Cowan Simulation 222UT for X-Plane 12
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INTERIOR & PRESTART CHECK

- ✔ DOORS - **SECURED**
- ✔ ROTOR BRAKE - **OFF**
- ✔ SEATS & BELTS - **FASTENED / ADJUSTED / SECURED**
- ✔ STBY ATTD switch - **ON**; Check standby attitude indicator OFF flag retracts momentarily then switch **OFF**.
- ✔ BATTERY switch - **ON**
- ✔ EMERG LT / INST LT switch - **OFF**/**ON** Adjust as required.
- ✔ MASTER CAUTION light – **PRESS TO RESET.**
- ✔ COCKPIT INTERIOR lights - **OFF**/**ON** Adjust as required.
- ✔ FLIGHT CONTROLS - Check freedom of movement of pedals and cyclic then center the controls.
- ✔ FORCE TRIM switch - **ON** (on collective box)
- ✔ SCH LT switch - **OFF/STOW** (on collective box)
- ✔ LDGLT switch - **OFF** (on collective box)
- ✔ THROTTLES - Rotate to idle stop, activate IDLE STOP release switch then open throttles. Rotate back to IDEL STOP, activate IDLE STOP release switch then close throttles. **(The IDLE STOP release relay has a 5 second delay)**

- ✔ RPM INC/DECR switch - **DECR** to minimum & hold 5 seconds.
- ✔ FUEL QUANTITY gauge - **CHECK**
- ✔ INSTRUEMTNS - **STATIC POSITIONS**
- ✔ ALTIMETER - **SET**
- ✔ CLOCKS - **SET & RUNNING**
- ✔ MAGNETIC COMPASS - **CHECK**
- ✔ FIRE EXTINGUISHER switches - ENG 1 & ENG 2 - **NORM**
- ✔ AGENT RELEASE switch - **CENTERED**
- ✔ BAGGAGE FIRE light - **Press**, check illumination.
- ✔ CAUTION PANEL - **BRT/DIM** as required.
- ✔ CAUTION PANEL TEST button - **PRESS** check that all caution panel and warning lights remain illuminated while pressed.
- ✔ FUEL **VALVE** switch - ENG 1 - **ON**
- ✔ FUEL **PRIME** switch - ENG 1 - **ON**
- ✔ FUEL **INTCON** switch - **OFF**
- ✔ GEN 1 & 2 switches - **OFF**
- ✔ FUEL **VALVE** switch - ENG 2 - **ON**
- ✔ FUEL **PRIME** switch - ENG 2 - **ON**
- ✔ SEAT BELTS switch - **OFF**
- ✔ CABIN & BAG LIGHT switch - **OFF**
- ✔ NO SMOKING switch - **OFF**
- ✔ COPILOT VENT BLO switch - **OFF**
- ✔ ANTI ICE switch - ENG 1 - **OFF**
- ✔ COPLIOT PITOT HTR switch - **OFF**
- ✔ NO 1 & 2 HYD switches - **ON**
- ✔ PILOT PITOT HTR switch - **OFF**
- ✔ ANTI ICE switch - ENG 2 - **OFF**
- ✔ PILOT VENT BLO switch - **OFF**
- ✔ ANTI COLL LT switch - **OFF**
- ✔ POSN LT switch - **OFF**
- ✔ STBY ATTD switch - **OFF**
- ✔ INTERIOR LIGHTING - **Adjust as required.**
- ✔ WSHLD WIPER switch - **OFF**
- ✔ ECS switch – **OFF**

- ✔ PILOT INST LT - **Adjust as required.**
- ✔ COPILOT INST LT - **Adjust as required.**
- ✔ ROTOR BRAKE - **ON**; Check that both ROTOR BRAKE warning lights illuminate on the CAUTION PANEL, then **OFF** and verify the handle snaps into place and the lights extinguish.

