

**The UKHO ITT for the Provision of Translation Services for the UKHO**

**Provision of Translation Services Questionnaire**

Please complete all questions and, where requested, provide additional documentation. Please ensure additional documentation file names and titles refer to the tender question number and brief content description

The Format of this Spreadsheet must not be altered. Individual cells may be increased in size to accommodate your answer but please do not add or delete columns or rows.

Question Number	Organisation Id	Tenderer Response	Evaluation Criteria
1	Name of the company in whose name the PQQ was submitted.	Language Empire Group (Translation Empire). We confirm our adherence to the UKHO's terms and conditions.	Information

	Specification Question	Tenderer Response	Score	Weighting	Weighted Score	Evaluation Criteria	SOR or ITT Reference
2	Please confirm which additional languages your company translate into English from, and out of English	In addition to the below we also regularly translate into and out of the following languages: Amharic, Bengali, Catalan, Dari, Galician, Gujarati, Kurdish, Pashto, Somali, Tamil, Tigrinya, Urdu, Yoruba, Orumo, Albanian, Czech, Slovakian, Maltese, Flemish, Hungarian, Afrikaans, Assamese, Armenian, Ashanti, Azeri, Baluchi, Bihari, Eritrean, Fanti, Gaelic, Hausa, Igbo, Orumo, Hindi, Punjabi, Lingala, Loathian, Lughandan, Kazakh, Kirundi, Macedonian, Malagasy, Malayalam, Marthi, Mongolian, Nepalese, Shona, Sinhalese, Swahili, Tajik, Tibetan, Turkmen, Twi, Uzbek, Yiddish, Xhosa and Zulu. For all other languages, please see attached our list of languages on offer. Our final firm price for these languages is per 1000 words for the unlisted language into English and per 1000 words for English into the unlisted language. If the language is similar to another language (e.g. Catalan>Spanish, Flemish>Dutch or Galician>Portuguese), then these will be the same rate as the similar language.		N/A		Information	
3	Please provide details which demonstrate that your proposals meet the Authority's requirements. Please also state what other additional benefits and potential savings, in terms of products or services, your company is including within its ITT response and is offering to the Authority, and which are relevant to the requirement. Please state the	<p>We confirm we have an experience of translating highly technical material (e.g. mental health and medical documents, highly complex legal documents, pharmaceutical materials etc), vet all of our translators in terms of their qualifications, experience, and overall ability, and that this can be done in over 270 languages.</p> <p>In terms of translation memory software, we use dedicated glossaries for each client and for each language. These are archived using TRADOS, and we are able to receive and export them for our clients' benefit. We also use Wordfast Anywhere as this has proved to be a flexible and useful tool for our translators in rarer languages who do not have translation memory software.</p> <p>As is described in greater detail in question 8, we perform a rigorous six stage quality assurance involving mother tongue speakers of both the source language and target language to ensure that the precise sense of the text is transferred from English into the foreign language (and vice versa). Between their expertise, machine back-translations, and the UKHO terminology database, nothing slips through the cracks. All of our translators are required to return a certificate of accuracy with their translation, stating the number of years of experience they have as well as their qualification and any comments they might have on the translation process.</p> <p>We confirm we are able to handle everything the UKHO would have us translate, in terms of document type, range and volume. Every email is promptly acknowledged and answered and we have a proven record of beating deadlines, often by days.</p> <p>We handle on average around 1 million words per year and have the capacity to take on five times that. We have a database of over 5000 native translators in 270 languages, each with his/her own specialism.</p> <p>We confirm that we are able to receive work via a secure FTP portal and email. This shall be monitored daily by our IT team and we do not foresee changing servers in the next five years. Moreover, due to the potential sensitivity of documents received, we handle all of our own security certificates for the highest level of security.</p> <p>All general issues, including the receipt of source text documents and the issuing of translations will be handled by , who constantly monitors a dedicated email address and can be reached from 08.00-18.00 (and often later) by telephone.</p> <p>We confirm that all IT issues raised will be addressed immediately. This will be done by our IT team, who can be contacted around the clock via email or telephone.</p> <p>We are willing to provide training to UKHO staff members on translation processes and to provide an insight into translation services. Where the authority employs multilingual staff members, we can provide training on translation and development needs as required by each individual person.</p> <p>In terms of any other additional potential savings, we will inform the UKHO during the contract of any means that we believe may create savings for the UKHO. For example, Greater Manchester Probation Trust required letters to be translated on a daily basis in various different languages from different staff. Our Translation Project Manager noticed that most of the letters were the same and related to various different probation orders within the criminal justice system. We informed the Procurement Officer at</p>		5		Specification Compliance	1.1, 1.3, 1.4, 1.4.1, 1.4.2.1 to 1.4.2.12, 3.9
4	How quickly, in terms of hours or days, can your company source a translator for a new language not already covered in the Authority's Statement of Requirements at Annex A? How quickly can you	We pride ourselves on quickly being able to source rare language translators. This through our corporate memberships of such organisations as the Northwest Translators' Network, the Institute of Translators and Interpreters, the Institute of Linguists and proz.com. As stated in question number 2, our pricing for rare languages is fixed, and in all cases we confirm within the working day the delivery lead times for the project. There are no issues or factors (apart from acts of God etc) which could delay a response.		N/A		Information	
5	Please confirm if you use "mother of tongue" translators within your organisation and if so, how	We confirm that we <u>only</u> use mother tongue translators for each job. We have <u>at least</u> three mother tongue translators on call for every language. All of our translators are based in the UK. Whilst this might mean that our prices are slightly higher, in our experience the work of translators based abroad has proved to be of a lesser quality than we can accept.		N/A		Information	
6	How many of your translators have navigational and/or maritime knowledge and experience and can understand maritime	<p>We cannot confirm our company has translated hydrographic and/or maritime related documents and data, or graphics. However, we have a vast experience of designing and translating documents and are well-versed in all Adobe projects. For the UKHO contract we will only source mother tongue translators with maritime/hydrographic/navigational experience. We have been provided the UKHO terminology data base and will adhere to this. We will prepare training courses with this terminology in mind and will hold monthly appraisals on translations. New translators will also be vetted and their translations will be scrutinised by knowledgeable translators to assure that it supersedes the UKHO's standards.</p> <p>To this extent we pledge to provide and deliver training and development of translators in conjunction with UKHO as a partner to ensure that all translators are provided with regular training, briefs and updates about the UKHO materials to be translated, especially for large projects and projects which have a major change in context of policies</p>		15		Specification Compliance	1.3, 1.4.1 & 1.4.2.9

7	Please confirm that your company will provide at least one dedicated translator for each	We confirm that for <u>every</u> job sent to us, we shall provide one native language translator. Additionally, every job we work on will be subject to our rigorous QA procedure, where the translation is checked against machine translation to make sure all important points are present in the target text. The document is also checked by the translation project manager to make sure that all dates, figures, co-ordinates etc are all correct. We will approve a minimum of three dedicated native language translators for each language. Per the requirements of this contract, our translators will be used to provide regular ongoing and continuous translations for the UKHO. As a company policy, we will work closely with our translators and the UKHO to ensure that our translators are fully briefed and provided with ongoing training and development throughout the duration of the		N/A		Information	
8	How many quality assurance checks do your staff carry out on each piece of customer's work, to ensure 100% accuracy is met, and before being sent back to the UKHO. Please provide full details of the processes carried out at each stage/check and who by. Please specify which members of staff are involved, their post titles, and what checks they carry out specifically. State	Making sure that each project is delivered with the highest quality translation service is Language Empire's highest priority and, therefore, we believe excellent project management lies at the heart of a high quality translation service. Each project is assigned to a Translation Project Manager who will liaise with you at the start to identify you special requirements and then s/he will develop a process to deliver your exact needs to your deadlines. A project manager will co-ordinate with you throughout the process and keep you informed at every stage.  The following is our six stage quality-check process which enables us to produce 100% accurate translations: 1. Understanding your project - documents are analysed, a quote is produced taking into account the legibility, language difficulty, graphics, coding DTP and deadline, etc. 2. Project Manager assigned - a dedicated project manager is assigned to your project and will select the most appropriate linguist with all the relevant experience and qualifications to carry out the assignment. 3. Translation Project Manager - will source certified, mother tongue translators ensuring all your special requests are documented. 4. Proofreading - translated document will be given to a proof reader with specialist knowledge to review the translation, format, style, readability, consistency and, additionally, cultural competency will be checked in this process. 5. Formatting - our team of in-house typesetters and Desk Top Publishers will ensure that documents, in different formats and files, are delivered in highest possible quality. 6. Proofing - formatted document will be given to specialist linguist team to ensure that the design and style of translated and formatted document is complete, consistent and in exactly same layout as the original document.  We use the LE-Language Service Manager system, a bespoke translation project system which allows us to manage every project from start to finish ensuring every process is completed efficiently. Furthermore, the application has an 'Online Web Portal' extension allowing our clients to request services online. When proofreading, all areas of spelling, grammar and appropriateness of register are taken into account.  Once the translation is complete, it is then signed off by the translation project manager. When signing off, the Translation Project Manager is stating that the translation is valid to ISO quality assurance standard 9001 and the BS EN-15038 European Standard. For the client's peace of mind, we can also provide certification (either by stamp or certificate) of the translation. Any hard copies are sent post haste and are registered.		15		Quality Procedures	1.4., 1.4.1, 1.4.2.4 & 1.4.2.6
9	Please provide hard or soft copies of your standard request for quotation form and also your standard invoice which you would be submitting under this Contract. Please state what level of	As can be observed in the attached quotation form, all of the information requested is included and presented in an easy-to-read, itemised list. We give the name of the person requesting the quotation, their organisation, a reference number where applicable, purchase order details, source and target languages, a description of the document to be translated, the number of words in the document and appropriate charge per word. Additionally we itemise all of our different proofreading/revision tasks, as well as our certification process. Allowances for DTP and design are also included, again where applicable. Although not explicitly mentioned in our form, any translation memory software discount would be included in the 'discount' field. When quoting we would compare translation memory matches to the agreed rates and would mark this in the appropriate field.		N/A		Information	
10	With your FTP website, how often do you perform maintenance on	Maintenance is performed at weekends, or immediately in the case of an emergency. We will not be likely to change our FTP portal within the contract period, but should this be necessary we would advise the UKHO well in advance.		5		Technical Operational Support	1.4.1 & 1.4.2.4
11	Please confirm which languages your memory software can be used for? Are	Our memory software can be used with all written languages. Apart from TRADOS we also use Wordfast Anywhere, which allows us to export dictionaries to any translator, where they can complete the translation on a secure website. Consequently, none of our translators would be in a position where they would not be able to access translation memory software.		5		Specification Compliance	1.4.1, 1.4.2.3 & 1.4.2.7
12	Translation timed trial - Please confirm that you have returned all	<b>*Confirmed</b>		25		Timed Translation trial results	
13	Tender Price (MEAT price)	See Pricing Schedule table below		30		Price	
<b>TOTAL</b>				<b>0</b>	<b>100</b>	<b>0</b>	

The Contractor shall provide firm prices per 1000 words (each translation will be based on these prices on a pro rata system), per country, irrespective of delivery timescale for each order.

Language	Firm Price per 1,000 words (into English) - target words - regardless of turn round time requested	Firm Price per 1,000 words (from English) - target words - regardless of turn round time requested
Chinese Cantonese		
Chinese Mandarin		
Korean		
French		
Russian		
Spanish		
Indonesian		
Norwegian		
Croatian		
Brazilian Portuguese		
Japanese		
Greek		
German		
Portuguese (European)		
Italian		
Romanian		
Dutch		
Taiwanese		
Serbian		
Arabic		
Polish		
Thai		
Burmese		
Lithuanian		
Vietnamese		
Serbian Latin		
Persian		
Cambodian		
Swedish		
Malay		
Estonian		

Georgian		
Welsh		
Turkish		
Danish		
Latvian		
Bulgarian		
Finnish		
Icelandic		
Ukrainian		
Slovene		
Hebrew		
Tagalog		

Translation Memory Software		
Match Types	% Discount - Tenderer to confirm what discount applies	
Repetitive	The same text is contained	
100% match	Text translated previously and contained	
90% - 99%	Text translated previously and contained partly	
80% - 89%	A similar text was translated using the memory tools	
60% - 79%	A similar text was translated using the memory tools	
1% to 59%	A similar text was translated using the memory tools	

	Examples:	Pricing
A	100 word document (Spanish into English) with 75 words translated by memory	
B	1,000 word document (Russian into English) with 850 words translated using memory	
C	2,000 word document (Japanese into English) with 1,000 words	

Note: Tenderers shall clearly state by way of priced examples above how the % discount will be applied and how much discount in terms of value will be taken off total price



“Impressed by the professional attitude of the company and also with the response to the tight deadline given.”  
- Ceva Logistics

www.Translator.com/uk

**1. Choose Your Languages**

Translate From

Choose a Language

info

- Arabic
- Chinese
- English
- French
- German
- Italian
- Japanese
- Portuguese
- Russian
- Spanish
- Swedish
- Tamil
- Thai
- Ukrainian
- Vietnamese

(CTRL + Click to select multiple)

Get your first translation free of 3 any files.

**0845 130 1170**

**2. Upload Source Files**

Upload Your Files

Choose a File

Choose a File

Choose a File

OR Word Count

Words

Enquiry Type

Admin  Company

**3. Let us Know**

Your Name

\_\_\_\_\_

Your Company Name

\_\_\_\_\_

Your Email Address

\_\_\_\_\_

Your Phone Number

\_\_\_\_\_

**Get Your Quote!**

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E-Procurement  
E-Procurement



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**ANNEX A - Tenderer's Commercial Sensitive Information Form**

ITT Ref No: HA294/005/167
Description of Contractor Sensitive Information: n/a
Reference(s) of where can be found in ITT response: n/a
Explanation of Sensitivity: n/a
Details of potential harm resulting from disclosure: n/a
Period of Confidence (if applicable): n/a
Contact Details for Transparency/Freedom of Information matters: Name Position: Address: Deelish House, 174 Milkstone Road, Rochdale Lancs OL11 1NA Telephone Number: E-mail Address:





**ANNEX A - Tenderer's Commercial Sensitive Information Form**

ITT Ref No: HA294/005/167
Description of Contractor Sensitive Information: n/a
Reference(s) of where can be found in ITT response: n/a
Explanation of Sensitivity: n/a
Details of potential harm resulting from disclosure: n/a
Period of Confidence (if applicable): n/a
Contact Details for Transparency/Freedom of Information matters: Name: Position: Translation Project Manager Address: Deeplish House, 174 Milkstone Road, Rochdale Lancs OL11 1NA Telephone Number: E-mail Address:





## 15. Languages Offered

Aceh	Braille	Dyerma
Afrikaans	Braj Bhasha	Edo
Akaan	Bravanese	Efik
Albanian	Breton	Egyptian
Algerian	BSL	English
Amharic	Bugis	Estonian
Ancient Greek	Bulgarian	Ethiopian/Eritrea
Angelo	Bulinao	Ewe
Arabic	Bundeli	Ewondo
Armenian	Burmese	Faeroese
Ashanti	Burundese	Fanti
Assyrian	Buyi	Farsi
Austrian	Cajun	Feli
Austrian	Cambodian	Fijian
Aymara	Caribbean	Filipino
Azande	Catalan	Finnish
Azerbaijan	Cebuano	Flemish
Azeri	Chadian	French
Azorean	Chaldean	Fujianese
Bajuni	Chaochow	Fula
Balinese	Chattisgarhi	Fulacunda
Baluchi	Chechen	Fulani
Bambara	Chewa	Fulfulde
Banaderi	Cheyenne	Fuuta Jalon
Banda	Chichewa	Ga
Bangala	Chiga	Gaelic
Bangaru	Chinese	Gaelic
Banjar	Chinese (Cantonese)	Galeo
Bantu	Chinese (Hakka)	Galician
Baravani	Chinese (Mandarin)	Gan
Basque	Chouzhou	Ganda
Batak	Chuvash	Garhwali
Baule	Creole	Georgian
Belorussian	Croatian	German
Bemba	Czech	Ghana
Bengali (Sylheti)	Danish	Gikuyu
Bengali (Dhaka)	Dari	Gogo
Berber	Dimli	Gondi
Bhili	Dinka	Greek
Bicolano	Dioula	Guarani
Birdu	Dogri-Kangri	Gujarati
Bisayan	Dong	Gusil
Blin	Dromo	Hadiyya
Bosnian	Duala	Hakka
Brahui	Dutch	Hammari



Hausa  
Hawaiian  
Hazaragi  
Hebrew  
Henani  
Hiligaynon  
Hindi  
Hindko  
Hmong  
Hunanese  
Hungarian  
Ibibio  
Ibo  
Icelandic  
Ifugao  
Igbo  
Ilocano  
Ilongo  
Indonesian  
Innu  
Irish Gaelic  
Isan  
Italian  
Jamaican  
Jamaican Patois  
Japanese  
Javanese  
Jordanian  
Jula  
Kabyle  
Kachi  
Kalenjin  
Kamba  
Kambata  
Kanauji  
Kannada  
Kanuri  
Kashmiri  
Kazakh  
Khmer  
Kibajuni  
Kikongo  
Kikuyu  
Kinya-Rwanda  
Kirghiz  
Kirundi  
Kirusidi

Kisii  
Kituba  
Konia  
Konkani  
Korean  
Kosovan  
Krew  
Krio  
Kumauni  
Kurdish Badini  
Kurdish Feli  
Kurdish Kamangi  
Kurdish Sorani  
Kurux  
Kutchi  
Kyrgyz  
Labanese  
Lamani  
Lampung  
Lanna  
Laotian  
Latin  
Latvian  
Letzebuergesch  
Ligurian  
Lingala  
Lipreading  
Lithuanian  
Lombard  
Lomwe  
Luba-Kasai  
Luba-Shaba  
Lughandan  
Lughandan  
Luhya  
Luo  
Luri  
Lusoga  
Luxembourgeois  
Luyia  
Macedonian  
Madingo  
Madurese  
Magahi  
Mahadiri  
Maimai  
Maithili

Makassar  
Makhuwa  
Makonde  
Makua  
Malagasy  
Malay  
Malayalam  
Maltese  
Mandarika Wollof  
Mandinka  
Maninka  
Marathi  
Marshallese  
Marwari  
Masai  
Mauritian  
Mazandarani  
Mbundu  
Memoni  
Meru  
Mien  
Minangkabau  
Minbei  
Minnan  
Mirpuri  
Mixteco  
Moldovian  
Mongolian  
Moore  
Munukutuba  
Nahua  
Ndebele  
Nepalese  
Nigerian  
Nipongo  
Norwegian  
Nung  
Nupe  
Occitan  
Oriya  
Oromo  
Pahari  
  
Pampango  
Pangasinan  
Pashto  
Pathwari

Bringing Worlds Together Through Language



Patois  
Philippino  
Pidgin  
Piemontese  
Pilipino  
Polish  
Portuguese  
Pothohari  
Pular  
Punjabi  
Punjabi (Indian)  
Pwo  
Quechua  
Rahwaan  
Rejang  
Romanian  
Romanian (Gypsy)  
Romany  
Rundi  
Runyono  
Russian  
Rwanda  
SairaiKy  
Sambaleno  
Samoan  
Sandong  
Santali  
Sardinian  
Sasek  
Sena  
Serb-Croat  
Serbian  
Sgaw  
Shahanese  
Shanshi  
Shanti  
Shantung  
Sharchagpakha  
Shona

Sicilian  
Sidamic  
Sidamo  
Sindebele  
Sindhi  
Singhala  
Sinhalese  
Siraiki  
Siswati  
Slovakian  
Slovenian  
Soga  
Somali  
Sotho  
Spanish  
Sunda  
Susu  
Swahili  
Swati  
Swazi  
Swedish  
Syrian  
Szechuanese  
Tachelhit  
Tadzhik  
tagalog  
Taiwanese  
Tajik  
Tajiki  
Tamazight  
Tamil  
Tarifit  
Tatar  
Telugu  
Temne  
Teso  
Thai  
Tibetian  
Tigre

Tigrinya  
Tiv  
Toishan  
Tongan  
Tosk  
Toucouleur  
Tshiluba  
Tsonga  
Tswana  
Tulu  
Tunisian  
Turkish  
Turkman  
Twi  
Ugandan  
Uighur  
Ukranian  
Urdu  
Usbekistan  
Venetian  
Vietnamese  
Visayan  
Waray  
Welsh  
Wolof  
Wu  
Wuxi  
Xhosa  
Xiang  
Yao  
Yemeni  
Yi  
Yiddish  
Yoruba  
Yue  
Yugoslavian  
Zande  
Zhuang  
Zulu

*Bringing Worlds Together Through Language*

If you require a language that is not listed above, please contact us  
We are continually expanding our list of languages.





# Translation Client Agreement

In accordance with BS EN-15038 European Quality Standard

Information	Response				
Client					
Date					
Client reference					
Description of document					
Purchase order ref number					
Source language (from)					
Target language (to)					
Turnaround time and dates (standard translation)					
Estimate number of words					
Charge per word					
Estimate cost					
Cost of Reviser (Please tick if needed)	<table border="1"> <tr> <td>Yes</td> <td><input type="checkbox"/></td> <td>No</td> <td><input type="checkbox"/></td> </tr> </table>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Cost of Reviewer (Please tick if needed)	<table border="1"> <tr> <td>Yes</td> <td><input type="checkbox"/></td> <td>No</td> <td><input type="checkbox"/></td> </tr> </table>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Proof Reading (Please tick if needed)	<table border="1"> <tr> <td>Yes</td> <td><input type="checkbox"/></td> <td>No</td> <td><input type="checkbox"/></td> </tr> </table>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Please specify any style requirements if required (Quote will be revised if needed)					
Admin charge					
Certification Of Accuracy (Cert)	<table border="1"> <tr> <td>Yes</td> <td><input type="checkbox"/></td> <td>No</td> <td><input type="checkbox"/></td> </tr> </table>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
Certification Of Accuracy (Stamp)					
Affirmation Charge	-				
Posting	-				
DTP/Typesetting Charge					
Design Charge	-				
Other Charge	-				
Cancellation charges	-				
Rush Charges (%)	-				
Discount					
Total exclusive of VAT					
VAT					
Total inclusive of VAT					

Please note that the standard translation is also proofread by the same translator.

## Terms and Conditions for Translation Contracts

### Scope of translation

- Unless specified by the client, the standard service will be provided. Translation to BS EN 15038 standard will be provided on request-revised, reviewed and proofread.





- Revise: Translation will be examined by an independent reviser for its suitability for purpose, comparison of the source and target texts for terminology consistency, register and style.
- Review: A monolingual review to assess the suitability of the translation for the agreed purpose
- Charges for changes to the source document will be advised to the client before translation. Records of any changes will be kept.
- Ambiguities identified in the source text will be clarified before, or during, translation.

### Copyright

- The original text belongs to the client.
- Translated documents belong to the client and the client gives TE permission to use the document during the project.

### Liabilities

- Translation Empire accept no liabilities for:
  - Errors in the source document but does accept liability for errors in the translated document.
  - Failures in electrical power supply, office equipment, computer hardware and internet connection caused by a utility company.
- Translation Empire accepts responsibility for translating non-technical documents up to words in common languages can be returned within 48 hours for standard translations and around 5 working days with review, revise and proof reading.

### Confidentiality

- Translation Empire has a confidentiality agreement with its translators, revisers, reviewers and proof readers.
- Translation Empire will not use the original document or the translated document for any other purposes and will keep them electronically for reference for a minimum of three years.

### Settlement of disputes

- If there is a dispute regarding the content of the translated document then the first call is to the Translation Project Manager who will try to resolve the problem and if not will follow Complaints Procedure.

### Quality Assurance

- Translation Empire is a trading name of Language Empire to provide translation services. Language Empire has ISO 9001 certification with ISOQAR certificate number 5103 and scope includes translation.

Print name and position: ..... Date: .....

Signed by client: .....

Please sign and date the document and send a scanned copy back to [admin@translation-empire.com](mailto:admin@translation-empire.com) or fax it to **0845 009 7859**. Should you require a quote with review, revise and proof reading by an independent translator or have any query regarding this quote please contact Translation Project Manager on **0845 009 7858**

Bringing Worlds Together Through Language

Translation Project Manager for Translation Empire Ltd, part of the Language Empire Group, that on behalf of my company I accept the attached the UKHO's terms and conditions of their translation contract for which the company are tendering.

Signed:

Date:



Translation Empire LTD  
Head Office, Deepish House  
174 Millstone Road, Rochdale  
Lancashire OL11 1NA

## CONDITIONS OF CONTRACT

### 1. GENERAL CONDITIONS OF CONTRACT

- a. DEFCON 76 (Edn 12/06) - Contractor's Personnel at Government Establishments
- b. DEFCON 113 (Edn 10/04) - Diversion Orders
- c. DEFCON 129 (Edn 07/08) - Packaging (for Articles other than Ammunitions and Explosives)  
(See Notes below)
- d. DEFCON 501 (Edn 04/04) - Definitions and Interpretations.
- e. DEFCON 502 (Edn 06/08) - Specifications.
- f. DEFCON 503 (Edn 07/05) - Amendments to Contract.
- g. DEFCON 507 (Edn 10/98) - Delivery.
- h. DEFCON 509 (Edn 09/97) - Recovery of Sums Due.
- i. DEFCON 513 (Edn 06/10) - Value Added Tax.
- j. DEFCON 515 (Edn 10/04) - Bankruptcy and Insolvency.
- k. DEFCON 516 (Edn 04/12) - Equality.
- l. DEFCON 518 (Edn 09/97) - Transfer.
- m. DEFCON 520 (Edn 07/11) - Corrupt Gifts and Payments of Commission.
- n. DEFCON 521 (Edn 04/12) - Sub-contracting to Supported Businesses.
- o. DEFCON 522 (Edn 07/99) - Payment.(See Notes below including DEFCON 693)
- p. DEFCON 523 (Edn 03/99) - Payment of Bills using the Bankers Automated Clearing System (BACS). (See Notes below including DEFCON 693)
- q. DEFCON 524 (Edn 10/98) - Rejection.
- r. DEFCON 525 (Edn 10/98) - Acceptance.
- s. DEFCON 526 (Edn 08/02) - Notices.
- t. DEFCON 527 (Edn 09/97) - Waiver.
- u. DEFCON 528 (Edn 05/12) - Overseas Expenditure and Import Licences.
- v. DEFCON 529 (Edn 09/97) - Law (English) (See Notes below)
- w. DEFCON 529A (Edn 09/97) - Law (Scots) (See Notes below).
- x. DEFCON 530 (Edn 07/04) - Dispute Resolution (English Law) (See Notes below).
- y. DEFCON 530A (Edn 07/04) - Dispute Resolution (Scots Law) (See Notes below).
- z. DEFCON 531 (Edn 05/05) - Disclosure of Information.
- aa. DEFCON 534 (Edn 06/97) - Prompt Payment (Sub-contracts).
- bb. DEFCON 537 (Edn 06/02) - Rights of Third Parties.
- cc. DEFCON 538 (Edn 06/02) - Severability.
- dd. DEFCON 566 (Edn 02/11) - Change of Control of Contractor
- ee. DEFCON 601 (Edn 10/04) - Redundant Material. (See Notes below)
- ff. DEFCON 602B (Edn 12/06) - Quality Assurance (without Quality Plan).
- gg. DEFCON 604 (Edn 11/04) - Progress Reports
- hh. DEFCON 606 (Edn 10/97) - Change and Configuration Control Procedure.
- ii. DEFCON 608 (Edn 10/98) - Access and Facilities to be Provided by the Contractor.
- jj. DEFCON 609 (Edn 10/98) - Contractor's Records.
- kk. DEFCON 610A (Edn 12/02) - Enabling Contract – Duration Period (Tasking Contract).

- ll. DEFCON 611 (Edn 07/10) - Issued Property. (See Notes below)
- mm. DEFCON 612 (Edn 10/98) - Loss or Damage to Articles.
- nn. DEFCON 614 (Edn 09/03) - Default.
- oo. DEFCON 615A (Edn 03/04) - Orders for Articles/Services under Enabling Contracts
- pp. DEFCON 616 (Edn 10/98) - Competition/Alternative Sourcing.
- qq. DEFCON 617 (Edn 12/02) - Enabling Contracts – Estimated Quantities.
- rr. DEFCON 618 (Edn 12/02) - Enabling Contracts – Standing Offer
- ss. DEFCON 619A (Edn 09/97) - Customs Duty Drawback.
- tt. DEFCON 621B (Edn 10/04) - Transport (if Contractor is responsible for transport).
- uu. DEFCON 624 (Edn 04/10) - Use of Asbestos.
- vv. DEFCON 632 (Edn 02/07) - Third Party Intellectual Property Rights – Commercial and Non – Commercial Articles and Services.
- xx. DEFCON 642 (Edn 06/97) - Progress Meetings
- yy. DEFCON 643 (Edn 07/04) - Price Fixing. (See Notes below)
- zz. DEFCON 644 (Edn 10/98) - Marking of Articles.
- aaa. DEFCON 646 (Edn 10/98) - Law and Jurisdiction (Foreign Suppliers) (See Notes below)
- bbb. DEFCON 648 (Edn 10/02) - Availability of Information. (See Notes below)
- ccc. DEFCON 656 (Edn 03/06) - Break. (See Notes below)
- ddd. DEFCON 659 (Edn 06/09) - Security Measures
- eee. DEFCON 703 (Edn 11/02) - Intellectual Property Rights – Vesting in the Authority

Notes:

1. DEFCON 129 shall only apply to tangible deliveries under the Contract. Retail Trade Packaging in accordance with Annex A, and individual CROs shall be required.
2. DEFCON 522 – the Representative of the Authority shall be the TLO stated in Condition 2 of the Contract (below). DEFFORM 522A does not apply in this case. See DEFCON 693 below.
3. DEFCONs 529, 529A, 530 and 530A – The Contract shall be subject to English Law unless the Contractor expressed a preference for Scots Law in his Tender Offer (DEFFORM 47)
4. DEFCON 601 shall apply solely in relation to DEFCON 611 (Issued Property).
5. In the application of DEFCON 611, "Issued Property" means all Government Furnished Supplies.
6. DEFCONs 643 and 648 shall only apply where competition is considered ineffective or for amendments to Contract during the Contract period.
7. DEFCON 646 shall apply to any non-UK Contractor, in place of DEFCON 529, when some or all the Contract will be performed outside the UK.
8. For the purpose of Clauses 1 and 6(b) of DEFCON 656 (Break), the periods of notice shall be 2 months and 1 month, respectively.

