

**PILOT INTERIOR INSPECTION**

Roof & Start Panel	<b>1. CABIN LIGHT</b> Power, Brightness, Red filter	<b>AS NEEDED</b>
	<b>2. UV LIGHT</b>	<b>AS NEEDED</b>
Cyclic	<b>1. LANDING LIGHT SWITCH</b>	<b>ARRET</b>
	<b>2. LANDING LIGHT TOGGLE</b>	<b>RENTRE</b>
	<b>3. FLARE DISPENSER</b>	<b>COVERED</b>
Centre Console	<b>1. ADF MODE SELECTOR</b>	<b>OFF</b>
	<b>2. UHF MODE SELECTOR</b>	<b>O</b>
	<b>3. WEAPONS COMMAND POWER SWITCH</b>	<b>A</b>
	<b>4. L/R MASTER ARM SWITCHES</b>	<b>SAFE and COVERED</b>
	<b>5. PR4G MODE SELECTOR</b>	<b>AR</b>
	<b>6. MATRA SAPHIR B0 MODE SELECTOR</b>	<b>AR</b>
	<b>7. VHF MODE SELECTOR</b>	<b>A</b>
	<b>8. NADIR MODE SELECTOR</b>	<b>ARRET</b>
	<b>9. INTERCOM VOLUME SELECTORS</b> VHF, UHF, FM1, FM2	<b>AS NEEDED</b>
Autopilot Panel	<b>1. AUTOPILOT MAIN SWITCH</b>	<b>OFF (DOWN)</b>
	<b>2. T/R/L CHANNEL SWITCHES</b>	<b>AMORT.</b>
	<b>3. ALT-VI SWITCH</b>	<b>OFF (CENTRED)</b>
Start Panel	<b>1. DEM. SWITCH</b>	<b>A</b>
	<b>2. POMPE SWITCH</b>	<b>A</b>
	<b>3. CLOCK</b>	<b>RESET</b>
	<b>4. TURBINE AND ROTOR RPM</b>	<b>CHECK 0</b>
	<b>5. T4 GAUGE</b>	<b>CHECK 0</b>
	<b>6. WARNING LIGHTS</b> R.SUPP, R.CONV, FILT.AS	<b>CHECK OFF</b>
	<b>7. SYSTEM SWITCHES</b> R.SUPP, R.CONV, FILT.AS, DEBR.EFF	<b>A</b>
Main Panel	<b>1. POWER SWITCHES</b> BATT, ALT, GENE	<b>A</b>
	<b>2. ENGINE LIGHTS</b> DEM., RLT, BLOC.	<b>CHECK OFF</b>
	<b>3. SYSTEM SWITCHES</b> TRIM, ARMT., PITOT	<b>A</b>
	<b>4. HYDRAULIC TEST SWITCH</b>	<b>NOR</b>
	<b>5. PILOT/COPILOT WIPER (E.G.) SWITCHES</b>	<b>A</b>

**PILOT INTERIOR INSPECTION**

Main Panel (cont.)	<b>6. VOLTMETER (VOLT.)</b>	<b>CHECK 0</b>	
	<b>7. FUEL (Q.COMB) GAUGE</b>	<b>INDICATED FULL</b>	
	<b>8. OIL TEMPERATURE (TH.M) GAUGE</b>	<b>CHECK -20</b>	
	<b>9. ARTIFICIAL HORIZON SOURCE SELECTOR</b>	<b>ART.</b>	
	<b>10. NADIR/ADF INDICATOR</b> Check correct heading; pX, BUT, and CAP flag showing.	<b>CHECK</b>	
	<b>11. TORQUE INDICATOR</b>	<b>CHECK 0</b>	
	<b>12. IAS INDICATOR</b>	<b>CHECK 0</b>	
	<b>13. ALARME LAMP</b>	<b>CHECK OFF</b>	
	<b>14. MAIN ARTIFICIAL HORIZON</b> Ball stowed; LOC, G/S, and Fault flags showing.	<b>CHECK</b>	
	<b>15. VVI GAUGE</b>	<b>CHECK 0</b>	
	<b>16. BAROMETRIC ALTIMETER</b>	<b>ADJUST TO 0</b>	
	<b>17. RADAR ALTIMETER</b> Power off; Off flag showing; Needle at 0	<b>CHECK</b>	
	<b>18. INSTRUMENT LIGHTS (S.G.A) SWITCH</b>	<b>A</b>	
	<b>19. NAVIGATION (F.POS) LIGHTS SWITCH</b>	<b>OFF (CENTRED)</b>	
	<b>20. ANTI-COLLISION LIGHTS SWITCH</b>	<b>A</b>	
	<b>21. SAI</b> Ball caged; Fault flag showing.	<b>CHECK</b>	
	<b>22. WARNING LIGHTS</b>	<b>CHECK OFF</b>	
	Gyro Panel	<b>1. ADVISORY LAMPS</b> TRIM, BPP, Test	<b>CHECK OFF</b>
		<b>2. TEST SWITCH</b>	<b>A and COVERED</b>
		<b>3. GYRO FLAGS</b> GYRO, AMPLI	<b>CHECK BARBERPOLE</b>
		<b>4. MODE KNOB</b>	<b>A</b>
	RWR	<b>1. DRAX 33 MODE SWITCH</b>	<b>OFF</b>
Roof Console	<b>1. STANDBY MAGNETIC COMPASS</b>	<b>CHECK</b>	
	<b>2. PILOT SIGHT</b>	<b>UP</b>	
	<b>3. EXTERNAL TEMPERATURE INDICATOR</b>	<b>CHECK</b>	
	<b>4. ROTOR BRAKE LEVEL</b>	<b>FULLY BACK</b>	
	<b>5. FUEL FLOW LEVER</b>	<b>SOL (FULLY BACK)</b>	
	<b>6. FORMATION LIGHTS (F.FORM) SWITCH</b>	<b>A</b>	
<b>END</b>			

