

C H E C K L I S T

D - E R N S

Does not replace the Airplane Flight Manual

DA40-180 Diamond Star

OPERATING SPEEDS KIAS	850 KG	1.000 KG	1.150 KG
Best Gliding Angle (Flaps Up)	60	68	73
Best Angle Of Climb (Vx)	60	68	73
Best Rate Of Climb (Vy)	54	60	66
Cruising Climb Speed	60	68	73
Rotating Speed	49	55	59
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Max. Flap Speed (Vfe) T/O	108	108	108
Max. Flap Speed (Vfe) Ldg	91	91	91
Landing Speed Flaps Up	60	68	73
Landing Speed Flaps Ldg	58	63	71
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Stalling Speed (Vs0) Ldg	42	<-980 kg->	49
Stalling Speed (Vs) T/O	44	<-980 kg->	51
Stalling Speed (Vs) Clean	47	<-980 kg->	52
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Max. Cruising Speed (Vno)	129	129	129
Never Exceed Speed (Vne)	178	178	178
Manoeuvring Speed (Va)	94	<-980 kg->	108
Max. Turbulence Speed	129	129	129

WEIGHTS	KG
Max. TKOF weight	1.150
Empty weight VFR	780
Empty weight IFR	825
Max. LDG weight	1092
Max. baggage weight	30

1**PREFLIGHT INTERIOR**

1	Aircraft papers	CHECK
2	Pitot cover	REMOVE
3	Interior for foreign objects	CHECK
4	Flight controls free	CHECK
5	Circuit breakers	CHECK
6	Ignition	OFF, key removed
7	Mixture	IDLE CUT OFF
8	Essential bus	OFF
9	Avionic master + electrics	OFF
10	Electric Master	ON
11	Electric fuel pump	ON + OFF
12	Fuel quantity	Check
13	External lights	ON
14	Pitot heat	ON
15	Stall warning	Check
16	Pitot heat	Check
17	External lights	Check
18	Pitot heat + ext. lights	OFF
19	Electric Master	OFF

2¹**PREFLIGHT EXTERIOR PART I**

Left main gear	<ul style="list-style-type: none"> → Tire condition, pressure (2,5 bar), position mark → Brake, hydraulic line
Left wing	<ul style="list-style-type: none"> → Wing leading edge, top- and bottom surface, stall strips → Drain fuel sump → Stall warning → Fuel vent → Fuel filler cap → Pitot, static probe (cover removed) → Landing/Taxi light → Wing tip, position light → Static dischargers → Aileron (freedom of movement, hinges, control linkage, security) → Wing flap

PREFLIGHT EXTERIOR PART II

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Left fuselage	<ul style="list-style-type: none">→ Canopy left side→ Rear door→ Fuselage left side→ Antennas
Tail	<ul style="list-style-type: none">→ Elevator & rudder (freedom of movement, hinges)→ Trim - tab→ Tail skid + lower fin→ Static dischargers
Right fuselage	<ul style="list-style-type: none">→ Fuselage right side→ Rear window→ Canopy right side→ Right wing→ Wing flap→ Aileron (freedom of movement, hinges, control linkage, security)→ Static dischargers→ Wing tip, position light→ Wing leading edge, top- and bottom surface, stall strips→ Fuel filler cap→ Fuel vent→ Drain fuel sump
Right main gear	<ul style="list-style-type: none">→ Wheel fairing→ Tire condition, pressure (2,5 bar), position mark→ Brake, hydraulic line
Nose section	<ul style="list-style-type: none">→ OAT sensor→ Propeller surface→ Spinner→ Cowling, Air inlets (3)
Nose gear	<ul style="list-style-type: none">→ Wheel fairing→ Tire condition, pressure (2,0 bar), position mark
Engine bay	<ul style="list-style-type: none">→ Engine oil level (min 5 qts)→ Drain fuel strainer

