safe manner.

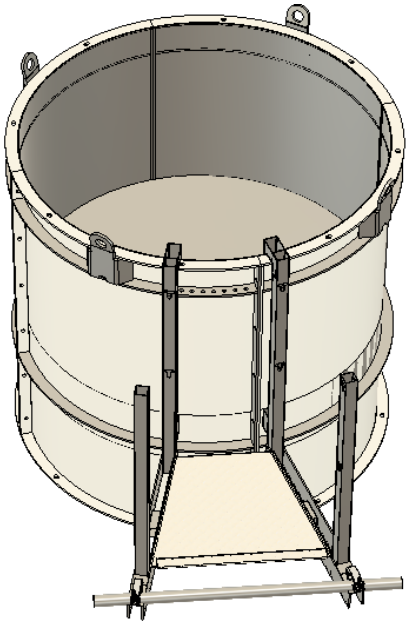
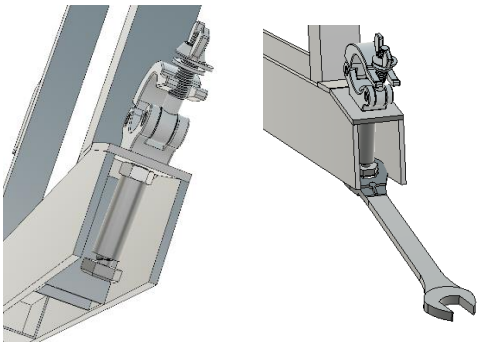
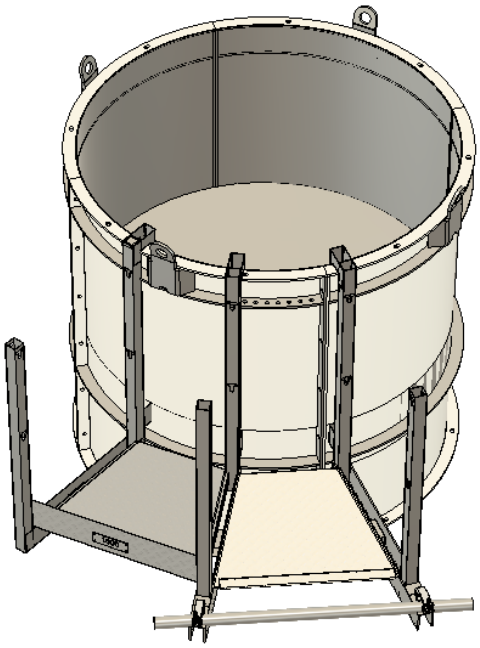
Refer to the following drawings for dimensional footprint of the scaffold system and weights for lifting

- Outer Scaffold Dimensions Components Quantities & Weights SAP-OUTERSCAF-P-V0

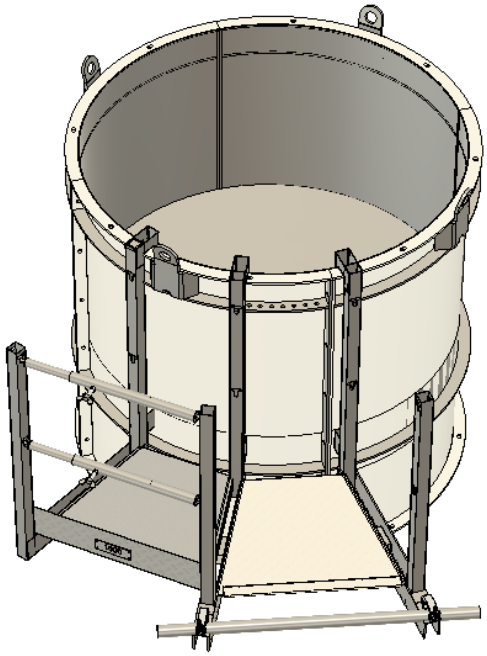
Basic lift plans are also available for lifting outer forms with full scaffold or partial scaffolding which can be accessed via the website, referring to LP-FORMSCAFFOLD-V0 Outer Form with Scaffold Full & Partial.

