



**Makefast**  
Marine Products

**ISSUE 7**

**Sunroofs**

**Awnings & Biminis**

**Sprayhood & Bimini Fittings**

**Sailmakers & Marine Hardware**

**Marine Safety Products**

For enquiries please call  
our technical sales team on  
+44 (0)1686 629010,

email [sales@makefast.com](mailto:sales@makefast.com) or visit

**[www.makefast.com](http://www.makefast.com)**

# WELCOME

## TO THE NEW MAKEFAST MARINE PRODUCTS CATALOGUE

Makefast is a design and manufacturing company, producing equipment for the marine and safety Industries.

For the marine industry products include:-

- Sunroofs, biminis and awnings
- Sprayhood and canopy accessories
- Sailmakers items
- Buckles, D rings, rings etc.
- Slick and Mast Track
- Marine fittings

Many of our products have been developed in association with our customers and we are always pleased to discuss special production with you. This can be anything from adding your logo to one of our standard products, to a completely bespoke design, prototyping and manufacturing service for a special project.

Quality is important to us and we have ISO:9001:2015 Certification. Certificate CFM60306. Continuous improvement is our company philosophy and we welcome any suggestions.

We also manufacture a comprehensive range of safety buckles and hooks. Ask our Sales Department for a catalogue.

Accompanying Makefast's own unique product range, this catalogue includes products from other world class manufacturers.

A few of the products shown in this catalogue will be made to order only, with a minimum order quantity. These are clearly indicated and only apply to the marked items, and not others in the same range.

We also have a minimum order value of £25.

To be kept informed of any updates to this catalogue and to see new products please visit:

**[www.makefast.com](http://www.makefast.com)**

## Precision Engineer

In early 2018, the Makefast Group acquired Precision Engineer to specialise in a wide range of engineering services including precision engineering, automotive toolmaking, CNC and CAD/CAM machining, marine products and safety products.

Offering a highly competitive, cost effective service that can meet the high demands of the automotive and marine industries. Precision Engineer traditionally specialized in small batch sizes, typically 5 to 10, while remaining competitive on larger thousand off batches. Parts can be produced within minutes to meet the most stringent deadlines. The team has over 30 years' experience within the engineering field, and can offer you a personal and professional service, whatever your needs.

Today Precision Engineer can quickly provide multi/mass production turned items up to 32mm diameter having invested in the latest turning machine technology.



The Makefast Design and Manufacturing facility in Newtown, UK



# CONTENTS

Custom Marine Developments .....	2
Technical.....	7
Sunroof, Awning and Bimini Systems.....	8
Sprayhood and Bimini Fittings.....	31
Track Systems and Tube Accessories .....	50
Sailmaker Items.....	62
Webbing and Rope Accessories .....	66
Marine Safety Products .....	70
A to Z Index .....	86
Part Number Index .....	88



Picture courtesy of Yachtwerft-Meyer

Picture courtesy of Sunseeker



***In house 3D CAD/CAM and 3D Printing***

***In house toolmaking and test rig manufacture***

***In house injection moulding, presswork, CNC milling and turning***

***In house wire forming, laser cutting, MIG and TIG welding***

***In house facilities for tensile testing***





CUSTOM  
**Marine**  
DEVELOPMENTS

PART OF THE **Makefast** GROUP

Makefast's ongoing expansion into new markets has necessitated a whole new special products division called Custom Marine Developments (CMD) to deal with one off developments and an increased presence in the superyacht market.



*Benetti*  
YACHTS SINCE 1922

 CUSTOM LINE

IMPERIAL

 Sunseeker

VITTERS  
SHIPTARD

 VRIPACK

 EVO  
ESPEL DINO

 HJB  
HOLLAND JACHTBOUW

 PALMER JOHNSON

 Boris Yacht

 CW  
COMPOSITEWORKS



CMD works closely with many leading superyacht design houses and management services, as well as boatyards to provide innovative engineered solutions to realise any client's imagination. Each solution is designed, engineered, manufactured and serviced to the highest levels.

CMD can take on custom projects where a standard product will not work or a solution does not yet exist. Providing innovative engineered solutions to realise any client's imagination, CMD provide bespoke solutions for any project.

The team have completed extensive work on new build as well as many retro fit projects, CMD has quickly established itself as the 'go to' company for bespoke solutions for superyacht tenders and superyachts.



***For fully custom solutions  
Even if it's just an idea or concept - CMD can turn it into a reality!***

**Windy**

≡C≡  
COCKWELLS

yachtwerft  
meyer

**Xtenders**

COMPASS  
TENDERS

HODGDON

**pascoe**  
international

Quintessence  
YACHTS

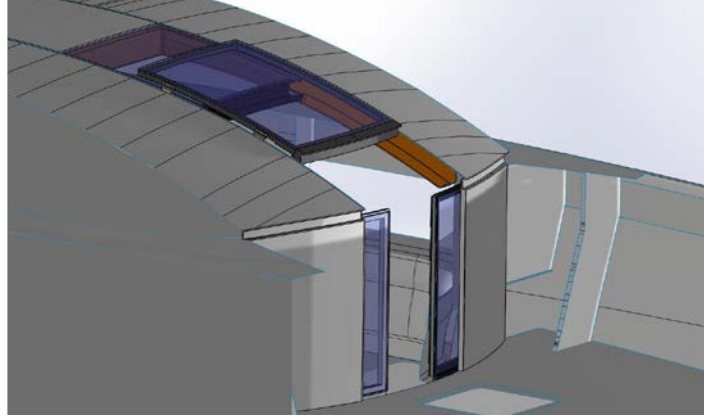
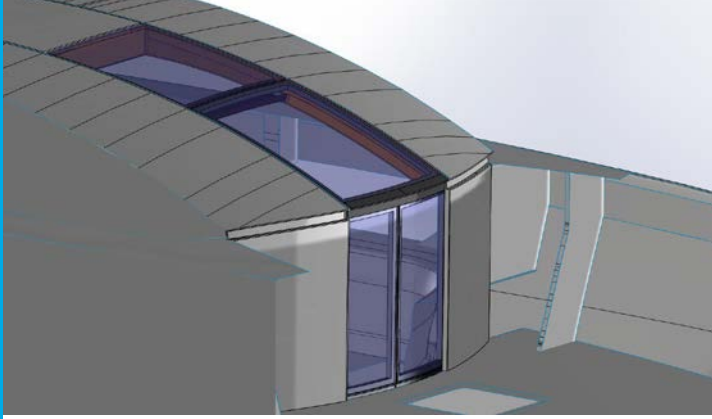


## FULL SERVICE DESIGN TO END PRODUCT

Design, Engineering, Manufacturing and Service are all covered by CMD.

CMD can supply drop in systems that are fully assembled and tested at CMD's facility. The systems can include door frames, roof frames, custom glass, custom blinds, anchors all finished bespoke specifications.

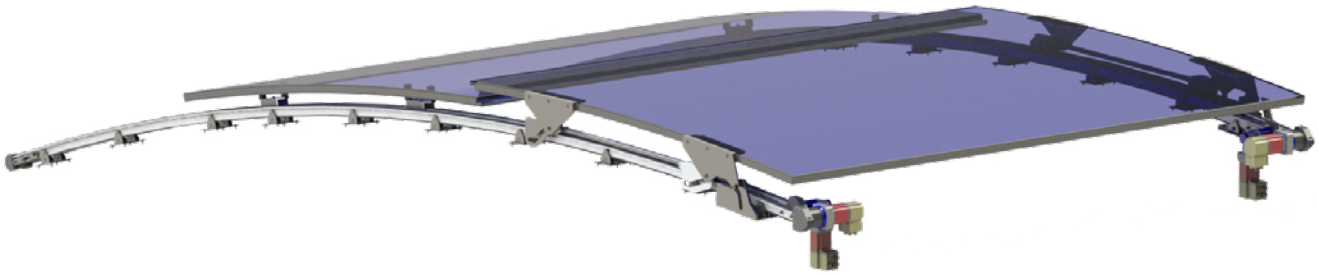
## EXAMPLES OF CUSTOM SOLUTIONS



### Bespoke design project for entrance to limousine tender

Bi-parting door sealing onto a lifting and sliding roof system—all weathertight and sealing, controlled by custom automation system. Produced in ANSI type 316 stainless steel with IP65+ motors.

Highly complex bespoke automation, all finished to Superyacht standards. From a concept to a design to a fully tested system installed by CMD's team. Clients only need to press the button!





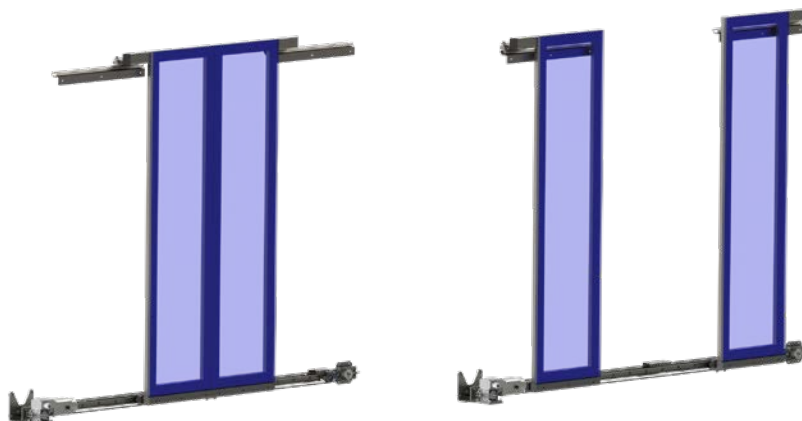
## CUSTOM DOOR SOLUTIONS

### From design to production

Electrically powered sliding door system.

Supplied as a drop in system, fully water tested before being delivered to a boat builder on a custom project.

Each system is produced from ANSI type 316 stainless steel. Drives systems are IP 65 + rated with manual override as standard.

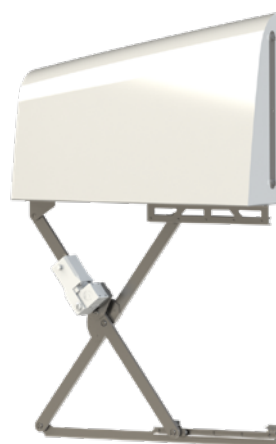


## CUSTOM LIFTING SOLUTIONS

Electrically powered lifting system. Supplied as a drop in systems, each design is customised for the project to meet unique requirements.



Custom Full drop windows, supplied with seals and frames and custom glass units.



Custom drop down boarding gate

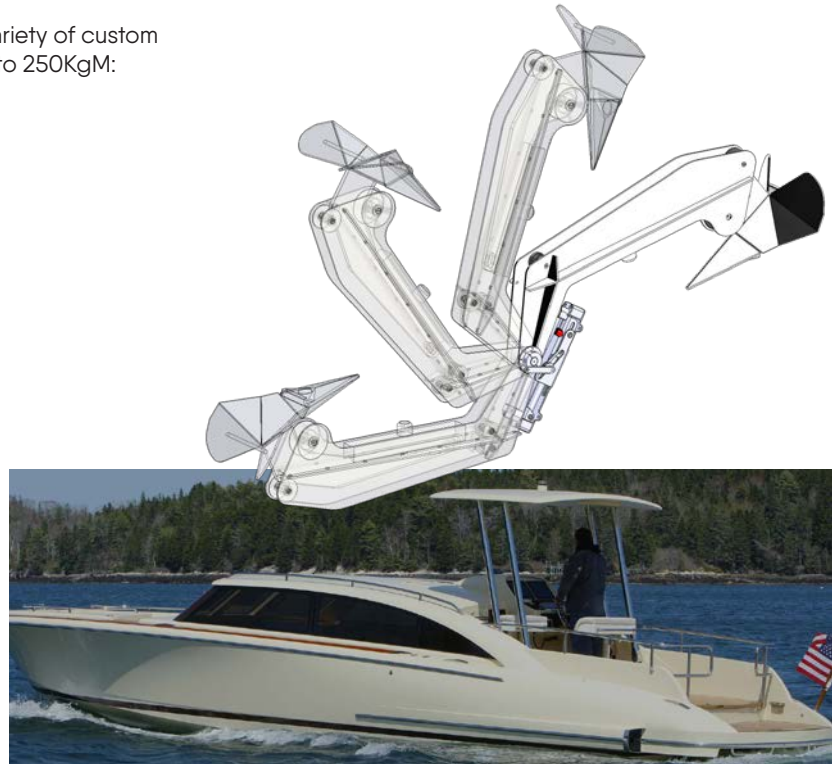




## ROTARY SOLUTIONS

Customising Makefast's micro hydraulic system for a variety of custom applications in a range of power options from 32KgM to 250KgM:

- Rotating anchor systems
- Lifting T-top systems
- Drop down boarding platforms.



## SLIDING SUNROOF & POWERED SUN AWNINGS

Larger versions of Makefast's standard systems: Roofs, awnings biminis are also produced by CMD for superyacht builders.

Scaling up the size of the systems used regularly on production boats to suit the needs of Superyacht builders.

*For fully custom solutions*

*Even if it's just an idea or concept - CMD can turn it into a reality*





# TECHNICAL

## Technical Support

### Makefast has achieved ISO.9001:2008

#### Certificate No. FM60306

Continuous investment in the Design and Development Department has allowed Makefast to strengthen its position as a developer of innovative technical products. Recent investment includes:

- 50 KN tensile test machine
- Material hardness testing capabilities
- Rapid prototyping CNC Mill

Accompanied by an extensive range of product technical data sheets, certificates of conformity, product and material traceability, Makefast offer a concise and full technical support service to all our customers.

### TIG Welding

All Makefast welded safety products are manufactured under strict quality conditions using the TIG welding system. We believe this gives our customers the highest quality product in life critical applications. TIG welding (Tungsten Inert Gas) uses a tungsten electrode with an argon (inert gas) shield to enclose the welding arc and eliminate the threat of impurities in the weld during the critical fusion phase. In this way we guarantee weld strengths supported by thorough product batch testing during the welding process.

Some manufacturers using unshielded arc welding systems cannot guarantee weld strengths as the open arc encourages weld impurity, so reducing strength.

#### Check before you buy



## Material Grades

Unless otherwise specified, all stainless steel quoted in this catalogue is Type 316 for the highest levels of performance and corrosion resistance.

Our carbon steel products use a range of grades appropriate to the application and all are offered in silver zinc plated as standard. Zinc plated, yellow passivated is available to order. Alternative surface finishes are available on request.

Our Aluminium Alloy products are manufactured in a range of high strength alloys appropriate to the intended application.

Makefast plastic products are offered in suitable materials for their intended applications, Nylon 6, Acetal and Nylon 66 30% Glass filled are used in loaded applications. Non loaded products are generally manufactured in Polypropylene, and High Density Polyethylene.

Please note any additives such as lubricants or flame retardant grades will give a significantly reduced mechanical performance.

If you have any queries relating to the performance of a particular product please contact us as we can offer technical advice relating to the suitability of various materials for particular applications.

### Lifejacket Standard

Many of our buckles and D rings etc. are accredited to the new Lifejacket Standard EN ISO 12402-7:2006/ FprA1:2010, which is shown throughout the catalogue as the symbol on the right.



## Loading Assumptions

Breaking Loads (in Kg and KN) are for guidance only and do not form part of any warranty. All loads are quoted assuming a straight pull using shackles to secure the test equipment. Where the load on a buckle is not straight the strength could be reduced. Loading indicated in Kg. is Kg. Force where:

$$\text{Load in KN} = \text{Load in KG} \times 9.81$$

Where formulas have been used to obtain a components breaking load, etc. an ultimate tensile stress has been assumed of:

**500 N/mm<sup>2</sup> for stainless steel**

**300 N/mm<sup>2</sup> for aluminium (5083 marine grade)**

**350 N/mm<sup>2</sup> for carbon steel**

In certain tests, buckles, D rings, etc. have been pulled using webbing, failure of the webbing occurs before the buckle reaches its Breaking Load. Our test data is available on request and tests can be made on customer's applications if required. Buckles are used in a variety of applications and the factor of safety for Safe Working Loads (SWL) may vary. Our recommendation is that the Safe Working Load be one fifth of the Breaking Load (BL)

All data is given for guidance only and is done so without warranty.

**It is the obligation of the purchaser or end user to determine whether or not the item is suitable for its intended application.**

**In no event shall our liability extend beyond the replacement cost of any item.**

## Special Finishes

Our products can be blacked or coloured to order. This can be especially useful for military and security equipment.

### Xylan Black Coating:

This organic solvent based, resin-bonded, dry-film lubricant coating is used to reduce friction, prevent scoring and galling. It is also used to provide secondary lubrication. This is ideal in optimising low friction to wear ratios.

### Electrophoretic Coating (e-coat):

This process is widely used for corrosion protection as it offers the ability to deposit a uniform coating over bends, cavities or areas which would be hard to coat with a conventional powder coat or liquid spray painting process.

The e-coat process can be used to produce a basic coating in its own right by giving excellent corrosion protection to components not requiring a more decorative finish. It can also be used in conjunction with a powder coated finish on components that need a higher degree of protection and a more robust and aesthetic finish.

Please ask about minimum order quantities.







Picture courtesy of Fairline

Powered “Hard Top” Single Panel Sunroof.....	10
Powered “Soft Top” Canvas Sunroof .....	11
Canvas Lifter .....	12
Constant Tension System for Canvas Sunroofs .....	12
Manual or Powered Narrow Track Sunroof .....	13
Eaton Roof System .....	14
Targa Roof Mechanism.....	15
Makefast Makeswitch App .....	17
Lift & Slide Sealing Sunroof.....	18
Powered Sun Awning.....	20
Automated Powered Bimini Systems .....	22
Tube Adaptors.....	24
Base Plates.....	24
Tube Socket Deck Mounts .....	24
Anchor Handler System.....	25
Door operating System.....	25
Shade Base/ Quick Release Deck Mount and Fittings .....	26
Detachable Carbon Fibre Pole Assemblies .....	28
PER 030 Shade Sail Deck Mount .....	30



# SUNROOF, AWNING & BIMINI SYSTEMS



Picture courtesy of Permare

## POWERED SUNROOF SYSTEM

Solid panel or canvas roof with integral headlining facility.

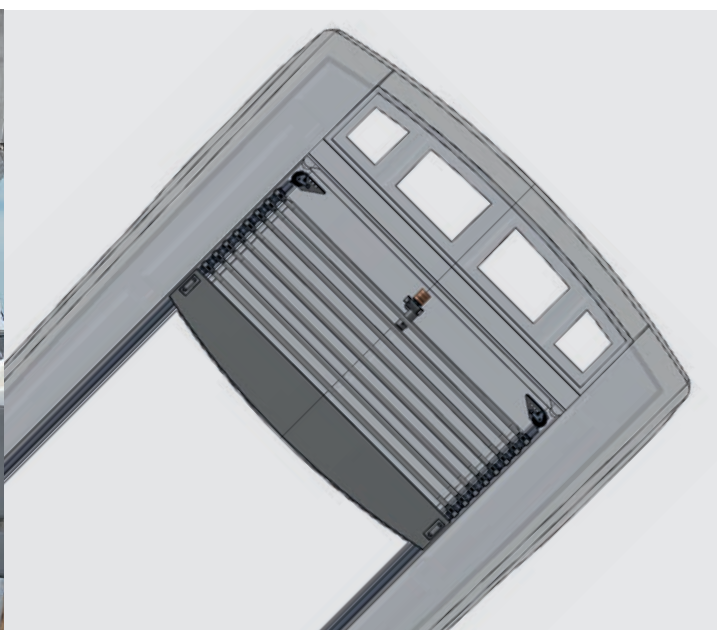
- 316 stainless steel track and cable system, designed to complement the profile of the yacht.
- Low maintenance, self-cleaning tracks and cars produced in highly polished stainless steel.
- Roof mechanism capable of accommodating considerable movement and build variation in parent structure of yacht.
- Operated by two-way rocker switch mounted on the dashboard or remote control option available.
- Designed to cope with extremes of temperature, weather and structural movement of the boat whilst at sea. Extensive salt spray and function testing is carried out.
- All supplied fully assembled and individually tested, ready for quick and easy installation.

Available options:

- Canvas lifting mechanism to raise canvas out of cabin when opening the roof.
- Constant tension system to maintain canvas tension until the canvas is parked in rear position.
- Different canvas colours available on customer request



Picture courtesy of Azimut





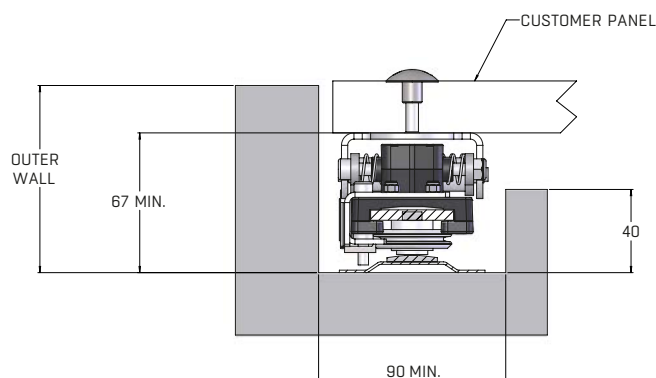
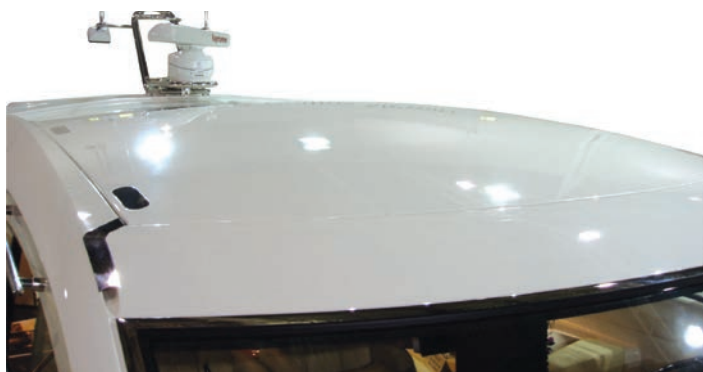
# SUNROOF, AWNING & BIMINI SYSTEMS

## POWERED "HARD TOP" SINGLE PANEL SUNROOF for new and existing designs

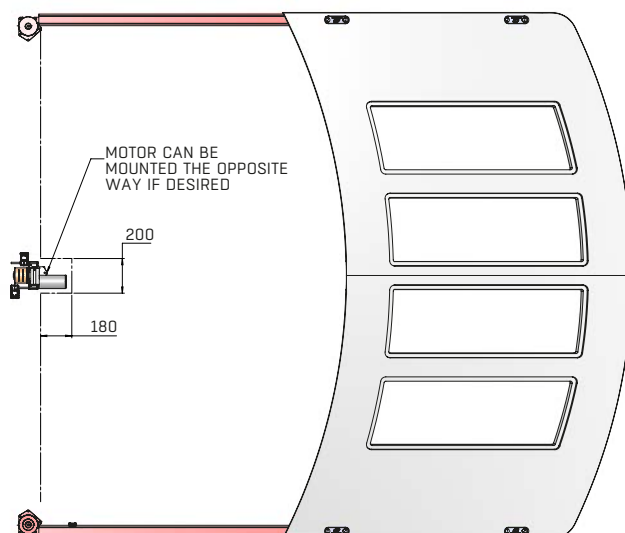
Single panel solid roof in GRP or glass. Suitable for use on most sizes of Sports yachts and sailboats. It is designed to complement the profile of the yacht. For boats over 12 metres (40ft).



Picture courtesy of Windy Boats AS



ALL DIMENSIONS ARE NOMINAL  
PLEASE CONTACT MAKEFAST WITH YOUR PROPOSAL



## TECHNICAL SPECIFICATION

- Roof mechanism capable of accommodating considerable movement and build variation in parent structure of yacht
- Clear width of opening 1.5 - 3 metres
- Clear length of opening 1.5 - 3 metres
- Panel thickness nominally 20mm
- Opening speed nominal 5 metres per minute
- Track construction highly polished 316SS
- Carriage construction Non Hygroscopic plastic
- Type 316 stainless steel cable system (7 x 19 construction)
- Motor gear box unit:-
  - 12 or 24 volt available
  - Fixed ratio gearbox
  - Protected IP54 unit
- Electrical control box rated IP66
- Limit sensors fore and aft
- Operated by 2 way rocker switch mounted on the dashboard - customer supplied
- Remote control option available
- Unit supplied in modular form - 2 assembled track assemblies including carriages, tracks, pillars, cable tensioning units mounted to base channel. With separate motor assembly and control box. Installation and service manual included.
- Unit weight 60kgs based on 3 metres x 2.5 metres (excluding panel)
- Solid panel supplied by customer or ask Makefast to quote
- Core system is designed to accommodate build variation, extremes of temperature and weather and structural movement of the boat whilst at sea
- Extensive sea spray and function testing is carried out
- 2 year warranty period from date of dispatch (full details available)



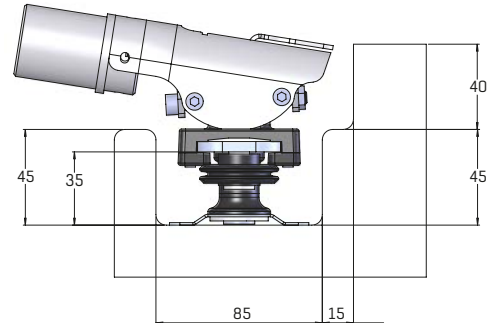
# SUNROOF, AWNING & BIMINI SYSTEMS

## POWERED "SOFT TOP" CANVAS SUNROOF for new and existing designs

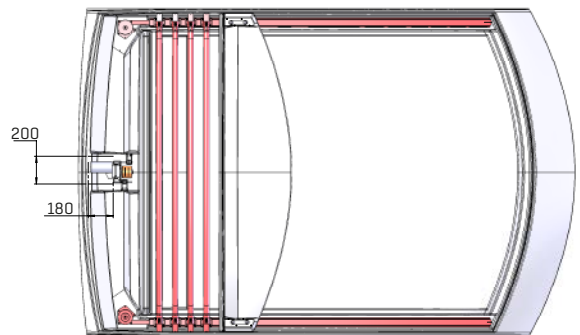
Supporting a canvas roof with integral headlining facility. Suitable for use on most sizes of sports yachts and sailboats. It is designed to complement the profile of the yacht. For boats over 12 metres (40ft).



MAKEFAST STANDARD SUNROOF - CHANNELS



ALL DIMENSIONS ARE NOMINAL.  
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## TECHNICAL SPECIFICATION

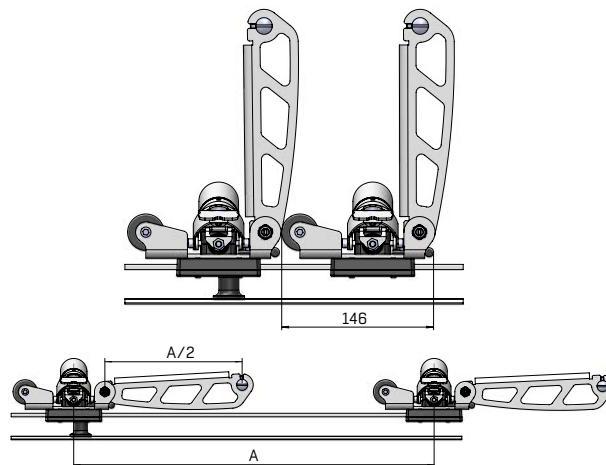
- Roof mechanism capable of accommodating considerable movement and build variation in parent structure of yacht
- Clear width of opening 1.5 - 3 metres
- Clear length of opening 1.5 - 3 metres
- Opening speed nominal 5 metres per minute
- Low maintenance, self lubricating, self cleaning tracks and cars
- Highly polished 316SS
- Carriage construction Non Hygroscopic plastic
- Type 316 stainless steel cable system (7 x 19 construction)
- Motor gear box unit:-
  - 12 or 24 volt available
  - Fixed ratio gearbox
  - Protected IP54 unit
- Electrical control box rated IP66
- Limit sensors fore and aft
- Operated by 2 way rocker switch mounted on the dashboard - customer supplied
- Remote control option available
- Unit weight 65kgs based on 3 metres x 2.5 metres (excluding canvas)
- Canvas supplied by customer or ask Makefast to quote
- Core system is designed to accommodate build variation, extremes of temperature and weather and structural movement of the boat whilst at sea
- Extensive sea spray and function testing is carried out
- 2 year warranty period from date of dispatch (full details available)



# SUNROOF, AWNING & BIMINI SYSTEMS

## CANVAS LIFTER

Both external canvas and inner headlining can be raised.  
Ensures the canvas is held outside the cabin space when the roof is opened.



## TECHNICAL SPECIFICATION

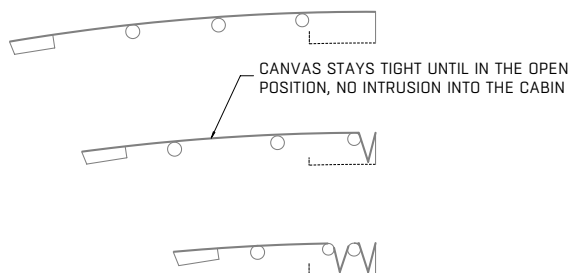
- The canvas is raised by intermediate lifter beams situated in between each cross beam
- The canvas neatly stacks at the rear of the boat without the need for a storage shelf
- The lifting and falling is a soft progressive action controlled by damping springs situated within the track car assemblies
- Lifter beam can be stainless steel or anodised aluminium depending on application
- For sizes see standard roof technical specifications
- 2 year warranty period from date of despatch (full details available)

## CONSTANT TENSION SYSTEM FOR CANVAS SUNROOFS

Retains canvas tension when opening and closing sunroof. Both canvas and inner headlining can be tensioned. Textile panels only fold in sequence at the aft for stowage. If the sunroof is in the half way position, panels remain tensioned allowing the benefit of full headroom. Suitable for electric and manual systems. Manual version allows roof to lock in any position along the track length.



CONSTANT CANVAS TENSION FOR CANVAS SUNROOFS



## TECHNICAL SPECIFICATION

- Unique gripping system retains the canvas tension
- The canvas neatly folds and stows away at the rear of the roof
- Canvas roof line is maintained during operation
- For size and materials see Narrow Track Roof technical specification
- Can be ordered with the standard canvas sunroof or the narrow track sunroof mechanism
- 2 year warranty period from date of despatch (full details available)

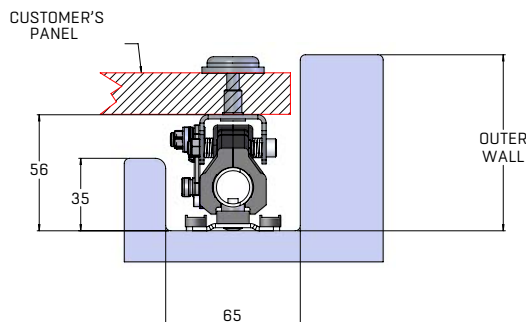


# SUNROOF, AWNING & BIMINI SYSTEMS

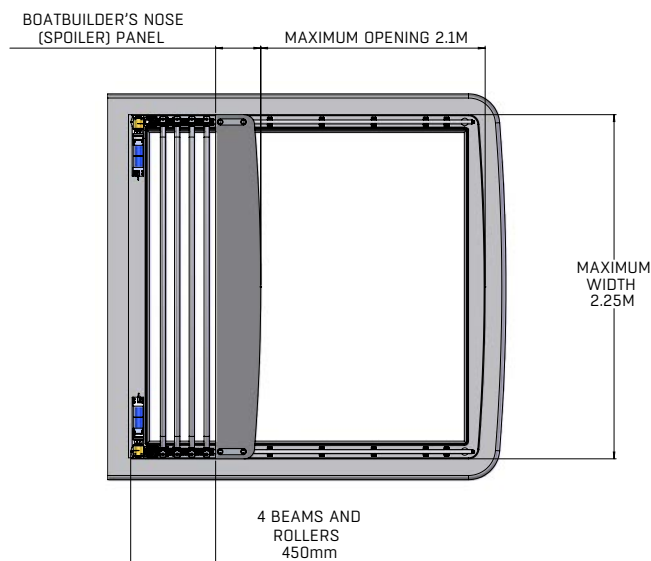
## MANUAL OR POWERED NARROW TRACK SUNROOF for canvas, GRP or glass

New lighter sunroof which can be used on many existing boats. It is ideal for boats where the tracks are narrow and fits many existing roof profiles. It has a maximum travel of 2 metres and will accept a maximum weight of 50 kgs 316 grade stainless steel track and rail system.

