

## PART VI

### OPERATING DATA

#### 114. Loading and C.G. data

##### (a) *C.G. limits*

(i) The C.G. limits undercarriage down are as follows:—

|               |                       |
|---------------|-----------------------|
| Forward limit | 0.3 in. aft of datum  |
| Aft limit     | 12.5 in. aft of datum |

(ii) Ballast must be carried if the radar head and ranging unit are not fitted.

(iii) The aircraft is at a forward C.G. loading when carrying full internal fuel and ammunition.

##### (b) *Effects of consumption of expendable stores*

###### (i) *Ammunition*

Firing ammunition causes the C.G. to move aft (1 in. approximately per 100 rounds).

###### (ii) *Fuel*

| Consumption from    | C.G. movement  |
|---------------------|----------------|
| Outboard drop tanks | Forward        |
| Inboard drop tanks  | Negligible     |
| Wing tanks          | Slight aft     |
| Centre tanks        | Slight forward |
| Front tanks         | Aft            |

###### (iii) *Bomb release or inboard drop tank jettison*

Bomb release or inboard drop tank jettison has a negligible effect on C.G.

###### (iv) *R.P. firing or outboard drop tank jettison*

R.P. firing or outboard drop tank jettison causes a forward C.G. movement.

PART VI—OPERATING DATA

(c) Typical service loads

The figures given below are approximate and are intended only as a guide. Reference should always be made to R.A.F. Form 4801 or to A.P.4347D, Vol. 1, Sect. 2, Chap. 3.

|     | Configuration                            | Approx. A.U.W. (lb.) |
|-----|--|----------------------|
| (1) | Clean, plus full internal fuel and ammo. | 17,400               |
| (2) | As (1), plus 2 drop tanks                | 19,300               |
| (3) | As (1), plus 4 drop tanks                | 21,200               |
| (4) | As (1), plus 2×1,000 lb. bombs           | 19,700               |
| (5) | As (2), plus 2×1,000 lb. bombs           | 21,600               |
| (6) | As (2), plus 24 R.P.s.                   | 21,000               |

NOTE.—Full ammo. = 676 lb.  
2 pylons + 2 empty drop tanks = 355 lb.

115. Pressure error corrections

(a) The A.S.I. sea level pressure error corrections are as follows:—

| I.A.S.—Knots  | 200 | 300 | 400 | 500 | 600 |
|---|-----|-----|-----|-----|-----|
| Clean or with any stores combination <i>excluding</i> a port outboard drop tank | +1  | +3  | +4  | +3  | 0   |
| With any stores combination <i>including</i> a port outboard drop tank          | 0   | +4  | +6  | +9  | +12 |

(b) The machmeter pressure error corrections are as follows:—

| Configuration  | Height (feet) | Level Flight—I.M.N. |       |       |       | Diving—I.M.N. |       |        |       |       |
|--|---------------|---------------------|-------|-------|-------|---------------|-------|--------|-------|-------|
|  |               | 0.7                 | 0.8   | 0.85  | 0.9   | 0.93          | 0.94  | 0.985  | 1.0   | 1.1   |
| Clean, or with any stores combination <i>excluding</i> a port outboard drop tank | All           | ← Negligible →      |       |       |       |               |       | +0.015 | +0.03 | +0.13 |
| With any stores combination <i>including</i> a port outboard drop tank           | S.L.          | +0.02               | +0.03 | +0.03 | +0.05 |               |       | —      | —     | —     |
|  | 40,000        | Negligible          |       | +0.02 | +0.04 |               |       |        |       |       |
|  | —             | —                   | —     | —     | —     | +0.07         | +0.09 |        |       |       |

(c) Both p.e.c. tables apply irrespective of whether extended leading edges are fitted or not. The only factor which

PART VI—OPERATING DATA

affects p.e.c.'s to any degree is the presence of a port outboard drop tank.

116. Fuel consumptions

The approximate fuel consumptions in lb./hr. for various r.p.m. and altitudes are given below:—

| Height     | 6,800 r.p.m. | 7,000 r.p.m. | 7,200 r.p.m. | 7,400 r.p.m. | 7,700 r.p.m. | 8,100 r.p.m. |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Sea level  | 3,040        | 3,560        | 4,170        | 5,290        | 7,150        | 9,600        |
| 10,000 ft. | 2,350        | 2,880        | 3,550        | 4,360        | 6,080        | 7,550        |
| 20,000 ft. | —            | 2,260        | 2,880        | 3,640        | 4,460        | 5,470        |
| 30,000 ft. | —            | 1,780        | 2,250        | 2,770        | 3,250        | 4,080        |
| 40,000 ft. | —            | —            | 1,330        | 1,780        | 2,250        | 2,790        |

117. Take-off distances

The approximate sea level take-off distances, in yards, for various configurations, and wind and temperature conditions are given below. For every 1,000 ft. the airfield is above sea level increase the appropriate distance by 12% for ground run and 10% to clear 50 ft.

