

# Onboard Routine Maintenance Check Sheet



February 2009

## Our Mission

The mission of ABS is to serve the public interest as well as the needs of our clients by promoting the security of life, property and the natural environment primarily through the development and verification of standards for the design, construction and operational maintenance of marine-related facilities.

## Quality & Environmental Policy

It is the policy of the American Bureau of Shipping to be responsive to the individual and collective needs of our clients as well as those of the public at large, to provide quality services in support of our mission, and to provide our services consistent with international standards developed to avoid, reduce or control pollution to the environment.

All of our client commitments, supporting actions, and services delivered must be recognized as expressions of Quality. We pledge to monitor our performance as an on-going activity and to strive for continuous improvement.

We commit to operate consistent with applicable environmental legislation and regulations and to provide a framework for establishing and reviewing environmental objectives and targets.





# ONBOARD ROUTINE MAINTENANCE CHECK SHEET

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Use of this check sheet is neither a classification nor a statutory requirement. This check sheet is provided to owners to use in drafting and refining their own operation and maintenance procedures. This check sheet has not been developed for any particular ship or type of ship. As it is based on observations during surveys, inspections and audits, the checklist may include items which do not apply to a particular ship and may omit items which do apply.

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# INTRODUCTION

ABS is committed to promoting the security of life at sea, of property and of the natural environment. It believes that an important element in achieving these goals is a well designed and effectively implemented ship maintenance system. A sound maintenance program not only helps address safety, environmental and operational concerns, but it is a sensible investment in a valuable asset, the ship. With this in mind, the information supplied in the attached check sheet is intended to assist our clients in fulfilling their commitments to their crews, ships and the general public.

The attached check sheet has been developed as an aid for crewmembers to use when carrying out normal routine maintenance for their ship. Completion of the check sheet is not a requirement of class, nor required by any flag or port State authority. It is merely a tool that may be used by the crew as reference for items that may be overlooked during routine maintenance.

If any item on the check sheet is not in satisfactory condition, then the crew should take appropriate steps to remedy the condition. However, if the condition is detected while the vessel is on passage and it cannot be rectified prior to entering port, we suggest to our clients that they notify their owner, ABS, their flag State, and the port State of the ship's next port of call; request attendance by ABS; and make a notation in the ship's logbook of any action taken.

Additionally, our clients should be aware that Port State Control empowers a State to verify the condition and acceptability of a foreign vessel using its ports. A port State inspection can identify sub-standard items or procedures on the ship and the inspector may detain the ship until the specified defects are rectified.



# SYNOPSIS OF FINDINGS FROM ROUTINE SURVEYS, INSPECTIONS AND AUDITS

## Statutory Certificates, Overdue Surveys

Surveyors, auditors and inspectors routinely review a vessel's documentation (certificates) to verify that they have been endorsed for all required surveys during the intervals mandated by the various conventions or class requirements. Surveys must be completed within the required survey interval for the statutory documents to remain current.

## Cargo Ship Safety Radio Surveys

Common findings recorded in this category relate to main radiotelegraph transmission and reception equipment. In some cases, the power output of transmitters has been found to be below an acceptable level, causing a reduction in the range of transmissions. Faults observed in receiving equipment include unsatisfactory reception. Typical examples of other findings in this category are deteriorated aerials; broken aerial insulators; improperly rigged aerials for very high frequency equipment; inoperable automatic alarms; defective speakers; and faulty emergency power sources.

## Cargo Ship Safety Equipment Surveys

### 1. *Lifesaving Appliances*

Properly functioning lifesaving appliances are key elements of ship safety. Routine crew examinations and proper maintenance can identify or remedy potential problems, such as structural defects in lifeboats, inoperative lifeboat engines or flemming gear, missing or inoperative lights on lifebuoys and lifejackets, excessively worn lifting hooks in lifeboats, missing retro-reflective tape from equipment, badly corroded engine mounts in lifeboats, missing safety equipment from lifeboats, unsatisfactory "float-free" arrangement on liferafts and inoperative lifeboat launching systems.

### 2. *Firefighting Equipment*

It is of utmost importance that the firefighting equipment be properly examined, maintained and ready for immediate use at all times. Unfortunately, there are many firefighting findings (related to the detection, extinction or risk of fire) observed during surveys and audits including: missing or holed fire hoses; missing fire hose nozzles; defective breathing apparatus; excessive oil accumulation in machinery spaces bilges; broken fire detectors; missing, poorly maintained or uncharged fire extinguishers; holed or soft-patched fire mains; missing or broken fire station cabinet handles and hinges, wrenches and hydrant handwheels; unmarked, broken or inoperative fire dampers; unprepared fire and emergency crews; valves and fittings related to IGS in disrepair; CO<sub>2</sub> cylinder room being used for storage; paints stored in machinery spaces instead of in a dedicated paint locker; heavy accumulation of grease in galley exhaust ventilation trunking; seized machinery space skylights; frozen or holed funnel dampers; and engine room ventilators.

### 3. *Navigation Equipment*

During surveys and audits, the types of findings include out-of-date, uncorrected or missing charts for the intended voyages; inaccurately calibrated magnetic compasses; faulty radio direction finders, echo depth sounders, radar's, gyro repeaters, and navigation lights; outdated Tide Tables, List of Lights and Sailing Directions, etc.; and copies of regulations (e.g., SOLAS, MARPOL, ITU etc.) not on board.

## Cargo Ship Safety Construction Surveys

The following findings deal mainly with steering gear and mooring arrangement requirements. Other findings, which relate to structural items, are discussed under class surveys, hull (below): steering control system malfunctioning; officers not knowledgeable about emergency steering procedures; communications in emergency steering room not working; anchor chains, windlasses, wire ropes and mooring lines in a deteriorated physical condition and potentially dangerous; defective guards on winches and windlasses; and missing anchors and chain.

## Housekeeping and Fire Safety, Documentation, Manning, Accommodations

### 1. *Manning*

The STCW Convention requires that ships have properly trained and qualified crews. These elements of manning are important because the safety of a ship, its crew, its passengers and cargo and the protection of the marine environment depend to a large extent on the training, experience and competence of the crew. The majority of findings in this category relate to the minimum international standards for certificates issued under the STCW Convention. Each flag State is responsible for establishing the appropriate levels of the manning aboard ships under its jurisdiction and for issuing each ship with a safety-manning certificate. Findings in each category include navigational watches stood by uncertified officers, incorrectly endorsed officers' certificates for the ship they are serving aboard (e.g. oil tankers, gas carriers and chemical tankers), key officers not in attendance and manning exceeding the numbers listed on the Cargo Ship Safety Equipment Certificate.

### 2. *Documentation*

Statutory certificates are issued to ships in accordance with the various international conventions. Surveyors, auditors and inspectors have found findings related to a vessel's certificates including expired certificates, overdue annual or intermediate surveys, and improperly issued or missing certificates after a vessel has changed flag from one State to another.