- Self cleaning, self lubricating system incorporating nylon with silicon additive
- Low maintenance and easy to fit as a new build or retrofit
- Low profile with self centering cross beams and fabric tensioners
- Compact flexible drive requires less space
- Electronic control box to IP65 24V or 12V



ALL DIMENSIONS ARE NOMINAL  
PLEASE CONTACT MAKEFAST  
WITH YOUR PROPOSAL



## TECHNICAL SPECIFICATION

- Self cleaning, self lubricating system incorporating nylon with silicone additive
- Low profile with self centering cross beams and fabric tensioners
- Roof mechanism capable of accommodating movement and build variation in parent structure of yacht
- Cable driven system ensures parallel motion on nose cone without twisting
- Clear width of opening 1.5 - 2.25 metres
- Manual unit supplied with central Type 316 stainless steel handle
- Powered unit supplied with electronic control box to IP65 24V or 12V
- Core system is designed to accommodate build variation, extremes of temperature and weather and structural movement of the boat whilst at sea
- Extensive sea spray and function testing is carried out
- Clear length of opening 1.0 - 3 metres
- 2 year warranty period from date of dispatch (full details available)
- Track construction highly polished 316SS

# SUNROOF, AWNING & BIMINI SYSTEMS

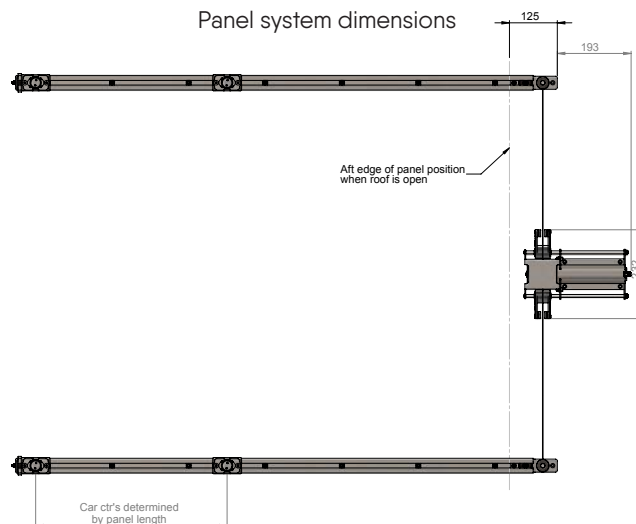
## EATON ROOF SYSTEM

Lower cost alternative to other systems with no compromise on quality.

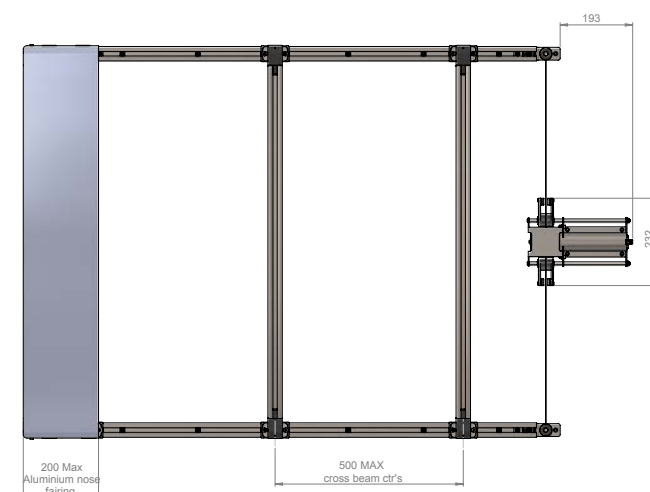
In memory of Maurice Eaton, extraordinary designer and engineer - 1933 -2013



Panel system dimensions



Canvas system dimensions



## TECHNICAL SPECIFICATION

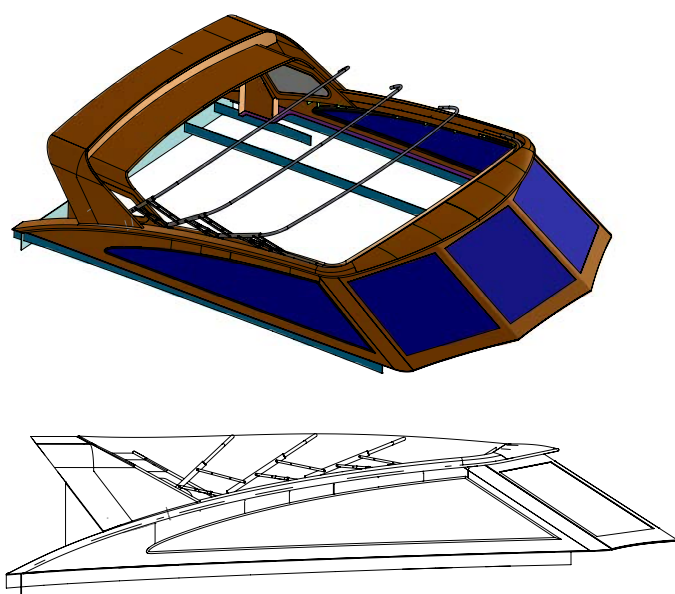
- In type 316 stainless steel
- Low profile
- Ideal for a range of boats
- Available as either a manual or powered system
- Universal rolled section for both the track and crossbeam, with a high polished mirror finish.
- Track cars with roller bearings, for smooth operation
- Reduced assembly and fitting time.
- Powered version:
  - Motor gear box unit—12 or 24 volt available
  - Fixed ratio gearbox
  - Protected IP54 unit
  - Electrical control box rated IP 66



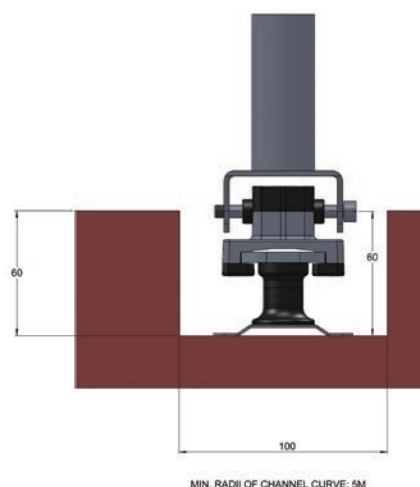
# SUNROOF, AWNING & BIMINI SYSTEMS

## TARGA ROOF MECHANISM

Powered retractable bimini to suit "Targa" styled hardtop. Once released at the fore the Bimini retracts to the aft arch and is stowed uniformly to convert the cockpit to an open top. When closed the bimini provides full waterproof cover to the cockpit.



TARGA RETRACTABLE BIMINI - SIDE CHANNELS



## TECHNICAL SPECIFICATION

- Roof mechanism capable of accommodating considerable movement and build variation in parent structure of yacht
- Clear width of opening 1.5 - 3 metres
- Clear length of opening 1.5 - 3 metres
- Opening speed nominal 5 metres per minute
- Low maintenance, self-lubricating, self-cleaning tracks and cars. Highly polished 316SS
- Carriage construction Non Hygroscopic plastic
- Type 316 stainless steel cable system (7 x 19 construction)
- Motor gear box unit:-
  - 12 or 24 volt available
  - Fixed ratio gearbox
  - Protected IP54 unit
- Electrical control box rated IP66
- Limit sensors fore and aft
- Operated by 2 way rocker switch mounted on the dashboard - customer supplied
- Remote control option available
- Unit weight 65kgs based on 3 metres x 2.5 metres (excluding canvas)
- Canvas supplied by customer or ask Makefast to quote
- Core system is designed to accommodate build variation, extremes of temperature and weather and structural movement of the boat whilst at sea
- Extensive sea spray and function testing is carried out
- 2 year warranty period from date of dispatch (full details available)



## SUNROOF, AWNING & BIMINI SYSTEMS





# SUNROOF, AWNING & BIMINI SYSTEMS

## MAKEFAST MAKESWITCH APP for sunroofs & awnings

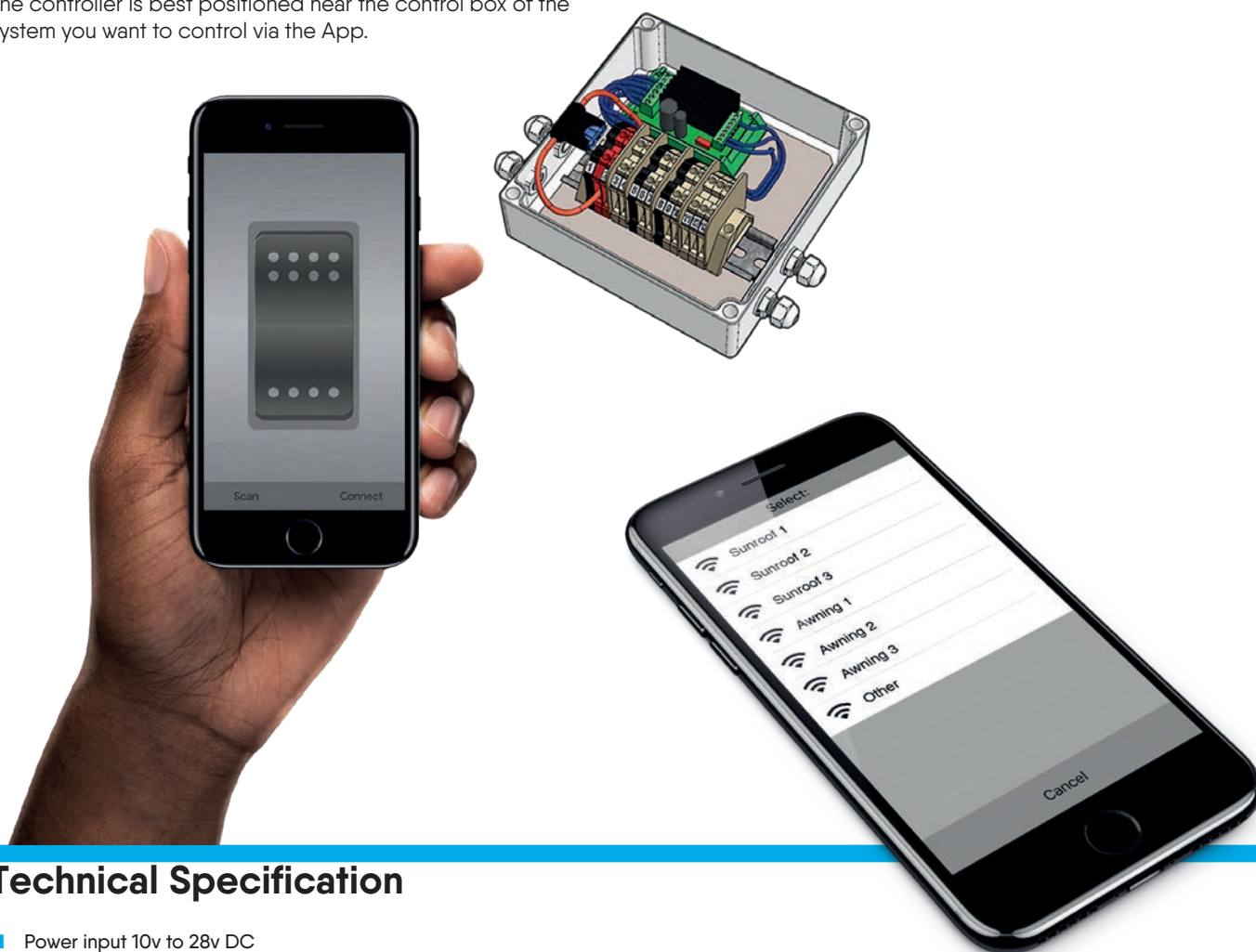
Makefast has developed a new App (Makeswitch) that allows users to operate Sunroofs and Awnings remotely using their smartphone or tablet device.

The secure App enables these systems to be opened and closed, raised and lowered from a range of up to 30 metres away. Multiple systems can be controlled from one device and the secure pairing feature ensures user peace of mind.

The easily installed control module can also be retro-fitted onto existing systems. The App can be downloaded free by multiple users / devices and is available now!

## Connecting the Makefast Bluetooth unit BTI-001

The controller is best positioned near the control box of the system you want to control via the App.



## Technical Specification

- Power input 10v to 28v DC
- Built in power supply with interference suppressor
- Low operating power - 13mA
- On a typical battery of 100Ah, it would last around 7000hrs
- 2 outputs, with +V (5v) output to allow a simple interface
- Operating temperature -40°C to +65°C
- Operating range: Open environment within 30 metres
- The receiver installs in minutes with minimal work required
- The interface unit is in a small IP rated plastic enclosure
- Box labelled with the unique PIN code which is used to secure pairing with a mobile device
- Bluetooth protocol: Bluetooth specification V4.0 BLE - which is the most secure consumer based wireless protocol
- Supporting BLE communications with iPhone, iPad App & Android App.



# SUNROOF, AWNING & BIMINI SYSTEMS

## LIFT & SLIDE SEALING SUNROOF

The new Makefast "Lift and Slide" sealing sunroof offers boatbuilders a versatile solution to sunroof integration. The unique system provides maximum waterproofing and helps maintain internal cabin climate control. The system allows boatbuilders and designers to utilise their own panels to enable a truly unique and integrated solution.

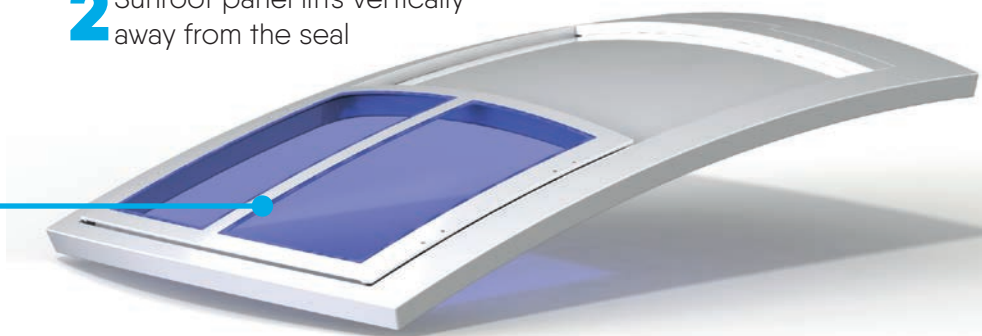
- Any size of panel width and length -allowing unlimited flexibility in design
- Panel weight up to 250kg
- Standard lift of 25mm (custom lift options available on request)
- High quality Type 316 stainless steel components ensure the highest levels of durability, corrosion resistance and finish

**1** Sunroof in seated position



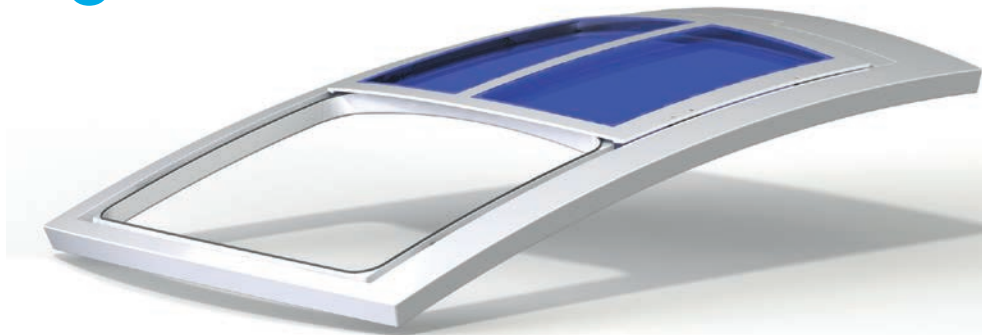
*The panel pulls down onto the seal to ensure water tightness and optimal climate control*

**2** Sunroof panel lifts vertically away from the seal



*Boatyard supplied panel offers greater flexibility in design*

**3** The panel then slides back to expose the roof aperture



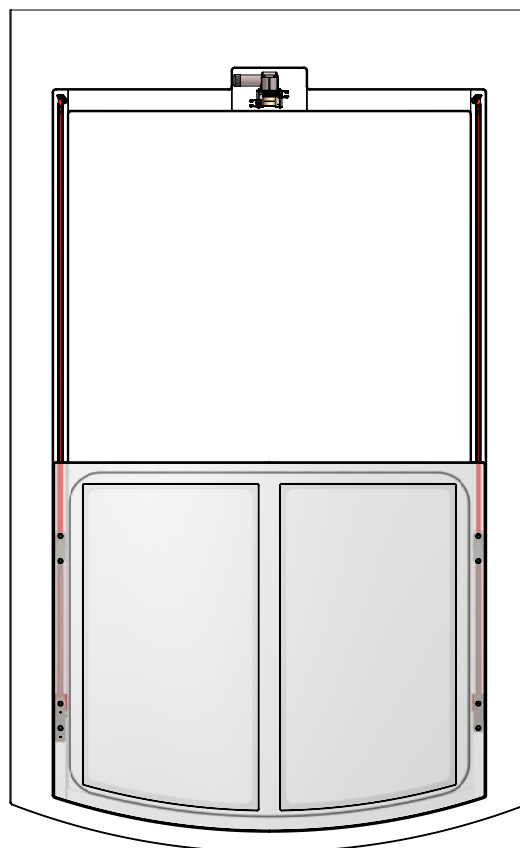
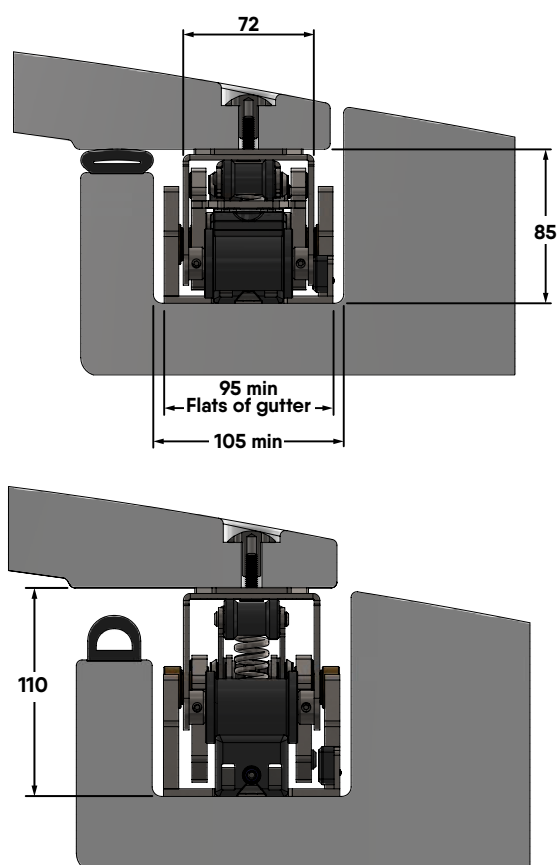


# SUNROOF, AWNING & BIMINI SYSTEMS



Increased lifting capacity can be added with adjustable spring configuration

## Technical Specification



- Roof mechanism capable of accommodating considerable movement and build variation in parent structure of yacht
- Panel thickness nominally 20mm
- Opening speed nominal 5 metres per minute
- Low maintenance, self lubricating, self cleaning tracks and cars
- Highly polished 316SS
- Carriage construction Non Hygroscopic plastic
- Type 316 stainless steel cable system (7 x 19 construction)
- Motor gear box unit:-
  - 12 or 24 volt available
  - Fixed ratio gearbox
  - Protected IP54 unit
- Electrical control box rated IP66
- Limit sensors fore and aft

- Operated by 2 way rocker switch mounted on the dashboard - customer supplied
- Remote control option available
- Unit supplied in modular form - 2 assembled track assemblies including carriages, track pillars, cable tensioning units mounted to base channel, with separate motor assembly and control box. Installation and service manual included.
- Unit weight 60kgs based on 3 metres x 2.5 metres (excluding panel)
- Solid panel supplied by customer or ask Makefast to quote
- Core system is designed to accommodate build variation, extremes of temperature and weather and structural movement of the boat whilst at sea
- Extensive salt spray and function testing is carried out

# SUNROOF, AWNING & BIMINI SYSTEMS

## POWERED SUN AWNING

Makefast sun awning has spring loaded tension arms and a 316 stainless steel construction.

CE Marked to BSEN 13561:2004 & A1:2008 (External blinds performance requirements including safety).

- Self cleaning, self lubricating system incorporating nylon with silicon additive
- Low profile with self centering cross beams and fabric tensioners
- Low maintenance and easy to fit as a new build or retrofit
- Compact flexible drive requires less space
- Electronic control box to IP65 24V or 12V
- Width and Length are specific to customer requirements
- Near silent operations with soft start/stop



Picture courtesy of Sunseeker



Picture courtesy of Princess Yachts International PLC



## TECHNICAL SPECIFICATION

- Electric power with manual override
- Compact mechanism design
- Easy to fit mounting points
- Width can be customer specific
- Control box to IP65, 24V or 12V
- Soft stop/start
- Canvas to suit customers specification
- Canvas auto tensioning
- 2 year warranty period from date of despatch (full details available)



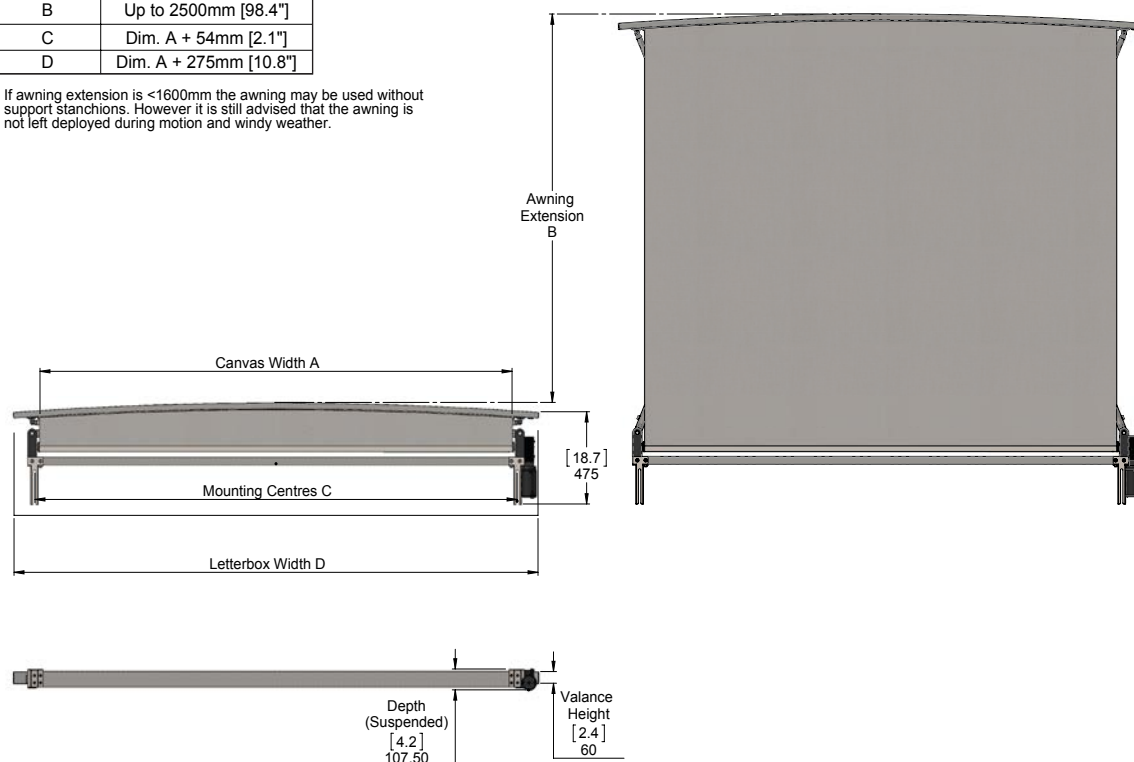
Picture courtesy of Galeon



# SUNROOF, AWNING & BIMINI SYSTEMS

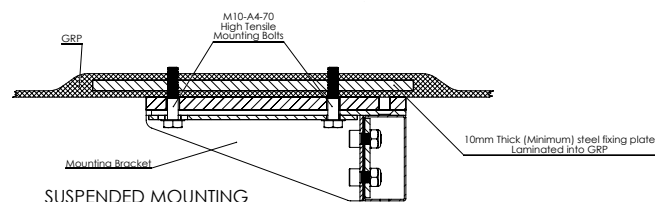
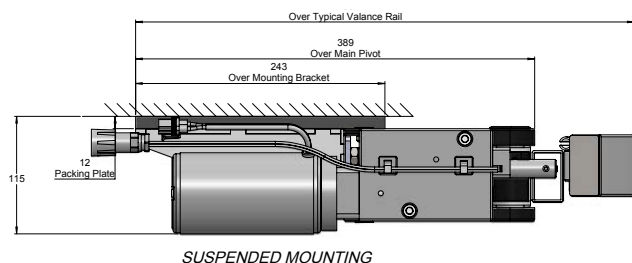
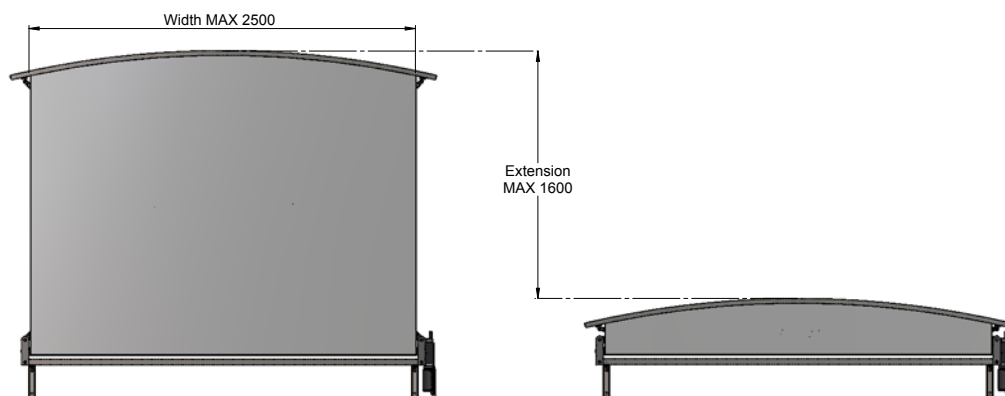
Dimension	Value
A	Up to 4000mm [157"]
B	Up to 2500mm [98.4"]
C	Dim. A + 54mm [2.1"]
D	Dim. A + 275mm [10.8"]

If awning extension is <1600mm the awning may be used without support stanchions. However it is still advised that the awning is not left deployed during motion and windy weather.

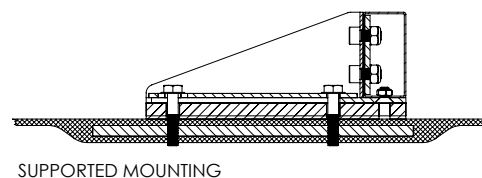
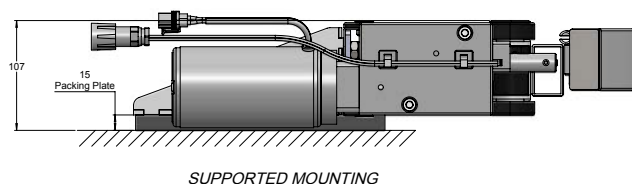


## Maximum Awning Dimensions Without Support Stanchions

Awnings larger than shown should have the supplied support stanchions used whenever extended. If not using supports we do not recommend the awning is used while the boat is underway, or in rough weather.