(a) Clean (17,400 lb.)

| Temperature °C. |              | -15   | 0     | +15   | +30   | +45   |
|-----------------|--------------|-------|-------|-------|-------|-------|
| Zero wind       | Ground run   | 700   | 750   | 810   | 900   | 1,010 |
|                 | Clear 50 ft. | 1,080 | 1,180 | 1,300 | 1,430 | 1,610 |
| 30 K wind       | Ground run   | 410   | 450   | 500   | 550   | 610   |
|                 | Clear 50 ft. | 720   | 800   | 890   | 970   | 1,100 |

(b) 2×100 gallon drop tanks (or 2×1,000-lb. bombs) (19,300 lb.)

| Temperature °C. |              | -15   | 0     | +15   | +30   | +45   |
|-----------------|--------------|-------|-------|-------|-------|-------|
| Zero wind       | Ground run   | 870   | 940   | 1,020 | 1,130 | 1,280 |
|                 | Clear 50 ft. | 1,290 | 1,390 | 1,560 | 1,730 | 1,970 |
| 30 K wind       | Ground run   | 540   | 590   | 640   | 710   | 790   |
|                 | Clear 50 ft. | 890   | 970   | 1,070 | 1,180 | 1,360 |

## PART VI—OPERATING DATA

(c)  $2 \times 100$  gallon drop tanks +  $24 \times$  R.P. (21,000 lb.)

| Temperature °C. |              | -15   | 0     | +15   | +30   | +45   |
|-----------------|--------------|-------|-------|-------|-------|-------|
| Zero wind       | Ground run   | 1,030 | 1,120 | 1,220 | 1,350 | 1,530 |
|                 | Clear 50 ft. | 1,510 | 1,660 | 1,820 | 2,010 | 2,320 |
| 30 K wind       | Ground run   | 660   | 720   | 780   | 870   | 990   |
|                 | Clear 50 ft. | 1,060 | 1,150 | 1,280 | 1,420 | 1,660 |

(d)  $2 \times 100$  gallon drop tanks +  $2 \times 1,000$ -lb. bombs (21,600 lb.)

| Temperature °C. |              | -15   | 0     | +15   | +30   | +45   |
|-----------------|--------------|-------|-------|-------|-------|-------|
| Zero wind       | Ground run   | 1,100 | 1,200 | 1,310 | 1,440 | 1,640 |
|                 | Clear 50 ft. | 1,610 | 1,760 | 1,900 | 2,150 | 2,480 |
| 30 K wind       | Ground run   | 710   | 770   | 840   | 930   | 1,060 |
|                 | Clear 50 ft. | 1,130 | 1,230 | 1,370 | 1,510 | 1,780 |

(e)  $4 \times 100$  gallon drop tanks (21,200 lb.)

| Temperature °C. |              | -15   | 0     | +15   | +30   | +45   |
|-----------------|--------------|-------|-------|-------|-------|-------|
| Zero wind       | Ground run   | 1,060 | 1,150 | 1,300 | 1,440 | 1,610 |
|                 | Clear 50 ft. | 1,550 | 1,700 | 1,860 | 2,070 | 2,380 |
| 30 K wind       | Ground run   | 680   | 740   | 800   | 890   | 1,010 |
|                 | Clear 50 ft. | 1,090 | 1,180 | 1,320 | 1,450 | 1,710 |

**118. Snake climbs**

For tactical snake climbs use the recommended climbing speeds and 7,800 r.p.m. (7,600 r.p.m.—Mk. 115).

**119. Descents**

The descent recommended in the flight planning data tables is a best range descent. Other recommended forms of descent are:—

## PART VI—OPERATING DATA

(a) *Snake descent*

Descend at 6,500 r.p.m., airbrake out at 0.8M down to 23,000 ft. (approximately), thereafter at 350 knots.

(b) *Clear weather descent*

Descend at 6,500 r.p.m., airbrake out at 0.9M down to 23,000 ft. (approximately), thereafter at 400 knots.

(c) *QGH descent*

Descend at 6,300 r.p.m., airbrake out at 280 knots.

**120. Flight planning data**(a) *ANM/100 lb. curves*

The curves on pages 124 to 126 show the approximate ANM/100 lb. for various altitudes, true mach numbers, and r.p.m. settings. The horizontal curves are the ANM/100 lb. curves for the altitudes shown; the vertical dotted curves are the approximate r.p.m. settings required to achieve various true mach numbers. For heights other than those given interpolation is possible.

(b) *Flight planning data tables*

The tables preceding the ANM/100 lb. curves are based on the curves and show the flight planning data for:—

(i) *Climbing*

The climb tables give the data for climbs in I.S.A. conditions using the speeds recommended in para. 73.

(ii) *Cruising*

Each separate altitude block in the cruise tables shows:—

(1) The speed for maximum range, the approximate ANM/100 lb. and the approximate fuel consumption for the particular height. In addition a speed band is given, use of any speed within which should not cause more than a 5% reduction in range.

(2) The range obtainable for various amounts of available fuel when flying at the best range speed for the height. The range given is to the point of let-down, allowance being made for the descent fuel required.

