

HELICOPTER FLIGHT AND NAVIGATION PROCEDURES TRAINER (FNPT) I, II and II MCC CHECKLIST

Initial Evaluation	Recurrent Evaluation	Upgrade Evaluation	Special Evaluation		
Date of inspection / evaluation					
Name of Organisation/ ATO					
SACAA ATO number					
Base of operation					
Postal address				Postal code	
Telephone number		Fax number			
Cellular phone number		E-mail			
Chief Simulator Instructor					
Chief Simulator Technician					
SIMULATOR INFORMATION					
SIMULATOR REGISTRATION		Z	P	-	
Manufacturer					
Serial number					
Simulation program					
Computer information					
Printer information					
QTG source (POH etc)					
Flight Model	Generic		Specific		Designator
Cockpit & Flt Controls	Generic		Specific		Designator
INSTRUCTIONS, DEFINITIONS AND ABBREVIATIONS					
<ul style="list-style-type: none"> • √ - shall mean fully compliant (FC). [Yes] • X - shall mean not compliant (NC). [No] • N/A - shall mean that the requirement is not relevant to the FSTD. (N/A) • - - shall mean Not Reviewed (NR). [Not Checked] 					
COMPLETE ONLY CATEGORY A (MULTI-ENGINE AND MEETS PERFORMANCE COMPLIANCE) OR CATEGORY B (CANNOT PERFORMANCE COMPLY OR SINGLE ENGINE) AS APPLICABLE TO THE PERFORMANCE CLASSIFICATION OF THE HELICOPTER					
DESCRIPTION OF FINDINGS/ REMARKS/ COMMENTS IN ACCORDANCE WITH INTERNATIONAL BEST PRACTISE					
<ul style="list-style-type: none"> • LEVEL 1 A Level 1 finding will require immediate action. This is an item which fails to comply with the required standard and therefore affects the level of qualification or the qualification itself. <ul style="list-style-type: none"> - If these items will not be corrected or clarified within a given time limit, the SACAA may have to suspend, vary, restrict, or revoke the FSTD qualification. • LEVEL 2 A Level 2 finding will require the submission of a corrective action plan (CAP) within 7 days of the finding. • LEVEL 3 A Level 3 finding will require the submission of a corrective action plan (CAP) within 14 days of the finding. • RESERVATION: An item where compliance with the required standard is not clearly proven and the issue will be reserved for later decision. Resolution of these items will require either: <ul style="list-style-type: none"> - A SACAA policy ruling or - Additional substantiation • UNSERVICEABILITY: A device, which is temporarily inoperative or performing below its normal level. • RESTRICTION: An item which prevents the full usage of the FSTD according to the training, testing and checking considerations due to unusable devices, systems or parts thereof. 					

- **RECOMMENDATION FOR IMPROVEMENT:** An item which meets the required standard, but where considerable improvement is strongly recommended.
- **COMMENT:** Self-explanatory.

INITIAL EVALUATION TOWARDS QUALIFICATION:

Conduct a complete evaluation of all systems and functionality of the FSTD.

RECURRENT EVALUATION:

Conduct a sampling evaluation to establish working of systems and functionality.

UPGRADE, POST-MODIFICATION OR SPECIAL EVALUATION:

Conduct evaluation of only those systems or functions that are/ have been affected.

A. CAA RESPONSIBILITY: PRE-INSPECTION PREPARATION		N/A	FC	NC	Note
1.	Initial Only: Has the organisation formally applied for the registration and inspection of this simulator?				
2.	Revalidation: Has the organisation formally applied for the annual recurrent qualification of this simulator?				
3.	Is there proof of payment for this initial/ revalidation inspection?				
4.	Does the application clearly indicate the following?				
	➤ ATO Post Holders				
	➤ Contact telephone numbers				
	➤ Postal address				
	➤ Physical place of business				
5.	Does the organisation have an approved, up to date amended Training and Procedures Manual that includes syllabus and procedures for simulator training?				
B. ON-SITE INSPECTION					
1. INFRASTRUCTURE		N/A	FC	NC	Note
a.	Is the location of the simulator acceptable?				
b.	Is this location conducive to learning ie. noise, distractions, movement of people etc?				
c.	Are the buildings, furnishings and general appearance of this location acceptable?				
d.	Does the simulator have access control?				
e.	FSTD facility fire extinguisher				
f.	FSTD facility first aid kit				
g.	Emergency evacuation markings				
2. DOCUMENTATION – Simulator		N/A	FC	NC	Note
a.	Annual QTG's ran periodically throughout the year				
b.	Reports from previous evaluations				
c.	Simulator training authorisation sheets				
d.	Daily function pre-flight check record				
e.	Maintenance and defect logs				
f.	Charts /approach plates				
g.	Flight Logs				
h.	Simulator/instructor operating manual				
i.	Normal/emergency and abnormal checklists				
j.	Have the simulator instructors been trained on the Instructor's operating station and issued with an IOS certificate?				
3. DOCUMENTATION – User/ Third Party Training		N/A	FC	NC	Note
a.	User certificate				
b.	Lease agreement				

