

**LOAD DATA SHEET - PAGE 1 OF 3 - AEROPLANE WEIGHT**

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

Registration Marking:..... **VH-YKU**

Serial No: 42.N190

ISSUE:..... ONE

DATE:..... 2.Dec.15

EXPIRY:..... INDEFINITE

**AEROPLANE WEIGHT AND CENTRE OF GRAVITY DATA:**

| ITEM                                                                             | WEIGHT<br>(Kg) | ARM<br>(mm aft<br>of datum) | MOMENT<br>(Kg.mm) | CABIN<br>CONFIGURATION |
|----------------------------------------------------------------------------------|----------------|-----------------------------|-------------------|------------------------|
| EMPTY                                                                            | <b>1418.0</b>  | <b>2421.5</b>               | <b>3433630</b>    | FOUR SEATS TOTAL       |
| STANDARD CABIN CONFIGURATION<br>AUSTRO ENGINES & MT PROPELLERS                   |                |                             |                   |                        |
| THE FOLLOWING IMPERIAL UNITS ARE<br>FOR USE WITH THE PILOTS HANDBOOK SECTION SIX |                |                             |                   |                        |
|                                                                                  | (lb)           | (in)                        | (in.lb)           |                        |
| EMPTY                                                                            | <b>3126.2</b>  | <b>95.33</b>                | <b>298026</b>     | FOUR SEATS TOTAL       |