Assembly Process of Scaffold

STEP 1	
	• Add two scaffold arms with clamp to the side of the drum.
STEP 2	
	• Add the stair tread to the scaffold arms. • Make sure that the arms are spread correctly and the floor plate is locked in properly.
	• Use a nylon mallet to adjust the position of the scaffold arm if required for snug fit. Note: This may be required to do throughout the build.

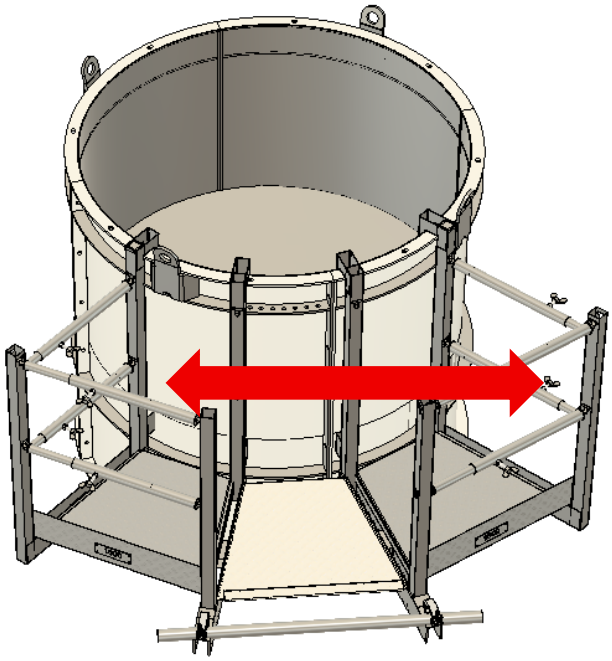
STEP 3	
	• Add the scaffold pipe in the clamps. • Adjustment of the clamp angle may need to be done. This can be done underneath the arm using a long M24 impact socket. • Back both nuts off slightly and adjust the clamps until the pipe is sitting in the clamps correctly.
	• Do the nuts up underneath the arm and then close the scaffold clamp locking arms. • For the clamp retaining bolt that will lock the scaffold bar in place, do the nuts up but not tight. • Do the scaffold clamp retaining bolt up tightly once all tread plates have been installed.
STEP 4	
	• Add the next scaffold arm and tread plate. • Use a plastic mallet to adjust the position of the scaffold arm if required for snug fit.

STEP 5

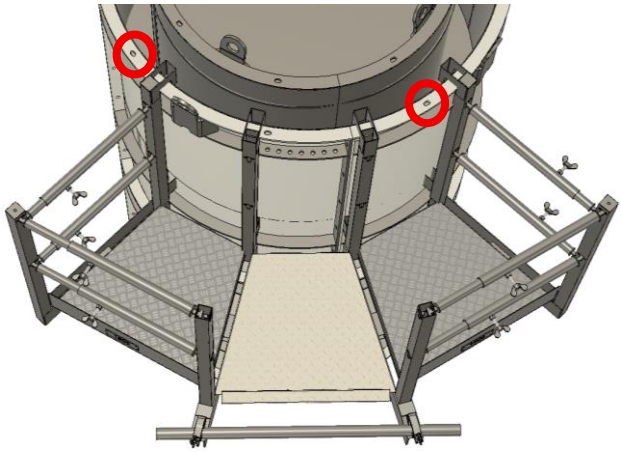
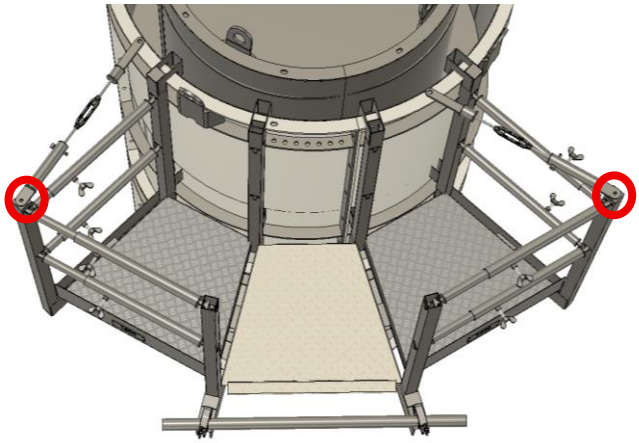
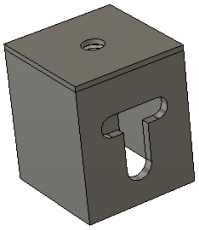
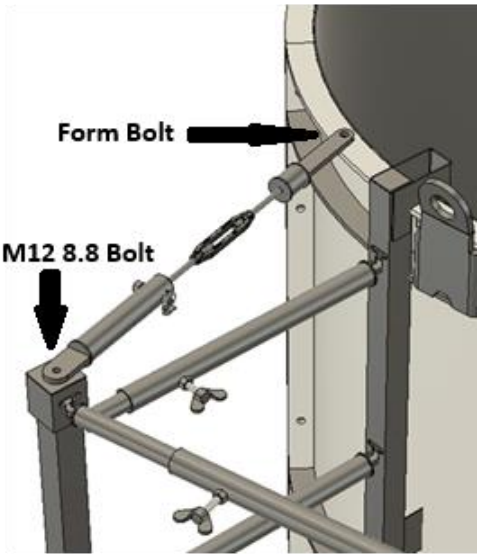


