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Small craft — Owner's manual

Petits navires — Manuel du propriétaire

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10240 was prepared by Technical Committee ISO/TC 188, *Small craft*.

This second edition replaces the first edition (ISO 10240:1995), which has been technically revised.

Introduction

This International Standard sets requirements for the contents of an owner's manual. If the manual is not read, its purpose of providing information to the user is lost.

The boat builder must ensure that the manual has been given to the owner, and not only to avoid the craft being used without the necessary knowledge.

Small craft — Owner's manual

1 Scope

This International Standard specifies the information that shall be included in the owner's manual of small craft of hull length up to 24 m.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other units*

ISO 8099, *Small craft — Toilet waste retention systems*

ISO 8666:2002, *Small craft — Principal data*

ISO 8999:2001, *Reciprocating internal combustion engines — Graphical symbols*

ISO 9094 (all parts), *Small craft — Fire protection*

ISO 10133, *Small craft — Electrical systems — Extra-low-voltage d.c. installations*

ISO 10239, *Small craft — Liquefied petroleum gas (LPG) systems*

ISO 11105, *Small craft — Ventilation of petrol engine and/or petrol tank compartments*

ISO 11192, *Small craft — Graphical symbols*

ISO 11547, *Small craft — Start-in-gear protection*

ISO 11592, *Small craft less than 8 m length of hull — Determination of maximum propulsion power rating*

ISO 12217 (all parts), *Small craft — Stability and buoyancy assessment and categorization*

ISO 13297, *Small craft — Electrical systems — Alternating current installations*

ISO 14946, *Small craft — Maximum load capacity*

ISO 15083, *Small craft — Bilge-pumping systems*

ISO 15084, *Small craft — Anchoring, mooring and towing — Strong points*

ISO 15085, *Small craft — Man-overboard prevention and recovery*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

degree of hazard and safety label

degree of hazard and corresponding safety label, as defined in Table 1.

Table 1 — Degree of hazard and corresponding safety labels

DANGER	Denotes that an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.
WARNING	Denotes that a hazard exists which can result in injury or death if proper precautions are not taken.
CAUTION	Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components or to the environment.

4 General requirements

4.1 Information required

The owner's manual for the craft shall provide necessary information for safe operation of the craft, equipment and systems with due consideration for the environment.

The information does not need to include servicing information other than routine checks intended to be carried out for operating the craft. The owner's manual may contain a check-list of actions to be undertaken before use.

4.2 Format

The owner's manual shall be produced in hard copy in a language acceptable or required in the country of intended use. It may be multilingual.

A generic owner's manual, i.e. one that may be used for more than one model or type of craft, may be used, provided it is modified, if necessary, to meet the requirements of this International Standard for each craft type. This may be done with supplements.

The manual shall contain an index or table of contents referenced with page numbers, if it is more than four pages long.

Information may be presented as words, symbols or pictograms.

Illustrations shall be in accordance with 4.4.

Where symbols are used, ISO 8999 and ISO 11192 shall be used. If symbols are used, they may be explained by words.

Where practicable, related texts and illustrations should be arranged so that they can be studied together.

4.3 Units and definitions

SI units shall be used in the owner's manual in accordance with ISO 1000; other units may be added between brackets.

4.4 Illustrations

Drawings, schematics, photographs and diagrams may be used. Drawings need not be to scale.

5 Content of owner's manual

5.1 General

Subclauses 5.2 to 5.11 specify information that shall be included in the owner's manual as appropriate for the type of craft or relevant to the craft delivered.

If any information is already given, in the appropriate language, in the owner's manual of appliance(s)/engine(s), it is only necessary to reference to this (these) manual(s).

5.2 Introduction to the manual

Each manual shall have an introductory paragraph informing the owner of his responsibility concerning the intended use of the craft.

If safety labels are used, their meaning shall be explained in the owner's manual, according to Table 1.

Annex A specifies examples of this information. It may be modified accordingly to suit the particular craft.

