

I have uploaded these two doc files, Hawker Hurricane Ferry.doc and Hawker Hurricane.doc in a large part to pay back a bit to the designers of the planes that I enjoy. The books I have had for many years but still may be available and this is just a few pages that some might find of interest.  
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Hawker Hurricane notes from:

Flying Wartime Aircraft

ATA Ferry Pilot's Handling notes for seven world war 2 aircraft.

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THE Hurricane was every ATA pilot's introduction to the heady world of single-seater fighters-and very well do I remember what a thrill that was. To be truthful, it was not for me a wholly pleasurable thrill. When I got my first Hurricane off the ground the noise, the speed and the realisation of where I was and what I was doing drove out of my head most of what I thought I had learned on the ground and in the air in the rushed courses of instruction I had undergone. In consequence, the flight from the take-off (in the middle of a balloon barrage) to the landing (at the second attempt) in South Wales was an improvised scramble.

So it was just as well that the Hurricane was easy and straightforward to fly and to land. At low speeds it wallowed just a bit, and if in the final stage of the approach you shut the throttle a bit too soon (as I did) you might well find (as I did) that you had bounced back high into the air instead of staying put on the ground.

Because the Hurricane was such a momentous step forward in a ferry pilot's life its Handling Notes go into greater and more elementary detail, and give fuller explanations, than were thought necessary later on.

From the point of view of sheer piloting pleasure the Hurricane was not quite in the same class as the Spitfire (nor was any other aeroplane), but it soon became an old and trusted friend, and was regarded with affection.

*PUBLISHER'S NOTE*

*The introduction to each set of Notes has been contributed by Hugh Bergel, whose comments, in italics and square brackets, also appear as interpolations in the Notes.*

10.1.44

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*(This issue supersedes issue dated 15.7.42)*

**ATA HANDLING NOTES  
HURRICANES I, II & IV; SEA HURRICANES I & II  
MECHANICAL DETAILS**

For ferrying purposes there are two main classes into which these single-seat fighters may be divided, Mark I with no rudder trimmer fitted and single-speed supercharged engines, and later aircraft with rudder trimmer and more powerful two-speed supercharged engines.

Sea Hurricanes differ only in the addition of deck arrester gear. All aircraft are fitted with Merlin engines and either de Havilland counterweight type or Rotol constant-speed propellers.

**FLYING CONTROLS**

**Control Column.** Conventional spade grip with brake control lever, is fitted.

**Rudder Pedals.** The rudder pedals are adjustable by means of a star wheel in the centre, which is best operated with the foot.

**Trimmers.** A handwheel with indicator at the pilot's left hand is used for the elevator trimmer.

Most aircraft have a rudder trimmer controlled by a large knob inscribed "TAKE-OFF" and "RUDDER BIAS" mounted on the port diagonal member which runs through the cockpit. Both trimmers operate in the natural direction.

**Pilot's Seat.** The pilot's seat is raised and lowered by a lever to the right of the seat,

**Harness Release.** The release for the Sutton Harness is the familiar bolt mechanism mounted on the starboard side of the cockpit.

**Control Locks.** The controls are locked by two struts fitted from the rudder bar to the control column and an interference strut from the column to the back of the pilot's seat. These locks are stowed behind a quick release panel to the right rear of the pilot's seat.

## HYDRAULIC SYSTEM

The undercarriage and flaps are hydraulically operated by an engine-driven pump, with a hand pump on the right of the pilot's seat as reserve.

## UNDERCARRIAGE OPERATION

**Normal.** A single gated lever to the right of the pilot operates the undercarriage when in the left slot of the gate. The undercarriage follows the lever movement either UP or DOWN.

On some of the early aircraft, besides operating the selector lever it was necessary to press down a lever outboard of the selector which brought into service the hydraulic power for just so long as it was held down. On later aircraft, movement of the selector lever only is required.

The selector lever must always be returned to NEUTRAL, this cannot be done without first releasing the lever knob, or thumb catch if fitted.

With the selector in the UP position difficulty has been experienced in releasing the lock, this can generally be remedied by a slight pressure with selector towards UP before operating the catch. Sometimes a few strokes with the hand pump will help. If the lever will not go into the "DOWN" position, selecting the flaps "UP" and "DOWN" on the right hand side of the gate may free the lever.

A safety guard making it impossible to move the lever into the "UP" position by accident is provided on all Hurricane aircraft.

