



3fly.at

# OE-DGE

## Diamond DA40 / GTN 750

MTOW: 1150 kg (2535 lb)

A/C-Size: W: 11,9m H: 2,0m L: 8,0m

**OPERATOR**

### Pilotenclub - Wien

Wiener Luftfahrerverband

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**CONTACT**

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**FUEL**

Fuel AVGAS 100LL

Maximum Fuel 156 L / 41,2 gal

Unusable Fuel 3,8 L / 1 gal

**OIL**

Shell Aero  15W-50

Minimum 4 quarts

Minimum IFR 6 quarts

**TIRE**

Front Tire 29 psi / 2,0 bar

Main Tires 36 psi / 2,5 bar

**SPEED**

V<sub>S0</sub> (Stall- Flaps max) 49 KIAS








V<sub>S</sub> (Stall- Flaps up) 52 KIAS

V<sub>g</sub> (best glide, Flaps up) 60-73 KIAS\*

Max. demo. X-Wind 20 knots

\* ) A/C - Mass 850 kg - 1150 kg

**COM FAIL**

	Clear to Land	
	Return to Landing	
	Continue Circling	
	A/D unsafe, don't Land	
	Land at this A/D and proceed to Apron - wait for Clearance	
		

F P L ( E X A M P L E )		
7	A/C ID	OE-DGE
8	Flight Rules	V, I, Y, Z
	Type of Flight	G
9	Type of A/C	DA40
	Wake Turbul. Cat.	L
10	Equipment	SBDFGRY / S
13	Departure A/D	LOAV
	Departure Time	0830
15	Speed	N0125
	Flight Level	080
	Route	SNU GRZ
16	Destination A/D	LJMB
	Total EET	0045
	Alternate A/D	LOWG
18	Other Info.	EET/GOLVA0040
		PBN/B2C2D2O2S2 NAV/SBAS
19	Endurance	04:00
	Persons on Bord	2
	Emerg. Equipm.	ELT
	A/C Colour	WHITE
	Name PIC	NAME

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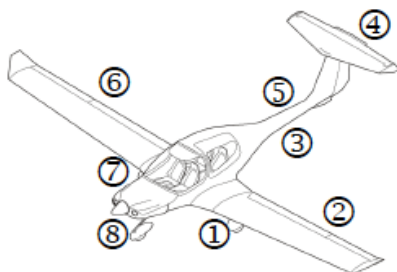
Consult POH / AFM for "Warnings, Cautions and additional Information"

**PREFLIGHT**

1 Fuel Tank Sumps	3 x DRAIN
2 AC-Doc. / M & B	CHECK

**CABIN CHECK**

1 Ignition Key	REMOVE	
2 Canopy, Rear Door	CHECK	
3 Electr. Equipment	OFF	
4 CB's all in	CHECK	
5 Control Levers	CHECK FREE	
6 Prop	FULL FWD	
7 Throttle	IDLE	
8 Mixture	LEAN	
<b>BATTERY</b>	Master - BAT	ON
	Annunciator Panel	CHECK
	Fuel Quantity	CHECK
	Pos. Light & ACL	CHECK
	Ldg & Taxi - Light	CHECK
	Master - BAT	OFF
	15 Loose Items	CHECK
16 Flight Contr./Trim	FREE / CORR.	
17 Baggage	SECURED	

**EXTERIOR CHECK****1. Left Main Gear**

1 Gear Strut	VIS. INSP.
2 Strut Fairing	VIS. INSP.
3 Wheel Fairing	VIS. INSP.
4 Tire 36psi / 2,5 bar	CHECK
5 Tire Wear, Tread	CHECK
6 Wheel Brake	VIS. INSP.
7 Brake Line Leaks	CHECK
8 Slip Marks	VIS. INSP.
9 Chocks	REMOVE

