



Test Case

TC47 Test TW calc with STW

**Belongs to Suite(s):** TS18 NMEA simulator ...**Case Type:** Functionality**Label(s):** windows**Test Quality:** 😊 **EXCELLENT** Defects Closed Fixed**Assign To:**  Petri Makijarvi**Case Priority:** Medium**Estimate:** 15**Is Automated**

Precondition

There shall be a NMEA simulator on which the sentences VHW for STW, MWV for AWS and AWA, HDG for HDT shall be fully controlled to be static and not moving in any way. (In this test case NMEA Simulator <http://www.kave.fi/Apps/> is used - there are few steps which are specific to its version, if new versions or other products exists, or other simulator is used, one can skip those steps without a record other than for instruction for the future tests).

At the end of test we make a conversion sanity check using true wind converter and vector visualization application <http://www.starpath.com/freeware/truewind-setup.exe> - on other platforms similar on-line services can be used.


Steps

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

- 1  Set up the com0com port for the simulator as follows 

```
command> install PortName=COM29 PortName=COM30
          CNCA1 PortName=COM29
          CNCB1 PortName=COM30
ComDB: COM29 - logged as "in use"
ComDB: COM30 - logged as "in use"
command>
```



- 2  Set the OpenCPN to receive data from COM30:



Configure new connection

☒ Serial ☐ Network

DataPort: COM30 Baudrate: 4800

Protocol: NMEA 0183 Priority: 1

User Comment: Testing with emulator



- 3  Set the NMEA Emulator to send to the port COM29:



Options

General NMEA0183 NMEA2000 Track Limits


NMEA0183 Port: COM29 ☒ Use list

NMEA0183 baud rate: 4800

NMEA0183 HDx send delay (ms): 1000

NMEA0183 sentences to be sent:



- 4  Prepare the NMEA debug window in OpenCPN and use filters for the aforementioned sentences - either disable or otherwise make sure that there are not other data coming in:



Options

Display Charts Connect Ships User Interface Plugins

☒ Show NMEA Debug Window

☐ Format outputs for Furuno DP1X

☐ Use Garmin GPRM (Hart) mode for uploads

☐ Use magnetic bearings in output sentence SCAB

Data Connections

name	type	direction	protocol	serial port	baudrate	priority
Serial	Input	NMEA 0183	COM30	4800	1	
Serial	Input	NMEA 0183	COM30	4800	1	

