

**DA42 - NORMAL OPERATIONS**  
TEXAS SKIES FLIGHT SCHOOL

**BEFORE STARTING ENGINE**

PREFLIGHT INSPECTION ..... COMPLETE  
SAFETY FLOW ..... COMPLETE  
SAFETY BRIEFING ..... COMPLETE  
DOORS ..... LATCHED  
SEATBELTS & SEATBACKS ..... SET

**ENGINE START**

ELECTRIC MASTER ..... ON  
STROBE LIGHTS ..... ON  
RUDDER PEDALS ..... ADJUSTED  
MFD FUEL TOTALIZER ..... SET  
MFD ..... VIEW ENGINE PAGE  
STICK LIMITER ..... TEST  
GEAR/FIRE TEST ..... CHECK  
LEFT ENGINE MASTER ..... ON  
LEFT GLOW PLUG CAS MESSAGE ..... OFF  
LEFT ENGINE ..... CRANK  
LEFT OIL PRESSURE ..... CHECK  
AMPS ..... LEFT < 25A  
RIGHT ENGINE MASTER ..... ON  
RIGHT GLOW PLUG CAS MESSAGE ..... OFF  
RIGHT ENGINE ..... CRANK  
RIGHT OIL PRESSURE ..... CHECK  
AMPS ..... BALANCED  
AVIONICS MASTER ..... ON

**BEFORE TAXI**

RADIOS & FLIGHT PLAN ..... SET  
ALTIMETER ..... SET  
ALTITUDE PRE-SELECT ..... SET  
TRANSPONDER ..... SET  
AUTOPILOT ..... CHECK OPERATION  
ELECTRIC TRIM ..... CHECK OPERATION  
FUEL SELECTOR ..... X-FEED, CHECK, ON  
FLAPS ..... UP  
LIGHTS ..... AS REQUIRED  
BRAKES ..... TEST

**BEFORE TAKEOFF**

BRAKES ..... HOLD  
ADJUSTABLE BACKRESTS ..... VERIFY UPRIGHT  
SAFETY HARNESSSES ..... ON & FASTENED  
DOORS ..... LATCHED  
DOOR CAS MESSAGE ..... CHECK NO INDICATION  
ENGINE/SYSTEMS PAGE ..... CHECK NORMAL RANGE  
FUEL QUANTITY ..... CONFIRM  
AUX FUEL TRANSFER PUMPS ..... OFF

ELEVATOR TRIM ..... SET T/O  
FUEL SELECTORS ..... ON  
RUDDER TRIM ..... SET  
FUEL PUMPS ..... OFF  
CIRCUIT BREAKERS ..... CHECK IN  
FLIGHT CONTROLS ..... FREE & CORRECT  
POWER LEVERS ..... IDLE  
RPMs ..... CHECK BELOW 1000 RPM  
ALTERNATORS ..... VERIFY ON  
ECU VOTER SWITCHES ..... AUTO  
ENGINE/GEARBOX OIL TEMP ..... CHECK GREEN  
ECU TEST ..... PERFORM  
ECU VOTER TEST ..... TEST A/B, SET AUTO  
CAS ANNUNCIATIONS ..... CHECK  
ICE PROTECTION ..... AS REQUIRED  
PITOT HEAT ..... AS REQUIRED  
LIGHTS ..... AS REQUIRED  
FUEL PUMPS ..... ON  
AIR CONDITIONING ..... OFF  
FLIGHT DIRECTOR ..... SET (TOGA/FLC)  
TAKEOFF BRIEFING ..... COMPLETE

**NORMAL TAKEOFF**

FLAPS ..... UP  
POWER LEVERS ..... MAX  
ENGINE POWER/GAUGES ..... CHECK  
AIRSPEED ALIVE ..... CONFIRM  
ROTATE ..... 76 KIAS  
NEG RWY, POS RATE ..... TAP BRAKES, GEAR UP

