

F.7 RUNNING RIGGING

F.7.1 MATERIALS

- (a) Materials are optional.

F.7.2 PARTS

(a) **MANDATORY**

- 1) Mainsail halyard
- 2) Mainsail sheet
- 3) **Jib** halyard
- 4) **Jib** sheets
- 5) **Gennaker** halyard
- 6) **Gennaker** sheets
- 7) **Gennaker tack** line
- 8) Trapeze lines
- 9) Cunningham lines

(b) **OPTIONAL**

- 1) **Mast** rotation control lines
- 2) All other running **rigging** is optional.

F.7.3 Fittings

- (a) **fitting** locations are optional
- (b) **fitting** materials are optional
- (c) blocks, fairleads, cleats, fittings and attachment points are optional

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) **Mainsail**
- (b) **Jib**
- (c) **Gennaker**

G.2 GENERAL

G.2.1 RULES

- (a) **Sails** shall comply with the **class rules**.
- (b) The ITA will accept proposals for new sailcloth materials to be added to "Appendix A – Approved Sailcloth List" once each year.

G.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) **Sails** shall not be altered in any way except as permitted by these **class rules**.
- (b) Routine maintenance, such as repairing minor tears, is permitted without re-measurement.

G.2.3 SAILMAKER

- (a) No licence is required.
- (b) The sailcloth manufacturer and sailcloth type of the **body of the sail** shall be indelibly marked near the **head point** by the sailmaker, together with the date and his signature or stamp.

G.2.4 CERTIFICATION

- (a) An **official measurer** shall **certify** the sails.
- (b) An MNA may appoint one or more persons at a manufacturer to **certify** **sails** built by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

G.2.5 SAIL ROYALTY LABEL

Sails certified after 1st January 2014 shall have permanently fixed at the tack, a class royalty label. Labels shall be purchased from the ITA and the label shall not be transferred from one sail to another.

G.3 MAINSAIL

G.3.1 IDENTIFICATION

- (a) The class insignia shall conform to the dimensions and requirements as detailed in RRS Appendix G.

G.3.2 MATERIALS

- (a) The **body of the sail** and **secondary reinforcement** shall be of polyester **woven ply** and/or **laminated ply** listed in "Appendix A – Approved Sailcloth".
- (b) **Primary reinforcement**, **batten pockets**, and **tabling** may be of any polyester **woven ply** and/or **laminated ply**.
- (c) **Stiffening** may be of any material, except that Aramid (Kevlar) and carbon fibre are not permitted.
- (d) **Windows** may be of any transparent polyester **ply**. The **ply** may have polyester reinforcement threads.
- (e) **Attachments** may be of any material, except that aramid (Kevlar) or other high modulus tape or rope is permitted for reinforcement only within 80mm of the **luff**.

G.3.3 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail**.
- (b) **Sail reinforcement**
 - 1) **Primary reinforcement** is permitted within a distance of 595mm from each **sail corner**
 - 2) **Secondary reinforcement** is permitted within a distance of four times the limits prescribed for the **primary reinforcement** (2380mm) from each **sail corner**.
- (c) The **sail** may have a maximum of ten (10) **batten pockets**.
- (d) **Stiffening**
 - 1) A maximum of ten (10) battens are permitted, which
 - i) shall not be of more than 30mm in width

- ii) shall not protrude more than 100mm beyond the **leech** of the **sail**
- iii) shall have no moving parts
- 2) A headboard is permitted
- (e) The following are permitted: Stitching, glues, tapes, Cunningham eye and/or block, **batten pocket** patches, **batten pocket** elastic, **batten pocket** end caps, **leech** line with cleat, **sail** shape indicator stripes and items as permitted or prescribed by other applicable rules.
- (f) The **foot** shall not be convex.
- (g) The **sail** shall be loose **footed**.
- (h) The **leech** shall not extend aft of straight lines between the **batten pockets**. Any hollows in the **leech** between width measurement points shall be bridged with straight lines for measurement.
- (i) The **sail** shall have least one **window**. Additional **windows** are permitted. **Window** shape and size are optional provided that:
 - 1) One **window** shall be of a size and shape that encloses a rectangle of minimum dimensions 800mm X 300mm. When so enclosed, the rectangle shall fit below a line 1500mm from, and parallel to, the **foot**.
 - 2) The maximum height for any part of a **window** shall be a line 2000mm from, and parallel to, the **foot**.

