

	Test Case	TC58 Select and show GL polar	
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Belongs to Plan(s): TP5 dashboard_tactics...

Belongs to Suite(s): TS21 NMEA simulator ...

Case Type: Functionality

Label(s): windows linux

Test Quality:  **EXCELLENT** Defects Closed Fixed

Assign To:  Petri Makijarvi

Case Priority: Medium

Estimate: 60


Is Automated


Precondition

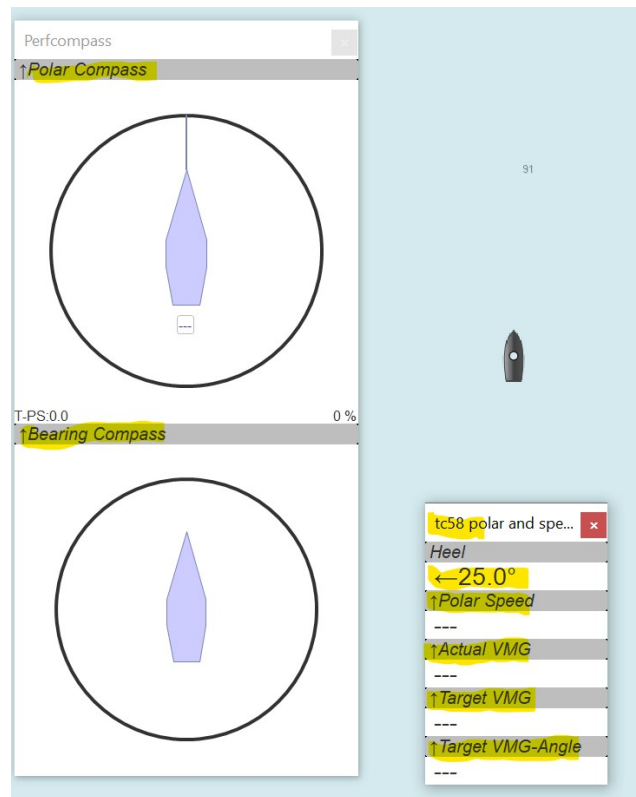
It is recommended but not mandatory to execute the tests in the test suite without polars because the starting point of the execution of this test is the settings with the current for Leeway, see TC54. Therefore, it is recommended not to dismantle the previous test bed. In this test we use NMEA simulator <http://www.kave.fi/Apps/> to create and control speed on water, it is also to make the apparent wind consistent with the heel (in this, proforma). It will be used also to provide SOG and COG needed in calculations. The NMEA Simulator not sending XDR-sentences for heel, they are generated with NMEA Converter plugin. The test polar file is coming from the examples of weather_routing_pi plugin, but it is not needed to activate that plugin or even install it, the polar file used is here, as attachment:


Example-15-30.pol

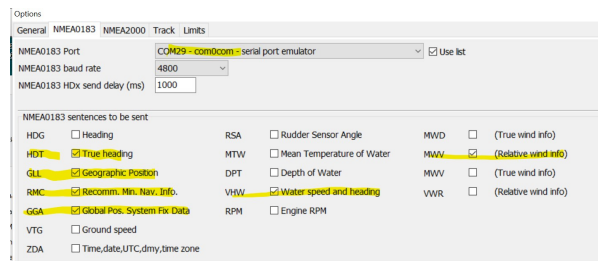
Steps


Click "Tab" or "Shift + Tab" to navigate grid 

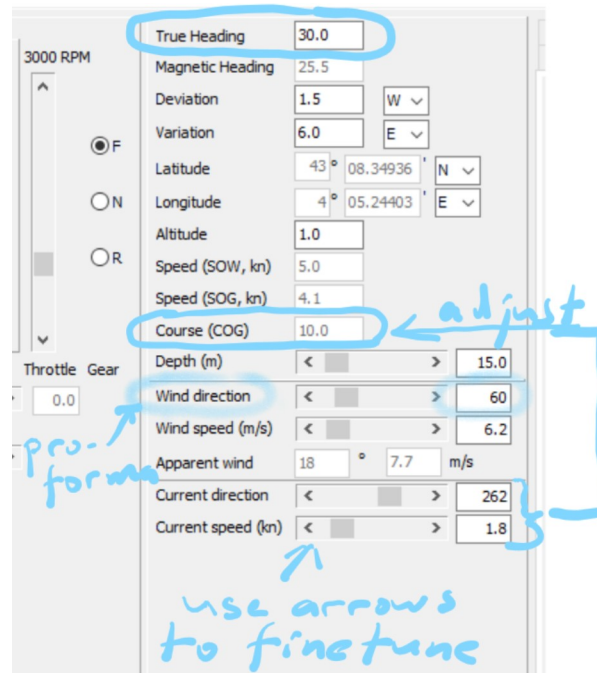
- 1  Arrange the instruments needed for this test as depicted in the below picture. Arrange the boat heel as before, with NMEA Converter generated sentences to 25 degrees to port side, as illustrated:



