

4.b.)

```
zeta_V = 1.0;  
W_V = 40;  
omega_n_V = omega_n_theta/W_V;  
P.airspeed_throttle_kp = (2*zeta_V*omega_n_V - models.a_V1) / models.a_V2;  
P.airspeed_throttle_ki = omega_n_V*omega_n_V/models.a_V2;  
P.airspeed_throttle_kd = 0.0;
```

4.c.)

kp =

0.1469

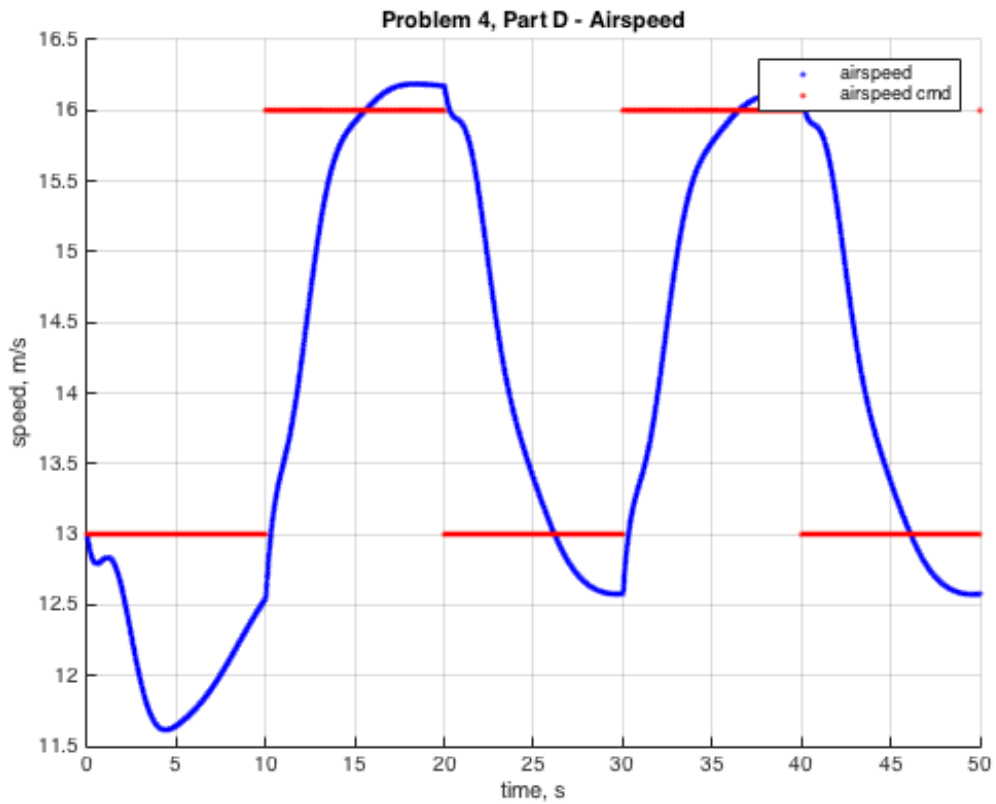
ki =

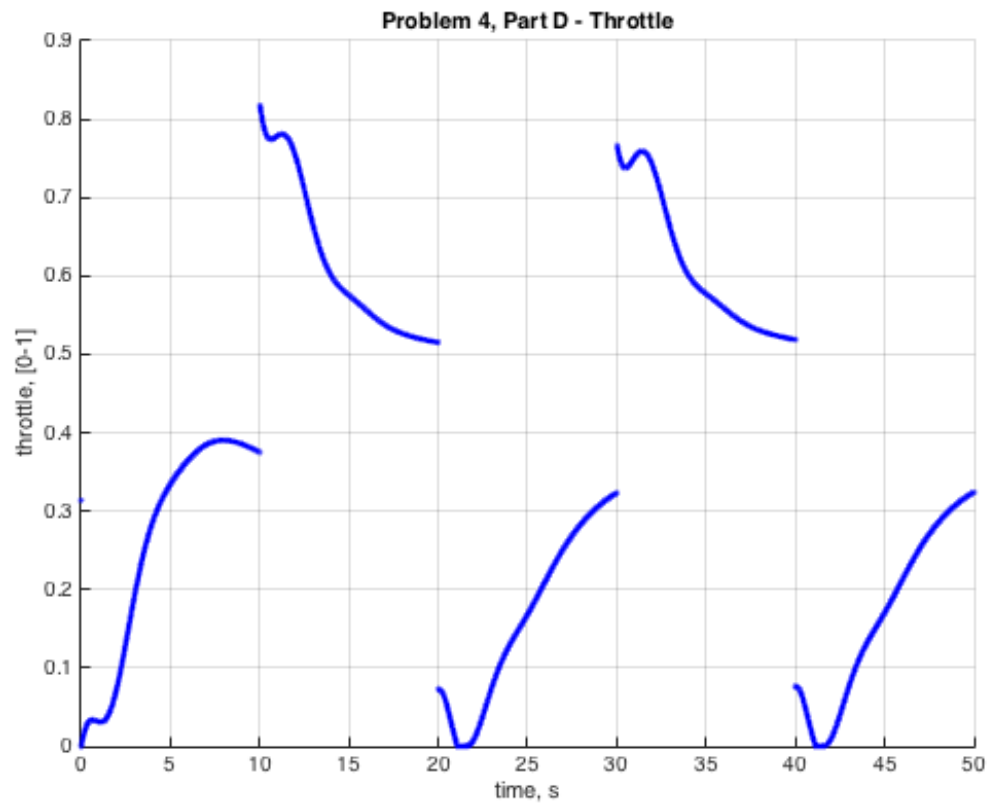
0.0361

kd =

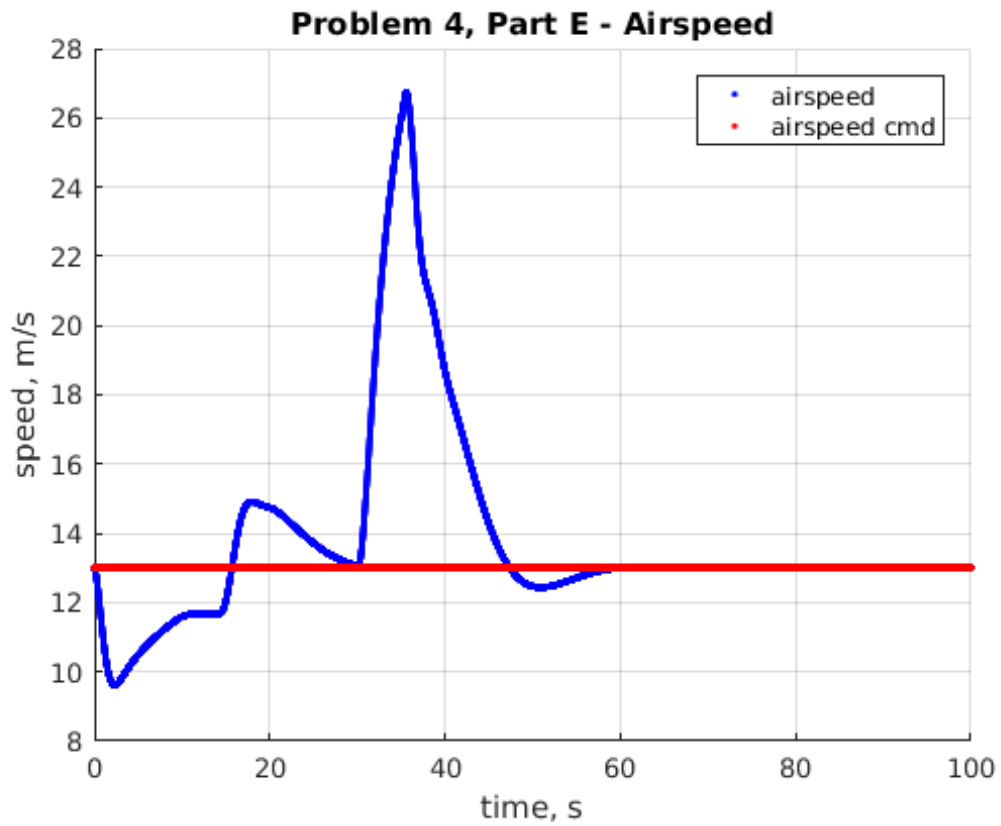
0

4.d.)