CROSS SECTIONS THROUGH MOUNTING BRACKETS TO SHOW TYPICAL FIXING METHODS



# SUNROOF, AWNING & BIMINI SYSTEMS

## AUTOMATIC POWERED BIMINI SYSTEMS

Great added value for Bimini makers:  
For new build Yachts or retrofit

BHU-001 and BHU-001Y Large bimini micro hydraulic system fits 38mm (1½") tube for canvas up to 4 metres wide, 3-4 metres throw

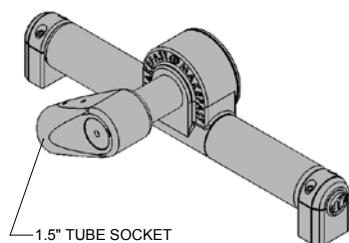
BHU-002 and BHU-002Y Small bimini hydraulic unit fits 32mm (1¼") tube for canvas up to 4 metres wide, 4 metres throw

BHU-003 and BHU-003Y Large, strong bimini hydraulic unit fits 50mm (2") tube, will take up to twice the weight and twice the width of the other units

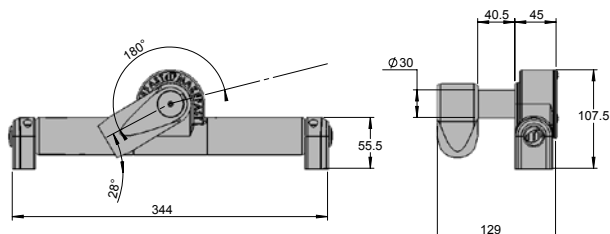


## TECHNICAL SPECIFICATIONS

- Customer to specify mounting position when ordering – position is factory set
- Connection system allows all micro hydraulic pipe work to be hidden within mountings
- Coloured pipe system for ease of installation and identification
- Self tensioning
- Range of movement 150° as standard
- Push button control with automatic rocker safety switch
- Automatic safety override valve
- Operation warning beeper unit installed in system (can be silenced)
- Adjustable torque
- Hydraulic pump unit available in 12 or 24 volt pump unit box
- Manual override facility



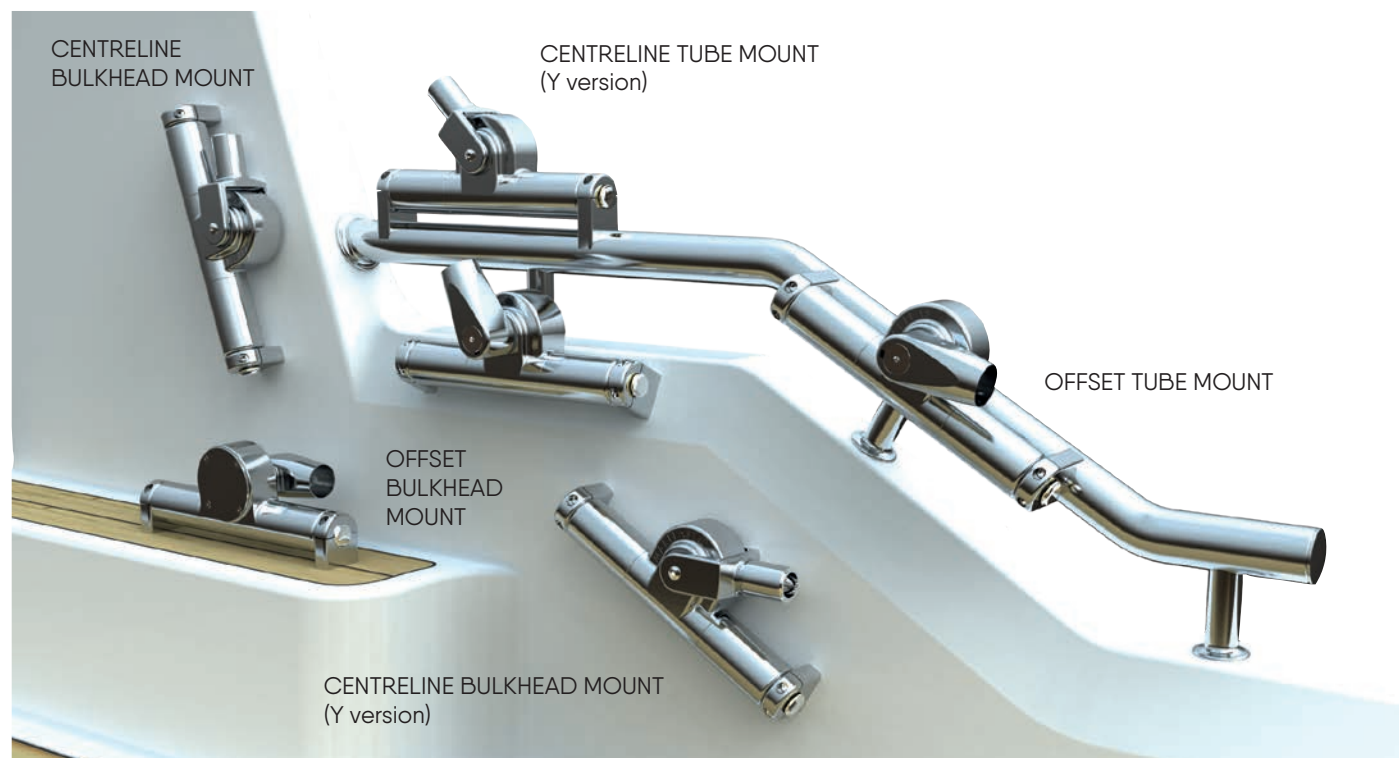
### BHU-002 - 180°



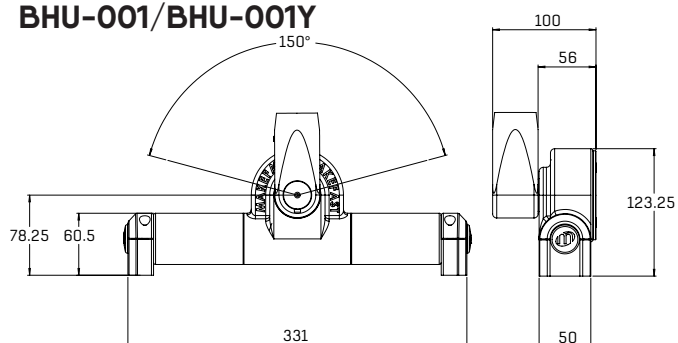


# SUNROOF, AWNING & BIMINI SYSTEMS

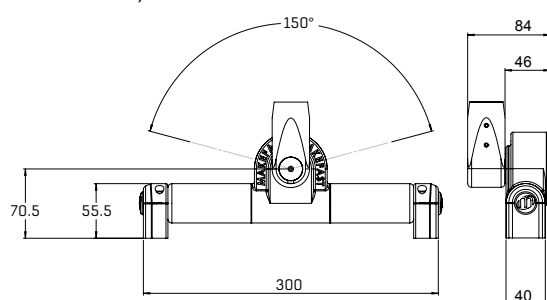
## TYPICAL MOUNTING CONFIGURATIONS



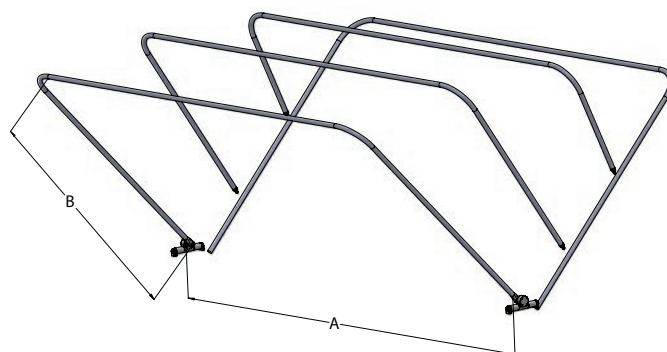
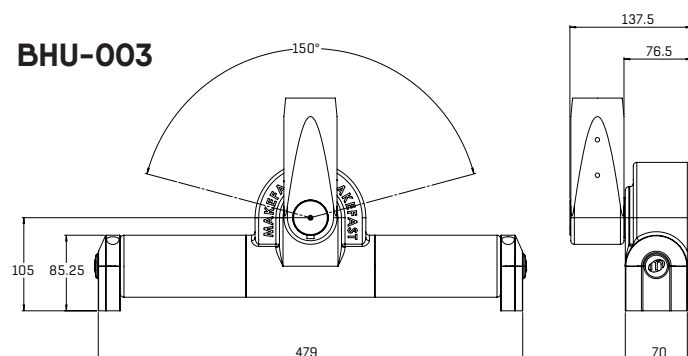
**BHU-001/BHU-001Y**



**BHU-002/BHU-002Y**



**BHU-003**



BHU TYPE	Dim A	Dim B	OUTPUT TORQUE FOR 2 UNITS
BHU-002	up to 3M	up to 2.5M	64 KgM
BHU-001	up to 4M	up to 3M	130 KgM
BHU-003	+4M	+3M	282 KgM

# SUNROOF, AWNING & BIMINI SYSTEMS

## TUBE ADAPTORS



Part No.	TO FIT TUBE SIZE		To Suit Units
	mm	ins	
AD-001	25	1	BHU-002
AD-002	25	1	BHU-001
AD-003	32	1 1/4	BHU-001
AD-004	38	1 1/2	BHU-002

## BASE PLATES for bimini actuators



An attractive deck mounting for the bimini actuator

Part No.	To suit BHU unit	Length mm	Width mm
BHU-001M1	BHU-001/BHU-001Y	400	60
BHU-002M1	BHU-002/BHU-002Y	360	50
BHU-003M1	BHU-003	550	80

## TUBE SOCKET DECK MOUNT



Part No.	For size tube
	mm / ins
1084	30mm
1085	1 1/4"
1086	1 1/2"

Distance between hole centres:  
Length 82mm (3.22")  
Width 26mm (1.02")

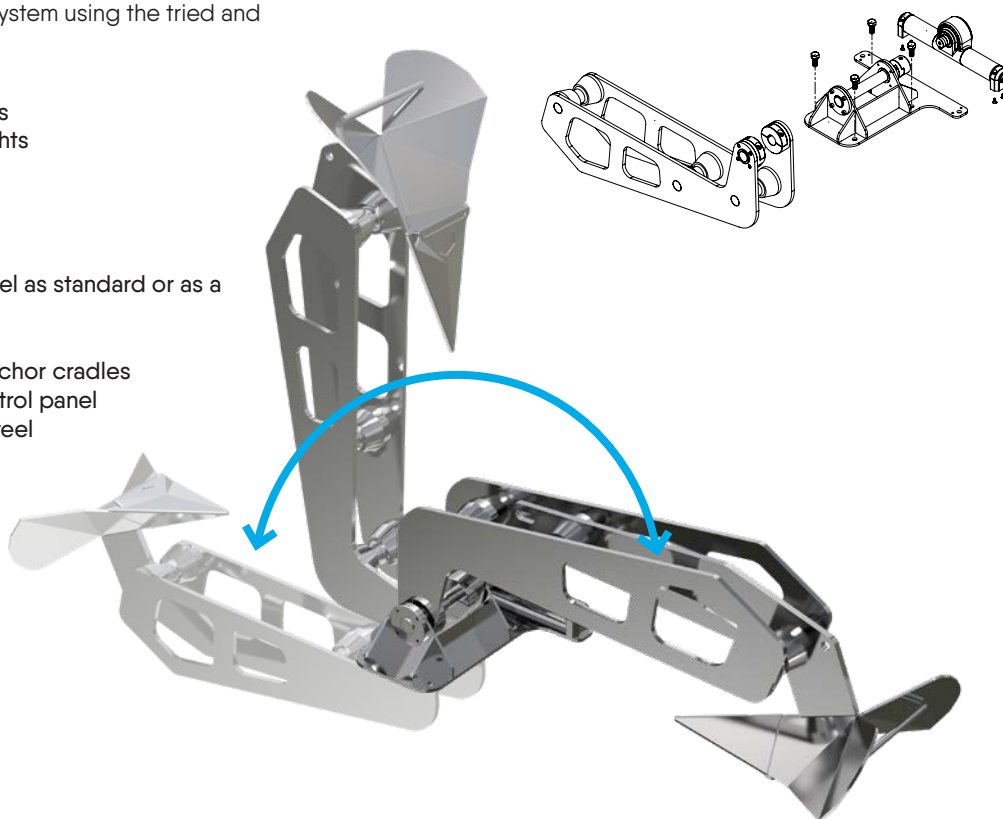


# SUNROOF, AWNING & BIMINI SYSTEMS

## ANCHOR HANDLER SYSTEM

Simple operation anchor stowage system using the tried and tested Makefast BHU system.

- Made to customer requirements
- Ideally suited to 25 to 40 ft. yachts
- For anchors up to 40 Kgs.
- Compact power pack
- Replaces bow roller
- Self contained unit
- Available as a manual base model as standard or as a multi function
- Fully automated option.
- Can be fitted with a range of anchor cradles
- Integrated hydraulic pump/control panel
- In polished Type 316 stainless steel
- Suitable for external marine use
- Can wash down



## DOOR OPERATING SYSTEM

Electric door operation system designed and engineered by Makefast specifically for marine use.

- Concealed drive
- Control system with variable obstruction limiter
- Manual override
- Mounting brackets to suit any door frame
- Manufactured in Type 316 stainless steel
- Adaptable mounting positions
- Made to customer requirements



# SPRAYHOOD & BIMINI SYSTEMS

## SHADE BASE/QUICK RELEASE DECK MOUNT

316 Grade Stainless Steel Polished Finish  
Quick Release Deck Mounts



Low profile base plate with multiple fixing points for secure fastening



Available with cover plates for when shade mount is not in use



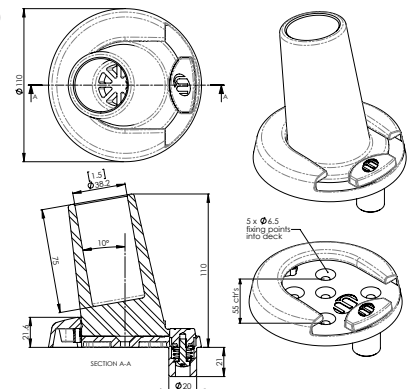
Shade base socket only

Size and configuration options

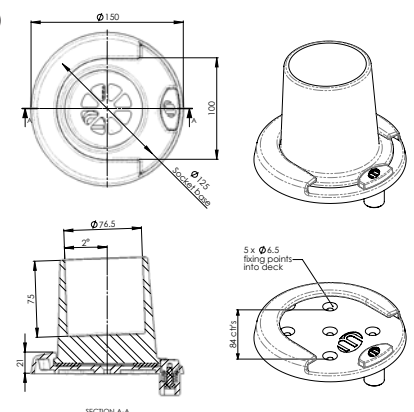
Part No.	Description
1400	30mm Shade Base - Complete Unit
1400SKT	30mm Socket Only
1420	38mm (1 1/2") Shade Base -Complete unit
1420-04	38/32/30mm Cover Plate
1420SKT	38mm (1 1/2") Socket Only
1420B	38/32/30mm Base Plate Only
1430	76.2mm (3") 3 degree Shade Base - Complete Unit
1430-04	76.2mm (3") 3 degree Shade Base - Filler Cap Only
1430SKT	76.2mm (3") Angle Socket Only
1430B	76.2mm (3") Base Plate Only
1435	76.2mm (3") Straight Shade Base - Complete Unit
1435SKT	76.2mm (3") Straight Socket Only

- Works in a variety of applications
- Designed for easy removal of shade/other attachments
- Specifically for marine use

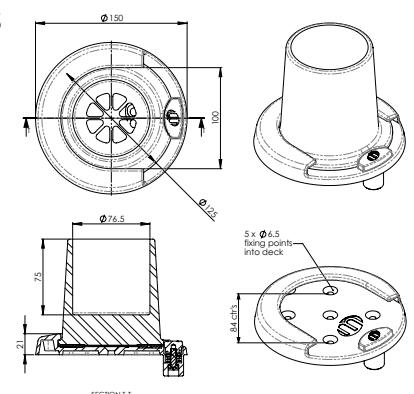
Part No. 1420



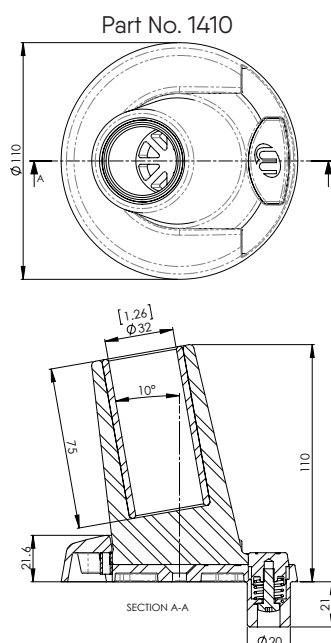
Part No. 1430



Part No. 1435



Complete unit spring loaded quick-release mechanism





# SPRAYHOOD & BIMINI SYSTEMS

## BULKHEAD MOUNT



- Can be screwed onto any surface, and the tube then fixed into the other end.
- Minimum Order 10 units

Part No. 1089

## TUBE SOCKET DECK MOUNT



## PLANATE (FLUSH) STAY ANCHOR



Part No. 7080

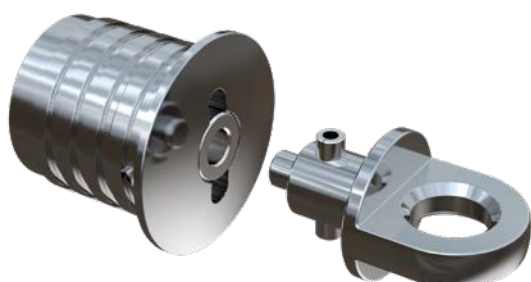


Part No.	For size tube	Distance Between Hole Centres			
		Length	Width		
1084	30mm	97mm	3.82"	53mm	2.08"
1085	1 1/4"	82mm	3.22"	26mm	1.02"
1086	1 1/2"	82mm	3.22"	26mm	1.02"

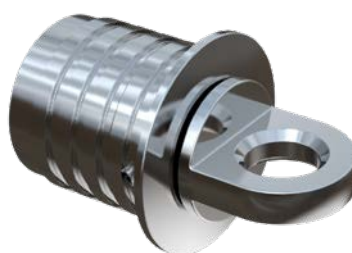
- Fits in deck for for securing canvas
- In Polished Type 316 stainless steel

## PLANATE (FLUSH) STAY ANCHOR

- Fits in deck for rope or cord attachments
- In Polished Type 316 stainless steel



Part No. 7060

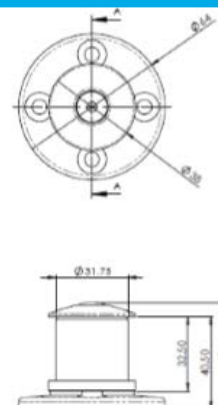
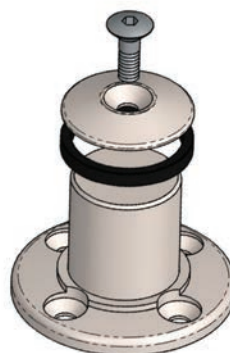


## BULKHEAD DECK FITTING



- To suit part nos 1034 and 1065 Jaw Slides
- 4 hole fixing uses 6mm screws
- For 1 1/4" (32mm) Tube

Part No. 1134



# SPRAYHOOD & BIMINI SYSTEMS

## DETACHABLE CARBON FIBRE POLE ASSEMBLIES

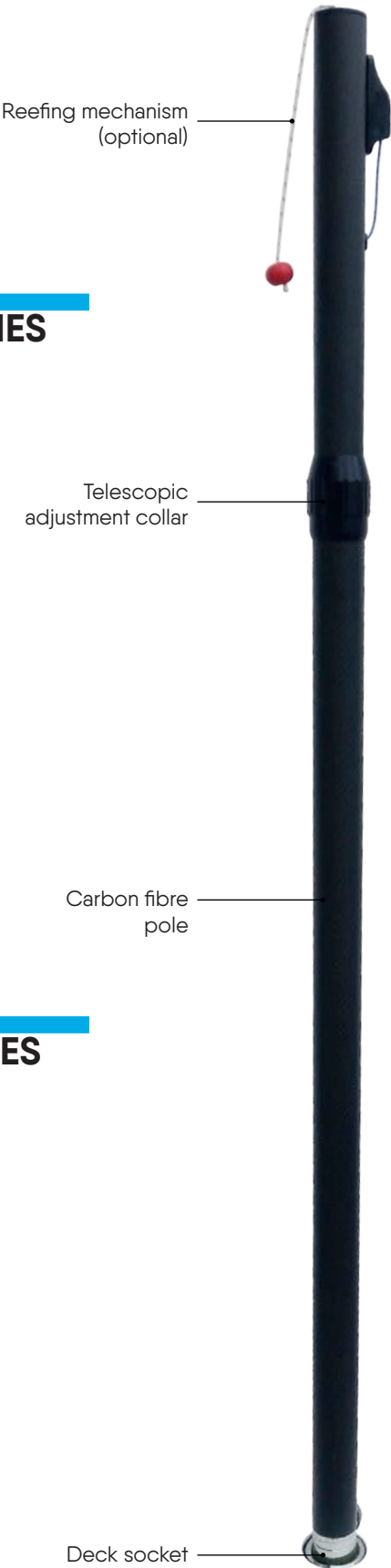
Our NEW Carbon fibre pole system allows for quick assembly or removal, with an easy lock and twist mechanism.

- The system is available in two diameters – 50mm or 75mm for larger awning requirements.
- Available as 1.8m fixed length, or 1.8m and 2.2m telescopic versions
- Custom lengths are available upon request
- Available with or without the reefing mechanism
- Fits flush into the decking leaving a clean finish
- The Easylock and twist socket and base are made in polished type 316 stainless steel

### 50mm DIAMETER CARBON FIBRE POLE ASSEMBLIES

- Available in two lengths – 1.6M or 1.5-2.2M telescopic
- Custom lengths available upon request

Part No.	Description
5050	50mm deck socket with base plate
5050B	50mm deck socket only
5060-1800	1800mm long 50mm carbon pole with reefing unit
5060-2000	2000mm long 50mm carbon pole with reefing unit
5060-2200	2200mm long 50mm carbon pole with reefing unit
5060T-1800	1800mm long 50mm Telescopic carbon pole with reefing unit
5060T-2000	2000mm long 50mm Telescopic carbon pole with reefing unit
5060T-2200	2200mm long 50mm Telescopic carbon pole with reefing unit
5060P-1800	1800mm long 50mm carbon pole with plain top
5060P-2000	2000mm long 50mm carbon pole with plain top
5060P-2200	2200mm long 50mm carbon pole with plain top
5060TP-1800	1800mm long 50mm Telescopic carbon pole with plain top
5060TP-2000	2000mm long 50mm Telescopic carbon pole with plain top
5060TP-2200	2200mm long 50mm Telescopic carbon pole with plain top



### 75mm DIAMETER CARBON FIBRE POLE ASSEMBLIES

- Available in two lengths – 1.8M or 1.8-2.2M telescopic
- Custom lengths available upon request
- Ø75mm pole suitable for larger awning requirements

Part No.	Description
7550	75mm deck socket with base plate
7550B	75mm deck socket only
7551	75mm carbon pole insert assembly
7560-1800	1800mm long 75mm carbon pole with reefing unit
7560-2000	2000mm long 75mm carbon pole with reefing unit
7560-2200	2200mm long 75mm carbon pole with reefing unit
7560DR-1800	1800mm long 75mm carbon pole with dual reefing units
7560DR-2000	2000mm long 75mm carbon pole with dual reefing units
7560DR-2200	2200mm long 75mm carbon pole with dual reefing units
7560P-1800	1800mm long 75mm carbon pole with plain top
7560P-2000	2000mm long 75mm carbon pole with plain top
7560P-2200	2200mm long 75mm carbon pole with plain top



# SPRAYHOOD & BIMINI SYSTEMS

## DETACHABLE CARBON FIBRE POLE ASSEMBLIES



Deck socket and base plate

## ACRYLIC STOWAGE BAG

- For use with detachable awning pole system.
- Available for both 50mm and 75mm poles.

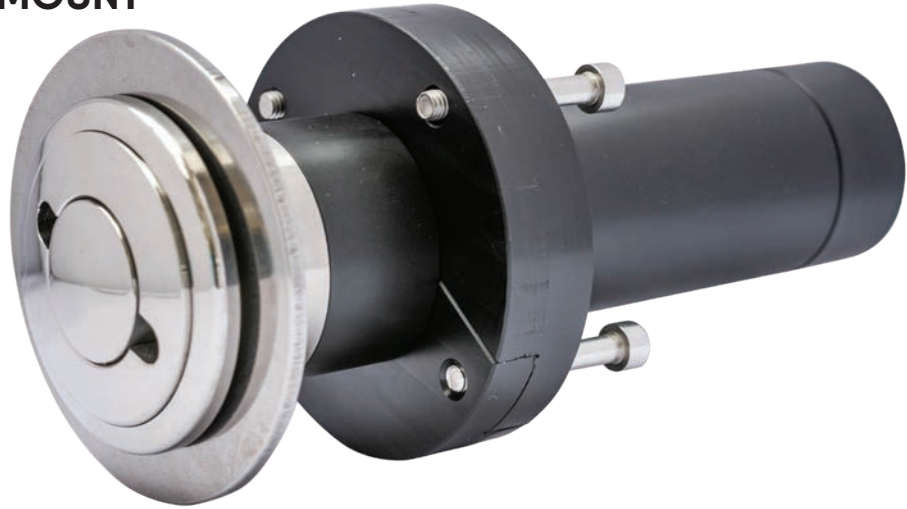
PART NO. 7202



# SPRAYHOOD & BIMINI SYSTEMS

## PER-030

### SAIL SHADE DECK MOUNT

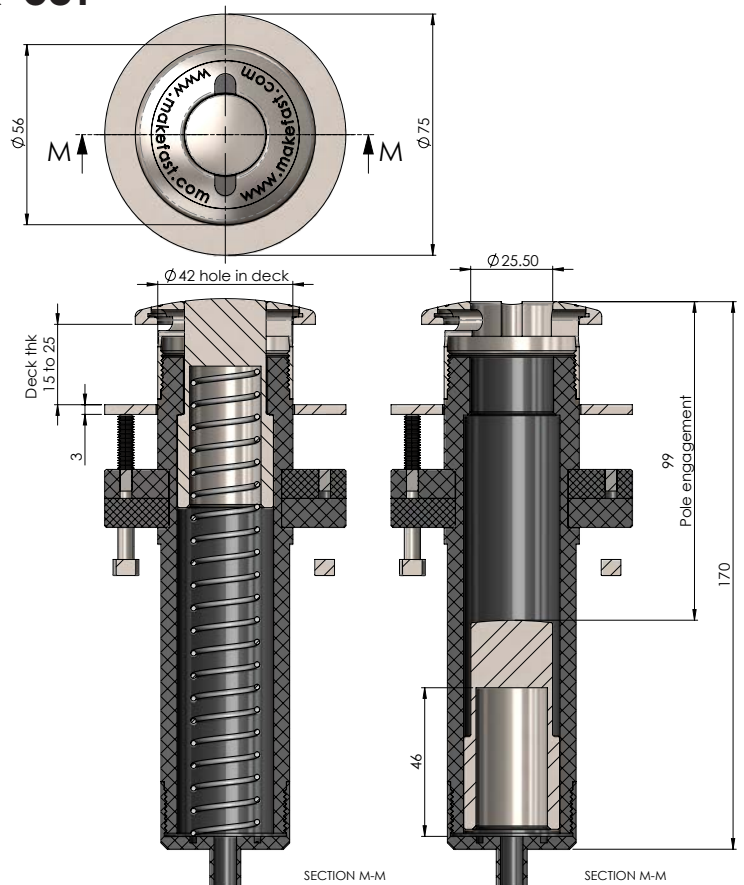
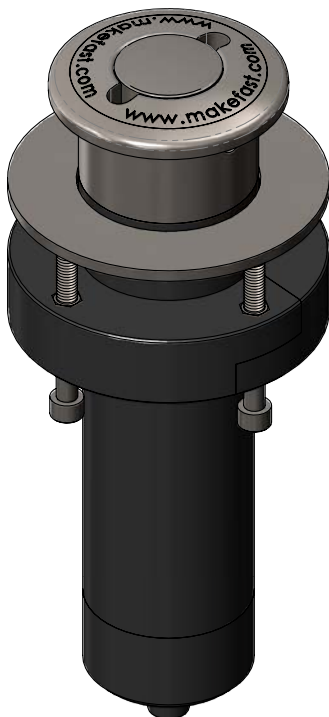


## TECHNICAL SPECIFICATIONS: PER-030

- Flush low profile base with demountable tube
- Designed for 1" tube
- Locking cross pin sold separately - Part No. PER-031
- Sprung loaded cap
- Locking collar and backing plate supplied
- Two part type 316 stainless steel cross pin assembly
- Type 316 stainless steel mirror polished and acetal machined parts
- Acrylic stowage bag available for storing poles when not in use
- Range of complimentary fittings including tube end plugs, cleats, plate stay anchors, Trimtrack and fittings

## TECHNICAL SPECIFICATIONS: PER-031

- Two part type 316 stainless steel cross pin assembly
- Requires  $\varnothing 6.1\text{mm}$  hole cross drilled through tube
- Quick installation





## SPRAYHOOD & BIMINI FITTINGS



**Makefast are one of the leading manufacturers of fittings for the sprayhood and bimini industry.**

We have been providing innovative solutions that benefit both the manufacturer and the end user since the 1970s. Our products are fitted to yachts and powerboats across the world providing years of service in all conditions.

Examples of makefast sprayhood fittings .....	32-34
End Plugs.....	35-38
Rail Fittings .....	39-40
Clamps and Slides .....	41-44
Deck Fittings .....	45-49

# SPRAYHOOD & BIMINI FITTINGS

## EXAMPLES OF SPRAYHOOD FITTINGS



Composite  
Stand Off Fitting



Double Take Off Clamp



Universal Standard Deck Fitting



Internal Fixed End Plug



Demountable Fitting

### IMPORTANT

Makefast manufacture various ranges of sprayhood fittings. All the products shown in this standard range section are compatible. They are not suitable for use with other ranges.



# SPRAYHOOD & BIMINI FITTINGS

## EXAMPLES OF SPRAYHOOD FITTINGS

Grabrail Terminal Fitting



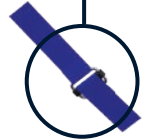
Stainless Stand Off Fitting



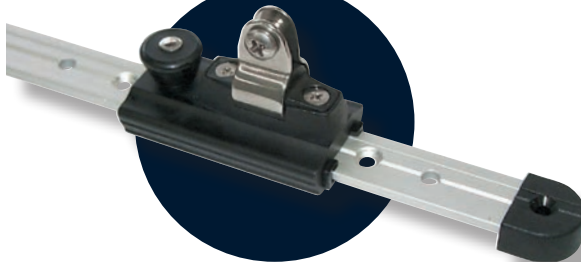
Sliding Bar Buckle



Clamp



Webbing Bridges

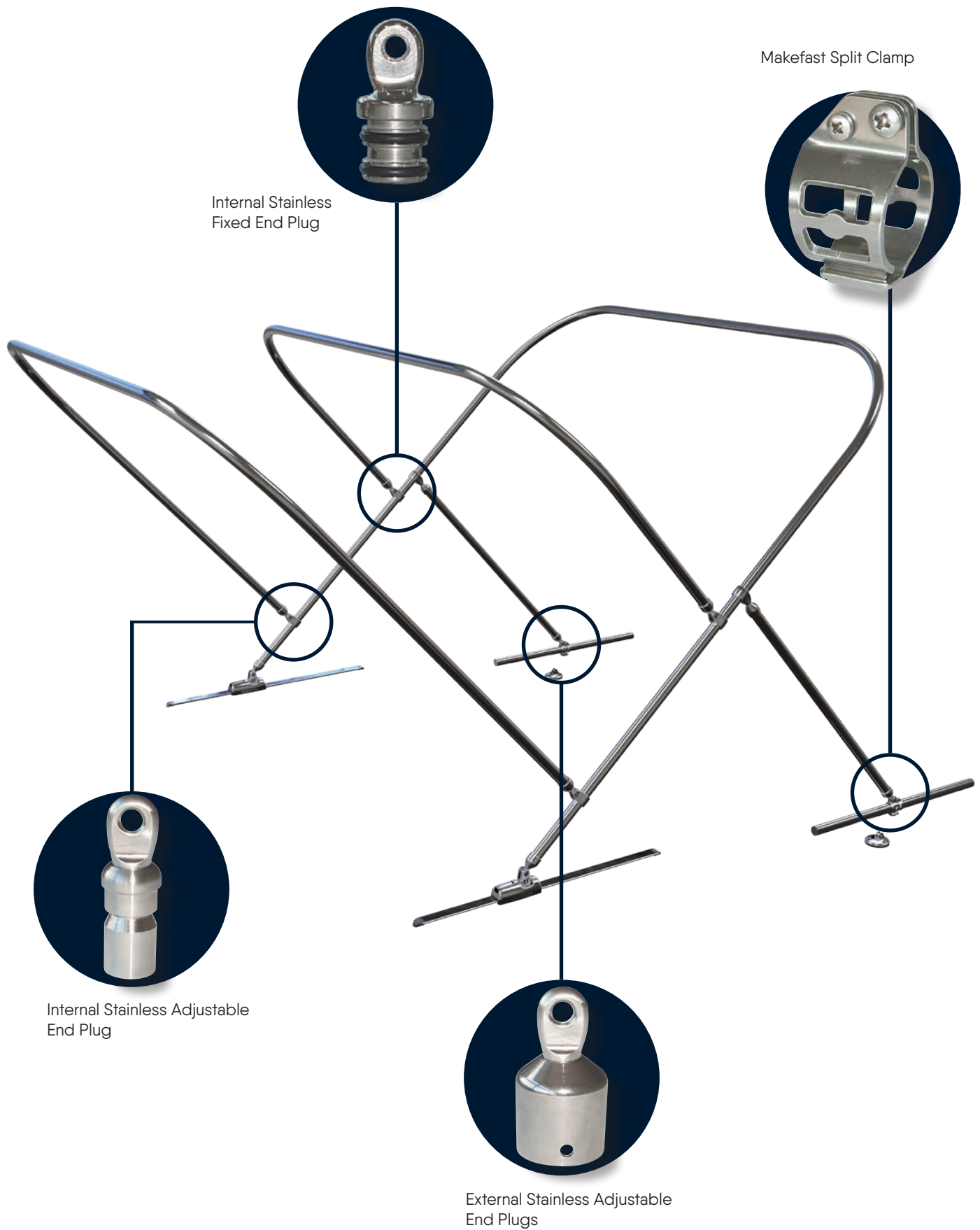


Slide Unit with Barton Track



# SPRAYHOOD & BIMINI FITTINGS

## EXAMPLES OF SPRAYHOOD FITTINGS





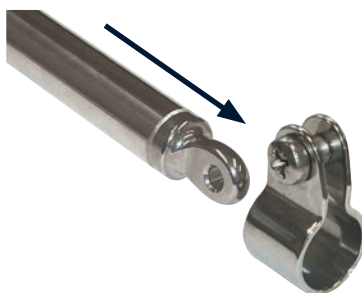
# SPRAYHOOD & BIMINI FITTINGS

## INTERNAL v EXTERNAL END PLUGS

### INTERNAL END PLUGS

#### ADVANTAGES

Internal plugs allow the clamps to be taken on and off without having to disassemble the canopy.  
No need to use grub screws.  
Looks better and is stronger in bending.