- 2  This is a reminder of the NMEA sentences which should come from the NMEA Simulator



- 3  The settings of the NMEA simulator are the same as in the current / Leeway test:




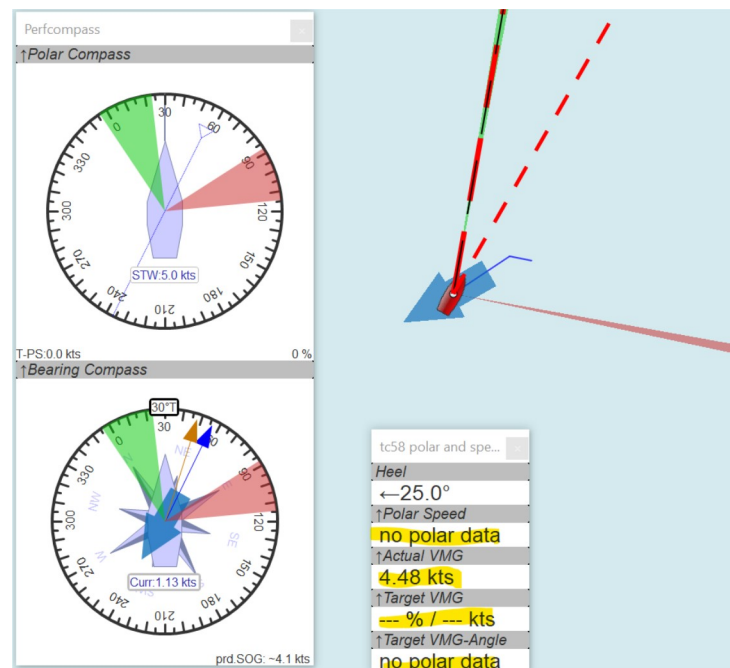
The screenshot shows the NMEA simulator settings interface. Handwritten blue annotations include:

- A bracket labeled "adjust" pointing to the "True Heading" (30.0), "Course (COG)" (10.0), "Wind direction" (60), "Wind speed (m/s)" (6.2), "Current direction" (262), and "Current speed (kn)" (1.8) fields.
- An arrow labeled "pro-forma" pointing to the "Wind direction" field.
- An arrow labeled "use arrows to finetune" pointing to the left and right arrow controls for "Wind direction", "Wind speed (m/s)", "Current direction", and "Current speed (kn)".

Parameter	Value
True Heading	30.0
Magnetic Heading	25.5
Deviation	1.5 W
Variation	6.0 E
Latitude	43° 08.34936 N
Longitude	4° 05.24403 E
Altitude	1.0
Speed (SOW, kn)	5.0
Speed (SOG, kn)	4.1
Course (COG)	10.0
Depth (m)	15.0
Wind direction	60
Wind speed (m/s)	6.2
Apparent wind	18 ° 7.7 m/s
Current direction	262
Current speed (kn)	1.8



- 4  The result without a polar file:





- 5  Load the polar file (see prerequisites) (user name based path vary): 

Polar - NOTE: ⚠Tactics instruments need your boat's polars!