### 3. *Accommodations, Provisions and Working Spaces*

Examples of findings pertaining to the crew accommodations include: infestation by cockroaches; blocked drains; dirty hospitals and bathrooms; leaking toilet piping; missing shower nozzles and controls; broken or inoperable sinks and toilets; crew members living in hospital spaces; doors to accommodations not closing adequately; and broken light fixtures and switches. As far as provisions are concerned, the findings usually relate to poor standards of cleanliness. Other findings included in this category are deteriorated insulation in galleys that poses a potential health hazard; ineffective or inoperative refrigeration machinery for cooling storerooms; and insufficient food for the intended voyage. Finally, as far as working spaces are concerned, findings include lack of adequate lighting and ventilation as well as defective or missing guards to protect the operator from the moving parts of machinery.

## MARPOL Surveys

Careful attention should be paid to pollution prevention measures on board as well as maintaining accurate records for the handling of oil and other pollutants. Penalties can be severe for an owner and any responsible crewmembers if a vessel fails to comply with the regulations. Findings noted during surveys and audits include: missing oil record keeping book or entries not up to date; poorly maintained, misoperating or inoperative equipment for separating oil from water including oil-content monitoring devices; sludge tank connected directly overboard; and missing or unposted pollution placard.



## Load Line Surveys

Surveyors have recorded findings where ventilators, air pipes, watertight doors and hatchways had deteriorated sufficiently to warrant repairs. These findings could have been avoided by adequate maintenance performed prior to surveyor attendance. Other findings in this category include: cargo hatch cover securing devices missing or inoperable; sounding pipe caps missing; air pipes holed; securing devices on weathertight and watertight doors missing; holed cargo hatch covers; non-sealing weathertight doors; corroded manhole covers; and unsafe rails at the side of the ship. Other findings associated with the Load Line Convention are discussed under classification surveys, hull (below).

## Classification Surveys

### 1. *Hull*

The findings include damage and deterioration of the hull, including items such as distorted bulbous bow plating and side shell plating deformations; damaged gangways, accommodation ladders, exposed walkways/platforms, and pilot ladders; corroded cable trays and trunks; faulty closing appliances; seriously wasted, holed, cracked or fractured side frames, transverse deck beams, deck plating, and watertight bulkheads in the chain locker, forecastle storage space, and engine room; holed vent pipes/closure heads; holed or damaged hatches; weathertight doors not sealing; overdue special hull surveys; and corroded access ladders to cargo holds or tanks.

### 2. *Machinery*

Surveys that have identified poorly maintained engine rooms list findings such as excessive oil in bilges and throughout the engine room. Other findings in this category include inoperable remote controls on boiler safety valves; defective fuel-oil valves on main and auxiliary engines; improperly adjusted steering gear; accumulation of water leaking on auxiliary engines; frozen or inoperable sea water inlet valves; defective generators; defective and leaky fuel-oil pumps and poorly maintained air compressors (resulting in the shortage of starting air for the main engine); leaky or wasted hydraulic lines servicing deck machinery and cargo hatches; and leaky engine exhaust piping.

### 3. *Cargo Gear*

Findings noted during surveys have included: absence of identification marks on hooks, blocks, and shackles and other small items of equipment; unavailable documentation attesting to examinations and testing certification; excessively corroded winch bed plates; and winch drums and brakes posing a danger and requiring repairs.



<b>I. CERTIFICATES &amp; DOCUMENTATION</b>			
Certificate	Expiry Date	Date of Last Survey*/ Endorsement	Comments
Class Certificate		AS	
		REN	
Certificate of Registry			
Radio Station License			
Safety Radio Certificate		PER/REN	
Safety Equipment Certificate		MAS	
		INT/PER/REN	
Safety Construction Certificate		MAS	
		INT/REN	
Oil Pollution Prevention (IOPP) MARPOL Annex I		MAS	
		INT/REN	
Carriage of Dangerous Chemicals in Bulk (BCH or IBC Code)		MAS	
		INT	
		REN	
Carriage of Liquefied Gases in Bulk (GC or IGC Code)		MAS	
		INT/REN	
Carriage of Noxious Liquid Substances in Bulk (NLS)		MAS	
		INT/REN	
Sewage Pollution Prevention		REN	
Air Pollution Prevention MARPOL Annex VI		MAS	
		INT/REN	
AFS (Anti-fouling system) Certificate			
Carriage of Dangerous Goods Exemption Certificate (if any)		REN	
Load Line Certificate		N/A	
Tonnage Certificate		AS/REN	
Document of Compliance (ISM Code) copy with annual endorsement			
Safety Management Certificate		INT	
		REN	
Ship Security Certificate		INT/REN	
5 Year Service Lifeboat/Rescue Boat Launching Devices			
5 Year Service Lifeboat On Load Release Gear			
Has the Annual Thorough Exam been carried out?			
Certificate of Service: Liferafts, Inflatable Lifejackets, Marine Evacuation System, and Inflatable Rescue Boat			
Does the vessel have proper certification for the types of cargo it is carrying per applicable conventions and/or codes?			
<b>*Survey Abbreviations Defined</b> AS - Annual Survey INT - Intermediate Survey MAS - Mandatory Annual Survey PER - Periodical Survey REN - Renewal Survey			

This checklist is solely a guidance tool for the use of the ship's master and crew during routine maintenance and housekeeping on the ship. **Completion of this checklist is not a requirement for class.**

<b>II. PERSONNEL CERTIFICATES &amp; DOCUMENTATION</b>					
<b>Certificate</b>		<b>Issue Date</b>	<b>Expiry Date</b>	<b>Comments</b>	
Minimum Safe Manning Certificates					
Certificates for Masters, Officers and Ratings	Master				
	Chief Engineer				
	Officers/Ratings				
	Engineers				
GMDSS Persons					
Continuous Synopsis Record (CSR)					
Crew Medical Certificates					

<b>III. MANUALS &amp; DOCUMENTS FOR ALL VESSELS</b>					
<b>Title</b>	<b>Approved By</b>	<b>Document Language</b>	<b>Crew Language</b>	<b>Comments</b>	
Stability Information (Trim and Stability Booklet)					
Fire Control Plans					
Firefighting Systems and Op. Training Manual (crew mess/ cabin) and SOLAS training manuals					
Firefighting Systems Maintenance Plan					
Shipboard Oil Pollution Emergency Plan (SOPEP)					
<b>Title</b>	<b>Properly Recorded</b>		<b>Comments</b>		
Oil Record Book, Part I					
Garbage Management Plan and Record Book					
Log Book					
Lifesaving Appliances Instructions for On-Board Maintenance					
<b>Title</b>	<b>Issued by</b>	<b>Examined by</b>	<b>Last Endorsement</b>	<b>Comments</b>	
Cargo Gear Booklet		ACG			
		Retesting			

