



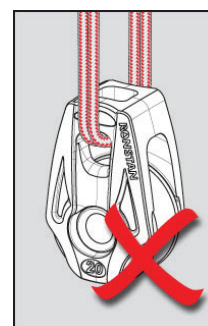
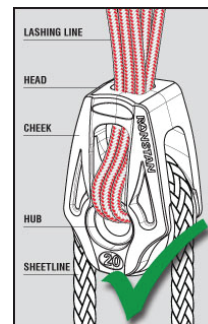
## RF25109HL SERIES 20 BB ORBIT BLOCK™

### LASHING HEAD USER INSTRUCTIONS

Ronstan BB Orbit Blocks™ feature a unique Lashing head. Building on the latest trends in grand prix dinghy and ocean racing, it replaces the steel head post and shackle arrangement of traditional blocks.

**IMPORTANT:** In order to meet breaking loads this block must be lashed with the lashing, strop or link passing through the hub.

The lashing must be passed down through the head, out through the cheek, through the hub, back in through opposite cheek and back up and out through the head. Repeat for lines, sizes that require more than one strand to meet load rating.

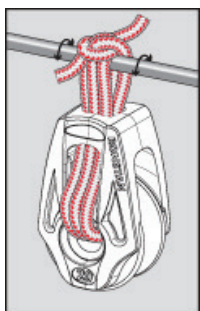


The Maximum Working Load and Breaking Load of the assembly (Block + Lashing) is generally limited by the strength of the rope and the joining method. Knots, splices, stitching, etc. will generally have a lower Breaking Load than the rope itself. It is possible to use up to 4mm (5/32") lashing line for lashing the RF25109 running the lashing around as a single strand, but a neater result with more secure knotting can be achieved by using the smaller line size provided (e.g. 1.7 - 2mm) passed through multiple times. The RF25109HL Series 20 Orbit Block™ is supplied with 750mm (30") of 2mm (3/32") diam. single braid Dyneema® lashing line.

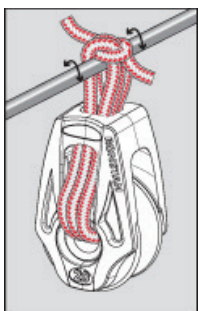
For best results, the lashing must be attached to a mounting point with a smooth, well rounded profile.

Avoid attaching directly to fittings with sharp edges or rough surfaces that may damage the lashing through abrasion or point loading. For this situation use a shackle with a smooth surface between the lashing and the fitting. Regularly inspect the lashing for damage, if found replace immediately.

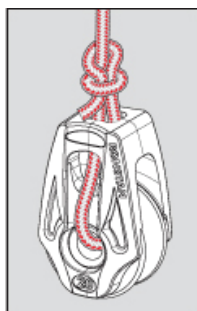
### 1.0 LASHING OPTIONS



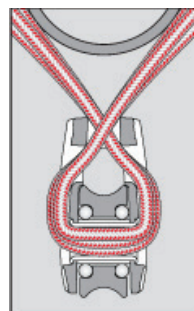
Attachment at 0°



Attachment at 90°



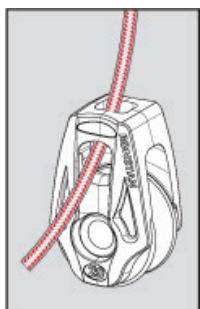
Line end attachment



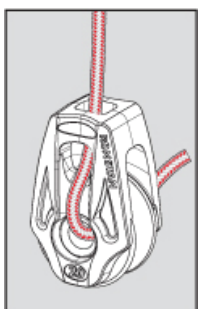
Large diameter object attachment\*

\*Must have at least 2 strands

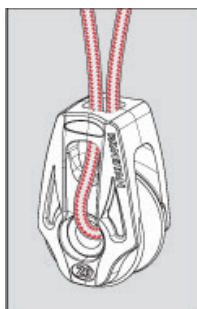
### 1.1 ATTACHMENT AT 0° (IN-LINE)



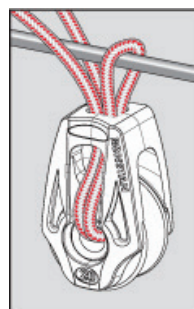
**1.1.1** Pass the lashing line down through the head and out through the cheek.



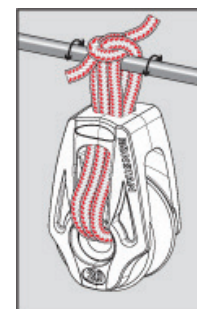
**1.1.2** Pass the lashing line down through the head and out through the cheek.



**1.1.3** Pass lashing line in through the opposite cheek and back up through the head.

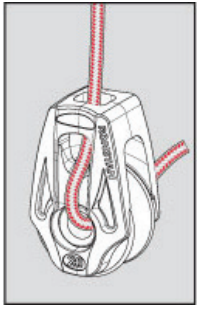


**1.1.4** Pass lashing line around fixing point. Repeat steps 1.1.1 to 1.1.3 if more than one strand is required to meet desired breaking load.

