Engine Room Logbook

Official log book

1) Must be kept on every ship, unless exempted it is available with engagement and discharge documents from concerned flag state offices
2) Must be completed in accordance with IMO (official log book) regulations, as amended
3) Must be kept in one book covering all seaman onboard and remains in force from time of opening crew agreement until closure of crew agreement.
4) It must be delivered on closure to flag state concerned
5) It must be produced by Master, if demanded to the superintendent/surveyor or port authorities
6) Each entry must be dated and the master commits an offence if an entry is not made, signed and witnessed in accordance with the regulations and the schedule.

Supplementary officials logs and records:

a) **Officials log book** (part II passenger ships only)
it maintains recording of the openings and closing of watertight doors and connivances listed in the M.8. (closing of openings in hulls and in water tight bulk heads) regulations 1980

b**)** **Radiotelegraph (W/T) wg**
it includes routine tests of equipments in part '1' and part '2' records duty of radio officer and particulars of messages transmitted and received.

c) **Radiotelephone (R/T) log**
It records details of operators battery condition, battery charging, messages transmitted and received.

d**)** **GMDSS Log**
Required under regulation 17(1) of the M.S. (Radio Installations) regulations 1992, be maintained on all vessels and made available for inspection. It records details of:-

1) Summary of communications relating to distress urgency and safety traffic
2) Important incidents connected with ratio service
3) The position of ship at least once a day

e) **Oil record Book:-**
Under regulation 10 of M.S. regulations 1996, must be kept onboard all tanker (above 150GT) and all non tankers (above 400GT) for machinery space operations (all ships);every oil tanker of 150 GT and above must also have an oil record book (part '2') for cargo and ballast operations.

How To Fill The Marine Log Book?

http://www.brighthubengineering.com/marine-engines-machinery/41366-turbochargers-energizing-the-engines

Learn about the entries made in the engine room log book

- **Introduction**

Record keeping is an important aspect of the life of a navigating officer as well as a

marine engineer. There are various types of records which need to be maintained. From the perspective of the ship's engine room, the engineers need to keep a clear record of machinery parameters, running hours and several other things. This has been done traditionally using paper daily log books, although with the increasing use of computers on ships, these daily log books might be totally replaced with electronic log books, but currently these paper books are in popular use. Moreover, whatever be the media for recording, the prime importance is of noting down the relevant information at a place for future reference and retrieval as and when required.

Engine room log book is also an important document in case of accident and this gives the clear picture of the engine room working condition and the situation existed in the engine room. Normally this is filled in by the junior engineer of the ship.
In **deck log book** all the entries regarding navigation and charts are mentioned.

The **official log book** is only for the official entries made by only captain and chief engineer about the crew and their behaviour. In case of any discipline related problem is encountered with any crew, it will be recorded in this log book.

- **Types of Entries**

Main Engine

1. Timing of Watch (1200-1600; 1600-2000; 2000-0000)
2. Fuel lever settings (notches)
3. Speed setting of air
4. Engine load
5. Engine Revolution counter
6. Average rpm
7. Flow meter reading
8. Main Engine fuel consumption for 4 hours
9. Main Engine all units Exhaust temperature
10. Main Engine all units pcw & jcw temperature
11. Main Engine fuel oil inlet temperature
12. All coolers sea water inlet/outlet of air, lube oil, piston and jacket cooler temperature

- **Pressures**

1. Sea water pressure
2. Jacket cooling water pressure
3. Piston cooling water pressure
4. Lube oil pressure (bearing, crosshead, cam shaft)
5. Fuel oil pressure
6. Air bottle pressure (1 & 2)

- **Turbochargers**
  1. Turbo charger rpm
  2. Cooling water in & out temperature
  3. Air cooler in & out temperature
  4. Pressure drop across turbocharger air cooler filter to judge the blockage
  5. Air temperature in and out of the turbocharger
  6. Exhaust gas temperature in & out

