

Basic & Advanced Tug Handling Training

A loud bang, followed by a harsh scraping noise. On May 24, 2015 the highly manoeuvrable tug Eddy1 collided whilst attempting to make a towline connection with a vessel underway. Apparently the suction effects that occur when two vessels operate close to each other at speed played a major role. The incident only resulted in repairable damage, but could have ended much worse. In MARIN's simulator environment these scenarios can be recreated in the most realistic way enabling tug crews to experience these effects and train mitigating actions effectively.

Specifications

- Different levels of training (from basic to advanced)
- Competence based
- Accurate hydrodynamics
- Tug – Ship interaction included
- Emergency scenario's
- Assessment on request
- Experienced instructors

Why simulator training?

Modern tugs are very capable assets since the vessels they assist are getting bigger and the demands are ever high. Using the full potential of such tugs in a safe manner requires well trained personnel. Diminishing tug crews urge the operators to increase their formal (onshore) training to prepare for today's challenges. Although it cannot completely replace on-the-job training, simulator training has proven to be a very effective addition. It allows trainees to experience a high number of extreme events (in a safe environment), equivalent to the experience gained in many years at sea. MARIN offers specific ASD/ATD/Rotor tug training on different levels using purpose built manoeuvring simulators. These simulators are the ideal means to familiarize tug captains with the behaviour of modern tugs and the specifics of tow operations.

Tug training programmes

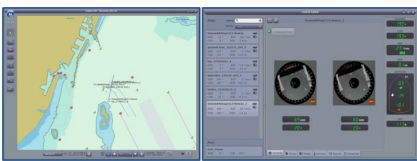
Our training programmes allow our customers to train their personnel from the basics of tug manoeuvring to advanced operations. The training does not just focus on manoeuvring, but also includes emergency response training, like the events with the Eddy tug. Based on a training need analysis we determine the needs of the client and the trainees. A competency based training method ensures that the program is tailored to the individual needs and the trainee can work on his desired skills. Dedicated assessment scenarios are available to monitor progress and measure proficiency.



Tug simulator



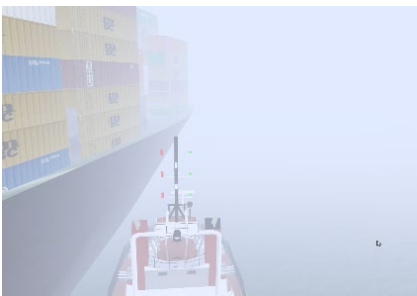
6 DOF Motion base simulator



Simulator environment



Girting and capsizing exercise



Training in fog

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Different training programmes have been developed over the years. The first level is all about tug handling. One cannot expect a tug master to provide adequate assistance to a vessel when he lacks proper control over his own vessel. The second level can only be achieved when the first one is completed, it is all about assisting a vessel with all appropriate components and towing techniques. The third and final level is for experts. At this level the difficulty of the exercises will be increased, forcing the trainee to the limits of his ability. Tug masters will be driven to the extremes in controlling their tugs, in situations where every mistake will lead to undesirable positions for the tug. The enhanced level of tug handling allows the tug master a higher degree of automation and a subsequent higher degree of focus on vessel handling as well as situational awareness. Besides the standard programs a completely tailor made training can be offered, with specific tugs in their own port.

Why train at MARIN?

At MARIN we couple our didactical, human factor, nautical and hydrodynamic expertise to create high quality training for professionals. We have the capability and experience to create accurate hydrodynamic models of specific tugs including all the effects that influence the behaviour of the tugs. Many manufacturers and operators have validated the tug models in our simulators through their company captains and their end users. The high level hydrodynamic modelling includes amongst others the most sophisticated ship-ship interaction, wake, stability and towline models. For this type of training we have four dedicated tug simulators available. These simulators are equipped with a 360° projected visual scenery. This way the tug captain is provided with nearly the same view as from his own boat. With flexible controls every type of tug can be simulated.

For some scenarios we make use of our 6 DOF motion base simulator, a unique facility which is capable of simulating extreme motions. The trainee can practice responses in emergency situations like capsizing in very realistic but safe conditions. This way he can experience activating a quick release under an extreme list angle.

Our instructors are experienced tug masters. They use the didactical principals of theory, demonstration and exercises and a competency based method to accommodate the individual training needs.

Schedule

Upon request a training session can be booked. The required duration of the training depends on the objectives of the client, the level of experience of the tug masters at the start of the training, and the projected end level. As a rule of thumb, each level requires 4 to 5 days training, depending on the exposure on the simulator. A training need analysis together with the client will ensure that all aspects for a valuable training are taken into account and the training objectives are reached.