



Marine Notice 19/2016

Maintenance and Adjustment of Magnetic Compasses

Purpose

The purpose of this Marine Notice is to remind vessel owners, vessel operators, masters, officers, seafarer training organisations, coastal pilots and industry organisations that magnetic compasses are a very important tool for the safety of navigation.

This Marine Notice applies to “regulated Australian vessels” and certain foreign vessels (See *Marine Order 27 (Safety of navigation and radio equipment) 2016.*)

Magnetic Compass

Vessel owners and masters each have responsibilities for ensuring that magnetic compasses are maintained in good working order, adjusted and a table or curve of residual deviations is available.

The performance of the compass should be monitored and, for a vessel more than 100GT, deviations recorded in a compass deviation book at regular intervals, ideally at least once every watch and also shortly after a large alteration of course.

Failure to maintain a magnetic compass in good working condition or to monitor deviations may result in a vessel being delayed or detained and potentially the vessel owner and/or master being prosecuted.

When to adjust a Magnetic Compass

If the observations for a magnetic compass on a vessel show a deviation of the compass on any heading of more than 5 degrees, the compass must be adjusted by a qualified compass adjuster or the master of the vessel to correct the deviation.

Annex G of ISO 25862:2009 also recommends that a compass should be adjusted when:

1. they are first installed;
2. they become unreliable;
3. repairs or structural alterations have been made to the vessel that could affect its permanent or induced magnetism;
4. electrical or magnetic equipment close to the compass is added, removed or altered;
5. they show any physical defects;
6. if a record of compass deviations has not been maintained, or the recorded deviations are excessive; or
7. deemed necessary by the master for the safety of navigation, and no less often than every two years; every dry docking or after significant structural work.

Note: For “regulated Australian vessels” there is no minimum statutory period when a compass should be adjusted provided deviation on all headings is less than 5 degrees, compass deviation book is maintained and the compass is kept in good condition.

Effects on changes of magnetism during the life of the ship

Magnetism of a new ship can be particularly unstable. Therefore, the performance of a magnetic compass should be monitored carefully during the early life of the ship, and adjustments made if necessary.

To ensure a compass is in good working condition, it is important to check performance of magnetic compasses particularly after:

1. carrying cargoes which have magnetic properties;
2. using electromagnetic lifting appliances to load or discharge cargo;
3. a vessel has been in a casualty where it has been subject to severe contact or electrical charges;
4. a vessel has been operating on short voyages for a long period of time then relocates, which results in a large change in magnetic latitude; or
5. a vessel has been laid up or has been lying idle. Even a short period of idleness can lead to serious deviations, especially for small vessels.

Portable Equipment that may interfere with magnetic compasses

Portable electrical equipment, for example radios, tape recorders and mobile telephones or items made of steel, may affect the performance of a magnetic compass. Care must be taken to ensure that such items are kept well away from the compass position.

Spare Bowl

When a spare magnetic compass bowl is carried, it should be treated carefully and stowed, together with its gimbal unit, away from the navigation bridge so it is not affected if the bridge is disabled by a casualty, for example, damaged by fire.

Transmitting Magnetic Compasses

Repairs to transmitting magnetic compasses and associated ancillary equipment that provide heading information to a helmsman or autopilot should only be undertaken by the equipment manufacturer or other competent person.

Adjustments and repairs

In order to ensure the maintenance of a magnetic compass in good working condition, it is recommended that repairs to a compass be made by the compass manufacturer or other competent person using proper test facilities in accordance with the rules for testing and certification of magnetic compasses contained in ISO 25862:2009.

All adjustments to a magnetic should be carried out by a "qualified compass adjuster" or the master of the vessel.

Qualified compass adjuster

A "qualified compass adjuster" is defined in Marine Order 27 as a person who:

- (a) has completed an approved training course; or
- (b) on 30 June 2016 held a compass adjuster licence issued by AMSA under *Marine Order 21 (Safety of navigation and emergency procedures) 2012*; or
- (c) has completed training that is considered by AMSA to be equivalent to an approved training course.

A magnetic compasses may also be adjusted by the master of the vessel. If the compass has been adjusted by the master AMSA recommends that the compass adjustment be checked by a qualified compass adjuster at the next available opportunity.

Details of the AMSA approved compass adjuster training course are available in Fact Sheet STCW 29 – Training and non-STCW Short Courses, which is available on the AMSA web site at:

<http://www.amsa.gov.au/forms-and-publications/fact-sheets/amsa1592.pdf>

The following persons are considered by AMSA to have completed training equivalent to an AMSA approved compass adjuster training course:

- A person who holds a Certificate of Competency as Compass Adjuster issued by the UK Maritime and Coastguard Agency

- A person who is recognised by Maritime New Zealand (MNZ) as a “Recognised compass adjuster”. There is a list of these persons on the MNZ web site.

On application AMSA is prepared to consider other training completed either in Australia or overseas as equivalent to an AMSA approved compass adjuster course. AMSA will require detailed information about the training undertaken, such as, course syllabus, lesson plans, assessments undertaken, authority who approved the course and if a certificate or licence has been issued by a government authority. More information can be obtained by contacting AMSA at: Quals@amsa.gov.au

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November 2016

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File No: 2016/3098