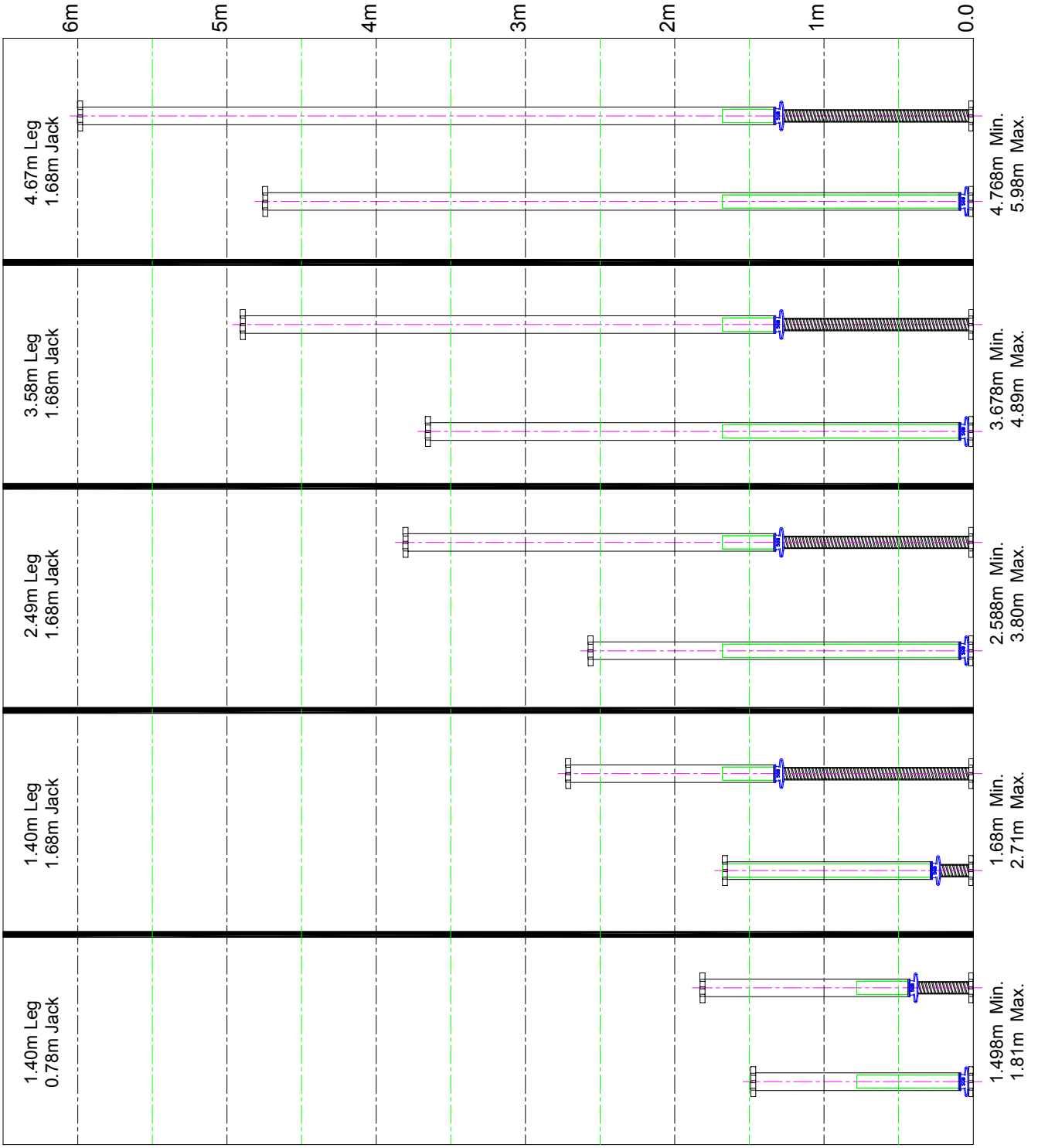
Gass System

Index

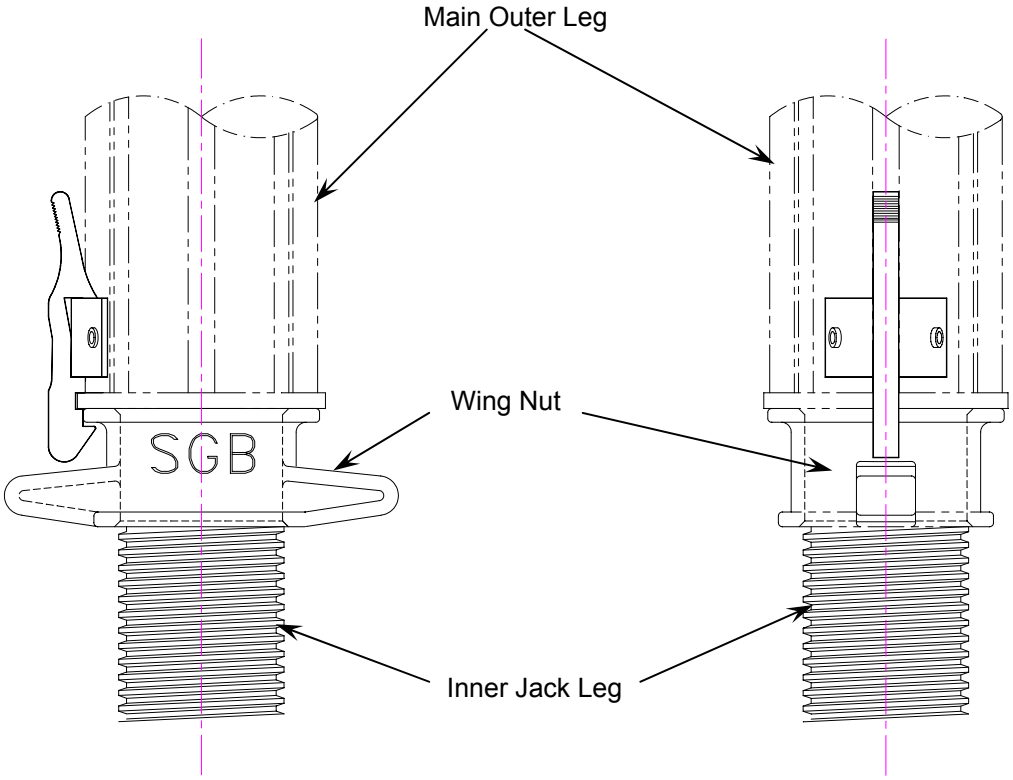
Description **Code No** **Page No**

Applications

Leg & Jack Make-Up - 1.5m to 6.0m



Sprung Latch



Sprung Latch In Assembly

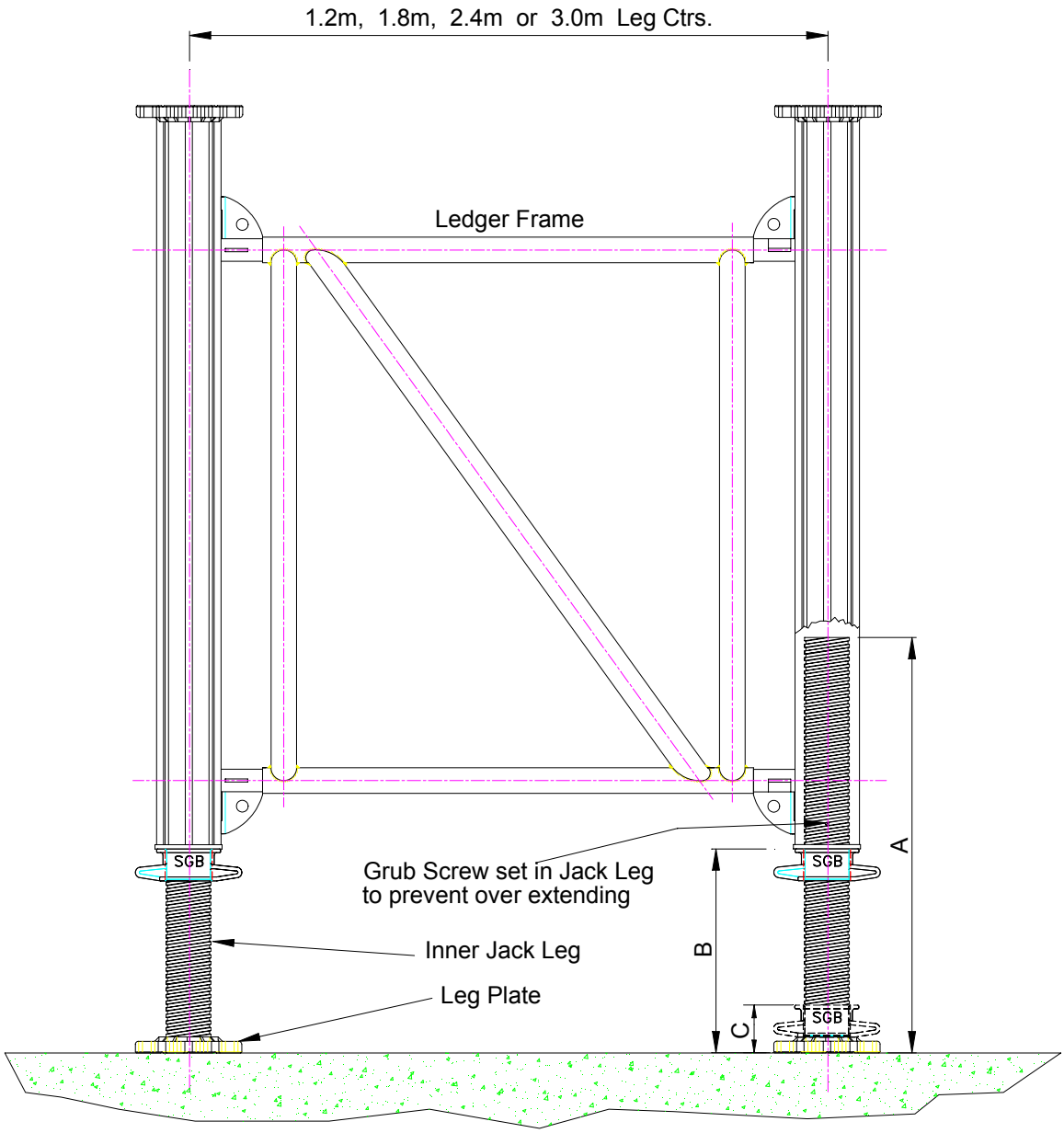
Guidance Notes

1) Sprung - loaded latching device clips over flange on nut and leg end plate allowing nut to be rotated to extend or retract jack into leg but stop jack from disengaging when Gass falsework is crane handled.

2) For more details on inner Jack Leg & Nut see Page: 003

3) Max Load on Latch (Tension) = 625 kg.

Jack Leg Assembly

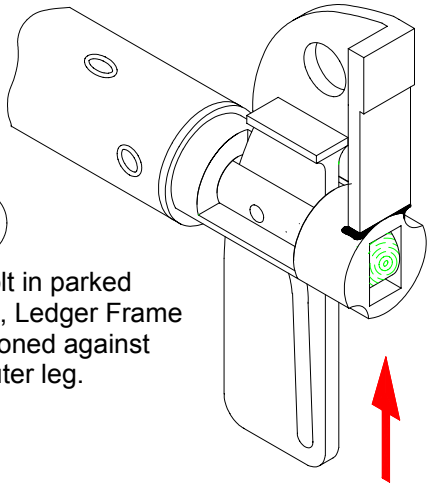


Part Cut-Away Elevation
Showing Inner Jack Assembly

Specification / Properties:

	Large	**Small**
Inner Jack Leg Length (A)	1680mm	780mm
Maximum Extension (B)	1330mm	430mm
Minimum Extension (C)	98mm	98mm

Ledger Frame End Fitting Operation



1

With Bolt in parked position, Ledger Frame is positioned against main outer leg.

Raise Wedge to advance Bolt into slot on leg.

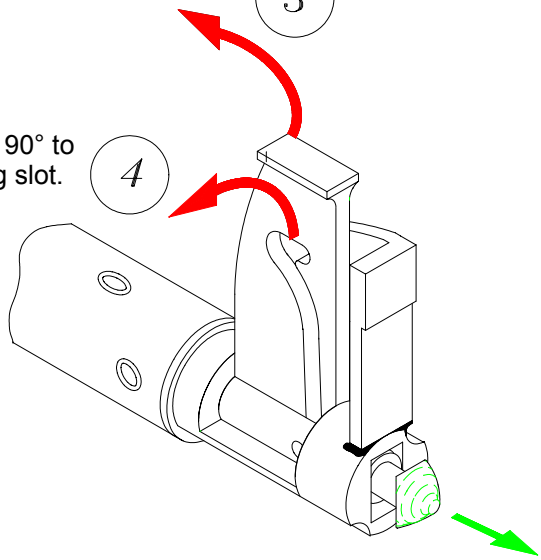
2

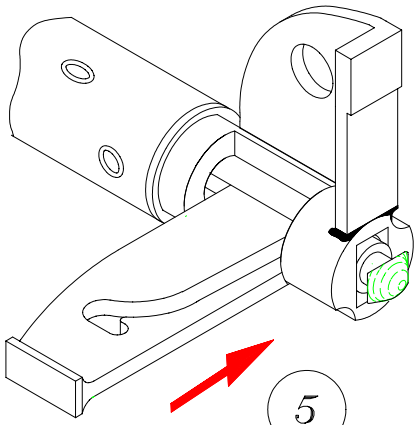
Additional movement of Bolt into slot achieved by moving Wedge towards centre of Ledger Frame.

3

Rotate Wedge 90° to lock Bolt in Leg slot.

4



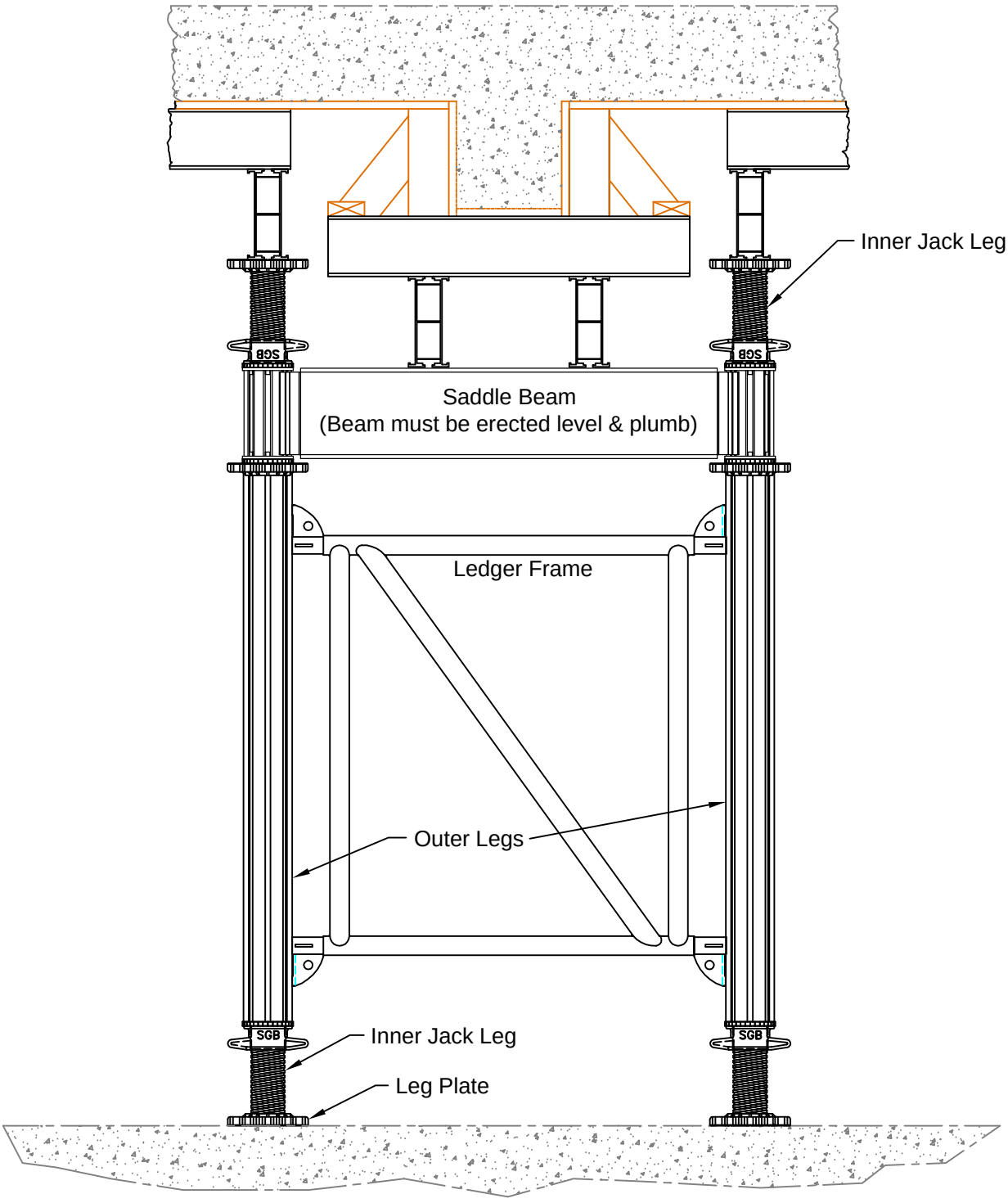


5

Hammer Wedge to secure Bolt in slot.