NOTE: The above empty weights include:-

EMPTY - unusable fuel and full oil

**AeroWeigh Pty. Ltd.**

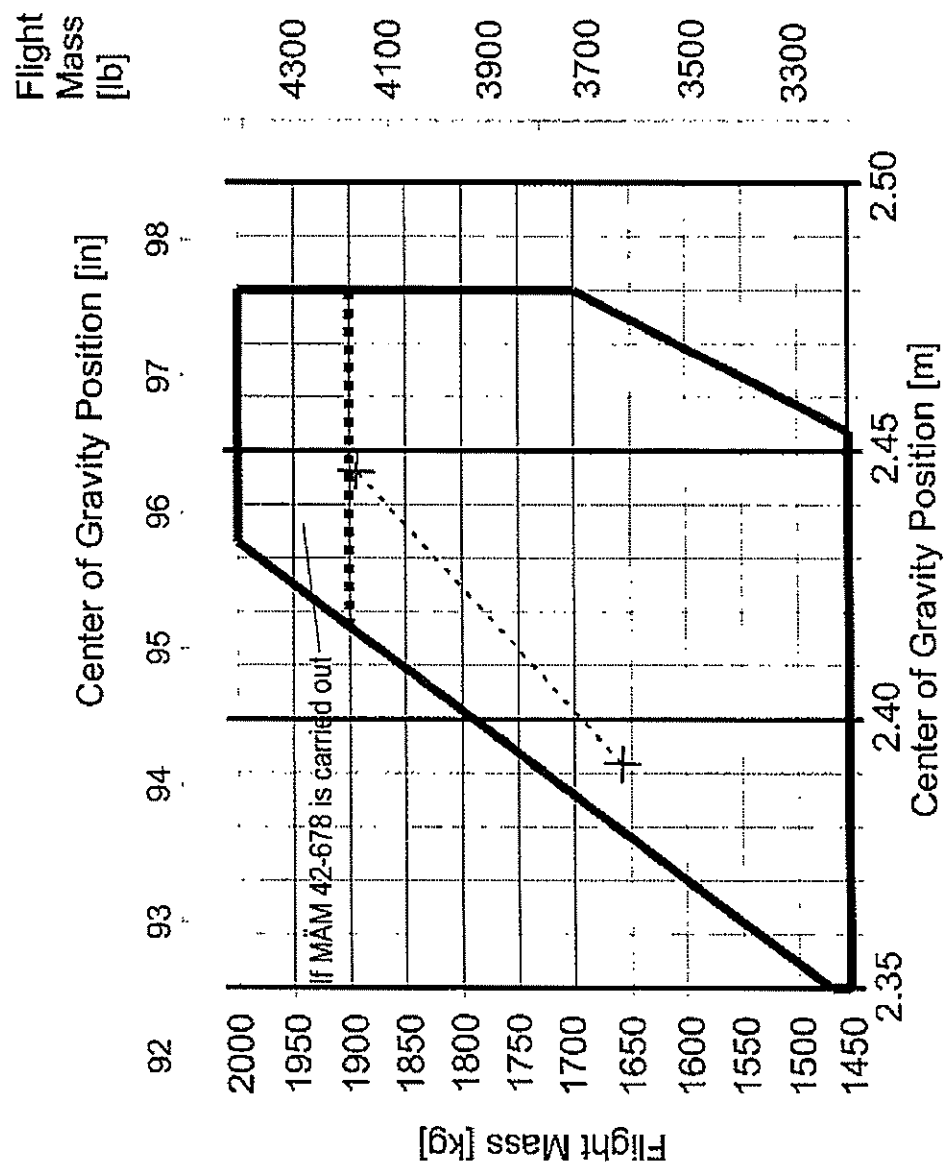
BRUCE BLISSOLD  
AUTHORITY NUMBER AN-9

MOBILE: 0412 58 5551

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

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

#### 6.4.4 PERMISSIBLE CENTER OF GRAVITY RANGE



| Take-Off Distance - Normal Procedure - 1700 kg / 3748 lb       |                 |                                       |                           |         |         |          |          |      |
|----------------------------------------------------------------|-----------------|---------------------------------------|---------------------------|---------|---------|----------|----------|------|
| Weight: 1700 kg / 3748 lb                                      |                 |                                       | Flaps: UP                 |         |         |          |          |      |
| V <sub>R</sub> : 80 KIAS                                       |                 |                                       | Power: MAX                |         |         |          |          |      |
| V <sub>50</sub> : 85 KIAS                                      |                 |                                       | Runway: dry, paved, level |         |         |          |          |      |
| Press. Alt.<br>[ft] / [m]                                      | Distance<br>[m] | Outside Air Temperature - [°C] / [°F] |                           |         |         |          |          | ISA  |
|                                                                |                 | 0 / 32                                | 10 / 50                   | 20 / 68 | 30 / 86 | 40 / 104 | 50 / 122 |      |
| SL                                                             | Ground Roll     | 370                                   | 400                       | 420     | 450     | 500      | 590      | 404  |
|                                                                | 15 m / 50 ft    | 580                                   | 620                       | 660     | 720     | 810      | 950      | 634  |
| 1000<br>305                                                    | Ground Roll     | 400                                   | 420                       | 450     | 490     | 550      | 630      | 427  |
|                                                                | 15 m / 50 ft    | 620                                   | 660                       | 710     | 770     | 880      | 1040     | 673  |
| 2000<br>610                                                    | Ground Roll     | 420                                   | 450                       | 480     | 520     | 600      | 690      | 451  |
|                                                                | 15 m / 50 ft    | 660                                   | 710                       | 760     | 830     | 960      | 1140     | 712  |
| 3000<br>914                                                    | Ground Roll     | 450                                   | 480                       | 520     | 560     | 650      | 750      | 475  |
|                                                                | 15 m / 50 ft    | 710                                   | 760                       | 820     | 900     | 1060     | 1250     | 753  |
| 4000<br>1219                                                   | Ground Roll     | 480                                   | 520                       | 550     | 610     | 710      | 820      | 503  |
|                                                                | 15 m / 50 ft    | 770                                   | 820                       | 880     | 990     | 1170     | 1390     | 800  |
| 5000<br>1524                                                   | Ground Roll     | 520                                   | 560                       | 600     | 670     | 770      |          | 535  |
|                                                                | 15 m / 50 ft    | 820                                   | 890                       | 960     | 1090    | 1290     |          | 854  |
| 6000<br>1829                                                   | Ground Roll     | 560                                   | 600                       | 650     | 740     | 850      |          | 567  |
|                                                                | 15 m / 50 ft    | 890                                   | 970                       | 1050    | 1220    | 1440     |          | 912  |
| 7000<br>2134                                                   | Ground Roll     | 600                                   | 650                       | 700     | 810     | 940      |          | 604  |
|                                                                | 15 m / 50 ft    | 970                                   | 1060                      | 1150    | 1360    | 1620     |          | 977  |
| 8000<br>2438                                                   | Ground Roll     | 650                                   | 710                       | 770     | 900     | 1030     |          | 644  |
|                                                                | 15 m / 50 ft    | 1060                                  | 1160                      | 1280    | 1520    | 1820     |          | 1050 |
| 9000<br>2743                                                   | Ground Roll     | 710                                   | 770                       | 850     | 980     | 1140     |          | 693  |
|                                                                | 15 m / 50 ft    | 1170                                  | 1280                      | 1430    | 1720    | 2080     |          | 1131 |
| 10000<br>3048                                                  | Ground Roll     | 780                                   | 840                       | 940     | 1090    |          |          | 744  |
|                                                                | 15 m / 50 ft    | 1290                                  | 1430                      | 1630    | 2000    |          |          | 1226 |
| For the distance in [ft] divide by 0.3048 or multiply by 3.28. |                 |                                       |                           |         |         |          |          |      |

