



User Manual



Modular Drop Arms



Original Instructions

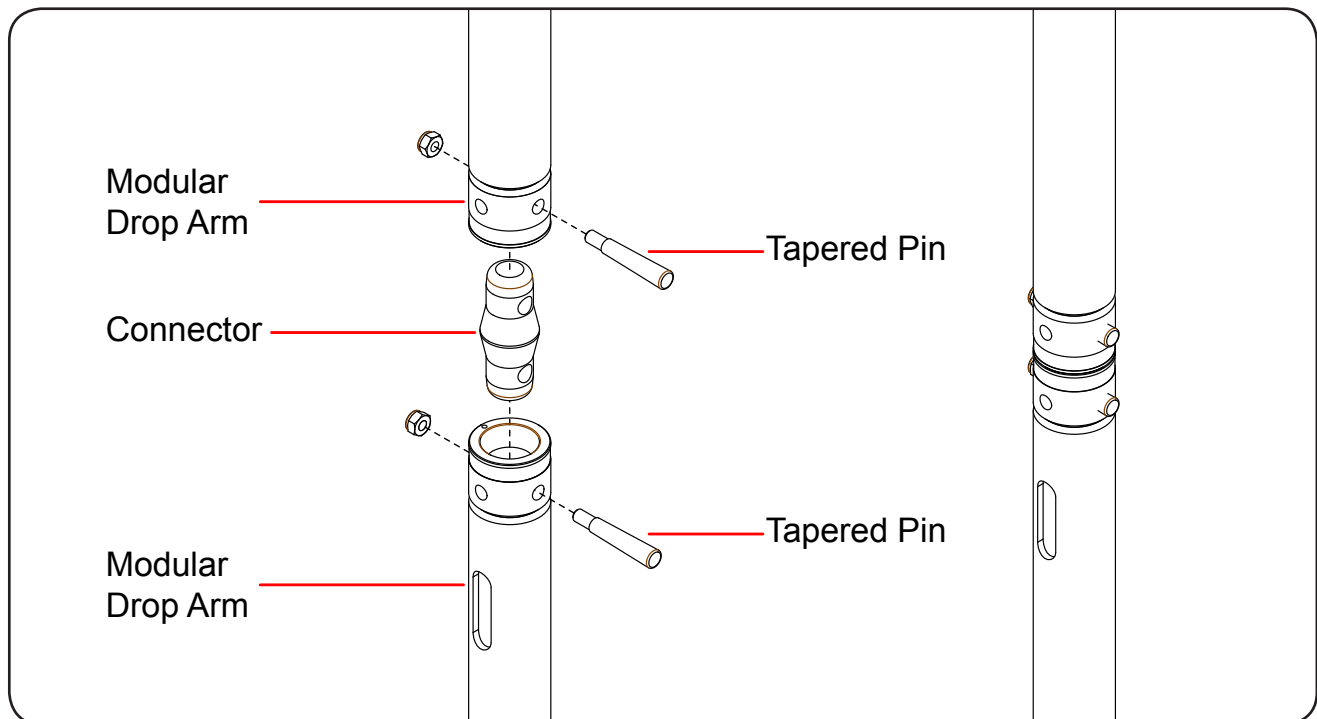
Contents:

Introduction.....	2
Exclusion of Liability	2
Safety Instructions	2
Assembly Examples	4
Assembly	5
Couplers	6
Extensions.....	7
Modular Tees.....	8
Modular Tees with through Connector.....	9
Stirrup.....	10
Connector	10
Maintenance	11
Contact Details	12

Introduction

The Modular Drop Arms are a range of suspension arms designed to provide a safe flexible rigging method for suspending luminaires from truss of fixed tubes and barrels.

Using the popular conical truss connection method, parts from this range can be quickly assembled in a variety of configurations.



Exclusion of Liability

Using this product for any purpose other than that described in this manual is considered contrary to its designated use and the manufacturer cannot be held liable for any damage resulting from such use.

Safety Instructions

1. Each Modular Drop Arm Component has been load tested, care must be taken not to exceed the SWL of the component or the SWL of the assembled structure.
2. It is recommended that Safety Bonds are used with this equipment. When Safety Bonds are used the user is responsible for:
 - i) Ensuring the Safety Bond is of optimum length, i.e. in the event of failure, the 'drop' distance is kept as short as possible.
 - ii) Ensuring the Safety Bond is attached so that the mounting points are of sufficient strength to withstand the forces imposed by the falling load.

Safety Bonds

Doughty Engineering recommends the use of safety bonds when using the Modular Drop Arm range.