5.3 General information and craft data

The following information shall be given in the owner's manual. List only the relevant items:

- a) name of craft manufacturer, company or person responsible for putting the craft on the market;
- b) name of the model or type;
- c) craft design category/categories, as marked on the builder's plate, and statements explaining the design category(ies) as follows:
 - Category A: This craft is designed to operate in winds that may exceed wind force 8 (Beaufort scale) and in significant wave heights of 4 m and above (see Note 1 below), and is largely self-sufficient. Abnormal conditions such as hurricanes are excluded. Such conditions may be encountered on extended voyages, for example across oceans, or inshore when unsheltered from the wind and waves for several hundred nautical miles.
 - Category B: This craft is designed to operate in winds up to Beaufort force 8 and the associated wave heights (significant wave height up to 4 m, see Note 1 below). Such conditions may be encountered on offshore voyages of sufficient length, or on coastal waters when unsheltered from the wind and waves for several dozens of nautical miles. These conditions may also be experienced on inland seas of sufficient size for the wave height to be generated.
 - Category C: This craft is designed to operate in winds up to Beaufort force 6 and the associated wave heights (significant wave height up to 2 m, see Note 1 below). Such conditions may be encountered in exposed inland waters, in estuaries, and in coastal waters in moderate weather conditions.
 - Category D: This craft is designed to operate in winds up to Beaufort force 4 and the associated wave heights (occasional maximum waves of 0,5 m height). Such conditions may be encountered in sheltered inland waters, and in coastal waters in fine weather.

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NOTE 1 (To be added in the owner's manual, where relevant): The significant wave height is the mean height of the highest one-third of the waves, which approximately corresponds to the wave height estimated by an experienced observer. Some waves will be double this height.

d) mass of the craft in the light craft (unladen) condition (kg) which is the light craft mass according to ISO 8666;

For craft with outboard engines, it should be stated that this mass includes the mass of the heaviest recommended outboard engine, but in some cases (a small rowing or outboard tender for example) the craft may be used with or without the outboard. In these cases, it would be useful to also know the weight without the outboard motor (perhaps to see if it is light enough to carry on a car roof).

e) maximum recommended load, according to ISO 14946, plus a note saying "see section loading" corresponding to 5.5;

f) mass of the craft in the fully loaded condition (kg); which is the sum of the craft's mass, in the light craft condition, plus the maximum recommended load, a breakdown of the fully loaded mass as calculated is recommended;

g) main dimensions of the craft: L_H , B_H , L_{max} , B_{max} , and the definition of the dimensions given; these dimensions shall be in accordance with ISO 8666:2002;

h) drafts:

1) maximum height (air draft) if relevant, in the light craft condition;

2) maximum draft(s) in the fully loaded condition;

i) type of main propulsion [power, sail, other (give details)];

j) if the craft is a sailboat, basic information on sail and rigging.

NOTE 2 Information such as main dimensions of sails, reefing system, storm sail dimensions, etc. may be given.

k) tank capacity:

1) nominal fixed fuel tank(s) capacity (litres), with a statement mentioning that all of its capacity may not be usable according to trim and loading and that a 20 % reserve should be kept, type of fuel and position of filling point(s) and draining point (if fitted);

2) fixed fresh water tank(s) capacity (litres), with a statement mentioning that all of its capacity may not be usable according to trim and loading, and position of filling point(s) and draining point (if fitted);

3) fixed holding tank(s) capacity (litres), and position of through hull or deck fitting(s) and draining point (if fitted);

4) fixed oil tank(s) capacity (litres), clean and used, and position of filling and emptying point(s);

l) statement saying: "Builder's plate — Part of the information is given on the builder's plate affixed on the craft. A full explanation of this information is given in the relevant sections of this manual."

5.4 Maximum number of persons

State the maximum recommended number of adult persons and/or combination of adults/children, determined in accordance with ISO 14946 and ISO 12217. Where more than one design category has been assigned, state the maximum number of persons for each assigned category.

Include the following warning note:

“WARNING — Do not exceed the maximum recommended number of persons. Regardless of the number of persons on board, the total weight of persons and equipment must never exceed the maximum recommended load. Always use the seats/seating spaces provided.”

