PART 3

CHAPTER 2 — HANDLING IN FLIGHT

Contents

1 Climbing

(a) Best Rate of Climb

(i) Climb at full throttle, within the limitations, at the speed appropriate to the configuration; maintain this speed until the recommended mach number is reached.

(ii) The recommended climbing speeds are:

Clean aircraft or with two pylons loaded	430 knots/0·85M
Four pylons loaded	370 knots/0·82M

(iii) Above 20,000 feet it is important to maintain the recommended mach number to avoid a considerable reduction in rate of climb.

(b) Normal Climb. If maximum rate of climb is not essential, set 7950 RPM using the same speeds as above.

2 Engine Handling

(a) On the Climb

(i) High speeds at low altitudes may reduce maximum

RPM by as much as 100. This coupled with the effect of OAT (see Part 3, Chapter 1) may cause the RPM at the start of the climb to read as much as 150 less than the static ground figure. This condition disappears as the climb progresses.

(ii) Maximum RPM may also be reduced if the top temperature controller comes into operation. On some engines, the temperature controller reaches the limit of its control at altitudes above 40,000 feet when climbing at full throttle. It therefore becomes necessary to close the throttle slightly to prevent the JPT exceeding 690°C.

(iii) During a climb at full throttle, the RPM increases gradually but must not be allowed to exceed 8150 RPM. When climbing at intermediate power, it is necessary to close the throttle gradually as altitude is gained to maintain 7950 RPM.

(b) In Flight

(i) At intermediate throttle settings, differing combinations of airspeed and ambient air temperature may cause the selected RPM to vary. It is then necessary to adjust the throttle to maintain a constant figure.

(ii) The idling RPM increases with altitude and with increasing airspeed.

(iii) Any negative g manoeuvre must be restricted to a maximum of 10 seconds; additionally, 15 seconds should be allowed between successive negative g manoeuvres. This is an engine lubrication limitation.

(iv) Engine surge, indicated by falling or stagnating RPM and rising JPT, is unlikely; if it occurs, the engine should be throttled back and speed increased. The surge is normally quiet and any change in noise level may not be noticed. Throttle movements should always be smooth and progressive; rapid throttle opening above 30,000 feet at speeds below 200 knots may lead to engine surge.

(v) At low altitudes, maximum power can be obtained within 5 seconds if the RPM are above a minimum of 4500 and at high altitudes within about 10 seconds from idling.

◀ **WARNING:** Rapid closing of the throttle at high indicated airspeeds can cause damage to the engine and must be avoided. ▶

3 Flying Controls

(*a*) *Ailerons* (*in Power*)

The ailerons are light throughout the speed and mach number range giving a high rate of roll, but see para 12.

(*b*) *Elevator* (*in Power*)

(i) The force required for any manoeuvre depends on the distance the stick is displaced from the 'zero load' position and is completely independent of airspeed. It follows, therefore, that when large elevator deflections are required, eg at low airspeeds and very high mach numbers, the stick forces are relatively heavy; at high airspeeds however, since only small deflections are usually required, the stick forces are light. The control is light, effective and should be used cautiously until its characteristics are known and its effectiveness appreciated. However, elevator effectiveness is somewhat limited by jack stalling, which occurs when the air load on the elevator equals the jack output force and restricts movement of the stick aft. For this reason the aircraft is limited to 0·88 M in the ground attack role. Depending on the tailplane angle and CG position, jack stalling can occur when manoeuvring above this speed and for this reason particular care should be taken when flying in the ground attack role at high mach numbers; if jack stalling occurs, the tailplane trim must be used as a means of control and speed should be reduced.

(ii) Longitudinal control is sensitive at aft CG, ie at high and low fuel states and particularly when outboard stores are carried. Use of the tailplane interconnection aggravates the sensitivity and for this reason the interconnection should be off for take-off and landing and at high speed at low level.

(*c*) *Rudder*

The rudder is light at low airspeeds and becomes progressively heavier as speed increases. The application of rudder produces a strong rolling moment.

(*d*) *Trimmers and Tailplane*

Note: Care must be taken not to operate the tailplane trim switch inadvertently during manoeuvres as this may result in excessive g being applied.

(i) The aileron tab trimmer must not be used whilst the controls are in Power and it should be locked in the neutral position. The aileron spring feel trim should normally be used to counteract any out-of-trim forces which may occur in Power. It must not be used when flying in Manual.