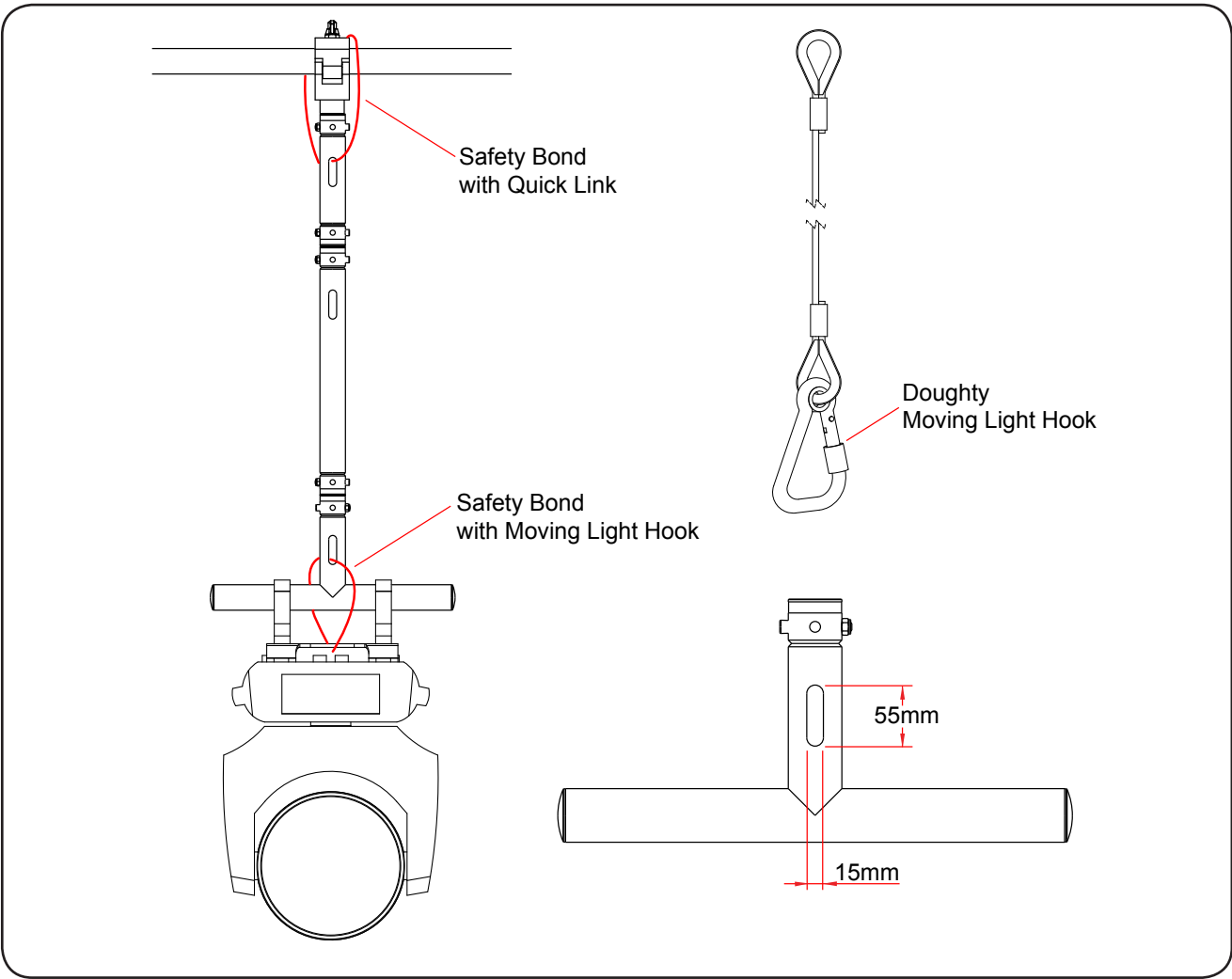
It is recommended that a bond is used between the truss / barrel and between the luminaire and the bottom of the drop arm. Safety bonds are not required at each joint.

The slot provided in the drop arm range is 50 x 15mm and is large enough to accept a moving light hook from our range of safety bonds.

