



# FORESIGHT

## THE DELIVERY OF DHT LEOPARD & DHT LION

Two DHT new build vessels were successfully delivered by Hyundai Heavy Industries (HHI) early this year.



DHT Leopard was delivered in January 2016



DHT Lion was delivered in March 2016

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# LAUNCH OF NEW OFFICE & EXTENSION OF TRAINING CENTRE IN MUMBAI

In Goodwood our ambition has always been to grow with consistency in delivering flawless marine services to our customers. Our new Office offers a seating staff capacity of 28 and will aim at creating and training a professional team of positive, energetic and ambitious people in the years to come.

The office activities in Mumbai have been shifted from 4th floor to 9th floor at Hubtown Solaris.

We have also upgraded our training facilities. We are happy to announce that MAN B&W ME Electronic Engine simulator has been installed and commissioned in the new premises. In addition to other courses the Electronic Engine simulator training has been commenced from 14th March 2016. The first ME course was conducted for a period of five days from 14 March 2016 – 18 March 2016. This course covers the following aspects of the Electronic Engine:

- |  |                                       |
|--|---------------------------------------|
| 1. Introduction                        | 8. CoCos and Engine diagnostic system |
| 2. Engine concept and control system   | 9. PMI system                         |
| 3. Engine operation and MOP's/ LOP     | 10. Practical exercises               |
| 4. Hydraulic power supply system       |                                       |
| 5. Hydraulic cylinder units            |                                       |
| 6. Fuel system and components          |                                       |
| 7. Exhaust valve system and components |                                       |

The course was attended by ten of our fleet engineers including two technical superintendents.

JRC JAN 9201/ 7201 training commenced from May after JRC hardware and software is upgraded. DHT New build vessels have the latest JRC JAN 9201 ECDIS onboard and Officers joining these vessels will have to do this course prior to their assignment on the vessels.

Similarly, we are also adding FURUNO NavSkills simulator which will provide Type Specific training in FURUNO ECDIS FMD – 3100/ 3200/ 3300.

Transas full mission bridge simulator has also been upgraded to its latest version of NTPRO 5000 version 5.35. It offers a new mechanical interaction which will improve simulation in berthing, un-berthing and close quarter ship handling exercises to enhance our training on situational awareness courses. The enhanced stability and quality of fendering operations modelling will improve our Ship to Ship exercise experience. Realistic grounding and stuck scenarios modelling will improve the better grounding simulation in case of grounding exercise. This new version will also provide a better overall graphical experience as compared to the previous version 5.25. The first situational awareness (SAC) course was conducted on the upgraded version in April 2016.



*New Office Space*



*Full Mission Bridge Simulator*

Maritime Resource Management Course license has also been renewed by Swedish Club Academy till Feb 2017. The first MRM course was conducted in our new office in April 2016.

With an ambition to put together an interactive training experience amongst the trainees and the trainer the new Classroom in our Office has taken inspiration from the Harvard Classroom design. The state of art Classroom consists of U Shaped table which facilitates interaction greatly amongst the trainees. All trainees are now in



*New Classroom and ME Electronic Engine Simulator*

direct eye to eye contact of the trainer and fellow trainees thus allowing for a more natural construct in which to communicate as an entire unit which greatly facilitates interaction and discussions amongst the trainees. This arrangement also provided a positive environment and reassurance for expressing ideas. Classroom also houses latest Sony Short Throw Projectors with Interactive touch pens with fully integrated white boards, modern audio enhancement equipments etc. The class room is totally sound proof.

Goodwood has developed the strategy “growing our own as we grow” and now with an improved and more efficient training facility Goodwood will remain committed to offering its employees the best possible training and professional development to help them succeed in their career paths onboard and ashore.



