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International Regulation News Update

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(+ “ships” are all self propelled vessels, except MODUs)	

IMO's Maritime Safety Committee (MSC) met at the Organization's London Headquarters for its 86th session from 27 May to 5 June 2009. Numerous Assembly resolutions were approved, which will go forward for adoption at the 26th Assembly in December 2009, as were a number of amendments to SOLAS. The more significant matters are presented below.

SOLAS AMENDMENTS

Additional Bridge Equipment

To enhance the safety of navigation and the protection of the environment, the Committee adopted regulations containing carriage requirements for a *Bridge Navigational Watch Alarm System* (BNWAS) and for an *Electronic Chart Display and Information System* (ECDIS). Both systems are required to be fitted in new and existing ships as per the implementation schemes shown in Tables 1 and 2, respectively.

Ship Type	Date of Build	GT	Compliance Date (BNWAS)
Cargo	≥ 1 July 11	GT ≥ 150	At delivery
Passenger	≥ 1 July 11	-	At delivery
Passenger	< 1 July 11	-	1 st Svy ≥ 1 July 12
Cargo	< 1 July 11	GT ≥ 3k	1 st Svy ≥ 1 July 12
		500 ≥ GT < 3k	1 st Svy ≥ 1 July 13
		150 ≥ GT < 500	1 st Svy ≥ 1 July 14

Table 1 – BNWAS Compliance Scheme

A BNWAS installed prior to 1 July 2011 to monitor bridge activity and detect operator disability which could lead to marine accidents may subsequently be exempted from full compliance with the standards contained in MSC.128(75).

Ship Type	Date of Build	GT	Compliance Date (ECDIS)
Passenger	≥ 1 July 12	GT ≥ 500	At delivery
Tanker	≥ 1 July 12	GT ≥ 3k	
Cargo Ship excluding Tankers	≥ 1 July 13	GT ≥ 10k	
	≥ 1 July 14	3k ≥ GT < 10k	
Passenger	< 1 July 12	GT ≥ 500	1 st Svy ≥ 1 July 14
Tanker	< 1 July 12	GT ≥ 3k	1 st Svy ≥ 1 July 15
Cargo Ship excluding Tankers	< 1 July 13	GT ≥ 50k	1 st Svy ≥ 1 July 16
	< 1 July 13	20k ≥ GT < 50k	1 st Svy ≥ 1 July 17
	< 1 July 13	10k ≥ GT < 20k	1 st Svy ≥ 1 July 18

Table 2 – ECDIS Compliance Scheme

ECDIS is not required for a ship if it is to be decommissioned within 2 yrs of compliance.

In accordance with MSC.1/Circ.1290, the “*first survey*” is the first annual survey, the first periodical survey or the first renewal survey whichever is due first after the date specified.

For a ship under construction, where the keel is laid before, but the ship is delivered after, the date specified in the relevant regulation, the initial survey is the “*first survey*”. Therefore, the ship

will be required to comply with the regulation at delivery.

Cargo & Fuel Oil Material Safety Data Sheets

The Committee adopted resolution MSC.282(86) which removes the ambiguity that exists in MSC.239(83) concerning the new regulation in SOLAS VI/5.1 requiring ships carrying oil cargoes and fuel oils, as defined in MARPOL Annex I, to be provided with a Material Safety Data Sheet (MSDS) prior to the loading of such cargoes and fuel oil. New resolution MSC.286(86) provides guidance for completion of the MSDS.

A strict reading of SOLAS VI/5.1 as per MSC.239(83), which entered into force on 1 July 2009, reveals that, because of the overall exemption provisions in SOLAS VI/1, the intended requirements for the MSDS do not apply to MARPOL Annex I cargoes carried onboard oil, chemical and gas tankers and do not apply to oil bunkers carried in all types of ships. However, upon entry into force of resolution MSC.282(86) on 1 January 2010, the MSDS will be required prior to the loading of MARPOL Annex I cargoes and fuel oil bunkers.

In light of the above, the Committee also approved MSC.1/Circ.1303 which conveys the true intentions of MSC.239(83) by identifying the oversight mentioned above.

It is ABS' understanding that port State control can, as in the case of USCG, only encourage compliance, as opposed to issuing a deficiency in the event a MSDS is not provided, until the 1 January 2010 entry into force date occurs.