PART VI—OPERATING DATA

(3) The range obtainable for various amounts of available fuel, including the distance covered on the climb, if a climb is made to another altitude. In this case the climb must be made at the speed given in para. 73 and the flight continued at the new altitude at the best range speed for that height.

NOTE.—The range at any altitude is independent of temperature, but dependent on the weight of fuel carried.

(iii) *Descent*

The descent table gives the data for descending from one height to another.

(c) *Use of the tables*

(i) *Pre-flight planning*

Enter the cruise data table in the sea level block at the fuel state applying immediately after take-off. Select the height at which maximum range is available at that fuel state. The distance available includes distance covered on the climb, but not on the descent. (Absolute maximum range is obtained by adding on the descent distance, provided that the let-down is commenced at that distance from the destination.)

For short-range flights inspect the sea level block and select the height at which the distance to be covered requires the least amount of fuel. This is the best altitude for the flight.

(ii) *In-flight planning*

At any stage of a flight the available range may be ascertained by applying the fuel state to the level flight range in the particular altitude block. If an increase in range is required, or if a climb has to be made, the new available range may be obtained by entering the existing altitude block at the particular fuel state and moving vertically downwards within the block until the new altitude is reached. Figures in heavy type indicate the best altitude for the maximum increase in range. Above these heights no further range increase is possible. If a descent is necessitated,

PART VI—OPERATING DATA

the new range is shown by moving direct from the existing altitude level flight range for the particular fuel state to the new altitude level flight range.

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A.L.2 121. **Altimeter pressure error corrections**

- (a) The altimeter pressure error corrections at approach speeds, clean or with drop tanks, are negligible.
- (b) The following are the p.e.c.'s in feet, at the higher speeds:—

| With a Port Outboard Drop Tank    |           |           |            |            |            |            |            |            |            |
|-----------------------------------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|
| Mach. No.                         | Sea Level | 5,000 ft. | 10,000 ft. | 15,000 ft. | 20,000 ft. | 25,000 ft. | 30,000 ft. | 35,000 ft. | 40,000 ft. |
| 0.7                               | + 400     | + 370     | + 320      | + 260      | +200       | +120       | + 40       | - 80       | -200       |
| 0.8                               | + 670     | + 610     | + 540      | + 460      | +390       | +300       | +200       | + 80       | - 40       |
| 0.85                              | + 1,000   | + 920     | + 820      | + 720      | +620       | +520       | +400       | +270       | +140       |
| 0.87                              | + 1,200   | + 1,120   | + 1,020    | + 910      | +800       | +690       | +560       | +430       | +300       |
| 0.88                              | + 1,320   | + 1,240   | + 1,160    | + 1,060    | +960       | +860       | +760       | +640       | +520       |
| Without a Port Outboard Drop Tank |           |           |            |            |            |            |            |            |            |
| 0.7                               | + 190     | + 170     | + 150      | + 120      | + 90       | + 60       | + 20       | - 20       | - 60       |
| 0.8                               | + 200     | + 170     | + 130      | + 90       | + 60       | + 10       | - 20       | - 50       | - 90       |
| 0.85                              | + 180     | + 140     | + 100      | + 50       | + 0        | - 30       | - 60       | -100       | -140       |
| 0.9                               | + 40      | + 50      | + 50       | - 40       | - 50       | - 80       | -110       | -160       | -200       |

PART VI—OPERATING DATA

CLEAN AIRCRAFT

Fuel contents 3,188 lb. AVTAG (7.7 lb./gal.)  
 Start-up, Taxi and Take-off Allowance 200 lb.  
 Landing Allowance (including descent fuel) 620 lb.  
 (excluding)

CLIMB DATA

| FROM       | TO         | FUEL (LB.) | DIST. (N.M.) | TIME (MINS.) |
|------------|------------|------------|--------------|--------------|
| Sea Level* | 10,000 ft. | 310        | 10           | 2½           |
|            | 20,000 ft. | 430        | 25           | 4¼           |
|            | 30,000 ft. | 565        | 40           | 6            |
|            | 40,000 ft. | 700        | 65           | 8¾           |
|            | 45,000 ft. | 820        | 90           | 11           |
| 10,000 ft. | 20,000 ft. | 120        | 15           | 1¾           |
|            | 30,000 ft. | 255        | 30           | 3½           |
|            | 40,000 ft. | 390        | 55           | 6¼           |
|            | 45,000 ft. | 510        | 80           | 8½           |
|            | 20,000 ft. | 30,000 ft. | 135          | 15           |
| 40,000 ft. |            | 270        | 40           | 4¼           |
| 45,000 ft. |            | 390        | 65           | 6¾           |
| 30,000 ft. | 40,000 ft. | 135        | 25           | 2¾           |
|            | 45,000 ft. | 255        | 50           | 5            |
| 40,000 ft. | 45,000 ft. | 120        | 25           | 2¼           |

\* In this block, fuel used is from start-up, times are from wheels rolling.  
 CLIMB AS RECOMMENDED IN PARA. 73.