- Add balustrade rails to the outer of the scaffold arms. Ensure that the balustrade rail wing nuts face outward.
- Adjust the balustrade rails to required length and tighten the wing nut firmly.
- Repeat STEPS 4–5 until the full scaffold has been completed, or the required number of sections if doing a partial scaffold (refer STEP 6 & 7).
- Remember to do the scaffold clamp retaining bolt up tightly once all tread plates have been installed.

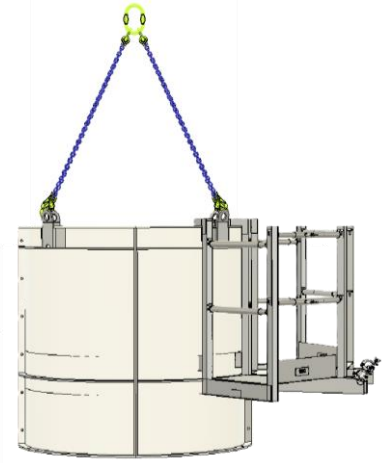
STEP 6

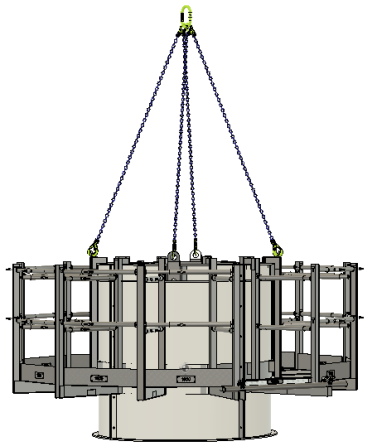


- If doing a partial scaffold, you must add the balustrade rails to the middle of the scaffold arms.
- Ensure balustrade wing nuts are tight.

STEP 7	
	• Partial scaffold will require 2 (two) bolt holes on the outer form to be accessible to add the lateral stability brace.
	• Insert the connection sleeve over the end of the scaffold arm. This is best done prior to adding the top balustrade rails.
	• The T slot connections must line up with the scaffold arm post T slots.
	• Position the lateral stability brace between the hole in the sleeve and the outer form drum hole. • Using the supplied M12 8.8 bolt in the connection sleeve, screw the bolt in. • Adjust the tensioner length with the turnbuckle to the required length. • Using the Manhole Form Hire bolt add this to the drum end. • Lightly do up tension on the turnbuckle.

STEP 8





- Remember to do the scaffold clamp retaining bolt up tightly once all tread plates have been installed.
- Lift the outer drum and scaffold into place onto the other outer drum as per Manhole Form Hires lift plan.