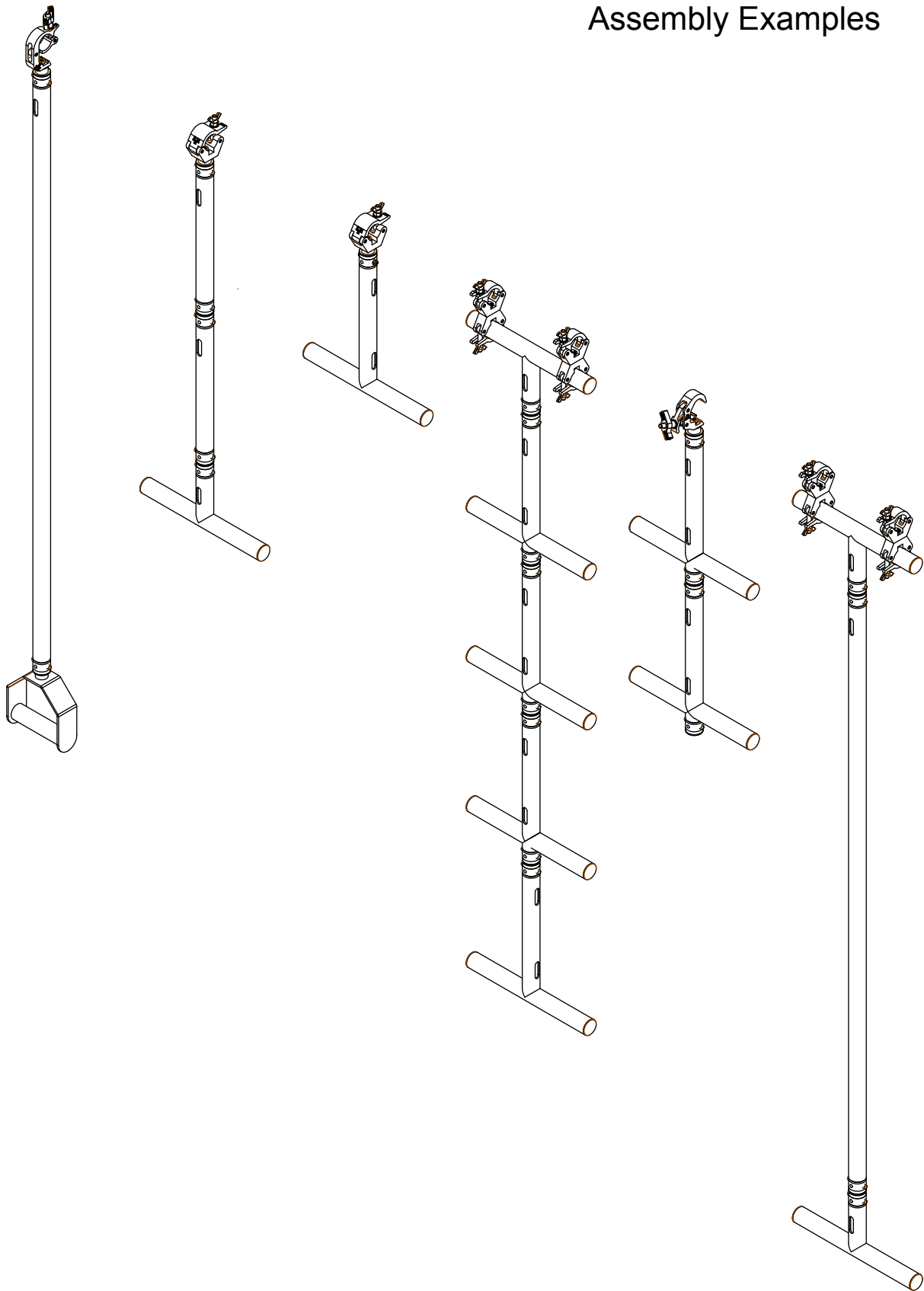
Care must be taken to ensure the safety bond used at the top is rated to the weight of the whole system not just the luminaire.

Doughty Engineering manufactures bonds specifically for this system.

T45850	Safety Bond with Quick Link - Silver	SWL 220lbs (100kg)
T45851	Safety Bond with Quick Link - Black	SWL 220lbs (100kg)
T45855	Safety Bond with Moving Light Hook - Silver	SWL (79lbs) 36kg
T45856	Safety Bond with Moving Light Hook - Black	SWL (79lbs) 36kg



Assembly Examples



Assembly

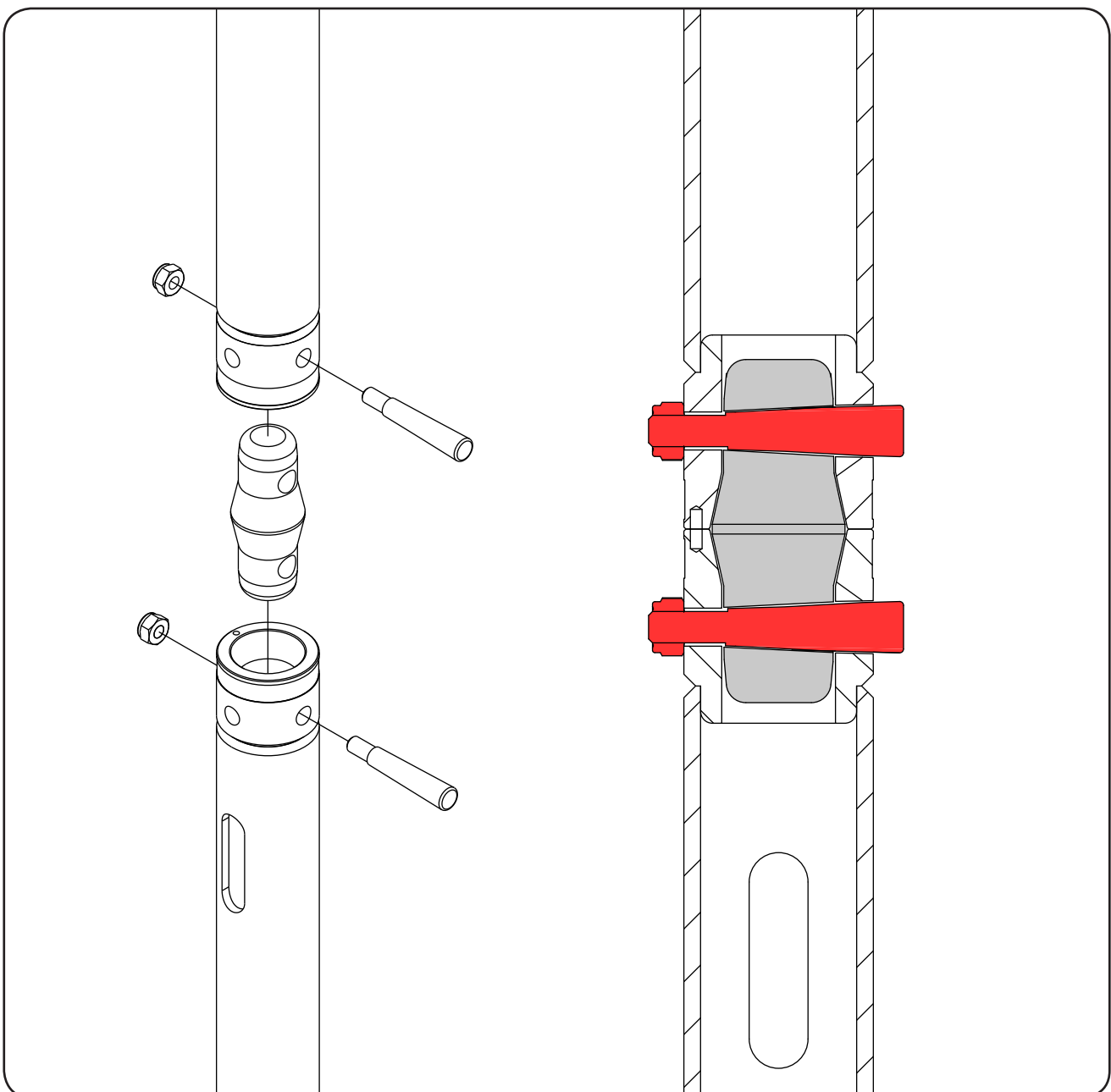
When assembling the drop arm parts note the **pins and holes are all tapered**.