**Reserve.** The hand pump should be used.

**Emergency.** After hydraulic system failure the undercarriage can be lowered by FIRST SELECTING "DOWN", pushing *forward* the red painted lever to the left of the pilot's foot, (one on each side must be pushed *down* on early aircraft) and skidding the aircraft from side to side to lock the wheels down. If for any reason the U/C selector lever cannot be moved to the "DOWN" position, the emergency system should not be used as there is a danger of a hydraulic lock occurring with the undercarriage in an intermediate position. In this event a belly landing should be made.

**Indicators.** These are RED and GREEN lights situated on the top left of the instrument panel. On the left of the lights are two switches, the left of which is a simple "ON-OFF" switch and the other gives an alternative set of lights in case of bulb failure.

Indicators are:

**Undercarriage Locked Up-** A RED light at the top of the indicator dial for each U/C leg.

**Undercarriage Locked Down-** A GREEN light at the bottom of the indicator for each U/C leg.

**Intermediate Positions-** NO lights.

The position of the undercarriage can also be seen by direct vision through windows in the bottom of the cockpit.

The only proof of wheels locked down are the green lights "ON", since a warning horn is NOT usually fitted.

## FLAP OPERATION

**Normal.** The flaps are operated hydraulically by the lever which operates the undercarriage. Moving the lever into the right hand side of the gate permits the desired selection to be made. The flaps may be set in any intermediate position by returning the lever to Neutral at the right moment. Where the older type pressure operating lever is fitted, this should be released at the desired setting, but in all cases, the selector lever should be returned to Neutral after setting the flaps.

**Reserve.** The hand pump is used for reserve operation.

**Indicators.** The sliding scale indicator is mounted immediately below the selector lever.

## FUEL SYSTEM

**Tanks.** There are three tanks in the standard fuel system, a RESERVE tank of 28 gallons capacity forward of the pilot, and two 33-gallon MAIN tanks, one in each wing. Both MAIN tanks feed the engine simultaneously. The use of tanks for take-off is as follows:

1. If all tanks are full take-off on MAINS.
2. If MAINS are less than half full and RESERVE is more than half full take-off on RESERVE.
3. If all tanks are less than half full, the aircraft is not in a fit condition to take-off.

Run-up must always be made on the tank to be used for take-off: use the other tank for starting and warming up.

**Cocks.** In front of the pilot's left knee is a three-position cock marked "OFF-MAIN-RESERVE".

In aircraft fitted with jettisonable long range tanks an additional fuel cock is fitted to the rear of the undercarriage and flap selector lever. This must be "OFF".

**Gauges.** On the starboard side of the dashboard is a single gauge with a selector switch just above it. There are separate scales on the gauge for Reserve and Main tanks.

**Pressure Venting.** Most aircraft have a cock to the left of the pilot marked "PRESSURE-ATMOSPHERE". This should normally be set to ATMOSPHERE but no harm will be done if the PRESSURE position is used in error.

**Long Range Tanks.** Fixed or jettison type tanks may be fitted, but these must be empty for ferrying. When jettison tanks are NOT carried on aircraft equipped to take them the JETTISON LEVER MUST BE KEPT IN THE JETTISON POSITION.

## ENGINE CONTROLS

**Throttle.** The throttle lever is to the left of the pilot and has a small wheel for friction adjustment.

**Mixture.** Mixture is either Automatic Rich or Automatic Weak. The lever friction is adjusted by a knob concentric with the throttle friction control.

The throttle and mixture controls are interconnected and in some cases it will not be possible to bring the throttle back below +2 boost without moving the mixture control. In these aircraft no harm will result by moving the mixture lever back with the throttle until zero boost is obtained.

In some of the latest aircraft mixture control is fully automatic and there is either no lever or if one is fitted it is wired in WEAK.

**Propeller.** The constant speed pitch control is mounted above the throttle in a separate quadrant, and has its own friction adjustment. The lever is moved fully forward for maximum R.P.M.

**Supercharger.** All but the early aircraft have a two-speed supercharger, the control being a plunger type below the dashboard on the port side. It should be pushed in for all ferry work. *[Two-speed superchargers were used to enable the engine to give its full power at great heights-but it was said that if high gear was engaged on the ground the supercharger absorbed so much power that there might not be enough left over to take the aeroplane off the ground.]*

**Radiator Shutters.** The radiator shutter is fully open when the control lever on the left of the pilot's seat is down. A stop usually fitted in the quadrant prevents the radiator being completely closed; on all but the latest aircraft a position indicator is fitted near the top of the lever.