Polar file: C:\Users\Petri\opencpn\Testplan\ts_polaires\Example-15-30.pol



☒ Show Polar on Chart (OpenGL)

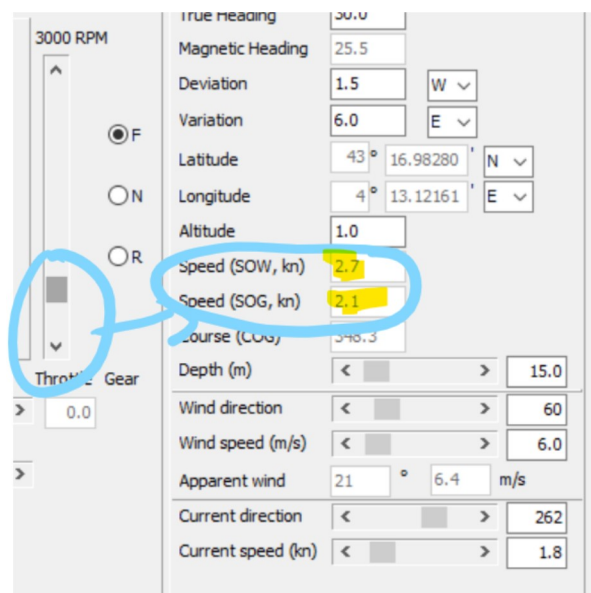


- 6  Close the OpenCPN application, wait until it is completely closed and edit the opencpn.ini or cnf-file. Search for the Example-15-30.pol and add manually an output file for the resulting lookup-table file, like this (again, adapt the user name based path): 

```
[PlugIns/Dashboard/Tactics/Performance]
PolarFile=C:\\Users\\Petri\\opencpn\\Testplan\\ts_polaires\\Example-15-30.pol
PolarLookupTableOutputFile=C:\\Users\\Petri\\opencpn\\Testplan\\ts_polaires\\Example-15-30-out.txt
```



- 7  In the NMEA Simulator reduce the speed, this polar is not for a racing boat but for a Sherman tank! 