Care must be taken to ensure the tapered holes are positioned correctly to accept the tapered pins.

Two tapered holes are provided to allow the drop arm to be positioned parallel or at 90 degrees.

It is common practice to use a nylon or copper hammer to assist the tapered pins.

Nyloc nuts should be replaced after each use/installation.



Couplers

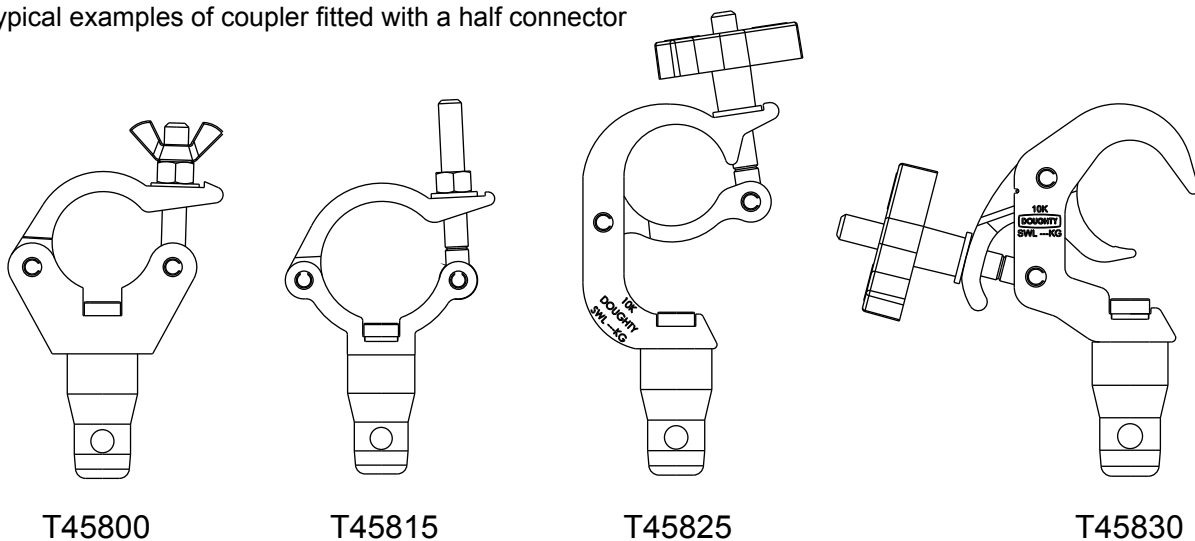
Modular Drop Arms have been designed to be suspended from truss or a fixed pipe/barrel.

Listed below is a range of clamps/couplers fitted with a connector enabling the drop arm to be attached to the truss or pipe.

Part No	Description	Tube Diameter
T45800	T57000 with half connector	Ø2.0" (48 - 51mm)
T45801	T57000 with half connector - Black	Ø2.0" (48 - 51mm)
T45810	T58600 with half connector	Ø2.0" (48 - 51mm)
T45811	T58601 with half connector - Black	Ø2.0" (48 - 51mm)
T45815	T58100 with half connector	Ø2.0" (48 - 51mm)
T45816	T58101 with half connector - Black	Ø2.0" (48 - 51mm)
T45820	T57400 with half connector	Ø2.5" (60 - 63mm)
T45821	T57401 with half connector - Black	Ø2.5" (60 - 63mm)
T45825	T58860 with half connector	Ø2.0" (48 - 51mm)
T45826	T588601 with half connector - Black	Ø2.0" (48 - 51mm)
T45830	T58300 with half connector	Ø1.5"-2.0" (38 - 51mm)
T45831	T58301 with half connector - Black	Ø1.5"-2.0" (38 - 51mm)
T45835	T58500 with half connector	Ø2.0"-3.0" (48 - 80mm)
T45836	T58501 with half connector - Black	Ø2.0"-3.0" (48 - 80mm)

Other combinations are available - contact sales@doughty-engineering.co.uk for details