Total Ban of Asbestos

The newly adopted resolution MSC.286(86) revises SOLAS II-1/3-5, which permits the use of asbestos in very limited instances (vanes used in rotary vane compressors and rotary vane vacuum pumps, watertight joints and linings, and thermal insulation assemblies).

As of 1 January 2011, any new installation of materials which contain asbestos is prohibited for all ships. Consistent for new construction for issuance of a statement of fact under the new Ship Recycling Convention, it is expected that documentation is to be provided from the yard for materials used for new construction and from manufacturers (for the new construction supply chain of equipment/materials as well as for equipment/materials installed onboard existing ships) which shows that the equipment/materials do not contain asbestos.



IMO's Design and Equipment Sub-committee will develop a definition of the term "*new installation of materials*" in the context of regulation II-1/3-5. This effort will start later this year and is scheduled to conclude in February 2010.

CARGO OIL TANK COATING STANDARDS

Expected Compliance Dates

MSC 86 approved new draft SOLAS regulation II-1/3-11, which, if it is adopted at MSC 87 in May 2010, will enter into force in January 2012. Upon entry into force, the regulation will require cargo oil tanks (COTs) of new crude oil tankers ≥ 5000 tons deadweight to be coated in accordance with the approved COT Coating Performance Standard, COTCPS, which was also approved during MSC 86 and is set to be adopted in May 2010 at MSC 87. The extent of protection is shown by the shaded areas in Figure 1.

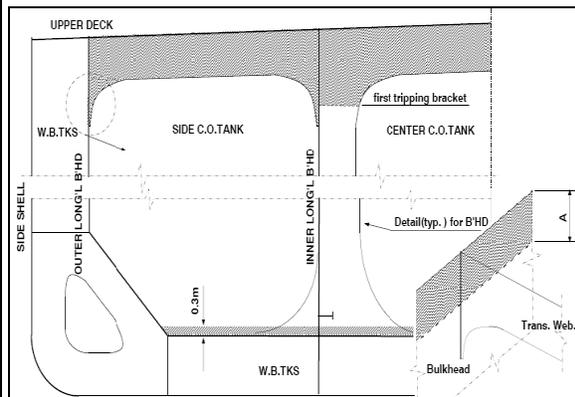


Figure 1 – COTCPS Protection

Assuming a 1 January 2012 entry into force date, a new crude oil tanker is defined as an oil tanker engaged in the trade of carrying crude oil for which:

- the building contract is placed on or after 1 January 2012, or
- in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 July 2012, or
- regardless of the building contract or keel laying date, the delivery of which is on or after 1 July 2016.

Crude oil is defined in MARPOL Annex I and means any liquid hydrocarbon mixture occurring naturally in the earth whether or not treated to render it suitable for transportation.

The effectiveness of the protective coating system (which has a 15 year target life provided the system remains in "GOOD" condition) is

verified during the life of a ship by the Administration based on the guidelines to be developed by the Organization.

Technical Standards

The draft coating standards to be adopted by MSC 87 were developed using the principles of the standards for coating ballast water tanks and include the provisions as summarized below:

Surface Preparation

- The steel surface should be prepared so that the coating selected can achieve an even distribution at the required nominal dry film thickness (NDFT) and have an adequate adhesion by removing sharp edges, grinding weld beads and removing weld spatter and any other surface contaminant in accordance with ISO 8501-3 grade P2.
- The primary surface is to be blasted to Sa 2½ with profiles between 30-75 µm.
- Secondary surface preparation is to achieve Sa 2½ on damaged shop primer and welds and Sa 2 removing at least 70% of the intact shop primer which has not passed a certified pre-qualification test.
- Surface treatment after erection is to achieve at least St 3 for erection joints or Sa 2½ where practicable. Additional specifications are provided for the inner bottom and underdeck of the COT.
- The water soluble salt limit equivalent to NaCl after blasting/grinding ≤ 50 mg/m² of sodium chloride.
- A dust quantity rating of "1" is required for dust size class "3", "4" or "5". Lower dust size classes are to be removed if the dust is visible, without magnification, on the surface to be coated.

