

LOAD DATA SHEET - PAGE 1 OF 3 - AEROPLANE WEIGHT

Aeroplane Type:..... DIAMOND DA 42 NG

Registration Marking:..... **VH-VMX**

Serial No: 42.N139

ISSUE:.... TWO

DATE:..... 3-Apr-20

EXPIRY:..... INDEFINITE

AEROPLANE WEIGHT AND CENTRE OF GRAVITY DATA:

ITEM	WEIGHT (Kg)	ARM (mm aft of datum)	MOMENT (Kg.mm)	CABIN CONFIGURATION
EMPTY	1411.3	2392.5	3376567	FOUR SEATS TOTAL
STANDARD CABIN CONFIGURATION AUSTRO ENGINES & MT PROPELLERS				
THE FOLLOWING IMPERIAL UNITS ARE FOR USE WITH THE PILOTS HANDBOOK SECTION SIX				
	(lb)	(in)	(in.lb)	
EMPTY	3111.5	94.19	293073	FOUR SEATS TOTAL

NOTE: The above empty weights include:-

EMPTY - unusable fuel and full oil

AeroWeigh Pty. Ltd.

BRUCE CUSSELL
AUTHORITY 111/2018

MOBILE: 0412 58 5551

LOAD DATA SHEET - PAGE 2 OF 3 - EQUIPMENT LIST

This list details the items included in the empty weight shown in Page 1.

Aeroplane Type:..... DIAMOND DA 42 NG

Registration Marking:..... **VH-VMX** Serial No: 42.N139

ISSUE:..... TWO

DATE:..... 03-Apr-20

ENGINES/PROPELLERS

Austro E4-C..... 2

MT MTV-6-R-C-F..... 2

COMPASSES

Magnetic..... 1

Remote Indicating..... 1*

THERMOMETERS

Engine Temp(Cyl.Hd.)..... 2*

Oil Temp..... 2*

Outside Air Temp..... 1*

INDICATORS

Airspeed..... 1*

Airspeed (Standby)..... 1

Directional Indicator..... 1*

E.G.T..... 2*

Hourmeters..... 0

Fuel Flow..... 2*

Attitude Indicator..... 1*

Gyro Horizon (Standby).... 1

Stall Warning..... 1

Tacho Non-recording..... 2*

Trim Indicator..... 1

Landing Gear Position..... 4 Lights

Vertical Speed..... 1*

Wing Flap Position..... 3 Lights

Assigned Altitude..... 1*

AVIONICS EQUIPMENT (TYPE)

ADF..... 0

Autopilot..... GARMIN

Speakers..... 1

G/slope..... SEE NAVS

Headsets..... 1

GPS/Com.... GARMIN GIA63W (x2)

MF Display.. GARMIN GDU1045

PF Display... GARMIN GDU1040

Audio..... GARMIN GMA1347

Txponder.... GARMIN GTX345R

AHRS..... GARMIN GRS77

Air Data..... GARMIN GDC-74A

Analyzer..... GARMIN GEA71

Traffic..... 0

Magnetomtr... GARMIN GMU44

DME..... 0

Stormscope. 0

INSTRUMENTS

Altimeters..... 1*

Altimeters (Standby)..... 1

Ammeters..... 1*

Voltmeters..... 1*

Clocks..... 1*

GAUGES

Engine Oil Pressure..... 2*

Fuel Contents..... 2*

Fuel Pressure..... 2*

Manifold Pressure..... 2*

LIGHTS

White Strobes (tips)..... 2

Inst. Full Panel Flood..... 1

Landing/Taxi..... 2

Map Reading..... 1

Navigation..... 4

Cockpit..... 2

Passenger Overhead..... 1

RESTRAINT EQUIPMENT

Baggage Net..... 1

Lap-sash/Inertia..... 4

MISCELLANEOUS EQUIPMENT

Dual Controls..... 1

Engine Fire Warning..... 2

Fire Ext.(Portable)..... 1

Land.Gear Warn.Horn..... 1

Hydraulic Pump..... 1

Heated Pitots..... 1

Alternate Static..... 1

Electric Trim..... 1

Honeywell ADF Antenna.. 1

F.I.S. Provisions..... 1

(System Antennae x 5)

DISPOSABLE LOAD LIST

First Aid Kit..... 1

Crash Axe..... 1

Torch..... 1

V.S.Beacon/E.L.T..... Kannad 406

* ITEMS MARKED ARE PART OF ELECTRONIC DISPLAYS

LOAD DATA SHEET - PAGE 3 OF 3 - LOADING SYSTEM

Aeroplane Type:..... DIAMOND DA 42 NG

Registration Marking:..... **VH-VMX** Serial No: 42.N139

ISSUE:.... TWO	DATE:..... 03-Apr-20
----------------	----------------------

Refer to Diamond DA 42 NG Aircraft Flight Manual

CAUTION

This aircraft can be easily loaded beyond the Centre of Gravity Limits. During load check calculations, particular attention should be made to the aft loading situations with rear cabin passengers or baggage.

