

CHANGING OVER TO BP MARINE LUBRICANTS

1. INTRODUCTION

- 1.1. Although it is rare to experience difficulties when changing a vessel over from one lubricant supplier to another, there are differences in lubricant chemistry and properties between different manufacturers' products. The following notes are intended to help to minimize the possibility of any operational upset, and highlight good practice and procedures during changeover.
- 1.2. During the development and manufacture of BP Marine lubricants, they are carefully checked for compatibility and miscibility with other suppliers' currently available comparable lubricants. However no absolute warranty can be given in a constantly changing market.
- 1.3. Although BP Marine has exercised care in preparing these guidelines notes, BP Marine shall not be liable for any loss or damage resulting from any error or omission in them.
- 1.4. Before using BP Marine lubricants please familiarize yourself with the BP grade names and their general description and application. More specific details are contained in the Lubricant Recommendation Schedule (LRS) prepared specifically for your ship. You will find Technical Data Sheets in the Customer Handbook, and Material Safety Data Sheets in the HSE Handbook.
- 1.5. If you have special concern about any aspect of changing over to the use of BP marine lubricants please contact BP Marine.

2. GENERAL GUIDANCE

- 2.1. It is good practice to limit the mixing of lubricants from different suppliers to the minimum. For machinery where the lubricant is changed regularly (e.g. turbochargers), the normal oil change operation should be used for the introduction of the new BP lubricant
- 2.2. For machinery with large fluid reservoirs on board where new BP lubricant will be filled on top of used existing lubricant (e.g. main engine crankcases, main gearboxes, large hydraulic systems), you should satisfy yourself (e.g. from the last used lubricants analysis report or by sending a representative sample to the BP Marine Enecare service) that the existing lubricant is in good condition. BP Marine can assist further with this if you have cause for concern.
- 2.3. Caution should be exercised when topping up large reservoirs, particularly in diesel engine systems. The delicate balance of dispersed additives and insoluble materials can be upset leading to deposits and filter blockage. It is recommended that top-up at any one time is limited to 10% of the existing amount of lubricants in the system.
- 2.4. Unless otherwise specifically stated, it must be assumed that mineral, synthetic, and/or water based lubricants should not be inter-mixed.

You should seek advice from BP Marine if in doubt when changing from mineral to synthetic based lubricants, or when changing between synthetic lubricants from different suppliers, even if product data appears similar. (See also section 6 and 8)

3. SPECIFIC GUIDANCE FOR CORSSHEAD ENGINE CYLINDER LUBRICANTS

- 3.1. Whenever possible, mixing of new cylinder lubricants from different suppliers should be avoided. It is good practice to use up the former supplier's cylinder lubricant on board before starting to use the BP Cylinder Lubricant.
- 3.2. For ships fitted with two or more cylinder oil storage tanks, one tank should be emptied before re-filling with Energol Cylinder Lubricant. The daily service tank should be emptied below the 10% level before switching to BP Cylinder Lubricant.
- 3.3. For those ships where only one cylinder oil storage tank is fitted, the level in the storage tank should be reduced to the minimum level consistent with safe operation of the ship before replenishing with BP Cylinder Lubricant.
- 3.4. Periodic draining of the storage tank(s) is recommended to maintain the cleanliness of the stored lubricant.
- 3.5. During changeover, the mixing of the previous supplier's cylinder lubricant with BP's Cylinder Lubricant in the engine's lubricator boxes is unlikely to give problems as the quantities of oil involved are small.
- 3.6. BP Marine's main grade of Cylinder lubricant is Energol CLO 50M. In cases, where a ship is using distillate or low sulphur fuel on a continuous bases or where engine operating conditions are particularly severe, BP Marine can provide alternative cylinder lubricant grades.

4. SPECIFIC GUIDANCE FOR CROSSHEAD ENGINE SYSTEM LUBRICANT

- 4.1. BP Marine's usual crankcase system lubricant recommendation is Energol OE-Ht 30. Energol DL-MP may be recommended in some circumstances. Both are normally compatible with comparable lubricants from other suppliers.
- 4.2. It is good practice, before adding the new BP lubricant to the storage tank, to reduce the quantity of the previous supplier's lubricant to the minimum consistent with safe operation of the ship.
- 4.3. When Energol OE-HT 30 or DL-MP is mixed with a comparable crankcase system lubricant from another supplier, the BN value of the mix will lie somewhere between the two original values. This change in alkalinity is normal and the protection afforded to the engine is unlikely to be significantly adversely affected. Please contact BP Marine if you are concerned about this.
- 4.4. Energol OE-HT 30 or DL-MP lubricants must NOT be water washed. We recommend that any facility on the purifier for continuous water washing is blanked off.
- 4.5. It is possible that during the changeover period some increase in filter cleaning frequency may be necessary. This is due to the new lubricant lifting deposited materials in the crankcase system. To minimize this effect, it is recommended that new oil top-up should be limited to 5% of system volume in any 24-hour period.



