

DETAILS OF THE INDIGENOUS PROJECTS: 12 BRD

1. **Continuous Wave High Voltage Power Supply (CW HVPS)**. This component is used in the 'Airborne Self Protection Jammer' (ASPJ) procured from M/s ELTA Israel. ELTA ASPJ is an active Electronic Counter Measure (ECM) system. It is light weight and can be fitted externally and internally on fighter aircraft. It enhances the aircraft's survivability when painted by radar controlled and radar guided weapons. Various modules of subject pod are Logic PCBs, RF Modules, Low Voltage Power Supply, Pulse High Voltage Power Supply (Pulse HVPS) and CW HVPS etc.



The CW HVPS is a specialized power supply dealing with very high voltage transitions (6.3VDC to 5KV DC) and drives the CW TWT (Travelling Wave Tube) of HPA (High Power Amplifier) section of ELTA ASPJ. It is a technologically complex item consisting of Field Programmable Gate Array (FPGA) controlled software which is fused into a FPGA chip used for switching the power supply into various modes.

The unserviceable CW HVPS can be spared for physical appreciation.

2. **Ram Air Temperature Sensor (RATS)** Subject sensor is used in ASPJ procured from M/s Elta, Israel. The ASPJ has two types of coolant mechanism to keep the power dissipation within limits viz. Air to Phase changing material method and Liquid to Phase changing material method. Appropriate method is switched on with the help of RATS depending on the forward speed and altitude of the fighter aircraft.



The unserviceable RATS can be spared for better appreciation.

3. **Air to Liquid Heat Exchanger (ALHE) Valve.** ALHE valve activates an appropriate coolant mechanism inside the ASPJ pod after getting initiated by RATS. Very limited information is available for this component. Re-Engineering may be a better solution. One unserviceable ALHE Valve can be spared for better appreciation.



4. **Liquid to Phase Change Heat Exchange (LPHE) Valve.** LPHE valve activates an appropriate coolant mechanism inside the ASPJ pod after getting initiated by RATS. Very limited information is available for this component. Re-engineering may be better solution. The unserviceable ALHE Valve can be spared for better appreciation.



5. **Pump Motor.** Appropriate coolant is pumped for extracting the heat from the ASPJ with the help of 'Pump Motor'. The pump motor operates with 115V, 400 HQ 3 Phase (Delta connection). These pump motors are available in two versions one with 11745 RPM and other 11350 RPM. Unserviceable pump motor can be spared for better appreciation.