Paint Application

- Coatings (epoxy or other product complying with a test procedure yet to be developed) are applied as per manufacturer's specifications.
- Threshold environmental limits for paint application are the same as that for blasting: relative humidity 85% or the steel temperature $< 3^{\circ}\text{C}$ above the dew point.
- 90% of all thickness measurements shall be greater than or equal to the nominal dry film thickness, NDFT, and none of the remaining 10% measurements shall be below 0.9 NDFT.
- Stripe coat shall be applied by brush or roller. Roller shall be used for scallops, ratholes, etc., only.



- A minimum of two stripe coats and two spray coats is required.
- The second stripe coat, in way of welded seams only, may be reduced in scope where it is proven that the NDFT can be met by the coats applied in order to avoid unnecessary over thickness. Any reduction in the scope of the second stripe coat shall be fully detailed in Coating Technical File.

Approval and Verification

A Statement of Compliance or Type Approval certificate is to be issued by a third party, independent of the coating manufacturer, based on the results of prequalification tests. For coatings, such as epoxy coatings that are known to perform at acceptable levels, 5 years of field experience may be used in lieu of prequalification tests.

A precise set of inspections are to be carried out by the qualified coating inspectors certified to NACE Coating Inspector Level 2, FROSIO Inspector Level III, or equivalent, as verified by the Administration.

Surface preparation and coating application throughout the coating process is to be inspected to ensure compliance with this standard. The scope of inspection provides acceptance criteria for surface preparation and coating application. Representative structural members shall be non-destructively examined for coating thickness.

Prior to approving the Coating Technical File, the Administration or recognized organization is required to:

- check that the *Technical Data Sheet* complies with the coating performance standard;
- check that the coating identification on representative containers is consistent with the coating identified in the *Technical Data Sheet*;
- check that the inspector is qualified in accordance with the qualification standard included in the coating performance standard; check that the inspector's reports of the coating's application, as well as surface preparation, indicate compliance with the manufacturer's *Technical Data Sheet*; and
- monitor implementation of the Coating Inspection Requirements.

POLAR SHIP GUIDE

Draft Guidelines

Recognizing that the additional demands imposed on ship systems by the Polar environment go beyond the existing requirements of SOLAS and MARPOL Conventions, the Committee approved a draft Assembly resolution which contains guidelines for ships operating in Arctic and Antarctic waters to ensure that shipboard systems are capable of functioning effectively under anticipated operating conditions and that an adequate level of safety and pollution prevention is afforded. The Guidelines harmonize different national requirements relating to hull structure, equipment, navigation and operation for different types and sizes of ships that may travel in the Polar ice-covered waters.

If adopted by the 26th Assembly in December 2009, Administrations will be invited to apply the guidelines to ships constructed on or after 1 January 2011 and, to the extent practicable, to ships built before that date.

Principles of the Guidelines

These guidelines build upon the requirements in existing Conventions which cover the design, outfitting, crewing and operation of ships for the conditions which they will encounter in such waters including the single most significant factor: sea and glacial ice loads on the ship's structure. The recommendations vary depending on the Polar Class assigned to the ship which varies from PC 1 (year-round operation in all ice-covered waters) to PC 7 (summer/autumn operation in thin first-year ice which may include old ice inclusions).

Unique Requirements

Of the many recommendations which go above and beyond SOLAS and MARPOL, the following are considered to be more significant:

- Any tank carrying a pollutant should be separated from the outer shell by a 760 mm double skin except for working liquids of the ship that are contained in tanks having a volume of 20m³ or less or in the tanks located aft of midships and within the flat of bottom of ships assigned PC 6 or PC 7.
- Essential equipment should be rated for the temperatures and other conditions which may be encountered in the service intended.
- Sea suction(s) should be capable of being cleared of accumulation of slush ice.



- Double bottoms are to be fitted extending between forepeak and afterpeak bulkheads except if the ship is fitted with an icebreaking bow and the compartments in the forepeak do not carry pollutants.
- Personal and Group Survival Kits are required for 110% of the persons onboard. Operations and training manuals to address the unique operations in the Polar waters are required.

GOAL BASED SHIP CONSTRUCTION STANDARDS

Draft SOLAS Regulation Approved

After 5 years of work, the Committee approved a new draft SOLAS regulation which, upon adoption at MSC 86 (12 to 21 May 2010), will implement Goal Based Ship construction standards, GBS. The standards explicitly require new bulk carriers (≥ 150m in length of single side skin construction) and oil tankers (≥ 150m in length) to be designed and built for a specified design life (not less than 25 years) under specified operating and environmental conditions for unrestricted ocean service (North Atlantic environmental conditions).