**CO-PILOT INTERIOR INSPECTION**

TV	<b>1. TV POWER SWITCH</b>	<b>OFF</b>
Video Control Box	<b>1. VCB POWER (TLM) KNOB</b>	<b>A</b>
	<b>2. IR POWER (CTH) KNOB</b>	<b>A</b>
	<b>3. MODE KNOB</b>	<b>A</b>
	<b>4. CENTERING TOGGLE SWITCH</b>	<b>OFF (BACK)</b>
Gyro Panel	<b>1. ADVISORY LAMPS</b> TRIM, BPP, Test	<b>CHECK OFF</b>
	<b>2. TEST SWITCH</b>	<b>A and COVERED</b>
	<b>3. GYRO FLAGS</b> GYRO, AMPLI	<b>CHECK BARBERPOLE</b>
	<b>4. MODE KNOB</b>	<b>A</b>
RWR	<b>1. DRAX 33 MODE SWITCH</b>	<b>OFF</b>
Video Stick	<b>1. LASING BUTTON</b>	<b>COVERED</b>
	<b>2. MISSILE LAUNCH BUTTON</b>	<b>COVERED</b>
Radio Panel	<b>1. PR4G MODE SELECTOR</b>	<b>AR</b>
	<b>2. INTERCOM VOLUME SELECTORS</b> VHF, UHF, FM1, FM2	<b>AS NEEDED</b>
Missile Panel	<b>1. HOT3 LAUNCH KEY</b>	<b>ARRET</b>
	<b>2. MISSILE LIGHTS</b>	<b>CHECK OFF</b>
Roof Console	<b>1. STANDBY MAGNETIC COMPASS</b>	<b>CHECK</b>
	<b>2. ROTOR BRAKE LEVEL</b>	<b>FULLY BACK</b>
	<b>3. FUEL FLOW LEVER</b>	<b>SOL (FULLY BACK)</b>
	<b>4. FORMATION LIGHTS (FFORM) SWITCH</b>	<b>A</b>

**END**

**BEFORE START CHECKS**

Cockpit	<b>1. CABIN LIGHT</b> Power, Brightness, Red filter	<b>AS NEEDED</b>
	<b>2. UV LIGHT</b>	<b>AS NEEDED</b>
	<b>3. ARMAMENTS</b>	<b>CHECK</b>
	<b>4. DOOR</b>	<b>CLOSED</b>
Main Panel	<b>1. BATT SWITCH</b> H.MOT, GENE, P A, B.P.HY, PITOT, H.BTP, ALTER, NAV, and H.RAL warning lights will illuminate. ALARME light will illuminate. Main artificial horizon, Engine oil temperature (TH.M), Fuel indicator (Q.COMB.) and Voltmeter (VOLT.) gauges will activate.	<b>M</b> Powers 28V DC Bus.
	<b>2. ALT SWITCH</b>	<b>M</b>
	<b>3. GENE SWITCH</b>	<b>M</b>
	<b>4. VOLTMETER (VOLT.)</b>	<b>CHECK 26V</b>
	<b>5. VOLTMETER TEST BUTTON</b> Voltmeter should register 18V; Engine lights (DEM., RLT, BLOC.), Fuel lights (R.SUPP, R.CONV), and Gyro Advisory Lamps (TRIM, BPP, TEST) should illuminate.	<b>PRESS</b>
	<b>6. OIL TEMPERATURE (TH.M) GAUGE</b> Should match outside temperature or be >0°C	<b>CHECK</b>
	<b>7. PILOT/COPILOT WIPER (E.G.) SWITCHES</b>	<b>AS NEEDED</b>
	<b>8. TORQUE TEST BUTTON</b> Torque warning lamp should illuminate.	<b>PRESS</b>
	<b>9. INSTRUMENT LIGHTS (S.G.A) SWITCH</b>	<b>AS NEEDED</b>
	<b>10. CONSOLE LIGHTING (PUP) and MAIN DASHBOARD LIGHTING (P.BO) DIALS</b>	<b>AS NEEDED</b>
	<b>11. NAVIGATION (F.POS) LIGHTS SWITCH</b>	<b>CLI.</b>
	<b>12. ANTI-COLLISION LIGHTS SWITCH</b>	<b>NOR</b>
	<b>13. ANTI-COLLISION LIGHT DIAL</b>	<b>AS NEEDED</b>
	<b>14. WARNING LIGHTS TEST BUTTON</b> All warning lights should illuminate.	<b>PRESS</b>
Roof Console	<b>1. ROTOR BRAKE LEVEL</b>	<b>FULLY BACK</b>
	<b>2. FUEL FLOW LEVER</b>	<b>SOL (FULLY BACK)</b>
	<b>3. FORMATION LIGHTS (F.FORM) SWITCH</b>	<b>M</b>
	<b>4. FORMATION LIGHTS INTENSITY DIAL</b>	<b>AS NEEDED</b>
Centre Console	<b>5. RADIOS AND NAVIGATION EQUIPMENT</b> Most equipment requires the 115V AC bus to be powered.	<b>AS NEEDED</b>
	<b>6. COLLECTIVE</b>	<b>FULLY DOWN</b>