- **Other Temperatures/Levels**
  1. Heavy oil service and settling tank temperature
  2. Thrust bearing temperature and pressure
  3. Stern tube temperature and pressure
  4. Sea water temperature
  5. Engine room temperature
  6. Main engine sump level

- **RAC Units** (ER air conditioner)
  1. Suction pressure and discharge pressure of refrigerent
  2. Lube oil pressure
  3. Lube oil suction and discharge pressure
  4. Air inlet and outlet temperature

- **Compartment Temperatures**
  1. Meat room
  2. Fish room
  3. Vegetable room
  4. Dairy room
  5. Handling room

- **Fresh Water Generator**
  1. Jacket cooling water in & out temperature
  2. Condensor sea water in & out temperature
  3. Shell temperature
  4. Vaccum pressure
  5. Ejector pump pressure
  6. Distillate pump pressure
  7. Feed line pressure
  8. Flow meter reading for fresh water

- **Auxilliary Machinery**
  1. Exhaust temperatures of all units
  2. JCW temperatures of all units
  3. Alternator forward and aft bearing temperatures
  4. Scavenge air pressure and temperature
  5. Air cooler in & out temperatures
  6. Lube oil in & out temperatures
  7. Sea water in & out temperatures
  8. Turbo charger of auxiliary engine exhaust temperature

- **Tank Levels**
  1. Heavy oil service & settling tank readings
  2. Diesel oil service & settling tank readings
  3. Cylinder lube oil storage and Daily tank reading
  4. Main engine crank case lube oil storage tank reading
  5. Auxiliary engine crank case lube oil storage tank reading
  6. Stern tube Gravity tank (high/low) tank readings
  7. Stern tube aft & fwd seal tank level

- **Engine Control Room**
  Most of the readings and entries shown above can also be taken from the ship's control room, although it is advisable to take local readings. Yet these readings can be compared to those of the remote indications. This will also give an idea about the variation in the two so that in case of any large deviations, necessary checks can be performed. Also in case of rush hours such as maneuvering, the engineers would know the actual readings if they are familiar with the deviations in control room and actual readings.

Different Entries to be made in Ship's Engine Room Log Book

http://www.marineinsight.com/careers-2/how-to-become-a-marine-engineer /

Log book are an important part of daily routines that are carried out onboard ships for they help to keep together all the records of what is happening inside the ship. Similar to the points discussed in our precious article on entries in bridge log book, it is important that ship's engineers are also liable to maintain a separate Engine Room Log Book as their routine.

An engine room log book is a track record of all ship machinery parameters, performance, maintenance, and malfunctions. The recorded values and information are used as a reference, to compare and record data that can be used for insurance claim if some accidents take place.

A responsible marine engineer watch keeper has to fill the log book for his/her own watch period without fail, along with the signature of all watch keepers for their concerned watch timings.

Chief engineer also must counter sign this book every day to make sure all the entries are being filled in it as per the company requirement. In this article, we will discuss the important things that are to be mentioned in the engine room log book.

Log book are an ..... that are carried out onboard ships for they help to keep together all the records of what is happening inside the ship.

Similar to the points discussed in our precious article on entries in bridge log book, it is important that ship's engineers are ..... as their routine.

An engine room log book is ....., performance, maintenance, and malfunctions.

The recorded values and information are used as a reference, to ..... that can be used for insurance claim if some accidents take place.

A responsible marine engineer watch keeper has to ..... without fail, along with the signature of all watch keepers for their .....

Chief engineer also must ..... every day to make sure all the entries are being filled in it as per .....

