Your goal over the next week is to work with your project group to complete a System FMEA and a Design FMEA for a dental floss dispenser. As with QFD, the product that you are designing is either one of the 3 dental floss dispensers distributed in class. (The reason that you are working with your project group is to avoid logistical problems scheduling multiple meetings with multiple groups to complete the assignment.)

To construct the System FMEA (refer to Chp. 3 of Ford’s FMEA handbook):
1. As a class, we will first identify the primary function(s) for a floss dispenser, and from this, identify potential failure modes.
2. Working with your group, complete Steps 9-20 in Chp. 3 of Ford’s FMEA handbook for the principal system failure mode that we identify in class.
3. Complete a System FMEA evaluation worksheet for the potential failure mode identified in Step 2 either by hand or using the software distributed in class.

To construct the Design FMEA (refer to Chp. 4 of Ford’s FMEA handbook):
4. Working with your group, complete Steps 9-20 in Chp. 4 of Ford’s FMEA handbook. Identify 1-3 potential failure modes for each component of the floss dispenser (e.g., floss, casing, cutter, roll of floss, etc.).
5. Complete a corresponding Design FMEA evaluation worksheet either by hand or using the software distributed in class.

Submit a System FEMA and a Design FMEA with a 1-2 page summary:
1. listing the name of each member in your group who worked on the assignment,
2. clearly defining all of the System and Design FMEA failure modes, causes, and effects,
3. discussing the rank ordering of design failure effects based on RPN in the Design FMEA,
4. explaining two row entries in their entirety from either FMEA worksheet, including justification of the set of values selected for Severity, Occurrence, and Detection Ratings for any of your failure modes, current design controls (make educated guesses), recommended actions, and responsibility (e.g., who is responsible? QC? IE? ME? Manf? Marketing?),
5. assessing the contribution of each team member to this assignment (included as the last item in your 1-2 page write-up).