**2. Left Wing**

10 Wing Surfaces	VIS. INSP.
11 Step	VIS. INSP.
12 Air Intake Lower	VIS. INSP.
13 Openings Lower	CHECK
14 Tank Drain	CHECK
15 Stall Warning	CHECK
16 Tank Filler	VIS. INSP.
17 Tank Air Outlet	VIS. INSP.
18 2 x Stall Strips	VIS. INSP.
19 Pitot Probe	CLEAN
20 Ldg / Taxi Lights	VIS. INSP.
21 Wing Tip	VIS. INSP.
22 Pos. Light & ACL	VIS. INSP.
23 Tiedown	CHECK, CLEAR
24 Aileron & Linkage	VIS. INSP.
25 Aileron Hinges & Pin	VIS. INSP.
26 Foreign Obj. Ailer. Paddle	VIS INSP
27 Flap and Linkages	VIS. INSP.
28 Flap Hinges & Pin	VIS. INSP.



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**3. Fuselage (Left)**

29 Canopy Left Side	VIS. INSP.
30 Rear Door, Window	VIS. INSP.
31 Fuselage Skin	VIS. INSP.
32 Antennas	VIS. INSP.

**4. Empennage**

33 Stabiliser Contr. Surf.	VIS. INSP.
34 Hinges	VIS. INSP.
35 Elev. Trim, Wire	VIS. INSP.
36 Rudder Trim Tab	VIS. INSP.
37 Tiedown on Fin	CHECK, CLEAR
38 Tail Skid & lower Fin	VIS. INSP.

**5. Fuselage (Right)**

39 Fuselage Skin	VIS. INSP.
40 Window	VIS. INSP.
41 Canopy Right Side	VIS. INSP.

**6. Right Wing**


42 Flap and Linkages	VIS. INSP.
43 Flap Hinges & Pin	VIS. INSP.
44 Aileron & Linkage	VIS. INSP.
45 Aileron Hinges & Pin	VIS. INSP.
46 Foreign Obj. Ailer. Paddle	VIS. INSP.
47 Wing Tip	VIS. INSP.
48 Pos. Light & ACL	VIS. INSP.
49 Tiedown	CHECK, CLEAR
50 Wing Surfaces	VIS. INSP.
51 2 Stall Strips	VIS. INSP.
52 Tank Air Outlet	VIS. INSP.

53 Tank Filler	VIS. INSP.
54 Openings Lower	CHECK
55 Tank Drain	CHECK
56 Step	VIS. INSP.

**7. Right Main Gear**

57 Gear Strut	VIS. INSP.
58 Strut Fairing	VIS. INSP.
59 Wheel Fairing	VIS. INSP.
60 Tire 36psi / 2,5 bar	CHECK
61 Tire Wear, Tread	CHECK
62 Wheel Brake	VIS. INSP.
63 Brake Line Leaks	CHECK
64 Slip Marks	VIS. INSP.
65 Chocks	REMOVE

**8. Front Fuselage**

66 Oil Level 6 - 8 Qts	CHECK
67 Cowling	VIS. INSP.
68 3 Air Intakes	CLEAR
69 Propeller 	VIS. INSP.
70 Spinner & Screws	VIS. INSP.
71 Nose Landing Gear	VIS. INSP.
72 Tire and Wheel	VIS. INSP.
73 Slip Marks	VIS. INSP.
74 Strut Fairing	VIS. INSP.
75 Tire Wear, Tread	CHECK
76 Wheel Fairing	VIS. INSP.
77 Tow Bar	REMOVE
78 Tire 29 psi / 2,0 bar	CHECK
79 Chocks	REMOVE





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80 Exhaust	VIS. INSP.
81 Forw. Cabin Inlets	CLEAR
82 Antennas	VIS. INSP.
83 Gascolator	DRAIN
84 Venting Pipes	CHECK
85 Fuselage Underside	CLEAN

19 Avionics Master	OFF
20 Essential Bus	OFF
21 Master - BAT	ON
22 Annunciator Panel	TEST
23 Fuel Tank Selector	FULLER TANK