SPECIAL CONDITIONS OF CONTRACT

2. SPECIFICATION AND TECHNICAL LIAISON OFFICER

- a. The Contractor shall supply Articles in accordance with the specifications, as stated in the Schedule of Requirements, and at Annex A to the Contract.
- b. All work shall be carried out in accordance with the Contract and to the satisfaction of the Technical Liaison Officer (TLO) or authorised representative. The TLO shall be EITHER; the SDR Translation Manager, UK Hydrographic Office, Admiralty Way, Taunton, Somerset, TA1 2DN. Tel +44 (0)1823

337900 x1408, fax: +44 (0)1823 352561, email: [hdcfiles@ukho.gov.uk](mailto:hdcfiles@ukho.gov.uk) or such other person as the Authority may, at its sole discretion, nominate from time to time, OR, the Commercial Manager, UK Hydrographic Office, Admiralty Way, Taunton, Somerset, TA1 2DN Tel +44 (0)1823 337900 x3554, [sarah.frowde@ukho.gov.uk](mailto:sarah.frowde@ukho.gov.uk) or such other person as the Authority may, at its sole discretion, nominate from time to time.

c. All items requiring technical clarification and approval shall be addressed to the TLO named in Clause b. of this Condition.

### 3. MANAGEMENT

The Contractor shall nominate a Project Manager who shall be responsible for all activities carried out against this Contract.

### 4. PERIOD OF ENABLING CONTRACT

a. The Contract shall remain in force for a period of up to 3 calendar years from date of contract placement, subject to the Authority's rights of termination under these Conditions of Contract.

b. In consideration of the Authority placing this Contract, the Authority shall have the right, exercisable at its sole discretion to extend the Contract period by up to one further period of 12 months. The Authority shall have the right to exercise each option at any time up to 3 months prior to the Contract termination date. The firm prices stated on the Schedule of Requirements shall apply to any such extensions.

### 5. CONTRACTOR'S PERSONNEL AND WORK AT GOVERNMENT ESTABLISHMENTS

a. Where work under the Contract involves regular attendance by the Contractor's personnel at a Government Establishment the time of attendance shall be to the requirements of the TLO or his authorised representative. When working within the site of the UKHO the Contractor shall comply with:

- i. the requirements of DEFCON 76 and, in particular, Clauses 6 to 10 therein;
- ii. the leaflet "CONTRACTORS SAFE WORKING INSTRUCTIONS" and the information pack "SECURITY, HEALTH AND SAFETY BRIEF", copies of which will be made available to the Contractor's personnel on entry to the site and which they will be required to read and sign.

b. When present at the UKHO, the Contractor must comply with all extant security rules in force on site. The removal of classified hardware and media from the site is either prohibited or covered by such security procedures. The level of security can vary from time to time, due to circumstances beyond the control of the Authority, locally.

c. Any of the Contractor's employees, agents or representatives must expect to be challenged by any authorised personnel from the site they are working on. They must be able to give a reasonable account of themselves and show the relevant ID. The frequency of these challenges may escalate as the security alert state of a particular site rises. On occasion, these persons may be asked to leave the premises, to return when the alert state changes.

d. Only persons with appropriate training, qualifications, competence and security clearance for the tasks on which they are engaged shall be employed under the Contract. Where required by the Authority, full particulars of all personnel to be so employed shall be forwarded in advance to the TLO for confirmation of acceptability. This requirement will also apply to Contractor's managerial personnel who may visit the establishment on an 'ad hoc' basis.

e. The Contractor shall take all reasonable steps to avoid changes of personnel assigned to and accepted for the work under the Contract. Except whenever changes are unavoidable or of a temporary nature caused by sickness etc, the Contractor shall give at least one month's notice to the TLO and Clause d. of this Condition shall apply to the replacement personnel.

6. AUTHORISED DEMANDER

a. Orders shall be issued to the Contractor by the following Authorised Demander:

SDR Translation Manager, Hydrographic Data Centre  
United Kingdom Hydrographic Office (UKHO)  
Admiralty Way  
Taunton  
Somerset  
TA1 2DN

Or

Commercial Manager  
United Kingdom Hydrographic Office (UKHO)  
Admiralty Way  
Taunton  
Somerset  
TA1 2DN

Also orders may be issued separately by the UKHO Commercial team responsible for UKHO Marketing products, literature and sales briefs etc. The Commercial team are based at the same above address

b. A signed Order (sent by e mail) shall be issued detailing the article(s) and quantities for each requirement. A issued and signed Order is the Contractor's authority to proceed with the requirement contained therein. The Contractor shall acknowledge in writing receipt of each Contract Release Order within two working days.

c. No work is to be put in hand until a issued and signed Order is received by the Contractor.

7. DELIVERY

a. Delivery shall be made within the timescales stated at Annex A of the Contract, and as per the Order. The timescales stated at Annex A are representative of the work currently carried out. However, there may be situations where shorter delivery timescales shall be required. In these cases, delivery shall be agreed on a case by case basis with the Contractor. All Articles shall be delivered to: Hydrographic Data Centre, UKHO, Admiralty Way, Taunton, TA1 2DN. Deliveries into the UKHO are only accepted at the following times: 08.00 to 15.00hrs on Monday to Thursdays and 08.00 to 14.00hrs on Fridays. In exceptional circumstances deliveries outside of these hours shall be by special arrangement only. For each delivery, there shall be a requirement to obtain a delivery note, which shall be sent to the Hydrographic Data Centre with appropriate invoices.

b. Completion of all work required on each Order, is of fundamental importance. If at any time the Contractor considers that the Order cannot be completed within the time specified he shall IMMEDIATELY inform the Authority's Procurement office and the Technical Liaison Officer with a full explanation of the circumstances.

c. If, by reason of any acts of nature, war, hostilities, or of any fire at any of the Contractor's premises or those of his suppliers or any act of default of the Authority the Contractor shall have been delayed in completing the delivery of the Articles as provided in the Schedule of Requirements, and on individual Orders, the Contractor shall, immediately upon becoming aware that any such delay has been caused, give to the Authority's Procurement office notice in writing of his claim for an extension on time for the completion of the delivery, and the Authority shall allow the Contractor an extension of time for such completion in respect of any delay caused by any of the circumstances before mentioned as shall be reasonable. Provided always that the Contractor shall not be entitled to any extension of time unless he shall at all times have used all reasonable endeavours to prevent any such delay and to minimise any such delay and to do all that may be reasonably required to the satisfaction of the Authority to proceed with the work.

8. PACKAGING AND LABELLING

Packaging and labelling shall be in accordance with Annex A to Contract, DEFCON 129, and the relevant Contract Release Order(s), issued during the period of this Contract. The Contract Release Order number shall be clearly stated and identifiable on all delivery notes, invoices, packaging etc, pertaining to that order.

9. ISSUED PROPERTY

- a. The full provisions of DEFCON 611 shall apply to all Articles issued to the Contractor on Contract, Ordinary or Embodiment Loan Terms.
- b. The Authority shall issue the Contractor with those Articles specified at Annex A to this Contract for the purposes of performing the Contract and such use is governed by DEFCON 611 except that the Contractor shall inspect Articles upon receipt and notify the Authority immediately of any defects, deficiencies or discrepancies. The Articles shall remain the property of the Authority and the Contractor shall return or destroy Articles in accordance with the details specified in Annex A, or under separate instruction by the Authority.
- c. The Contractor shall be provided with the necessary information for the purpose of performing the Contract. Attention is drawn to the fact that this information may only be used in connection with the Contract and such use is governed by DEFCON 531 (Edn 05/05) & DEFCON 611 (Edn 07/10). On completion of the Contract, the information and any copies thereof shall be returned to the UK Hydrographic Office.

10. PRICING

- a. Unless otherwise stated, the contract prices stated at Annex B to Contract shall be firm (not subject to variation) for the period of Contract, for all Articles, packaged and delivered, in accordance with the terms and conditions of the Contract. Prices shall also include all taxes (other than United Kingdom Value Added tax) which may be payable; and be net allowing for any cash or trade discounts.
- b. Should the Authority require any Articles which are not on the Schedule of Requirements, the Contractor shall provide a firm price quotation for such Articles. Included with the firm price quotation shall be a breakdown detailing labour hours and rates, materials, sub-contractor charges, overheads and profit. Firm price(s) shall be agreed, in accordance with DEFCON 643, prior to any authority to proceed being given by the Authority. Authority to proceed shall be given via an amendment(s) to the Contract, which shall be issued and agreed in accordance with DEFCON 503.
- c. Any work undertaken without a formal contract amendment, authorised in accordance with Clause b. above, is entirely at the Contractor's own risk.

11. PAYMENT

- a. Payment may be claimed when all materials required under each Order has been satisfactorily completed and accepted by the Authority.
- b. Prior to submitting a claim for payment, the Contractor shall provide, to the TLO, a breakdown of the total firm price for the relevant Order, using the firm prices stated on the Schedule of Requirements. Once this information is provided by the Contractor and accepted by the Authority following collation with the order, the Contractor may submit his claim for payment.
- c. The Contractor's claims for payment shall be rendered on Commercial Invoices to the Finance Section at the UKHO, Admiralty Way, TAUNTON, Somerset, TA1 2DN **quoting the Contract Release Order Number**. Payment shall be due within 30 days of receipt by the Authority of a Valid Invoice

12. LIQUIDATED DAMAGES

- a. It is recognised by the parties that in the event that any of the Articles, which the Contractor is required under this Contract to supply to the Authority, being not delivered at the time required under this Contract the Authority will suffer loss and damage thereby.
- b. It is further recognised that all such loss or damage will, having regard to the purposes for which the Articles are being supplied, either be impossible to quantify comprehensively in financial terms or that it will be complex, difficult and expensive to do so and that loss and damage from delayed delivery does not admit of precise proof or calculation.
- c. Accordingly it is hereby agreed that in the event of such delay in delivery in relation to each Article on each Order:-
  - (1) the Contractor shall be liable to pay to the Authority by way of liquidated damages a sum amounting to 0.5% of the agreed price for that Article for each completed working day of such failure in delivery up to maximum of 15%,
  - (2) that the agreement under this Condition shall be irrevocable in the absence of agreement in writing between the Contractor and the Authority to vary the provision,

(3) that the said sum(s) represent(s) a reasonable pre-estimate of the loss or damage likely to be sustained by the Authority in the event of such failure in delivery.

d. The provisions of this Condition are without prejudice to any other rights of the Authority under the Contract and in particular those under DEFCON 614 (Default). Accordingly, liquidated damages shall be payable hereunder in respect of any material period during which the Contract subsists, notwithstanding its ultimate determination under DEFCON 614.

e. No payment or concession to the Contractor by the Authority or other act or omission of the Authority shall in any way affect the rights of the Authority to recover the said liquidated damages or be deemed to be a waiver of the right of the Authority to recover such damages unless a waiver has been expressly stated in writing by the Authority.

13. NOVATION

The Authority shall be entitled to assign, novate or otherwise dispose of its rights and obligations under this Agreement or any part thereof to a third party provided that any such assignment, novation or other disposal shall not increase the burden of the Contractor's obligations pursuant to this Agreement.

14. MEETINGS

The Contractor shall attend quarterly review meetings as may be required by the Authority, during the period of the Contract. The meetings shall be held at the Authority's premises at a time and date, agreeable and convenient to both parties, but in any event, within 10 working days of the Contractor being first advised of the requirement by the TLO. The Contractor shall not be required to provide secretarial services as part of these meetings, but shall be required to take actions or notes. The Contractor shall include the cost for such meetings within the firm prices stated on the Schedule of Requirements.

15. REPORTS

The Contractor shall provide monthly, in arrears, progress reports (for both work ordered during each month and also savings accrued via use of memory software or other means), as may be required by the Authority, during the period of the Contract. The reports shall be in a format, and at a periodicity, reasonably required by the Authority.

16. CORRESPONDENCE

Any correspondence of a contractual nature shall be addressed to Procurement and Intellectual Property, UKHO, Admiralty Way, TAUNTON, TA1 2DN.

17. ADVERTISING

Neither the Authority nor the Contractor shall make use of the other's name, nor the name of any of the other party's contractors or agents, nor of any information obtained under the contract for publicity purposes, without the prior written consent of the other party. The Contractor undertakes not to make any claim to be a producer of "Official" chart data, or similar, as a result of work undertaken under this contract.

18. ENTIRE AGREEMENT

The Contract constitutes the entire understanding between the parties relating to the subject matter of the Contract and, save as may be expressly referred to or referenced herein, supersedes all prior representations, writings, negotiations or understandings with respect hereto, except in respect of any fraudulent misrepresentation made by either party.

19. THIRD PARTIES AND SUB-CONTRACTORS

If the Contractor is required to engage with third parties and sub-contractors, they will do so in line with the government SME (small and medium enterprises) policy - The Government's policy on creating opportunities for SMEs and third sector organisations is to encourage and support these organisations to compete for public sector contracts where this is consistent with value for money policy, the UK regulations and EU Procurement Directives

([http://www.ogc.gov.uk/key\\_policy\\_principles\\_creating\\_opportunities\\_for\\_smes\\_and\\_third\\_sector\\_organisations.asp](http://www.ogc.gov.uk/key_policy_principles_creating_opportunities_for_smes_and_third_sector_organisations.asp)).





Please complete all questions and, where requested, provide additional documentation. Please ensure additional documentation file names and titles refer to the tender question number and brief content description

The Format of this Spreadsheet must not be altered. Individual cells may be increased in size to accommodate your answer but please do not add or delete columns or rows.

Question Number	Organisation Identity	Tenderer Response	Score	Weighting	Weighted Score	Evaluation Criteria	ROR or ITT Reference
1	Name of the company in whose name the PQQ was submitted	Language Direct				Information	
<b>Specification Questions</b>		<b>Tenderer Response</b>	<b>Score</b>	<b>Weighting</b>	<b>Weighted Score</b>	<b>Evaluation Criteria</b>	<b>ROR or ITT Reference</b>
2	Please confirm which additional languages does your company translate into English from, and out of English into, and which are not in the Authority's Statement of Requirements at Annex A	<p>Language Direct is able to translate over 190 languages using our current base of 733 mother tongue translators. Please see below a full list of languages we translate in addition to those included in Annex A:</p> <ul style="list-style-type: none"> <li>• Afrikaans</li> <li>• Albanian</li> <li>• Algerian</li> <li>• Bengali</li> <li>• Berber</li> <li>• Bosnian</li> <li>• Bravenese</li> <li>• Catalan</li> <li>• Cypriot</li> <li>• Czech</li> <li>• Dari</li> <li>• Gujarati</li> <li>• Hakka</li> <li>• Hindi</li> <li>• Hungarian</li> <li>• Irish</li> <li>• Irish</li> <li>• Kannada</li> <li>• Kosovan</li> <li>• Kurdish</li> </ul>		N/A		Information	
3	Please provide details which demonstrate that your proposals meet the Authority's requirements. Please also state what other additional benefits and potential savings, in terms of products or services, your company is including within its ITT response and is offering to the Authority, and which are relevant to the requirement. Please state the advantages of these additional benefits and savings and what, if anything, the Authority has to provide in order to obtain these further benefits	<p>97 of our translators have direct experience translating maritime and hydrographic data. This ensures that the initial translation and all quality assurance procedures are completed by individuals specializing in this area of translation. Even when working with a new language, our network of over 733 specialist translators ensures that we can achieve a same day turnaround regardless of the language requirements in question.</p> <p>As an organisation we are also committed to providing a quality support service. As such, your Account will be managed by a dedicated Account Manager. This enables all queries or concerns to be swiftly acted upon or elevated where necessary.</p> <p>Your account will be managed by: A senior partner in Language Direct, Siraj is an experienced linguist with specialist knowledge across a number of sectors, has a working knowledge of aeronautical charts, data, mapping, weather reports, meteorology. As flies for pleasure and they are similar in many respects to hydrography. Consequently, he will provide a dedicated point of contact with direct experience in contracts of this kind.</p> <p>We recognise the importance of a dedicated IT Manager. As such, we will nominate a dedicated IT Manager who will support your Account Manager in relation to the FTP Server and all IT requirements. We anticipate that for this contract IT will be managed by has extensive experience working across the IT industry and is directly experienced in our own IT systems. In addition to supporting your Account Manager your IT Manager will also be a dedicated point of contact for you regarding any IT queries. This ensures that issues around our IT infrastructure can be resolved at a considerably faster pace than competing translation providers.</p> <p>In line with the specification outlined in the contract and our own routine working practices all works will be completed within a twenty-four hour period. As this is our standard method of working we have substantial experience delivering on this promise, the benefit of which is reflected in our reliability and customer feedback.</p> <p>We are fully able to comply with the requirement to meet with a representative of The UKHO every nine months. However, we are also able to arrange more regular review meetings.</p> <p>Relatedly, performance monitoring is a strong driving factor in our success. As such we would seek to ascertain performance KPIs from The UKHO prior to review meetings. We would then review our ability to meet these objectives as a logged item within scheduled meetings. This would enable Language Direct to provide continuous improvement throughout the life of the contract providing added value to The UKHO as we develop our working practices to reflect your goals and strategic aims within the translation of documents.</p> <p>This process would be supported (as per the requirements of the specification) by a monthly reporting process.</p>	5			Specification Compliance	1.1, 1.3, 1.4, 1.4.1, 1.4.2, 1.4.2.2, 1.4.2.3, 1.4.2.3.1
4	How quickly, in terms of hours or days, can your company source a translator for a new language not already covered in the Authority's Statement of Requirements at Annex A? How quickly can you provide firm pricing (per 1,000 words) for the new language and confirm all delivery lead times can be met? Are there any issues or factors which may delay responses?	Translators for new languages can be sourced and pricing can be ascertained with a same day turnaround.		N/A		Information	
5	Please confirm if you use "mother of tongue" translators within your organisation and if so, how many "mother of tongue" translators do you have and in which languages specifically. How many of your translators are based abroad and in which countries?	<p>In contrast to our competitors Language Direct only uses "mother tongue" translators. Consequently, all our 733 translators are "mother tongue" translators. Additionally, all our translators speak English at a mother tongue level. This ensures an unrivalled level of translation in the work we produce.</p> <p>Of the 97 translators under management directly experienced in the subject of this tender 23 are based in the UK while the remaining 74 are based internationally in the following countries:</p> <ul style="list-style-type: none"> <li>United States</li> <li>Canada</li> <li>China</li> <li>South America</li> <li>United Arab Emirates</li> <li>Egypt</li> <li>Germany</li> <li>France</li> <li>Israel</li> <li>Saudi Arabia</li> <li>China</li> <li>Malaysia</li> <li>Spain</li> <li>Brazil</li> <li>Mexico</li> <li>Greece</li> <li>Scotland</li> <li>Russia</li> <li>Ukraine</li> </ul>		N/A		Information	
6	How many of your translators have navigational and/or maritime knowledge and experience and can understand maritime terminology and in which languages? Please confirm if your company has translated hydrographic and/or maritime related documents and data. If yes, please provide actual hard or soft copy examples in tender response. Please confirm if your company has undertaken any of maritime related documents or graphics. If so, please state and provide hard or soft copy examples of the work carried out	<p>97 of our 733 translators have direct experience translating navigational and maritime documents. As such they fully understand maritime terminology and related graphics.</p> <p>Our translators are able to translate to maritime information (including graphics) and from English in all the languages outlined in Annex A.</p> <p>Language Direct hereby confirm that in relation to this contract we will use staff already experienced in the translation of maritime and hydrographic data.</p> <p>Please see attached exemplars in our work for more details.</p> <p>Doc Ref:                      Language_Direct_Question_5_Translation_Sample_1, Language_Direct_Question_5_Translation_Sample_5, Language_Direct_Question_5_Translation_Sample_7.1 (AR)                      Language_Direct_Question_5_Translation_Sample_2, Language_Direct_Question_5_Translation_Sample_6, Language_Direct_Question_5_Translation_Sample_9                      Language_Direct_Question_5_Translation_Sample_3.1, Language_Direct_Question_5_Translation_Sample_7.1(EN),                      Language_Direct_Question_5_Translation_Sample_3.2, Language_Direct_Question_5_Translation_Sample_8.1(EN),                      Language_Direct_Question_5_Translation_Sample_4, Language_Direct_Question_5_Translation_Sample_8.1(EN)</p> <p>Further, the contract will be managed by a partner in our firm who has a strong background in navigational and charting data. This will ensure that your Account Manager is aware of the challenges and needs of the contract.</p>	15			Specification Compliance	1.3, 1.4.1 & 1.4.2.3
7	Please confirm that your company will provide at least one dedicated translator for each piece of work issued. This applies to any work, unless the lead time is	Confirmed. Language Direct will provide at least one dedicated translator to each piece of work. Even in cases where the lead time is less than 24 hours we would always endeavour to assign a dedicated translator to the work we undertake		N/A		Information	
8	How many quality assurance checks do your staff carry out on each piece of customer's work, to ensure 100% accuracy is met, and before being sent back to the The UKHO. Please provide full details of the processes carried out at each stage/check and who by. Please specify which members of staff are involved, their post titles, and what checks they carry out specifically. State also how stages are audited in the event of issues with a customer's order or complaint i.e. the full audit trail of each order and how lessons are learnt and built in for future reference.	<p>Language Direct operate a full, documented quality assurance process that enables us to achieve 100% accuracy in the translations we produce. Each piece of work is assessed in four stages.</p> <p>Initially, the document will be self-assessed by the translator. All translators are directly experienced in the subject matter they are assigned and will at a minimum be a "mother tongue" translator in the language of the document.</p> <p>Following this stage a second check will be conducted by an equally skilled and experienced translator.</p> <p>Thirdly, where necessary, for example a document containing hydrographical data an expert will be consulted regarding any queries raised by any previous translator.</p> <p>Finally, your Account Manager, who is directly experienced in the data under tender will assess every piece of work before they are returned to the client.</p> <p>At each stage a robust signoff process is conducted requiring each translator to complete a quality checklist regarding grammar, syntax and readability. This document is then submitted to the Administration team who attach this audit trail to the client's work portfolio.</p> <p>Language Direct operate a full complaints policy. The Account Manager resolves all complaints personally and will remain the single point of contact throughout this process.</p> <p>In the event that a complaint is raised your Account Manager would investigate the query and the associated document. They would then liaise with UKHO to agree any further steps to be taken. In the event that translation work needed to be re-submitted to a translator the client would be notified and we would aim to have the corrected document back to the client within the same day.</p>	15			Quality Procedures	1.4, 1.4.1, 1.4.2.4 & 1.4.2.5

9	Please provide hard or soft copies of your standard request for quotation form and also your standard invoice which you would be submitting under this Contract. Please state what level of detail you provide and what information is inserted on each form e.g. quotation form - does it include discreet task reference, language from and into, target word count	Language Direct recognises the importance of generating bespoke invoices for each client's needs. Consequently, we will adapt our quotation and invoicing documents to match all the requirements above. Please see the attached exemplars for more details. Doc Ref: Language Direct Invoice Template for Translations Exemplar Doc Ref: Language Direct Quotation Template for Translations Exemplar		N/A		Information	
10	With your FTP website, how often do you perform maintenance on the website and on what days? Are you likely to be changing your FTP portal within the contract period? If so please advise when this may happen where known? If not already stated, please confirm FTP website address, Account Manager and IT Manager (for the timed trials process), and provide their full contact details.	Language Direct operate a state of the art FTP server. As such, we do not anticipate any maintenance taking place during the life of this contract. Further, we do not anticipate changing the FTP portal during the contract period. We do not operate a standard FTP portal and as such do not have a standard FTP web address. Instead clients are provided with a secure space within our website; this results in a vastly more reliable and intuitive user-experience for our clients than traditional FTP systems. Upon commencement of the contract Language Direct will issue The UKHO with a login and password to access your FTP portal via our website.		5		Technical Operational Support	1.4.1.4.2.4
11	Please confirm which languages your memory software can be used for? Are Tenderers aware in advance of any languages where memory software is unlikely to be employed by your translators?	Language Direct confirms that we utilises translation memory software. This includes: • Trados • SDL • TagEditor • Workbench • Transit • SDIX • Dejavu • Star Transit • Idiom • Wordfast. In our experience we have found no language where memory software could not be used. We confirm that in relation to all languages noted in Annex A, and in relation to our full list of translatable languages we will use memory software. Further,		5		Specification Compliance	1.4.1.4.2.3 & 1.4.2.2
12	Translation timed trial - Please confirm that you have returned all trial samples by the trial stipulated timescales	See separate details on Translation Trial - para 3.9 of ITT Confirmed(*delete as applicable)		25		Timed Translation trial results	
13	Tender Price (MEAT price)	See Pricing Schedule table below		30		Price	
<b>TOTAL</b>				<b>0</b>	<b>100</b>	<b>0</b>	

**Pricing Schedule** The Contractor shall provide firm prices per 1000 words (each translation will be based on these prices on a pro rata system), per country, irrespective of delivery timescale for each order.

Language	Firm Price per 1,000 words (into English) - target words - regardless of turn round time requested	Firm Price per 1,000 words (from English) - target words - regardless of turn round time requested
Chinese Cantonese		
Chinese Mandarin		
Korean		
French		
Russian		
Spanish		
Indonesian		
Norwegian		
Croatian		
Brazilian Portuguese		
Japanese		
Greek		
German		
Portuguese (European)		
Italian		
Romanian		
Dutch		
Taiwanese		
Serbian		
Arabic		
Polish		
Thai		
Burmese		
Lithuanian		
Vietnamese		
Serbian Latin		
Persian		
Cambodian		
Swedish		
Malay		
Estonian		
Georgian		
Welsh		
Turkish		
Danish		
Latvian		
Bulgarian		
Finnish		
Icelandic		
Ukrainian		
Slovene		
Hebrew		
Tagalog		

Translation Memory Software		
Match Types	% Discount - Tenderer to confirm what discount applies	
Repetition	The same text is contained elsewhere in the document	
100% match	Text translated previously and contained partly in the translation memory	
90% - 99% match	Text translated previously and contained partly in the translation memory	
80% - 89% match	A similar text was translated using the memory tools previously and is available in the memory	
60% - 79% match	A similar text was translated using the memory tools previously and is available in the memory	
1% to 59% match	A similar text was translated using the memory tools previously and is available in the memory	

Examples	Pricing
A 100 word document (Spanish into English) with 75 words translated by memory software i.e. 60% to 70%	Total Price before discount = £ Discount % = Final price = £
B 1,000 word document (Russian into English) with 850 words translated using memory software i.e. 80% to 90%	Total Price before discount = £ Discount % = Final price = £
C 2,000 word document (Japanese into English) with 1,000 words translated using memory software i.e. 1%	Total Price before discount = £ Discount % = Final price = £

Note: Tenderers shall clearly state by way of priced examples above how the % discount will be applied and how much discount in terms of value will be taken off total price



ANNEX A - Tenderer's Commercial Sensitive Information Form

ITT Ref No: **HA294/005/167**

Description of Contractor Sensitive Information:

The description of our internal processes and working methodologies is confidential.  
The IP of our FTP and the credentials to log into our Worx portal are both confidential.  
Inappropriate use of such credentials could cause damage to our company.

Invoice data provided

Reference(s) of where can be found in ITT response:

Description of our procedures/methodologies

Indication of data necessary to access remotely our FTP or Worx portal.

Indication of invoice/quotation/PO templates

Explanation of Sensitivity:

Unauthorised access to our servers could cause damage.

Unauthorised disclosure of invoicing data could harm the company

Unauthorised divulgation of procedures and methodologies could partly impair our competitive advantage.

Details of potential harm resulting from disclosure:

Loss of data

Period of Confidence (if applicable): For the entire duration of the tender

Contact Details for Transparency/Freedom of Information matters:

Name:

Position: Director

Address

Telephone Num

E-mail Address:











# INVOICE

Invoice Date: 30/7/2012  
Invoice Number: 16566

Ordered By:  
Delivered On: 31/7/2012  
Reference: Notice to Mariners\_F.  
PO: UKHO TRIAL SAMPL  
Terms: Net 30  
Currency: GBP  
Project: New Project #17575  
Delivered On:

**Bill To**  
United Kingdom Hydrographic Office  
Admiralty Way  
Taunton, Somerset  
TA1 2DN  
United Kingdom (GB)

**Deliver To**  
United Kingdom Hydrographic Office  
Admiralty Way  
Taunton, Somerset  
TA1 2DN  
United Kingdom (GB)

Translation	1.) Translation of "Notice to Mariners_FRA" from French into English		
Translation	2.) Discount 100%-80% matches = 200 words @ 40%		

**Net Total**  
**VAT**  
**Total**

**Beneficiary:**  
**Account:**  
**Sort Code:**  
**Bank Name:**  
**IBAN:**  
**BIC/SWIFT:**

Co.No.: 270103



To ensure that you provide flexibility to your clients, it is essential that you can accept any type of project, regardless of the file type or language.

SDL Trados Studio 2011 supports the widest range of supported languages, as well as all the latest file formats, so that you are fully equipped to work on any project.

### Languages supported by SDL Trados Studio 2011

SDL Trados Studio 2011 will work with virtually any language combination that is also supported by Microsoft Windows. This includes Eastern European, Asian and bi-directional languages such as Arabic or Hebrew.

#### Languages supported by SDL Trados Studio 2011

Afrikaans	Hebrew	Rhaeto-Romance
Albanian	Hindi	Romanian
Arabic (all variants)	Hungarian	Russian
Azeri (all variants)	Icelandic	Sami (all variants)
Basque	Italian (all variants)	Sanskrit
Bengali	Japanese	Serbian (all variants)
Bosnian	Kannada	Slovak
Bulgarian	Kazakh	Slovenian
Belarusian	Kishwahili	Sorbian
Cambodian	Konkani	Spanish (all variants)
Catalan	Korean (all variants)	Swedish (all variants)
Chinese (all variants)	Kyrgyz	Syriac
Croatian (all variants)	Latvian-Lettish	Tagalog
Czech	Lithuanian	Tamil
Danish	Macedonian	Tatar
Divehi	Malayalam	Telugu
Dutch (all variants)	Malaysian	Thai
English (all variants)	Maltese	Tsonga
Estonian	Maori	Tswana
Faeroese	Marathi	Turkish
Farsi	Mongolian	Ukrainian
Finnish	Northern Sotho	Urdu
French (all variants)	Norwegian (all variants)	Uzbek (Cyrillic & Latin)
Gaelic (all variants)	Persian	Vietnamese
Galician	Polish	Welsh
Georgian	Portuguese (all variants)	Xhosa
German (all variants)	Punjabi	Zulu
Greek Gujarati	Quechua (all variants)	

## File types supported by SDL Trados Studio 2011

SDL has invested over 25 years into filter development to provide users with the widest choice of file compatibility. Our filters give you the ability to work with over 70 different file types - you will never have to turn down a translation project due to file compatibility ever again.