## Take-Off Distance - Short Field Procedure - 1700 kg / 3748 lb

Weight: 1700 kg / 3748 lb

Flaps: APP

V<sub>R</sub>: 76 KIAS

Power: MAX

V<sub>50</sub>: 82 KIAS

Runway: dry, paved, level

| Press. Alt.<br>[ft] / [m] | Distance<br>[m] | Outside Air Temperature - [°C] / [°F] |         |         |         |          |          | ISA  |
|---------------------------|-----------------|---------------------------------------|---------|---------|---------|----------|----------|------|
|                           |                 | 0 / 32                                | 10 / 50 | 20 / 68 | 30 / 86 | 40 / 104 | 50 / 122 |      |
| SL                        | Ground Roll     | 360                                   | 380     | 410     | 440     | 490      | 570      | 392  |
|                           | 15 m / 50 ft    | 530                                   | 560     | 600     | 640     | 720      | 840      | 575  |
| 1000<br>305               | Ground Roll     | 390                                   | 410     | 440     | 470     | 540      | 620      | 415  |
|                           | 15 m / 50 ft    | 560                                   | 600     | 640     | 690     | 780      | 910      | 607  |
| 2000<br>610               | Ground Roll     | 410                                   | 440     | 470     | 510     | 580      | 680      | 438  |
|                           | 15 m / 50 ft    | 600                                   | 640     | 680     | 740     | 850      | 990      | 640  |
| 3000<br>914               | Ground Roll     | 440                                   | 470     | 500     | 550     | 640      | 740      | 463  |
|                           | 15 m / 50 ft    | 640                                   | 680     | 730     | 800     | 930      | 1080     | 675  |
| 4000<br>1219              | Ground Roll     | 470                                   | 510     | 540     | 600     | 700      | 810      | 491  |
|                           | 15 m / 50 ft    | 690                                   | 730     | 790     | 870     | 1010     | 1180     | 715  |
| 5000<br>1524              | Ground Roll     | 510                                   | 550     | 590     | 660     | 770      |          | 524  |
|                           | 15 m / 50 ft    | 740                                   | 790     | 850     | 950     | 1110     |          | 761  |
| 6000<br>1829              | Ground Roll     | 550                                   | 590     | 640     | 730     | 850      |          | 557  |
|                           | 15 m / 50 ft    | 790                                   | 850     | 920     | 1050    | 1220     |          | 804  |
| 7000<br>2134              | Ground Roll     | 590                                   | 640     | 700     | 810     | 940      |          | 595  |
|                           | 15 m / 50 ft    | 850                                   | 920     | 1000    | 1160    | 1350     |          | 858  |
| 8000<br>2438              | Ground Roll     | 650                                   | 700     | 770     | 900     | 1040     |          | 636  |
|                           | 15 m / 50 ft    | 930                                   | 1010    | 1100    | 1280    | 1500     |          | 918  |
| 9000<br>2743              | Ground Roll     | 710                                   | 770     | 850     | 990     | 1150     |          | 686  |
|                           | 15 m / 50 ft    | 1010                                  | 1100    | 1210    | 1420    | 1660     |          | 984  |
| 10000<br>3048             | Ground Roll     | 780                                   | 840     | 950     | 1110    |          |          | 740  |
|                           | 15 m / 50 ft    | 1110                                  | 1210    | 1350    | 1590    |          |          | 1056 |