**Carburettor Air Intake.** Normal Hurricanes with a carburettor air intake below and to the rear of the engine have no control. Tropical Hurricanes with the carburettor air intake immediately behind the propeller have an air cleaner which might ice up, and for this, a control, clearly labelled, below the left of the dashboard, is fitted. Cold air should always be used for take-off and landing. Try Hot air if engine trouble is experienced.

**Boost Control Cut-Out.** This control is a red painted plunger on the left of the dashboard. Some Mark V aircraft may not have a Cut-Out, so beware of very high boost at full throttle.

**Slow Running Cut-Out.** The slow running cut-out is fitted to all the later aircraft outboard of the undercarriage selector lever, and in the earliest single-speed supercharger aircraft the cut-out is fitted on the left of the dashboard. *[On high-powered engines like the Merlin, switching off the ignition and/or turning off the petrol did not stop the engine, which continued spluttering and bumbling on-sometimes for minutes on end. Every aircraft other than the smallest and lightest was fitted with these cut-outs which, roughly speaking, acted by putting a stopper on the slow-running jet.]*

## STARTING CONTROLS

The aeroplane is fitted with a 12-volt direct electric starter.

**Battery Socket.** The external battery socket of standard type which isolates the aircraft battery, is located below the engine on the starboard side.

**Doper.** The Ki-gas doper pump is mounted below the dash on the starboard side. Do not confuse with the windscreen de-icing pump fitted to the right of the flap indicator.

**Starter.** The push button is on the extreme port side of the dashboard.

**Starting Magneto Switch.** This is on the extreme starboard side of the dashboard. In later aircraft a booster coil is fitted and the button is adjacent to the starter button.

**Main Ignition Switches.** These are to the right of the starter button.

**Hand Starting.** Two handles are stowed, one in each wheel well. Two men are required to use the handles fitted one on each side of the engine nacelle.

## BRAKES

Dunlop pneumatic brakes are fitted. An engine-driven compressor maintains the air supply, and the pressure in the storage tank can be read on the gauge between the pilot's feet. Two small pointers on the same gauge indicate the pressure applied to each brake. Differential braking control is obtained by use of the rudder pedals in conjunction with the lever on the control column spade grip. A catch is provided at the base of the lever to hold the brakes fully on for parking. If the aircraft is to be left with brakes on for any lengthy period, the rudder should be locked or all the compressed air will be used as the rudder swings in the wind, and the brakes will cease to hold the aircraft.

## ELECTRICAL SERVICES

**Battery Position.** A 12-volt battery is mounted behind the pilot.

**Generators and Charging Switches.** On some aircraft a "FULL" and "HALF" charge switch is fitted. On later Marks the switch is replaced by an automatic voltage regulator. The generator switch is on the left side of the cockpit just forward of ammeter and voltmeter.

**Pitot Head Heater Switch.** This is mounted low down on the left of the dashboard.

**Fuses.** The fuses are located under the cowling panel on the port side of the cockpit. On later aircraft the main fuse is on the port cockpit decking.

## CABIN HEAT AND VENTILATION

No heating equipment is fitted. On later aircraft controllable ventilation louvres are provided in the decking above and aft of the dashboard.

## COCKPIT HOOD

On the port decking shelf is a bolt labelled "HOOD CATCH LOCKED -FREE". In the locked position it is possible to open the hood but not to close it. The hood has a natural tendency to close in all flying conditions.

## EMERGENCY EXIT

In the latest aircraft, the cockpit hood can be jettisoned by pulling a red painted lever aft of the radiator shutter control. A lever recessed in the starboard side can be pulled to jettison the starboard side wall of the cockpit.

## FIRE EXTINGUISHERS

No equipment is fitted.

#### FIRST AID OUTFIT

The first aid outfit is attached to the inside of a fabric covered detachable panel on the port side of the cockpit, and is accessible by destroying the panel.

#### CROW BAR

A crow bar is held in clips behind the pilot's right elbow.

#### DECK ARRESTER GEAR

A yellow T handle is provided on Sea Hurricanes for dropping the arrester gear which CANNOT BE RETRACTED IN FLIGHT.