<b>IV. MANUALS &amp; DOCUMENTS FOR TANKERS &amp; CHEMICAL CARRIERS</b>					
<b>Title</b>	<b>Approved By</b>	<b>Document Language</b>	<b>Crew Language</b>	<b>Comments</b>	
Operation Manual					
Oil Record Book, Part I and II					
Oil Discharge Manual					
Record of Oil Discharge					
Crude Oil Washing Manual					
<b>For Chemical Carriers</b>					
P & A Manual					
<b>Title</b>	<b>Properly Recorded</b>		<b>Comments</b>		
Cargo Record Book					

<b>V. MANUALS &amp; DOCUMENTS FOR VESSELS CARRYING NOXIOUS LIQUID SUBSTANCES</b>					
<b>Title</b>	<b>Approved By</b>	<b>Document Language</b>	<b>Crew Language</b>	<b>Comments</b>	
Shipboard Marine Pollution Emergency Plan (SMPEP-NLS)					

## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

VI. MANUALS & DOCUMENTS FOR LNG/LPG CARRIERS				
Title	Approved By	Document Language	Crew Language	Comments
Operation Manual				

VII. MANUALS & DOCUMENTS FOR VESSELS CARRYING GRAIN				
Title	Issued By	Expiry Date	Crew Language	Comments
Grain Loading Manual				
<b>Certificate</b>				<b>Comments</b>
Grain Loading Certificate				

VIII. MANUALS & DOCUMENTS FOR SPECIFIC TYPES OF VESSELS	
Title	
Enhanced Survey Report Files and Supporting Documents (ESP, ESDC Vessels)	
Damage Control Plan (dry cargo vessels constructed on or after 1 Feb 1992)	
Cargo Securing Manual	
Bulk Carrier Booklet per SOLAS VI/7	
Previous Port State Control Inspection Results	
Loading Instrument/Computer (Required bulk carriers L>150m)	

IX. NAUTICAL PUBLICATIONS, INTERNATIONAL CONVENTION DOCUMENTS & FLAG ADMINISTRATION PUBLICATIONS					
	Query	OK**	FIX	N/A	Comments
Charts (conventional paper charts)	Up-to date w/latest corrections?				
Electronic Chart Display and Information System (ECDIS)	Up-to date w/latest corrections?				
Sailing Directions	Up-to-date (latest editions)?				
List of Lights	Up-to-date (latest editions)?				
Notice to Mariners	Up-to-date (latest editions)?				
Tide Tables	Up-to-date (latest editions)?				
Int'l Code of Signals	Up-to-date (latest editions)?				
Illustrated Table of Lifesaving Signals	Up-to-date (latest editions)?				
Volume III of International Aeronautical and Maritime Search and Rescue Manual (IAMSAR)					
IMO Convention Publications (required on board)	SOLAS?				
	Collision Regs?				
	MARPOL 73/78?				
	Load Line?				
STCW?					
Flag Administration Laws/Circulars	Up-to-date (latest editions)?				
Shipmaster's Medical Guide	Current?				
Other Publications Required for Voyage	As required?				

\*\*"OK" as used as a column heading throughout this document is defined as "SATISFACTORY" or "IN COMPLIANCE" with the referenced Rules/Regulations as applicable.

<b>X. RADIO INSTALLATION</b>					
<b>Query</b>		<b>OK**</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
HF installation function confirmed?					
MF installation function confirmed?					
MF/HF installation function confirmed?					
IMARSAT function confirmed?					
NAVTEX receiver function confirmed?					
Satellite EPIRB	Function in self test mode confirmed?				
	Validity of battery verified?				
	Certificate of annual test by Certified Radio Technician verified?				
	Expiry Date free float sensor service date not >12 months verified?				
Power Sources	Main source satisfactory?				
	Emergency satisfactory?				
	Reserve source - batteries, verify acid (Sp gr), liquid level, terminal voltage satisfactory?				
Antenna	No damage/missing parts?				
	Masts/brackets not wasted?				
Tools and spares full complement available?					
Maintenance records verified?					
Radio log with proper entries verified?					
Clock operates satisfactorily?					
Lighting normal and emergency effective?					
Are call sign, ship station ID and other applicable codes clearly marked?					
Operation and service manuals verified on board?					
Has a qualified Radio Technician inspected the radio equipment in the past year?					
Is the radio station license still valid?					
Are correct number of radar transponders on board?					
GMDSS	Radio personnel have valid Certificates?				
	Required number of operators on board?				
Is battery room marked properly and "No Smoking" sign posted as applicable?					
Is all radar working properly?					

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## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

<b>XI. LIFESAVING EQUIPMENT</b>					
<b>Inflatable Liferrafts</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Serviced every 12 months along with hydrostatic release units except if extension authorized by Flag State?					
Container stenciled with maker's name, serial number, last service date, number of persons, launching instructions, length of painter, etc.?					
Liferaft Stowage	Condition of stowage cradle?				
	Are the liferaft painters and hydrostatic releases properly connected via a weak link?				
	Embarkation ladder condition?				
	Are all required liferafts located properly at their designated stations and available to float free?				
	Are launching instructions posted at liferaft stations?				
<b>Lifeboats/Rescue Boats</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
External/internal condition hull material and framing satisfactory (no visible wastage, doublers/reinforcements fitted, fractures/holes noted)?					
Are side benches/thwarts, clutch holes, gunwales in satisfactory condition with no rot or wastage (including flooring, hull)?					
Each seating position is clearly indicated?					
Are lifeboats intended for launching down sides of vessel fitted with skates/fenders in satisfactory condition?					
Is the lifeboat stern frame, rudder, stock, tiller and associated fittings in satisfactory condition?					
Except in way of rudder/propeller are suitable handholds provided or is buoyant line properly becketed around the outside of lifeboats above waterline within reach of person in water?					
Are grab rails on underside of non-self-righting lifeboats in satisfactory condition? (Note: Handholds are to be attached with break away fasteners.)					
Is bilge pump in good condition, especially rubber parts and mounting arrangements? Are suction/ discharge hoses in satisfactory condition with no tears/rot and is pump operationally tested to confirm it is working properly?					
Are bilges in lifeboats clean and free of water and/or oil or debris?					
Are water containers in satisfactory condition?					
Is there sufficient drinking water in lifeboat? Means should be provided for collecting rainwater. Administration may require manual powered desalinators.					
Are sea painter lines correctly attached using toggle pin and ready for immediate use? (Note: Painter should not be lashed to deck.) Is toggle pin in satisfactory condition?					
Is the number of persons which lifeboat is approved to carry clearly marked in clear permanent characters?					
Is the name and port of registry of the ship marked on each side of bow in block capital letters?					



## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

Lifeboats/Rescue Boats (Continued)	OK	FIX	N/A	Comments
Are the means of identifying the ship to which lifeboat belongs and the number of the lifeboat marked in a way that they are visible from above?				
Are lifeboats frapping lines, lifelines, manropes and rail lashings in satisfactory condition?				
Are inventory-required lifeboat equipment and provisions verified on board and loose equipment lashed to the boat (food, medicine, first aid, etc.)?				
Are expiry dates of provisions, pyrotechnics and portable fire extinguishers current?				
Are food/equipment lockers dry and watertight?				
Are cap/plugs attached with lanyard/chain provided for lifeboat automatic drains (open when boat not waterborne) clearly marked and operating satisfactorily?				
Are the lifeboat engine and clutch tested and do they operate satisfactorily in the ahead and astern modes and can propeller disengage from the engine?				
Are the fuel tank and engine cover in satisfactory condition with no wastage/corrosion and is the fuel tank full?				
Are the lifeboat engine, foundation and exhaust pipe in satisfactory condition?				
Is lifeboat hand propelling equipment (if fitted) operating satisfactorily?				
Are lifeboat oars in satisfactory condition?				
Are oar locks/crutches secured with keeper chains?				
Are boat hooks and support plate in satisfactory condition?				
Is sea anchor with shock resistant hawser and tripping line (optional) present in satisfactory condition?				
Are buoyancy tanks in satisfactory condition?				
Are proper fire extinguishers on the lifeboats?				
If the boat has a cover, is the cover and its support in satisfactory condition?				
If the boat has a sail, are the sail and its support in satisfactory condition?				
Is lifeboat compass bowl filled with liquid, card free to rotate, markings legible, operating properly and deviation checked?				
Have the rigid covers of enclosed lifeboats and the closing arrangements for entrances been examined and found satisfactory?				
Have the safety belts for totally enclosed lifeboats been examined and found satisfactory?				
For air-cooled engines on partially/totally enclosed lifeboats, have ducting systems and manually-operated dampers been examined and tested and found satisfactory?				
For lifeboats with a self-contained air support system, has the system, including visual indicators to indicate the air supply, been examined and found satisfactory?				
For fire-protected lifeboats that have water spray fire protection systems, have the self-priming motors, piping systems and nozzles, seawater intake, and the arrangements for enabling the system to be flushed with freshwater been examined and found satisfactory?				





## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

Lifeboats/Rescue Boats (Continued)	OK	FIX	N/A	Comments
For rescue boats, have the weathertight stowage lockers for small equipment been examined and found satisfactory?				
Are water-resistant instructions for starting/operating the engines provided in a conspicuous place?				
Have the starter batteries and the means for recharging all batteries for all engine and searchlights been examined, tested and found satisfactory?				
Are lifeboat davits in satisfactory condition, including hand cranks, winches, sheaves, brakes, wheels, blocks and other associated fittings?				
Are lifeboats correctly stowed in davit?				
Is free fall lifeboat properly secured in its davit?				
Have lifeboats been lowered and drills satisfactorily completed (every 3 months) per regulations?				
Has the Annual Thorough Exam been carried out?				Date last done:
Have davit limit switches been tested and found satisfactory?				
Have launching devices/releasing gears been tested and found operating properly releasing all hooks simultaneously when boat is in the water?				
Has it been confirmed that on-load release gear have been overhauled and tested at intervals not exceeding 5 years?				Date last done:
Have lifeboat falls been turned end-for-end at intervals not more than 30 months as required? (Log the date.)				Date last done:
Have lifeboat falls been renewed at intervals not exceeding 5 years?				Date last done:
Are davit brakes in satisfactory condition and have they been tested?				
Have davit winch brakes been thoroughly examined at intervals not exceeding 5 years?				Date last done:
Is tricing pennant/connector in satisfactory condition and is tricing pennant the proper length?				
Are embarkation ladders for lifeboats in satisfactory condition?				
Are embarkation lights working properly and able to illuminate the water? Is embarkation station in satisfactory condition (gates, handrails, etc.)?				
Are the embarkation lights on the emergency circuit?				
Are launching instructions displayed near stations under emergency lights?				
Is the raised access deck to lifeboats in satisfactory condition?				
Are embarkation areas free from unauthorized gear?				
Is only one type of releasing gear used for similar survival craft?				
Are the release mechanisms clearly marked in a contrasting color?				
For rescue boats, has the means for towing been examined and found satisfactory?				

<b>XII. NAVIGATION EQUIPMENT</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Is the crew capable of operating NAVTEX and are safety messages available for review?					
Is a Voyage Data Recorder fitted and annual performance test certificate of compliance on board?					
Is echo depth sounder working properly with paper and ink supplied?					
Is 9 GHz radar fitted with display indicating range and bearings with input from heading device?					
If vessel GT ≥ 3K, is it fitted with 3 GHz or second 9 GHz radar with display indicating range and bearings with input from the heading device?					
Is Electronic Plotting Aid fitted to plot targets for collision avoidance with input from the heading device? If vessel GT ≥ 3K, is a second auto tracking aid fitted?					
Is a speed and distance measuring device available to indicate speed and distance through the water with input from heading device?					
Gyro Compass	Is it visible to helmsman at main steering station?				
	Are gyro repeaters with bearing devices with 360° visibility all satisfactory?				
	Is gyro repeater at the emergency steering position working?				
Magnetic Compass	Is it visible to helmsman at main steering position?				
	Is a means of communication between standard compass and main steering position provided?				
	Is compass properly adjusted and liquid free of bubbles?				
	Is spare compass interchangeable with in-service compass and liquid free of bubbles?				
	Is table or curve of compass deviation (calibrated annually) provided?				
Emergency Steering Position Heading Indicators	Is magnetic or gyro repeater visible at emergency steering location?				
	Is the communication system with main steering position working properly?				
All Ships GT ≥ 10K	Is automatic radar plotting aid capable of auto plotting range and bearing of at least 20 targets at once?				
	Is vessel fitted with heading or track control system to automatically control and keep to a heading and/or straight track?				
All Ships GT ≥ 50K	Is it fitted with rate of turn indicator?				
	Is it fitted with a speed and distance measuring device indicating speed and distance over ground forward and athwartships?				
Are displays for rudder angle, propeller revolutions, thrust, pitch and operational mode indicators visible at main steering station?					