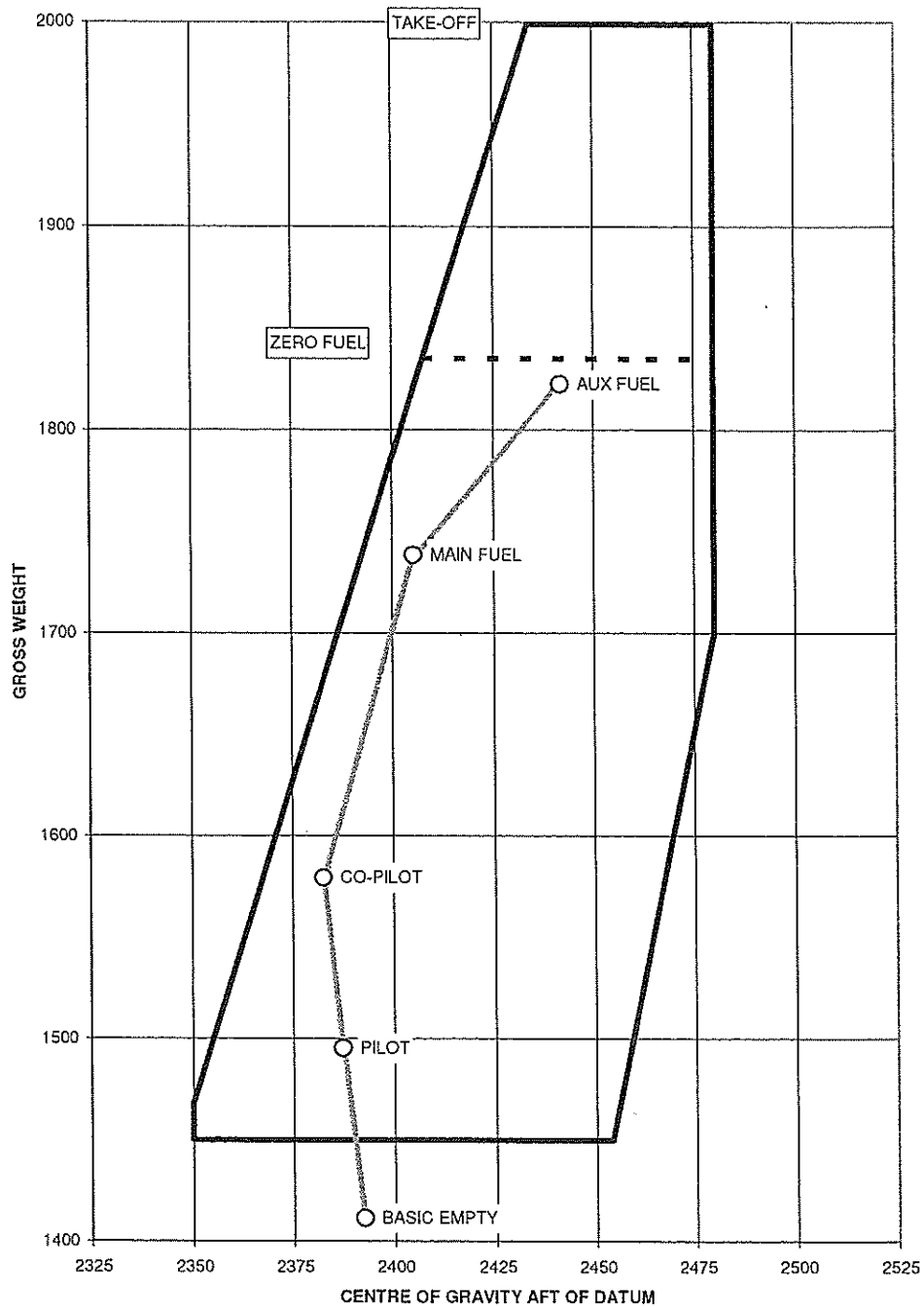
CALCULATION OF LOADING CONDITION	DA 42 NG (Example)		Your DA 42 NG	
	Mass [kg] [lb]	Moment [kgm] [in.lb]	Mass [kg] [lb]	Moment [kgm] [in.lb]
1. Empty mass (from Mass and Balance Report)	1450 3197	3488.0 302,747		
2. Front seats Lever arm: 2.30 m (90.6 in)	160 353	368.0 31,982		
3. Rear seats Lever arm: 3.25 m (128.0 in)	0 0	0.0 0.0		
4. Nose baggage compt. Lever arm: 0.60 m (23.6 in)	0 0	0.0 0.0		
5. Cabin baggage compt. Lever arm: 3.89 m (153.1 in)	10 22	38.9 3,368		
6. Baggage extension Lever arm: 4.54 m (178.7 in)	8 18	36.3 3,217		
7. Standard baggage compartment Lever arm: 3.65 m (143.7 in)	0 0	0.0 0.0		
8. Short baggage extension (if OÄM 42-207 is carried out) Lever arm: 3.97 m (156.3 in)	0 0	0.0 0.0		
9. De-icing fluid (if only OÄM 42-160 is installed; see NOTE on previous page) (1.1 kg/liter) (9.2 lb/US gal) Lever arm: 1.00 m (39.4 in)	27.5 61	27.5 2,403		