**SHORT-FIELD TAKEOFF**

FLAPS ..... APP  
POWER LEVERS ..... MAX  
ENGINE POWER/GAUGES ..... CHECK  
AIRSPEED ALIVE ..... CONFIRM  
ROTATE ..... 71 KIAS  
NEG RWY, POS RATE ..... TAP BRAKES, GEAR UP

**INITIAL CLIMB**

GEAR / FLAPS ..... CONFIRM UP  
AIRSPEED ..... 90 KIAS (PITCH 10-12\*)

**CRUISE CLIMB (ABOVE 1000' AGL)**

POWER ..... < 92%  
FUEL PUMPS ..... OFF  
LANDING LIGHT ..... OFF  
ALTERNATE AIR ..... OPEN (rain, snow, viz moisture)

**CRUISE**

POWER ..... < 85%  
ENGINE GAUGES ..... CHECK

**PRE-MANEUVER CHECKLIST**

CLEARING TURNS ..... COMPLETE  
REFERENCE HEADING ..... BUGGED  
ALTITUDE ..... BUGGED & >3000' AGL  
CONFIGURATION ..... SET  
LANDING SPOT ..... IDENTIFY

**DESCENT**

SEATS & BELTS ..... CHECK  
FUEL SELECTORS ..... ON  
LANDING LIGHT ..... ON

**GEAR DOWN / BEFORE LANDING**

FUEL PUMPS ..... ON  
FLAPS ..... APP  
LANDING GEAR ..... EXTEND  
BRAKES ..... TAP

**NORMAL LANDING**

FLAPS ..... LDG  
LANDING GEAR ..... DOWN, 3 GREEN  
AIRSPEED ..... 84-90 KIAS  
ROLLOUT BELOW 30KIAS ..... GENTLE BRAKING

**GO-AROUND**

POWER LEVERS ..... MAX  
FLAPS ..... APP  
AIRSPEED ..... 90 KIAS  
LANDING GEAR ..... UP  
FLAPS ..... UP  
FUEL PUMPS ..... OFF

**AFTER LANDING**

FLAPS ..... UP  
FUEL PUMPS ..... OFF

**SHUTDOWN**

POWER LEVERS ..... MAX 10% FOR 1 MIN  
ENDING TACH TIME ..... NOTE  
SWITCHES / AVIONICS MASTER ..... OFF  
ENGINE MASTERS ..... OFF SIMULTANEOUSLY  
ENGINE PANEL ..... RED Xs  
ELECTRIC MASTER ..... OFF  
ENDING HOBBS TIME ..... NOTE  
SAFETY FLOW ..... COMPLETE

**POSTFLIGHT**

AIRCRAFT KEYS ..... BINDER  
TIRES & PROPELLER BLADES ..... INSPECT

**SAFETY FLOW**

A/C POWER ..... OFF  
 AUX TRANSFER PUMPS ..... OFF  
 ELEVATOR TRIM ..... TAKEOFF  
 FUEL SELECTORS ..... ON  
 POWER LEVERS ..... IDLE  
 ENVIRONMENTAL CONTROLS ..... OFF  
 PARKING BRAKE ..... RELEASED  
 RUDDER TRIM ..... SET  
 CIRCUIT BREAKERS ..... CHECK  
 FLAPS ..... UP  
 ENGINE ALTERNATE AIR ..... CLOSED  
 FUEL PUMPS ..... OFF  
 GEAR HANDLE ..... DOWN  
 EMERGENCY GEAR EXTENSION ..... CLOSED  
 AVIONICS MASTER ..... OFF  
 ELECTRIC MASTER ..... OFF  
 ENGINE MASTERS ..... OFF  
 ALTERNATE STATIC AIR ..... CLOSED  
 ALTERNATORS ..... ON  
 ECU VOTER SWITCHES ..... AUTO  
 LIGHTS ..... OFF  
 EMERGENCY STANDBY BATTERY ..... OFF  
 ELT ..... ARMED  
 TKS ..... OFF