Following entries must be filled in the engine room Log Book:

- Date and voyage where the ship is heading
- The position of the ship (at sea, at port or at anchorage)
- Readings and Parameters of Main Propulsion Engine
-  Readings and Parameters of Auxiliary Engine (Generators)
- Readings and Parameters of Other running Machineries
- Main engine RPM and Load on the Engine
- Speed of the ship in knots
- Daily Entry for all the lube oil ROB (Rest or Remaining onboard)
- Daily entry for all grade of Fuel Oil Remaining onboard
- Remaining onboard value of Sludge and Bilge
- Running Hour Counter for important machinery
- Running details of Oil Pollution Prevention Equipment (Time and Position)
- Record of any Major Breakdown and reason for the same
- Record of Incident or accident in the engine room (Fire, Flooding etc)
- Record of grounding, collision and other accidents

- _____ and _____ where the ship is heading
- The _____ of the ship (at sea, at port or at anchorage)
- Readings and _____ of Main Propulsion Engine
- _____ and Parameters of Auxiliary Engine (Generators)
- Readings and Parameters of Other running Machineries
- Main engine _____ and Load on the Engine
- _____ of the ship in knots
- Daily Entry for all the lube oil ROB (_____)
- Daily entry for all _____ of Fuel Oil Remaining onboard
- Remaining onboard value of Sludge and _____
- Running Hour _____ for important machinery
- _____ details of Oil Pollution Prevention Equipment (Time and Position)
- Record of any Major _____and reason for the same
- Record of _____ or accident in the engine room (Fire, Flooding etc)
- Record of _____ , collision and other accidents

- Record of Major overhauling of important machineries
- Record of all Bunkering operation (Time, Place and quantity)
- Record of all Sludge and garbage disposal operation
- Remarks for additional work done in a watch
- Remarks for Surveys and PSC inspection
- Signature of the concerned watch keeper
- Signature of Chief engineer to make sure all entries are in position

- Record of Major _____ of important machineries
- Record of all _____ operations (Time, Place and quantity)
- Record of all _____ and garbage disposal operation
- Remarks for additional work done in a _____
- Remarks for _____ and PSC inspection
- _____ of the concerned watch keeper
- Signature of Chief engineer to make sure all _____ are in position

7 Important Points To Consider While Filling Out Engine Room Log Book

https://www.linkedin.com/uas/login?session_redirect=https%3A%2F%2Fwww%2Elinkedin%2Ecom%2FpostLogi

April 28, 2014

As a part of engine room watchkeeping routine, marine engineers are required to keep a log of all important machinery parameters such as pressure,temperatures, revolutions etc. in the engine room log book.

This daily record -keeping book is a complete log of engine room readings which are compared with the design and trial conditions at regular intervals of time to analyze the performance of engine room machinery and systems. Additionally, the log book parameters are also checked during surveys and investigations related to any kind of accident in the engine room.

A watchkeeping engineer is required to fill out the log book details at the end of every watch. This is a mandatory task which should be carried out properly without fudging important parameters (Engineers when busy with maintenance work or due to sheer laziness, often fill out the log-book based on their assumption or by just copying data from previous watches. This is dangerous practice which must be avoided.)

Mentioned below are ten important points which marine engineers must remember while filling up engine room log book.

As a part of engine room watchkeeping _____, marine engineers are required to _____ a log of all important machinery _____ such as pressure,temperatures, _____ etc. in the _____log book.

This daily _____ -keeping book is a complete log of engine room _____ which are compared with the design and _____ conditions at regular intervals of time to analyze the _____ of engine room machinery and systems. Additionally, the log book parameters are also _____ during surveys and investigations related to any kind of _____in the engine room.

A _____ engineer is required to _____ the log book details at the end of every _____. This is a _____ task which should be carried out properly without _____ important parameters (Engineers when busy with _____ work or due to sheer laziness, often fill out the log-book based on their assumption or by just _____ data from previous watches. This is dangerous practice .....)

Mentioned below are ten important points which marine engineers must remember while _____ engine room _____.

1. Allot Sufficient Time for Taking Parameters

About 1 hour before the watch gets over, the watchkeeping engineer should take a thorough round of the engine room, noting down all important parameters such as pressure, temperatures, engine room tank levels etc. Engineers often take rounds at the very end of the watch, carrying out the process in haste, overlooking several important machinery and missing several important parameters. Eventually, the log book is also filled up in haste with assumed parameters.

