

# Beechcraft Debonair

*Model 35-C33 - ICAO: BE 33*



**N 6 6 6 4 C**

**Preflight**

**Cockpit**

**Start-up**

**Take-off**

**Cruise**

**Landing**

**Parking**

**Data-sheet**

preflight ...

1	master / bat / ignition	OFF / OFF / OFF
2	landing gear lever	DOWN + indicator "DN"
3	parking brake	SET ON
4	paper check	DONE
5	weight & balance	CHECK OK
6	controll wheel	FREE (lock REMOVE)
7	flight controls	CHECK operate
<i>outside:</i>		
8	external damages	CHECK
9	loss of fluids	CHECK
10	leaks / ice / dirt	CHECK
11	windshield cleanliness	CHECK
12	pitot cover / other covers	REMOVE
13	moorings & chocks	REMOVE
14	tow bar	REMOVE
15	empennage & control surfaces	CHECK
16	baggage weight limit	CHECK
17	baggage secured	SECURE
18	baggage door	CLOSE & SECURE

... preflight continued.

19	L+R static pressure ports	UNOBSTRUCTED
20	L+R wings /ailerons /flaps	CHECK
21	L+R wing tips & lights	CHECK
22	L+R fuel quantity	CHECK
23	L+R fuel cells filler caps	CLOSE & SECURE
24	L+R+M drain fuel system	CHECK (3x)
25	stall warning	CHECK
26	L+R landing gear / wheel doors	CHECK
27	L+R tires and breakes	CHECK
28	L+R gear shock struts	CHECK
29	front gear / shock strut	CHECK
30	front tire / wheel doors	CHECK
31	landing light	CHECK
32	oil level (6-8 qt)	CHECK
33	oil cap & dipstick	CHECK & SECURE
34	L+R cowling / cowl scoop	CHECK SECURED
35	propeller / spinner	CHECK
36	air inlet foreign matter	CHECK
37	beacon / taillight	CHECK

## cockpit checks ...

1	outside check	COMPLETED
2	logbook/papers	ON BOARD
3	hobbs & engine-time	CHECKED & NOTED
4	parking brake	SET ON
5	master /bat /ignition	OFF /OFF /OFF
6	landing gear lever	DOWN & indicator "DN"
7	emerg. land.-gear-lever	CHECK installed
8	circuit breakers	CHECK "IN"
9	trim & aileron trim	SET NEUTRAL "0" & MIDDLE
10	flight controls	CHECK & FREE



Circuit breakers pic-side

**... cockpit checks continued.**

11	alternate air	CLOSE
12	fuel selector	FULLEST TANK
13	altimeters 2x	set QNH   field elevation
14	all avionics / autopilot	OFF / OFF
15	doors	CLOSE & LATCH
16	seats & belts	SET / LOCK & FASTEN
17	propeller	HIGH RPM
18	mixture	FULL RICH
19	throttle	1/2 inch OPEN (8 turns)
20	start-up clearance	CHECK

cockpit



Circuit breakers co-side

### **before engine start**

1	master switch & bat	ON / ON
2	gear down light	GREEN "DN"
3	flaps up light	RED "UP"
4	fuel quantity indicators	CHECK
5	rotating beacon	ON
6	propeller area clear	CLEAR PROP

### **cold engine start**

7	propeller	HIGH RPM
8	mixture	FULL RICH
9	throttle	1/2 inch OPEN (8 turns)
10	fuel pump (cold)	ON until 8 gph - OFF
11	<b>ignition</b>	<b>START</b> (max. 10 sec.)
12	throttle	1000-1200 RPM
13	oil press	CHECK 30-100 psi @ 30sec
14	fuel press	CHECK
15	amps & volt	CHECK (0-25% of full load)
16	panel annunciators	CHECK
17	avionics / radio / xpdr	switches ON & SET