### File types supported by SDL Trados Studio 2011

<p><b>Adobe Acrobat</b> PDF (please note that SDL Trados Studio will open a PDF and save it as either a bilingual file or as a Microsoft Word translated file)</p> <p><b>Adobe FrameMaker</b> 7.x*, 8.x, 9.x and 10.x</p> <p><b>Adobe InDesign</b> CS2 - CS5.5 Interchange format files (INX) InDesign Markup Language (IDML)</p> <p><b>Adobe InCopy</b> CS4 - CS5.5 InCopy Markup Language (ICML)</p> <p><b>Generic delimited text</b> CSV, CAT files</p> <p><b>Generic Text</b> TXT</p> <p><b>HTML</b> Including Active Server Pages (ASP), Active Server.NET (ASP.NET), Java Server Pages (JSP) and Include files(INC)</p> <p><b>Interleaf</b> IASCII*</p> <p><b>Java</b> Java Properties</p>	<p><b>Microsoft Excel 2000-2003</b> XLS, XLT</p> <p><b>Microsoft Excel 2007-2010</b> XLSX, XLTX, XLSM</p> <p><b>Microsoft Word 2000-2003</b> DOC, DOT, RTF</p> <p><b>Microsoft Word 2007-2010</b> DOCX, DOTX, DOCM, DOTM</p> <p><b>Microsoft PowerPoint 2000-2003</b> PPT, PPS, POT</p> <p><b>Microsoft PowerPoint 2007-2010</b> PPTX, PPSX, POTX, PPSM, PPTM, POTM</p> <p><b>Microsoft .NET</b> Based on RESX and XAML</p> <p><b>OpenDocument</b> ODT, ODS, ODP Including, Google Docs, LibreOffice, Text Document and IBM Lotus Symphony applications.</p> <p><b>PageMaker</b> Tagged files TXT*</p> <p><b>QuarkXPress7-9**</b> QuarkXPress tagged files QSC, XTG, TTG, TAG</p>	<p><b>QuickSilver 3.0*</b> IASCII versions 8.5 and 8.6</p> <p><b>RESX</b> The .NET XML-based resource</p> <p><b>SDLX files</b> ITD bilingual files</p> <p><b>SDL Trados Studio files</b> SDLXLIFF bilingual files</p> <p><b>SDL Trados Translator's Workbench</b> Legacy bilingual Word documents DOC, DOCX</p> <p><b>SGML*</b> SGM, SGML</p> <p><b>StarOffice</b> SXW, SXC, SXI</p> <p><b>TradosTag files</b> TTX bilingual files</p> <p><b>Ventura*</b> Tagged files TXT Workbench RTF</p> <p><b>XHTML</b> HTML, HTM</p> <p><b>XML, XSL</b> XLIFF documents (XLF) DITA</p>
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\*Supported through SDL Trados 2007 infrastructure (included within SDL Trados Studio 2011 as an integrated component.)

\*\*QuarkXPress 7-9 files, including Unicode encoded files, are supported through the third-party application CopyFlow from Napsys. For more information, please visit <http://www.napsys.com/sdl/>.



# Certificate of Registration

**QUALITY MANAGEMENT SYSTEM - ISO 9001:2008**

*This is to certify that:*

**Global Voices Ltd**  
Scion House  
Innovation Park  
Stirling  
FK9 4NF  
United Kingdom

*Holds Certificate No:* **FS 531131**

*and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the following scope:*

The provision of translation and interpretation services to UK and international clients.

*For and on behalf of BSI:*

*Managing Director, BSI EMEA*

Originally registered: **13/05/2008**

Latest Issue: **24/06/2011**

Expiry Date: **13/07/2014**



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Page: 1 of 1

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.  
An electronic certificate can be authenticated [online](#).  
Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory)

The British Standards Institution is incorporated by Royal Charter.  
BSI (UK) Headquarters: P.O. Box 9000, Milton Keynes MK14 6WT. Tel: 0845 080 9000



# Non-conformities

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## 1. Scope

As part of our continual improvement, this paper outlines procedures for investigation, correction and prevention in cases of any non-conformities of services or products delivered, i.e., translation and interpreting services.

## 2. Identification of non-conforming service/ product

Non-conformities in terms of quality of the services / translations can be identified in several ways:

- ◆ Project Manager picks up on mistakes and inconsistencies in the delivered translations (see Annex 1 at the end of this document)
- ◆ Proofreaders identify quality issues;
- ◆ Clients / end users highlight any inconsistencies by return;
- ◆ Issues with processing / quality control are identified internally.

## 3. Non-conformity registration and immediate action

1. At all times, be polite and seek a productive resolution to the situation.
2. Log a new **ISSUE** in the **NETSUITE** system as follows:
  - 2.1 Enter *Customer file > Support > New Customer Issues*
  - 2.2 Insert complaint or issue details in the Message box and your response in the Reply box.
  - 2.3 Insert date, e-mails of employees accountable for overseeing the issue and the client's e-mail address (the MD gets automatically copied into all Issue notices).
3. Reply to the client with an **apology** and reassurance that Global Voices will carry out an investigation and respond as soon as possible. After this initial confirmation e-mail, first response shall reach the client within 24 hours from the notice.
4. Send issue details to the translator/ interpreter concerned with a request to provide their comments.

## 4. Corrective action

Actions will be taken to eliminate the causes of non-conformities in order to prevent recurrence as per 8.5.2 of ISO 9001:2008.

1. Identify the cause or causes, i.e. why the non-conformity occurred.
2. In cases of interpreter delays/ missing/ missed bookings, try to arrange an interpreter as soon as possible (with client's agreement) and investigate after.
3. If the non-conformity skipped through the Global Voices quality review,

offer to implement corrective changes as soon as possible and at no cost to the client.

4. If the client acknowledges their mistake, offer to amend and evaluate the costs involved at additional costs.
5. Should any delays occur in the investigation/ corrective process, communicate the situation updates to the client accordingly on a regular basis.
6. Upon receipt of the relevant linguist & office staff comments, review with the MD and offer an explanation to the client.
7. Ensure the client is satisfied with the explanation and actions offered to prevent the non-conformity from recurring.
8. Ensure that all correspondence is kept in NETSUITE as much as possible from start to closure of each issue so that the full cycle can be followed by going into the Show Activity option under a relevant Issue number.
9. Review the effectiveness of the corrective action taken in next staff meeting.

## 5. Preventive action

Actions will be determined to eliminate the causes of potential nonconformities in order to prevent their occurrence according to 8.5.3.

1. All issues will be reviewed in regular staff/manager meetings and **causes** of potential non-conformities will be discussed.
2. **Suggestions** for preventive actions as a result of identified potential non-conformities or gaps identified internally will be made and implemented into the system as soon as possible.
3. Evaluate the need for action and implement process **changes** or changes in written procedures as necessary.
4. **Inform all staff** of any changes and **train** them accordingly to ensure smooth implementation and uniform level operations in future.
5. Verify the effectiveness of actions:
  - 5.1 Ensure the new process is revised and training is effective.
  - 5.2 Communicate to team during monthly meeting.
  - 5.3 Communicate to the client to ensure their satisfaction.

## ANNEX 1

### Things to look out for when editing translation work

1. Do we use the translator for the first time?
2. Does the layout correspond to the original (number of paragraphs, titles, images, etc.)?
3. Do dates and other numbers correspond to the original?
4. Was the delivery timely?
5. Do you have doubts about the accuracy?

- If translator has worked with Global Voices frequently (at least 5 times) and only minor mistakes are noticed, send back to translator for amendments.
- If there are larger accuracy issues, send selected parts to a proofreader with relevant linguistic and field background.
- If a proofreader comments on quality as poor, order a full proofreading.
- If a proofreader comments on quality as very poor, order a re-translation.



6. Repeat steps 1-5 above on the re-translated document (re-verification to check conformity to the requirements).
7. Save comments on translator quality in individual files in Netsuite.



# Document Control

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## 1.1 Scope

In conformance with the requirements of ISO 9001:2008, document control is essential for the overall efficiency and quality of Global Voices and its documents.

Global Voices document control procedures shall apply to all documents that are produced by and for the company, irrespective of where they originate. A single document may address the requirements for one or more procedures. Likewise, a requirement for a documented procedure may be covered by more than one document.

This document describes the document control procedures for Global Voices. It details the allocation of document codes and the procedures for distributing these documents. It describes the procedures for translating (if required) and for filing (electronic and manual) these documents, how document changes are managed and the type of word-processing software and other software to be used.

The Quality Manager is responsible for the overall planning of document control procedures throughout Global Voices.

A centralised filing system shall be retained in the main office.

## 1.2 General

The term 'document' includes all Global Voices documents, deliverables, letters, faxes, copies of e-mails, reports, minutes and contracts etc.

## 1.3 Identification numbers

All translations/ details of interpreting jobs must be reproducible and all related supporting documents must be identified and recorded.

### 1.3.1 Projects

All documents received, despatched or processed by the main office shall receive a project administration number. Such numbers will be created automatically by the operating NETSUITE system when job details are inserted accordingly.

Once the project number is available:

- 1) create a folder with the new job number as follows: **Documents > Files > File cabinet > Project > New folder** > Folder name: e.g. **1234** ;
- 2) add the job order e-mail entitled "job order" and any other supporting correspondence & related files;
- 3) create a folder called **Original** for storing all original source documents (scan if only hard copies available);
- 4) create a folder called **Translated** for storing all translated/ proofread documents;
- 5) all translated files must be named as the original document title and the language indicated as follows: **originaltitle\_language**;

- 6) WORD files have to be converted into PDF and stored together;
- 7) EXEL and PPT files can be stored in the original formats;
- 8) where hard copies are printed for editing purposes, these will be recycled or safely discarded of upon completion of the job;
- 9) once the client has confirmed safe receipt and satisfaction with the job delivered, move the project folder to **PROJECT > Completed 2008**;
- 10) once invoices paid, keep all project-related files for a period of 3 years before discarding safely.

### 1.3.2 Work in progress

**Work in Progress** can be managed from the **local network**: Network > Projects > Job folder (number given by NETSUITE) > originals / translated  
Only final translated files are to be saved in the Project Folder in NETSUITE.

Completed jobs are to be stored in the **Completed Jobs YYYY** folder.

### 1.3.3 Quotes

Quotes are treated in a similar way as described above. Quote numbers will be created automatically by the operating NETSUITE system when quote details are inserted accordingly. Once the Quote number is available, follow the following steps:

- 1) create a folder with the new quote number in: GV Network>Sales & Marketing > Sales > Quotes>UK/FR/IT/DEU> **New folder** > Folder name: *e.g.1234* ;
- 2) add the quote request e-mail entitled "quote request" and any other supporting correspondence & related files;
- 3) if originals have arrived as hard copies, scan them to get electronic copies;
- 4) where hard copies are printed for quoting purposes, these will be recycled or safely discarded of upon completion of the quote;
- 5) it is not necessary to print out quotes for all translations; only more complex quotes can be printed if deemed necessary for easier follow up with the client;
- 6) Once the **quote is confirmed**, create a job from the quote. The system will give a unique job number. Move all documents from the Quote folder into the new Project folder (created following steps in 1.3 above). Delete the Quote folder from the GV Network;
- 7) If the quote **is not confirmed**, delete relevant Quote folder from the GV Network.

## 1.4 Documents produced by Global Voices

### 1.4.1 File reference

For all documents **produced** by Global Voices, the file reference (also known as the document reference) details shall be noted in the footer, to the left of every page (see bottom of this page as a typical example of this rule). The reference details shall include the location path details in the local network as follows:

Network path / Document title-MM-YY

~

Copies of **final** documents shall be stored in relevant folders of the File Cabinet in NETSUITE.

#### **1.4.2 Version numbering**

To indicate the status of the document, a version number shall be included in the footer next to the Document Ref (see bottom of this page as a typical example of this rule). The format of this number shall be as follows:

Example:     **Version 1**

**Changes** to consecutive revisions should be identified by "Track changes" facility. The version numbers will be updated accordingly.

#### **1.5 Controlled documents**

A controlled copy of each published document will be held on the server and personnel notified of its publication by e-mail.

When a controlled document is amended or becomes obsolete, personnel will be informed of the change and instructed to dispose of any printed or soft copies they hold.

#### **1.6 Approval of documents**

The Managing Director or another Senior Manager will be able to approve contract – related documents and their reviewed/updated versions by verbal confirmation or signature where applicable.

#### **1.7 Document distribution**

Approved documents, working papers, reports and documents may be freely distributed to all Global Voices personnel as well as any personnel working for and on behalf of Global Voices.

When a document is being sent to someone outside of Global Voices, the document or deliverable shall be approved by the Managing Director or another Manager in his absence before dispatch and the cover letter shall include the Director's or Manager's signature accordingly

The actual signing (i.e. per pro) of the cover letter may also be delegated to a third party (e.g. the Company Secretary/ Manager).

#### **1.8 Internal distribution**

The Quality Manager or Administrator is responsible for the distribution of all approved company documents, working papers, reports and documents within Global Voices.

#### **1.9 Letters / E-mails produced by Global Voices**

All letters **produced** by Global Voices shall be produced using the letter/ e-mail templates available from the server. When sending out job/ quote related letters/ e-mails, a relevant job/ quote reference number should be indicated in the Subject.

### **1.10 Faxes produced by Global Voices**

All faxes, **produced** by Global Voices, shall be produced using the fax template available on the server. The reference number needs to be included only on the first page of the fax. An electronic copy will be stored in Netsuite under a relevant customer/contact record.

### **1.11 Contracts and minutes**

**Contracts and any legal agreements** shall be stored in LEGAL folder of the File Cabinet in Netsuite and will be attached to the relevant client file. Files shall be named as in the following example: *CompanyName\_Agreement / NDA*

### **1.12 Documents received by Global Voices**

Documents, **received** by Global Voices, such as linguist CVs, certificates, references shall be scanned (if only hard copies available) and stored in relevant folders of the File Cabinet in Netsuite. A link should be made to the relevant supplier file. Files shall be named as in the following example: *Name Surname\_ CV-YY*

Documents of external origin determined by Global Voices to be necessary for the planning and operation of the quality management system will be stored in relevant folders in the Network, for example all ISO related materials from BSI like the Assessment Reports will be stored in Company Info/Quality/ Support Files/ Audits/ External/ Month YYYY.

### **1.13 Storing files on the network & Netsuite**

In order to be able to retrieve stored files from the Global Voices network, each document shall be filed within a specific directory for that particular contract/section. Each contract/section shall have folder, with sub-folders for the various categories within each contract/section such as minutes, correspondence, reports, annexes, etc. It is essential that the folder name has the name of the relevant Company/ Client/ Project / Supplier.

### **1.14 Filing of documents (hard copies)**

Global Voices file cabinets shall be located in the main office and are the responsibility of the Company Administrator. This mainly refers to financial and legal documents. Folders are marked by year, month and type as follows:  
*2008 / Oct-Nov / S (Supplier) or C (Client), or Legal.*

Documents inside the folders will be sorted in alphabetical order.

### **1.15 Old and obsolete documents**

All obsolete documents shall be promptly removed from all points of issue or use.

The Quality Manager is responsible for ensuring that at least one soft copy of any obsolete controlled document shall be retained at least for the lifetime of the contract, product or service.

Old and obsolete documents shall be removed from the file cabinet under the supervision of the Managing Director. All removed documents shall be placed in file boxes, adopting the same method (used for filing documents), as described and clearly marked as "OLD". File boxes shall be retained in the attic storeroom.

### **1.16 Headed Paper**

All official Global Voices correspondence shall be printed on Global Voices paper using Global Voices logos.

### **1.17 External distribution**

The Managing Director is responsible for (and shall decide on) the distribution of all approved documents, working papers, reports and documents outside of Global Voices.

### **1.18 Back up & retrieval of electronic records**

The network storage is made up of two physical hard drives using a technique called RAID. This mirrors all data from one disk onto the other disk which means that if one physical disk were to fail, the other would take over without any loss of data while the other is replaced.

To prevent against the remote eventuality of catastrophic failure (i.e. fire/water damage) a weekly backup of the network is created onto an external hard drive which is then stored out of the office.

It is the responsibility of the IT Manager to do a weekly backup of the network onto the external hard drive every Friday afternoon.

Recovery Process:

2 Physical hard drives in RAID format / Network Recycle Bin / External hard drive Backup

In case of accidental loss of an electronic document/file, members of staff can access the Network Recycle Bin which stores all files and data that has been deleted from the main network. If any problems encountered with the retrieval of lost data

NetSuite has its own operative systems in place for safe keeping, protection and back-up of client records and files. Full details available in a separate document in the local network: Company Info/Quality/Other/NetSuite\_Security-05-08.





# Quality Assurance Processes

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Global Voices's commitment to producing the highest quality translations is paramount. We are ISO 9001:2008 certified and have implemented its best practices. Our QA methodology is fully documented, is regularly audited, and evolves on a daily basis with regular input from our staff and clients.

While we have specific workflows documented for an array of project types including translation, editing, and proofreading; interpretation assignments; all of our projects are handled using our standardized approach to project management and quality assurance:



## Project Analysis

**Planning and Discovery:** During this phase, we determine the most efficient course of action for the translation process. Client goals, objectives, and specifications form the cornerstone of our analysis as we select the most efficient tools and processes for use on the project. For projects intended for distribution, main issues covered include the key points of branding, the scope of translation desired, and the assignment of contact points for each language, in order to have a client employee available to answer questions that arise and approve various examples of language for tone, style, consistency in usage, etc.

**Timeline Construction:** With a full understanding of the scale and scope of the project, the Project Manager lays out a roadmap, or production timeline, for the overall process. Clearly defining the specific requirements of a project before beginning production has strong benefits that carry through the Quality Assurance phase.

**Language Dependency Analysis:** Once the timeline has been formalized, the Project Manager then separates all language-independent tasks from language-dependent tasks. By noting

language-dependent areas at an early stage in the project, consistent quality can be maintained through any planned or future multiple language versions of the product.

## **Pre-Production**

**Review of Target Language Requirements:** The next stage is a detailed analysis of the source language, paying special attention to style, tone, target audience as well as any coding requirements (character set, meta tags, etc.) and incorporation of these requirements into the translation process.

**Initial Client Review:** For projects intended for distribution, prior to initiating the full translation process, a client review of selected sample text can be performed to allow us to refine the style and tone to the point where we can precisely convey your message. We typically ask the client to designate a contact that can be available for any questions that arise during the translation process.

## **Production**

**Text Translation:** This step involves the creation of a source-to-target language translation appropriate for the intended audience. Our goal is not simply to translate literally, but to work within the target language, so that original nuances and tone remain intact and the original message is conveyed without compromise.

**Proofreading:** A consistent, high level of quality is maintained by thoroughly proofreading the translated text. This function is performed by experienced native speakers of the target language with expertise in the specific vocabulary of the material.

**Adjustment for Language Characteristics:** During the production process, the stylistic layout of the translated text is examined, with the goal of limiting any changes in graphical elements or text sections. For example, a French, Spanish, or Portuguese text will typically expand to 20% - 25% more words than the English equivalent, which often has an impact on the design and layout of the ultimate product.

**Cultural Consulting:** Upon request (and where applicable), the potential cultural impact of colour schemes, layout, and iconography within the target culture are given special consideration. Doing so helps to avoid cultural miscues or pitfalls that can limit the success in international markets or result in negative perceptions.

## **Post-Production**

**Integration:** Language is re-inserted into the files or original format from pure text or through automated translation tools. The overall cohesion of the project is reviewed.

**Sampling:** Sampling involves monitoring both translation quality and formatting for accuracy and quality, and is performed throughout the project, from initial phases until completion.

**Final Quality Check:** A total review of the project, giving a "final eye" for consistency, accuracy, and design integrity is performed.

## **Assessment**

**Project Assessment:** A comprehensive review is conducted after files have been transmitted to the client, which covers the project's specifics. Areas addressed include whether goals were met, whether deadlines were kept and, in general, which elements of the work went well and which offered opportunities for improvement.

**Client Feedback & Measurement:** Feedback is solicited in order to provide third-party input on the overall success of the project. This can be done over the phone or in writing via e-mail using a standard template. In cases of any negative feedback, processes described in Non-Conformities should be followed.

## **Revisions and Updates**

**Monitoring:** Monitoring includes customized processes to translate new/revised content and to carry out front- and back-end modifications. Through continued interaction with the Project Manager, any additions/alterations to the original content can be efficiently implemented in the translated versions.





**750-SR**  
Operation & Maintenance Manual

# Operation & Maintenance Manual

## Important Information

This manual covers the operation and maintenance of MST Inboard powered Craft. Please read the manual before operating the craft. This manual is designed as a reference guide during the service life of the craft and therefore should be retained for future use.

This manual should be read in conjunction with the separately supplied manufacturers manuals for such items as the engines, drives and battery charger etc.

This boat is a high performance vessel and only responsible persons having relevant experience and training should operate this machine.

The instructions contained in this operation and maintenance manual must be carefully observed by all those intending to use the craft to ensure a long, safe and trouble free life. Owners are recommended, in their own interest, to entrust all maintenance and repair work to Marine Specialised Technology Ltd or an approved representative. Failure to do so may invalidate any warranty.

If you require additional copies of this manual or have any technical queries regarding its content, please contact Marine Specialised Technology Ltd.

## Technical data

<b>Craft Type</b>	<b>Manufacturer</b>	<b>Build No.</b>
MST 750-SR 'Stern Ramp' RIB	Marine Specialised Technology Limited	2011-151 2011-152

### Principle Dimensions

Length Overall	7.50m	Draught	0.45m
Beam Overall	2.60m	Boat Height (From Keel - Mast Lowered)	2.56m
Internal Length	5.90m	Weight Dry	2600kg
Internal Beam	1.60m	Weight Fully Laden (Full fuel)	2770kg

### General Specification

Hull	GRP	Removable Dive Cylinder Rack	Marine Grade Stainless Steel
Sponsons	MST Hybrid 1500g/m <sup>2</sup> Hypalon Fabric	Seat Pods	Marine Grade Aluminium
Console	Marine Grade Aluminium	Self Righting Frame	Marine Grade Aluminium
Engine box	Marine Grade Aluminium		

### Construction Detail

Fuel Capacity	200 litre	Propeller(s) / Impellor(s):	T11.9
Engine/s Manufacturer & Type	Cummins 5.9QSB	Steering System Type	Hydraulic
Power	355hp	Craft Electrical System	12V DC
Propulsion Type	Hamilton 274 (5 Degree) Waterjet (Dry run Kit Fitted) –	Battery/s Type	Optima Red Top 55Ah (2-OFF)

## CONTENTS

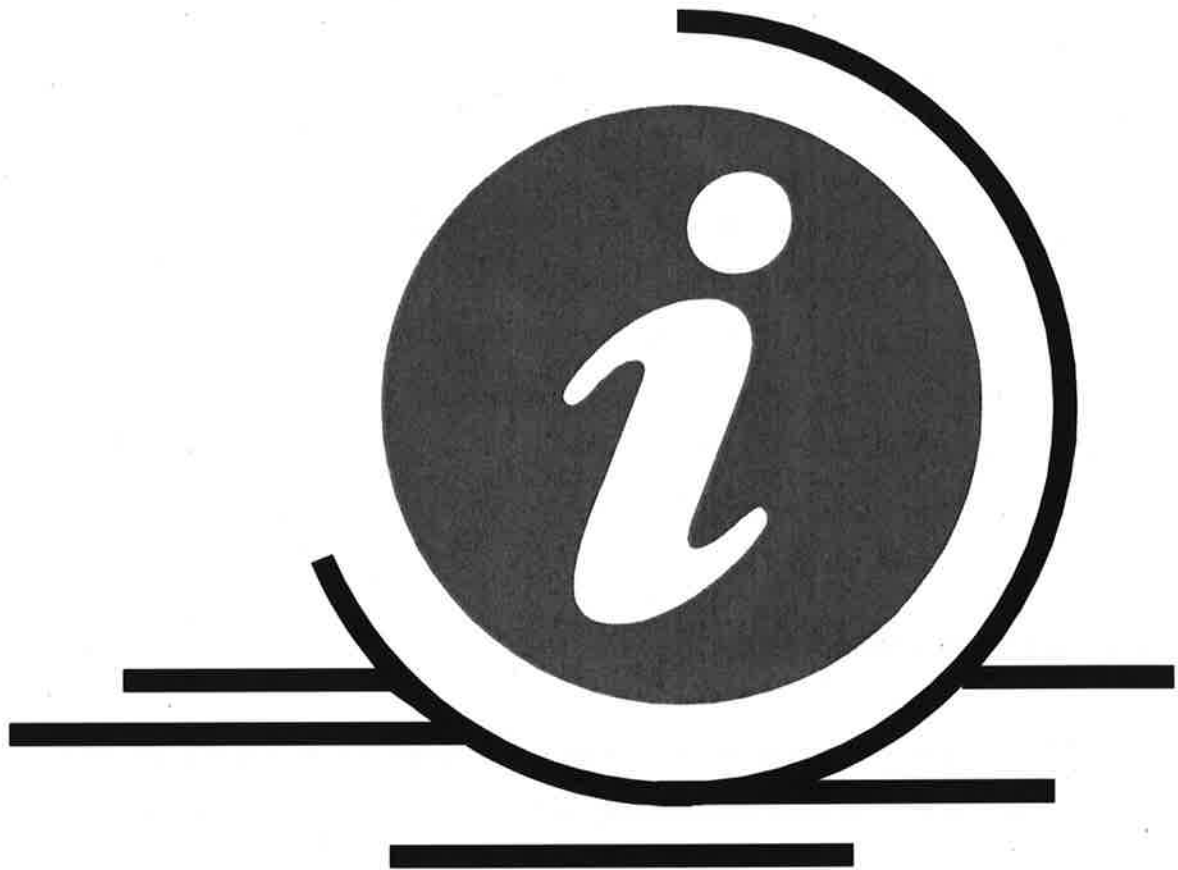
- Safety First
  
- Craft Familiarisation & Operation
  - Craft Layout & GA
  - Console Instrumentation & Controls
  - Engine & Drive
  - Fuel System
  - Steering & Control
  - Electrical System
  - Bilge System
  - RAW Water System
  - Exhaust System
  - Self righting Frame & Equipment
  - Stern Ramp Release & Recovery System
  - Hybrid Sponsons
  - Equipment Stowage
  - Fire Extinguishers
  - Lifting
  - Craft Operation
  
- Craft General Maintenance
  - GRP Hull
  - Sponsons
  - Engine & Drive
  - Fuel System
  - Console, Hatches & Deck Plate





# MST 750-SR

*Safety First*



## **SAFTEY**

Read and understand this manual, and be sure to understand how to operate all controls before attempting to operate the craft.

### **Fire**

- Fuel is highly flammable; fuel vapour is explosive.
- Do not smoke or allow naked lights anywhere near fuel. Also be aware of creating sparks (electrically or by use of tools).
- Another cause of fire is an electrical short circuit, take care when repairing or modifying any wiring.

### **Electric Shock**

- Ignition HT voltage can be dangerous, especially to people with heart problems or a pacemaker. Don't work on or near the ignition system with the engine running or the ignition switched on.
- Mains voltage is also dangerous. Make sure that any mains operated equipment is correctly earthed. Mains power points should be protected by a residual current device (RCD) circuit breaker.

### **Gas & Fume Intoxication**

- Exhaust fumes are poisonous; never run an engine in a confined space.
- Fuel vapour is also poisonous, as are the vapours from some cleaning solvents and paint thinners.

## Poisonous or Irritant Substances

- Avoid skin contact with battery acid and any fuel, fluid or lubricant, especially anti-freeze, hydraulic fluid and diesel fuel. Don't syphon them by mouth. If such a substance is swallowed or gets into the eyes seek medical advice.
- Prolonged contact with used engine oils can cause skin cancer. Wear gloves or use a barrier cream as necessary.
- Air conditioning refrigerant forms a poisonous gas if exposed to a naked flame (including a cigarette). It can also cause skin burns on contact.

## Batteries & Electrical System

- Batteries contain sulphuric acid, which attacks clothing, eyes and skin. Take care when carrying or topping up batteries.
- The hydrogen gas given off by the battery is highly explosive. Never cause a spark or allow a naked light nearby. Be careful when connecting and disconnecting battery chargers or jump leads.
- Do not work on the electrical installation whilst the system is energised.

## Scalding and Burning

- Don't remove the expansion tank cap (if applicable) while the engine is hot.
- Beware of burns from the exhaust system and from any part of the engine.

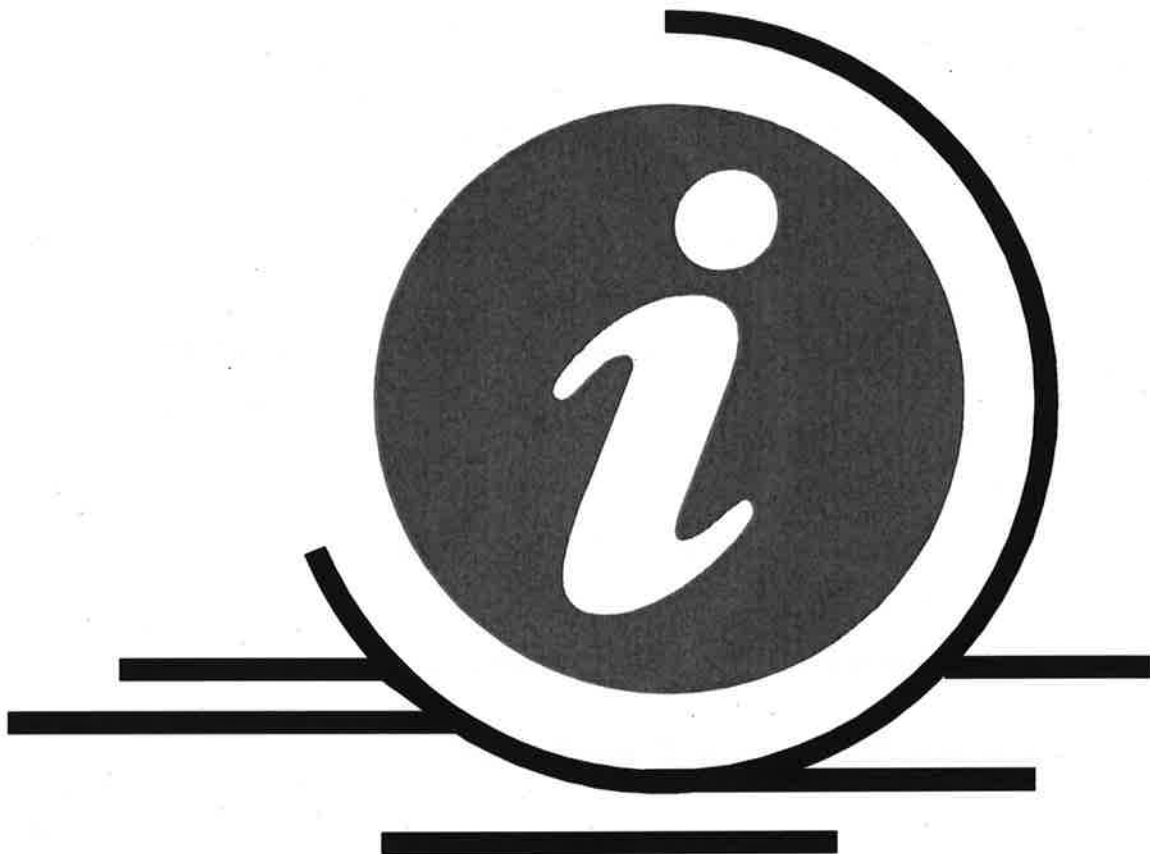
## Diesel Injection Equipment (if applicable)

- Diesel injection pumps supply fuel at a very high pressure. Take care when working on fuel injectors and fuel pipes.