# IMPROVING MOTOR BEARING RELIABILITY

Overgreasing rolling element bearings in motors has been a perennial issue. More motors have bearing failures due to overgreasing than from undergreasing. Rolling element bearings used in electric motors are at risk for various modes of failure if an incorrect maintenance or lubrication strategy is implemented. These include incorrect lubricant selection, contamination, loss of lubricant and overgreasing



## Grease-related Bearing Failures

There are several types of grease-related bearing failures:

- **Lubricant starvation**
- **Grease incompatibility**
- **Wrong grease**
- **Overpressurisation of the bearing shields**
- **Overheating due to excess grease**
- **Grease Degradation**

## Four Basic Bearing Types

**1. Open Face Bearing** - This bearing consists of the inner and outer race, the balls and the ball cage. It does not retain grease within shields and requires a grease cavity around it for lubrication.

**2. Single-shielded Bearing** - This bearing has a metallic shield on one side only, and is usually installed with the

shield facing the motor winding. It can be regreased and typically has the same regreasing intervals as an open face bearing.

**3. Double-shielded Bearing** - This type has a metallic shield on both sides of the bearing and is designed to retain grease between the shields. There is a small air gap between the shields and the inner race which allows a certain amount of oil transfer over a long period of time between the grease in the grease cavity and the grease between the shields.

**4. Sealed Bearings** - These bearings are designed similar to a double-shielded bearing with one exception. The inner race slides against the seals resulting in the absence of an air gap between the seals and the inner race. This type of bearing cannot be regreased.

Once the volume is found, it must be converted into shots, or pumps of the grease gun. There is one way to obtain the value used to convert the number; for this the user will need the grease gun to be used and a postal scale. After finding the output per full stroke of the handle, label the gun so that it is now "calibrated". The average value is approximately 18 shots per ounce for most manual guns but grease gun output can vary by a factor of 10, so be sure to calibrate each gun.

## Grease Volume Control

There is a simple equation that takes a logical approach to determining the volume of grease to be added.

The formula is:  $G = 0.114 \times D \times B$

Where G = the amount of grease in ounces, D = the bore diameter in inches and B = the bearing width in inches.

## Bearing Housing Designs

There are two basic bearing housing designs used in most motors with regreasable rolling element bearings.

More motors are manufactured with a same-side design (Figure 2) than a flow-through design (Figure 1). Figure 2 shows the drain plug is the only external path for the grease to exit the grease cavity.

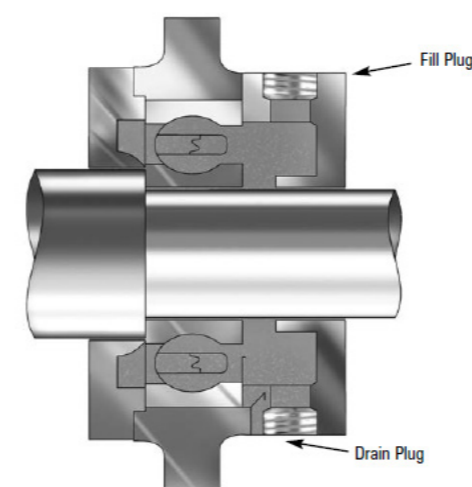


Figure 2. Same-side fill and drain – used with open, single-shielded, and double-shielded bearings.

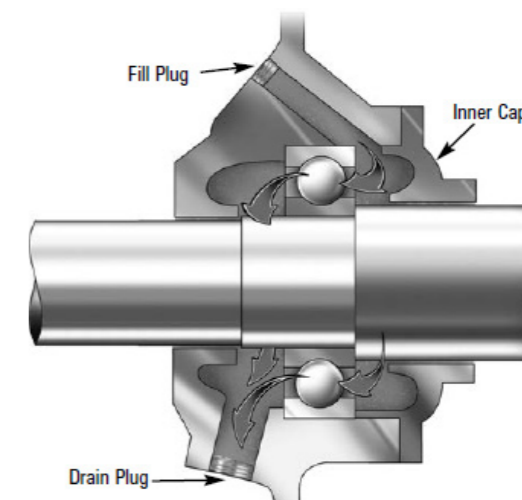


Figure 1. Flow-through design - used only with open face bearings.

