SECTION 4

NORMAL PROCEDURES

CONTENTS

SECTION 4.1

OPERATING PROCEDURES

1 EXTERNAL CHECKS

NOTE : Ensure that the inspection after the last flight of the preceding day and before the first flight of the day have been carried out.

- Check that the ground round the aircraft is clean and unobstructed.
- Carry out the following check :

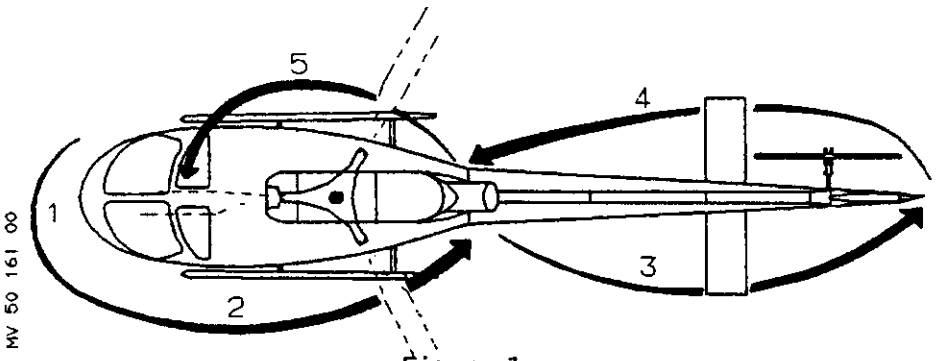


Figure 1

Station 1

- Total pressure head (PITOT)	- Cover removed - Check clean
- Landing gear (cross-members, skids, wear-resistant plates)	- Security - visual check

Station 2

- Port hold ----------	- Door opening action. No loose objects. Closing, latching.
- Fuel tank and system ----------	- Filler plug closed.
- M.G.B. cowl ----------	- Check M.G.B. oil level (steps). Close cowl, check closed.
- All lower fairing panels -----	- Closed, check
- Main Rotor Head ----------	- Inspect star, sleeves (peeling), spherical thrust bearing, adaptaters (separation).
- Hydraulic Unit/System --------	- Check hyd. reservoir fluid level.
- Engine Air Intake ----------	- Clear (water, snow, foreign matter).
- Rear hold ----------	- If applicable : open door, net hooked i place, close door.
- Main Rotor Blades ----------	- Security (attachment), inspect from ground, for signs of impact.

Station 3

- Oil leaks ----------	- No oil under scuppers.
- Tail boom and T.G.B. fairings	- Security (Dzus fasteners locked).
- Tail Rotor Gear Box ----------	- Oil level
- Tail unit ----------	- Security.

Station 4

- Tail rotor blades ----------	- Condition of skin, no impact (dents, etc), laminated stops (separation).
- T.G.B. and Tail boom fairings	- Security (Dzus fasteners locked).

Section 5

- Starboard hold ----------	- If necessary : open door, check no loose objects, close door, check.
- Landing gear (crossmembers, skids, wear resistant plates)	- Security - visual check.
- All lower fairing panels ----	- Closed, check.
- External power receptacle door	- Closed, check.
- M.G.B. cowl	- Check engine oil level (steps).
	- Foreign objects on transmission deck.
	- Close cowl, check.

INTERNAL CHECKS

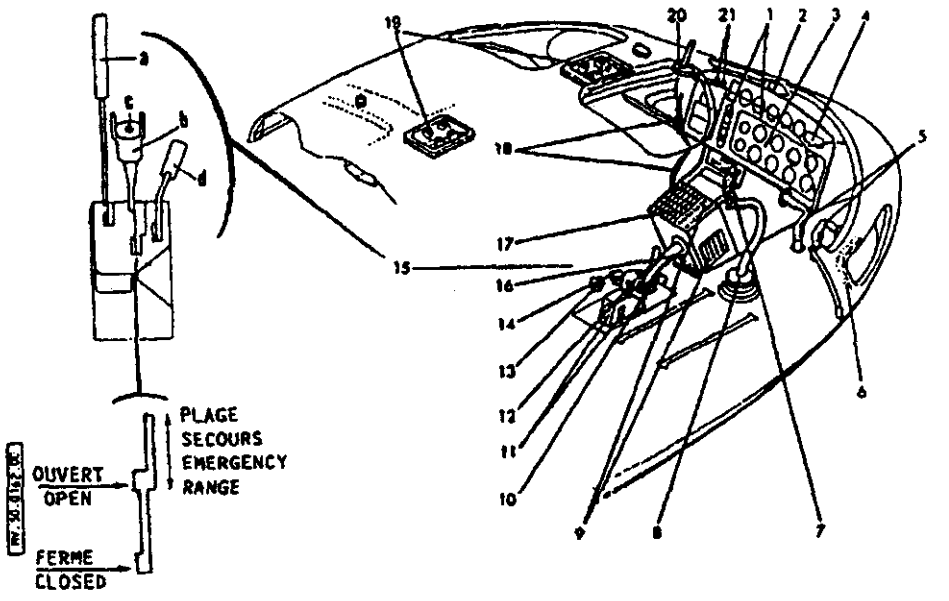
- Cabin ..... Clean
- Fire extinguisher ..... Fitted
- Fuses ..... Fitted
- Objects carried ..... Stowed
- Door jettison ..... Checked

