

WHO WE ARE:

Department of Communications, Marine and Natural Resources

Leeson Lane
Dublin 2
Tel: (01) 6782000
www.dcmnr.ie

Irish Coast Guard

Leeson Lane
Dublin 2
Tel: (01) 6785444
www.dcmnr.ie
Emergency Tel: Ring 999/112 and ask
for Marine Emergency

Irish Water Safety

The Long Walk
Galway
Republic of Ireland
Tel: (091) 564400
www.nsc.ie

ISA

Irish Sailing Association
3 Park Road
Dun Laoghaire
Co. Dublin
Tel: (01) 2800239
www.sailing.ie

RNLI

Royal National Lifeboat Institution
15 Windsor Terrace
Dun Laoghaire
Co. Dublin
Tel: (01) 2845050
Registered Charity No. CHY 2678
www.lifeboats.org.uk

BIM

PO Box 12
Crofton Road
Dun Laoghaire
Co. Dublin
Tel: (01) 2841544
www.bim.ie

WHAT WE DO:

We are the Government Department responsible for the safety of life at sea and the prevention of pollution from ships.

We are the Division/Service of the Department of Communications, Marine and Natural Resources responsible for search and rescue, intervention in shipwreck and casualty and response to pollution at sea. We provide commercial marine communications and maintain 50 coastal rescue stations manned by volunteers available to respond to marine emergencies.

We as a statutory body have a responsibility to promote through education a nationwide water safety awareness.

We are the governing body representing sailing, windsurfing, powerboating and personal watercraft in Ireland. We can advise on all aspects of boating safety. We have a network of clubs and recognised teaching establishments that operate training courses for all types of leisure craft.

We are a registered charity that saves lives at sea. We provide, on call, the 24-hour service necessary to cover search and rescue requirements to 50 miles out from the coast of the United Kingdom and the Republic of Ireland, and a beach rescue service on 43 beaches in the south west of England. The RNLI depends entirely on voluntary contributions and legacies for its income.

We are the principal development agency for the seafood industry and promote safe working practices for the industry which involves Fisheries Training for both new entrants and practitioners, developing codes of practice, production of training materials and trials of preventative measures against risk on board fishing vessels.

GUIDELINES TO REDUCE MACHINERY FAILURE IN FISHING VESSELS



SAFETY ON THE WATER

Department of the Marine
and Natural Resources

Roinn na Mara agus Acmhainní Nádurtha



Bord Iascaigh Mhara
Irish Sea Fisheries Board

Irish Coast Guard
Garda Cósta na hÉireann



Lifeboats
Ireland



IRISH SAILING
ASSOCIATION



FOREWORD

This booklet has been produced by the Marine Safety Working Group which has representatives from the following Government Departments and National Institutions:

Department of the Marine and Natural Resources
Department of Education
Department of the Environment
Department of Enterprise and Employment
Department of Arts, Culture and the Gaeltacht
Health and Safety Authority
Irish Coast Guard
Irish Water Safety
Royal National Lifeboat Institution
Irish Sailing Association
Bord Iascaigh Mhara

In addition the booklet has been approved by:

Irish Fishermen's Organisation
Killybegs Fishermen's Organisation
Irish South and West Fishermen's Organisation
Irish Fish Producers Organisation

Whether your boat is large or small, commercial or pleasure, this booklet provides useful basic information with regard to the checks you should carry out to the machinery before going to sea, whilst at sea, and on your return.

If you are inexperienced with regard to the maintenance of the machinery in your boat, we urge you to obtain additional information as detailed in this booklet.

Further copies are available from any of the organisations/agencies mentioned above. See back pages for addresses and telephone numbers.