## Grease Gun

The grease gun is an effective tool for moving grease to a point of application, though it is often taken for granted. The most common styles of grease guns include the lever, pistol-grip, hand grip, air-powered and battery-powered. The lever style is the most economic and widely used of all the grease guns. Lubrication technicians need to know the output per stroke of the grease gun in order to know how much grease is added each time a piece of equipment is lubricated. Grease guns vary in the amount of grease pumped per stroke, from one to three grams of grease or higher.

A high-pressure grease gun delivers pressure up to 15,000 psi. Most bearing seals will rarely handle more than 500 psi. A grease gun in the hands of an untrained technician can compromise the bearing's seal and lead to early failure. The compromised seal invites dirt or other foreign materials as well as over-lubrication due to little or no back pressure.

## Some common tips for using a grease gun:

1. Calculate the proper amount of grease needed for re-lubrication of bearings, based upon the calibrated delivery volume of the selected grease gun.
2. Remove the vent plug on the relief port of the bearing to help flush old grease to reduce the risk of too much pressure on the bearing.
3. Use extreme caution when loading grease into the grease gun to ensure that contaminants are not introduced.
4. Make sure the grease gun is clearly marked to identify the grease with which it should be charged.
5. Always make sure the dispensing nozzle of the grease gun is clean before using. Pump a small amount of grease out of the dispensing nozzle, then wipe off with a clean rag or lint-free cloth before attaching to the grease fitting.
6. Clean the grease fitting of all dirt before attaching the grease

gun. Inspect and replace damaged fittings. Also clean the grease fitting after applying grease. It is helpful to use grease-fitting caps to keep them clean, but still wipe fittings clean before applying grease.

7. Ensure the proper grease is used at every grease point. Applying the wrong grease can cause an incompatibility problem which can quickly cause bearing failure. Lubrication points should be clearly identified with which grease is to be used. This can be done with coloured labels, adhesive dots or paint markers.
8. Grease guns should be stored unpressurized in a clean, cool, dry area and in a horizontal position to help keep the oil from bleeding out of the grease. Grease gun clamps make storage easy and organized. Also cover the coupler to keep it free from dirt and contaminants.
9. Calibrate grease guns regularly to ensure the proper delivery volume.
10. Use caution and safety when working around moving equipment and when using a grease gun.





## WOMEN EMPOWERMENT ONBOARD

By Ms. Suchitra Sen, The Trainee Electrical Officer on board DHT Phoenix

Today there is no field where the women have not shown their worth. Women have shouldered all kinds of responsibilities with grand success. As seafaring is conventionally a man's world, many women fear to take up this challenge. But in my view there is nothing to fear, it is only a product of our imagination. Anything is achievable if we have strong determination and strong belief.

As every profession has its own set of challenges, so does the maritime industry. But I know my potential and feel the marine field is the best. I am very happy with

the career choice I have made. To be honest the first few months at sea have been challenging but I am slowly getting used to moving around in those baggy boiler suits and building on my mental, emotional & physical strengths to compete with my male colleagues. I am very pleased with the good atmosphere here on board and got a group of experienced senior officers who support me at every level.

Working on-board has been fun and every day has been a learning day. I learn while I work. Each day comes with a new hope, new

beginning, a new lesson and a new bunch of challenges. It is enjoyable.

Being the first lady trainee electrician ('mom battee' as I am nick named) I have never been given any preference to rest more or work less neither have I asked for it as I wanted to be accepted as "EQUAL".

Also, working on live electrical circuits is an extremely critical & dangerous task. My senior officers give me additional safety advice while working. Of course safety is of utmost priority and should never be compromised. Currently I am perfecting myself in interpreting Electrical drawings and identifying various types of electrical equipment and its relevant spare parts.