4. SIMULATOR		N/A	FC	NC	Note
a.	Does the simulator database include South African navigation aids and IF Approach facilities? (<i>Minimum of 5 Airfields with approaches updated within 3 months</i>)				
b.	Does the simulator have an enclosed deck?				
c.	Is the general set-up of the simulator, monitor, instructor station acceptable?				
d.	Does the Simulator have sound?				
e.	Is the Instrument panel active or a reasonable representation of an Instrument panel?	Active	Yes	Mock-up	Yes
f.	Is the pilot/student seat acceptable and adjustable?				
g.	Is the stick/ cyclic look and feel acceptable, and is the movement free and realistic?				
h.	Is the stick/ cyclic interface with the simulator program realistic?				
i.	Is the collective look and feel acceptable, and is the movement free and realistic?				
j.	Is the collective interface with the simulator program realistic?				
k.	Are the yaw/ anti-torque pedals' look and feel acceptable, and is the movement free and realistic?				
l.	Are the yaw/ anti-torque pedals' interface with the simulator program realistic?				
m.	Are the engine controls realistic?				
n.	Are the engines' controls' inputs realistically simulated?				
o.	Is there a system/mechanism for the student/pilot to set the QNH/QNE?				
p.	Does the simulator have the capacity for headsets?				
q.	Can the student communicate with the instructor via headset?				
5. EQUIPMENT (FNPT I, FNPT II and FNPT II MCC)		N/A	FC	NC	Note
a.	Headsets				
b.	Smoke goggles (if applicable) (<i>required for MCC</i>)				
c.	Chart holders				
d.	Flashlights				
6. INSTRUCTOR STATION		N/A	FC	NC	Note
a.	Is the instructor station acceptable?				
b.	Can the instructor set / control the scenario of the simulated flight				
c.	Can the instructor control the flight scenario regarding emergencies?				
d.	Can the instructor communicate with the student/pilot via headset?				
e.	Is the interaction between the student and the instructor realistic and acceptable for simulated flight instruction to be effective?				
7. FLIGHT TRACKING AND PRINTING		N/A	FC	NC	Note
a.	Does the simulator program allow the flight to be tracked and the result printed?				
b.	Does the printed flight contain the correct profiles of the flight i.e. plan and side view?				
c.	Does the printed document reflect the duration of the simulated flight?				
C. SYSTEM FLIGHT CHECKS					
1. PREPARATION FOR FLIGHT			FNPT I	FNPT II	FNPT II MCC
a.	Flight deck design and functions representative of a helicopter				
2. SURFACE OPERATIONS			FNPT I	FNPT II	FNPT II MCC
a.	Normal engine start				
b.	Abnormal engine start (hot start, hung start, fire etc)				
c.	Rotor start/ engagement and acceleration				
3. HOVER			FNPT I	FNPT II	FNPT II MCC
a.	Establish steady hover				
b.	Verify engine instruments' response				
c.	Verify flight instruments' response				

d.	Turning in hover			
e.	Hover power check in ground effect (IGE)			
f.	Hover power check out of ground effect (OGE)			
g.	Anti-torque effect representation			
h.	Crosswind effect on hover			
i.	Tailwind effect on hover			
Hover abnormal/ emergency procedures/ malfunctions:				
j.	Engine failure(s)			
k.	Fuel governing system failure			
l.	Hydraulics failure			
m.	Directional control malfunctions			
4. AIR TAXI/ TRANSIT		FNPT I	FNPT II	FNPT II MCC
a.	Slow forward flight			
b.	Slow sideways flight			
c.	Slow rearward flight			
5. TAKE-OFF		FNPT I	FNPT II	FNPT II MCC
Category B Helicopters and Single Engine Helicopters				
a.	From Hover			
b.	Crosswind			
c.	Tailwind			
d.	MTOM			
e.	Confined area			
f.	Slope			
g.	Elevated heliport/ helideck			
h.	Vertical (towering)			
i.	Engine failure during take-off, up to initiation of flare			
j.	Forced landing, up to initiation of flare			
Category A Helicopters				
k.	Engine failure prior to take-off decision point (TDP)			
l.	Engine failure at or after TDP			
6. CLIMB		FNPT I	FNPT II	FNPT II MCC
Category B Helicopters and Single Engine Helicopters				
a.	Clear area			
b.	Obstacle clearance			
c.	Vertical			
d.	Engine failure			
Category A Helicopters				
e.	Engine failure before reaching 300m (1,000') above level of heliport			
7. CRUISE		FNPT I	FNPT II	FNPT II MCC
a.	Performance characteristics			
b.	Flying qualities			
c.	Turns at rate 1			
d.	Steep turns			
Cruise abnormal/ emergency procedures/ malfunctions:				
e.	Retreating blade stall			
f.	Rotor mast bumping			
g.	Engine fire			
h.	Engine failure			
i.	Inflight engine shutdown and restart			