G.3.4 DIMENSIONS

	minimum	maximum
Luff length	-	-
Leech length	-	8700 mm
Top width	-	800 mm
Quarter width	-	2260 mm
Half width	-	2000 mm
Three-quarter width	-	1500 mm
Extension of headboard from head point in any direction		220 mm
Sail reinforcement, measured from sail corner measurement points		
Primary reinforcement		595 mm
Secondary reinforcement		2380 mm
Distance from point on luff 1300mm below head to nearest point on leech	-	1270 mm
Luff Perpendicular	-	2355 mm
Window safety rectangle height parallel to foot	-	1500 mm
Window height parallel to foot	-	2000 mm

G.4 JIB

G.4.1 MATERIALS

- (a) The **body of the sail** and **secondary reinforcement** shall be of polyester **woven ply** and/or **laminated ply** listed in "Appendix A – Approved Sailcloth".

- (b) **Primary reinforcement, batten pockets, and tabling** may be of any polyester **woven ply** and/or **laminated ply**.
- (c) **Stiffening** may be of any material, except that Aramid (Kevlar) and carbon fibre are not permitted.
- (d) **Windows** may be of any transparent polyester **ply**. The **ply** may have polyester reinforcement threads.
- (e) **Attachments** may be of any material, except that Aramid (Kevlar) or other high modulus tape or rope is permitted for reinforcement only within 80mm of the **luff**.

G.4.2 CONSTRUCTION

- (a) The construction shall be: **Soft sail, single ply sail**.
- (b) **Sail reinforcement**
 - 1) **Primary reinforcement** is permitted within a distance of 440mm from each **sail corner**
 - 2) **Secondary reinforcement** is permitted within a distance of four times the limits prescribed for the **primary reinforcement** (1760mm) from each **sail corner**.
 - 3) **Chaffing patches** are permitted.
- (c) The **sail** may have a maximum of three (3) **batten pockets**.
- (d) **Stiffening**
 - 1) a maximum of three (3) **battens** are permitted, which
 - i) shall not be of more than 20mm in width
 - ii) shall have no moving parts
 - 2) a corner board is permitted at the **clew**
- (e) The following are permitted: Stitching, glues, tapes, Cunningham eye and/or block, corner eyes, zips, Velcro and sleeve **luffs, batten pocket patches, batten pocket** elastic, **batten pocket** end caps, **leech** line with cleat, **sail** shape indicator stripes and items as permitted or prescribed by other applicable rules.
- (f) The **leech** shall in no place be convex.
- (g) The **sail** shall have least one **window**. Additional **windows** are permitted. **Window** shape and size are optional provided that:
 - 1) One **window** shall be of a size and shape that encloses a rectangle of minimum dimensions 400mm X 300mm. When so enclosed, the rectangle shall fit below a line 1000mm from, and parallel to, the **foot**.
 - 2) The maximum height for any part of a **window** shall be a line 1500mm from, and parallel to, the **foot**.

G.4.3 DIMENSIONS

	minimum	maximum
Luff length	-	6300 mm
Luff Perpendicular	-	1680 mm
Foot round	-	80 mm
Sail reinforcement, measured from sail corner		

measurement points		
Primary reinforcement		440 mm
Secondary reinforcement		1760 mm
Window safety rectangle height parallel to foot	-	1000 mm
Window height parallel to foot	-	1500 mm

- (a) The "triangulation" method of measurement shall be used if the width of the **sail** at the **head** exceeds 50mm. For the purpose of this rule the width at the **head** shall be measured at right angles to the **luff** through the highest point of the **sail** on the **luff** to the line of the **leech** extended if necessary.

G.5 GENNAKER

G.5.1 MATERIALS

- (a) The **body of the sail** and **secondary reinforcement** shall be of nylon or polyester **woven ply** listed in "Appendix A – Approved Sailcloth".
- (b) **Primary reinforcement** and **tabling** may be of any nylon or polyester **woven ply**.
- (c) **Attachments** may be of any material, except that Aramid (Kevlar) or other high modulus tape or rope is permitted for **reinforcement** only within 80mm of the **luff**.