Typical examples of coupler fitted with a half connector

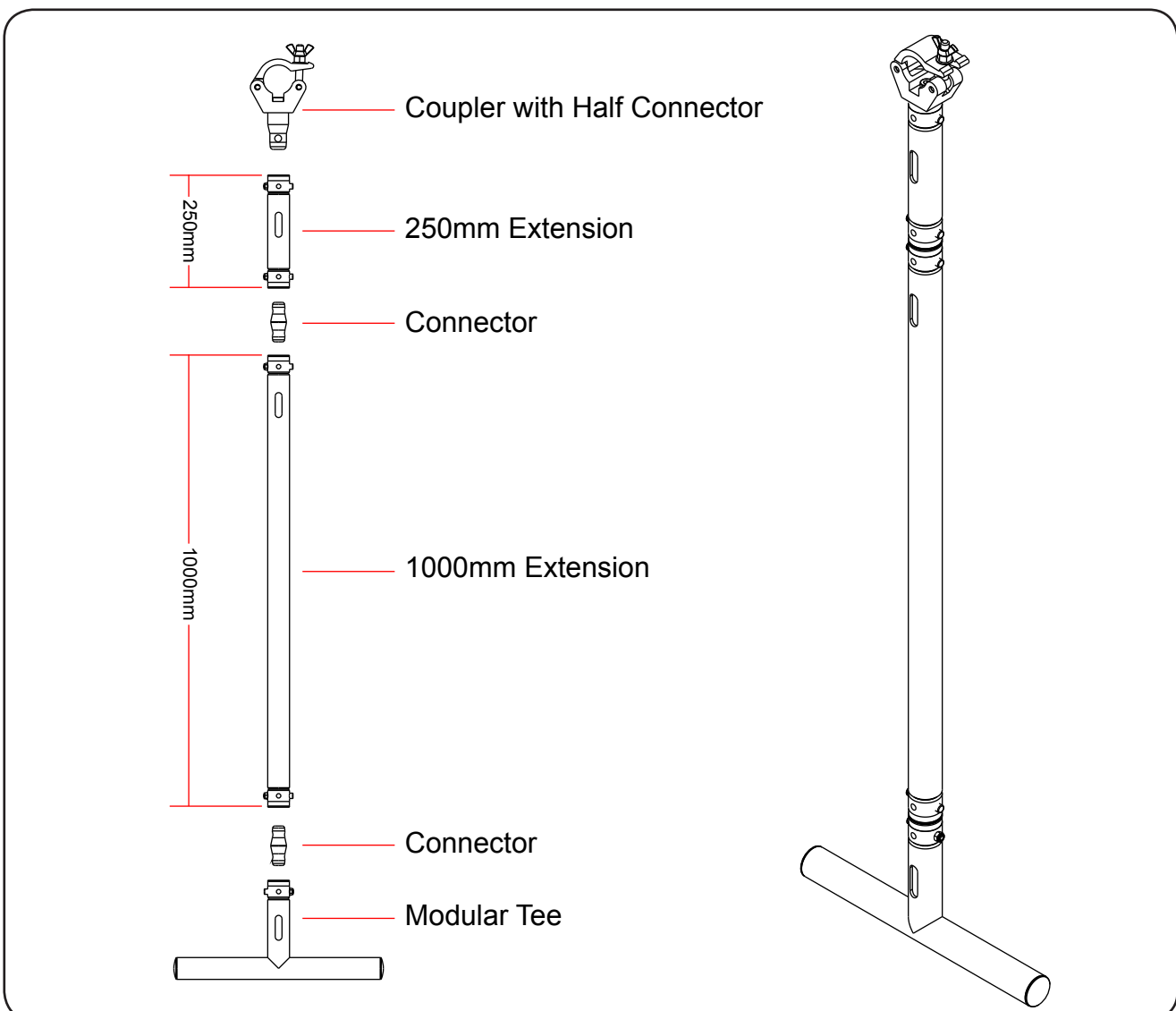


Extensions

Modular Drop Arms extensions are available to extend an assembly. Slots are provided for Safety Bonds.

Extensions are supplied with 2 x tapered pins and nyloc nuts.

T45775	10" (250mm) Extension	SWL 220lbs (100kg)
T45776	10" (250mm) Extension - Black	SWL 220lbs (100kg)
T45780	20" (500mm) Extension	SWL 220lbs (100kg)
T45781	20" (500mm) Extension - Black	SWL 220lbs (100kg)
T45785	40" (1000mm) Extension	SWL 220lbs (100kg)
T45786	40" (1000mm) Extension - Black	SWL 220lbs (100kg)
T45790	80" (2000mm) Extension	SWL 220lbs (100kg)
T45791	80" (2000mm) Extension - Black	SWL 220lbs (100kg)