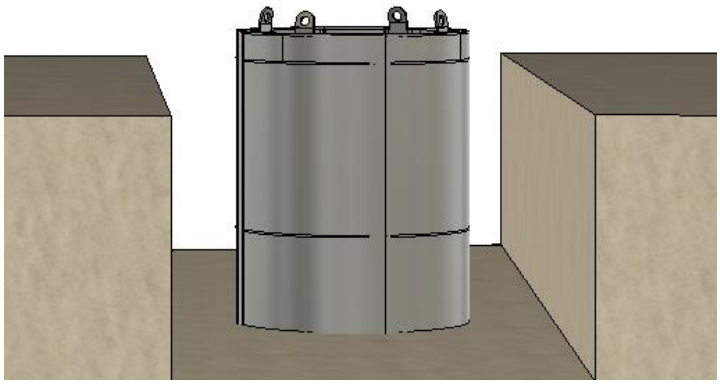
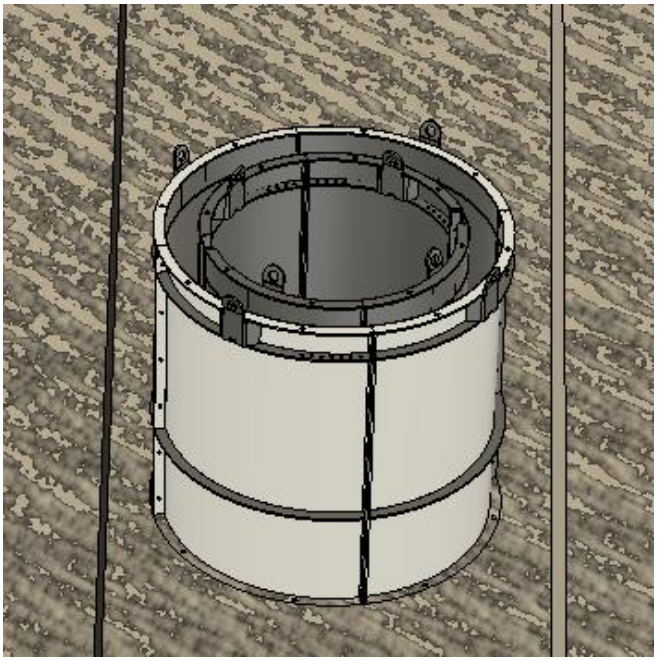
⚠ CAUTION!!

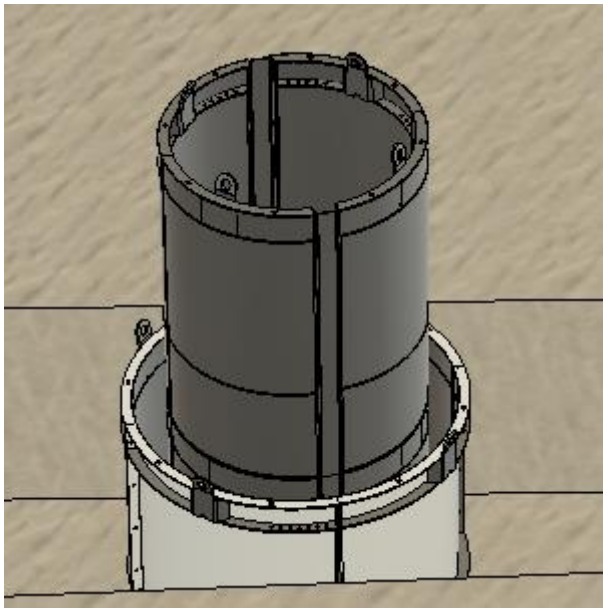
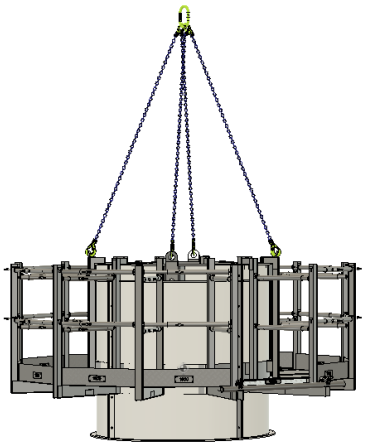
Make sure that the excavator meets the requirements stipulated on the lift plan. If it does not meet these requirements DO NOT LIFT.