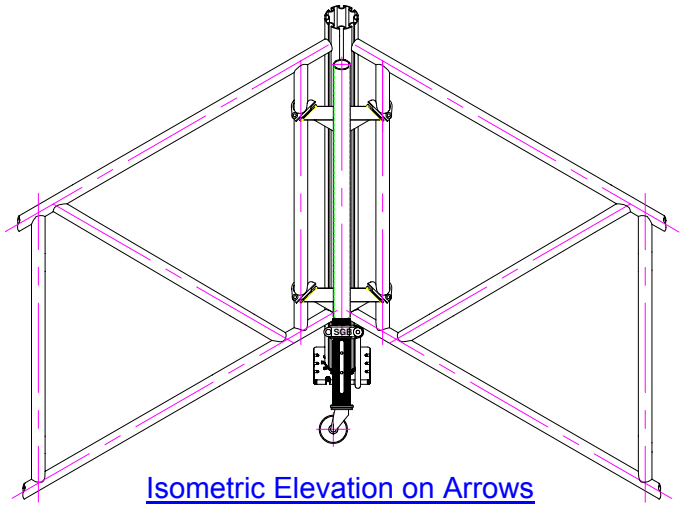
Guidance Notes:

The above drawing is of an upper fitting. A lower fitting is similar but with the flange on the underside of the fitting.

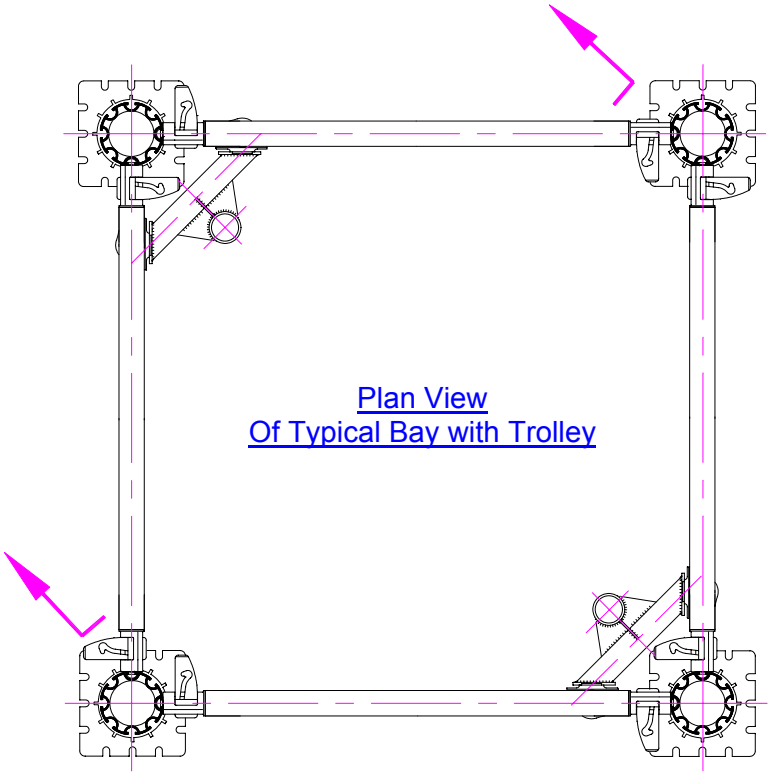


Elevation Showing Saddle Beam Structure

Corner Trolley Inner & Outer Assembly



Isometric Elevation on Arrows
Showing Fixed Trolley

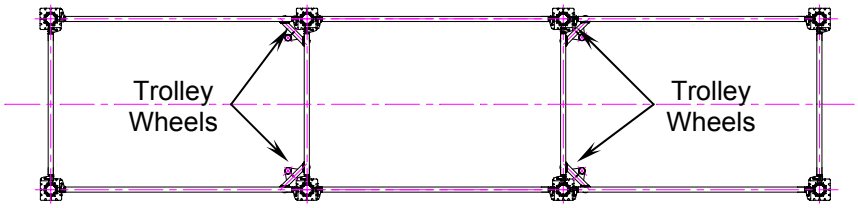


Plan View
Of Typical Bay with Trolley

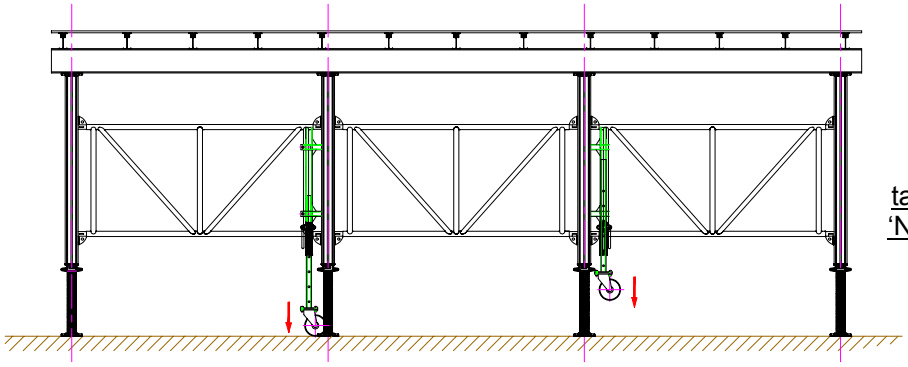
Guidance Notes: Components shown on pages 009 & 010

For height limits, refer to dimension 'H' on Page: 009 and relate to exact position of ledger frame.

Trolley Use Sequence

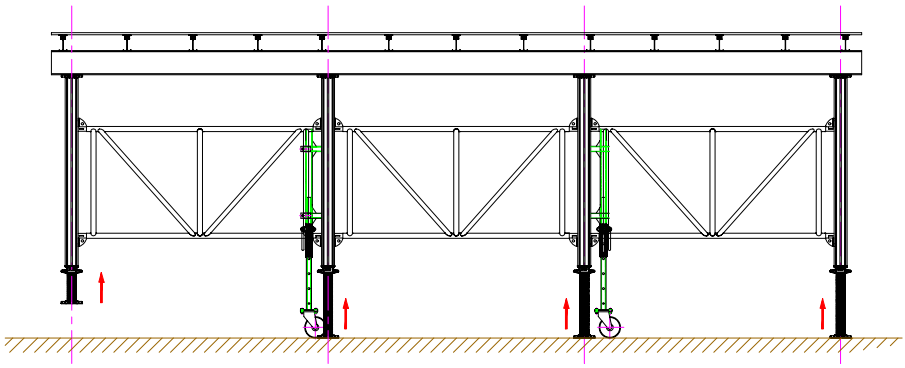


Typical Plan Showing Position of Trolley Wheel Assemblies



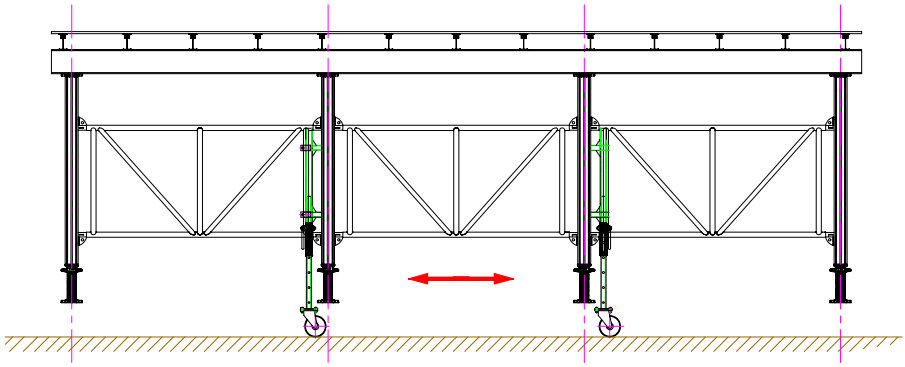
Stage: 1

Lower Trolley Wheels & take load on wheel by adjusting 'Nut' on Trolley Outer assembly.



Stage: 2

With all Trolley Wheels lowered & adjusted to take load of structure, the main Jacks can be raised.



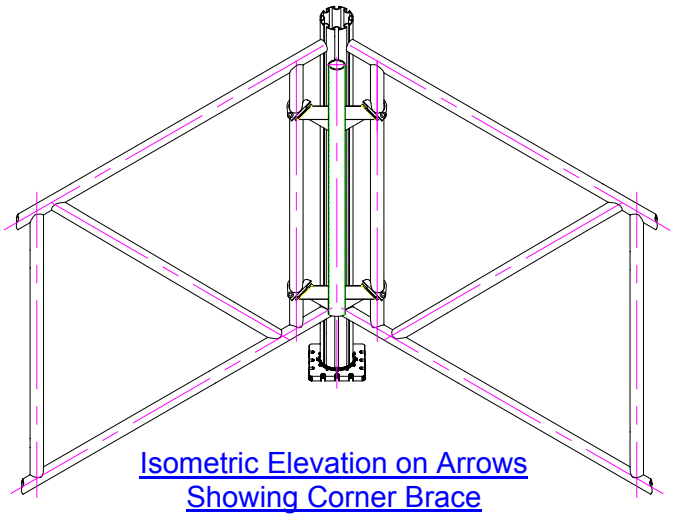
Stage: 3

With all main Jacks raised, the structure can now be moved in desired direction.

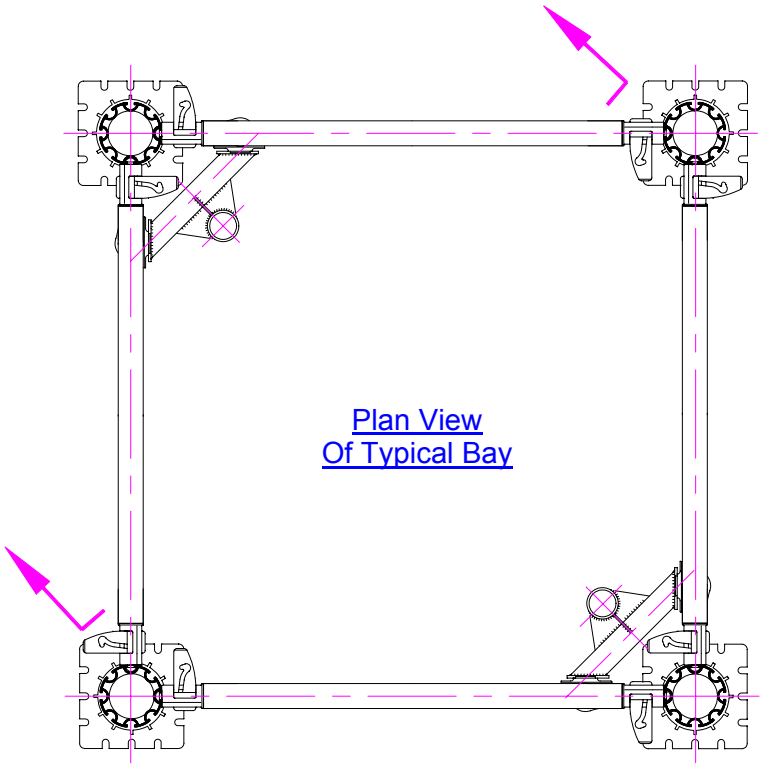
Important Notes:-
For safety, during the movement of the table, ensure that the legs clear the ground by a small clearance i.e. 25mm to 50mm.

This method of moving is not suitable for use on rough terrain.

Corner Brace Assembly



Isometric Elevation on Arrows
Showing Corner Brace

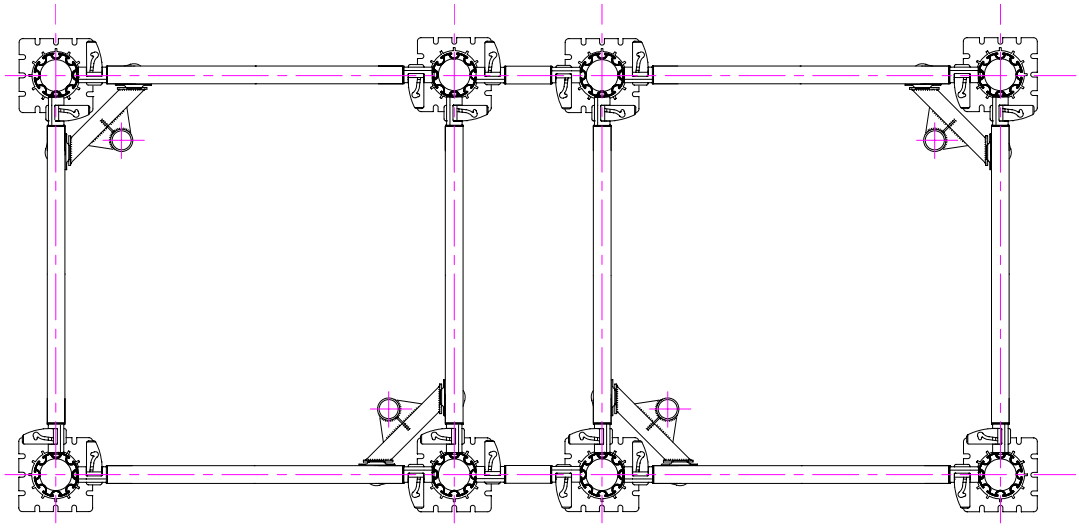


Plan View
Of Typical Bay

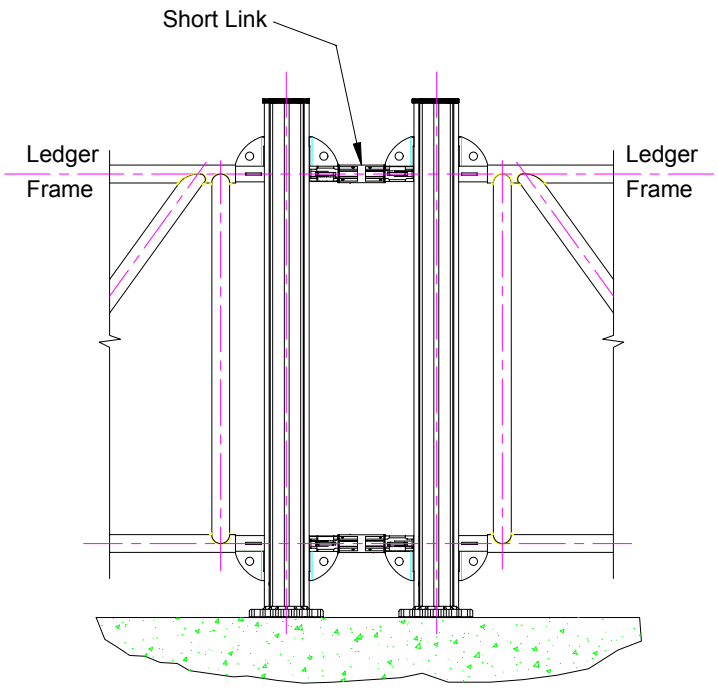
Guidance Notes

The corner brace is intended for use as a method of ensuring that the 1st bay erected is set with a 90º angle at each corner and is not 'out of true'.
It is attached to the frames in the same way as the Trolley Outer, (see Page 19) i.e with 2 No. required per bay.
With larger structures, additional corner bracing may be required in occasional bays to ensure that the whole structure remains 'true & square'.
The braces can be removed after positioning of the bay or they can be left in place.

Short Link 400 Assembly



Plan View on Specimen Structure



Elevation on Link Assembly

Guidance Notes:

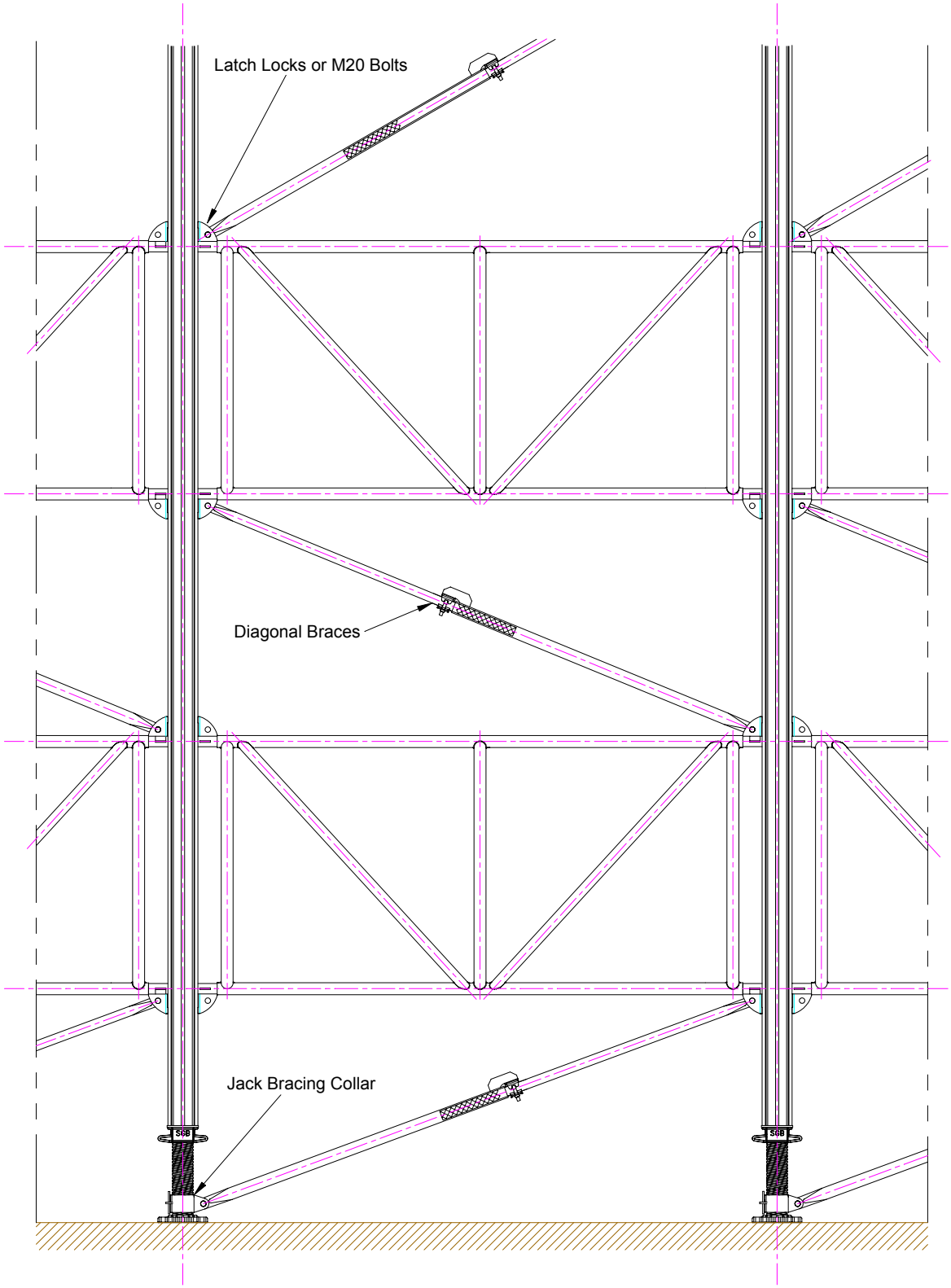
1) The Link 400 is specifically designed to tie braced towers together.