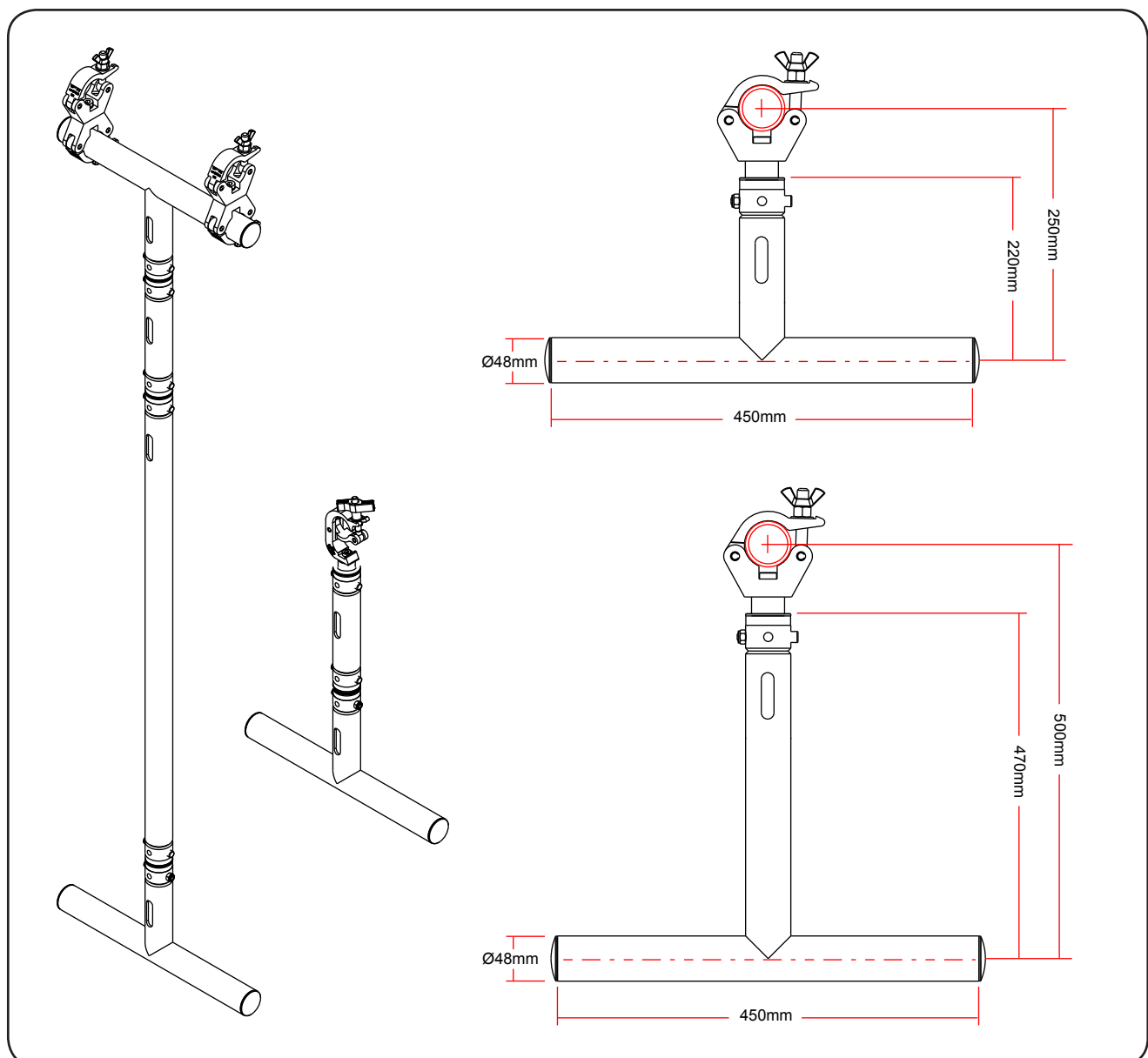


Modular Tee

The Modular Tees have been designed in two sizes: and can be used at the lower end of a drop arm assembly to attach the luminaire or at the top of a drop arm assembly enabling two pipe to pipe couplers to be used for suspension to create a much more rigid connection between drop arm and truss/barrel. Slots are provided for Safety Bonds.

T45760	10" (250mm) Modular Tee	SWL 220lbs (100kg)
T45761	10" (250mm) Modular Tee - Black	SWL 220lbs (100kg)
T45765	20" (500mm) Modular Tee	SWL 220lbs (100kg)
T45766	20" (500mm) Modular Tee - Black	SWL 220lbs (100kg)

Modular Tees are supplied with a tapered pin & nyloc nut.