DESCENT DATA (Q.G.H.)

| FROM       | TO         | FUEL (LB.) | DIST. (N.M.) | TIME (MINS.) |
|------------|------------|------------|--------------|--------------|
| 45,000 ft. | 30,000 ft. | 25         | 12           | 2            |
|            | 20,000 ft. | 60         | 19           | 3            |
|            | 10,000 ft. | 105        | 27           | 4¼           |
|            | Sea Level  | 185        | 35           | 7½           |
| 30,000 ft. | 20,000 ft. | 35         | 7            | 1            |
|            | 10,000 ft. | 80         | 15           | 2¼           |
|            | Sea Level  | 160        | 23           | 5¼           |
| 20,000 ft. | 10,000 ft. | 45         | 8            | 1¼           |
|            | Sea Level  | 125        | 16           | 4¼           |
| 10,000 ft. | Sea Level  | 80         | 8            | 3            |

AIRBRAKE .. .. . OUT, FLAPS DOWN 23°  
 R.P.M. .. .. . 6,600  
 SPEED .. .. . 280K.

PART VI—OPERATING DATA  
 CRUISE DATA—CLEAN AIRCRAFT

| FUEL AVAILABLE POUNDS  | RANGE  | GAUGED FUEL (Actual fuel state) |       |       |       |       |    |
|--|--|---------------------------------|-------|-------|-------|-------|----|
|  |  | 2,988*                          | 2,500 | 2,000 | 1,500 | 1,000 |    |
| Sea Level  | Range  | 245                             | 190   | 140   | 90    | 40    |    |
| ANM/100 lb.—10.2<br>Lb./min.—56.2<br>Best Range Speed—<br>340K<br>95% Range Speed—<br>260-440K   | 10,000 ft.   | 320                             | 255   | 185   | 115   | 40    |    |
|  | 20,000 ft.   | 415                             | 320   | 230   | 135   | 40    |    |
|  | 30,000 ft.   | 490                             | 375   | 255   | 140   | —     |    |
|  | 40,000 ft.   | 575                             | 430   | 285   | 140   | —     |    |
|  | 45,000 ft.   | 540                             | 415   | 265   | 120   | —     |    |
| 10,000 ft.   | Range  | —                               | 260   | 190   | 120   | 50    |    |
| ANM/100 lb.—14.1<br>Lb./min.—43.8<br>Best Range Speed—<br>325K<br>95% Range Speed—<br>240-400K   | 20,000 ft.   | —                               | 335   | 240   | 145   | 50    |    |
|  | 30,000 ft.   | —                               | 390   | 270   | 155   | 35    |    |
|  | 40,000 ft.   | —                               | 450   | 305   | 160   | —     |    |
|  | 45,000 ft.   | —                               | 425   | 285   | 140   | —     |    |
|  | 20,000 ft.   | Range                           | —     | 340   | 245   | 150   | 60 |
| ANM/100 lb.—18.8<br>Lb./min.—32.7<br>Best Range Speed—<br>280K<br>95% Range Speed—<br>210K-0.74M | 30,000 ft.   | —                               | 405   | 285   | 170   | 50    |    |
|  | 40,000 ft.   | —                               | 470   | 325   | 180   | —     |    |
|  | 45,000 ft.   | —                               | 445   | 305   | 160   | —     |    |
|  | 30,000 ft.   | Range                           | —     | 420   | 305   | 185   | 65 |
|  | ANM/100 lb.—23.7<br>Lb./min.—30.3<br>Best Range Speed—<br>0.7M<br>95% Range Speed—<br>220K-0.82M | 40,000 ft.                      | —     | 495   | 350   | 205   | 60 |
| 45,000 ft.   |  | —                               | 465   | 325   | 185   | —     |    |
| 40,000 ft.   |  | Range                           | —     | —     | 365   | 220   | 75 |
| ANM/100 lb.—29.1<br>Lb./min.—26.4<br>Best Range Speed—<br>0.8M<br>95% Range Speed—<br>0.7-0.85M  | 45,000 ft.   | —                               | —     | 340   | 195   | 55    |    |
|  | 45,000 ft.   | Range                           | —     | —     | 350   | 205   | 65 |
|  | 45,000 ft.   | Range                           | —     | —     | 350   | 205   | 65 |
| ANM/100 lb.—28.3<br>Lb./min.—27<br>Best Range Speed—<br>0.8M<br>95% Range Speed—<br>0.75-0.86M   | 45,000 ft.   | Range                           | —     | —     | 350   | 205   | 65 |
|  | FUEL AVAILABLE POUNDS  | 2,988*                          | 2,500 | 2,000 | 1,500 | 1,000 |    |

\* Excludes start-up, taxi and take-off allowance (200 lb.)

PART VI—OPERATING DATA

WITH 2×100 GALLON DROP TANKS

Fuel contents 4,728 lb. AVTAG (7.7 lb./gal.)  
 Start-up, Taxi and Take-off Allowance 250 lb.  
 Landing Allowance (excluding descent fuel) 620 lb.