2) They are not a substitute for ledger frames.

3) Maximum axial l = 5kN (Tension or Compression)

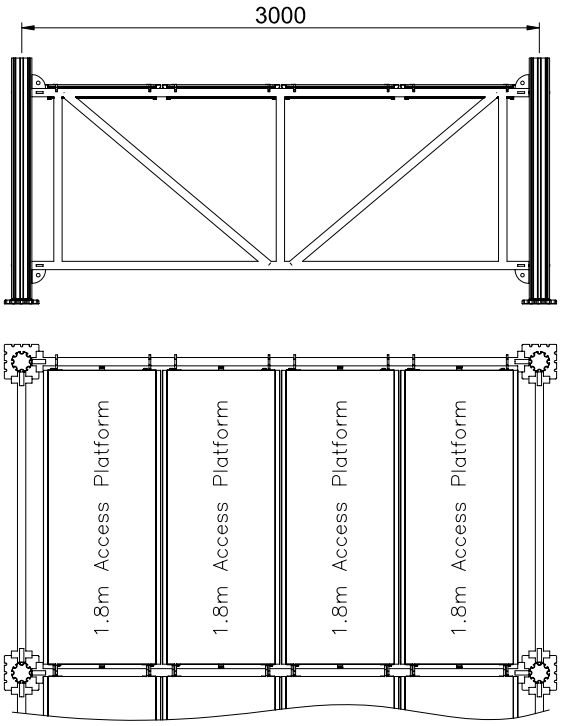
4) For more details of fittings, see Page: 104

Jack Bracing Collar & Diagonal Brace Erection

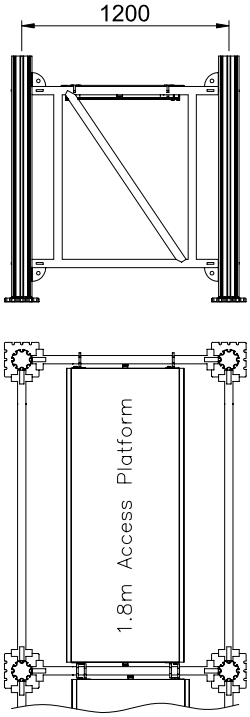


Plan View on Typical Structure

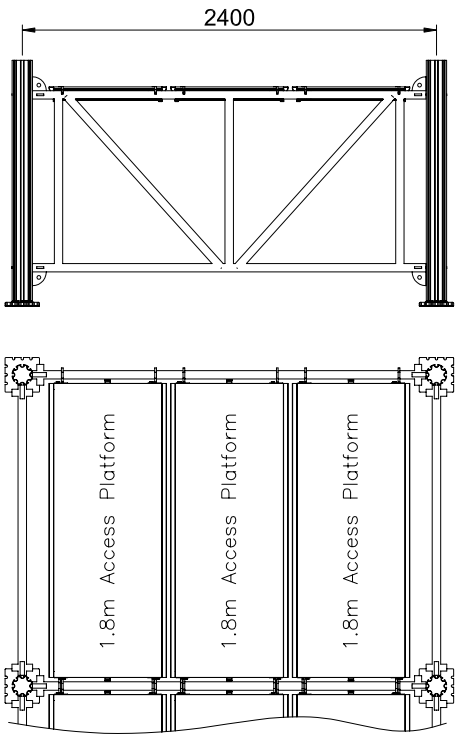
Access Platforms Applications



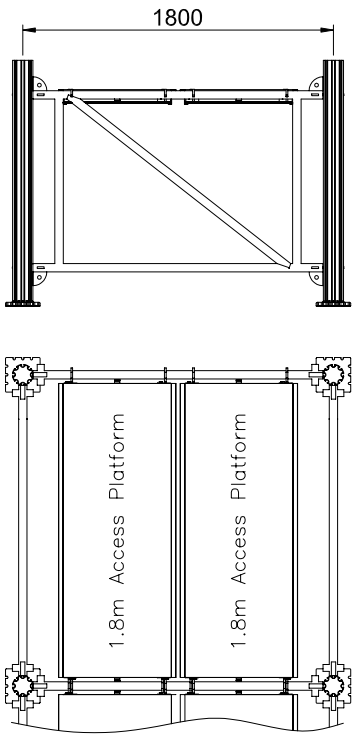
3m Ledger Frame Layout



1.2m Ledger Frame Layout



2.4m Ledger Frame Layout

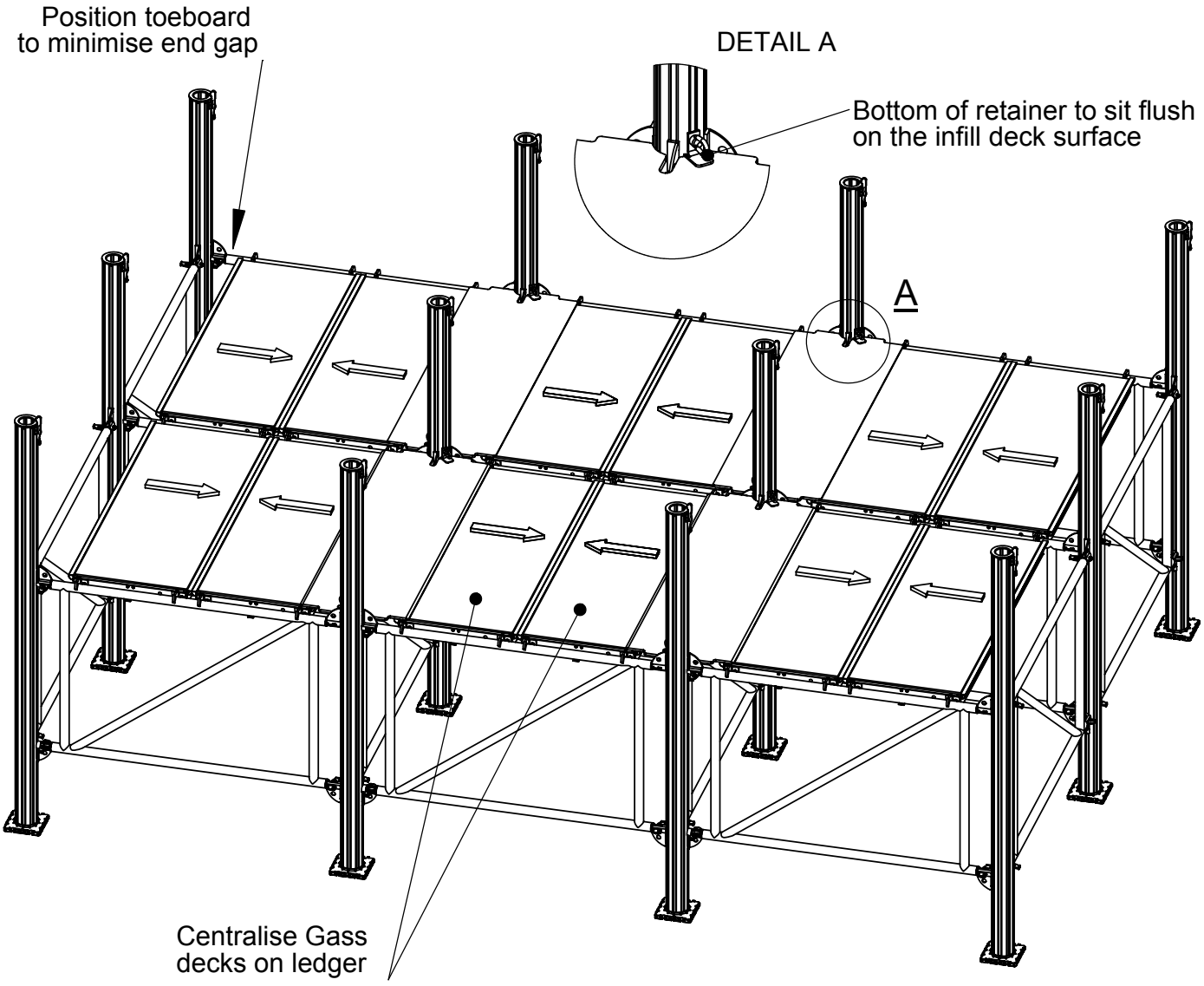


1.8m Ledger Frame Layout

Note: Platforms may be positioned either at the top or bottom members and carry a load of 1.5kN/m^2.
Larger gaps may be present when spanning gaps on the lower ledger.

GASS

Applications — Gass Infill Decks



Specification/Properties:

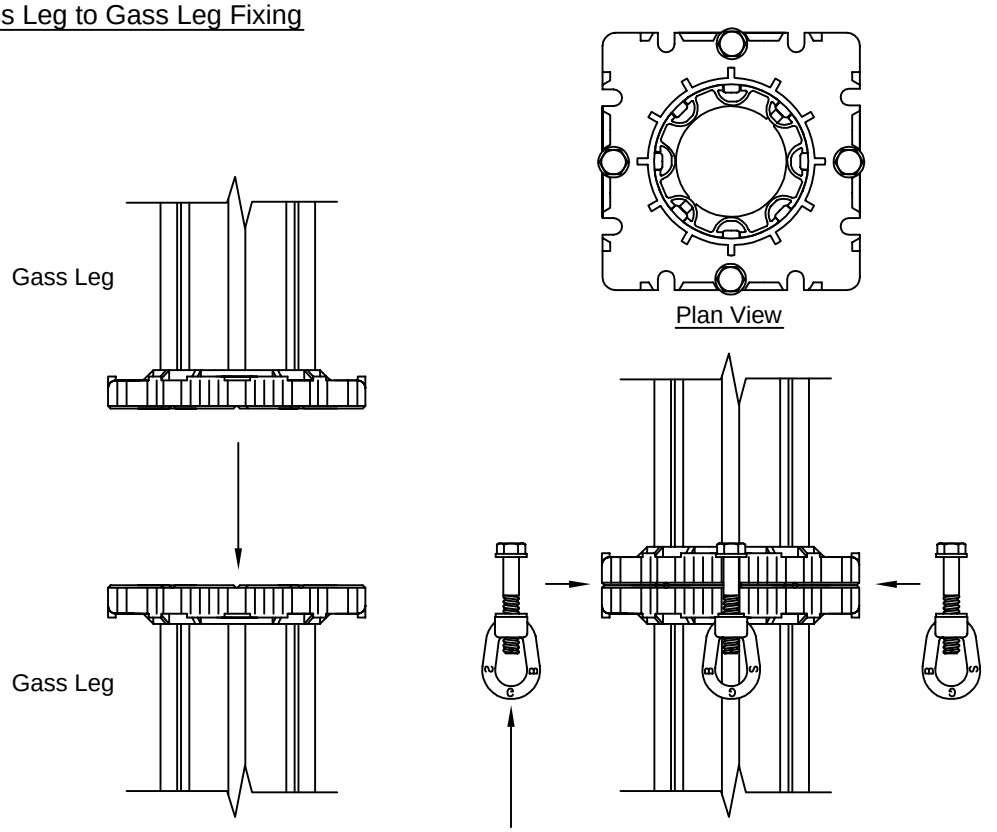
Description	Length	Weight	S.W.L	Code No
Gass infill deck	1.2m	5.1kg	1.5kN/m²	718190
	1.8m	7.8kg	1.5kN/m²	718191
	2.4m	10.5kg	1.5kN/m²	718192
	3.0m	13.3kg	1.5kN/m²	718093
Gass infill deck retainer	-	0.32kg	1.5kN/m²	718194

Guidance Notes:

1) Place a Gass infill deck retainer at both ends of the deck into the diagonal T slots as shown above. Ensure the T bolt is correctly positioned in the slot before tightening the ring nut and that each bracket faces an opposite side of the deck.
2) Minimum allowable overlap: 40mm.
3) Deck weights are approximate.
4) To prevent rocking and trip hazards, the ledger frame that is spanned by the infill deck must be slightly lower than the ledger frames supporting the decks.

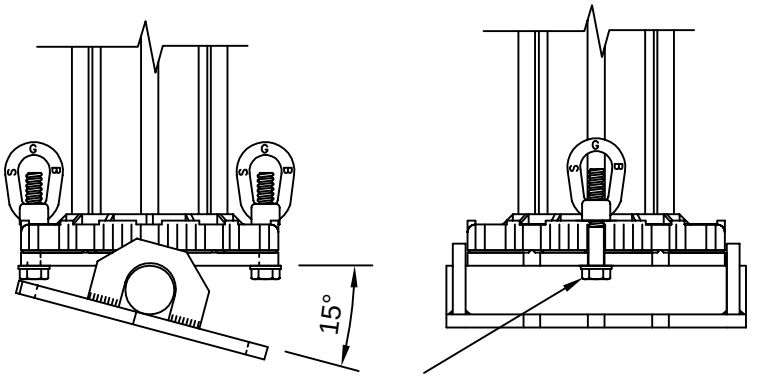
Gass System	
Application	**Fixing Detail - Gass Leg to Gass Leg & Gass leg to Rocking Head**

Gass Leg to Gass Leg Fixing



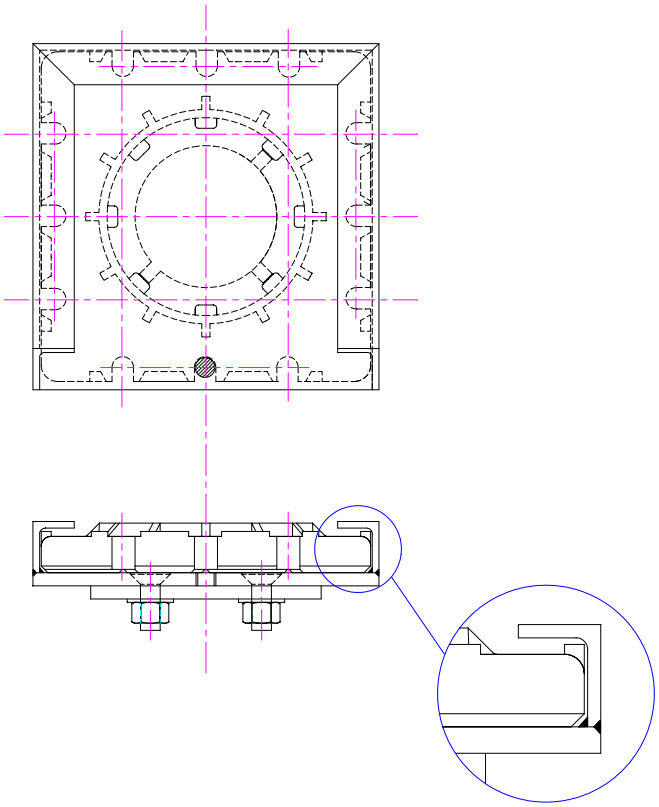
Ring Bolt clamp for Gass Leg to Gass Leg
4 off per connection (**Code No. 718901)**
Placed in slots & tightend.
Torque of 50N/m applied progressively to all 4 bolts.

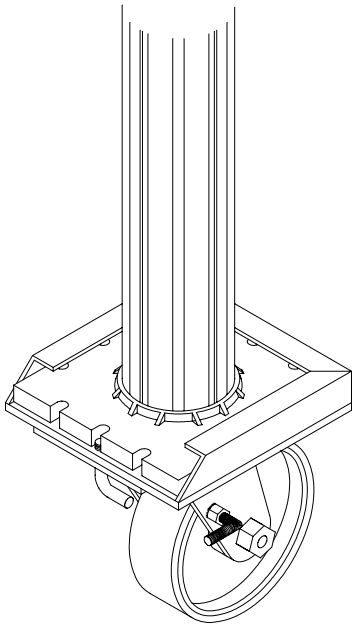
Gass Leg to Rocking Head/Base Plate



Ring Bolt clamp for Gass Leg to Gass Leg
2 off per connection (**Code No. 718901)**
Placed in slots & tightend.