CALCULATION OF LOADING CONDITION	DA 42 NG (Example)		Your DA 42 NG	
	Mass [kg] [lb]	Moment [kgm] [in.lb]	Mass [kg] [lb]	Moment [kgm] [in.lb]
10. De-Icing fluid (if OÄM 42-160 AND OÄM 42-203 are installed; see NOTE on previous page) (1.1 kg/liter) (9.2 lb/US gal) Lever arm: 4.52 m (178.0 in)	0 0	0.0 0.0		
11. Total mass & total moment with empty fuel tanks (Total of 1.through 10.)	1655.5 3651	3958.7 343,717		
12. Usable fuel, main tanks (0.84 kg/liter) (7.01 lb/US gal) Lever arm: 2.63 m (103.5 in)	159 351	418.2 36,329		
13. Usable fuel, auxiliary tanks (if installed) (0.84 kg/liter) (7.01 lb/US gal) Lever arm: 3.20 m (126.0 in)	84 185	268.8 23,310		
14. Total mass & total moment with fuel & de-icing fluid (Total of 11. through 13.)	1898.5 4187	4645.7 403,356		

The CG's shown in the following diagrams are those from the example in Section 6.4.3 - CALCULATION OF LOADING CONDITION, rows 11 and 14.

VH-VMX

DIAMOND DA 42 NG

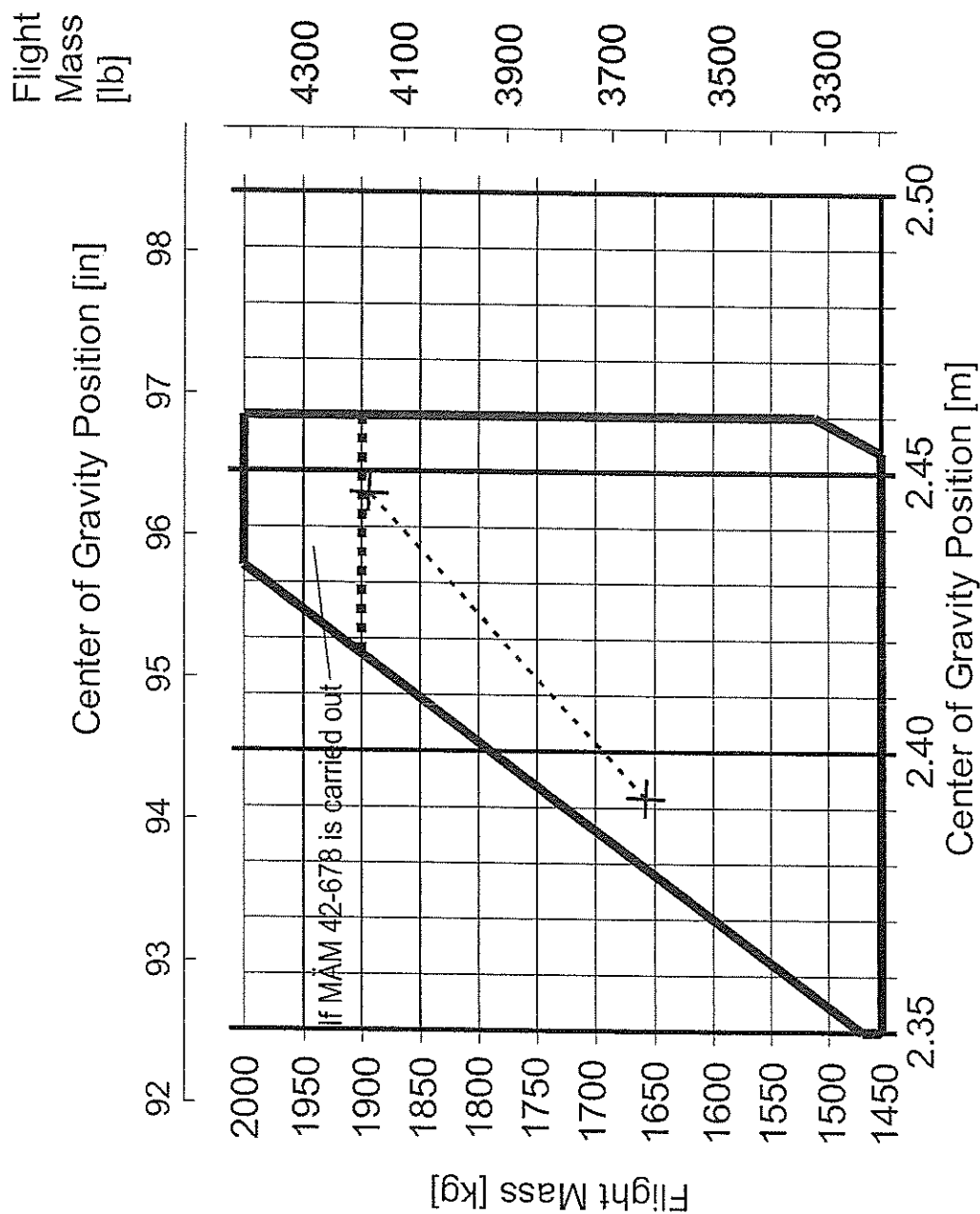


MAIN PLOT - BASIC AIRCRAFT PLUS
TWO FRONT OCCUPANTS @ 84 Kg EACH
WITH FULL MAIN & AUX FUEL

6. MASS AND BALANCE

6.4 FLIGHT MASS AND CENTER OF GRAVITY

6.4.4 PERMISSIBLE CENTER OF GRAVITY RANGE



The center of gravity (CG position) for flight conditions must be between the following limits:

