

Booming Up and Down Operations

This timelapse was taken at Felixstowe's Trinity Terminal in the UK and shows quay crane activity prior to the start of loading and unloading operations.

The ship is the MSC Vigo which was built in 2012. It has an overall length of 270m, an overall beam of 40m, a deadweight tonnage of 75,200 tonnes and an overall capacity of 5,582 TEU. When this video was taken, the ship was deployed on the North Atlantic calling at Baltimore and New York in the USA.



Arriving at Felixstowe, the MSC Vigo is assisted by a single tug to berth alongside the quay. The two ship-to-shore gantry cranes on the quay have their booms raised to prevent a collision with the ship's superstructure as she is manoeuvred into position on the berth. Once the mooring ropes are secured and the gangplank lowered, any final port procedures have to be completed before operations can begin.

The first task for the ship-to-shore cranes is to boom down and then unload the ship's gear bins which store the ship's twist locks. The gear bins are transported on special platform like containers which are stowed in easily accessible slots above deck.

With their booms down, the quay cranes are repositioned alongside the ship's bays where the gear bins are stowed, and using their spreaders, transfer the gear bins onto the quayside. On the quayside small forklift trucks are typically used to move the gear bins to where they are needed while the ship is being worked.

Look closely and you will see that when the second crane stops moving the crane operator leaves his cabin and uses a lift to reach the ground – this may be the end of the operator's shift.

Key Terms

- Above (on) deck
- Bay
- Beam overall (BOA)
- Boom
- Boom down
- Boom up
- Cab (cabin)
- Deadweight tonnage (DWT)
- Forklift truck (FLT / heavy lift forklift truck)
- Gear bins (ships gear bins)
- Length overall (LOA)
- Ship-to-shore (STS) gantry crane
- Slot
- Stowage
- Superstructure
- Tug (tugboat)
- Twist lock

Glossary

Above (on) deck

Where cargo such as containers is transported above the hatch covers (deck) of the ship exposed to the marine environment (e.g. wind and waves)

Bay

Cross-sectional area of a ship or yard block used for stowing containers – part of the slot location referencing system

Beam overall (BOA)

The width of a ship at its widest point

BOA (beam overall)

The width of a ship at its widest point

Boom

An arm like structure to which a lifting device such as a spreader or hook is attached – it provides a crane's horizontal outreach when lifting an object

Boom down

When the boom of a quay crane is in its horizontal working position

Boom up

When the boom of a quay crane is raised into a non-working position to prevent collisions with the ship

Cab (cabin)

Enclosed location on a crane that protects the operator (driver) controlling the cranes movement

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Enclosed location on a crane that protects the operator (driver) controlling the cranes movement

Deadweight tonnage (DWT)

Maximum weight a ship can carry – including cargo (containers), fuel, fresh water, other provisions and people

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FLT (forklift truck / heavy lift forklift truck)

Crane which has projecting arms (forks) that lift objects

Forklift truck (FLT / heavy lift forklift truck)

Crane which has projecting arms (forks) that lift objects

Heavy lift forklift truck (FLT / forklift truck)

Crane which has projecting arms (forks) that lift objects

Length overall (LOA)

The length of a ship when measured parallel to the waterline

LOA (length overall)

The length of a ship when measured parallel to the waterline

On (above) deck

Where cargo such as containers is transported above the hatch covers (deck) of the ship exposed to the marine environment (e.g. wind and waves)

Ship-to-shore (STS) gantry crane

Quay mounted cranes which operate along rails designed to (un)load ships - has many name variations including STS crane, quay crane and A-frame quay crane

Slot

A space in a terminal or on a ship that can accommodate a container - usually measured in terms of 20ft or TEU capacity

Stowage

Process of loading cargo so as to protect it and the transport means (container, ship, truck, rail wagon) - also used for the act of putting cargo into storage

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Superstructure

Fixed parts of a ship above the main deck which includes the bridge, accommodation areas, navigation masts and ship's gear

Tug (tugboat)

Small vessel with a powerful engine used to assist the manoeuvring of ships or barges

Tugboat (tug)

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Twist lock

Device which is inserted in the corner casting of a container for securing and lifting purposes - it is turned or twisted to lock or unlock