### FLYING PARTICULARS

#### PREPARATION FOR FLIGHT

Before entering the aircraft make a quick inspection by walking round it thus:

1. See that the tyres are in good order, and appear correctly inflated.
2. That the cover is off the pitot head.
3. That the oleo legs are not flat. Sometimes one oleo leg will appear to be higher than the other.

This may be due only to the sticky operation of the leg, and can be checked by having a couple of men lift the drooping wing tip. If the leg is alright the lifting will assist it to extend, after which the aircraft should remain standing level.

4. Check that all detachable panels are securely done up. In this matter be particularly careful to check the hexagonal gun bay doors, in the upper surface of the mainplanes. Pay special heed to this check when it has been necessary to stop overnight at an intermediate station. Panels can easily be left unlocked after stowing one's personal kit. *[Every sensible ferry pilot always took with him a bag containing a set of overnight things (plus a clean collar or two). On single-seaters, the only available storage space for this was in the gun-bays in the wings.]*

5. See that chocks are provided, and that the tail wheel is tied down, or that at least two men are handy to hold the tail down when the engine is being run up.

6. See that there is no foreign body in the carburettor air intake, or in the front of the radiator cowling.

7. If long range or jettison tanks are fitted, check that they are empty,

On entering the aircraft, first check that the aircraft has been correctly signed out as serviceable.

1. Switch on indicator lights, and check green lights and alternative bulbs.
2. Check hydraulics and flap operation by hand pumping the flaps part of the way down and up again.
3. Wind the trimmers over to their full travel to ascertain that they work easily over their full range.
4. Switch on the charging switch if one is fitted-some of the latest aircraft do not have one.
5. Check fuel contents. When tanks are full turn on Reserve for starting and warming up.
6. Make the usual adjustments to seat, Sutton harness etc.
7. Open the radiator shutter fully.
8. Set pitch lever FULLY FINE for Rotol propeller. (FULL COARSE with Counterweight type).

#### STARTING

See that the external battery is plugged in. Set the throttle about half an inch open, and the mixture to Rich.

Check that there is no one near the propeller, switch on the starting magneto (if fitted) and then the main magnetos.

Dope as conditions dictate—a cold engine on an average day will require about six effective strokes of the Ki-gas pump, and 8 to 10 in cold weather. Press the starter (and booster if fitted) and the engine should start within the first two or three seconds.

Stand by to keep the engine going on the dooper if necessary, and when running evenly screw down the dooper and switch off the starting magneto.

Set the engine to warm up at a speed considerably faster than idling speed, so that it runs evenly.

The oil pressure should by now have risen to at least 45lbs./sq.in., and the pitch control, if operating a counterweight propeller, should be moved to the Full Fine position.

## WARMING UP AND TESTING

Test the engine-driven hydraulic pump by making it operate the flaps full in each direction. Attend to navigation details and instrument settings, until engine is warm and ready for testing. Minimum temperatures for run-up are 60°C for coolant and 15°C for oil. In the normal case when tanks are full and the start has been made on Reserve, CHANGE OVER TO MAIN TANKS just before the run-up.

Check that the radiator shutter is fully open, and test as follows:

1. At warming up speed, do an ignition test to make certain that both magnetos are working. *[This test was done by momentarily switching off both magnetos in turn. If this test was omitted, and one magneto was not working, then test No 5, done at high power, could damage the engine.]*
2. Signal two ground crew to hold down the tail for run-up if the tail is not tied down.
3. With pitch at Full Fine, open up to 0 boost and exercise the propeller. Do not exceed 400 r.p.m. drop in revolutions.
4. Open up to +6 lbs. boost momentarily as a power test. In later aircraft with higher maximum boost, it is not necessary to open up further than this, as it puts unnecessary load on the airframe, and there is a danger of overriding the chocks. At +6 lbs. boost the R.P.M. will be found to vary between 2600 and 3000 according to the installation and the setting of the propeller fitted.
5. Shut down to +4 lbs. boost and check ignition (maximum drop permitted: 100 r.p.m.)
6. Check slow running (Fast idling makes the landing run longer).

## TAXYING

Check that there is adequate brake pressure before moving.

The aircraft is slightly nose heavy and there is a tendency to nose over when using bursts of engine to obtain initial movement on rough ground, or to turn into high winds, so use the throttle and brakes gently when taxiing.

Vision can be greatly improved by releasing the Sutton harness and standing on the top foot-positions of the rudder bar. This will be found useful when manoeuvring on narrow perimeter tracks, or in a confined space.

