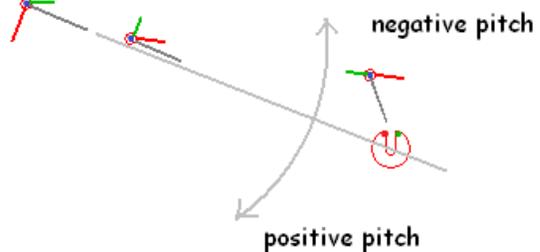


## Ayse Docking Checklist

	Flight	Engineering & GUIDO	FIDO
1	a) Set NAV mode = app targ b) Set targ = AYSE c) Set ref=celestial body around which the HAB and AYSE are orbiting d) NAVmode = MAN e) confirm $\theta$ Pch displayed (p) f) display target data (l) “R” notations disappear h) RCSP at 100 and recharges after use	g) Engineer: main engines ON h) RCSP ON	i) confirm steps a to g j) confirm RCSP operational
2	Center on AYSE and zoom in to see the docking port. Note the location of the AYSE docking port relative to the HAB.		
3	Rotate the HAB to a pitch of $5^\circ$ , either “+” or “-” depending on which side the docking port is.		
4	a) apply 10% thrust until ACC = 0.2		b) confirm ACC=0.2 c) confirm negative Vcen, Vtan~0
5	a) rotate HAB to $\theta$ Pch = $\pm 90$ sign of $\theta$ Pch must match step 3		b) confirm correct orientation as in diagram in step 3
6	a) display $\theta$ Vtarg (p) b) apply $\pm 5\%$ engine until $\theta$ Vtarg = $\pm 5.0$ sign of $\theta$ Vtarg must match step 5		b) display $\theta$ Vtarg (p) d) confirm correct fligh profile
7	Select NAV mode = “retr Vtrg”		

8	<p>Apply thrust to reduce <math>V_{tan}</math> to zero when target vector is nearly lined up with axis of docking port.</p> <p>- or -</p> <p>If the docking port was on the opposite side of AYSE from the HAB in step 3, then allow the HAB to drift a few km past AYSE before bringing it to a stop. Go back to step 3 and repeat.</p>		Confirm pilot is following correct flight profile.
9	Select NAV mode = "app targ"		
10	<p>a) <math>V_{cen}</math> should be slightly negative.</p> <p>b) if not, use foward RCS thrust.</p> <p>c) confirm attitude, velocity, and target vectors are aligned with axis of docking port.</p>		d) confirm attitude, velocity, and target vectors are aligned with axis of docking port.
11	<p>a) use RCS thrust to shift the HAB sideways until both docking lights show green.</p> <p>b) use opposite thrust to zero out the <math>V_{tan}</math> when you are properly aligned.</p>		c) confirm HAB is correctly aligned with docking port.
12		<p>a) shut down Agrav</p> <p>b) confirm with EECOM minimum RAD shield setting and shut down if possible</p> <p>c) confirm that all temps are within limits</p> <p>d) confirm HAB reactor &lt; 100 A</p>	
13		Isolate RAD1, RAD2, RAD3	
14		Retract RAD1, RAD2, RAD3	
15	a) forward RCS thruster until $V_{cen} = -1.0$		

16	<p>a) monitor <math>V_{tan}</math>  HAB will drift sideways due to different in ref <math>V_o</math> for HAB and AYSE</p> <p>b) use sideways RCS to <math>V_{tan} = 0</math></p> <p>c) if a docking light changes to yellow, use RCS thrusters to push HAB towards opposite side of docking port  Continue this procedure after HAB enters the docking port.</p>		<p>d) confirm correct alignment and track</p> <p>e) confirm proper actions to correct track deviations</p>
17	<p>a) when end of docking port turns green, use reverse RCS thruster to bring <math>V_{cen}</math> to zero.</p> <p>b) if the green indicator goes back to red, reverse slightly until it turns green again and stop motion.</p>	<p>c) confirm HAB is in docking position</p>	<p>d) confirm HAB is in docking position</p>
18		<p>a) arm docking latch</p> <p>b) activate docking latch</p> <p>c) disarm docking latch</p>	
19	Continue with Launch Checklist		