See also 5.5.

5.5 Loading

Give information that the maximum recommended load includes the weight of all persons onboard, all provisions and personal effects, any equipment not included in the light craft mass, cargo (if any) and all consumable liquids (water, fuel, etc.).

Give information that the total weight of liquids, when all permanently installed tanks are full, is x (kg).

Include the following warning note:

“WARNING — When loading the craft, never exceed the maximum recommended load. Always load the craft carefully and distribute loads appropriately to maintain design trim (approximately level). Avoid placing heavy weights high up.”

Give any other loading information relevant to the craft.

5.6 Engine information

Give the following information:

- maximum recommended engine power (kW);
- maximum recommended engine mass (if relevant).

5.7 Information connected with the risk of flooding and stability

The following information shall be given in the owner's manual.

5.7.1 Openings in the hull

Give the following information.

- a) Location of seacocks and through-hull fittings, by a plan, sketch or any convenient means.
- b) Advice on keeping seacocks, cockpit drains, bungs and other opening/closing devices in the hull closed or open, as appropriate, to minimize the risk of flooding. If necessary, operating instructions for any such devices.
- c) Advice on keeping portlights, windows, washboards, doors, hatches or ventilation openings closed when appropriate, e.g. in rough weather or at planing speeds. If necessary, provide operating instructions.

5.7.2 Bilge pumps and bailing

Give the information required by ISO 15083, including the following.

- a) Add a warning note: **“WARNING — The bilge pumping system is not designed for damage control.”** This note is not required if the craft is specially designed for that purpose or has flotation.
- b) Location of each bilge pump, and its capacity, as rated by the pump manufacturer.
- c) Operating instructions, if relevant.

- d) precautions when refuelling, e.g., non-smoking and treatment of fuel spillage in craft;
- e) prevention of damage to fuel lines;
- f) avoidance of contact of flammable materials with hot engine parts;
- g) advice not to store equipment containing petrol (outboard engines, tanks, petrol generators, etc.) in compartments not designed for this purpose.

5.8.2 Gas system

Give instructions for safe operation and inspection of gas systems with descriptions as appropriate, including information required by ISO 10239, including the following, where relevant:

- a) operating instructions for appliances;
- b) instructions for inspection of the system;
- c) requirement that gas cylinders shall be stored only in specified lockers or housings;
- d) location of gas lockers or housings;
- e) procedure for changing gas cylinders;
- f) precautions to avoid contact of materials with naked flames and other hot areas;
- g) advice to shut off the gas valve in the event of an LPG leak or fire from an LPG tank;
- h) advice to ensure proper ventilation in order to prevent asphyxiation (see 5.11.4).

5.8.3 Other fuel-burning systems

Give instructions for safe operation and inspection of systems with descriptions as appropriate, including the following, where relevant:

- a) operating instructions for appliances;
- b) precautions when refuelling appliances;
- c) instructions for safe storage of fuel containers;
- d) precautions to avoid contact of materials with naked flames and other hot areas;
- e) advice to ensure proper ventilation in order to prevent asphyxiation (see 5.11.4).

5.8.4 Fire prevention and fire-fighting equipment

Reproduce the relevant information required by ISO 9094 in the owner's manual.

5.8.5 Means of fire escape

Identify the position of hatches, doors, and other openings intended to be a means of escape from the interior in case of fire, where required by ISO 9094, and explain their operation procedures, if relevant.

5.9 Electrical systems — Risks of fire, explosion or electric shocks

Give information on

- the fire or explosion hazards that may result from improper use of electric DC and AC systems, and
- the electric-shock hazards that may result from improper use of electric AC systems.

Give instructions for safe operation of electrical systems with descriptions as appropriate, including information required, where relevant, by normative annexes of ISO 13297 (AC) and ISO 10133 (extra-low-voltage DC), for example:

- a) operation and position of battery selector switches;
- b) description of switch panel(s);
- c) procedure for changing fuses and diagram indicating fuse position, type and capacity;
- d) requirement, if relevant, not to obstruct battery ventilation ducts;
- e) precautions when recharging and disconnecting/reconnecting battery;
- f) **WARNING — Do not work on an energized AC system;**
- g) precautions when connecting/disconnecting shore supply;
- h) if a shore supply is fitted, information about the risk of swimming close to a craft connected to shore power.