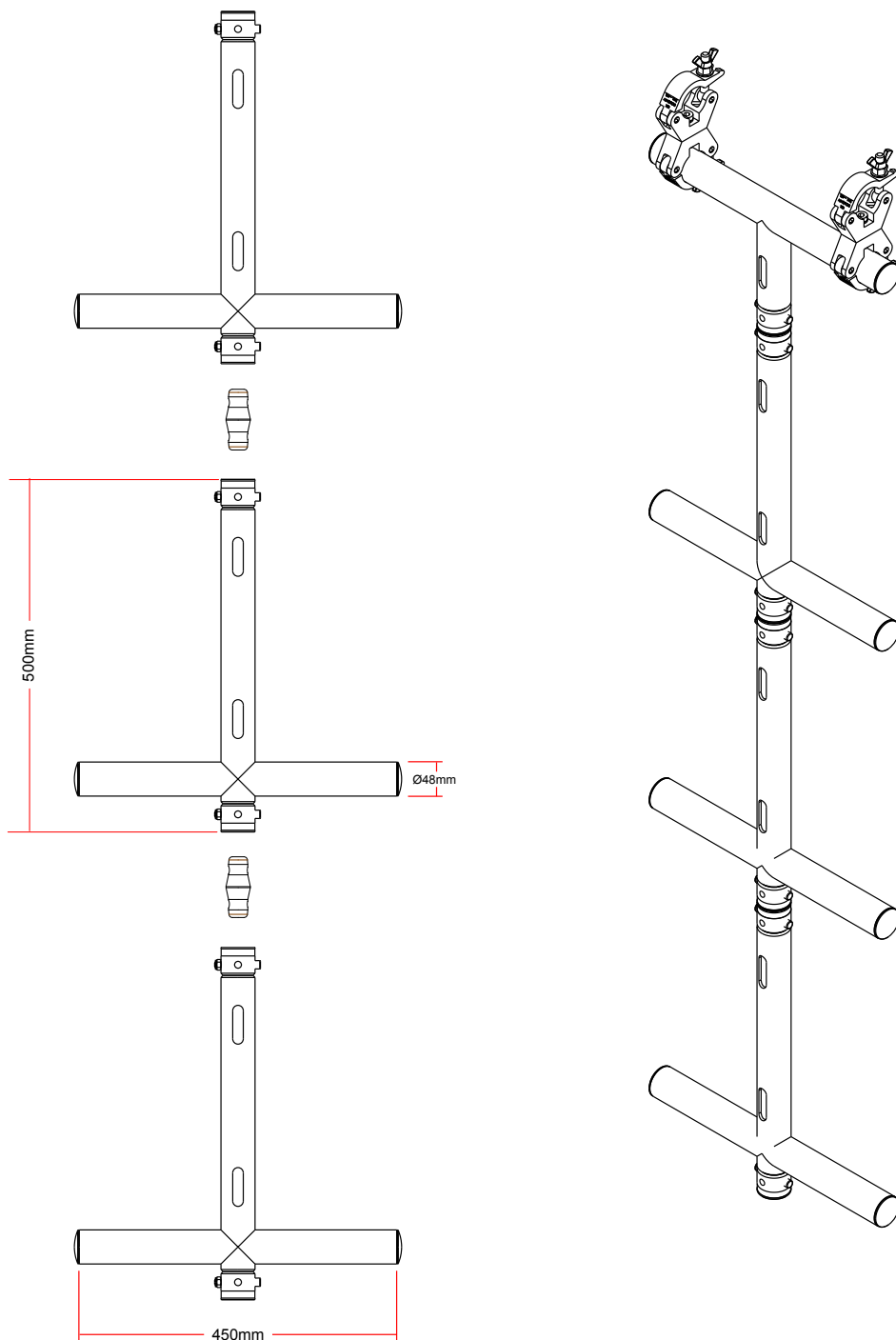


Modular Tee with through Connector

The Modular Tee with through Connector has been designed to enable a ladder configuration to be assembled. Slots are provided for Safety Bonds.

T45767	20" (500mm) Modular Tee	SWL 220lbs (100kg)
T45768	20" (500mm) Modular Tee - Black	SWL 220lbs (100kg)

Modular Tees with through Connector are supplied with a tapered pin & nyloc nut



Stirrup

T45770

Stirrup

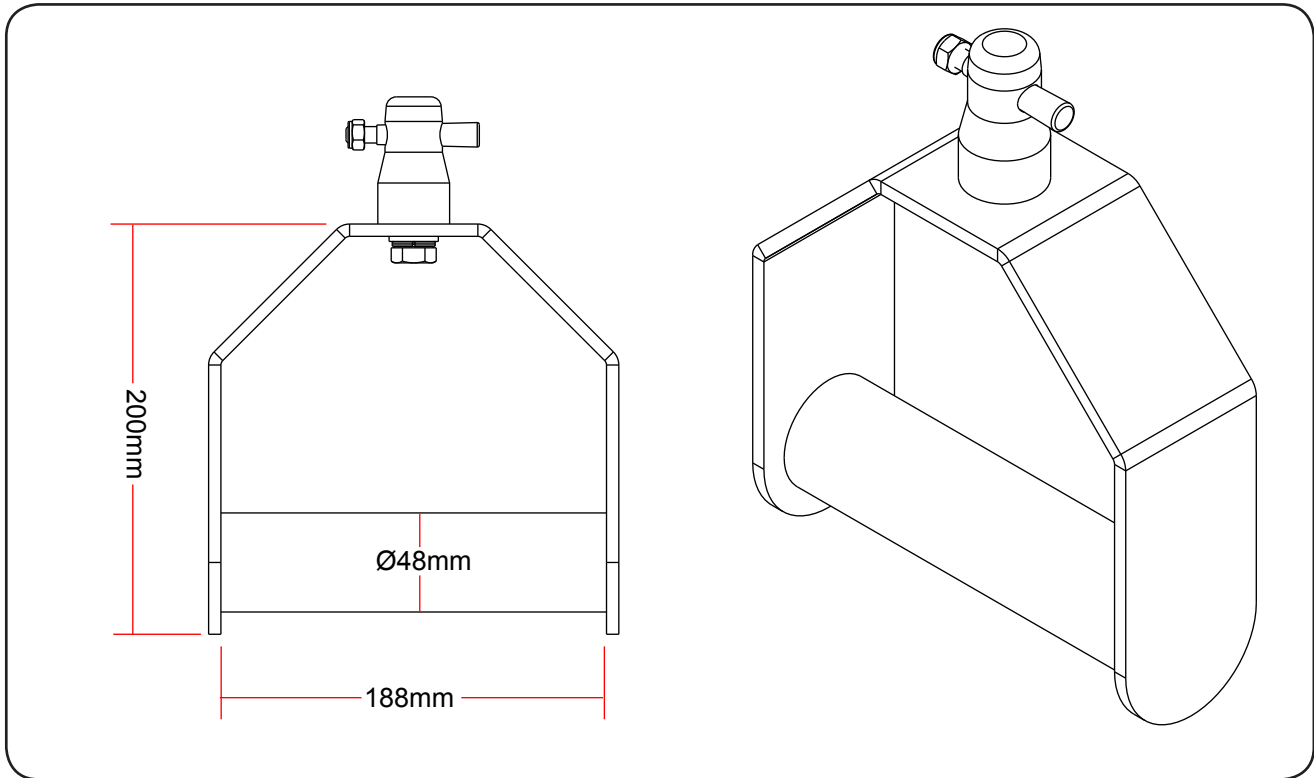
SWL 220lbs (100kg)

