

Section B3 Spreaders, Diamonds, Forward Jumpers, Masthd. Jumpers


A wide range of combinations of Spreaders, Diamonds, Forward Jumpers and Masthead Jumpers is available for use on cruising, cruiser/racer and racing yachts, and for both monohulls and multihulls. All are manufactured from aluminium, either tube or Allyacht Spars custom spreader section (see Section B3.6), and are fully anodised.

B3.1 Spreaders - Standard

Standard Spreader sets are available in five different sizes, all based on the same design, but each set is customised for spreader length and spreader angle, as determined by the Allyacht Spars mast design process. The design has proven to be successful in catering for these variations, and as such is equally effective for Inline Spreaders (at 90° to centreline of boat) as for Aft-swept Spreaders.

Spreaders comprise a mast band, which is fixed to the mast, with a pair of extruded aluminium spreader arms fixed to it with stainless steel bolts (see Section B3.6 for details of spreader sections), and Spreader Tips. The band is made of the same alloy as the mast to minimize corrosion, and extends around the front of the mast to spread the load. All Spreader components are fully anodised. If external tangs are being used (for diagonal stays or runners), the band is extended to ensure a solid footing for the tang's fixing bolt and spacer tube. Spreader Tips are made from aluminium casting and are positively attached to the stay wire to prevent the arm sliding up or down.

Note that Aft-swept Spreaders require special tuning to achieve proper mast control.

DESCRIPTION	SPREADER SECTION (mm)	SPREADER SET PART NO.	
Spreader Set A	70 x 14	003.A	
Spreader Set B	85 x 23	003.B	
Spreader Set C	115 x 33	003.C	
Spreader Set D	125 x 42	003.D	
Spreader Set E	180 x 54	003.E	



In-line spreaders with Deck Lights

B3.2 Diamonds & Forward Jumpers

Updates for this section: 27/07/05; 22/05/06

Diamond sets are commonly used on multihull rigs for sideways support. Diamonds may also be combined with a Forward Jumper, the latter projecting forward from the mast with the diamonds swept-back to give fore and aft support to the mast section as well as sideways support. The forward struts are simply bolted to the existing diamond band.

Diamond sets comprise a band, which is fixed to the mast, with a pair of extruded aluminium spreader arms fixed to it with stainless steel bolts (see Section B3.6 for details of spreader sections), and Spreader Tips. The band is made of the same alloy as the mast to minimize corrosion, and extends around the front of the mast to spread the load. Each Forward Jumper strut is made from aluminium tube, fabricated at the inner end to fix to the band, and at the outer end to fix to the wire. All diamond components are fully anodised. Spreader Tips are made from aluminium casting and are positively attached to the diamond wire to prevent the arm sliding up or down.

DESCRIPTION	GUIDE TO MAST SIZE	DIAMOND PART NO.	FORWARD JUMPER PART NO.
Diamond Set A	IM12 - IM16L	003.A	NA
Diamond Set B	IM15 - IM21R	003.B	003.B-FWDJUMP
Diamond Set C	IM16 - AYS250	003.C	003.C-FWDJUMP
Diamond Set D	AYS280 - AYS340	003.D	003.D-FWDJUMP
 <p>Diamonds with Forward Jumper</p>		 <p>Forward Jumper</p>	

B3.3 Tube Diamonds - Wing Masts

Diamond sets have been designed specifically for the Allyacht Spars range of wing masts. As with standard Spreader sets, all are based on the same design, but each set is customised for spreader length and spreader angle, as determined by the Allyacht Spars mast design process.

Each Tube Diamond arm consists of two aluminium tubes with base plates at the inner end for fixing to the mast, and joined at the outer end with a customised tip for fixing to the diamond wire to prevent the arm sliding up or down.

DESCRIPTION	SUIT MAST SIZE	TUBE SIZE (mm)	TUBE DIAMOND SET PART NO.
Tube Diamond Set 200	AYS200Wing	25	003.200.25
Tube Diamond Set 250	AYS250Wing	32	003.250.32
Tube Diamond Set 300	AYS300Wing	32	003.300.32
Tube Diamond Set 350A	AYS350Wing	32	003.350.32
Tube Diamond Set 350B	AYS350Wing	40	003.350.40

B3.4 Masthead Jumpers

Masthead Jumper sets are custom-made for each application, as determined by the Allyacht Spars mast design process. On fractional rigs, they may be angled forward to control tip bend, or angled aft for mast tip support when using a masthead spinnaker.

Masthead Jumpers comprise a band, which is fixed to the mast, with a pair of extruded aluminium spreader arms welded to it with reinforcing for extra strength (see Section B3.6 for details of spreader sections), and Spreader Tips. The base is made of the same alloy as the mast to minimize corrosion, and extends around the front of the mast to spread the load. All Masthead Jumper components are fully anodised. Spreader Tips are made from aluminium casting and are positively attached to the stay wire to prevent the arm sliding up or down.





DESCRIPTION	GUIDE TO MAST SIZE	MASTHEAD JUMPER PART NO.
Masthead Jumper Set A	IM12 - IM16L	003.A-JUMP
Masthead Jumper Set B	IM15 - IM21R	003.B-JUMP
Masthead Jumper Set C	IM16 - AYS250	003.C-JUMP
Masthead Jumper Set D	AYS280 - AYS340	003.D-JUMP

B3.5 Spreader Tips

Spreader Tips are cast aluminium, made to be lightweight, strong and corrosion resistant, while still being neat in appearance. They are locked on to the stay wire by two stainless steel Allen head cap screws. These spreader tips are also suitable for use with standard link plates commonly used on most wire and rod rigging arrangements.