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:

- 1186 ft/min (6.0 m/s) with flaps UP
- 1160 ft/min (5.9 m/s) with flaps APP

**NOTE**

If MAM 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:

- 1100 ft/min (5.6 m/s) with flaps UP
- 1073 ft/min (5.4 m/s) with flaps APP

## All Engines Operating Climb - Flaps UP

Flaps: UP

V<sub>y</sub>: 92 KIAS (above 1900 kg / 4189 lb)

Power: 92%

V<sub>y</sub>: 90 KIAS (up to 1900 kg / 4189 lb)

Gear: retracted

| Weight [kg] / [lb] | Press.<br>Alt.<br>[ft] | Press.<br>Alt.<br>[m] | Rate of Climb - [ft/min]              |           |         |          |          |          |           |           | ISA  |
|--------------------|------------------------|-----------------------|---------------------------------------|-----------|---------|----------|----------|----------|-----------|-----------|------|
|                    |                        |                       | Outside Air Temperature - [°C] / [°F] |           |         |          |          |          |           |           |      |
|                    |                        |                       | -20<br>-4                             | -10<br>14 | 0<br>32 | 10<br>50 | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 |      |
| 1999 / 4407        | SL                     |                       | 1030                                  | 1010      | 1000    | 980      | 970      | 950      | 900       | 810       | 982  |
|                    | 2000                   | 610                   | 1000                                  | 990       | 970     | 950      | 940      | 920      | 840       | 760       | 956  |
|                    | 4000                   | 1219                  | 970                                   | 950       | 940     | 920      | 900      | 870      | 780       | 690       | 929  |
|                    | 6000                   | 1829                  | 940                                   | 920       | 900     | 880      | 860      | 800      | 720       |           | 901  |
|                    | 8000                   | 2438                  | 900                                   | 880       | 860     | 840      | 820      | 740      | 660       |           | 868  |
|                    | 10000                  | 3048                  | 860                                   | 840       | 820     | 790      | 750      | 660      |           |           | 832  |
|                    | 12000                  | 3658                  | 800                                   | 770       | 740     | 710      | 630      | 520      |           |           | 772  |
|                    | 14000                  | 4267                  | 740                                   | 700       | 660     | 600      | 510      | 380      |           |           | 716  |
|                    | 16000                  | 4877                  | 620                                   | 580       | 540     | 460      | 370      |          |           |           | 614  |
|                    | 18000                  | 5486                  | 510                                   | 470       | 420     | 320      | 220      |          |           |           | 512  |
| 1900 / 4189        | SL                     |                       | 1110                                  | 1090      | 1080    | 1070     | 1050     | 1030     | 980       | 890       | 1065 |
|                    | 2000                   | 610                   | 1080                                  | 1070      | 1050    | 1040     | 1020     | 1000     | 920       | 830       | 1039 |
|                    | 4000                   | 1219                  | 1050                                  | 1040      | 1020    | 1000     | 980      | 940      | 860       | 760       | 1010 |
|                    | 6000                   | 1829                  | 1020                                  | 1000      | 980     | 960      | 950      | 880      | 800       |           | 981  |
|                    | 8000                   | 2438                  | 980                                   | 960       | 950     | 920      | 900      | 820      | 730       |           | 952  |
|                    | 10000                  | 3048                  | 950                                   | 920       | 900     | 880      | 830      | 740      |           |           | 915  |
|                    | 12000                  | 3658                  | 890                                   | 850       | 820     | 790      | 710      | 590      |           |           | 854  |
|                    | 14000                  | 4267                  | 820                                   | 780       | 740     | 680      | 590      | 450      |           |           | 796  |
|                    | 16000                  | 4877                  | 700                                   | 660       | 620     | 530      | 440      |          |           |           | 695  |
|                    | 18000                  | 5486                  | 580                                   | 550       | 500     | 390      | 290      |          |           |           | 590  |