Most forward flight CG:

2.350 m (92.52 in) aft of datum plane at 1450 kg (3197 lb)

2.350 m (92.52 in) aft of datum plane at 1468 kg (3236 lb)

2.418 m (95.20 in) aft of datum plane at max. take-off mass 1900 kg (4189 lb)

If MÄM 42-678 is installed:

2.434 m (95.83 in) aft of datum plane at max. take-off mass 1999 kg (4407 lb)

linear variation in between

Most rearward flight CG:

2.454 m (96.61 in) aft of datum plane at 1450 kg (3197 lb)

2.460 m (96.85 in) aft of datum plane at 1510 kg (3329 lb)

2.460 m (96.85 in) aft of datum plane at max. take-off mass

linear variation in between

CAUTION

If OÄM 42-199 (Removal of Variable Elevator Stop) is installed with other design changes limiting the rearward flight CG limitation (e.g. OÄM 42-168 (Universal Nose), OÄM 42-169 (Belly Pod), OÄM 42-170 (Nose Pod),...) the most limiting rearward CG limitation is applicable.

5.3.6 TAKE-OFF DISTANCE

Conditions:

- Power lever both MAX
- Flaps UP or APP
- Runway dry, paved, level
- Nose wheel lift-off @ V_R
- Airspeed for initial climb @ V_{50}

The following factors are to be applied to the computed take-off distance for the noted condition:

- Headwind: Decrease by 10% for each 14 kt (7.2 m/s) headwind.
- Tailwind: Increase by 10% for each 3 kt (1.5 m/s) tailwind.
- Grass runway, dry, 5 cm (2 in) long: Increase the ground roll by 10%.
- Grass runway, dry, 5 cm (2 in) to 10 cm (3.9 in) long: Increase the ground roll by 15%.
- Grass runway, dry, 25 cm (9.8 in) long: Increase the ground roll by 25%.
- Grass runway, longer than 25 cm (9.8 in): A take-off should not be attempt.
- Grass runway, wet: Increase the dry grass runway distance calculation by 10%.
- Soft ground: Increase the ground roll by 45% (in addition to the grass runway distance calculation, if applicable).
- Uphill slope: Increase the ground roll by 9% for each 1% (1 m per 100 m or 1 ft per 100 ft) slope.

If brakes are not held while applying power, distances apply where full power setting is complete.

WARNING

For a safe take-off the available runway length must be at least equal to the take-off distance over a 50 ft (15 m) obstacle.

WARNING

Poor maintenance condition of the airplane, deviation from the given procedures, uneven runway, as well as unfavorable external factors (rain, unfavorable wind conditions, including cross-wind) will increase the take-off distance.

CAUTION

The factors in the above corrections are typical values. On wet ground or wet soft grass covered runways the take-off roll may become significantly longer than stated above. In any case the pilot must allow for the condition of the runway to ensure a safe take-off.

The above corrections for runway slope should be used with caution since published runway slope data is usually the net slope from one end of the runway to the other. Runways may have positions at their length at greater or lesser slopes than published slope, lengthening (or shortening) the take-off roll estimated with these tables.

NOTE

The effect of 50% of the headwind component and 150% of the tailwind component is already incorporated in the head- and tailwind factors.

Page 5 - 10	Rev. 4 02-Oct-2017	Doc. No. 7.01.16-E
-------------	-------------------------	--------------------

Take-Off Distance - Normal Procedure - 1999 kg / 4407 lb								
Weight: 1999 kg / 4407 lb			Flaps: UP					
V _R : 76 KIAS			Power: MAX					
V ₅₀ : 83 KIAS			Runway: dry, paved, level					
Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	400	420	440	470	560	680	424
	15 m / 50 ft	730	760	790	870	1050	1330	776
1000 305	Ground Roll	420	440	470	510	610	730	444
	15 m / 50 ft	760	800	840	930	1150	1450	804
2000 610	Ground Roll	440	460	500	540	660	790	462
	15 m / 50 ft	800	840	890	1000	1260	1570	836
3000 914	Ground Roll	460	490	520	590	710	860	485
	15 m / 50 ft	840	880	940	1080	1360	1710	869
4000 1219	Ground Roll	490	520	560	640	780	930	505
	15 m / 50 ft	880	920	1000	1170	1490	1850	906
5000 1524	Ground Roll	520	550	600	690	840		531
	15 m / 50 ft	920	980	1070	1280	1620		944
6000 1829	Ground Roll	550	580	640	760	920		556
	15 m / 50 ft	970	1030	1140	1400	1760		986
7000 2134	Ground Roll	580	620	680	820	990		582
	15 m / 50 ft	1030	1100	1220	1530	1910		1029
8000 2438	Ground Roll	620	660	730	900	1080		611
	15 m / 50 ft	1090	1170	1320	1660	2080		1078
9000 2743	Ground Roll	660	710	800	980	1180		642
	15 m / 50 ft	1150	1240	1450	1840	2280		1128
10000 3048	Ground Roll	700	770	900	1100			676
	15 m / 50 ft	1230	1360	1640	2110			1182
For the distance in [ft] divide by 0.3048 or multiply by 3.28.								