(ii) The tailplane trimmer should be used in the normal manner. When manoeuvring, the stick forces are light and little use of the trimmer is required. The full-power elevator tends to mask any out-of-trim forces which may be present. Always trim out the stick force when practicable (but see para 10 **WARNING**); if this is not done and inadvertent Manual reversion occurs the stick force may be too heavy for the pilot to hold. If the normal tailplane trimmer fails, use the standby control; this operates at about one-third the speed of the normal control. If both trimmers fail, the aircraft can be controlled throughout its speed range with full nose-down trim but with full nose-up trim, the elevator is not sufficiently powerful to stop the nose rising at speeds in excess of about 420 knots.

(iii) *Follow-Up Tailplane*

The tailplane gives an improvement in manoeuvring capabilities above 0·90 M. Handling characteristics are otherwise normal, but it should be noted that the tailplane remains fully operative with the elevator in Manual. It is not, however, of much assistance, since stick movements in Manual are usually small and within the neutral dead movement of the follow-up mechanism. The tailplane interconnection can be selected on at any speed provided the aircraft is trimmed for hands-off flight before the selection is made. If the stick is held away from the trimmed position at the moment the interconnection is switched on, the tailplane immediately moves from its trimmed position to align itself with the position of the elevator. When flying with the interconnection on, if the stick is moved away from the trimmed position the tailplane automatically follows-up; when the stick force is relaxed, the tailplane reverts automatically to the trimmed position. These tailplane movements are shown on the trim indicator. The interconnection must be off for all ground attack manoeuvres.

(*e*) *Airbrake*

(i) The airbrake can be used throughout the speed range. Its use may cause the hydraulic warning light and audio warning to come on momentarily.

(ii) Selecting the airbrake out causes moderate buffeting and a momentary nose-down change of trim which reverts to a moderate nose-up trim change when the airbrake is fully extended. Correcting the out-of-trim forces at high airspeed may lead to over-controlling.

(*f*) *Flaps*

(i) *At High Mach Number*

Lowering the flaps produces a nose-down change of trim, the intensity of which increases with the amount of flap extended and with speed. If the mach limitation for the use of flap is inadvertently exceeded, the nose-down change of trim, combined with the normal nose-down trim change experienced at 0·90 M onwards may result in longitudinal control being severely restricted due to elevator jack stalling.

(ii) *At High Airspeed*

If the IAS limitations for the use of flaps are inadvertently exceeded, the flap angle is limited according to the air load to prevent damage, but sufficient flap will be extended to create a strong nose-down change of trim. This can result in elevator jack stalling and tailplane actuator clutch slip. In this event not only is longitudinal control lost but the aircraft cannot be trimmed nose-up by either the main or the standby systems. In extreme cases, the air loads may then force the tailplane to move in opposition to the actuator thereby causing an additional nose-down change of trim.

WARNING: If longitudinal control is reduced or lost as indicated in (i) and (ii) above, the flaps must be raised and speed reduced. When the flaps are raised, the nose-up trim change is very strong.

(iii) *At Low Airspeed*

With full flap below 250 knots, lateral rocking may occur but is easily controllable; raising the flaps to 60° reduces this tendency.

(*g*) *Changes of Trim*

Increase and decrease power	Nil
Landing gear down ...	Transient nose-up, slight nose-down when locked down
Landing gear up ...	Slight nose-up
Flaps down	Initially strong nose-down during first 38° (particularly above 200 knots) becoming negligible
Flaps up	Initially negligible but becoming strong nose-up from 38° upwards
Airbrake out ...	Low speed, negligible High speed, transient nose-down, nose-up when fully extended
Airbrake in	Low speed, negligible High speed, initially sharp nose-down, negligible when retracted

4 Flying with External Stores

(*a*) *General*

The handling characteristics with inboard stores are similar to those of the clean aircraft. With stores on all four pylons, longitudinal control is sensitive particularly on take-off, on the climb and at high altitude. Due to the light stick forces care must be taken not to over-control. At high airspeeds, only very light stick forces are required to exceed the maximum permitted g. With fuel in the outboard tanks manoeuvres in the rolling plane must not exceed 360° to avoid the build-up of excessive rates of roll. When outboard drop tanks are carried, buffet may commence at about 0·84 M at sea-level. With increasing altitude the onset of buffet may be delayed to 0·88 M and the intensity decreases. Buffet may be accompanied by mild lateral rocking. This buffet damages the ailerons and should be avoided.

