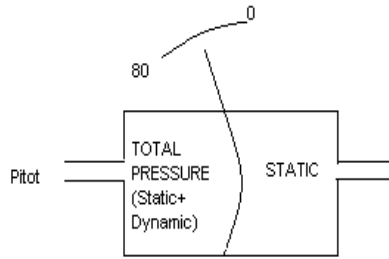


AIR SPEED INDICATOR (ASI)

- HOW DOES IT WORK?**



The pitot tubes on the tail of a Vigilant measure different pressures:

Dynamic pressure is proportional to speed
 Static and Dynamic = Total Pressure

By feeding total pressure to one side of a diaphragm and static to the other dynamic can be measured giving us an indicated airspeed

- WHAT ARE KNOTS?**

"Knots" is short for Nautical miles per hour. 60 knots is equivalent to 69 miles per hour or 111 kilometers per hour.

- WHAT DO THE COLOURED SECTIONS MEAN?**

VIGILANT ASI	Below 6500ft and 850kg	850kg to 908kg
WHITE = zero to stalling speed x1.1=	0 – 45 knots	0 – 45 knots
GREEN = stall speed x1.1 to max manoeuvring speed (VMan &Vb)	45 to 83 knots	45 to 78 knots
YELLOW = caution range = no more than 1/3 control deflection	83 to 130 knots	78 to 121 knots
Yellow Triangle = stall speed x 1.3 = recommended approach speed	65 knots (or 70 knots)	65 knots (or 70 knots)
RED line = VNE = Velocity Never Exceeded	130 knots	121 knots



- WHAT HAPPENS IF THE ASI IS NOT WORKING?**

If the Dynamic tube is blocked = no response to changes in airspeed

If the Dynamic tube is cracked = low and erratic reading

If the Static supply is blocked = over read below/under read above that Height

Apparent lag is due to inertia of the aircraft

- HOW DO YOU CHECK THE ASI?**

- ASI Serviceability checks: are carried out by checking that the pitot cover is off and the tubes undamaged, the instrument glass is intact, and is reading zero or the wind speed.