**END**

**ENGINE START**

Cockpit	<b>1. COLLECTIVE FULLY DOWN</b>	<b>CHECK</b>
	<b>2. START-UP</b> Only VHF can be used until 115V AC bus is powered.	<b>REQUEST</b> If required.
Start Panel	<b>1. POMPE SWITCH</b> Once fuel pump is turned on, wait 20 seconds before switching the Starter switch to start position.	<b>M</b>
	<b>2. DEM. SWITCH</b> DEM. and RLT lights will illuminate.	<b>M</b>
<p>Monitoring the following as the turbine goes through its start-up cycle:</p> <ul style="list-style-type: none"> <li>• A steady rise of Turbine RPM.</li> <li>• As RPM goes reaches 15,000, H.RAL warning light will go out.</li> <li>• Turbine RPM should reach starter idle (25,000 RPM) within 40 seconds.</li> <li>• Once starter idle RPM has been reached, the green DEM. light and the GENE warning light should go out.</li> </ul>		
Start Panel	<b>1. DEM. and GENE WARNING LIGHTS</b>	<b>CHECK OFF</b>
	<b>2. TURBINE RPM</b>	<b>CHECK 25,000</b>
	<b>3. VOLTMETER</b>	<b>CHECK 28V</b>
Roof Panel	<b>1. ROTOR BRAKE LEVER</b>	<b>LIBRE/FULLY FORWARD</b>
	<b>2. FUEL FLOW LEVER</b> Move slowly forward until rotor begins to rotate.	<b>-&gt; VOL</b> (~¼ Forward)
<p><b>⊘ CAUTION</b></p> <p>Moving the fuel flow lever forward too far past the rotation threshold will flood the engine and cause damage that requires a mission abort and extensive repairs. Once rotation has been confirmed, do not move the fuel flow lever until RPM synchronisation has been reached.</p>		
<p>As rotor starts to rotate, monitor the following:</p> <ul style="list-style-type: none"> <li>• Turbine RPM increases to rotor clutch speed: 29,000 RPM.</li> <li>• A steady rise of Rotor RPM, T4 engine temperature, and rotor torque.</li> <li>• As Rotor RPM reaches 170 RPM, B.P.HY warning light will go out.</li> <li>• Turbine and rotor synchronisation as Rotor RPM reaches 275.</li> <li>• Oil temperature (TH.H) will start to match ambient temperature before heating up.</li> <li>• As rotor oil pressure normalises at ~260 Rotor RPM, H.BTP warning light will go out.</li> </ul>		
	<b>3. FUEL FLOW LEVER</b> Move slowly forward while maintaining RPM synchronization.	<b>VOL</b> (Fully forward)
<p><b>⊘ CAUTION</b></p> <p>Moving the fuel flow lever forward too quickly will make the turbine and rotor clutch slip and flood the engine, causing damage and requiring a mission abort and extensive repairs.</p>		
<p>As the rotor picks up speed, monitor the following:</p> <ul style="list-style-type: none"> <li>• As turbine oil pressure normalises at ~30,000 Turbine RPM, H.MOT warning light will go out.</li> <li>• As Turbine RPM reaches 41,300, the alternator will switch on, indicated by the ALTER light going out.</li> <li>• With the alternator powering the 115V AC bus, the NAV warning light will go out.</li> <li>• As the Turbine RPM reaches 41,500 RPM, the RLT lamp will go out.</li> <li>• With the Fuel Flow Lever fully forward, Turbine RPM should reach its ready value of 43,500 RPM; Rotor RPM should reach its regulated value of 387 RPM.</li> </ul>		
<p><b>⚠ WARNING</b></p> <p>Once the turbine and rotor are up to speed, the Fuel Flow Lever should be kept fully forward at all times. Failure to do so will cause the engine to shut down, which may cause catastrophic departure from flight as the rotor loses power, as well as loss of electrical system as the alternator no longer functions.</p>		

**END**

**AFTER START CHECKS**

Main Panel	1. PITOT SWITCH	M
	2. TRIM SWITCH	M
	3. RADAR ALTIMETER KNOB	M (RIGHT)
	4. RADAR DANGER ALTITUDE	SET
	5. MAIN ARTIFICIAL HORIZON	RESET
	6. SAI	RESET
Gyro Panel	1. GYRO KNOB	GM
	2. AUTOPILOT TEST SWITCH TRIM, BPP, and TEST advisory lamps will illuminate.	UNCOVERED and ON
	3. AUTOPILOT TEST SWITCH	OFF and COVERED
	4. GYRO FLAGS GYRO, AMPLI, After 1 minute of 115V AC bus power.	ON
RWR	1. DRAX 33 MODE SWITCH	ON
Start Panel	1. DEM. SWITCH	A
	2. DEBR. EFF SWITCH	M
Autopilot Panel	1. AUTOPILOT MAIN SWITCH	ON (UP)
	2. T/R/L CHANNEL SWITCHES	P.A. (UP)
	3. ALT-VI MODE SWITCH	OFF (CENTRED)
Flare Dispenser	1. MATRA SAPHIR B0 MODE SELECTOR	LE
	2. SEQUENCE SWITCH	C/C
	3. SIDE SELECTOR	G+D
Pilot Collectv.	1. LANDING LIGHT MODE SWITCH	AS NEEDED
	2. LANDING LIGHT DEPLOYMENT SWITCH	AS NEEDED
<b>END</b>		

## NADIR AND NAVIGATION SYSTEMS SET-UP

### NOTE

NADIR and ADF systems require the 115V AC bus to be powered and therefore cannot be set up before engine start. However, the ADF frequencies can be preset without AC bus power to save on fuel and engine running time.

NADIR

### 1. MODE SELECTOR

VEILLE

AIR, ERR NAV and PANNE advisory lights illuminate.  
 • After 40 seconds, AIR light goes out.  
 • After 70 seconds, ERR NAV and PANNE lights go out.

### 2. MODE SELECTOR

TEST SOL

AIR, ERR NAV and PANNE advisory lights illuminate.  
 • After 10 seconds, PANNE light goes out.  
 • The double needle on the NADIR/ADF indicator points to 45°.  
 • The NADIR/ADF distance counter displays 50,0.

### 3. MODE SELECTOR

TERRE

### 4. AUXILIARIES

TEST

In TERRE mode, enter the following:

[AUX] ( 1 )      Damage analysis      ⇒ 0 1 2 3 4 is displayed.  
 [AUX] ( 2 )      Vx, Vy test                      ⇒ 217±13; 47±9 are displayed.  
 [AUX] ( 3 )      Own ground speed              ⇒ 0 is displayed  
 [AUX] ( 4 )      Pitch & Roll                    ⇒ Pitch at upper line; roll at lower line, per current condition.  
 [AUX] ( 5 )      Visual test                      ⇒ Every displayable digit is illuminated.  
 [AUX] ( 7 )      VxVy integration              ⇒ 0; 0 is displayed. Press ( 7 ) to disengage.

