

## Question:

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The addition of an airbag affects neither the man's initial nor his final momentum (after coming to a stop), and so the airbag leaves his change in momentum unchanged.

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Because impulse is equal to change in momentum, if the stuntman's change in momentum is unaffected by the addition of the airbag, then the impulse stopping him is also unchanged.

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Impulse is equal to force  $\times$  time. The stuntman's impulse is unchanged by the addition of the airbag, but the time over which the impulse is imparted does increase when the airbag is there. Thus, force exerted on the stuntman is decreased with the addition of the airbag.