(*b*) *With Bombs*

Because of the possibility of elevator jack stalling above 0·90 M the aircraft should not be committed to dives which will result in this speed being exceeded unless adequate height allowance is made.

(c) Pressure Errors

The presence of an external store on the port outboard pylon has a material effect on the pressure error resulting in under-reading of the pressure instruments (see Part 5, Chapter 2).

5 Flying for Endurance

The recommended speed is from 250 knots to 0·82M depending on the altitude and configuration (see Recovery Data tables in the Flight Reference Cards).

6 Flying at Reduced Speed

Fly at 170 to 200 knots using 23° (two notches) flap. A throttle setting giving about 6600 to 6700 RPM is required; full power from this setting can be achieved within 2 seconds.

7 Flying in Turbulent Conditions

The recommended speed for flight in turbulent conditions is 300 knots/0·80M.

8 Stalling

Note 1: Because the rate of descent is very high and it is possible to induce a spin during the approach to the stall, deliberate stalling is not permitted and stalling practice must not be continued beyond the buffet stage.

Note 2: The minimum height for practice approaches to the stall is 25,000 feet. With the landing gear down, the recovery from approaches to the stall must be completed by 22,000 feet.

(a) Pre-stall buffet speeds for an aircraft at the maximum normal landing weight (18,500 lb) with idling RPM and with two inboard drop tanks are:

Configuration	*At 30,000 ft*	*At 10,000 ft*
Flaps and landing gear up	160 knots	140 knots
Flaps down, landing gear up or down	125 knots	120 knots

Note: The above speeds decrease by about 5 knots per 1000 lb reduction in weight.

(b) If the airbrake is out, the buffet is increased but the stalling speed and other characteristics are not affected.

(c) Under typical approach conditions, the buffet speeds quoted above are not appreciably affected but the height loss during recovery is reduced.

(d) The following information on stalling characteristics and recovery is provided for use should the aircraft be stalled inadvertently.

(i) *Flaps and Landing Gear Up.* As the aircraft decelerates below the onset of buffet speed, the buffet level increases progressively. Below about 130 knots, a very low amplitude wing rock occurs. The stick has to be moved progressively aft to maintain a steady decrease in speed; the aft deflection becomes very marked below 125 knots. The fully aft stick position is reached in very heavy buffet at about 105 to 110 knots and the aircraft oscillates in roll, pitch and yaw. If the stick is held fully aft, the roll and yaw rates may increase and cause autorotation; the use of aileron or rudder at the stall should be avoided as this can also produce a significant yaw rate leading to autorotation. The rate of descent with the stick held fully aft is very high (over 4000 feet per minute) and the buffet level is very intense causing oscillating indications (+10 to minus 4 g) on the accelerometer.

(ii) *Flaps Down, Landing Gear Up or Down.* With any degree of flap selected the onset of buffet speed, and hence stall warning, is greatly reduced. The lateral unsteadiness is slightly more marked and the use of rudder during the approach to the stall generates a divergent Dutch roll oscillation which is difficult to stop. The initial onset of buffet is easily missed and the sudden onset of moderate to heavy buffet below about 120 knots may be the first unmistakable warning of the impending stall. As the stick is moved progressively aft after the onset of buffet, the aircraft oscillates in roll, pitch and yaw; this motion is much more marked than in the clean configuration. As speed is further reduced to about 110 knots, there is a very mild pitch-up and coincident rapid wing drop leading to autorotation; this stops as soon as the controls are centralised. If the aircraft is stalled in a turn with the flaps down, the wing drop is extremely sharp.

(iii) *Recovery.* In all cases, recovery is effected by easing the stick forward with the ailerons and rudder central. This recovery action is effective at any stage of the approach to, and at, the stall. The height loss during recovery is high (up to 9000 feet), particularly at high altitude and low RPM. It is easy to restall the aircraft if a premature pull-out is attempted.

(e) The carriage of stores on the outboard pylons seriously affects the stall characteristics, particularly the time taken for recovery after initiating recovery action.

9 Low Speed Flying

Low speed flying is permitted (subject to underwing stores being limited to two empty drop tanks on the inboard pylons) under the following conditions:

(a) With flaps and landing gear up, the aircraft may be decelerated at a constant height of 10,000 feet or above to the initial onset of buffet, or a minimum speed of 140 knots, whichever occurs first.

(b) With flaps and landing gear down, the aircraft may be decelerated at a constant height of 10,000 feet or above to the initial onset of buffet, or a minimum speed of 130 knots, whichever occurs first.