Sufficient time should thus be allotted for not only taking the readings but also for properly filling up the log book. This ensure that the log book is ready by the time the relieving officer comes in and takes a look at the important parameters before starting his watch. All equipment required for taking readings must also be carried along while taking the round so that no important parameter is missed.

1. _____ Sufficient Time for Taking Parameters

About 1 hour before the watch gets over, the _____should take a thorough _____ of the engine room, noting down all important _____ such as pressure, temperatures, engine room tank levels etc. Engineers often take rounds at the _____ of the watch, carrying out the process in haste, _____ several important machinery and missing several important parameters. _____, the log book is also filled up in haste with assumed parameters.

Sufficient time should thus be _____ for not only taking the readings but also for properly _____ the log book. This ensure that the log book is ready by the time the _____ officer comes in and takes a look at the important parameters before starting his _____. All equipment required for _____ readings must also be carried along while taking the _____ so that no important parameter is missed.

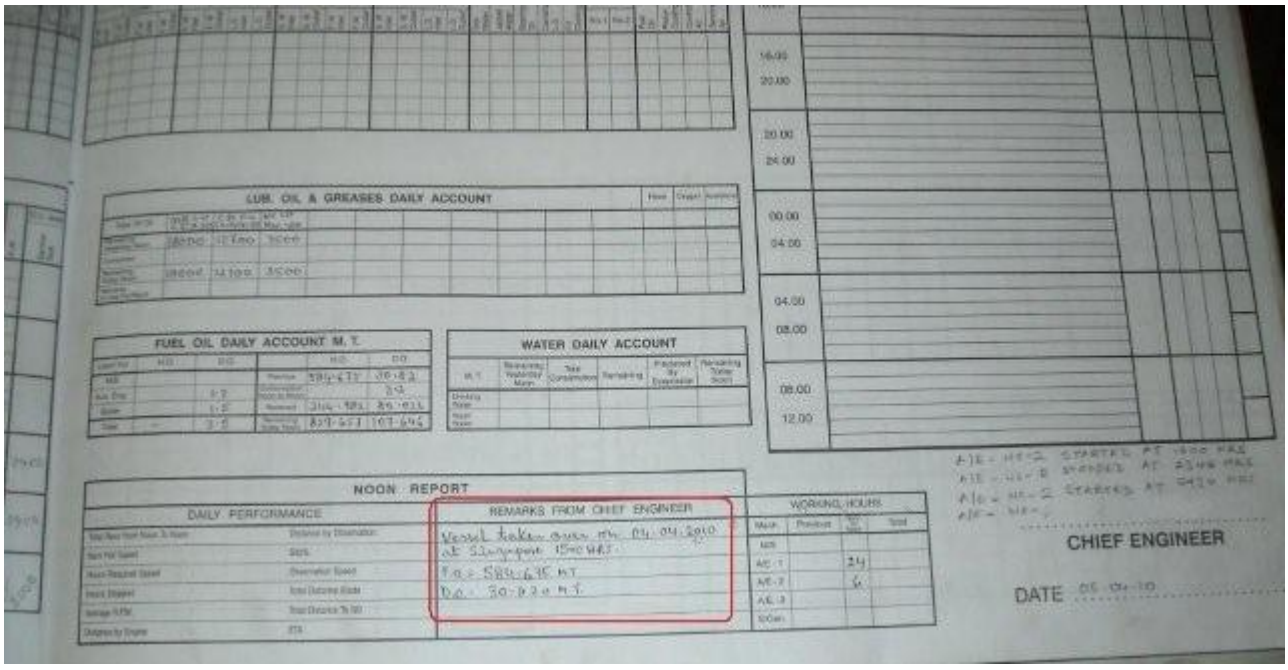
2. Always Take Data During Steady State Conditions

It is always advisable to take the readings when the engine room and all machinery systems are in steady state conditions without continuously changing parameters. For e.g. if the readings are taken during manoeuvring, the recorded values will be not of much help due to fluctuating conditions. Such data is not useful to note down (unless there is a breakdown or accident) and inevitably reflects changes in the condition or capability of crucial engine components which are monitored during condition monitoring.