In strong winds and on bad surfaces the assistance of a handling crew must be obtained to hold the tail down.

## PREPARATION AND TAKE-OFF

Stop across wind at the take-off point, set the engine to run at 1000 r.p.m., and then use the standard drill:

- H. Hydraulics. Open safety gate on "Undercarriage Up" position of selector lever.
- T. Trim elevator neutral: rudder full RIGHT (if fitted).
- T. Throttle friction as required.
- M. Mixture RICH (if manual).
- P. Pitch Full Fine.
- P. Petrol. See that the Main tanks are turned ON and contain more than 15 gals. each. If Mains have less than 15 gals. each and Reserve has more than 15 gals., take-off on Reserve.
- F. Flaps up.

- G. Gills: radiator shutter full OPEN. Carb. air COLD if fitted.
- G. Gauges: usual check.
- F. Fuel booster: No check.
- U. Unlock controls and check freedom.
- S. Supercharger 'M' gear (if two-speed).
- T. Tail wheel lock. No check.

With stick held back clear the engine, then release the brake and turn into the take-off direction.

#### TAKE-OFF

Open up the throttle steadily. Too quick an opening will make it necessary to use a large amount of rudder to keep the aircraft straight. Use full throttle on Mark I aircraft, but on other Marks +9 boost is plenty, and is not so uncomfortable as full throttle. Do not allow the aircraft to climb prematurely, but fly level until a speed of 140 m.p.h. has been attained.

It is sometimes difficult, particularly with new aircraft, to move the undercarriage lever into the "UP" position. A strong steady pressure is required. If it does not move, check that the safety guard has not sprung back to the safe position, before trying again. With a stiff undercarriage lever, be careful not to move the control column inadvertently, when exerting strength to move the lever

#### CLIMB

Having attained a speed of 140 m.p.h. allow the aircraft to climb, and at the same time reduce power, boost first, to +4 and R.P.M. to 2600. By this time the climb should be steady at 170 m.p.h. and the undercarriage up. Check the red lights, and RETURN THE LEVER TO NEUTRAL, first pushing the lever FORWARD and releasing the catch.

#### CRUISE

On reaching cruising height, if it has been necessary to take off on Reserve tank, CHANGE OVER TO MAIN TANKS NOW, before it is forgotten. Reduce the boost to zero and revolutions to 1900. Trim to level flight, not forgetting the rudder trim. Go into weak mixture. Speed should now be about 200 m.p.h.

#### GENERAL CHARACTERISTICS

It is difficult to trim the aircraft because it is slightly unstable fore and aft, and so requires to be flown all the time or it will commence to dive or climb.

#### SLOW FLYING IN POOR VISIBILITY

In fast aircraft, it is essential to reduce speed when flying in poor visibility. As speed is reduced the position of the nose becomes proportionately higher, and vision forward from the cockpit becomes restricted at a time when the opposite is required.

So having reduced speed to 110-120 m.p.h., put the flaps down to the extent necessary to maintain adequate forward vision (about 30°). Increase to 2600 r.p.m. and adjust boost to maintain height. The airspeed should be increased if a turn beyond 30° of bank is to be made.

#### STALL

The stall occurs with flaps and undercarriage up at 78 m.p.h. and with flaps and undercarriage down at 64 m.p.h. With long range tanks fitted, the stalling speeds are only about two or three miles per hour higher even with the tanks full.

The stall of the standard aircraft is not in any way vicious, though there is little warning of its approach. When the long range tanks are full the starboard wing drops sharply.

#### GLIDE

The best glide speed with flaps and undercarriage up is 110 m.p.h. With flaps and undercarriage down, 95 m.p.h.

## APPROACH AND LANDING

Carry out the standard ATA drill as follows:

P. Petrol: Check contents. If mains have less than 15 gals. each, turn over to Reserve.

B. Brakes: Check pressure and operation by observing triple gauge.

F. Fuel Boosters: No check.

Reduce to less than 160 m.p.h. then:

H. Hydraulics: No check.

U. Undercarriage Down. Check green lights and that the hand pump feels solid. Return the selector lever to Neutral. M. Mixture: Rich (if manual).

P. Pitch: Full Fine.

Reduce speed to 130-140 m.p.h. and at about 1000 feet turn towards the airfield, reduce to about 120 m.p.h. then:

F. Flaps Down. (The flaps give considerable drag and quite a steep path of descent.)

G. Gills: No adjustment normally required. Carb. air COLD if fitted.

Enter the airfield at 85 m.p.h. (90 m.p.h. with long range tanks) keeping a little power on until all descent has ceased, then close the throttle for the touch-down in the usual way.