## All Engines Operating Climb - Flaps UP

Flaps: UP

V<sub>Y</sub>: 92 KIAS (above 1900 kg / 4189 lb)

Power: 92%

V<sub>Y</sub>: 90 KIAS (up to 1900 kg / 4189 lb)

Gear: retracted

| Weight [kg] / [lb] | Press.<br>Alt.<br>[ft] | Press.<br>Alt.<br>[m] | Rate of Climb - [ft/min]              |           |         |          |          |          |           |           | ISA  |
|--------------------|------------------------|-----------------------|---------------------------------------|-----------|---------|----------|----------|----------|-----------|-----------|------|
|                    |                        |                       | Outside Air Temperature - [°C] / [°F] |           |         |          |          |          |           |           |      |
|                    |                        |                       | -20<br>-4                             | -10<br>14 | 0<br>32 | 10<br>50 | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 |      |
| 1700 / 3748        | SL                     |                       | 1280                                  | 1270      | 1260    | 1240     | 1230     | 1210     | 1150      | 1040      | 1241 |
|                    | 2000                   | 610                   | 1260                                  | 1250      | 1230    | 1210     | 1190     | 1170     | 1080      | 980       | 1213 |
|                    | 4000                   | 1219                  | 1230                                  | 1210      | 1190    | 1170     | 1160     | 1110     | 1020      | 910       | 1183 |
|                    | 6000                   | 1829                  | 1190                                  | 1170      | 1150    | 1140     | 1120     | 1050     | 940       |           | 1153 |
|                    | 8000                   | 2438                  | 1160                                  | 1130      | 1120    | 1090     | 1070     | 970      | 870       |           | 1121 |
|                    | 10000                  | 3048                  | 1110                                  | 1090      | 1070    | 1040     | 990      | 890      |           |           | 1082 |
|                    | 12000                  | 3658                  | 1050                                  | 1020      | 980     | 940      | 860      | 730      |           |           | 1016 |
|                    | 14000                  | 4267                  | 980                                   | 940       | 890     | 820      | 720      | 570      |           |           | 954  |
|                    | 16000                  | 4877                  | 850                                   | 810       | 760     | 660      | 560      |          |           |           | 843  |
|                    | 18000                  | 5486                  | 720                                   | 680       | 630     | 500      | 400      |          |           |           | 728  |

