

## 2.2.5: Footnotes

1. You might think intuitively that the recoil velocity should be exactly one fourth of a meter per second, and you'd be right except that the wagon has some mass as well. Our present approach, however, only requires that we give a way to test for equality of masses. To predict the recoil velocity from scratch, we'd need to use conservation of momentum, which is discussed in a later chapter.
2. The argument only fails for objects light enough to be affected appreciably by air friction: a bunch of feathers falls differently if you wad them up because the pattern of air flow is altered by putting them together.
3. V.B. Braginskii and V.I. Panov, Soviet Physics JETP 34, 463 (1972).
4. The principle of Galilean relativity is extended on page 190.

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