T45771

Stirrup - Black

SWL 220lbs (100kg)

Stirrups are supplied with a tapered pin & nyloc nut



Connectors

T45750

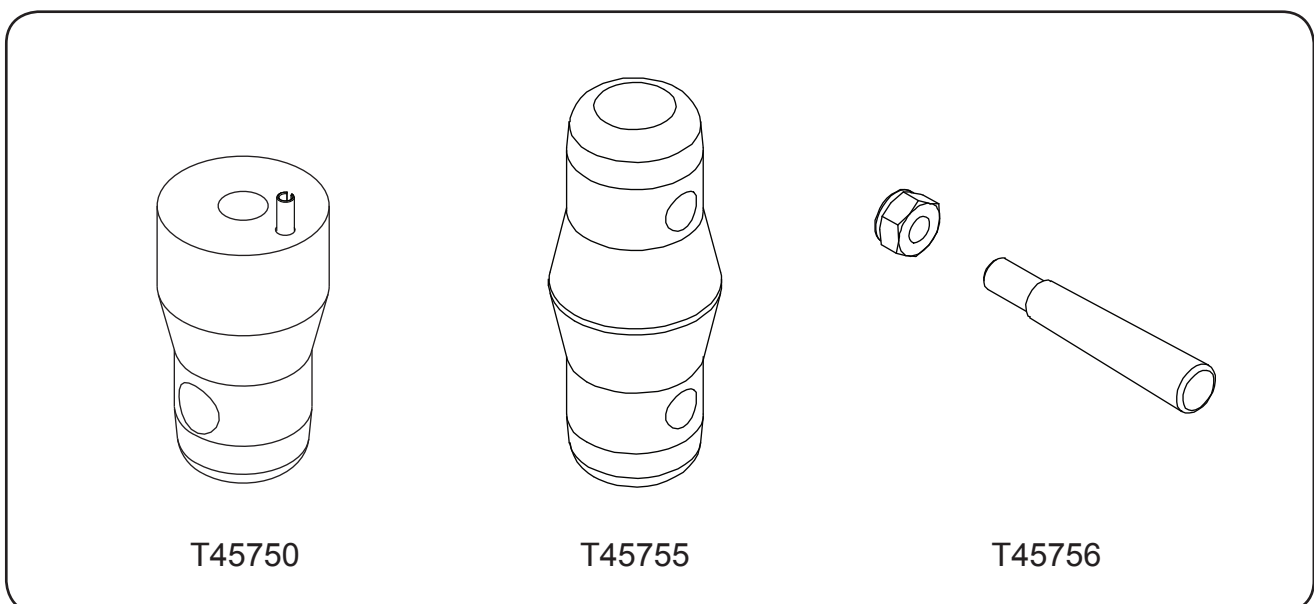
M12 Half Connector

T45755

Full Connector

T45756

Tapered Pin & Nyloc Nut



T45750

T45755

T45756

Maintenance

- Maintenance must only be carried out by approved personnel.
- Approved personnel must make regular checks of the product.
- If you see any damage including cracks, deformation or missing parts, the product must be removed from service and returned to an Approved Service Agent for evaluation/repair.
- A full list of approved service agents can be found on our website www.doughty-engineering.co.uk.
- Approved personnel must carry out a visual and a function test before every usage.
- Approved personnel must carry out more detailed inspection and testing of the product on a regular basis depending on the usage of the product.
- Written records should be kept from the date the product was put into operation.



Warning

- The installer/operator must read and understand the Instruction Manual before using the equipment.
- Operators shall be adequately instructed and fully understand the safe use of the equipment before use.
- Failure to carry out maintenance as necessary, including the replacement of parts to the correct standard could render this equipment unsafe and the manufacturer cannot accept any responsibility in this respect.
- Only use approved spare parts.
- Do not modify the equipment as this could lead to a critical failure.
- Do not use this equipment for a purpose for which it is not intended. This could lead to a failure of the equipment and a risk of falling objects.



Doughty Engineering inc
5925 Stewarts Ferry Pike
Mount Juliet, Tennessee 37122
Tel:(615) 470-5255 - Fax:(615) 470-5389

email: sales@doughty-usa.com
Web: www.doughty-usa.com

Note: Whilst every effort has been made to ensure that the information contained within this manual is correct, Doughty Engineering does not accept any liability for errors or omissions. Specifications and technical data are intended for guidance purposes only and may vary.