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

**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 - 1700 kg / 3748 lb               |                 |                                       |         |         |             |          |          |     |
|----------------------------------------------------------------|-----------------|---------------------------------------|---------|---------|-------------|----------|----------|-----|
| Weight:                                                        |                 | 1700 kg / 3748 lb                     |         |         | Flaps: LDG  |          |          |     |
| V <sub>REF</sub> :                                             |                 | 84 KIAS                               |         |         | Power: IDLE |          |          |     |
| Runway: dry, paved, level                                      |                 |                                       |         |         |             |          |          |     |
| Press. Alt.<br>[ft] / [m]                                      | Distance<br>[m] | Outside Air Temperature - [°C] / [°F] |         |         |             |          |          | ISA |
|                                                                |                 | 0 / 32                                | 10 / 50 | 20 / 68 | 30 / 86     | 40 / 104 | 50 / 122 |     |
| SL                                                             | Ground Roll     | 320                                   | 330     | 340     | 360         | 380      | 430      | 335 |
|                                                                | 15 m / 50 ft    | 550                                   | 570     | 590     | 600         | 650      | 730      | 575 |
| 1000<br>305                                                    | Ground Roll     | 330                                   | 350     | 360     | 370         | 400      | 460      | 345 |
|                                                                | 15 m / 50 ft    | 570                                   | 590     | 600     | 620         | 680      | 760      | 589 |
| 2000<br>610                                                    | Ground Roll     | 350                                   | 360     | 370     | 380         | 430      | 480      | 356 |
|                                                                | 15 m / 50 ft    | 590                                   | 610     | 620     | 640         | 710      | 800      | 603 |
| 3000<br>914                                                    | Ground Roll     | 360                                   | 370     | 380     | 400         | 450      | 500      | 364 |
|                                                                | 15 m / 50 ft    | 610                                   | 630     | 640     | 670         | 750      | 840      | 619 |
| 4000<br>1219                                                   | Ground Roll     | 370                                   | 380     | 400     | 420         | 470      | 530      | 376 |
|                                                                | 15 m / 50 ft    | 630                                   | 640     | 660     | 700         | 790      | 880      | 635 |
| 5000<br>1524                                                   | Ground Roll     | 380                                   | 400     | 410     | 440         | 500      |          | 388 |
|                                                                | 15 m / 50 ft    | 640                                   | 670     | 680     | 740         | 830      |          | 651 |
| 6000<br>1829                                                   | Ground Roll     | 400                                   | 410     | 430     | 470         | 530      |          | 397 |
|                                                                | 15 m / 50 ft    | 670                                   | 690     | 710     | 770         | 870      |          | 668 |
| 7000<br>2134                                                   | Ground Roll     | 420                                   | 430     | 450     | 500         | 560      |          | 416 |
|                                                                | 15 m / 50 ft    | 690                                   | 720     | 740     | 820         | 920      |          | 691 |
| 8000<br>2438                                                   | Ground Roll     | 450                                   | 460     | 480     | 550         | 610      |          | 441 |
|                                                                | 15 m / 50 ft    | 730                                   | 760     | 790     | 890         | 990      |          | 729 |
| 9000<br>2743                                                   | Ground Roll     | 490                                   | 500     | 530     | 600         | 680      |          | 477 |
|                                                                | 15 m / 50 ft    | 780                                   | 810     | 860     | 960         | 1070     |          | 773 |
| 10000<br>3048                                                  | Ground Roll     | 530                                   | 550     | 600     | 670         |          |          | 521 |
|                                                                | 15 m / 50 ft    | 840                                   | 870     | 930     | 1050        |          |          | 826 |
| For the distance in [ft] divide by 0.3048 or multiply by 3.28. |                 |                                       |         |         |             |          |          |     |

**5.3.12 GO-AROUND CLIMB PERFORMANCE**

Conditions:

- Power lever ..... both MAX
- Flaps ..... LDG
- Landing gear ..... extended
- Airspeed:
  - Up to 1900 kg (4189 lb) .....  $V_{REF} = 84$  KIAS
  - Above 1900 kg (4189 lb) .....  $V_{REF} = 86$  KIAS

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

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

**NOTE**

The angles of climb at MSL and ISA condition are:

3.8° for Maximum Take-Off Mass (1900 kg / 4189 lb)

4.3° for Maximum Landing Mass (1805 kg / 3979 lb)

If MAM 42-678 is carried out:

3.1° for Maximum Take-Off Mass (1999 kg / 4407 lb)

## Go-Around Climb Performance

Flaps: LDG

Power: MAX

V<sub>REF</sub>: 86 KIAS above 1900 kg (4189 lb)  
84 KIAS up to 1900 kg (4189 lb)