**NOTE: 20 sec between starts - max 6 times - than 30 min**

**hot engine start + outside temp > 30°C (> 90 °F)**

i	mixture	IDLE CUT OFF
ii	fuel pump (hot)	ON 30-60sec - than OFF
iii	mixture	RETURN FULL RICH
iv	throttle	1/4 inch OPEN (4 turns)
v	ignition	START (max. 10 sec.)
iv	fuel pump	<b>ON</b> momentarily after starting - than <b>OFF</b>

Start-up

**NOTE: Fuel pump ON with low rpm will FLOOD the engine !**

**overprimed or flooded engine start**

i	mixture	IDLE CUT OFF
ii	throttle	WELL OPEN
iii	ignition	START (max. 10 sec.)
iv	if engine fires	REDUCE THROTTLE & MIXTURE FULL RICH

## taxi

1	brakes	CHECK
2	flight instruments	CHECK
3	autopilot	CHECK OFF
4	radio & headset	CHECK & ON
5	mixture	RICH minus 4 turns
6	flaps	CHECK OPS - than UP
7	engine < 1200 RPM	until oil-temp > 75°F

## run up

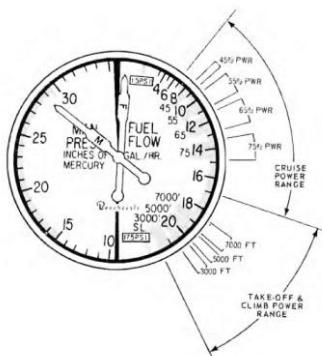
1	brakes	ON
2	mixture	FULL RICH
3	throttle	1900 RPM
4	propeller	EXERCISE 400 rpm drop
5	vacuum gauge	CHECK 4.3 -5.9 inHg
6	propeller	FULL FWD
7	throttle	1700 RPM
8	magnetos	R-L max. drop 150   diff 50
9	throttle	1000 RPM



Take-off distance, t/o power, paved-level-rwy, zero wind:

in metric <b>METER</b>			<b>0° flaps</b>		<b>20° flaps</b>	
<b>MTOW / ISO + 20°C</b>			<b>78 mph</b>	<b>85 mph</b>	<b>67 mph</b>	<b>74 mph</b>
<b>DH ft</b>	<b>°C</b>	<b>°F</b>	<b>roll</b>	<b>50 ft</b>	<b>roll</b>	<b>50 ft</b>
MSL	35°C	95°F	550 m	700 m	360 m	460 m
1000	33°C	91°F	610 m	780 m	390 m	500 m
2000	31°C	88°F	670 m	860 m	420 m	540 m
3000	29°C	84°F	730 m	930 m	460 m	600 m
4000	27°C	81°F	790 m	1.000 m	500 m	660 m
5000	25°C	77°F	880 m	1.120 m	550 m	720 m
6000	23°C	73°F	980 m	1.250 m	600 m	780 m

taxi



fuel flow per setting bhp%  
 lower mark = best economy  
 higher mark = best power

mixture FULL RICH, or if applicable, lean to achieve corresponding DH/fuel flow

## before take off

1	fuel selector	FULLER tank
2	fuel pump	CHECK OFF
3	magnetos	CHECK BOTH
4	doors & windows	CLOSED & LOCKED
5	trim & aileron trim	NEUTRAL "0" & MIDDLE
6	flaps	CHECK "UP" OR AS REQ.
7	parking brake	CHECK RELEASED
8	strobes / landing LTS	ON / ON
9	pitot heat	AS REQUIRED
10	alternate air	CHECK CLOSED
11	mixture / prop	RICH / high RPM
12	DEP & Emergency briefing	DONE
13	take-off clearance	CHECK CLR APPROACH
14	transponder	ON / ALT 7000

