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**Title** : Model Following/Pole Placement  
for Handling Quality

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**Keywords** : Model Following, Optimal Control, Handling Quality,  
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**Abstract** : Model following control is a sophisticated technique of meeting short period handling quality requirements of an aircraft, if all specifications can be embeded into an ideal mathematical model which the aircraft is made to track. Programmes have been developed for computation of model following control laws based on optimal control to minimize model following error and also for perfect model following control. An optimal and a perfect C\* model following problem was formulated for satisfying C\* criteria for an aircraft and the same applied to a design excercise on M-2000 aircraft. It is found to be difficult to meet the short period damping and natural frequency; requirements as well as minimize C\* error due to limited state feedback available.. Hence a technique for pole placement by output feedback has been developed and applied to M-2000 aircraft to get desired short period dynamics and a prefilter designed to keep the C\* response within the prescribed envelopes for all three flight conditions considered.