<b>XII. NAVIGATION EQUIPMENT (Continued)</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
If Electronic Chart Display and Information System (ECDIS) fitted, is it working with back-up paper charts provided?					
Is receiver for Global Satellite Navigation System fitted and working?					
Is totally enclosed bridge fitted with sound reception system to detect sound signals and direction?					
Is the Automatic Identification System (AIS) programmed with correct vessel particulars?					
Are the integrated bridge systems, if fitted, arranged with a failure alarm for each system and back-up power so that failure of one system does not disable others?					
Is a daylight signal lamp or other means not dependent on ship's power supply provided and working satisfactorily?					
Are navigation lights working properly, in satisfactory condition, and are proper bulbs being used?					
Are the pilot ladder and embarkation arrangement in satisfactory condition? (Note: Ladder steps should not be painted.)					
Mechanical Pilot Hoist	Is it Type Approved by Administration?				
	Is efficient hand gear provided in event of power failure?				
	Is it securely attached to ship structure?				
	Is protected stowage position provided?				
Pilot Ladder Equipment (ready for immediate use)	Are 2 manropes of diameter $\geq 28$ mm secured to ship?				
	Is lifebuoy with self-igniting light provided?				
	Is a heaving line provided?				
Steering Gear	Tested within 12 hours of departure?				
	Are instructions for change over for remote steering gear control and steering gear power units displayed on bridge and steering gear space?				
Is there a current illustrated table describing lifesaving signals available on the bridge?					
Are all proper training manuals present and current?					

<b>XIII. LIFESAVING APPLIANCES</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Are at least 3 two-way VHF radiotelephones provided?					
Radar Transponder	Is at least 1 fitted on each side of ship? If free-fall lifeboat is fitted, is 1 stowed on lifeboat with other located in vicinity of navigation bridge?				
	Are available (battery valid) for immediate transfer to any survival craft or stored in each survival craft?				
Are fire/emergency drills being held as required and being logged properly?					
Does general emergency signal comply with SOLAS 1974 as amended?					

<b>XIII. LIFESAVING APPLIANCES (Continued)</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Are immersion suits/anti-exposure suits provided for each member of rescue boat crew or person assigned to marine evacuation system party in satisfactory condition, stored properly and ready for immediate use?					
Are thermal protective aids provided for persons not provided with immersion suits? (Note: Not applicable if totally enclosed lifeboats accommodate all on board.)					
Lifebuoys Cargo Ship (Quantities) <u>No. vs. Vsl L</u>  L<100m (8) L<150m (10) L<200m (12) L≥200m (14)	Is the proper number fitted port and starboard for rapid release with one at stern?				
	Is one each side fitted only with buoyant 30m lifeline or 2 times the height from water line?				
	Are at least half number fitted with self-igniting lights. Are 2 fitted with self-activating smoke capable of quick release from navigation bridge and of sufficient mass to operate such quick release arrangement or 4kg (whichever is greater)?				
	Have self-igniting lights been tested and batteries examined for expiration dates? (Note: For tankers, lights are to be electric battery type.)				
	Are lifebuoy stowage brackets in satisfactory condition? Can lifebuoys be rapidly cast loose and not permanently secured in any way?				
	Is each marked with vessel name and port registry in block capital letters?				
Lifejackets	Are sufficient numbers provided for every person on board and are they properly stowed and location plainly indicated?				
	Additional numbers provided for persons on watch (bridge and engine room) and in satisfactory condition?				
	In satisfactory condition with all attachments (whistles, lights (on/off switch if flashing), retro-reflective tape)?				
Is all emergency lighting working correctly including machinery space, accommodation, bridge, control stations, outside passages?					
Are emergency escape routes indicated, satisfactorily lighted and clear of obstructions?					
Is line-throwing apparatus in satisfactory condition including four projectiles (with valid dates) capable of reaching distance of 230m?					
Are all emergency lighting batteries charged from emergency switchboard in satisfactory condition?					

<b>XIV. FIREFIGHTING EQUIPMENT</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Fire Control Plans	Permanently posted in accommodation space?				
	Duplicate set permanently stored in highly visible weathertight enclosure outside deck house (P & S)?				
	Are plans in language understood by crew?				
	Up-to-date plans utilizing latest IMO A654, A952 symbols?				
Firefighting Systems Equipment Maintenance and Operation Instruction Manual	Readily available in accessible location under one cover?				
	Is manual in language understood by crew?				
Structural Fire Protection	"A" Class insulation on decks and bulkheads found in good condition?				
	All penetrations of "A" Class bulkheads satisfactory?				
Have fire screen doors been tested and are self-closing without hold back hooks?					
Have the means of control for opening and closing skylights (no glass panels used), closure of all opening in funnels (which normally allow exhaust ventilation), and closure of ventilators' dampers been examined and tested and found satisfactory?					
Fire Dampers	Operate easily and positions OPEN and CLOSED clearly marked?				
	Is internal access to dampers provided as required for periodic inspection?				
	Have fire dampers been internally examined and proven structurally sound for following spaces:				
	Cargo Holds?				
	Machinery/Pump Room Spaces?				
	Accommodation Spaces?				
	Control Stations?				
	Galley Spaces? Other Spaces?				
Fire Main Piping	No leaks or excessive wastage found?				
	No doublers, clamps or soft patches on piping including supports found?				
Relief and Isolation Valves	Found to operate satisfactorily?				
Fire Stations	Are they located as noted on Fire Control Plan?				
	Are conspicuously marked and painted in red colors?				

## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

XIV. FIREFIGHTING EQUIPMENT (Continued)					
Query		OK	FIX	N/A	Comments
Hydrants	Are all hydrants and couplings of required sizes in satisfactory condition?				
Fire Hoses	Are required numbers/lengths per Fire Control Plans, on board and in satisfactory condition and of a non-perishable material?				
	Is each fire hose, together with any necessary fittings and tools, kept ready for use in a conspicuous position near water service hydrants or connections?				
Nozzles	Are required numbers of dual-purpose nozzles incorporating a shut off on board and in satisfactory condition (including gaskets)?				
	Have the international shore connection(s), including its gasket, 4 bolts and nuts, and 8 washers been examined and found satisfactory?				
	Are facilities provided for use of the connection on either side of the ship and have they been examined and tested (using the international shore connection to make a connection) and found satisfactory?				
Main Fire Pumps	Operate satisfactorily?				
	Deliver required pressure?				
	Remote start tested (if applicable)?				
Emergency Fire Pump	Able to take adequate sea suction?				
	Prime mover satisfactory?				
	Operating instructions posted?				
	Have the ventilation arrangements to the space containing the independent source of power for the emergency fire pump been examined and tested and found satisfactory?				
Portable Fire Extinguishers (CO <sub>2</sub> , dry powder, foam, water)	Are required numbers per Fire Control Plan properly located in accommodation spaces, service spaces, engine room, navigation bridge and radio room?				
	Have they been serviced at intervals as specified by Flag Administration?				
	Are required spare charges or additional extinguishers on board?				
Portable Foam Applicators	Are inductor type foam nozzle, 20 liter portable tank and 1 spare tank satisfactory?				
	Has hose connection to fire main been tested and found satisfactory?				
	Has foam concentrate been tested and replaced as specified by Flag Administration?				