Gear: extended

| Weight [kg] / [lb]                                                     | Press.<br>Alt.<br>[ft] | Press.<br>Alt.<br>[m] | Rate of Climb - [ft/min]              |           |         |          |          |          |           |           |     |
|------------------------------------------------------------------------|------------------------|-----------------------|---------------------------------------|-----------|---------|----------|----------|----------|-----------|-----------|-----|
|                                                                        |                        |                       | Outside Air Temperature - [°C] / [°F] |           |         |          |          |          |           |           | ISA |
|                                                                        |                        |                       | -20<br>-4                             | -10<br>14 | 0<br>32 | 10<br>50 | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 |     |
| 1999 / 4407                                                            | SL                     |                       | 515                                   | 495       | 480     | 460      | 445      | 400      | 345       | 270       | 454 |
|                                                                        | 2000                   | 610                   | 480                                   | 460       | 445     | 420      | 395      | 350      | 290       | 215       | 419 |
|                                                                        | 4000                   | 1219                  | 445                                   | 420       | 395     | 370      | 350      | 295      | 235       | 160       | 381 |
|                                                                        | 6000                   | 1829                  | 395                                   | 370       | 345     | 320      | 300      | 240      | 175       |           | 341 |
|                                                                        | 8000                   | 2438                  | 345                                   | 320       | 295     | 270      | 240      | 175      | 105       |           | 299 |
|                                                                        | 10000                  | 3048                  | 295                                   | 265       | 235     | 195      | 155      | 80       |           |           | 253 |
| 1900 / 4189                                                            | SL                     |                       | 610                                   | 590       | 570     | 555      | 535      | 495      | 440       | 360       | 547 |
|                                                                        | 2000                   | 610                   | 575                                   | 555       | 535     | 515      | 495      | 450      | 385       | 305       | 517 |
|                                                                        | 4000                   | 1219                  | 540                                   | 515       | 495     | 470      | 445      | 395      | 325       | 245       | 479 |
|                                                                        | 6000                   | 1829                  | 495                                   | 470       | 445     | 420      | 395      | 335      | 265       |           | 439 |
|                                                                        | 8000                   | 2438                  | 445                                   | 420       | 395     | 365      | 340      | 270      | 200       |           | 397 |
|                                                                        | 10000                  | 3048                  | 390                                   | 365       | 330     | 295      | 255      | 175      |           |           | 350 |
| 1700 / 3748                                                            | SL                     |                       | 755                                   | 735       | 715     | 695      | 680      | 635      | 570       | 480       | 690 |
|                                                                        | 2000                   | 610                   | 715                                   | 695       | 680     | 660      | 635      | 585      | 510       | 420       | 659 |
|                                                                        | 4000                   | 1219                  | 680                                   | 660       | 635     | 610      | 585      | 525      | 445       | 355       | 619 |
|                                                                        | 6000                   | 1829                  | 635                                   | 610       | 585     | 555      | 530      | 460      | 380       |           | 577 |
|                                                                        | 8000                   | 2438                  | 585                                   | 555       | 530     | 500      | 470      | 390      | 310       |           | 533 |
|                                                                        | 10000                  | 3048                  | 525                                   | 495       | 465     | 425      | 375      | 290      |           |           | 483 |
| For the rate of climb in [m/s] divide by 196.8 or multiply by 0.00508. |                        |                       |                                       |           |         |          |          |          |           |           |     |

