LL17 Minimum bow height (Regulation 39(1) and 39(2))

(1968) (Corr. 1996) (Corr.1 June 2006) (Corr.2 Oct 2007) (Rev.1 July 2008)

When a ship built on or after 21 July 1968 is arranged to suit exceptional operational requirements such that the forecastle and/or sheer forward do not meet the provisions of paragraphs (1) and (2) of Regulation 39 of the 1966 ICLL, the increase of calculated summer freeboard may, with the concurrence of the Administration, be determined in the following ways.

Nomenclature

$\Delta E_0 \geq 0$	Bow height penalty
S_{min} =	H_{min} - fbd_s
H_{min}	Minimum bow height calculated according to paragraph (1) of this Regulation
fbd_s	Summer freeboard
$d \leq 0.15L$	Extent of sheer (measured from FP)
$l_F \leq 0.07L$	Mean covered length of forecastle
h	Height of forecastle measured at FP from zero sheer line
S_{FP}	Actual sheer measured at FP
S_{BHD}	Actual sheer in way of forecastle bulkhead
$S_1 = S_{min}\left(\frac{0.15L - l_F}{0.15L}\right)^2$	Theoretical sheer in way of forecastle bulkhead corresponding to S_{min}
$S_2 = h\left(\frac{0.15L - l_F}{0.15L}\right)^2$	Theoretical sheer in way of forecastle bulkhead corresponding to h

Note: This UI may also be applied to Regulation 39(1) and 39(2) of the 1988 Protocol and the revised 1988 Protocol upon the special consideration by the Administration.

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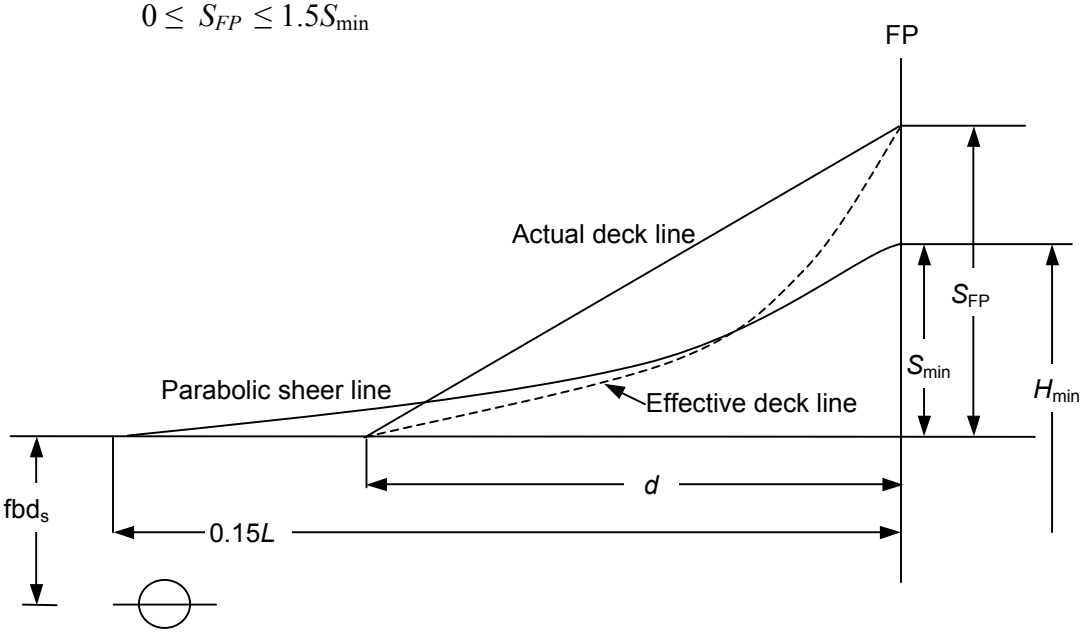
a) Where no forecastle is fitted and the sheer forward extends less than 0.15*L* from fore perpendicular (FP):

