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SAAMI TECHNICAL COMMITTEE MANUAL

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VOLUME VII, CENTERFIRE RIFLE

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EFFECT OF HEADSPACE

In the event of excessive headspace, the main hazard lies in case failure. If there is an excessive gap between the base of the cartridge and the breech face when firing, the case body will be stretched as the forward (thin) part of the case expands first against the chamber wall, then the head of the case is pushed back against the breech face. If the case is stretched far enough, a partial or complete case separation will occur, releasing gas back into the action. The degree of danger resulting from a case separation depends principally on the path of gas escape.

Functionally, the problems resulting from headspace deviations are principally the probability of misfires or extraction failures in the event of excessive headspace, and hard closing in the event of insufficient headspace. Also, should a case separation occur due to excessive headspace, the part of the case left in the chamber will prevent chambering of the next round.