GBS Principles

A net scantlings approach is employed which provides for adequate structural strength to sustain the design loads with the structure assumed intact without any corrosion margin applied to the assessment of local structures. However, a portion of the total corrosion margin may be added to the net scantlings when assessing fatigue and global strength to reflect the material thickness that is expected to exist over the design life. Design life is defined by the Standard as the nominal period that the ship is assumed to be exposed to operating and/or environmental conditions and the corrosive environments associated with those conditions. Operating conditions include intermediate conditions arising from cargo and ballast operations.

Under the GBS, ships will be required to be of redundant design and construction so that localized damage to any stiffened structural member will not lead to immediate consequential collapse of the complete stiffened panel.

Ship Construction File - SCF

An outstanding item that remains is the intellectual property protection of information to be included in the required SCF. The SCF was approved in draft form in December 2008 at MSC

85. The SCF comprises information on how Tier II functional requirements of the GBS were applied in the ship design and construction with references to drawings and documentation containing detailed information

Verification Guidelines

Also approved, and subject to adoption at MSC 87, is a draft MSC resolution containing Guidelines for IMO to verify the conformity of classification society's rules to the goal-based ship construction standards for bulk carriers and oil tankers. The verification process embraces a self-assessment that is carried out by the classification society and submitted to IMO for review prior to audit. Although the IMO verifies compliance through an audit process with no restriction on the elements that can be checked, the classification society retains responsibility for ensuring that the rules conform to the GBS. Costs and allocation of resources to carry out the verifications that are expected to ensue will be decided at MSC 87.

MISCELLANEOUS

Chemical Carriers - PV Valve Replacement

With respect to chemical carriers certified under the IBC Code, the Committee issued MSC.1/Circ.1324 which provides clarification to ensure that the Maximum Experimental Safe Gap (MESG) value for the medium used to test devices to prevent passage of flame (devices) is appropriate for the product certified to be carried in the tank fitted with that tested device.

Denmark presented the Committee with a concern that the testing procedures contained in MSC/Circ.677 were not being applied correctly in that some ships certified to carry products with a MESG of less than 0.9 mm were only provided with devices that were tested and certified for products with an MESG of not less than 0.9 mm.

It was agreed that regardless of whether the chemical carrier is dedicated, or not, to the carriage of substances with an MESG less than 0.9, devices for chemical tankers certified for the carriage of products with an MESG less than 0.9 mm should be tested with the following media based on the Apparatus Group assigned to the product:

- Group IIB, ethylene (MESG = 0.65 mm)
- Group IIC, hydrogen (MESG = 0.28 mm)

It is recognized that there are many products with a flash point ≤60°C that were not identified with the relevant Apparatus Group IIA, IIB or IIC in the IBC Code.



To bridge this gap, the Circular recommends that where no apparatus group is assigned for the low flash point product, the device fitted to the tank carrying that product should be tested in accordance with the requirements for Apparatus Group II B. Low flash point products with the apparatus group missing have been identified in MSC.1/Circ.1325.

These revised standards are recommended to be applied to new ships constructed on or after 1 January 2013 and to existing ships constructed before 1 January 2013 no later than the first scheduled dry-docking carried out on or after 1 January 2013.

ABS is currently assessing ships it has certified to determine the extent of impact this may have.

The BLG Sub-Committee intends to develop appropriate amendments to the IBC Code with the next set of amendments to the Code which are scheduled to enter into force on 1 January 2013.

Natural Gas-Fueled Ships

New resolution MSC.285(86), containing Interim Guidelines for new ships - other than those covered by the IGC Code - with natural gas-fuelled engine installations, was adopted by the Committee. In recommending criteria for the arrangement and installation of propulsion and auxiliary machinery using natural gas (predominantly methane, either compressed or liquefied), the Guidelines provide several functional requirements which aim to ensure that an equivalent level of integrity in terms of safety, reliability and dependability is achieved as compared to conventional oil-fuelled equipment.

Some of the unique functional requirements include arrangement of hazardous areas to mitigate gas accumulation, adequate ventilation to protect personnel in the event of a gas leakage, and gas detection/alarm systems suitable for the space concerned with shutdown arrangements.