Installation of Forms for Scaffold

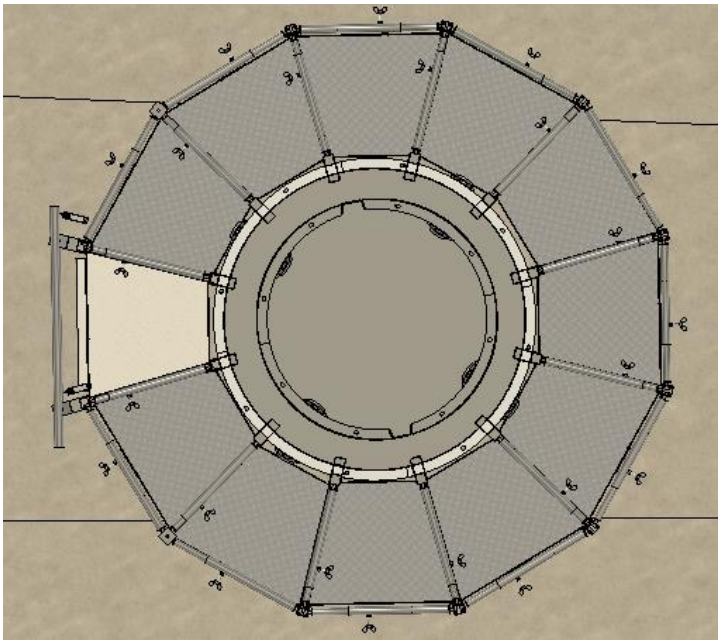
Prior to installing forms into a stacked 3 metre position ensure that the inner and outer forms have been built in accordance with the Inner Assembly Guidelines and the Outer Assembly Guidelines.

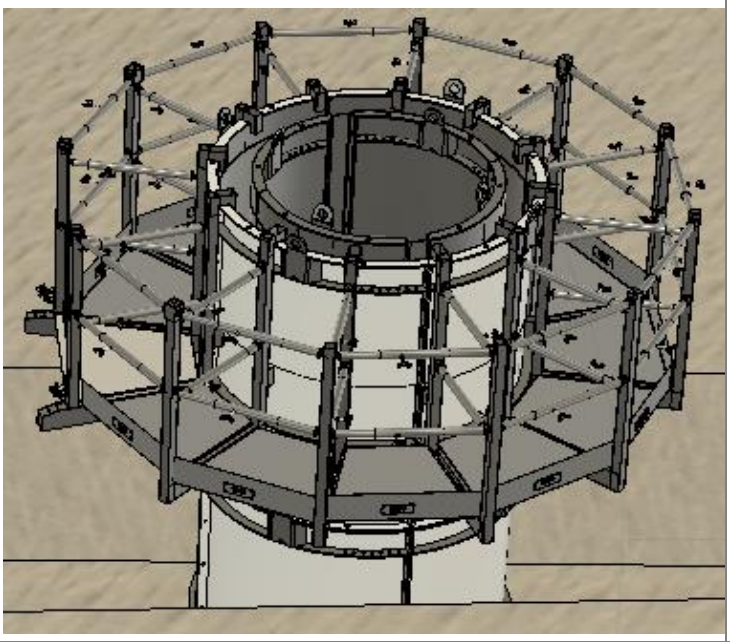
Check that the area has been prepared so that it can accommodate the inner and outer forms along with the scaffold making sure that there is sufficient clearance for all items.

STEP 1	
	• Install the first inner drum into the area.
STEP 2	
	• Install the outer drum over the inner drum and check that the wall thickness is even around the drum. • Before finally positioning the outer form, make sure that the joining bolt holes are in the correct orientation to take the top outer form and scaffold, so that there is clear access for the stairs up to the scaffold.

STEP 3	
	• Install the inner drum to be stacked onto the other inner drum.
STEP 4	
	• Lift the fully assembled outer drum with scaffold, and place into position over the other outer form.