**PASSENGER BRIEFING**

SEAT BELTS  
 AIR / ENVIRONMENTALS  
 FIRE EXTINGUISHER  
 EXITS / EMERGENCY EGRESS HANDLE  
 TRAFFIC / TALKING

**TAKEOFF BRIEFING**

RUNWAY LENGTH AVAILABLE  
 WIND DIRECTION / CROSSWIND  
 ANY ANOMALY ON TAKEOFF ROLL ..... ABORT  
 ENGINE FAILURE WITH REMAINING RWY  
 ENGINE FAILURE BELOW SAFE ALTITUDE  
 ENGINE FAILURE ABOVE SAFE ALTITUDE

**AIRSPPEEDS**

VNE ..... 188  
 KIAS  
 VLE ..... 188 KIAS  
 VLOR ..... 152 KIAS  
 VNO ..... 151 KIAS  
 VA ..... 120 KIAS  
 VFE APP/LDG ..... 133 / 113 KIAS  
 VYSE ..... 85 KIAS  
 VY ..... 90 KIAS  
 VREF ..... 84 KIAS  
 VR UP/APP ..... 76 / 71 KIAS  
 VMC UP/APP ..... 71 / 68 KIAS  
 VS ..... 68 KIAS  
 VSO ..... 62 KIAS  
 VX ..... N/P  
 MAX CROSSWIND ..... 25  
 KTS

**Notes**

- In cold temps, engine may not start on first attempt. Do not operate starter for more than 10 seconds. Wait 60 seconds between start attempts.  
 - “ENGINE GLOW” CAS message is only indicated when engine is cold.  
 - If the “L STARTER” CAS message comes on after engine has started and the key has been released, set engine master to OFF and investigate.  
 - If oil pressure has not moved from the red range within 3 seconds after starting, set the engine master to OFF and investigate.

**MAX ENGINE-OFF TIME  
 DURING SECURE & RESTART**

OAT (C)	OAT (F)	TIME (min)
below -15	below 5	2
-15 to -5	5 to 23	5
above -5	above 23	10

**ENGINE FAILURE FLOW**

AIRCRAFT ..... MAINTAIN DIRECTIONAL CONTROL  
 PITCH ..... VYSE (85 KIAS)  
 POWER LEVERS ..... UP (FULL FWD)  
 FLAPS ..... UP  
 GEAR ..... UP  
 INOP ENGINE .....  
 ..... IDENTIFY (DEADFOOT)  
 ..... VERIFY (THROTTLE CLOSED)

**BELOW SAFE ALTITUDE**

INOP ENGINE ENGINE MASTER ..... OFF

**ABOVE SAFE ALTITUDE: TROUBLESHOOT**

INOP ENGINE FUEL SELECTOR ..... X-FEED  
 ENGINE CIRCUIT BREAKERS ..... CHECK  
 ENGINE ALTERNATE AIR ..... OPEN  
 INOP ENGINE ENGINE MASTER ..... ON  
 INOP ENGINE ECU VOTER ..... CHECK A & B

*IF TROUBLESHOOT FAILS: SECURE ENGINE*

**SECURING ENGINE**

INOP ENGINE ENGINE MASTER ..... OFF  
 INOP ENGINE ALTERNATOR ..... OFF  
 INOP ENGINE FUEL PUMP ..... OFF  
 INOP ENGINE FUEL SELECTOR ..... OFF  
 ENGINE ALTERNATE AIR ..... CLOSED

**AIRSTART**

*\*Caution: Do not engage starter with windmilling prop.*

AIRSPPEED .....  
 ..... AS REQ'D TO KEEP PROP STATIONARY  
 ..... MAXIMUM 100 KIAS  
 INOP ENGINE POWER LEVER ..... IDLE  
 INOP ENGINE FUEL SELECTOR ..... ON  
 ENGINE ALTERNATE AIR ..... AS REQUIRED  
 INOP ENGINE ALTERNATOR ..... ON  
 INOP ENGINE ENGINE MASTER ..... ON  
 PROPELLER ..... ENSURE STATIONARY  
 STARTER ..... ENGAGE  
 CIRCUIT BREAKERS ..... CHECK