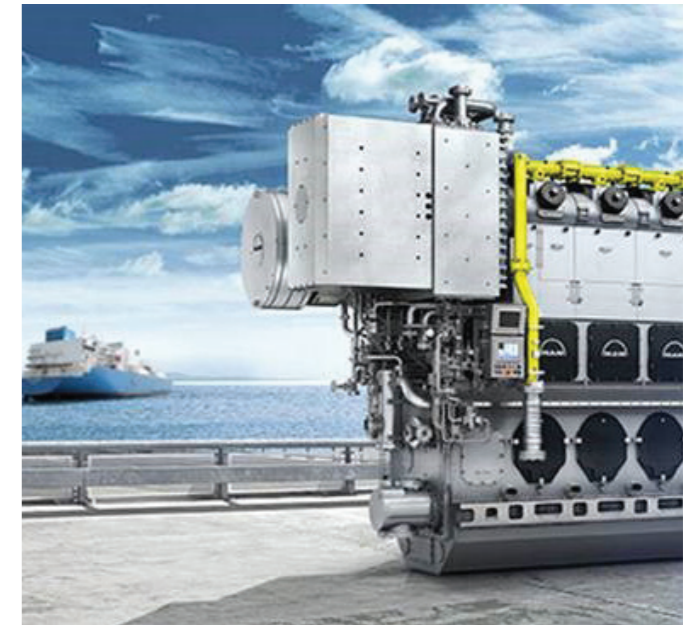
I am very thankful to the senior management of Goodwood who have given us ladies the opportunity to prove ourselves in this challenging field and the staff ashore for their encouragement and sound advice before joining this ship. I will not let them down.



## PREVENTING MACHINERY CLAIMS

Recently Swedish Club published findings from their seven-year study for machinery damages to two stroke and four stroke engines. We have summarised below the findings from their report.

It is requested that all engineers on board the vessel note the trends and ensure that maintenance procedures are strictly followed.



### Findings:

- Main engine claims account for 46% of total machinery claims cost with an average claim per vessel of USD 545,000.
- The frequency trend for main engine claims is stable at 2% of the vessels entered with the Swedish Club experiencing main engine damage.
- Container and dry cargo ships have a disproportionately large claims cost in relation to fleet entry.
- Korean built vessels make up 31% of the club fleet but amount to only 12% of main engine claims cost. China on the other hand is over-represented with 30% of the club entries and 36% of the total main engine claims costs.
- Four-stroke main engines experience 2.5 times more claims than two-strokes
- Four-strokes in V configuration have an average of 42% higher claims costs than inline configuration.
- Bearing failures are the most expensive main engine claim categories with an average cost of nearly USD 1.6 million per claim. The cost for bearing failures is high due to consequential damage to crankshafts, etc.
- Lubrication failure is still the most expensive cause of damage.

### Cause of Damage:

- Contaminated lubrication oil
- Experts not in attendance at major overhauls
- Using contaminated bunkers
- Purifiers not operated as per manufacturers' instructions
- Engine components not overhauled as per manufacturers' instructions
- Crew with insufficient experience/training

### Recurring Issues:

- Insufficient planning
- Insufficient experience/training
- Non-compliance with company procedures
- Procedures which are unclear, not comprehensive enough or have not been implemented
- Experts not in attendance at major overhauls
- Not having adequate follow-up methods after maintenance work

### Below are the prevention tips discussed in the report:

- Implement onboard fuel management and fuel system audits.
- Verify that the various parts, including purifiers are tested for proper function and are operated in accordance with manufacturers' recommendations.
- It is imperative to monitor the quality of the lubrication oil. Samples of lubrication oils should be sent ashore for analysis at least every three months.
- During major overhauls it is highly recommended to have experts in attendance.
- It is important to only use spare parts approved by the engine manufacturer.
- Invest in employee training.
- Carry out comprehensive audits and inspections.
- Replace diaphragm sealing at crank case lubricant oil outlets at recommended intervals.



# FLOODING DUE TO ANCHOR SLIPPING

Recently, a container ship was underway in 15 foot seas when the forepeak flood alarms activated. The crew investigated and discovered the starboard anchor had slipped 10-15 links, causing it to strike and puncture the hull. As a result, seawater flooded the bow thruster and emergency fire pump compartment.

The casualty resulted in excess of \$1 million in vessel damage and a month's lost revenues while the vessel was out of service undergoing repair. During the repair period, it was discovered that the anchor windlass brake pad had worn down to 2-3mm thickness. With only this amount of pad, the fully applied brake could not achieve its designed holding power.