G.5.2 CONSTRUCTION

- (a) The construction shall be: **soft sail, single ply sail**.
- (b) **Primary** and **secondary reinforcement** is permitted at the **sail corners** and the recovery points.
- (c) The following are permitted: Stitching, glues, tapes, corner eyes, recovery point eyes or webbing, and items as permitted or prescribed by other applicable rules.
- (d) The number of recovery point eyes or webbing is optional.

G.5.3 DIMENSIONS

	minimum	maximum
Luff length	-	9150 mm
Leech length	-	8050 mm
Foot length	-	4250 mm
Head to Mid-foot	-	8750 mm
Half width – as defined by ERS G.7.5(b)	-	3450 mm

Section H – Official plans

The set of Official Plans is comprised of:

- 1b Construction details: (1 MAY 1968 amended 19 SEP 1968 and SEP 1975)
- 2b Panel offsets and deck jig: (2 APR 1968 amended 27 FEB 1968 and SEP 1975)
- 3b Details of fittings: (10 MAR 1968 amended 19 SEP 1968 and SEP 1975)
- 4a Bulkheads, rudder, and centreboard: (4 APR 1968)

- 5a Sail shape: (7 MAY 1968 amended SEP 1975)
- 6a Details of stitch and glue: (15 APR 1968 amended SEP 1975)

OFFICIAL TEMPLATES

The set of Official Templates is comprised of:

1. Bow template
2. Deck camber template
3. Hull templates #s 0, 1, 2, 3.3, 4.2 and 5
4. Centreboard template; Rudder template

Effective Date: 1 January 2014

Published Date: 7 January 2014

Previous issues: 19 April 2013

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PART III – APPENDICES

Appendix A

Approved Sailcloth LIST

MAINSAIL & JIB			
Manufacturer	Cloth	Description	Weight/Film
ANY	Woven Polyester	Single Ply/Woven Ply	3.8 oz/NA
Bainbridge	Diax 90 & 130 LSP	Pentex Laminate	1.5 mil
Challenge	MPX 06P	Pentex Laminate	1.5 & 2.5 mil
Contender	APEN 06	Pentex Laminate	1.5 & 3.0 mil
Contender	APEN 06, 09 & 12	Pentex Laminate	1.5 mil
Contender	MAXX Pen 09 & 15	Pentex Laminate	1.75 mil
Dimension Polyant	PE 05, 10 & 15	Pentex Laminate	1.5 mil
Dimension Polyant	FLEX 8 & 13	Pentex Laminate	1.5 mil
GENNAKER			
Manufacturer	Cloth	Description	Film
Bainbridge	MP70	Nylon	N/A
Bainbridge	AIRX 650N, 700N, 720NS	Nylon	N/A
Challenge	ELITE 40, 45 & PL42	Nylon / Polyester	N/A
Contender	DYNALITE/DYNAKOTE 75	Nylon	N/A
Contender	SUPERKOTE 75, 80, & 90	Nylon	N/A
Dimension Polyant	7722 UCP	Polyester	N/A
Dimension Polyant	F50, F60, F75	Nylon	N/A

Sailcloth List Policies

- Only general availability versions of the cloths will be permitted; exclusive versions for particular sail lofts will not be permitted.
- Sailcloth manufacturers shall provide a sample of each cloth to the ITA.
- Sailcloth manufacturers shall notify the ITA of any change in cloth production
 - The ITA will determine if the cloth will remain on the List
 - If the cloth remains on the List, a new cloth sample shall be provided to the ITA prior to its use by Tornado sail makers

Grandfathering

- Until 1 January 2007, sails made of sailcloth not [ever] listed in Appendix A - Approved Sailcloth may be used as follows:
 - Sails measured, signed and dated prior to 1 January 2004 may be used without restriction
 - Sails measured, signed and dated between 1 January 2004 and 1 December 2004
 - and made of the following discontinued sailcloth may be used without restriction: Dimension Polyant 6611/6633 SCP and UCP 7722 SCP, or SCN 75 and 90
 - and not covered by (b)(i) above, may be used except at Continental Championships, World Championships, Olympic Qualification Events, Pre-Olympic Test Events
- Sails made of sailcloth that has been deleted from the Approved Sailcloth List are legal for use in competition without restriction, provided that: