Annex A

Test of Spinlock safety lines incorporating new webbing and thread against EN ISO 12401:2009

FLEETWOOD TESTING LABORATORY

B&FC
BLACKPOOL AND THE FYLDE COLLEGE

FLEETWOOD NAUTICAL CAMPUS

ilac-MRA UKAS TESTING 1559

SLH/FTL/2673
20th January 2015

TEST OF

SAFETY LINES
INCORPORATING
NEW WEBBING & THREAD

AGAINST
EN ISO 12401:2009

MANUFACTURED BY

SPINLOCK LTD
BIRMINGHAM ROAD
COWES
ISLE OF WIGHT
PO31 7BH

THIS REPORT CONTAINS 3 PAGES

REPORT ORIGINATOR

[redacted]

REPORT CHECKER

[redacted]

FLEETWOOD TEST HOUSE, FLEETWOOD NAUTICAL CAMPUS
BROADWATER, FLEETWOOD, LANCASHIRE, FY7 8JZ
Telephone (01253) 779123 • E-mail: ftl@blackpool.ac.uk

Date of tests: The tests were carried out at Fleetwood Testing Laboratory between 10.09.14 and 04.12.14.

Present during testing: [redacted] – FTL Technical Manager
[redacted] – FTL Testing Engineer
[redacted] – FTL Testing Engineer

Product description: The Spinlock 16mm Safety Lines have previously been tested and certificated in accordance with EN ISO 12401:2009. The Safety lines now incorporate a new 18mm webbing and thread however the construction of the safety line remains identical to the original specification.

Samples tested: Samples were received and given individual numbers FTL reference numbers

FTL	Samples
2673/6	DW-STR/03 - 3 Hook Safety Line
2673/8	DW-STR/02 - 2 Hook Safety Line
2673/11	DW-STR/02E - 2 Hook Elasticated safety Line
2673/9	DW-STR/3L - 2 Hook, 1 Loop safety Line
2673/7	DW-STR/2L - 1 Hook, 1 Loop safety line
2673/12	DW-STR/2LE- 1 Hook, 1 Loop Elasticated safety line

Additional reports: FTL Test Report number: BLS/FTL/2277 for original testing in accordance with ISO 12401:2009

Tests carried out: The following tests were carried out on each sample in accordance with ISO 12401:2009:

5.2.6 Safety line testing
5.4 Accidental hook opening testing
5.5.4 Detachability of safety lines

Equipment Used: Equipment used in accordance with Table 1:

a) Rigid test mass of (100 + 1) kg
b) Single mountaineering rope in accordance with EN 892:2004 (replaced after each drop).

Test Method:

5.2.6 Safety line testing

Fit the safety line, after conditioning, to the reference deck safety harness as specified in Table 1. Drop test the safety line twice in each configuration of hook attachment with the drop height corresponding to the length of the line under test. Both ends of the safety line shall be on the same level before releasing and no more than 300mm apart. The reference deck safety harness shall be changed after each drop. The safety line under test shall be changed between each new configuration

[redacted]

[redacted]

5.4 Accidental hook opening testing

Following the first drop test the safety line hook was checked to ensure it could be detached from the attachment point using the right and then the left hand alone.

Results:

FTL & Description	Combination tested (for more than 1 combination only)	Drop 1	Any Damage	Hook Detachable with each hand alone	Drop 2	Any Damage	Pass/Fail
2673/6 3 Hook Elasticated	1: Hook & Elasticated longer hook 2: Hook & Non Elasticated shorter hook	Satisfactory	No	Yes	Satisfactory	No	Pass
2673/8 2 Hook	-	Satisfactory	No	Yes	Satisfactory	No	Pass
2673/11 2 Hook Elasticated	-	Satisfactory	No	Yes	Satisfactory	No	Pass
2673/9 2 Hook, 1 Loop	1: Hook & Elasticated longer loop 2: Hook & Non Elasticated shorter loop	Satisfactory	No	Yes	Satisfactory	No	Pass
2673/7 1 Hook, 1 Loop	-	Satisfactory	No	Yes	Satisfactory	No	Pass
2673/12 1 Hook, 1 Loop Elasticated	-	Satisfactory	No	Yes	Satisfactory	No	Pass

Conclusion

Samples of the Spinlock safety lines with new 18mm webbing and thread were tested and met the relevant requirements in accordance with ISO 12401:2009 Clause 5.2.6 for safety lines. Following the test samples remained functional and showed no signs of damage.

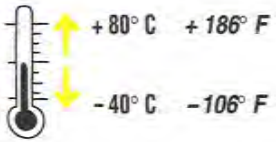
- End of Report -

[redacted]

[redacted]

Spinlock high specification safety line instruction leaflet

(EN)Temperature
(FR) Température
(DE) Temperatur
(IT) Temperatura
(ES) Temperatura
(NL) Temperatuur
(DK) Temperatur
(S) Temperatur



(EN) Storage
(FR) Stockage
(DE) Lagerung
(IT) Conservazione
(ES) Almacenamiento
(NL) Berging
(DK) Opbevares
(S) Förvaring

(EN) Dangerous products
(FR) Produits dangereux
(DE) Gefährliche Produkte
(IT) Prodotti pericolosi
(ES) Productos peligrosos
(NL) Gevaarlijke producten
(DK) Farlige væsker
(S) Farliga produkter

(EN) Cleaning / Disinfection
(FR) Nettoyage / Désinfection
(DE) Reinigung / Desinfektion
(IT) Pulizia / Disinfezione
(ES) Limpieza / Desinfección
(NL) Reiniging / Ontsmetting
(DK) Rengøres / Decinficeres
(S) Rengöring/ Desinfektion

(EN) Drying
(FR) Séchage
(DE) Trocknen
(IT) Asciugamento
(ES) Secado
(NL) Het drogen
(DK) Tørrer
(S) Torkning

Spinlock Ltd 41 Birmingham Road
PO31 7BH Cowes UK

CE 0514

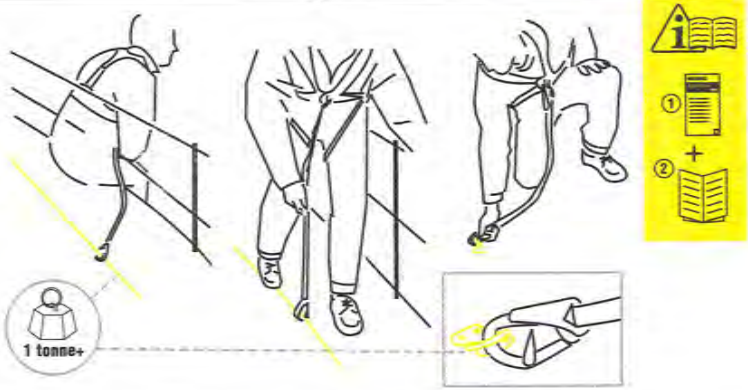
3R411A/2

For continuously updated user guidance go to www.spinlock.co.uk
Printed in the UK

High Specification Safety Line
For Performance Sailing

spinlock
deckware series

- Single handed double action safety hooks in non magnetic stainless steel
- Overload indicator displays when the line loads exceeds 500kg and needs replacing
- Tested to ISO 12401



WARNING: THE DECK SAFETY HARNESS AND SAFETY LINE ARE INTENDED TO PREVENT THE USER FALLING OVERBOARD. THEY DO NOT PROVIDE PROTECTION AGAINST FALLS FROM A HEIGHT.

WARNING: THE DECK SAFETY HARNESS AND SAFETY LINE MAY TRANSMIT VERY LARGE FORCES. ONLY ATTACH TO STRONG HOOKING POINTS OR JACK-LINES.

IMPORTANT: DO NOT REMOVE PRIOR TO SALE.
It is essential you read these instructions before using your safety line.

For users at least 16 years of age and 50 kg.
CE 0514
ISO 12401
50kg+

Ligne de sécurité ultra résistante
pour plaisance haute performance

- Crochets de sécurité double action à commande une main en acier inoxydable non magnétique
- L'indicateur de surcharge signale les charges supérieures à 500 kg et indique s'il est nécessaire de remplacer la ligne
- Homologué ISO 12401

AVERTISSEMENT: S'IL N'EST PAS UTILISÉ CORRECTEMENT, IL SE PEUT QUE CE PRODUIT NE REMPLISSE PAS CORRECTEMENT SON RÔLE DE LIGNE DE SÉCURITÉ, ENTRAÎNANT AINSI UN RISQUE SÉRIEUX POUR L'UTILISATEUR.

IMPORTANT : NE PAS RETIRER AVANT LA VENTE DE CE PRODUIT.
Il est essentiel de lire ces instructions avant toute utilisation de votre ligne de sécurité.

Réservé aux utilisateurs de 16 ans et 50 kg minimum.

Hochwertige Sicherheitsleine
für Leistungssegler

- Doppeltwirkende Sicherheitskarabiner für einhändige Bedienung aus nichtmagnetischem Edelstahl
- Überlast-Anzeiger: bei Überschreiten einer Belastung von 500 kp muss die Leine ersetzt werden
- Geprüft nach ISO 12401

ACHTUNG: WENN DIESES PRODUKT NICHT KORREKT EINGESETZT WIRD, DARF ES NICHT ALS SICHERHEITS-LEINE VERWENDET WERDEN; UND ES KANN EINE ERNSTE GEFAHR HERBEIFÜHREN

WICHTIG: NICHT VOR DEM KAUF ENTNEHMEN.
Diese Anleitung unbedingt lesen bevor Sie Ihre Sicherheitsleine verwenden.

Nur für Personen über 16 Jahre und 50 kg.

www.spinlock.co.uk

(EN) English

Instructions for use

HOW TO USE

A. Anchorage point should be located at the centre of the chest. Note: safety harness is for illustration only. Ensure no sharp edges on safety line attachment point. Use with approved deck safety only.

Guidance
Attach to Jackstays/fixed eyes.
Anchorage points shall be able to withstand forces of more than 1 tonne.
Never attach to Lifeline/standing and running rigging/going aloft.

GENERAL INFORMATION

Important notice: Specific training is essential before use

Read this notice carefully before use. This technical notice illustrates ways of using this product. Many types of misuse exist, which are impossible to list or even imagine. Only the techniques shown in the diagrams and not crossed out are authorised. All other uses are expressly excluded; danger of death. In case of doubt or problem of understanding, contact Spinlock. Water sports are dangerous activities which may lead to severe injuries or even death. Adequate training in appropriate safety techniques and methods is essential and acquiring this is your own responsibility. You personally assume all risks and responsibilities for all damage, injury or death which may occur during or following wrong use of our products in any manner whatsoever. If you are not able, or not in a position to assume this responsibility or to take risk do not use this equipment.

USE

This product must only be used by competent and responsible persons, or those placed under the direct and visual control of a competent and responsible person. Check that this product is compatible with other components of your equipment. To prolong the life of this product, care in use is necessary. Avoid rubbing against abrasive surfaces or sharp edges.

The safety line is intended to prevent the user falling overboard, they do not provide protection against falls from height. In a fall the safety line may transmit very large forces to the anchorage point.

MAJOR FALLS

In the event that your full bodyweight is dropped a distance and then stopped, do not continue to use this product. Even if no external changes visible, internal damage may have reduced its strength and its margin of safety. Do not hesitate to contact Spinlock in case of doubt.

CLEANING, MAINTENANCE, STORAGE

Clean by hand or in a machine set for delicate material wash and rinse in clean water (maximum temperature 30° C). Dry in a cool, ventilated dark room. Grease spots may be removed with trichlorethylene. Webbing shrinks very slightly in drying. Though UV protected, this product is best stored away from direct light, in a well ventilated place away from extreme temperatures.

CHEMICALS

All chemicals, (including petrol, battery acid), corrosive materials and solvents should be regarded as harmful. If your safety line comes in contact with chemicals, please notify us, stating the precise chemicals concerned. We will investigate and give our advice.

LIFETIME = SHELF LIFE + USEFUL LIFE

After first use this product should last 3 years. Certain environmental elements will considerably accelerate wear: salt, sand, moisture, chemicals. In exceptional circumstances, wear or damage could occur on the first use which reduces the lifetime of the product to that one single use. However wear or damage could shorten the product life. Shelf-life of this product in good condition is up to 5 years before first use.

TEMPERATURE

Use this product only above a minimum of -40° C and below a maximum of +80° C.

DISINFECTING THE PRODUCT

When necessary, use a disinfectant that is compatible with polyamide, polyester, polycarbonate, PVC etc. Use diluted with clean water at a maximum temperature of 30° C. After soaking for an hour, rinse in clean cold water. Dry slowly, away from direct heat.

RESPONSIBILITY

Spinlock is not responsible for the consequences, direct, indirect or accidental, or any type of damage befalling or resulting from the use of its products.

2 YEAR GUARANTEE

This product is guaranteed for 2 years from the date of manufacture against any faults in materials or manufacture. Exclusions from the guarantee are: normal wear and tear, modifications or alterations, incorrect storage, damage due to accident, negligence and any use for which the product was not designed.

Certain environmental elements will considerably accelerate wear: salt, sand, moisture, chemicals. In exceptional circumstances, wear or damage could occur on the first use which reduces the lifetime of the product to that one single use.

(FR) Français

Mode d'emploi

MODE D'EMPLOI

A. Le point d'ancrage devra se situer au centre du thorax. Remarque : le harnais de sécurité est inclus pour illustration seulement. Veillez à ce qu'il n'y ait pas de bords tranchants à proximité du point d'ancrage de la ligne de sécurité. À n'utiliser qu'avec des harnais de pont approuvés.

Recommandation:
Fixez aux contre-étais/cailletons fixes.
Les points d'arrimage devront être capables de résister à des forces de plus d'1 tonne.
Ne jamais ancrer aux bouts de sécurité ni aux grèements mobiles.

INFORMATIONS GÉNÉRALES

Remarque importante: une formation spécifique sera requise avant utilisation

Veuillez lire cette notice avec précaution avant toute utilisation. La présente notice technique illustre différentes manières d'utiliser ce produit. Il existe de nombreux autres types de mauvaises utilisations, dont il est ici impossible d'établir la liste, voir qui sont même impossibles à imaginer. Seules les techniques qui sont illustrées par des diagrammes et n'ont pas été barrées sont autorisées. Toutes les autres utilisations sont expressément exclues et présentent un risque mortel. En cas de doute ou de problèmes de compréhension, veuillez contacter Spinlock. Les sports d'eau constituent des activités dangereuses pouvant entraîner de graves blessures, voir la mort. Une formation adéquate aux techniques et méthodes de sécurité appropriées est essentielle, et il relève de votre responsabilité d'acquérir ces connaissances. Vous assumez personnellement tous risques et responsabilités en cas de dommages, blessures ou décès pouvant souvenir durant l'utilisation ou suite au mauvais usage de nos produits, de quelque manière que ce soit. Si vous n'êtes pas en mesure d'assumer cette responsabilité ou ces risques, n'utilisez pas cet équipement.

UTILISATION

Ce produit est exclusivement destiné à être utilisé par les individus compétents et responsables, ou par des utilisateurs se trouvant sous le contrôle direct et visuel d'un individu compétent et responsable. Vérifiez que ce produit soit bien compatible avec les autres composants de votre équipement. Pour prolonger la durée de vie de ce produit, il convient d'en prendre soin. Évitez de le frotter contre les surfaces abrasives ou les bords tranchants.

Cette ligne de sécurité est conçue pour prévenir la chute de l'utilisateur par-dessus bord, elle n'offre pas de protection contre les chocs en cas de chute. Dans une situation de chute, la ligne de sécurité pourra transmettre des forces très importantes à son point d'ancrage.

CHUTES MAJEURES

Dans l'éventualité où vous tomberiez de tout votre poids sur une certaine distance avant d'être stoppé par cet équipement, ne continuez pas à utiliser ce produit. Même si aucune marque externe n'est visible, il se peut que des dommages internes aient réduit sa résistance et sa marge de sécurité. N'hésitez pas à contacter Spinlock en cas de doute.

NETTOYAGE, MAINTENANCE, RANGEMENT

Nettoyez à la main ou dans une machine réglée pour les tissus fragiles, et rincez à l'eau propre (température maximale 30° C). Faites sécher dans une pièce fraîche et ventilée, à l'abri du soleil. Il est possible d'éliminer les traces de graisse au trichloréthylène Les sangles rétrécissent très légèrement au séchage. Bien qu'il soit protégé contre les UV, il est préférable de ranger ce produit à l'abri de la lumière directe, dans un endroit bien ventilé, à l'écart des extrêmes de température.

PRODUITS CHIMIQUES

Tous les produits chimiques, (y compris l'essence, l'acide des batteries), les matériaux corrosifs et les solvants devront être considérés comme dangereux. Si votre ligne de sécurité entre en contact avec des produits chimiques, veuillez nous en informer, en nous communiquant le nom exact des produits en question. Nous effectuerons des recherches et vous conseillerons.

DURÉE DE VIE = DURÉE DE CONSERVATION + VIE UTILE

Après sa première utilisation, ce produit devrait avoir une durée de vie de 3 ans. Certains éléments environnementaux accéléreront considérablement son usure: le sel, le sable, l'humidité, les produits chimiques. Dans certaines circonstances exceptionnelles, une usure ou un endommagement spécifiques pourront se produire lors du premier usage, la durée de vie du produit se réduisant alors à cette première et unique utilisation. L'usure et l'endommagement pourront réduire la durée de vie du produit. La durée de stockage de ce produit en bonne condition avant sa première utilisation est de 5 ans.

TEMPÉRATURE

Utilisez uniquement ce produit au-dessus d'une température minimale de -40° C et en deçà d'une température maximale de +80° C.

DÉSAFFECTION DU PRODUIT

Si nécessaire, utilisez un désinfectant compatible avec la polyamide, le polyester, le polycarbonate, le PVC, etc. Après avoir laissé tremper pendant une heure, rincez à l'eau propre et froide. Laissez sécher lentement, à l'écart de la chaleur directe.

RESPONSABILITÉS

Spinlock décline toute responsabilité pour les conséquences directes, indirectes ou subséquentes, ainsi que tous types d'endommagement imputables à ou résultant de l'utilisation de ses produits.

GARANTIE DE 2 ANS

Ce produit est garanti 2 ans à compter de sa date de fabrication contre tous vices de matériaux ou de fabrication. Sont exclus de cette garantie: l'usure normale, les modifications ou altérations, les dommages occasionnés par un stockage incorrect, les dommages accidentels ou résultant d'une négligence, ainsi que toute utilisation pour laquelle ce produit n'aurait pas été conçu. Certains éléments environnementaux accéléreront considérablement son usure : le sel, le sable, l'humidité, les produits chimiques. Dans certaines circonstances exceptionnelles, une usure ou un endommagement spécifiques pourront se produire lors du premier usage, la durée de vie du produit se réduisant alors à cette première et unique utilisation.

(DE) Deutch

Gebrauchs-Anleitung

VERWENDUNG

A. Anschlag-Punkt sollte vor der Mitte des Brustkorbs sein. Anmerkung: Der Sicherheitsgurt dient hier nur der Illustration. Der Anschlag-Punkt muss frei sein von scharfen Kanten. Nur mit zugelassenen Sicherheits-Vorrichtungen verwenden.

Führung
An Jackstag/fixen Augen anschlagen
Verankerungs-Punkte müssen Kräften von über 1000 kp standhalten können.
Lifeline nie an stehendem/laufendem Gut/Fallen anschlagen; und nicht zur Sicherung im Mast verwenden.

ALLGEMEINES

Wichtiger Hinweis: Vor dem Gebrauch ist eine spezifische Schulung notwendig.

Lesen Sie diesen Hinweis sorgfältig vor dem Gebrauch. Diese Notiz zeigt Weisen auf, wie dieses Produkt verwendet werden kann. Es gibt viele Arten, dieses Produkt zu missbrauchen, zu viele um sie aufzuzählen oder auch nur auszumalen. Allein die in den Diagrammen aufgeführten Techniken, welche nicht durchkreuzt sind, sind autorisiert. Alle anderen Anwendungen sind ausdrücklich ausgeschlossen: Todesgefahr. Im Zweifel oder bei Verständnis-Problemen kontaktieren Sie Spinlock. Wassersport hat viele gefährliche Aktivitäten die zu schweren Verletzungen oder gar zum Tod führen können. Geeignete Schulung in sachgerechten Sicherheits-Techniken und -Verfahren ist unerlässlich, und es ist Ihre Verantwortung, sich damit vertraut zu machen. Sie übernehmen die persönliche Verantwortung für alle Schäden, Verletzung oder Tod, die bei oder nach unsachgemässer Benutzung unserer Produkte in jeglicher Weise auftreten mögen. Falls Sie diese Verantwortung oder Risiko nicht übernehmen können oder wollen, sehen Sie von der Benutzung dieser Ausrüstung ab.

GEBRAUCH

Dieses Produkt darf nur von kompetenten und verantwortungsvollen Personen verwendet werden, oder von jenen, die unter unmittelbarer Aufsicht einer kompetenten und verantwortungsvollen Person stehen. Prüfen Sie dass dieses Produkt mit anderen Komponenten ihrer Ausrüstung kompatibel ist. Um die Lebensdauer dieses Produkts zu verlängern, ist Sorgfalt beim Einsatz geboten. Nicht gegen abrasive Flächen oder scharfe Kanten reiben.

Die Sicherheitsleine soll ihren Träger daran hindern, über Bord zu gehen; sie bietet keinen Schutz vor einem Absturz. Bei einem Fall kann die Sicherheitsleine sehr hohe Kräfte auf die Verankerung übertragen.

ABSTURZ

Falls einmal ein Sturz mit der Sicherheitsleine abgefangen wurde, benutzen Sie dieses Produkt nicht weiter. Auch wenn äusserlich kein Schaden sichtbar ist, kann eine interne Beschädigung die Festigkeit und Sicherheit reduziert haben. Im Zweifel zögern Sie nicht, Spinlock zu kontaktieren.

REINIGUNG, UNTERHALT, LAGERUNG

Reinigung von Hand, oder in der Maschine mit Einstellung 'Feinwäsche', nicht über 30° C, in sauberem Wasser ausspülen. Trocknen in einem dunklen, belüfteten Raum. Fettflecken können mit Trichloraethylen entfernt werden. Das Gewebe schrumpft ein wenig beim Trocknen. Obwohl UV-geschützt, sollte dieses Produkt am besten nicht im direkten Licht gelagert werden, und nicht in der Nähe extremer Temperaturen.

CHEMIKALIEN

Alle Chemikalien (einschliesslich Benzin, Batteriesäure), ätzende Stoffe und Lösungsmittel müssen als schädlich betrachtet werden. Falls ihre Sicherheitsleine mit Chemikalien in Berührung kommt, geben Sie uns bitte Bescheid, mit genauen Angaben zur Chemikalie. Wir untersuchen den Fall und geben Ihnen entsprechenden Rat.

HALTBARKEIT = LAGERZEIT + NUTZUNGSDAUER

Nach dem ersten Einsatz sollte dieses Produkt mindestens 3 Jahre nutzbar sein. Gewisse äussere Einflüsse beschleunigen die Abnutzung allerdings erheblich: Salz, Sand, Feuchtigkeit, Chemikalien. Unter aussergewöhnlichen Umständen kann bereits beim ersten Einsatz ein Schaden oder die Abnutzung so erheblich sein dass die Nutzungsdauer erschöpft ist. Jedenfalls verkürzen Abnutzung und Schäden die Nutzungsdauer. Die Lagerzeit dieses Produkts in gutem Zustand vor dem ersten Gebrauch ist bis zu 5 Jahre.

TEMPERATUR

Diese Produkt nur in einem Temperatur-Bereich von -40° C +80° C verwenden.

DESINFEKTION DES PRODUKTS

Wenn nötig, verwenden Sie ein Desinfektionsmittel das kompatibel ist mit Polyamid, Polyester, Polykarbonat, PVC etc. Mit sauberem Wasser verdünnt einsetzen bis zu 30° C. Nach einer Stunde 'Einweichen', in sauberem, kaltem Wasser ausspülen. Langsam trocknen, nicht in der Nähe direkter Hitze.

VERANTWORTUNG

Spinlock ist nicht verantwortlich für direkte, indirekte oder zufällige Folgen, und jede Art Schaden aus der Benutzung dieses Produkts.

2 JAHRE GARANTIE

Dieses Produkt ist zwei Jahre lang nach dem Kaufdatum garantiert gegen Material- oder Herstellungs-Fehler. Ausgeschlossen von dieser Garantie sind: normale Abnutzung, Abänderungen, nicht sachgemässe Lagerung; sowie Schäden durch Unfall, Nachlässigkeit, und jeden Gebrauch für den das Produkt nicht vorgesehen ist. Gewisse äussere Einflüsse beschleunigen die Abnutzung allerdings erheblich: Salz, Sand, Feuchtigkeit, Chemikalien. Unter aussergewöhnlichen Umständen kann schon beim ersten Einsatz ein Schaden oder die Abnutzung so erheblich sein dass die Nutzungsdauer bereits erschöpft ist.

Clipper Ventures' SOP extract - MOB while attached with tether

Section 13b MOB whilst attached with Tether

As with normal procedure surrounding an MOB the following points must be conveyed to the Crew should anyone go overboard whilst still attached to the boat via tether:

- Raise the alarm shout MOB
- At least two crew to immediately pull the MOB's head out of the water
- At the same time the boat is to be stopped immediately
    - White sails: instantly go into a hove to position
    - Under kite: Kite to be dropped immediately and the boat slowed down as much as possible. Release the tack to de-power the kite and therefore reduce the boat speed.

Once the kite is down, the yacht is to be hove to remembering to centralize the traveler, disconnect the preventer and sheet the main in hard.

- MOB to be hoisted on board with halyard attached to lifejacket lifting strop or with heli strop.
- Once MOB is back on board check for ABC (airway, breathing, circulation) and follow up with general assessment. Monitor for at least 24 hours for shock, secondary drowning, and hypothermia.
- Inform Clipper race office of incident
- Fill out all appropriate paperwork

Small commercial vessel certificate for *CV30* issued by IIMS

INTERNATIONAL
INSTITUTE of MARINE SURVEYING

SMALL COMMERCIAL VESSEL CERTIFICATE

(Valid for five Years subject to CONTINUED compliance with MGN 280)

Issued by the Committee of the IIMS Certifying Authority
(Authorised by the Maritime and Coastguard Agency)

Name of Vessel **CV 30**	Unique Identification No: **C13SV2106981**
Official No: **Not Available**	Name & Address of Managing Agent:
Hin No: **CN MZR 20011 E313**	**Clipper Ventures** **Unit 1** **The Granary & Baking Building** **Gosport** **Hampshire** **PO12 1FX**
Port of Registry: **Portsmouth**	
Gross Tonnage: **Not Known**	
Maximum No of Persons to be carried (including crew members)	Length Overall: **21.33m** Beam **5.68m**
Crew: Cat 0 – 24 Crew **Cat 2 – 12 Crew** **12 Passengers**	Load Line Length: **N/A**
	Date of Build: **2013**

This is to certify that the above named vessel was examined by:

[redacted] **at Gosport on 10th August 2013**

and found to be in accordance with the requirements of the Code of Practice for the Construction, Machinery, Equipment, Stability and Examination of Sailing or Motor Vessels, of up to 24 metres Load Line length, in commercial use and which do not carry cargo or more than 12 passengers, published by the Surveyor General's Organisation of the Department of Transport.

This certificate will remain valid until **9th August 2018** subject to the vessel, its machinery and equipment being efficiently maintained, annual examinations and manning complying with the Code of Practice, and to the following conditions:

The permitted area of operation is: - **Cat 0 Unlimited &**
Cat 2 up to 60 miles from a safe haven

Operating Restrictions:

Issued at: **IIMS, PORTCHESTER UK** on **28th August 2013**

For and on behalf of **UK MARITIME & COASTGUARD AGENCY**

Name [redacted] Signature ..... [redacted] .....

(Details of Annual Examinations are recorded on SCV2 held on board the Vessel)
Further clarification of the validity of this certificate can be obtained from

Certifying Authority Administrator, Administration Office
Murrills House, 48 East Street, Portchester, PO16 9XS
Tel: +44(0)23 9238 5223
www.iims.org.uk – ca@iims.org.uk

THIS CERTIFICATE IS TO BE HELD ON THE VESSEL AT ALL TIMES

Extract from SCV2 form for *CV30*

DECLARATIONS

A. By the Surveyor

I have examined the vessel _CV30 Unique Number_C13SV2106981
at (location)____Hamble & Gosport_____
On(date of out of water survey) 10thAug 2013__out of water photograph to be attached)

I believe that the vessel complies with the requirements of the 'The Safety of Small Commercial Sailing/Motor Vessels, a Code of Practice MGN 280.'

I submit the equivalent provisions as follows:

Code Section_____Alternative provision_____ Date 23rd August 2013

Name of IIMS Nominated Surveyor [redacted] Signature [redacted]

B. By the Owner/Managing Agent (Delete as appropriate).

I declare that the vessel is designed, built and equipped as described on this form and I hereby undertake:
1. To maintain the vessel in a sound and seaworthy condition.
2. To report any changes to the details shown on this form.
3. To notify the Certifying Authority of any collision or grounding, fire or other event causing major damage. (Any repairs must be approved by the IIMS)
5. To make the vessel available for examination by the MCA inspectorate or to the Certifying Authority at any time during the validity of this certificate.
6. The Owner agrees to comply with the Marpol Clean Seas Act and the Vessel Manning Procedures contained within MGN280.
7. To submit a photocopy of this page with the appropriate fee on the due date in return for an annual hard card Certificate (A three month period of grace is given before the certificate will be cancelled.)
8. To keep the SCV certificate, the SCV2, and the annual card certificate on board the vessel at all times.
9. That the manning and operation of the vessel complies with annex 3 in MGN 280.
10. That I will inform the IIMS IMMEDIATELY if the vessel is sold at which point this certificate will be cancelled

Signature of Owner/Managing Agent (Delete as appropriate)

Signature [redacted] Print Name [redacted] Dated 23rd August 2013

Cat 0 & Cat 1 vessels plus all work and pilot boats require annual examinations by an IIMS surveyor.

ANNUAL REVIEW SIGNATURE SECTION

First annual examination-to be carried out by: Owner/Agent/Marine Surveyor's (delete as Rqd)

signature [redacted] Print name [redacted]

Date Review Carried out 21-07-14

Second annual examination-to be carried out by Owner/Agent/Marine Surveyor's (delete as Rqd)

signature [redacted] Print name [redacted]

Date Review Carried out 31/7/15

Third annual examination must be carried out by an IIMS Examiner

signature [redacted] Print name [redacted]

Date Review Carried out 15/8/16.

Fourth annual examination-to be carried out by Owner/Agent/Marine Surveyor's (delete as Rqd)

signature [redacted] Print name [redacted]

Date Review Carried out 03/08/17

Fifth Year Survey must be carried out by an IIMS Examiner. This is an out of water survey that must be completed by

Issue 18 SI V2/05/12

SCV Code Annex 3

ONLY TO BE USED IN CONJUNCTION WITH MGN 280

ANNEX 3

THE MANNING OF SMALL VESSELS

This Annex gives information relating to the manning and operation of small vessels in commercial use as follows:

Section 1 - Areas of Application
Section 2 - Minimum Qualifications of the Person in Charge of the Vessel and the Additional Person When Required To Be Carried
Section 3 - Revalidation of Certificates & Licences
Section 4 - Approved Engine Course
Section 5 - Stability and Approved Stability Course
Section 6 - Pilot Boats
Section 7 - Single Handed Operations
Section 8 - Responsibility of the Owner/Managing Agent for the Safe Manning of the Vessel
Section 9 - Keeping a Safe Navigational Watch
Section 10 - Withdrawal of Certificate

General

Vessels to which this Code applies and which comply with its requirements, will be exempt from the need to comply fully with the Merchant Shipping (Training and Certification) Regulations 1997, SI 1997 No. 348, as amended and the Merchant Shipping (Safe Manning, Hours of Work and Watchkeeping) Regulations 1997, SI 1997 No.1320 provided the manning of the vessel is in accordance with the standards given in paragraph 2 below when operating in the areas described in paragraph 1 below.

1. Areas of Application

Commercially operated vessels operating within the following areas should carry at least the qualified personnel shown in Section 2 below:-

Area Category 6	To sea, within 3 miles from a nominated departure point(s) and never more than 3 miles from land, in favourable weather and daylight
Area Category 5	To sea, Within 20 miles from a nominated departure point in favourable weather and daylight.
Area Category 4	Up to 20 miles from a safe haven, in favourable weather and in daylight
Area Category 3	Up to 20 miles from a safe haven
Area Category 2	Up to 60 miles from a safe haven
Area Category 1	Up to 150 miles from a safe haven
Area Category 0	Unrestricted service

2. Minimum Qualifications of the Person in Charge of the Vessel (Skipper) and of the Additional Persons Required to be Carried on Board

2.1 General

2.1.1 All Certificates and Licences of Competency or Service are to be appropriate to the type of vessel in which they are used.

2.1.2 Any person appointed as a skipper must be a minimum age of 18 years.

2.2 Endorsement of Certificates

RYA certificates of competency and/or service and other MCA recognised Yachtmaster certificates should carry the endorsement - "valid for vessels of up to 24 metres in length used for commercial purposes".

2.3 Qualifications Required

A vessel should be manned in accordance with Tables 1, 2 and 3 of this Annex. Qualification differing from those tabled, but of equal standing or specialist application (e.g. Sailing Barge Masters Certificate), will be considered.

2.4 Controllers of Organised Activities

The controllers of organised activities such as Sailing Schools may submit alternative Qualifications to those listed above. Any such submissions to the MCA will be considered upon their merits.

2.5 Radio Qualifications

Every vessel should carry at least one person holding a Radio Operator's Certificate suitable for the radio equipment on board.

2.6 Medical Fitness Certificates

2.6.1 The skipper and anyone else who is employed on board and who has safety responsibilities should hold an authorised medical fitness certificate. The standard medical fitness certificate for anyone employed at sea is the seafarer's medical certificate (ENG1), available subject to a satisfactory medical examination, from an approved doctor appointed by the Secretary of State, listed in a Merchant Shipping Notice (currently MSN 1777(M)), or on the MCA's website (www.mcga.gov.uk). This medical certificate is acceptable for any area of operation (unless it includes a specific restriction) and is valid for a maximum of two years, in line with international requirements.

2.6.2 For those employed on small commercial vessels that operate no further than 60 miles from a safe haven (Area Categories 2, 3, 4, 5, and 6) the alternative ML5 certificate is acceptable. The ML5 certificate is attached to the ML5 report and may be issued by any registered medical practitioner on the basis of a satisfactory ML5 report. An ML5 certificate is valid for no more than 5 years. The ML5 report form is available from any MCA Marine Office, or may be downloaded from MCA's website (www.mcga.gov.uk)

(Note - Additional guidance on both ENG1 and ML5 certificates can be found in Marine Guidance Note 264)

2.6.3 As an alternative to Section 2.6.2, for vessels operating no further than 60 miles from a safehaven, the following will be accepted as evidence of medical fitness:-

CAA commercial pilot's licence,
HSE diving medical certificate,
DVLA Group 2 Drivers Licence.

The following conditions will also apply:

.1 the validity of the evidence of medical fitness would be that of the validity of the parent licence, e.g. one year in the case of a CAA commercial pilot's licence.

.2 in the case of the HSE diving medical and the DVLA Group 2 licence, evidence of satisfactory colour vision will be required.

.3 in the case of the above-named equivalent medicals, a declaration will be required, signed by the applicant confirming the following:-

i) the contact details of the examining doctor, their consent for the MCA to obtain further medical information if required, and the date of the examination; and

ii) that they have not had any medical conditions requiring hospital admission, regular prescribed medication, or continuing medical surveillance, since the alternative medical was carried out; and

iii) that they have no conditions limiting strength, stamina, or flexibility, such that they could not cope with emergencies on board, such as recovering someone who has fallen overboard or fighting a fire; and

iv) that they will seek revised medical fitness certification and submit this to the Administration if the licence accepted as evidence of medical fitness is revoked for any reason, or if they suffer any illness or accident affecting their fitness to operate the vessel, during the period of the licence/certificate.

2.7 Basic Sea Survival Course

Skippers of vessels to which the Code applies should hold an approved Basic Sea Survival Course Certificate.

2.8 First Aid Training

The skipper or a member of the crew of vessels which operate in Area Category 2, 3, 4, 5 or 6 should hold an MCA approved Elementary First Aid Certificate (or the First Aid at Sea certificate or Medical First Aid certificate), an RYA First Aid Certificate, or a SeaFish Basic First Aid Certificate, provided use of the medical stores is covered in the course. Skippers of vessels operating in Area Category 0 or 1 should hold a Proficiency in Medical Care Certificate (or its predecessor, the Ship Captain's Medical Certificate) unless another member of the crew holds a medical or nursing qualification of an equivalent or a higher standard. The skipper or nominated first-aider should undertake refresher training at least every five years.

2.9 Hours of Work Provisions

2.9.1 Fatigue at sea is a serious safety issue and operators should ensure that all vessels certificated under the Code are sufficiently manned to avoid the need to work excessive hours. The skipper is responsible for ensuring, so far as is reasonably practicable, that he/she and all crew members are properly rested when they begin work and obtain adequate rest when not on duty. The minimum hours of rest for anyone employed on board should be not less than:-

.1 ten hours in any 24-hour period; and

.2 77 hours in any seven day period.

2.9.2 These limits should be observed, although exceptions are allowed so long as they are agreed between the skipper and crew members, and provided that their health and safety, and the safety of the vessel, are not compromised. Such exceptions may take account of more frequent or longer leave periods or the granting of compensatory leave for watchkeeping seafarers or seafarers working on board ships on short voyages.

2.9.3 For boats operating on the basis of watchkeeping arrangements, a schedule of duties should be drawn up setting out the hours of work and rest periods. In drawing up a schedule, factors to be taken into account may include:

.1 type of operation;

.2 details of the watchkeeping arrangements;

.3 the total workload;

.4 the seriousness of irregular working hours and their contribution to causing fatigue and the importance of scheduling reasonably stable working hours.

2.9.4 The Maritime Working Time Directive also provides anyone employed at sea with an entitlement to a period of leave of at least four weeks' paid leave in each year.

2.10 Health and Safety at Work Provisions

2.10.1 The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (SI 1997/2962) apply wherever "workers" are employed on ships. Under these regulations all employers have a duty to ensure the health and safety of workers and others, so far as is reasonably practicable. To fulfil this duty, employers are required to carry out "a suitable and sufficient assessment of the risks of the health and safety of workers arising in the normal course of their activities or duties". The concept of risk assessments is relatively simple, and follows these basic steps:-

.1 identify the hazards and personnel at risk;

.2 assess the chances of a hazardous event occurring;

.3 assess the severity or consequences; and

.4 if the combined risk and severity is too great, some action must be taken to reduce the risk to as low a level as reasonably practical.

Further guidance on the application of the regulations and the assessment of risk can be found in MGN 20.

2.10.2 Applying the principles of the health and safety requirements to Code Vessels means that the operator or skipper should take a proactive approach to safety and consider what particular hazards are likely to arise in the context of work activities on board. They should then take appropriate measures to remove the risks in so far as possible. The goal is to provide, as far as reasonably practical, for a safe working environment, with crew following safe working practices. The risk assessment does not need to be written down, but ensuring that crew have appropriate health and safety instruction and information is part of the exercise. Section 17 of MGN 20 outlines the duties of the workers.

2.11 Radar Training

In any vessel that carries radar, the Skipper and any member of the crew who is liable to use the radar are strongly recommended to undertake appropriate training in its use.

3. Revalidation of Certificates and Licences

3.1 All Certificates (whether of competency or service), Boatmaster's Licences and Local Authority Licences must be revalidated every five years. To revalidate, the applicant must prove at least 150 days of actual sea service on appropriate vessels during the previous five years and be in possession of a valid Medical Fitness Certificate.

3.2 Applicants for revalidation who are not able to prove the requisite sea service but are able to demonstrate that during at least half of the five year period they have been employed on

duties closely associated with the management and operation of one or more of the appropriate types of vessels, may have their Certificates or Licences considered for revalidation.

4. Approved Engine Course

4.1 An Approved Engine Course is a course of at least thirty hours duration which is approved or recognised by the MCA. A "Certificate of Attendance" will be given by the course organisers to persons satisfactorily completing the course.

4.2 Persons who are able to demonstrate to the satisfaction of the MCA that they have the appropriate engineering experience and competency may be granted exemption from the requirement to attend an Approved Engine Course. Such a course will cover the following topics:-

Introduction to compression ignition and spark ignition engines; engine cycles; construction and operational details; fuel, air, cooling, lubrication and electrical systems; power transmission; hull fittings; oil and garbage pollution prevention; safe working practices; basic fire prevention and fire fighting techniques; dangers of asphyxiation in the use of gaseous and vaporising fluid extinguishing mediums; safety requirements of bottled gas installations; fault finding and rectification within all topics.

4.3 In addition to the above, it is strongly recommended that for vessels where there is installed propulsion power greater than 1500 kW or the vessel is fitted with equipment, essential to its operation, that is not included in the syllabus of the engineering qualification held, an applicable manufacturers, or equivalent, course should be attended.

5. Stability

The skipper of every vessel should be familiar with the vessels Stability Guidance Booklet, should insert the information required of the Master, and should ensure that it is drawn to the attention of all watch keepers on board. In the case of vessels also required to be provided with a Stability Information Booklet, skippers should have a knowledge and understanding of its contents.

6. Pilot Boats

Pilot Boats shall be manned in accordance with Section 25.6.3.26.

7. Single Handed Operations

7.1 The MCA does not recommend single handed operations. Vessels operating under this Code, other than those engaged as Pilot Boats or in any other business which involves the transfer of personnel at sea, may be operated single handed providing that the person operating the vessel complies fully with the minimum requirements for a skipper (appropriately qualified for the operating area) and the following conditions:-

.1 the area of operation is restricted to Area Category 3, 4, 5 or 6 in conditions of favourable weather and subject to favourable official weather forecasts for the area throughout the period of operation; and

.2 the duration of the voyage should not exceed 8 hours; and

.3 the vessel is not operated single handed in conditions of restricted visibility; and

.4 an acceptable lifejacket is worn at all times by the skipper; and

.5 no overside working takes place whilst the vessel is being operated single handed; and

.6 details of the time and point of departure, voyage plan and the Expected Time of Arrival (ETA) of every single handed voyage are left with a suitable person ashore and that person is notified of the safe arrival on completion of each voyage; and

.7 communication should be made with a person ashore or with a vessel in company at regular agreed intervals; and

.8 on all open sportsboats, inflatable craft and RIBS, engine kill-cords should be fitted and used at all times.

7.2 In some cases, because of the size and arrangement of the vessel, the Certifying Authority may deem the vessel not to be suitable for single handed operations. In all cases where single handed operations are carried out, the owner/managing agent and the skipper should be satisfied that it is safe to do so. The vessels certificate should show that it is suitable for "single handed" operations.

8. Responsibility of the Owner/Managing Agent for Safe Manning of the Vessel

It is the responsibility of the owner/managing agent to ensure that the skipper, and where necessary, the crew of the vessel have, in addition to any qualifications required in 2 above, recent and relevant experience of the type and size of vessel, the machinery on the vessel, and the type of operation in which the vessel is engaged. The owner/managing agent should also ensure that there are sufficient additional crew on board having regard to the type and duration of voyage/excursion being undertaken.

9. Keeping a Safe Navigational Watch

It is the responsibility of the skipper to ensure that there is, at all times, a person with adequate experience in charge of the navigational watch. In taking this decision the skipper should take into account all the factors affecting the safety of the vessel, including:-

.1 the present and forecast state of the weather, visibility and sea;

.2 the proximity of navigational hazards;

.3 the density of traffic in the area.

TABLE 1 - Deck Manning Requirements Small Vessels in Commercial Use

	CATEGORY		6	5	4	3	2	1	0
SKIPPERS QUALIFICATION ACCEPTABLE FOR GIVEN CATEGORY	Certificate of Competency -Yachtmaster Ocean (MCA Accepted)	Note A	√	√	√	√	√	√	√
	Certificate of Competency or Service - Yachtmaster Offshore (MCA Accepted)	Note A	√	√	√	√	√	√	
	MCA Boatmasters Licence Grade 1,2 & Modified Grade 3	Note A Note B	√	√	√	√	√		
	RYA/DfT Certificate of Competency or Service - Coastal Skipper	Note A	√	√	√	√			
	RYA/DfT Advanced Powerboat Certificate	2 years relevant experience	√	√	√	√			
		12 months relevant experience	√						
	Certificate of competence for appropriate area issued by Competent Authority	Note A Note C	√	√	√	√			
	RYA/DfT Day Skipper Theory & Practical Certificate	Note A 12 months relevant experience	√	√					
	Local Authority Licence for appropriate area	Note A Note D	√						
	RYA/DfT Day Skipper Practical Certificate	Note A	√						
	RYA/DfT Powerboat Level 2 Certificate	12 months relevant experience	√						
ADDITIONAL REQUIREMENTS	Unless operating in the single-handed mode in accordance with Paragraph 7 of this Annex, a second person capable of assisting the Skipper in an emergency should also be on board		√	√	√	√			
	There should also be on board a second person deemed by the skipper to be experienced.						√		
	There should also be on board a second person holding at least an RYA/DfT Certificate of Competency or Service as Coastal Skipper.							√	
	There should also be on board another person holding at least an RYA/DfT Certificate of Competency as either Yachtmaster Ocean or Yachtmaster Offshore.								√

Note 1 Qualifications differing from those tabled, but of equal standing or specialist application will be considered.

Note 2 Vessels regularly engaged on near coastal voyages from ports outside the UK, have to abide by the manning requirements of the Administration regulating that coastal area.

Note 3 Refer section 2.2.1 - RYA/DfT certificates of competency and/or service, and other MCA recognised Yachtmaster certificates, should carry the endorsement - "valid for vessels of up to 24 metres in length used for commercial purposes".

Note A Certificate should be designated motor or sail as appropriate.

Note B Existing MCA Boatmasters Licence Grade 3 is only acceptable if it has been validated for the specific area in the license prior to this Code coming into force. All Boatmasters licence holders (1, 2, and modified 3) are subject to the area limitations as defined on the certificate.

Note C Competent Authority in respect of manning requirements means either the Maritime and Coastguard Agency or an organisation that issues Certificates of Competence which has been applied for and granted recognition by the Maritime and Coastguard Agency as having the appropriate technical and administrative expertise.

Note D Local Authority Licence - only those Local Authorities that have the approval of the MCA may issue Licences under this Code.

TABLE 2 - Engineering Manning Requirements Small Vessels in Commercial Use

	CATEGORY	6	5	4	3	2	1	0
ENGINEERING REQUIREMENTS	RYA Diesel Engine Course or satisfied the Maritime and Coastguard Agency as to their appropriate engineering experience and competency						Sail Vessel	Sail Vessel
	Approved Engine Course or satisfied the Maritime and Coastguard Agency as to their appropriate engineering experience and competency					Power Vessel W	Power Vessel SL	Power Vessel SL
	Marine Engine Operators Licence (MN) (Y)						Power Vessel W	Power Vessel W <1500 kW
	Senior Marine Engine Operators Licence, STCW C/Eng (Y4)							Power Vessel W >=1500 kW < 3000 kW

Note 1 Qualifications differing from those tabled, but of equal standing or specialist application will be considered.

Note 2 The person holding the engineering requirement may be a crew member listed in Table 1.

Note 3 In all cases, one of the crew should be sufficiently familiar with the operation and maintenance of the vessel's machinery to ensure safe passage.

Note 4 Power Vessel W is a Power Vessel employed in towing operations, lifting operations or carriage of cargo greater than 1000 kg.

Note 5 Power Vessel SL is a Power Vessel other than Power Vessel designated by Power Vessel W.

Extracts from ISO 12401

INTERNATIONAL STANDARD

ISO 12401

Second edition
2009-08-01

Small craft - safety line - test methods Deck safety harness and Safety requirements and

Petits navires - harnais- Harnais de securite de pont et sauvegardes de Exigences de securite et methodes d'essai

Reference number
ISO 12401:2009(E)

Contents

Page

Introduction

This International Standard has been prepared to meet the needs of persons afloat on recreational craft. Deck safety harnesses and safety lines manufactured according to this International Standard will give reasonable assurance that the wearer will remain attached to the craft.

A deck safety harness and safety line does not provide protection against falls from a height. This International Standard does not cover the requirements of a dinghy "trapeze " harness, a windsurfing harness, or a seat harness for fast motor boats.

This International Standard is intended to serve as a guide to manufacturers, purchasers and users of such safety equipment by ensuring that the equipment provides an effective standard of performance in use.

Equally essential is the need for the designer to encourage the wearing of the equipment by making it comfortable and attractive for continuous wear while afloat, rather than for it to be stowed in a locker for emergency use. The principal reason for the existence of this International Standard is the recognition that comfort and mobility are important factors in determining whether deck safety harnesses are worn.

The primary aims in wearing a deck safety harness are:

a) to prevent the wearer from falling into the water, and

b) to assist in recovering the wearer onto the working deck.

Preventing the wearer from actually falling into the water is dependent on the location of the attachment to the craft and the length of the safety line. Because a correctly worn deck safety harness and safety line will, in normal circumstances, prevent the wearer from entering the water, no consideration is given to the towing position after a fall. The importance of ensuring a firm fit cannot be overstressed. Unless the harness is fitted with an automatic tensioner, it remains the responsibility of the wearer to correctly adjust the harness to achieve a firm fit.

4.3.3 Comfortable wear

A deck safety harness shall

a) be comfortable to wear for men, women and children as appropriate for the sexes and sizes for which it is intended and when correctly adjusted,

b) be adjustable to fit the body firmly unless fitted with an automatic tensioner,

c) not be unduly bulky or heavy,

d) not restrict the vision, hearing, breathing or movement of the wearer, and

e) not contain any component nor use any method of component attachment which, in normal use, is likely to cause injury to the user.

Testing shall be carried out in accordance with 5.5.4.2.

4.3.4 Detachability of safety lines

A safety line shall be detachable by the wearer both from the deck safety harness and from the craft when tested in accordance with 5.5.4, except in the case of a deck safety harness intended for size 2 and size 3. In the latter case, the safety line shall be attached in such a way, or the attachment shall be so positioned, that the wearer cannot detach the line from the harness. When tested in accordance with 5.5, the safety line shall be detachable from a size 2 and size 3 deck safety harness or from the craft, or from both, by an adult. Accidental release of a safety line shall not occur when tested in accordance with 5.4.

4.3.5 Hooks

All hooks provided shall be of a self-closing type, with an opening large enough to accept, and fully close on, a cylinder of diameter $(12{,}5\ ^{+1}_{-})$ mm. There shall be no tendency for the hooks to open by any action, as tested in 5.4, other than deliberate release, except when a clear and permanent warning label as specified in 5.4 and 6 g) indicates that an attachment bracket is fitted to the craft.

If intermediate hooks are fitted in a safety line, the test specified in 5.4 shall be repeated using each possible combination of points of attachment. Each repetition shall meet the requirements of this International Standard.

The hooks shall be tested in accordance with ISO 9227. When tested for a period of 160 h, the hooks shall not be significantly affected by corrosion.

4.3.6 Holding down device

All safety harnesses shall allow the fitting of a holding-down device, which shall be at least half the width of the flexible elements listed in 4.2.4.

4.3.7 Integrated combinations

Any integrated combination of safety harness and additional items such as lifejackets and immersion suits shall comply with ISO 12402-8, ISO 15027-1 or ISO 15027-2, as applicable, and shall not be rendered inoperative by the dynamic test of the safety harness in accordance with 5.2.

4.4 Inspection requirements for deck safety harness sizes 1 and 2 and safety line

When tested as specified in 5.2, the deck safety harness and safety line shall comply with the following.

a) Throughout the test, the torso dummy shall be restrained securely in the harness, clear of the ground.

b) Throughout the test, all components of the deck safety harness and safety line shall remain functional and operate as designed. Sacrificial shock absorbers may rupture, e.g. if stitching breaks. If this occurs, it shall not affect the security of the torso dummy in the deck safety harness.

c) After the first drop test only, the slipping of any adjustment device shall not exceed 25 mm.

d) After the first drop test only, and with the load of the torso dummy or test mass relieved from the safety line, the detachability of the safety line shall be checked in accordance with 5.5.4.

4.5 Static loading of deck safety harness size 3

When tested in accordance with 5.3, the total slippage in the safety harness adjustment devices shall not exceed 25 mm.

5 Test methods

5.1 Magnetic properties testing

Place a direct reading magnetic compass in an undisturbed magnetic area (i.e. an area in which magnetic items and d.c. electrical cables are not continually moved or switched). Check the compass to ensure that it has negligible pivot friction. This can be done by deflecting the compass card 10° by means of a magnet and then removing the deflecting force when the card should return to within 0,5° of its original position.

Present the metal components (with any hooks closed) individually to the compass on an approximately East-to-West line, to a position where the nearest point of the component is (300 ± 10) mm horizontally from the centre of the compass. Lightly tap the compass to eliminate the effect of friction. Record the angle in degrees of any deflection of the compass from its position before the metal components were brought near the compass.

5.2 Dynamic testing

5.2.1 Principle

Dynamic testing includes two tests. One for testing the strength of the complete harness and one for testing the safety lines. For a deck safety harness and safety line that can be separated, each item is tested separately against a reference counterpart, i.e. reference line and torso dummy for the harness and reference harness and test mass for the safety line.

For an integrated deck safety harness and safety line, the two tests are combined. Unless the harness is part of an integrated combination of deck safety harness and clothing, the holding-down device shall not be fitted during the dynamic test.

NOTE These dynamic tests do not simulate reality on board a craft, but represent a strength test under overload conditions in order to ensure sufficient durability of the components tested.

5.2.5.3 Second drop, head first

Take the same harness, readjust it to the same torso dummy. Apply a second drop of 2 m but starting the drop from a head-first position of the torso dummy.

The reference safety line shall be renewed for each test.

Examine the deck safety harness as specified for the first drop.

5.2.6 Safety line testing

Fit the safety line, after conditioning, to the reference deck safety harness as specified in Table 1. Drop test the safety line twice in each configuration of hook attachment with the drop height corresponding to the length of the line currently under test; see Figure 6. Both ends of the safety line shall be on the same level before releasing and no more than 300 mm apart. The reference deck safety harness shall be changed after each drop. The safety line under test shall be changed between each new configuration.

After each drop examine the safety line with regard to 4.4, and note any failure or deformation.

5.2.7 Integrated deck safety harness and safety line testing

For a safety line which cannot be detached from the safety harness without destruction, the integrated deck safety harness and safety line shall be tested in accordance with 5.2.5.2 and 5.2.5.3, with the integrated safety line acting as the reference safety line. The drop height shall equal the length of the integrated safety line, in accordance with 5.2.5. All configurations shall be tested twice and no components may be changed during the test. The assessment panel shall examine the integrated deck safety harness and safety line with regard to 4.4, and record all slippage, breakage and deformation after each drop.

5.3 Static testing of deck safety harnesses of size 3 only

The deck safety harness and safety line are assembled.

Put the webbing or equivalent primary belt around a test cylinder of (200 ± 10) mm in diameter in accordance with the manufacturer's instructions.

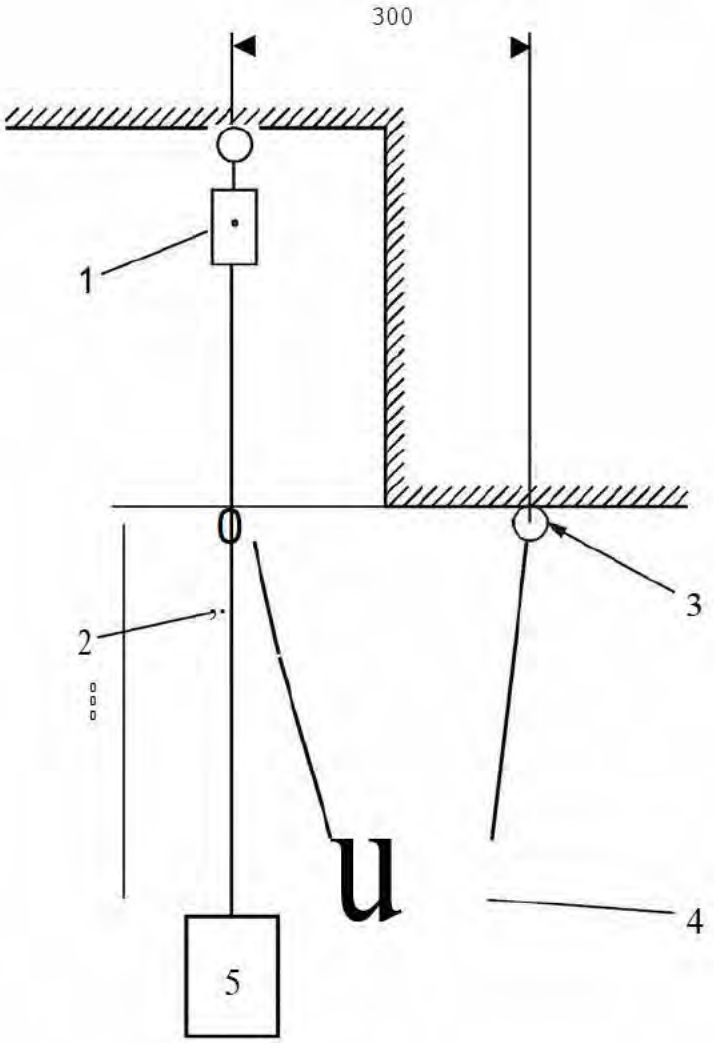
Apply a test load of 1 500 **N** to the craft hook of the safety line at a rate not exceeding 250 mm/min, with the other end of the safety line fixed to the attachment point at an angle of 90° to the cylinder axis.

Maintain the load for 5 min $(5\ \text{min}^{+\ 0})$ s.

Repeat the test for each configuration of safety line hooks.

Note whether the total slippage of the safety harness adjustment devices exceeds 25 mm.

Dimensions in millimetres



Key

1 quick-release device
2 reference deck safety harness
3 anchorage
4 safety line to be tested
5 100 kg test mass

Figure 6 - Test configuration for safety lines

5.4 Accidental hook opening testing

5.4.1 The tendency of the hook to accidentally become detached from its attachment point shall be tested using the following three styles of attachment point, made from 8 mm diameter rod:

a) a straight rod;

b) an eye bolt of internal radius 10 mm;

c) U-bolts of internal radius 15 mm and 20 mm.

5.4.2 Move the hook by hand as far as is possible in the following directions with the attachment point mounted vertically:

a) move forward and backward, right and left without any rotation, movement being in the horizontal plane;

b) rotate in the horizontal plane by up to 360° using the attachment point as the axis, rotating both clockwise and anticlockwise;

c) rotate in the vertical plane by up to 360° about the axis of the hook, rotating both clockwise and anti-clockwise;

d) rotate in the vertical plane by up to 360° about an axis running through the attachment point, rotating both clockwise and anticlockwise.

The hook fails the test if it releases from the attachment point. If the hook closure mechanism is shown to open but not release, this will also constitute a failure, as release would probably occur with geometry of different dimensions.

No hook will fail a test on an attachment point where its use is clearly and permanently warned against in accordance with 6 g).

5.5 User's tests

5.5.1 Principle

The safety harness is donned and detached by test subjects in front of an assessment panel. The fit and comfort requirements are assessed by the panel after questioning the test subjects.

5.5.2 Test subjects

In the case of deck safety harnesses intended to fit adults, a minimum of three test subjects shall be used, and in the case of those solely intended to fit smaller than adult sizes a minimum of two test subjects shall be used. At least one subject of each sex for which the deck safety harness is intended shall be included. Subjects shall be within the manufacturer's stated size range for the harness being tested.

5.5.3 Assessment panel

The assessment panel comprises a minimum of three experts.

5.5.4 Procedure

5.5.4.1 Donning test

Following instructions and five practice donnings, each subject shall don a safety harness without assistance (except in the case of harnesses of size 3).

The adult test shall be completed to a secure state in 1 min.

Following the five practice donnings, each subject shall then demonstrate that they can detach the safety line from the deck safety harness and from the attachment point of the craft using the right and then the left hand alone. In the case of a harness of size 3, this test shall be carried out by an adult.

The assessment panel shall verify that the child is not able to detach the safety line from the harness.

Figure 7 - Pictogram indicating correct attachment to multiple rings or points of attachment

g) if any hook is not suitable for use with a particular attachment, then the safety line shall bear the warning "This hook is unsuitable for use with a ... [the manufacturer shall include the type of attachment]", where the unsuitable type of attachment (e.g. U-bolt) is named; this shall be close to the hook.

An integrated deck safety harness and safety line shall be permanently and legibly marked once.

7 Information supplied by the manufacturer

Each deck safety harness and safety line shall be provided with information supplied by the manufacturer written in at least the official language of the country of destination. This information shall contain at least the following items:

a) name and address of the manufacturer;

b) instructions for adjustment and correct fit;

c) instructions for cleaning;

d) instructions for visual inspection for damage and action in case of damage;

e) a warning: "WARNING: The deck safety harness and safety line are intended to prevent the user falling overboard. They do not provide protection against falls from a height.";

f) a warning: "WARNING: The deck safety harness and safety line may transmit very large forces. Only attach to strong hooking points or jack-lines.";

g) unless the deck safety harness is supplied with an automatic tensioner, a warning: "WARNING: It is unsafe to wear this harness loose. The harness shall be worn tightly in order to be effective.".

Extracts from World Sailing Offshore Special Regulations 2018

Mu0	3.29.12	a class A AIS Transponder which either:
Mo0,1,2 Mu1,2	3.29.13	an AIS Transponder which either:
MoMu0,1,2	3.29.13 a)	shares the masthead VHF antenna via a low loss AIS antenna splitter; or
MoMu0,1,2	3.29.13 b)	has a dedicated AIS antenna not less than 38 cm (15") in length mounted with its base not less than 3 m (10') above the Waterline and co-axial feeder cable with not more than 40% power loss (Loss Estimator)

SECTION 4 - PORTABLE EQUIPMENT

A boat shall have:

	4.01	**Sail Letters & Numbers**
**	4.01.1	Identification on sails which complies with RRS 77 and RRS Appendix G
MoMu0,1,2,3	4.01.2	An alternative means of displaying identification as required under RRS Appendix G for a mainsail, to be displayed when none of the numbered sails are set
	4.02	**Search and Rescue Visibility**
MoMu0	4.02.1	A 4 m^2 (43 ft^2) area of highly-visible pink, orange or yellow on the coachroof and/or deck
Mo1,Mu1,2	4.02.1	A 1 m^2 (11 ft^2) solid area of highly-visible pink, orange or yellow capable of being displayed on the coachroof and/or deck.
Mu0,1,2,3,4	4.02.2	A 1 m^2 (11 ft^2) area of highly-visible pink, orange or yellow showing when the boat is inverted
	4.03	**Soft Wood Plugs**
**	4.03.1	A tapered soft wood plug stowed adjacent to every through-hull opening
	4.04	**Jackstays and Clipping Points**
MoMu0,1,2,3	4.04	Permanently Installed fittings for jackstay ends and clipping points
MoMu0,1,2,3	4.04.1	Jackstays which shall:
MoMu0,1,2,3	4.04.1 a)	be independent on each side of the deck
MoMu0,1,2,3	4.04.1 b)	enable a crewmember to move readily between the working areas on deck and the cockpit(s) with the minimum of clipping and unclipping operations
MoMu0,1,2,3	4.04.1 c)	have a breaking strength of 2040 kg (4500#) and be uncoated and non-sleeved stainless steel 1 x 19 wire of minimum diameter 5 mm (3/16"), webbing or HMPE rope
MoMu0,1,2,3	4.04.2	Clipping points which shall:
MoMu0,1,2,3	4.04.2 a)	be adjacent to stations such as the helm, sheet winches and masts, where crewmembers work
MoMu0,1,2,3	4.04.2 b)	enable a crewmember to clip on before coming on deck and unclip after going below
MoMu0,1,2,3	4.04.2 c)	enable two-thirds of the crew to be simultaneously clipped on without depending on jackstays
Mu0,1,2,3	4.04.2 d)	on a trimaran with a rudder on the outrigger, permit a crewmember to repair the steering mechanism whilst attached to a clipping point
	4.05	**Fire Fighting Equipment**
**	4.05.1	A fire blanket adjacent to every cooking device with an open flame
MoMu0	4.05.2	3 fire extinguishers, each with 2 kg of dry powder or equivalent, in different parts of the boat, one system of which is to deal with fire in a machinery space
MoMu1,2,3	4.05.2	2 fire extinguishers, each with 2 kg each of dry powder or equivalent, in different parts of the boat
MoMu4	4.05.2	2 fire extinguishers in different parts of the boat
	4.06	**Anchors**
MoMu0	4.06	Anchors, chain and rope which comply with relevant class rules or the rules of a recognised Classification Society (e.g. Lloyd's, DNV, etc.)
MoMu1,2,3	4.06	2 un-modified anchors that meet the anchor manufacturer's recommendation based on the boat's dimensions with suitable combination of chain and rope, ready for immediate assembly, and ready for deployment within 5 minutes except that for a boat less than 8.5 m (28') LH there shall be 1 anchor meeting the same criteria.