BEF. ENGINE START	
1 Preflight Check	COMPL
2 Rudder Pedals	ADJUST
3 Passenger Briefing	COMPL
4 Seat Belts / Harness	FASTEN
5 Baggage	SECURE
6 Rear Door	CLOSE LOCK
7 Door Lock  	UNBLOCK
8 Front Canopy	POS. 1 or 2
9 Canopy Lock  	UNBLOCK
10 Parking Brake	SET
11 Flight Controls	FREE
12 Trim Wheel	SET T/O
13 Throttle	IDLE
14 Prop	FULL FWD
15 Mixture	LEAN
16 Friction Device	ADJUST
17 Alternate Air	CLOSED
18 Alternate Static	CLOSED



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ENGINE START		
1 Bef. Engine Start CL	COMPL	
2 Strobe Light / ACL	ON	
3 Fuel Pump	ON	
4 Throttle	3 cm OPEN	
COLD	Mixture	3-5 SEC RICH
	Mixture	LEAN
	Throttle	1 cm OPEN
WARM	Mixture	1 SEC RICH
	Mixture	LEAN
10 Fuel Pump	OFF	
11 Prop Area	CLEAR	
12 Ignition	START	
13 Mixture when fires	RICH	
14 Oil Press. < 15 sec	IN RANGE  	
15 Master - ALT	ON	
16 Amperemeter	CHECK	
17 Fuel Press. 14-35 psi	CHECK	
18 Annunciator Panel	CHECK	



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<b>FLOODED ENGINE START</b>	Strobe Light / ACL	ON
	Fuel Pump	OFF
	Mixture	LEAN
	Throttle	MID POS
	Prop Area	CLEAR
	Ignition	START
	Throttle When Fires	PULL BACK
	Mixture Rapidly	RICH
	Oil Press. < 15 sec	IN RANGE 
	Master - ALT	ON
	Amperemeter	CHECK
	Fuel Press. 14-35 psi	CHECK
	Annunciator Panel	CHECK





<b>BEFORE TAXI</b>		
1	Avionic - Master	ON
2	Electr. Equipment	ON
3	Flaps all Positions	CHECK
4	Eng.- / Flight Instr.	CHECK / SET
5	Instr.- / Flood Light	AS REQ
6	GTN750 NAV-Data	CHECK
7	GPS - Self Test	CHECK
8	Fuel Selector 	LEFT / RIGHT
9	Pitot on → Ammeter	CHECK
10	Pitot	OFF
11	TAXI / PSN - Light	AS REQ
12	Eng. Warm Up 	max 1100 rpm
13	Parking Brake	RELEASE
<b>TAXI</b>	Brakes	CHECK
	Flight Instruments	CHECK
	Gyro Instruments	CHECK

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<b>BEFORE TAKEOFF</b>		
1	Transponder	CHECK
2	Parking Brake	SET
3	Seat Belts / Harness	FASTEN
4	Rear Door	CLOSE LOCK
5	Front Canopy	CLOSE LOCK
6	Door Warning Light	CHECK OFF
7	Fuel Selector	FULLER TANK
8	Engine Instruments	IN GREEN
9	Circuit Breakers	CHECK / IN
10	Fuel Pressure	14 - 35 psi
11	Fuel Pump	ON
12	Mixture	FULL FWD
13	Flaps	T/O
14	Trim	T/O
15	Flight Controls	FREE & CORR
16	Throttle	2000 rpm
17	Prop 3x Pull - Drop	250 - 500 rpm
<b>MAGNETOS</b>	R - B - L - B	SWITCH
	Drop max. 175 rpm	CHECK
	Diff L/R max 50 rpm	CHECK
	Ignition Switch Both	CONFIRM
	22 All CB's	CHECK IN
	23 Voltmeter	IN GREEN
	24 Throttle Idle 600-800 rpm	CHECK
	25 Alternate Air	CLOSE
	26 Landing Light	AS REQ
27 Pitot Heat	AS REQ	
28 Departure Briefing	COMPL	
29 Parking Brake	RELEASE	