Auxiliaries 0 (Maintenance), 8 (Zeroing damage) and 9 (F5 residual A) are not simulated.

### 5. NAVIGATION DATA

ENTER

Parameter selector to  $\odot$  BUT.

- Press [GEO / UTM] to select Lat/Long or UTM coordinates.
- Press the number corresponding to the waypoint.
- Press [ENT] to enter edit mode. Insert the correct coordinates, using the  $\downarrow$  to move between lines.
- A short [EFF] key press erases the last digit; a long press exits the edit mode.

Copying from current position to a point:  $\odot$  PP [GEL]  $\odot$  BUT ( n ) [ENT]  
 From a stored position to a point: [POS FIX]  $\odot$  PP [GEL]  $\odot$  BUT ( n ) [ENT]  
 From a point to another point:  $\odot$  BUT ( n ) [GEL] ( n ) [ENT]  
 From a point to another point (polar):  $\odot$  BUT [POL] ( n1 ) ( n2 ) [GEL] ( n1 ) ( n2 ) [ENT]

### 6. FIRST WAYPOINT

SELECTED

Mode selector to TERRE; Parameter selector  $\odot$  BUT.  
 NADIR/ADF gauge double needle points to waypoint; gauge distance drum displays calculated distance.

Press ( 1 ).

ADF Panel

### 1. ADF1 and ADF2

TUNE

- Turn Mode switch to ANT, turn TONE switch on, and switch TFR selector switch to ADF1.
- User frequency rotators to select the frequency of the desired beacon, and listen for the correct tone to be repeated. Use the gain switch to make sure the tone is clearly audible.
- Switch the TFR selector switch to ADF2 and repeat the process for a second NDB if desired.
- Turn TFR switch back to ADF1, turn TONE switch off, and turn the mode switch to ADF.

Main Panel

### 1. NADIR/ADF GAUGE

CHECK

Double needle should point to the selected waypoint. Thin needle should point to the selected NDB.  
 pX, BUT, and CAP flags should be stowed.  
 Ensure that the Steady Bug at the top matches the heading of the standby magnetic compass.

### 2. ARTIFICIAL HORIZON SOURCE SELECTOR

AS NEEDED

END

**COMMUNICATIONS SET-UP****NOTE**

While the radios will turn on and can be operated as soon as the 28V DC bus is powered, transmission capability on anything but the VHF radio will be limited until the alternator is running.

Intercom Panel	<b>1. VHF, UHF, FM1 VOLUME KNOBS</b>		<b>AS NEEDED</b>															
	UHF Radio	<b>1. MAIN SELECTOR</b> Squelch; check operation by listening for noise.	<b>EN</b>															
<b>2. MAIN SELECTOR</b>		<b>FF</b>																
<b>3. FREQUENCY</b> Enter six numbers, followed by VLD XFR button.		<b>ENTERED</b>																
<b>4. COMMS</b>		<b>CHECK</b>																
PR4G FM Radio	<b>1. MODE SELECTOR</b> Check operation by listening for 1kHz tone.	<b>TST</b>																
	<b>2. MODE SELECTOR</b>	<b>TRAFFIC</b>																
	<b>3. CHANNEL SELECTOR</b>	<b>AS NEEDED</b>																
	Default channel frequencies as follows:																	
	<table border="1"> <tr> <td>1</td> <td>30 MHz FM</td> <td>2</td> <td>31 MHz FM</td> <td>3</td> <td>32 MHz FM</td> <td>4</td> <td>33 MHz FM</td> </tr> <tr> <td>5</td> <td>34 MHz FM</td> <td>6</td> <td>40 MHz FM</td> <td>0</td> <td>41 MHz FM</td> <td>RG</td> <td>42 MHz FM</td> </tr> </table>	1	30 MHz FM	2	31 MHz FM	3	32 MHz FM	4	33 MHz FM	5	34 MHz FM	6	40 MHz FM	0	41 MHz FM	RG	42 MHz FM	
1	30 MHz FM	2	31 MHz FM	3	32 MHz FM	4	33 MHz FM											
5	34 MHz FM	6	40 MHz FM	0	41 MHz FM	RG	42 MHz FM											
	<b>4. COMMS</b>	<b>CHECK</b>																
VHF Radio	<b>1. MODE SELECTOR</b> Squelch; check operation by listening for noise.	<b>SIL</b>																
	<b>2. MODE SELECTOR</b> Check operation by listening for 1kHz tone.	<b>TEST</b>																
	<b>3. MODE SELECTOR</b>	<b>M</b>																
	<b>4. FREQUENCY</b>	<b>SET</b>																
	<b>5. COMMS</b>	<b>CHECK</b>																
<b>END</b>																		

**“VIVIANE” / “ATHOS” SYSTEM SET-UP**

TV	<b>1. TV POWER SWITCH</b>	<b>ON</b>
Video Control Box	<b>1. VCB POWER (TLM) KNOB</b>	<b>M</b>
	<b>2. IR POWER (CTH) KNOB</b>	<b>M</b>
	The thermal vision needs 3 minutes to cool down at start. Until this time, you can use the VDO mode and control the camera, but the VTH mode is not available at full quality.	
	<b>3. MODE KNOB</b>	<b>ASS</b>
	<b>4. CENTERING TOGGLE SWITCH</b>	<b>OFF (BACK)</b>
Video Stick	<b>1. LASING BUTTON</b>	<b>COVERED</b>
	<b>2. MISSILE LAUNCH BUTTON</b>	<b>COVERED</b>
<b>END</b>		



