

TAKEOFF		Zero Wind and Gradient										1,000 FT
FLAPS 10°												
T.O. Gross Weight x 1000	Temp (°C) (°F)	-40	-20	-10	0	10	20	30	40	50		
T.O. Power		89.0	92.7	94.5	96.3	98.2*	99.2*	98.2	97.2	96.0		
16.3 V _{REF} 119	V ₁	110	109	109	109	109	110	112	115	118		
	V _R	115	115	115	115	115	116	117	117	118		
	V ₂	123	123	123	123	123	123	123	123	123		
	TOFL	3609	3869	4011	4135	4239	4634	5179	5849	6940		
16.1 V _{REF} 118	V ₁	108	108	108	108	108	109	111	113	116		
	V _R	114	114	114	114	114	115	116	116	117		
	V ₂	122	122	122	122	122	122	122	122	122		
	TOFL	3522	3777	3916	4038	4139	4523	5053	5706	6590		
15.5 V _{REF} 116	V ₁	105	105	105	105	105	106	108	110	113		
	V _R	112	112	112	112	111	112	113	114	114		
	V ₂	120	120	120	120	120	120	120	120	120		
	TOFL	3268	3504	3633	3746	3840	4190	4672	5258	6032		
15.0 V _{REF} 114	V ₁	103	102	102	102	102	104	105	107	110		
	V _R	109	109	109	109	110	110	111	111	112		
	V ₂	118	118	118	118	118	118	118	118	118		
	TOFL	3066	3288	3408	3514	3604	3926	4372	4905	5593		
14.5 V _{REF} 112	V ₁	100	100	100	100	99	101	103	105	107		
	V _R	107	107	107	107	107	108	108	109	110		
	V ₂	116	116	116	116	116	116	116	116	116		
	TOFL	2869	3076	3190	3290	3373	3671	4083	4573	5198		
14.0 V _{REF} 110	V ₁	97	97	97	97	97	98	100	102	104		
	V _R	105	105	105	105	104	105	106	107	108		
	V ₂	114	114	114	114	114	114	114	114	114		
	TOFL	2682	2876	2981	3075	3152	3428	3809	4259	4821		
13.5 V _{REF} 108	V ₁	94	94	94	94	94	95	97	99	101		
	V _R	102	102	102	102	102	103	104	104	105		
	V ₂	112	112	112	112	112	112	112	112	112		
	TOFL	2501	2681	2779	2866	2939	3192	3545	3958	4469		
13.0 V _{REF} 106	V ₁	93	93	92	92	92	92	94	96	98		
	V _R	100	100	100	100	99	100	101	102	103		
	V ₂	110	110	110	110	110	110	110	110	110		
	TOFL	2391	2563	2649	2735	2817	2968	3294	3673	4139		
12.5 V _{REF} 104	V ₁	93	93	93	93	93	92	92	93	95		
	V _R	97	97	97	97	97	98	99	99	100		
	V ₂	108	108	108	108	108	108	108	108	108		
	TOFL	2369	2538	2622	2708	2789	2910	3074	3400	3824		
12.0 V _{REF} 102	V ₁	93	93	93	93	93	92	92	91	92		
	V _R	94	94	94	94	94	95	96	97	98		
	V ₂	106	106	106	106	106	106	106	106	106		
	TOFL	2349	2515	2599	2682	2763	2879	3037	3222	3528		

