T-6B Pressurization System Brief

- The T-6B Pressurization System utilizes bleed air through the right-side P3 port.
- Air is routed through bi-level flow control and shutoff valve, heat exchanger, ejector bypass, and firewall shutoff valve.
- Cockpit Pressure Seal
  - Sealed by the Firewall, Pressure Flooring, Aft pressure bulkhead, and pressure seal along the bottom of the canopy
- The Control Valve Regulator in the aft bulkhead monitors cockpit pressure and automatically adjusts the position of the pressurization control valve
  - Maintains a cockpit altitude of 8,000 feet until ΔP is 3.6 ± 0.2 psi, which is reached at 18,069 feet
  - Then maintains a ΔP of 3.6 ± 0.2 psi to 31,000 feet where the cockpit altitude is 16,600 feet
- ΔP regulator is located in the aft pressure bulkhead
  - If ΔP exceeds 4.0 psi, the regulator sends a signal to the safety valve to open in order to relieve overpressure
- The Dump Solenoid is connected to the pressurization control valve
  - Weight-on-Wheels: Power to the solenoid is removed and pressurization control valve is open
  - After Weight-Off-Wheels: Solenoid closes allowing the control valve to regulate pressure to 8,000 feet
Pressurization Dump Switch
- **DUMP**: Terminates power to the dump solenoid which allows pressurization control valve to open and depressurize the cockpit
- **RAM/DUMP**: Opens fresh air valve and terminates power to dump solenoid to depressurize cockpit
  - Defog is automatically turned off

**Applicable EICAS Indications:**

**CKPT PX warning**: If $\Delta P$ exceeds 3.9 to 4.0 psi

**CKPT ALT caution**: Cockpit altitude exceeds 19,000 feet

**Applicable Emergency Procedures:**

**COCKPIT OVERPRESSURIZATION**
Illumination of the cockpit overpressurization (CKPT PX warning) indicates that cockpit pressure differential is at 3.9 to 4.0 psid or greater.

1. **Descend** - Below 18,000 ft MSL

2. **PRESSURIZATION switch** - **DUMP** below 18,000 ft MSL

**IF CONDITIONS PERSIST:**

3. **BLEED AIR INFLOW switch** – OFF

**NOTE**
- Cabin pressurization will bleed out through the cabin pressurization outflow valves when the inflow switch is set to OFF. The canopy pressure seal and anti-G systems will not be operational.
RAPID DECOMPRESSION/COCKPIT PRESSURE ALTITUDE EXCEEDS 19,000 FEET
The cockpit pressure altitude (CKPT ALT caution) illuminates whenever cockpit pressure altitude exceeds 19,000 feet MSL.

WARNING
The effects of hypoxia are a concern above 10,000 feet cockpit pressure altitude. Hyperventilation is caused by an excessive breathing rate and may occur at any cockpit pressure altitude. Slowing the breathing rate should cause symptoms to go away. The procedures are the same for hypoxia and hyperventilation symptoms. In either case, maximum oxygen supply is needed. If oxygen supply is not as expected, an oxygen hose continuity check is needed.

1. OBOGS - Check (BOTH):
   a. OBOGS supply lever - ON
   b. OBOGS concentration lever - MAX (as required)
   In the event of a rapid decompression, place the OBOGS concentration lever to MAX for the remainder of the sortie to help prevent decompression sickness.
   c. OBOGS pressure lever – EMERGENCY

NOTE
- With a sudden or rapid decompression at altitudes near 20,000 feet MSL, there may be a transient OBOGS FAIL indication as the OBOGS system switches to high altitude mode to compensate for higher cockpit pressure altitudes.

2. Descent below 18,000 ft MSL – Initiate

3. BLEED AIR INFLOW switch – HI

4. INFLOW SYS circuit breaker (left front console) - Check, reset if open

NOTE
- A malfunctioning defog valve has the potential to trip the INFLOW SYS circuit breaker resulting in a loss of pressurization.
- The term “reset” is used to describe the action of resetting a circuit breaker that is already open. The pilot should assess the severity of the emergency and equipment lost prior to resetting or opening any circuit breaker.

5. Land as soon as practical

IF COCKPIT ALTITUDE EXCEEDED 18,000 FEET MSL:

6. Land as soon as possible
COCKPIT FAILS TO PRESSURIZE

1. PRESSURIZATION switch – NORM
2. RAM AIR switch – OFF
3. BLEED AIR INFLOW switch – HI

IF COCKPIT PRESSURIZES:

4. Continue mission

IF COCKPIT REMAINS UNPRESSURIZED:

5. INFLOW SYS circuit breaker (left front console) - Check, reset if open

NOTE

- The term “reset” is used to describe the action of resetting a circuit breaker that is already open. The pilot should assess the severity of the emergency and equipment lost prior to resetting or opening any circuit breaker.

6. Remain below 18,000 ft MSL