**HOVER CHECK**

<b>1. TRIM</b>	<b>RESET</b>																																																																																																																																				
<b>2. RUDDER</b> Be prepared to counter unwanted yaw motion.	<b>~1/4 RIGHT</b>																																																																																																																																				
<b>3. COLLECTIVE</b> Slowly pull back until aircraft lifts off. Be prepared to counter unwanted lift.	<b>UP SLOWLY</b>																																																																																																																																				
<b>4. ESTABLISH HOVER</b>	<b>1.5 m</b>																																																																																																																																				
Use cyclic and collective to stabilise craft. As stability is reached, autopilot SAS will help to damp out movement, but ground effect will create additional lift, requiring the collective to be lowered to maintain altitude as stability increases.																																																																																																																																					
<b>5. TRIM</b>	<b>SET</b>																																																																																																																																				
<b>6. HOVER TORQUE</b>	<b>CHECK</b>																																																																																																																																				
Consult the Max Allowable Torque chart to determine if the altitude and temperature allows hover to be maintained:																																																																																																																																					
<table border="1"> <thead> <tr> <th colspan="12">Maximum Allowable Torque (%) per altitude and ambient temperature</th> </tr> <tr> <th>m \ °C</th> <th>-50</th> <th>-40</th> <th>-30</th> <th>-20</th> <th>-10</th> <th>0</th> <th>10</th> <th>20</th> <th>30</th> <th>40</th> <th>45</th> </tr> </thead> <tbody> <tr> <td>-500</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>95</td> <td>91</td> </tr> <tr> <td>0</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>90</td> <td>85</td> </tr> <tr> <td>1,000</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>98</td> <td>90</td> <td>80</td> <td></td> </tr> <tr> <td>2,000</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>94</td> <td>87</td> <td>80</td> <td></td> <td></td> </tr> <tr> <td>3,000</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>95</td> <td>90</td> <td>84</td> <td>77</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4,000</td> <td>100</td> <td>98</td> <td>94</td> <td>90</td> <td>85</td> <td>80</td> <td>95</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5,000</td> <td>92</td> <td>88</td> <td>84</td> <td>80</td> <td>76</td> <td>71</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6,000</td> <td>81</td> <td>77</td> <td>74</td> <td>70</td> <td>67</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6,700</td> <td>74</td> <td>71</td> <td>68</td> <td>65</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Maximum Allowable Torque (%) per altitude and ambient temperature												m \ °C	-50	-40	-30	-20	-10	0	10	20	30	40	45	-500	100	100	100	100	100	100	100	100	100	95	91	0	100	100	100	100	100	100	100	100	100	90	85	1,000	100	100	100	100	100	100	100	98	90	80		2,000	100	100	100	100	100	100	94	87	80			3,000	100	100	100	100	95	90	84	77				4,000	100	98	94	90	85	80	95					5,000	92	88	84	80	76	71						6,000	81	77	74	70	67							6,700	74	71	68	65							
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<b>7. COLLECTIVE</b> Gently settle aircraft back on the ground.	<b>FORWARD</b>																																																																																																																																				
<b>8. TORQUE BUG</b>	<b>SET</b>																																																																																																																																				
<b>END</b>																																																																																																																																					

**TAKE OFF**

<b>1. TAKE-OFF</b>	<b>REQUEST</b>
<b>2. ESTABLISH HOVER</b>	<b>1.5 m</b>
<b>3. CYCLIC</b>	<b>SLIGHT FORWARD</b>
If stable hover has been established, no collective movement should be needed to gain forward speed and maintain hover altitude. As speed increases, translational lift builds up, lifting the aircraft into a natural climb. Try to maintain 120 km/h while climbing.	
As you move out of translational lift, collective input will be needed to maintain climb at a constant 120 km/h forward speed, or to balance increased forward speed against maintaining altitude.	
<b>4. RUDDER</b>	<b>RETURN TO CENTRE</b>
As forward speed increases, aerodynamic forces will work to counter the torque-induced yaw of the aircraft. Slowly return rudder pedals to the centre position (and/or reset trim) to compensate and maintain forward flight.	
<b>END</b>	

**ALTITUDE HOLD MODE**

1. AUTOPILOT MAIN SWITCH	ON (UP)
2. T/R/L CHANNEL SWITCHES	P.A. (UP)
3. AIRSPEED	>120 km/h
4. VERTICAL VELOCITY	<±60 m/min
5. AUTOPILOT ALT-VI MODE SWITCH	ALT
6. CYCLIC AUTOPILOT BUTTON	PRESS
<b>NOTE</b>	
The altitude hold mode engaging can be established by indicated by the Torque Gauge quickly changing to a new stable level. The mode can also be monitored using the Pitch (T) correction indicator on the autopilot panel and the Gyro Sync monitor on the gyro panel.	
7. COLLECTIVE	CONTROLS SPEED
<b>⊘ CAUTION</b>	
If airspeed drops below 120 km/h, the altitude hold mode will disengage, which is indicated by the P A warning light illuminating.	
<b>END</b>	

**SPEED HOLD MODE**

1. AUTOPILOT MAIN SWITCH	ON (UP)
2. T/R/L CHANNEL SWITCHES	P.A. (UP)
3. VERTICAL VELOCITY	<±60 m/min
4. AUTOPILOT ALT-VI MODE SWITCH	VI
5. CYCLIC AUTOPILOT BUTTON	PRESS
<b>NOTE</b>	
The speed hold mode engaging can be established by indicated by the Torque Gauge quickly changing to a new stable level, and by the aircraft no longer responding to cyclic Pitch input. The mode can also be monitored using the Pitch (T) correction indicator on the autopilot panel and the Gyro Sync monitor on the gyro panel.	
6. COLLECTIVE	CONTROLS ALTITUDE
<b>⊘ CAUTION</b>	
With the cyclic pitch controlled by the autopilot, you can no longer use the cyclic to counteract nose drop and altitude loss, or to increase turn rate, while doing high-roll turns. Be ready to use yaw and collective inputs to compensate, and to disengage the autopilot if loss of control is imminent.	
<b>END</b>	

**AUTO-HOVER MODE****1. AUTOPILOT MAIN SWITCH****ON (UP)****2. T/R/L CHANNEL SWITCHES****P.A. (UP)****3. AIRSPEED****<18 km/h****NOTE**

The IAS gauge only measures forward speed, whereas the auto-hover mode requires total ground speed to be less than 18 km/h. For additional indication, set NADIR parameter selector to  $\text{VS DER}$  (Ground Speed—Deviation), and also monitor the Main Horizon Slip Ball and the nose-mounted Slip String to determining the direction of motion.