TAKEOFF		Zero Wind and Gradient										SEA LEVEL
FLAPS 10°												
T.O. Gross Weight x 1000	Temp (°C) (°F)	-40	-20	-10	0	10	15	20	30	40	50	
T.O. Power		87.8	91.4	93.2	95.0	96.9	97.8	98.7*	98.2*	97.2	96.0	
16.3 V _{REF} 119	V ₁	110	110	110	110	109	109	110	111	114	116	
	V _R	115	115	115	115	115	115	116	116	117	118	
	V ₂	123	123	123	123	123	123	123	123	123	123	
	TOFL	3557	3803	3945	4080	4184	4270	4406	4848	5473	6303	
16.1 V _{REF} 118	V ₁	109	109	109	108	108	108	109	110	112	115	
	V _R	114	114	114	114	114	114	115	115	116	117	
	V ₂	122	122	122	122	122	122	122	122	122	122	
	TOFL	3470	3711	3852	3983	4086	4169	4302	4731	5328	6113	
15.5 V _{REF} 116	V ₁	106	105	105	105	105	105	106	107	109	112	
	V _R	112	112	112	112	112	112	112	113	113	114	
	V ₂	120	120	120	120	120	120	120	120	120	120	
	TOFL	3218	3443	3572	3694	3790	3867	3987	4379	4914	5598	
15.0 V _{REF} 114	V ₁	103	103	103	103	102	102	103	104	106	109	
	V _R	109	109	109	109	109	109	110	110	111	112	
	V ₂	118	118	118	118	118	118	118	118	118	118	
	TOFL	3019	3230	3351	3465	3555	3627	3739	4102	4595	5222	
14.5 V _{REF} 112	V ₁	100	100	100	100	100	100	100	102	104	106	
	V _R	107	107	107	107	107	107	107	108	109	110	
	V ₂	116	116	116	116	116	116	116	116	116	116	
	TOFL	2825	3023	3135	3242	3327	3394	3497	3833	4288	4851	
14.0 V _{REF} 110	V ₁	97	97	97	97	97	97	97	99	101	103	
	V _R	105	105	105	105	105	105	105	106	106	107	
	V ₂	114	114	114	114	114	114	114	114	114	114	
	TOFL	2640	2824	2930	3030	3109	3172	3267	3578	3997	4512	
13.5 V _{REF} 108	V ₁	95	94	94	94	94	94	95	96	98	100	
	V _R	102	102	102	102	102	102	102	103	104	105	
	V ₂	112	112	112	112	112	112	112	112	112	112	
	TOFL	2459	2633	2730	2824	2898	2956	3044	3332	3717	4188	
13.0 V _{REF} 106	V ₁	93	93	92	92	92	92	92	93	95	97	
	V _R	100	100	100	100	100	100	100	101	102	102	
	V ₂	110	110	110	110	110	110	110	110	110	110	
	TOFL	2338	2506	2590	2676	2758	2804	2854	3097	3453	3883	
12.5 V _{REF} 104	V ₁	93	93	93	93	93	92	92	92	92	94	
	V _R	97	97	97	97	97	97	97	98	99	100	
	V ₂	108	108	108	108	108	108	108	108	108	108	
	TOFL	2317	2482	2565	2649	2730	2775	2824	2965	3197	3591	
12.0 V _{REF} 102	V ₁	93	93	93	93	93	93	93	92	92	91	
	V _R	95	95	95	95	94	95	95	95	96	97	
	V ₂	106	106	106	106	106	106	106	106	106	106	
	TOFL	2297	2459	2541	2625	2705	2748	2796	2932	3104	3316	

- FOS acknowledge trip #
- Create expense report Concur
- Flight plan.com/ fuel burn/Min/Max
- Max pay/max fuel(tanker (add) fuel max)
- Trip sheet>Notes>fore flight
- Ipreflight Tanker fuel or minimum fuel
- W&B > Foreflight
- TOLD > Foreflight
- FOS Preflight
- FOS Postflight

REFERENCE:

2861 wings	2044 trunk	4904 total
BEW		10,655
BOW		11,185
Max Useful load		5115
MLanding		15700
ZFW		13000
FUEL BURNS		