CLIMB DATA

| FROM       | TO         | FUEL (LB.) | DIST. (N.M.) | TIME (MINS.) |
|------------|------------|------------|--------------|--------------|
| Sea Level* | 10,000 ft. | 375        | 10           | 3            |
|            | 20,000 ft. | 530        | 30           | 5½           |
|            | 30,000 ft. | 690        | 50           | 7½           |
|            | 40,000 ft. | 860        | 80           | 10¼          |
| 10,000 ft. | 20,000 ft. | 155        | 20           | 2½           |
|            | 30,000 ft. | 315        | 40           | 4½           |
|            | 40,000 ft. | 485        | 70           | 7¾           |
| 20,000 ft. | 30,000 ft. | 160        | 20           | 2½           |
|            | 40,000 ft. | 330        | 50           | 5½           |
| 30,000 ft. | 40,000 ft. | 170        | 30           | 3½           |

\* In this block times are from wheels rolling and fuel used is from start-up. CLIMB AS RECOMMENDED IN PARA. 73.

DESCENT DATA

As for Clean Aircraft.

PART VI—OPERATING DATA

CRUISE DATA

WITH 2×100 GALLON DROP TANKS

| FUEL AVAILABLE POUNDS  | Full* Fuel   | GAUGED FUEL (Actual fuel state) |        |       |       |       |       |       |
|--|--|---------------------------------|--------|-------|-------|-------|-------|-------|
|  |  | 4,478                           | 3,188  | 2,500 | 2,000 | 1,500 | 1,000 |       |
| Sea Level  | Range  | 375                             | 255    | 185   | 135   | 85    | 40    |       |
| ANM/100 lb.—9.9<br>Lb./min.—55.8<br>Best Range Speed—<br>330K<br>95% Range Speed—<br>260-410K    | 10,000 ft.   | 510                             | 325    | 235   | 170   | 105   | 35    |       |
|  | 20,000 ft.   | 635                             | 410    | 295   | 205   | 120   | 30    |       |
|  | 30,000 ft.   | 785                             | 500    | 350   | 235   | 120   | —     |       |
|  | 40,000 ft.   | 905                             | 566    | 380   | 245   | 110   | —     |       |
| 10,000 ft.   | Range  | —                               | 340    | 245   | 180   | 115   | 45    |       |
| ANM/100 lb.—13.4<br>Lb./min.—43.5<br>Best Range Speed—<br>310K<br>95% Range Speed—<br>240-370K   | 20,000 ft.   | —                               | 430    | 310   | 220   | 135   | 45    |       |
|  | 30,000 ft.   | —                               | 525    | 370   | 255   | 145   | —     |       |
|  | 40,000 ft.   | —                               | 595    | 410   | 275   | 140   | —     |       |
|  | 20,000 ft.   | Range                           | —      | 435   | 320   | 230   | 140   | 55    |
| ANM/100 lb.—17.6<br>Lb./min.—35.5<br>Best Range Speed—<br>280K<br>95% Range Speed—<br>230K-0.73M | 30,000 ft.   | —                               | 545    | 390   | 275   | 160   | 50    |       |
|  | 40,000 ft.   | —                               | 615    | 435   | 300   | 165   | —     |       |
|  | 30,000 ft.   | Range                           | —      | 560   | 405   | 290   | 175   | 65    |
|  | ANM/100 lb.—22.7<br>Lb./min.—30.3<br>Best Range Speed—<br>0.7M<br>95% Range Speed—<br>220K-0.79M | 40,000 ft.                      | —      | 630   | 455   | 320   | 185   | 50    |
| 40,000 ft.   |  | Range                           | —      | 655   | 470   | 335   | 200   | 65    |
| ANM/100 lb.—26.9<br>Lb./min.—26.3<br>Best Range Speed—<br>0.8M<br>95% Range Speed—<br>0.75-0.84M |  | 40,000 ft.                      | —      | 655   | 470   | 335   | 200   | 65    |
|  |  | FUEL AVAILABLE POUNDS           | 4,478* | 3,188 | 2,500 | 2,000 | 1,500 | 1,000 |

\* Excluding start-up taxi and take-off allowance (250 lb.)

## PART VI—OPERATING DATA

## WITH 4×100 GALLON DROP TANKS

Fuel Contents 6,268 lb. AVTAG (7.7 lb./gal.).

Start-up, Taxi and Take-off Allowance 250 lb.

Landing Allowance (excluding descent fuel) 620 lb.

## CLIMB DATA

| FROM       | TO         | FUEL<br>(LB.) | DIST.<br>(N.M.) | TIME<br>(MINS.) |
|------------|------------|---------------|-----------------|-----------------|
| Sea Level* | 10,000 ft. | 405           | 15              | 3½              |
|            | 20,000 ft. | 575           | 35              | 5½              |
|            | 30,000 ft. | 775           | 55              | 8¾              |
|            | 35,000 ft. | 880           | 75              | 13½             |
| 10,000 ft. | 20,000 ft. | 170           | 20              | 2½              |
|            | 30,000 ft. | 370           | 40              | 5½              |
|            | 35,000 ft. | 475           | 60              | 10½             |
| 20,000 ft. | 30,000 ft. | 200           | 20              | 3               |
|            | 35,000 ft. | 305           | 40              | 7¾              |
| 30,000 ft. | 35,000 ft. | 105           | 20              | 4¾              |

\* In this block fuel used is from start-up, times are from wheels rolling.  
CLIMB AS RECOMMENDED IN PARA. 73.

