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Shipping Guidance Notice 132
MGN 301 (M+F) Maneuvering information onboard ships

To: Owners, Operators, Masters & Recognised Organisations

1. Introduction

The purpose of this Shipping Guidance Notice (SGN) is to promulgate UK Notice MGN 301 (M+F) Amendment 1: Maneuvering information onboard ships.

2. Application

The Gibraltar Maritime Administration (GMA) endorses the recommendations and guidance contained within MGN 301 (M+F) for manoeuvring information in the form of a pilot card, wheelhouse poster, and manoeuvring booklet to be provided on board ships.

In respect of Gibraltar registered ships to which the requirements of the 1974 SOLAS Convention as amended apply, the GMA recommends the adoption and implementation of the recommendations and guidance contained within MGN 301 (M+F) and its appendices (as amended).

MGN 301 (M+F) Amendment 1 and its appendices are annexed to this Shipping Guidance Notice, and additionally available via; MGN 301 (M+F)

Steve Gomez – Chief Surveyor (Ag)
For & on behalf of the Maritime Administrator

Issue date: 27 March 2024

All notices are available via https://www.gibraltarship.com/

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Maritime & Coastguard Agency

Guidance

MGN 301 (M+F) Amendment 1: Maneuvering information onboard ships

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Summary

The Maritime and Coastguard Agency (MCA) recommends that manoeuvring information in the form of a pilot card, wheelhouse poster, and manoeuvring booklet should be provided on board ships.

The application for which vessels this guidance applies to can be found in Section 3 of this Guidance Note.

1. Introduction

1.1 At its 15th session, the Assembly of the International Maritime Organisation adopted a recommendation for the provision and the display of manoeuvring data on board ships as set out in the annex to Resolution A.601 (15).

1.2 The standards on Ship Manoeuvrability for which the manoeuvring data on board ships is to be based is stipulated within IMO Resolution MSC.137(76) which was adopted at the 76th Maritime Safety Committee session in December 2002.

2. Latest Amendments

2.1 Amendment 1 of this Notice includes updated guidance in relation to the application of the recommendations adopted in Resolution A.601 as well as updated guidance on the application of the resolution in the creation of the onboard documentation.

3. Application

3.1 The MCA recommends that manoeuvring information in the form of a pilot card, wheelhouse poster, and manoeuvring booklet should be provided as follows:

3.1.1 A Pilot card for all ships to which the requirements of the 1974 SOLAS Convention as amended, apply;

3.1.2 A Pilot card, a wheelhouse poster and manoeuvring booklet on all new ships and fishing vessels of 100 metres in length and over, and all new chemical tankers and gas carriers regardless of size; and

3.1.3 A Pilot card, wheelhouse poster and manoeuvring booklet on all new ships that may pose a hazard due to unusual dimensions or characteristics.

3.2 The manoeuvring information should be amended after any modification or conversion of the ship which may alter its manoeuvring characteristics as described in MSC.137(76) or major amendment to its geometry.

3.3 Whilst not exhaustive, the following are examples of unusual characteristics which should be considered when determining the application of section 3.1.3

- Catamaran or trimaran hull designs
- Self-propelled semi-submersible or compact semi-submersible vessels utilising twin pontoon hull designs.
- Propulsion and steering system based on Voith Schneider Propeller (VSP) or similar cyclorotor design principle.
- Propulsion and steering system based on water jet propulsion.
- Vessels with unusual bridge design with specific visibility characteristics or offset pelorus which could pose unusual characteristics to Navigating Officers or Pilots.
- Azimuth based propulsion and steering system such as Azipods, Azipulls or compass thrusters which by their location or size produce an unusual manoeuvring characteristic.

4. Pilot Card

4.1 The pilot card, to be filled in by the master, is intended to provide information to the pilot on boarding the ship and should be based on the IMO Standard format as found in IMO Resolution A.601.

4.2 The pilot card should contain information describing the present loading condition, propulsion and manoeuvring equipment, navigation equipment and any other equipment relevant to the operation.

4.3 The Pilot card should also detail any defects which may affect the ships manoeuvrability or pilotage operation.

4.4 An example Pilot Card template based on the IMO standard format can be found in Appendix 1 of this document.

5. Wheelhouse Poster

5.1 When required by part 3.1.2 of this Guidance Note, the wheelhouse poster should be permanently displayed in the wheelhouse. It should contain general particulars and detailed information describing the manoeuvring characteristics of the ship and be of such a size to ensure ease of use.

5.2 The manoeuvring characteristics are to be determined in line with the requirements stipulated within IMO Resolution MSC.137(76).

5.3 The Master and Officers should be aware that manoeuvring performance of the ship may differ from that shown on the poster due to environmental, hull and loading conditions.