Two alternative system configurations are recommended for the machinery space:

- a gas safe system where all gas supply piping within machinery space boundaries is enclosed by double wall piping or ducting
- an ESD-protected system where, in the event of abnormal conditions involving gas hazards, all non-safe equipment (providing ignition sources) and machinery is to be automatically shutdown while equipment or machinery

required to be active during these conditions are of a certified safe type.

Gas supply piping within an ESD-protected machinery spaces may be accepted without gastight external enclosures under certain conditions:

- separation of engines providing propulsion power and electric power;
- gas supply line pressure within machinery spaces is less than 10 bar; and
- gas detection system automatically shuts down the gas and, if dual fuel, oil supplies and disconnects all non-explosion protected equipment.

Detailed fire safety and electrical requirements, in addition to those given in SOLAS, as well as bunkering, gas monitoring/control and ventilation arrangements are also regulated. The Guidelines dedicate an entire chapter to the manufacture, testing, inspection and documentation of the tanks and associated piping systems.

New Draft MODU Code Approved

The Committee approved a draft Assembly Resolution containing a completely revised Mobile Offshore Drilling Unit (MODU) Code. If the draft Code is adopted by the 26th Assembly in December 2009, then the recommended application date would apply to MODUs constructed on/after 1 Jan 2012.

Of the many revisions in this new version of the Code, the more significant revisions include:

- A minimum range of residual stability for self-elevating units (see Figure 2) is required:

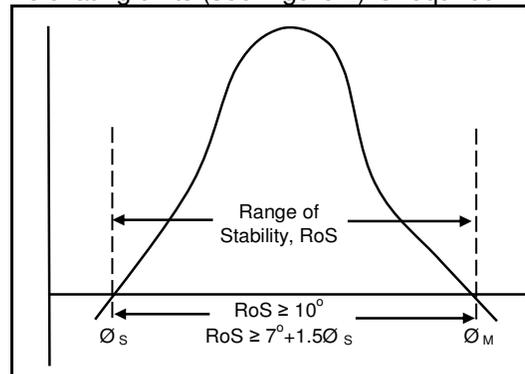


Figure 2 – Residual stability

- Ballast and pre-load tanks should be coated during construction in accordance with the new SOLAS Performance Standard for Protective Coatings.



- An entire new section providing requirements for permanent means of access that are consistent with that contained in SOLAS
- Two fuel oil service tanks for each type of fuel used on board are to be provided
- Double jacketing of high pressure fuel delivery lines is required
- New requirements for jacking system redundancy in the event of any single failure of a component and in the loss of electric, hydraulic, or pneumatic power
- Suitable main source of power load-shedding arrangements to ensure the integrity of supplies to services required for propulsion, steering and safety of the unit
- Expanded provisions for alarms and internal communication
- Machinery controls - All control systems essential for the propulsion, control and safety should be independent or designed such that failure of one system does not degrade the performance of another system.
- The main source of electrical power is to be capable of restoring propulsion from a dead ship condition within 30 min after blackout.
- Protection of mud processing areas by a fixed fire-extinguishing system.
- Protection of the drill well area by a water spray system
- A minimum amount & distribution of portable fire extinguishers for accommodation, service and working spaces.
- A fixed automatic hydrogen sulphide gas detection and alarm system for continuous monitoring of the drilling area, mud processing area and well fluid test area.
- New provisions for recharging of air cylinders
- Survival craft to meet the LSA Code
- Additional lifejackets to be stowed for those persons who may be on duty in locations where their lifejackets are not readily accessible.
- Anti-exposure suit complying with the LSA Code should be provided for every person assigned to crew the rescue boat or assigned to a marine evacuation system party
- All lifting and hoisting equipment, including its supporting structure, to be in accordance with the requirements of a classification society or with national or international standards.

Drainage System Protection

MSC adopted guidelines in support of the requirements in the new SOLAS regulation II-2/20 for drainage systems in closed vehicle and ro-ro spaces and special category spaces and for the protection of drain openings.

The guidelines contained in MSC.1/Circ.1320 provides detailed guidance for sizing the drains (scuppers, freeing ports or a combination thereof) for draining spaces above the bulkhead deck, and for the bilge pumping system for arrangements below the bulkhead deck, for both passenger and cargo ships.