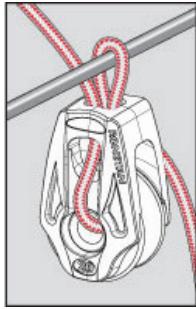


**1.1.5** Finish lashing with appropriate knot, splice or whipping.

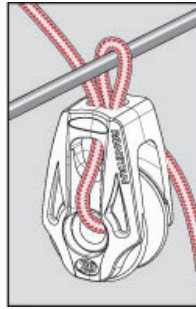
### 1.2 ATTACHMENT AT 90° (IN-LINE)



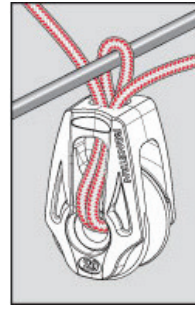
**1.2.1** Pass the lashing line down through the head, out through the cheek and through the hub.



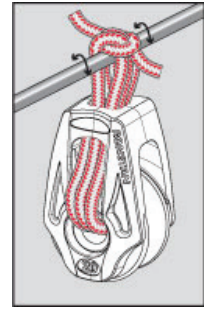
**1.2.2** Pass lashing line in through the opposite cheek and back up through the head.



**1.2.3** Loop lashing line over the fixing point. Pass back down through the head and out the same cheek it last passed through.

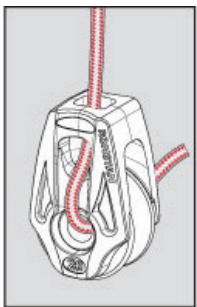


**1.2.4** Pass lashing line through the hub, in through opposite cheek and up through the head. Repeat steps 1.2.1 to 1.2.3 if more than one strand is required.

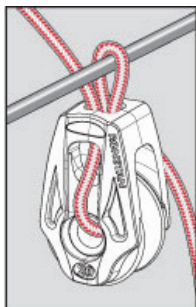


**1.2.5** Finish lashing with appropriate knot, splice or whipping.

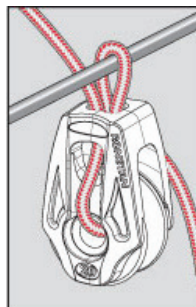
### 1.3 END ATTACHMENT



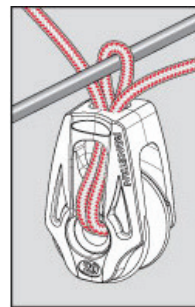
**1.3.1** Pass the lashing line down through the head and out through the cheek.



**1.3.2** Pass lashing line through the hub.

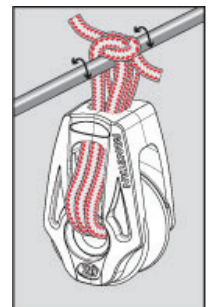


**1.3.3** Pass lashing line in through the opposite cheek and back up through the head.



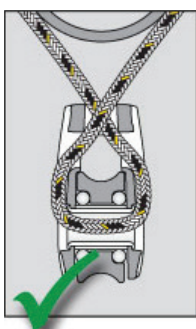
**1.3.4** To finish attachment tie a bowline above the block. Note: Knot must be a non-slipping (non-tightening) knot.

OR



**1.3.5** For the ultimate clean finish use an eye splice.

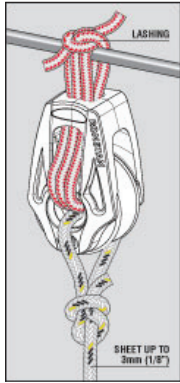
### 1.4 LARGE DIAMETER OBJECT ATTACHMENT



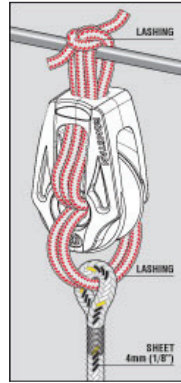
Where attachment to a large diameter object, wider than the head of the block, is required (eg. a boom) the lashings must cross each other between the head of the block and the object. Four strands of lashing are required to prevent the block twisting and creating a poor lead. The strands from one side of the block should be to the outside and the strands from the other side passing between them. See diagram 1.4.3.

### 2.0 BECKET OPTIONS

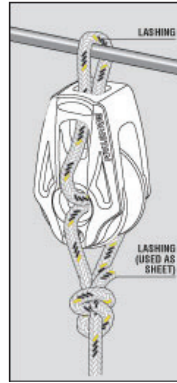
A through-hub can be used as a becket for up to 3mm (1/8") lines. A take-off becket can be created with the lashing line for use with 4-6mm (5/32" - 1/4") sheet lines.



OR



OR

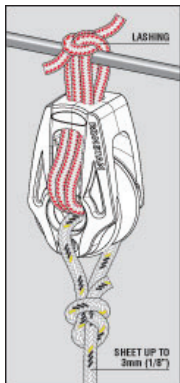


**Through Hub Becket** For sheets up to 3mm (1/8").

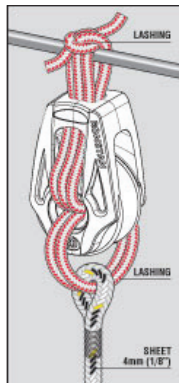
**Lashing Used as Becket** For sheets 4mm (5/32") to 6mm (1/4").