3000 RPM


☒ F
☐ N
☐ R

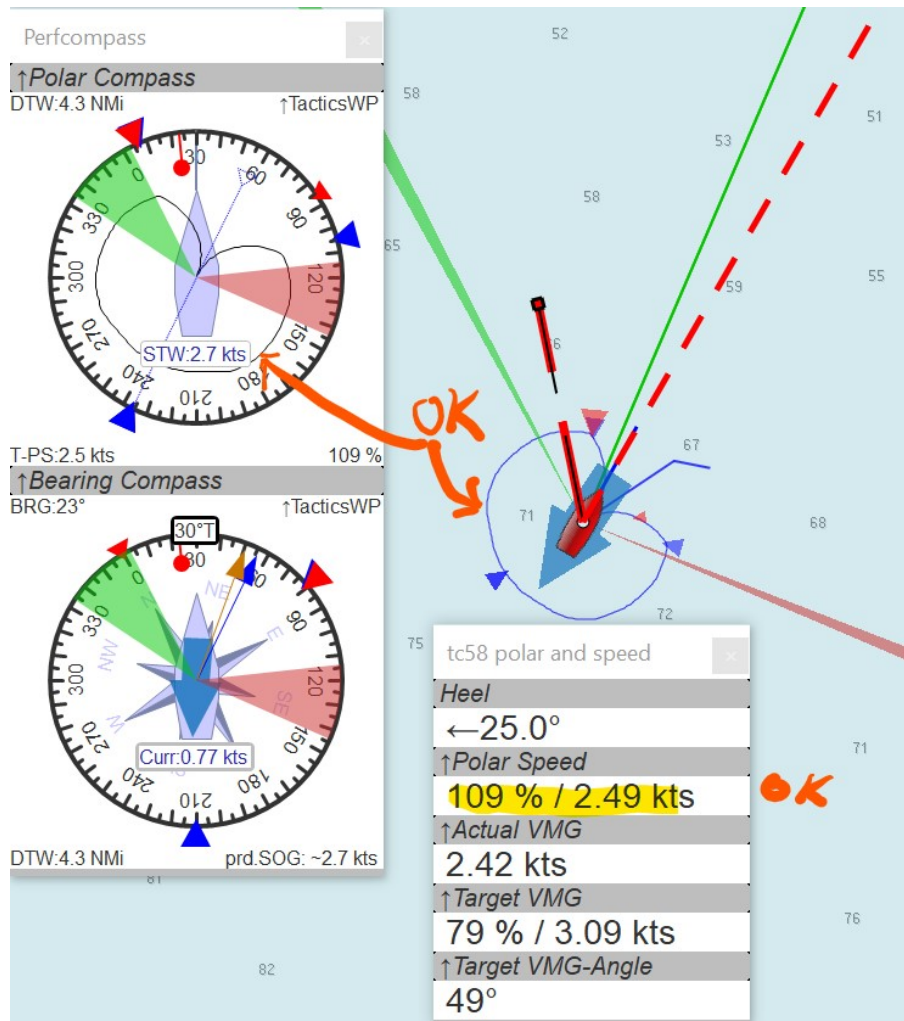
Throttle Gear

0.0


True heading	30.0
Magnetic Heading	25.5
Deviation	1.5 W
Variation	6.0 E
Latitude	43° 16.98280' N
Longitude	4° 13.12161' E
Altitude	1.0
Speed (SOW, kn)	2.7
Speed (SOG, kn)	2.1
Course (COG)	348.3
Depth (m)	15.0
Wind direction	60
Wind speed (m/s)	6.0
Apparent wind	21° 6.4 m/s
Current direction	262
Current speed (kn)	1.8



- 8  Start the OpenCPN application and, with the previous setup, **add a Tactics WP (waypoint)** to get a bearing value. The resulting output should contain the following components, polar illustrated on polar compass and on the chart, indicated Polar speed (percentage and value), Actual VMG, Target VMG (percentage and value) and Target VMG-Angle:



 PASS or FAIL

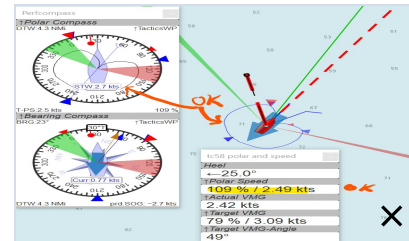
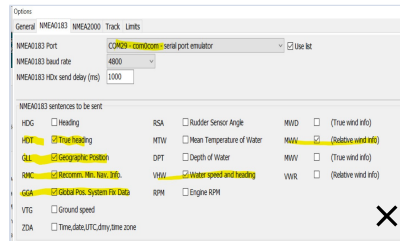
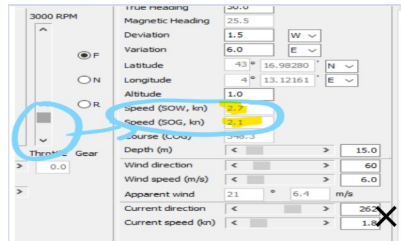
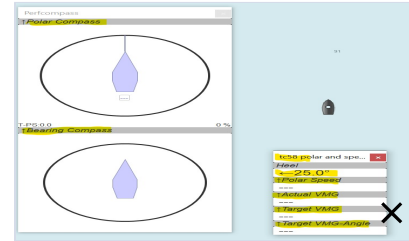
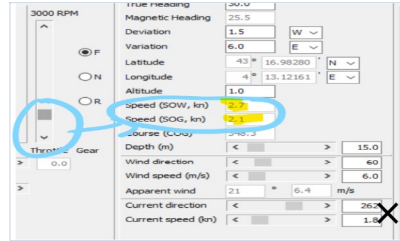
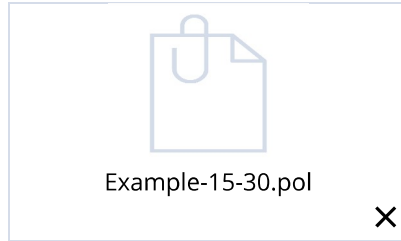
- 9  Close the OpenCPN application and verify that it has created the twa/tws lookup table so that it has averaged all values within the range both for TWA and for TWS, like in this reference output:

Example-15-30-out.csv













 Add Step

Attachments



« < 1 2 > »

Add Attachments

RESULTS	DEFECTS	REQUIREMENTS			
Status	Test Plan Run	Assigned To	Updated At↑	Actions	
✓ Pass	TPR43 dashboard_tactics_pi_...	 Petri Makijarvi	about a year ago		
▶ Skip	TPR44 dashboard_tactics_pi_...	 Petri Makijarvi	about a year ago		
▶ Skip	TPR47 dashboard_tactics_pi_...	 Petri Makijarvi	about a year ago		
↻ Pending	TPR81 dashboard_tactics_pi_...	 Petri Makijarvi	about a year ago		
↻ Pending	TPR82 Signal K HDG sentenc...	 Petri Makijarvi	about a year ago		
<div><div>«</div><div><</div><div>1</div><div>2</div><div>3</div><div>></div><div>»</div></div>					

ACTIVITY	HISTORY	COMMENTS
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