

OIL SPILLS GUIDANCE NOTES

Date: July 7, 2010

Oil Spills: Effect on Marine Air Conditioning & Refrigeration Systems

The oil spill in the Gulf of Mexico has created a situation that can be detrimental to the water-cooled air conditioning (A/C) and refrigeration systems typically used on boats. Boat owners and operators with water-cooled systems onboard are advised to take extra precautions to protect their equipment if affected by oil-contaminated waters.

Dometic Marine does not recommend the operation of any water-cooled equipment in water contaminated by spilled crude oil. The intake of even small amounts of oil into the condenser coils and pumps may cause damage to the equipment.

If your boat has been operated in or exposed to oil-contaminated water, please contact your dealer for service recommendations.

Preventive & Corrective Actions

The effects of crude-oil contamination on water-cooled A/C and refrigeration equipment are not thoroughly known. Based on what is known, however, Dometic recommends the following preventive and corrective actions:

- Boat owners and operators are advised to avoid areas of contaminated water if it can be done safely.
- If a vessel is expected to be in oil-contaminated water, close the seacock to prevent water entering the pump AND disconnect power to the water-cooled equipment to prevent unintentional operation of the equipment.
- If oil-contaminated water is expected at the vessel's slip, remove the vessel from the water until the contamination has been contained or removed.
- If oil-contaminated water contacts the vessel, do not start or do not continue operating the water-cooled equipment. This will greatly reduce the amount of cleaning required to get the equipment back in service.
- If a vessel has been in oil-contaminated water with its water-cooled equipment in operation, the equipment's condenser coil and water-delivery pump should be cleaned as soon as possible.

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Cleaning/Replacement Procedure

Always dispose of all parts and cleaning materials according to local environmental regulations. If cleaning chemicals are used, choose products with the least impact on the environment.

- **Condenser Coil** – If oil-contaminated water has entered the condenser coil, the entire piping system must be flushed or cleaned to remove the oil.
- **Water Pump** – If oil-contaminated water entered the seawater pump, follow the procedures below.
 - **Pump impellers** exposed to oil must be replaced. Otherwise, the impeller will swell in the pump and fail, which could cause pump or equipment damage.
 - **O-rings and gaskets** must be replaced.
 - **All hoses and parts** (coolers, seawater strainers, etc.) between the water intake and the pump must be checked for oil. If found, remove all parts and clean of all oil residue. If the oil can not be removed, replace the part, hose, or pump.

Return to Service

The long-term effects of oil on a cooling-system, its pump, parts and hoses are unknown. After the oil spill has been resolved and the system has been cleaned, we advise boat owners and operators to be diligent in monitoring their equipment for symptoms of cooling problems. Watch for high-pressure (HP) faults that are more frequent than before.

These Guidance Notes may be revised in the future as more knowledge is gained regarding this subject.

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