If, as a result of undershooting, considerable power is used during the final approach, the attitude of the aircraft will be more nose-up than usual and less backward motion of the stick will be required to touch down on three points. If the stick is brought fully back under these conditions the aircraft will probably make a tail-first landing.

After touching down, do not apply the brakes until the speed has diminished somewhat, and keep the stick fully back. After coming to rest, use the drill:

T. Tail wheel: No check.

G. Gills: Radiator shutter OPEN. F. Flaps: UP.

## MISLANDING

Open the throttle to take-off boost and retract the undercarriage. Climb at 120 m.p.h. to a safe height, and put the flaps up. The flaps go fully up almost immediately, so be prepared for some considerable change of attitude accompanied by a momentary loss of altitude. As soon as the flaps are up speed will increase. Reduce to climbing power and climb at 170 m.p.h.

## CROSS WIND

The aircraft presents no unusual difficulties in taking-off or landing in MODERATE cross winds, providing the correct cross wind technique is used. The amount of flaps should be reduced in proportion to the wind strength. No attempt to take-off or land should be made if the cross wind exceeds 20 m.p.h. at 30° to the runway.

## LEAVING TIM AIRCRAFT

On arrival at the dispersal point, run the engine for a few seconds at about 1000 r.p.m. (counterweight type propeller at Full Coarse) close the throttle and pull the slow running cut-out. Switch off as soon as the engine stops, turn off petrol and indicator circuits. Leave the brakes off to cool.

## ATA ENGINE LIMITATIONS

### MERLIN II & III

(Hurricane I & Sea Hurricane I)

Fuel: 87 Octane.

Pressure: 2-3 lbs./sq.in. or Light Out.

		Mixture:	R.P.M.:	Boost:
Take-Off	Max. Permissible	RICH	3000	+6¼
Climb	Max. Permissible	RICH	2600	+6¼
Cruise Max.	Permissible	RICH	2600	+4¼
Cruise Max.	Permissible	WEAK	2600	+2¼

### OIL PRESSURES

Normal	50-140 lbs./sq.in.
Emergency minimum	45 lbs./sq.in.

### OIL TEMPERATURES

Minimum for run-up	15°C.
Desirable cruising	40-70°C.
Emergency maximum	105°C.

### COOLANT TEMPERATURES

Minimum for run-up	60°C.
Desirable cruising	85-100°C.
Emergency maximum	120°C.

### MERLIN XX

(Hurricane II, IV and Sea Hurricane II)

Fuel: 100 Octane.

Pressure: 6-10 lbs./sq.in. or Light Out.

		Mixture:	R.P.M.:	Boost:
Take-Off	Max. Permissible	RICH	3000	+12
Climb	Max. Permissible	RICH	2850	+9
Cruise	Max. Permissible	RICH	2650	+7
Cruise	Max. Permissibl	WEAK	2650	+4

### OIL PRESSURES

Normal	50-140 lbs./sq.in.
Emergency minimum	45 lbs./sq.in.

### OIL TEMPERATURES

Minimum for run-up	15°C.
Desirable cruising	40-70°C.
Emergency maximum	105°C.

### COOLANT TEMPERATURES

Minimum for run-up	60°C.
Desirable cruising	85-100°C.
Emergency maximum	135°C.

### TABULATED DATA

#### HURRICANES I, II, IV & SEA HURRICANES I, II

#### Take-Off:

	Boost:	R.P.M.:	Mixture:	Gills:	Elevator:	Rudder:	Flaps
Mk.I.	+6a	3000	Rich	Open	Neutral	Full	UP.
Mk.II & IV.*	+12)		(if not Automatic)			Right if fitted	

\*It is not necessary to exceed +9

#### Climb (ATA):

Boost:	R.P.M.	A.S.I.:
+4	2600	170 m.p.h.

**ATA Cruise:**

Boost:	R.P.M.:	Mixture:	Gills:	A.S.I.:	Consumption
0	1900	Weak (if not Auto)	Watch temps.	200 m.p.h.	35-45 gals./hr.

**Slow Flying:**

Boost:	R.P.M.:	Mixture:	Gills:	Flaps:	A.S.I.
As reqrd.	2600	Rich (if not Auto)	Watch temps.	30°	110-120 m.p.h.

