I need to pass the triple derivative of the state variable through a gain back to the summing junction. However, I cannot determine how to remove the derivative term of the forcing function from the output of the integrator. Any suggestions?

From the summing junction on the left the equation is X4dot-F2dot/ms-FdotB8/msmp. After passing through the integrator, the output should be X3dot-Fdot/ms-FB8/msmp. Adding the term FB8/msmp should eliminate the last term of the expression. However, how does one go about eliminating the Fdot/ms term? The objective is to send only the X3dot term to the gain GN6; not X3dot-Fdot/ms.