5. SPECIFIC GUIDANCE FOR TRUNK PISTON ENGINE LUBRICANTS

- 5.1. Storage compatibility and miscibility of BP diesel engine lubricants with comparable lubricants from other suppliers is carefully checked during product development. However, it is good practice, before adding the new BP lubricant to the previous supplier's product already in the storage tanks, to reduce the quantity of oil in storage to the minimum consistent with safe operation of the ship.
- 5.2. BP lubricant may be used to top-up an engine operating on the previous supplier's lubricant, provided that the in-service lubricant is in good condition. However for diesel engines with a small oil sump charge and where the oil is regularly changed, it is good practice to change over to the new lubricant at the next scheduled oil change.
- 5.3. As a general principle, the amount of lubricant top-up should be limited to 5% of the sump charge in any 24 hour period. Larger top-ups can risk lubricant instability and deposit formation.

6. SPECIFIC GUIDANCE FOR HYDRAULIC SYSTEMS

- 6.1. Mineral, synthetic, and/or water-based lubricants must not be intermixed.
- 6.2. For small systems and where circumstances permit, you should change the hydraulic oil charge completely.
- 6.3. Frank Mohn Fusa A/S, manufactures of FRAMO systems, specifically advise that the mixing of different hydraulic oils should be avoided. In FRAMO systems the preferred practice is to make a compatibility test between new BP hydraulic oil and the previous supplier's lubricant in service, which must be in good condition. At the Buyer's request BP Marine offers this service without liability and at no additional charge.

7. SPECIFIC GUIDANCE FOR AUXILIARY MACHINERY LUBRICATING OILS

- 7.1. Although there are no special precautions required when mixing most other mineral oil based lubricants of similar type and application, we recommend that for small capacity systems, such as air compressors, purifiers, etc, that a complete changeover be carried out. This can often coincide with the normal oil change interval. Once changeover to BP Marine's lubricant is complete we do not recommend top-up with old stocks of the previous supplier's lubricant.
- 7.2. Mineral oil lubricants should **not** be mixed with synthetic lubricants. (See also section 8)

8. SPECIFIC GUIDANCE FOR SYNTHETIC LUBRICANTS

- 8.1. Synthetic lubricants generally are NOT freely miscible with mineral lubricants, and may not be miscible with other synthetic lubricants with differing basestocks. You should follow machine manufacturer's instructions when changing from mineral to synthetic lubricants. Check miscibility and compatibility further with BP Marine if you feel necessary.
- 8.2. When changing from a mineral oil to a synthetic lubricant, ensure that the machine and system in question has been thoroughly drained, cleaned (if possible), flushed through with clean new synthetic lubricant, and re-drained before filling with new synthetic lubricant.
- 8.3. When changing air compressors over to synthetic lubricants, ensure that both oil filters and air filters which used mineral oil are drained and cleaned. Renew oil separator elements where fitted.
- 8.4. Care must be exercised when filling BP synthetic lubricants onto existing synthetic lubricants from other suppliers. Contact BP Marine if in doubt.



9. SPECIFIC GUIDANCE FOR GREASES

- 9.1. Most general purpose marine greases are lithium-based. No problems should be encountered when changing over to MP-MG products as a replacement for other suppliers' lithium based multi-purpose greases.
- 9.2. Where more specialized greases such a silicon, molybdenum or graphite-based products were in use from the previous supplier, these will be matched with the comparable Energrease product. If there is any doubt about the correct grease to be used, contact your BP Marine representative.

10. ENERCARE SERVICE

- 10.1. BP Marine's lubrication service includes comprehensive documentation, literature, and services, including:
 - Detailed vessel-specific Lubricant Recommendation Schedules
 - Product Data Sheets for each lubricant grade
 - Materials Safety Data Sheets for lubricant grade
 - Materials Safety Data Sheets for lubricants and fuels
 - Used lubricants analysis services
 - Customer bulletins on various subjects
 - Tank labels for lubricant storage tanks
 - Port facilities information

Much of this material should be included in the changeover pack provided to you. Please contact your BP Marine representative if additional information is required.