#### DISADVANTAGES

Must be riveted to tube to be used in tension.  
Tube ends must be cut with a clean edge.  
Specific end plug for specific tube gauge.

### EXTERNAL END PLUGS

#### ADVANTAGES

Quality of cutting on tube end is not important.  
Tube gauge is not important as only outside diameter matters.



#### DISADVANTAGES

Have to remove end plugs to take off clamps.  
Weaker in bending and may be too bulky for some applications.

### COMPOSITE FIXED END PLUGS

One reason for using composite end plugs is the ability to bend the mounting plate to fit the angle of the frame at the fixing point. Using the universal deck fitting allows fixing onto sloping decks, but for a frame to hinge properly without damaging fittings the fixing must be vertical (as shown).

On many frame designs, the height can be restricted so the tubes come in at a shallow angle. In these cases bending the composite end plug mounting plate will allow the frame to be mounted correctly.



### BENEFITS OF ADJUSTING END PLUGS

The adjusting end plugs have been developed to make installation of a sprayhood easier. No boat is uniform, the decks are not symmetrical surfaces so this creates all sorts of problems for the fitter.

Even the most careful maker will have to adjust the positions of the end plugs on site to make them fit deck fixings. In the past this often meant removing the plug and cutting the tube. Now all it means is unscrewing the adjuster slightly or changing the adjuster for a different size.

No more on site tube cutting and perfect for fine adjustments when tensioning the frame and fabric!

For the cover maker this means that most of the work can be completed in the workshop before going to the boat, safe in the knowledge that small adjustments can be easily made on site without having to cut metal.

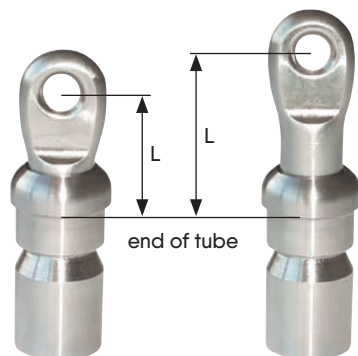
Over 30mm (1.2") of adjustment



# SPRAYHOOD & BIMINI FITTINGS

## INTERNAL STAINLESS ADJUSTABLE END PLUG in 316 stainless steel

All stainless steel end plug which fits inside the tube. Fits all components in the Stainless range.



- Made in type 316 stainless steel
- Comes with Part No. 0972 adjusting extension as standard
- Unique adjustment allows for easy installation
- Cloth can be assembled onto the frame or clamps can be replaced without removing the end plug
- Can be push fit or riveted

Part No.	Outside dia		Inside dia		Wall Thickness		Length L	
	mm	ins	mm	ins	mm	ins	mm	ins
9386	25.4	1	22.2	7/8	1.6	16	23-33	0.9-1.3
9388	31.75	1 1/4	28.55	1.12	1.6	16	23-33	0.9-1.3

## INTERNAL STAINLESS FIXED END PLUG in 316 stainless steel

All stainless fixed internal end plug with O rings for easy fitting

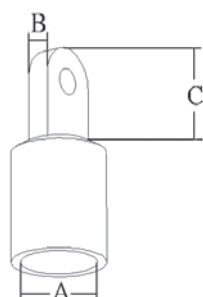


- Made from type 316 stainless steel
- Cloth can be assembled onto the frame or clamps can be replaced without removing the end plug
- Available in four standard sizes to fit most commonly used canopy tube
- Butyl O rings accommodate variations in tube tolerances thus preventing loose fitting or too tight fitting
- Other sizes can be made to order

Part No.	Outside dia		Inside dia		Wall Thickness		Min Order
	mm	ins	mm	ins	mm	swg	
0887	19.1	3/4	15.9	5/8	1.6	16	50
0887A	19.1	3/4	16.7	21/32	1.2	18	50
0888	22.2	7/8	19	25/32	1.2	18	50
0889	25.4	1	21.5		1.6	16	50
1098	30						

## CAST EXTERNAL END PLUGS in 316 stainless steel

Part No. 1025/1011/1026  
Cast External End Plug



Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
1025	25.4	1	6.35	1/4	25	1
1011	30	-	6.35	1/4	28.8	1.13
1026	32	1 1/4	6.35	1/4	25	1



# SPRAYHOOD & BIMINI FITTINGS

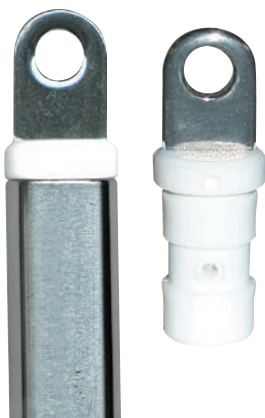
## INTERNAL ADJUSTABLE END PLUGS in 316 stainless steel

- Unique adjustment allows for easy installation
- Comes fitted with Part No. 0988 as standard



Part No	To fit outside dia		Length L	
	mm	ins	mm	ins
0982	32	1 1/4	20-30	0.79-1.18
0983	38	1 1/2	20-30	0.79-1.18

## INTERNAL FIXED END PLUG



Composite fixed internal end plug with stainless steel mounting plate moulded to a nylon plug

- A stainless steel plate is covered with a nylon moulding
- The plate has a 5mm hole to allow for screwing or rivetting
- Dispenses with grub screw
- Cloth can be assembled onto the frame and clamps can be replaced without removing the end plugs
- Available in 8 standard tube sizes

### IMPERIAL SIZES

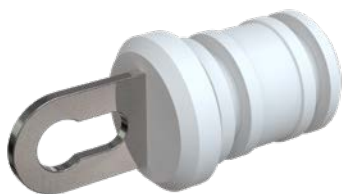
Part No.	Outside dia		Inside dia		Wall Thickness	
	mm	ins	mm	ins	mm	swg
0591	18	0.71	13	0.51	2.5	1.2
0601	19.1	3/4	15.9	0.63	1.6	16
0601A	19.1	3/4	16.7	0.66	1.2	18
0611	22.2	7/8	19.8	0.78	1.2	18
0621	25.4	1	21	0.83	2	14

### METRIC SIZES

Part No.	Outside Diameter		Wall Thickness
	mm	mm	
0601B	20	1.6	

## KEYHOLE COMPOSITE END PLUGS

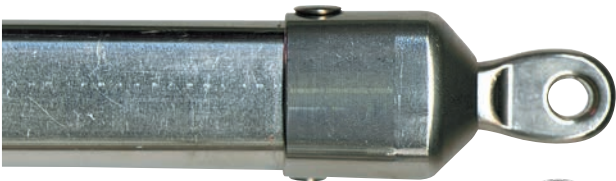
To fit a range of tube sizes



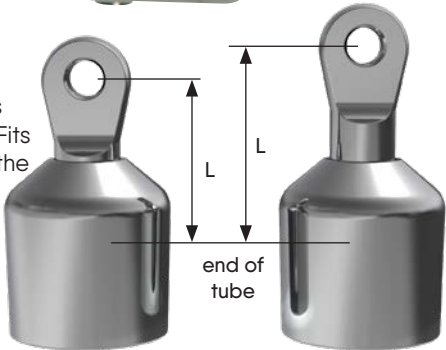
Part No.	Outside dia		Inside dia		Wall Thickness		Minimum Order No
	mm	ins	mm	ins	mm	swg	
0737	18	0.71	13	0.51	2.5	12	20
0626	19.1	3/4	15.9	0.63	1.6	16	-
0738	22.2	7/8	19.8	0.78	1.2	18	-
0739	25.4	1	21	0.83	2	14	20
0738A	22				1.5		20

SPRAYHOOD & BIMINI FITTINGS

EXTERNAL STAINLESS ADJUSTABLE END PLUGS



All stainless steel end plug which fits outside the tube. Fits all components in the Stainless range.



- Made in type 316 stainless steel
- Unique adjustment allows for easy installation
- Comes with Part No. 0972 (right hand) or 0972L (left hand) adjusting extension as standard
- Complete with rivet hole for easy fixing to tube

Right Hand Part No.	Left Hand Part No.	To fit outside dia		Length L	
		mm	ins	mm	ins
9392	9392L	19.1	3/4	23-33	0.9-1.3
9394	9394L	22.2	7/8	23-33	0.9-1.3
9396	9396L	25.4	1	23-33	0.9-1.3

STAINLESS END PLUG EXTENSIONS

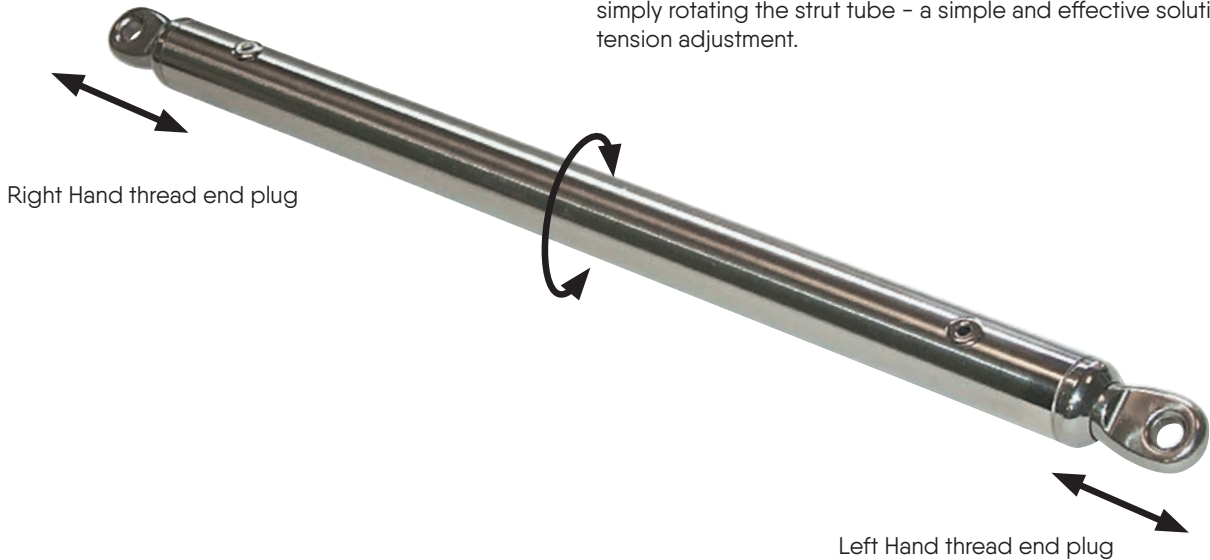


- Made in type 316 stainless steel
- Fit all sizes of Makefast Stainless adjusting end plugs
- Ideal for special fitting situations
- Supplied separately. (Part No. 0972 and 0972L are fitted as standard to the internal end plugs)

Part No	Length L min.		Length L max	
	mm	ins	mm	ins
0972	23	0.9	33	1.3
0973	33	1.3	43	1.7
0974	43	1.7	53	2.1

ADJUSTABLE END PLUGS - STRUTS

All our adjustable end plugs come with a right handed thread as standard, however, the adjustable system allows for left hand thread designs to be catered for. By combining a right hand threaded end plug with a left hand threaded end plug will allow the easy creation of adjustable struts. When in position in the frame structure fine tensioning can be achieved by simply rotating the strut tube - a simple and effective solution to ongoing tension adjustment.





# SPRAYHOOD & BIMINI FITTINGS

## STAINLESS STAND OFF FITTING



Component which allows the creation of a grabrail without welding. Available in a wide range of sizes to fit different tube diameters. Use with a Clamp or Double Take Off Clamp to terminate the grabrail or use a terminal fitting (see below).

Part No.	To fit Structure		To fit Grabrail	
	mm	ins	mm	ins
6551S	19.1	3/4	19.1	3/4
6554S	22.2	7/8	22.2	7/8
6555S	25.4	1	25.4	1

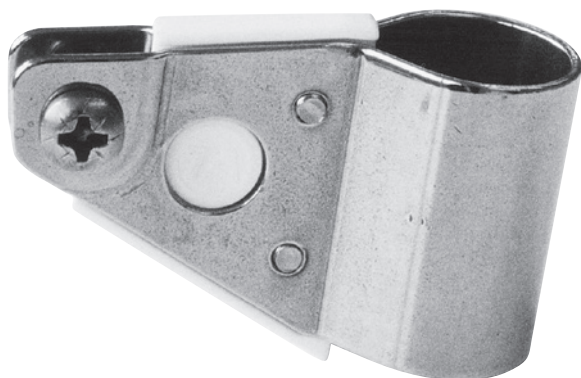
## COMPOSITE STAND OFF FITTING in stainless steel and white nylon



Component which allows the creation of a grabrail without welding. Available in a wide range of sizes to fit different tube diameters. Use with a Clamp or Double Take Off Clamp to terminate the grabrail or use a terminal fitting (see below).

Part No.	To fit Structure		To fit Grabrail		Minimum Order QTY
	mm	ins	mm	ins	
6551	19.1	3/4	19.1	3/4	-
6552	22.2	7/8	22.2	7/8	10
6553	25.4	1	25.4	1	10
6554	22.2	7/8	22.2	7/8	10
6555	25.4	1	25.4	1	10

## GRABRAIL TERMINAL FITTING



Component which allows the grabrail ends to be fitted to the main structure using end plugs. Made from type 316 stainless steel with white Nylon trim and available in two designs to fit either the all stainless range of end plugs or the Standard range of end plugs.

Part No.	Tube OD		Minimum Order QTY
	mm	ins	
6548	19.1	3/4	-
6549	22.2	7/8	-
6550	25.4	1	10
0877	19.1	3/4	30
0878	22.2	7/8	30
0879	25.4	1	30

## ASSEMBLING THE STAND OFF FITTINGS



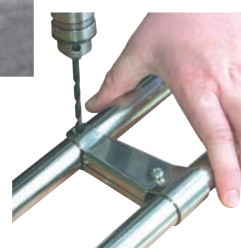
You need to fix one stand off every 500mm (20") of grabrail with a minimum of two fittings per grabrail.



Loosen screws on stand off fittings. Slide stand off fittings onto grab rail and loosely tighten clamping screws.



Use Clamps or Double Take Off Clamps or Terminal fittings on the main frame to locate the grabrail. Adjust the positions of the fittings to ensure the grab rail is level, then using the bolt hole as a guide drill through the sprayhood tube.



Fit the stand off fittings bolts and fully tighten all screws in the assembly. The grab rail is now ready for use.

We recommend that the maximum space between either the terminal fittings and a stand off fitting or between stand off fittings should not exceed 500mm (20 inches)

## SPRAYHOOD & BIMINI FITTINGS

### CAST STAND OFF FITTING in 316 stainless steel



Part No. 1074 - for 25mm tube  
Part No. 1096 - for 30mm tube

- For 25mm (1") and 30mm Tube
- Highly Polished

### CAST TERMINAL FITTING in 316 stainless steel



Part No. 1078



Part No. 1078L

- For 25mm (1") Tube
- Highly Polished





# SPRAYHOOD & BIMINI FITTINGS

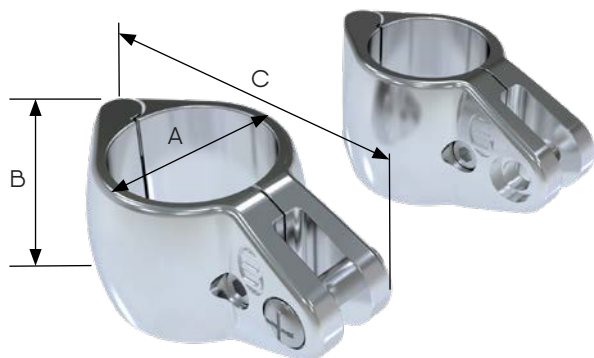
## JAW SLIDES



- Available for either 32mm (1¼") or 38mm (1½) diameter tubes
- Design uses 2 pop rivets (eliminates grub screws)
- Ideal for larger bimini and canvas canopy structures
- Compatible with automatic bimini system
- Versatile unit can be fitted either horizontally or vertically
- In type 316 stainless steel, mirror polished
- Compact and attractive addition to the finished canopy
- Suitable for use with adjustable end plugs
- 3 lengths available which allows tube stacking when the bimini is folded down

Part No.	Description	Tube Diameter	
		mm	inches
0984	Jaw Slide	32	1 1/4
0985	Jaw Slide	38	1 1/2
1060	Jaw Slide Extension 1 1/2"	38	1 1/2

## SPLIT JAW SLIDES



- Used for mounting tubes for frame anchorage points

Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
1065	31.8	1 1/4	38	1.5	74.5	2.93
1064	38.1	1 1/2	38	1.5	81	3.19

## JAW SLIDES

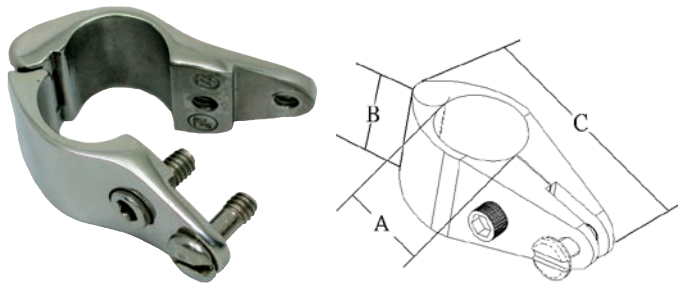


- General purpose jaw slide used for all frame applications

Part No.	Description
1093	Jaw Slide

# SPRAYHOOD & BIMINI FITTINGS

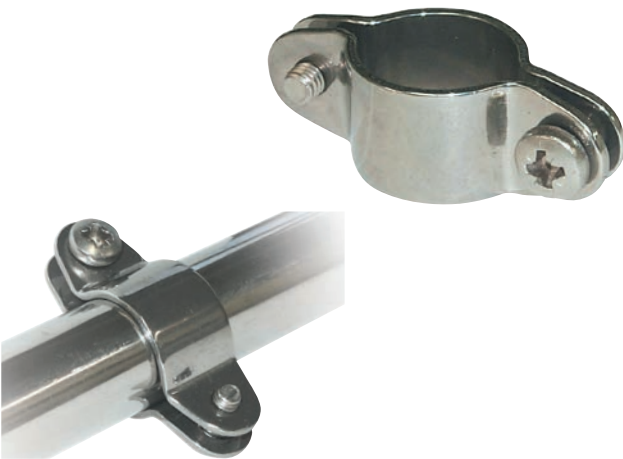
## HINGE JAW SLIDE in 316 stainless steel



Captured pin design prevents the two halves from separating

Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
1038	22.4	7/8	27	1 1/16	64	2 1/2
1039	25.6	1	27	1 1/16	65	2 9/16

## DOUBLE TAKE OFF CLAMPS in 316 stainless steel



For joining two tubes to a central frame tube – ideal for use with a grabrail fitting or bimini.

- Makes possible more complicated structures which can be attached directly onto pushpits, pulpits, stanchions, etc.
- Structure can be demounted

Part No.	Tube O/D		Minimum Order QTY
	mm	ins	
9335	19	3/4	20
9336	22	7/8	20
9337	25	1	-

## HAND CLAMPS in 316 stainless steel



Clamp with a nylon hand knob to allow adjustment without tools – ideal for stowable frames.

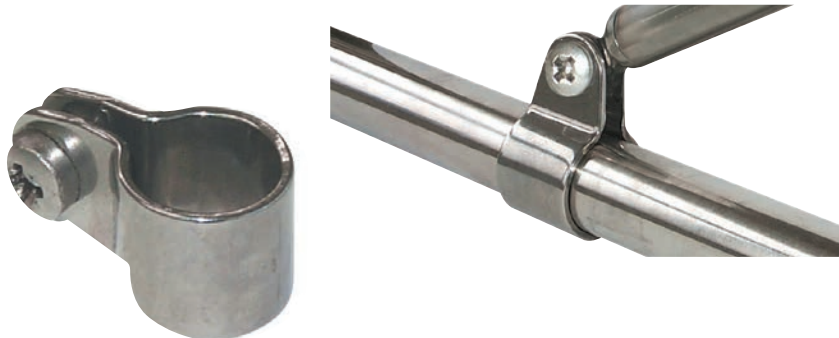
- Comprises of 1 clamp (type 316 stainless steel)
- 1 Knob (type 316 stainless steel screw and white nylon knob)
- Available to fit end plugs from all ranges
- Thread M6, 14mm (0.55 inches) length

Part No.	Tube O/D	
	mm	ins
0946	19.1	3/4
0947	22.2	7/8
0948	25.4	4



# SPRAYHOOD & BIMINI FITTINGS

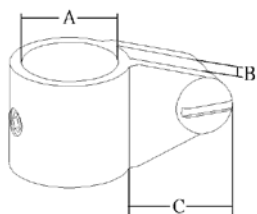
## CLAMPS in 316 stainless steel



General purpose clamp used for all frame applications. Fitted with pozi drive screws

Part No.	Tube O/D		Minimum Order QTY
	mm	ins	
0592	18	-	-
0602	19	3/4	-
0602B	20	3/4	-
0612	22	7/8	-
0622	25	1	-
0991	19	3/4	50
0992	22	7/8	50
0993	25	1	-
0994	32	1 1/4	50

## CAST EXTERNAL JAW SLIDES in 316 stainless steel



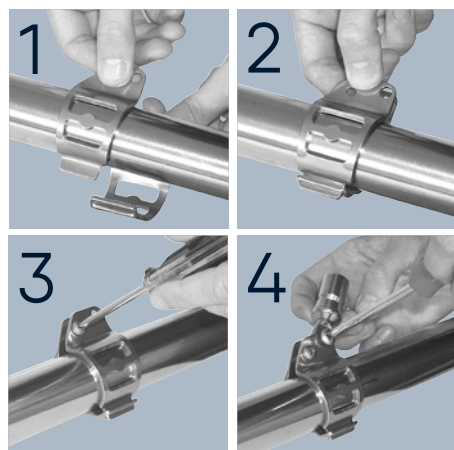
- Set screw locks tubing in place
- High polish investment cast construction



Part No.	Description	A		B		C	
		mm	ins	mm	ins	mm	ins
1033	Cast Type 316 Stainless Jaw Slide	25.4	1	8	5/16	27	1 1/16
1012	Cast Type 316 Stainless Jaw Slide	30	-	4.8	3/16	23.5	-
1034	Cast Type 316 Stainless Jaw Slide	32	1 1/4	8	5/16	32	1 1/4

## MAKEFAST SPLIT CLAMPS in 316 stainless steel

Part Nos 4160-4



- A design of fitting which is easy to fit.
- Available for a range of tube sizes they can be retro fitted to closed end tube, making it ideal for bimini construction.
- Standard clamp comes complete with pozi-drive screw fittings.

Part No.	Tube O/D		Minimum Order QTY
	mm	ins	
0990	25	1	20
4160	32	1 1/4	20
4161	38	1 1/2	20
4162	44	1 3/4	20
4163	50	2	20
4164	75	3	20

Part No 0990

# SPRAYHOOD & BIMINI FITTINGS

## SPLIT JAW SLIDE



Used for mounting tubes to tubes for frame anchorage points.

Part No. 1092  
Tube Size - 30mm  
Jaw size - 9mm

## CAST CLAMP



Part No. 1126  
Tube Size - 30mm  
Jaw size - 9mm

## HAND CLAMPS

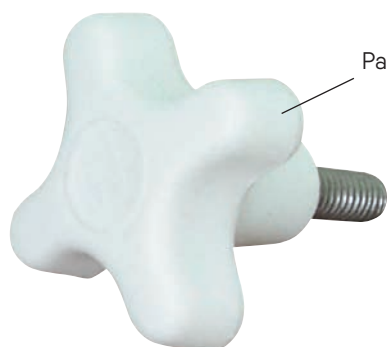


Clamp with a nylon hand knob to allow adjustment without tools - ideal for stowable frames

- Comprises of 1 clamp (type 316 stainless steel)
- 1 Knob (type 316 stainless steel screw and white nylon knob)
- Available to fit end plugs from all ranges
- Thread M6, 14mm (0.55 inches) length

Part No.	Tube O/D	
	mm	ins
0597	18	-
0607	19	3/4
0607B	20	-
0614	22	7/8
0624	25	1

## HAND KNOBS

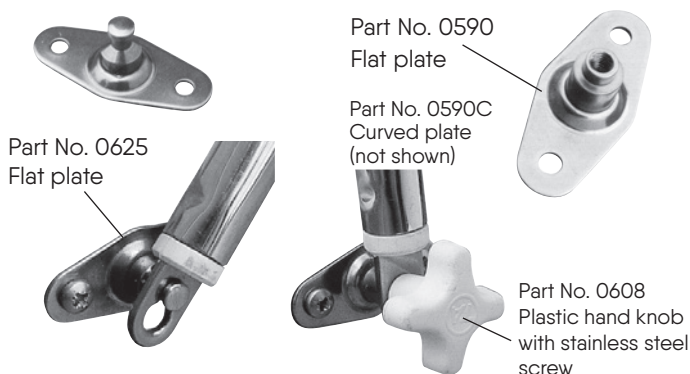


Part No. 0608

Hand knobs made in white Nylon with stainless steel screw

- Standard range hand knob, thread size M6, length 14mm
- Suits Standard Range of clamps

## QUICK RELEASE KEYHOLE AND DEMOUNTABLE FITTINGS



- Eliminates the need for tools or unscrewing to remove the canopy
- The tension on the canopy can be released quickly and the canopy lifted off for stowage
- Used with keyhole end plugs (see below)
- Fixing holes for 5mm or number 10 screws
- Available in two variations for flat and curved mounting surfaces
- Used in conjunction with standard end plugs
- Canopy can be stowed without the use of tools
- Can only be used with the standard range of canopy fittings
- Fixing holes for 5mm or number 10 screws
- Distance between hole ctr - 0590/0625- 40mm (1 1/4")



# SPRAYHOOD & BIMINI FITTINGS

## UNIVERSAL STANDARD DECK FITTING



## MAKEFAST UNIVERSAL DECK FITTINGS

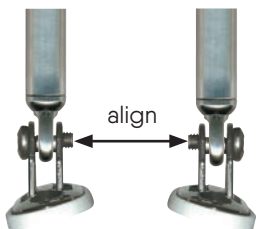
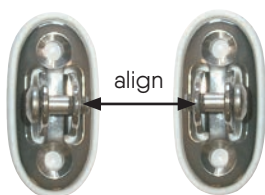
The Makefast universal deck fittings provide a hinged deck fixing which eliminates the need for angled shims or grinding the deck plate.

Universal deck fittings are available with 2, 3 or 4 holes, designed to meet the needs of every frame design including the largest, most complex applications.

## USING THE UNIVERSAL DECK FITTINGS

To allow the frame structure to fold the hinge pins (where the structure is mounted to) must be aligned as shown below. If the mounting point is not aligned the leverage generated by attempting to fold the frame will destroy the fastenings and/or damage the tube itself.

In exceptional cases where the curve of the frame is so shallow as to run out at the hinge point, then the Composite Fixed End Plugs are designed to bend as shown on the right to ensure the mounting alignment is correct.



# SPRAYHOOD & BIMINI FITTINGS

## TUBE TO DECK SYSTEMS

### FOUR HOLE UNIVERSAL DECK FITTING

4 hole heavy duty stainless deck fitting with straight clamp, complete with nylon deck shoe.



Part No. 0996 - with Pozi-drive Screws

Part No. 0996Q - with drop nose pin - Min Order 10

### THREE HOLE UNIVERSAL DECK FITTING

3 hole heavy duty flush fitting stainless steel deck fitting with straight clamp, complete with snap into nylon deck shoe.



Part No. 0995 - with Pozi-drive Screws

Part No. 0995Q - with drop nose pin - Min Order 10

### TWO HOLE UNIVERSAL DECK FITTING

Stainless fitting with plastic base.

For fitting to tube use Nylon Shoe - see below



Distance between hole centres 35mm (1.38")



Part No. 0886 - with Pozi-drive Screws

### INCLINE UNIVERSAL DECK FITTING

Stainless fitting with plastic base used on bulkheads or near vertical deck areas.



Distance between hole centres 35mm (1.38")

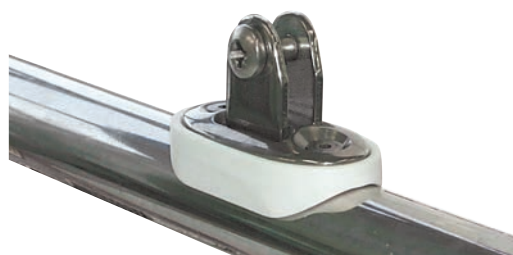


Part No. 0886A - with Pozi-drive Screws

### NYLON SHOE

Composite fitting for Standard range.

Used to fit Stainless 2 hole deck fitting to 25mm (1" ) tube - high strength permanent fixing. Comes complete with two interscrews.