STEP 5



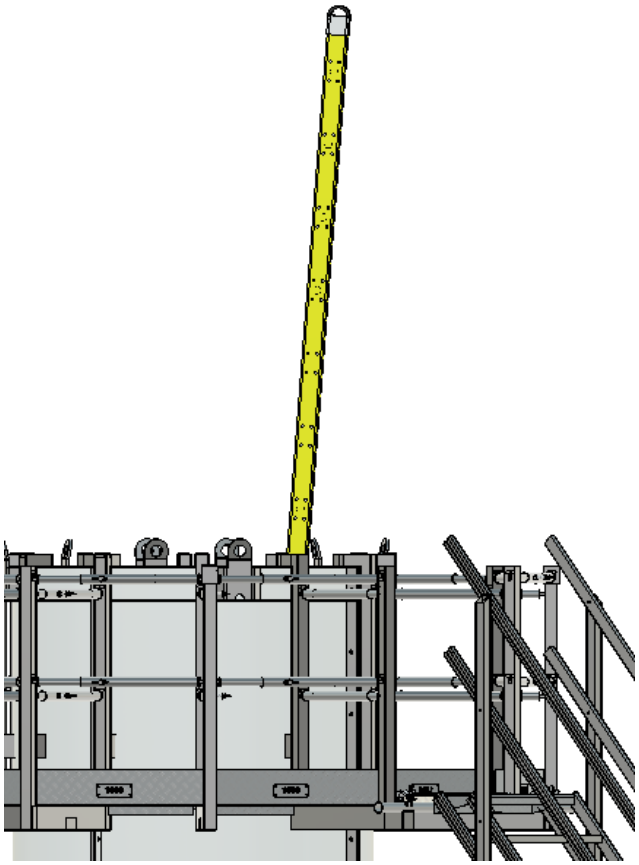


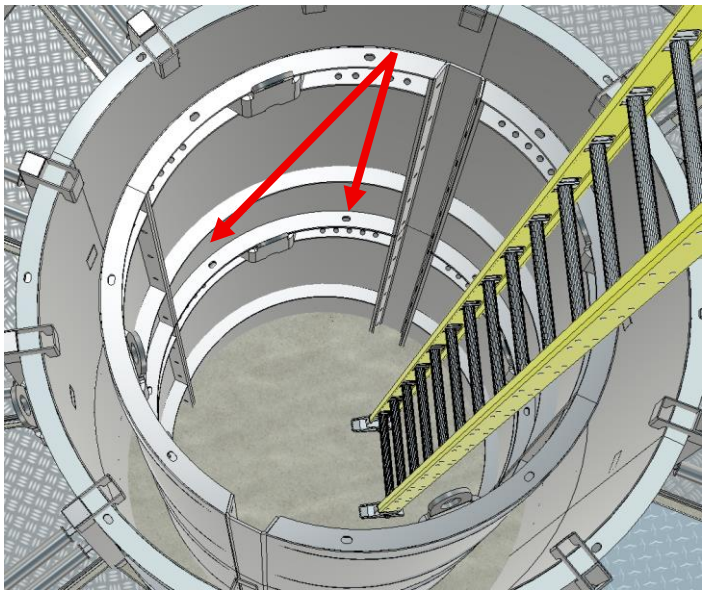
- Make sure that the scaffold pipe is position in the direction that the stairs will be going.
- Bolt up the outer form middle join.

STEP 6

- Follow the assembly of stairs process.

STEP 7

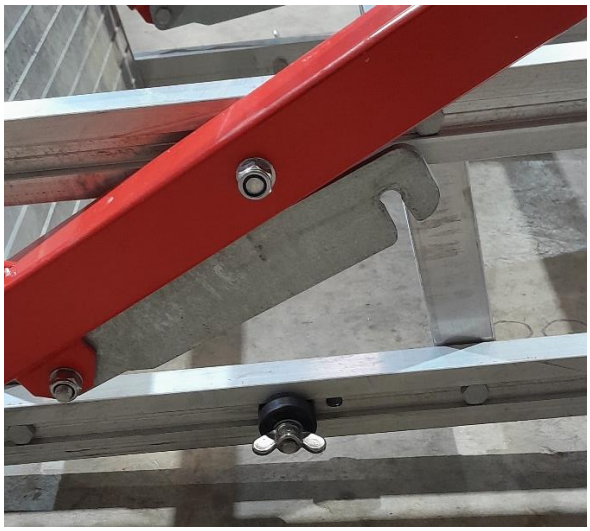




- Using a step ladder greater than 3m, insert the ladder into the inner forms and insert bolts into the required number of joining holes and do up all the joining bolts.