Take-Off Distance - Normal Procedure - 1900 kg / 4189 lb

Weight: 1900 kg / 4189 lb

Flaps: UP

V_R: 76 KIAS

Power: MAX

V₅₀: 83 KIAS

Runway: dry, paved, level

Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	370	390	410	450	520	640	400
	15 m / 50 ft	670	710	730	800	960	1210	716
1000 305	Ground Roll	390	410	440	480	570	690	417
	15 m / 50 ft	710	740	780	860	1060	1310	743
2000 610	Ground Roll	420	440	470	510	620	750	435
	15 m / 50 ft	740	770	820	920	1150	1420	773
3000 914	Ground Roll	440	460	490	550	670	810	456
	15 m / 50 ft	770	810	870	990	1250	1550	803
4000 1219	Ground Roll	460	490	530	600	730	880	477
	15 m / 50 ft	810	850	920	1080	1350	1670	838
5000 1524	Ground Roll	490	520	560	650	790		500
	15 m / 50 ft	850	900	990	1180	1470		874
6000 1829	Ground Roll	520	550	600	710	860		523
	15 m / 50 ft	900	950	1050	1280	1600		910
7000 2134	Ground Roll	550	590	640	780	930		549
	15 m / 50 ft	950	1010	1130	1400	1740		951
8000 2438	Ground Roll	580	620	690	840	1010		577
	15 m / 50 ft	1000	1080	1210	1520	1880		995
9000 2743	Ground Roll	620	670	760	920	1110		606
	15 m / 50 ft	1060	1150	1330	1680	2090		1040
10000 3048	Ground Roll	660	720	840	1030			638
	15 m / 50 ft	1140	1250	1500	1910			1094

For the distance in [ft] divide by 0.3048 or multiply by 3.28.

5.3.11 LANDING DISTANCES

Conditions:

- Power lever both IDLE
- Flaps LDG, APP or UP
- Runway dry, paved, level
- Approach speed V_{REF}

The following factors are to be applied to the computed landing distance for the noted condition:

- Headwind: Decrease by 10% for each 14 kt (7.2 m/s) headwind.
- Tailwind: Increase by 10% for each 3 kt (1.5 m/s) tailwind.
- Paved runway, wet: Increase by 15%.
- Grass runway, dry, 5 cm (2 in) long: Increase the ground roll by 10%.
- Grass runway, dry, 5 cm (2 in) to 10 cm (3.9 in) long: Increase the ground roll by 15%.
- Grass runway, dry, longer than 10 cm (3.9 in): Increase the ground roll at least by 25%.
- Grass runway, wet or soft runway: Increase the ground roll by 10%.
- Downhill slope: Increase the ground roll by 9% for each 1% (1 m per 100 m or 1 ft per 100 ft) of slope.

WARNING

For a safe landing the available runway length must be at least equal to the landing distance over a 50 ft (15 m) obstacle.

WARNING

Poor maintenance condition of the airplane, deviation from the given procedures, uneven runway, as well as unfavorable external factors (rain, unfavorable wind conditions, including cross-wind) will increase the landing distance.

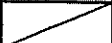
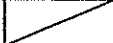
CAUTION

The factors in the above corrections are typical values. On wet ground or wet soft grass covered runways the landing distance may become significantly longer than stated above. In any case the pilot must allow for the condition of the runway to ensure a safe landing.

The above corrections for runway slope should be used with caution since published runway slope data is usually the net slope from one end of the runway to the other. Runways may have positions at their length at greater or lesser slopes than published slope, lengthening (or shortening) the landing roll estimated with these tables.

NOTE

The effect of 50% of the headwind component and 150% of the tailwind component is already incorporated in the head- and tailwind factors.

Landing Distance - Flaps LDG - 1999 kg / 4407 lb								
Weight:		1999 kg / 4407 lb			Flaps: LDG			
V _{REF} :		86 KIAS			Power: IDLE			
Runway: dry, paved, level								
Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	370	380	400	410	440	500	387
	15 m / 50 ft	620	640	660	680	730	820	647
1000 305	Ground Roll	380	400	410	420	470	530	399
	15 m / 50 ft	640	660	680	700	770	860	662
2000 610	Ground Roll	400	410	430	440	490	550	411
	15 m / 50 ft	660	680	700	720	810	900	680
3000 914	Ground Roll	410	430	440	460	520	580	422
	15 m / 50 ft	680	700	720	750	840	940	697
4000 1219	Ground Roll	430	440	460	490	550	610	435
	15 m / 50 ft	700	720	750	790	890	990	715
5000 1524	Ground Roll	440	460	480	510	580		449
	15 m / 50 ft	730	750	770	830	930		734
6000 1829	Ground Roll	460	480	490	540	610		461
	15 m / 50 ft	750	770	800	870	980		753
7000 2134	Ground Roll	480	500	520	580	650		479
	15 m / 50 ft	780	810	830	930	1030		780
8000 2438	Ground Roll	510	530	550	630	700		507
	15 m / 50 ft	820	850	880	990	1110		818
9000 2743	Ground Roll	550	570	610	690	770		542
	15 m / 50 ft	870	900	950	1070	1200		862
10000 3048	Ground Roll	600	620	670	750			584
	15 m / 50 ft	930	960	1040	1160			913
For the distance in [ft] divide by 0.3048 or multiply by 3.28.								