# **MST 750-SR**

## ***CRAFT FAMILIARISATION & OPERATION***



## **CRAFT LAYOUT & DESCRIPTION**

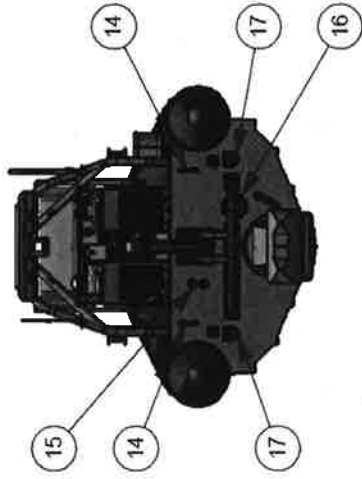
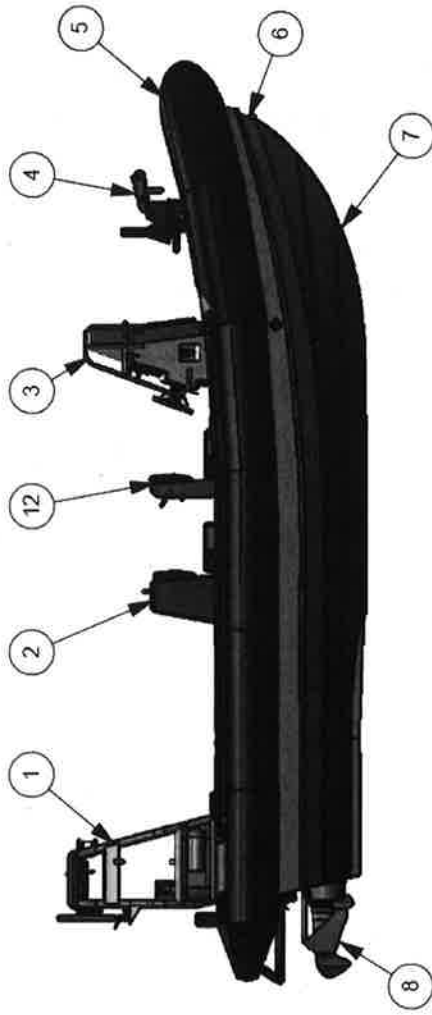
The MST 750SR is a heavy duty Rigid Inflatable Boat specifically designed for integration into stern ramps. The deep 'V' hull design offers a dry, predictable and capable working platform with an expansive beam. The hull features full length spray rails, outer gunwale chine's, a convex hull form and a generous sheer line towards the bow. The hull also features an integral heavy duty bow eye.

Internally there are marine grade aluminium fabrications comprising; engine box and console, integral maintenance access hatches, jockey pod seating, a bow locker for equipment stowage, painter post, rear mounted self righting frame and Stern platform.

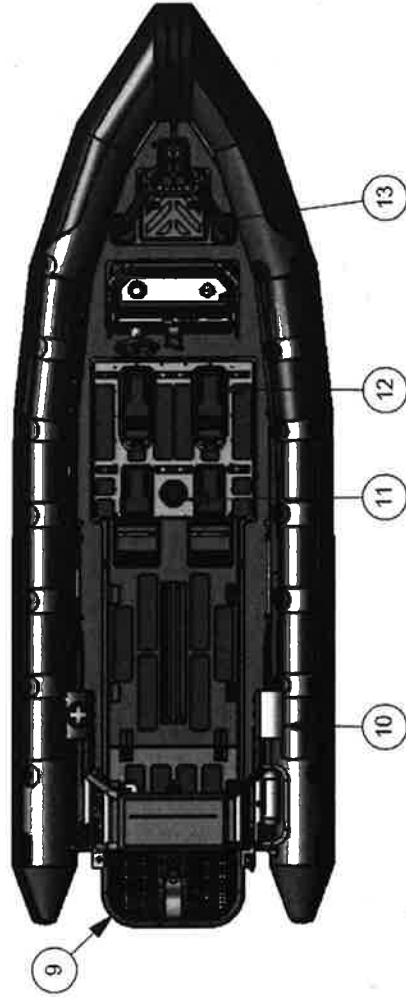
Four crew jockey seats are situated forward of the engine housing, behind a full width command console fitted with screen and integral grab rail. Helm and navigator jockey seats sit on top of a removable deck plate to facilitate fuel tank maintenance or removal. Two additional crew jockey seats protrude from the forward face of the engine box and hinge up out of the way when the box is opened.

The following figures illustrate general arrangements of the craft

## Craft GA



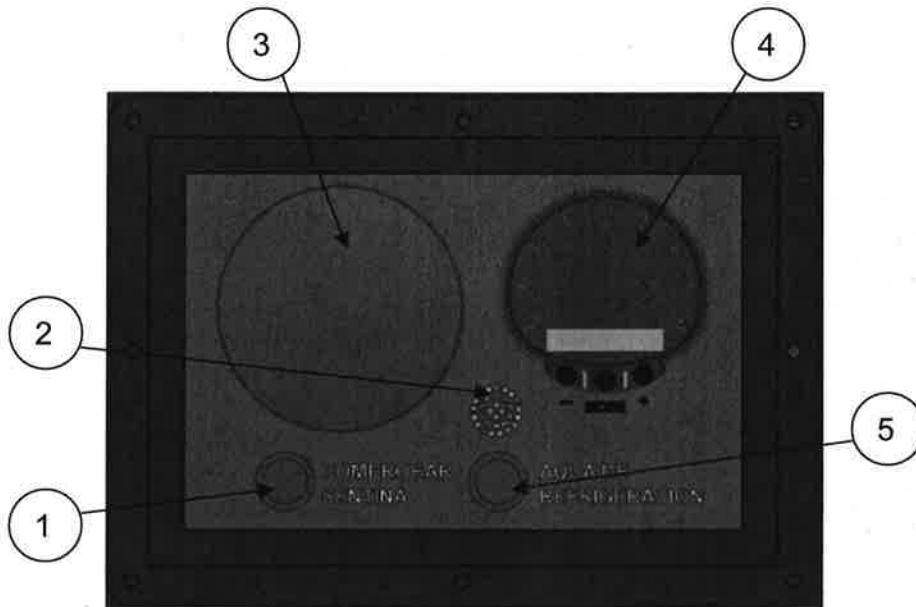
1. Self Righting Frame with Navigation Equipment
2. Hinging Engine Box With 2 Seats
3. Command Console with Screen and Grab Rail
4. Ramp recovery post with on load release hook
5. Sponsons
6. Bow Eye
7. Stainless steel Keel, Chine and Spray rail Protection
8. Water Jet
9. Stern Protection With Bollard
10. Tube mounted stowage bag
11. Fuel tank shut off valve below deck hatch
- 12.2 jockey seats with stowage
13. Bow Locker Hatch
14. Transom U bolts
15. Bilge Outlets
16. Transom Exhaust outlets
17. Deck Drain Scupper



## CRAFT CONSOLE INSTRUMENTATION & CONTROLS

The Craft is fitted with the following instrumentation / Equipment:

- MST Engine Instrument Panel (See Image Below)



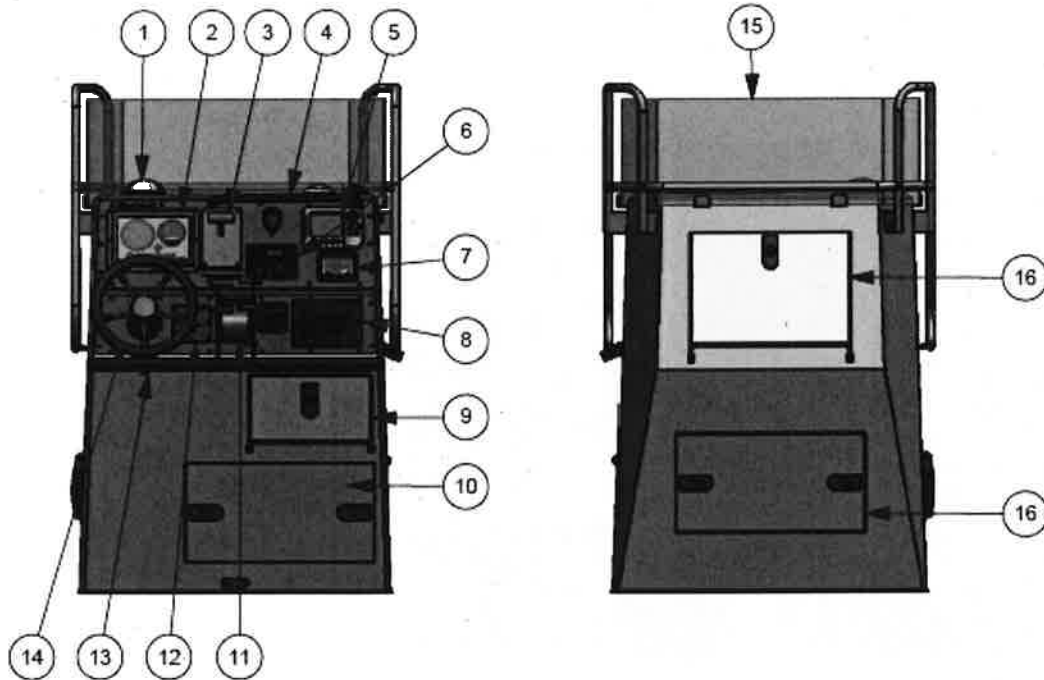
1. Check Bilge
2. De-mist fan
3. Multi Instrument Display
4. Cummins Smart Tacho
5. Cooling Water

- Raymarine A50D
- Icom M505 VHF/DSC
- EchoMax Active X-Band radar reflector head unit, located in main 12v distribution box (user manual supplied)
- Steering Compass (Ritchie Super sport SS-1002)
- Handheld Search Light (In storage compartment)
- Switch Panel (MST Manufacture)
- Start Panel (MST Manufacture)
- Kobelt 2010 Control Head (Throttle & Bucket Control)
- Safety Lanyard
- Hamilton Wagner Hydraulic Helm Pump
- Ultra flex Steering Wheel (350mm Diameter)
- Painter release handle

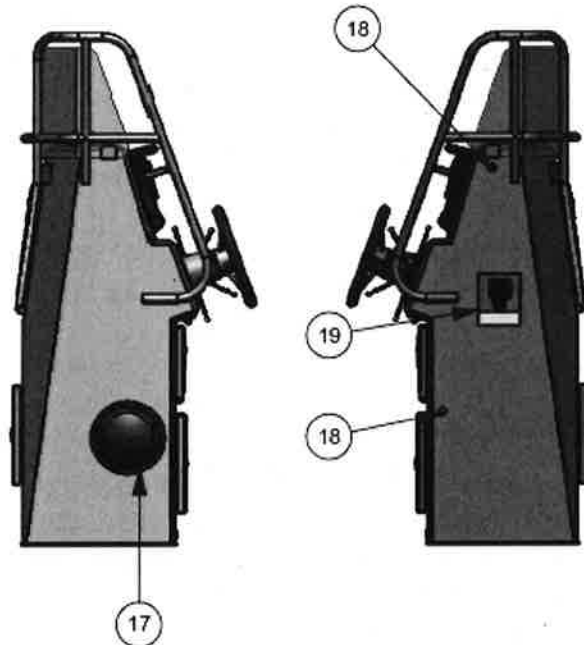
The console of the craft comprises the following features:

- 1 x 600 x 350mm Access / Maintenance Hatches (Hinging)
- 2 x 600 x 300mm Access / Maintenance Hatches (Removable)
- 1 x 380 x 200mm Storage Compartment Hatch (Hinging)
- 1 x TCL4 Round Hatch (Maintenance Access)
- Console Screen
- Console Grab Rail

## Console General Arrangement



1. Steering compass
2. Engine Instrument Panel
3. Painter Release Handle
4. Grab Handle
5. Raymarine A50D
6. Icom M505VHF/DSC
7. Fire Pro System Control Panel
8. Main Switch Panel
9. Hinging Storage compartment inc. Main Battery Isolator
10. Vented Battery locker
11. Throttle/ Bucket Control
12. Ignition panel
13. Safety Lanyard
14. Hydraulic helm pump
15. Console Screen
16. Maintenance access hatch
17. Maintenance access hatch
18. Anti Condensation Valve
19. 240V Ships Power Connection





## ENGINES & DRIVES

The engine fitted to the craft is a Cummins 5.9QSB (355hp) marine diesel, directly driving via a cardan drive shaft (to be greased regularly) a Hamilton 274 Water jet. Both Engine & Waterjet have a limited dry running capability.

### **IMPORTANT: DRY RUNNING WARNING**

**ONLY LOW ENGINE RPM (IDLE) WHEN BOAT IS OUT OF WATER  
HIGH RPM MAY CAUSE DAMAGE TO COOLING SYSTEM AND WATERJET  
KEEP DRY RUNNING TIME TO A MINIMUM**

*Please refer to engine and water jet manufacturer's manuals for details on operation and maintenance.*

### Engine Starting

Engine starting is via a start panel mounted down to the starboard side of the steering wheel. The panel consists of an ignition switch, and combined start / stop button.

To start engine ensure throttle arm (red handle) is in the idle position, bucket control arm (black handle) is in the neutral position and safety lanyard is attached. Turn ignition switch to on position and Press the start/stop button, release when engine starts. (See Cummins operation & Maintenance manual for more detail).



**IMPORTANT:**

**HELMSMAN MUST WEAR SAFETY CUT OUT  
LANYARD AT ALL TIMES**

### Drives

The craft is fitted with a Hamilton 274 water jet. Engine cooling water is supplied to the engine from a water pick up on the jet unit. The water passes through a large RAW water strainer located on the port side of the engine room.

Access to the engine and water jet is via the hinging engine box lid which is assisted with two large stainless steel gas springs. The engine box lid is secured in place with two large protex catches located on the front face of the engine box.

## FUEL SYSTEM

The craft is fitted with a 200Ltr HDPE under deck fuel tank located in a dedicated compartment below the crew seating. The tank is fully removable and is accessed via a removable deck plate. The fuel tank is secured using stainless steel bolts through longitudinal members in the tank space. When re-placing the deck plate the M8 fasteners must be re-installed using Bostik thread sealant.

The tank comes with 1 x 1/2" BSP Off take, 1 x 3/8" BSP return, 1 x 1/2" BSP Breather and a 150mm Diameter inspection plate with a Wema sender mounted in the centre. The fuel sender is a vertical hollow tube containing reed switches at pre-determined intervals. These are calibrated as accurately as possible but because of the irregular shape of the fuel tank and the tolerances of the reed switches, the indication on the gauge must be used as a guide only.

The fuel system consists of a 200 litre fuel tank feeding the engine via a fuel shut off valve (accessible via Bailey Marine hatch on the removable deck plate located forward of the engine box). From there the fuel flows to the engine through a Separ fuel / water separator, mounted at the front of the engine compartment.

The Fuel level is displayed on the multi function gauge at the helm position .

The Fuel tank is filled via a two inch Diameter pop-out fuel filler mounted in the rear of the helmsman's seat pod.

The fuel tank compartment should be checked periodically for water ingress. This can be done by unscrewing the drain bung located in the forward bulkhead of the engine room. Any water in the fuel tank compartment will then drain into the main bilge.



### **IMPORTANT**

***The fuel shut off valve to the engine is located below a waterproof deck hatch in the main deck plate.***

## STEERING & CONTROL

The craft is fitted with a Seastar Hydraulic helm pump which gives smooth and effortless steering control. The hydraulic fluid can be topped up on the top of the helm pump, and can be bled from the rear of the unit. (See manufacturers literature supplied for more detail). The pump feeds via hydraulic hoses to a Seastar actuating cylinder attached to transom which is connected to the tiller arm on the water jet.

**IMPORTANT**

*Avoid skin contact with hydraulic fluid. If such a substance is swallowed or comes into contact with the eyes, seek medical advice immediately*

## ELECTRICAL SYSTEM

The electrical system on the craft is a 12v negative earth return system. The system consists of a main distribution box mounted on the inside of the hinging access hatch located on the front face of the helm console. The box contains circuit breakers that protect equipment fitted to the craft. In the event of an overload related problem with any piece of equipment the relevant circuit breaker will trip. To reset a circuit breaker, open the lid of the distribution box, and press down the button on the breaker to reset it.

### Batteries & Isolators

The craft is equipped with two OPTIMA Red top High Performance marine batteries 50ah 12v DC of the maintenance free type carried in a vented housing in the console. Access is via the hatch on the aft face of the console. The batteries are secured with stainless steel ratchet straps that should be checked periodically for security.

The craft is fitted with a single rotary battery isolator. The isolator is located in the lower storage compartment. Power cables feeding into the storage compartment run through watertight cable glands throughout.



**WARNING:** *Never set the isolator to 'both' in the event of one of the batteries failing, as the 'good' battery could discharge into the 'bad' battery.*

Always rectify any battery faults as soon as possible, and never launch with a faulty battery.

### Battery Charging

Under normal running conditions the batteries are charged via the engine alternator. External charging is provided via a twin output charger powered from the 240v ships power connection mounted in a recess on the Starboard side of the console. Under normal running conditions the isolator should be set to either battery 1 or battery 2. In the event of one of the batteries failing, the isolator should be set to the other battery.

## External 12V Power Socket(s)

The craft has a 12V-power socket located on the top face of the console and also at the rear of the craft on the 'A' frame 12v junction box. These can be used to power the 12v search light, located on a spike in the storage compartment.

Both sockets are protected by 5A circuit breakers mounted in the main distribution box located inside the console.

## Switches

All of the switches on the craft are Apem type 3600 toggle switches. All switches feed through manual reset circuit breakers in the main distribution box (located inside the console). Switches fitted to the craft are housed inside vented aluminium switch boxes. The main switch panel is fitted with a multi-pin connector for quick and easy removal.

## Lighting

The craft is fitted with a full suite of Aqua Signal Series 40 Navigation Lights (Port, Starboard, Stern & Steaming)

The craft also features Red LED deck lighting in the crew deck area and white LED engine room lighting.

The following diagram is Wiring Schematic Drawing



## Main Distribution Box wiring numbers.

### Distribution Box Wire Numbers.

Terminal	Description	Wire Size	Rating	From	To:
1.	Bilge Pump Feed	2 mm <sup>2</sup> Red	12 Amp	CB	Socket 1
2.	Navigation Lights Feed	1 mm <sup>2</sup> Red	10 Amp	CB	Socket 2
3.	VHF Feed	1 mm <sup>2</sup> Red	6 Amp	CB	Socket 3
4.	GPS/ Chart Feed	1 mm <sup>2</sup> Red	1 Amp	CB	Socket 4
5.	Aux 4 Feed	1 mm <sup>2</sup> Red	5 Amp	CB	Socket 5
6.	Radar Reflector Feed	1 mm <sup>2</sup> Red	5 Amp	CB	Socket 6
7.	Horn Feed	1 mm <sup>2</sup> Red	4 Amp	CB	Socket 7
8.	Deck Light Feed	1 mm <sup>2</sup> Red	0.2 Amp	CB	Socket 8
9.	Engine Room Lights Feed	1 mm <sup>2</sup> Red	0.2 Amp	CB	Socket 9
10.	Aux .1 Feed	1 mm <sup>2</sup> Red	1 Amp	CB	Socket 10
11.	Aux. 2 Feed	1 mm <sup>2</sup> Red	2 Amp	CB	Socket 11
12.	Aux. 3 Feed	1 mm <sup>2</sup> Red	5 Amp	CB	Socket 12
13.	Bilge Pump Switched	2 mm <sup>2</sup> Red	-	Plug 1	Terminal 13
14.	Navigation Lights Switched	1 mm <sup>2</sup> Red	-	Plug 2	Terminal 14
15.	VHF Switched	1 mm <sup>2</sup> Red	-	Plug 3	Terminal 15
16.	GPS/ Chart Switched	1 mm <sup>2</sup> Red	-	Plug 4	Terminal 16
17.	Aux 4 Switched	1 mm <sup>2</sup> Red	-	Plug 5	Terminal 17
18.	Radar Reflector Switched	1 mm <sup>2</sup> Red	-	Plug 6	Terminal 18
19.	Horn Switched	1 mm <sup>2</sup> Red	-	Plug 7	Terminal 19
20.	Deck Light Switched	1 mm <sup>2</sup> Red	-	Plug 8	Terminal 20
21.	Engine Room Lights Switched	1 mm <sup>2</sup> Red	-	Plug 9	Terminal 21
22.	Aux .1 Switched	1 mm <sup>2</sup> Red	-	Plug 10	Terminal 22
23.	Aux. 2 Switched	1 mm <sup>2</sup> Red	-	Plug 11	Terminal 23
24.	Aux. 3 Switched	1 mm <sup>2</sup> Red	-	Plug 12	Terminal 24
25.	12 Volt Socket	1 mm <sup>2</sup> Red	5 Amp	CB	Terminal 25
26.	Instrument Panel Fan	1 mm <sup>2</sup> Red	0.05 Amp	CB	Terminal 26
27.	Engine ECM	6 mm <sup>2</sup> Red	25 Amp	CB	Terminal 27
28.	Fire Pro	1 mm <sup>2</sup> Red	5 Amp	CB	Terminal 28
29.	Spare	1 mm <sup>2</sup> Red	2 Amp	CB	Terminal 29

**Distribution Box.**

Wire Number	Description	Wire Size	
<b>18 Way Socket Distribution Box.</b>			
Terminal	No.		
1	1	Bilge Pump Feed	2 mm <sup>2</sup> Red To CB
2	2	Navigation Lights Feed	1 mm <sup>2</sup> Red To CB
3	3	VHF Feed	1 mm <sup>2</sup> Red To CB
4	4	GPS/ Chart Feed	1 mm <sup>2</sup> Red To CB
5	5	Echo Feed	1 mm <sup>2</sup> Red To CB
6	6	Radar Reflector Feed	1 mm <sup>2</sup> Red To CB
7	7	Horn Feed	1 mm <sup>2</sup> Red To CB
8	8	Deck Light Feed	1 mm <sup>2</sup> Red To CB
9	9	Engine Room Lights Feed	1 mm <sup>2</sup> Red To CB
10	10	Aux .1 Feed	1 mm <sup>2</sup> Red To CB
11	11	Aux. 2 Feed	1 mm <sup>2</sup> Red To CB
12	12	Aux. 3 Feed	1 mm <sup>2</sup> Red To CB
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	Negative	1 mm <sup>2</sup> Black To Terminal
<b>18 Way Plug Distribution Box.</b>			
Terminal	No.		
1	13	Bilge Pump Switched.	2 mm <sup>2</sup> Red To Terminal 13
2	14	Navigation Lights Switched	1 mm <sup>2</sup> Red To Terminal 14
3	15	VHF Switched	1 mm <sup>2</sup> Red To Terminal 15
4	16	GPS/ Chart Switched	1 mm <sup>2</sup> Red To Terminal 16
5	17	Echo Switched	1 mm <sup>2</sup> Red To Terminal 17
6	18	Radar Reflector Switched	1 mm <sup>2</sup> Red To Terminal 18
7	19	Horn Switched	1 mm <sup>2</sup> Red To Terminal 19
8	20	Deck Light Switched	1 mm <sup>2</sup> Red To Terminal 20
9	21	Engine Room Lights Switched	1 mm <sup>2</sup> Red To Terminal 21
10	22	Aux .1 Switched	1 mm <sup>2</sup> Red To Terminal 22
11	23	Aux. 2 Switched	1 mm <sup>2</sup> Red To Terminal 23
12	24	Aux. 3 Switched	1 mm <sup>2</sup> Red To Terminal 24
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	-	-

**Switch Panel.**

Wire Number	Description	Wire Size	To:
<b>18 Way Plug Switch Panel.</b>			
Terminal	No.		
1	1	Bilge Pump Feed	2 mm <sup>2</sup> Red To Switch T2
2	2	Navigation Lights Feed	1 mm <sup>2</sup> Red To Switch T2
3	3	VHF Feed	1 mm <sup>2</sup> Red To Switch T2
4	4	GPS/ Chart Feed	1 mm <sup>2</sup> Red To Switch T2
5	5	Echo Feed	1 mm <sup>2</sup> Red To Switch T2
6	6	Radar Reflector Feed	1 mm <sup>2</sup> Red To Switch T2
7	7	Horn Feed	1 mm <sup>2</sup> Red To Switch T2
8	8	Deck Light Feed	1 mm <sup>2</sup> Red To Switch T2
9	9	Engine Room Lights Feed	1 mm <sup>2</sup> Red To Switch T2
10	10	Aux .1 Feed	1 mm <sup>2</sup> Red To Switch T2
11	11	Aux. 2 Feed	1 mm <sup>2</sup> Red To Switch T2
12	12	Aux. 3 Feed	1 mm <sup>2</sup> Red To Switch T2
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	Negative	1 mm <sup>2</sup> Black To LED Negative
<b>18 Way Socket Switch Panel.</b>			
Terminal	No.		
1	13	Bilge Pump Switched.	2 mm <sup>2</sup> Red To Switch T1
2	14	Navigation Lights Switched	1 mm <sup>2</sup> Red To Switch T1
3	15	VHF Switched	1 mm <sup>2</sup> Red To Switch T1
4	16	GPS/ Chart Switched	1 mm <sup>2</sup> Red To Switch T1
5	17	Echo Switched	1 mm <sup>2</sup> Red To Switch T1
6	18	Radar Reflector Switched	1 mm <sup>2</sup> Red To Switch T1
7	19	Horn Switched	1 mm <sup>2</sup> Red To Switch T1
8	20	Deck Light Switched	1 mm <sup>2</sup> Red To Switch T1
9	21	Engine Room Lights Switched	1 mm <sup>2</sup> Red To Switch T1
10	22	Aux .1 Switched	1 mm <sup>2</sup> Red To Switch T1
11	23	Aux. 2 Switched	1 mm <sup>2</sup> Red To Switch T1
12	24	Aux. 3 Switched	1 mm <sup>2</sup> Red To Switch T1
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	-	-



**Loom Part Number: 703964**

**Loom Length 1m. Finish: Flexible Conduit. (NOT SPLIT).**

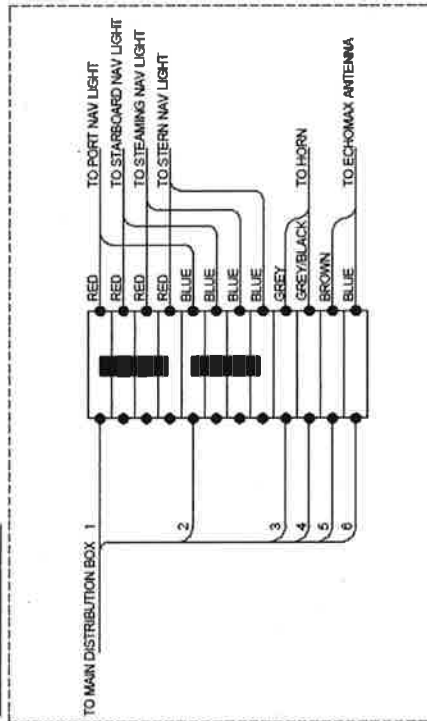
**2 Looms required. Each Loom has 1x 18 Way Plug, and 1 x 18 Way Socket on.**

Wire Number	Description	Wire Size	
<b>18 Way Plug Loom.</b>			
Terminal	No.		
1	1	Bilge Pump	2 mm <sup>2</sup> Red -
2	2	Navigation Lights	1 mm <sup>2</sup> Red -
3	3	VHF	1 mm <sup>2</sup> Red -
4	4	GPS/ Chart	1 mm <sup>2</sup> Red -
5	5	Echo	1 mm <sup>2</sup> Red -
6	6	Radar Reflector	1 mm <sup>2</sup> Red -
7	7	Horn	1 mm <sup>2</sup> Red -
8	8	Deck Light	1 mm <sup>2</sup> Red -
9	9	Engine Room Lights	1 mm <sup>2</sup> Red -
10	10	Aux .1	1 mm <sup>2</sup> Red -
11	11	Aux. 2	1 mm <sup>2</sup> Red -
12	12	Aux. 3	1 mm <sup>2</sup> Red -
13	13	Spare.	1 mm <sup>2</sup> Red -
14	-	-	- -
15	-	-	- -
16	-	-	- -
17	-	-	- -
18	-	Negative	1 mm <sup>2</sup> Black -
<b>18 Way Socket Loom.</b>			
Terminal	No.		Wire Size
1	1	Bilge Pump	2 mm <sup>2</sup> Red -
2	2	Navigation Lights	1 mm <sup>2</sup> Red -
3	3	VHF	1 mm <sup>2</sup> Red -
4	4	GPS/ Chart	1 mm <sup>2</sup> Red -
5	5	Echo	1 mm <sup>2</sup> Red -
6	6	Radar Reflector	1 mm <sup>2</sup> Red -
7	7	Horn	1 mm <sup>2</sup> Red -
8	8	Deck Light	1 mm <sup>2</sup> Red -
9	9	Engine Room Lights	1 mm <sup>2</sup> Red -
10	10	Aux .1	1 mm <sup>2</sup> Red -
11	11	Aux. 2	1 mm <sup>2</sup> Red -
12	12	Aux. 3	1 mm <sup>2</sup> Red -
13	13	Spare.	1 mm <sup>2</sup> Red -
14	-	-	- -
15	-	-	- -
16	-	-	- -
17	-	-	- -
18	-	Negative	1 mm <sup>2</sup> Black -

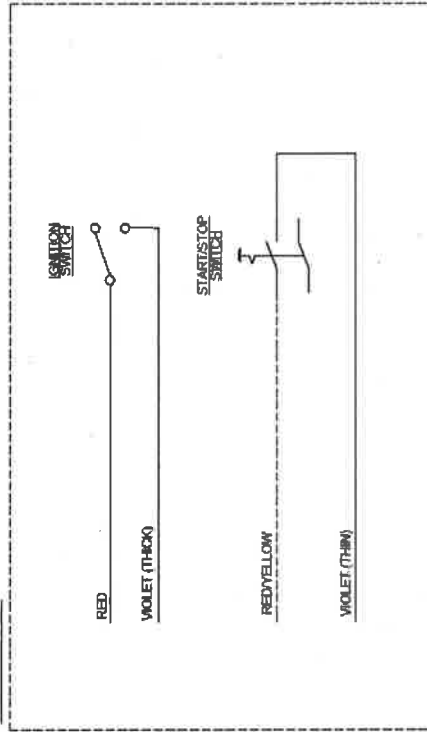


IF IN DOUBT SHOUT

A-FRAME JUNCTION BOX



IGNITION PANEL



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DESIGN AND DRAWING CHECKED BY: [ ] DATE: [ ]		TITLE <b>Job #151-152 750SR Wiring Schematic</b>		REV. <b>A</b>	
DRAWING NO. <b>5429_(A)</b>		Marine Specialised Technology Ltd Unit 2, Atlantic Way Ballymoss, Ballymoss Park L34 6E Tel: +353(0)157 708 412 Fax: +353(0)157 708 413 www.marinespecialised.com			
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## BILGE SYSTEM

The craft is fitted with two bilge pumps, as follows:

**Electric:** A Johnson L2200 electric bilge pump is fitted in the engine / jet compartment. The pump is fitted with an electronic float switch. The pump is controlled via a two position switch. Positions are ON/OFF. During normal operations the bilge should be switched to OFF, in this position, once water reaches a certain level in the bilge the float switch will trigger a check bilge LED on the switch panel. It will also sound an audible alarm.