10 G-Stalling

WARNING: Care must be taken to ensure that the stick force is never completely trimmed out when g is being applied at high mach numbers because, as speed falls through 0·91M when the trim changes to nose-up and the elevator and tailplane become more effective, a sudden increase in g may result. This is particularly important below 10,000 feet when manoeuvring near limiting g or blackout threshold.

(a) During turns and pull-outs, adequate stall warning is given by buffeting at all heights. If the stick is moved aft after the onset of buffet, the buffet level increases progressively and a low amplitude wing rock occurs which is more marked with flap down. If the aircraft is pulled

through the wing rock, the buffet level increases. With the stick held fully back, the speed decreases rapidly in heavy buffet and the rate of turn reduces. Recovery is immediate on easing the stick forward. There is no tendency for the aircraft to spin unless the ailerons or rudder are grossly mishandled.

(b) Little effort is needed to produce buffet or to reach the limiting g and care must be taken not to exceed the structural (g) limitations given in Part 2, Chapter 2.

11 Spinning

(a) General. Intentional spinning is prohibited. The following information on the spin characteristics and recovery action is provided should the aircraft be spun inadvertently. The aircraft is very spin resistant and is most reluctant to enter a spin unless coarse use is made of the rudder or ailerons during manoeuvres close to the stall, particularly in heavy buffet. Under these conditions, an erect spin is more likely to occur than an inverted spin, but the latter may result from coarse use of the aileron, caused by, for example, a poorly executed loop, a stall turn type of manoeuvre, or when full aileron rolling manoeuvres are performed and the stick is moved appreciably aft. It is recommended that these pro-spin conditions should be avoided.

(b) Incipient Spin and Recovery. The aircraft generally recovers during the first turn of an erect or inverted spin if the following actions are taken at the first indication of loss of control:

(i) Positively centralise the rudder and stick.

(ii) When the rotation has ceased, allow the speed to increase beyond 200 knots before using the ailerons to roll the wings level.

Normal flight can then be resumed.

(c) The Erect Spin. The spinning behaviour of the aircraft is unpredictable. However, the erect spin is highly oscillatory in all axes; this characteristic is most obvious in the rolling plane, the roll rate decreasing from maximum to zero rate, or even temporarily reversing direction, up to twice per turn.

These hesitations in roll are very marked, and the roll acceleration after each hesitation can be extremely rapid. Under no circumstances should an attempt be made to 'fly' the aircraft out of a spin at the roll hesitation by use of aileron as this can result in an inverted spin developing. When the spin is established, the aircraft should settle down with the nose about 50° below the horizon and each turn taking about 4 to 6 seconds. The stabilised rate of descent is 20,000 to 25,000 feet per minute when the flight path approaches the vertical; the height loss per turn is about 1500 feet.

(*d*) *Erect Spin Recovery*

(i) The oscillatory nature of the spin can be highly disorientating, and this can lead to incorrect recovery action being taken unless the direction of yaw is clearly established by reference to the turn needle of the turn and slip indicator. The aircraft should normally recover within one or two turns when the consolidated recovery action is taken, ie full rudder to oppose the turn needle and the stick moved progressively forward aimed at the white datum, thus ensuring that the ailerons are central. The application of in-spin or out-spin aileron during an erect spin or during the recovery from an erect spin can result in an inverted spin.

(ii) The standard recovery action is relatively insensitive to elevator position or tailplane setting.

(iii) The ailerons are very powerful controls in the erect spin and can overcome the effectiveness of the rudder. If any significant amount of aileron is applied to oppose the roll (ie out-spin aileron), the aircraft will probably not recover from the spin. It is of the utmost importance to realise that if the aircraft does not recover from an erect spin, it is almost certain that it is being held in the spin by incorrect application of controls. If the aircraft appears to be reluctant to recover from a spin, the control positions should be re-checked; in particular, ensure that full rudder is applied to oppose the turn needle and that the ailerons are centralised. The aircraft usually recovers from an erect spin if the controls are abandoned; this should be attempted as a last resort.

(iv) The effect of altitude is not marked, but recovery appears to improve with decreasing altitude. The height required to regain level flight from the point at which autorotation ceases is likely to be in the order of 6000 to 10,000 feet.

(*e*) *The Inverted Spin*

(i) The inverted spin is much less oscillatory than the erect spin, and there is no reversal in the direction of roll after the spin has become established. Initially the nose pitches above the horizon, but after about two turns the spin stabilises with the nose about 45° below the horizon with each turn taking 3 to 4 seconds; the height loss per turn is about 1500 feet.

