Setup

Make the study match reality as much as possible.

- ☐ Modify mates as needed to represent the motion of the system.
- ☐ Add local mates if necessary.
- ☐ Add motors.
- ☐ Add springs.
- ☐ Add dampers.
- ☐ Add forces.
- ☐ Add gravity.
- ☐ Add contacts.

Running

- ☐ Check the study properties to set the desired frame rate for your event. You will need 160 frames for a smoothly animated 5 seconds (the physical time may be different). Start with a frame rate of 160/length of your study.
- ☐ Choose a solver. GSTIFF is a good general purpose solver to start with. SI2 is a better solver if concerned more specifically with velocities and accelerations.
- ☐ Run the study.

Troubleshooting

Try these things then rerun your analysis.

for convergence failure:

- ☐ Try a different solver.
- ☐ Lower the required accuracy.
- ☐ Shrink the maximum integrator time step.

for poor analysis quality:

- ☐ Review that the inputs (motors, forces, springs, etc.) accurately represent reality.
- ☐ Increase the frame rate.
- ☐ Increase the quality of the contact resolution.

for long running analysis:

- ☐ Increase the minimum integrator step size.

for analysis missing quick occurring events like impacts:

- ☐ Increase the frame rate or
- ☐ Decrease the maximum integrator step size to be on the same order of magnitude of the events.

Check Results

Did you get what you want?

- ☐ Plot the results you need. If they look discrete rather than continuous and/or seem to be missing the maximums and minimums you were expecting, see Troubleshooting for poor analysis quality.
- ☐ Look at the motion you are seeing and decide if it looks correct. If it doesn't you may be seeing bad representations of the setup. See Troubleshooting for poor analysis quality above.