Figure 2

Item	Description	Item	Description
1	Engine monitoring instruments and systems	12	Utility power outlet
		13	Cabin heating (*) control
2	Stand-by compass	14	Demister control
3	Flight monitoring instruments	15	Control Quadrant, comprising:
4	Warning-Caution-Advisory Panel		a) Rotor brake control
			b) Fuel Flow Control lever
5	Yaw Control Pedals		c) Starting switch
6	Spare fuses		d) Fuel shut-off control
7	Cyclic stick grip	16	Collective Pitch Lock (low pitch)
8	Cyclic stick friction clamp adjuster	17	Control console
9	Fuse panel	18*	Radio, I.C.S and Radio- Navigation - Control Panels
10	Collective pitch control lever	19	Cabin ventilation ports and lighting fixtures
11	Pilot and Copilot headset jacks	20	O.A.T. Indicator
		21	Instrument panel lighting dimmer potentiometers.

* Optional

Figure 2



2 CHECKS BEFORE STARTING THE ENGINE

Determine aircraft performance limits for the expected flying conditions (see "PERFORMANCE" section)
Ensure that weight and C.G. limits are observed.

Carry out the following checks :
(Item numbers refer to Figure 2)

- Seats and control pedals ..... Adjusted
- Seat belts ..... Fastened

NOTE : Check particularly that the co-pilot seat belt is fastened when this seat is not occupied.

- Battery and Generator in circuit ..... Switches "ON" (17)
  - . Lights on with a/c battery power :
    HYD. GEN. MGB P. PITOT. ENG.P
  - . Lights on with external power :
    HYD. GEN. MGB P. ENG P. PITOT. BAT

  ] (4)
- Battery voltage ..... Checked (1)

- Press the HYD TEST pushbutton for approx. 2 seconds to depressurize the yaw hydraulic accumulator in order to center the yaw pedals (5) (17)
- Flight controls ..... Freedom of travel (5) (7) (
- Cyclic pitch control stick ..... Neutral (7)
- Collective pitch control lever :
  low pitch ..... Locked (10) (16)
- Cyclic stick friction lock ..... Adjusted (8)
- Collective lever friction lock ..... Adjusted (10)
- Rotor brake released ..... Forward (15a)
- Fuel shut-off lever lockwired ..... Forward (15d)
- Fuel Flow Control ..... Off (15b)

- Test Warning-Caution-Advisory Panel lamps - W/LT TEST
  (FIRE light illumination time delay = approx. 1 sec.) (17)
- Ng difference indicator :
  . Test ..... Ng difference equal to zero.
  Ng displayed equal to theoretical
  "Ng.MAX T/O PWR"(see section 4.2).
  . Bleed valve flag ..... Visible (4)
- Hydraulic pressure ..... On (10)
  (If isolated the HORN light will come on)
- Heating system*, demister, air
  conditioner* ..... Off (13)(14)(21)
- Gyroscopic instruments ..... On (17)

3 STARTING (Item numbers refer to Figure 2)

- Switch on the booster pumps.. On console (17)
  . Check : - Fuel quantity
  - Fuel pressure on each pump separately.