(ii) Due to the marked upside-down sensation, there is no difficulty in recognising that the spin is inverted, and the direction of yaw is clearly discernible. Although the inverted spin is smoother than the erect spin, the negative g (minus 1 to minus 2 g) and the unfamiliar and physically unpleasant nature of the manoeuvre is likely to cause confusion. This can result in the incorrect interpretation of flight instruments unless a determined effort is made to remain calm. It is emphasised that in an inverted spin, yaw and roll are in opposite directions, whereas in the erect spin they are in the same direction.

Note: The direction of yaw is always shown by the turn needle.

(*f*) *Inverted Spin Recovery*

(i) The spin should generally stop within one or two turns when the consolidated spin recovery action is taken. Unlike the erect spin, however, the aircraft does not recover from an inverted spin if the controls are abandoned.

(ii) The rudder, which is the most powerful control in an inverted spin, must be applied and maintained in a determined manner, as the footloads are moderately high and the recovery requires **full rudder deflection** (the safety harness and rudder pedals should always be properly adjusted otherwise it may not be possible to apply full rudder under negative g conditions).

(iii) The use of ailerons in the direction of roll is favourable to recovery; if the spin shows no sign of stopping, the stick should be moved fully in the direction of roll, ie in the opposite direction to the turn needle. When aileron is used to assist recovery, the spin develops into a rolling motion with a rapidly increasing airspeed. At this stage the ailerons and rudder should be centralised; if the deflection is maintained for too long, the aircraft may revert to an inverted spin with a severe flicking motion. It is important, therefore, to aim for a clean recovery in the first instance; abortive recoveries can lead to the aircraft spinning in a more determined manner.

(iv) Tailplane trim position does not have any marked effect on the spin or the recovery. However, the recovery is improved by having the stick fully forward to reduce the rate of rotation and to unshield as much of the rudder as possible.

(g) Consolidated Spin Recovery Actions. The recovery actions given in Table 1 should be taken when loss of control occurs. The actions cover both the erect and the inverted spin.

Table 1 — Spin Recovery

Actions	*Considerations*
WARNING: If the aircraft is not under control by 10,000 feet AGL (ie if it is not responding normally to control inputs and is not accelerating), **eject**.	
Immediate Actions	
At the first indication of loss of control:	
Positively centralise the rudder and stick and take no further action until either recovery is achieved or a recognisable spin develops.	The aircraft should generally recover during the first turn of an erect or inverted spin.
Subsequent Actions	
(a) Monitor height (see **WARNING:** above).	

(continued)

Actions	Considerations
(b) When the rotation stops, allow the speed to increase to at least 200 knots before recovering from the dive.	
(c) If a recognisable spin develops:	
(i) Apply **full** rudder to oppose the turn needle and move the stick to the **fully** forward position.	Aligning the stick with the white datum ensures that the ailerons are central. The aircraft should normally recover within one or two turns.
(ii) When the rotation stops, immediately centralise all controls and allow the speed to increase to at least 200 knots before recovering from the dive.	After the rotation has ceased, 6000 to 10,000 feet may be required to regain level flight.
(d) If the aircraft does not recover within two turns:	
(i) Re-check, without relaxing pressures, that full rudder against the turn needle and full forward stick towards the white datum spot are being continuously applied.	It cannot be over-emphasised that there is only one optimum recovery procedure; if the aircraft does not recover, re-check actions.
(ii) If there is still no sign of recovery, jettison the wing stores.	
(iii) If the spin is inverted, apply full aileron to oppose the turn needle.	With aileron applied in an inverted spin, the spin develops into a rolling motion with a rapidly increasing airspeed.

Note 1: It is extremely important to resist the instinctive tendency to move the stick away from the direction of roll since aileron movement during a roll hesitation can convert an erect spin into an inverted spin.

Note 2: Landing gear and flaps should be raised if down and engine power reducing to idling although these factors do not appear to appreciably affect the recovery.

12 Inertia Cross-Coupling

(a) Experience has shown that the aircraft is not generally prone to any significant inertia cross-coupling effects. The following information is provided to give the conditions under which inertia cross-coupling may occur, its effects and the action to be taken.

(b) Inertia cross-coupling may be induced by continuous full aileron rolls at high altitude, particularly if the stick is moved fore and aft from the trimmed position.