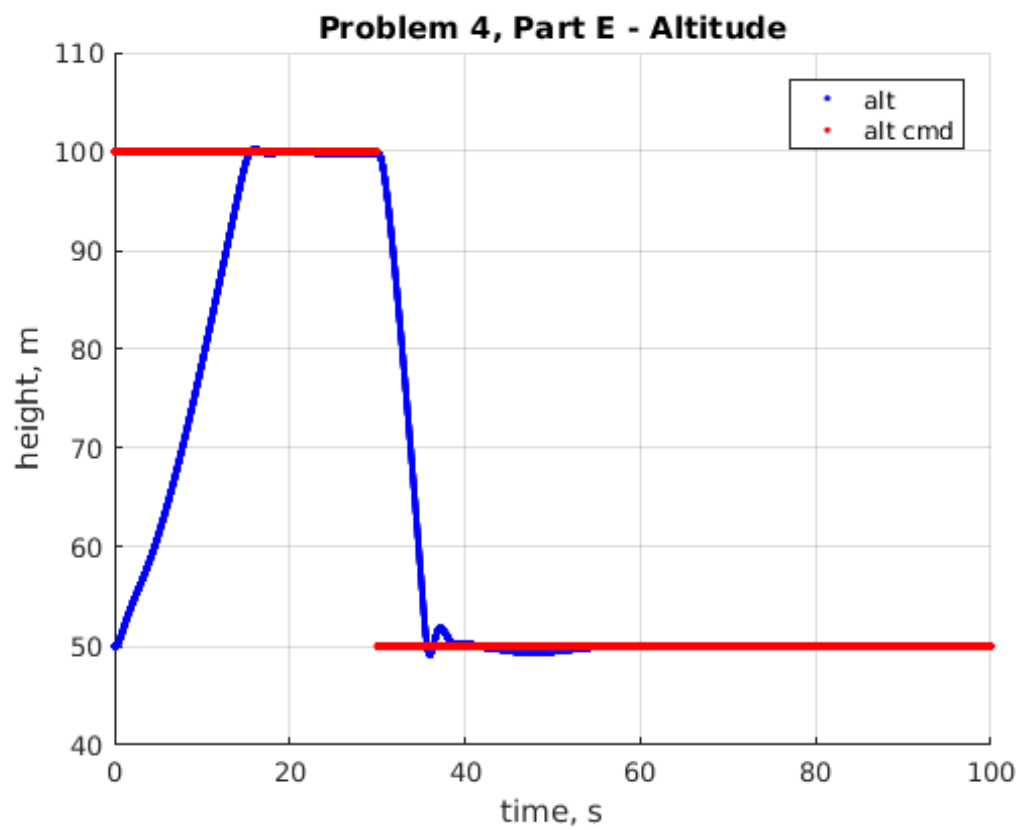
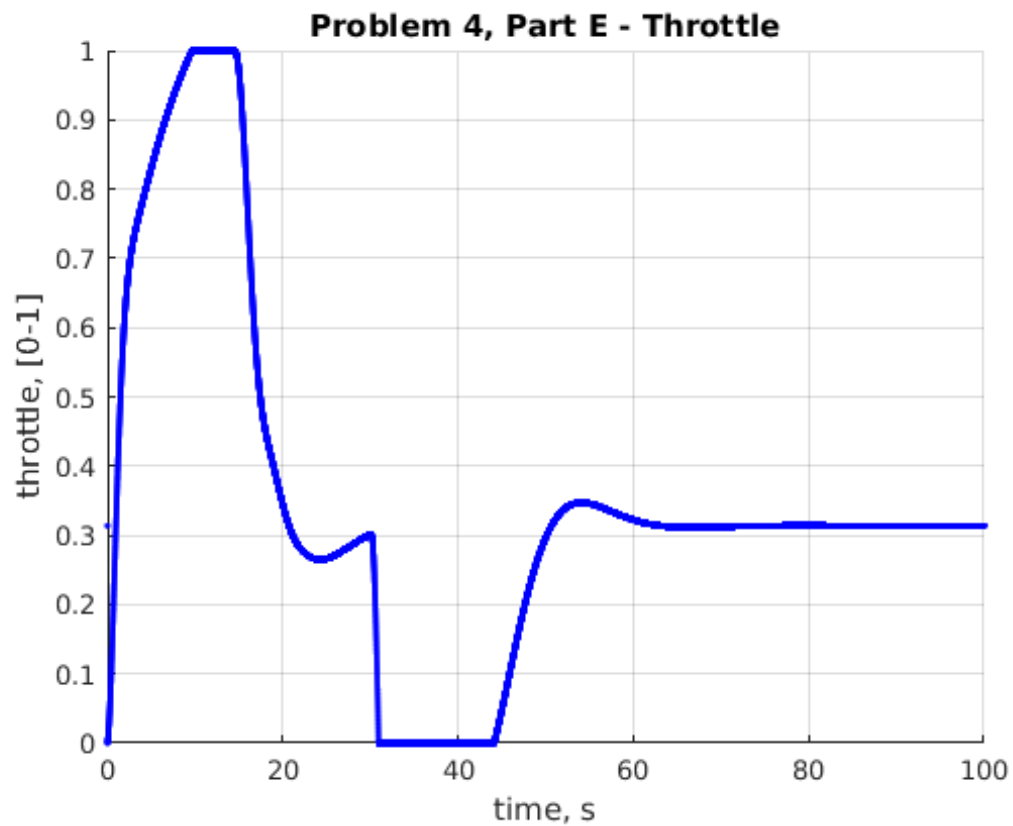




4.e.)



The airspeed here is a little high, especially gains were calculated assuming an airspeed of 13 m/s.



This seems like a steep dive. Maybe it would be better to come down more slowly and avoid that undershoot.