ENGINE START

- ✔ SEAT BELTS switch - **ON**
- ✔ NO SMOKING switch - **ON**
- ✔ ANTI COLL LT switch - **ON**
- ✔ POSN LT switch - **ON**
- ✔ ROTOR BLADES - **Clear**
- ✔ **CAUTION** - **ENSURE ROTOR BRAKE IS RELEASED BEFORE STARTING ENGINE.**
- ✔ **START ENG 1** switch – **PRESS ONCE** ensure start light on CAUTION PANEL illuminates and NG indicates rotation.
- ✔ **CAUTION** - **DO NOT open the throttle before 11% N_G RPM!**
- ✔ THROTTLE ENG 1 - Open the throttle to introduce fuel at **11-12% N_G RPM.**
- ✔ **CAUTION** - **DO NOT** exceed 900° C MGT or 832° C for more than 12 seconds.
- ✔ If engine fails to start within 15 seconds then close the throttle and press the abort start switch.
- ✔ Cold weather starts may require use of the START ASSIST switch. If below -26°C (-15°F) actuate as required to expedite N_G acceleration to idle (~70% N_G RPM)
- ✔ START CAUTION light - **Check that it is extinguished.**
- ✔ THROTTLE ENGINE 1 - **Rotate to idle stop.** (~70% N_G RPM)
- ✔ ENG 1 OUT - Warning light should extinguish above ~60% N_G RPM
- ✔ ENG 1 OIL gauge - **Temperature and pressure indicating normal.**
- ✔ GEN 1 switch - **ON**; Check that DC GEN 1 caution light extinguished and ammeter indicating a load.
- ✔ BUS 1 INTCON switch - **ON**
- ✔ ENG 1 FUEL PRIME switch – **OFF**

ENGINE RUNUP

> The IDLE STOP system has a 5 second delay relay. This prevents passing idle from the off position and closing the throttle when decreased to idle. When against the idle stop, further moment requires activation of the release switch for each throttle respectively.

- ✔ HYD OIL gauges - **Temperature and pressure indicating normal.**
- ✔ XMSN OIL gauge - **Temperature and pressure indicating normal.**
- ✔ THROTTLES - **Activate** IDLE STOP release switch then SLOWLY open both throttles to full. Observe rotor RPM stabilizes @ ~ 96% N_R
- ✔ PILOT & COPILOT PITOT HTR switches - **ON (off if not required)**
- ✔ ENG 1 & 2 ANTI ICE switches - **ON (off if not required)**

BEFORE TAKEOFF

- ✔ DOORS - **SECURED**
- ✔ SEAT BELTS switch - **CHECK ON**
- ✔ NO SMOKING switch - **CHECK ON**
- ✔ PASSENGER SEAT BELTS - **FASTENED**
- ✔ CAUTION AND WARNING lights - **EXTINGUISHED**
- ✔ FUEL QUANTITY - **CHECK**
- ✔ XMSN OIL - **Pressure within normal operating limits.**

TAKEOFF

- ✔ "BEEP UP" the "RPM INC" switch to RPM 100% N_R for takeoff. (96% in flight)
- ✔ INTRUMENTS - **Normal Operating ranges.**
- ✔ AREA - **Clear**
- ✔ HOVER POWER - **Check**
- ✔ Seat Belts & No Smoking switches as desired.

BEFORE LANDING

- ✔ "BEEP UP" the "RPM INC" switch to RPM 100% N_R for landing. (96% in flight)
- ✔ INSTRUMENTS - **Normal Operating ranges**
- ✔ SEAT BELTS switch - **ON**
- ✔ NO SMOKING switch - **ON**
- ✔ PASSENGER SEAT BELTS – **Fastened**

ENGINE SHUTDOWN

- ✔ COLLECTIVE - **FULL DOWN**
- ✔ CYCLIC - **CENTERED**
- ✔ THROTTLES - **"RPM DECR"** switch to rotate to idle stop and turn off governor then Idle @ (~70% NG RPM) for 2 minutes.
- ✔ ENG 1 & 2 ANTI ICE switches - **OFF**
- ✔ PITOT HTR switches - **OFF**
- ✔ EMERG LT / INST LT switch - **OFF**
- ✔ STBY ATTD switch - **OFF**
- ✔ GEN 1 & 2 switches - **OFF**
- ✔ BUS INTCON switches - **OFF**
- ✔ IDLE STOP RELEASE switch - **ACTIVATE**
- ✔ THROTTLES - **CLOSE**
- ✔ ROTOR BRAKE - **APPLY below 55% N_R**
- ✔ SEAT BELTS switch - **OFF**
- ✔ NO SMOKING switch - **OFF**
- ✔ HYD switches 1 & 2 - **OFF**
- ✔ FUEL VALVE switches - **OFF**
- ✔ ANTI COLL LT switch - **OFF**
- ✔ POSN LT switch - **OFF**
- ✔ INTERIOR LIGHT switches - **OFF**
- ✔ BATTERY switch - **OFF**