3**CHECK BEFORE ENGINE START**

1	Preflight check	COMPLETED
2	Baggage and tow bar	SECURED
3	Parking brake	SET
4	Alternate air	CLOSED
5	Circuit breakers	CHECKED IN
6	Flap selector	UP
7	Electric Master	OFF
8	Electric fuel pump	OFF
9	Avionic Master	OFF
10	Essential bus	OFF
11	Ignition	OFF
12	All light switches	OFF
13	Pitot heat	OFF
14	Alternate static	CLOSED
15	Emergency switch	OFF / GUARDED
16	Instrument + flood light	OFF
17	Gyro slave switch	SLAVE
18	Electric Master	ON
19	Annunciator Panel/ Eng.instr.	CHECKED
20	Acknowledge button	PRESS
21	Rudder pedals	ADJUSTED
22	Passengers	INSTRUCTED
23	Seat belts	FASTENED
24	Rear door	CLOSED and LATCHED
25	Front canopy	POS 1 or 2
26	Fuel quantity	CHECKED
27	Fuel selector	FULL TANK
28	Strobe Light	ON
29	Propeller area	CLEAR

ENGINE START PROCEDURE

COLD ENGINE			HOT ENGINE	
1	Throttle	OPEN HALF WAY	Electric fuel pump	CHECK OFF
2	Electric fuel pump	ON	Throttle	3 cm OPEN
3	Mixture	OPEN 5-10 sec, then IDLE CUT OFF		
4	Throttle	3 cm OPEN		
5	Starter		ENGAGE	
6	Mixture		FULL RICH when engine fires	
7	Throttle		1000 RPM	
8	Voltage, Electrical load		CHECK INDICATION	
9	Oil pressure		CHECK GREEN RANGE	
10	Annunciations		ACKNOWLEDGE	
11	Engine Instruments		CHECK	
12	Electric fuel pump		OFF	

5**CHECK AFTER ENGINE START**

1	Oil pressure	CHECKED
2	Fuel selector	SWITCH TANKS
3	Pitot heat	ON, annunciation + Amps checked
4	Pitot heat	OFF
5	Avionics master	ON
6	VHF COM / NAV / GPS	SET

AUTOPILOT TEST

	DISCONN press, check electric trim not working	
	AP ON, check overpowering servos	
	DISCONN press, check AP off	
7	Autopilot test	COMPLETED
8	Flood light	CHECKED, ON as required
9	Position lights	ON as required
10	Altimeters (3)	SET
11	Flaps	full travel CHECKED, then T/O
12	Horizon / Directional gyro	CHECKED / SET
13	Transponder	CODE/MODE CHECKED
14	Parking brake	RELEASED

DURING TAXI

1	Check Brakes	
2	Check flight instruments	

BEFORE TAKE OFF CHECK

1	Parking brake	SET
2	Seat belts	FASTENED
3	Rear door	CLOSED + LATCHED
4	Front canopy	CLOSED + LATCHED
5	Door warning light	OFF
6	Engine instruments green range	CHECKED
7	Circuit breakers	CHECKED
8	Mixture	RICH