Assembly of Stairs

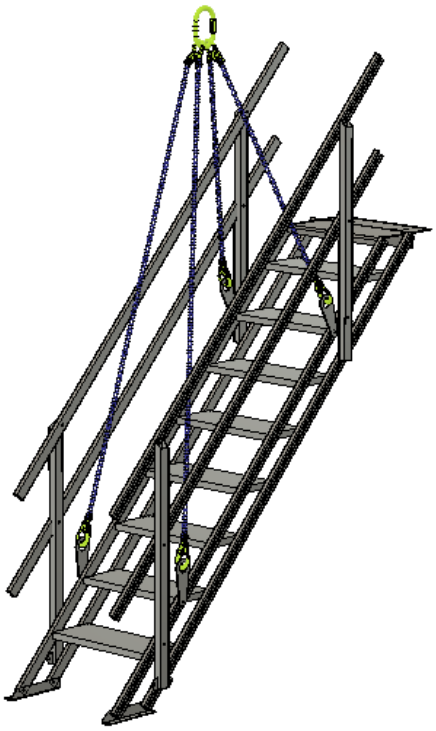
STEP 1	
	• Place the stair on level ground. Position yourself at the top of the stairs. • Open the stair treads by twisting steps, to minimum of 30 degrees.
STEP 2	
	• Stand in the middle of the handrails and raise the handrails up, if the stair treads are loose enough, they will rise. • If the stair treads do not come up with the handrail, twist the steps to open up.

STEP 3	
	• Back off the stair handrail adjustment thread lock.
	• The locking tab needs to be locked off behind the wing nut. • Undo the wing nut to expose the thread to allow the thickness of the locking arm to engage over the thread.
 	• To move the locking arm into position, push down gently at the foot of the stairs until the arm engages on the thread. • Once the arm is engaged on the thread, do the wing nut up and the locking tab nut and tighten the stair handrail adjustment thread lock. • Repeat the process on the other side.

STEP 4

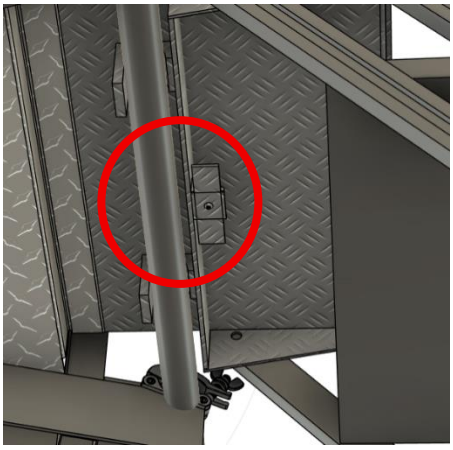
- For one-person installation: Raise the lifting points on the stairs into the vertical position.
- For two-person installation: With one person on each side, lift the top end of the stair and place it onto the scaffold pipe, then proceed to STEP 6.

STEP 5



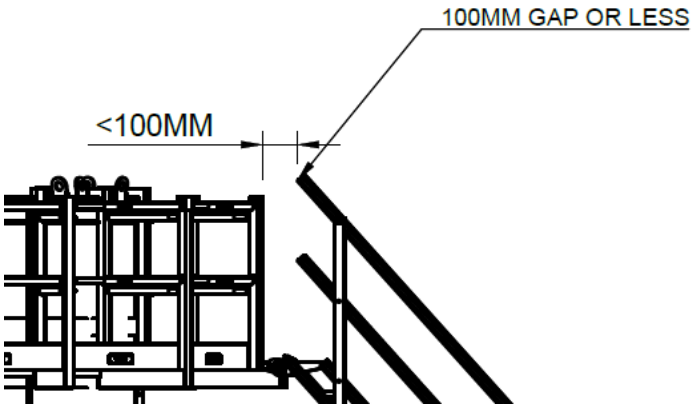
- Using a crane or excavator, use a 4 leg chain sling and attach to the 4 lifting lugs on the ladder. 2 legs of the chain sling may need to have their chain legs shortened so that the stairs lift is the correct angle. Refer to lift plan LP-SSA9STEP600WIDESTAIRS.
- Adjust the angle of the steps to ensure they are level and the notch in the top step fits firmly onto the support position.
- Tighten the lock-tab by hand only, to prevent the stair closing while being lifted.