Part No. 0886C

Plastic shoe and screws only

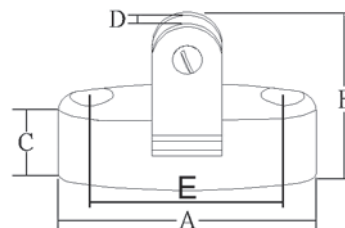
# SPRAYHOOD & BIMINI FITTINGS

## CAST TYPE 316 STAINLESS DECK HINGES

UNIVERSAL DECK HINGE in 316 stainless steel



Part No. 1035  
Universal Deck Hinge with screw



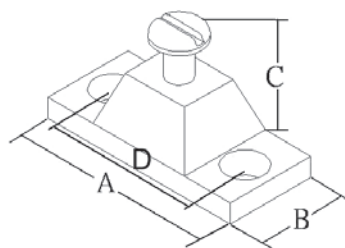
Can be mounted horizontally or vertically  
Bottom friction anti-rattle bushing included

Part No.	Description	A		B		C		D		E	
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins
1035	Universal Deck Hinge with screw	69	2 3/4	46	1 7/8	25	1	8	5/16	52	2.05

## DECK HINGE SIDE MOUNTED in 316 stainless steel



Part No. 1016



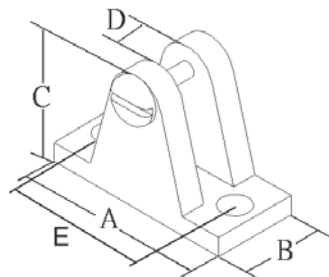
Use Screw size 10 (not supplied)

Part No.	Description	A		B		C		D		Screw size
		mm	ins	mm	ins	mm	ins	mm	ins	
1016	Side Mounted Deck Hinge	51	2	23	15/16	30	1 3/16	37	1.45	10

## 90° DECK HINGE in 316 stainless steel



Part No. 1017  
90° Deck Hinge with screw



Fits to deck using No 10 Screws (not supplied)



Part No. 1018  
90° Deck Hinge with pin

Part No.	Description	A		B		C		D		E	
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins
1017	90 degree Deck Hinge with screw fitting	60	2 3/8	22	3/4	36	1 3/8	8	3/8	43	1.69
1018	90 degree Deck Hinge with quick release pin	60	2 3/8	22	3/4	36	1 3/8	8	3/8	42.5	1.67

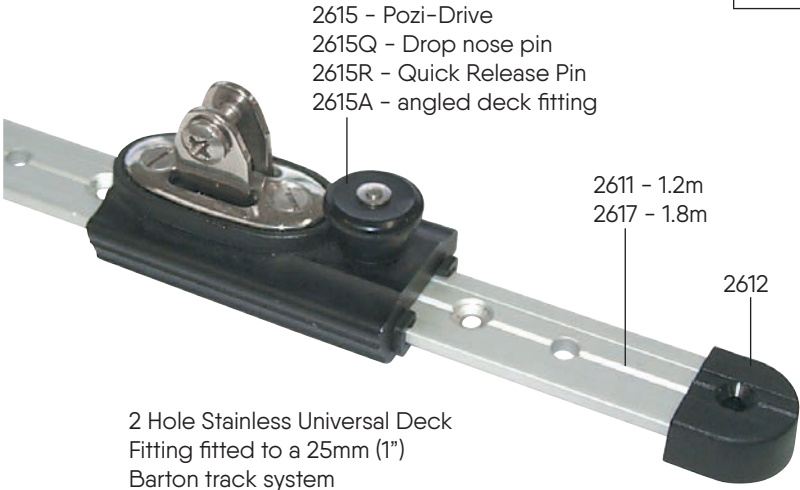


SPRAYHOOD & BIMINI FITTINGS

STAINLESS SLIDE UNIT WITH BARTON TRACK

- Barton track and car system with added slide unit
- The all stainless steel range of deck fittings come preassembled to the car
- Extruded aluminium track and car
- Car secured by fixed position spring loaded stops

Part No.	Description
2611	25mm track, 1.2m lengths (1 x 47 1/4")
2617	25mm track, 1.8m lengths (1 x 70.87")
2612	Track and stops
2615	25mm (1") car & universal deck fitting
2615R	25mm (1") car & quick release deck fitting
2615Q	25mm (1") car & drop nose pin deck fitting
2615A	25mm (1") car & angled deck fitting



STAINLESS SLIDE UNIT WITH ALL STAINLESS TRACK

- All Stainless Steel Track
- The all stainless steel range of deck fittings come preassembled to the car
- Available in white, black to order
- Car secured by hand knob

Part No.	Description
2602	3m track
2602/4	1.2m track
2602/0.6	0.6m track
2603	Track and stop
2601	Slide unit
2601A	Angled slide unit
0604	Slide unit



# SPRAYHOOD & BIMINI FITTINGS

## UNIVERSAL HEAVY DUTY DECK FITTING TO SUIT 1¼ AND 1½ TUBES

Introducing the new Makefast Universal heavy duty deck fitting, suitable for larger applications. This new design extends the benefits of our lighter fittings range and offers the production boatbuilder and frame maker many unique features, including:

- Adaptable to accept 30mm, 32mm (1¼") or 38mm (1½") tubes
- Ideal for larger bimini and canvas canopy structures at 150kg upwards
- Full 180° adjustment to suit the majority of applications.
- This versatile unit can be fitted horizontally or vertically
- Unique design in mirror polish 316 stainless steel
- Compact and attractive addition to the finished canopy
- Quick release facility allows rapid removal for demounting
- Option of dome head or ring pull pin



Distance between Hole Centres:  
Length 97mm (3.82")  
Width 53mm (2.08")



Part No. 0986



Part No.	Description
0986	Deck fitting with pull pin
0987	Deck fitting with ring pull pin

Fits Adjustable and Fixed End Plugs, Part Nos. 1090/1090L, 1091/1091L, 1097 and 1098.



Picture courtesy of Azimut



TRACK & TUBE ACCESSORIES



Sleek Track

    Track.....51

    Track Cars and fittings..... 51-52

Trim Track

    Track and Fittings.....53

    Trimtrack Opening Tool.....54

    Trimtrack Fixing Tool.....54

    Former .....55

    Roller .....56

Tube Crowner .....57

Tube Former .....58

Tube Hinges .....59

Quick Release Bimini Fittings .....59

Tube Joints.....53

Quick Release Fittings .....60

Tube Joining Springs.....60

Oval Tubes.....60

Stow Blocks .....61

Lifebouy Holders .....61

Stanchion Mounting Blocks.....61



# TRACK & TUBE ACCESSORIES

## SLEEK TRACK



Makefast all stainless steel track consists of 2 parts, the bottom track which is fixed and the top decorative part which slides over the bottom track to conceal the fixings to present an attractive appearance. Available in 4 lengths.

### Technical data

- Under track fixing hole centres at 75mm pitch
- Locking pitch for sliding car 15mm
- For fixing to desk use M4 Pozi Drive Pan Head Self Tapping Screws of Machine Screw Bolt (not supplied)
- When the car is being pulled parallel to the track the slip load is 280kgs in either direction

Part No.	Length L
3360/L0.6	0.6 metre length
3360/L1.2	1.2 metre length
3360/L1.8	1.8 metre length
3360/L3.0	3.0 metre length

## LOW PROFILE TRACK CARS with Integral Stop

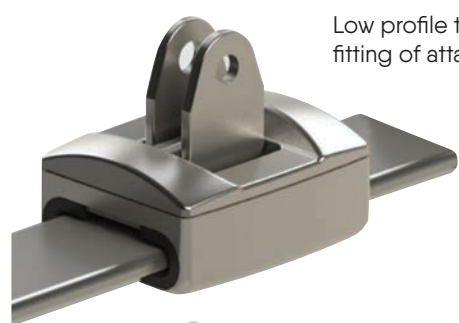


Part No. 3379

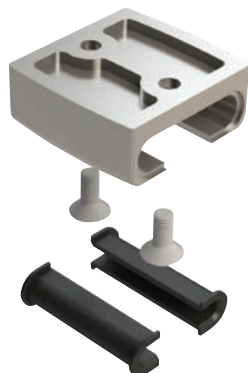
Press stop to release slide and lock car

Also available as Part No. 3379A with angled fitting

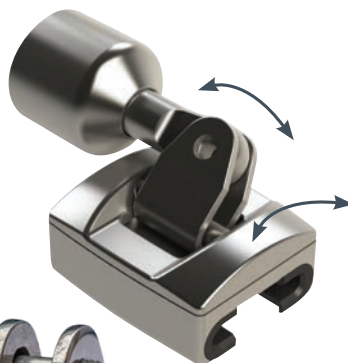
## MULTI FUNCTIONAL TRACK CARS



Low profile to allow fitting of attachments

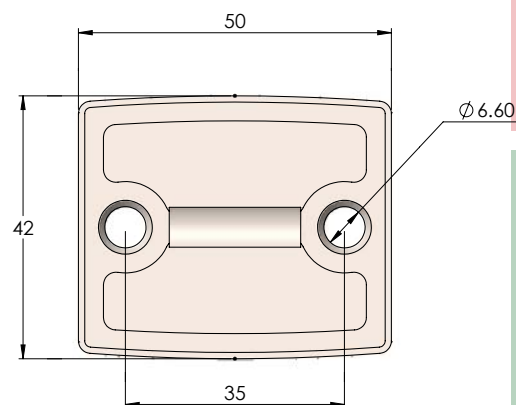


Part No. 3376  
Base only



Part No. 3377

Complete universal assembly  
(end plug not supplied)



# TRACK & TUBE ACCESSORIES

## TRACK CAR TO FIT MAKEFAST SLEEK TRACK



- New stronger design with improved grip on track
- Double Lock System
- Easy to operate lever mechanism
- No visible fasteners
- Low friction plastic runners

Part No.	Fitting	
3380	Straight fitting	Fits all stainless and standard ranges
3381	Angled fitting	Fits all stainless and standard ranges
1150	Straight fitting	Fits 30, 32, 38mm tube fittings
1151	Angled fitting	Fits 30, 32, 38mm tube fittings

## SLEEK TRACK SET STOP

- Press down to release
- Frame can then be moved to any required position



## SLEEK TRACK END CAP

- New Universal sleek track end cap
- Supplied in pairs
- Optional stop or slide fixing



# TRACK & TUBE ACCESSORIES

## TRIMTRACK Type 316 stainless steel luxury rail

- Easily formed to different configurations
- Awning Rail
- Keder Rail
- Mast Track
- Luff Track

To suit 6mm diameter Bolt  
Rope, Keder or Luff Tape

Welded Stud Fixing



- Three fixing options available:
- Plain track with no holes, recommended for forming (note spacer tool needed).
- With holes at 300mm (11.9") pitch to suit No 4x3/4" (3.2mm) self tapping screws or 3.2mm Countersunk rivets.
- With welded stud fixings at 300mm (11.9") pitch for extra high tensile applications.

Part No.	Description	Length
3900/L1.0	Trimtrack only, no holes	1 metre
3900/L2.0	Trimtrack only, no holes	2 metres
3900/L3.0	Trimtrack only, no holes	3 metres
3900S/L1.0	Trimtrack with welded stud fixings	1 metre
3900S/L2.0	Trimtrack with welded stud fixings	2 metres
3900S/L3.0	Trimtrack with welded stud fixings	3 metres
3900H/L1.0	Trimtrack with holes	1 metre
3900H/L2.0	Trimtrack with holes	2 metres
3900H/L3.0	Trimtrack with holes	3 metres

## TRIM TRACK FITTINGS

Part No. 3912

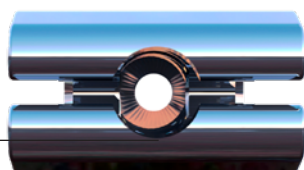
Mid feeder in 316 stainless steel



Use 3mm (No.6) self tapping screws

Part No. 3955

Mid rack Joiner  
in 316 stainless steel



Part No. 3910

End feeder in 316 stainless steel



Part No. 3911

End stop in 316  
stainless steel

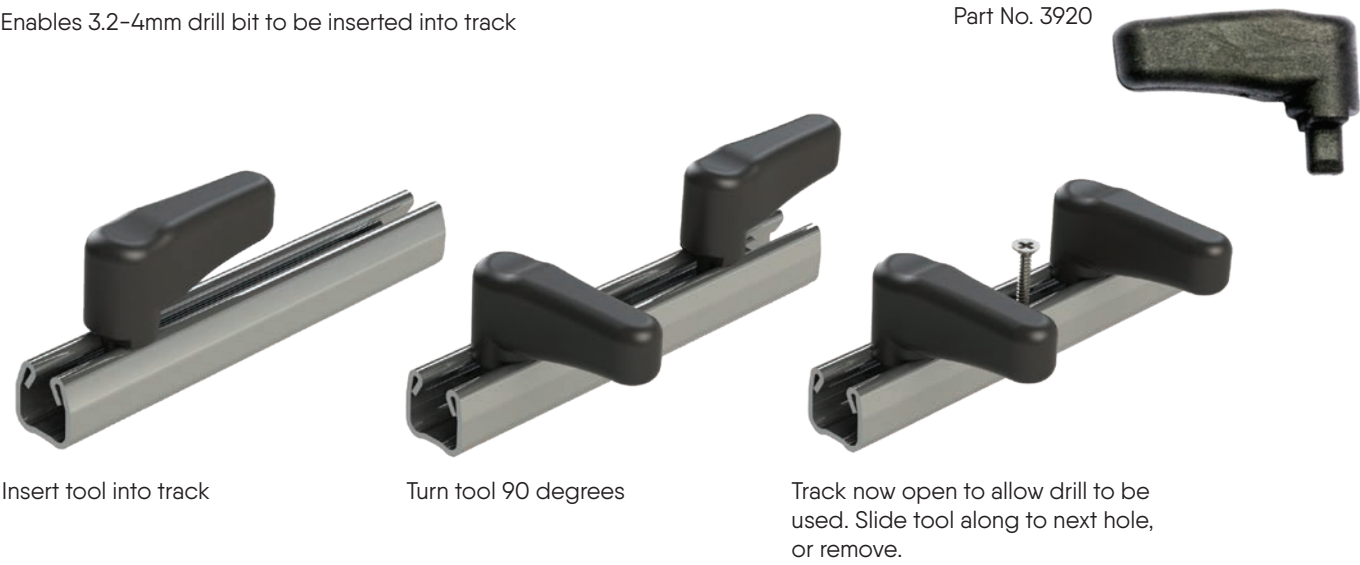




TRIMTRACK OPENING TOOL

Enables 3.2-4mm drill bit to be inserted into track

Part No. 3920



FITTINGS FOR AWNING RAIL/KEDER RAIL/MAST TRACK



Part No. 0061A  
Nylon 6 body with 316 stainless steel frame and closing piece

Suitable for use with conventional luff tape and Makefast 0061A and 0095 sail slides

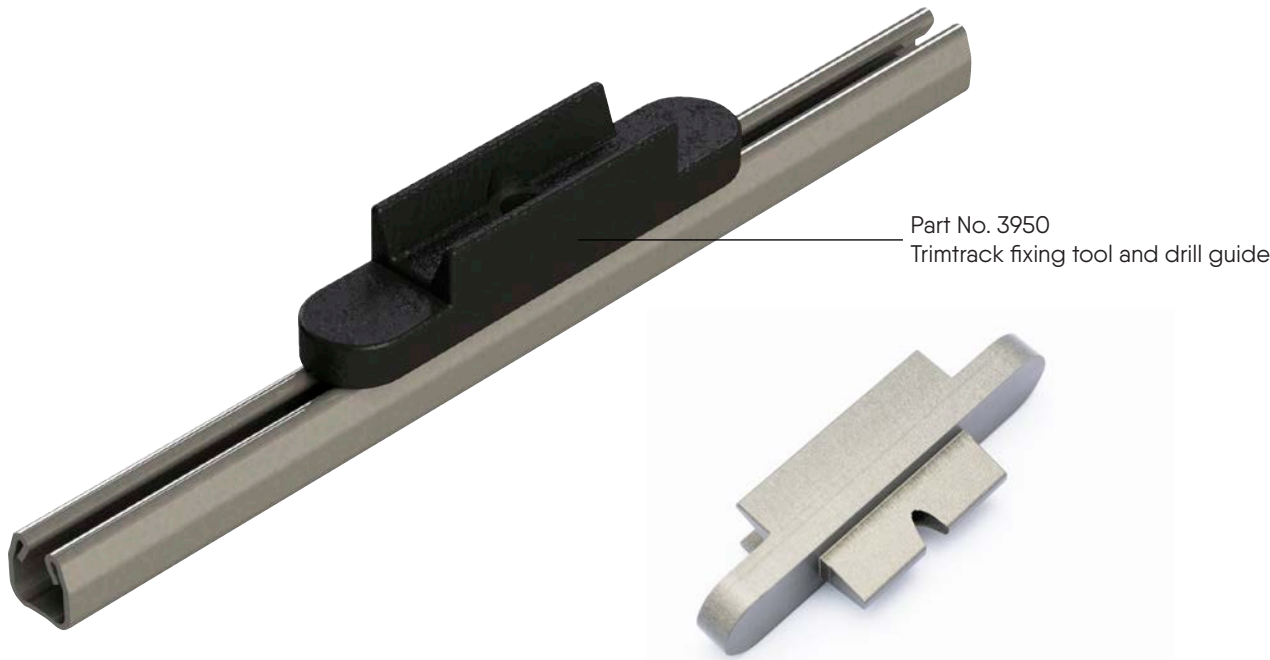


Part No. 0095  
Nylon 6 with siloxane polymer

Part No.	Slide Body diameter	Weight
	mm	
0061A	8	10

Part No.	Max width		Jaw size		Hole width	
	mm	ins	mm	ins	mm	ins
0095	7.2	0.28	3	0.12	14.7	0.58

TRIMTRACK FIXING TOOL



# TRACK & TUBE ACCESSORIES

## TRIMTRACK FORMER

Trimtrack forming kit – use Trimtrack without holes

Makefast stainless steel trimtrack can be formed using a single wooden former. This allows forming to be done without the need for expensive tooling. It can be formed in each direction down to a radius of 75 mm (3 inches).

To enable Trimtrack to be formed without distortion, it is necessary to use the plastic reusable insert forming bar.

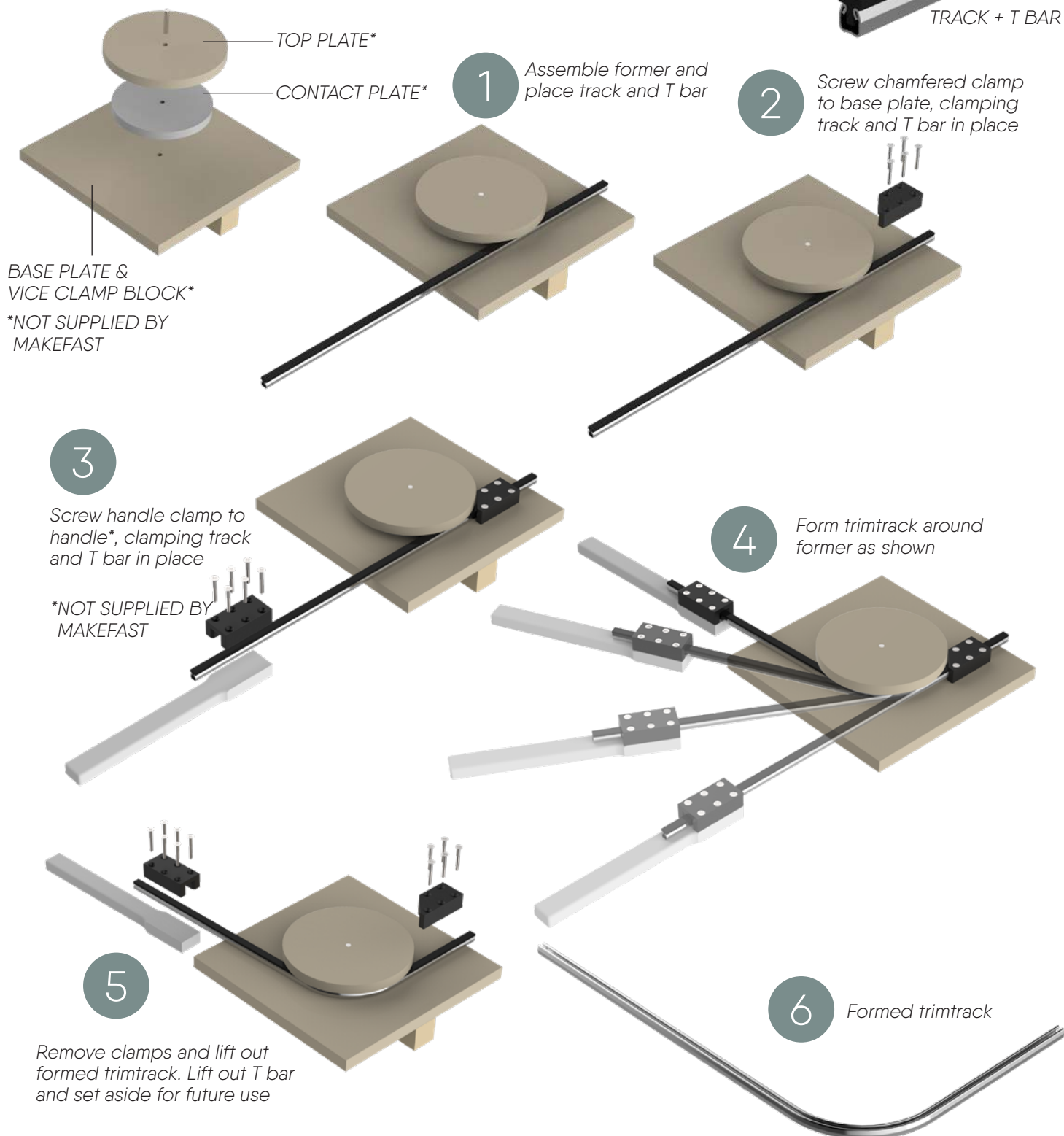
Part No. 3915 – Kit consisting of handle, former and plastic forming bar complete with fixings.

*NOT SUPPLIED ARE WOODEN DISCS. INSTRUCTIONS ON HOW TO USE WILL BE SUPPLIED WITH THE KIT AND WILL INCLUDE ALL NECESSARY DIMENSIONS FOR DIFFERENT RADII DISCS.*

T FORMING BAR

TRIMTRACK

TRACK + T BAR



# TRACK & TUBE ACCESSORIES

## TRIMTRACK ROLLERS FOR GENTLE BENDS

- For use with TrimTrack with no holes
- Use in conjunction with Tube Crowner with roller, or rollers only, which are interchangeable

Part No.	Description
9330TG	Tube crowner with internal bend roller
9330TH	Tube crowner with external bend roller
9330TI	Tube crowner with vertical bend roller
9330G	Internal bend roller only
9330H	External bend roller only
9330I	Vertical bend roller only



Part No. 9330I



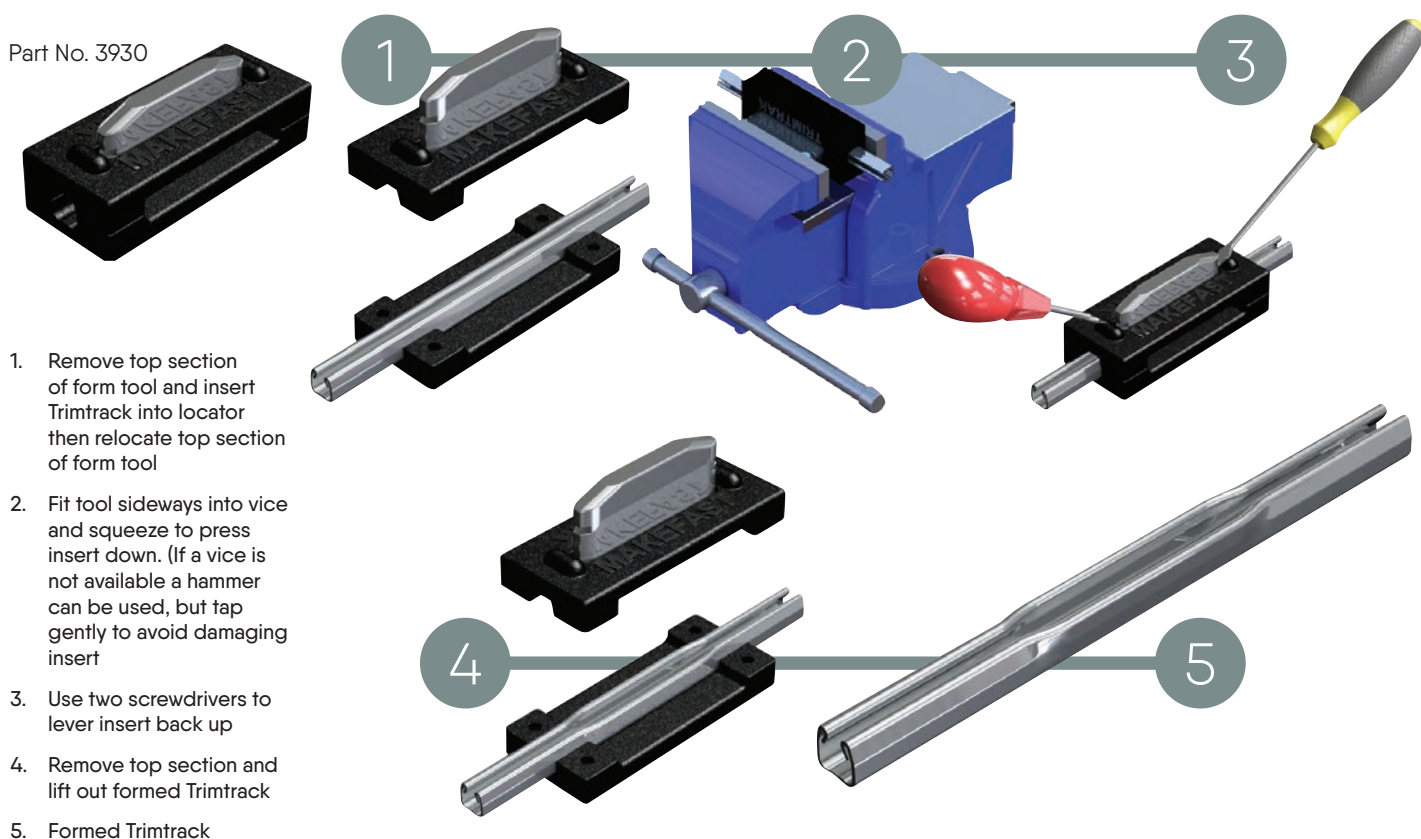
Part No. 9330G



Part No. 9330H

## TRIMTRACK MID ENTRY POINT FORM TOOL

Part No. 3930



1. Remove top section of form tool and insert Trimtrack into locator then relocate top section of form tool
2. Fit tool sideways into vice and squeeze to press insert down. (If a vice is not available a hammer can be used, but tap gently to avoid damaging insert)
3. Use two screwdrivers to lever insert back up
4. Remove top section and lift out formed Trimtrack
5. Formed Trimtrack

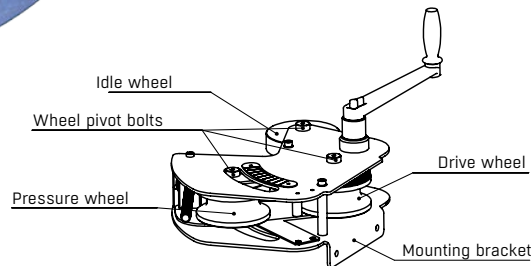
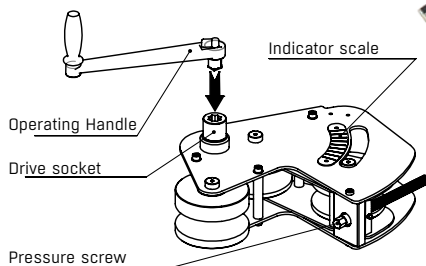


# TRACK & TUBE ACCESSORIES

## MAKEFAST TUBE CROWNER

- Accommodates a wide range of tube sizes.
- Geared drive wheel for ease of use
- Can form up to 38 mm. (1½") diameter tube
- The formers are interchangeable
- Other sizes available to order
- See Page 47 for trim track former

Part No.	Description	To fit tube size		
		mm	ins	wall
9330	Tube Crowner			
9330A	Tube formers	19	3/4	14 swg
9330B	Tube formers	22	7/8	14 swg
9330E	Tube formers	25	1	14 swg
9330F	Tube formers	30	-	1.5
9330C	Tube formers	32	1 1/4	1.5
9330D	Tube formers	38	1 1/2	1.5
9330AS	Tube former complete with all roller sizes			



Stage 4:  
Prise apart Drive Wheel  
and Drive wheel gear

Stage 2:  
Pull out 3 x Pivot Bolts

Changing Forming Wheels:  
Reassembly is the reverse of removal, but note  
Be sure to refit Drive dowels to Drive Wheel and  
Drive Gear and re-engage gears on assembly.  
Also, take care when refitting Pivot bolts to avoid  
damage to needle bearings. Pivot bolts should  
slide in without resistance.

Stage 3:  
Side wheels  
out of frame

Stage 1:  
Remove 3 x M12 nuts

Use 16mm spanner or socket  
to wind Pressure wheel to zero position

Bolt Crowner to  
edge of bench  
or mount in vise

Feed tube to be crowned  
through wheel grooves

TIPS:  
Mark extent of bend on tube with felt tip  
pen and work between marks  
Allow extra material to compensate for  
shortening due to curvature.  
Increase pressure at the end of each  
traverse whilst winding tube  
slightly side to side, don't alter settings  
during traverse.  
Note position on indicator scale for  
repeat parts.

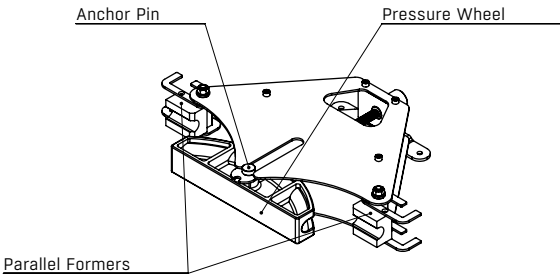
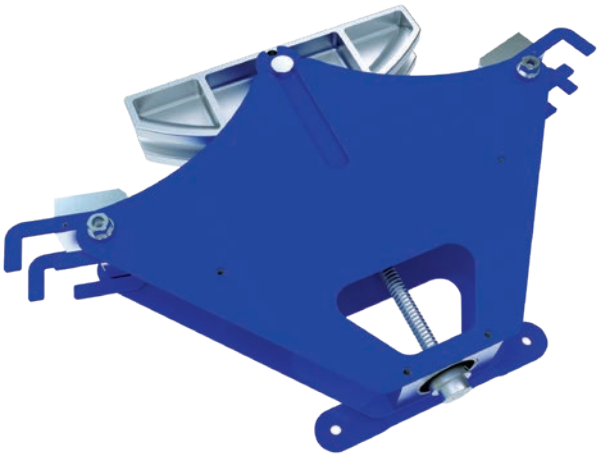
Wind tube through crowner for length of bend required.  
Progressively increase pressure to achieve desired curve.

# TRACK & TUBE ACCESSORIES

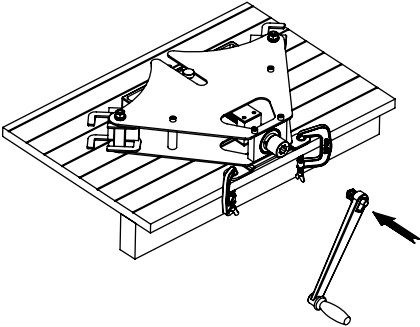
## MAKEFAST TUBE FORMER

- Can form tube up to 38mm diameter
- Can form angles up to 90 degrees
- 224mm internal radius without flattening tube
- Forms rather than rolls
- Suitable for bench mounting
- Comes complete with easy to use winch handle
- Other sizes available to order

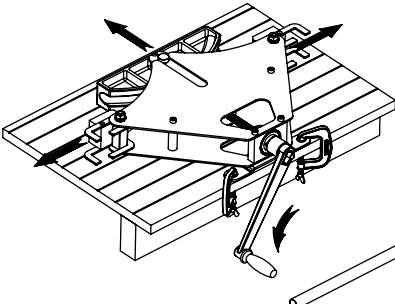
Part No.	Description	TO FIT TUBE SIZE		
		mm	ins	wall
9333	Former Frame Only			
9333A	Tube formers	19	3/4	14 swg
9333B	Tube formers	22	7/8	14 swg
9333E	Tube formers	25	1	14 swg
9333F	Tube formers	30	-	1.5
9333C	Tube formers	32	1 1/4	1.5
9333D	Tube formers	38	1 1/2	1.5
9333AS	Tube former complete with all roller sizes			



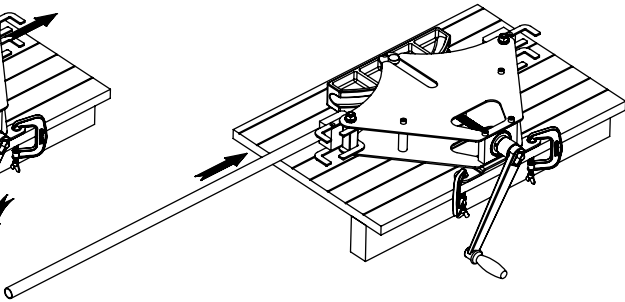
Clamp or bolt Tube Bender to bench. Fit Winding Handle.



