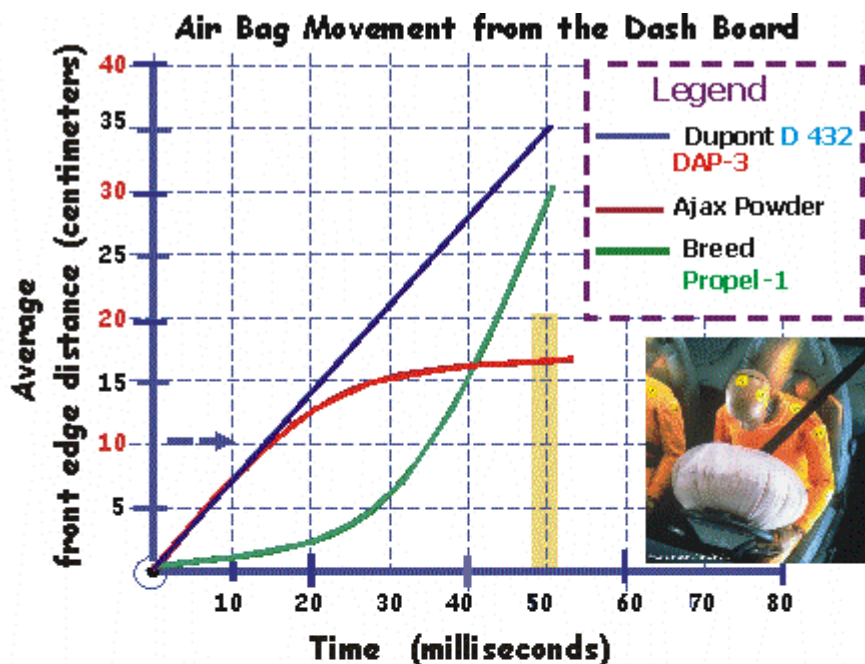


sTEM Puzzle Number 2

Supporting the idea that the holiday issue of the FLATE Focus be brief, the discussion of the November sTEM puzzle is delayed until the next issue. However, in compliance with our general belief that “to rest is not to conquer”, we do provide a new puzzle for your leisure time entertainment. have fun with this puzzle and have a great holiday season.

This time your technical position is that of a propellant test specialist. After setting up, safety checking, and repeated operation of a test stand apparatus, you have acquired the following data and are prepared to submit your report that includes answers to the two questions provided below. Do any of the fuels meet both design requirements?



For a specific automobile model safety engineers have established that the practical criteria for a successful air bag deployment are:

- (a) the bags front edge moves at least 20 centimeters in 50 milliseconds.
- (b) The speed of the bags front edge starts to decrease after 10 centimeters of movement.

1) Which solid fuel(s) meet design criteria (a)?

Dupont D432 Yes No Ajax DAP-3 Yes No Breed P1 Yes No

2) Which solid fuel(s) meet design criteria (b)?

Dupont D432 Yes No Ajax DAP-3 Yes No Breed P1 Yes No

2) Do any any tested fuels meet both design requirements?

Yes No