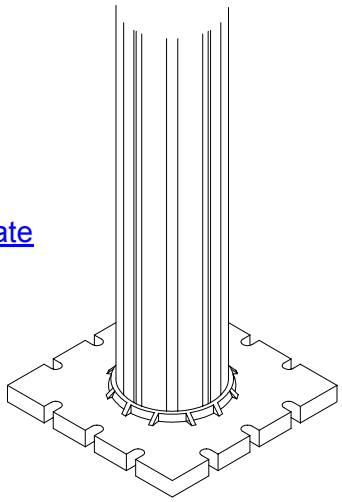
Castor Shoe Application

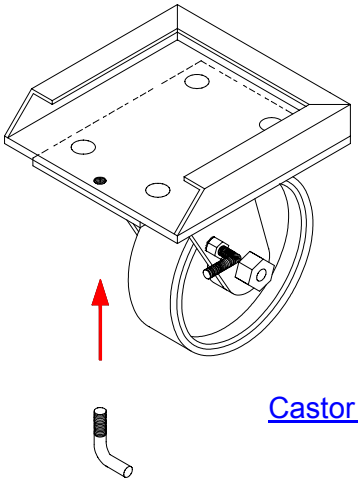




Leg & End Plate Mounted in Castor Wheel & Shoe

Leg & End Plate

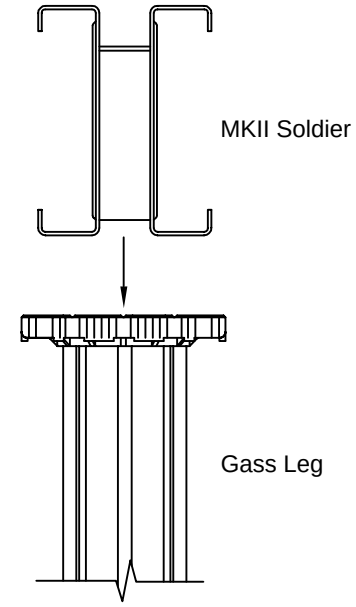


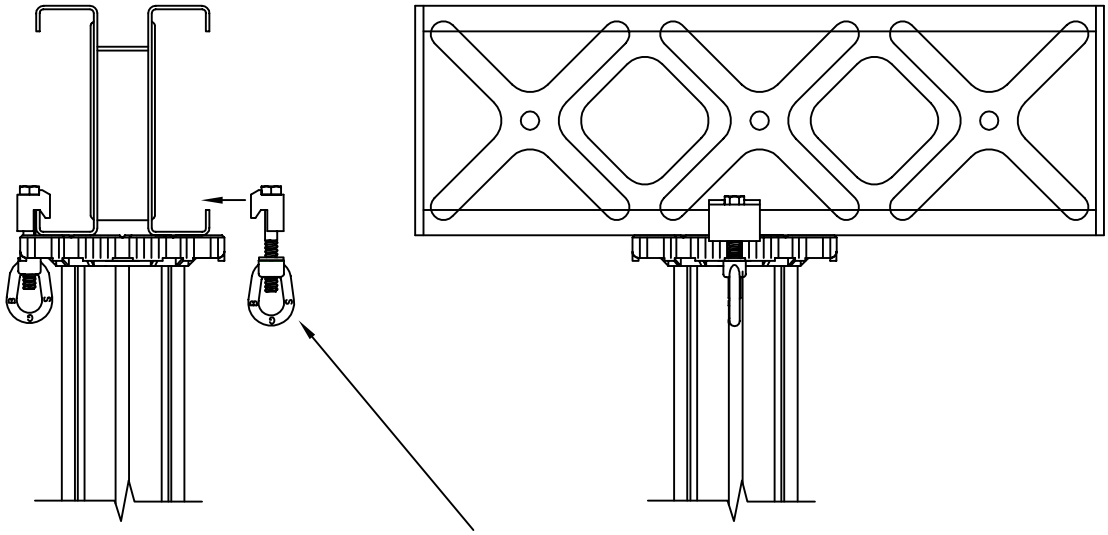


Castor Wheel & Shoe

Specification / Properties:

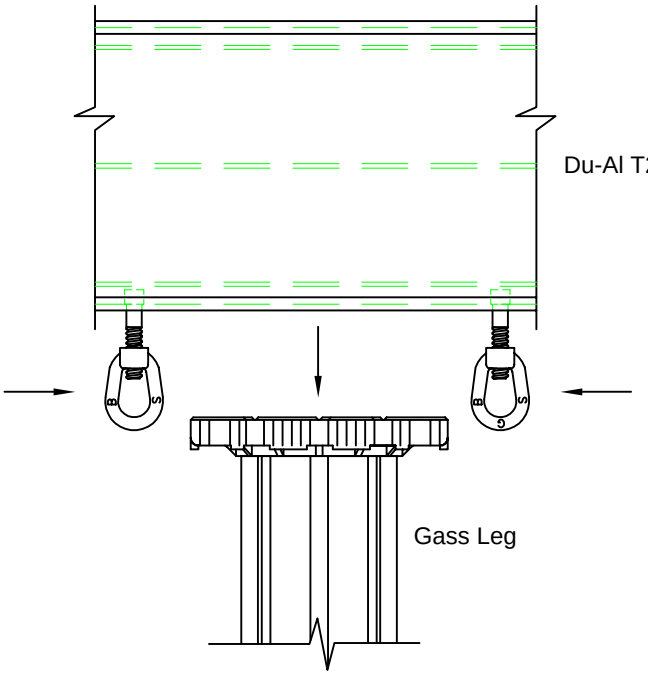
Gass System	
Application	**Fixing Detail - Gass Leg to MKII Soldier**

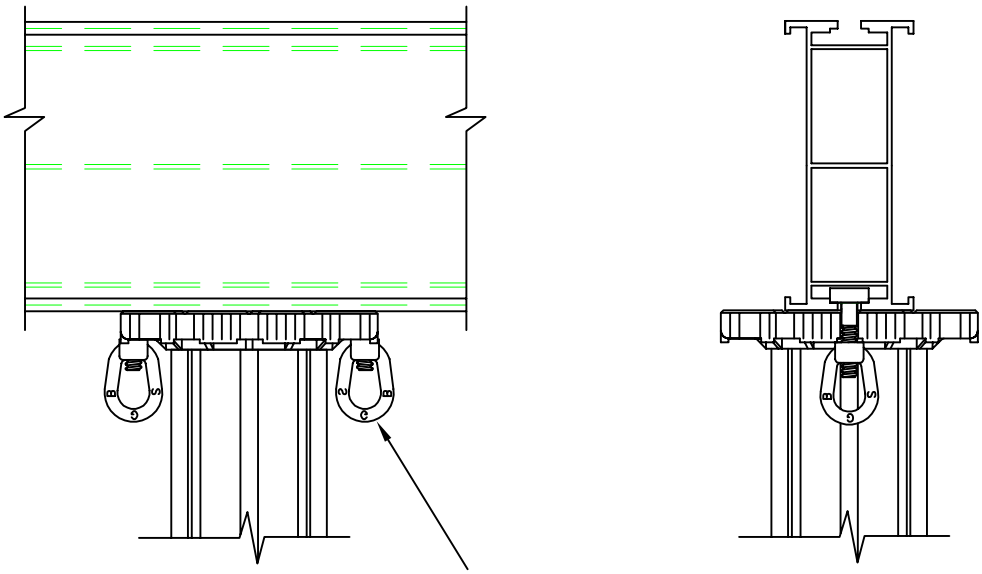




Ring Bolt Clamp for Gass Leg to MKII Soldier
2 off per connection (**Code No. 718096)**
Placed in slots & tightend.

Gass System	
Application	**Fixing Detail - Gass Leg to Du-Al Beam**

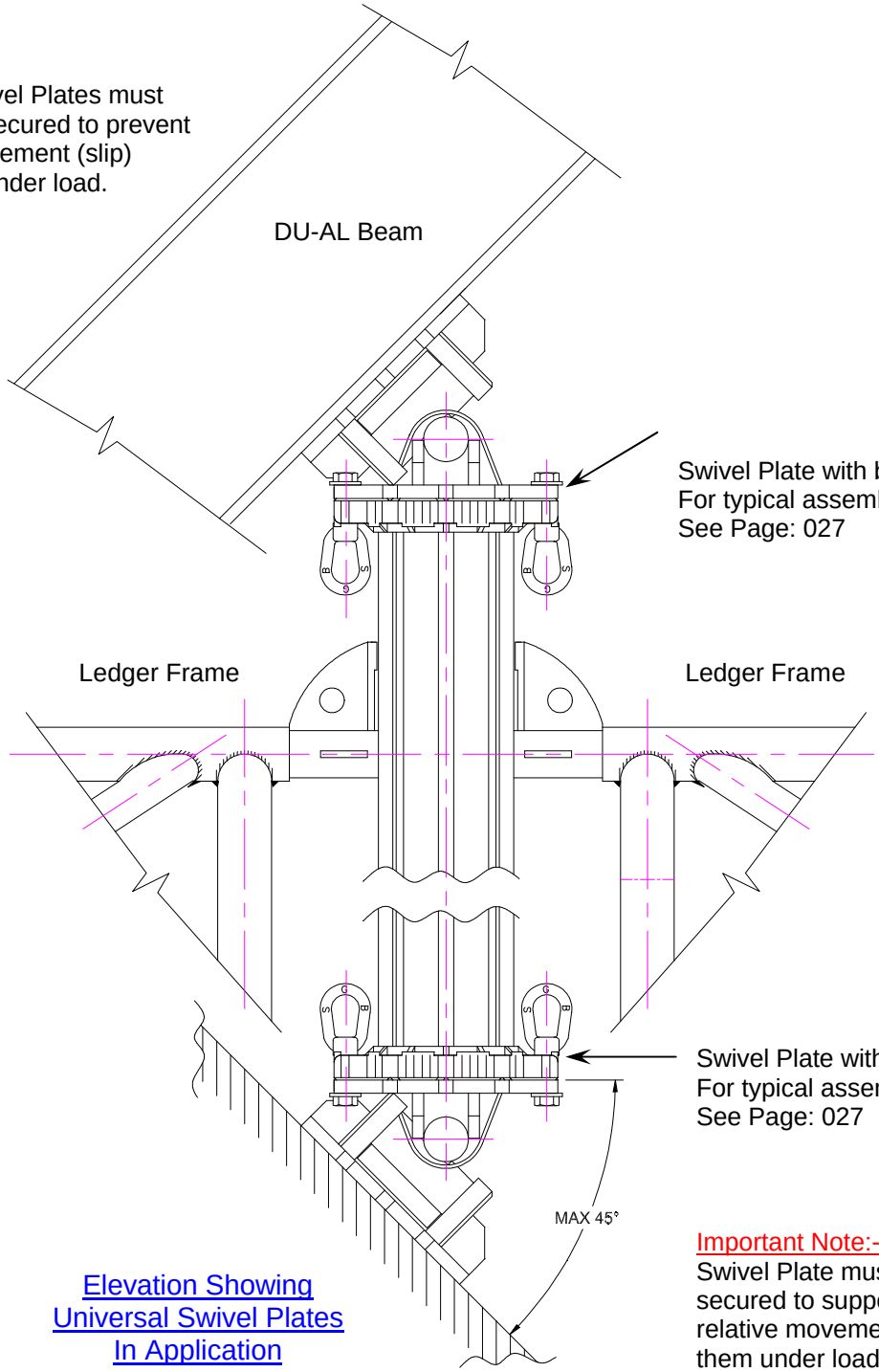




Ring Bolt Clamp for Gass Leg to Du-al T225 Beam
2 off per connection (**Code No. 718904)**
Slide in slot in Du-al T225 Beam from each end & tightend.

Universal Swivel Plate Application

Important Note:-
Beams and Swivel Plates must be adequately secured to prevent any relative movement (slip) between them under load.



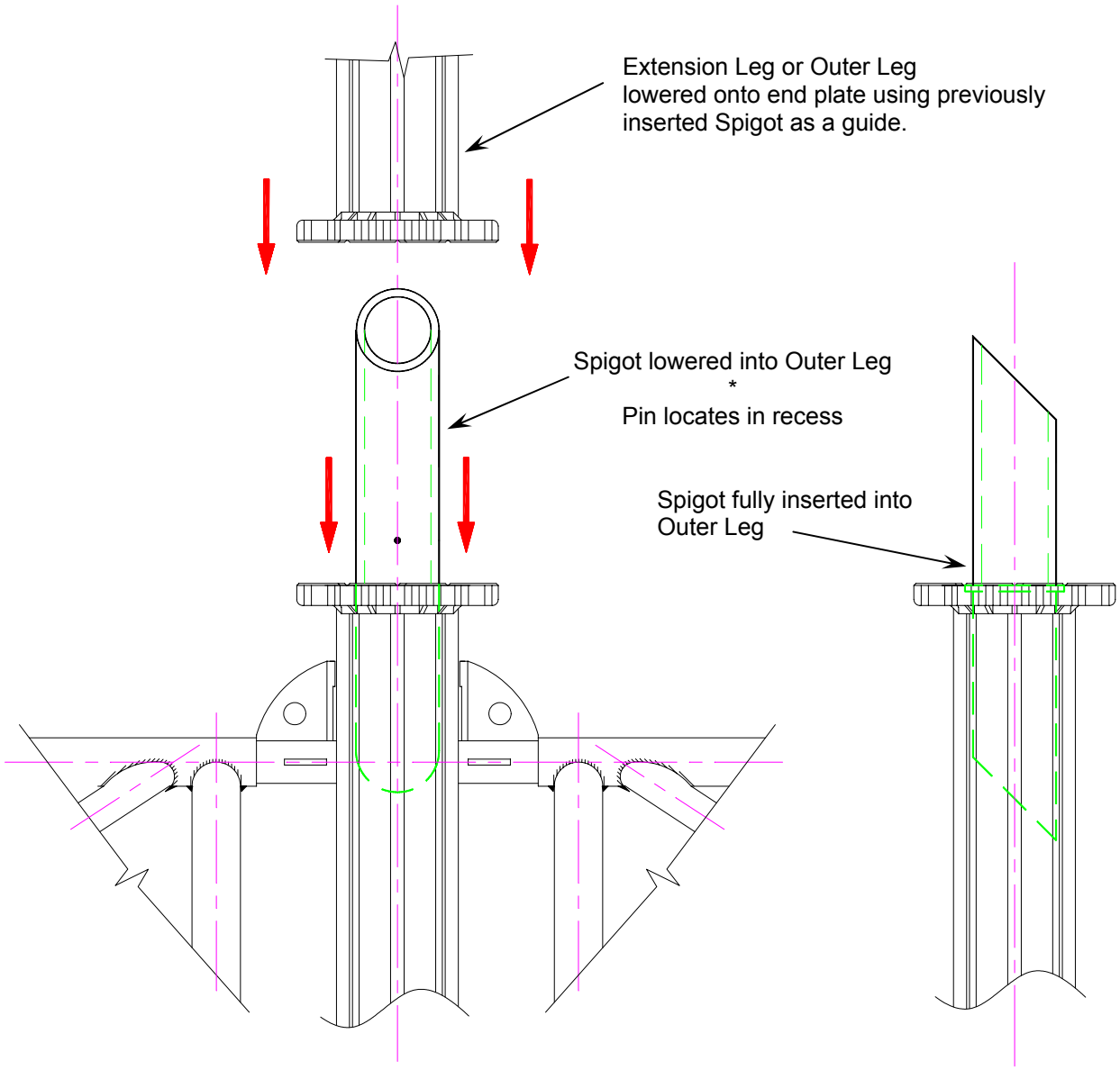
Elevation Showing Universal Swivel Plates In Application

Important Note:-
Swivel Plate must be adequately secured to support to prevent any relative movement (slip) between them under load.

Guidance Notes:-

The fixings between beam and Swivel Plate / Swivel Plate and support must be calculated on an individual project basis.

Spigot Application



Elevation Showing Spigot Being Lowered Into Lower GASS Leg

Side Elevation Showing Spigot Fully Inserted Into Lower GASS Leg

Special Note:
For the mating of the pattern on the underside of the square end plates on inner, outer legs and extension legs, the serration's on the edges of the plates must match.

Guidance Notes:-
Spigots may be used during erection, when a leg may be left standing on top of another prior to bolting. Spigots may also be used where an assembled unit of legs and ledger frames may be crane lifted on top of a previously erected structure; in this case the spigot acts as a locating guide.

General Use of GASS Trolley – (1 of 3)

The GASS Trolley has been designed for use with GASS Table Forms which should be struck from the soffit before the trolley is used. Use at least 4 Trolleys per Table Form. Maximum weight of GASS Table Form is 4 tonnes. Refer to separate Data sheets for use with flying tables.

On short tables, 1 bay wide by 2-3 bays long, use the Trolleys on the corner bays:- Figure 1.