**Lashing Used as Becket and Sheet Line** For sheets up to 3mm (1/8"). It is possible for the lashing to be used as the becket and sheet line also.

### 2.1 THROUGH-HUB BECKET - FOR SHEETS UP TO 3MM (1/8")

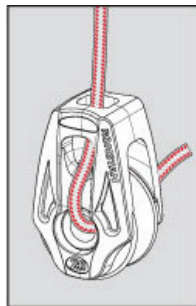


**2.1.1** Attach block to fixing point as per lashing option 1.1 to 1.4.

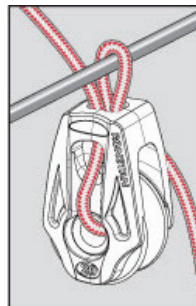


**2.1.2** Pass the lashing line down through the head and out through the cheek.

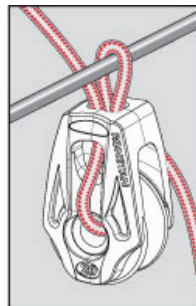
### 2.2 LASHING USED AS BECKET - FOR SHEETS 4-6MM (5/32" - 1/4")



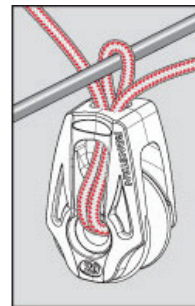
**2.2.1** Pass the lashing line down through the head, out through the cheek and through the hub.



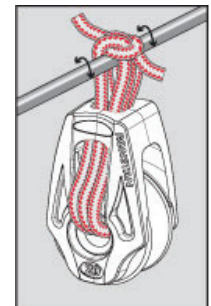
**2.2.2** Loop under the bottom of the block and again through the hub.



**2.2.3** Repeat step 2.2.2 if more than one loop is required to meet the desired breaking load. Pass line in through the far side cheek and back up through the head.



**2.2.4** If another loop is required to meet breaking load, loop the line around fixing point, pass it back down through the head, out through the near side cheek, through the hub, back in through the far side cheek and back up through the head.

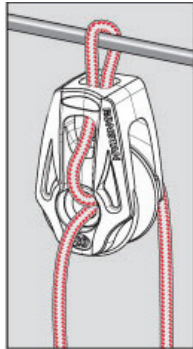


**2.2.5** Finish lashing with appropriate knot, splice or whipping. Attach the sheet to the becket loops using a bowline or splice.

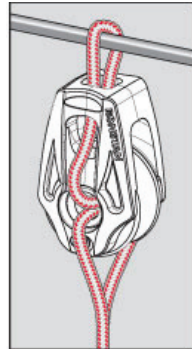
### 2.3 SINGLE LINE USED AS BECKET & SHEETS - FOR SHEETS UP TO 3MM (1/8")



**2.3.1** Pass the line in through a cheek, up through the head, around the fixing point, back down through the head and out through the opposite cheek.



**2.3.2** Pass both ends through the hub in opposite directions.



**2.3.3** Finish lashing with appropriate knot, splice or whipping. If a knot is used it must not be a 'slip' knot, and the knot must be such that it pulls equally on each line leading up to the hub. A bowline is ideal. Note: the breaking load of the installed block is dependent on the breaking load of the line; up to a maximum B.L. of 900kg (1980lb). Knots, splices, stitching, etc. will generally have a lower breaking load than the rope itself.

## 3.0 CARE AND MAINTENANCE

### LASHING ATTACHMENT

- To receive the maximum performance benefit from the Lashings, they must be used correctly installed, inspected regularly and replaced when required.
- Lashings must be attached to a mounting point with a smooth, well rounded profile without sharp edges or burrs. If in doubt, use a shackle with a smooth surface between the Lashing and the mounting point.
- Lashings will eventually suffer degradation from fatigue, wear and UV exposure. Like all running and standing rigging, Lashings should be inspected as a part of your regular boat maintenance program and replaced if they show significant wear or fibre damage.

### ORBIT BLOCKS™

- Grit and sand will damage bearing systems. Ronstan Orbit Blocks™ have a precisely engineered bearing system that should be kept clean and free of sand and grit to ensure optimum performance and service life. Blocks, in particular the bearing areas, should be flushed with fresh water regularly and periodically cleaned with a mild detergent and water.
- Dry lubricants such as Ronstan Sailfast™ silicon spray may be used to lubricate the bearing system. Oil/petrochemical based lubricants must not be used.
- Ronstan Orbit Blocks™ are designed and manufactured for applications on sailboats.
- See the INFO section of the Ronstan web site and our catalogue for important customer considerations and warranty information.

## 4.0 DEFINITIONS

BB = Ball Bearing

MWL = Maximum Working Load

BL = Breaking Load

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DSM is the inventor and manufacturer of Dyneema®, the world's strongest fibre™. "Dyneema®", and "Dyneema®, the world's strongest fibre™" are trademark(s) (applications) owned by Royal DSM NV.