<b>XIV. FIREFIGHTING EQUIPMENT (Continued)</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Foam Type Extinguisher (Capacity 135 Liters)	Are required numbers of Type Approved units fitted per Fire Control Plan properly located in machinery spaces containing oil fired boilers or fuel oil units?				
	Is reel-mounted hose in good condition and able to reach entire space protected?				
	Have they been serviced at intervals and foam replaced as specified by Flag Administration?				
Foam Type Extinguisher (Capacity 45 Liters)	Are the required numbers of Type Approved units fitted per Fire Control Plan properly located in machinery spaces containing internal combustion machinery or steam turbines or enclosed steam engines?				
Fixed Fire Extinguishing Systems in Machinery and Cargo Spaces (CO <sub>2</sub> , foam, water spray)  <i>Note: Storage space access door to open outward.</i>	Are distribution pipes and nozzles satisfactory without excessive corrosion?				
	Is distribution piping periodically blown through to confirm no blockages?				
	Are CO <sub>2</sub> cylinders weighed and serviced as specified by Flag Administration?				
	Is cylinder hydro tested per Flag Administration requirements?				
	Is CO <sub>2</sub> release alarm periodically tested?				
	Is foam liquid tested at intervals specified by Flag Administration and is Test Certificate available on board?				
Fire Detection and Alarm Systems	Have scheduled inspections and tests been carried out?				
F. O. Tank Quick Acting Shut Off Valves (Capacity >500L)	Is satisfactory operation of remote closing arrangements confirmed?				
Have 2 means of control, 1 outside space, for stopping forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps, and similar pumps been examined and tested and found satisfactory?					
Fuel Supply Isolation to Multiple Engines	Are means provided in good order and operational?				

## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

XIV. FIREFIGHTING EQUIPMENT (Continued)					
Query		OK	FIX	N/A	Comments
Fireman's Outfit	Are required numbers of sets on board? Cargo Ship - 2 sets Tanker - 4 sets				
	Are protective clothing, boots, gloves, rigid helmets, electric safety lamps and axes in good condition?				
	Are 2 spare changes provided for each unit?				
	Are storage locations clearly marked and indicated on Fire Control Plan?				
Paint Locker Fire Protection	Are fixed CO <sub>2</sub> , dry powder, or water spray system or portable extinguisher, if approved by Flag Administration, serviced?				
Inert Gas System (Tankers DWT>20K)	Is the system including piping, PV valves, branch lines, deck water seal and loop arrangement and associated equipment in satisfactory condition?				
Gas Measurement (Tankers)	Are portable oxygen meter and flammable gas detector calibrated with set of spares?				
Emergency Lighting	Is the lighting in machinery spaces, accommodation, navigation bridge, control stations and passageways satisfactory?				
Means of Escape	Are escape routes free of obstructions and provided with emergency lighting?				
Emergency Escape Breathing Devices	Positioned in accommodation and machinery spaces as required by Flag Administration and shown on the Fire Control Plan?				
	Are units serviced in accordance with manufacturer's recommendations?				
Deep-Fat Cooking Equipment Fire Extinguishing System	Is extinguishing system serviced and controls clearly labeled?				
	Is alarm and auto shut off electrical supply working?				
Cargo Pump Room Protection	Is lighting/ventilation interlock working?				
	Are continuous hydrocarbon monitoring system and alarms working?				
	Is pump shaft gland monitoring and alarm system working?				
	Is bilge level monitoring and alarm system working?				



<b>XIV. FIREFIGHTING EQUIPMENT (Continued)</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Helicopter Facilities	Are structure, firefighting appliances, refueling and operation and training manuals in accordance with approved plans?				
Where there is direct access from the machinery space containing the emergency fire pump and its source of power, have the arrangements for access been examined and tested and found satisfactory?					
Are oxygen/acetylene cylinders properly stored? (Note: They should not be stored in crew's quarters, engine room or in the paint locker.)					

<b>XV. SAFETY CONSTRUCTION ITEMS</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Is the steering gear control system operating properly, including all alarms?					
Are officers knowledgeable in the emergency steering procedures?					
Is the insulation reading normal for steering gear motors?					
Is communication equipment between the bridge/steering gear compartment working properly?					
Have required arrival and departure tests been carried out (testing steering, general alarms, whistle, etc.)?					
Are electric outlets and fixtures in crew cabins in satisfactory condition in accordance with International Labor Organization requirements?					
Do doors to accommodation spaces close properly?					
Water Level Detectors (ESP Bulk Carriers Only) SOLAS XII/12	Are level alarms (audible and visual) in each cargo hold operating properly at 2 alarm points 0.5M and not >2M above tank top and protected from damage?				
	Are level alarms (audible and visual) operating properly at alarm point 10% of tank capacity in any ballast tank located forward of collision bulkhead?				
	Are level alarms (audible and visual) in each dry or void space any part of which is extending forward of the forward most hold operating properly at alarm point 0.1M above the deck?				
Dewatering Arrangement (ESP Bulk Carriers Only) SOLAS XII/13	Are forepeak tank, Bosn's store and foc'sle space able to be drained by pumps or eductors that can be operated from navigation bridge or engine control room without traversing exposed decks?				
Emergency Towing Arrangements (Tankers DWT ≥ 20K)	Are emergency towing arrangements fitted to both ends of the tanker capable of rapid deployment without main power on vessel? (Note: Applies only to tankers with date of construction from 1 July 2002. Tankers with prior construction date subject to Flag Administration requirements.)				
	Is at least one pre-rigged?				

<b>XV. SAFETY CONSTRUCTION ITEMS (Continued)</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Fuel Oil Arrangements Vessels Built Before 1 July 1998	Are all external high-pressure fuel oil delivery lines between pumps and injectors fully jacketed with collection system and alarm? (Note: Engine <375 KW to be fitted with suitable enclosure.)				
	Are all surfaces with temperatures above 220°C subject to fuel oil contact properly insulated?				

<b>XVI. MARINE POLLUTION PREVENTION ITEMS</b>					
Is approved SOPEP/SMPEP-NLS/SMPEP up-to-date and in working language of Master and officers?					
Do transfer procedures contain instructions for reporting oil discharges (or hazardous cargoes) into the sea?					
Is the Oil Record Book in the latest format and filled out properly based on actual operations and using proper letter codes?					
Is the 15 ppm alarm including auto stop operating satisfactorily?					
For 15 ppm bilge alarm under MEPC.107(49), does the recording device contain records for at least 18 months?					
Is there a calibration certificate for the 15 ppm bilge alarm provided at every renewal survey? Has the accuracy of the bilge alarm been checked by the manufacturer or persons authorized by the manufacturer according to the manufacturers instructions at intervals not exceeding 5 years?					
Are bilge and sludge pump arrangements in compliance with MARPOL regulations?					
Is the automatic stopping device for the oily water separator working properly?					
Oily Water Separator (OWS)/ Oil Filtering Equipment	There are no overboard discharge by-pass fittings installed?				
	Are all associated gauges, piping and valves in satisfactory condition?				
	Are filters changed as necessary? Are they properly installed in accordance with approved plans?				
Sludge Pump	Is operation confirmed satisfactory?				
Standard Discharge Connection	Is available port and starboard sides?				

