The importance of ‘being prepared’ as demonstrated by
a Melbourne tugboat almost girted

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There is a popular clip on Youtube that shows how the Melbourne tug ‘Stockton II’ was almost girted while attending a ship on departure. At the time of writing the clip had been viewed over 188,000 times. If you haven’t yet seen the clip the URL is here for you to take a look.

http://www.youtube.com/watch?v=Qljc9B55N84

While the clip has provided interest and entertainment for many viewers there is also an opportunity to take some valuable lessons away from the episode.

The Incident
The incident occurred as a new ship sailed for sea trials from the dockyard at Williamstown in Melbourne’s west. The tug ‘Stockton II’ had been secured port side aft to tow the ship from the dockyard pier into the Williamstown Channel. The ship, an ‘Anzac’ class frigate, was manned by a mainly dockyard crew and was not under the direction of a Pilot. The manoeuvre progressed according to plan until, with the ship in the Channel and swung head to seaward, she quickly gathered headway before the ‘Stockton II’ had been let go. The remainder of the incident is seen in the video clip. The tug was unable to keep the towline over the stern as the ship gathered headway and ended up broadside on with the tow out over the beam. Fortunately, before the tug was fully capsized the towline parted allowing the tug to return to equilibrium.

At the time when it appeared likely that the tug would capsize 3 crewmen jumped overboard.

The ship was equipped with twin Variable Pitch Propellers and, as a warship, was designed for speed. This type of vessel gathers headway very quickly. The report states that the propellers were set to 40% ahead for over a minute before the order to slip the tug was given. The ship’s speed at the time of the girtting was estimated to be over 10 knots.

The official investigation report is available for download here:


This report focuses mainly on the issues onboard the ship; while some mention is made concerning the tug we are able to gain additional insight from viewing the video clip.

The technical details of why the incident occurred are very similar to those described in the ‘Ijsselstroom’ girtting. Quoting from the MAIB report, note the similarities.

“The skipper’s ability to control Ijsselstroom’ and correct any sheer was severely hampered by the lack of effectiveness of the propellers and rudders when moving astern with her engines turning ahead. The higher the tow speed the more difficult this would become as the propeller blades stalled, rudders became unbalanced and ineffective, and the underwater area aft was acted upon by the flow of water. As the speed of tow increased, Ijsselstroom’s skipper needed increasing amounts of thrust to control the vessel's direction.

(MAIB report: Ijsselstroom girtting)

‘Stockton II’ although older and smaller than ‘Ijsselstroom’, was also a twin screw conventional towing vessel. Her small wheelhouse provided only a poor view astern and of the after working

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deck. Even at the critical time it would have been difficult for the Tugmaster to have been sure where his men were.

**The Lessons**

There are a number of lessons that can be learned from observing this short video clip and by gleaning the reported facts from the investigation report.

**Watertight integrity**

The first is to point out that the deck house door is clipped open leaving a large opening for the ingress of water as the tug heeled over. Even as the crew moved aft past the door there was no attempt to close it. This subject is dealt with in another essay entitled “Close it up! – staying watertight”.

The tug took in water through the deckhouse door causing minor damage to the galley and accommodation area. Water also entered through a fuel tank vent pipe causing some contamination to the fuel in the tank.

**Communication**

According to the report there was no pre-task briefing for the Tugmasters. It is usual for a Master or Pilot to brief the tugs on his plan for the job. This briefing should be viewed by Tugmasters as a discussion rather than a lecture. It is appropriate and important that Tugmasters raise any questions or concerns they may hold during this discussion. Many reports and documents have highlighted the importance of the ‘shared mental model’. An effective ‘shared mental model’ ensures that all participants have the same understanding of how the job is to progress. A ‘shared mental model’ cannot be achieved through a one way lecture; it takes question and answer, proposal and confirmation. It is then necessary for the Tugmaster to brief his crew on the plan so that they too are aware of the expected sequence of events.

Ongoing communication throughout the job is also crucial to safe execution. The Pilot should inform the tugs of his intention before engaging the ship’s engines. Ship’s crew should be informed of the intention to slip the tug’s lines in sufficient time for them to be ready to do so.

The report is critical about the communication and Bridge Resource Management onboard the ship. The ship’s Master had isolated himself from the rest of his bridge team restricting the opportunity for interactive communication with his assisting officers. It is likely in this case that the ship’s Master was distracted by how the new ship was performing and unaware that the after tug was still made fast. As soon as the ship engaged ahead engines it would have been appropriate for the Tugmaster to remind the ship that his tug was still made fast.

**Procedure and Drills**

Onboard ‘safe work procedures’ should be developed, learned and adhered to. Procedures are useful in ensuring that details are not overlooked. A pre-task checklist based on safe working procedures would confirm when such things as closing up, emergency release checks, crew P.P.E., communications system checks and briefings have been done. The report states that the tug’s towline had been turned up on ‘H’ bitts rather than a slip hook. This meant that there was no means to slip the line in the event of an emergency; had the line not parted it is very likely that the tug would have completely capsized.

Regular drills enable emergency measures to become second nature. There is evidence that the heat of the moment may have overtaken any pre-learned response. Consider that 3 crewmen jumped overboard on the ‘low’ side of the tug. Had the tug capsized it would have rolled on top of the men in the water foiling their escape. Note also that none of the crew members were wearing a personal flotation device (PFD) or lifejacket.

It would be ridiculous to criticize the actions of the crewmen in trying to save themselves from a precarious situation. It should be mentioned that, had they been wearing PFD’s as a standard procedure they would have been better equipped for survival in the water. Regular abandon ship drills provide an opportunity to rehearse the best way to leave the vessel in an emergency. The
danger in leaving the vessel on the ‘low’ side during a capsize seems obvious to an observer; rehearsal during drills helps to establish better emergency responses.

**Towing over the stern**

Some of the comments attached to the video clip question why the tug was not using a ‘gob’ or ‘gog’ rope to keep the towline over to stern.

The tug had been made fast to the port side aft for the purpose of lifting the ship off the berth and assisting with the swing. There was no intention to use the tug for ‘braking’. “Stockton II” was a small tug not well suited for ship assist work; she was not fitted with an after winch or any other means to adjust the length of a gob rope. The use of a short fixed length gob rope to keep the towline over the stern would have hindered the tug in manoeuvring the ship at low speed. This limitation should have been discussed during a pre-job briefing. It is vital for the Tugmaster to alert the Pilot or ship’s Master of the tug’s operational limitations especially when working in new situations.

It is advisable that a tug assisting a ship to manoeuvre by towing over the stern, whether or not a gob rope system is used, turn her head in the direction of travel when ordered to stop pulling.

**Conclusion**

Communication and planning are vital to safe operations. This applies equally between ship and tug as it does between Tugmaster and crew. Being prepared for towage work includes being aware of the things that can go wrong and having safe working procedures or practices that minimize the likelihood of them occurring. It also involves taking the precautions that will minimize the effect of a mishap if it does occur. Some lessons we can learn from this video clip are:

- Crews that are trained in safe working and emergency responses are better prepared.
- Maintain watertight integrity during high risk operations.
- Wear appropriate P.P.E. including a flotation device while working.
- Communicate.
- Use a towing fixture with an emergency release and test it often.
- Use a gob rope system whenever possible.
- Understand and discuss operational limitations.

**References:**