- 30 seconds after switching on the booster pump, press the "start" pushbutton ..... (15c)
- When Ng reaches 10 %, move fuel flow control forward about 1/3 of its travel range ..... (15b)
  (When O.A.T. is below 0°C, open the fuel flow control at the same time the start pushbutton is pressed).
  NOTE : In all cases, keep the starter running throughout the starting sequence.
  . Check : Ng increase and
  . Control t4 by modulating the fuel flow as required (hold t4 below specified "starting limit")
  . Check that the rotor starts to turn.
- At Ng = 40 - 45 % release the "start" push-button
  . Check that engine oil pressure rises.
- Gradually increase the fuel flow, maintaining a constant rate of rotor acceleration
  . Check that the following Warning-Caution-Advisory Panel lights go out : (see NOTE)
  - PHM (ENG.P) (should be out at 70 % Ng)
  - PH BTP (MGB.P)
  - HYD, with simultaneous illumination of the KLAXON (HORN) light .....
  - KLAXON (HORN) light flashing from 250 rpm (NR) (4)
  - Check aural warning operates at approximately 350 rpm
  . Check NR - pointer in the green zone of the indicator, near the lower limit ..... (3)
  . Check : fuel flow control in "flight" position.

NOTE : During engine acceleration, do not allow NR value to remain steady between 300 and 320 r.p.m.

* Optional

- Disconnect external power, if used
  . Check : Warning-Caution-Advisory Panel GEN and BAT lights off ..... (4)

- Switch on PITOT heating * ..... On pedestal panel (17)
  Switch on the HORN
  . Check that the PITOT and HORN lights go out ..... (4)

- Check :
  . All warning and caution lights off ..... (4)
  . Electrical system voltage and current ..... (1)
  . Engine oil pressure

- Run each booster pump separately and check that :
  . The fuel pressure is correct ..... (1)
  . The FUEL P. warning light is on ..... (4)

- Switch on/engage all necessary systems (VHF, lights, windshield wiper*, etc)

  NOTE : Do not use the wiper on a dry windshield or in light rain.

- Carry out a hydraulic accumulator test :
  . Check : collective pitch - locked ..... (10)(16)
  . Cut off hydraulic pressure by actuating the test push-button ..... On console (17)
  . Check that the HYD light illuminates and HORN sounds
  . Move the cyclic stick 2 or 3 times along both axes separately on 10 % of total travel, check for hydraulic assistance i absence of control load.
  . Press the test pushbutton to restore hydraulic pressure ..... On console (17)
    Check that the HORN is cancelled and HYD light goes out.

- Carry out a hydraulic pressure isolation check :
  . Isolate hydraulic pressure by actuating the switch on the collective pitch lever : the HYD light illuminates and control load is felt immediately, except on yaw pedals, where control load should remain low because of load-compensating servo.
  . Restore hydraulic pressure using the switch : the HORN sounds until the HYD light goes out (2 - 3 sec.).

NOTE 1 : In strong wind, apply a little forward cyclic and accelerate th engine, up to approx. 320 rotor r.p.m., as fast as is compatibl with t4 limitations, then follow normal procedure.

* Optional

NOTE 2 : . If the starting cycle has to be aborted, return the fuel flow control to the closed position, and switch off the fuel pump and the generator.
. If the reason for aborting the start is high E.G.T. (t4), check the battery voltage.
. If voltage is normal, crank the engine for about 15 seconds and immediately make a second attempt to start, increasing the fuel flow gradually (without allowing Ng to drop between cranking and the second attempt to start).
. If battery voltage falls below 15 Volts during the attempt to start, it may be impossible to obtain light-up.

4 CHECKS BEFORE TAKE-OFF

- Doors ..... Closed
- Navigation .....
- Radio navigation * ..... Tests, correct operation
- Radio communication .....
- General and cyclic friction clamps..... Adjusted
- Pressure and temperatures ..... Correct
- All warning and caution lights ..... Out

5 TAKEOFF

Take off by gradually increasing the collective pitch and maintain hover, head into wind, at a height of about 5 ft (1.5m).
Check that the engine and transmission monitoring instruments are within their normal operating ranges.
For transition from hover, increase speed without increasing the power demand (power required for hover I.G.E.) and without climbing until I.A.S. is 40 kt (74 km/hr).

NOTE : The bleed valve flag disappears when the valve closes.
The bleed valve is normally open when the engine is shut down, during starting and at low power. Bleed valve closing depends on the O.A.T. and on the altitude as shown in the following table of Ng values at which the bleed valve should close.

Zp (ft)

20000	87.1	88.8	90.7	92.4	94	95.6				
15000	85.9	87.7	89.4	91.1	92.7	94.4	95.8			
10000	85	86.7	88.4	90.1	91.8	93.4	95	96.3		
5000	84.2	85.9	87.6	89.4	91	92.6	94.1	95.6	96.9	
0	83.7	85.4	87.1	88.7	90.4	91.9	92.7	94.9	96.2	97.6
	-40	-30	-20	-10	0	10	20	30	40	50

TEMP. EXT. - O.A.T. (°C)

MV.50.0403.00

* Optional