



**LITE TOWER  
ASSEMBLY GUIDE**

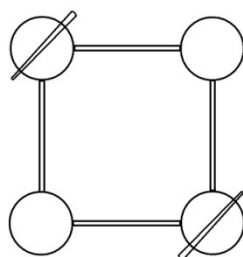


**The installation should be managed by an experienced and competent rigger. All relevant Health and Safety guidelines must be adhered to. This is a guide on key points and ABC Production Services Ltd. take no responsibility in mistakes done by persons reading this guide, this is a rough guide, highlighting key points and does not outline every safety procedure necessary. ABC Production Services Ltd. takes no responsibility for mistakes mentioned herein.**

## *PREPARATION*

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First, please make sure that you have all the necessary pins and safety clips for the truss and use them at every join, **DO NOT LEAVE EMPTY HOLES!!** When using pins, insert the first pin then the second pin should go into the **ADJACENT** hole to prevent buckling (see below):



Also make sure that you insert the pin into the end with the larger diameter hole and only use a truss hammer to secure them in tightly (do not use a standard steel hammer). You may also need to use a drift pin or sharp end of a podger (scaffold spanner) to align the holes.

When removing pins, make sure that the last two pins to remove are adjacent as in the diagram above, and that the truss is supported at the other end so that it won't buckle when pins are removed.

You should inspect all truss to make sure that it is not damaged before use. Please also check weight loadings for the span of truss you are using.

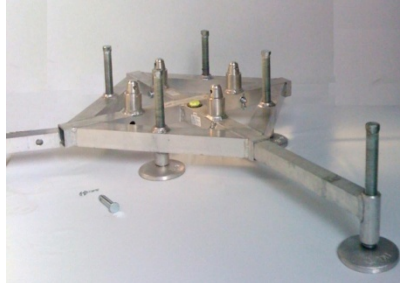
If the truss is laid out on the floor and not raised in any way, it is ok to insert the pins in a clockwise or anticlockwise order (ignoring the adjacent hole rule), as long as you roll the truss on the floor while inserting pins and never lift it!!!

# CONSTRUCT THE LEGS

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## **PREPARE THE BASE**

First lay out all the necessary bases, and screw up the levelling legs so they are at the minimum height. Then insert the 4 outriggers as shown below, aligning the two holes and securing using the pin and safety clip:



Next, using a spirit level, you should level the base using the levelling legs on the base and the outriggers.

## **THE PIVOTING BASE**

The next section to go on is the 1m pivoting base which needs to be secured to the base using 4 pins and 4 safety clips as shown below:



At this point the two pins and safety clips needed to lock the pivoting base should not be installed, thus enabling the section to pivot.

## **THE TOWER SLEEVE**

With the pivoting base in the upright position, slide the tower sleeve over it, you can then pivot the pivoting base right down and attach the Slick Litebox sections needed for the leg:



### **THE HEADER SECTION**

The last section to add to the leg is the entire section which comprises of a 0.5m lockoff section and a roller header plate.



The entire leg should then be lifted upright, the pivot point being on the 1m pivot section on top of the base. You then need to lock off the pivot base using 2 standard Slick pins and two safety clips. You should now check with a spirit level that the leg is perfectly vertical and not leaning like the tower of Leaning Tower of Pisa. This is done by adjusting the levelling legs on the base and the outriggers.

### **ATTACHING THE MOTOR/CHAIN BLOCK/CABLE**

ABC Production Services Ltd. provide CM Prostar motors with this system, but you can use inverted chain block or a cable winch system. First the motor chain needs to run up and over the leg so that the motor is attached to one side of the sleeve and the hook on the opposite side of the sleeve. The chain is passed through the roller header section as shown below, making sure the chain goes under the removable retaining pin:



Using the short slings through the holes on the sleeve, attach the motor to one side of the sleeve and the hook to the other:



### **IMPORTANT:**

The chain running up the leg, through the header section and down the other side must be perfectly straight with NO twists in it at all!! If you do not make sure the chain is straight it will probably jump off the rollers while it is being raised. Admittedly the hook end can swivel and thus untwist itself, but if it gets caught, the twists will be stuck in the chain, so it is still important that the chain is perfectly straight.