Upon the alarm bilges should be checked for contaminants, if clean switch pump on to empty bilge. The LED and audible alarm will automatically switch off once the level subsides.

**Manual:** A manual bilge pump (Whale Mk5 Universal) is located under a flip up deck plate on the top face of the engine box on the port side, and acts as a backup to the electric pump in the jet compartment. The handle for this pump is secured with clips on the side of the engine box.

### Bilge Pump Capacities:

Electric: Johnson L2200 – 120 Ltrs / Minute

Manual: Whale Mk5 Universal – 75 Ltrs / Minute

## RAW WATER SYSTEM

Engine cooling water is supplied from a water pick up on the water jet unit. The feed is continuous as the drive shaft is always turning (no gear box). The water feed passes through a seacock on the inside of the transom before passing through a raw water strainer mounted on the port side of the engine box. Prior to the RAW water strainer the feed is Tee'd off to a skin fitting on the hull, this is factory set to act as a pressure relief on the high pressure feed from the waterjet. From the water strainer, water is then piped to the engine mounted water pump. The engine has a dry run capability that allows the craft to be started in the stern ramp immediately prior to launch. Please observe the following warning.

***IMPORTANT DRY RUNNING WARNING  
ONLY LOW ENGINE RPM (IDLE) WHEN BOAT IS OUT OF WATER  
HIGH RPM MAY CAUSE DAMAGE TO COOLING SYSTEM AND WATERJET  
KEEP DRY RUNNING TIME TO A MINIMUM***

The RAW water strainer basket should be checked regularly for debris. If excessive debris is seen in the basket it should be removed and cleaned out.

Before removal of the RAW water strainer lid the sea water inlet at the transom must be closed off using the seacock.

***IMPORTANT  
ALWAYS ENSURE THAT SEACOCK IS OPEN PRIOR TO RESTARTING THE  
ENGINE***

## EXHAUST SYSTEM

The exhaust system is a 6" wet exhaust system comprising of an engine mounted riser/spray head leading into a short section of flexible hose and onto a Centek silencer unit. From the silencer unit is another short section of flexible hose leading onto a transom exhaust outlet with integral check valve to help eliminate back wash entering the exhaust line.

Fitted into the exhaust hose is a sensor to indicate loss of cooling water, this will alarm at the main console.

## **SELF RIGHTING FRAME & EQUIPMENT**

The craft comes fitted with a double 'A' Frame and full self righting equipment. In the event of a capsize the boat crew should swim to the aft of the overturned craft, deploy and grab onto the sailor saver lines fitted to the end cones of the sponsons. One of the crew members should then pull on the inflation handle which is clipped to the transom on the starboard side of the craft. This will actuate the self righting system and right the craft. Once the craft has righted, the bag can be quickly deflated via a large dump valve hatch which can be found on the underside of the bag.

## **STERN RAMP RELEASE AND RECOVERY SYSTEM**

The crafts stern ramp release/recovery system comprises, a bow deck mounted tripod with integral mooring bollard, Henriksen HPH Painter Release Hook and a Henriksen Release Handle mounted on the upper console instrument panel.

The system is very simple to operate, once the stern door is open and crew are ready to launch, push down on the painter release handle, this will allow the craft slide out of the stern ramp.

Before recovery into the ramp, the hook must be reset manually. Once reset, the ring on the painter line snaps into the hook (one handed operation). Nothing needs to be done at the release handle for the recovery operation.

## SPONSONS

The Sponsons fitted to the craft are a combination pneumatic and foam hybrid collar. This combines the qualities of a traditional inflatable collar which includes excellent air retention, durability and ease of repair with the qualities of solid foam fender which include even greater durability and resistance to impact and damage. The result is a collar system which has the shock deformation qualities of a pneumatic collar for excellent sea keeping with the durability of a foam fender without the associated weight.

The collar is manufactured from a neoprene / Hypalon reinforced nylon composite material in 1200gsm weight for the main construction and a 40mm low density closed cell polyurethane foam for the protection layer.

The collar is constructed by forming a Hypalon material into the tube of 450mm diameter. Onto the outer face, a 40mm thick protective foam layer is added. This is then finished with another layer of Hypalon. The tube is fitted to the craft so that it extends from the transom on the port side to the bow of the craft and back to the transom on the starboard side. The tube is divided up into seven compartments, 3 to port, 3 to starboard and 1 bow compartment, each of which may be individually inflated and deflated by low profile type valves. (Each compartment is also fitted with a pressure release valve). All seams are taped internally and externally.

The collar is attached to the hull using an adhesive system and additional reinforcement tapes applied both internally and externally to further strengthen the collar-hull interface. Additional reinforcement is provided by further rubbing strakes and localised wear patches.

The trimming specification of the Sponsons includes; triple fendering with additional cladding at the bow, internal and external lifelines, and fluted top wear patches.

Normal Operation Tube Inflation Pressure: - 1.5 P.S.I

Maximum Tube Inflation Pressure: - 2 P.S.I

For repairing tubes see instructions supplied with repair kit.



### **Important:**

**MAXIMUM TUBE INFLATION PRESSURE 2 PSI**

**DO NOT ATTEMPT TO REPAIR ANY DAMAGE WITHIN 1" OF A SEAM  
CONSULT MARINE SPECIALISED TECHNOLOGY**

## EQUIPMENT STOWAGE

Stowage areas on the craft are as follows:

- Large bow locker with aluminium hatch.
- 2 x Sponson stowage bags
- Stowage compartments under Helmsman's Jockey Pod
- Stowage compartment on front face of console
- Small Storage compartment on rear face of console

## FIRE EXTINGUISHERS

The craft is supplied with a portable 2kg powder fire extinguisher, mounted on the underside of the aft seat pod integral to the engine cover, on the starboard side.

To remove an extinguisher from its stowage bracket, remove any retaining straps (if fitted) pull the neck of the extinguisher towards you out of the bracket. To replace, insert the base into the stowage bracket first and then relocate the neck of the extinguisher into the bracket.

In the event of an engine fire there is an automatic fire extinguisher fitted inside the engine housing. This is mounted to the starboard longitudinal in the jet compartment, accessed through the engine box lid. If in the event of the engine room fire extinguisher discharging a dash board panel light will illuminate to indicate that the extinguisher has fired.

Each extinguisher has a pressure gauge; if the needle is in either red section, remove and replace the fire extinguisher.

## LIFTING

The craft is fitted with four 10mm Wichard folding lifting eyes, two are located on foredeck and two are located on the inside of the transom port & starboard. Each lifting eye is fitted with a stainless steel backing plate fitted to the outside of the hull. The lift points should be used in conjunction with the appropriately approved lifting strops and shackles (supplied).



### **Important:**

**LIFTING STROPS ARE UNEQUAL LENGTHS, AND SHOULD ONLY BE FITTED IN THE APPROPRIATE ORIENTATION AS INDICATED ON THE STROPS  
LIFTING IS NON MAN RIDING**



## CRAFT OPERATION

Firstly switch the battery isolator ON (by selecting either battery 1 or battery 2 (NOT BOTH) the battery isolator is located inside the storage compartment. Familiarise yourself with the various electrical equipment on board. Please consult the individual operation manuals for each of the devices.

### Pre Launch Boat Checks

- Check all hatches are closed
- Check transom drain bung is fitted (if applicable)
- Check all safety equipment is onboard
- Check cooling water intakes are clear
- Check fuel tanks for fuel
- Check fuel water separators for contamination
- Check steering operation
- Check all navigation lights
- Check Raw Water / sand trap Valve Positions are correct

### Pre Start Boat Checks

- Check fuel shut off valves are open and in the correct running position
- Check battery isolator is in the Bat 1 or Bat 2 position
- Check fuel gauges

### Post Engine Start Boat Checks

- Check all engine instrumentation and levels
- Check all navigation and radio equipment



# **MST 750-SR**

## *CRAFT MAINTENANCE*



## **GRP HULL**

General checks on the hull should consist of inspections for impact damage, paying special attention to sharp edges on the hull e.g. chines and spray rails. General cleaning practices and solutions can be used for removing any marine growth on the outside of the hull.

For hull repairs, please refer to Marine Specialised Technology or their approved representatives.

The bow locker is fitted with drain bungs, and should be drained into the bilge by removing the bungs. To drain any water from the outer hull compartments, the drain bungs fitted in the rear of the side longitudinal (port and starboard) should periodically be inspected for water ingress. These bungs are accessible through the engine room.

### **IMPORTANT ALWAYS REPLACE DRAIN BUNGS AFTER INSPECTION**

## **Sponsons**

Always clean off oil deposits as soon as possible, using soap and water or normal household detergent. **NEVER USE SOLVENTS.** It is advisable that the craft be cleaned before storing for any length of time by washing down with clean, fresh water. At this stage particular attention should be given to removing any small stones that may have wedged between the buoyancy tube and the hull. Allow the craft to dry and, if possible, stow away with tubes slightly inflated.

## **Engines**

All engine maintenance, whether weekly, monthly etc., is to be carried out to the manufacturers specifications. Complete repair and maintenance information can be found in the appropriate manual.

## **Steering**

All hose and couplings on the steering hydraulic system should be checked periodically and checked for any signs of wear, salt build up and kept free of dirt and grit. All fittings should be checked to make sure they have not worked loose.

## **Water Jet**

All maintenance whether weekly or monthly etc, is to be carried out to the manufacturers specifications. Complete repair and maintenance information can be found in the appropriate manual.

For more detailed maintenance of steering assembly, please consult the manufacturer's manual.

## Fuel System

Check the fuel water separators regularly (located inside the engine box) regularly for any contamination; the water is heavier than the fuel and will settle to the bottom of the bow. Any such contamination can be drained out of the separator using the fittings on the unit.

Fuel filters should be checked periodically for contamination and cleaned when necessary. Replace all filters after **200hrs** of operation.

Regularly clean out fuel filler recess to help eliminate the possibility of contaminants getting into the fuel system.

Do not use fuel that has been stowed on board for more than three months.

Also, the fuel tank compartment should be checked periodically for signs of water ingress. This can be done by unscrewing the drain bung located in the forward bulkhead of the engine room. Any water in the fuel tank compartment will then drain into the main bilge. (Always replace bung after inspection)

## Console, Hatches & Deck Plate

The main craft console should be checked regularly during the first few months of operation, with all securing bolts in the base being tightened, this is whilst the console beds down on its sealing gasket. Checks should then be made monthly. Torque wrench setting 13Nm.

All rubber seals on aluminium hatches & engine box should be checked periodically for signs of wear, damage, dirt and grit. Securing catches should also be checked and adjusted if necessary.

The main deck plate above the under deck fuel tank should be checked regularly during the first few months of operation, with all securing bolts being tightened, this is whilst the deck plate beds down on its sealing gasket. Checks should then be made monthly.

Torque wrench setting 13Nm



## 750-SR

Manual de funcionamiento y mantenimiento

# Manual de funcionamiento y mantenimiento

## Información importante

Este manual incluye las instrucciones de funcionamiento y mantenimiento de la embarcación MST con motor instalado a bordo. Lea el manual antes de utilizar la embarcación. Este manual se ha diseñado como guía de referencia durante la vida útil de la embarcación, y, por tanto, se debe conservar para un futuro uso.

El presente manual se debe leer junto con los manuales que hubieran proporcionado los fabricantes para cada elemento, por ejemplo, los motores, las transmisiones y el cargador de batería, etc.

Esta balsa es una nave de alto rendimiento y solo podrán navegarla personas responsables con la experiencia y formación relevantes.

Todas aquellas personas que deseen utilizar la embarcación deberán seguir detalladamente las instrucciones incluidas en este manual de funcionamiento y mantenimiento para poder garantizar una vida útil prolongada, segura y sin problemas. Por su propio interés, se recomienda a los propietarios que confíen en las tareas de mantenimiento y reparaciones de Marine Specialised Technology Ltd o de un representante autorizado. Si no fuera sí, toda garantía podría quedar invalidada.

Si necesita copias adicionales del presente manual o tiene alguna pregunta técnica en cuanto a su contenido, póngase en contacto con Marine Specialised Technology Ltd.

## Datos técnicos

Tipo de embarcación	Fabricante	Versión
RIB de "rampa de popa" MST 750-SR	Marine Specialised Technology Limited	2011-151 2011-152

### Dimensiones principales

Eslora total	7,50 m	Calado	0,45 m
Manga total	2,60 m	Altura de la balsa (desde la quilla, con el mástil bajado)	2,56 m
Eslora interna	5,90 m	Peso en seco	2.600 kg
Manga interna	1,60 m	Peso a plena carga (Combustible lleno)	2.770 kg

### Especificaciones generales

Carena	GRP	Soporte para botellas de oxígeno extraíble	Acero inoxidable marino
Flotadores	Plancha de Hypalon híbrida MST de 1500 g/m <sup>2</sup>	Asientos	Aluminio marino
Consola	Aluminio marino	Bastidor autoadrizable	Aluminio marino
Caja de motor	Aluminio marino		

### Detalles de estructura

Capacidad de combustible	200 litros	Hélices - Rodete/s:	T11.9
Fabricante y tipo de motor/es	Cummins 5.9QSB	Tipo de sistema de dirección	Hidráulico
Potencia	355 cv	Sistema eléctrico de la embarcación	12 V CC
Tipo de propulsión	Propulsor a chorro de agua (con kit de funcionamiento en seco) Hamilton 274 (5 grados)	Tipo de batería/s	Optima Red Top 55 Ah (2-OFF)

## ÍNDICE

- La seguridad es lo primero
  
- Familiarización con la embarcación y funcionamiento
  - Diseño de la embarcación y distribución
  - Controles y accesorios de la consola
  - Motor y transmisión
  - Sistema de combustible
  - Dirección y control
  - Sistema eléctrico
  - Sistema de achique
  - Sistema de aguas primarias
  - Sistema de escape
  - Bastidor autoadrizable y equipo
  - Liberación de la rampa de popa y sistema de recuperación
  - Flotadores híbridos
  - Almacenamiento del equipo
  - Extintores
  - Izado
  - Funcionamiento de la embarcación
  
- Mantenimiento general de la embarcación
  - Carena de plástico reforzado con vidrio (GRP)
  - Flotadores
  - Motor y transmisión
  - Sistema de combustible
  - Consola, escotillas y chapa de cubierta





## **MST 750-SR**

*La seguridad es lo primero*



## SEGURIDAD

Lea y asimile el presente manual. Asegúrese de que entiende cómo se utilizan todos los controles antes de intentar utilizar la embarcación.

### Incendio

- El combustible es altamente inflamable y el vapor del mismo es explosivo.
- No fume ni coloque lámparas descubiertas cerca del combustible. Asimismo, verifique si se producen chispas eléctricas o por el uso de herramientas.
- Un cortocircuito eléctrico también puede provocar un incendio, tome las precauciones necesarias a la hora de realizar reparaciones o modificaciones en el cableado.

### Descarga eléctrica

- El encendido de alta tensión puede ser peligroso, sobre todo para aquellas personas que sufran de problemas de corazón o que tengan un marcapasos. No opere sobre el sistema de encendido ni cerca del mismo si el motor está funcionando o encendido.
- La tensión de la red eléctrica también es peligrosa. Asegúrese de que la corriente que se utilice en el equipo se ha conectado a tierra correctamente. Las tomas de red se deben proteger con un disyuntor de dispositivo de corriente residual (DCR).

### Intoxicación por gases y humo

- Los gases de escape son nocivos, no encienda nunca un motor en un espacio cerrado.
- Los vapores de combustible también son nocivos, al igual que los vapores de algunos disolventes de limpieza y de pintura.

### **Sustancias nocivas o irritantes**

- Evite que su piel entre en contacto con el ácido de la batería y con cualquier combustible, fluido o lubricante, en especial anticongelante, fluido hidráulico y combustible diesel. No los extraiga con la boca. Si llega a tragar una sustancia de este tipo o le salta en los ojos, consulte con un médico.
- El contacto prolongado con los aceites del motor puede provocar cáncer de piel. Lleve guantes o utilice las cremas protectoras que sean necesarias.
- El refrigerante del aire acondicionado crea un gas nocivo si se coloca cerca de una llama, incluso cerca de un cigarro encendido. También puede provocar quemaduras si la piel entra en contacto con el mismo.

### **Sistema eléctrico y baterías**

- Las baterías contienen ácido sulfúrico que daña gravemente la ropa, los ojos y la piel. Tenga extremo cuidado al transportar o recargar las baterías.
- El gas hidrógeno que expulsa la batería es altamente explosivo. No provoque una chispa ni coloque una llama cerca de la misma. Tenga cuidado al conectar y desconectar los cargadores de la batería o los cables puente.
- No manipule la instalación eléctrica mientras el sistema reciba energía.

### **Quemaduras y escaldaduras**

- No retire el tapón del depósito de expansión (si lo hubiera) mientras el motor esté caliente.
- Tenga cuidado de no quemarse con el sistema de escape y con cualquier pieza del motor.

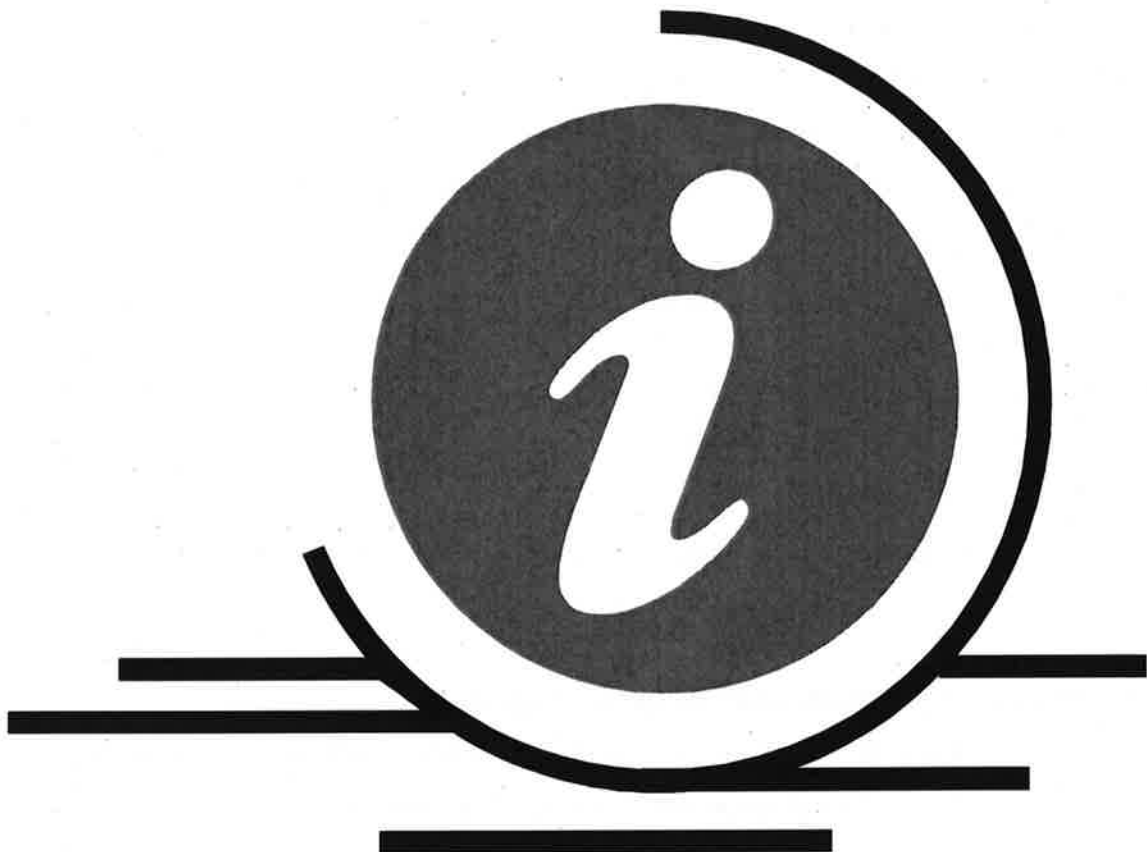
### **Sistema de inyección diésel (si lo hubiera)**

- Las bombas de inyección diésel suministran combustible a una presión muy elevada. Tenga especial cuidado al manipular inyectores y tubos de combustible.



## **MST 750-SR**

### **FAMILIARIZACIÓN CON LA EMBARCACIÓN Y FUNCIONAMIENTO**



## DISEÑO Y DESCRIPCIÓN DE LA EMBARCACIÓN

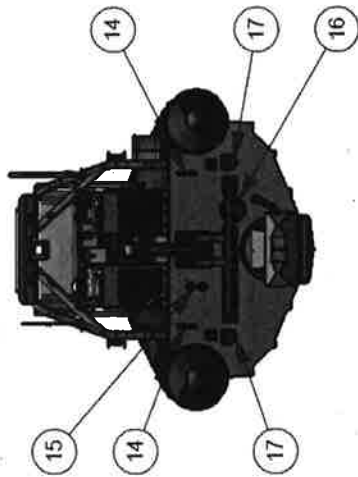
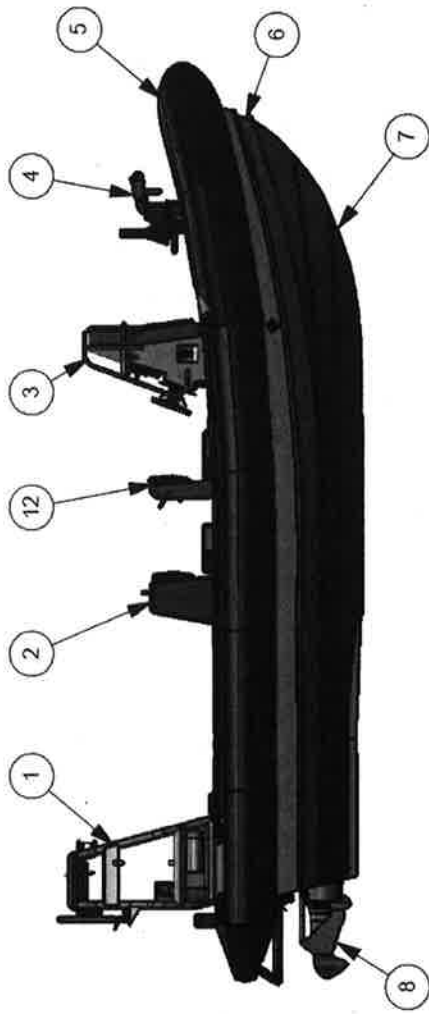
La MST 750SR es una balsa hinchable rígida (RIB) y de gran resistencia, diseñada especialmente para integrarse en rampas de popa. El diseño profundo de la carena en "V" ofrece una plataforma de trabajo seca, predecible y con capacidad con una manga amplia. La carena cuenta con redanes en toda la eslora, arista exterior a la borda, una forma de carena convexa y un arrufo generoso hacia la proa. La carena también cuenta con un cáncamo integrado de gran resistencia.

En el interior se encuentran elementos de aluminio marino como la caja de motor y la consola, las escotillas integradas de acceso para mantenimiento, las sillas tipo jockey, un compartimento de proa para almacenar el equipo, la bita, el bastidor autoadrizable de montaje posterior y la plataforma de la popa.

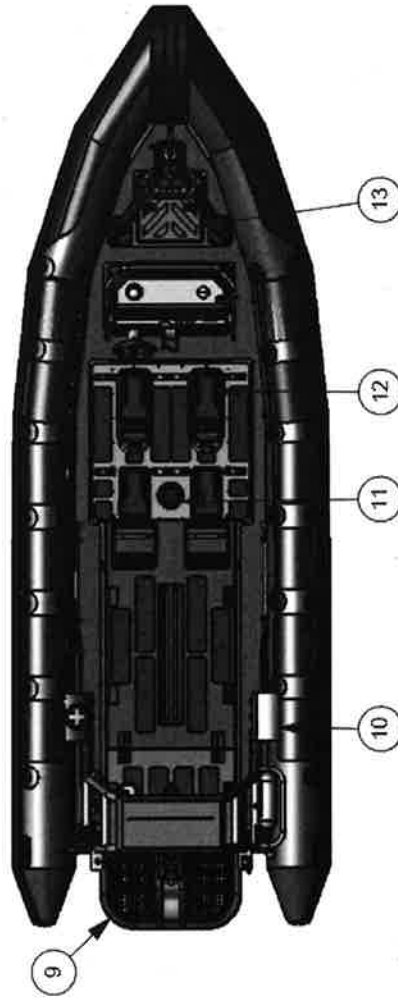
Las cuatro sillas tipo jockey para la tripulación se encuentran delante de la carcasa del motor, justo detrás de una consola de mandos de ancho completo con pantalla y barra de apoyo integrada. Las sillas tipo jockey del timón y del navegador reposan sobre una chapa de cubierta extraíble para facilitar el mantenimiento o la retirada del depósito de combustible. Dos sillas jockey adicionales para la tripulación sobresalen de la cara delantera de la caja de motor y se retiran por medio de bisagras cuando se abre la caja.

Las siguientes figuras ilustran la distribución de la embarcación

## Distribución de la embarcación



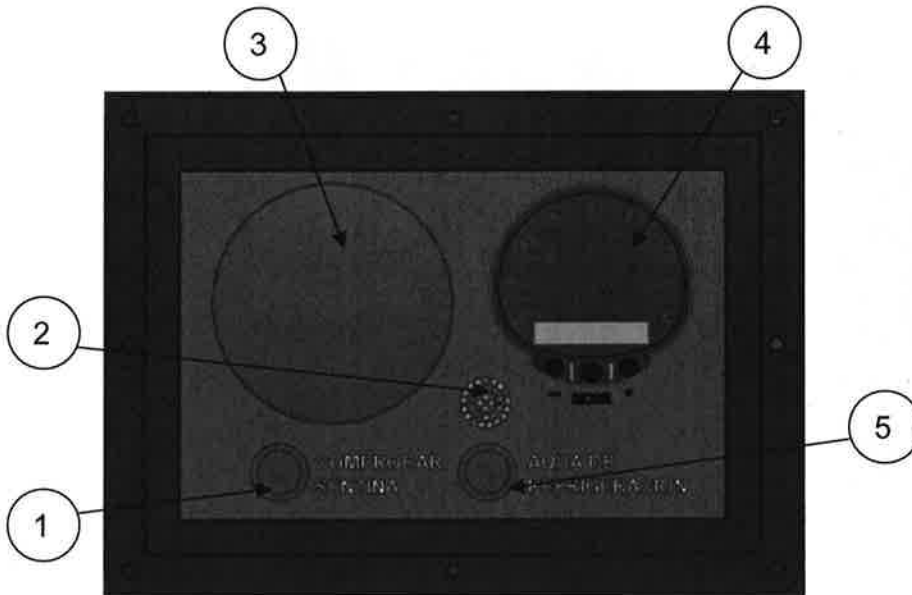
1. Bastidor autoadrizable con equipo de navegación
2. Caja de motor con bisagras y 2 sillas
3. Consola de mandos con pantalla y barra de apoyo
4. Lugar de recogida de la rampa con gancho de liberación en carga
5. Flotadores
6. Cáncamo
7. Quilla de acero inoxidable, protección de redanes y arista exterior
8. Propulsor a chorro de agua
9. Protección de popa con amarradero
10. Bolsa de almacenamiento montada en tubo
11. Válvula de apagado de depósito de combustible por debajo de la escotilla de cubierta
12. 2 sillas tipo jockey con almacenamiento
13. Escotilla del compartimento de proa
14. Pernos del espejo
15. Salidas de achique
16. Salidas de escape del espejo
17. Imbornal de drenaje de la cubierta



## CONTROLES Y ACCESORIOS DE LA CONSOLA DE LA EMBARCACIÓN

La embarcación cuenta con los siguientes accesorios/equipo:

- Cuadro de mando del motor MST (ver la imagen a continuación)



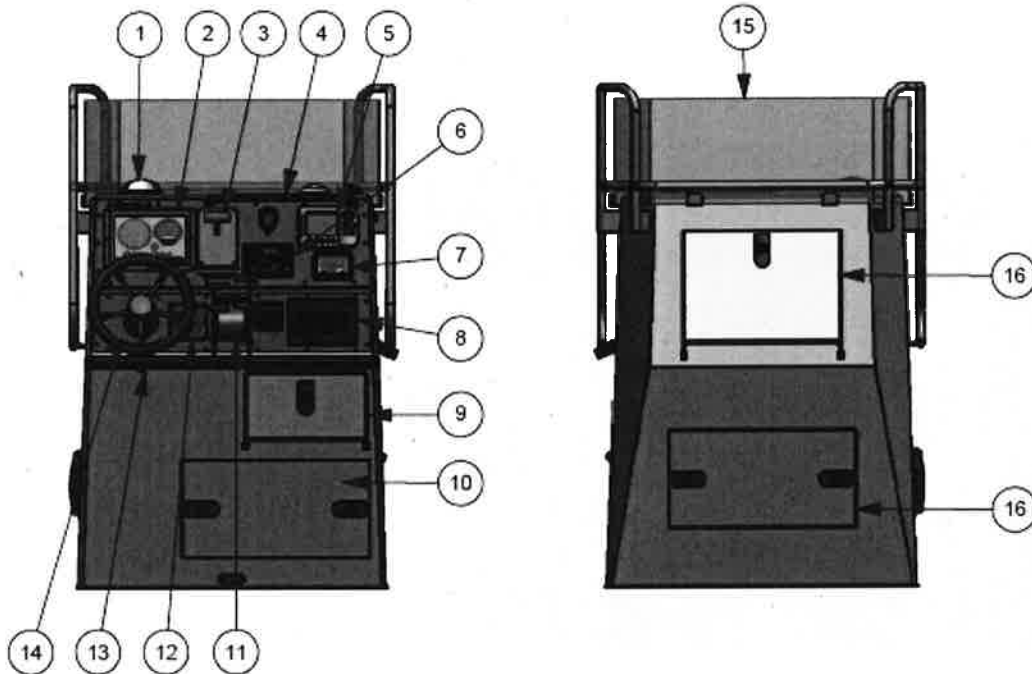
1. Comprobación de achique
2. Ventilador de desempañado
3. Pantalla de mandos diversos
4. Tacómetro inteligente Cummins
5. Agua de refrigerado

- Raymarine A50D
- Icom M505 VHF/DSC
- Unidad principal del reflector de radar EchoMax Active X-Band, situada en la caja de distribución principal de 12 v (manual de usuario incluido)
- Brújula de navegación (Ritchie Super sport SS-1002)
- Foco de búsqueda de mano (en compartimento de almacenamiento)
- Panel de interruptores (MST)
- Panel de arranque (MST)
- Palanca de mando Kobelt 2010 (Control de acelerador y álabe)
- Amarre de seguridad
- Bomba de timón hidráulica Hamilton Wagner
- Volante Ultra flex (350 mm de diámetro)
- Palanca para soltar la bita

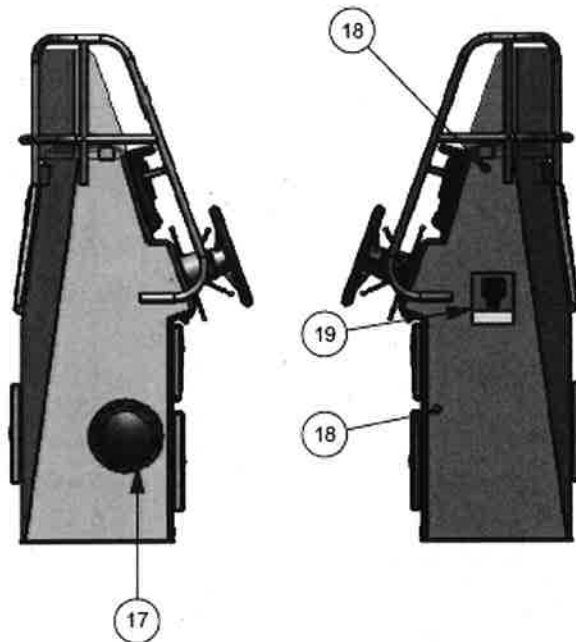
La consola de la embarcación cuenta con las siguientes funciones:

- Escotilla de acceso/mantenimiento de 600 x 350 mm (con bisagras)
- 2 escotillas de acceso/mantenimiento de 600 x 300 mm (extraíbles)
- Escotilla de compartimento de almacenamiento de 1 x 380 x 200 mm (con visagras)
- Escotilla redonda de TCL4 (acceso para mantenimiento)
- Pantalla de la consola
- Barra de apoyo de la consola

## Distribución de la consola



1. Brújula de navegación
2. Cuadro de mando
3. Palanca para soltar la bita
4. Asa de agarre
5. Raymarine A50D
6. Icom M505VHF/DSC
7. Panel de control del sistema Fire Pro
8. Panel de interruptores principal
9. Compartimento de almacenamiento con bisagras con aislador de batería principal
10. Compartimento de batería ventilado
11. Control de acelerador y álabe
12. Panel de encendido
13. Amarre de seguridad
14. Bomba de timón hidráulica
15. Pantalla de la consola
16. Escotilla de acceso para mantenimiento
17. Escotilla de acceso para mantenimiento
18. Válvula anti-condensación
19. Conexión eléctrica de barco de 240 V





## MOTORES Y TRANSMISIONES

El motor instalado en la embarcación es un motor diésel marino Cummins 5.9QSB (355 cv), que acciona directamente un propulsor a chorro de agua Hamilton 274 mediante un árbol cardán (que se debe lubricar con frecuencia). Tanto el motor como el propulsor a chorro de agua tienen una capacidad de funcionamiento en seco limitada.