STEP 6



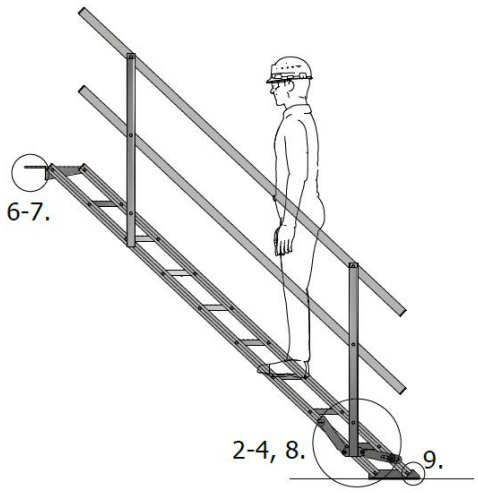
- Under the stairs scaffold tread, rotate the scaffold stair locking mechanism (circled in RED) so that it is under the scaffold pipe.

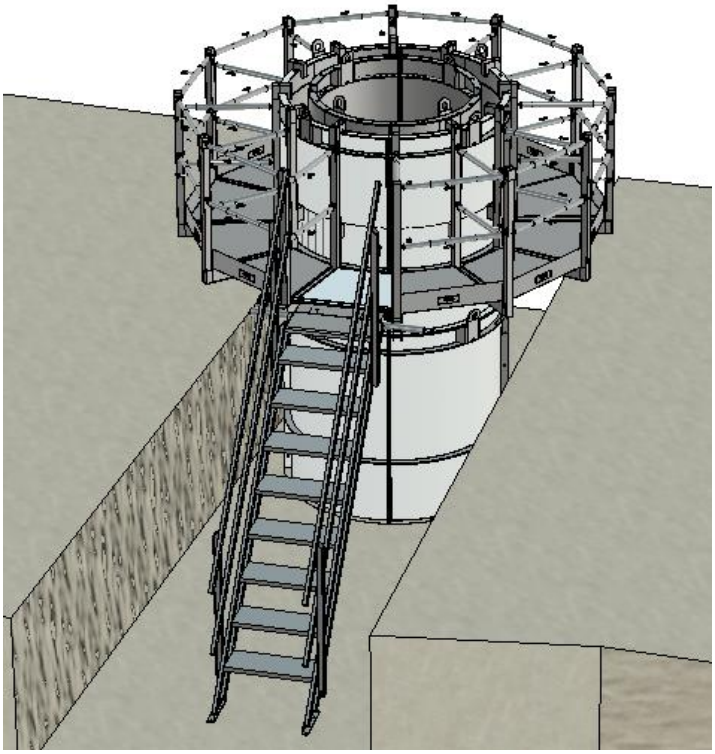
STEP 7



- You may need to adjust the angle of the handrails to ensure that there is a 100mm or less gap at the top of the stairs where it meets the scaffolding.
- To do this you will need to back off the stair handrail adjustment thread lock on both sides of the stairs. The handrails can be moved forward.
- The plate with the adjustment holes in it may need to be moved up and down so that the thread can pass over the different locking positions.
- Once the gap has been achieved the wing nut can be locked off.

STEP 7





- Where possible, fix the foot of the stair onto the lower support surface again referring to the specification sheet for fixing details.

Your stair is now ready for use.

STEP 8

- Go back to STEP 7 of the form installation process.

To disassemble the stairs, repeat the steps in reverse.