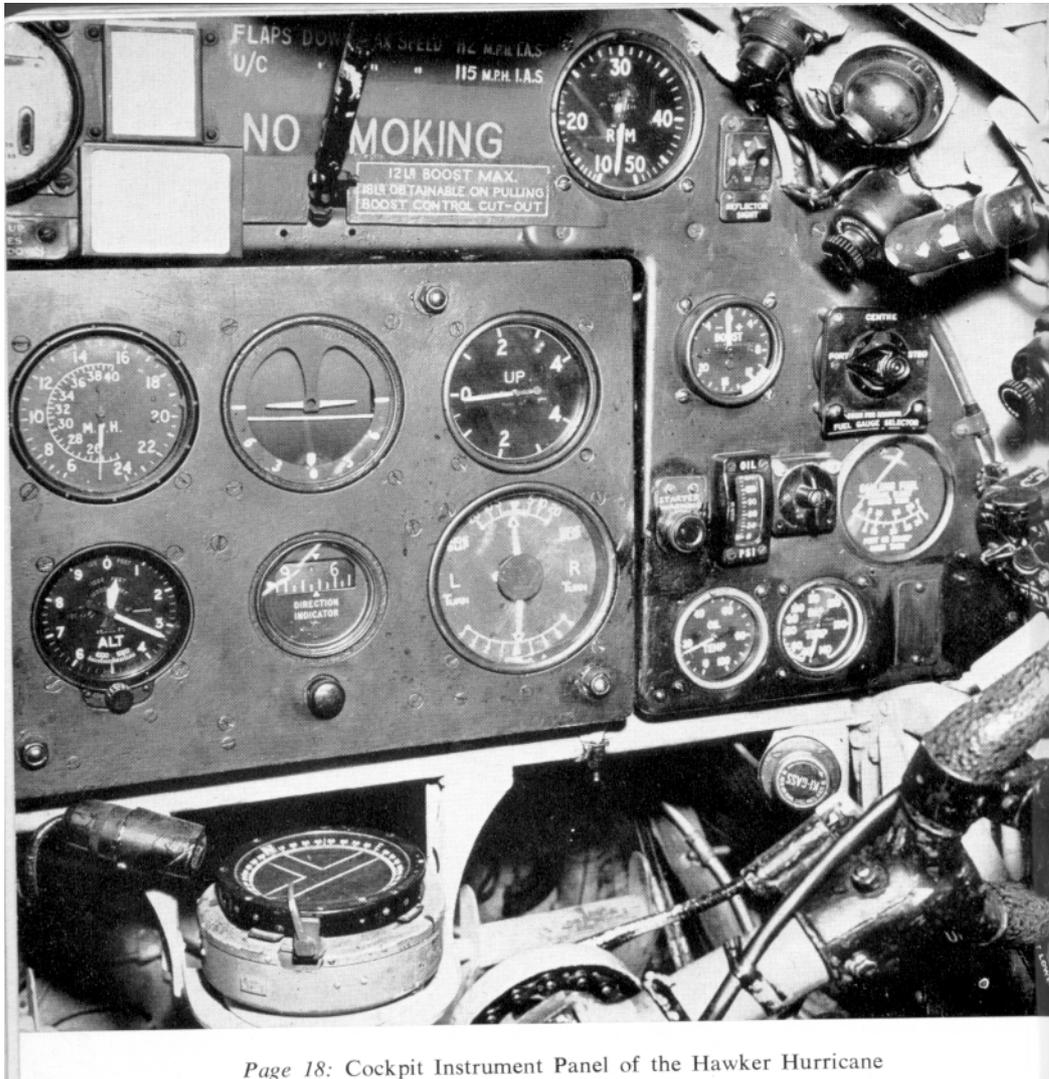
**Stall:** Flaps and U/C UP: 78 m.p.h.                      Flaps and U/C DOWN: 64 m.p.h.

**Glide:** Flaps and U/C UP: 110 m.p.h.                      Flaps and U/C DOWN: 95 m.p.h.

**Approach and Land:**

<b>Flaps:</b>	Effect:	Max. speed for Flaps:	Final Approach:
	Down. Nose down.	120 m.p.h.	85 m.p.h.

**Note:** When long range tanks are fitted, add 5 m.p.h. to stall, glide, and approach speeds.



Page 18: Cockpit Instrument Panel of the Hawker Hurricane