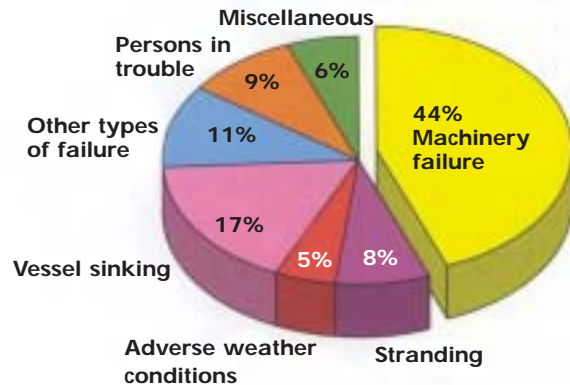
INTRODUCTION

Machinery failure – an increasing problem!

Statistics show that machinery failure continues to be a major cause of call outs for the Marine Emergency Services.



All launches to Fishing Vessels (based on RNLI statistics).



As an example, in 2000, 44% of all call outs to fishing vessels by RNLI lifeboats were a result of machinery failure of one sort or another.

Don't let the next catch be you!

PREPARING FOR SEA

Remember the Basic Checks

- Fuel and gas leaks are a major fire hazard. Before operating any machinery look for fuel leaks and check for gas leaks by gas detector or smell. Ensure vessel is well ventilated if you are in doubt.
- Machinery and ancillary gear - Check the following are operational:

Main Engine	Generator
Lubricating Oil Pump	Cooling water Pump
Bilge Pump	Steering Gear
Hydraulic Machinery	Deck Machinery
Batteries and Charging Equipment	Air vents
Safety Alarms - Fire, gas and Bilge Alarms	
Fire pump (Main/Emergency/Hand Operated)	
- Make sure suitable fixed fire extinguishing systems are operable and ensure portable fire extinguishers are charged and in good working order.
- Ensure emergency exits from machinery and accommodation spaces are accessible and not blocked.
- Make sure you have sufficient fuel for the voyage and that it is free from contamination. Drain any water from daily service or settling tanks. Carry sufficient in reserve for contingencies and ensure containers of extra fuel are properly secured.
- Ensure refuelling arrangements are safe.



BEFORE STARTING THE ENGINE



Basic Checks for Inboard Engines

- Check for fumes, gas leaks and inspect for water, oil and fuel leakages and where Fitted, re-secure all watertight engine room access hatches afterwards.
- Check oil levels in the engine and where appropriate the gearbox. Check the coolant level in heat exchanger and keel cooler systems. Switch on the main power isolator.
- Carry out a visual inspection of the engine paying particular attention to the condition of:

Belt drives - Worn/loose	Water hoses - Perished/leaking
Electrical connections - Frayed/loose	Fuel filters - Leaking
Exhaust systems - Flooding	Stern gland - leaking
- Check all power pumps and hand pumps and that bilges are free of water. Make sure that all the bilge suction are clear. Check for debris which might find its way into the bilges and block the bilge system. Have a hand pump as a back-up.
- Check the operating of all shipside valves and ensure all are open prior to departing.
- Make a **visual** check to ensure that there is sufficient fuel for the intended voyage allowing extra for contingencies. Carry spare fuel filters.



Basic Checks for Outboard Engines

- Make sure that the engine is secured to the transom properly, and that there is sufficient depth between the propeller and the sea bed before starting the engine.
- Make a **visual** check to ensure that there is sufficient fuel for the intended voyage allowing extra for contingencies. Spare petrol must be carried in a proper container in a well ventilated location.
- Make sure that no one is standing in the water near the propeller and that no one is behind you when you start the engine.
- Do not overchoke the engine as it will flood the carburettor. Consult the handbook if in doubt about the correct starting procedure.
- When the engine fires, check the cooling water telltale, if fitted, and allow the engine to run for a few minutes before closing the choke.

Other considerations

- With a twin outboard installation where possible have separate fuel tanks. Duplicate systems provide an additional safety factor and a "get you home facility" if one engine fails.

