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SHIP SAFETY BULLETIN

Bulletin No.: 16/2020
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Subject: **Hazards and Risks of Girding During Towing Operations**

This bulletin replaces Ship Safety Bulletin No. 13/1994

Purpose

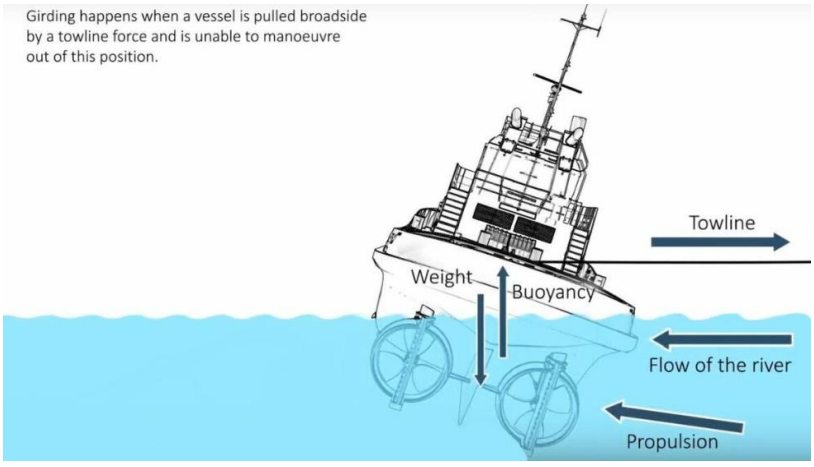
This bulletin explains the dangers of girding while engaged in towing operations and provides information on how to help you prevent girding.

Scope

This bulletin applies to operators and Masters of vessels engaged in towing operations.

Background

Girding happens when a vessel is pulled broadside by a towline force and is unable to get out of this position. This can quickly lead to the vessel capsizing or sinking. It is one of the most dangerous situations a tug can face, and there is often a risk of girding when towing. Preventing girding situations, and the capacity to quickly release the tow, are essential to the safety of vessel and crew.



Keywords:

1. Towing
2. Girding
3. Master

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Canada

Credit: Transportation Safety Board of Canada

Tugs that carry out routine tasks close to the forward end of a barge are especially at risk. In these cases, it's important to make sure that tugs can move easily, and aren't affected by the weight and motion of the barge.

The closer a tug and barge are to one another, the higher the risk of girding (especially in narrow channels, higher traffic areas or other high-risk situations). When the towline is shortened, the vertical angle of the towline increases, making the towpins useless.

What you need to know

Responsibility of the Authorized Representative

- The *Canada Shipping Act, 2001*, subsection 106(1), requires the authorized representative (AR) of all towing vessels to create safety and emergency procedures. These should include best practices from industry.

Follow towing regulations

- Vessels over 5 gross tons that were built or converted for towing must follow Part VIII of the *Hull Construction Regulations*.
- The *Marine Personnel Regulations*, subsection 206(2), requires that the master of a vessel shall ensure that the vessel's crew is trained on their assigned duties (e.g., towing equipment and how to use it safely, during both normal operations and in an emergency).

Plan the tow

In addition to towing procedures developed by the Authorized Representative, and industry best practices, it's important for the Master to plan each tow.

The plan should consider:

- the size and type of the tow, and its limitations;
- the length of the towline, and the position of the tug;
- the location of the towing point;
- the tug's capability (considering its horsepower and bollard pull);
- the towing equipment that is best suited for the job (including the lines and wires);
- the stability of the tug and tow, when used together;
- the amount of consumables to be onboard (including fuel, water and essential spare parts)
- the connection and disconnection arrangements;
- the presence of a gob wire;
- the number of trained crew members in order to operate safely;
- the route planning, including safe transit times (day/night) and location (narrows, bridges, high traffic areas, etc.);
- the limits of the area (reduced depth, tidal limits and expected currents);
- Take into consideration local knowledge
- the weather forecasts, navigation information and warnings;

- the recommended speeds from local regulations or guidance; and
- the vessel's emergency plans.

The Emergency Release System should be tested regularly to:

- confirm that all locations of the abort system are included in the verification.
- inspect the winch to make sure the brake and the clutch releases when activated.
- confirm that the system fully resets after testing.

During the tow

To avoid girding:

- know the length of the towline, and the position of the tug.
- know the location of the towing point.
- understand that the risk of girding increases if you change speed or course.
- never tow when the winch clutch is engaged, unless you're adjusting the length of the tow.
- check that tow wire is also paid out to "freshen the nip" when towing for extended periods.
- know the characteristics of the towed unit (size, displacement, momentum, pivot point).
- watch the tow for signs it's overtaking you.
- check in regularly with the crew on the deck, and any other tugs involved in the operation.
- know the environmental conditions.
- make sure the tug is watertight by properly closing all openings.

The angle of heel limitation on the bridge should warn the master that the vessel may capsize. Corrective actions should be taken by the Master before an accident happens.

Procedures for emergency release of the tow should be in place prior to each towing operation. These procedures should be shared with the crew and clearly posted near the towing equipment. The emergency release instructions for the towline must be easy to see, find and understand.

The Master should check his/her emergency procedures on what to do in case of bad weather, particularly in respect to arrangements for heaving to or taking shelter.

Resources

Transportation Safety Board's Tug Girding video

Transport Canada's Tow Boats video

Ship owners' Club: Tug and Tow – A Practical Safety and Operational Guide