(c) The effects of inertia cross-coupling are likely to be violent gyrations in roll, pitch and yaw which can lead to loss of control and possibly severe structural damage. These effects may occur without warning or may be preceded by buffet, sideslip and g variations.

(d) If inertia cross-coupling is experienced, the controls should be centralised smoothly. This can best be done by releasing any applied pressure and allowing the controls to centralise. If the rate of roll does not appear to be decreasing, it is probable that the aircraft is entering a spin which may be inverted or erect. If this occurs, and is confirmed by instrument indication, the appropriate spin recovery action should be taken.

13 Flying at High Airspeeds

When flying at high airspeeds, all control movements must be smooth and progressive to avoid over-controlling, particularly when flying at aft CG and/or in turbulent air. The tailplane trimmer should be used carefully and care must be taken not to exceed the g limitations in harsh manoeuvres. The maximum rate of roll increases with airspeed up to 420 knots: at higher speeds, however, the rate of roll progressively decreases because of jack stalling. Normally the maximum rate of roll is not required.

14 Flying at High Mach Numbers

(a) The maximum speed obtainable in level flight at full throttle is 0·94M. The aircraft reaches sonic speed in a 30° to 40° dive at full throttle. When outboard tanks are carried, speed is limited to 0·88M or the onset of buffet if earlier. Transonic dives should not be started below 25,000 feet because the height loss during recovery is considerable.

(b) Trim Changes

(i) As speed increases to about 0·90M, there is a progressive nose-up change of trim. Between 0·90M and 0·94M, a nose-down trim change followed by a nose-up trim change occurs, the aircraft being almost back in trim by 0·96M. At higher speeds, as the aircraft becomes supersonic, the trim changes to slight nose-down.

(ii) When outboard tanks are carried, a mild nose-down trim change occurs between 0·87M and 0·88M. This is accompanied by buffet and possibly gentle lateral rocking.

(c) Changes in Stick Force and Tailplane and Elevator Effectiveness

(i) As speed is increased beyond 0·92M, the elevator becomes less effective. This is particularly evident at transonic speeds when even large elevator deflections have a delayed and reduced response. The tailplane can be used to assist in manoeuvring although its effectiveness is somewhat reduced.

(ii) Since the effectiveness of the elevator decreases as mach number increases, greater deflections are required to manoeuvre and therefore the stick forces increase.

(iii) Practice transonic flights should be made by putting the aircraft into a 30° to 40° dive with the tailplane interconnection on. Set the trim at zero otherwise the full range of tailplane movement is not available for recovery without using the trim switch. At 0·97M, a very slight wing drop may occur which can easily be counteracted with aileron; if the dive angle is too shallow, the aircraft reaches a maximum speed of

0·97M at which speed the elevator is not effective enough to increase the angle of dive.

(iv) During recovery from transonic dives the throttle should be closed. The airbrake can be used but it is not very effective in reducing speed; its extension causes a moderate buffeting and a nose-up change of trim. Recovery can be made without using the tailplane trim, but jack stalling may occur. Normally, the tailplane should not be trimmed more nose-up than 0° because of the nose-up trim change which occurs as speed falls below 0·95M.

15 Aerobatics

(a) Check that the autostabiliser is set to STBY. Until experience is gained, the following speeds are recommended:

Roll	350 knots
Loop	425 knots
Roll off the top	450 knots
Vertical roll	500 knots

(b) It is recommended that, until experience is gained, loops are started between 10,000 and 15,000 feet.

◀16 Operating in Icing Conditions

The anti-icing system provides protection only for the engine and therefore flight in icing conditions should be avoided whenever possible. Icing may occur when the visible moisture content of the air reduces the visibility to 1000 metres or less and the ambient temperature is below +5°C. The management of the engine anti-icing system is covered in Part 1, Chapter 2. It should be noted that the engine is more prone to surge with the anti-icing system in use and extra care must be taken to make all throttle movements smoothly and slowly. ▶

17 Descending

The standard descent configurations are:

(a) Rapid Descent. Set 6500 RPM and, with the airbrake out and the flaps up, descend at 0·90M/400 knots.

(b) Range Descent. Set 6500 RPM and. with the airbrake in and the flaps up, descend at 0·90M/400 knots.

(c) Instrument Descent. Set 6500 RPM and, with the airbrake out and the flaps at 23° (two notches), descend at 0·90M/300 knots.

Note: If stores are carried on the outboard pylons, observe the appropriate mach number limitations.


AIR
KNOTS
CLIMB
DESCENT