MoMu0	5.01.1 e)	have a PLB unit (as with other types of EPIRB, should be properly registered with the appropriate authority)
MoMu0,1,2,3	5.01.2	A boat shall carry at least one gas inflatable lifejacket spare cylinder and, if appropriate, spare activation head for each type of lifejacket on board.
MoMu0,1,2	5.01.3	A boat shall carry at least one spare lifejacket as required in OSR 5.01.1, except a PLB described in 5.01.1(e)
**	5.01.4	The person in charge shall personally check each lifejacket at least once annually.
	5.02	**Safety Harness and Tethers**
MoMu0,1,2,3	5.02.1	A harness that complies with ISO 12401 or equivalent
	5.02.2	A tether that shall:
MoMu0,1,2,3	5.02.2 a)	comply with ISO 12401 or equivalent
MoMu0,1,2,3	5.02.2 b)	not exceed 2 m (6'-6") including the length of the hooks
	5.02.2 c)	have self-closing hooks
MoMu0,1,2,3	5.02.2 d)	have overload indicator flag embedded in the stitching
MoMu0,1,2,3	5.02.1 e)	be manufactured after 2000
MoMu0,1,2,3	5.02.3	All of the crew shall have either:
MoMu0,1,2,3	a)	a tether not exceeding 1m(3'3") including the length of the hooks, or
MoMu0,1,2,3	b)	an intermediate self-closing hook on a 2 m (6'-6") tether
MoMu0	c)	a boat shall carry spare harnesses and tethers as required in OSR 5.02 above sufficient for at least 10% of the crewmembers (minimum one unit)
MoMu0,1,2,3	5.02.4	A tether which has been overloaded shall be replaced
	5.03	**Personal Location Lights**
MoMu0	5.03.1	Two packs of miniflares or two personal location lights (either SOLAS or strobe): one to be attached to, or carried on, the person when on deck at night
	5.04	**Foul Weather Suits**
MoMu0	5.04 a)	A foul weather suit with hood
	5.05	**Knife**
MoMu0	5.05.1	A knife, to be worn on the person at all times
	5.06	**Flashlight**
MoMu0	5.06.1	A buoyant watertight flashlight
	5.07	**Survival Equipment**
MoMu0	5.07.1	an immersion suit (attention is drawn to EN ISO 15027-1 constant wear suits, and EN ISO 15027-2 abandonment suits and the LSA Code Chapter II, 2,3);
	5.08	**Diving Equipment**
MoMu0	5.08.1	The boat shall have at least two diving suits each to cover the entire body and including gloves, fins and portable air supplies
		SECTION 6 - TRAINING
MoMu0	6.01.1	Every member of a crew including the Person in Charge shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics
MoMu0,1,2	6.01.2	At least 30% but not fewer than two members of a crew, including the Person in Charge shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics
MoMu3	6.01.3	When there are only two crewmembers, at least one shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics
MoMu0,1,2	6.01.4	Except as otherwise provided in the Notice of Race, an in-date certificate gained at a World Sailing / ISAF Approved Offshore Personal Survival Training course shall be accepted by a race organizing authority as evidence of compliance with Special Regulation 6.01. See Appendix G - Model Training Course, for further details.

Clipper Ventures' procedure for conducting a headsail change

Headsail Changes

The speed of a headsail change is not measured by the overall evolution time but by the time that the yacht does not have a trimmed headsail up, otherwise known as being bareheaded.
To minimise the time for which the yacht is bareheaded, a racing change is usually done.

Preparation

- The new sail should be brought up from below tack first and pulled up to the bow along the windward side of the boat.
- The new sail is tacked on to the appropriate deck strop and then hanked on to the bottom of the forestay by the bowman, who will be in the pulpit. Depending on which sail is already flying the lower two hanks may need to be undone on the existing sail.
- The headsail halyard is put on to the appropriate winch, the jammer released and the halyard flaked to ensure a smooth drop.
- The sail bag is taken down below and the foredeck crew should place themselves along the foot of the sail. The furthest forward crew member should be as close to the tack of the sail as possible as he or she will be vital in gathering in and controlling the major part of the sail.

Dropping the old sail

- On the bowman's signal the halyard is smoothly eased out so that the bowman can release the hanks of the old sail as they drop down to his or her level. The speed of the drop should be matched with the speed at which the bowman can undo the hanks.
- The foredeck crew gathering in the sail should tie it securely with pre-positioned sail ties as quickly as possible and then two of them stand by to sweat the halyard.
- When the old sail is safely under control, the cockpit crew ease the sheets in order that they may be changed from the old clew to the new and one member goes forward in order to change the leeward sheet car to its new setting. The windward car can be changed while the foredeck crew are preparing the hoist.
- The foredeck crew member at the clew of the sail should change the sheets from one sail to another as soon as possible. The working sheet should be changed first. The cockpit crew should closely observe this operation so as to give the right amount of slack whenever it is required.
- Once the old sail is completely un-hanked the bowman swaps the halyard from the head of the old sail to the head of the new sail.

Great care should be taken not to let go of the end, even when the halyard is connected to the new sail. As with the sheets, the snakepit crew should control the tension on the halyard to allow the bowman to work unimpeded.

Raising the new sail

- When the bowman, the mast men and the cockpit crew are ready the sail is hoisted smartly. The final tension is applied under the control of the bowman at the pulpit.
- During the hoist the cockpit crew should endeavour to ease enough sheet so that the hoisting party is not battling against a partially filled sail but at the same time trying not to let the sail flog excessively.
- Once the sail has been hoisted it is then trimmed immediately.

SIR ROBIN'S TOP TIPS ↘

Communication is the secret here. The bow team, snake pit and cockpit need to work in unison. Remember communication is not just verbal; keep your head up and watch what is happening in other parts of the boat so you can react to their needs.

Tidying up

- The old sail should be brought back on the windward side of the boat and neatly flaked with the luff forward. Be careful to pack it in the correct bag and have the tack end of the bag matched with the tack of the sail.
- The sail bag is taken down below and the foredeck crew should place themselves along the foot of the old sail. These crew should position themselves as near to the tack of the sail as possible as they need to control and gather the main bulk of the sail.

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RACING HEADSAIL CHANGE ↘

Preparation

- New sail to be brought on deck on the high side (windward) and tack immediately clipped on
- Sail is then hanked on underneath first hank of active sail
- At least four crew positioned on leeward side of foredeck (tethered to windward side) ready for the old sail to come down
- One crew member on bow ready to unhank as sail comes down
- One crew member on halyard to ease the sail down

Headsail change

- Pit crew to ease halyard down at the right speed for bowman to unhank
- Crew on foredeck to use 'pinching hands' on the top guard wire and flake the sail on top of their legs
- As soon as the clew hits the deck a crew member undoes the bowlines, ties the sheets together which are then pulled round inner forestay by crew member on the sheets in the cockpit

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RACING HEADSAIL CHANGE ↘

Headsail change (Continued)

- The same crew member that undid the bowlines checks the run of sheets and reties them to the new sail
- Check sheet car position
- As soon as bowlines are attached, the foredeck crew are in a safe position and the old sail has been secured, two crew members sweat the halyard
- Pit crew tails the halyard from primary winch, grinder used to tension up the last bit
- Once halyard tension is achieved crew member to sheet on as bowman calls trim

Tidy up

- Halyard transferred back to pit winch
- Cockpit crew to ensure clutch is open, safety turns on and halyard flaked
- Foredeck crew to flake old sail and send down below

Clipper Ventures' risk assessment for MOB

Risk Assessment

Overall Area (e.g. training, corporate or racing):
At All Times

Specific Activity (e.g. going aloft):
Falling Overboard

Current Assessment Date/Signed By:
13th February 2017 / [redacted]

Identified Hazards:

Hazard Number	Description
1	Incorrect use of PPE
2	Failure of boat equipment
3	Failure of PPE
4	Recovery of Overboard Casualty
5	Potential for crew to slip between guard wires
6	Tethered MOB
7	Crew falling in the marina when returning to the boat on their own in the evening

Existing Control Measures:

Hazard Number	Existing Control Measure
1	Lifejackets and lifelines should be used as per the Crew Training Manual and the SOPs. Detailed instructions at the start of every level of training as part of the Safety Brief. Sailing staff to check the fitting of all crews' lifejackets to ensure they are used correctly.
2	Jackstays, strong points and guard rails are to be maintained as per the Maintenance Schedule.
3	Lifejackets are to be maintained as per the Maintenance Schedule, with regular inflation and light tests as required.
3	Safety tethers are to be inspected as per the Maintenance Schedule, and replaced if any doubt arises.
3	Lifejackets are to be stowed correctly on board so as to minimise wear and tear when not being used.
4	MOB recovery drills, equipment and techniques for lifting a casualty out of the water, as per the Crew Training Manual.
5	Additional guard wires to be added to the fleet
6	Crews are trained on the recovery of a tethered MOB
7	Crew are not to return to the boat on their own
8	

Individual Hazard Assessment:

Hazard Number	Severity (i-iii)	Likelihood (i-iii)	Risk (i-v)
1	iii	i	iii
2	iii	i	iii
3	iii	i	iii
4	iii	i	iii
5	iii	i	iii
6	ii	ii	iii
7	iii	i	iii
8	ii	ii	iii

Additional Measures to Reduce Risk:

