



TECHNICAL CIRCULAR No. 616 of 8th March 2020

To	All Surveyors/Auditors
Applicable to flag	All Flags
Title	Annual Machinery Survey
Reference	CONARINA - Instructions

ANNUAL MACHINERY SURVEYS

The Annual Survey of Machinery is intended to establish by visual external examination that the machinery and machinery spaces are being maintained in satisfactory and safe operating condition. In particular, the steering arrangements should be carefully examined. Due to problems with Emergency Generators and Emergency Fire Pumps, these items are to be tested at every AMS survey. If an Emergency Generator is not installed, then the Emergency Battery system is to be tested and proven satisfactory.

Examination and Testing of the Fire Main Isolation Valve

- a. Conduct a visual examination
- b. Ensure that the valve is marked/identified as isolation valve.
- c. Stroke the valve fully through open and closed positions.
- d. Test the Valve
 - a. Testing Option 1: With fire main isolation valve in closed position, start emergency fire pump and open one of the fire hydrants on the lower level of the engine room and confirm no pressurized flow of firewater through hydrant.
 - b. Testing Option 2: With the fire main isolation valve in the closed position, start the engine room main fire pumps and open a hydrant on main deck and confirm no pressurized flow of firewater through hydrant.

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An operational test of the emergency bilge suction is to be carried out.

Proper and reliable operation of the steering apparatus is vital to the safe navigation of the ship; careful examination and trial of each unit incorporated in the steering system is essential. To ensure that Surveyors conduct a thorough examination of the installed equipment, a review of the manufacturer's instruction manual is recommended prior to commencing examination and testing of systems that are less familiar. Information as to the proper operating pressures of the hydraulic system and specific capabilities of the alternate and emergency features can be obtained from this source. It is equally important that the Surveyor questions the attending ship's Engineer as to problems that may have been encountered with the steering apparatus.

The steering gear room is often used for storage. Therefore, the Surveyor should examine the items being stored for their suitability in the space. Containers holding fluids or grease may be stored in the steering gear compartment provided:

The containers are sealed and not open to atmosphere.

The fluid and grease do not have a flashpoint of 60 degrees or less; and

A practical approach for conducting the Annual Survey of Machinery would be to commence with examination of the watertight door (hinges, gaskets and dogs) in the machinery casing leading to the steering gear compartment, including the access ladder and lower hinged steel door, if fitted. Also, subsequent general examination of deck drainage arrangement including cleanliness of deck bilge wells and strainers, sight compartment tank tops for indication of hydraulic oil leakage and trace source of same, and the condition of handrails and gratings in way of steering gear machinery and controls.

Due to problems with closing arrangements for machinery space ventilation, machinery space fire dampers may be visually examined. This may be accomplished by dismantling the ventilation ducts if the fire dampers are not at the outboard end of the ducts, or by providing access holes of adequate size for the attending Surveyor to ascertain that the structural and operational condition of the fire dampers are satisfactory.

Another area of concern for the surveyor to examine is watertight and fire-rated cable penetrations in decks and bulkheads for any alterations and their continued effectiveness. For instance, if additional cables have been added, the surveyor is to confirm the additional cables have been installed in accordance with the manufacturer's installation procedures which maintain the water tightness or fire-rating of the deck or bulkhead. Proper reinstallation procedures, torque values and sealing arrangements should be confirmed for the type of cable transit used (e.g. compression block, gland or sleeve type; sealing compound type).

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REFERENCES:

- CONARINA – Instructions- Courtesy of ABS.
- ATTACHMENTS: No

Kindest Regards,

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