



MARITIME ENGINEERS PTY LTD
A Member of James Fisher and Sons plc

REF NO.:

DATE ISSUED:

OCEAN TOWING CONDITIONS CHECK LIST

TUG:

TOW:

In order that the survey can be conducted with the least inconvenience to the parties concerned, we list the below details that require to be addressed to complete the survey:

PART 1: TOWED VESSEL REQUIREMENTS

DOCUMENTATION REQUIRED (FROM BARGE/TOWED VESSEL OWNERS)

- Certificate of Class
- Survey Certificate
- Tonnage Certificate
- International Loadline Certificate
- Certificate of Currency for Insurance (Hull and P&I)
- Stability Booklet for Towing Condition – copy of relevant section required
- Navigation Lights Certificate (compliant to International Regulations for Prevention of Collisions at Sea, 1972)
- Main Towing Assembly Components Test Certificates
 - Bridle Chain
 - Forerunner Chain/Pennant
 - Delta Plate
 - Smit/Towing Brackets
 - Shackles/Masterlinks
- Emergency Towing Assembly Components Certificates
 - Emergency Tow Wire
 - Tow off pennant
 - Chafing chain
 - Shackles
 - Emergency Smit/towing bracket

CONDITIONS:

- No slack tanks
- Bilges clean and dry
- All loose gear securely stowed
- Hatches and watertight doors dogged shut



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- Double bottom tank covers bolted down
- Ventilators and air-pipes to be closed/covered except fuel oil tanks, if these are filled.
- Windows and portholes to be closed and dead lights dogged down where applicable.
- Crane/davits/spuds/booms securely stowed
- Propeller shaft(s) locked
- Rudder(s) locked midships
- Propeller(s) shaft gland (if fitted) tight
- Sea valves and manifolds closed
- White band approximately 1 metre wide painted across the bow near the waterline. (Disabled/damaged/limited freeboard vessels only).
- Main towing bridle to be studlink chain led forward through heavy duty fairleads and made fast to two sets of Smit type towing brackets and connected to delta plate at outer end. A chain forerunner is to be connected to the delta plate and suitable to accept the main tow wire shackle. (Do not remove studs to accommodate shackles).
- In some circumstances composite chain and wire bridles may be accepted. Protection against chafing to be provided at fairleads.
- A powered bridle recovery winch shall be provided capable of lifting the bridle and forerunner clear of the barge keel line.
- Emergency tow wire to be led from a Smit bracket and fairlead midships at the bow with an appropriate length of chafing chain to the wire which shall be becketed along port or starboard side of tow with tow off pennant flaked out aft and becketed down (alternative to the tow off pennant is a tow off wire "dartboard" type cassette).
- Buoyed pick-up line to be trailed (torpedo type buoy preferred).
- Emergency anchor to be ready to be let go (fitted with a minimum of 80 metres of wire and chafe chain).
- Fixed boarding ladders to be provided port and starboard (for high freeboards only)
- Means of communication with towing vessel to be provided (if manned)
- Collreg approved battery or gas operated navigation lights with solar switch (preferred) to be fitted and operable and to have a life approximately 50% in excess of the estimated period of the tow (see light requirements below).
- Diamond daylight towing shape to be displayed (where applicable)
- Portable diesel driven pump with suction and discharge hoses for bilge pumping/fire fighting stowed on board. (Disabled/damaged vessels mandatory).
- Two (2) lifebuoys to be stowed (forward and aft)
- Sledge hammer to be stowed forward suitable for releasing Smit bracket pins
- The use of Kentor shackles, pear links or hammerlock shackles in towing bridle assembly is not permissible. Removal of studs from studlink chain is not permissible.



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PART 2: TUG REQUIREMENTS

DOCUMENTATION (REQUIRED FROM TUG OPERATORS)

- Certificate of Class
- Survey Certificate (Certificate of Registry, Cargo Ship Safety Construction & Equipment Certificates, IOPP Certificate, ISM certificates)
- Tonnage Certificate
- International Load Line Certificate
- Bollard Pull Certificate
- Certificate of Currency for Insurance (Hull and P&I)
- Main Tow Wire Detail – Towing Equipment Register
 - Test Certificate
 - Length
 - Diameter
 - Minimum break load (M.B.L.)
 - Age
 - Date of last change out of spelter sockets (number of towing days since change out).
 - Wire Usage Log
 - Incident/Damage/Cropping reports
- Spare Tow Wire Details
 - Test Certificate
 - Length
 - Diameter
 - Minimum break load (M.B.L.)
 - Age
 - Date of last change out of spelter sockets
- Specifications of Winch (Test Certificate) - Dynamic and brake load ratings for both drums
- Certificates for Shackles
- Details of Tugger Winches/Capstans (Load Ratings and Wire Size)
- Details of Shark Jaws, Karm forks, Towing Pins, Gobbing Arrangements, Stern Roller



