



Leeway

Every vessel makes leeway - the sideways motion of the vessel due to the force of waves or wind. It may become noticeable when maneuvering in tight quarters or when on a passage. Leeway is estimated and is usually expressed as an angle in degrees . Leeway will vary based on:

- the condition and type of the vessel - the keel configuration, the vessel windage
- the helmsman's steering capability
- tendency to carry too much or too little sail
- the relationship of wind and waves to course steered
- the point of sail.

Boats with lots of windage and a small or inefficient keel will develop the most leeway. Motor vessels with little draft experience excessive leeway at low speeds. Beamy, relatively shoal draft vessels will experience more leeway. Stronger winds usually mean more leeway. Boats with a fine entry and narrow hull will tend to experience less leeway. Being over canvassed or poorly trimmed can increase leeway. In some cases when sailing to windward leeway is exacerbated by large waves that tend to abruptly stop a vessels progress. In these conditions it may be advantageous to bear away from the wave train to develop more propulsive power and ride over waves. Vessels sailing close to the wind (close hauled, close reach) will experience more leeway than vessels sailing downwind (broad reach, run). With the wind abaft of the beam, leeway should be negligible - little or no leeway should be expected sailing downwind in moderate conditions. Leeway can be estimated by taking a bearing on the vessel wake or on a towed line. The difference between the direction measured and a line projected astern through the centerline of the vessel represents leeway.

If the **wind or waves are from the Port side**, then the leeway will be to starboard and will cause the course made good to be greater than the vessel heading for example with a South wind and a boat heading due west (275°) with a leeway of 7° the course made good is $275^{\circ} + 7^{\circ} = 282^{\circ}$.
If the **wind or waves are from the Starboard side**, then the leeway will be to starboard and will cause the course made good to be less than the vessel heading for example with a North wind and a boat heading due west (275°) with a leeway of 7° the course made good is $275^{\circ} - 7^{\circ} = 268^{\circ}$.

Leeway adjustment

A Leeway adjustment to determine a course that will counteract the effect is applied to the vessel heading as the final adjustment. You may need to draw a diagram showing the leeway force and providing a visual clue as to the direction of the needed course change. Always move the course in the direction of the source of the force.

If **wind or waves are from the Port side**, then to adjust the course - **SUBTRACT the leeway** from the course to steer to get a course compensated for leeway (course made good).

If **wind or waves are from the Starboard side**, then to adjust the course - **ADD the leeway** to the course to steer to get a course compensated for leeway (course made good).