10min	325
30min	811
1:00	1500
1:15	1750
2:20	2933
2:45	3283
3:00	3600
3:30	4143

BEFORE STARTING ENGINES

Headset , Can, MX Schedule, Coffee Pot, Cooler, Nose Pin	
Preflight Check	COMPLETE
Circuit Breakers & Guarded Switches	SET
Inverter Switches	GUARD DOWN/ AUTO
Nonessential Bus Switches	ON
Radio Master Switches	OFF
Parking Brake	SET
Defog Blower	OFF
Hydraulic Pressure Switch	(GUARD DOWN) NORM
Emergency Door Close/Landing Gear Handles	SAFETIED
EFC switches	ON
Engine start select	OFF
Thrust Levers	FREE & CUTOFF
Roll Trim Select Switch	BOTH
Roll and Rudder Trim Disconnect Switch	NORM
Pitch Trim Switch	NORM
Anti skid	ON
Speed brake EMER Retract	Guard down
Landing Flap Select Switch	(GUARD DOWN) FLAP 30°
Engine Synchronizer Switch	OFF
Flap Handle	(0°) UP
Emergency Brake Handle	SAFETIED
Cabin Pressure Source Selector	OFF
Landing Gear Handle	DOWN
Cabin Dump Valve	SAFETIED
Cockpit Temperature Controls	SET
Manual Press Control	FULL INC
Oxygen Control	ON
Oxygen/Nitrogen Pressure	CHECK
Defog Blower	OFF
Cabin Temperature Control	SET
A/C	OFF
Masks	check select 100% and test
Fire Extinguisher	Check
Master Generator Switches	(GUARD DOWN) NORM
Exterior Light Switches	NAV ON/ OFF
Landing Light Switches	RETRACTED
Emer lights	Guard UP/ OFF
Anti-Ice/Deice Switches	OFF
Generator reset switches	SET FOR START
Heater Switches	OFF
Inverter Switches	ON
Ignition Switches	STBY
Jet Pump Switches	NORM
Boost pumps	AUTO
Fuel Transfer Pumps	AUTO
Fuel Crossfeed Switch	NORM

OPs Checks

AHRS Battery	TEST
Standby Power	ON
Battery/DC volts	ON/CHECK
Battery Feed Test	TEST
Battery	EMER, THEN ON
Emer lights	GUARD UP/TEST
Master Test	TEST
Airspeed/ Landing Gear Warning	TEST
Indicator Lights	TEST
Fuel System	CHECK
Boost pumps	AUTO
Fuel Transfer Pumps	ON THEN AUTO
Fuel Crossfeed	CHECK
Fuel Counter	ZERO
Trim System	CHECK
Cockpit Voice recorder	TEST

30 MINUTES PRIOR

GPU	ON IF AVAILABLE
Generator reset switches	SET FOR START
Air Conditioning	ON
Radio Masters	ON
ATIS	RECORD
Clearance	RECORD
FMS	PROGRAM
• POS INIT	
• PERF INIT	PAX, CARGO, FUEL, ALT,
• FLTPLAN	DEPARTURE, ROUTE,
• ARRIVAL	
• TRANSPONDER SQUAWK	
• ALTITUDE SELECT	
• VSPEEDS	
• POWER SETTING	

DELAYED start No GPU

FMS flt plan	STORE
Standby Pwr	OFF
Battery	OFF

STARTING ENGINES

Parking Brake	SET
Standby Power	ON
Battery	ON
Generator reset switches	SET FOR START
Nav Lights	ON
Beacon	ON
<u>EMER Lights</u>	<u>Armed</u>
Radio Masters	OFF
Air Conditioning	OFF
Passenger briefing	COMPLETE
Seat Belts	FASTENED
DC Voltage	22V - 28V CHECK
<u>Cabin Door</u>	<u>CLOSED</u>
Eng Start Select	L OR R
<u>EFC AUX PWR ON</u>	<u>ILLUMINATED</u>
Engine Start	DEPRESS
Engine Start Select	OFF
Ignition and Boost Pump Lights	OUT
Hydraulic Pressure	NORMAL
FUEL/HYD PMP PRESS LO	OUT
Cabin Pressure Source	OPERATING ENGINE
FUEL PRESS LO	ILLUMINATED
<u>Operating Generator</u>	<u>< 150 amps</u>
Engine Start Select	OTHER ENGINE
<u>EFC AUX PWR ON Annunciator</u>	<u>ILLUMINATED</u>
Engine Start	DEPRESS
Engine Start Select	OFF
Ignition and Boost Pump Lights	OUT
ENG EFC OFF Annunciator	OUT
FUEL/H PMP PRESS LO	OUT
EFC AUX PWR ON Annunciator	OUT
Cabin Pressure Source	BOTH HIGH or NORM