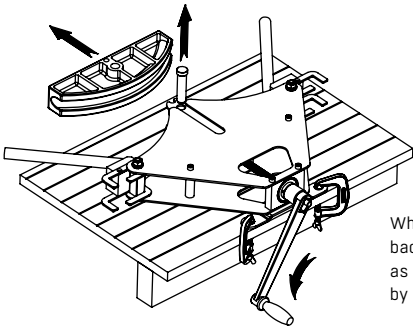
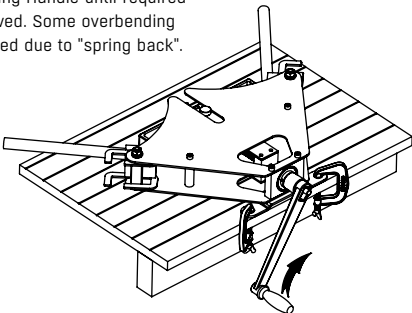
Wind Pressure Wheel to rear and pull Parallel Formers into starting position



Slide tube to be bent into grooves in formers. Centre of bend will be on centre line of Tube Bender.



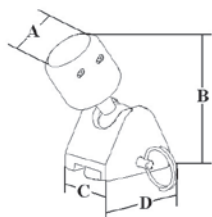
Operate Winding Handle until required bend is achieved. Some overbending may be required due to "spring back".



When bend is complete wind Pressure Wheel back to start position. Produce further bends as required. Finished tube may be removed by pulling out Anchor Pin to release Pressure Wheel.

# TRACK & TUBE ACCESSORIES

## DECK HINGE BALL STYLE TOP CAP

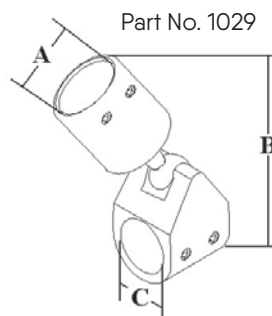


Part No. 1027



- Can operate up to 30° side travel and 190° forward and aft movement
- Pull tethered pin and hinge can be removed from low profile deck mount
- Ball is mounted in a nylon bushing for silent operation
- Deck mount uses size 10 screws (not supplied)

## JAW SLIDE BALL STYLE TOP CAP



Part No. 1029



Part No.	Description	A		B		C		D	
		mm	ins	mm	ins	mm	ins	mm	ins
1027	Deck Hinge Ball Style Top Cap	22	7/8	82	3 1/4	30	1 3/16	42	1 5/8
1029	Jaw Slide Ball Style Top Cap	22	7/8	97	3 13/16	22	7/8	-	-

## QUICK RELEASE BIMINI TOP POST HINGE in 316 stainless steel



Part No. 0956



- Mounts sideways to accommodate Bimini tops for direct post mounting
- Easily installed using 2 x No 10 screws (not supplied)
- Distance between hole centres 63mm (2 1/2")

Part No.	Description
0956	Cast Type 136 Stainless Steel Quick Release Bimini Top Post Hinge for 1" Tubing

## QUICK RELEASE BIMINI TOP HINGE in 316 stainless steel

Part No. 0954



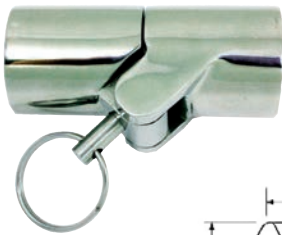
- Low profile Quick Release Type 316 stainless hinge
- Easy to remove or install without having to keep track of screws & pins
- The hinge snaps into base and stays attached to Bimini when separated
- Mounts directly to deck surface
- No cut outs are necessary
- Easily installed using 2 x No 10 screws (not supplied)
- Distance between hole centres 63mm (2 1/2")

Part No.	Description
0954	Cast Type 136 Stainless Steel Quick Release Bimini Top Hinge
0954Insert	Insert Only

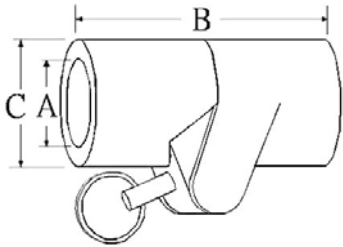


# TRACK & TUBE ACCESSORIES

## EXTERNAL TUBE HINGE in 316 stainless steel



Part No. 1047  
Tube hinge with pin



- Fit stainless, standard and 1 inch ranges
- 1/4" pin lock keeps hinge closed
- 1" model fits 1" tubing or can be welded to 1 1/4" tubing

Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
1047	22.4	7/8	78	3 1/16	29	1 1/8

## UNIVERSAL QUICK RELEASE KEYHOLE & DEMOUNTABLE FITTINGS



Webbing Terminator  
Keyhole deck fitting with Webbing terminator – used with a webbing strap to hold frames in position when erected



Part No. 4147  
Webbing Terminator, Keyhole plate & backing plate



Part No. 4147W  
Webbing terminator only

## TUBE JOINING SPRINGS

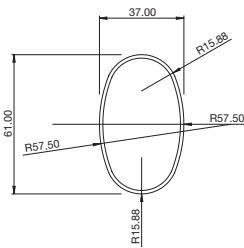


Part No. 9378S  
Stainless steel joining spring

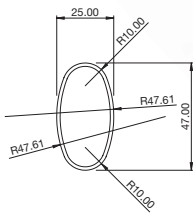
## OVAL TUBE

Makefast now produces its own oval tube in a range of different sizes, stainless steel as standard.

Part No.	Description
8010	47x25x3000mm Oval Tube
8015	47x25x6000mm Oval Tube
8020	61x37x3000mm Oval Tube
8025	61x37x6000mm Oval Tube



External perimeter - 159.48mm  
(equal to 50.764mm/2" dia tube)

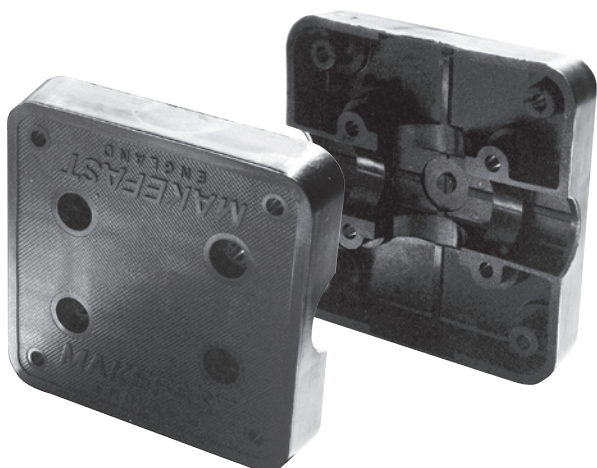


External perimeter - 118.05mm  
(equal to 37.58mm/1.5" dia tube)



# TRACK & TUBE ACCESSORIES

## STOW BLOCKS



- Pair of tough black nylon blocks plus A4 stainless fastenings
- Clamp firmly around any stanchion or rail of 22mm to 32mm (7/8" to 1 1/4") diameter
- Easily drilled to hold any kind of equipment bracket or holder
- One block can be used to fit to a bulkhead & hold attachments
- Can be fitted to an upright or horizontal tube

Part No. 0303  
Stow Blocks, sold in matched pairs, with  
A4 stainless fastenings

## LIFEBUOY HOLDERS



- The stainless steel frame adjusts to fit most sizes of horseshoe lifebuoy. Can be fitted to an upright or horizontal tube
- Uses black stow blocks which clamp around any tube from 22mm to 32mm (7/8" to 1 1/4") diameter

Part No. 0302  
Lifebuoy holder

## STANCHION MOUNTING EYES

Part No. 0423  
Stanchion mounting eye only



Part No. 0422  
Stanchion mounting eye  
complete with plate

- The stanchion mounting eye fit tube diameters of 25 mm (1 inch)
- Made in type 316 stainless steel
- The mounting eye can be supplied with or without a backing plate
- Distance between hole centres 46.8mm (1.84")
- Minimum order quantity - 50 units

SAILMAKER ITEMS



Headboards – White Plastic .....63

Batten Protectors .....63

Solid Thimbles .....63

Sail Slides

    Stainless Steel.....64

    Nylon .....64

    Low Friction .....64

    Snap-On Shackles .....64

Quick Release Pin .....65

Drop Nose Pins .....65



# SAILMAKER ITEMS

## HEADBOARDS White Plastic

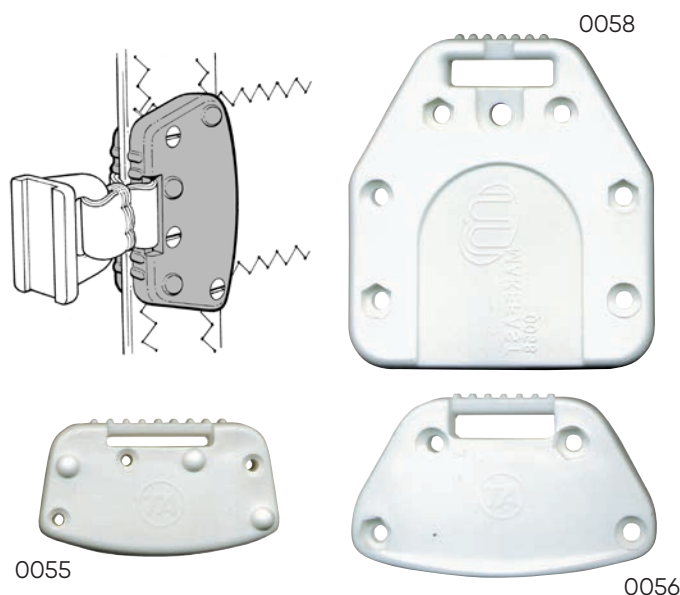


- Made from white nylon 6
- Use semi tubular rivets Part Nos. 6634 and 6635 or tubular rivets Part Nos. 6631 and 6632
- Use liner Part No. 0915L
- Excellent UV resistance

Part No.	Size		Rivet hole dia		Liner hole dia		Weight	
	mm	ins	mm	ins	mm	ins	g	ozs
0079W	93 x 113	3.66 x 4.45	5.1	0.20	19	0.75	23	0.81

Part No.	Description	Technical Information	Min Order
0195L	Stainless Steel liners	16mm (0.63") dia x 18mm (0.75") long	100
0015T	Closing tools for liners	To suit part no. 0915L	2

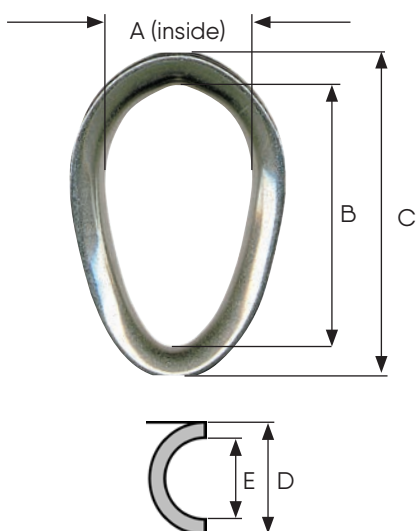
## BATTEN PROTECTORS



- Made from nylon 6
- Square back prevents jamming in the mast
- Sliders can be webbed directly to the batten protector
- Friction between protector and mast is minimised by low friction nodules
- Available in white as standard, other colours to order
- Complete with A4 stainless steel fastenings

Part No.	Description	Weight per pair	
		g	ozs
0055	Batten protector to suit 20mm to 30mm wide batten (3/4 to 1 1/4")	16	0.56
0056	Batten protector to suit 40mm wide batten (1 1/2")	33	1.16
0058	Batten protector to suit 40mm wide batten (1 1/2 heavy duty)	58	2.05

## SOLID THIMBLES in 316 stainless steel



Part No.	Wire diameter		A		B		C		D		E	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins
0147	3	0.12	12	0.47	20.7	0.8	26	1.02	5	0.19	3.2	0.13
0148	4	0.16	13	0.51	22.8	0.9	30	1.18	6.6	0.25	4.2	0.17
0149	6	0.24	20	0.79	34	1.34	44	1.73	9.6	0.38	6.4	0.25
0150	8	0.31	25.6	1	41.8	1.65	54	2.12	11.5	0.45	8.4	0.33

Part Number 0150 has a minimum order quantity of 250 units

## SAILMAKER ITEMS

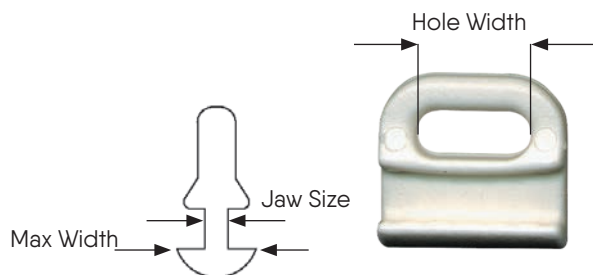
### SAIL SLIDE in stainless steel and nylon



- Robust design
- Frame and closing piece are Type 136 stainless steel
- Body is black nylon 6 with siloxane polymer to reduce friction and improve sliding properties

Part No.	Slide Body diameter	Weight g
	mm	
0061A	8	10
0062A	10	11
0063A	12	12

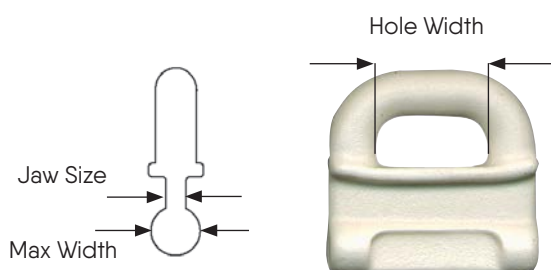
### LOW FRICTION SAIL SLIDES



- Manufactured in white nylon 6 with siloxane powder to reduce friction and improve sliding properties
- Unique ribbed design increases strength whilst reducing contact area by 50%

Part No.	Max width		Jaw size		Hole width	
	mm	ins	mm	ins	mm	ins
3109	10.4	0.41	3	0.12	13.9	0.55
3111	13.9	0.55	4.2	0.17	16.2	0.64

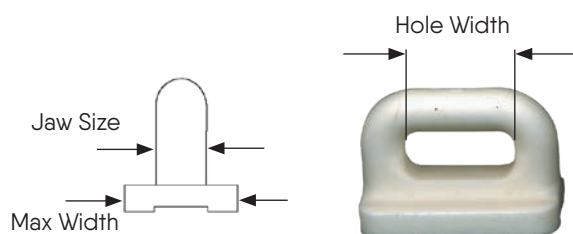
### LOW FRICTION SAIL SLIDES



- Reduces friction with internal track profiles
- Manufactured in white nylon 6 with siloxane polymer to reduce friction and improve sliding properties

Part No.	Max width		Jaw size		Hole width	
	mm	ins	mm	ins	mm	ins
0095	7.2	0.28	3	0.12	14.7	0.58
0096	8.3	0.33	3	0.12	14.7	0.58
0097	11.4	0.45	3	0.12	14.7	0.58

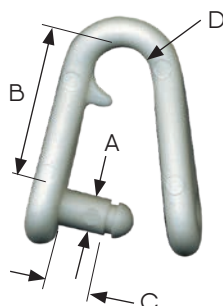
### LOW FRICTION SAIL SLIDES



- Reduces friction with internal track profiles
- Manufactured in white nylon 6 with siloxane polymer to reduce friction and improve sliding properties

Part No.	Max width		Jaw size		Hole width		Minimum Order QTY
	mm	ins	mm	ins	mm	ins	
2090	16	0.63	6	0.24	18.2	0.72	200
2091	19	0.75	8.4	0.33	18.2	0.72	200
2092	22	0.87	9.5	0.37	18.2	0.72	200

### SNAP ON SHACKLES

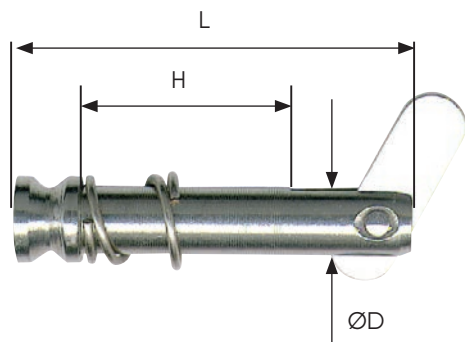


- Available in white nylon 6 (0641B in Black Nylon 6 to special order - minimum order QTY = 500)
- Integral locking pip to prevent slider movement
- Fits our extensive slide range
- Lengthened shaft 'C' to accommodate thicker sails and to prevent spring out when attaching

Part No.	Weight g/100	A		B		C		D	
		mm	ins	mm	ins	mm	ins	mm	ins
0641	380	6	0.24	25	0.99	8	0.31	8	0.31
0641B	600	7.8	0.31	27	1.06	9.7	0.38	9	0.35
0643	600	7.8	0.31	27	1.06	9.7	0.38	9	0.35

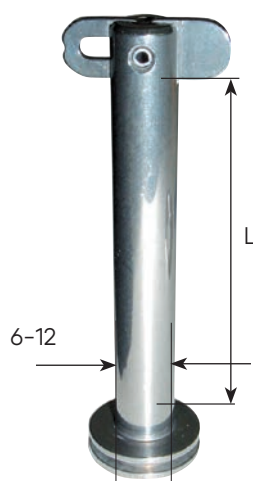
# SAILMAKER ITEMS

## QUICK RELEASE PIN in 316 Stainless Steel



Part No.	L overall		H top of slot to head		Diameter of pin	
	mm	ins	mm	ins	mm	ins
6316-0003	38	1.45	19	3/4	6.26	1/4

## DROP NOSE PINS in 316 Stainless Steel



Length L		Ø 6mm 0.24 in		Ø 8mm 0.31 in		Ø 10mm 0.39 in		Ø 12mm 0.5 in	
mm	ins	A	B	A	B	A	B	A	B
20	0.79	5906	5906BH	5907	5907BH	5908	5908BH	5957	5957BH
25	1.0	5909	5909BH	5910	5910BH	5911	5911BH	5912	5912BH
30	1.18	5913	5913BH	5914	5914BH	5915	5915BH	5916	5916BH
35	1.38	5917	5917BH	5918	5918BH	5919	5919BH	5920	5920BH
40	1.57	5921	5921BH	5922	5922BH	5923	5923BH	5924	5924BH
50	2.0	5925	5925BH	5926	5926BH	5927	5927BH	5928	5928BH
60	2.36	5929	5929BH	5930	5930BH	5931	5931BH	5932	5932BH
80	3.15	5937	5937BH	5938	5938BH	5939	5939BH	5940	5940BH
100	3.94	5945	5945BH	5946	5946BH	5947	5947BH	5948	5948BH
110	4.33	5949	5949BH	5950	5950BH	5951	5951BH	5952	5952BH
120	4.72	5953	5953BH	5954	5954BH	5955	5955BH	5956	5956BH

- In type 316 stainless steel
- These high quality pins have a locking drop nose and either an annular groove for wire or rope attachment or a large finger grip for frequent usage
- Locks in both open and closed positions
- Other sizes available but made to order

Drop Nose Pins are available in two standard head types available in all sizes:

Big Head type drop nose pins have large finger grip making them ideal for frequent use.

Design A  
Grooved Ring



Design B  
Finger Grip



To fit drop nose pin extend plate so that is in line with the body.



Rotate the plate 90° until it snaps into position.



Push the plate to lock.



Drop nose pins with a finger grip and hole for fitting wire retainers.



Drop nose pins with a grooved ring for fitting wire retainers.





Picture courtesy of Permare

Bridges

- Webbing Bridges ..... 67
- Stainless Webbing Bridge..... 67

Toggles ..... 67

- Plastic Toggles ..... 67
- 50mm Toggles..... 67
- Sew on Toggle..... 67

Handilocks..... 67

Rope Stoppers ..... 68

Shock Cord Hooks..... 68

Webbing Hooks ..... 68

Lacing Hooks and Eyes..... 68

Sew-On Hooks and Eyes..... 69

Lacing Buttons

- Plastic ..... 69
- Stainless Steel..... 69

Rib Hook..... 69

# WEBBING & ROPE ACCESSORIES

## WEBBING BRIDGES in plastic



Used for retaining webbing to flat surfaces the Makefast Webbing Bridges are moulded in Black or White Nylon and are available in a range to fit commonly used webbing sizes. Use No.6 size countersunk screws to fix to deck.

Part No. Black	Part No. White	To fit webbing		Hole size		Weight	
		mm	ins	mm	ins	g	oz/s
0693	0693W	25-30	1 - 1.25	5	3/16	4	0.14
0694	0694W	40	1.5	5	3/16	5	0.18
0695	0695W	50	2	5	3/16	6	0.21

## STAINLESS WEBBING BRIDGES



Made in Type 304 stainless steel

Part No.	To fit webbing		Hole size		Weight	
	mm	ins	mm	ins	g	oz/s
0698	25-30	1 1/4	5	3/16	32	1.13

## TOGGLES in plastic



Suitable for the most demanding technical garments. Available in 2 models, to fit webbing tape and elastic, or round cord. Standard colour black, other colours to order.

Part No.	For Tape		For Cord	
	mm	ins	mm	ins
0284	9	0.35		
0285			3.5	0.14

## 50MM TOGGLE in plastic



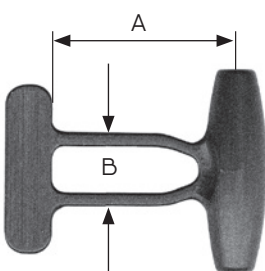
Part No. 0287

In addition to the current range of plastic toggles to suit 4mm cord. Available in Black (as standard), Red, White, Blue and Yellow to order. Available in polypropylene to enable flotation.

Part No.	Overall length		Hole Diameter		Distance Between Hole Centres	
	mm	ins	mm	ins	mm	ins
0287	50	2	4.5	0.175	9	0.35

## SEW ON TOGGLE in plastic

Revolutionary one piece toggle system designed to be sewn into garments saving production and material costs.

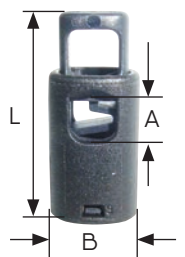


No tapes or cords required. Two toggles interlock to give a secure fit even in arduous conditions. Standard colour black, other colours to order.

Part No.	To fit webbing		Hole size	
	mm	ins	mm	ins
0671	22	0.87	11	0.43

## HANDILOCKS in black plastic

Used for tensioning draw strings.



Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
0670	6	0.24	12	0.5	20-38	0.8-1.5

# WEBBING & ROPE ACCESSORIES

## ROPE STOPPERS in Plastic



Part No. 0290  
4mm rope stopper with larger aperture  
(10.5mm wide x 10.5mm deep)  
(0.413" wide x 0.413" deep)

- For tidying up rope ends and providing additional support to the knot
- Please specify colour when ordering
- Standard colours black, white, red, blue, yellow and green
- Other colours to order (olive, fluorescents)

Part No.	For Rope Diameter		Outside
	mm	ins	Ø mm
0281	4	0.16	17.5
0282	6	0.24	25
0283	8	0.3	33
0290	4	0.16	17

## SHOCK CORD HOOK in plastic

2012



- White plastic
- Shock cord hooks can clip together

Part No.	Shock Cord Size	
	mm	ins
2012	3-5	0.12-0.20
2012B	3-5	0.12-0.20

## WEBBING HOOKS

in 316 stainless steel or carbon steel



Part No. Stainless Steel	Part No. Zinc Plated Steel	To fit webbing	
		mm	ins
0230	0231	25	1

## LACING HOOKS

in nylon

0172W



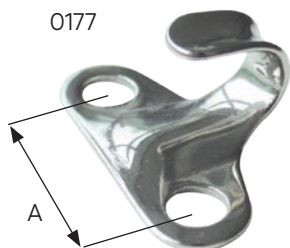
0172

For shockcord up to 8mm (0.3") diameter

Part No.	Colour	Fixing holes	
		mm	ins
0172	Black	5	0.2
0172W	White	5	0.2

## LACING HOOKS AND EYES in 316 stainless steel

0177



A

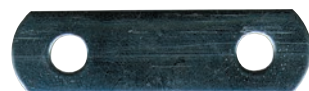


0176

A

Backing plate allows hook to be fixed to the fabric  
using rivet Part No. 6630  
Suits No. 8 panhead screws

Part No.	A		Fixing holes		Fits backing plate to allow for riveting
	mm	ins	mm	ins	
0177	18	0.71	5	0.20	0177P
0176	26	1.02	5	0.20	0176P
0177P	18	0.71	5	0.20	N/A
0176P	26	1.02	5	0.20	N/A



0177P



0176P



# WEBBING & ROPE ACCESSORIES

## SEW ON HOOKS AND EYES in plastic

0170N  
0170W  
0170B



0171N  
0171W  
0170B



0598W Lacing Button  
assembled to 0170W



### SEW ON HOOKS

- White colour only are U.V. Stabilized
- Reduced stress points for flexibility
- Can be sewn directly onto fabric
- Fits sew on eyes Part No. 0170
- Part No. 0171FR is flame retardant to UL-V2

Part No.	Description
0171N	Natural
0171W	White - UV stabilised
0171	Black

### SEW ON EYES

- White colour only are U.V. Stabilized
- Can be sewn directly onto fabric
- Fits sew on hooks Part No. 0171
- Tag in eye ensures positive lock onto lacing button
- Fits part no. 0598W (see below)
- Part No. 0170FR is flame retardant to UL-V2

Part No.	Description
0170N	Natural
0170W	White - UV stabilised
0170	Black

## LACING BUTTONS in plastic



0598/0598W  
Black / White



0599/0599W  
Black / White

- Available in black or white
- Suits No. 8 countersunk screws or M4

Part No.	Description
0598 / 0598W	Flared Body
0599 / 0599W	Cylindrical Body, Large Head

## LACING BUTTONS in 316 stainless steel



0596



0600



0600A



0600L

- In type 316 stainless steel
- Suits No. 8 countersunk screws or M4

Part No.	Description
0596	Slimline Body
0600	Flared Body
0600A	Cylindrical Body, Large Head
0600L	Flared Body, Extended Base

## RIB HOOK in Nylon



Strong and durable moulding  
Other colours to order  
Standard colours:-  
Part No. 2015 Grey  
Part No. 2015W White  
Part No. 2015B Black



High Strength Plastic Click Lock Buckle.....71

Side Release Buckles.....71

Quick Release Buckles.....72

Sliding Bar Buckles.....72

Plastic Buckles and Slides .....75

2 Part Adjusting Buckle.....75

3 Bar Slides .....75

Adjuster Buckles and Slides.....76

Ladder Lock Buckles .....78

Single Fixed Bar Buckles.....78

Easi Link Systems .....79

Webbing Retainers.....80

Loops and Welded Links .....80

High Strength Rings .....81

D-Rings .....82

Triangles.....83

Spring Snaps .....84

**All our data is given for guidance only and is done so without warranty. It is the obligation of the purchaser or user to determine whether or not each item is suited for its intended application. In no event shall our liability extend beyond the replacement cost of any item.**

# MARINE SAFETY PRODUCTS

## HIGH STRENGTH PLASTIC CLICK LOCK BUCKLE



Part No. 0650  
Hi-Strength Plastic Buckle  
for 40mm webbing



Accredited to EN ISO 12402-7:2006/FprA1:2010

- High strength click lock for 40mm, webbing
- Tested to 200 Kg straight pull with no deformation or webbing slip
- Double action, two button opening - cannot be opened accidentally
- Easy click lock positive closure
- Made with 30% glass filled Nylon
- Robust Construction
- Colour Black

Pressing just one release tab will not open the buckle



To open the buckle the user must depress BOTH release tabs



## SIDE RELEASE BUCKLE

in black nylon or acetal



## SIDE RELEASE BUCKLES

Zinc Diecast, Nickel Plated



**IMPORTANT:**  
MAKEFAST DO NOT  
RECOMMEND USING  
THESE BUCKLES FOR  
ANY APPLICATION  
WHERE HEAVY  
LOADING IS LIKELY  
- THEY ARE NOT  
SUITABLE FOR SAFETY  
HARNESSE USE

Part No.	To fit webbing	
	mm	ins
0374	20	0.75
0375	25	1
0376	40	1.5
0377	50	2

Part No.	To fit webbing	
	mm	ins
0433	25	1
0434	50	2

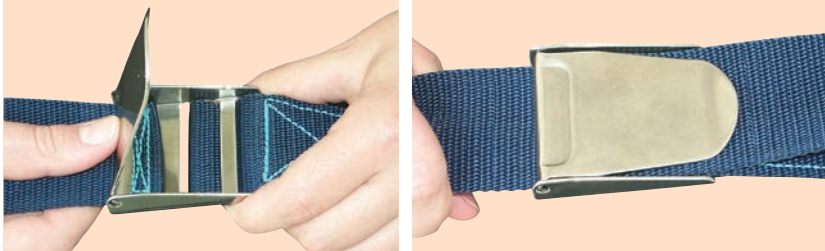


# MARINE SAFETY PRODUCTS

## QUICK RELEASE BUCKLES in 316 stainless steel

The Makefast range of quick release buckles offer superb performance with excellent finish in a range of sizes covering most common webbing sizes. The buckles offer strong grip with ease of adjustment for a range of applications.

Quick release buckles size 25mm (1") and 40mm (1.5") are suitable for webbing thicknesses 0.5mm to 1.4mm (0.02" - 0.06"). The 50mm (2") buckle can be swaged to suit any thickness of webbing. When ordering please send us a sample of the webbing & we will tailor the buckle to match the webbing.



