CHAPTER NINE

BASIC TUG HANDLING FOR SHIPWORK

Although I write this chapter primarily for the benefit of the tug handler who is a newcomer to the field of shipwork, I am sure it will also be of interest to the pilot or shiphandler who has not had experience operating tugs. There are several reasons for this. First of all, it will give the pilot or shiphandler an insight into the actual *mechanics* of a tug's operation, and a better understanding of what the tug's captain *must* know in order to assist the ship to best advantage. This kind of knowledge can be especially helpful in situations where the tug's handler is a little inexperienced at shipwork.

THE FUNDAMENTALS OF SHIPWORK

Shipwork, like barge work, is the final test of the tug handler's ability. It is more challenging than most other handling activities since often both vessels (ship and tug) are underway. When this is the case, it is an exercise in relative motion (for the tug, of course). But that is not all. The tug's captain must also continue to control the tug in spite of the effect of the other vessel's wake and propeller wash.

Coming Alongside. If you are just breaking in as a mate on a harbor tug, you will probably discover that the most difficult part of shipwork is putting the tug alongside an inbound ship moving at a good rate of speed. If you are careless or try to accelerate the maneuver, the tug might land alongside the ship hard enough to do some damage. This is especially likely to occur if you fail to anticipate the hydraulic forces that will have an increasing effect on the tug the closer it gets to the vessel.

When a tug approaches a moving ship to *make up*, it should shape a course parallel to the vessel for a bit and adjust its speed to that of the

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vessel. The tug should then ease gently in and compensate as necessary for the effect of the vessel's wash (Fig. 9-1). If the tug is going to go alongside the quarter of a ship, the suction caused by the vessel's passage will have a tendency to pull the tug into the vessel. Usually pacing the vessel with the tug's helm turned slightly away from it will utilize this suction to pull the tug alongside the ship easily. As soon as the tug comes against the ship the helm should be put over towards the vessel with the engines kept running ahead until the lines are fast.

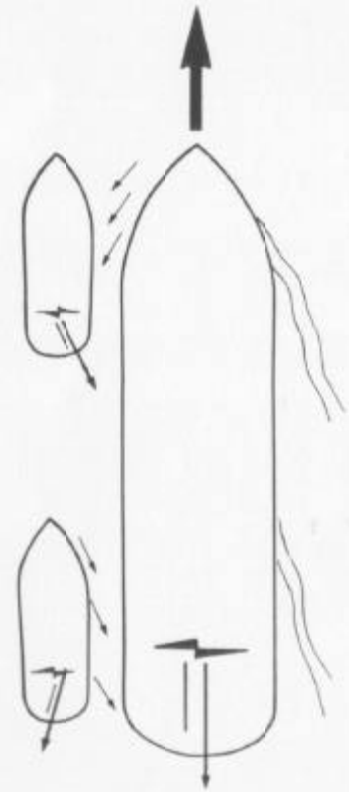

Fig. 9-1.

Ideally, the tug should land alongside the ship about its own midships or a bit aft of that. The bow is then gently swung in toward the vessel as the helm is put over. Sometimes the suction near the stern of the ship is very strong, and will pull the tug in quickly. If this is the case,

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the tug's captain can land the tug farther forward where there will be less suction, and can then let the tug slide back into position. Many ship captains will grumble about this "messing up the paint job," but it is preferable to a dent.

It is generally less hazardous to come alongside a ship forward, but it still requires care. The tug is most often pushed away from the ship by the bow wave, especially if the vessel's entrance is hollow. The problem here usually stems from overcontrolling when coming alongside. Pacing the ship for a bit will, in most cases, give an indication of what to expect, and will probably solve this problem.

When a tug is approaching a ship to go alongside, and its speed is too fast, it can stop its engine in order to slow down if necessary. It should *not back down*, however, as it can easily lose steerage and might take a dive toward the ship. If the tug crosses a ship's wake while overtaking the vessel, its propeller might cavitate, especially if it is backing its engine. A failure to anticipate this could lead to an accident.

Towline Work. Working on a towline is probably the most dangerous employment that the tug will engage in. This is particularly the case if the master or pilot is excitable and relies too heavily on the use of the ship's engine. In this instance it can easily overpower the tug, causing it to become *girt* or to *trip*. Either circumstance can lead to a capsize (Fig. 9-2).

The most hazardous part of towline work occurs when a tug is required to take a towline from the bow of a vessel that is underway. The tug must pass close aboard the bow so that the vessel's head line can be lowered to the tug's deck. If the tug's quarter lands against the ship's side, the tug may not be able to steer away from the ship, and the tug might get caught crossways ahead of the vessel and capsize. This type of accident is called *stemming* (Fig. 9-3). In this situation, about the only thing the tug can do is come full astern with the helm midship and try to back out of danger. Tractor tugs (which are designed for towline work) have an advantage over conventional tugs in this respect since their steering will remain unaffected (Fig. 9-3).

When a tug is performing a towline job (except when working ahead of the ship), the tug's captain will normally be at the after control station where he can keep an eye on the tug's deck force, the lead of the towline, and the ship's wheel wash. The ship's wheel wash will often give a clue as to the amount of power the ship's engine is using, and the tug can be

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