Landing Distance - Flaps LDG - 1900 kg / 4189 lb

Weight: 1900 kg / 4189 lb

Flaps: LDG

V_{REF}: 84 KIAS

Power: IDLE

Runway: dry, paved, level

Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	360	370	380	390	430	480	372
	15 m / 50 ft	600	620	630	650	700	780	620
1000 305	Ground Roll	370	380	390	410	450	500	381
	15 m / 50 ft	620	630	650	670	740	820	635
2000 610	Ground Roll	380	390	410	420	470	530	392
	15 m / 50 ft	630	650	670	690	770	860	652
3000 914	Ground Roll	400	410	420	440	500	560	405
	15 m / 50 ft	650	670	690	720	810	910	668
4000 1219	Ground Roll	410	420	440	460	520	590	415
	15 m / 50 ft	670	700	720	760	850	950	685
5000 1524	Ground Roll	420	440	450	490	550		428
	15 m / 50 ft	700	720	740	800	900		704
6000 1829	Ground Roll	440	450	470	520	580		442
	15 m / 50 ft	720	740	770	840	940		722
7000 2134	Ground Roll	460	480	490	550	620		459
	15 m / 50 ft	750	780	800	890	1000		751
8000 2438	Ground Roll	490	510	530	600	670		488
	15 m / 50 ft	790	820	850	960	1070		788
9000 2743	Ground Roll	530	550	580	660	740		523
	15 m / 50 ft	840	870	920	1030	1160		832
10000 3048	Ground Roll	580	590	640	730			562
	15 m / 50 ft	900	930	1000	1120			884

For the distance in [ft] divide by 0.3048 or multiply by 3.28.

Landing Distance - Flaps LDG - 1805 kg / 3979 lb								
Weight:		1805 kg / 3979 lb			Flaps: LDG			
V _{REF} :		84 KIAS			Power: IDLE			
Runway: dry, paved, level								
Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	334	347	360	370	401	451	353
	15 m / 50 ft	573	590	607	625	672	753	598
1000 305	Ground Roll	347	360	371	384	423	473	364
	15 m / 50 ft	590	608	626	644	705	790	613
2000 610	Ground Roll	360	371	385	399	445	500	373
	15 m / 50 ft	608	627	645	663	741	827	629
3000 914	Ground Roll	372	386	400	415	470	528	385
	15 m / 50 ft	628	646	665	691	777	866	645
4000 1219	Ground Roll	386	401	413	440	494	553	397
	15 m / 50 ft	647	667	687	726	816	909	661
5000 1524	Ground Roll	399	414	429	463	522		407
	15 m / 50 ft	668	689	709	764	856		679
6000 1829	Ground Roll	415	431	444	490	552		420
	15 m / 50 ft	690	710	732	803	898		696
7000 2134	Ground Roll	435	451	465	523	588		437
	15 m / 50 ft	719	741	764	852	952		721
8000 2438	Ground Roll	466	484	503	571	638		465
	15 m / 50 ft	760	783	814	917	1025		758
9000 2743	Ground Roll	506	522	556	626	703		500
	15 m / 50 ft	809	835	884	995	1109		802
10000 3048	Ground Roll	550	570	615	694			540
	15 m / 50 ft	868	894	964	1082			855
For the distance in [ft] divide by 0.3048 or multiply by 3.28.								

Landing Distance - Flaps LDG - 1700 kg / 3748 lb								
Weight:		1700 kg / 3748 lb			Flaps: LDG			
V _{REF} :		84 KIAS			Power: IDLE			
Runway: dry, paved, level								
Press. Alt. [ft] / [m]	Distance [m]	Outside Air Temperature - [°C] / [°F]						ISA
		0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	
SL	Ground Roll	320	340	350	360	390	430	335
	15 m / 50 ft	550	570	590	600	650	730	577
1000 305	Ground Roll	340	350	360	370	410	460	346
	15 m / 50 ft	570	590	610	620	680	760	591
2000 610	Ground Roll	350	360	370	380	430	480	356
	15 m / 50 ft	590	610	630	640	720	800	605
3000 914	Ground Roll	360	370	380	400	450	500	367
	15 m / 50 ft	610	630	640	670	750	840	621
4000 1219	Ground Roll	370	380	400	420	480	530	376
	15 m / 50 ft	630	650	660	700	790	880	636
5000 1524	Ground Roll	390	400	410	450	500		388
	15 m / 50 ft	650	670	690	740	830		652
6000 1829	Ground Roll	400	410	430	470	530		401
	15 m / 50 ft	670	690	710	780	870		670
7000 2134	Ground Roll	420	440	450	500	560		417
	15 m / 50 ft	690	720	740	820	920		693
8000 2438	Ground Roll	450	460	490	550	610		445
	15 m / 50 ft	740	760	790	890	990		731
9000 2743	Ground Roll	490	510	540	610	680		481
	15 m / 50 ft	790	810	860	960	1070		775
10000 3048	Ground Roll	530	550	600	670			522
	15 m / 50 ft	850	870	940	1050			828
For the distance in [ft] divide by 0.3048 or multiply by 3.28.								