j.	Fuel governing system failures			
k.	Hydraulics failure			
l.	Stability system failure			
m.	Directional control malfunction			
8.	DESCENT	FNPT I	FNPT II	FNPT II MCC
a.	Normal			
b.	Maximum rate			
c.	Autorotative straight in, up to initiation of flare			
d.	Autorotative with turn, up to initiation of flare			
e.	Vortex ring state			
9.	VISUAL APPROACHES	FNPT I	FNPT II	FNPT II MCC
Category B Helicopters and Single Engine Helicopters				
a.	Normal approach			
b.	Steep approach			
c.	Shallow approach			
d.	Vertical approach			
e.	Quick stop			
Approach abnormal/ emergency procedures/ malfunctions:				
f.	One engine inoperative			
g.	Fuel governing failure			
h.	Hydraulics failure			
i.	Stability system failure			
j.	Directional control failure			
k.	Autorotation			
l.	Balked landing all engines operating			
m.	Balked landing one engine inoperative			
Category A Helicopters				
n.	From 300m (1,000') above level of heliport to or after landing decision point (LDP)			
o.	Quick stop			
10.	INSTRUMENT APPROACHES	FNPT I	FNPT II	FNPT II MCC
a.	Holding			
b.	All engines operating approach			
c.	One engine inoperative approach			
d.	Missed approach all engines operating			
e.	Missed approach one engine inoperative			
f.	Automated approach			
g.	Automated missed approach			
h.	Approach with flight director			
i.	Approach without flight director			
j.	NDB, VOR, VOR/ DME			
k.	RNAV(GNSS)			
l.	ILS CAT I			
m.	ILS CAT II			
11.	APPROACH TO LANDING AND TOUCHDOWN	FNPT I	FNPT II	FNPT II MCC
Category B Helicopters and Single Engine Helicopters				
a.	Normal approach to a hover			
b.	Normal approach to elevated heliport/ helideck			
c.	Normal approach to confined area			
d.	Normal approach with crosswind			

e.	Normal approach with tailwind			
f.	Touchdown from hover			
g.	Running touchdown (skid-on)			
h.	Slope touchdown			
Approach and touchdown abnormal/ emergency procedures/ malfunctions:				
i.	One engine inoperative			
j.	Fuel governing failure			
k.	Hydraulics failure			
l.	Stability system failure			
m.	Directional control failure			
n.	Autorotation			
Category A Helicopters				
o.	Landing with engine failure prior to LDP			
p.	Landing with engine failure at or after LDP			
12. ANY FLIGHT PHASE		FNPT I	FNPT II	FNPT II MCC
a.	Air conditioning			
b.	Anti-icing/ de-icing			
c.	Auxiliary powerplant			
d.	Communications			
e.	Electrical			
f.	Lighting system internal			
g.	Lighting system external			
h.	Fire and smoke detection and suppression			
i.	Stabilizer			
j.	Flight controls			
k.	Fuel and oil systems			
l.	Hydraulics			
m.	Landing gear			
n.	Powerplant			
o.	Transmission system			
p.	Rotor systems			
q.	Flight control computers			
r.	Stability and control augmentation systems (SAS)			
s.	Flight management system			
t.	Automatic landing aids			
u.	Autopilot			
v.	GPWS/ EGPWS			
w.	TCAS			
x.	WX radar			
y.	Head-up display			
z.	Navigation system			
aa.	NVG			
13. ENGINE SHUTDOWN AND PARKING		FNPT I	FNPT II	FNPT II MCC
a.	Engine and system operation			
b.	Parking brake operation			
c.	Rotor brake operation			
14. SOUND SYSTEM		FNPT I	FNPT II	FNPT II MCC
a.	Significant helicopter engine, rotor and transmission sounds			
b.	Sounds of a crash should be related to a logical manner to landing in an unusual attitude or in excess of structural limitations of the helicopter			