5.4 Wheelhouse posters should be based on the IMO Standard format as found in IMO Resolution A.601 and should include the following information:

- Ship Particulars
- Steering Particulars
- Anchor Chain Particulars
- Propulsion (including thruster effect)
- Draft increase (Estimated Squat, Heel effect)
- Turning circle at max rudder angle charts
- Emergency manoeuvre charts
- Stopping characteristics including crash stop details

6. Manoeuvring Booklet

6.1 When required by part 3.1.3 of this Guidance Note, the manoeuvring booklet should be available on board and should contain comprehensive details of the ship’s manoeuvring characteristics and other relevant data. The manoeuvring booklet should include the information shown on the wheelhouse poster together with other available manoeuvring information.

6.2 The manoeuvring characteristics and data to be within the manoeuvring booklet are to be determined in line with the requirements stipulated within IMO Resolution MSC.137(76) and may be supplemented in the course of the ship’s operational life.

6.3 Details on the recommended information to be included in the Manoeuvring booklet can be found in Appendix 2 of this guidance note.

More information

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MGN 301 Amendment 1: Appendix 1

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Appendix 1: Pilotage Car Example

SHIP PARTICULARS

Name:	MV	Example Vessel II		Call Sign:	“xxxx”
Displacement:	“xxxxx”t	DWT:	xxxxx’t	Year Built:	2023
Draught Fwd:	“xxx”m	Draught Mid:	“xxx”m	Draught Aft:	“xxx”m
Air Draught:	“xxx”m	Port Anchor – no. of Shackles	“xx”	Stb Anchor – no. of Shackles	“xx”

MAIN ENGINE

Engine Type:	“State type of engine”		
Max Power:	“xxxxx” Kw	Max Power:	“xxxxx”HP
	RPM/Pitch	Loaded Speed (Kts)	Ballast Speed (Kts)
Full Speed:			
Half Ahead:			
Slow Ahead:			
Dead Slow Ahead:			
Dead Slow Astern:		Time limit astern:	“xx” min

MAIN ENGINE

Slow Astern:		Full ahead to Full Astern	“xx” S
Half Astern:		Minimum Steering Speed	“xx” Kts
Full Astern:		Astern Power:	“xx” % ahead

STEERING

No. of Propellers:	“xxxx”	Direction of Turn:	“xxxx”	Propeller Arrangement:	“xxxxxx”
Type of Rudder	“xxxx”	Maximum Angle	“xxx” °	Rudder angle for neutral effect	“xxx” °
Hard over to Hard over	“xxx” s	Bow Thruster Power	“xxx” Kw	Stern Thruster Power	“xxx” Kw

EQUIPMENT CHECKED

Anchors:	“Yes/No”	Compasses:	“Yes/No”	Constant Gyro Error:	“xxx” °
Speed Log:	“Yes/No”	Echo Sounder:	“Yes/No”	GNSS:	“Yes/No”
ECDIS:	“Yes/No”	X-Band Radar:	“Yes/No”	S-Band Radar:	“Yes/No”
VHF (and UHF):	“Yes/No”	Steering Gear:	“Yes/No”	Engine Telegraphs:	“Yes/No”
Rudder/rpm/ROT Indicators:	“Yes/No”	Mooring Winches:	“Yes/No”	Light and Sound Signals:	“Yes/No”

ADDITIONAL INFORMATION

“e.g. equipment defects, antenna blind sectors, mooring arrangements, additional passage plan information “

Masters Signature and Date:

Maritime & Coastguard Agency

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Appendix 2 - Recommended Information to be Included in the Manoeuvring Booklet

1. General Description

1.1 Ship’s particulars

1.1.1 General

- Ship’s name, distinctive number or letters, year of build

1.1.2 Gross tonnage and other information.

- Gross tonnage, dead-weight and displacement (at summer draught)

1.1.3 Principal dimensions and coefficients.

- Length overall, length between perpendiculars, breadth (moulded), depth (moulded), summer draught, normal ballast draught, hull coefficients at summer load and normal ballast condition
- Extreme height of the ship’s structure above the keel

1.1.4 Main engine.

- Type, number of units and power output

1.1.5 Propeller.

- Type, number of units, diameter, pitch, direction of rotation, propeller immersion

1.1.6 Rudder.

- Type, number of units, total rudder area, rudder area ratio (full load and normal ballast)

1.1.7 Bow and stern thrusters.

- Type, number of units, capacities and location

1.1.8 Bow and stern profiles.

1.1.9 Forward and after blind zones with dimensions specified (full load and normal ballast).

1.1.10 Other hull particulars.

- Projected areas of longitudinal and lateral above-water profiles (full load and normal ballast)
- Length of parallel middle body for berthing (full load and normal ballast)

1.2 Characteristics of main engine

1.2.1 Manoeuvring speed tables.

- trial or estimated, at the full load and ballast conditions
- Engine revolutions, ship speed and thrust (at ahead) corresponding to engine orders

1.2.2 Critical revolutions.

1.2.3 Time for effecting changes in engine telegraph settings as in 3.1.2 for both routine and emergency conditions.

1.2.4 Tune limit astern.

1.2.5 Minimum operating revolutions (for diesel engines) and corresponding ship speed.

1.2.6 Maximum number of consecutive starts (for diesel engines).

2. Manoeuvring Characteristics in Deep Water

2.1 Course change performance

2.1.1 Initial turning test results (trial or estimated at the full load and ballast conditions), test conditions, diagrams of heading angle versus time and ship’s track.