### **IMPORTANTE: ADVERTENCIA SOBRE FUNCIONAMIENTO EN SECO**

**SOLO RPM BAJAS DEL MOTOR (RALENTÍ) CUANDO LA Balsa SE ENCUENTRE FUERA DEL AGUA**

**LAS RPM ALTAS PODRÍAN DAÑAR EL SISTEMA DE REFRIGERACIÓN Y EL PROPULSOR A CHORRO DE AGUA**

**INTENTE QUE EL FUNCIONAMIENTO EN SECO DURE EL MÍNIMO TIEMPO POSIBLE**

*Para más información sobre funcionamiento y mantenimiento, consulte los manuales de los fabricantes del motor y del propulsor a chorro de agua.*

### **Arranque del motor**

El arranque del motor se realiza por medio de un panel de arranque instalado bajo el lateral de estribor del volante. El panel se compone de un interruptor de encendido y un botón combinado de arranque/parada.

Para arrancar el motor, asegúrese de que la palanca del acelerador (palanca roja) se encuentra en posición de ralentí, que la palanca de control del álabe (palanca negra) se encuentra en punto muerto y que el amarre de seguridad está colocado. Coloque el interruptor de encendido en la posición "ON" y pulse el botón de arranque/parada. No lo suelte hasta que el motor haya arrancado. (Para más información, consulte el manual de funcionamiento y mantenimiento Cummins).



**IMPORTANTE:**

**EL TIMONEL DEBERÁ LLEVAR UN AMARRE CORTADO DE SEGURIDAD EN TODO MOMENTO**

### **Transmisiones**

La embarcación cuenta con un propulsor a chorro de agua Hamilton 274. El agua de refrigerado del motor se suministra al motor desde una toma de agua situada en la unidad del propulsor. El agua pasa por un gran filtro de aguas primarias situado en el lado de babor de la cámara de máquinas.

Se puede acceder al motor y al propulsor a chorro de agua a través de la compuerta de la caja de motor con bisagras, que se ayuda de dos grandes muelles a gas de acero inoxidable. La compuerta de la caja de motor se fija en

su sitio con dos grandes cierres Protex situados en la parte delantera de la caja de motor.

## SISTEMA DE COMBUSTIBLE

La embarcación cuenta con un depósito de combustible HDPE de 200 l bajo cubierta situado en un compartimento exclusivo bajo los asientos de la tripulación. El depósito se puede extraer completamente y se puede acceder al mismo a través de una chapa de cubierta extraíble. El depósito de combustible se fija mediante pernos de acero inoxidable a través de barras longitudinales en el espacio del depósito. Al volver a colocar la chapa de cubierta, los sujetadores M8 deben volver a instalarse mediante el sellador de tuercas Bostik.

El depósito cuenta con una válvula de salida BSP de 1/2", una válvula de retorno BSP de 3/8", un respiradero BSP de 1/2" y una placa de inspección de 150 mm de diámetro con una llave de paso Wema instalada en el centro. La llave de paso consiste en un tubo hueco en vertical que contiene interruptores de láminas a intervalos predeterminados. Estos se calibran de la forma más precisa posible, aunque, debido a la forma irregular del depósito de combustible y a las tolerancias de los interruptores de láminas, lo que indique el calibre solo se deberá utilizar como guía.

El sistema de combustible consiste en un depósito de combustible de 200 litros que alimenta al motor a través de la válvula de cierre (accesible a través de la placa extraíble de la escotilla Bailey Marine de la cubierta situada delante de la caja de motor). Desde ahí, el combustible fluye hacia el motor a través de un separador de agua y combustible Separ, instalado en la parte delantera del compartimento del motor.

El nivel de combustible se muestra en el calibre multifunción en la posición del timón.

El depósito de combustible se llena por medio de un tapón de recarga extraíble de dos pulgadas de diámetro instalado en la parte trasera del asiento del timonel.

El compartimento del depósito de combustible debe comprobarse periódicamente para ver si ha entrado agua. Este procedimiento se puede realizar desatornillando el tapón de drenado situado en el mamparo delantero de la cámara de máquinas. El agua que entre en el compartimento del depósito de combustible se drenará posteriormente al achique principal.



### **IMPORTANTE**

***La válvula de cierre de combustible para el motor se sitúa bajo una escotilla de cubierta impermeable en la chapa de cubierta principal.***

## DIRECCIÓN Y CONTROL

La embarcación cuenta con una bomba hidráulica de timón Seastar, que proporciona un control de navegación suave y sin esfuerzos. El fluido hidráulico se puede recargar por la parte superior de la bomba de timón, y se puede purgar desde la parte trasera de la unidad. (Para más información, consulte la documentación del fabricante). A través de los manguitos hidráulicos, la bomba alimenta a la dirección activando el cilindro acoplado al espejo, que está conectado con el brazo de timón del propulsor a chorro de agua.



### **IMPORTANTE**

*Evite que su piel entre en contacto con el fluido hidráulico. Si llega a tragar una sustancia de este tipo o entra en contacto con sus ojos, consulte con un médico inmediatamente.*

## SISTEMA ELÉCTRICO

El sistema eléctrico de la embarcación es un sistema de retorno a tierra negativo de 12 v. El sistema consta de una caja de distribución principal instalada en el interior de la escotilla de acceso con bisagras situada en la parte delantera de la consola del timón. La caja contiene disyuntores que protegen el equipo instalado en la embarcación. En el caso de que se de un problema de sobrecarga con alguna parte del equipo, se activará el disyuntor correspondiente. Para reiniciar un disyuntor, abra la compuerta de la caja de distribución y presione el botón del disyuntor para reiniciarlo.

### Baterías y aisladores

La embarcación cuenta con dos baterías marinas de alto rendimiento OPTIMA Red top de 50ah y 12v CC que no requieren mantenimiento situadas en una carcasa ventilada dentro de la consola. El acceso se realiza a través de la escotilla en el lado de popa de la consola. Las baterías se fijan con correas de trinquete de acero inoxidable que se deben comprobar periódicamente por razones de seguridad.

La embarcación cuenta con un aislador de batería de rotación única. El aislador se sitúa en el compartimento de almacenamiento inferior. Los cables de alimentación que se encuentran en el compartimento de almacenamiento recorren el prensaestopas de estanqueidad.



**ADVERTENCIA:** *Nunca coloque el aislador en la posición para "ambas" en caso de que falle una de las baterías, ya que la batería "buena" podría descargarse en la batería "mala".*

Nunca rectifique un fallo de batería cuanto antes, ni lance una a batería defectuosa.

### Recarga de la batería

En condiciones de funcionamiento normales se cargan a través del alternador del motor. La carga externa se realiza a través de un cargador de salida doble alimentado desde la conexión eléctrica de barco de 240v instalada en un receso de la parte de estribor de la consola. En condiciones de funcionamiento normales, el aislador debe configurarse en la batería 1 o en la batería 2. En caso de que falle una de las baterías, el aislador se deberá configurar en la otra batería.

## Enchufe/s externo/s de 12 V

La embarcación cuenta con un enchufe de 12 V situado en la parte superior de la consola y en la parte trasera de la embarcación, sobre la caja de empalmes de 12v del bastidor "A". Estos se pueden utilizar para alimentar el foco de búsqueda de 12 v situado en un espigón del compartimento de almacenamiento.

Ambos enchufes están protegidos por disyuntores de 5A instalados en la caja de distribución principal situada dentro de la consola.

## Interruptores

Todos los interruptores de la embarcación son conmutadores de palanca 3600 de tipo Apem. Todos los interruptores se alimentan a través de los disyuntores de reinicio manual de la caja de distribución principal (situada en el interior de la consola). Los interruptores de la embarcación se encuentran dentro de cajas mando de aluminio ventiladas. El panel de interruptores principal cuenta con un conector multipolar que se puede retirar de forma rápida y sencilla.

## Iluminación

La embarcación cuenta con un juego completo de luces de navegación de la serie 40 de Aqua Signal (babor, estribor, popa y tope).

La embarcación también cuenta con LED rojos para la iluminación de cubierta en la zona de cubierta de la tripulación y LED blancos para la iluminación de la cámara de máquinas.

El siguiente diagrama muestra un esquema del cableado:



## Números de cableado de la caja de distribución principal.

### Números de los cables de la caja de distribución

Terminal	Descripción	Tamaño de cable	Potencia nominal	Desde	Hasta
1.	Alimentación de la bomba de achique	2 mm <sup>2</sup> Rojo	12 Amp	Disyuntor	Enchufe 1
2.	Alimentación de las luces de navegación	1 mm <sup>2</sup> Rojo	10 Amp	Disyuntor	Enchufe 2
3.	Alimentación de VHF	1 mm <sup>2</sup> Rojo	6 Amp	Disyuntor	Enchufe 3
4.	Alimentación de GPS/Carta de navegación	1 mm <sup>2</sup> Rojo	1 Amp	Disyuntor	Enchufe 4
5.	Alimentación aux. 4	1 mm <sup>2</sup> Rojo	5 Amp	Disyuntor	Enchufe 5
6.	Alimentación del reflector de radar	1 mm <sup>2</sup> Rojo	5 Amp	Disyuntor	Enchufe 6
7.	Alimentación de sirena	1 mm <sup>2</sup> Rojo	4 Amp	Disyuntor	Enchufe 7
8.	Alimentación de la luz de cubierta	1 mm <sup>2</sup> Rojo	0,2 Amp	Disyuntor	Enchufe 8
9.	Alimentación de las luces de la cámara de máquinas	1 mm <sup>2</sup> Rojo	0,2 Amp	Disyuntor	Enchufe 9
10.	Alimentación aux. 1	1 mm <sup>2</sup> Rojo	1 Amp	Disyuntor	Enchufe 10
11.	Alimentación aux. 2	1 mm <sup>2</sup> Rojo	2 Amp	Disyuntor	Enchufe 11
12.	Alimentación aux. 3	1 mm <sup>2</sup> Rojo	5 Amp	Disyuntor	Enchufe 12
13.	Bomba de achique conectada	2 mm <sup>2</sup> Rojo	-	Enchufe 1	Terminal 13
14.	Luces de navegación encendidas	1 mm <sup>2</sup> Rojo	-	Enchufe 2	Terminal 14
15.	VHF conectado	1 mm <sup>2</sup> Rojo	-	Enchufe 3	Terminal 15
16.	GPS/carta de navegación conectado	1 mm <sup>2</sup> Rojo	-	Enchufe 4	Terminal 16
17.	Aux. 4 conectado	1 mm <sup>2</sup> Rojo	-	Enchufe 5	Terminal 17
18.	Reflector de radar encendido	1 mm <sup>2</sup> Rojo	-	Enchufe 6	Terminal 18
19.	Sirena encendida	1 mm <sup>2</sup> Rojo	-	Enchufe 7	Terminal 19
20.	Luz de cubierta encendida	1 mm <sup>2</sup> Rojo	-	Enchufe 8	Terminal 20
21.	Luces de la cámara de máquinas encendidas	1 mm <sup>2</sup> Rojo	-	Enchufe 9	Terminal 21
22.	Aux. 1 conectado	1 mm <sup>2</sup> Rojo	-	Enchufe 10	Terminal 22
23.	Aux. 2 conectada	1 mm <sup>2</sup> Rojo	-	Enchufe 11	Terminal 23
24.	Aux. 3 conectada	1 mm <sup>2</sup> Rojo	-	Enchufe 12	Terminal 24
25.	Enchufe de 12 voltios	1 mm <sup>2</sup> Rojo	5 Amp	Disyuntor	Terminal 25
26.	Ventilador del cuadro de mando	1 mm <sup>2</sup> Rojo	0,05 Amp	Disyuntor	Terminal 26
27.	Motor ECM	6 mm <sup>2</sup> Rojo	25 Amp	Disyuntor	Terminal 27
28.	Fire Pro	1 mm <sup>2</sup> Rojo	5 Amp	Disyuntor	Terminal 28
29.	Repuesto	1 mm <sup>2</sup> Rojo	2 Amp	Disyuntor	Terminal 29

**Caja de distribución.**

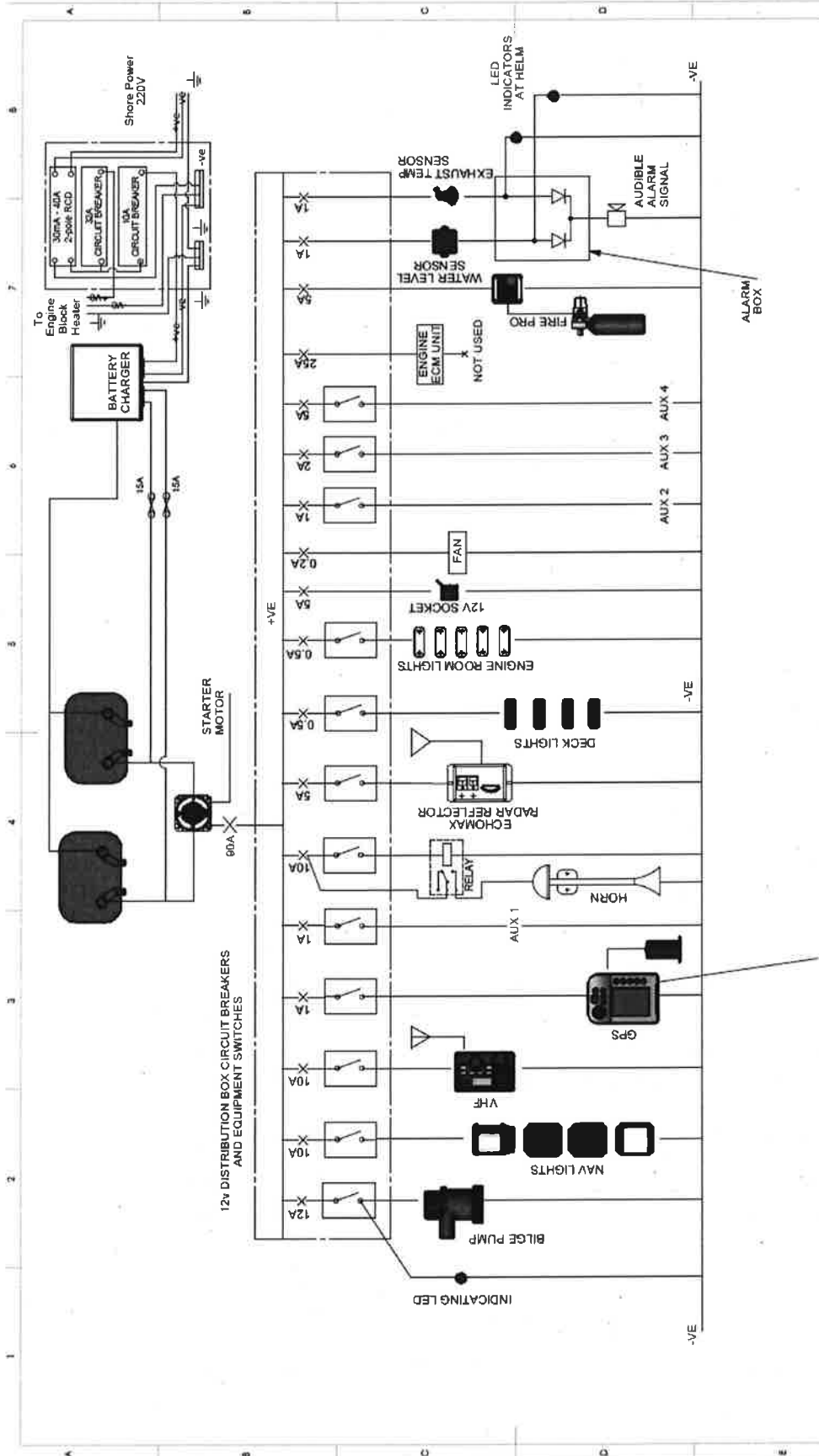
Número de cable		Descripción	Tamaño de cable	
<b>Caja de distribución del enchufe de 18 ramas.</b>				
Terminal	Nº			
1	1	Alimentación de la bomba de achique	2 mm <sup>2</sup> Rojo	A disyuntor
2	2	Alimentación de las luces de navegación	1 mm <sup>2</sup> Rojo	A disyuntor
3	3	Alimentación de VHF	1 mm <sup>2</sup> Rojo	A disyuntor
4	4	Alimentación de GPS/Carta de navegación	1 mm <sup>2</sup> Rojo	A disyuntor
5	5	Alimentación Echo	1 mm <sup>2</sup> Rojo	A disyuntor
6	6	Alimentación del reflector de radar	1 mm <sup>2</sup> Rojo	A disyuntor
7	7	Alimentación de sirena	1 mm <sup>2</sup> Rojo	A disyuntor
8	8	Alimentación de la luz de cubierta	1 mm <sup>2</sup> Rojo	A disyuntor
9	9	Alimentación de las luces de la cámara de máquinas	1 mm <sup>2</sup> Rojo	A disyuntor
10	10	Alimentación aux. 1	1 mm <sup>2</sup> Rojo	A disyuntor
11	11	Aux. aux. 2	1 mm <sup>2</sup> Rojo	A disyuntor
12	12	Aux. aux. 3	1 mm <sup>2</sup> Rojo	A disyuntor
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	Negativo	1 mm <sup>2</sup> Negro	A terminal
<b>Caja de distribución de la clavija de 18 ramas.</b>				
Terminal	Nº			
1	13	Bomba de achique conectada.	2 mm <sup>2</sup> Rojo	A terminal 13
2	14	Luces de navegación encendidas	1 mm <sup>2</sup> Rojo	A terminal 14
3	15	VHF conectado	1 mm <sup>2</sup> Rojo	A terminal 15
4	16	GPS/carta de navegación conectado	1 mm <sup>2</sup> Rojo	A terminal 16
5	17	Echo conectado	1 mm <sup>2</sup> Rojo	A terminal 17
6	18	Reflector de radar encendido	1 mm <sup>2</sup> Rojo	A terminal 18
7	19	Sirena encendida	1 mm <sup>2</sup> Rojo	A terminal 19
8	20	Luz de cubierta encendida	1 mm <sup>2</sup> Rojo	A terminal 20
9	21	Luces de la cámara de máquinas encendidas	1 mm <sup>2</sup> Rojo	A terminal 21
10	22	Aux. 1 conectado	1 mm <sup>2</sup> Rojo	A terminal 22
11	23	Aux. 2 conectada	1 mm <sup>2</sup> Rojo	A terminal 23
12	24	Aux. 3 conectada	1 mm <sup>2</sup> Rojo	A terminal 24
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-

**Panel de interruptores.**

Número de cable		Descripción	Tamaño de cable	Hasta
<b>Panel de interruptores de la clavija de 18 ramas.</b>				
Terminal	Nº			
1	1	Alimentación de la bomba de achique	2 mm <sup>2</sup> Rojo	A interruptor T2
2	2	Alimentación de las luces de navegación	1 mm <sup>2</sup> Rojo	A interruptor T2
3	3	Alimentación de VHF	1 mm <sup>2</sup> Rojo	A interruptor T2
4	4	Alimentación de GPS/Carta de navegación	1 mm <sup>2</sup> Rojo	A interruptor T2
5	5	Alimentación Echo	1 mm <sup>2</sup> Rojo	A interruptor T2
6	6	Alimentación del reflector de radar	1 mm <sup>2</sup> Rojo	A interruptor T2
7	7	Alimentación de sirena	1 mm <sup>2</sup> Rojo	A interruptor T2
8	8	Alimentación de la luz de cubierta	1 mm <sup>2</sup> Rojo	A interruptor T2
9	9	Alimentación de las luces de la cámara de máquinas	1 mm <sup>2</sup> Rojo	A interruptor T2
10	10	Alimentación aux. 1	1 mm <sup>2</sup> Rojo	A interruptor T2
11	11	Aux. aux. 2	1 mm <sup>2</sup> Rojo	A interruptor T2
12	12	Aux. aux. 3	1 mm <sup>2</sup> Rojo	A interruptor T2
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	Negativo	1 mm <sup>2</sup> Negro	A LED negativo
<b>Panel de interruptores del enchufe de 18 ramas.</b>				
Terminal	Nº			
1	13	Bomba de achique conectada.	2 mm <sup>2</sup> Rojo	A interruptor T1
2	14	Luces de navegación encendidas	1 mm <sup>2</sup> Rojo	A interruptor T1
3	15	VHF conectado	1 mm <sup>2</sup> Rojo	A interruptor T1
4	16	GPS/carta de navegación conectado	1 mm <sup>2</sup> Rojo	A interruptor T1
5	17	Echo conectado	1 mm <sup>2</sup> Rojo	A interruptor T1
6	18	Reflector de radar encendido	1 mm <sup>2</sup> Rojo	A interruptor T1
7	19	Sirena encendida	1 mm <sup>2</sup> Rojo	A interruptor T1
8	20	Luz de cubierta encendida	1 mm <sup>2</sup> Rojo	A interruptor T1
9	21	Luces de la cámara de máquinas encendidas	1 mm <sup>2</sup> Rojo	A interruptor T1
10	22	Aux. 1 conectado	1 mm <sup>2</sup> Rojo	A interruptor T1
11	23	Aux. 2 conectada	1 mm <sup>2</sup> Rojo	A interruptor T1
12	24	Aux. 3 conectada	1 mm <sup>2</sup> Rojo	A interruptor T1
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-



# Esquema del cableado



REV	BY	DATE	DESCRIPTION
A			

DESIGNER AND CHECKER	DATE	DATE

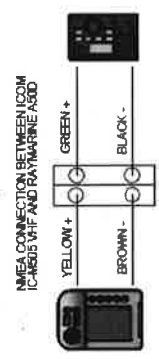
NAME	ST	DATE

DESIGN	CHKD	APPD	MATERIAL

FRSHIP	MA	DATE	DESCRIPTION	DESIGN	CHKD	APPD	MATERIAL



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Job #151-152  
 750SR Wiring Schematic  
 Rev. A

5429

SCALE 1:2

SHEET 1 OF 2

Número de pieza del **mazo de cables**: 703964

Longitud del mazo de cables **1 m**. Acabado: **Conducto flexible. (SIN DIVISIÓN)**.

Se requieren 2 mazos. Cada mazo cuenta con un enchufe de 18 ramas y una clavija de 18 ramas.

Número de cable	Descripción	Tamaño de cable	
<b>Mazo del enchufe de 18 ramas.</b>			
Terminal	Nº		
1	1	Bomba de achique	2 mm <sup>2</sup> Rojo -
2	2	Luces de navegación	1 mm <sup>2</sup> Rojo -
3	3	VHF	1 mm <sup>2</sup> Rojo -
4	4	GPS/Carta de navegación	1 mm <sup>2</sup> Rojo -
5	5	Echo	1 mm <sup>2</sup> Rojo -
6	6	Reflector de radar	1 mm <sup>2</sup> Rojo -
7	7	Sirena	1 mm <sup>2</sup> Rojo -
8	8	Luz de cubierta	1 mm <sup>2</sup> Rojo -
9	9	Luces de la cámara de máquinas	1 mm <sup>2</sup> Rojo -
10	10	Aux .1	1 mm <sup>2</sup> Rojo -
11	11	Aux. 2	1 mm <sup>2</sup> Rojo -
12	12	Aux. 3	1 mm <sup>2</sup> Rojo -
13	13	Repuesto.	1 mm <sup>2</sup> Rojo -
14	-	-	- -
15	-	-	- -
16	-	-	- -
17	-	-	- -
18	-	Negativo	1 mm <sup>2</sup> Negro -
<b>Mazo de la clavija de 18 ramas.</b>			
Terminal	Nº		Tamaño de cable
1	1	Bomba de achique	2 mm <sup>2</sup> Rojo -
2	2	Luces de navegación	1 mm <sup>2</sup> Rojo -
3	3	VHF	1 mm <sup>2</sup> Rojo -
4	4	GPS/Carta de navegación	1 mm <sup>2</sup> Rojo -
5	5	Echo	1 mm <sup>2</sup> Rojo -
6	6	Reflector de radar	1 mm <sup>2</sup> Rojo -
7	7	Sirena	1 mm <sup>2</sup> Rojo -
8	8	Luz de cubierta	1 mm <sup>2</sup> Rojo -
9	9	Luces de la cámara de máquinas	1 mm <sup>2</sup> Rojo -
10	10	Aux .1	1 mm <sup>2</sup> Rojo -
11	11	Aux. 2	1 mm <sup>2</sup> Rojo -
12	12	Aux. 3	1 mm <sup>2</sup> Rojo -
13	13	Repuesto.	1 mm <sup>2</sup> Rojo -
14	-	-	- -
15	-	-	- -
16	-	-	- -
17	-	-	- -
18	-	Negativo	1 mm <sup>2</sup> Negro -



## SISTEMA DE ACHIQUE

La embarcación cuenta con dos bombas de achique, que se presentan a continuación:

**Eléctrica:** Una bomba de achique eléctrica Johnson L2200 instalada en el compartimento del motor/propulsor. La bomba cuenta con un detector electrónico de nivel de líquido. La bomba se controla por medio de un interruptor de dos posiciones. Las posiciones son "ON/OFF" (ENCENDIDO/APAGADO). Durante un funcionamiento normal, el achique deberá estar desconectado (OFF), y una vez que el agua alcance cierto nivel, el detector de nivel de líquido activará un LED de comprobación de achique en el panel de interruptores. Asimismo, sonará una alarma acústica.

Cuando suene la alarma, se deberá comprobar si existen elementos contaminantes en los achiques. Si estuvieran limpios, coloque el interruptor de la bomba en posición de achique vacío. El LED y la alarma acústica se apagarán automáticamente una vez que el nivel vuelva a la normalidad.

**Manual:** Una bomba de achique manual (Whale Mk5 Universal) se encuentra bajo una chapa de cubierta que se retira hacia arriba y se encuentra en la parte superior de la caja de motor del lado de babor, y actúa como respaldo de la bomba eléctrica del compartimento del propulsor. La palanca de esta bomba se fija con clips en el lateral de la caja de motor.

### Capacidad de la bomba de achique:

Eléctrica: Johnson L2200 – 120 l/minuto

Manual: Whale Mk5 Universal – 75 l/minuto

## SISTEMA DE AGUAS PRIMARIAS

El agua de refrigerado del motor se suministra desde una toma de agua situada en la unidad del propulsor a chorro de agua. La alimentación es continua mientras el árbol siga girando (sin caja de cambios). Antes de pasar a través de un filtro de aguas primarias instalado en la zona de babor de la caja de motor, la alimentación de agua pasa a través de un grifo de fondo en el interior del espejo. Antes del filtro de aguas primarias, la alimentación sale hacia un pasacascos de la carena. Esta configuración viene de fábrica para actuar como alivio de presión de la alimentación de alta presión desde el propulsor a chorro de agua. Desde el filtro de aguas, el agua se traslada por las tuberías hacia la bomba de agua instalada en el motor.

El motor cuenta con una capacidad de funcionamiento en seco que permite que la embarcación se arranque en la rampa de popa justo antes de navegar. Tenga en cuenta la siguiente advertencia.

**ADVERTENCIA IMPORTANTE SOBRE FUNCIONAMIENTO EN SECO**  
**SOLO RPM BAJAS DEL MOTOR (RALENTÍ) CUANDO LA Balsa SE**  
**ENCUENTRE FUERA DEL AGUA**  
**LAS RPM ALTAS PODRÍAN DAÑAR EL SISTEMA DE REFRIGERACIÓN Y EL**  
**PROPULSOR A CHORRO DE AGUA**  
**INTENTE QUE EL FUNCIONAMIENTO EN SECO DURE EL MÍNIMO TIEMPO**  
**POSIBLE**

La cesta del filtro de aguas primarias se debe comprobar a menudo para ver si existen desechos. Si se observan desechos excesivos en la cesta, esta se deberá retirar y limpiar.

