



Marine Safety Center Technical Note

MTN 04-94, CH-2
16703/171.080
May 18, 2018

MARINE SAFETY CENTER TECHNICAL NOTE (MTN) NO. 04-94, CH-2

Subj: DAMAGE STABILITY CONSIDERATIONS REGARDING THE EXTENT AND CHARACTER OF DAMAGE FOR FERRY VESSELS AND VESSELS NOT SUBJECT TO SOLAS WHICH OPERATE ONLY ON INLAND WATERS; 46 CFR TABLE 171.080(a), FOOTNOTE 3

Ref: (a) Title 46 CFR Subchapter S, Subpart C, Table 171.080(a), Extent and Character of Damage

1. Purpose: This Marine Technical Note provides additional guidance for industry and Authorized Classification Societies when performing the damage stability transverse penetration calculations for ferry vessels and vessels not subject to SOLAS which operate only on inland waters. Change-2 (CH-2) incorporates minor administrative changes and eliminates an existing note regarding an incorrect cite in 46 CFR 171.010.
2. Applicability: This MTN applies to ferry vessels and vessels not subject to SOLAS which operate only on inland waters.
3. Discussion:
 - a. Reference (a) specifies the dimensions of penetrations and character of damage to be used in the design calculations of vessels with Type I or Type II subdivision. Footnote 3 of reference (a) defines B as the beam of the vessel measured at or below the deepest subdivision load line as defined in 171.010(b) except that, when doing calculations for a vessel that operates only on inland waters or a ferry vessel, B may be taken as the mean of the maximum beam on the bulkhead deck and the maximum beam at the deepest subdivision load line. This averaging of B is intended to give some "credit" for overhanging structure/fender systems that are prevalent on these types of vessels. Although calculating the mean beam is straightforward, the point of application on the hull of the vessel, in light of footnote 4 of reference (a), is unclear and has led to considerable confusion and inconsistent application.
 - b. SOLAS regulations have no such provisions for averaging the extent of damage. Accordingly, this allowance in footnote 3 of reference (a) cannot be applied to vessels subject to SOLAS (without a SOLAS exemption).
4. Action: Stability plans submitted to the Marine Safety Center (MSC) for approval will be reviewed for compliance with the applicable regulations, this MTN, and any specific requirements established by the Officer in Charge, Marine Inspection or the MSC. The guidance in enclosure

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(1) is to be used to calculate the transverse extent of damage for ferry vessels and vessels not subject to SOLAS that operate only on inland waters, as indicated in footnote 3 of reference (a).

5. Disclaimer: While the guidance contained in this document may assist the industry, the public, the Coast Guard, and other Federal and State agencies in applying statutory and regulatory requirements, this guidance is not a substitute for the applicable legal requirements, nor is it in itself a regulation. It is not intended to, nor does it impose legally binding requirements on any party, including the Coast Guard, other Federal agencies, the States, or the regulated community.

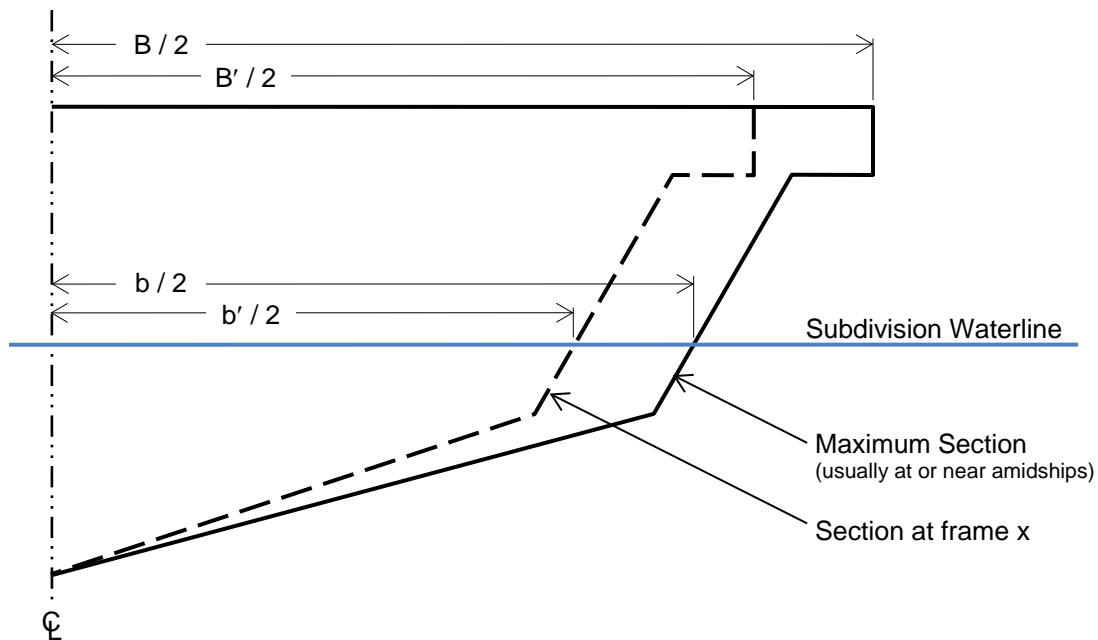

S. J. KELLY

Encl: (1) Procedure for Averaging the Location of the Transverse Damage Penetration (B/5) for Ferry Vessels and Vessels Not Subject to SOLAS which Operate Only on Inland Waters

Copy: Commandant (CG-ENG), Office of Design and Engineering Standards
Commandant (CG-CVC), Office of Commercial Vessel Compliance
Commandant (CG-5P-TI), Office of Traveling Inspector Staff

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PROCEDURE FOR AVERAGING THE LOCATION OF THE TRANSVERSE DAMAGE PENETRATION (B / 5) FOR FERRY VESSELS AND VESSELS NOT SUBJECT TO SOLAS WHICH OPERATE ONLY ON INLAND WATERS.



- B = Maximum molded beam on the bulkhead deck
- b = Maximum molded beam at the subdivision load line
- B' = Molded beam on the bulkhead deck for a specific point on the vessel's length (i.e. a specific frame)
- b' = Molded beam at the Subdivision load line for a specific frame

For any point on the vessel's length:

$$B' / 2 - B / 5 = D$$

$$b' / 2 - b / 5 = d$$

Therefore:

$$D / 2 + d / 2 = \text{Location from the vessel's centerline of assumed transverse extent of damage}$$