For cargo ships, if pumping arrangements are not possible, the adverse affect upon stability of the added weight and free surface of water should be taken into account according to the International Code on Intact Stability, 2008, chapter 3. Guidance is also given for sizing of easily removable grating, screen or other means to be installed over each drain opening in order to prevent debris from blocking the drain.

New SOLAS regulation II-2/20, as contained in MSC.256(84), impacts new and existing ships that are arranged with ro-ro spaces, closed vehicle spaces, or special category spaces. When such spaces are protected by fixed pressure water-spraying systems, the drainage openings from these spaces are to be fitted with a non-operational means to prevent blockage. See the example illustrated in Figure 3, below.



Figure 3 – Passive Drainage Protection

New ships constructed on or after 1 January 2010 are to comply at delivery. Existing ships constructed before this date are to comply by the first survey carried out on or after 1 January 2010.

Fuel Oil Tank Arrangements Clarified

IACS sought clarification of the phrase in SOLAS II-2/4 which requires the area of a fuel oil tank boundary that is common with the machinery spaces to be kept to a minimum.

Two interpretations were proposed by IACS for fuel oil tanks located adjacent to or within machinery spaces of category A:

- one side of the fuel oil tank must be contiguous with any boundary of the machinery space and that the outer shell (or a tank protecting the fuel oil tank from the outer shell when so required under MARPOL I/12A) can be considered as a machinery space boundary.
- at least one of their vertical sides should be contiguous to the machinery space boundaries and the area of the tank boundary common with the machinery spaces should be kept to a minimum. The arrangements in the diagrams below are acceptable provided that the requirements of MARPOL I/12A are met.

The Committee decided that only the second interpretation provided above was correct and issued MSC.1/Circ.1322 which contains Figure 4 as an illustration of that interpretation.

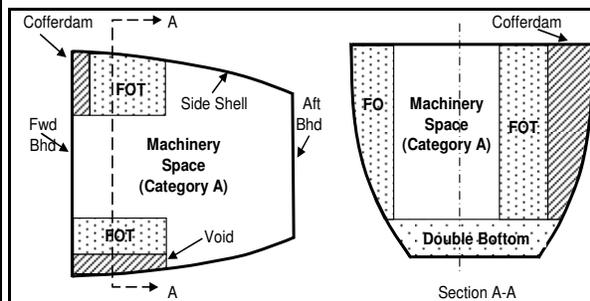


Figure 4 – FO Tank Arrangement

Lifeboat Safety

The Committee approved draft amendments to the LSA Code, which include additional requirements (that will come into force at a time to be determined at MSC 87 in May 2010) for new lifeboat release mechanisms.

One of the more important of these amendments require that the mechanism be designed so that the hook and locking mechanism remains fully closed under any operational conditions until it is ready to be opened.

Other provisions require that:

- when the mechanism is fully reset, the weight of the lifeboat does not cause any force to be transmitted to the operating mechanism, which could cause the inadvertent release of the lifeboat;
- the locking devices are to be designed so that they can not turn open, due to forces from the hook load, and;
- if a hydrostatic interlock is provided, it shall automatically reset upon lifting the boat from the water.

The Committee also decided to recommend that existing on-load release mechanisms be upgraded to comply with the requirements stipulated in the three above items within a yet to be determined time frame. Guidelines are being developed in the form of an MSC circular for evaluating existing lifeboat on-load release mechanisms to determine if they are of "poor and unstable characteristics" (see Figure 5) in which case they should be replaced.

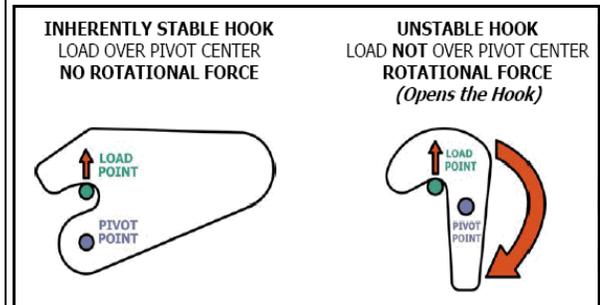


Figure 5 - On-load Release Mechanisms

It is anticipated that these guidelines will be issued after MSC 87 meets in May 2010.