Comment: Testing with emulator


Filter

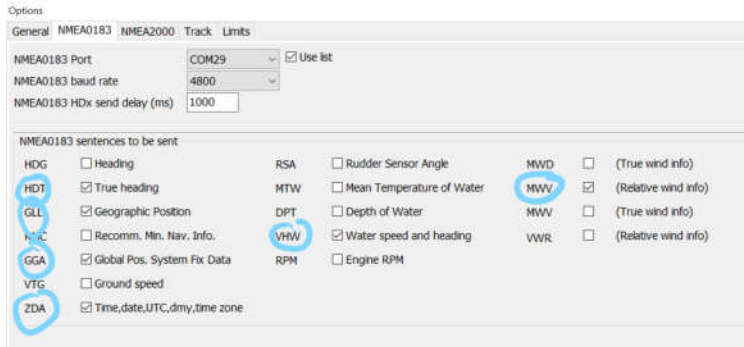
Legend


Message accepted

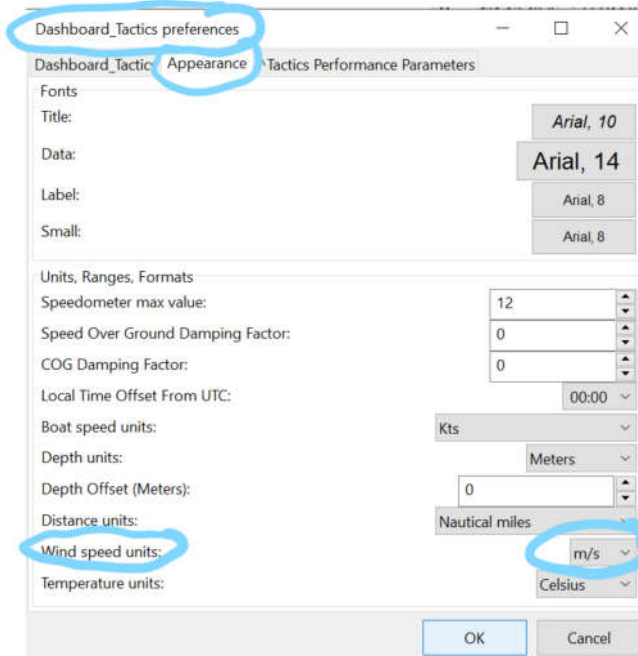
Pause




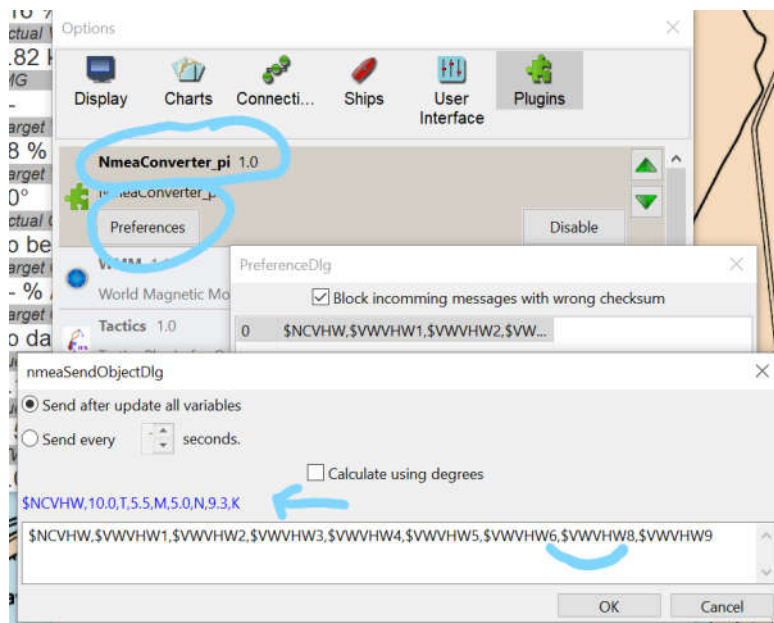
- 5  Select the sentences to be sent out in NMEA emulator:




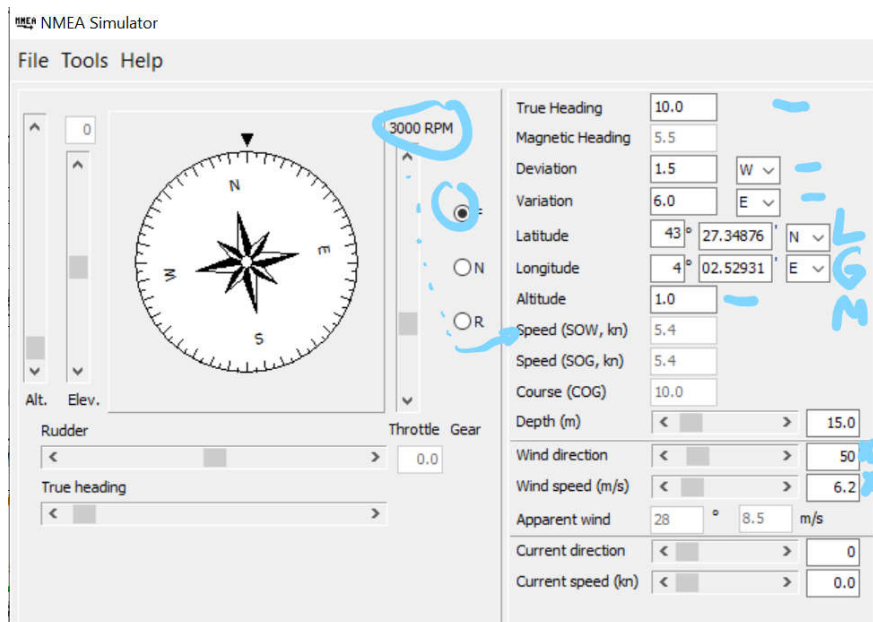
- 6  In Dashboard, select the speed value to m/s since it is used NMEA Simulator, this facilitates the test but is not mandatory.