$$\Delta E_0 = S_{\min} - S_{FP}\frac{d}{0.15L} \geq 0$$

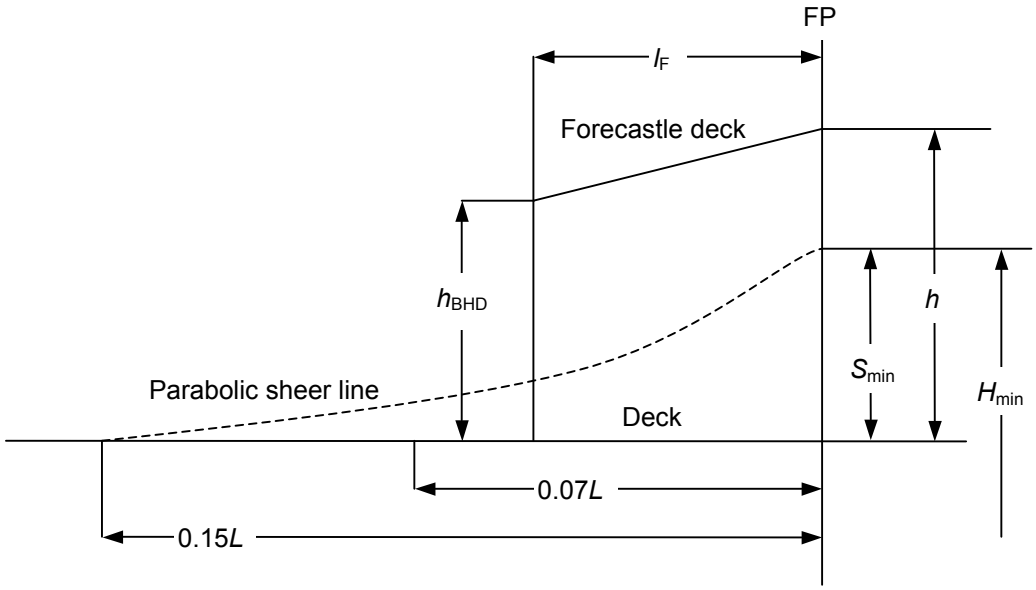
$$0 \leq S_{FP} \leq 1.5S_{\min}$$



(b) Where there is no sheer on the forward part of the freeboard deck, and the forecastle length is less than 0.07*L* from FP:

$$\Delta E_0 = S_{\min} - h\frac{l_F}{0.07L} \geq 0$$

$$0 \leq h \leq 1.5S_{\min}$$



The height of the forecastle at the bulkhead position shall not be less than the ordinate, at that point, of a parabolic sheer curve having an ordinate S_{min} at the

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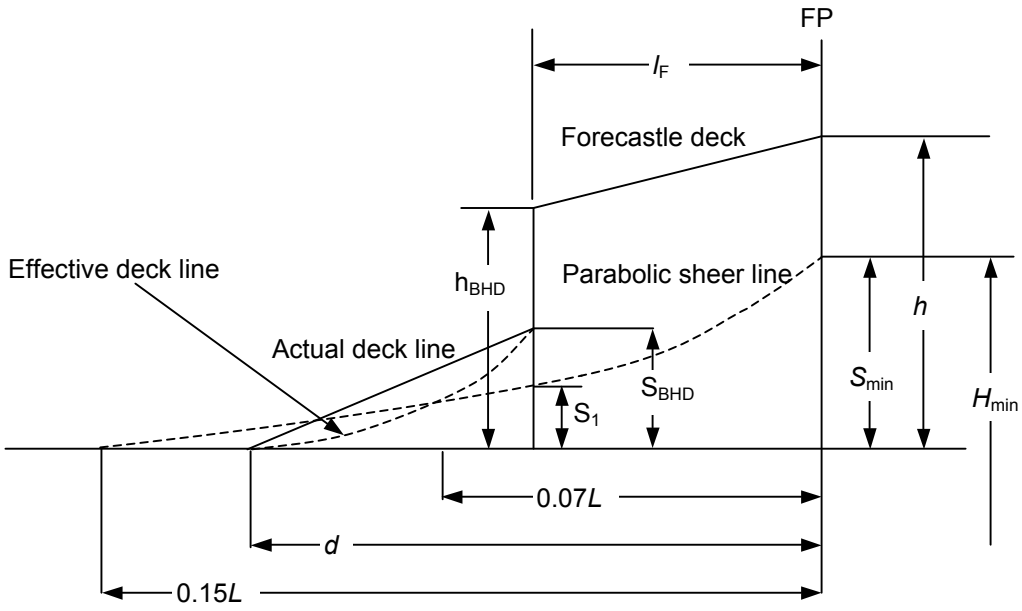
forward perpendicular and extending aft for a distance of 0.15*L* from the forward perpendicular.