<b>XVI. MARINE POLLUTION PREVENTION ITEMS (Continued)</b>					
<b>Tankers</b>	Oil Discharge Monitor (ODM)	Are manual and auto means of discharge working?			
		Have alarms, indicators/meters and recorders been tested? Are spare consumables provided?			
	Oil/Water Interface Detector	Is unit Type Approved?			
		Is unit operating satisfactorily?			
	Crude Oil Washing System	Is system arranged as outlined in Operations and Equipment Manual?			
Are piping, pumps, valves and deck machines free of leaks?					
Is a separate Cargo Record Book being used for Annex II (NLS) cargoes?					
The sludge tank does not have a direct connection overboard.					
Garbage Management	Are pollution placards displayed?				

<b>XVII. LOAD LINE ITEMS</b>					
<b>Query</b>		<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Is the "Record of Conditions of Load Line Assignment" on board with no substantial modifications carried out?					
Are load line marks on side of vessel clearly visible and in accordance with the Load Line Certificate? Are draft marks also clearly visible?					
Is stability information provided and in a language understandable to the officers and crew?					
Are railings and catwalks in satisfactory condition?					
Cargo Hatches and Covers	Are coamings including deck connections, stiffeners and stay and brackets in satisfactory condition?				
	Are mechanically-operated steel hatch cover plating, stiffeners, cross joints, gaskets, cleats, and dogs in satisfactory condition?				
	Are portable wood or steel hatch covers, portable beams, carriers and securing devices, steel pontoons, tarpaulins, cleats, battens and wedges structurally sound and weathertight?				
Access Hatches	Are gaskets and clamping devices in satisfactory condition?				
	Are hatch coamings in satisfactory condition?				
Is the superstructure end bulkheads structure sound with corrosion not exceeding allowable limits?					
Weathertight Doors	Are they effectively weathertight?				
	Are the gaskets and clamping devices operable from both sides in satisfactory condition?				
	Is the sill height $\geq 380\text{mm}$ (15 in.) in bulkheads at ends of enclosed superstructures?				Lesser height may be allowed if freeboard is increased.

## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

XVII. LOAD LINE ITEMS					
Query		OK	FIX	N/A	Comments
Machinery Space Openings	Are they provided with weathertight enclosures?				
	Are Fiddle openings fitted with steel weathertight covers? Are gaskets and securing devices in satisfactory condition?				
Miscellaneous Openings Freeboard and Superstructure Decks	Are manholes and flush scuttles closed by substantial weathertight covers?				
	Are they permanently secured unless secured by closely spaced bolts?				
Ventilators	Are coamings >900mm height supported?				
	If required, is weathertight cover permanently attached or stowed nearby?				
Air Pipes	Is minimum height above freeboard deck $\geq 760$ mm; on superstructure deck $\geq 450$ mm?				Lesser height may be allowed if freeboard is increased.
	Is there an automatic-type means of closing that is weathertight?				
	Have closing devices been opened and examined in accordance with class requirements?				
Cargo Ports and Similar Openings	Are they fitted with watertight doors with gaskets and securing devices?				
Scupper, Inlets and Discharges	Is each automatic non-return valve with positive means of closure from above freeboard deck in satisfactory condition? (Note: Material should be cast steel or bronze.)				
Sidescuttles	For spaces below freeboard deck, are they fitted with efficient watertight hinges inside deadlights?				
	Are glasses in good condition and made of approved material?				
Freeing Ports	Are they free of obstructions to allow rapid draining and protected by rails or bars 230mm apart?				
Protection of Crew	Are guardrails and bulwarks (minimum height 1m) on exposed freeboard and superstructure decks in good condition?				
	Are guardrails, lifelines, gangways or under-deck passageways in good order and free of obstructions or damage?				



## ONBOARD ROUTINE MAINTENANCE CHECK SHEET

<b>XVIII. CLASSIFICATION AND OTHER SURVEYS</b>			
Survey Due Dates	Next Due Date	Date Last Surveyed	Comments
Annual Hull Survey			
Annual Machinery Survey			
Intermediate Survey			
Special/Continuous Hull Survey			
Special/Continuous Machinery Survey			
Drydocking Survey			
Tailshaft Survey			
Boiler Survey			
Annual Inert Gas Survey			
Special/Continuous Inert Gas Survey			
Annual Refrigeration Survey			
Special/Continuous Refrigeration Survey			
Annual Automation Survey			
Special/Continuous Automation Survey			
Other Classification Surveys (List)			

<b>CLASSIFICATION ITEMS</b>				
<b>XIX. HULL ITEMS</b>				
Query	OK	FIX	N/A	Comments
Are accommodation accesses in satisfactory condition with no seized doors and frozen dogs?				
Have accommodation ladders and gangways been checked and found satisfactory?				
Are the accommodation doors leading to and from the engine room been examined and tested to prove they close properly? Are they in satisfactory condition?				
Have ballast tanks been checked for structural wastage/damage?				
Is bulbous bow plating in satisfactory condition?				
Have access ladders to cargo holds been checked? Are they satisfactory?				
Have cargo holds including tank tops been checked for structural damage, wastage, etc.?				
Have cargo tanks been checked for leaks (cargo leading from cargo tanks into segregated ballast tank)?				
Has the engine room structure, especially in way of the bilge knuckle and forward bulkhead, been examined recently? Was it found satisfactory?				
Has the chain locker been checked for heavy corrosion?				
Has the collision bulkhead been checked for fractures, holes and wastage?				
Have decks been checked for holes and wastage, especially in mast house where damage may be overlooked?				
Have deck walkways and platforms been checked for wastage?				

<b>XIX. HULL ITEMS (Continued)</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Have mooring arrangements including mooring ropes and wires, anchoring and mooring winches and brake bands been examined and proven in good working order?				
Are all of the port and starboard anchor chain studs tight? Are there any studs missing? Is the chain guide roller in good order?				
Has the side shell plating been checked for deformations and wastage?				
If doublers have been fitted on decks, hatch covers, hatch coamings and/or ventilator coamings, is there a record when they were installed? Have surrounding areas been checked for wastage? If fitted, has it been brought to the attention of the class surveyor?				
Has the forecastle storage space been checked for wastage or structural damage?				
Has the forepeak tank been checked for corrosion or structural damage?				
Are there any leaks in the steering gear compartment, (from stern post, steering gear rams, etc.)? If so, were they fixed in a satisfactory manner?				
Have the engine room skylights been examined and tested to see that they close properly? Are they in good condition?				
Has the windlass foundation been checked for wastage?				