RUN UP

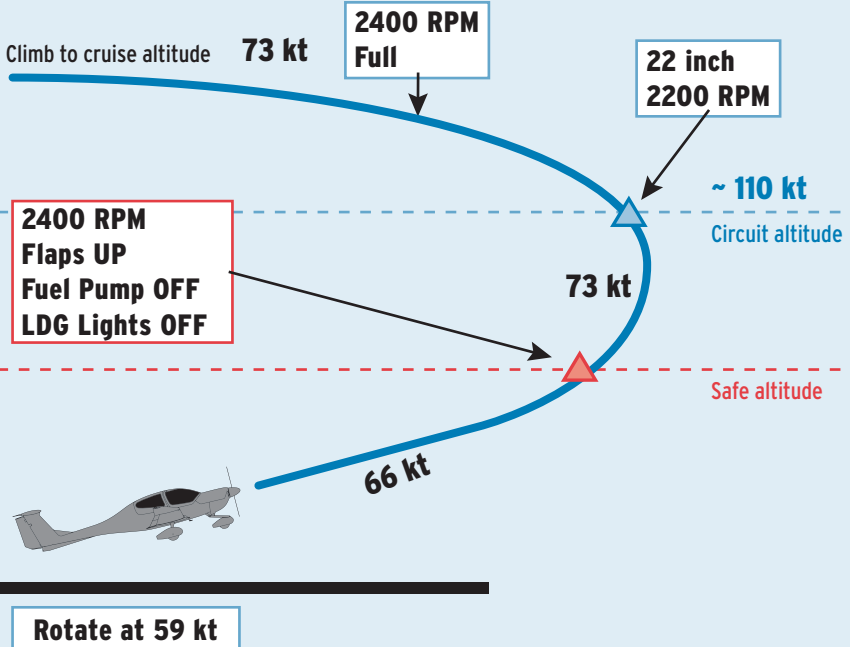
	Throttle	2000 RPM
	Prop control	cycle 3 times, then high
	Magnetos (max 175/50)	CHECKED
9	Amperemeter	CHECKED
10	Electric elevator trim	CHECKED, T/O SET
11	Flaps	CHECKED T/O
12	Flight controls	CHECKED
13	Fuel selector	FULLEST TANK
14	Electric fuel pump	ON
15	Pitot heat	AS REQUIRED
16	Transponder	CODE/MODE CHECKED
17	Parking brake	RELEASED

LINE UP PROCEDURE

18	Landing light	ON
19	Approach sector	CLEAR
20	Runway	IDENTIFIED

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DEPARTURE



CLIMB TO CRUISE CHECK

1	Flaps	CHECKED UP
2	Electric fuel pump	CHECKED OFF
3	Landing light	CHECKED OFF

CLIMB, CRUISE, DESCENT AT HIGH ALTITUDE

Electric fuel pump ON to avoid vapour bubbles which may cause intermittent low fuel pressure and high fuel flow indication

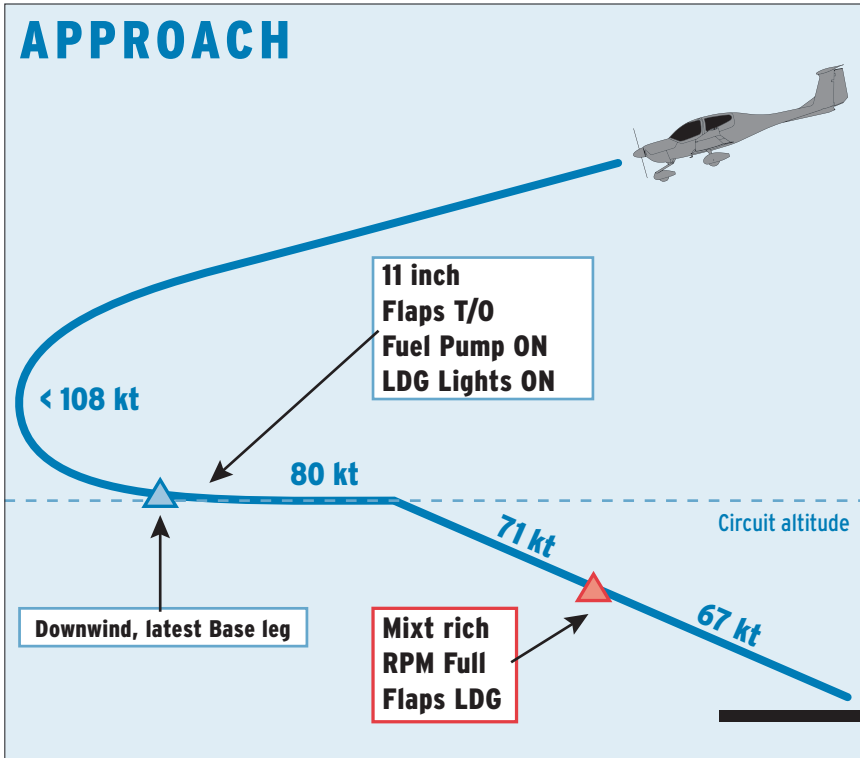
PERIODICALLY DURING CRUISE

	Fuel Radio Engine Direction Altitude	
	Maximum fuel unbalance:	Standard tank: 10 USG