2.1.2 Course change test results (trial or estimated, at full load and ballast conditions) Curves of course change distance and point of initiation of counter rudder for the necessary course change angle (for both full load and ballast conditions).

2.2 Turning circles in deep water (trial or estimated, at the full load and ballast conditions)

2.2.1 Turning circle test results

- Test conditions, test results (advance and transfer) and turning track at full sea speed ahead

2.2.1.1 Turning circles in both full load and ballast conditions (stern track should be shown).

2.2.1.2 The data presented should refer to the case of starboard turn only (unless there is significant difference for port turn).

2.2.1.3 The initial speed of the ship should be full sea speed ahead.

2.2.1.4 Times and speeds at 90°, 180°, 270° and 360° turning should be specifically shown together with an outline of the ship.

2.2.1.5 The rudder angle used in the test should be the maximum rudder angle.

2.3 Accelerating turn (trial or estimated)

2.3.1 Data are to be presented for both full load and ballast conditions in the same manner as 2.2 for turning circles. The ship accelerates from rest with the engine full manoeuvring speed ahead and the maximum rudder angle.

2.4 Yaw checking tests (trial or estimated)

2.4.1 Results of the zigzag and pull-out manoeuvre tests at the full load or ballast condition shown as diagrams of the heading changes and rudder angle.

2.5 Man-overboard and parallel course manoeuvres

2.5.1 Man-overboard manoeuvre (trial).

- Diagrams for cases of both starboard and port turns should be shown for both full load and ballast conditions

2.5.2 Parallel course manoeuvre (estimated).

- Diagrams showing lateral shift to a parallel course using maximum rudder angle

2.6 Lateral thruster capabilities (trial or estimated)

2.6.1 Diagrams of turning performance at zero forward speed in the full load or ballast condition should be shown, for bow and stern thrusters acting separately and in combination.

2.6.2 Diagrams showing the effect of forward speed on turning performance should be included.

2.6.3 Information on the effect of wind on turning performance should be given.

3. Stopping and Speed Control Characteristics in Deep Water

3.1 Stopping ability

3.1.1 Stopping test results (trial).

- Test conditions, ship’s tracks, rpm, speed, track reach, head reach and side reach
- Two or more tests should be carried out including a test of full astern from full sea speed ahead and a test of full astern from full ahead speed.

3.1.2 Stopping ability (estimated)

Information and diagrams should be given of the track reach, head reach, side reach, time required and track reach deceleration factor (distance/one knot

reduction) of a ship in both full load and ballast conditions covering the following modes of stopping manoeuvres:

- full astern from full sea speed ahead
- full astern from full ahead speed
- full astern from half ahead speed
- full astern from slow ahead speed
- stop engine from full sea speed ahead
- stop engine from full ahead speed
- stop engine from half ahead
- speed stop engine from slow ahead speed

3.2 Deceleration performance (estimated)

3.2.1 Deceleration ability (estimated).

Information and diagrams should be given concerning the track reach, time required and deceleration factor of the ship in both full load and ballast conditions for the following engine orders:

- full sea speed to “stand by engines”
- full ahead to half ahead
- half ahead to slow ahead
- slow ahead to dead slow ahead

3.3 Acceleration performance (estimated)

3.3.1 Information and diagrams should be given for track reach and time for the ship to achieve full sea speed ahead, from zero speed.

4. Manoeuvring Characteristics in Shallow Water

4.1 Turning circle in shallow water (estimated)

4.1.1 Turning circle in the full load condition (stern track to be shown).

4.1.2 The initial speed of the ship should be half ahead.

4.1.3 Times and speeds at 90°, 180°, 270° and 360° turning should be specifically shown, together with an outline of the ship.

4.1.4 The rudder angle should be the maximum and the water depth to draught ratio should be 1.2.

4.2 Squat (estimated)

4.2.1 Curves should be drawn for shallow water and infinite width of channel, indicating the maximum squat versus ship speed for various water depth/draught ratios.

4.2.2 Curves should be drawn for shallow and confined water, indicating the maximum squat versus speed for different blockage factors.

5. Manoeuvring Characteristics in Wind

5.1 Wind forces and moments (estimated)

5.1.1 Information should be given on the wind forces and moments acting on the ship for different relative wind speeds and directions in both full load and ballast conditions, to assist in berthing.

5.2 Course-keeping-limitation (estimated)

5.2.1 Information should be given for both full load and ballast conditions, showing the effect of wind on the ability of the ship to maintain its course.

5.3 Drifting under wind influence (estimated)

5.3.1 Information should be given on the drifting behaviour under wind influence with no engine power available.

6. Manoeuvring Characteristics at Low Speed (Trail or Estimated)

6.1 Information on the minimum operating revolutions of the main engine and corresponding ship's speed should be given.

6.2 Information on the minimum speed at which the ship can maintain course while still making headway after stopping engines.

7. Additional Information

7.1 Any other relevant additional information should be added to the contents of the booklet, particularly information concerned with the operation of the bridge manoeuvring controls.

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