## take off & climb-out

1	take-off power	SET FULL throttle
2	engine is good	CHECK 2600 RPM
3	speed alive	CHECK 50 MPH at 1/2 RWY
4	rotate $V_R$	78 MPH (68 KIAS)
5	climb-out $V_X$	85 MPH (74 KIAS)
6	landing gear	positive climb - RETRACT
7	climb-speed $V_Y$	105 MPH (90 KIAS)
8	climb-power	SET 25 MAP & 2500 RPM
9	engine temperatures	MONITOR CHT (MAX 435°F)

## after take off

10	landing LTS	OFF
11	gear	UP
12	flaps	UP

**75% CRUISE 2.450 RPM MAX 24 MAP**

<b>ISO plus 20°C</b>			MAP	gal/h	TAS (kt)
10.000 ft	15°C	23°F	20,1	11,2	152
8.000 ft	19°C	66°F	21,7	12,1	155
6.000 ft	23°C	73°F	23,1	13,2	158
4.000 ft	27°C	81°F	23,5	13,4	156
2.000 ft	31°C	88°F	24,0	13,4	153
Sea level	35°C	95°F	24,0	13,4	150

<b>ISO - NORM OAT</b>			MAP	gal/h	TAS (kt)
10.000ft	M 5°C	23°F	20,1	12,0	154
8.000 ft	M 1°C	30°F	21,7	12,9	158
6.000 ft	3°C	37°F	22,2	13,4	156
4.000 ft	7°C	45°F	22,8	13,4	153
2.000 ft	11°C	52°F	23,4	13,4	150
Sea level	15°C	59°F	24,0	13,4	148

Best power: 100°F below peak on the rich-side

**65% CRUISE 2.450 RPM MAX 24 MAP**

<b>ISO plus 20°C</b>			MAP	gal/h	TAS (kt)
10.000 ft	15°C	23°F	20,0	11,2	152
8.000 ft	19°C	66°F	20,4	11,5	151
6.000 ft	23°C	73°F	20,9	11,5	149
4.000 ft	27°C	81°F	21,4	11,5	146
2.000 ft	31°C	88°F	21,8	11,5	144
Sea level	35°C	95°F	22,3	11,5	141

<b>ISO - NORM OAT</b>			MAP	gal/h	TAS (kt)
10.000ft	M 5°C	23°F	19,5	11,5	151
8.000 ft	M 1°C	30°F	19,9	11,5	148
6.000 ft	3°C	37°F	20,4	11,5	146
4.000 ft	7°C	45°F	20,8	11,5	143
2.000 ft	11°C	52°F	21,3	11,5	141
Sea level	15°C	59°F	21,7	11,5	138

Best economy: 25°F below peak on the rich-side

cruise

## approach / downwind

1	altimeters	CHECKED QNH
2	fuel selector	FULLER tank
3	fuel pump	CHECK <b>OFF</b>
4	autopilot	OFF
5	landing lights	ON
6	aileron trim	MIDDLE
7	seat + belt + shoulder	SET & FASTENED
8	mixture	RICH
9	landing gear (165 MPH)	<b>DOWN</b> green + "DN"
10	flaps (120 MPH)	10°

## final / before landing

11	airspeed final	90 MPH (80 kt)
12	flaps	FULL or 20°
13	propeller	HIGH RPM
14	Final check F-U-M-P	flaps-gear-mixture-prop
15	clear to land	CHECKED
16	obstacle cleared	80 MPH (70 kt)

## balked landing / go around

i	power	FULL POWER gently
ii	speed & stabilize	85 MPH (74 kt)
iii	landing gear	positive climb - RETRACT
iv	obstacle cleared	105 MPH (90 kt)
v	flaps	UP
vi	missed approach	PROCEDURE & COM.