5.3.7 CLIMB PERFORMANCE (ALL ENGINES OPERATING)

Conditions:

- Power lever both 92%
- Flaps UP or APP
- Landing gear retracted
- Airspeed V_Y

The climb performance tables show the rate of climb. The gradient of climb can be calculated using the following formula:

$$\text{Gradient [\%]} = \frac{ROC [fpm]}{TAS [KTAS]} \cdot 0.98$$

NOTE

Rate of climb at MTOM (1900 kg / 4189 lb) with a power setting of 100% at MSL and ISA conditions:

- 1337 ft/min (6.8 m/s) with flaps UP
- 1267 ft/min (6.4 m/s) with flaps APP

NOTE

If MÄM 42-678 is installed, the rate of climb at MTOM (1999 kg / 4407 lb) with a power setting of 100% at MSL and ISA conditions:

- 1243 ft/min (6.3 m/s) with flaps UP
- 1183 ft/min (6.0 m/s) with flaps APP

All Engines Operating Climb - Flaps UP

Flaps: UP

Power: 92%

V_Y: 92 KIAS above 1900 kg (4189 lb)

Gear: retracted

90 KIAS up to 1900 kg (4189 lb)

Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								ISA
			Outside Air Temperature - [°C] / [°F]								
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1999 / 4407	SL		1120	1120	1120	1110	1110	1100	1040	880	1114
	2000	610	1120	1110	1110	1100	1090	1090	970	820	1103
	4000	1219	1110	1100	1090	1090	1080	1050	900	760	1092
	6000	1829	1090	1090	1080	1070	1070	990	840		1081
	8000	2438	1080	1070	1060	1050	1040	930	780		1069
	10000	3048	1060	1050	1040	1040	990	820			1052
	12000	3658	1040	1030	1020	1020	850	680			1033
	14000	4267	1020	1020	960	830	660	520			1021
	16000	4877	1010	940	820	680	540				1007
	18000	5486	890	800	700	560	410				895
1900 / 4189	SL		1210	1210	1200	1200	1200	1190	1130	960	1203
	2000	610	1200	1200	1200	1190	1180	1180	1050	890	1193
	4000	1219	1200	1190	1180	1170	1170	1140	98	830	1181
	6000	1829	1180	1170	1170	1160	1150	1080	920		1169
	8000	2438	1170	1160	1150	1150	1130	1010	860		1158
	10000	3048	1150	1140	1130	1130	1080	900			1144
	12000	3658	1130	1120	1120	1110	930	750			1124
	14000	4267	1110	1110	1050	920	740	590			1113
	16000	4877	1100	1030	910	760	610				1102
	18000	5486	980	890	780	630	480				986

All Engines Operating Climb - Flaps UP

Flaps: UP

Power: 92%

v_Y : 92 KIAS above 1900 kg (4189 lb)
90 KIAS up to 1900 kg (4189 lb)

Gear: retracted

Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								
			Outside Air Temperature - [°C] / [°F]								ISA
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1700 / 3748	SL		1380	1380	1380	1380	1370	1370	1290	1100	1378
	2000	610	1380	1380	1370	1360	1360	1350	1210	1030	1368
	4000	1219	1370	1360	1360	1350	1340	1320	1130	960	1357
	6000	1829	1360	1350	1340	1340	1330	1240	1060		1345
	8000	2438	1340	1340	1330	1320	1310	1170	1000		1334
	10000	3048	1330	1320	1310	1300	1250	1050			1320
	12000	3658	1310	1300	1290	1290	1080	890			1299
	14000	4267	1290	1290	1220	1070	870	710			1289
	16000	4877	1280	1200	1070	900	730				1278
	18000	5486	1140	1040	930	760	590				1151
For the rate of climb in [m/s] divide by 196.8 or multiply by 0.00508.											

