

Bulletin

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Australia's Requirements for Ship Cranes and Case Study

PURPOSE

Recently, CCS Australia Office has received reports from shipowners about complaints from Australian port workers against cranes on ships at berth. Such complaints will not only cause delays in the ship's loading and unloading schedules, but will also lead to AMSA's investigation and PSC's expanded inspection. This bulletin will combine AMSA's Maritime Order No. 32 (MO32) on cranes and the International Labor Convention on Ship Lifting Equipment to interpret and strive to assist the crews and management companies, the ships of which are going to Australia, to reduce the possibility of such incidents.

AMSA MARINE ORDER 32 (MO32)

In order to implement the relevant provisions of the International Labor Organization (ILO 1932 Protection against Injuries (Dockers) Convention) on shipboard lifting equipment, AMSA has stipulated the inspection, testing, maintenance and operation of shipboard lifting equipment in the published MO32.

MO32 applies not only to Australian-flagged ships loading and unloading at

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any port, but also to foreign-flagged ships carrying out such operations at any Australian port. Its main contents are as follows:

Division 1 Preliminary

Division 2 Requirements for loading or unloading a vessel

Division 3 Safe working load and certificates

Division 4 Maintenance and repair of equipment used in loading and unloading

Schedule 1 Safety during cargo operations

Schedule 2 Access on board vessels

Schedule 3 Testing and examination procedures

Schedule 4 Requirements for material handling equipment

Schedule 5 Safe use of material handling equipment

Schedule 6 Derricks and cranes used for loading or unloading

Schedule 7 Marking of cargo mass

Schedule 8 Approved splices in wire rope

SUGGESTED SELF-CHECK LIST

In response to the above requirements based on MO32, CCS Australia Office has compiled the following inspection items (Table 1) for ships to conduct self-inspections before calling at Australian ports to eliminate safety hazards and reduce the risk of complaints from stevedores.

CATEGORY	ITEM	S.N.	CONTENTS
1.Certificates, records, Drawings, Plans and Reports	Documents	1.1	Ensure that the certificates, record books, drawings, rigging plans and instructions of the cargo handling equipment and its movable parts are well kept on board
	Grabs & Hooks	1.2	If the grabs/hooks (main and auxiliary) from the vessel are to be used, the stevedores require these components to have a load test certificate to the same standard as other lifting equipment on board; the Master should provide this certificate to show that all grabs/hooks to be used have been thoroughly inspected annually by responsible/competent persons and this has been recorded in the lifting equipment register book
	Inspection Records	1.3	The responsible crew on board shall conduct regular inspections and pre-use inspections of the cargo handling equipment (including movable parts and wire ropes), and record the safe

			working load (SWL) of the equipment and the identification code marked on the equipment by the manufacturer in the record, sign and keep the record on board (see MO32 – Division 3 – 24 and MO32 – Schedule 3 – 11 for details)
2.Markings	Markings of Cranes & Loose Gear	2.1	All cargo lifting equipment on board the vessel should be clearly marked to identify each component (blocks, hooks and shackles) and linked to its respective test certificate and register book recording the tests and inspections of the cargo lifting equipment. Markings include: identification numbers and SWLs.
	Consistency of Certificate Number	2.2	The identification numbers of movable parts such as hooks and blocks should correspond to the crane numbers on the certificates and avoid interchanging these parts among cranes.
	Inspection by Ports & Charterers	2.3	Australian ports or charterers may arrange for inspectors to board a vessel to conduct a thorough inspection of the vessel' s cargo handling equipment, its certificates and marks/markings.
3.Preparation before Arrival	Equipment Functional Testing	3.1	Complete the motion restriction/limiting device tests of the