Part No.	To fit webbing		Weight		Minimum Order QTY
	mm	ins	g	ozs	
0324	25	1	29	1.02	-
0325	40	1½	60	2.12	25
0326	50	2	80	2.82	-

## QUICK RELEASE SLIDING BAR BUCKLES



- Combines easy adjustment and quick release
- 0573 and 0574 frame in pressed 316 stainless steel
- 0399 Frame in type 316 stainless steel 5mm (3/16") wire

Part No.	To fit webbing		Breaking Load		Material for bar	Weight		Minimum Order QTY
	mm	ins	kgs	lbs		g	ozs	
0573	40	1½	165	360	Stainless Steel	41	1.45	5
0574	50	2	165	360	Stainless Steel	50	1.76	5
0399	50	2	650	1400	Nylon	61	2.15	50



THREADING AND ADJUSTING THE BUCKLE

QUICK RELEASE ACTION

## QUICK RELEASE BUCKLES

in black acetal



Part No.	To fit webbing	
	mm	ins
0401	20	0.75
0402	25	1
0450	50	2

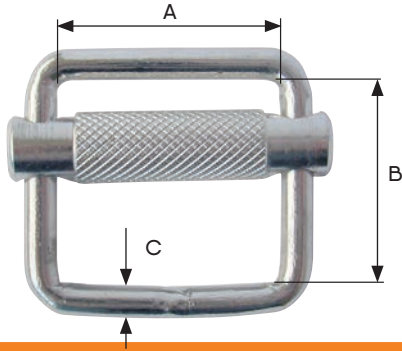
## PRESS RELEASE BUCKLE WITH KNURLED EDGE in 316 stainless steel



Part No.	To fit webbing	
	mm	ins
0437	25	1

# MARINE SAFETY PRODUCTS

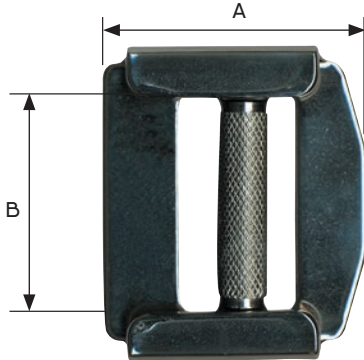
## SLIDING BAR BUCKLE with stainless bar



- All Type 316 stainless steel construction
- Manufactured by Makefast
- Fits 25mm (1 inch) webbing

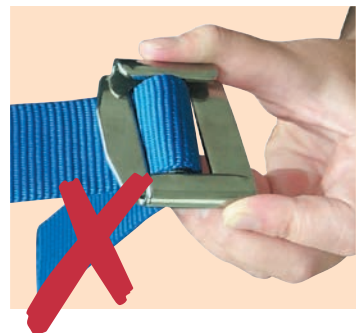
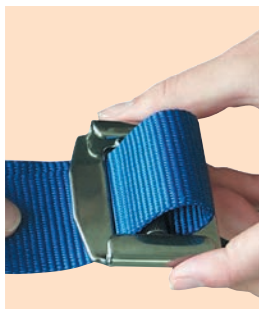
Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0414	26	1.02	25	1	4	0.16	367	853	30	0.85

## HEAVY DUTY SLIDING BAR BUCKLE all stainless pressed design

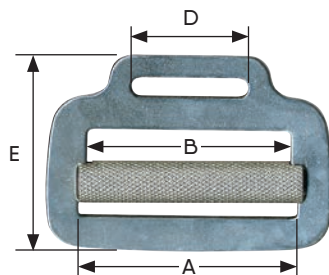


- Pressed frame in type 316 stainless steel
- Knurled stainless bar
- For heavy duty applications

Part No.	A		B		Thickness		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0275	40-45	1 ½ - 1 ¾	50	2	3	0.12	1600	3500	109	3.84



## SLIDING BAR BUCKLE in 316 stainless steel



- Sliding bar retained by webbing when threaded
- Material thickness 3mm (0.12 in)

Part No.	Description	A		B		D		E		Breaking Load		Weight	
		mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0112	Stainless steel	50	1.97	46	1.81	30	1.18	53	2.09	1400	3086	80	2.82
0114	Stainless steel	56	2.20	52	2.05	30	1.18	53	2.09	1300	2866	89	3.14

## HOLDING DOWN CLIPS in 316 stainless steel

DOES NOT INCLUDE  
SLIDING BAR  
BUCKLE



- Designed to assemble sliding bar buckles, D rings, etc. onto a new fixture
- Fits 5mm bars

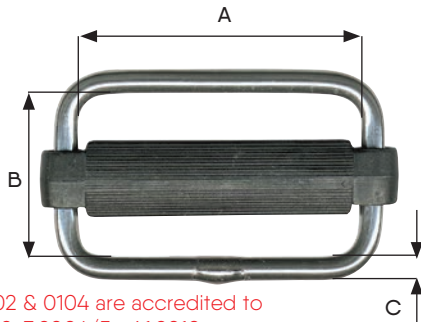
Part No.	Hole size		Weight	
	mm	ins	g	ozs
0583	5.20	0.20	7	0.25

# MARINE SAFETY PRODUCTS

## SLIDING BAR BUCKLES in Type 316 stainless steel



THREADING THE SLIDING BAR BUCKLES

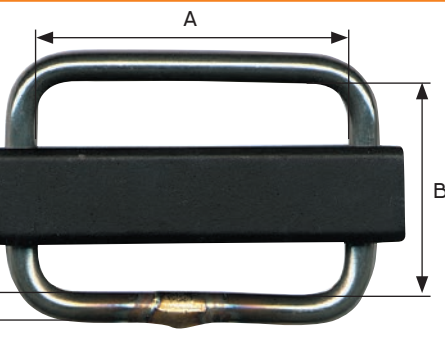


Part Nos 0102 & 0104 are accredited to  
EN ISO 12402-7:2006/FprA1:2010

## SLIDING BAR BUCKLE with nylon bar

- High quality composite buckles for a wide range of uses, including webbing straps and canopy hoods
- Knurled nylon bar design for strong grip

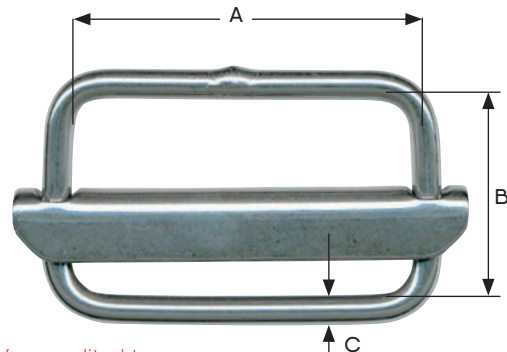
Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0412	25	1	22	7/8	4	0.16	135	290	13	0.46
0102	40-45	1 1/2-1 3/4	30	1 1/4	5	0.20	200	440	29	1.02
0104	50	2	30	1 1/4	5	0.20	165	360	33	1.16



## SLIDING BAR BUCKLE with aluminium bar

- High performance H-section aluminium bar prevents slipping
- Bar is anodised black

Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0102A	45	1 3/4	30	1 1/4	5	0.20	750	1650	39	1.38
0104A	50	2	30	1 1/4	5	0.20	750	1650	43	1.52

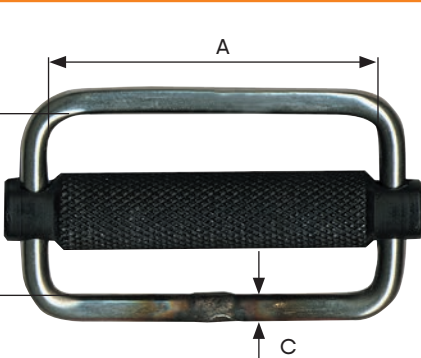
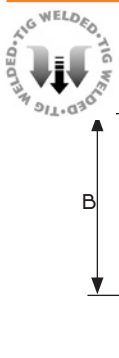


Part No. 0744 accredited to  
EN ISO 12402-7:2006/FprA1:2010

## SLIDING BAR BUCKLE with stainless bar

- All Type 316 stainless steel construction
- Ideal for harsh environment and outdoor applications
- Fits 50mm (2 inch) webbing
- Fully operational working load 300 kg (660lbs)

Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0413	25	1	22	7/8	4	0.16	499	1100	18	0.63
0744	50	2	30	1 1/4	5	0.20	340	660	45.5	1.6



## SLIDING BAR BUCKLE with knurled aluminium bar

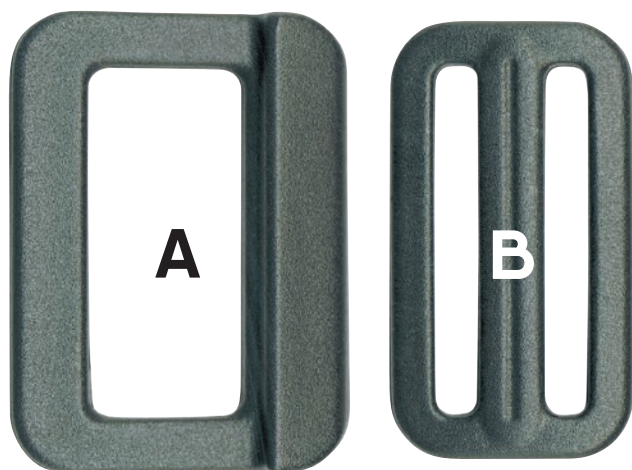
- Good performance achieved from well established bar shape
- Frame made from type 316 stainless steel
- Bar is anodised black

Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0104C	50	2	30	1 1/4	5	0.20	650	1400	44	1.55



# MARINE SAFETY PRODUCTS

## PLASTIC 3 BAR BUCKLES AND SLIDES



- Plastic buckles
- Colour BLACK
- In 3 sizes, 40, 45 and 50mm
- Available in Nylon or Acetal
- Acetal parts have minimum order QTY = 200 units

### ACETAL

Part No.	Component	To fit webbing		Weight	
		mm	ins	g	ozs
0968	A	40	1.5	7	0.25
0969	B	40	1.5	10	0.35
0977	A	45	1.75	8	0.28
0976	B	45	1.75	9	0.32
0979	A	50	2	12	0.42
0978	B	50	2	10	0.35

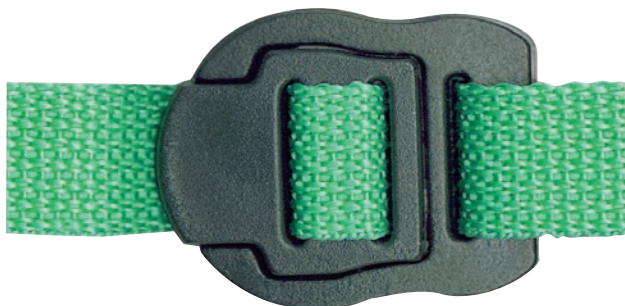
### NYLON

Part No.	Component	To fit webbing		Weight	
		mm	ins	g	ozs
0968N	A	40	1.5	6	0.21
0969N	B	40	1.5	9	0.35
0977N	A	45	1.75	7	0.25
0976N	B	45	1.75	8	0.28
0979N	A	50	2	10	0.35
0978N	B	50	2	9	0.32



### THREADING THE BUCKLES

## 2 PART ADJUSTING BUCKLE



Part No. 0660 - Acetal  
Part No. 0660N - Nylon

- To fit 25mm (1 inch) webbing
- 200 kg (440lbs) breaking load
- Unique styling complements any garment
- Standard colour black
- Minimum order QTY = 200 units

## 3 BAR SLIDES

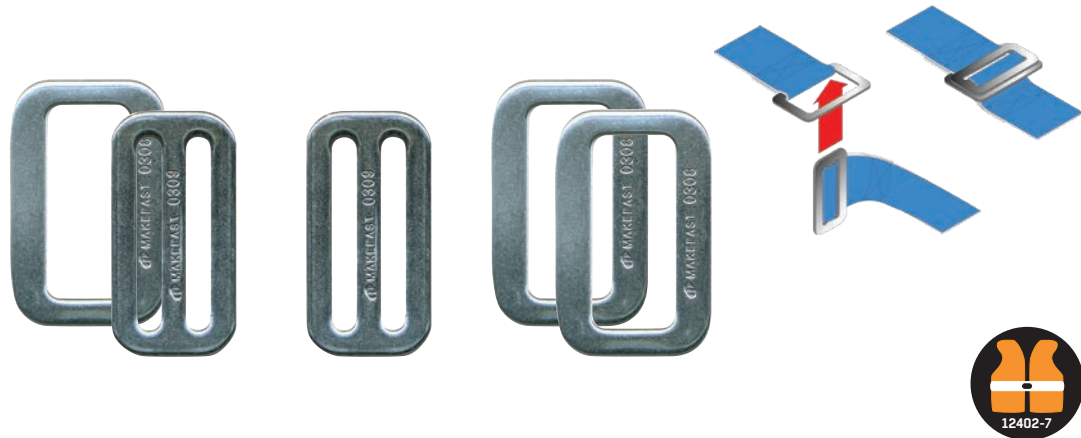


Available in black nylon or acetal

Part No. Acetal	Part No. Nylon	To fit webbing	
		mm	ins
0655	0655N	20	0.75
0656	0656N	25	1
0658	0658N	40	1.5
0659	0659N	50	2

# MARINE SAFETY PRODUCTS

## ADJUSTER BUCKLES AND SLIDES in 316 stainless steel

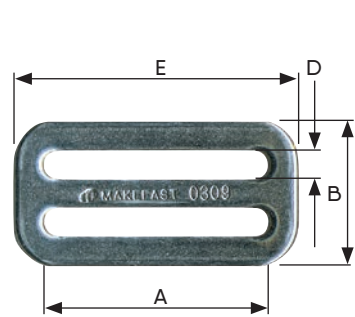


Standard products are in Type 316 stainless steel. For military and security equipment, products can be blacked or coloured to order. Please ask for prices and details.

Combination 0309 & 0308 accredited to Lifejacket Standard EN ISO 12402-7:2006/FprA1:2010



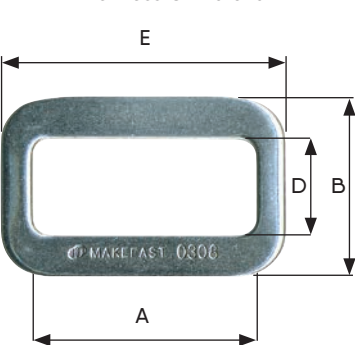
### ADJUSTER BUCKLES



Dimension C Is Thickness Of Material

Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0538	20.8	0.82	23	0.9	1.5	0.06	4.5	0.18	29	1.14	275	600	6	0.21
0520	28	1.10	28.6	1.12	2	0.08	5.9	0.23	36.1	1.42	375	800	10	0.35
0522	32	1.26	29	1.14	3	0.12	5	0.20	45.25	1.54	950	2090	22	0.78
0540	40.8	1.61	29	1.14	3	0.12	5	0.20	54	2.13	950	2090	25	0.88
0542	45.8	1.80	30	1.18	3	0.12	5	0.20	59	2.32	950	2090	29	1.02
0544	45.8	1.80	30	1.18	4	0.16	5	0.20	59	2.32	1250	2750	37	1.31
0309	50.9	2	34	1.34	3	0.12	6.4	0.25	66.2	2.56	1000	2200	34	1.2

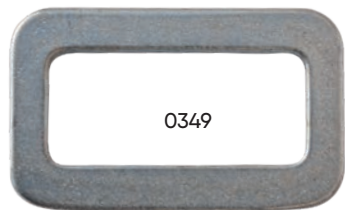
### SLIDES



Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0539	23	0.91	29	1.14	1.5	0.06	17.5	0.69	35	1.37	275	600	6	0.21
0521	29	1.14	36	1.42	2	0.06	22	0.87	42	1.65	375	800	10	0.35
0523	32	1.26	36	1.42	3	0.12	21	0.83	46.2	1.81	950	2090	22	0.78
0541	40.8	1.61	36	1.42	3	0.12	20	0.79	55	2.16	950	2090	25	0.88
0543	45.8	1.80	36	1.42	3	0.12	20	0.79	60	2.36	950	2090	29	1.02
0545	45.8	1.80	36	1.42	4	0.16	19.5	0.77	60	2.36	1250	2750	37	1.31
0308	50.9	2	41	1.61	3	0.12	22.4	0.88	65.2	2.56	1000	2200	34	1.2

## ADJUSTER BUCKLES AND SLIDES in Carbon steel

Finish is silver zinc plated with clear passivation



Dimension C Is Thickness Of Material

Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0348	45.8	1.80	30	1.18	3	0.12	5	0.20	59	2.32	950	2090	29	1.02
0349	45.8	1.80	36	1.42	3	0.12	20	0.79	60	2.36	950	2090	29	1.02



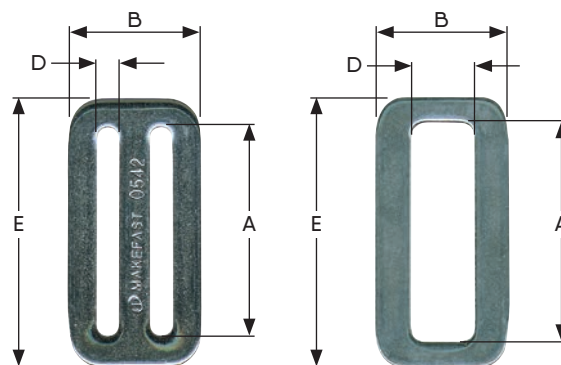
0348

# MARINE SAFETY PRODUCTS

## SIMPLE ADJUSTERS in 316 stainless steel



- For use with standard buckles and slides
- Budget alternative to standard configuration



Dimension C Is  
Thickness Of Material



0542

0391

Part No. 0391 to suit 45mm webbing

For use with Part No. 0542 adjuster buckle

Combination 0391 & 0542 accredited to Lifejacket Standard EN ISO 12402-7:2006/FprA1:2010



Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0391	48	1.89	30	1.18	3	0.12	13.9	0.55	60	2.36	1182	2605	25	0.88
0542	45.8	1.8	30	1.18	3	0.12	5	0.2	59	2.32	950	2090	29	1.02

Note: Part No. 0391 breaking load is for slide only in a straight pull. Breaking load when webbed with a Cat. 0542 is 408kgs (890 lbs)



0543

0388

Part No. 0387 to suit 40mm webbing – For use with Part No. 0541 slide

Part No. 0388 to suit 45mm webbing – For use with Part No. 0543 slide

Part Nos 0387 and 0388 minimum order QTY =50 units

Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0387	40.8	1.61	36	1.42	3	0.12	13	0.51	55	2.16	1400	3146	18	0.64
0388	45.8	1.80	25	0.98	3	0.12	13	0.51	60	2.36	1400	3146	20	0.71
0541	40.8	1.61	36	1.42	3	0.12	20	0.79	55	2.16	950	2090	25	0.88
0543	45.8	1.80	36	1.42	3	0.12	20	0.79	60	2.36	950	2090	29	1.02

Note: Part Nos. 0387 and 0388 breaking load is for slide only in a straight pull. Breaking load when webbed with a Cat. 0541 or 0543 is 367kgs (809 lbs)



0308

0389

Part No. 0389 to suit 50mm webbing – Minimum Order QTY =50 units

For use with Part No. 0308 slide

Combination 0389 & 0308 accredited to Lifejacket Standard EN ISO 12402-7:2006/FprA1:2010



Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0389	50.9	2	28	1.10	3	0.12	16	0.63	65.2	2.56	1500	3364	21	0.74
0308	50.9	2	41	1.61	3	0.12	22.4	0.88	65.2	2.56	1000	2200	34	1.2

Note: Part No. 0389 breaking load is for slide only in a straight pull. Breaking load when webbed with a Cat. 0308 is 408kgs (890 lbs)



MARINE SAFETY PRODUCTS

LADDERLOCK BUCKLES

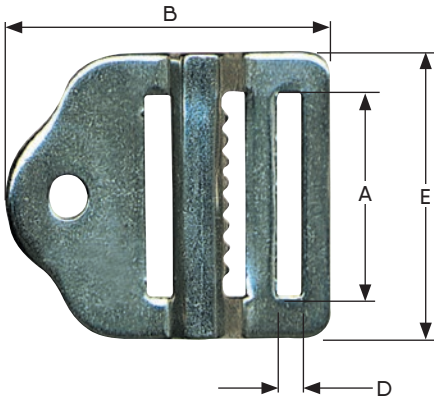
in black nylon or acetal



Part No.	Part No.	To fit webbing	
Acetal	Nylon	mm	ins
0416	0416N	20	0.75
0417	0417N	25	1

LADDERLOCK BUCKLE

in 316 stainless steel



Part No.	A		B		C		D		E		Hole Diameter	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins
0666	26.3	1.03	27	1.06	1.5	0.06	3	0.12	33.3	1.31	4	0.16

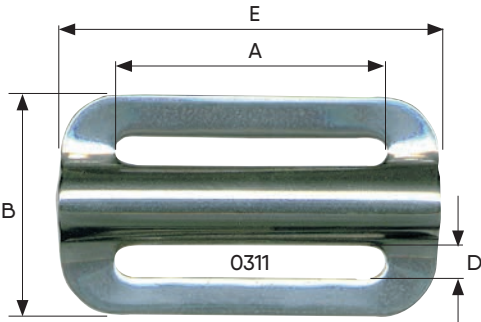


SINGLE SIZE FIXED BAR BUCKLES

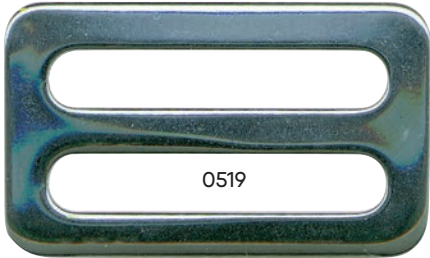
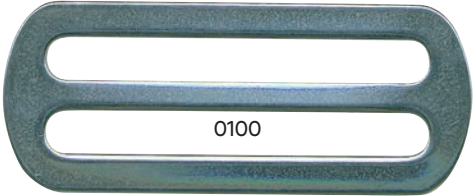
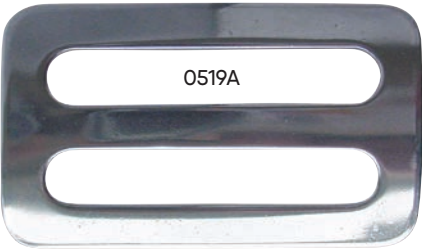
in 316 stainless steel

Makefast standard fixed bar buckles in type 316 stainless steel offer unrivalled performance for all types of application offering the reassurance only stainless steel can provide.

These buckles are single items that do not fit any slides. Type 304 stainless steel buckles are available to order.

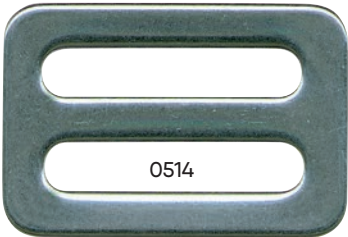


Dimension C Is Thickness Of Material



Buckles can be curved /contoured upon request

Part No.	A		B		C		D		E		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0514	34.50	1.36	31	1.22	2	0.08	6.40	0.25	46	1.81	700	1500	15	0.53
0519	45	1.77	34	1.34	2	0.08	7.50	0.30	57	2.24	500	1100	19	0.67
0100	51	2.01	25.4	1.00	1.5	0.06	5.70	0.22	65	2.56	460	1000	11	0.39
0518	52	2.05	48.50	1.91	3	0.12	10	0.39	72	2.83	900	1900	46	1.62
0311	50	1.97	43	1.69	3	0.12	6	0.24	70	2.76	1500	3300	61	2.15



# MARINE SAFETY PRODUCTS

## EASI LINK SYSTEMS in Type 316 stainless steel

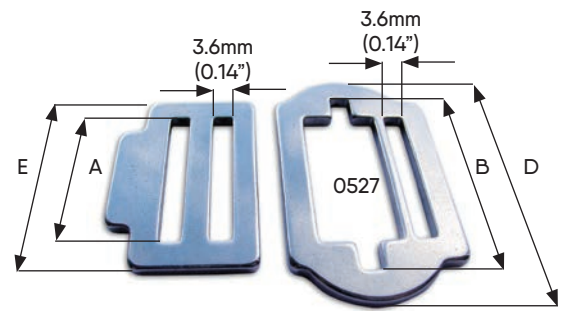
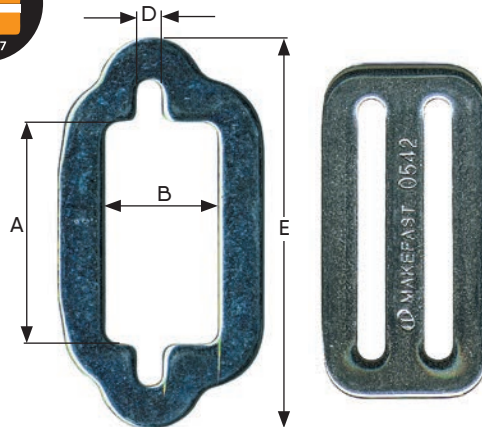
Combination 0392 & 0542 accredited to Lifejacket Standard EN ISO 12402-7:2006/ FprA1:2010



0392 For use with 0542 (3mm. thick)  
0392 For use with 0544 (4mm. thick)

0527 Combination 2 parts

The Makefast Easilink systems are designed to offer easier assembly of link and slide or link and 3 bar adjuster. They allow the use of thicker webbings and are particularly suited to quick release applications.



Dimension C Is Thickness Of Material

Part No.	Description	A		B		C		D		E		Breaking Load		Weight	
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0392	Standard Easi link	45	1.75	23	0.91	3	0.12	5.2	0.2	81.2	3.20	800	1850	39	1.38
0542	3 bar slide	45.8	1.8	30	1.18	3	0.12	5	0.2	50	2.32	950	2090	29	1.02
0544	3 bar slide	45.8	1.83	30	1.18	4	0.16	5	0.2	50	2.32	1250	2750	37	1.31
0527	Combination Easi link	26	1.02	36	1.42	2.5	0.10	46.5	1.83	35	1.38	400	875	11	0.4

## SLOTTED SLIDES in 316 stainless steel

Part No.	Description
3550	Part No 0541 slide with 20mm slot for 40mm webbing
3551	Part No 0543 slide with 20mm slot for 45mm webbing
3552	Part No 0545 slide with 20mm slot for 50mm webbing



## FLAT & CURVED LINKS FOR WEBBING in 316 stainless steel

3630  
3631  
3632



3624  
3625  
3626



3556  
3557  
3558



Part No.	Description
3556	Flat link for 40mm webbing
3557	Flat link for 45mm webbing
3558	Flat link for 50mm webbing
3624	Flat slide with tab for 40mm webbing
3625	Flat slide with tab for 45mm webbing
3626	Flat slide with tab for 50mm webbing
3630	Curved slide with tab for 40mm webbing
3631	Curved slide with tab for 45mm webbing
3632	Curved slide with tab for 50mm webbing

DOUBLE LOOP WEBBING RETAINERS

Plastic

- Ideal for tidying ends of webbing or increasing retention
- Available in High Density Polyethylene for general usage
- Available in Nylon 6 for more demanding uses
- Standard colour Black

0322 & 0322N  
0323 & 0323N

0317 & 0317N

0322O/S & 0322NO/S  
0323O/S & 0323NO/S



ROUND STYLE RETENTION (A)

DOUBLE PRONG RETENTION (B)

To Fit Webbing		Round Style (A)		Double Prong (B)	
mm	ins	PE	Nylon	PE	Nylon
40	1.5	0322	0322N	0322O/S	0322NO/S
45	1.75	0323	0323N	0323O/S	0323NO/S
50	2	0317	0317N	-	-

SINGLE LOOP WEBBING RETAINERS

Plastic

Complementing our Double Loop, the Makefast Single Loop is ideal for adding further resistance to a webbing assembly. Available in High Density Polythene, for general use. Standard colour black with other colours available to order.

Part No. 0480

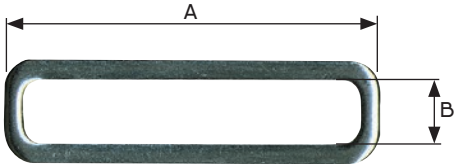
To fit 50mm. webbing with wider gap - 9mm. (0.35")



Part No	To Fit Webbing		Minimum Order QTY
	mm	ins	
0474	20	0.75	1000
0475	25	1	-
0473	30	1.25	-
0476	40	1.5	-
0477	45	1.75	-
0478	50	2	1000

LOOPS

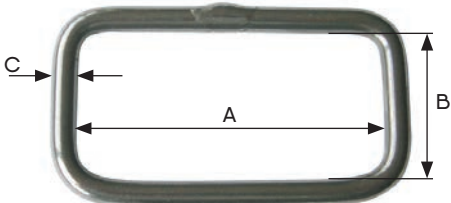
in Type 316 stainless steel



C denotes material thickness

WELDED LINKS

in 316 stainless steel



Part No.	A		B		C		Weight	
	mm	ins	mm	ins	mm	ins	g	ozs
0318	40	1.57	7.5	0.3	1.5	0.059	4	0.14
0495	46	1.81	7.5	0.3	1.5	0.059	4	0.14
0101	50	1.97	7.5	0.3	1.5	0.059	4	0.14
0101T	50	1.97	7.5	0.3	2	0.078	4	0.14

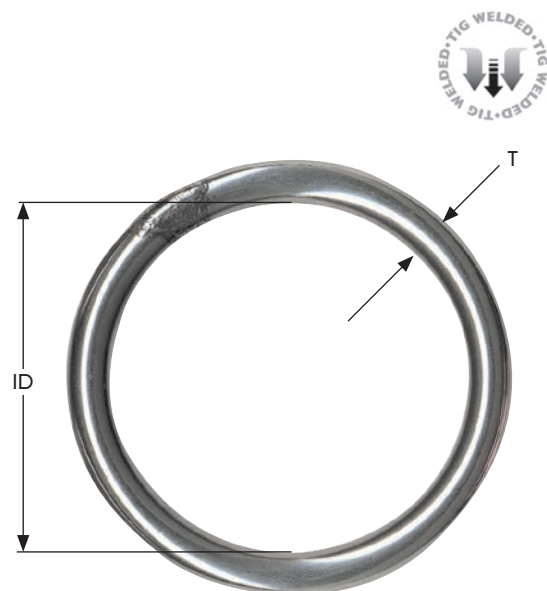
Part No.	A		B		C		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	Kg	Lbs	g	ozs
0410	26	1.02	22	0.86	5	3/16	1250	2750	11	0.39
0378	40	1 1/2	21	0.82	5	3/16	1750	3800	20	0.71
0312	54.2	2.13	25	0.98	5	3/16	1750	3800	24	0.85



# MARINE SAFETY PRODUCTS

## HIGH STRENGTH RINGS in 316 stainless steel TIG welded

The Makefast range of high strength rings offers the highest quality levels in an extensive range available at extremely competitive prices. As with all our welded products, our rings are produced using TIG welding so guaranteeing full weld strength making them suitable for all safety related applications.



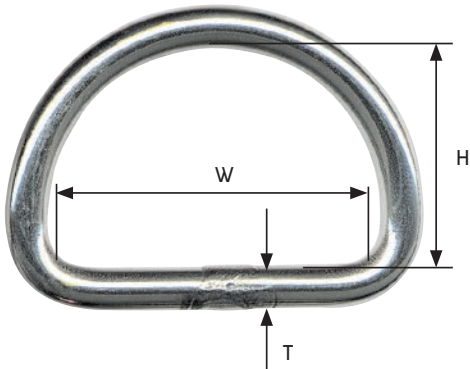
All of our stainless steel rings are TIG welded which ensures consistent and guaranteed strength results. Certificates of conformity can be supplied.



Part No.	ID		Wire Size T		Breaking Load		Weight		Minimum Order QTY
	mm	ins	mm	ins	kgs	lbs	g	ozs	
0633	15	0.59	3	0.12	700	1540	4	0.14	-
0181	14.5	0.57	5	0.20	1750	3800	9	0.32	100
0634	20	0.79	4	0.16	1250	2750	8	0.28	-
0296	20	0.79	5	0.20	1750	3800	11	0.39	-
0182	20	0.79	6	0.24	2750	6000	18	0.63	50
0635	25	1	4	0.16	1250	2750	9	0.32	-
0117	25	1	5	0.20	1750	3800	13	0.46	-
0637	25	1	6	0.24	2750	6000	21	0.74	50
0118	30	1.25	5	0.20	1750	3800	15	0.53	-
0158	30	1.25	6	0.24	2750	6000	28	0.99	-
0159	30	1.25	8	0.31	4750	10400	46	1.62	-
6150	32	1.26	5	0.20	1750	3800	16	0.56	-
6151	40	1.5	5	0.20	1750	3800	18	0.64	-
6155	40	1.5	6	0.24	2750	6000	21	0.74	-
0119	40	1.5	6	0.24	2750	6000	35	1.23	-
0160	40	1.5	8	0.31	4750	10400	58	2.05	-
0639	40	1.5	9.5	0.37	7000	15400	86	3.03	-
6152	50	2	5	0.20	1750	3800	21	0.74	-
6156	50	2	6	0.24	2750	6000	43	1.52	-
0120	50	2	6.4	0.25	2750	6000	44	1.55	-
0161	50	2	8	0.31	4750	10400	68	2.40	-
0166	50	2	9.5	0.37	7000	15400	102	3.60	50
6153	60	2.36	5	0.20	1750	3800	25	0.88	50
0638	60	2.36	6.4	0.25	2750	6000	52	1.83	-
0612	60	2.36	8	0.31	4750	10400	84	2.96	-
0163	60	2.36	9.5	0.37	7000	15400	122	4.30	-
0164	75	3	8	0.31	4750	10400	106	3.74	-
0165	75	3	9.5	0.37	7000	15400	146	5.15	20
0646	75	3	12	0.47	11500	25300	241	8.50	20
0184	90	3.54	8	0.31	4750	10400	123	4.34	-
0186	100	4	8	0.31	4750	10400	135	4.76	-

MAKEFAST D RINGS

in 316 stainless steel TIG welded



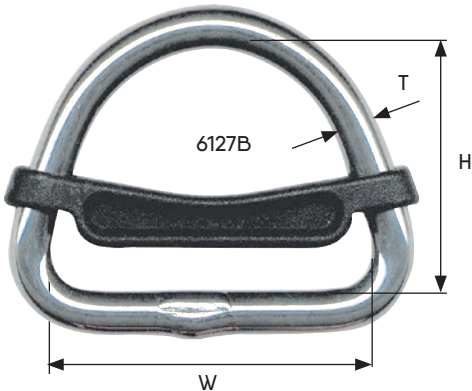
Accredited to  
EN ISO 12402-7:2006/FprA1:2010

Makefast D rings are available in a wide range of sizes at competitive prices made possible by our advanced manufacturing technology.

