

1 Mixed Metric DST Table™

Corrects for ICW Mixed Metrics (Knots and Statute Miles)

Distance (Statute Miles)

Nautical miles (converted from statute miles) = knots x hh:mm

$$D = S \times T$$

Distance = Speed x Time

Speed (Knots)	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
4	00:13	00:20	00:26	00:33	00:39	00:46	00:52	00:59	01:05	01:12	01:18	01:25	01:31	01:38	01:44	01:51	01:57	02:04	02:10
6	00:09	00:13	00:17	00:22	00:26	00:30	00:35	00:39	00:43	00:48	00:52	00:56	01:01	01:05	01:10	01:14	01:18	01:23	01:27
8	00:07	00:10	00:13	00:16	00:20	00:23	00:26	00:29	00:33	00:36	00:39	00:42	00:46	00:49	00:52	00:55	00:58	01:02	01:05
10	00:05	00:08	00:10	00:13	00:16	00:18	00:21	00:23	00:26	00:29	00:31	00:34	00:36	00:39	00:42	00:44	00:47	00:50	00:52
12	00:04	00:07	00:09	00:11	00:13	00:15	00:17	00:20	00:22	00:24	00:26	00:28	00:30	00:33	00:35	00:37	00:39	00:41	00:43
14	00:04	00:06	00:07	00:09	00:11	00:13	00:15	00:17	00:19	00:20	00:22	00:24	00:26	00:28	00:30	00:32	00:34	00:35	00:37
16	00:03	00:05	00:07	00:08	00:10	00:11	00:13	00:15	00:16	00:18	00:20	00:21	00:23	00:24	00:26	00:28	00:29	00:31	00:33
18	00:03	00:04	00:06	00:07	00:09	00:10	00:12	00:13	00:14	00:16	00:17	00:19	00:20	00:22	00:23	00:25	00:26	00:28	00:29
20	00:03	00:04	00:05	00:07	00:08	00:09	00:10	00:12	00:13	00:14	00:16	00:17	00:18	00:20	00:21	00:22	00:23	00:25	00:26

Example One:
A restricted bridge is 8.5 STM ahead and opens in 55 minutes. You want to catch the opening but you've slowed down to enjoy the scenery and don't want to speed up needlessly only to idle in front of the bridge. Solution: adjust RPMs for 8.0 knots SOG to time the opening perfectly.

Example Two:
You regularly motor at several fixed RPM. You know (and GPS confirms) that 3000 RPM averages 10 knots. The Great Bridge Lock is 7 STM ahead and closes in 30 minutes. Solution: SOG must be 12 knots or higher to make this locking. Either increase RPM or consider stopping in Great Bridge for a stroll.

Example Three:
Averaging 16 knots over the day, at 1400 hrs you've decided it's time to get off this ride! A recommended marina is 14 STM ahead. With no restricted bridges, security zones, or other hindrances, how long until tie-up? Solution: doubling the time in the 16 Knot/7.0 STM cell gives you an ETA of 46 minutes.

1 Correcting for Mixed Metrics

Use this table to determine boat speed to make a bridge opening, or estimate time to an anchorage, or ICW distances traveled at a given boat speed over a length of time.

2 Example One

A restricted bridge is 8.5 statute miles ahead and opens in 55 minutes. Should you speed up to make the opening or slow down to avoid idling at the bridge?

3 First Step

Choose the distance column: 8.5 statute miles.

4 Second Step

The bridge opens in 55 minutes. Scan down the 8.5 column to find a time 55 minutes or less in order to make the opening.

5 Final Step

Read across the row to the speed in knots. To time this bridge opening, you need an average speed over the ground (SOG) of 8 knots.

MAKING THE MATH EASY!

The old distance-speed-time problem may seem trivial, until you remember the ICW is measured in statute miles and your vessel's speed is displayed in nautical miles per hour (knots). It's like driving a car in Canada where distances are displayed in kilometers and your speedometer reads in miles per hour. In either case, you have a mixed metric problem.

Before you shrug off mixed metrics, remember the Mars Climate Orbiter was lost because engineers forgot to convert miles to kilometers! If you fail to adjust for mixed metrics, you won't lose a space ship, but you may misestimate arrival times at restricted bridges. It's no fun to arrive at the Ben Sawyer Bridge, just north of Charleston, three minutes after the start of their two-hour evening restriction.

1 Look Overhead

The sky's zenith is directly over your head. Look to the horizon labels for North and South orientation.

2 Primary References

Look for the primary constellations and references highlighted in the vignette. The size of the star icon corresponds to its magnitude or brightness. We use three sizes: very bright, typically visible away from light pollution, and difficult to see even in dark anchorages.

3 Secondary References

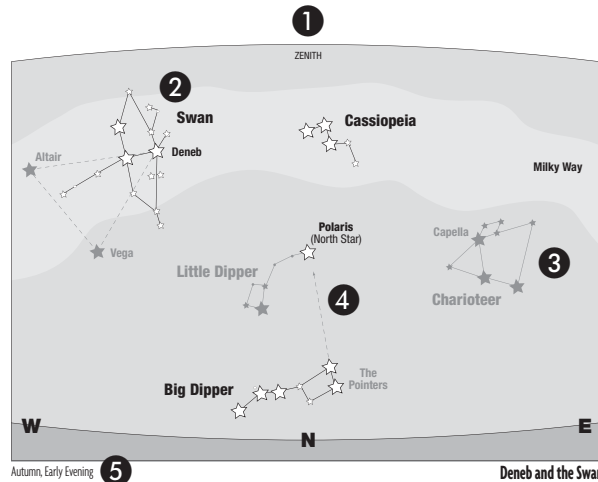
Ghosted references are not described in the vignette, but are easily visible or are mentioned in another vignette. Not all visible stars are shown!

4 Pointers and Helpers

Dashed lines lead you from star to star to help navigate the sky.

5 Season and Time

As an example, look for this night sky in autumn, in the early evening.



AUTUMN AND SPRING CONSTELLATIONS

Mariners love stars, even if they can't always locate Arcturus or Sirius. And stars and mariners go back a long way.

We include eight astronomy INTERPRETIVE VIGNETTES, introducing you to the stories behind some bright constellations and stars, such as the Dragon, Deneb and the Swan, Regulus and the Lion, Andromeda, Pegasus, Scorpio, and the Pleiades. Learn about precession and look for the Great Nebula, the farthest object visible to the naked eye.

Each INTERPRETIVE VIGNETTE includes a STAR CHART, helping you locate major spring and fall stars as you transit the ICW.