All Engines Operating Climb - Flaps APP

Flaps: APP

Power: 92%

V_Y: 85 KIAS

Gear: retracted

Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								
			Outside Air Temperature - [°C] / [°F]								ISA
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1999 / 4407	SL		1080	1070	1060	1050	1040	1030	980	820	1052
	2000	610	1060	1050	1040	1030	1020	1010	890	750	1036
	4000	1219	1040	1030	1020	1010	1000	970	820	680	1020
	6000	1829	1020	1010	1000	980	970	900	750		997
	8000	2438	1000	980	970	950	940	830	690		973
	10000	3048	970	950	940	930	880	720			949
	12000	3658	940	920	910	900	730	570			923
	14000	4267	910	900	840	710	540	410			904
	16000	4877	890	810	700	560	410				883
	18000	5486	760	670	570	430	280				769
1900 / 4189	SL		1160	1150	1140	1130	1120	1110	1050	880	1129
	2000	610	1140	1130	1120	1110	1100	1090	960	810	1112
	4000	1219	1120	1110	1100	1090	1070	1050	890	740	1096
	6000	1829	1100	1090	1070	1060	1050	970	820		1073
	8000	2438	1070	1060	1040	1030	1020	900	750		1049
	10000	3048	1040	1030	1010	1000	950	780			1024
	12000	3658	1010	990	980	970	800	620			998
	14000	4267	980	970	910	780	600	460			978
	16000	4877	960	880	760	610	460				957
	18000	5486	830	730	630	480	320				838

All Engines Operating Climb - Flaps APP

Flaps: APP

Power: 92%

v_y: 85 KIAS

Gear: retracted

Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								
			Outside Air Temperature - [°C] / [°F]								ISA
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1700 / 3748	SL		1330	1320	1300	1290	1280	1270	1210	1020	1294
	2000	610	1310	1290	1280	1270	1260	1250	1110	930	1277
	4000	1219	1280	1270	1260	1250	1240	1210	1030	860	1260
	6000	1829	1260	1250	1240	1220	1210	1130	950		1236
	8000	2438	1240	1220	1200	1190	1180	1050	870		1210
	10000	3048	1200	1190	1170	1160	1110	910			1184
	12000	3658	1170	1150	1140	1130	930	740			1156
	14000	4267	1140	1130	1060	910	710	550			1136
	16000	4877	1120	1030	900	730	560				1114
	18000	5486	980	870	750	580	410				983

For the rate of climb in [m/s] divide by 196.8 or multiply by 0.00508.

5.3.8 ONE ENGINE INOPERATIVE CLIMB PERFORMANCE

Conditions:

- Remaining engine 92% load
- Dead engine feathered and secured
- Flaps UP
- Landing gear retracted
- Airspeed $V_{YSE} = 85$ KIAS
- Sideslip one ball out, max. 5° bank

NOTE

With respect to handling and performance, the left-hand engine (pilots view) is considered the "critical" engine.

The climb performance tables show the rate of climb. The gradient of climb can be calculated using the following formula:

$$Gradient [\%] = \frac{ROC [fpm]}{TAS [KTAS]} \cdot 0.98$$

One Engine Inoperative Climb											
Flaps: UP						Power: feathered / 92%					
V _{YSE} : 85 KIAS						Gear: retracted					
Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								ISA
			Outside Air Temperature - [°C] / [°F]								
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1999 / 4407	SL		270	255	245	235	225	210	185	120	230
	2000	610	245	235	220	210	200	190	140	80	212
	4000	1219	225	210	200	185	175	160	95	40	193
	6000	1829	200	185	175	160	150	120	55		170
	8000	2438	175	160	145	130	120	75	15		147
	10000	3048	145	130	115	100	80	10			123
	12000	3658	115	95	85	70	0	-70			97
	14000	4267	85	70	35	-30	-105	-160			75
	16000	4877	55	10	-50	-120	-180				50
	18000	5486	-25	-75	-135	-195	-255				-19
1900 / 4189	SL		305	295	285	270	260	250	225	155	269
	2000	610	285	270	260	250	240	225	175	110	250
	4000	1219	260	250	235	225	210	195	130	70	231
	6000	1829	235	225	210	195	185	155	90		208
	8000	2438	210	195	180	165	155	110	45		184
	10000	3048	180	165	150	140	115	40			160
	12000	3658	150	135	120	110	30	-45			134
	14000	4267	120	105	70	0	-75	-135			111
	16000	4877	90	45	-20	-90	-155				86
	18000	5486	10	-45	-105	-170	-235				14

One Engine Inoperative Climb

Flaps: UP

Power: feathered / 92%

V_{YSE}: 85 KIAS

Gear: retracted

Weight [kg] / [lb]	Press. Alt. [ft]	Press. Alt. [m]	Rate of Climb - [ft/min]								
			Outside Air Temperature - [°C] / [°F]								ISA
			-20 -4	-10 14	0 32	10 50	20 68	30 86	40 104	50 122	
1700 / 3748	SL		390	375	365	355	345	330	300	220	350
	2000	610	365	355	340	330	320	305	245	170	331
	4000	1219	340	330	315	305	290	275	200	125	311
	6000	1829	320	305	290	275	265	225	150		287
	8000	2438	290	275	260	245	230	180	105		263
	10000	3048	260	245	230	215	190	100			237
	12000	3658	225	210	195	185	95	10			210
	14000	4267	195	180	140	65	-25	-90			186
	16000	4877	165	115	45	-35	-110				161
	18000	5486	80	20	-45	-120	-195				83

CAUTION: Dark grey shaded areas indicate a climb rate of less than 50 ft/min.
For the rate of climb in [m/s] divide by 196.8 or multiply by 0.00508.