3. Note Down and Highlight Important Events, Accidents, Breakdowns and Near Misses

Any important event taking place in the engine room should be noted down in the log book. Unusual changes in the behavior of any particular machinery, sudden increase or decrease of parameters, accidents, near misses, or breakdown of any equipment should be noted down and highlighted in the log book. This is to ensure that the relieving officer is aware of such events and he gives additional attention to the mentioned issue. In case of major problem, don't forget to note down the date and time of the event in the log book.

The data from the log books are often used for insurance claims in case of accidents, during safety meetings as references and making safety plans, and as proof of accidents in case of casualty.



4. Note Down Correct Tank Levels and Transfer Details

Filling up of log book will require filling out important tank level figures. In case the engineer is required to carry out transfers between any tanks, the same should be noted down in the log book with the final parameters. The names of the tanks should also be mentioned.

In case the transfer process is going on when watch is over, inform about the same to the incoming officer and note the levels of the tanks at the end of your watch in the log book.

5. Keep the Log Book Clean and Neat

Engineers working in the engine room must ensure that the log book is kept neat and clean without oil smudges, over writing , and ink marks. The data in the log book are extremely important records which should be properly visible for future references.

In order to prevent the log book from getting torn or spoilt, use a proper cover or case for protection.

6. Use Only Pen And Sign Wrong Readings

Use only ballpoint pen to fill the log book. Ink pens or pencil should not be used as these are official records which should be prevented from getting tampered or spoilt.

If wrong readings have been written by mistake, they should be crossed out (strike out with one line) and correct readings must be written beside them along with the sign of the authorized watch-keeping officer. Moreover, the duty engineer is also required to sign at the end after filling the log book, which is later signed by the chief engineer and captain after verifying the data.

7. Only the Watchkeeping Engineers Must Fill the Log Book

It is the duty of the watchkeeping engineers to fill out and sign the log book at the end of every watch. It's a common practice on several ships to allot this work to junior engineers or engine cadets, who often miss important parameters or fill the details in haste with several errors. An experienced engineer or senior official can easily point out any kind of abnormal parameters or mistakes in the log book and the duty engineer will then have to provide an explanation for the same.

Additional Point to Consider:

-For marine engines with an Engine International Air Pollution Prevention (EIAPP) Certificate that are subject to the Engine Parameter Check Method as part of periodical IAPP Surveys, all changes to an engine's NOx influencing components, including like-for-like replacements, are to be documented in the Record Book of Engine Parameters.

Lastly, it is to note that a log book is not just for filling records but also to be used as a reference to study previous data of machinery parameters and to compare them with the current data, for understanding the condition of machinery systems and early detection of any major fault.

Cargo Record Book

It is required as per regulations. It is a requirement under chemical and gas carriers codes, as well as for ships carrying noxious liquid substances.
Number of documents handed over by chief engineer during sign off:

1. List of status of surveys/certificates , quarterly listing
2. 'Condition of class' (stated) if any
3. Handing over report
4. Fuel oil, diesel oil/lube oil soundings confirm actual figures
5. Voyage requirements for fuel. Lubes
6. Bunkers expected and consumption record
7. Oil record book
8. 'PMS' status of main, auxiliary and electrical machineries
9. Spares onboard
10. Stores onboard
11. Alarm checklist
12. Critical equipment checklist
13. Special and precision equipment onboard
14. Records of port state inspections-LSA/FFA
15. Cargo equipment maintenance records
16. Technical file: list of critical components/spares affecting NOx/SOx
17. Bunker delivery receipts
18. Special tools
19. List of manuals and drawings available on board
20. Training records

All other documents pertaining to the particular type of ship.