Hazard Number	Further Action (showing date measure was introduced)
1	Monitoring of techniques used on board by the Skippers and the Chief Instructor. (1st February 2006)
1 + 6	Crew are briefed to always consider where they may end up if they fall to the end of their safety tether. Crew to clip on as far to windward as possible, on the shortest length tether that is practical (13th November 2015) [Implemented Nov. 2013]
1	Crew are briefed to always check their tether clip is fully attached after clipping on by tugging hard on safety tether immediately after clipping on (13th November 2015) [Implemented April 2014]
1	All crew are encouraged to identify and highlight any concerns with their own, or other crewmembers' attitude to personal safety. This can include, but is not limited to, reminding fellow crewmembers when they are in contravention of safety policy. (13th February 2017) [Implemented May 2016]
1	Fatal incident on the 2015-16 race to be used as an example when briefing crew about use of safety tethers. (13th February 2017) [Implemented May 2016]
2	Regular checking of the safety and rig checklists by the Maintenance Manager. (1st February 2006)
2	Safety check is performed by Skipper and Mate at the start of each training course and by the Skipper/Nominated safety officer at the start of each leg. Safety forms to be signed off and handed in before departure (13th November 2015) [Implemented 2007]
2	Weekly checks to be performed and signed off in logbook by Skipper/Nominated safety officer whilst yacht is at sea as per requirements of the Race Logbook (13th November 2015) [Implemented July 2011]
3	Continuing emphasis by the Skippers to the crews of the importance of PPE. Regular checking of the maintenance by the Maintenance Manager. (1st February 2006).
3	Crew to perform a complete check of their own lifejackets at least once per week whilst at sea, and once per day to check gas cylinder is screwed in very tightly. Spare lifejacket to be used whilst allocated lifejacket is being checked for leaks (13th November 2015) [Implemented 1996]
3	Safety tether to be checked after attachment to strong-point/jackstay by tugging hard on line (13th November 2015) [Implemented April 2014]
3	MOB Equipment stowed on pushpits (specifically danbuoy and associated equipment) to be checked for correct stowage at least once per watch to ensure it does not become entangled when deployed in an emergency (13th November 2015) [Implemented April 2014]
3	Regular drills (once per race, and at least once per training course). These are the responsibility of the Skippers, with regular checks by the Senior Training Skipper. (20th February 2007)
4	Improved MOB recovery technique using large hook attached to halyard that can be attached to double lifting beckets on casualty's lifejacket to speed up recovery. Helicopter lifting strop still to hand for use in case rescue swimmer cannot locate lifting beckets easily (13th November 2015) [May 2015]
4	MOB drills completed by all teams at the start of each leg (13th February 2017) [Implemented 2011]
4	MOB procedure cards to be displayed throughout the yacht (below decks) (13th February 2017) [Implemented July 2015]

Risk Assessment Reference Table:

Severity of Harm/ Likelihood	i) Slightly Harmful	ii) Harmful	iii) Extremely Harmful
i) Highly Unlikely	Trivial Risk	Tolerable Risk	Moderate Risk
ii) Unlikely	Tolerable Risk	Moderate Risk	Substantial Risk
iii) Likely	Moderate Risk	Substantial Risk	Intolerable Risk

Likelihood Definitions:

I	Slightly Harmful:	Superficial injuries; minor cuts and bruises; eye irritation from dust; nuisance and irritation; ill-health leading to temporary discomfort
ii	Harmful:	Lacerations; burns; concussion; serious sprains; minor fractures; musculoskeletal disorders; temporary deafness; dermatitis; asthma; work related upper limb disorders; ill-health leading to permanent minor disability
iii	Extremely Harmful:	Amputations; major fractures; poisoning; multiple injuries; fatal injuries; occupational cancer; other severely life shortening diseases; acute fatal diseases

Risk Definitions:

I	Trivial Risk:	No action required, no documentary records need be kept.
ii	Tolerable Risk:	No additional controls required. Monitoring required to ensure standards are maintained.
iii	Moderate Risk:	Efforts should be made to reduce the risk, but the costs of prevention should be carefully measured and implemented. These measures should be implemented within a defined time period.
iv	Substantial Risk:	Work should not be started until the risk has been reduced. Considerable resources may have to be allocated to reduce the risk. Where the risk involves work in progress, urgent action should be taken.
V	Intolerable Risk:	Work should not be *started* or *continued* until the risk has been reduced. If it is not possible to reduce the risk even with unlimited resources, work has to remain prohibited.

Previous Assessment Date/Signed by:
13th November 2015 / [redacted]
10th September 2014/ [redacted]
12th September 2013/ [redacted]
11th September 2012/ [redacted]
8th September 2011/ [redacted]
2nd February 2010 / [redacted]
15th February 2009 / [redacted]
19th February 2008 / [redacted]
20th February 2007 / [redacted]
1st February 2006 / [redacted]
5th February 2005 / [redacted]

MAIB Safety Bulletin 1/2018 - Use of safety harness tethers on sailing yachts

MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

SAFETY BULLETIN

SB1/2018 January 2018

Extracts from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012

Regulation 5:
"The sole objective of a safety investigation into an accident under these Regulations shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of such an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame."

Regulation 16(1):
"The Chief Inspector may at any time make recommendations as to how future accidents may be prevented."

Press Enquiries:
01932 440015

Out of hours:
020 7944 4292

Public Enquiries:
0300 330 3000

NOTE

This bulletin is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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For all enquiries:
Email: maib@dft.gsi.gov.uk
Tel: 023 8039 5500
Fax: 023 8023 2459

Use of safety harness tethers on sailing yachts

Fatal accident on board the sailing yacht

CV30

in the Indian Ocean

on 18 November 2017

MAIB SAFETY BULLETIN 1/2018

This document, containing safety lessons, has been produced for marine safety purposes only, on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 provide for the Chief Inspector of Marine Accidents to make recommendations or to issue safety lessons at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so.

The Marine Accident Investigation Branch is carrying out an investigation into the fatal man overboard accident on board the commercial sailing yacht CV30, which was taking part in the Clipper Round the World Yacht Race.

The safety issue raised in this safety bulletin highlights just one of potentially several factors that contributed to this tragic accident.

The MAIB will publish a full report, including all identified contributing factors, on completion of the investigation.

Steve Clinch
Chief Inspector of Marine Accidents

NOTE

This bulletin is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall not be admissible in any judicial proceedings whose purpose, or one of whose purposes, is to apportion liability or blame.

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Press Enquiries: 01932 440015; Out of hours: 020 7944 4292

Public Enquiries: 0300 330 3000

BACKGROUND

The sailing yacht *CV30* was taking part in the third leg of the Clipper Round the World Yacht Race having left Cape Town on 31 October 2017 bound for Fremantle, Western Australia.

At about 1414 local time on 18 November 2017, the yacht was in position 42°30.3'S, 087°36.3'E, approximately 1500nm from Fremantle, when a crew member, Simon Speirs, fell overboard. He was attached to the yacht by his safety harness tether. The hook at the end of the tether that was clipped to a jack-line, deformed and released resulting in him becoming separated from the yacht. Simon Speirs was recovered unconscious onto the yacht but sadly could not be resuscitated.

INITIAL FINDINGS

Simon Speirs was using a three-point webbing tether attached to the integral harness of his lifejacket that allowed him to clip on to the yacht with a short or long tether.

A safety issue identified during the investigation was that the hook on the end of Mr Speirs' tether had become caught under a deck cleat (see **Figure 1**), resulting in a lateral loading that was sufficient to cause the hook to distort (see **Figure 2**) and eventually release.

The harness tether was certified under ISO12401 (Small craft – Deck safety harness and safety line – Safety requirements and test methods), which is the international standard applicable to this equipment. The standard contains detailed testing requirements that assume the tether and its hooks will be loaded longitudinally rather than laterally.

The tether hook was of a conventional design and quality of build, and was commonly used by manufacturers of safety harnesses and tethers that were certified under ISO12401.

When loaded longitudinally, the tether can withstand a load of over 1 tonne. However, when loaded laterally a tether hook will deform at much less load. It is important that tether hooks remain clear of obstructions and are free to rotate to align the load longitudinally.

SAFETY LESSON

To prevent the strength of a safety harness tether becoming compromised in-service due to lateral loading on the tether hook, the method used to anchor the end of the tether to the vessel should be arranged to ensure that the tether hook cannot become entangled with deck fittings or other equipment.

Issued January 2018

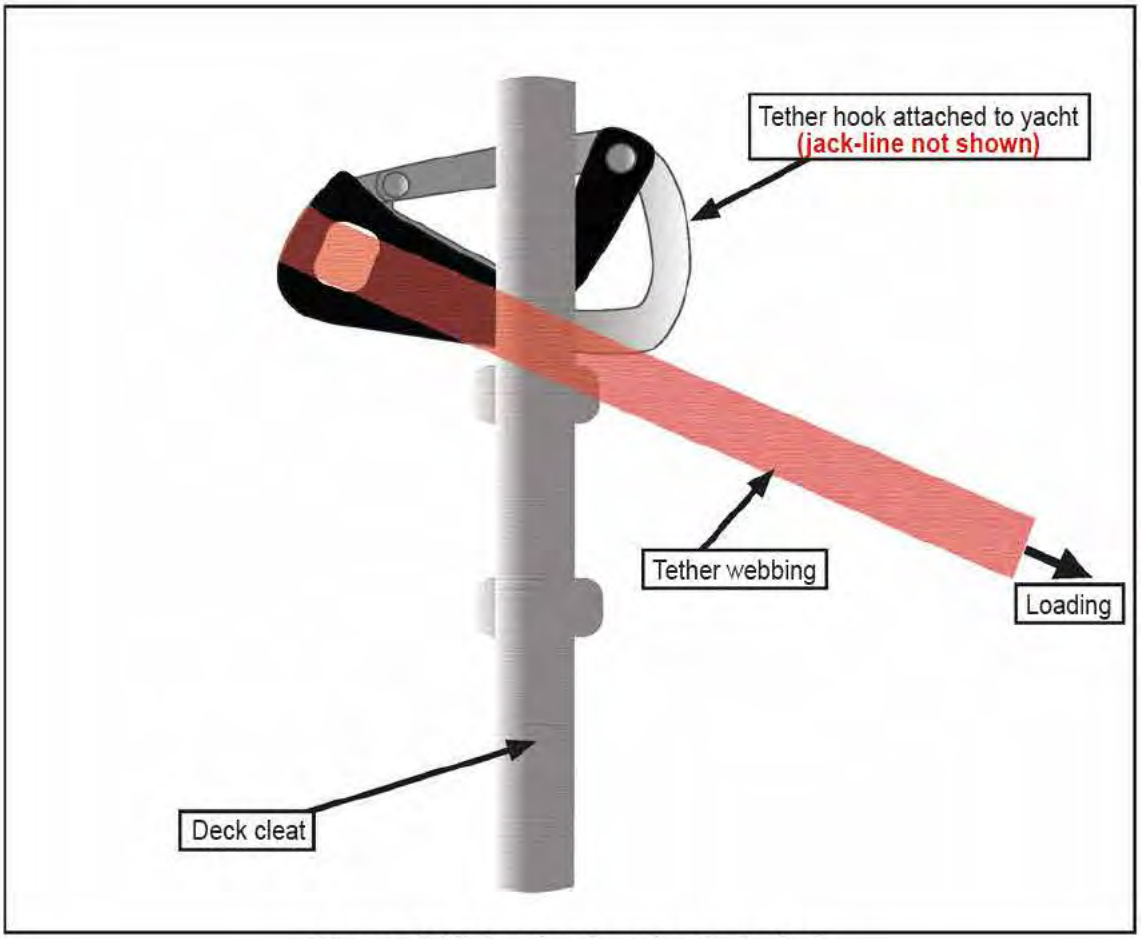

Figure 1: Tether hook under deck cleat

Figure 2: Example of a tether hook and a tether hook after lateral loading