5.10 Handling characteristics

5.10.1 Motor craft

Give information on safe handling of the craft under power.

Give information required by ISO 11592, where relevant.

Include the following information, where relevant.

- Do not operate the craft with an engine of rated power greater than the maximum recommended power.
- Avoid sudden manoeuvres at speed.
- For comfort and safety, reduce speed in waves.
- Do not sit in the bow cockpit when the boat is moving fast.
- Always use the dead-man switch if provided.

5.10.2 Engine starting

Give instructions for safe operation when starting an engine to prevent craft movement and/or propeller rotation. For outboard engines and if relevant, the information required by ISO 11547 shall be used.

5.10.3 Emergency steering

Indicate the location and operation of emergency steering device, where applicable.

5.11 Proper operation — Other recommendations and information

5.11.1 Man-overboard prevention and recovery

In accordance with ISO 15085, give the following:

- a) information (if relevant) on parts of the outside of the craft that are not considered as belonging to the working deck and which shall not to be used when under way, with illustrations, if necessary;
- b) identification of the means of recovery of man overboard (e.g. location and deployment of ladder and how to re-board without swamping or capsizing the boat).

5.11.2 Liferaft stowage

On craft where a liferaft stowage area needs to be identified, give information on its location.

5.11.3 Danger from moving parts of machinery

Give the following information, if relevant:

- a) instructions to avoid moving parts of engine, propeller shafts, etc.;
- b) if relevant, details concerning guards fitted and instructions for use.

5.11.4 Ventilation when using a combustion device

Give the following information or instructions, where relevant, including information required by ISO 10239:

- a) **WARNING — Fuel-burning open-flame appliances consume cabin oxygen and release products of combustion into the craft. Ventilation is required when appliances are in use. Open designated vent openings while appliances are in use. Never obstruct ventilation openings and ensure that flued appliances are operating correctly.**
- b) Information on risks from exhaust gases (e.g. CO and other gases).
- c) Instructions for mitigating CO on petrol-powered craft.
- d) The relevant safety label.

5.11.5 Securing of loose equipment

Give recommendations to secure loose equipment safely when underway.

5.11.6 Respect for environment

Give the following information or instructions, if relevant.

- a) Advice to be aware of local environment laws, and to respect codes of good practice.
- b) Instructions not to discharge toilets or holding tanks close to shore or in any prohibited zone, and to use harbour or marina pump-out facilities to empty the holding tank before leaving the harbour.
- c) Advice to be aware of international regulations against marine pollution (Marpol) and to respect it as much as possible.

5.11.7 Use of holding tanks

If a holding tank is fitted, give information required by ISO 8099, including:

- a) operation and maintenance;
- b) Y-valve use;
- c) capacity of holding tanks, in litres;
- d) chemicals acceptable for use: cleaning materials, deodorants, anti-freeze solutions;
- e) pump-out procedure, including use of the manual relief valve, if applicable;
- f) instructions that the system should be empty during storage at freezing temperatures;
- g) note to observe local regulation on discharge;
- h) location of discharge shutoff seacocks and methods of securing these sealed shut.

5.11.8 Anchoring, mooring and towing

Give identification of “strong points” in accordance with ISO 15084, required for anchoring, mooring, towing and being towed.

5.11.9 Trailering (if relevant)

Give, if relevant, the mass in the trailering condition. Provide a warning to use a trailer suitable for the craft and its mass.

6 Other information

Any other information that is relevant for the safe operation of the craft shall be included in the owner's manual.

Annex A (normative)

General introduction for the owner's manual

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft; the equipment supplied or fitted, its systems and information on their operation. Please read it carefully, and familiarize yourself with the craft before using it.

This owner's manual is not a course on boating safety or seamanship. If this is your first craft, or if you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before "assuming command" of the craft. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools, or competent instructors.