RUNNING CHECKS



- Check that the cooling water is circulating - Look over the side to make sure it's discharging.
- With an inboard engine check the oil pressure regularly and that the battery is charging.
- Check the engine visually for signs of fuel leaks, overheating, excessive vibration, etc.
- Before stopping the engine allow it to idle a few minutes to cool down.

General Handy Hints

- Keep your handbook, tool kit and any necessary spare parts on the boat.
- 11 in any doubt, have your machinery checked by an expert and serviced regularly.
- Learn the basics - **BORD IASCAIGH MHARA** offer a comprehensive range of training courses for the industry. For more information call the **Marine Service Division on (01) 2841544**, or the **National Fishery Training Centre on (077) 81068**. The **ISA** also run courses covering engine maintenance and for more information call **(01) 2800239**.

OTHER CHECKS WHILST AT SEA

- A check should be made several times a day that any spaces not fitted with bilge alarms are dry.
- Bilge level alarms should be tested daily by moving the float manually in order to check that both visual and audible alarms actually work.
- Regularly (weekly) clean all bilge strainers (mud boxes) in the engine room.
- Clean and replace the grids for fish hold slush well or coarse strainer for the fish hold suction at every opportunity and whenever the fish hold is empty.
- Keep the engine room bilges and the fish hold free of rubbish, polythene fish papers, or anything else that could choke the bilge system.
- Regularly (monthly) ensure all valves in the bilge system and all sea valves (and other valves that control the inlet and outlet of water through the hull) are free to move, so that they can be operated in an emergency.
- Regularly (monthly) test any bilge pumps not in daily use, including the hand (or whale) pumps. Make sure you do not pump any oil over the side. **IT IS AN OFFENCE.**
- Check that all non-return valves are clear of debris and are in good condition each time the vessel is slipped, dry-docked or otherwise out of the water.
- Do not remove any non-return valves, these are fitted to prevent back flooding.



ON YOUR RETURN



Inboard engines

- Check the engine and ancillary machinery for any problems or damage - Remember to fix it before your next trip!
- Switch off the main power isolator.
- Arrange for oily bilge water and oil from engine spill trays to be removed to shore based reception facilities.

Outboard engines

- Once the boat is on the trailer, put the engine in an upright position to allow any sea water to drain away. Remember to tilt the engine before towing.
- Remove the engine hood and spray the engine with water repellent. Letting it dry before replacing the hood.
- Check the propeller for any dents or nicks - which could cause the engine to vibrate. Check the sheer pin if fitted.
- If the engine is fitted with a flush plug attach a fresh water hose to clean out salt deposits. Do not run the engine, without checking the handbook, as you may damage the water pump impeller.
- Check the control cables regularly for ease of operation.

ADDITIONAL INFORMATION

Advice on the information detailed in this booklet and on the requirements of current safety legislation, recommended safety provisions and training is available from the Department of the Marine and National Resources.

DEPARTMENT OF THE MARINE AND NATURAL RESOURCES

Leeson Lane
Dublin 2
Tel: (01) 6785444

HEALTH & SAFETY AUTHORITY

10 Hogan Place
Dublin 2
Tel: (01) 6147000

NATIONAL FISHERY TRAINING CENTRE

Greencastle
Co. Donegal
Tel: (077) 81068

BORD IASCAIGH MHARA

PO Box 12
Crofton Road
Dun Laoghaire
Co. Dublin
Tel: (01) 2841544

KILLYBEGS FISHERMENS ORGANISATION

Bruach Na Mara
Killybegs
Co. Donegal
Tel: (073) 31089

IRISH SOUTH AND WEST FISHERMENS ORGANISATION

East End
Castletownbere
Co. Cork
Tel: (027) 70670

IRISH FISH PRODUCERS ORGANISATION

11 Elgin Road
Dublin 4
Tel: (01) 6687077

IRISH FISHERMANS ORGANISATION

Cumberland House
Fenian Street
Dublin 2
Tel: (01) 6612400

