

# Lesson Plan - 9.1-1 Operate Main Machinery

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## **AIM:**

Trainer - Acquaint the trainee crew with the pre launch checks to be carried out before all launches; the procedure for starting engines; the running checks and shutdown procedure. Additionally , explain the possible risks and hazards as well as potential machinery issues and actions.

Crew - knowledge of the safety checks prior to launch;pre startup checks, during running, stopping engines. Need to be aware of procedures for refueling and emergency

**Training Shoreside** - All aspects can be taught and demonstrated shoreside before actually carrying them out afloat

- Pre launch checks
- Start up checks and procedures
- Alarms
- Running checks
- Faults and actions
- Shutdown

**Training Poole** - Crew course

## **Pre launch checks**

Trainer - Demonstrate the appropriate pre-start checks

1. Charging cable – remove
2. Battery isolators (x2) – on
3. Battery coupling (if required)
4. Fluid levels – check and replenished if required
5. Fuel supply connections and configuration
6. Stop buttons
7. Cooling water supply

## **Alarms**

Crew should be aware of the warning and alarms and the hazards associated and actions required. This extends to the reporting of the defects to the station mechanic, DLA and through the Helm to the 24 operations team when its out of normal hours or there is an impact to the lifeboat remaining operational.

- Overheating alarm - lights and sounds, on the steering console

- Man Overboard - MOB alarm lights and sound, on steering console (**IMPORTANT - If the alarm for overheating has already been activated and the sounder turned off, then the MOB will only light up and no sounder be heard**)
- Oil Pressure / Gears visual alarms on the 2 engine RPM displays
- Depth Sounder alarm - SIMs system / Repeaters - Sound and visual

In the event of an alarm, the helm should be notified who will decide the appropriate action.

initial checks of alarms against the defect reported, before notifying Coastguard and requesting it be relayed to the DLA. Turning off the engines and restart - this should only be carried out if necessary as it disables the lifeboat and the associated hazards of the sea (drifting / beam on to waves / grounding). If necessary the lifeboat will request additional assets deployed and return to station.

Stopping engines should only be done ideally when the lifeboat is secured or in safe waters.

## Start up

Trainer - Demonstrate the procedure for starting the engines

- Remove main charging lead and cover the lifeboat socket with the blue cap provided
- Switch on the two electric isolator switches located in the locker under seat 1
- Power up the SIMs / DF / VHF units as per the launch and recovery LOP
- Place nav lights on if required
- Check all repeaters and taco are light up correcting with no visible defects or warnings
- Once the boat has been lowered into the water in the trolley, check area clear and propellers are in the water
- Press one engine start button first located on the steering console and wait for the taco to show revs and the crew to confirm tell tales showing. Then start the second engine, there is a battery issue at this time, the engines can be coupled to start the engine using the yellow button and then decoupled to void the good batteries being drained.
- At this point the engine should tick over on idle with a smooth constant sound
- Checking steering is working correctly before removing the lifeboat from the trolley

## Running Checks

Trainer - State the running check appropriate to the A85

- Oil low pressure warning extinguishes
- Engine settles at a steady idle speed
- No abnormal mechanical noise or vibration

Trainer - Explain the importance of recognising changes in engine performance

- Loss of power
- Reduced engine revolutions
- loss of steering from hydraulic leak

Monitoring will help to preempt any issues early and take correct action.

## Recovery

1. Engines into neutral, and switched off once the lifeboat is fully secured on the trolley and while the engines are still in the water.
2. Once on the slipway and the strop attached, the engines can be flushed through with fresh water before refueling. **(NO Flames, mobile devices should be present for refueling to remove risk of ignition)**
3. For refueling the crew members involved should don the appropriate PPE. Removal of helmet and safety glasses on. No others should be in the restricted area
4. Both fuel tanks should be dipped with the dipping stick and the correct amount of fuel added. DO NOT OVERFILL
5. Any spillage should be cleaned up with the correct spillage kit which can be located by the winch control outside the crew room. All contaminated spillage kit should be disposed of in accordance with the RNLI SOP.
6. Any defects identified should be reported on the post recovery log; reported to the DLA / Station mechanic / 24 hr ops room

Shutting down the lifeboat is a last resort and should be done only after notifying the appropriate authorities. Examples of when this may occur are, major mechanical issues; fuel leakage; engine fire after the extinguisher has been discharged and the fire continues; overheating.

### Reference Material:

Video Clip

Crew Handbook