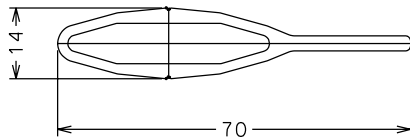
Spreader Tips are supplied individually, therefore two will be required for each set of Spreaders, Diamonds, or Masthead Jumpers. They are supplied anodised, which enhances the appearance as well as providing effective corrosion resistance.

DESCRIPTION	FITS TO	SPREADER TIP PART NO.		
Spreader Tip A	Spreader Set A	003.201	Assembled	Component Parts
Spreader Tip B	Spreader Set B	003.301		
Spreader Tip C	Spreader Set C	003.401		
Spreader Tip D	Spreader Set D	003.501		
Spreader Tip E	Spreader Set E	003.601		

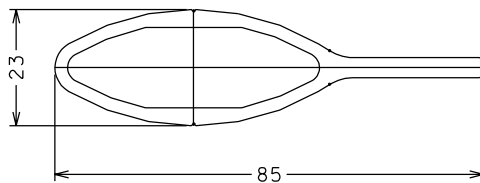
B3.6 Spreader Sections

See next page for diagrams and details of spreader sections.

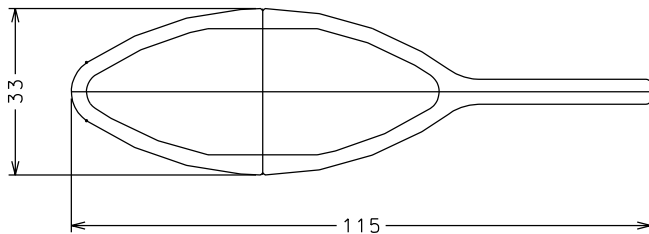
ALLYACHT SPARS AUSTRALIA SPREADER SECTIONS



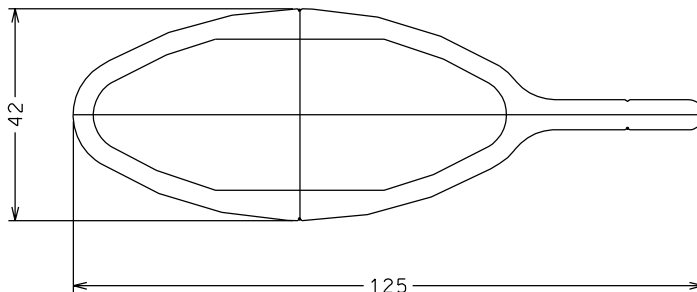
SECTION = A SPREADER
 SIZE = 70x14 mm
 WEIGHT = 0.791 kg/m
 AREA = 293 mm²
 $I_{xx} = 5 \times 10^3 \text{ mm}^6$
 $I_{yy} = 108 \times 10^3 \text{ mm}^6$



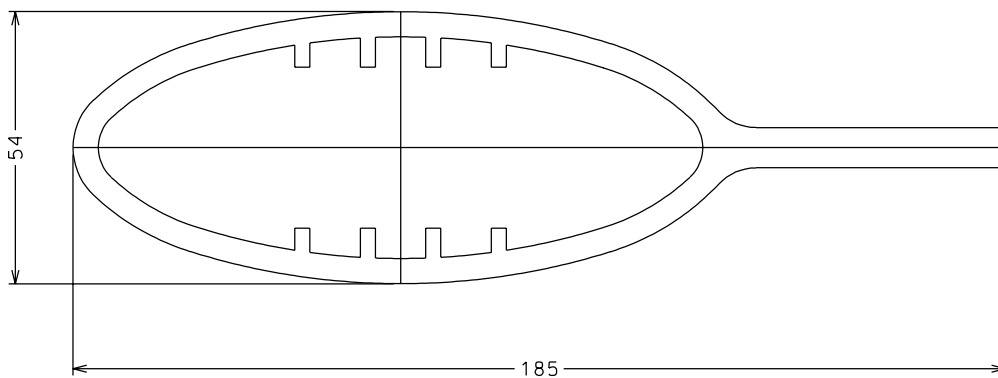
SECTION = B SPREADER
 SIZE = 85x23 mm
 WEIGHT = 1.210 kg/m
 AREA = 448 mm²
 $I_{xx} = 18 \times 10^3 \text{ mm}^6$
 $I_{yy} = 247 \times 10^3 \text{ mm}^6$



SECTION = C SPREADER
 SIZE = 115x33 mm
 WEIGHT = 1.971 kg/m
 AREA = 730 mm²
 $I_{xx} = 64 \times 10^3 \text{ mm}^6$
 $I_{yy} = 754 \times 10^3 \text{ mm}^6$



SECTION = D SPREADER
 SIZE = 125x42 mm
 WEIGHT = 2.950 kg/m
 AREA = 1093 mm²
 $I_{xx} = 186 \times 10^3 \text{ mm}^6$
 $I_{yy} = 1269 \times 10^3 \text{ mm}^6$



SECTION = E SPREADER
 SIZE = 180x54 mm
 WEIGHT = 5.43 kg/m
 AREA = 2005 mm²
 $I_{xx} = 558 \times 10^3 \text{ mm}^6$
 $I_{yy} = 5433 \times 10^3 \text{ mm}^6$