			cargo handling equipment before arrival
	Power Failure/Overload Limits	3.2	Test of stop function during power failure/overload
	Regular and Pre-use Inspections	3.3	The responsible crew on board shall conduct regular inspections and pre-use inspections of the cargo handling equipment (including movable parts, loose gear and wire ropes) and keep records
	Limit Setting	3.4	Please set the limit of the lifting equipment for the grab bucket before arrival at the loading/unloading port.
4.Hooks, Loose Gear and Movable Parts	Hooks	4.1	Ensure that the hook of the lifting equipment can be easily removed to allow attachment of loading accessories (if applicable)
	Anti-detachment of Load from Hooks	4.2	Device of anti-detachment of Load from hooks in good working condition
	Conditions of Hooks & Accessories	4.3	The surface of the hook and its accessories shall not be seriously damaged, rusted or deformed.
5.Cab/Operator' s Room	Fire Extinguishing/Fire Prevention	5.1	Operator' s room should be equipped with a fire extinguisher suitable for electrical fires
	Operator' s Comfort	5.2	The operator' s seat is fitted with a backrest and is fixed to the floor of the operator' s room
		5.3	Provide air conditioning, electric fans

			or blower systems in the operator' s rooms
Access & Emergency Escape	5.4		To ensure safe access to the operator' s room, all ladders must comply with the MO32 requirements for the spacing between the cage hoops and longitudinal bars. For detailed requirements, please refer to MO32 – Schedule 2 – 18 (unprotected vertical ladders must not exceed 3 meters)
	5.5		Ensure that the emergency exit from the operator' s room is accessible in all directions of the cargo handling equipment, not just when it is longitudinally to the length of the vessel; if the ladder on the platform cannot reach the deck, there should be an alternative, such as a wire rope ladder
Notice/Instruction Posting	5.6		There must be written instructions in English for using the escape route in the operator' s room
	5.7		If the SWL varies with the reach of the crane – the SWL for each specified reach range should be indicated on the outside of the crane and posted in the operator' s cabin; instructions in English for operating the lifting equipment within the limits, e.g.

			specified heel or trim limits, or, for lifting equipment with gears or other devices to vary the range of speeds of lifting movement, instructions for the SWL for each speed range
	Cab' s Windows	5.8	If the windows of the operator' s room can be opened outwards, fixed chains or railings should be provided to prevent the operator from falling out of the room.
		5.9	The operator' s room window glass is clean, transparent and free of oil stains; there is no oil residue on the walking path
		5.10	Make sure the cab windshield wipers are working properly
	Operation Buttons/Joysticks/Pedals/levers	5.11	The buttons, joysticks, pedals and levers in the cab are flexible in movement, return to the neutral position and have clear markings; the brake pedal has a non-slip surface
	Double-action operation	5.12	The joystick is smooth and not stiff during dual action operation (i.e., when luffing and slewing are performed simultaneously)
	Limits	5.13	All lifting equipment limit devices are effective and trouble-free
6.Work Safety	Area Illumination	6.1	When loading/unloading operations are carried out at night, sufficient lighting should be provided in the

			cargo holds and passageways to ensure safe passage and operations.
7.Pollution Prevention	Bio Risks during Loading & Unloading operations	7.1	Crew are strongly advised not to use any straw type brooms for sweeping hatch coamings or main decks; straw and seed residues will fall from these brooms and if found they could contaminate cargo would create a bio risk
	Oil Pollution	7.2	Ensure that the oil level in the lifting equipment is normal; there is no leakage of hydraulic oil, lubricating oil, fuel oil, or gas; there is no obvious oil stain, and there is no excessive oil on the drum to contaminate the platform or ladder

Table 1

CASE STUDY

CASE 1

During the pre-operation inspection of the four cranes on a ship, traces of grease/oil leakage were found in the machine spaces, and the oil leakage of crane No. 4 was particularly obvious. Therefore, the port determined that the crane was unqualified/prohibited from use. After investigation, it was found that a valve was leaking. After confirmation, the crane was restored to use.

Due to the lack of spare parts, the failure of the luffing motor of crane No. 2 could not be repaired, so the crane was determined by port to be unqualified/prohibited from use.

CASE 2

Due to complaints from stevedores at a port in Australia about the poor condition of a ship's cranes, AMSA boarded the ship for inspection and found that on all four cranes:

1. The hooks were aged, damaged and severely corroded (Figure 1);
2. The seats in the operator's room were unqualified and did not meet the MO32 requirements;
3. The crane's slewing and luffing operating devices were not working properly;
4. Hydraulic oil leakage was found, and there was excessive oil on the drum, which contaminated the nearby platform, ladder and operator's room windows.