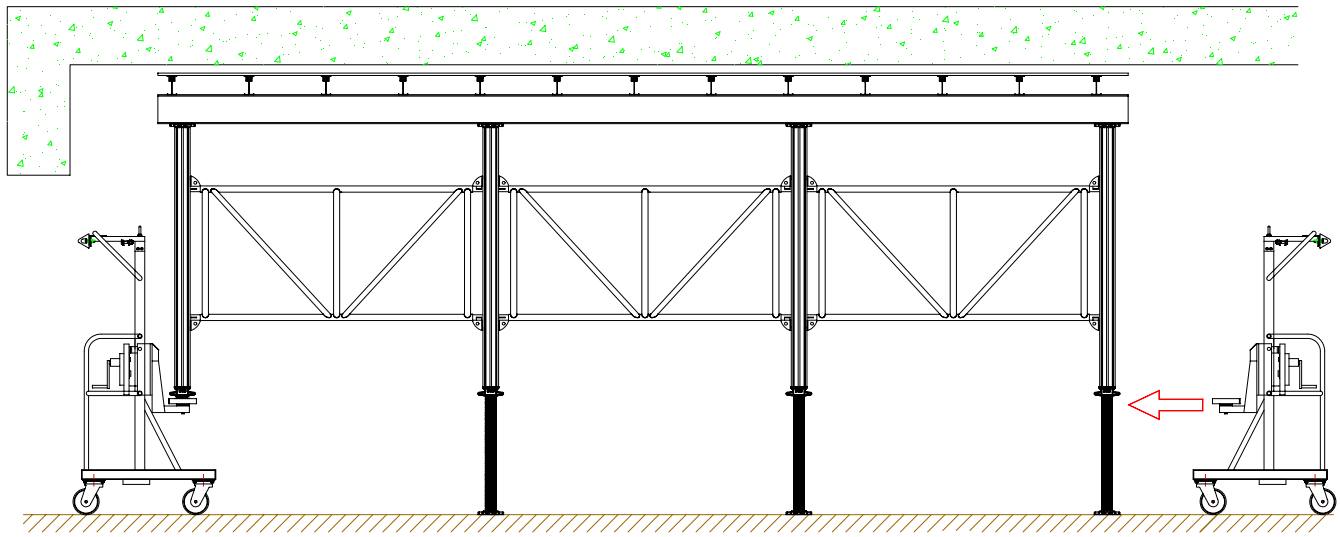


Figure: 1

On longer tables, 1-2 bays wide by 4-6 bays long, lift from 2nd leg in from each corner:- Figure 2.

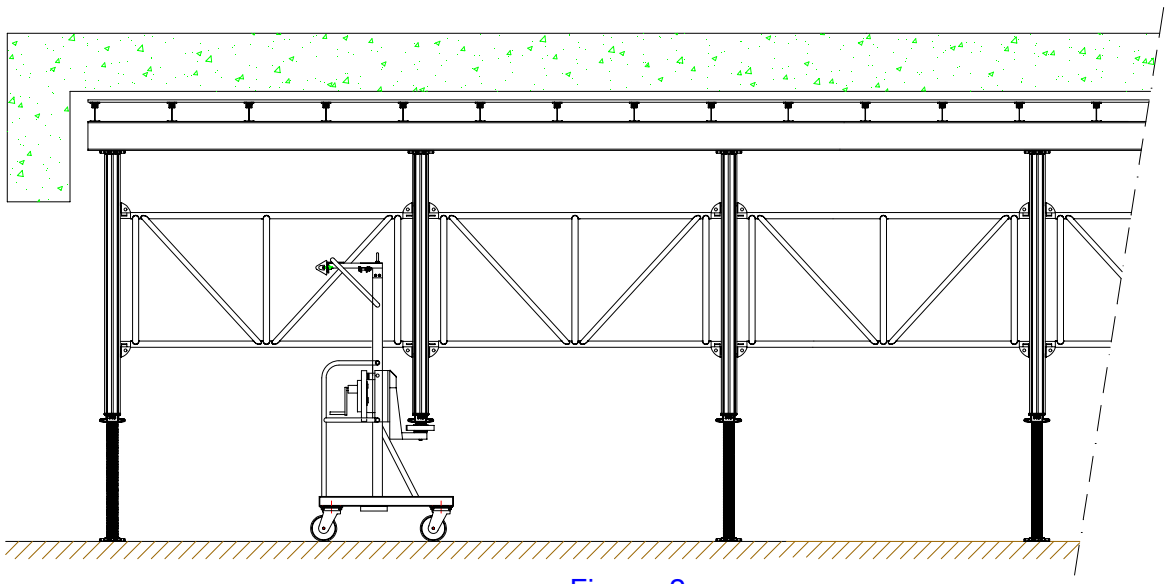


Figure: 2

Note: Castors on trolleys should be aligned to suit the direction of travel before taking the weight of the table form.

For guidance on wheel positions and allowable downloads, refer to Flying Table notes on Pages: 129 to 133

General Use of GASS Trolley – (2 of 3)

Raise the Inner GASS Jack Leg, to be supported by the Trolley, by the Table Form drop height required plus clearance. Support the base plate of the raised inner leg by the plateau on the Trolley ensuring that the spigot on the plateau engages the hole in the base plate:- Figure 3.

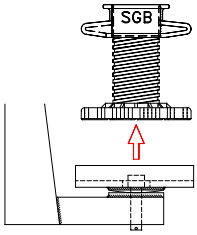


Figure: 3

Repeat this sequence for the other Trolleys and retract the remaining unsupported inner legs so that the weight of the Table Form is transferred to the Trolleys: Figure 4.

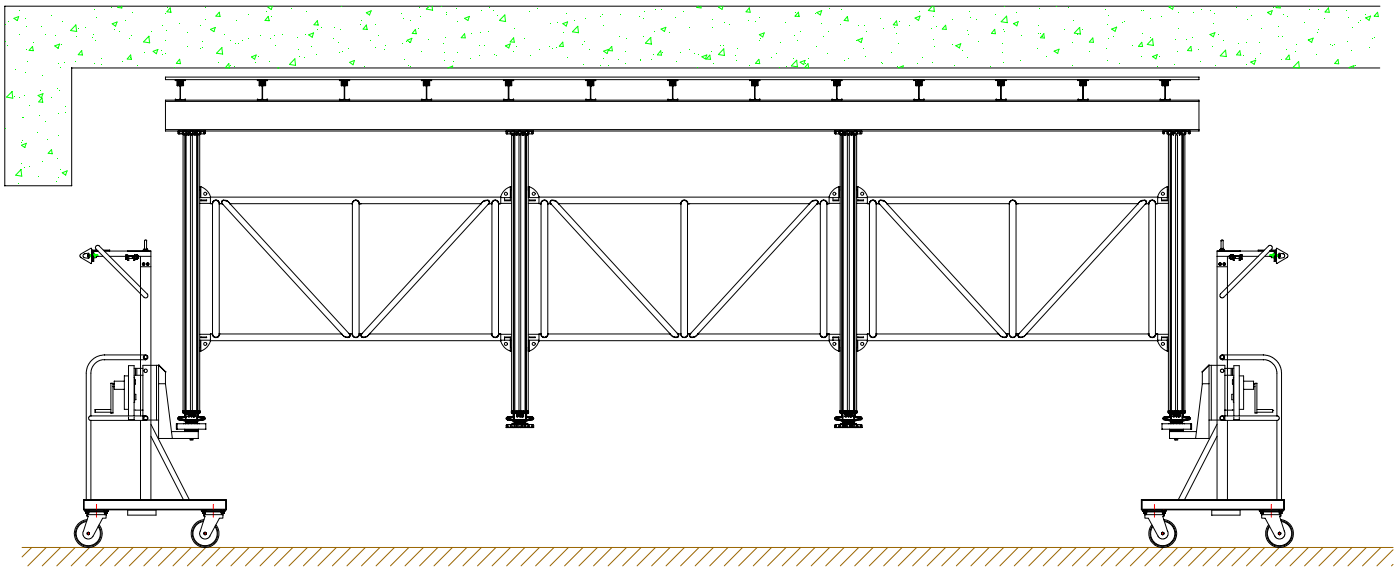


Figure: 4

Using the winch on the Trolleys, lower the Table Form until it will pass under the obstruction. The Trolleys must be lowered simultaneously to ensure the weight of the Table is shared equally between the Trolleys: Figure 5.

General Use of GASS Trolley – (3 of 3)

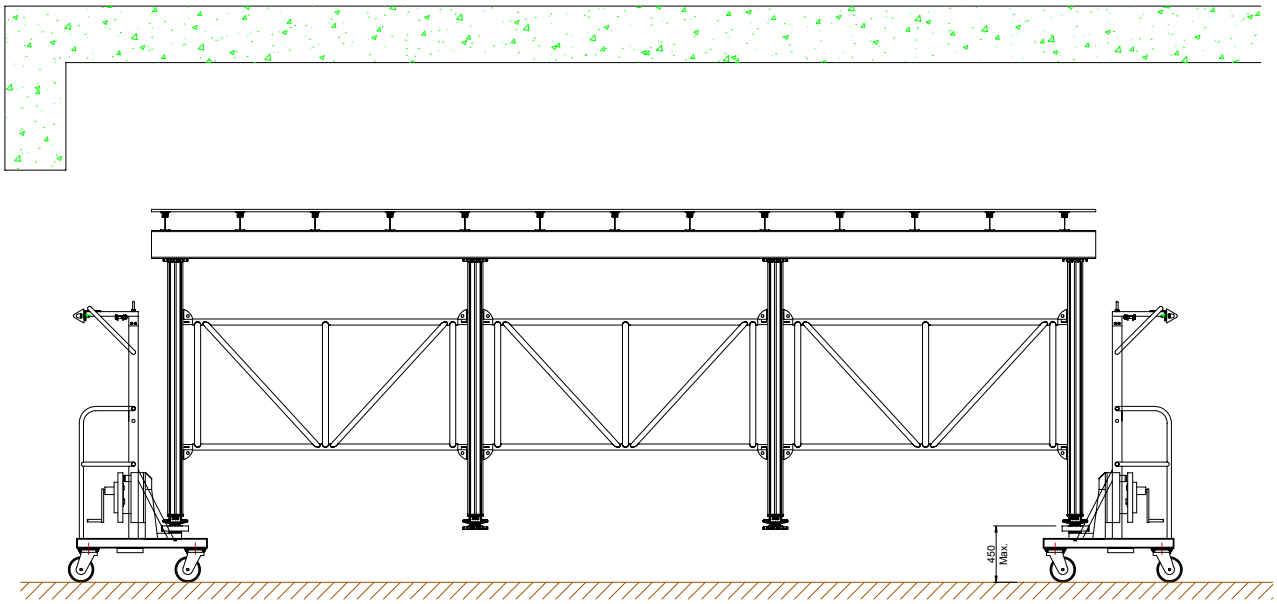


Figure: 5

For safety and stability, the plateau of the trolley should be a maximum of 450mm above the ground when moving the table.

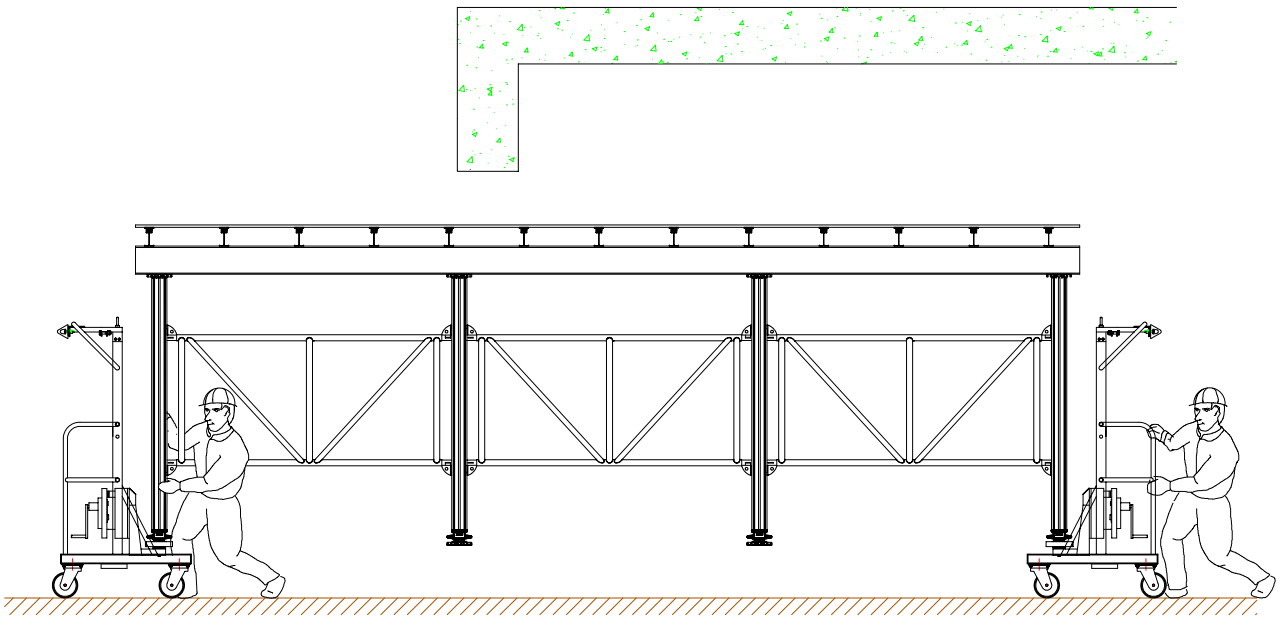
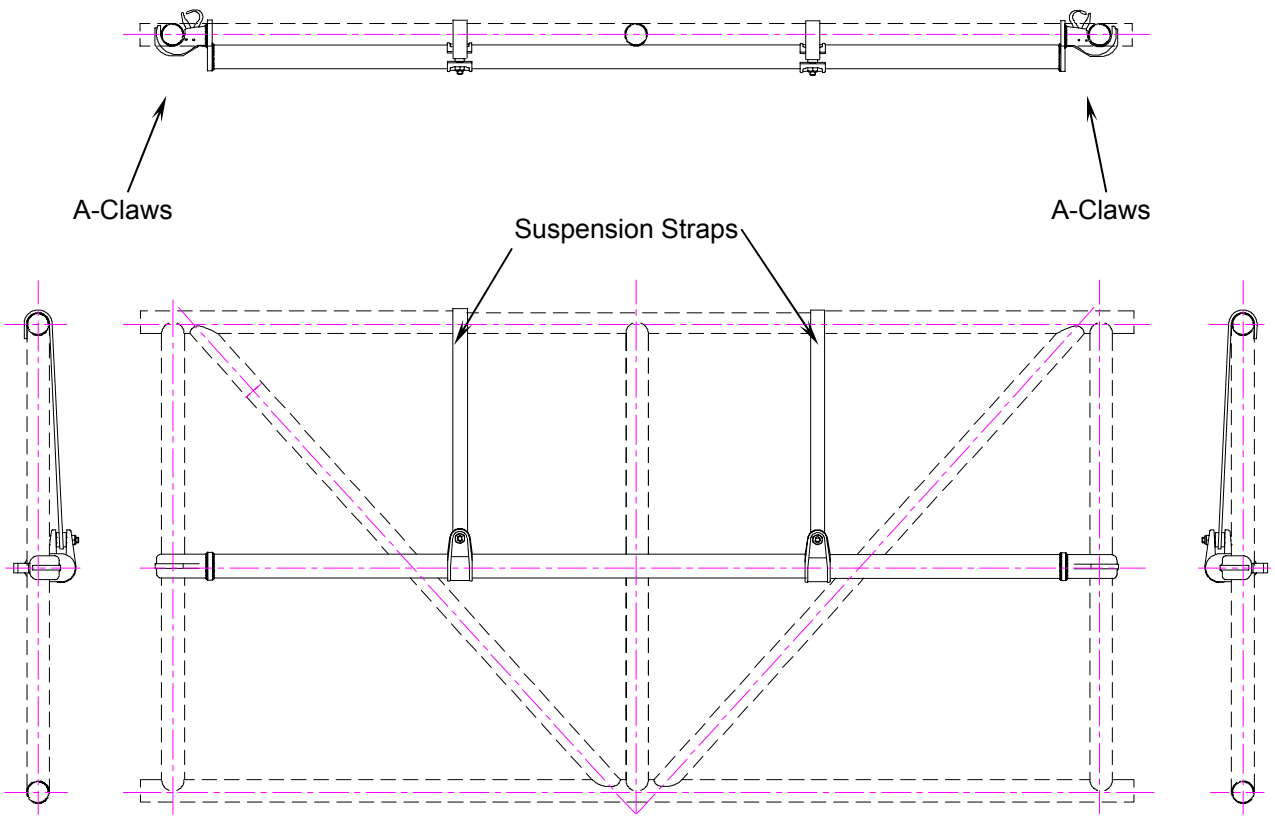