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**LINE UP / TAKEOFF**

1	Before T/O Check	COMPL
2	Approach Sector	CLEAR
3	Runway Heading	CONFIRM
4	Transponder	ON / ALT
5	Prop	FULL FWD
6	Throttle  	FULL FWD
7	Full T/O Power  	CONFIRM
8	Elevator	NEUTRAL
9	Rudder	DIRECTION
10	Rotate (V <sub>R</sub> )	<b>59 KIAS</b>
11	Climb Speed (V <sub>Y</sub> )	<b>60 - 66 KIAS *</b>



\*) A/C - Mass 1000 kg - 1150 kg

**CLIMB**

1	Throttle	FULL FWD
2	Mixture	RICH
3	Prop 2400 rpm	REDUCE
4	Engine Instruments	IN GREEN
5	Climb Speed (V <sub>Y</sub> )	<b>60 - 66 KIAS *</b>
6	400 ft AGL - Safe Speed - CHECK	
7	Flaps	UP
8	Trim	AS REQ
9	Landing Light	OFF
10	Fuel Pump	OFF
11	Fuel Press	CHECK
12	Mixture > 5000 ft	SET EGT



\*) A/C - Mass 1000 kg - 1150 kg

**CRUISE - CLIMB**

1	Flaps	UP
2	Airspeed	<b>68 - 73 KIAS *</b>
3	Prop 2400 rpm	SET
4	Throttle	FULL FWD
5	Mixture > 5000 ft	SET EGT
6	Engine Instruments	IN GREEN
7	Trim	AS REQ
8	Fuel Pump (high Alt)	ON  

\*) A/C - Mass 1000 kg - 1150 kg





**CRUISE**

1	Flaps	CHECK UP
2	Throttle (Page 7)	AS REQ
3	Prop 1800-2400 rpm	SET
4	Mixture	SET
5	Trim	AS REQ
6	Fuel Selector	AS REQ
7	Fuel Pump (high Alt)	ON  
8	Man. Spd (V <sub>A</sub> )	<b>94 / 108 KIAS *</b>
9	Turbulent Air (V <sub>NO</sub> )	<b>129 KIAS</b>

\*) A/C - Mass 780 kg - 980 kg: 94 KIAS

A/C - Mass 981 kg - 1150 kg: 108 KIAS

**DESCENT**

1	Mixture  	AS REQ
2	Prop 1800-2400 rpm	AS REQ
3	Throttle	AS REQ
4	Fuel Pump (high Alt)	ON  
5	Descent Planing	COMPL





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**LANDING**

1	Fuel Pump	ON
2	Fuel Selector	FULLER TANK
3	Safety Harnesses	FASTEN
4	Airspeed Reduce	<b>MAX 108 KIAS</b>
5	Flaps	T/O
6	Trim	AS REQ
7	Landing Light	AS REQ

**Before Landing**

8	Mixture	FULL FWD
9	Prop	FULL FWD
10	Throttle	AS REQ
11	Airspeed Reduce	<b>MAX 91 KIAS</b>
12	Flaps	LDG
13	Final App. Spd  	<b>63 - 71 KIAS *</b>

<b>GO AROUND</b>	Prop	FULL FWD
	Throttle	FULL FWD
	Airspeed	<b>60 - 66 KIAS *</b>
	Flaps	T/O
	400 ft AGL - Safe Alt -	CHECK
	Prop	2.400 rpm
	Airspeed	<b>68 - 73 KIAS *</b>
Flaps	UP	
Fuel Pump	OFF	

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**AFTER LANDING**

1	Throttle	IDLE
2	Brakes	AS REQ
3	Fuel Pump	OFF
4	Transponder	OFF / STBY
5	Pitot Heat	OFF
6	Avionics	AS REQ
7	Lights	AS REQ
8	Flaps	UP