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 ..... half ball out

**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:

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

## One Engine Inoperative Climb

Flaps: UP

Power: feathered / 92%

V<sub>YSE</sub>: 85 KIAS

Gear: retracted

| Weight [kg] / [lb] | Press.<br>Alt.<br>[ft] | Press.<br>Alt.<br>[m] | Rate of Climb - [ft/min]              |           |         |          |          |          |           |           |      |
|--------------------|------------------------|-----------------------|---------------------------------------|-----------|---------|----------|----------|----------|-----------|-----------|------|
|                    |                        |                       | Outside Air Temperature - [°C] / [°F] |           |         |          |          |          |           |           | ISA  |
|                    |                        |                       | -20<br>-4                             | -10<br>14 | 0<br>32 | 10<br>50 | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 |      |
| 1999 / 4407        | SL                     |                       | 180                                   | 165       | 155     | 145      | 130      | 120      | 100       | 70        | 140  |
|                    | 2000                   | 610                   | 155                                   | 145       | 130     | 120      | 105      | 90       | 65        | 35        | 120  |
|                    | 4000                   | 1219                  | 135                                   | 120       | 105     | 90       | 80       | 60       | 35        | 0         | 99   |
|                    | 6000                   | 1829                  | 110                                   | 90        | 75      | 60       | 45       | 25       | 0         |           | 74   |
|                    | 8000                   | 2438                  | 80                                    | 60        | 45      | 30       | 15       | -10      | -40       |           | 49   |
|                    | 10000                  | 3048                  | 45                                    | 30        | 15      | -5       | -25      | -55      |           |           | 23   |
|                    | 12000                  | 3658                  | 5                                     | -15       | -35     | -60      | -85      | -125     |           |           | -14  |
|                    | 14000                  | 4267                  | -35                                   | -65       | -90     | -120     | -150     | -200     |           |           | -53  |
|                    | 16000                  | 4877                  | -105                                  | -130      | -155    | -190     | -225     |          |           |           | -111 |
|                    | 18000                  | 5486                  | -175                                  | -195      | -225    | -270     | -300     |          |           |           | -169 |
| 1900 / 4189        | SL                     |                       | 215                                   | 205       | 190     | 180      | 165      | 155      | 135       | 105       | 175  |
|                    | 2000                   | 610                   | 195                                   | 180       | 165     | 155      | 145      | 125      | 100       | 70        | 156  |
|                    | 4000                   | 1219                  | 170                                   | 155       | 140     | 130      | 115      | 95       | 65        | 30        | 134  |
|                    | 6000                   | 1829                  | 145                                   | 130       | 110     | 95       | 80       | 60       | 30        |           | 109  |
|                    | 8000                   | 2438                  | 115                                   | 95        | 80      | 65       | 50       | 20       | -10       |           | 84   |
|                    | 10000                  | 3048                  | 80                                    | 65        | 45      | 30       | 10       | -25      |           |           | 57   |
|                    | 12000                  | 3658                  | 40                                    | 20        | -5      | -25      | -55      | -100     |           |           | 19   |
|                    | 14000                  | 4267                  | -5                                    | -30       | -60     | -90      | -120     | -175     |           |           | -21  |
|                    | 16000                  | 4877                  | -75                                   | -100      | -125    | -165     | -200     |          |           |           | -80  |
|                    | 18000                  | 5486                  | -145                                  | -170      | -200    | -245     | -280     |          |           |           | -140 |

## One Engine Inoperative Climb

Flaps: UP

Power: feathered / 92%

V<sub>YSE</sub>: 85 KIAS

Gear: retracted

| Weight [kg] / [lb] | Press.<br>Alt.<br>[ft] | Press.<br>Alt.<br>[m] | Rate of Climb - [ft/min]              |           |         |          |          |          |           |           |     |
|--------------------|------------------------|-----------------------|---------------------------------------|-----------|---------|----------|----------|----------|-----------|-----------|-----|
|                    |                        |                       | Outside Air Temperature - [°C] / [°F] |           |         |          |          |          |           |           | ISA |
|                    |                        |                       | -20<br>-4                             | -10<br>14 | 0<br>32 | 10<br>50 | 20<br>68 | 30<br>86 | 40<br>104 | 50<br>122 |     |
| 1700 / 3748        | SL                     |                       | 295                                   | 280       | 270     | 255      | 245      | 230      | 205       | 170       | 252 |
|                    | 2000                   | 610                   | 270                                   | 255       | 245     | 230      | 220      | 200      | 170       | 135       | 232 |
|                    | 4000                   | 1219                  | 245                                   | 230       | 220     | 205      | 190      | 165      | 135       | 95        | 210 |
|                    | 6000                   | 1829                  | 220                                   | 205       | 185     | 170      | 155      | 130      | 95        |           | 184 |
|                    | 8000                   | 2438                  | 190                                   | 170       | 155     | 140      | 120      | 90       | 55        |           | 158 |
|                    | 10000                  | 3048                  | 155                                   | 135       | 120     | 105      | 80       | 40       |           |           | 130 |
|                    | 12000                  | 3658                  | 115                                   | 90        | 65      | 40       | 10       | -40      |           |           | 90  |
|                    | 14000                  | 4267                  | 65                                    | 40        | 10      | -25      | -60      | -125     |           |           | 48  |
|                    | 16000                  | 4877                  | -10                                   | -35       | -65     | -105     | -145     |          |           |           | -16 |
|                    | 18000                  | 5486                  | -85                                   | -110      | -140    | -195     | -235     |          |           |           | -80 |

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.