(c) Where the sheer forward extends less than 0.15*L* and the length of forecastle is less than 0.07*L* from FP:

(i) $S_{\min} \leq h \leq 1.5 S_{\min}$

$0 \leq S_{BHD} \leq 1.5 S_1$

$$\Delta E_0 = S_{\min}\left(1 - \frac{h}{S_{\min}}\frac{l_F}{0.07L}\right)\left(1 - \frac{S_{BHD}}{S_1}\frac{d - l_F}{0.15L - l_F}\right) \geq 0$$



Conditions:

$$\left.\begin{array}{l} \left(1 - \dfrac{h}{S_{\min}}\dfrac{l_F}{0.07L}\right) \\ \left(1 - \dfrac{S_{BHD}}{S_1}\dfrac{d - l_F}{0.15L - l_F}\right) \end{array}\right\}$$ not to be taken negative (less than zero)

The height of the forecastle at bulkhead must satisfy the same conditions as in subparagraph (b) of this paragraph.

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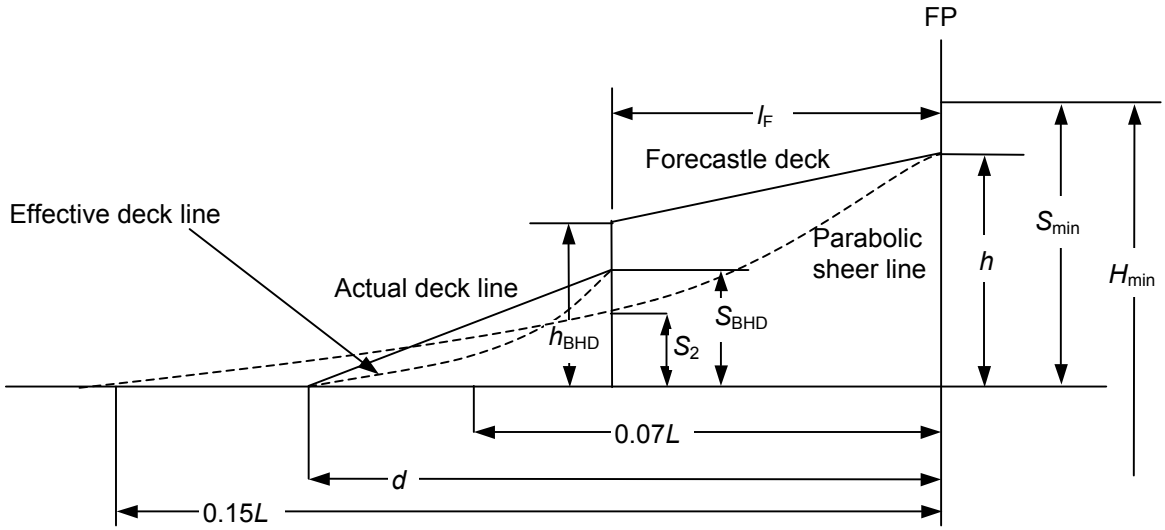
(ii) $h \leq S_{\min}$

$$0 \leq S_{BHD} \leq 1.5S_2$$

$$\Delta E_0 = (S_{\min} - h) + h\left(1 - \frac{l_F}{0.07L}\right)\left(1 - \frac{S_{BHD}}{S_2}\frac{d - l_F}{0.15L - l_F}\right) \geq 0$$



Conditions:

$$\left.\begin{array}{l} \left(1 - \dfrac{l_F}{0.07L}\right) \\ \left(1 - \dfrac{S_{BHD}}{S_2}\dfrac{d - l_F}{0.15L - l_F}\right) \end{array}\right\}$$ not to be taken negative (less than zero)

The height of the forecastle at the bulkhead position shall not be less than the ordinate, at that point, or a parabolic sheer curve having an ordinate *h* at the forward perpendicular and extending aft for a distance of 0.15*L* from the forward perpendicular.

In general, this interpretation should be applied to existing ships only. However, to suit exceptional operational requirements, and upon the special consideration by the Administration, the provision of this interpretation may also be applied to new ships.

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