**4. VERTICAL VELOCITY****< $\pm 60$  m/min****5. ROLL and PITCH****<30°****6. CYCLIC HOVER MODE BUTTON****PRESS****NOTE**

The auto-hover mode engaging can be established by indicated by the Torque Gauge quickly changing to a new stable level, and by the aircraft no longer responding to cyclic input. The mode can also be monitored using the Pitch (T), Bank (R) and Yaw (L) correction indicators on the autopilot panel and the Gyro Sync monitor on the gyro panel.

**7. COLLECTIVE****CONTROLS ALTITUDE****⚠ CAUTION**

The simulation offers an auto-collective in conjunction with the auto-hover mode. Monitor the vertical velocity to ensure that it is active and that the aircraft is not lifting or descending uncontrollable. Uncontrolled descent may cause the aircraft to enter a vortex ring state, resulting in a substantial loss of lift that may not be recoverable by collective power alone. In such an instance, disengage auto-hover mode and push the cyclic forward to gain forward speed and exit the vortex ring state.

**NOTE**

While in auto-hover, with the “Viviane” or “Athos” camera deployed, and with the VCB Mode switch set to PIL, the aircraft heading can be slaved to the camera by pressing the cyclic Slave button.

**END**

## APPROACH CHECK

Autopilot Panel	1. AIRCRAFT LEVEL FLIGHT	ESTABLISHED and TRIMMED	
	2. AUTOPILOT MAIN SWITCH	ON (UP)	
	3. T/R/L CHANNEL SWITCHES	P.A. (UP)	
NADIR and ADF panels	1. NADIR LANDING WAYPOINT Refer to Navigation Setup checklist on how to set a waypoint; refer to the map or kneeboard for coordinate of the desired aerodrome or FARP.	SET and SELECTED	
	2. ADF1 and ADF2	SET TO OUTER AND INNER BEACON	
Radio panels	1. VHF, UHF, FM1 VOLUME KNOBS	AS NEEDED	
	2. UHF, VHF, and PR4G FM RADIOS	TUNED AS NEEDED	
Main Panel	1. ARTIFICIAL HORIZON SOURCE SELECTOR	AS NEEDED	
	2. NADIR/ADF GAUGE	CHECK	
	3. AIRSPEED AND VERTICAL VELOCITY	CHECK	
	4. FUEL AVAILABILITY	CHECK	
<p><b>⚠ CAUTION</b></p> <p>Consider an average fuel consumption of 4L/min, and consult NADIR/ADF gauge to and NADIR ⚡ VS Parameter display to estimate a fuel consumption required to reach the intended landing aerodrome.</p> <p>If fuel situation is critical, examine availability of divert aerodromes or prepare for off-field emergency landing.</p>			
Main Panel	5. ARMT. SWITCH	A	
	6. PILOT/COPILOT WIPER (E.G.) SWITCHES	AS NEEDED	
	7. INSTRUMENT LIGHTS (S.G.A) SWITCH	AS NEEDED	
	8. CONSOLE LIGHTING (PUP) and MAIN DASHBOARD LIGHTING (P.BO) DIALS	AS NEEDED	
	9. NAVIGATION (F.POS) LIGHTS SWITCH	CLI.	
	10. ANTI-COLLISION LIGHTS SWITCH	NOR	
	11. ANTI-COLLISION LIGHT DIAL	AS NEEDED	
	Roof Panel	1. FORMATION LIGHTS (F.FORM) SWITCH	M
		2. FORMATION LIGHTS INTENSITY DIAL	AS NEEDED
		3. PILOT SIGHT	STOWED
	WCB Panel	1. WEAPONS POWER SWITCH	A
2. LEFT and RIGHT PYLON SWITCHES		SAFE and COVERED	
Co-pilot position	1. MISSILE KEY	ARRET	
	2. LASE BUTTON	COVERED	
	3. MISSILE LAUNCH BUTTON	COVERED	

## APPROACH CHECK

### NOTE

Even with co-pilot side stick functions disabled, there is an advantage to be had from leaving the “Viviane”/“Athos” sighting camera system running on approach, since it can help in aligning the aircraft for landing. The camera Slaved mode (BCV Mode selector to PIL) can be used to control hover mode while over the target field or FARP; and with the Main Horizon Source selector set to VIS, the Main Horizon will display alignment bars to wherever the camera is pointing, thus using the camera as a navigation tool for the approach and as a stabilisation tool for landing.