Figure 1

CASE 3

Australian port stevedores complained that the identification numbers of the hook and block of one crane on a ship were unclear (Figure 2 and Figure 3), and the identification numbers of another crane were inconsistent with the certificate, so they refused to use the cranes. The class surveyor conducted an on-site survey and found that the ship had swapped loose gear between the cranes, resulting in inconsistency with their certificates; under the on-site witness of the surveyor, the ship re-stamped the unclear identification letters/numbers and protected them with tape thereafter.

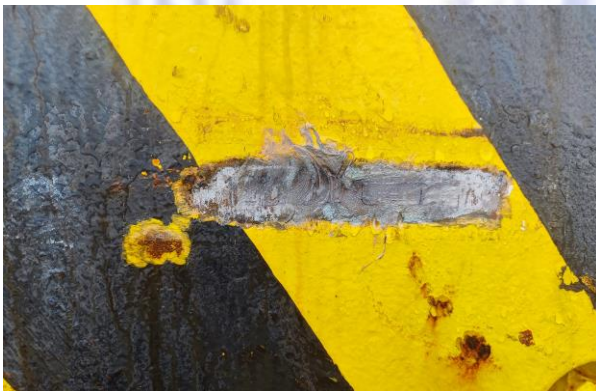


Figure 2

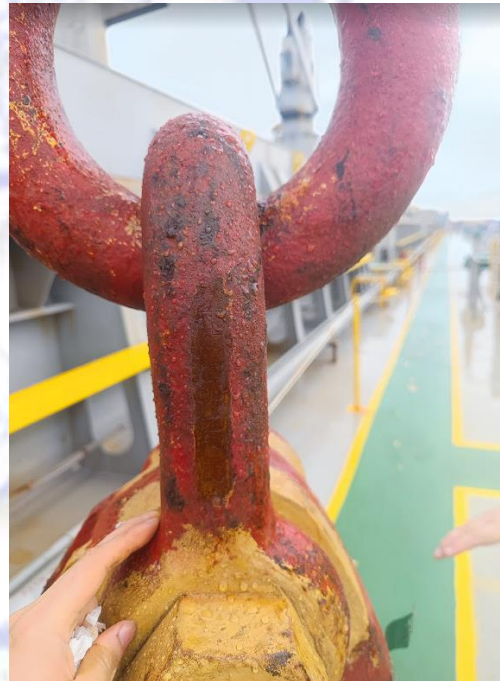


Figure 3

CASE 4

When the port stevedores were using a ship's crane, they complained that the crane's auxiliary hook wire suddenly slipped, so they refused to use it until the surveyor issued a test/survey report. The ship was then required to return to the anchorage, and after an emergency inspection by the shipowner and a lifting test under the supervision of a class surveyor, it was allowed to re-berth and the crane was allowed to use.



Figure 4

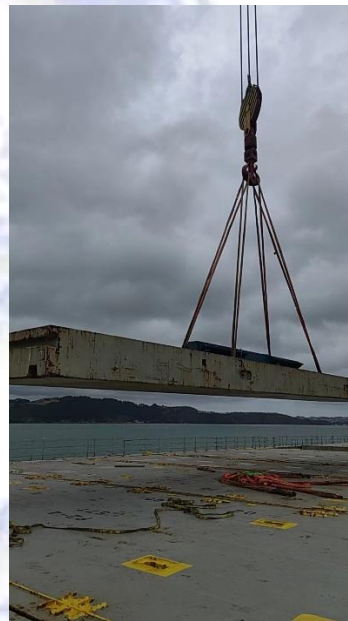


Figure 5

SUMMARY

Australian stevedores have a high sense of occupational safety and complaint awareness; at the same time, once a complaint is received, the port state authorities often intervene immediately and conduct further PSC inspections. In order to reduce safety hazards and avoid delays, ships calling at Australian ports must meet the specific requirements of MO32 and ILO Code, and can refer to the above checklist in this bulletin to make self-inspections and preparations.

CCS Australia Office

Sep. 20, 2024

Announcement:

1. Intention is to assist and ensure owners to understand and well prepared, ensuring all updated requirements from AMSA can be met
2. For more information, please visit AMSA website at www.amsa.gov.au and CCS website at www.ccs.org.cn
3. The information contained does not and cannot supersede any AMSA or related governing parties requirements as well