Figure: 6

Intermediate Guard Rail Connected to Ledger Frame



Example Elevation Showing
Guard Rail Arrangement on 2.4m Ledger Frame

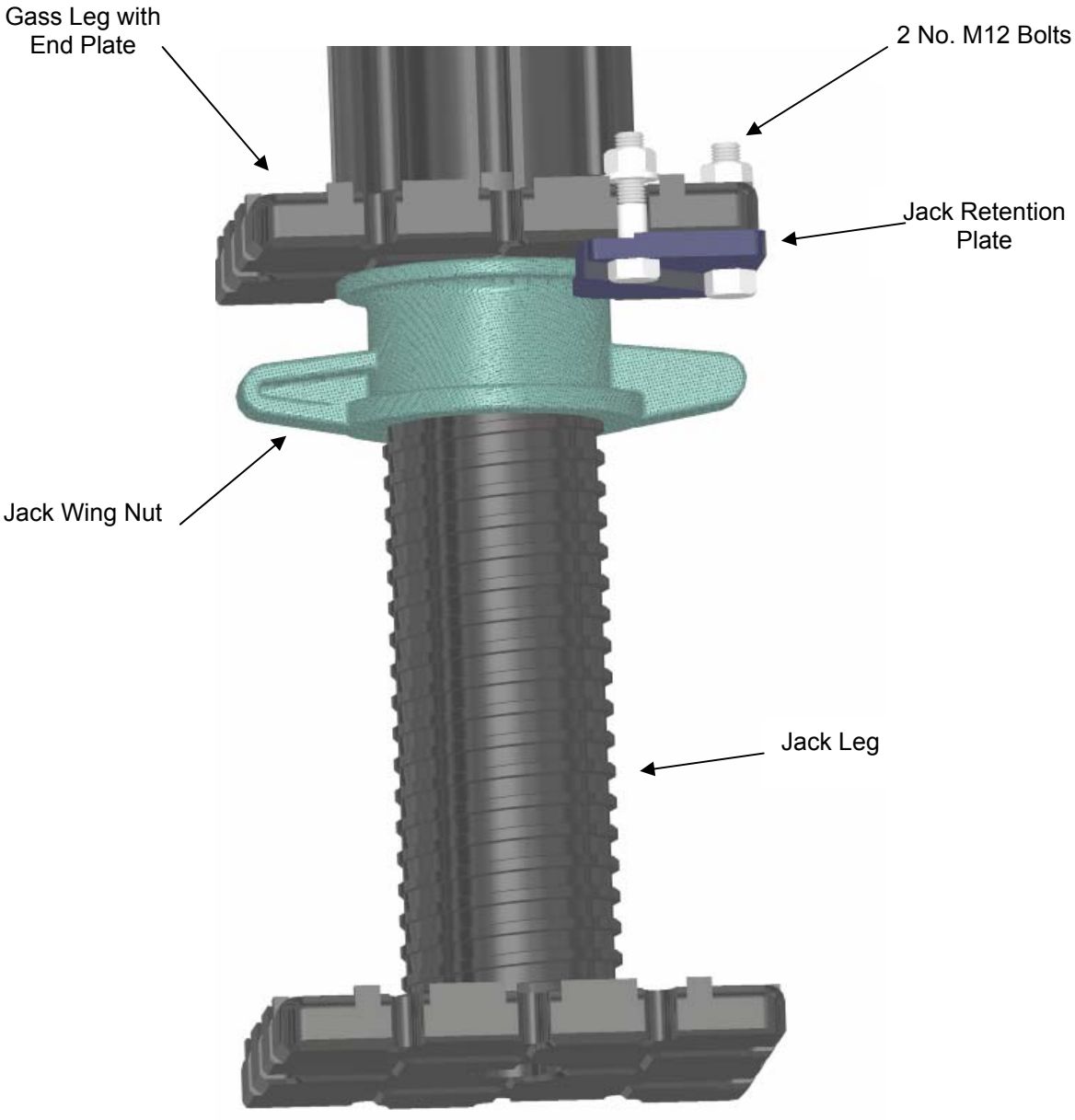
To Install

1. Open straps to vertical (as shown).
2. Cock the triggers of the A-Claws at the end of the hand rail.
3. Suspend from the top of the ledger frame as shown.
4. Push to secure A-Claws to vertical members of the ledger frame.

To Remove

1. Cock open the triggers of the A-Claws.
2. Pull back and lift off the hand rail.
3. Fold suspension straps when not in use.

Jack Retention Plate Application



Jack Retention Plate allows retention of the Inner Leg (Adjustable Jack) to the square base plate of the GASS Leg.

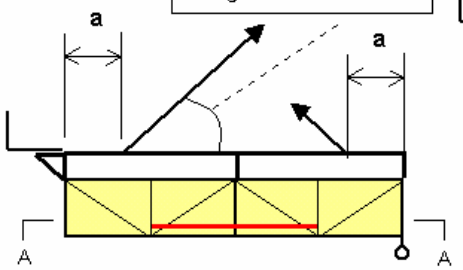
SWL = 500kg retained by Retention Plate

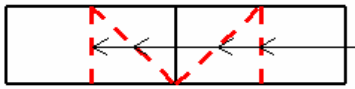
GASS Flying Tableforms – Safe Slinging Points – 6m Table (Continuous DUAL T225 Primary)

6 m TABLE
2No. x 3 m ledger frames

These two half bays to be braced when
'w' exceeds 1.6 kN/m for H=300
or when
'w' exceeds 2.1 kN/m for H=1300

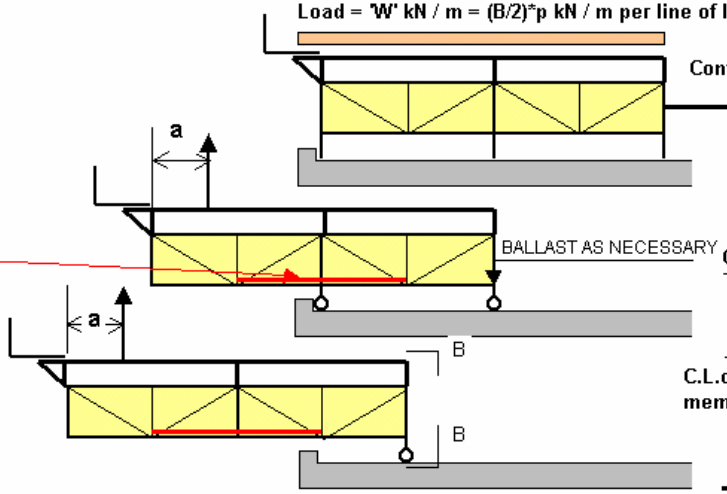
Minimum sling angle 50 deg.





PLAN BRACING TWO HALF BAYS - SEE NOTE ABOVE

PLAN A-A



ELEVATION B - B

GASS TABLE SELF WEIGHT WHICH HAS ALREADY BEEN ALLOWED FOR IN THE CALCULATIONS :-

H=300 mm - 1.4 m LEGS
H=1300 mm - 2.49 m LEGS
3.0 m LEDGER FRAMES
1680 mm JACKS
DUAL T225 PRIMARY

VARIATIONS FROM ABOVE MUST BE ALLOWED FOR IN THE IMPOSED LOAD

DIMENSION 'a'				
w' kN/m	a mm for H = 300 mm		a mm for H = 1300 mm	
	min.	max.	min.	max.
1	0	< 3000	0	< 3000
2	300	2400	0	< 3000
3	850	1950	650	2250

Note: Load 'w' above is the imposed UDL per line of ledger frames and includes secondaries, plywood, moulds etc.
GASS table & DUAL T225 primaries have already been allowed for as self weight.

Notes
Castor support locations assumed in analysis are as shown above.

SWL per castor is 950 kg.

Location of slings is essentially governed by the pull-out of the ledger fittings, lateral overall buckling of ledger frame horizontal members and bending of the T225 primary

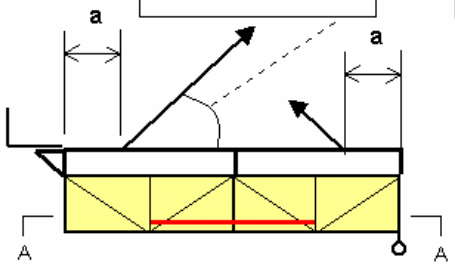
Slinging point attachments are assumed to be at the centreline of the T225 primary.

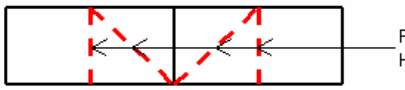
GASS Flying Tableforms – Safe Slinging Points – 6m Table (Continuous MKII Soldier Primary)

6 m TABLE
2No. x 3 m ledger frames

These two half bays to be braced when
'w' exceeds 1.7 kN/m for H=300
or when
'w' exceeds 2.4 kN/m for H=1300

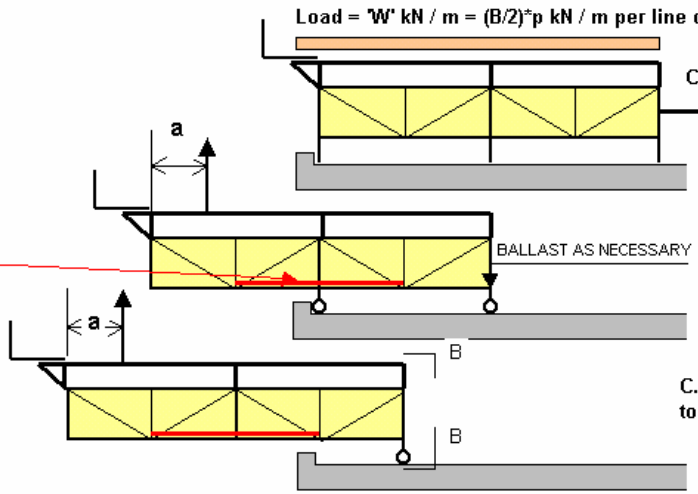
Minimum sling angle 50 deg.

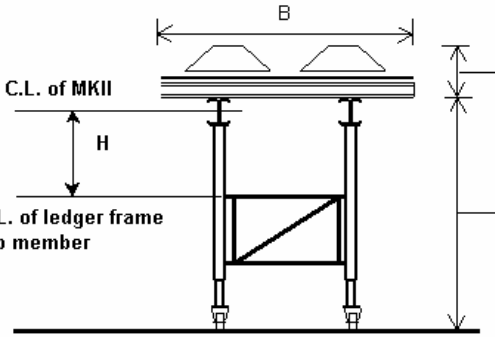




PLAN BRACING TWO HALF BAYS - SEE NOTE

PLAN A-A





ELEVATION B - B

IMPOSED LOAD = p kN / m2

GASS TABLE SELF WEIGHT WHICH HAS ALREADY BEEN ALLOWED FOR IN THE CALCULATIONS :-

H=300 mm - 1.4 m LEGS
H=1300 mm - 2.49 m LEGS
3.0 m LEDGER FRAMES
1680 mm JACKS
MK II SOLDIER PRIMARIES

VARIATIONS FROM ABOVE MUST BE ALLOWED FOR IN THE IMPOSED LOAD

DIMENSION 'a'				
'w' kN/m	a mm for H = 300 mm		a mm for H = 1300 mm	
	min.	max.	min.	max.
1	0	< 3000	0	< 3000
2	0	2400	0	< 3000
3	550	2000	500	2400

Note: Load 'w' above is the imposed UDL per line of ledger frames and includes secondaries, plywood, moulds etc.
GASS table & MKII primaries have already been allowed for as self weight.

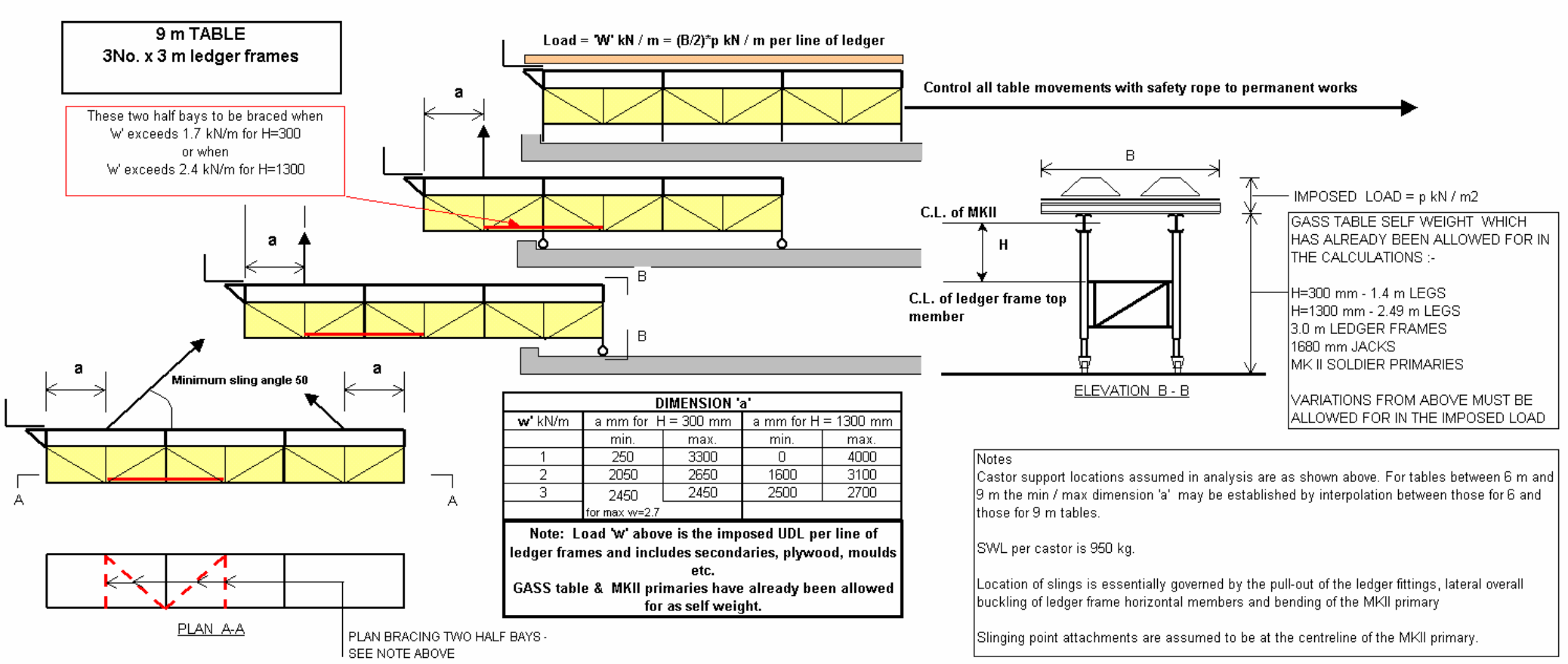
Notes
Castor support locations assumed in analysis are as shown above. For tables between 6 m and 9 m the min / max dimension 'a' may be established by interpolation between those for 6 and those for 9 m tables.

SWL per castor is 950 kg.

Location of slings is essentially governed by the pull-out of the ledger fittings, lateral overall buckling of ledger frame horizontal members and bending of the MKII primary

Slinging point attachments are assumed to be at the centreline of the MKII primary.

GASS Flying Tableforms – Safe Slinging Points – 9m Table (Continuous MKII Soldier Primary)



DIMENSION 'a'				
'w' kN/m	a mm for H = 300 mm		a mm for H = 1300 mm	
	min.	max.	min.	max.
1	250	3300	0	4000
2	2050	2650	1600	3100
3	2450 for max w=2.7	2450	2500	2700

Note: Load 'w' above is the imposed UDL per line of ledger frames and includes secondaries, plywood, moulds etc.
GASS table & MKII primaries have already been allowed for as self weight.

Notes
Castor support locations assumed in analysis are as shown above. For tables between 6 m and 9 m the min / max dimension 'a' may be established by interpolation between those for 6 and those for 9 m tables.

SWL per castor is 950 kg.

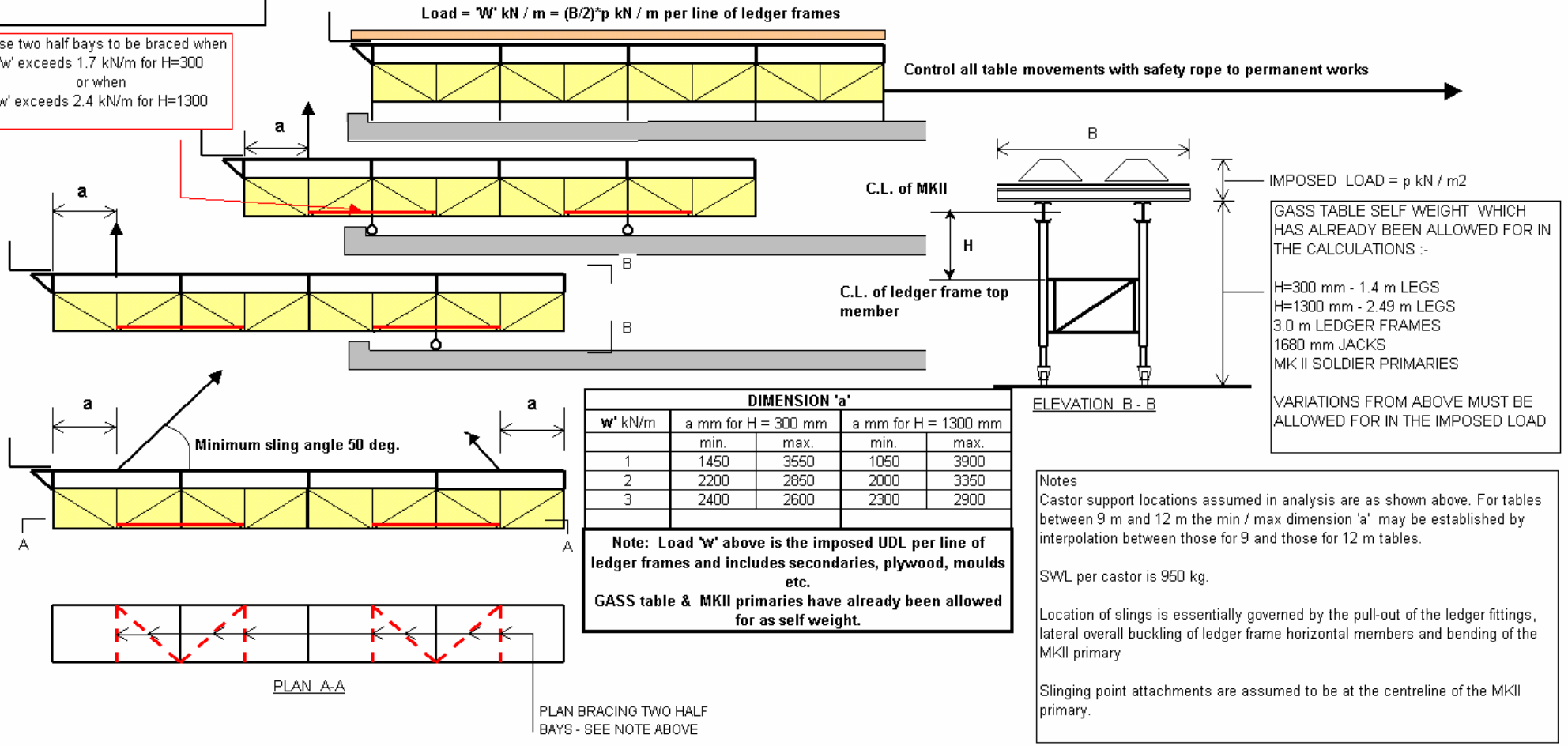
Location of slings is essentially governed by the pull-out of the ledger fittings, lateral overall buckling of ledger frame horizontal members and bending of the MKII primary

Slinging point attachments are assumed to be at the centreline of the MKII primary.