Co-pilot (cont)	<b>NOTE</b>	
Even with co-pilot side stick functions disabled, there is an advantage to be had from leaving the “Viviane”/“Athos” sighting camera system running on approach, since it can help in aligning the aircraft for landing. The camera Slaved mode (BCV Mode selector to PIL) can be used to control hover mode while over the target field or FARP; and with the Main Horizon Source selector set to VIS, the Main Horizon will display alignment bars to wherever the camera is pointing, thus using the camera as a navigation tool for the approach and as a stabilisation tool for landing.		
Pilot Collective	<b>1. LANDING LIGHT MODE SWITCH</b>	<b>AS NEEDED</b>
	<b>2. LANDING LIGHT DEPLOYMENT SWITCH</b>	<b>AS NEEDED</b>
	<b>3. INBOUND</b>	<b>REPORT</b>
Main Panel	<b>1. BAROMETRIC ALTIMETER FIELD PRESSURE</b>	<b>SET</b>
	<b>2. NADIR/ADF GAUGE HEADING</b>	<b>CHECK</b>
	<b>3. DESCENT POINT</b>	<b>ESTABLISH</b>
Use NADIR, ADF, ATC and/or visual reference points to navigate to an approach starting point. Set up the approach by travelling along the correct heading, at 120km/h, and at an altitude of 150m.		
<b>END</b>		

## VISUAL CONSTANT-ANGLE APPROACH

<b>1. LANDING</b>	<b>REQUESTED</b>
<b>2. DESCENT STARTING PARAMETERS</b> - ALTITUDE - SPEED - HEADING	<b>150 m</b> <b>120 km/h</b> <b>AS REQUIRED</b>
<b>3. PARAMETERS, 150–50m ALTITUDE</b> - SPEED - DESCENT RATE	<b>120 km/h</b> <b>&lt;100 m/min</b>
Use cyclic and collective to keep both speed and descent rate constant for a smooth, linear descent. For initial descent, the Speed Hold autopilot mode may be used to maintain velocity, allowing the pilot to concentrate on controlling the collective.	
<b>4. PARAMETERS, 50–1.5m ALTITUDE</b> - SPEED - DESCENT RATE	<b>70 km/h</b> <b>&lt;100 m/min</b>
Pull back on cyclic to reduce speed, and compensate with lowered collective to maintain constant descent rate. In addition, ground effect will start generating extra lift, requiring additional lowering of the collective. At 80–90 km/h, the SAS stabilisation channels will disengage, so prepare to compensate with rudder pedal input to counteract the yaw.	
<b>5. HOVER</b>	<b>ESTABLISHED</b>
Use cyclic to come to a full stop. Raise collective to cushion against the loss of translational lift and use rudder pedals to compensate for the corresponding increase in yawing torque. Once hover is established, slowly lower collective to safely land on the ground.	
<b>END</b>	

**ENGINE SHUT-DOWN**

<b>1. COLLECTIVE</b>	<b>FULLY DOWN</b>
<b>2. FLARE DISPENSE BUTTON</b>	<b>COVERED</b>
<b>3. TURN OFF SYSTEMS ON THE 115V AC BUS</b> <ul style="list-style-type: none"> <li>- TV</li> <li>- VCB Power, IR, and Mode Knobs</li> <li>- <b>Missile Key</b></li> <li>- DRAX 33 RWR</li> <li>- Gyro mode knob</li> <li>- NADIR Mode Knob</li> <li>- VHF Mode knob</li> <li>- PR4G FM Mode Knob</li> <li>- UHF Mode knob</li> <li>- <b>Weapons Power Switch</b></li> <li>- Matra Saphir B0 Mode Switch</li> <li>- Autopilot Master switch</li> <li>- T/R/L Channel switches</li> <li>- Debr. Eff switch</li> <li>- Trim, Armt., and Pitot Switches</li> <li>- Radar Altimeter Mode knob</li> </ul>	Off A <b>Arret</b> Off A Arret A Ar 0 <b>A</b> AR Off (Down) Amort. A A A (Left)
<p><b>⊘ CAUTION</b></p> <p>The 115V AC bus systems will shut down automatically as the engine winds down and the alternator cuts out below 41,300 Turbine RPM. To avoid power spikes and fluctuations, and to ensure systems integrity, they should be shut down manually first. However, if speed is essential, this step can be skipped as long as proper pre-start procedures are observed.</p> <p>Some systems, like the Main Artificial Horizon can only be shut off through loss of power and are stowed automatically.</p>	
<b>4. FUEL FLOW LEVER</b>	<b>SOL (FULLY BACK)</b>
<b>5. TURN OFF SYSTEMS ON THE 28V DC BUS</b> <ul style="list-style-type: none"> <li>- Pompe switch</li> <li>- Gene and Alt switches</li> <li>- Navigation Lights (F.Pos) switch</li> <li>- Anti-collision and Instrument (S.G.A.) light switches</li> <li>- Formation (F.Form) Lights switch</li> <li>- Landing Lights Mode switch</li> <li>- Landing Lights Deployment switch</li> </ul>	A A Off (Centred) A A Arret Rentre
<p><b>⊘ CAUTION</b></p> <p>The 28V DC bus systems will shut down automatically as the battery is turned off. To avoid power spikes and fluctuations, and to ensure systems integrity, they should be shut down manually first. However, if speed is essential, this step can be skipped as long as proper pre-start procedures are observed.</p>	
<b>6. ROTOR BRAKE</b> Once Rotor RPM <170, as indicated by the B.PHY warning light illuminating.	<b>FULLY BACK</b>
<b>7. BATT SWITCH</b>	<b>A</b>
<b>8. PILOT SIGHT</b>	<b>STOWED</b>
<b>9. DOOR</b>	<b>OPEN</b>
<b>10. UV and CABIN LIGHTS</b>	<b>OFF</b>

**END**

**INGRESS**

Main Panel	1. <b>ARMT. SWITCH</b>	<b>M</b>
	2. <b>NAVIGATION (F.POS) LIGHTS SWITCH</b>	<b>OFF (CENTRED)</b>
	3. <b>ANTI-COLLISION LIGHTS SWITCH</b>	<b>A</b>
Pilot Collective	1. <b>LANDING LIGHT SWITCH</b>	<b>ARRET</b>
	2. <b>LANDING LIGHT TOGGLE</b>	<b>RENTRE</b>
	3. <b>FLARE DISPENSE BUTTON</b>	<b>UNCOVERED</b>
Flare Dispenser	1. <b>MATRA SAPHIR B0 MODE SELECTOR</b>	<b>VE</b>
	2. <b>SEQUENCE SWITCH</b>	<b>SEQ</b>
	3. <b>SIDE SELECTOR</b>	<b>G+D</b>
<b>END</b>		