Part No.	W		T		H		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
0145	25	1.00	5	0.20	15.5	0.61	1750	3800	12	0.42
0271	25	1.00	6	0.24	51	2	2750	6000	40	1.41
0134	30	1.18	6	0.24	29	1.14	2750	6000	27	0.95
0151	35	1.38	5	0.20	27	1.06	1750	3800	17	0.60
0126	38	1.50	5	0.20	23.5	0.93	1750	3800	17	0.60
0144	46	1.81	5	0.20	32	1.26	1750	3800	21	0.74
0152	50	2.00	5	0.20	35	1.38	1750	3800	23	0.81
0127	50	2.00	6	0.24	30.4	0.96	2750	6000	38	1.34
6127	51	2.00	7	0.28	36.4	1.43	3750	8200	51	1.80
6127L	51	2.00	7	0.28	44	1.73	3750	8200	56	1.99
0128	53	2.09	8	0.31	40	1.57	4750	10400	76	2.68
0142	60	2.36	6	0.24	30	1.18	2750	6000	42	1.48
0132	60	2.36	7	0.28	60	2.36	3750	8200	71	2.50
0129	67	2.64	8	0.31	50	1.97	4750	10400	87	3.07

D RING WITH ANTI-TUMBLE

in 316 stainless steel TIG welded with Nylon bar



- Accredited to  
EN ISO 12402-7:2006/FprA1:2010
- Unique design and high strength.
  - Anti tumble to prevent rolling of webbing.

Part No.	W		T		H		Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins	kgs	lbs	g	ozs
6127B	51	2.00	7	0.28	36.4	1.43	3750	8200	54	1.90
0128B	58	2.28	8	0.31	40	1.57	4750	10400	83	2.93



HEAVY DUTY D RINGS

in black acetal

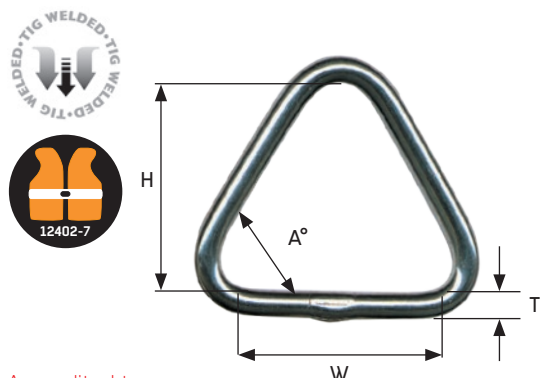


Part No	To fit webbing	
	mm	ins
0685	20	0.75
0686	25	1
0688	40	1.5

## MARINE SAFETY PRODUCTS

# TRIANGLES

in 316 stainless steel TIG welded



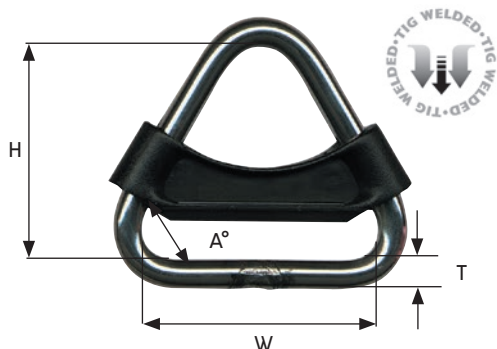
Accredited to  
EN ISO 12402-7:2006/FprA1:2010

Part No.	W		T		H		A°	Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins		kgs	lbs	g	ozs
0222	47	1.85	6	0.24	30	1.18	90	2750	6000	36	1.27
0141	50	2.00	6	0.24	43	1.69	60	2750	6000	43	1.52
0581	51	2	8	0.31	50	1.97	60	4750	10400	74	2.61
0121	62	2.44	6	0.24	34	1.34	90	2750	6000	45	1.59
0320	67	2.64	8	0.31	38	1.50	90	4750	10400	75	2.65
0580	78	3.07	8	0.31	45	1.77	90	4750	10400	87	3.07
0122	92	3.62	8	0.31	51	2	90	4750	10400	99	3.49

Part No. 0121 has minimum order qty = 50 units

## TRIANGLES WITH NYLON BAR

in 316 stainless steel TIG welded



Part No.	W		T		H		A°	Breaking Load		Weight	
	mm	ins	mm	ins	mm	ins		kgs	lbs	g	ozs
0141B	50	2.00	6	0.24	43	1.69	60	2750	6000	47	1.66

# TRIANGLES

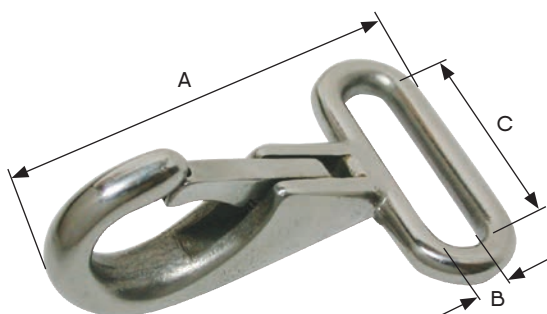
in black acetal



Part No	To fit webbing	
	mm	ins
0745	20	0.75
0746	25	1
0691	40	1.5

## WEBBING SNAP HOOK

in 316 stainless steel



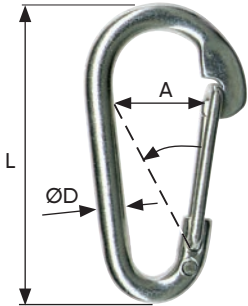
Part No.	A		B		C	
	mm	ins	mm	ins	mm	ins
1015	48	17/8	5	3/16	25	1



**SPRING SNAPS** in type 316 stainless steel

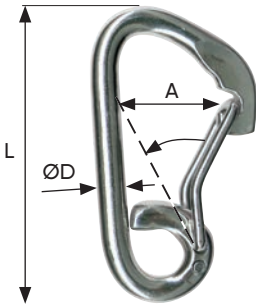
- For all products below: All products manufactured in type 316 stainless steel
- Recommended Working Load (RWL) is ¼ of tested deformation load (TDL).
- All products have Electro Polish finish

**SPRING SNAP** circular hook with open end



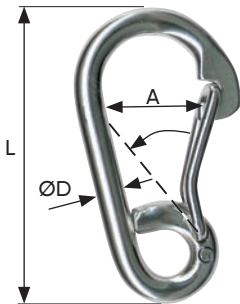
Part No.	Size	A mm	Dia mm	L mm	Body	TDL Kg	RWL Kg
6243-0206	6	11.5	6	60	forging	830	208
6243-0208	8	16	8	80	forging	1600	400
6243-0210	10	19	10	100	forging	2500	625
6243-0212	12	28	12	120	forging	3300	825

**SPRING SNAP** angled hook angled latch with eye end



Part No.	Size	A mm	Dia mm	L mm	Body	TDL Kg	RWL Kg
6243-0306	6	12.5	6	61	forging	750	187.5
6243-0308	8	17	8	81	forging	1750	437.5
6243-0310	10	23.5	10	102	forging	2250	562.5
6243-0312	12	28	12	122	forging	3650	912.5

**SPRING SNAP** circular hook angled latch with eye end



Part No.	Size	A mm	Dia mm	L mm	Body	TDL Kg	RWL Kg
6243-0126	6	13	6	60	forging	830	208
6243-0128	8	18	8	80	forging	1600	400
6243-0121	10	21	10	100	forging	2500	625
6243-0122	12	27	12	120	forging	3300	825



## A TO Z INDEX

**A**

Adjustable end plugs	
External	38
Internal	36,37
Adjuster buckles and slides	
Carbon steel	76
Plastic	75
Stainless steel	76
Anchor handler system	25
Automatic powered bimini systems	22
Awnings and sunroofs	
Eaton sunroof, powered or manual	14
Lift and Slide sealing sunroof	18
Manual or powered narrow track sunroof	13
Powered "hard top" single panel sunroof	10
Powered "soft top" canvas sunroof	11
Powered sun awning	20
Targa roof mechanism	15

**B**

Batten protectors	63
Bimini systems – automatic powered	22
Buckles	
2 part adjusting buckle	75
3 bar slides	75–78
Adjuster buckles and slides	75–78
Click lock buckle	71
Holding down clips	73
Ladderlock buckles	78
Loops	80
Plastic 3 bar buckles with slides	75
Quick release buckles	72
Side release buckles	71
Simple adjusters	77
Sliding bar buckles	73–74
Welded links	80
Bulkhead mount for 30 mm. tube	27

**C**

Carbon Fibre Poles	28–29
Cast external end plugs	36
Clamps	42–44
Composite fixed end plugs	37

**D**

D rings	
TIG welded stainless steel	82
With anti-tumble	82
Acetal D rings	82
Deck hinges	
90 degree deck hinge stainless range	47
Deck hinge ball style top cap	59
Deck hinge side mounted stainless range	47
Quick release bimini top post hinge	59
Universal deck fittings	45–49
Detachable carbon fibre pole assemblies	28
Door Operating System	25
Double loop webbing retainers	80
Drop nose pins	65

**E**

End plugs	
Adjustable internal end plugs	36,37
Adjustable external end plugs	38
Adjustable end plugs – struts	38
Adjustable internal end plugs for large tubes	37
Internal fixed end plugs	36,37

**G**

Grabrail systems	39–40
Composite standoff fitting	39
Grabrail terminal fitting	39
Cast stainless stand off fitting	40
Cast stainless terminal fitting	40
Stainless standoff fitting	39

**H**

Hand clamps	42–44
Hand knobs	44
Handlocks	67
Headboards – Plastic	63
Hinge jaw slide	42
Holding down clips	73
Hooks	
Lacing eyes	68
Lacing hooks	68
Sew on hooks and eyes	69
Shock cord hook	68
Webbing hooks	68

**I**

Internal adjustable end plugs	36,37
Internal fixed end plugs	36

**J**

Jaw slides	
Stainless steel range	41

**L**

Lacing and webbing accessories	
Lacing buttons	69
Lacing hooks and eyes	68
Sew on hooks and eyes	69
Rope stoppers	68
Shock cord hook	68
Webbing bridges	67
Webbing hooks	68
Ladderlock buckles	78
Lifebuoy holder	61
Loops and links	
Loops, plastic and stainless	80
Welded links	80

**P**

Pins	
Quick release and drop nose	65
Pull pin	49
Ring pull pin	49
Plastic 3 bar high strength buckles and slides	75



# A TO Z INDEX

## P

Plastic fasteners and accessories	
Handilocks	67
Rope stoppers	68
Shock cord hook	68
Toggles	67
Press release buckle with knurled edge	72

## Q

Quick release and drop nose pins	65
Quick release bimini top post hinge	59
Quick release buckles	72
Quick release sliding bar buckles	72
Quick release keyhole & demountable fittings	60

## R

Rings – High strength welded rings	81
Rope stoppers	68

## S

Sail slides – Low friction	64
Set stops	52
Sew on hooks and eyes	69
Sew on or weld toggle	67
Shade sail deck mount	30
Shade base/quick release deck mount	26
Shock cord hook	68
Side release buckles	71
Simple adjusters	
Carbon steel	77
Stainless steel	77
Single loop webbing retainers	80
Single sized fixed bar buckles	78
Sliding bar buckles	73-74
Sleek track system	51
Snap on shackles	64
Solid thimbles	63
Split clamps	43
Split jaw slides	41,44
Spring snaps	
Angled hook, angled latch with eye end	84
Circular hook, angled latch with eye end	84
Circular hook with open end	84
Stanchion mounting eye	61
Side release buckles	71
Stow blocks	61

## T

Thimbles, Solid stainless steel	55
Toggles	
50mm	67
Sew or weld toggle	67
Track and slide systems	
Makefast Sleek Track system	51
Makefast Trimtrack	53
Stainless slide unit with barton track	48
Stainless slide unit with all stainless track	48

## T

Track car to fit Makefast sleek track	51,52
Triangles	
Black nylon or acetal	83
TIG welded stainless steel	83
With nylon bar	83
Trimtrack former	55
Tube – Oval	60
Tube joining springs	60
Tube crowner	57
Tube fittings	
Bulkhead mount	27
Cast external end plugs and jaw slides	36,41
Hinge jaw slide	42
Quick release bimini top post hinge	59
Tube hinge – external	60
Tube joining springs	60
Tube former	57
Tube joining springs	60
Tube joints – external	60
Tube socket deck mount	27
Tube to deck systems	
Four hole universal deck fitting	46
Inclined universal deck fitting	46
Three hole universal deck fitting	46
Two hole universal deck fitting	46
Universal deck fitting	45,46,47,49
Universal heavy deck fitting	49
Universal standard deck fitting	45
Nylon shoe	46
Tube to tube systems	
Clamps	42,43,44
Double take off clamps	42
Hand clamps	42,44
Hand knobs	44
Makefast split clamps	43

## U

Universal deck fitting	45,46,47,49
------------------------	-------------

## W

Webbing accessories	
Double loop webbing retainers	80
Single loop webbing retainers	80
Webbing bridges	67
Webbing hooks	68
Webbing retainers	80
Welded links	80

88

PART NUMBER INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
0015T.....	63	0176P.....	68	0417N.....	78	0611.....	37	0954.....	59
0055.....	63	0177.....	68	0422.....	61	0612.....	43	0954Insert.....	59
0056.....	63	0177P.....	68	0423.....	61	0612.....	81	0956.....	59
0058.....	63	0181.....	81	0433.....	71	0614.....	44	0968.....	75
0061A.....	54	0182.....	81	0434.....	71	0621.....	37	0968N.....	75
0061A.....	64	0184.....	81	0437.....	72	0622.....	43	0969.....	75
0062A.....	64	0186.....	81	0450.....	72	0624.....	44	0969N.....	75
0063A.....	64	0195L.....	63	0473.....	80	0625.....	44	0972.....	38
0079W.....	63	0222.....	83	0474.....	80	0626.....	37	0973.....	38
0095.....	54	0230.....	68	0475.....	80	0633.....	81	0974.....	38
0095.....	64	0271.....	82	0476.....	80	0634.....	81	0976.....	75
0096.....	64	0275.....	73	0477.....	80	0635.....	81	0976N.....	75
0097.....	64	0281.....	68	0478.....	80	0637.....	81	0977.....	75
0100.....	78	0282.....	68	0480.....	80	0638.....	81	0977N.....	75
0101.....	80	0283.....	68	0495.....	80	0639.....	81	0978.....	75
0101T.....	80	0284.....	67	0514.....	78	0641.....	64	0978N.....	75
0102.....	74	0285.....	67	0518.....	78	0641B.....	64	0979.....	75
0102A.....	74	0287.....	67	0519.....	78	0643.....	64	0979N.....	75
0104.....	74	0290.....	68	0520.....	76	0646.....	81	0982.....	37
0104A.....	74	0296.....	81	0521.....	76	0650.....	71	0983.....	37
0104C.....	74	0302.....	61	0522.....	76	0655.....	75	0984.....	41
0112.....	73	0303.....	61	0523.....	76	0655N.....	75	0985.....	41
0114.....	73	0308.....	76	0527.....	79	0656.....	75	0986.....	49
0117.....	81	0308.....	77	0538.....	76	0656N.....	75	0987.....	49
0118.....	81	0309.....	76	0539.....	76	0658.....	75	0990.....	43
0119.....	81	0311.....	78	0540.....	76	0658N.....	75	0991.....	43
0120.....	81	0312.....	80	0541.....	76	0659.....	75	0992.....	43
0121.....	83	0317.....	80	0541.....	77	0659N.....	75	0993.....	43
0122.....	83	0317N.....	80	0542.....	76	0660.....	75	0994.....	43
0126.....	82	0318.....	80	0542.....	77	0660N.....	75	0995.....	46
0127.....	82	0320.....	83	0542.....	79	0666.....	78	0995Q.....	46
0128.....	82	0322.....	80	0543.....	76	0670.....	67	0996.....	46
0128B.....	82	03220/S.....	80	0543.....	77	0671.....	67	0996Q.....	46
0129.....	82	0322N.....	80	0544.....	76	0685.....	82	1011.....	36
0132.....	82	0322NO/S.....	80	0544.....	79	0686.....	82	1012.....	43
0134.....	82	0323.....	80	0545.....	76	0688.....	82	1015.....	83
0141.....	83	03230/S.....	80	0573.....	72	0691.....	83	1016.....	47
0141B.....	83	0323N.....	80	0574.....	72	0693.....	67	1017.....	47
0142.....	82	0323NO/S.....	80	0580.....	83	0693W.....	67	1018.....	47
0144.....	82	0324.....	72	0581.....	83	0694.....	67	1025.....	36
0145.....	82	0325.....	72	0583.....	73	0694W.....	67	1026.....	36
0147.....	63	0326.....	72	0590.....	44	0695.....	67	1027.....	59
0148.....	63	0348.....	76	0590C.....	44	0695W.....	67	1029.....	59
0149.....	63	0349.....	76	0591.....	37	0698.....	67	1033.....	43
0150.....	63	0374.....	71	0592.....	43	0737.....	37	1034.....	43
0151.....	82	0375.....	71	0596.....	69	0738.....	37	1035.....	47
0152.....	82	0376.....	71	0597.....	44	0738A.....	37	1038.....	42
0158.....	81	0377.....	71	0598.....	69	0739.....	37	1039.....	42
0159.....	81	0378.....	80	0598W.....	69	0744.....	74	1047.....	60
0160.....	81	0387.....	77	0599.....	69	0745.....	83	1060.....	41
0161.....	81	0388.....	77	0599W.....	69	0746.....	83	1064.....	41
0163.....	81	0389.....	77	0600.....	69	0877.....	39	1065.....	41
0164.....	81	0391.....	77	0600A.....	69	0878.....	39	1074.....	40
0165.....	81	0392.....	79	0600L.....	69	0879.....	39	1078.....	40
0166.....	81	0399.....	72	0601.....	37	0886.....	46	1078L.....	40
0170.....	69	0401.....	72	0601A.....	37	0886A.....	46	1084.....	24
0170N.....	69	0402.....	72	0601B.....	37	0886C.....	46	1084.....	27
0170W.....	69	0410.....	80	0602.....	43	0887.....	36	1085.....	24
0171.....	69	0412.....	74	0602B.....	43	0887A.....	36	1085.....	27
0171N.....	69	0413.....	74	0603.....	45	0888.....	36	1086.....	24
0171W.....	69	0414.....	73	0604.....	48	0889.....	36	1086.....	27
0172.....	68	0416.....	78	0607.....	44	0946.....	42	1089.....	27
0172W.....	68	0416N.....	78	0607B.....	44	0947.....	42	1092.....	44
0176.....	68	0417.....	78	0608.....	44	0948.....	42	1093.....	41

# PART NUMBER INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
1096	40	3900/L1.0	53	5919BH	65	6150	81	9333A	58
1098	36	3900/L2.0	53	5920	65	6151	81	9333AS	58
1126	44	3900/L3.0	53	5920BH	65	6152	81	9333B	58
1134	27	3900H/L1.0	53	5921	65	6153	81	9333C	58
1150	52	3900H/L2.0	53	5921BH	65	6155	81	9333D	58
1151	52	3900H/L3.0	53	5922	65	6156	81	9333E	58
1400	26	3900S/L1.0	53	5922BH	65	6243-0121	84	9333F	58
1400SKT	26	3900S/L2.0	53	5923	65	6243-0122	84	9335	42
1420	26	3900S/L3.0	53	5923BH	65	6243-0126	84	9336	42
1420-04	26	3910	53	5924	65	6243-0128	84	9337	42
1420B	26	3911	53	5924BH	65	6243-0206	84	9378S	60
1420SKT	26	3912	53	5925	65	6243-0208	84	9386	36
1430	26	3915	55	5925BH	65	6243-0210	84	9388	36
1430-04	26	3920	54	5926	65	6243-0212	84	9392	38
1430B	26	3950	54	5926BH	65	6243-0306	84	9392L	38
1430SKT	26	3955	53	5927	65	6243-0308	84	9394	38
1435	26	4147	60	5927BH	65	6243-0310	84	9394L	38
1435SKT	26	4147W	60	5928	65	6243-0312	84	9396	38
2012	68	4160	43	5928BH	65	6316-0003	65	9396L	38
2012B	68	4161	43	5929	65	6548	39	AD-001	24
2015	69	4162	43	5929BH	65	6549	39	AD-002	24
2015B	69	4163	43	5930	65	6550	39	AD-003	24
2015W	69	4164	43	5930BH	65	6551	39	AD-004	24
2090	64	5050	28	5931	65	6551S	39	BHU-001	23
2091	64	5050B	28	5931BH	65	6552	39	BHU-001M1	24
2092	64	5060-1800	28	5932	65	6553	39	BHU-001Y	23
2601	48	5060-2000	28	5932BH	65	6554	39	BHU-002	23
2601A	48	5060-2200	28	5937	65	6554S	39	BHU-002-180	22
2602	48	5060P-1800	28	5937BH	65	6555	39	BHU-002M1	24
2602/0.6	48	5060P-2000	28	5938	65	6555S	39	BHU-002Y	23
2602/4	48	5060P-2200	28	5938BH	65	7060	27	BHU-003	23
2603	48	5060T-1800	28	5939	65	7080	27	BHU-003M1	24
2611	48	5060T-2000	28	5939BH	65	7202	29	PER-030	30
2612	48	5060T-2200	28	5940	65	7550	28		
2615	48	5060TP-1800	28	5940BH	65	7550B	28		
2615A	48	5060TP-2000	28	5945	65	7551	28		
2615Q	48	5060TP-2200	28	5945BH	65	7560-1800	28		
2615R	48	5906	65	5946	65	7560-2000	28		
2617	48	5906BH	65	5946BH	65	7560-2200	28		
3109	64	5907	65	5947	65	7560DR-1800	28		
3111	64	5907BH	65	5947BH	65	7560DR-2000	28		
3360/L0.6	51	5908	65	5948	65	7560DR-2200	28		
3360/L1.2	51	5908BH	65	5948BH	65	7560P-1800	28		
3360/L1.8	51	5909	65	5949	65	7560P-2000	28		
3360/L3.0	51	5909BH	65	5949BH	65	7560P-2200	28		
3375	52	5910	65	5950	65	8010	60		
3376	51	5910BH	65	5950BH	65	8015	60		
3377	51	5911	65	5951	65	8020	60		
3379	51	5911BH	65	5951BH	65	8025	60		
3380	52	5912	65	5952	65	9330	57		
3381	52	5912BH	65	5952BH	65	9330A	57		
3390	52	5913	65	5953	65	9330AS	57		
3550	79	5913BH	65	5953BH	65	9330B	57		
3551	79	5914	65	5954	65	9330C	57		
3552	79	5914BH	65	5954BH	65	9330D	57		
3556	79	5915	65	5955	65	9330E	57		
3557	79	5915BH	65	5955BH	65	9330F	57		
3558	79	5916	65	5956	65	9330G	56		
3624	79	5916BH	65	5956BH	65	9330H	56		
3625	79	5917	65	5957	65	9330I	56		
3626	79	5917BH	65	5957BH	65	9330TG	56		
3630	79	5918	65	6127	82	9330TH	56		
3631	79	5918BH	65	6127B	82	9330TI	56		
3632	79	5919	65	6127L	82	9333	58		





# NOTES

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# TERMS AND CONDITIONS OF SALE

## Definitions

In these conditions the "Seller" means Makefast Limited, the "Buyer" means the person, firm or Company to whom the Seller agrees to sell or supply the goods, and "goods" means the items specified to or referred to in the Seller's quotation.

## Description

Unless expressly stipulated by the Seller all descriptions, drawings, illustrations or ratings, standards, statements or details of capacity or performance specifications or other descriptive matter are approximate only and do not form part of any contract. Breaking loads quoted are for users guide only and do not form part of any contract.

The Seller reserves the right to alter product specifications without prior notice. Whilst every effort is made to be accurate we will not be responsible for any typographical error in our advertising material, including our web site.

## Quality

Any goods manufactured by the seller which may prove defective through faulty workmanship or material will be replaced or repaired at the Seller's discretion at the Seller's premises free of charge excluding transportation on costs provided that such goods have not been misapplied and or maladjusted since being delivered to the Buyer.

Replacement or repair of any goods supplied by the supplier does not imply that the goods were defective through faulty workmanship or material.

## Contract

No contract is valid unless and until accepted and confirmed in writing by the Company.

## Buyer's Specifications

If the goods are made to Buyer's pattern or specification, no responsibility can be accepted for the infringement of any patent, and the purchaser agrees to indemnify the Seller against any loss in respect of proceedings or otherwise resulting from the execution of Buyer's orders.

When goods are made to Buyer's pattern or specification, the Sellers have the right to supply 10% more or less than the exact quantity ordered. Any such excess or shortage will be charged for or deducted pro rata. Once the manufacture of such special goods is commenced, cancellation cannot be accepted.

## Time of Delivery

Times or dates for delivery quoted by the Seller are estimates only based on prompt receipt by the seller of

- (a) all relevant information
- (b) satisfactory assurance of compliance with terms of payment and shall not be of the essence of contract.

The Seller shall not be liable for any loss or damage whatsoever howsoever arising from any delay in delivery or performance.

## Delivery

- (a) Unless otherwise provided delivery of the goods shall be completed at the Seller's own premises. Should the Buyer require that any goods to be packed stored dispatched delivered or dealt with otherwise than aforesaid the Seller shall be entitled to claim an extra charge for any services so rendered and such services shall be performed subject to these terms,
- (b) If the buyer requires delivery by instalments under sub clause (c) hereto each instalment shall be deemed to be the subject of a separate contract and non delivery or delay in delivery of any instalment shall not affect the balance of the contract of the whole or entitle the Buyer to cancel the same.
- (c) The Seller shall be entitled to deliver the goods by single delivery or by instalments at the Seller's option.

## Risk

All risk of loss or damage of any kind howsoever caused shall pass to the Buyer who is at liberty to insure when:-

- (a) In the case of goods to be dispatched or delivered to the Buyer upon such goods being delivered to a carrier even if such carrier be the servant of or agent for the Seller
- (b) In the case of goods to be collected by the Buyer upon such collection or upon expiry of seven days from the Seller's written notice that such goods are ready for delivery whichever is the earlier.
- (c) Without prejudice to the foregoing claims that there has been loss shortage or damage to goods in transit must be made in writing to the Seller as well as to any carrier concerned within three days of delivery or in the case of non delivery within fourteen days of despatch of such loss shortage or damage. The Seller shall use its best endeavours to preserve a claim against the carriers.

## Makefast Trade Account Holders

Approved trade account customers (that is as notified by us to you) using the Makefast Online Store will have their orders processed in the usual way, and have their accounts debited with their agreed prices. If you are an approved account holder, payment is due within thirty days of the date of the invoice and that date shall be the due date. The Seller reserves the right to charge interest in amounts overdue at the rate of 10 per cent per annum over Bank of England Minimum Lending Rate.

## VAT

VAT is not included in the prices shown on our web site. Neither do prices include packing and delivery. Vat at 20% will be charged for all UK sales. For sales in the European Union, VAT at 20% will be charged, unless a VAT Number is supplied with the order.

## Cancellation

The Seller reserves the right that any contract once accepted cannot be cancelled nor amended except by mutual agreement on terms that fully indemnify the Seller. For special or non standard products the Seller reserves the right to charge a cancellation fee to include material committed at cost and labour at cost.

## Price Variation

The Seller reserves the right to change prices without prior notice.

## Original Material

All drawings specifications original work of any kind etcetera produced as design considerations etcetera for discussion between the Seller and the Buyer remain the property of the Seller.

## Force Majeure

Without incurring any liability for any loss or damage resulting therefrom the Seller shall be entitled by written notice to the Buyer to terminate or suspend the contract at any time should the Seller be in any way prevented or hindered from performing the contract by Act of God civil war disturbance or Act of Terrorism, government requisitions or Parliamentary restrictions prohibitions or enactment of any kind import and export regulations strike lock out trade dispute difficulty in obtaining workmen or materials breakdown of machinery fire theft storm explosion drought tempest accident or any other circumstances whatsoever beyond the reasonable control of the Seller however arising or however caused.

## Reservation of Title

Title to the Goods shall not pass to the Buyer until the Seller has received payment in full (in cash or cleared funds) for the Goods.

Until title to the Goods has passed to the Buyer, the Buyer shall:

Hold the Goods on a fiduciary basis as the Seller's bailee;

Store the Goods separately from all other goods held by the Buyer so that they remain readily identifiable as the Seller's property;

Not remove, deface or obscure any identifying mark or packaging on or relating to the Goods.

Where the Buyer has failed to pay all sums owing for the Goods as and when due (time being of the essence) and until such time as the title to the Goods passes to the Buyer then, provided that the Goods have not been resold, or irrevocably incorporated into another product, and without limiting any other right or remedy the Seller may have, the Seller may at any time require the Buyer to deliver up the Goods and, if the Buyer fails to do so promptly, enter any premises of the Buyer or of any third party where the Goods are stored in order to recover them.

## Liability

It is the obligation of the Buyer or user to determine whether or not each item is suited for its intended use. In no event shall the Seller's liability extend beyond the replacement cost of any item.

## Set Off

The Seller may at any time, without notice to the Buyer, set off any liability of the Buyer to the Seller against any liability of the Seller to the Buyer, whether either liability is present or future, liquidated or unliquidated, and whether or not either liability arises under this agreement. If the liabilities to be set off are expressed in different currencies, the Seller may convert either liability at a market rate of exchange for the purpose of set-off. Any exercise by the Seller of its rights under this clause shall not limit or affect any other rights or remedies available to it under this agreement or otherwise

## Distance Selling Regulations

If you are a consumer, you should be aware of your rights under the Distance contracts Regulations 2000 (or any amending provisions). These state, amongst other things, that you have the right to cancel the contract for any reason within seven days of delivery of the goods. If you wish to cancel, please notify the Seller in writing, either by e mail or by post. On return of the goods, you will then be refunded within thirty days. You may return the goods, although this will be at your cost. If the Seller collects them, the collection costs will be deducted from the refund paid. During the period that you retain the goods until they are returned, you must take reasonable care of them to prevent damage.

Distance selling means selling and buying by phone, mail order, via the Internet (on a website such as this or digital TV. Such transactions are covered generally by normal buying and selling legislation, but they are also covered by special Distance Selling Regulations.

a)The right to receive clear information about goods and services before deciding to buy

b)Confirmation of this information in writing

c)A cooling off period of seven working days in which the consumer can withdraw from the contract

d)Protection from credit card fraud. The link to a full description of the DTI's Distance Selling Regulations can be found here.

This guarantee does not affect your statutory rights.

## Damage Shortage or Loss

The Seller does not accept responsibility for any damage, shortage or loss in transit unless;

a.Damage or shortage is notified in writing to both the seller and the carriers within 3 days of receipt of goods and the goods have been signed for a "not examined" and have been handled by the buyer in accordance with the carriers conditions.

b.Non-delivery (in the case of total loss) is notified to the seller and to the carrier within 10 days of the date of despatch

## Rule of Law

This contract shall be governed by the laws of England and Wales.

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## Issue 11/2017



*For further  
details  
of any of  
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