**SHUT DOWN**

1	Parking Brake	SET
2	Engine Instruments	CHECK
3	ELT (121,5 MHz)	CHECK
4	Avionic - Master	OFF
5	Throttle	1.000 rpm
6	Electr. Equipment	OFF
7	Mixture	IDLE CUTOFF
8	Ignition	OFF
9	Master - BAT / ALT	OFF
10	Map Light	CHECK OFF
11	Parking Brake	AS REQ
12	Tiedown	AS REQ

\*) A/C - Mass 1000 kg - 1150 kg



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Fuel Flow [US gal/h]		RPM		Engine Power as % of Max. Take-Off Power						Engine Power as % of Max. Take-Off Power					
				45 %			55 %			65 %			75 %		
				1800	2000	2200	2400	2000	2200	2400	2000	2200	2400	2000	2200
Best Economy		5.8	6	6.3	6.6	7	7.2	7.5	7.9	8.2	8.5	9.2	9.5		
Best Power		-	-	7.3	7.7	-	8.5	8.7	-	9.5	9.8	10.7	11		
ISA		[°C]	[°F]	Manifold Pressure (MP) [inHg]						Manifold Pressure (MP) [inHg]					
MSL		15	59	22.7	21.3	20.2	19.0	23.9	22.4	21.2	26.8	24.9	23.4	27.3	25.8
1000		13	55	22.4	21.0	19.9	18.7	23.6	22.2	21.0	26.4	24.5	23.2	26.8	25.5
2000		11	52	22.1	20.7	19.6	18.4	23.3	21.9	20.7	26.0	24.2	22.9	26.5	25.2
3000		9	48	21.8	20.4	19.3	18.2	23.0	21.6	20.4	25.7	23.8	22.6	26.1	24.8
4000		7	45	21.5	20.2	19.0	17.9	22.7	21.2	20.1	25.4	23.5	22.3	-	24.5
5000		5	41	21.2	19.9	18.7	17.6	22.3	20.9	19.8	-	23.1	22.0	-	24.1
6000		3	38	20.9	19.6	18.4	17.4	22.0	20.6	19.5	-	22.8	21.7	-	-
7000		1	34	20.5	19.3	18.2	17.1	21.7	20.3	19.3	-	22.4	21.4	-	-
8000		-1	31	20.2	19.0	17.9	16.9	21.3	20.0	19.0	-	-	21.0	-	-
9000		-3	27	19.9	18.7	17.6	16.6	21.1	19.7	18.7	-	-	20.7	-	-
10000		-5	23	19.6	18.4	17.3	16.3	-	19.4	18.4	-	-	-	-	-
11000		-7	19	19.3	18.2	17.0	16.1	-	19.1	18.1	-	-	-	-	-
12000		-9	16	-	17.9	16.7	15.8	-	-	17.8	-	-	-	-	-
13000		-11	12	-	17.6	16.4	15.5	-	-	17.6	-	-	-	-	-
14000		-13	9	-	-	16.1	15.3	-	-	-	-	-	-	-	-
15000		-15	6	-	-	15.8	15.0	-	-	-	-	-	-	-	-
16000		-17	2	-	-	15.5	14.7	-	-	-	-	-	-	-	-
17000		-19	-2	-	-	-	14.5	-	-	-	-	-	-	-	-

The shaded areas are the recommended power settings



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## NORMAL AIRSPEEDS

### TAKEOFF

	<b>850 kg - 1150 kg</b>
$V_{(y)}$ Flaps T/O	54 - 66 KIAS
Cruise - Climb Flaps UP	60 - 73 KIAS

### LANDING

	<b>850 kg - 1150 kg</b>
Final APP Flaps LDG	58 - 71 KIAS
Balked Landing Flaps T/O	54 - 66 KIAS
Max. demo X Wind	20 KIAS
$V_{(FE)}$ max, Flaps LDG	91 KIAS

### CRUISE

$V_{(A)}$ Maneuvering	94 / 108 KIAS *
$V_{(NO)}$ Max Turbulent Air	129 KIAS
$V_{(NE)}$ Max Airspeed	178 KIAS