Antes de retirar la tapa del filtro de aguas primarias, se debe cerrar la entrada de agua de mar del espejo mediante el grifo de fondo.

**IMPORTANTE**  
**ASEGÚRESE SIEMPRE DE QUE EL GRIFO DE FONDO ESTÁ ABIERTO**  
**ANTES DE VOLVER A ARRANCAR EL MOTOR**

## SISTEMA DE ESCAPE

El sistema de escape es un sistema de 6" que consta de un tubo de subida/cabeza de rociado instalado en el motor y que alcanza una sección corta del tubo flexible y una unidad de silenciador Centek. Desde la unidad de silenciador se encuentra otra sección corta del tubo flexible que alcanza una salida de escape del espejo con una válvula de comprobación integrada que ayuda a eliminar el retrolavado que haya entrado en la tubería de escape.

En el tubo de escape se encuentra un sensor que indica la pérdida de agua de refrigeración, lo cual alarmará a la consola principal.

## **BASTIDOR AUTOADRIZABLE Y EQUIPO**

La embarcación cuenta con un bastidor "A" doble y con un equipo de completo autoadrizable. En caso de zozobra, la tripulación de la balsa deberá nadar hacia el lado de popa de la embarcación volteada, desplegar los cabos marineros de salvamento situados en los conos del extremo de los flotadores y agarrarse a ellos. A continuación, uno de los miembros de la tripulación deberá tirar del asa de inflado, que estará enganchada al espejo en el lado de estribor de la embarcación. Así se activará el sistema autoadrizable y se adrizará la embarcación. Una vez que la embarcación se haya adrizado, se puede desinflar rápidamente la bolsa por medio de una escotilla de válvula de descarga situada en la parte inferior de la bolsa.

## **LIBERACIÓN DE LA RAMPA DE POPA Y SISTEMA DE RECUPERACIÓN**

El sistema de tirada/recogida de la rampa de popa de la embarcación consta de un trípode instalado en la cubierta de proa con una bita de amarra integrada, un gancho de la palanca para soltar la bita Henriksen HPH y una palanca de suelte Henriksen en el cuadro de mando de la consola superior.

El sistema se puede accionar de forma sencilla: una vez que se abra la puerta de popa y la tripulación esté lista para navegar, presione la palanca para soltar la bita, lo que permitirá que la embarcación se deslice de la rampa de popa.

Antes de recoger la rampa, el gancho debe volver a colocarse de forma manual. Una vez hecho esto, la anilla de la bita se traba en el gancho (proceso que se realiza con una sola mano). No hay que hacer nada con la palanca de suelte para realizar el proceso de recogida.

## FLOTADORES

Los flotadores instalados en la embarcación son una combinación de tubular híbrido de espuma y neumático. Esto combina las cualidades de un tubular inflable tradicional (excelente retención de aire, durabilidad y facilidad de reparaciones), con las cualidades de la defensa de espuma sólida (mayor durabilidad y resistencia contra impactos y daños). El resultado es un sistema de tubulares con las cualidades de deformación por impactos de un tubular neumático, que ofrecen una estabilidad excelente, combinada con la durabilidad de una defensa de espuma, sin el peso que esto conlleva.

El tubular se fabrica en un material de nylon reforzado con neopreno/Hypalon de 1200 g/m<sup>2</sup> de peso para la estructura principal, y una espuma de poliuretano de celda cerrada de baja densidad de 40 mm para la capa protectora.

El tubular se fabrica colocando el material de Hypalon en el tubo de 450 mm de diámetro. En el lado exterior se añade una capa de espuma protectora de 40 mm de espesor. Y como acabado se aplica otra capa de Hypalon. El tubo se coloca en la embarcación para que se expanda desde el espejo del lado de babor hacia la proa de la embarcación, y de nuevo, hacia el espejo desde el lado estribor. El tubo se divide en siete compartimentos, 3 a babor, 3 a estribor y 1 en el compartimento de proa. Cada uno se puede inflar y desinflar individualmente por medio de válvulas de bajo perfil. (Cada compartimento cuenta a su vez con una válvula de descompresión). Todas las costuras están ocultas mediante cintas tanto en el interior como en el exterior.

El tubular se coloca en la carena mediante un sistema adhesivo y se colocan cintas de refuerzo adicional tanto en el interior como en el exterior para reforzar más aún la unión tubular/carena. Las bandas de protección y los parches de desgaste estratégicos ofrecen un refuerzo adicional.

Entre las aplicaciones de los flotadores se encuentran: defensas triples con revestimiento adicional en la proa, barandas en el interior y el exterior, y parches acanalados antidesgaste.

Presión de inflado de tubo para funcionamiento normal: - 1,5 PSI

Presión de inflado de tubo máxima: - 2 PSI

Para obtener información sobre la reparación de los tubos, consulte las instrucciones que se adjuntan con el kit de reparaciones.



### **Importante:**

**PRESIÓN DE INFLADO DE TUBO MÁXIMA DE 2 PSI**

**NO INTENTE REPARAR NINGÚN DAÑO DE COSTURA DENTRO DE 1" DE  
MARINE SPECIALISED TECHNOLOGY**

## ALMACENAMIENTO DEL EQUIPO

Las zonas de almacenamiento de la embarcación son las siguientes:

- Gran compartimento de proa con escotilla de aluminio.
- 2 bolsas de almacenamiento de flotadores
- Compartimentos de almacenamiento bajo la silla tipo jockey del timonel
- Compartimento de almacenamiento en la parte delantera de la consola
- Pequeño compartimento de almacenamiento en la parte trasera de la consola

## EXTINTORES

La embarcación cuenta con un extintor de polvo portátil de 2 kg, instalado en la parte inferior del asiento del lado de popa integrado en la tapa del motor, en el lado de estribor.

Para sacar el extintor de su soporte de almacenamiento, retire las correas de retención (si están abrochadas), y tire del cuello del extintor hacia sí para sacarlo del soporte. Para sustituirlo, introduzca primero la base en el soporte de almacenamiento y, a continuación, vuelva a colocar el cuello del extintor en el soporte.

En caso de que se produzca un incendio en el motor, la carcasa del motor viene equipada con un extintor automático. Este estará instalado en el eje longitudinal de estribor del compartimento del propulsor, al que se accede a través de la tapa de la caja de motor. Si el extintor de la cámara de máquinas se activa, se iluminará una luz en el cuadro de mando para indicar que el extintor se ha activado.

Cada extintor cuenta con un manómetro, si la aguja se encuentra en la sección roja, retire y sustituya el extintor.

## IZADO

La embarcación cuenta con cuatro argollas de izado plegables Wichard de 10 mm, dos de ellas se encuentran en la cubierta de proa y las otras dos en el interior a babor y estribor del espejo. Cada argolla de izado cuenta con una placa de soporte de acero inoxidable instalada fuera de la carena. Los puntos de izado se deberán utilizar junto con los estrobos y grilletes autorizados (suministrados).



### **Importante:**

**LOS ESTROBOS DE IZADO TIENEN DISTINTAS LONGITUDES,  
Y SOLO SE DEBEN COLOCAR CON LA ORIENTACIÓN  
ADECUADA, TAL Y COMO SE INDICA EN LOS ESTROBOS  
EL IZADO NO ES PARA PERSONAS**



## **FUNCIONAMIENTO DE LA EMBARCACIÓN**

En primer lugar, encienda el aislador de la batería, seleccionando la batería 1 o la 2, **NUNCA LAS DOS A LA VEZ**. El aislador de la batería se encuentra dentro del compartimento de almacenamiento. Familiarícese con los distintos elementos eléctricos a bordo. Consulte los manuales individuales de funcionamiento de cada dispositivo.

### Comprobaciones previas a la navegación

- Compruebe que todas las escotillas están cerradas
- Compruebe que el tapón de drenado del espejo está colocado (si es el caso)
- Compruebe que todo el equipo de seguridad está a bordo
- Compruebe que las entradas de agua de refrigeración están despejadas
- Compruebe que los depósitos de combustible están llenos
- Compruebe que no hay contaminación en los separadores de agua y combustible
- Compruebe el funcionamiento de navegación
- Compruebe todas las luces de navegación
- Compruebe que las posiciones de la válvula del colector de arena/aguas primarias son correctas

### Comprobaciones previas al arranque de la balsa

- Compruebe que las válvulas de cierre de combustible están abiertas y en la posición de funcionamiento correcta
- Compruebe que el aislador de batería se encuentra en la posición Bat 1 o Bat 2
- Compruebe el calibre del combustible

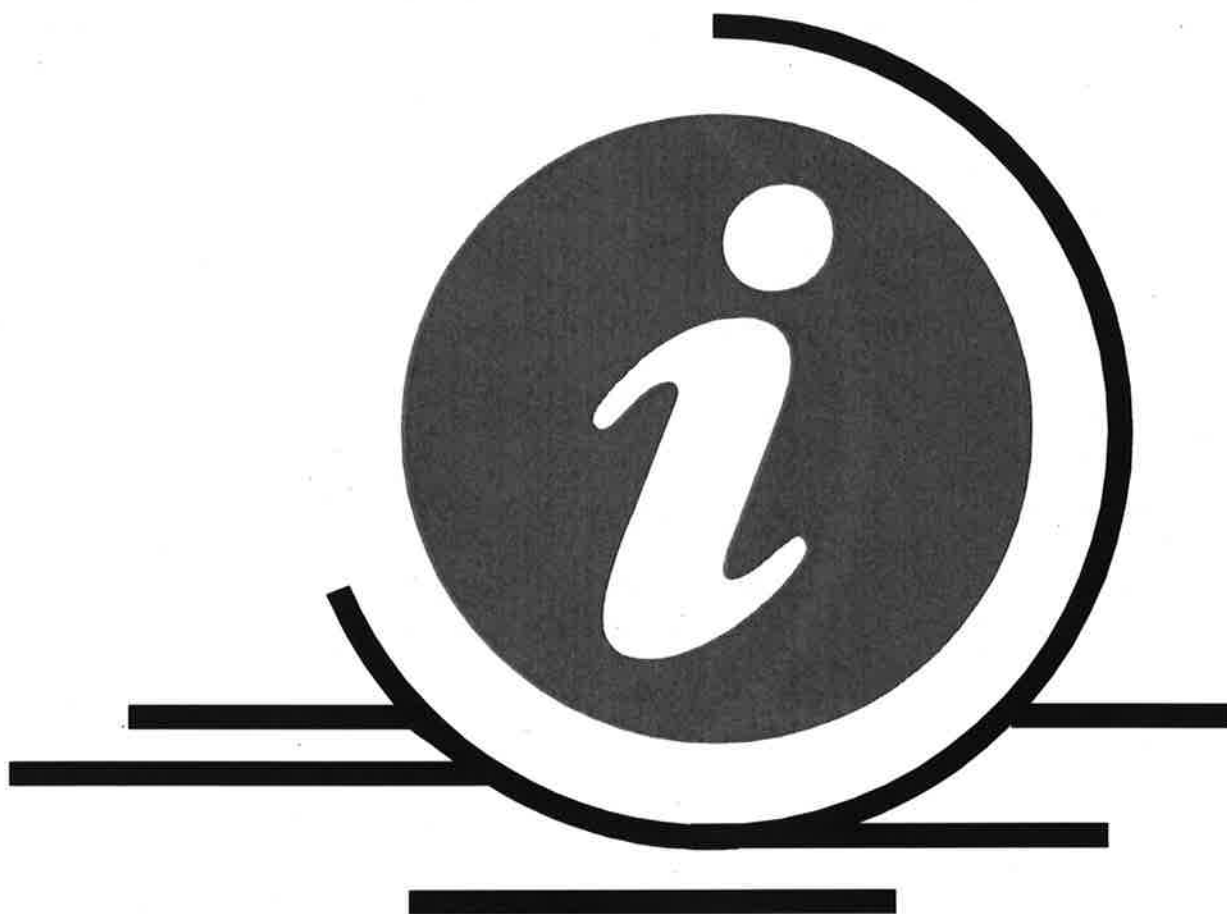
### Comprobaciones posteriores al arranque del motor

- Compruebe todos los accesorios y niveles del motor
- Compruebe todo el equipo de navegación y radio



## **MST 750-SR**

### *MANTENIMIENTO DE LA EMBARCACIÓN*



## **CARENA DE PLÁSTICO REFORZADO CON VIDRIO (GRP)**

Las comprobaciones generales de la carena consisten en inspecciones de los daños por impacto, prestando especial atención a los extremos afilados de la carena, por ejemplo, las aristas exteriores y los redanes.

Se puede realizar una limpieza normal y utilizar soluciones habituales para retirar los depósitos marinos del exterior de la carena.

Para realizar reparaciones en la carena, consulte a Marine Specialised Technology o a alguno de sus representantes autorizados.

El compartimento de proa cuenta con tapones de drenado y se debe drenar en el achique retirando estos tapones. Para drenar el agua que pueda haber en los compartimentos exteriores de la carena, los tapones de drenado que se encuentran en la parte posterior longitudinal (babor y estribor) se deben comprobar periódicamente para ver si ha entrado agua. Se puede acceder a estos tapones a través de la cámara de máquinas.

### **IMPORTANTE**

## **SUSTITUYA SIEMPRE LOS TAPONES DE DRENADO TRAS LA INSPECCIÓN**

### **Flotadores**

Limpie cuanto antes los depósitos de aceite que se hayan podido acumular, usando jabón y agua o un limpiador habitual. **NO UTILICE NUNCA DISOLVENTES.** Se recomienda limpiar con agua limpia la embarcación antes de almacenarla durante un periodo largo de tiempo. En este punto hay que prestar especial atención a la hora de retirar las piedrecitas que se hayan podido clavar entre el flotador y la carena. Deje secar la carena y, si fuera posible, almacénela con los flotadores ligeramente inflados.

### **Motores**

Todo el mantenimiento que requiera el motor (semanal, mensual, etc.), se deberá llevar a cabo según las especificaciones de los fabricantes. Puede encontrar información detallada sobre las reparaciones y el mantenimiento necesarios en el manual que corresponda.

### **Navegación**

Todos los tubos y acoplamientos del sistema hidráulico de navegación se deben comprobar periódicamente para ver si existen signos de desgaste, sal acumulada y que no tenga suciedad ni arena. Se deben comprobar todos los accesorios para asegurarse de que no están sueltos.

### **Propulsor a chorro de agua**

Todo el mantenimiento que se requiera (semanal, mensual, etc.), se deberá llevar a cabo según las especificaciones de los fabricantes. Puede encontrar información detallada sobre las reparaciones y el mantenimiento necesarios en el manual que corresponda.

Para más información acerca del mantenimiento del conjunto de navegación, consulte el manual del fabricante.

## Sistema de combustible

Compruebe con frecuencia que no hay contaminación en los separadores de agua y combustible (situados dentro de la caja de motor), ya que, al pesar el agua más que el combustible, esta se asienta en la parte inferior de la proa. Esta contaminación se puede drenar del separador utilizando los accesorios de la unidad.

Se debe comprobar periódicamente si existe contaminación en los filtros de combustible, y limpiarlos cuando sea necesario. Sustituya todos los filtros pasadas **200 horas** de funcionamiento.

Limpie con frecuencia la boca de llenado de combustible para evitar en lo posible que elementos contaminantes se introduzcan en el sistema de combustible.

No utilice combustible que se haya almacenado a bordo durante más de tres meses.

Asimismo, el compartimento del depósito de combustible se debe comprobar periódicamente para ver si ha entrado agua. Este procedimiento se puede realizar desatornillando el tapón de drenado situado en el mamparo delantero de la cámara de máquinas. El agua que entre en el compartimento del depósito de combustible se drenará posteriormente al achique principal. (Sustituya siempre el tapón tras la inspección)

## Consola, escotillas y chapa de cubierta

La consola principal de la embarcación se debe comprobar con frecuencia durante los primeros meses de funcionamiento, apretando todos los pernos de seguridad de la base, con la consola boca abajo sobre su junta estanqueidad. Las comprobaciones se deben realizar mensualmente. Ajuste de la llave dinamométrica a 13 Nm.

Todas las juntas de goma sobre las escotillas de aluminio y la caja de motor se deben comprobar periódicamente para ver si existen signos de desgaste, daños, suciedad o arena. Los cierres de seguridad también se deben comprobar y ajustar si fuera necesario.

La chapa de la cubierta principal por encima del depósito de combustible de la cubierta inferior se debe comprobar con frecuencia durante los primeros meses de funcionamiento, apretando todos los pernos de seguridad, con la consola boca abajo sobre su junta estanqueidad. Las comprobaciones se deben realizar mensualmente.

Ajuste de la llave dinamométrica a 13 Nm

- Ehdottomat vaatimukset (fully compliant = fc)  
 Suositeltavat vaatimukset (partly compliant = pc)  
 Ei täyttyvä (non-compliant = nc)

		VAATIMUKSET		Toimittajan vastaus		MERIVE
		Ehdoton Suositeltava	Ehdoton Suositeltava	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>1. Veneen käyttötarkoitus ja toimintaolosuhteet</b>						
<b>1.1</b>	Veneen tulee soveltua yhden erikoistoimintaryhmän kuljettamiseen varusteineen partioehtävään / -tehtävään Pohjoisella Itämerellä	X				
<b>1.2</b>	Veneen tulee soveltua yhden erikoistoimintaryhmän kuljettamiseen alustarkastustehtävään Pohjoisella Itämerellä	X				
<b>1.3</b>	Veneen tulee soveltua suojaamistehtävään (valvonta ja tulituki) operaattoriryhmän toiminnan aikana (viite: 1.1 ja 1.2)	X				
<b>1.4</b>	Vene varusteineen tulee soveltua toimimaan avomerellä kaikissa sää- ja valaistusolosuhteissa (pl. jää) pohjoisella Itämerellä. (tarkennus: A. toimintalämpötilat - ilma -15°C... +45°C - merivesi 0°C... +32°C B. Varastointilämpötilat: Eristämätön varastotila, maasähkö kytkettynä - ilma -30°C... + 50°C)	X				

		Ehdoton Suositeltava		Ehdoton Suositeltava		Tarkastus
<b>2. Käytettävyys</b>						
<b>2.1</b>	Veneen toimintaetäisyys tulee olla sellainen, että se ilman polttoainetäydennystä saavuttaa vähintään 175 mpk toimintamatkan - Täysi paino (viite 5.) - Suurinta jatkuvaa nopeutta ylläpitäen (tarkennus: moottorivalmistajan määrittämällä suurimmalla sallitulla jatkuvalla kierrosluvulla) Polttoaineenkulutus matkan aikana enintään 90% kiinteiden tankkien kokonaispolttoaineesta	X				
<b>2.2</b>	Veneen toimintaetäisyys tulisi olla sellainen, että se ilman polttoainetäydennystä saavuttaa vähintään 250 mpk toimintamatkan: - Täysi paino (viite 5.) - suurinta jatkuvaa nopeutta ylläpitäen (tarkennus: moottorivalmistajan määrittämällä suurimmalla sallitulla jatkuvalla kierrosluvulla) - Polttoaineenkulutus matkan aikana enintään 90% kiinteiden tankkien kokonaispolttoaineesta.	X				

<b>2.3</b>	Vene varusteineen tulee olla suunniteltu ja rakennettu toimimaan avomeriolosuhteissa siten, että venettä operoidaan jatkuvasti ST 3 vastaavissa olosuhteissa	X			
<b>2.4</b>	Vene varusteineen tulee olla suunniteltu ja rakennettu siten että se on ajettavissa ST 5 vastaavista olosuhteista yhdellä pääkoneella. (Tarkennus: vene on ajettavissa hätäsatamaan yhden pääkoneen rikkoonnuttua)	X			
<b>2.5</b>	Veneen tulee olla suunniteltu ja rakennettu siten että sen käyttöpäristö on ympärivuotinen avomeriolosuhde (Tarkennus: sisä- ja valtameri, avointa vettä, ei jäätä)	X			

<b>3. Nopeus</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
<b>3.1</b>	Veneen tulee saavuttaa 38 kn nopeus (maan suhteen) seuraavissa olosuhteissa: - ST 0 - Kuormattuna kohdan 5. mukaan	X		
<b>3.2</b>	Veneen tulisi saavuttaa 45 kn nopeus (maan suhteen) seuraavissa olosuhteissa: - ST 0 - Miehistö 3 hlö (a`115 kg). - Täydet koneistonesteet - Täydet poltto- ja voiteluainetankit - Veneeseen kuuluvat kiinteät varusteet - Aseeet sekä ampumarivikkeet 300 kg	X		
<b>3.3</b>	Veneen tulisi saavuttaa 32 kn keskinopeus (maan suhteen) seuraavissa olosuhteissa: - ST 3 - Kuormattuna kohdan 5 mukaan moottorivalmistajan määrittämällä suurimmalla sallitulla jatkuvalla kierrosluvulla	X		

<b>4. Veneen mitat ja paino</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
<b>4.1</b>	Pituus tulee olla enintään 13m (tarkennus: tulee soveltua maantiekuljetuksiin perävaunulla Pohjoismaissa ilman erityisjärjestelyjä liikenteessä ja tulee olla vähintään 10 m (tarkennus: merikelpoisuus pohjoisella Itämerellä.)	X		
<b>4.2</b>	Pituus tulisi olla 11,5 m +- 0,5 m	X		
<b>4.3</b>	Leveys tulee olla enintään 3.6m (tarkennus: hyväksytään vene, joka käytössä on leveämpi mutta voidaan saattaa maantiekuljetuksia varten vaadittuun mittaan alle 60 min)	X		
<b>4.4</b>	Korkeus tulee olla enintään 2,7m (tarkennus: Hyväksytään vene jonka korkein kohta käytössä on korkeammalla mutta esim. masto tms. kaadettuna täyttää vaatimuksen) (Viite: 16.22)	X		

<b>4.5</b>	Paino tulee olla enintään 8000 kg (tarkennus: A. liittyy maantiekuljetuskaluston suorituskykyarvoihin B. sisältää venekohtaiset varusteet ja polttonesteet täydennettynä.	X			
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**5. Kantavuus**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
Veneen tulee olla kantavuudeltaan sellainen, että se kantaa täydessä toimintavalmiudessa: (viite: Kuorman sijoittelu ja veneen toiminnallinen käyttö erikoistoimintaveneen periaatepiirroksen mukaisesti):			
- Miehistö 3 hiö (a`115 kg)	X		
- Täydet koneistonesteet	X		
- Täydet poltto- ja voiteluainetankit	X		
- Veneeseen kuuluvat kiinteät varusteet	X		
- Aseet sekä ampumarvikkeet 300 kg	X		
- 8 matkustajaa varusteineen (a`125 kg)	X		
- Tehtäväkohtaisia varusteita 450 kg	X		

**6. Veneen tilantäyttö**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>6.1</b> Veneessä tulee olla 3 - hengen ohjauspulpetti	X		
<b>6.2</b> Veneessä tulee olla istuimet 8 matkustajalle	X		
Veneessä tulee olla kuormatila perässä. Veneen tulee pystyä kuljettamaan kuormatilassa käyttökunnossa olevaa partiokumivenettä (4,7 * 2,0 * 0,6 m, paino 225 kg) (viite: Erikoistoimintaveneen periaatepiirros)	X		
<b>6.3</b> Veneen tulisi pystyä kuljettamaan kuormatilassa pakattuna kahta partiokumivenettä (viite: Erikoistoimintaveneen periaatepiirros)	X		
<b>6.4</b> Veneen tilaratkaisuiden tulee mahdollistaa tukiaseen kiinnittämisen keulaan (viite: Erikoistoimintaveneen periaatepiirros)	X		
<b>6.5</b> Veneen tilaratkaisuiden tulee mahdollistaa tukiaseen kiinnittämisen keulaan (viite: Erikoistoimintaveneen periaatepiirros)	X		
<b>6.6</b> Veneen tilaratkaisuiden tulisi mahdollistaa 3 kevyen tukiaseen kiinnittämisen peräosaan (viite: Erikoistoimintaveneen periaatepiirros) (tarkennus: A. hyväksytään myös yhden tai kahden tukiaseen kiinnityspaikat, B. Aseilla on kyettävä ampumaan Erikoistoimintaveneen periaatepiirroksessa osoitetuille tulialueille) (viite: 16.1)		X	
<b>6.7</b> Vene tulisi varustaa targa-kaarella. (tarkennus: mahdollistaa laitekiinnitykset)		X	

**7. Veneen käyttöikä**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>7.1</b> Veneen tulee olla suunniteltu ja rakennettu siten sen elinjakso on vähintään 15 vuotta. (tarkennus: Veneen normaali käyttöprofiili noudattaa n. 300 käyttötunnin vuotuista käyttöä)	X		

	Normaali huoltoaika tulisi rajoittua 1-2 tuntiin huoltokertaa ja laitetta kohden. (tarkennus: Veneseen tulevat laitteet on valittava siten, että niiden huolto ja korjaus saadaan mahdollisimman yksinkertaiseksi ja tarvittaessa voidaan toteuttaa vaihtoperiaatteella.	X			
7.2	Toimittajan tulee laatia ohjeistuksen veneen ja sen laitteiden kunnossapitoa ja huoltoa varten koko elinjakson ajaksi	X			

<b>8. Runko, ponttoni ja kansirakenteet</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
8.1	Rungon tulee olla jaettu vähintään kolmeen vesitiiviiseen osastoon pitkittäisillä	X		
8.2	Rungon keskiävän alue (tarkennus: ulkopuoli) tulee olla suojattu vähintään 200 mm leveällä kulutussuojalla, joka on kiinnitetty luotettavasti runkoon.	X		
8.3	Keiluessa veden alle jäävä osa pohjasta tulee olla maalattu mustaksi	X		
8.4	Pohjamaalin tulee olla myrkkymaal	X		
8.5	Rungon kaikki osastot tulee voida tarkastaa ja tyhjentää	X		
8.6	Kovaa runkoa tulee ympäröidä ponttoni	X		
8.7	Kaikki ponttonin osastot tulee voida tyhjentää	X		
8.8	Ponttoni tulee varustaa kiinnipitokahvoilla ja turvaköysillä	X		
8.9	Kansi tulee liittää palkkeihin laminoimalla lasikuitu/hartsimassalla. (tarkennus: liitoksen aikakestoisuus)	X		
8.10	Rungon tulisi olla massiivilaminaattia, joka on valmistettu monisuunnatuista kuidusta tehdyistä lasikuitumatoista		X	
8.11	Rungon tulisi olla jäykistetty täyskorkkeilla, pohjalaminaatista kanteen asti ulottuvilla, monisuunnatuista lasikuitumatoista laminoituilla vaahtoäyhteisillä palkkeilla		X	
8.12	Palkit tulisi olla kaksikuorisia ja niissä tulisi olla vaahto ydin (tarkennus: esim. Divinycell)		X	
8.13	Runko ja palkit tulisi laminoida käyttäen Polyesteri Isofaali tai lujuuudellisesti parempaa hartisia		X	
8.14	Kannen tulisi olla kerroslaminaattirakennetta ja sen ydin on vaahtoa (tarkennus: esim. Divinycell), jonka kovuus on vähintään H80		X	
8.15	Vaneria tai puuta ei tulisi käyttää missään runko-, peräpeili-, palkki- tai kansirakenteissa		X	
8.16	Ponttonin minimihalkaisija perässä tulisi olla 600 mm		X	
8.17	Kaikki ponttonin osastot tulisi voida tyhjentää tarkistaa		X	
8.18	Ponttonin materiaalin tulisi olla kulutusta kestävä materiaalia (takennus: ominaisuuksiltaan vähintään hypalon/neopren, jonka neilöpaino on vähintään 1500g/m2, vastaavaa.)		X	
8.19	Ponttonimateriaalilla tulisi olla Solas-hyväksyntä pelastusvenekäyttöön		X	



<b>8.20</b>	Ponttoni tulisi olla jaettu poikittaisilla laipoilla vähintään seitsemään erilliseen osastoon, joissa kaikissa on täyttö/tyhjennys- ja ylipaineventtiilit. (tarkennus: vaurionsietokyky)	X			
<b>8.21</b>	Ponttonin ulkosivu tulisi olla suojattu koko matkaltaan järeällä, vähintään 300 mm korkealla hankaustistalla	X			
<b>8.22</b>	Ponttonin muut kohdat, jotka altistuvat käytössä paikalliselle kulutukselle esimerkiksi miehistön liikkumisesta tai köyrsistä johtuen, tulisi suojata ylimääräisellä kulutussuojalla	X			

**9. Koneistojärjestelyn pääperiaatteet**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>9.1</b>	Veneen tulee olla liukuvarunkoinen	X	
<b>9.2</b>	Veneessä tulee olla vähintään kaksi dieselmoottoria	X	
<b>9.3</b>	Veneessä tulee olla vähintään kaksi koneitehon mukaan mitoitettua, ammattikäyttöön hyväksyttyä perävetolaitetta	X	
<b>9.4</b>	Veneen moottorit tulee olla sijoitettu peräkannen alle	X	
<b>9.5</b>	Veneen moottorit tulee olla varustettu merikytkimillä	X	
<b>9.6</b>	Veneessä tulee olla koneiston kaukokäyttö	X	
<b>9.7</b>	Veneessä tulee olla koneiston kaukokäytölle varajärjestely.	X	
<b>9.8</b>	Veneen ohjauksen tulisi olla hydraulinen	X	
<b>9.9</b>	Veneen tulee olla riippumaton yhden koneen toimimattomuudesta	X	
<b>9.10</b>	Veneen perävetolaitteilla tulee olla manuaalinen hätäohjausmahdollisuus ilman erillisten työkalujen käyttöä tai vesitiiviiden osastojen aukaisua.	X	
<b>9.11</b>	Koneiston hätäpysäytyskytkin tulee olla mahdollista kiinnittää ohjaajaan.	X	
<b>9.12</b>	Veneessä tulee olla kaksi polttoainetankkia.	X	
<b>9.13</b>	Tankkien yhteenlaskettu täyttötilavuus tulee olla vähintään 800l.	X	
<b>9.14</b>	Yhden tankin minimi-tilavuus tulee olla vähintään 400 l	X	
<b>9.15</b>	Veneen polttoainelinjat tulee olla varustettuna suodattimilla joissa tulee olla vedenerotin ja -hälytin	X	
<b>9.16</b>	Molemmilta polttoainetankeilta tulee voida toteuttaa polttoaineensyöttö molemmille koneille	X	
<b>9.17</b>	Molemmilla tankeilla tulisi olla peilausmahdollisuus	X	
<b>9.18</b>	Polttoaineen täydennys tulee olla mahdollista täydessä kuormassa ilman erillisiä järjestelyitä. (Tarkennus: Polttoainetankin täyttöaukko tulee olla helposti käytettävissä, ei esimerkiksi kuorman alla)	X	

**10. Koneisto**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>10.1</b>	Moottorit tulee olla identtiset ja keskenään vaihtokelpoiset	X	