GASS Flying Tableforms – Safe Slinging Points – 12m Table (Continuous MKII Soldier Primary)

12 m TABLE
4No. x 3 m ledger frames

These two half bays to be braced when
'w' exceeds 1.7 kN/m for H=300
or when
'w' exceeds 2.4 kN/m for H=1300



GASS TABLE SELF WEIGHT WHICH HAS ALREADY BEEN ALLOWED FOR IN THE CALCULATIONS :-

H=300 mm - 1.4 m LEGS
H=1300 mm - 2.49 m LEGS
3.0 m LEDGER FRAMES
1680 mm JACKS
MK II SOLDIER PRIMARIES

VARIATIONS FROM ABOVE MUST BE ALLOWED FOR IN THE IMPOSED LOAD

DIMENSION 'a'

'w' kN/m	a mm for H = 300 mm		a mm for H = 1300 mm	
	min.	max.	min.	max.
1	1450	3550	1050	3900
2	2200	2850	2000	3350
3	2400	2600	2300	2900

Note: Load 'w' above is the imposed UDL per line of ledger frames and includes secondaries, plywood, moulds etc.
GASS table & MKII primaries have already been allowed for as self weight.

Notes
Castor support locations assumed in analysis are as shown above. For tables between 9 m and 12 m the min / max dimension 'a' may be established by interpolation between those for 9 and those for 12 m tables.

SWL per castor is 950 kg.

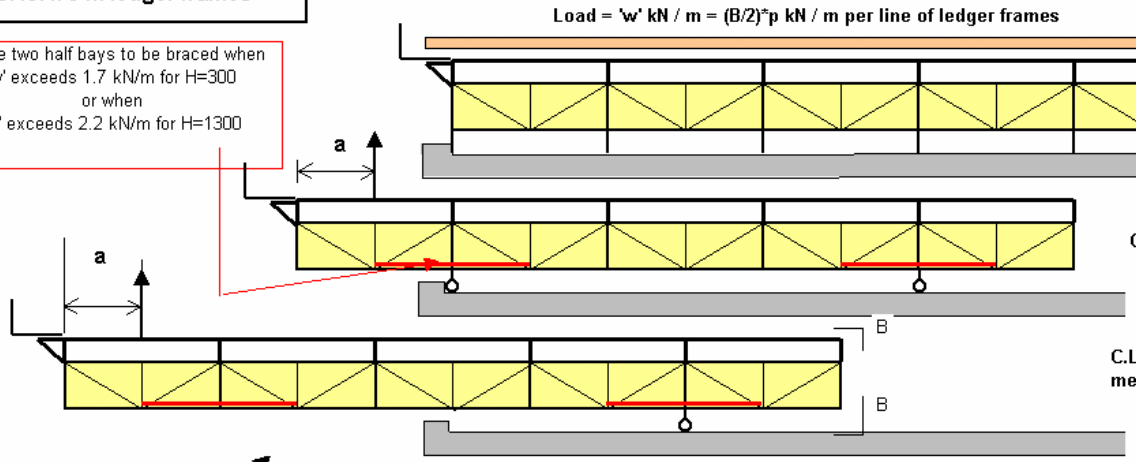
Location of slings is essentially governed by the pull-out of the ledger fittings, lateral overall buckling of ledger frame horizontal members and bending of the MKII primary

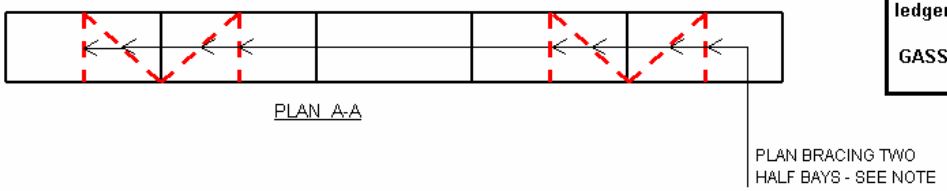
Slinging point attachments are assumed to be at the centreline of the MKII primary.

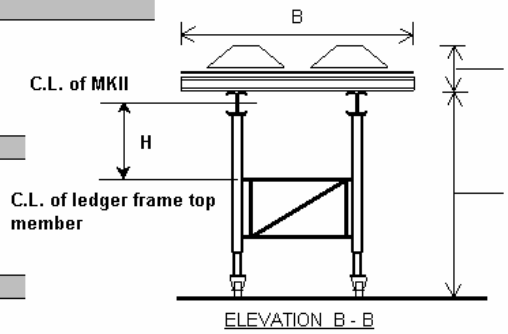
GASS Flying Tableforms – Safe Slinging Points – 15m Table (Continuous MKII Soldier Primary)

15 m TABLE
5No. x 3 m ledger frames

These two half bays to be braced when
'w' exceeds 1.7 kN/m for H=300
or when
'w' exceeds 2.2 kN/m for H=1300







GASS TABLE SELF WEIGHT WHICH HAS ALREADY BEEN ALLOWED FOR IN THE CALCULATIONS :-

H=300 mm - 1.4 m LEGS
H=1300 mm - 2.49 m LEGS
3.0 m LEDGER FRAMES
1680 mm JACKS
MK II SOLDIER PRIMARIES

VARIATIONS FROM ABOVE MUST BE ALLOWED FOR IN THE IMPOSED LOAD

DIMENSION 'a'				
w' kN/m	a mm for H = 300 mm		a mm for H = 1300 mm	
	min.	max.	min.	max.
1	2400	3600	2000	3650
2	2900	3050	2800	3300
2.2	NA	NA	2950	2950

Note: Load 'w' above is the imposed UDL per line of ledger frames and includes secondaries, plywood, moulds etc.
GASS table & MKII primaries have already been allowed for as self weight.

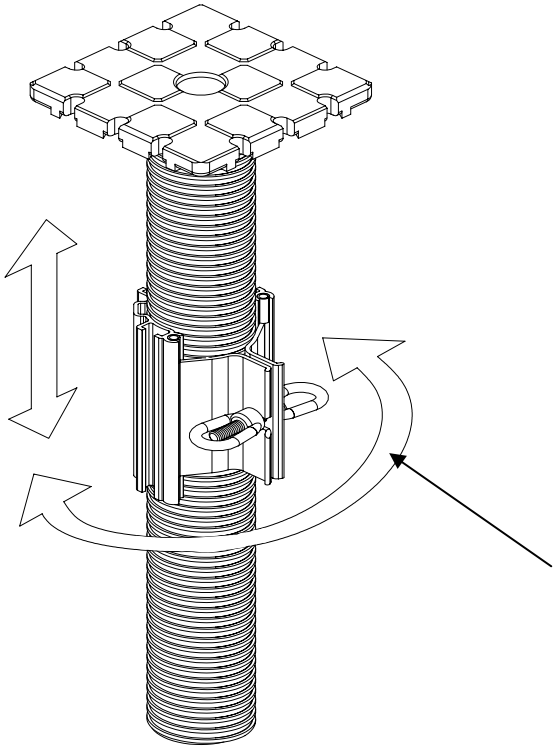
Notes
Castor support locations assumed in analysis are as shown above. For tables between 12 m and 15 m the min / max dimension 'a' may be established by interpolation between those for 12 and those for 15 m tables.

SWL per castor is 950 kg.

Location of slings is essentially governed by the pull-out of the ledger fittings, lateral overall buckling of ledger frame horizontal members and bending of the MKII primary

Slinging point attachments are assumed to be at the centreline of the MKII primary.

Jack Guardrail Collar Applications

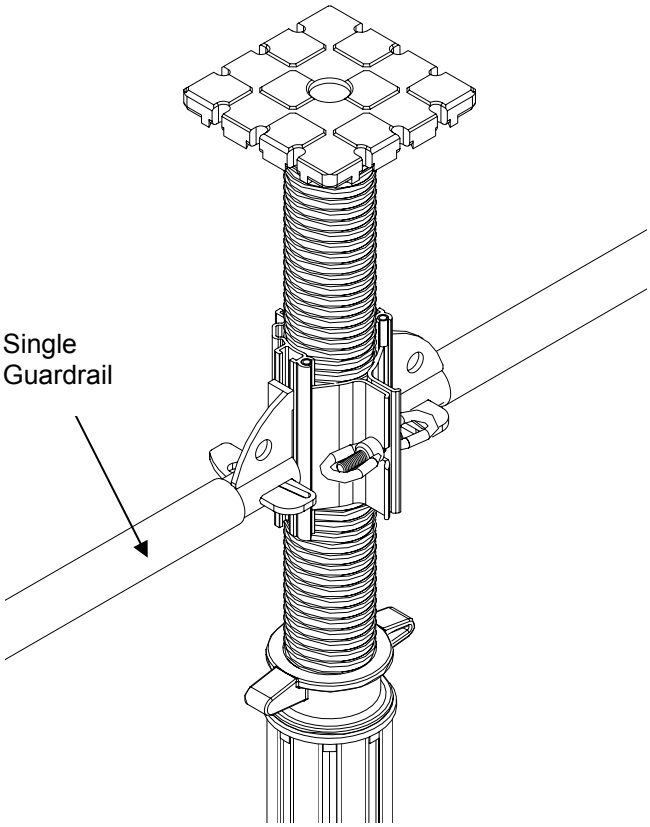


Align and adjust height by turning the Jack Guardrail collar.
(Code No: 718042)

Pictorial View Showing Guardrail Collar on a GASS inner leg

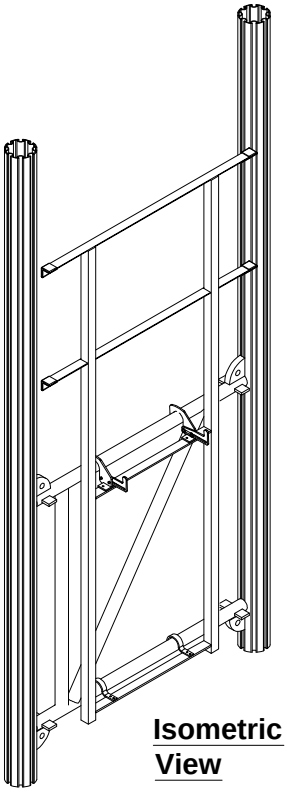
Fitting Instructions

1. Undo Ringbolt allowing doors to fully open.
2. Offer-up collar to GASS jack at approximately the correct height and push onto jack.
3. When pushing collar onto the jack ensure tabs on the inside face are seated into the bottom of the jack's thread.
4. Close doors and lock the collar onto the jack by screwing together the Ringbolt.
5. Align and adjust height by turning the collar (as shown above in the pictorial view) before fully tightening the Ringbolt.
6. **Note:** Always ensure that ringbolt is fully tightened before connecting guardrails.
7. Attach Single Guardrails in appropriate positions. (Refer to information on page 33)



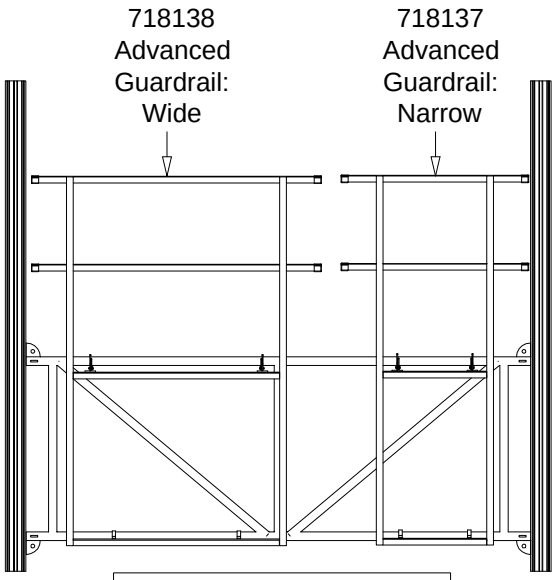
Pictorial View Showing Typical Guardrail Collar Application

Advanced Guardrail Applications

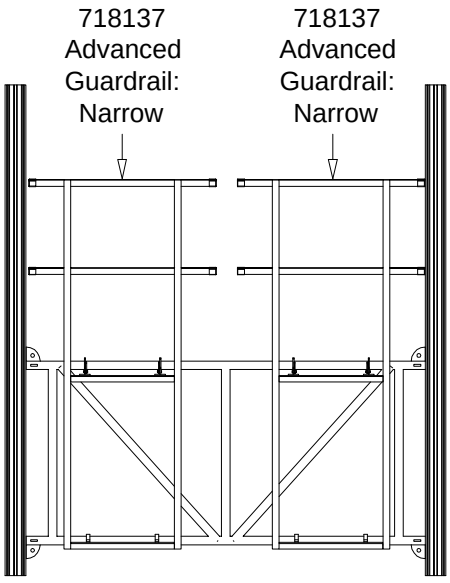


Isometric View

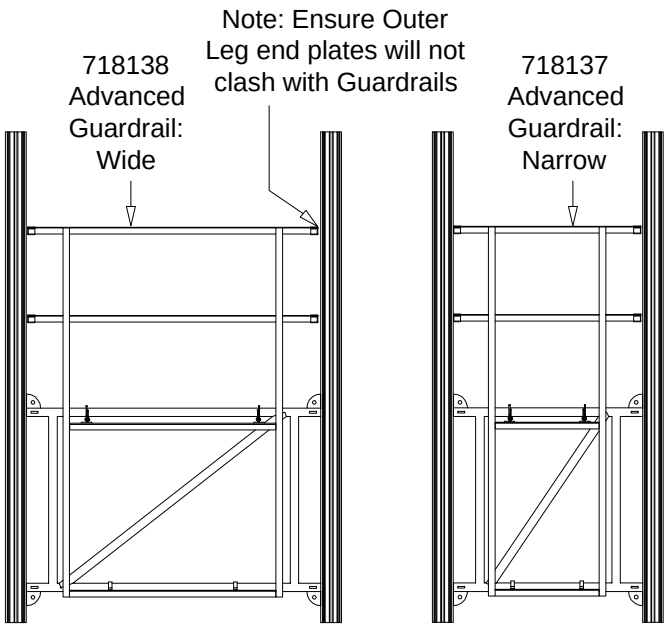
All GASS ledger frames can be protected using a combination of narrow (1.065m) and wide (1.650m) Advanced Guardrails as shown below.



3m Ledger Frame: 718023



2.4m Ledger Frame: 718022



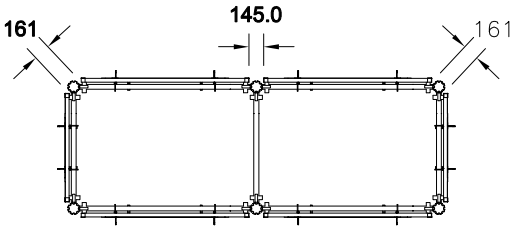
1.8m Ledger Frame: 718021

1.2m Ledger Frame: 718020

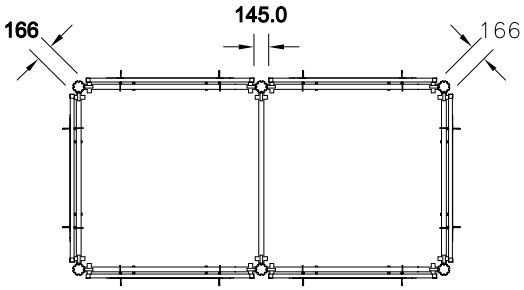
Guidance Notes:
Ensure guardrails are equally spaced on ledger frames and secure the wedge with a light hammer action.

Advanced Guardrail Applications

Plan view on GASS tables showing typical gaps once Advanced Guardrails have been placed. Decking has been omitted for clarity.