# ADDING THE TOP SECTION FRAME

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## **ADDING THE TOP SECTION FRAME & RIGGING**

While the sleeve is still on the ground, attach all of the necessary top sections. Make sure that you position the spigots in the correct position and align them so that the wider end of the pin hole corresponds to the wider end of the pin hole on the truss:



# RAISING THE TRUSS

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## **RAISE TO WORKING HEIGHT**

Using the motor controller or a pickle, take up the slack on all the legs with the motors and slightly raise the top section frame from the ground. Once slightly raised, check that all the legs are straight and vertical, that there are no obstacles in the way and that the chain is perfectly straight with no twists in it. You may have to perform other checks depending on the venue. Once you are happy, raise the truss to working height and suspend your lights, sound, projectors, drape, etc.:



## **RAISE & LOCKOFF**

Once you have done all the necessary work at ground level, remove the lock-off bar from the top lock-off section:



You can then begin to raise the top section, but while doing so, keep a watchful eye on each leg, making sure there are no obstacles, the motor cable doesn't get caught, etc. Once the top section is above the lock-off hole, slide the lock-off bar back into the lock-off section and secure it with the pin and safety clip:



You do not have to lower the truss back down onto the lock-off bars as the ProStar motors have a double brake system inside them. The lock-off is a safety precaution.

**NOTE:**

The CM ProStar motors supplied are 3 phase motors and rated at 250kg. As the chain goes up and over, this doubles the weight loading to 500kg but the climbing speed is halved from 4m per minute to 2m per minute. We also use the industry standard connectors on the motors, being 16A red 3 phase cee form (power) and 16A yellow 4 pin cee-form (control).

## SPECIFICATION

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Maximum height	10.4m (10m of Slick LiteBox on the leg)
Maximum clearance height	10.8m
SWL load per leg	500kg
Legs truss	Slick LiteBox
Top section truss	Slick LiteBox or LiteBeam Total Fabrications XO Quad or Tri & GS Lite
Motor Control Power Inlet	32A 3 phase, 415v
Power per motor	1.1A per phase
Manufacturer	Total Fabrications Ltd.

# WEIGHT LOADING

## Slick Lite Box MKII, permissible loads single span girder

(Deadweight truss is already taken into account)

Span	Distributed load	Deflection	Central single load	Deflection	Single load third points	Deflection	Single point load fourth points	Deflection	Single point load fifth points	Deflection
m	Kg/m	cm	kg	cm	kg	cm	kg	cm	kg	cm
1.00	1958.9	0.1	1958.9	0.1	979.4	0.1	652.1	0.1	489.7	0.1
2.00	976.9	0.3	1761.6	0.3	976.9	0.3	649.6	0.3	488.5	0.3
3.00	649.6	0.7	1170.3	0.6	877.7	0.7	585.1	0.7	485.7	0.7
4.00	436.7	1.3	873.3	1.0	655.0	1.3	436.7	1.2	362.4	1.3
5.00	277.7	2.0	694.2	1.6	520.6	2.0	347.1	1.9	288.1	2.0
6.00	191.3	2.9	573.9	2.3	430.4	2.9	286.9	2.7	238.2	2.9
7.00	139.2	3.9	487.3	3.1	365.4	4.0	243.6	3.7	202.2	4.0
8.00	105.4	5.1	421.7	4.1	316.2	5.2	210.8	4.8	175.0	5.2
9.00	82.2	6.4	370.1	5.2	277.6	6.6	185.0	6.1	153.6	6.6
10.00	65.7	7.9	328.3	6.4	246.2	8.1	164.2	7.5	136.3	8.1
11.00	53.4	9.6	293.7	7.7	220.3	9.8	146.9	9.1	121.9	9.8
12.00	44.1	11.4	264.4	9.2	198.3	11.7	132.2	10.9	109.7	11.7
13.00	36.8	13.4	239.3	10.7	179.5	13.7	119.6	12.8	99.3	13.7
14.00	31.1	15.6	217.4	12.5	163.0	15.9	108.7	14.8	90.2	15.9

Shear is limiting  
 Bending moment is limiting