The crew should have recognized the excessive wear to the brake pads and that these required replacements. It was also discovered that the anchor involved in the incident was a replacement and it had different specifications to the original anchor.

The replacement anchor's relative position in the hawse pipe was not the same as the original, because the shank length and connecting linkages were different. The size difference prevented the riding pawl from properly engaging the anchor chain. As an added safety device, a wire sling had been used to secure the anchor while at sea. The wire sling was threaded through a chain link and secured to the vessel with a pelican hook. When the sling broke and the brake failed, the anchor's weight and the ship's movement then caused it to drop before the riding pawl could properly engage. The sling failure was likely caused by the corrosion of the inner wire

strands; the inner wire strands being exposed to the elements because of the sharp bend in the wire. Although the wire sling was inspected regularly those performing the inspections were not instructed on how to examine and determine its serviceability.



## FIVE IMPORTANT TAKEAWAYS FROM THIS CASE STUDY:

1. Prior onset of heavy weather and swell, Bosun and a senior officer to take a round on deck to check all lashings.
2. All preventative maintenance programs should be up to date, particularly emphasising when brake assemblies must be renewed or adjusted.
3. People involved with vessel maintenance and repair should have the technical resources available to them in order to assist in determining serviceability or replacement of shipboard equipment.
4. After anchor has been brought up especially if anchor was let go on brake – Chief Officer to take a close up look at the condition of brake lining for thinning down.
5. Inspection of wire rope is not an easy task and cannot be properly done without opening the lay with a spike and examining the inner core. Any slightest indication of damage must be replaced with a new wire snorter.

*\*This article is extracted from the Mars Reports*



## DRINK WATER AS SOON AS YOU WAKE UP!

Every time we think about Japanese, the image that appears in our mind is of a group of healthy people, right?

This is no coincidence because Japanese are generally very good in maintaining a healthy body. In the last few decades, through listening and reading about the Japanese culture, we have all come to the conclusion that the Japanese have a different type of diet. Notably, they also have a different lifestyle and daily routine than the greater part of western civilisation where people are constantly dealing with weight problems.

Perhaps this is due to the fact that humans seem to have lost their thirst sensation and the critical perception of needing water. Instead, the body's biological thirst signals can be mistaken for signs and symptoms of other illnesses. Most often the root cause of this misperception is – dehydration. So, we can avoid costly and unnecessary medical interventions and enjoy a long-term wellbeing if we go in the opposite direction which is – hydration.

What is the best way to hydrate our body?

Since Japanese people seem to have fewer problems than we do, we are going to reveal a “secret” of theirs and try to apply it to our everyday lives in order to improve our general health.

One of the things the Japanese never forget to do right after they get up in the morning is drink water on an empty stomach! Drinking water first thing in the morning is a very effective healing routine since it creates a stimulating environment inside the body for eliminating numerous diseases.

Scientists have studied this seemingly insignificant “morning ritual” and have unanimously come to the conclusion that drinking water on an empty stomach eases different health problems such as: high blood pressure, cardiovascular disorders, gastritis, kidney problems, haemorrhoids and epilepsy.

Thus, the main point of this article is to encourage you to try and incorporate this simplest water therapy into your morning routine.



## This is how you can start applying it:

Each morning when you wake up and get out of bed, the very first thing you should do is drink about 640 ml (21 oz.) of water.



Over the next 45 minutes, do not consume any type of food or other liquids. Instead, continue doing your other practices like

preparing your stuff for work. Only after 45 minutes can you start eating your usual breakfast

If you manage to apply this Japanese practice, after a certain period of time you will begin to notice the first signs of improvement in your health parameters.

However, you will also need to be aware that this might not be suitable for everyone due the differences in health conditions. It is advisable to practise this with a close observation on the health conditions. If you feel unwell, please do not continue and seek advice from doctor.

Remember to stay hydrated and keep a healthy body!

*\*This article is curated from [www.dietoflife.com](http://www.dietoflife.com)*



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