

**ENGINE START**

Seat belts	On
Flight controls	Free and correct
Throttle	Closed
Landing light	Off
Engine anti-ice	Off
Hydraulics	On
Fuel valve	On, guard in place
Altimeter	Set
Instruments	Static at zero
Battery	On
Caution lights	Eng Out, Trans Oil Press, Low Rotor RPM
Caution lights	Press to test
Fuel quantity	Check
Collective	Down
Rotors	Clear
Fuel boost	On, fuel pressure
TOT	150 C or below
Starter	Engage
N1 15% above 7 C	Introduce fuel
13% -18 to +7 C	
12% below -18 C	
TOT	Snap to idle stop
	Do not exceed 1 second over 927 C
Main rotor	Turning by 25% N1
Oil pressure	Increasing
Starter	Release at 58% N1
Throttle	Increase past idle release
Engine instruments	Check
<b>STABILIZE AT IDLE SPEED FOR ONE MINUTE BEFORE INCREASING POWER</b>	
Throttle	Open to 70% gas producer RPM
Generator	On
Radios and lights	On

## **ENGINE RUNUP**

Throttle	Increase to full, maintaining torque below 40%
Governor RPM	Check range 97-100%, set at 100%
Radio / Nav	On, listen to ATIS
Hydraulics	Check
Engine anti-ice	If OAT <4 C with visible moisture, anti-ice On
Frictions	Off

## **ENGINE SHUTDOWN**

Throttle	Reduce to idle, stabilize for 2 minutes
Frictions	On
Radios and lights	Off
Throttle	Closed
TOT	Reducing
Gas Producer (N1)	Reducing
Caution light	Eng Out illuminated
Generator	Off
Fuel boosts	Off
Battery	Off
Blades	Tie down

## **LIMITATIONS**

### **TOT (Turbine Outlet Temperature)**

Continuous	738 C
5 minute takeoff	810 C
Start and shutdown	<927 C
	(10 seconds max)
	(1 second >927 C)

### **TORQUE**

Maximum continuous	85%
Take-off	100% (5 minute limit)
Transient (unintentional)	110% (5 second limit)

### **MAXIMUM GROSS WEIGHT**

Internal	3200 lbs.
External	3350 lbs.