c.	Significant flight deck sounds			
15. VISUAL SYSTEM		FNPT I	FNPT II	FNPT II MCC
<i>FATO - Final Approach and Take-off Area as used for helicopters.</i>				
<i>TLOF is a load-bearing, generally paved area, normally centred in the FATO, on which the helicopter lands and/or takes off.</i>				
<i>All contact between any part of the helicopter and a surface other than TLOF should result in a crash</i>				
a.	A visual system capable of providing a minimum visual field of 150° x 40° (75° either side of aircraft centreline)			
b.	Accurate portrayal of environment relating to simulator attitudes and position			
c.	The distances at which heliport features are visible should be not less than those listed below. Distances are measured from the FATO centre to a helicopter aligned with the FATO approach direction on an extended 3-degree glideslope:			
	(i) Heliport definition, strobe lights, approach lights from 8km			
	(ii) Visual approach aids and FATO/ TLOF edge lights should be visible from 5km through approach angles up to 12 degrees			
	(iii) FATO/ TLOF edge lights and taxiway definition from 3km			
	(vi) FATO and TLOF markings within range of landing lights for night scenes			
	(v) FATO and TLOF markings as required by surface resolution on day scenes			
d.	At least 3 different heliport scenes that trigger a crash when contact is made with any part of the visual scene apart from the demarcated "safe to land" area, which should be:			
	(i) an airport			
	(ii) a surface level confined area and			
	(iii) an elevated heliport			
e.	Representative heliport scene content including the following:			
	(i) Surface and markings on runways, heliport, taxiways and ramps			
	(ii) Lighting for the FATO/TLOF, visual approach aids and approach lighting of appropriate colours			
	(iii) Heliport perimeter and taxiway lighting			
	(iv) Ramps and terminal building and vertical objects which correspond to the operational limits of an operators LOFT scenario			
	(v) the directionality of strobe lights, approach lights, runway edge lights, visual landing aids, runway centre line lights, threshold lights and touchdown zone lights on the runway of intended landing should be realistically replicated			
f.	Representative visual effect of helicopter external lighting in reduced visibility, such as reflected glare, to include lights, strobes and beacons			
g.	Instructor controls of the following:			
	(i) Cloud base/cloud tops			
	(ii) Visibility in Km/Nm and RVR in m/ft			
	(iii) Airport/heliport selection			
	(iv) Airport/heliport lighting			
	(v) Ground and flight traffic			
h.	Visual system compatibility with aerodynamic programming			
i.	Visual cues to assess sink rate displacements, rates and height AGL during landings (terrain features)			
j.	Visual scene capability for twilight, night and day			
k.	General terrain characteristics			
l.	At and below (200ft) height above the airport/heliport and within a radius of 9 Nm from the airport/heliport, weather representations, including:			
	(i) partial obscuration of ground scenes, the effect of a scattered to broken cloud deck			
	(ii) Gradual breakout			
	(iii) Visibility and RVR measured in terms of distance			
	(iv) The effect of fog on the airport/heliport lighting			
m.	A capability to present ground and air hazards such as other aircraft crossing the active runway and converging airborne traffic			
n.	Operational visual scenes which provide a cue rich environment sufficient for precise low airspeed and low altitude manoeuvring and landing			

E. DE – BRIEF

FSTD Operator Representatives		
SACAA Representatives		
FSTD Subjective Performance:	Satisfactory	Unsatisfactory
FSTD Objective Performance:	Satisfactory	Unsatisfactory
FSTD Quality System:	Satisfactory	Unsatisfactory

F. RECOMMENDATION BY FSTD INSPECTOR

FSTD to be	RECOMMENDED	NOT RECOMMENDED
Conditions		
SIGNATURE OF PEL INSPECTOR	NAME IN BLOCK LETTERS	DATE

G. RECOMMENDATION BY FSTD INSPECTOR

SIGNATURE OF INSPECTED ORGANISATION'S REPRESENTATIVE	NAME IN BLOCK LETTERS	DATE

H. DECISION BY MANAGER TRAINING

INITIAL	RECURRENT	UPGRADE	SPECIAL
of FSTD with registration	Z	P	-
is hereby	APPROVED	NOT APPROVED	
COMMENTS / RESTRICTIONS			
SIGNATURE OF MANAGER: TRAINING	NAME IN BLOCK LETTERS	DATE	