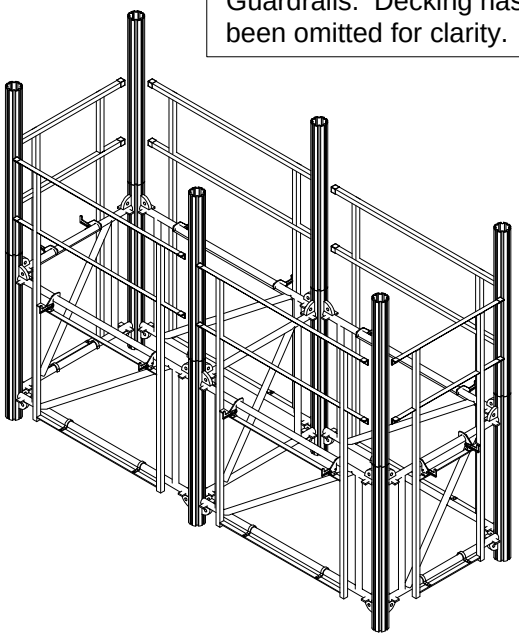


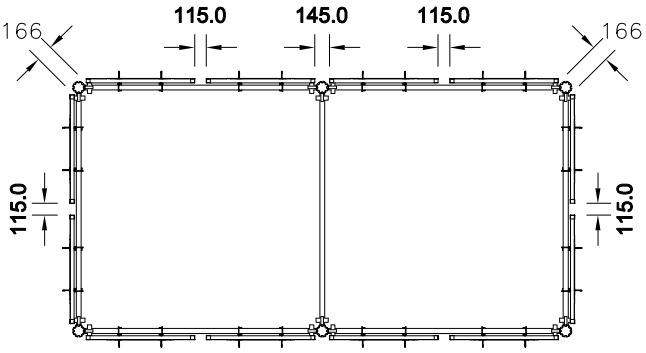
GASS Frame:
1.2 x 1.8 meter



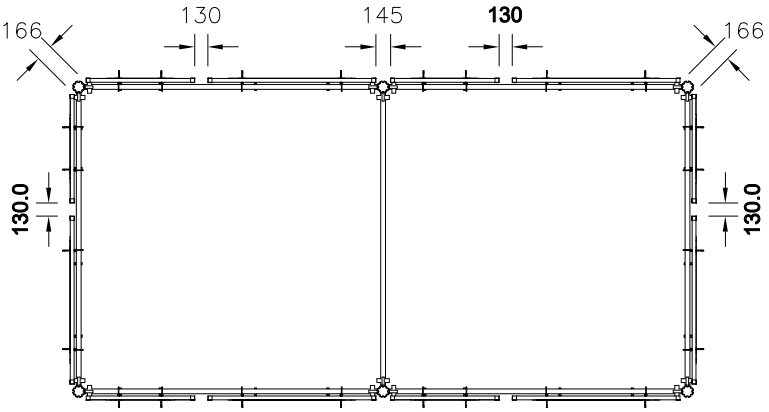
GASS Frame:
1.8 x 1.8 meter

Isometric view on GASS tables using Advanced Guardrails. Decking has been omitted for clarity.





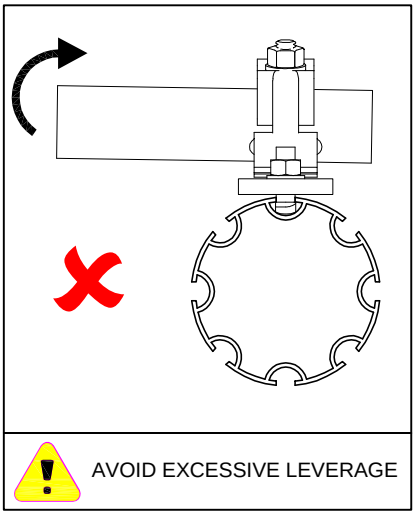
GASS Frame:
2.4 x 2.4 meter



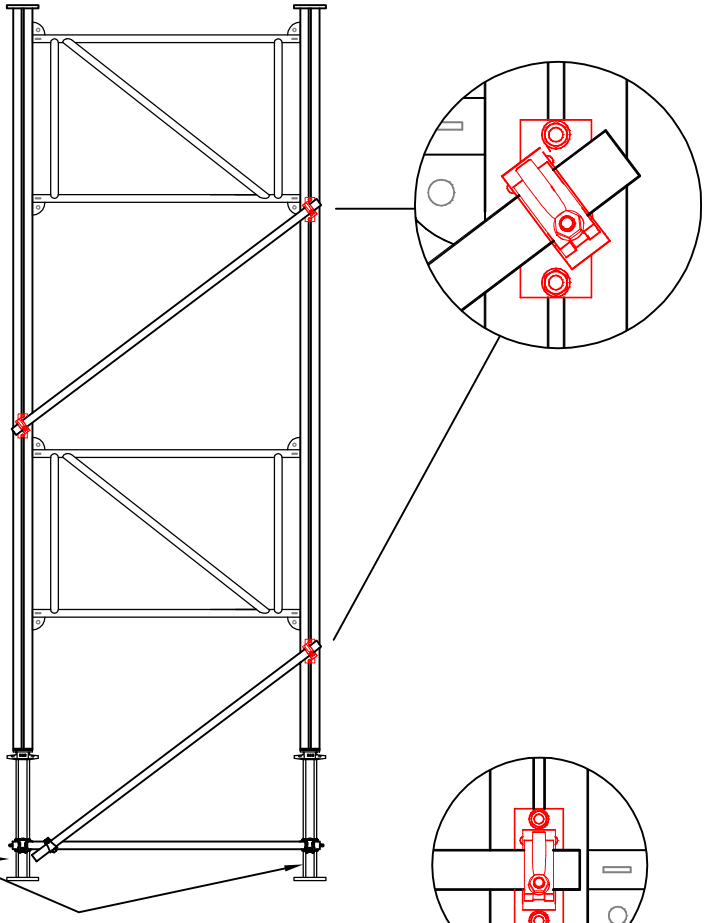
GASS Frame:
3.0 x 3.0 meter

Guidance Notes:
The corner gaps shown are only present if the outer legs are lower than the advance Guardrails

Gass Leg Bracing Coupler

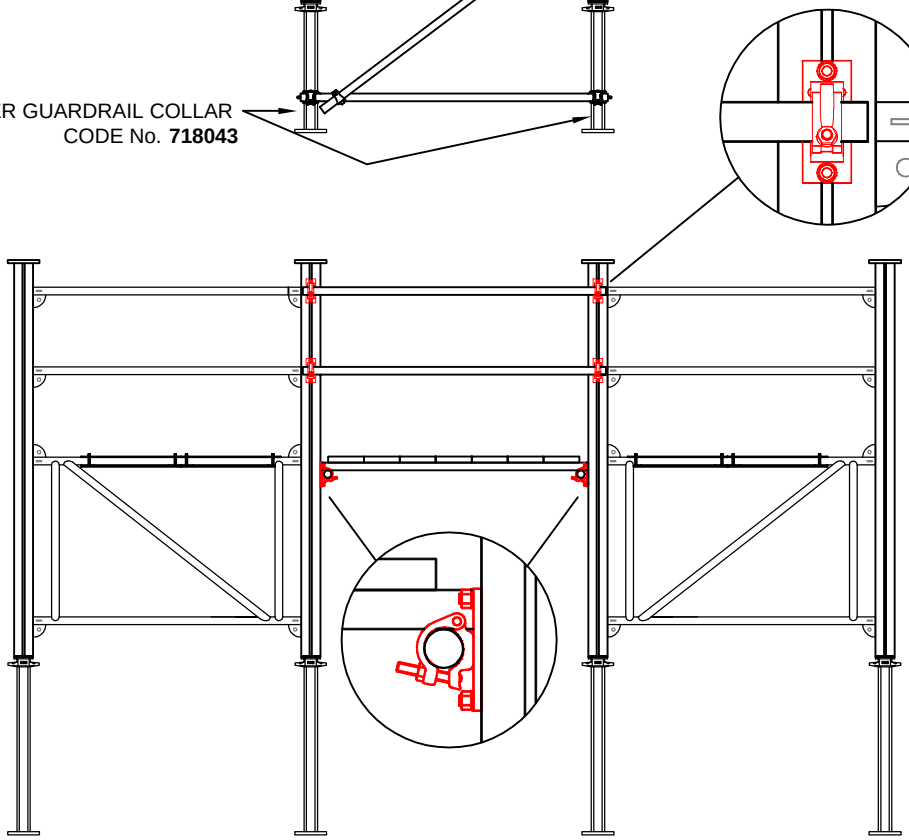


AVOID EXCESSIVE LEVERAGE



USED IN A BRACING APPLICATION

JACK HALF COUPLER GUARDRAIL COLLAR
CODE No. **718043**



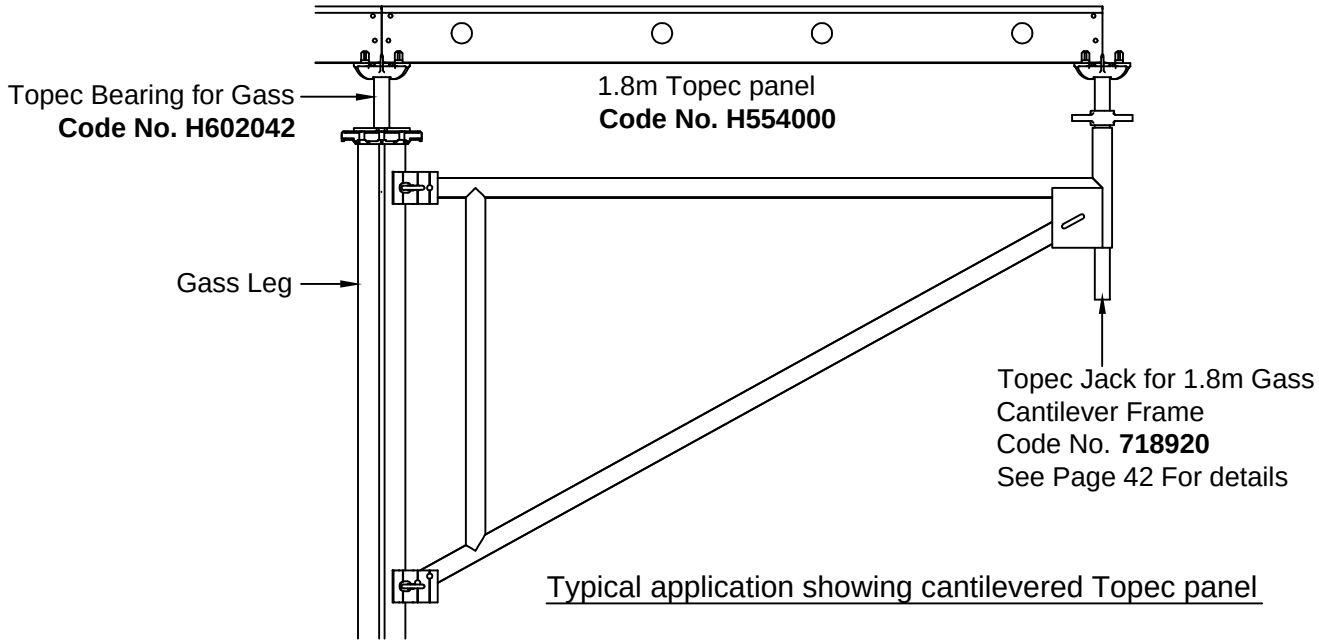
USED IN AN ACCESS APPLICATION (WORKING PLATFORM OR GUARDRAIL)

Guidance Notes:

See page 37/1 for component details.

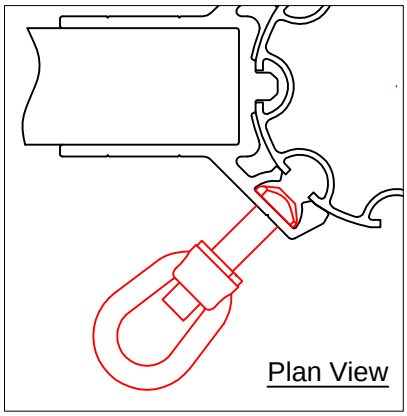
1. Always use in pairs.
2. Avoid excessive leverage.

Gass	
Application	**1.8m Cantilever Frame & Topec Jack**

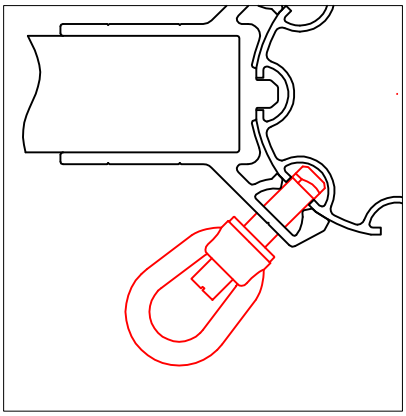


Typical application showing cantilevered Topec panel

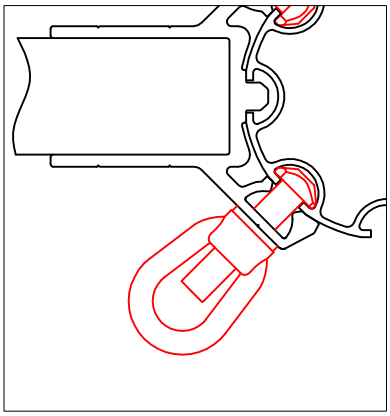
Cantilever Bracket Erection Procedure



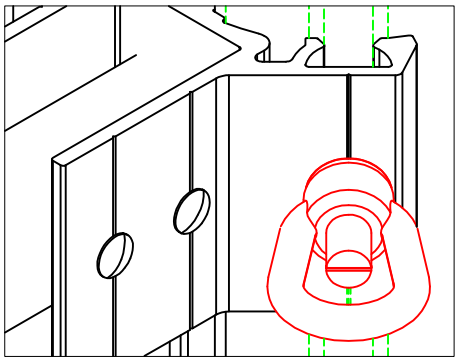
1.Position the Cantilever Bracket onto the Gass leg with the 'T Bolts' fully retracted into the extrusion.



2.With the Cantilever Bracket in postion turn the 'T Bolts' through 90° and insert into the slots in the Gass Leg.

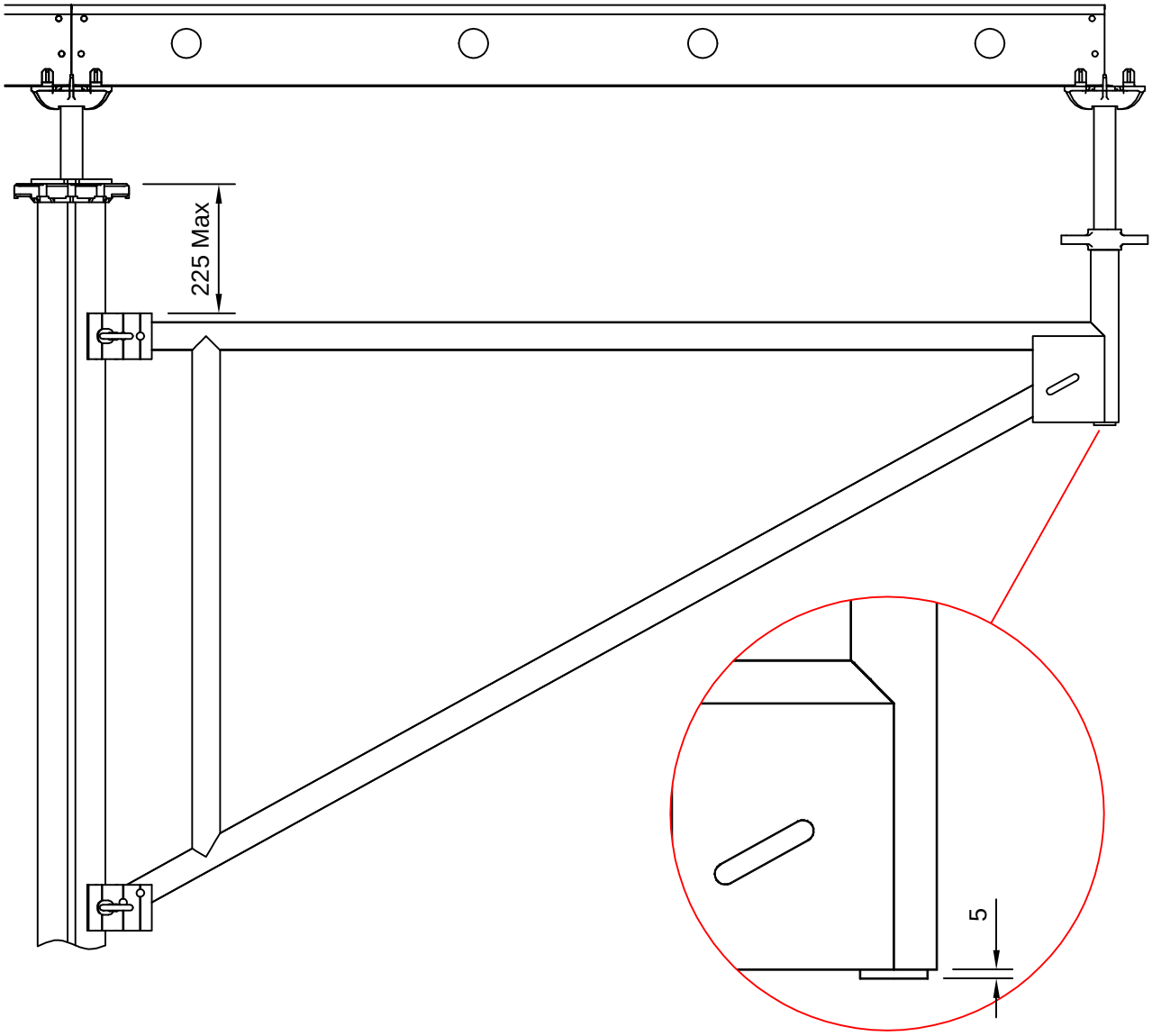


3.Turn the 'T Bolts' through 90° clockwise and tighten the ring nut to secure the Cantilver Bracket.



IMPORTANT SAFETY CHECK
Ensure that groove on the end of each 'T Bolts' is in the horizontal position when the Cantilever Bracket is secure.

Gass	
Application	**1.8m Cantilever Frame & Topec Jack**



The 1.8m Gass Cantilever Frame should be positioned on the Gass leg, no more than 225mm from the top of the extrusion to the top of the Gass head plate as indicated.

As a visual indication the Topec Jack should always protrude through the cantilever frame spigot by a minimum of 5mm.