## after landing / runway vacated

1	flaps	UP
2	landing LTS & strobes	OFF
3	pitot heat	OFF
4	alternate air	CHECK CLOSED
5	trim tab	NEUTRAL "0"

### Im Flug

grün Dauer		=	Landing frei
rot Dauer		=	Platzrunde fprtsetzen, anderes Flugzeug hat Vorflug
grün Blink		=	zur Landing zurückkehren / Anflug fortsetzen
rot Blink		=	nicht landen, Flugplatz nicht benutzbar
weiß Blink		=	auf diesem Flugplatz landen

### Am Boden

grün Dauer		=	Start frei
rot Dauer		=	Halt
grün Blink		=	Rollen frei
rot Blink		=	Landefläche freimachen
weiß Blink		=	zum Ausgangspunkt zurück

ROTE  
FEUERWERKSKÖRPER



landing

	parking	EDFZ: 8109
<b>6</b>	<b>flight plan</b>	<b>CLOSED</b>
7	parking-braek	SET
8	free to leave frequency	APPOVED as req.
9	avionics. electrical	OFF
10	throttle	1.000 RPM
11	mixture	cut OFF
12	throttle	CLOSE
13	ignition switch	OFF
14	master switch	OFF
15	headset	OFF
16	hobbs + engine-time	CHCKD & NOTED
17	aircraft logbook	UPDATED & PHOTO
18	pitot cover	FIXED
19	wheel & moorings	LOCKED & FIXED as req.
20	chocks (> 4 hrs)	INSTALL & release brake
21	door+baggage door	LOCKED



## LANDING GEAR (L-G) AND BREAKES

L-G position lights show **red when the gear is up** or **green when it is down**, and only when gear is locked. In addition, a mechanical indicator shows the position of the nose gear “DWN” or “UP”.

The L-G control circuit has 3 warnings:

- (i) warning horn when throttle below ca. 12 in MAP with L-G retracted;
- (ii) a safety switch on the right shock strut whenever the strut is compressed by the weight of the airplane, i.e. on the ground;
- (iii) and a switch which sounds the warning horn whenever the L-G control switch is in the "UP" position on the ground (see ii).

**Emergency L-G ops:** A hand crank is provided for lowering the L-G manually if system fails. The hand crank is designed only to lower the L-G, not to retract it manually. The procedure:

1. Landing gear circuit breaker - “OFF” (pull out)
2. Landing gear switch - "DOWN" position
3. Move the handle into the cranking position, and TURN it counterclockwise as far as possible (appr. 50 turns)
4. Check indicators “DN” or with tower that L-G is DOWN.
5. DISENGAGE hand crank and stow away.

To set **parking brakes**, pull the "PARK BRAKE PULL ON" control (closes a one-way valve) and **pump the brake pedals** to build up pressure. To release: **push in** the control.

The parking brake system is designed for use when the airplane is to be parked for only a few hours. For longer periods, leave the parking brake off and install wheel chocks.

$V_{NE}$	Never Exceed Speed	225 mph (195 kt)
$V_{ON}$	Max. Structural Cruise	185 mph (160 kt)
$V_A$	Maneuvering Speed	147 mph (128 kt)
$V_{LO}$	Max gear operation	165 mph (130 kt)
$V_{FO}$	Max flaps ops	125 mph (109 kt)
Approach		90 mph (78 kt)   $V_{REF}$ 80 mph (70 kt)
X-Wind		20 mph (17 kt)

POWER-OFF: Best glide (clean) **120 mph** (105 kt)  
 Glide ratio gear + flaps up: 1:10 = 1,5 NM (3 km) / 1.000 ft.

T/O	no flaps (clean)	flaps 20°
$V_R$	78 mph (68 kt)	70 mph (61 kt)
$V_X$	85 mph (74 kt)	77 mph (67 kt)
$V_Y$	105 mph (90 kt)	88 mph (77 kt)

Stall	$V_S$ no flaps (clean)	$V_{S0}$ flaps full
0°	71 mph (62 kt)	60 mph (52 kt)
20°	73 mph (64 kt)	62 mph (54 kt)
40°	81 mph (71 kt)	69 mph (60 kt)
60°	100 mph (87 kt)	85 mph (74 kt)