BEFORE TAXI

Ground Power Unit DISCONNECT
Generator Switches 24volts NORM 28 volts
DC Volts CHECK
Engine Instruments CHECK
A/C AS REQ
Radio Masters. ON
AC Voltages CHECK
Standby Power Annunciator ARM
Standby Gyro UNCAGE
Cabin Sign SAFETY
Galley Power AS REQUIRED
Master Test (Generators) TEST
Horizontal Stabilizer Anti-Ice System CHECK
Engine/wing Anti-Ice/Deice if req CHECK
Jet Pumps CHECK
Fuel Trans CHECK
Cross feed NORM
Fuel Status QUANTITY/ BALANCED
Cabin Pressure Control CRUISE ALT

Speedbrakes CHECK
Flaps selected, indicated, SET FOR TAKEOFF
Trims "123 SET both, norm, norm"
Rudder Boost CHECK
Autopilot CHECK AND DISENGAGE
Flight Controls CHECK

- FMS programed, synced, sourced
- Waypoint / Heading V1, VR, V2, Speed tape, score board, alt select. Alt tape, kolsman window, VSI, Heading, Attitude indicator, AP selector, AOA N1, Flaps
- CALLOUTS, ABORTS, T/R DEPLOYMENT PROCEDURES
- RETURN OR DIVERT PLAN

TAXI

Wheel Brakes CHECK
Anti-Skid CHECK
Thrust Reversers CHECK
Engine EFC System TEST
Transponder/TCAS TEST/ ALT

BEFORE TAKEOFF

Trims GREEN
Flaps 123 SET BOTH NORM NORM
Annunciators CLEAR
Fuel CROSSFEED NORM, BALANCED
Radar AS REQUIRED
Engine Anti-Ice AS REQUIRED

LINE UP **2,1,2,6,2**

Landing Lights ON
Anti-Collision Lights ON
Windshield Anti-Ice LOW
6 Heats ON
Ignitions ON
Cabin Press Source BOTH NORM
A/C OFF

AFTER TAKEOFF

POS RATE
Landing Gear UP
Landing Lights OFF/IN
Yaw Damp ON

- **400 FT**

Flaps (UP) 0°
Thrust (650) SET MCT
Engine Sync AS REQUIRED
A/C ON
Recognition Light ON
Anti-Ice/Deice (400 ft. AGL) AS REQUIRED
Ignitions STBY
Cabin Sign AS REQUIRED

- **>1500 AGL** ECS OFF Takeoff Reconfig

Cabin Pressure Source BOTH HIGH or NORM
Vent Blower OFF
Manual Pressure Control FULL INCREASE

CLIMB (10k)

Auto pilot ON
WI FI ON

(FL 180)
Altimeters SET
Cabin Pressurization CHECK
A/C OFF
Oxygen System CHECK
Masks CHECK
Recognition Light OFF
Anti-Ice/Deice Systems AS REQUIRED

DESCENT

Cabin Sign SAFETY
Seat Belts/Shoulder Harnesses FASTENED
Cabin Pressure Control ELEV + 500 feet SET
Hydraulic/Nitrogen Pressure CHECK
Fuel Status CHECK
VREF, VAC, N1, AOA, LDG DIST CONFIRM
Anti-Ice/Deice Systems AS REQUIRED
Windshield Defog AS REQUIRED
Altimeters SET
Recognition Light AS REQUIRED
FMS, Nav Source, Auto Tuning VERIFY
MDA SET
NAV Radios CHECK

Flaps	16.3	16.1	15.7	15	14.5	14	13.5	13	12.5	12
Vref 30	119	118	117	114	112	110	108	106	104	102
Vref 10	141	140	139	136	134	132	130	128	126	124

APPROACH

Flaps 10°
Engine Sync OFF
Ignition Switches ON
Landing Lights AS REQUIRED
Crew Briefing COMPLETE
Initial Fix, FAF, course, Minimums, MAP

BEFORE LANDING

Landing Gear DOWN
Flaps 30°
Recognition Light(cleared to land) OFF
Refrigeration Air Conditioning OFF
Yaw Damp OFF