## DESCENT DATA

As for Clean Aircraft.

## PART VI—OPERATING DATA

## CRUISE DATA

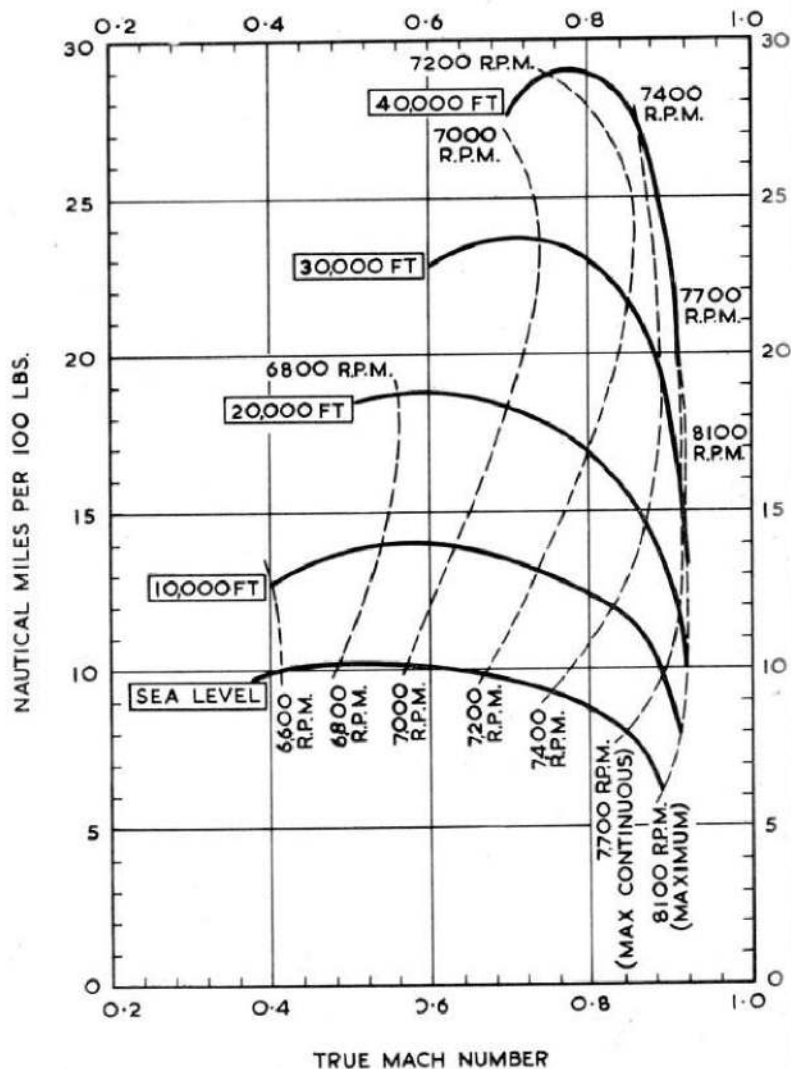
## WITH 4×100 GALLON DROP TANKS

| FUEL AVAILABLE POUNDS | Full*<br>Fuel<br>6,018 | Out-<br>boards<br>Empty<br>4,728 | GAUGED FUEL<br>(Actual fuel state) |       |       |       |       |    |
|-----------------------|------------------------|----------------------------------|------------------------------------|-------|-------|-------|-------|----|
|                       |                        |                                  | 3,188                              | 2,500 | 2,000 | 1,500 | 1,000 |    |
| Sea Level             | Range                  | 485                              | 375                                | 230   | 170   | 125   | 80    | 35 |
| ANM/100 lb.—9.1       | 10,000 ft.             | 645                              | 490                                | 300   | 220   | 160   | 95    | 35 |
| Lb./min.—58.1         | 20,000 ft.             | 780                              | 595                                | 355   | 255   | 180   | 105   | —  |
| Best Range Speed—     | 30,000 ft.             | 995                              | 745                                | 435   | 300   | 200   | 105   | —  |
| 310K                  | 35,000 ft.             | 1,070                            | 795                                | 465   | 315   | 205   | 100   | —  |
| 95% Range Speed—      |                        |                                  |                                    |       |       |       |       |    |
| 240–380K              |                        |                                  |                                    |       |       |       |       |    |
| 10,000 ft.            | Range                  | —                                | 500                                | 310   | 230   | 165   | 105   | 45 |
| ANM/100 lb.—12.3      | 20,000 ft.             | —                                | 600                                | 375   | 270   | 195   | 120   | 40 |
| Lb./min.—45.3         | 30,000 ft.             | —                                | 760                                | 455   | 325   | 225   | 125   | —  |
| Best Range Speed—     | 35,000 ft.             | —                                | 820                                | 490   | 340   | 230   | 125   | —  |
| 280K                  |                        |                                  |                                    |       |       |       |       |    |
| 95% Range Speed—      |                        |                                  |                                    |       |       |       |       |    |
| 240–340K              |                        |                                  |                                    |       |       |       |       |    |
| 20,000 ft.            | Range                  | —                                | 615                                | 380   | 275   | 200   | 125   | 50 |
| ANM/100 lb.—15.2      | 30,000 ft.             | —                                | 780                                | 475   | 340   | 240   | 140   | 40 |
| Lb./min.—40.5         | 35,000 ft.             | —                                | 835                                | 505   | 360   | 250   | 140   | —  |
| Best Range Speed—     |                        |                                  |                                    |       |       |       |       |    |
| 270K                  |                        |                                  |                                    |       |       |       |       |    |
| 95% Range Speed—      |                        |                                  |                                    |       |       |       |       |    |
| 220K–0.7M             |                        |                                  |                                    |       |       |       |       |    |
| 30,000 ft.            | Range                  | —                                | 800                                | 495   | 355   | 255   | 155   | 55 |
| ANM/100 lb.—19.9      | 35,000 ft.             | —                                | 860                                | 525   | 380   | 270   | 165   | 55 |
| Lb./min.—33.6         |                        |                                  |                                    |       |       |       |       |    |
| Best Range Speed—     |                        |                                  |                                    |       |       |       |       |    |
| 250K                  |                        |                                  |                                    |       |       |       |       |    |
| 95% Range Speed—      |                        |                                  |                                    |       |       |       |       |    |
| 210K–0.75M            |                        |                                  |                                    |       |       |       |       |    |
| 35,000 ft.            | Range                  | —                                | 865                                | 530   | 338   | 225   | 165   | 60 |
| ANM/100 lb.—21.6      |                        |                                  |                                    |       |       |       |       |    |
| Lb./min.—33.3         |                        |                                  |                                    |       |       |       |       |    |
| Best Range Speed—     |                        |                                  |                                    |       |       |       |       |    |
| 0.72M                 |                        |                                  |                                    |       |       |       |       |    |
| 95% Range Speed—      |                        |                                  |                                    |       |       |       |       |    |
| 230K–0.77M            |                        |                                  |                                    |       |       |       |       |    |
| FUEL AVAILABLE POUNDS | 6,018*                 | 4,728                            | 3,188                              | 2,500 | 2,000 | 1,500 | 1,000 |    |

\* Excluding start-up, taxi and take-off allowance (250 lb.)