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- Stability condition for tug in tow mode.
- Voyage Plan (Waypoints) including intermediate (and bunkering) ports. Voyage Plan to give sufficient sea-room to allow time to regain the tow in event of an incident.
- Places of refuge to be detailed. (On more complex tows, consideration given to support vessel availability)
- Current and corrected charts for the voyage route and ports of refuge
- Fuel consumption Figures Whilst Towing
- Certificates of Competency of Tugs Officers and Engineers
- Crew List and Qualifications
- Approved on-line Weather Reporting System Details (e.g. Bureau of Meteorology or Wilkins Weather)
- A cyclone contingency plan must be carried for vessels operating in TRC regions within the periods of risk (Generally November to April).
- On complex, high risk tows, a Towing Manual to be in place (Reference DNV Towing Recommendations). The Towing Manual should have third party verification and confirmation that it has been read by the Master, deck and engineering officers. Where appropriate, the Towing Manual may be supported by a risk analysis.

CONDITIONS:

- A complete spare tow wire shall be carried on tug and stowed such that it can readily be deployed at sea onto the main towing winch – this is a mandatory item.
- Provision shall be made to protect the towline from chafing. Freshening of the nip of the towline must be made at a minimum of every 6 hours.
- Towline load monitoring – recommended for complex towage operations. Dynamic loading of towing assembly to be monitored to ensure it does not exceed design limits. If fitted, verify that tension alarms are set.
- Means of estimating towline catenary draft to be available.
- Tug bollard pull to meet or exceed towing resistance calculations on the towed object (Calculation meeting recognised standards i.e. DNV, ND)
- A suitable tow wire gobbing arrangement must be rigged with adequate chafe protection.
- R.I.B. or rescue craft with outboard motor to be available for transport of personnel/equipment to towed vessel. (Launching davit suitable for deployment in a seaway).
- In event that the tug does not have emergency release facility on tow drums, gas cutting equipment must be carried on board the tug for emergency use. Prior to departure, the emergency release must be verified operational.



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- A re-socket kit with current valid date shall be carried (More appropriately for longer duration tows)
- Engineer to familiarise himself with the piping and pumping arrangements on the towed vessel.
- Voyage permits from relevant Statutory Body sighted (Intrastate – DoT WA, Interstate and international – AMSA Marine Order 31 section 45).
- Towing using other than with a towing winch (i.e. tow hook, cruciform bollard or bridle) are not acceptable for unrestricted tows (in excess of 72 hours)
- Speed of advance through the water not to exceed _____ knots and to be reduced in the event of heavy weather. Barge to be inspected prior to and after the tow for slamming damage.
- Daily reports to be forwarded to Maritime Engineers Pty Ltd at: office@mareng.com
- Tow not to commence if wind speed at the departure port has reached Beaufort Force 5 (17 - 21 knots) or be forecast to exceed this within 24 hours of departing port. (Variation may be considered when the tow is a regular operation with familiarity of the vessels and equipment)
- Tow not to commence if severe weather is prevailing or forecast for the 4 day period immediately after departure
- Tow not to commence if a cyclone has been forecast with potential to affect any area of the tow route.
- Maritime Engineers Pty Ltd to be informed immediately if any situation occurs which affects either vessels, which may affect the safe and proper completion of the voyage or if the tug master considers deviation is necessary.
- Time of departure to be not later than 1 hour before sunset.
- Reserve bunkers to be based upon a minimum of five (5) additional days towing.
- Piracy contingency planning for regions where piracy is prevalent. Emergency radio procedures to the ICC International Maritime Bureau (IMB) for Piracy to be established.

SPECIAL INSTRUCTION TO TUG MASTER

1. Master or mate to inspect barge prior to each voyage

- **Ensure navigation lights are operational**
- **Check condition of pennant wires and sockets**
- **Check operation of bridle recovery winch**
- **Check shackles and locking pins/Smit brackets for damage**
- **Check emergency towing gear is securely stowed and suitable for deployment (ensure floating tow off line is deployed at departure)**

2. Inspect main tow wire and winch

- **Wash down wire with fresh water after each voyage.**
- **Inspect gobbing gear and chafing sleeves for damage**



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- **Tow wire tension meters and wire length monitors to be checked and operable.**



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PART 3: LIGHTS AND SHAPES

- All lights and shapes must meet requirements as per International Regulations for Prevention of Collisions at Sea, 1972. Approval Certificates for solar powered lights are required.

TOWING VESSEL

When the distance from stern of towing vessel to aft end of tow is less than 200 metres:

- Two masthead lights forward in a vertical line
 Sidelights
 Towing light in a vertical line above the stern light

When the length of the tow exceeds 200 metres, the vessel shall display:

- Three mast head lights forward in a vertical line
 A diamond daylight shape where it can best be seen

TOWED VESSEL

- Sidelights
 Stern light

Visibility of Light: To comply with Rule 22 Prevention of Collisions at Sea, 1972.

- 50 metres in length or more: 3 Nmiles.
 12 metres to less than 50 metres in length: 2 Nmiles.

When length of the tow exceeds 200 metres:

- A diamond shape where it can best be seen