10.2	Ohjauspaikalla tulee olla molemmille moottoreille omat hätäpysäytyspainikkeet.	X				
10.3	Koneiston tulee olla helposti hallittavissa ohjauspaikalta	X				
<b>Moottorin hallintalaitteet tulisi järjestää siten, että ohjauspaikalta ilmenee</b>						
10.4	Moottoreiden kierrosluvut ja käyntitunnit		X			
10.5	Moottoreiden ahtopaine		X			
10.6	Latausjännite		X			
10.7	Moottoreiden voiteluöljynpaine		X			
10.8	Hydraulisöljyn paine		X			
10.9	Jäähdytysveden lämpötilat		X			
10.10	Makeanjäähdytysveden alhainen pinnakorkeus		X			
10.11	Meriveden kiertohäiriö pakokaasuputkesta		X			
10.12	Polttoaineen määrä säiliössä		X			
10.13	Irrotuskytkimien öljynpaine		X			
10.14	Edellä mainituille toiminnolle 10.6, 10.7, 10.8, 10.10 ja 13.10 tulisi järjestää raja-arvohälytys		X			
10.15	Raja-arvohälytys tulisi näkyä myös merenkulkujärjestelmässä.		X			
10.16	Veneen koneistossa tulee olla kaukokäyttö	X				
10.17	Veneen ohjauksen tulee olla hydraulinen	X				
10.18	Vetolaitteella tulee olla manuaalinen häätöohjausmahdollisuus	X				
10.19	Veneeseen tulisi asentaa kaksi erillistä moottoreiden jäähdytysveden ottoon tarkoitettua pohjaläpivienttiä		X			
10.20	Veneen kumpaankin merivesiin jaan tulee liittyä oma haponkestävästä teräksestä valmistettu suodatin, joka voidaan avata ilman työkaluja veneen ollessa vedessä	X				
10.21	Pakokaasujärjestelmä tulisi toteuttaa merivesijäähdytteisenä		X			
10.22	Pakokaasujärjestelmässä tulisi käyttää korroosion kestäviä materiaaleja		X			
10.23	Äänenvaimennin tulisi valmistaa haponkestävästä teräksestä tai lujitemuovista		X			
10.24	Molemmille moottoreille tulisi tehdä erillinen pakokaasujärjestelmä		X			
10.25	Pakokaasuputki tulee asentaa siten, että osa siitä on vähintään 350 mm lastivesiviivan yläpuolella siten, että tästä kohdasta on vapaa pudotus laidoitusläpivientiin	X				
<b>Koneiston varusteisiin tulisi kuulua seuraavat lisävarusteet</b>						
10.26	Lohkolämpimittimet		X			
10.27	Öljypoistopumppu		X			
10.28	Koneiston erikoistyökalaraja		X			
10.29	Konehuoneessa tulisi olla automaattinen piissipumppu.		X			
10.30	Veneessä tulisi lisäksi olla erillinen, manuaalinen piissipumppu. (tarkennus: A. konehuoneen ulkopuolelta käytettävä B. erillinen pumppu on varalaite)		X			
<b>Ehdoton Suositeltava Ehdoton Suositeltava Ehdoton Suositeltava Tarkastus</b>						

10.31	Veneen ohjaamossa tulisi olla konehuoneen korkean piissiveden hälytyn.					X		
10.32	Konehuone tulisi äänieristää. (tarkennus: ohjaajan paikalta mitattuna konemelu normaalilla ajonopeudella (90% max. kierroksista) ei ylitä 85 dBa.)					X		

## 11. Sähköt

## Ehdoton Suositeltava Ehdoton Suositeltava Ehdoton Suositeltava Tarkastus

11.1	Sähköasennukset tulee suorittaa noudattaen "Merivoimien alusten vahvavirtamääräyksiä 1997"	X						
11.2	Asennuksissa tulisi noudattaa SFS 6000 sarjan standardit sähköturvallisuuden osalta. (tarkennus: siinä laajuudessa kuin asennettavat sähköjärjestelmät ja -laitteet edellyttävät)					X		
11.3	Asennusmateriaalit ja sähkölaitteet tulisi olla DNV:n mukaisia laivakäyttöön tarkoitettuja.					X		
11.4	Kaikki sähkölaitteet ja -piirustukset tulisi hyväksyttää tilaajalla ennen asennuslöiden aloittamista.					X		
11.5	Veneen pääjännitteen tulisi olla 12 V DC. (tarkennus: kaikkien merellä tarvittavien laitteiden käyttöjännite.)					X		
11.6	Veneen sähköverkosto tulisi muodostua kahdesta erillisestä akkujärjestelmästä. (tarkennus: merellä oltaessa)					X		
11.7	Veneen sähköverkosto tulisi olla asennettu kaksinapaisesti rungosta eristettynä ja maavuodon valvonnalla varustettuna. (tarkennus: A. Toinen akkujärjestelmä on pääkoneiden käynnistyspiiri B. toinen akkujärjestelmä on kulutuspiiri)					X		
11.8	Normaalitilanteessa pääkoneiden käydessä veneen akkujärjestelmiä tulisi syöttää pääkoneisiin asennetut laturit.					X		
11.9	Pääkoneiden laturit tulisi olla mitoitettu akkujen lataustarpeen mukaisesti (tarkennus: yksi laturi riittää koko kulutukseen.)					X		
11.10	Akustot tulee varustaa pääkytkimillä.	X						
11.11	Akkujärjestelmät (akustot) tulee olla mahdollista kytkeä keskuksessa olevalla akkujen vaihtokytkimellä ristiin siten, että ne voivat toimia toistensa varalla.	X						
11.12	Akut tulisi olla laivakäyttöön tarkoitettuja, tärinänkestäviä sekä teknisesti ja kapasiteetiltaan samanarvoisia.						X	
11.13	Yhden akuston tulisi riittää koko veneen tarpeeseen kolmen tunnin käyttöä ajatellen.						X	
11.14	Akut tulisi sijoittaa tuuletuksella varustettuihin koteloihin konehuoneeseen.						X	
11.15	Akkuerottimet tulisi asentaa akkukeskuksiin akkulaatikoiden vierelle.						X	
11.16	Akkujen lataukseen tulisi asentaa akkuvaraaja sekä jakodiodit. (tarkennus: A. Varaaja toimii kun vene on kytketty maista syöttöön. B. Varaaja toimii myös verkkolaitteena.)						X	
11.17	Valmistajan tulisi laatia ja hyväksyttää tilaajalla sähkölaiteluettelon teknisine tietoineen.						X	

11.18	Valmistajan tulisi laatia ja hyväksyttää tilaajalla akkukapasiteettilaskelmat akkujen tehon määrittämiseksi.				X		
11.19	Veneen pääkoneiden ohjauslaitteet ja instrumentoinnin- sekä sähköverkon valvonnan mittarit tulisi sijoittaa ohjaamoon.				X		
11.20	Pää- ja jakotauluissa jokainen ryhmä tulisi suojata ylikuormitusta ja oikosulkua vastaan automaattisulakkeilla.				X		
11.21	Käynnistys- ja kulutusakukeskukset tulisi sijoittaa konehuoneeseen.				X		
11.22	Kuluttajien jakotaulu tulisi sijoittaa siten että se on henkiöstön käytettävissä veneen ollessa lastattuna.				X		
11.23	Kulkuvalokeskus tulisi sijoittaa ohjaamoon.				X		
11.24	Pää- ja jakotaulut tulisi varustaa "JÄNNITE-ON" merkkilampulla.				X		
11.25	Veneen sisä- sekä ulkotiloihin tulisi järjestää tarpeellinen yleisvalaistus.				X		
11.26	Keula ja peräkannelle tulisi asentaa normaalivalaistus ruskeavalaisimia. (tarkennus: A. valaistuksen ohjaus tapahtuu ohjaamosta. B. Valaisimet, jotka ovat alttiina mekaanisille vaurioille, suojataan asianmukaisesti.)				X		
11.27	Keula ja peräkannelle tulisi asentaa normaalivalaistus ruskeavalaisimia. (tarkennus: A. valaistuksen ohjaus tapahtuu ohjaamosta. B. Valaisimet, jotka ovat alttiina mekaanisille vaurioille, suojataan asianmukaisesti.)				X		
11.28	Veneeseen tulisi asentaa tehokas merenkulkuvalonheitin.				X		
11.29	Ohjaamoon tulisi asentaa kaksi kappaletta himmentimellä varustettuja karttavalaisimia.				X		
11.30	Ohjaamoon tulisi asentaa kytkin, joka estää kaikkien valojen kytkemisen. (tarkennus: Mittarivalaistuksen kytkimet ja himmennin sijaitsevat ohjauspulpetissa.)				X		
11.31	Alukseen ohjaamoon tulisi asentaa vähintään 2 kpl 12/ 24 V 10 A DC pistorasioita. (tarkennus: siirrettäviä valaisimia yms. varten.)				X		
11.32	Vene tulee varustaa säännöstöjen mukaisilla merenkulkuvaloilla.	X					
11.33	Merenkulkuvaloille tulisi asentaa portaaton himmennin.				X		
11.34	Merenkulkuvalot tulisi asentaa siten, että ne eivät aiheuta häiritseviä heijastumia pimeänäköilaitteille.				X		
11.35	Veneen kaapelointi tulisi suorittaa käyttämällä halogeenittomia laivakaapeleita.				X		
11.36	Kaapelointi tulisi suorittaa pinta-asennuksena tai asentamalla kaapelit putkeen.				X		
11.37	Veneeseen tulisi asentaa koteloitu maistasyöttörasia (tarkennus: maasähkön kytkemistä varten)				X		
11.38	Veneeseen tulisi asentaa näkyvälle paikalle merkkilamppu osoittamaan, että maista syöttö on kytketty.				X		
11.39	Veneeseen tulisi asentaa maistasyöttötaulu, joka varustetaan pääkytkimellä, vikavirtasuojalla sekä automaattisulakkeilla kuluttajia varten.				X		

<b>11.40</b>	veneeseen tulisi asentaa moottoreiden esilämmittimet.									X
<b>11.41</b>	veneeseen tulisi asentaa akkuvaraajat.									X
<b>11.42</b>	veneeseen tulisi asentaa ohjaamoon sekä konehuoneeseen pistorasiat. (tarkennus: veneen satamakäyttöä varten)									X
<b>11.43</b>	veneeseen tulisi asentaa ohjauskonsolin kojeaappilämmitin (tarkennus: satamakäyttöä varten)									X
<b>11.44</b>	veneeseen tulisi asentaa konehuoneen lämmitin (tarkennus: satamakäyttöä varten)									X

**12. Kansijärjestelyt**

		Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>12.01</b>	Keulan tilassa tulee olla vesitiivistä säilytystilaa. (tarkennus: venemiehistöön varusteita varten.)	X		
<b>12.02</b>	Ohjaamon tulee olla varustettu joustavilla ja pituussuunnassa säädettävillä istuimilla (tarkennus: esim. Ullman Biscaya)	X		
<b>12.03</b>	Keulan vesitiivis säilytystila tulisi olla jaettu vähintään kolmeen eri tilaan, joissa kussakin on erillinen kansi.		X	
<b>12.04</b>	Veneessä tulisi olla asianmukaiset säilytystilat kaikille sille kuuluville välineille.		X	
<b>12.05</b>	Keulan tilasta tulee voida käyttää tukiasetta tai Boarding -mastoa (tarkennus: muut järjestelyt eivät saa estää ko. käyttöä.)	X		
<b>12.06</b>	Ohjaamon tulee olla 3:lle hengelle suunniteltu.	X		
<b>12.07</b>	Ohjaamon etu- sekä sivulasien korkeus tulisi olla vähintään 30 cm.		X	
<b>12.08</b>	Sade- sekä roiskevesien valuminen mittareille ja karttapöydälle tulisi olla estetty. (tarkennus: esimerkiksi ohjaamalla vedet sivuille.)		X	
<b>12.09</b>	Karttapöydän tulee olla vähintään 50 * 35 cm (tarkennus: mahdollistaa veneilykarttasarjan)	X		
<b>12.10</b>	Karttapöydän tulisi olla vähintään 80 * 50 cm (tarkennus: mahdollistaa puolitetun merikortin)		X	
<b>12.11</b>	Kansimiehellä tulisi olla mahdollisuus käyttää aluksen viestivälineitä		X	
<b>12.12</b>	Kaikkien mittarien ja näyttöjen tulee olla täysin himmennettävissä.	X		
<b>12.13</b>	Veneessä tulee olla mahdollisuus kiinnittää ajolippu (tarkennus: kielekkeinen valtiolippu)	X		
<b>12.14</b>	Masto tulee kyetä kaatamaan siten, että laitteita/sensoreita ei tarvitse irrottaa eikä muitakaan asennuksia poistaa kaatamisen yhteydessä.	X		
<b>12.15</b>	Masto tulee voida lukita ala-asentoonsa.	X		
<b>12.16</b>	Veneen värin tulee olla musta.	X		
<b>12.17</b>	Kaikki yli 50 m päästä näkyvät osat tulisi olla maalattu mustaksi. (tarkennus: pelastusvälineiden värit ja heijasteet pois lukien)		X	
<b>12.18</b>	Matkustajien istuimien tulisi olla kahdessa rivissä siten että istuimissa istutaan rinnakkain. (tarkennus: erikoistoimintaveneen periaatepiirros)		X	

<b>12.19</b>	Matkustajien tulisi istua joko kasvot menosuuntaan tai kasvot taaksepäin.					X	
<b>12.20</b>	Matkustajien istuimet tulee olla sijoitettu ohjaamon taakse.		X				
<b>12.21</b>	Matkustajien istuimissa tulee olla selkänöja.		X				
<b>12.22</b>	Matkustajien istuimien istuinosa tulisi olla taittuva ja automaattisesti ylösnouseva. (tarkennus: ns. "teatterimalli"					X	
<b>12.23</b>	Viimeisellä istuinrivillä tulee pystyä istumaan kasvot taaksepäin. (tarkennus: vaatimus ei poissulje käännettäviä istuimia.)		X				
<b>12.24</b>	Viimeinen istuinrivi tulisi pystyä istumaan kasvot menosuuntaan.					X	
	Veneen takaosassa tulisi olla RIB:n suuntainen partiokumiveneen tai -veneiden kuljetusta varten tarkoitettu tila (tarkennus A: erikoistoimintaveneen periaatepiirros.) (tarkennus: B. toimitukseen ei sisälly kumiveneiden kiinnitysalustaa.) (tarkennus: C. korkeussuunnassa hyväksytään korkeintaan 20 cm porrastuksia)					X	
<b>12.25</b>	Veneessä tulee olla kiinteä uimataso. (tarkennus: tulee sijaita vetolaitteiden päällä.)		X				
<b>12.26</b>	Uimatasolla tulee olla kiinteät tikkaat vedestä nousemista varten. (tarkennus: tikkaat voi olla käännettävisä pois vedestä.)		X				
<b>12.27</b>			X				

**13. Palohälytys ja -torjunta**

		Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>13.1</b>	Vene tulee varustaa palohälytysjärjestelmällä	X		
<b>13.2</b>	Konehuone tulee varustaa MKL:n laivakäyttöön hyväksymällä kiinteällä palosammutusjärjestelmällä.	X		
<b>13.4</b>	Palosammutusjärjestelmän mekaaninen laukaisu tulee olla suoritettavissa ohjaamosta.	X		
<b>13.5</b>	Koneitilan ilmanottoaukkojen tulee olla suljettavissa.	X		
<b>13.6</b>	Palohälytykset tulisi väliittää ohjaamoon.	X		
<b>13.7</b>	Konehuoneessa tulisi olla hälytysilmukka joka on varustettu kahdella lämpöilmaisimella	X		
<b>13.8</b>	Sammutusjärjestelmä tulisi olla sijoitettu siten, että se ei haittaa veneen henkilöstön ja matkustajien toimintaa.	X		
<b>13.9</b>	Vene tulee varustaa alkusammutusvälinein. - Käsiammuttimet 2 kpl - jauhesammutin 6 kg ABII E ajoneuvotelineeseen asennettuna.	X		
<b>13.10</b>	Sammutuspeite 1 kpl min 2,5 m2	X		

**14. Merenkulkulaitteet**

	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>Toimittajan tulisi tarjota kaikkien seuraavia kolmen eri valmistajan laitekokonaisuutta</b>	X		
- FURUNO NAVNET 3D -tuoteperhe	X		
- RAYMARINE E/G/C-sarjan -tuoteperhe	X		



<b>14.22</b>	Monitoiminäytöt tulee toimia itsenäisesti (tarkennus: molemmat kytkettynä merenkulkusensoreihin ja esimerkiksi tutkan skaalaus voidaan valita molemmille näytöille halutuksi)	X				
<b>14.23</b>	Monitoiminäyttöillä tulee olla mahdollisuus esittää videokuvaa (tarkennus: NTCS/PAL video ulkoiselta videolähteeltä esimerkiksi sensoripallo)	X				
<b>14.24</b>	Monitoiminäytöissä tulee olla mahdollisuus esittää eri toiminnallisuuksia. (tarkennus: tutka, kartta, ulkoinen video, kaiku, konetiedot)	X				
<b>14.25</b>	Monitoiminäytöissä tulee olla mahdollisuus esittää toiminnallisuudet yksitellen koko näyttöalalla. (tarkennus: tutka, kartta, ulkoinen video, kaiku, konetiedot)	X				
<b>14.26</b>	Monitoiminäytöissä tulee olla mahdollisuus esittää toiminnallisuudet 2-4 kuvan jaettuna yhdistelmänä. (tarkennus: operaattori voi valita kahdesta neljään toimintoa näytölleen; tutka, kartta, ulkoinen video, kaiku, konetiedot)	X				
<b>14.27</b>	Monitoiminäytön karttamateriaali tulee olla koko Itämeren kattava.	X				
<b>14.28</b>	Monitoiminäytön karttamateriaali tulisi olla koko Euroopan alueelle ulottuva.	X				
<b>14.29</b>	Käyttäjällä tulee olla mahdollisuus päivittää karttamateriaali.	X				
<b>14.30</b>	Monitoiminäytöissä tulee olla mahdollisuus ajaa tutka ja karttamateriaali samanaikaisesti päällekkäin.	X				
<b>14.31</b>	ARPA toiminnallisuus tulee olla vähintään 10:lle mailille (tarkennus: toimittaja ilmoittaa kuinka monta maalia järjestelmä kykenee automaattisesti seuraamaan)	X				
<b>Merenkulkututka</b>						
<b>14.32</b>	Tulee olla nopeaan veneeseen soveltuva. (tarkennus: antennin pyörimisnopeus.) (viite: 3.2)	X				
<b>14.33</b>	Tulee olla kupuantenni.	X				
<b>14.34</b>	Tulee olla joko 4 kW 24" tai FMCV Broadband- tutka.	X				
<b>14.35</b>	VRM/EBL toiminnot tulisi olla potentiometrillä / käyttösäätimellä toteutettu.	X				
<b>Kompassijärjestelmä</b>						
<b>14.36</b>	Tulee olla magneetikompassi	X				
<b>14.37</b>	Tulee olla satelliittikompassi (tarkennus: tarkkuus tulee olla parempi kuin 2 astetta RMS)	X				
<b>14.38</b>	Tulee olla sähkömagneettinen kompassi (tarkennus: tarkkuus tulee olla riittävä tutka/karttaplotteri toiminnallisuuksiin)	X				
<b>14.39</b>	Kompassin valinta tulee olla operaattorin valittavissa (tarkennus: erillinen valintakytkin tai ohjelmallinen)	X				
<b>AIS järjestelmä</b>						
<b>14.40</b>	Tulee olla A tai B-luokkaan kuuluva	X				
<b>14.41</b>	Tulee näyttää A ja B-luokka luokan AIS -maalit	X				
<b>Ehdoton Suositeltava Ehdoton Suositeltava Ehdoton Suositeltava Tarkastus</b>						



<b>14.42</b>	Operaattorin tulisi voida valita, näytetäänkö vain A luokan AIS- maalit, vai vain B-luokan AIS- maalit, vai molemmat yhtä aikaa.	X			
<b>14.43</b>	AIS maalit tulee esittää monitoiminäyttöillä (tarkennus: ei erillistä AIS näyttö/käyttölaitetta)	X			
<b>14.44</b>	Tulisi olla "Blackbox" tyyppinen (tarkennus: ei erillistä AIS näyttö/käyttölaitetta)	X			
<b>14.45</b>	AIS laitteen VHF antenni tulee olla veneen käyttöprofiiliin sopiva (tarkennus: pitkä kantama, tärinän kestävä rakenne)	X			
<b>14.46</b>	Tulee olla maalien vastaanotto ON/OFF -toiminnallisuus	X			
<b>14.47</b>	Tulee olla oman paikan lähetyksen ON/OFF -toiminnallisuus	X			
<b>14.48</b>	Tulee olla laite ON/OFF -toiminnallisuus	X			
<b>Kaikuuotain</b>					
<b>14.49</b>	Tulee olla veneeseen soveltuva pohjan sisäpuolinen anturi	X			
<b>14.50</b>	Tulee olla 50Hz ja 200Hz toiminnot	X			
<b>GPS -järjestelmä</b>					
<b>14.51</b>	Tulee olla vähintään kahdennettu	X			
<b>14.52</b>	Tulee olla nopeaan veneeseen soveltuva (viite: 3.2)	X			
<b>14.53</b>	Tulee olla nopeasti päivittyvä (viite: 3.2)	X			
<b>14.54</b>	Käytettävä GPS vastaanotin tulee olla operaattorin valittavissa (tarkennus: erillinen valintakytkin tai ohjelmallinen)	X			
<b>15. Viestilaitteet</b>					
<b>15.1</b>	Veneessä tulee olla Meri-VHF (DCS D luokka)	X			
<b>15.2</b>	Radiolaitteiden tulisi olla CE-merkittyjä	X			
	Veneessä tulisi olla Intercom järjestelmä jossa ääniohjattu sisäpuhelinjärjestelmä sekä vähintään kaksi eri radioliitäntää. (Tarkennus: matkustajille hyväksytään vain myötäkuuntelumahdollisuus.)	X			
<b>15.3</b>	Veneessä tulisi olla asennusmahdollisuus kahdelle kenttäradiolle (tarkennus: A. koko 226 x 245 x 86 mm B. radiolaitteet tilaajan toimitus)	X			
<b>15.4</b>	Veneessä tulisi olla TETRA autoasennussarja (tarkennus: radiolaitteet tilaajan toimitus)	X			
<b>15.5</b>	Veneessä tulisi olla radiovastaanotin.	X			
<b>15.6</b>	Veneessä tulisi olla GSM hands-free (tarkennus: intercom tai bluetooth)	X			
<b>15.7</b>	Veneessä tulisi olla GSM hands-free (tarkennus: intercom tai bluetooth)	X			
<b>16. Varustelu, varusteet ja lisälaitteet ja -ominaisuudet</b>					
<b>16.1</b>	Veneessä tulee olla aseiden kiinnitysmahdollisuus keulassa. (tarkennus: A. 12.7mm ltkk:ta / 40mm krkk:ta B. Aseen kiinnityksen tulee kestää vähintään 150 kg 1,5 m korkeudessa. (tarkennus: kiinnitysvarsi tilaajan toimitus)	X			



<b>16.21</b>	Konttitrukilla		X		
<b>16.22</b>	Veneen ollessaan kuljetus- ja siirtoalustalla tulisi mahtua kuljetuskoneeseen. (tarkennus: max korkeus 2,7m )		X		

**17. Inventaarit**

		Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>Veneen mukana tulisi olla toimitettuna seuraava inventaariokalusto paikalleen asennettuna.</b>				
<b>17.1</b>	Pääkoneen työkalusarja		X	
<b>17.2</b>	Muun koneiston erikoistyökalusarja		X	
<b>17.3</b>	Yleistökalusarja (tarkennus: Työkalujen tulisi olla laadukkaita ja ammattikäyttöön soveltuvia)		X	
<b>Veneen varustukseen tulisi kuulua:</b>				
<b>17.4</b>	Mekaaninen sumutorvi		X	
<b>17.5</b>	Kiinnitysköydet a`15 m vähintään 2 kpl		X	
<b>17.6</b>	Kiinnitysköydet a`30 m vähintään 2 kpl		X	
<b>17.7</b>	Venehaka		X	
<b>17.8</b>	Heittoliina		X	
<b>17.9</b>	Lepuuttajat (väri harmaa, halkaisija 200mm) 4 kpl + säilytystelineet		X	
<b>17.10</b>	Pelastusrengas itsesytyväillä valolla säilytystelineineen		X	
<b>17.11</b>	Pelastusrengas kelluvalla köydellä säilytystelineineen		X	

**Veneen varustukseen tulisi kuulua hätämerkinantovälineet (tarkennus: pakattuna vesitiiviiseen astiaan)**

		Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>17.12</b>	Hätäraakitit 3 kpl		X	
<b>17.13</b>	Käsisoihdut 2 kpl		X	
<b>17.14</b>	Hätäsavu		X	
<b>17.15</b>	Hengenpelastus merkinantotaulu		X	

**18. Varaosat**

		Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>18.1</b>	Toimittajan tulee sisällyttää tarjoukseensa eri laitetoimituksiin sisältyvät varaosat yhden, kolmen ja viiden vuoden käyttöä varten määritellyn käyttöprofiilin mukaisesti.	X		
<b>18.2</b>	Toimittajan tulee sisällyttää tarjoukseensa kunnossapidon ja käytön vaatimat erikoistyökalut ja testilaitteet.	X		
<b>18.3</b>	Toimittajan tulee toimittaa koodiluettelo veneen sisältämissä laitteista / komponenteista. (tarkennus: koodiluettelo sisältää mm. laitteiden tunnistetiedot. Tilaaaja toimittaa koodiluettelon filauksen yhteydessä. Toimittajan tulee toimittaa täydellinen koodiluettelo viimeistään veneen toimituksen yhteydessä)	X		

19. Käyttö- ja huolto-ohjekirjat	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
Veneen toimitukseen tulee sisältyä käyttöohjeistus (tarkennus: toimittajan ohjeistus venejärjestelmän operoinnista)	X		
Veneen toimitukseen tulee sisältyä huollon kannalta riittävät ohjekirjat.	X		
Veneen toimitukseen tulee sisältyä yksittäisten alajärjestelmien käyttöohjeistus.	X		
Veneen toimitukseen liittyvän ohjeistuksen, tulee olla myös sähköisessä muodossa.	X		
Ohjeistus tulisi toimittaa sellaisessa muodossa että se rajautuu ainoastaan veneeseen asennettuihin laitteisiin.	X	X	
Ohjeistuksen tulee olla joko suomeksi tai englanniksi	X		
Seuraavat kohdat käyttöohjeesta tulee olla suomenkielillä: (tarkennus: voi olla lisäksi myös englanniksi):	X		
- Veneellä tapahtuvaa käyttöä koskevat ohjeet	X		
- Veneellä tapahtuvaa rutiinihuoltoa, kunnossapitoa ja vianetsintää koskevat ohjeet	X		
- Turvalaitteiden käyttöä koskevat ohjeet	X		
Toimittajan tulee sitoutua päivittämään mahdolliset muutokset jakamaansa aineistoon viimeiseen osatoimitukseen saakka.	X		

20. Koulutus	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
<b>Toimittajan tulee järjestää käyttö- ja huoltokoulutus seuraaviin osakokonaisuuksiin:</b>	X		
20.1 Veneen yleinen käyttö	X		
20.2 Koneisto	X		
20.3 Järjestelmien ja laitteiden käyttö	X		

21. Luokitus- ja laatu järjestelmät	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
Veneen tulee olla suunniteltu ja rakennettu vähintään Nordic Boat Standard, commercial boat less than 15 m regulations mukaisesti.	X		
Veneen vakavuus ja kantavuus tulee olla suunniteltu ja rakennettu vähintään ISO 6185 mukaisesti.	X		
Toimittajan pitää noudattaa AQAP 2110 julkaisua	X		

22. Suunnittelu	Ehdoton Suositeltava	Ehdoton Suositeltava	Tarkastus
Suunnitteluvaiheiston tulisi sisältää ainakin yleiset asiakirjat, runko ja lujuus laskelmat, varustelu ja sisustus asiakirjat, koneiston asiakirjat sekä sähköjärjestelmän asiakirjat.	X		
Suunnittelun tulee olla julkaisun AQAP 2110 mukaista	X		

<b>23. Rakennusvalvonta ja kokeet</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
<b>23.1</b>	Tilaajalla tulee olla mahdollisuus toteuttaa rakennusvalvontaa. (tarkennus: tilaaja vastaa omista henkilöstökuuluista)	X		
<b>23.2</b>	Toimittajan tulee objektiivisesti osoittaa, että vene täyttää sille asetetut vaatimukset. (tarkennus: FAT, HAT ja SAT)	X		
<b>23.3</b>	Tilaajalla tulee olla mahdollisuus osallistua kaikkiin koetilaisuuksiin	X		
<b>23.4</b>	Koeohjelma tulee hyväksyttäväksi tilaajalla vähintään neljä viikkoa ennen kokeiden suorittamista.	X		
<b>23.5</b>	Kokeiden suorituksista järjestelyineen ja niistä aiheutuviista kustannuksista tulee vastata telakka lukuun ottamatta tilaajan edustajien matka- ja palkkakuluja.	X		
<b>24. Toimituslaajuus</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
<b>24.1</b>	Hyväksytyjen vastaanottokokeiden jälkeinen vene tulee luovuttaa tilaajalle valmiina ja toimintakelpoisena mukaan luettuna tässä erittelyssä luetellut varusteet ja asiakirjat.	X		
<b>24.2</b>	Luovutushetkellä tulisi olla kaikki veneen järjestelmät täytetty normaalin käytön edellyttämällä määrällä asiaankuuluvaa nestettä (tarkennus: poltto- ja voiteluaineet sekä jäähdytysnesteet.)	X		
<b>Luovutusaineistoon tulee kuulua vähintään:</b>		<b>Ehdoton Suositeltava</b>	<b>Ehdoton Suositeltava</b>	<b>Tarkastus</b>
<b>24.3</b>	Lopullinen suunnitteluaineisto, 3 sarjaa paperikopiona.	X		
<b>24.4</b>	Päivitetty luovutuserittely tekstitiedostona. (tarkennus: MS yhteensopiva)	X		
<b>24.5</b>	Lopulliset piirustukset AutoCad tallenteina.	X		
<b>24.6</b>	Lopullinen dokumenttiluettelo ja viitetiedot tilaajan esittämässä muodossa taulukkona. (tarkennus: MS yhteensopiva)	X		
<b>24.7</b>	Laiteluettelo tulee toimittaa viimeistään laiturikokeen (HAT) yhteydessä. (tarkennus: tilaaja toimittaa taulukkopohjan laiteluetteloa varten.)	X		
<b>24.8</b>	Luovutusaineisto tulisi toimittaa yhtenäisissä kansioissa.		X	
<b>24.9</b>	Sertifikaatit tulisi toimittaa veneen luovutuksen yhteydessä.		X	