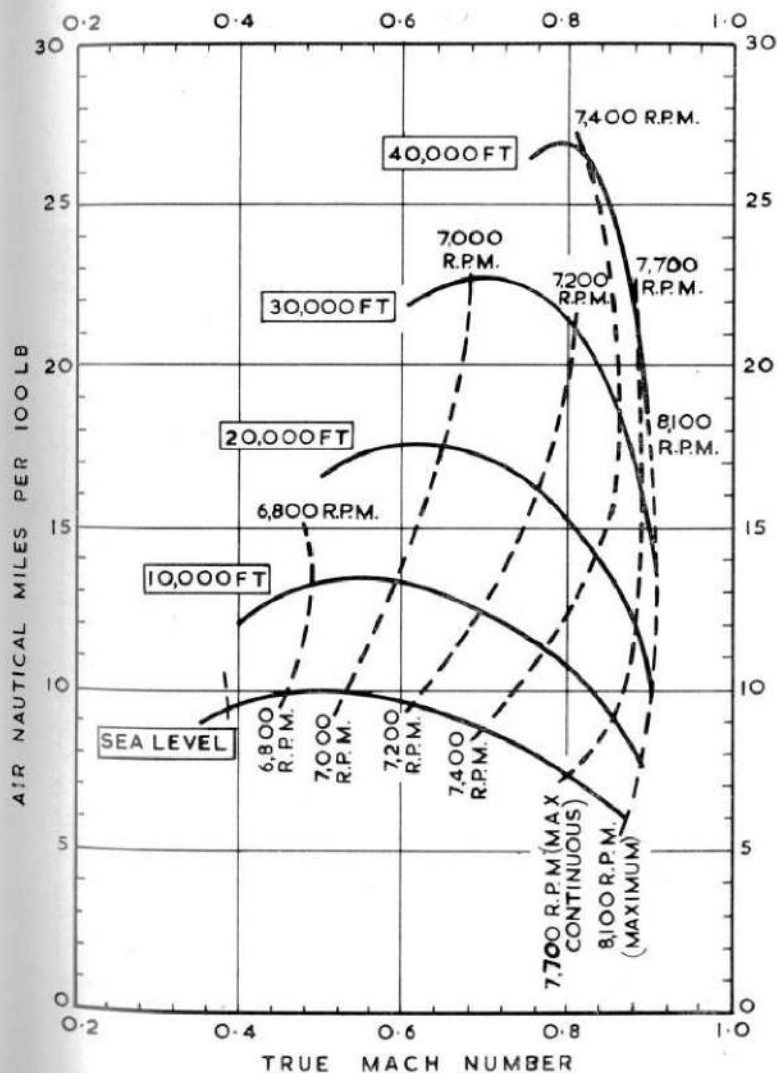
CLEAN AIRCRAFT

TRUE MACH NUMBER

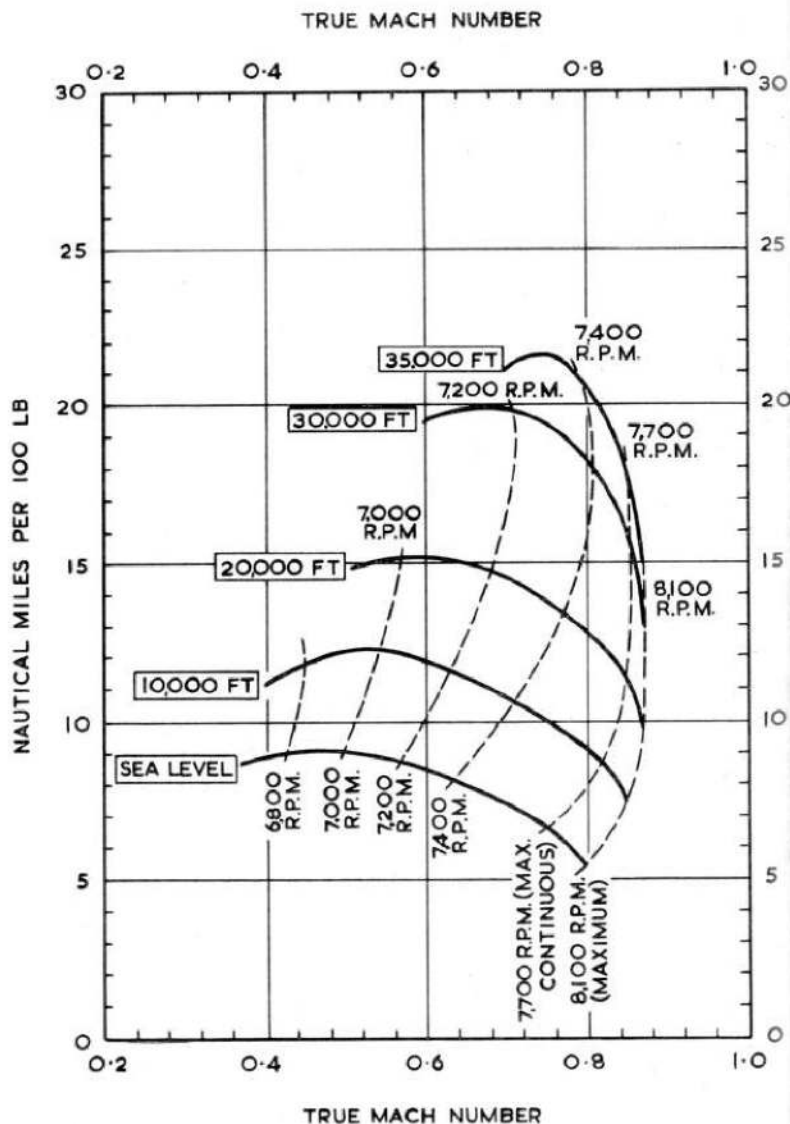


PART VI—OPERATING DATA  
WITH 2X 100 GALLON DROP TANKS

TRUE MACH NUMBER



PART VI—OPERATING DATA  
WITH 4 X 100 GALLON DROP TANKS



Issued with A.L.2.

122. Target towing

(a) Limitations

- (i) When Mod. 315 is embodied the aircraft is cleared for use as a target tug in ICAN and temperate summer conditions using a standard 6 ft. by 30 ft. banner target, with or without drop tanks on inboard pylons.
- (ii) Prepared runways, with clear approaches, of not less than 2,000 yards, are to be used.
- (iii) The maximum permissible A.U.W. is 18,650 lb.
- (iv) The ground snatch method of target launching is to be used.
- (v) Speed while towing must not exceed 250 knots.
- (vi) Rate of turn while towing must not exceed Rate 1.
- (vii) If the target breaks away from the tow line speed must be reduced to 220 knots until the cable has been jettisoned.

(b) Take-off

It is recommended that 38° flap is used for take-off.

(c) Precautions during towing

The airbrake must not be operated during towing, since this will release the target. Care should be taken to avoid inadvertant operation of the airbrake switch due to its close proximity to the "press-to-transmit" switch.

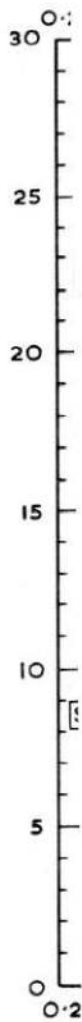
(d) Target release

- (i) It is recommended that the target is released at 160 knots at 400 feet with 38° flap selected. Target release is by pressing the camera button, or the gun firing trigger or by selecting airbrake out.
- (ii) If the target fails to release, the aircraft may safely be landed with the target on tow. Alternately increasing speed to 300 knots should break the tow cable.

(e) Manual reversion

If manual reversion occurs the target must be released over a safe area.

NAUTICAL MILES PER 100 LB





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