- 7  This step is optional to compensate a bug in NMEA emulator's output of VHW sentence, extra comma makes checksum to fail (version March 2019 concerned). We use NMEAConverted plugin as follows to skip the extra comma:



- 8  Prepare the NMEA emulator to send the values which you can select freely but here's an example. Note that you need some throttle (despite the wind!) to make the boat to move. Do NOT start the "run" yet (no sentences out).




- 9  Prepare the Tactics module to calculate silently the true wind using AWS, AWA, HDT and STW. This means, no options selected here:

True Wind

<input type="checkbox"/> Correct STW with Leeway	<input type="checkbox"/> Correct AWS/AWA with Heel
<input type="checkbox"/> Force True Wind Calculation	<input type="checkbox"/> Use SOG instead of STW for True Wind Calc
<input type="checkbox"/> Show Wind Barb on Chart (OpenGL)	




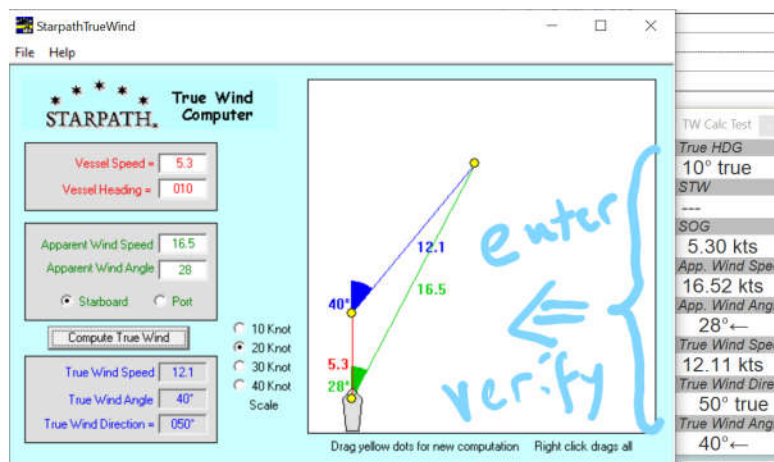
- 10  Prepare a dedicated dashboard like this (it will be used in the next test case also), start the "run" on NMEA emulator and observe that you get the same values as indicated by the NMEA emulator **and** the NMEA sentences :

TW Calc Test

True HDG	10° true
STW	5.00 kts
SOG	---
App. Wind Speed	8.30 m/s
App. Wind Angle	29°<
True Wind Speed	6.17 m/s
True Wind Direc	50° true

 PASS or FAIL

- 11  Convert the result to knots and make an inverse sanity check using an external tool (or your calculator - which will increase the test time).



 PASS or FAIL

12

Remove VHW sentence from the NMEA Simulator sent sentences. Verify that after 10 seconds, the STW and the true wind values indicate that that the STW has disappeared.

PASS or FAIL

Add Step

RESULTS	DEFECTS	REQUIREMENTS		
Status	Test Plan Run	Assigned To	Updated At↑	Actions
Pending	TPR87 dashboard_tactics_pi_pl...	Petri Makijarvi	3 days ago	
Skip	TPR85 dashboard_tactics_pi_st...	Petri Makijarvi	about a month ago	
Pending	TPR84 dashboard_tactics_pi_st...	Petri Makijarvi	2 months ago	
Pending	TPR83 dashboard_tactics_pi_si...	Petri Makijarvi	2 months ago	
Pending	TPR82 Signal K HDG sentence t...	Petri Makijarvi	2 months ago	
<div><div>«</div><div><</div><div>1</div><div>2</div><div>3</div><div>4</div><div>></div><div>»</div></div>				

ACTIVITY	HISTORY	COMMENTS			
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