

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO.** M-1-2A

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** Latitude by Ex-Meridian (Sun)

**PERFORMANCE CONDITION:** On a ship underway, with the sun and the horizon visible, and at least three minutes before or three minutes after the time of meridian passage over the meridian of the observer.

**PERFORMANCE BEHAVIOR:** Measure the altitude of the sun and calculate the latitude of the ship at meridian passage using the ex-meridian observation.

**PERFORMANCE STANDARD:**

The latitude calculated at meridian passage is within  $\pm .1$  nm of the assessor's position.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO. M-1-2B**

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** Latitude by Meridian Transit (Other Than Sun)

**PERFORMANCE CONDITION:** On a ship underway, with a celestial body other than the sun at upper transit and a clear horizon.

**PERFORMANCE BEHAVIOR:** Measure the altitude of the body as it crosses the meridian of the observer and calculate the latitude of the ship.

**PERFORMANCE STANDARD:**

The latitude calculated at meridian passage is within  $\pm .1$  nm of the assessor's position.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
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Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO.** M-1-2C

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** Star Identification

**PERFORMANCE CONDITION:** On a ship underway or in a navigational laboratory, given the times of observation, altitudes and azimuths of three unknown stars.

**PERFORMANCE BEHAVIOR:** Identify the three stars.

**PERFORMANCE STANDARD:**

Within 20 minutes, the stars are correctly identified.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
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**Control Sheet**

**ASSESSMENT NO. M-1-2D**

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** Star Selection

**PERFORMANCE CONDITION:** On a ship underway or in a navigational laboratory, given the times of observation.

**PERFORMANCE BEHAVIOR:** Identify the best three stars or planets to obtain a fix.

**PERFORMANCE STANDARD:**

Within 20 minutes, the candidates selected three stars which:

1. Are the three brightest; and,
2. Have the greatest crossing angles between each other.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
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**Control Sheet**

**ASSESSMENT NO.** M-1-2E

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** LOP From High Altitude Sight

**PERFORMANCE CONDITION:** On a ship underway or in a navigational laboratory, given the time of observation and measurement of a body at a high altitude.

**PERFORMANCE BEHAVIOR:** Plot the line of position of the ship at the time of the observation.

**PERFORMANCE STANDARD:**

1. Within 20 minutes, the intercept and azimuth is correctly determined; and,
2. The LOP is plotted within 2 miles of the ship's position at the time of the observation as determined by the GPS or other equally accurate means.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO.** M-1-2F

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determination by celestial observation

**TASK:** Celestial Fix

**PERFORMANCE CONDITION:** On a ship underway or in a navigational laboratory, given at least four intercepts and azimuths obtained from celestial sight reductions, and the times and assumed positions for each.

**PERFORMANCE BEHAVIOR:** Plot the ship's position at the time of the last observation.

**PERFORMANCE STANDARD:**

1. The position is plotted within 12 minutes; and,
2. The position is within  $\pm .1$  nm of the assessor's position.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
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**Control Sheet**

**ASSESSMENT NO. M-1-3A**

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine position and the accuracy of resultant position fix by any means

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Position determined by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix.

**TASK:** Position Fix by Terrestrial Bearings

**PERFORMANCE CONDITION:** On a ship underway, or a full mission ship simulator, with land and aids to navigation in sight, using a standard bearing circle, alidade, or other device for taking bearings, and given a chart with a scale of no more than 1: 150,000.

**PERFORMANCE BEHAVIOR:** Determine the bearings of at least two charted objects and plot them on the chart in use.

**PERFORMANCE STANDARD:**

1. The position is within  $\pm .1$  nm of the assessor's position.
2. Crossing angles of bearings should be not less than  $30^\circ$  and not more than  $160^\circ$  between bearings.
3. The bearings of objects abeam or close to the beam are observed first.
4. The chart in use is the largest scale suitable for the waters being transited.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO.** M-2-1B

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Determine and allow for compass errors

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Ability to determine and allow for errors of the magnetic and gyro compasses

**TASK:** Construct a deviation table

**PERFORMANCE CONDITION:** On a ship underway or a full mission ship simulator, using navigational or natural terrestrial ranges, using only a magnetic compass, and a chart with variation.

**PERFORMANCE BEHAVIOR:** Construct a Deviation Table

**PERFORMANCE STANDARD:**

1. The candidate will swing the ship to a cardinal heading by the magnetic compass and compare the magnetic heading to the charted range or bearing;
2. The magnetic compass error is determined and properly labeled.
3. Variation is determined from the chart.
4. The deviation solution is  $\pm .5^\circ$  of the assessor's solution.
5. The deviation is correctly recorded in the compass record book and the ship's log.
6. The process is repeated every 15 degrees to the next cardinal heading by magnetic compass.
7. A deviation table is constructed for the  $90^\circ$  compass segment.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

Mariner	SSN No.	Date
Assessor (sign and print name)	License No.	MMD No.
Position	Vessel or Training Course	



**TABLE A-II/2 Performance Standards for Assessments of Competence  
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**Control Sheet**

**ASSESSMENT NO.** M-6-3A

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Forecast weather and oceanographic conditions

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Ability to calculate tidal conditions.

**TASK:** Calculate Height of Tide

**PERFORMANCE CONDITION:** On a ship underway or in a navigation laboratory, given a zone time at a subordinate location.

**PERFORMANCE BEHAVIOR:** Correctly calculate the height of the tide.

**PERFORMANCE STANDARD:**

The height of the tide for the designated time is correctly determined.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO. M-6-3B**

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Forecast weather and oceanographic conditions

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Ability to calculate tidal conditions.

**TASK:** Calculate Tidal Current

**PERFORMANCE CONDITION:** On a ship underway or in a navigation laboratory, given a zone time at a subordinate location.

**PERFORMANCE BEHAVIOR:** Correctly calculate the current.

**PERFORMANCE STANDARD:**

The current for the designated time is correctly determined.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	

**TABLE A-II/2 Performance Standards for Assessments of Competence  
Masters and Chief Mates on Ships of 3000 Gross Tonnage or More (ITC)**

**Control Sheet**

**ASSESSMENT NO.** M-6-3C

**FUNCTION:** Navigation at the Management Level

**COMPETENCE:** Forecast weather and oceanographic conditions

**KNOWLEDGE, UNDERSTANDING & PROFICIENCY:** Ability to calculate tidal conditions.

**TASK:** Calculate Time of Height of Tide

**PERFORMANCE CONDITION:** On a ship underway or in a navigation laboratory, given a zone time at a subordinate location.

**PERFORMANCE BEHAVIOR:** Correctly calculate the time of the height of the tide.

**PERFORMANCE STANDARD:**

The time of a designated height of the tide is correctly determined.

A ship's officer who signs below attests that he/she has met the requirements to qualify as a shipboard assessor.

_____	_____	_____
Mariner	SSN No.	Date
_____	_____	_____
Assessor (sign and print name)	License No.	MMD No.
_____	_____	
Position	Vessel or Training Course	