“As network administrator I can take down the network with one keystroke. It’s just like being a doctor but without getting gooky stuff on my paws.”

~Scott Adams ("Dogbert")
Before we get started...

- Last Time
  - Short lecture, discussed excavator example

- Today:
  - Wrecker-boom example – position, velocity, and acceleration analysis

- Next time
  - Learn how to visualize the results of your kinematics analysis

- Assignment due on Th, Oct. 20:
  - Textbook: 3.4.7, 3.4.8, 3.4.9
  - ADAMS & MATLAB emailed to you
Before getting started...

- Midterm exam coming up on November 3
  - Closed books
  - You can write down on two sheets of paper (both sides) whatever you find useful
  - Save those two sheets of paper, you’ll bring them along for the final exam as well
  - Review on Nov 2 at 6 PM in 1152ME

- What’s left before the exam?
  - Newton method to solve at each time grid-point the constraint equations
  - Discuss about the velocity analysis and acceleration analysis
  - Putting it all together and getting your simEngine2D working
We are interested in the KINEMATICS of this mechanism

- That is, we are interested in how this mechanism moves in response to a set of *two* kinematic drives (motions) applied to it
- Relatively straightforward to check that this mechanism has NDOF=0

Recall what we have to do:

- **Step A**: Identify *all* physical joints and drivers present in the system
- **Step B**: Identify the corresponding set of constraint equations $\Phi(q,t)=0$
- **Step C**: Compute $\Phi_q$ : needed for the Position Analysis
- **Step D**: Compute $\nu$ : needed for the Velocity Analysis
- **Step E**: Compute $\gamma$ : needed for the Accelerations Analysis