AFTER LANDING

A/C AS DESIRED
 Oxygen System OFF
 Defog Blowers OFF
 Galley Power OFF
 Anti-Ice/Deice Systems:
 a. Wing, Engine and H Stab OFF
 b. Windshield OFF OR LOW
 6 heats OFF
 Ignitions STBY
 Radar OFF
 Flaps RETRACT
 Speedbrakes RETRACT
 Trims SET FOR TAKEOFF
 Standby Gyro CAGE
 Standby Power OFF

SHUTDOWN

Cabin Pressure Source OFF
 Emergency Lights OFF
 A/C OFF
 Radio Masters OFF
 Thrust Levers CUTOFF
 Exterior Lights/NAV OFF/ON
 Parking Brake/Chocks AS REQUIRED
 Interior Lights OFF
 Cabin Lights OFF
 Battery/ 10% N1 OFF
 Control Lock INSTALL

MAXIMUM CONTINUOUS THRUST (N₁)

ECS ON/Anti-Ice OFF

PA/RAT	-40	-30	-20	-10	0	10	20	30	40
10,000	103.7	102	100.6	99.2	98	96.8	95.6	94.5	93.5
5000	92	94	95.9	97.7	98	96.8	95.6	94.5	93.5
SL	86.6	88.3	90.1	91.9	93.7	95.4	95.6	94.5	93.5

Engine Anti-Ice ON/ECS ON

PA/RAT	-40	-30	-20	-10	0	10	20	30	40
10,000	100.8	98.7	97.2	96.1	95.2	94.4	-	-	-
5000	92	94	95.9	96.1	95.2	94.4	-	-	-
SL	86.6	88.3	90.1	91.9	93.7	94.4	-	-	-

Engine and Wing Anti-Ice ON/ECS ON

PA/RAT	-40	-30	-20	-10	0	10	20	30	40
10,000	98.8	96.7	95.4	94.2	93.4	92.7	-	-	-
5000	92	94	95.4	94.2	93.4	92.7	-	-	-
SL	86.6	88.3	90.1	91.9	93.4	92.7	-	-	-

ECS OFF and Anti-Ice OFF

PA/RAT	-40	-30	-20	-10	0	10	20	30	40
10,000	104	102.6	101.2	99.9	98.6	97.4	96.3	95.2	94.1
5000	92	94	95.9	97.7	98.6	97.4	96.3	95.2	94.1
SL	86.6	88.3	90.1	91.9	93.7	95.4	96.3	95.2	94.1

Engine Anti-Ice System Operation

- Thrust 90% N₁ OR LOWER
- Engine Anti-Ice ON
- Engine ITT CHECK INCREASE
- Thrust AS REQUIRED
- ENG ICE TEMP LO Annunciators
MOMENTARILY
- Engine Anti-Ice Lights ILLUMINATED
- Ignition Lights ILLUMINATED

Wing Anti-Ice System Operation

- Thrust 90% N₁ OR LOWER
- Wing Anti-Ice ON
- Engine ITT CHECK INCREASE
- Thrust AS REQUIRED
- Wing Anti-Ice Light OFF, THEN ON

Horizontal Stabilizer Anti-Ice System Operation

- H Stab Deice . ON
- H Stab Deice Light ILLUMINATED

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load _____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load _____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load _____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load_____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load_____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT

FOS Brf Acknlgd Date_____Time_____

Trip Number _____ Z _____

FLTPLAN/WX Dep _____ To _____

Route_____

_____ Alt _____

FRAAT__ Fl burn _____ Min Fuel_____

Pay load_____ Max add load_____

Weight MTW TOW LAND
& _____

CG FWD lmt Actual RWD lmt

MAX_____ WNGS_____ TRNK_____ gal

Tgt Fuel _____ Upload _____ Act _____

Told Card V1 _____

FOS Preflight Vr _____

Catering V2 _____

Ice VFTO _____

Coffee PWR _____

Papers RWY REQ _____

Fore Flight L/O Alt _____

FBO_____ TORA _____

Notes:

out off on in

Depart Land Burn

FUEL _____

FOS POST FLIGHT