**GIAT M621 GUN EMPLOYMENT (SA342L)**

WCB	1. <b>WEAPONS POWER SWITCH</b>	<b>M</b>
	2. <b>LEFT PYLON SWITCH</b>	<b>SAFE and COVERED</b>
	3. <b>RIGHT PYLON SWITCH</b>	<b>ARM and UNCOVERED</b>
	4. <b>PILOT SIGHT</b>	<b>DOWN</b>
Weapon employment characteristics: • Range: 1,200m. • Rate of Fire: 740 Rpm. • Ammunition capacity: 240x 20mm rounds.		
Pilot Cyclic	1. <b>TARGET</b>	<b>CENTRED</b>
	2. <b>PILOT CYCLIC TRIGGER</b>	<b>PRESS</b>
<b>END</b>		

**SNEB68 EAP ROCKET EMPLOYMENT (SA342L)**

WCB	1. <b>WEAPONS POWER SWITCH</b>	<b>M</b>
	2. <b>LEFT PYLON SWITCH</b>	<b>ARM and UNCOVERED</b>
	3. <b>RIGHT PYLON SWITCH</b>	<b>SAFE and COVERED</b>
	4. <b>PILOT SIGHT</b>	<b>DOWN</b>
Weapon employment characteristics: • Range: 4,000m. • Ammunition capacity: 8x 68mm rockets.		
Pilot Cyclic	1. <b>TARGET</b>	<b>CENTRED</b>
	2. <b>PILOT CYCLIC TRIGGER</b>	<b>PRESS</b>
<b>END</b>		

**HOT3 MISSILE EMPLOYMENT (SA342M)**

Video Control Box (BCV)	<b>1. "VIVIANNE" AIMING SYSTEM</b>	<b>CHECK READY</b>
	<b>2. MODE KNOB</b>	<b>PIL</b>
	<b>3. ZOOM KNOB</b>	<b>± AS NEEDED</b>
	<b>4. VDO/VTH TOGGLE</b>	<b>AS NEEDED</b>
	<b>5. MINISTICK</b>	<b>SLEW CAMERA ONTO TARGET</b>
<p><b>NOTE</b></p> <p>With the "Vivianne" set to PIL mode, and the aircraft in auto-hover autopilot mode, the pilot can press the Slave button on the cyclic to slave aircraft heading to the camera. This allows the co-pilot to control aircraft yaw and ensure optimum launch parameters for the HOT3 missile.</p>		
Missile Panel	<b>1. MISSILE KEY</b>	<b>JOUR/NUIT</b> As needed
	<b>2. ROTARY KNOB</b>	<b>ACTIVE PYLON</b>
	<p><b>⚠ CAUTION</b></p> <p>Selecting a different missile station while a missile is already in the air will cut the wire to the missile in flight, making it lose control and most likely miss its target or self-destruct.</p>	
	<b>3. MISSILE READINESS LIGHTS</b> BON, ALIMENTATION, MISSIL PRET, and TIR AUTOR. lights must be illuminated.	<b>CHECK</b>
<p><b>NOTE</b></p> <p>To be granted fire permission, the following conditions must be fulfilled:</p> <ul style="list-style-type: none"> <li>• A missile is selected.</li> <li>• The relative angle between the camera and the aircraft nose must be between G003 and D003.</li> <li>• ARMT. switch must be set to M.</li> <li>• Weapon Key must be on one of the two "MARCHE" positions.</li> </ul>		
Copilot Video Stick	<b>1. CAMERA GAIN, BRIGHTNESS and SYMBOLOGY</b>	<b>AS NEEDED</b>
	<b>2. LASE BUTTON</b>	<b>UNCOVERED AND PRESSED</b>
	<b>3. RANGE TO TARGET</b>	<b>CHECK &lt;4,300m</b>
	<b>4. MISSILE LAUNCH BUTTON</b> Maintain aircraft and missile within launch and guidance parameters until detonation.	<b>UNCOVERED AND PRESSED</b>
	<b>5. EFFECT ON TARGET</b>	<b>REPORT</b>
<p><b>END</b></p>		



**MBDA MISTRAL MISSILE EMPLOYMENT (SA342MISTRAL)**

WCB	<b>1. WEAPONS POWER SWITCH</b>	<b>M</b>
	<b>2. LEFT PYLON SWITCH</b>	<b>ARM and UNCOVERED</b>
	<b>3. RIGHT PYLON SWITCH</b>	<b>ARM and UNCOVERED</b>
	<b>4. PILOT SIGHT</b>	<b>DOWN</b>
	Weapon employment characteristics: • Range: 5,000m. • Seeker: Passive infra-red.	
Pilot Cyclic	<b>1. TARGET</b>	<b>CENTRED</b>
	<b>2. TONE</b>	<b>STEADY</b>
	<b>3. PILOT CYCLIC TRIGGER</b>	<b>PRESS</b>
<b>END</b>		

**EGRESS**

Main Panel	<b>1. ARMT. SWITCH</b>	<b>A</b>
	<b>2. NAVIGATION (F.POS) LIGHTS SWITCH</b>	<b>CLI.</b>
	<b>3. ANTI-COLLISION LIGHTS SWITCH</b>	<b>NOR</b>
WCB	<b>4. WEAPONS POWER SWITCH</b>	<b>S</b>
	<b>5. LEFT and RIGHT PYLON SWITCHES</b>	<b>SAFE and COVERED</b>
CoP.	<b>6. MISSILE KEY</b>	<b>ARRET</b>
Flare Dispenser	<b>1. MATRA SAPHIR B0 MODE SELECTOR</b>	<b>LE</b>
	<b>2. SEQUENCE SWITCH</b>	<b>C/C</b>
	<b>3. SIDE SELECTOR</b>	<b>G+D</b>
<b>END</b>		