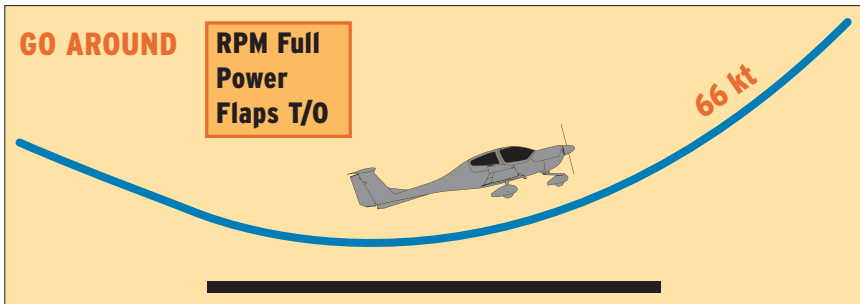
POWER SETTING

P Alt	45%			55%			65%			75%		
	MP	RPM	TAS	MP	RPM	TAS	MP	RPM	TAS	MP	RPM	TAS
2000	22.1	1800	101	23.3	2000	113	24.2	2200	123	25.2	2400	132
3000	21.8	1800	102	23.0	2000	114	23.8	2200	125	24.8	2400	134
4000	21.5	1800	103	22.7	2000	116	23.5	2200	127	24.5	2400	135
5000	21.2	1800	104	22.3	2000	117	23.1	2200	128	24.1	2400	137
6000	20.9	1800	105	22.0	2000	118	22.8	2200	129	---	---	
7000	20.5	1800	106	21.7	2000	119	21.1	2400	130	---	---	
8000	20.2	1800	107	21.3	2000	120	21.0	2400	131	---	---	
9000	19.9	1800	108	21.1	2000	121	20.7	2400	131	---	---	
10000	19.6	1800	109	19.4	2000	121	---	---		---	---	
Econ	5.8 G/h			7.0 G/h			8.2 G/h			9.5 G/h		
Pwr	-----			-----			9.6 G/h			11 G/h		

APPROACH



GO AROUND



DESCENT / APPROACH CHECK**10**

1	Landing data	RECEIVED
2	Altimeters (3)	SET
3	COM / NAV / GPS	SET
4	Directional gyro	SET
5	Seatbelts	FASTENED
6	Fuel selector	FULLER TANK
7	At high altitude: Electric fuel pump	ON

BEFORE LANDING PROCEDURE**DOWNWIND, LATEST BASE LEG:**

1	Flaps	T/O
2	Electric fuel pump	ON
3	Landing light	ON

ON FINAL:

4	Mixture	RICH
5	Prop	HIGH RPM
6	Flaps	LDG

GO AROUND PROCEDURE

1	Power	MAX
2	Flaps	T/O
3	Continue with take-off profile	

11 AFTER LANDING CHECK

1	Flaps	UP
2	Pitot heat	OFF
3	Electric fuel pump	OFF
4	Alternate air	CLOSED
5	Landing/Taxi light	AS REQUIRED
6	Transponder	AS REQUIRED

PARKING CHECK

1	Parking brake	SET
2	Engine instruments	CHECKED
3	ELT	121,5 CHECKED
4	Hobbs meter	NOTED
5	Avionic master	OFF
6	Electrical consumers except ACL (strobe)	OFF
7	Throttle	1000 RPM
8	Ignition	GROUNDING CHECK
9	Mixture	IDLE CUT OFF
10	Ignition	OFF
11	ACL (strobe)	OFF
12	Electric Master	OFF
13	Interior light	CHECKED OFF

TRANSPONDERCODES

D / A / CH		7000
Entführung		7500
Funkausfall		7600
EMERGENCY	Notfall	7700