## AIRSPEEDS FOR EMERGENCY

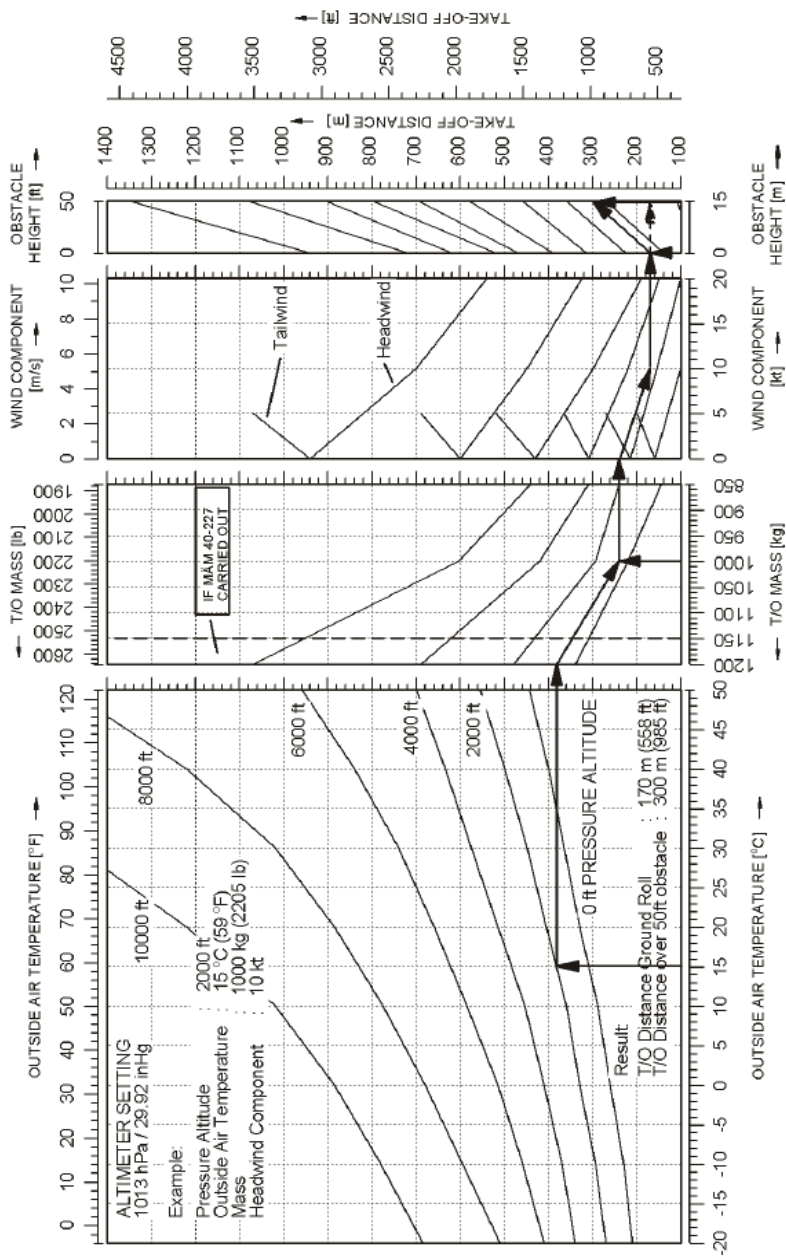
$V_{(A)}$ Maneuvering	94 / 108 KIAS *
	<b>850 kg - 1150 kg</b>
Engine Off - Best Glide / Flaps UP	60 - 73 KIAS
Engine Off - Best Glide / Flaps T/O	59 - 72 KIAS
Engine Off - Best Glide / Flaps LDG	58 - 71 KIAS
Eng. Failure after T/O Flaps T/O	59 - 72 KIAS
Eng. Failure after T/O Flaps UP	60 - 73 KIAS

\*) A/C - Mass 780 kg - 980 kg: 94 KIAS  
 A/C - Mass 981 kg - 1150 kg: 108 KIAS



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## DA 40 - TAKE-OFF DISTANCES



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