<b>XX. MACHINERY ITEMS</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Has the anchor windlass been checked for worn brake linings?				
Has the ballast stripping educator pipe been checked for leaks?				
Has the emergency hand pump for air starting the emergency fire pump been tested recently?				
Have handrails in the engine room been checked (any broken or missing ones to be repaired)?				
Have deck hydraulic lines been checked for leaks, corrosion, damage, etc.?				
Have engine room fire/ballast lines been checked for holes, soft patches, wastage, etc.?				
Has the sewage piping in the engine room been examined? Is any of the piping leaking or fitted with patches?				
Has all of the piping in the engine room been examined? Was any of the piping fitted with patches? If so, has it been brought to the attention of the class surveyor?				
Are all of the gauges attached to the pumps and piping systems working properly?				
If there are any belt-driven type pumps, do guards provide protection and are they in place?				

<b>XX. MACHINERY ITEMS (Continued)</b>				
Query	OK	FIX	N/A	Comments
Have all of the pumps in the engine room been examined? If there is leakage through the seals or glands, has it been stopped? Do any of the pump casings have patches? If so, has it been brought to the attention of the class surveyor? Are all of the pumps in good working order?				
Have all of the coolers in the engine room been examined? If there is leakage, has it been stopped? Do any of the cooler end casings have patches? If so, has it been brought to the attention of the class surveyor? Are all of the coolers in good working order?				
Have the overboard discharge valves and sea suction valves been examined for leakage and/or corrosion?				
Are the engine room floor plates free from oil and not slippery?				
Is the engine room clean and free from oil in bilges and under generators?				
Is the main engine oil mist detector working correctly?				
Has the emergency generator radiator been checked?				
Have auxiliary engines been checked for water leakage?				
Is the rudder indicator on the bridge reading the same as the one in the steering gear compartment?				
Have the engine room self-closing doors been checked for satisfactory operation (hold backs removed)?				
Is the turbo charger gas inlet insulated?				
Has all lagging in the engine room been checked? If found missing or soaked with oil, has it been replaced?				
Have the engine room fan dampers been visually examined, tested and proven to be in good repair and working order?				
Have all of the remote quick closing fuel valves been examined, tested and proven to be in good working order?				
Is the refrigeration machinery for the reefer boxes operating satisfactory?				
Has the emergency air compressor been examined, tested and found to operate satisfactorily? If diesel driven, is the exhaust line lagging in good condition?				
Have any illegal connections been made to the bilge pump? If so, have they been disconnected?				
Are all of the self-closing devices on the sounding pipes in the engine room in good order and working properly?				
Have there been any cement boxes fitted in the engine room? If so, have they been brought to the attention of the class surveyor?				
Has the dead ship start up recently been tested? Did everything work satisfactorily, including emergency air compressor, or hand pump compressor and emergency generator, whichever is applicable?				

<b>XXI. BOILERS</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Have the boiler safety valves easing gears/wires been tested at last survey and are they in good working order?				
Have the boiler gauge glass valves been examined and are they in good working order? Is a drainpipe fitted?				
Are boiler gauge glasses clean and can the water level be seen?				
Are boiler gauge glass guards fitted?				
Have the high and low water level alarms been tested recently?				
Are there any exhaust gas leaks from the boiler?				
Is the lagging for the boiler in place and in good condition?				

<b>XXII. ELECTRICAL ITEMS</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Have control circuit relays been checked for wear or damage?				
Have deck lights been checked for breakage or exposure?				
Has the emergency circuit been tested?				
Has the electrical supply to navigation lights been checked for damage/safety aspects?				
Have lights been checked for proper wiring in main deck house?				
Have breaker panel doors and electrical motor closures been checked for damage or missing doors?				
Have lights throughout accommodations, bathrooms and engine room been checked and found with globes and fitted guards, where required?				
Has the electrical wiring been examined? Is it properly supported and in good condition? Has the electrical system been checked for open circuits?				
Has the electrical conduit on deck been examined recently? (Note: Damaged areas are to be replaced or repaired.)				
Have generator reverse power relays been tested recently?				
If any of the generators are not working and/or have been disabled, has it been brought to the attention of the class surveyor?				
Are electrical switchboard meters functioning properly?				
Have all motor control panels been examined recently and are they in good repair and working order?				
Is non-conducting matting (material) provided at each switchboard, both in the front and behind? Are they also fitted at the emergency switchboard?				
Are the starting batteries for the emergency generator in good order?				



<b>XXIII. CREW RESPONSIBILITIES, ILO ITEMS, WORKING SPACES</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>
Are all of the accommodation rooms/spaces being used for what they are designated for? (Example of a problem is crew's gym used as an engine room store.)				
Are all of the accommodation rooms/spaces kept clean and tidy?				
Is the accommodation heating system/ventilation working properly?				
Is the engine room clean? (Note: No accumulation of oily rags and garbage.)				
Are hot and cold water available to all crewmembers?				
Is water pressure available to the water closets?				
Has all garbage been removed from the vessel?				
Are paint, thinners and solvents stored outside the accommodation spaces, stores and all machinery spaces? (Note: They should be stored in the paint store.)				
Are cockroaches and other insects properly dealt with?				
Are crew bathrooms, water closets and sinks operating properly?				
Have the galley hot plate filters been changed recently? Is the galley uptake dirty? Are grease filters fitted over the galley stove? Is the trunking dirty?				
If drinking water fountains are fitted throughout the vessel, are they in good working order?				
Are there sufficient provisions on board?				
Is the machinery installed in the engine room workshop in good working order? Are the necessary protection devices in place? Are protective gloves provided? Is the material in the storeroom secured properly?				
Is the refrigerator room alarm (for being locked in) working properly?				
Are the batteries stowed properly in the battery locker?				
Is the engine room crane stowed properly when not in use?				
Is the purifier room/space clean with all oil residue removed from this space?				
Is there any oil leaking from the main engine? If so, has it been stopped and cleaned up?				
Is the gangway in good working order and is it safe to use?				

<b>XXIV. OTHER ITEMS</b>				
<b>Query</b>	<b>OK</b>	<b>FIX</b>	<b>N/A</b>	<b>Comments</b>



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O<sub>2</sub> FIRE EXTINGUISHING SYS  
CARGO HOLD CABINET

二氣化碳滅火系統  
貨艙控制櫃

1. OPEN THIS DOOR  
打開櫃門
2. OPEN ONE PILOT CYLINDER VALVE  
打開主氣瓶閥
3. NOW SYSTEM IS OPERATED  
現在系統已啓動

HK CO., LTD.

THE HONGKONG FIRE SERVICE DEPT.

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