Ensure that the anticipated wind and sea conditions will correspond to the design category of your craft, and that you and your crew are able to handle the craft in these conditions.

Even when your boat is categorized for them, the sea and wind conditions corresponding to the design categories A, B and C range from severe storm conditions for category A, to strong conditions for the top of category C, open to the hazards of a freak wave or gust. These are therefore dangerous conditions, where only a competent, fit and trained crew using a well maintained craft can satisfactorily operate.

This owner's manual is not a detailed maintenance or trouble-shooting guide. In the case of difficulty, refer to the boat builder or his representative. If a maintenance manual is provided, use it for the craft's maintenance.

Always use trained and competent people for maintenance, fixing or modifications. Modifications that may affect the safety characteristics of the craft shall be assessed, executed and documented by competent people. The boat builder cannot be held responsible for modifications that he has not approved.

In some countries, a driving licence or authorization are required, or specific regulations are in force.

Always maintain your craft properly and make allowance for the deterioration that will occur in time and as a result of heavy use or misuse of the craft.

Any craft, no matter how strong it may be, can be severely damaged if not used properly. This is not compatible with safe boating. Always adjust the speed and direction of the craft to sea conditions.

If your craft is fitted with a liferaft, carefully read its operating manual. The craft should have onboard the appropriate safety equipment (lifejackets, harness, etc.) according to the type of craft, weather conditions, etc. This equipment is mandatory in some countries. The crew should be familiar with the use of all safety equipment and emergency manoeuvring (man overboard recovery, towing, etc.), sailing schools and clubs regularly organize drill sessions.

All persons should wear a suitable buoyancy aid (life jacket/personal floatation device) when on deck. Note that, in some countries, it is a legal requirement to wear a buoyancy aid that complies with their national regulations at all times.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRAFT.

Annex B (informative)

List of International Standards requiring information and safety labels to be inserted in the owner's manual

Reference	Title	Place
ISO 6185:2001	Inflatable boats. All three parts	
ISO 8099:2000	Small craft — Toilet wast retention systems	Clause 12
ISO 8846:1990	Small craft — Electrical devices — Protection against ignition of surrounding flammable gases	
ISO 9094-1:2003	Small craft — Fire protection — Part 1: Craft with a hull length of up to and including 15 m	Annex B
ISO 9094-2:2002	Small craft — Fire protection — Part 2: Craft with a hull length of over 15 m	Annex B
ISO 10133:2000	Small craft — Electrical systems — Extra-low-voltage d.c. installations	Annex B
ISO 10239:2000	Small craft — Liquefied petroleum gas (LPG) systems	Annex C
ISO 11105:1997	Small craft — Ventilation of petrol engine and/or petrol tank compartments	Clause 7
ISO 11547:1994	Small craft — Start-in-gear protection	Clause 5
ISO 11591:2000	Small craft, engine-driven — Field of vision from helm position	Clause 7
ISO 11592:2001	Small craft less than 8 m length of hull — Determination of maximum propulsion power rating	Annex B
ISO 12217-1:2002	Small craft — Stability and buoyancy assessment and categorization — Part 1: Non-sailing boats of hull length greater than or equal to 6 m	Annex G
ISO 12217-2:2002	Small craft — Stability and buoyancy assessment and categorization — Part 2: Sailing-boats of hull length greater than or equal to 6 m	Annex F
ISO 12217-3:2002	Small craft — Stability and buoyancy assessment and categorization — Part 3: Boats of hull length less than 6 m	Annex E
ISO 13297:2000	Small craft — Electrical systems — Alternating current installations	Annex B
ISO 14895:2000	Small craft — Liquid-fuelled galley stoves	Annex A
ISO 14946:2001	Small craft — Maximum load capacity	Clause 6
ISO 15083:2003	Small craft — Bilge-pumping systems	Annex A
ISO 15085:2003	Small craft — Man overboard prevention and recovery	Clause 17

Bibliography

- [1] ISO 6185 (all parts), *Inflatable boats*
- [2] ISO 8665, *Small craft — Marine propulsion reciprocating internal combustion engines — Power measurements and declarations*

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