



## MARITIME SIMULATION AND RESOURCE CENTRE

Corporation of Lower St. Lawrence Pilots

<http://www.sim-pilot.com>

### ESCORT TUG OPERATIONS FOR PILOTS

(RE-010-014-ENG)

Objectives:	Give pilots an overview of escort tug operations principles in narrow channels.
Duration:	14 hours (2 days)
Schedule:	Begins at 08:30 <i>This schedule may be tailored for specific requirements.</i>
Participants:	Three (3)
Prerequisite:	Completion of a recognized AZIMUTHING PODDED PROPULSION course and, holding a pilot's licence or being in the process of acquiring such a licence.
Teaching strategies used:	Theoretical explanations with presentations. Case studies, demonstration by the Instructor/Pilot and practical exercises on ships bridge simulators.
Training activities:	Theory followed by simulation exercises.
Certification:	Issuance of a training certificate.
Validity:	The course content is reviewed regularly in order to stay abreast of new technologies and practices currently applied in shipping industry.

# **ESCORT TUG OPERATIONS FOR PILOTS**

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The following course outline indicates the subjects that will be discussed. The instructor may change the order of execution or adjust the time depending on the circumstances.

## **Day one**

1. Welcome, course registration, handing out course material
2. Overview of the course outline
3. Ship Assist Tugs comparison with regards to capabilities and limitations
  - Conventional (Single and Twin Screws)
    - Flanking Rudders
  - ASD (Azimuted Stern Drive without Skeg)
  - RSD (Reverse Stern Drive)
  - VSD (Voith Schneider Drive) - RAVE
  - Tug positioning effectiveness

### **PPT Ship Assist Tugs**

4. Escort Tugs: types, definition, capabilities and limitations
  - ASD (Azimuted Stern Drive with Skeg)
  - VSD (Voith Schneider Drive) with Skeg
    - RAVE - Carrousel
  - Azimuted Tractor Drive
  - Rotor Tug (3 ASD)

### **PPT Escort Tugs**

5. Escort Tug Manœuvres
  - Indirect
  - Direct
  - Powered indirect
  - Transverse Arrest
  - Stop and Hold
  - Indirect Breaking
  - Heads and tails

### **PPT Escort Tug Manœuvres**

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## **Day 1** (continued...)

6. Familiarisation with Ships bridge simulator equipment:
  - ECDIS and Radars
  - View controls
  - Steering and Propulsion systems
  - Communication systems
  - Etc.
  
7. Practical exercises designed to demonstrate the tug manoeuvring characteristics and the tying up procedures to the bow, the stern and the shoulder of a vessel.
  - Refresher on the ASD tug manoeuvres
  
8. Escort Tug Commands and specifications

**PPT Escort Tug Commands**
  
9. Practical exercises in escort mode designed to demonstrate the escort tug commands in a narrow channel
  - Powered Indirect mode
  - Indirect mode
  - Direct mode
  - Transition from Indirect to Direct mode

# **ESCORT TUG OPERATIONS FOR PILOTS**

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## **Day two**

### 1. Escort operations

- Overview of various escort operations in different areas
- Escort tug performance comparisons
- New technology pertaining to tug design
- Escort configurations
- Considerations for Ultra Large vessels

#### **PPT Escort Operations**

### 2. Practical exercises designed to demonstrate escort operations in a narrow channel and the associated tug commands. Different types of large vessels will be used at various speeds (6, 8 and 10 knots) within the operational environmental limits which are encountered in specific Pilotage waters.

- Interventions with different types of emergencies such as rudder or engine failure
- Single escort configuration will be used

### 3. Practical exercises designed to demonstrate escort operations in a narrow channel and the associated tug commands. Different types of large vessels will be used at various speeds (6, 8 and 10 knots) within the operational environmental limits which are encountered in specific Pilotage waters.

- Interventions with different types of emergencies such as rudder or engine failure
- T2 configuration will be used

### 4. Practical exercises designed to demonstrate escort operations in a narrow channel and port approaches.

- Two tugs in the T + 1 method used at the typical escort speed.
- Different types of emergency manoeuvres will be practiced.

### 5. Chocks and Bitts, definition and use.

- Positional efficiency of towline in relation to the tug
- Typical chocks and bitts damages
- Chocks and bitts rating for various class of ships

#### **PPT Chocks and Bitts**

### 6. Course evaluation.

### 7. Administration and issuance of certificates.