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Republic of the Philippines
NATIONAL POLICE COMMISSION
NATIONAL HEADQUARTERS PHILIPPINE NATIONAL POLICE
OFFICE OF THE CHIEF, PNP
Camp BGen Rafael T Crame, Quezon City

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PNP MEMORANDUM CIRCULAR
NO.: 2020-043

**PROCEDURES IN THE CONDUCT OF TEST AND EVALUATION DURING
ELECTRONIC PRE-DELIVERY INSPECTION OF SINGLE ENGINE TURBINE
HELICOPTER**

1. REFERENCES:

- a. Republic Act No. 9184 entitled: "An Act Providing for the Modernization, Standardization and Regulation of the Procurement Activities of the Government and for Other Purposes, and its Revised Implementing Rules and Regulations";
- b. Republic Act No. 8749 entitled: "An Act Providing for a Comprehensive Air Pollution Control Policy and for Other Purposes/Philippine Clean Air Act of 1999";
- c. GPPB Guidelines on the Establishment of Procurement Systems and Organizations (Volume 1);
- d. GPPB Manual of Procedures for the Procurement of Goods and Services (Volume 2);
- e. Commission on Audit Memorandum No. 98-023 (The Revised Manual on Inspection);
- f. NAPOLCOM Memorandum Circular No. 2019-002 "Defining the Duty and Authority of the NAPOLCOM to Prescribe Minimum Standards for Uniforms, Arms, and Equipment to be Procured by the Philippine National Police";
- g. NAPOLCOM Resolution No. 2005-237 "Prescribing the Standard Specifications for Single Engine Helicopter (Aircraft, rotary) for use of PNP Air Unit, SAFG";
- h. NAPOLCOM Resolution No. 2017-433 "Approving the Amendment to NAPOLCOM Resolution No. 2005-237 that Prescribed the Standard Specifications for Single Engine Helicopter (Aircraft, Rotary) for use of the PNP Air Unit, SAFG";
- i. NAPOLCOM Resolution No. 2010-062 "Prescribing the New Standard Specification for Standard Color and Markings of PNP Motor Vehicles, Seacraft and Aircraft Embodied in NAPOLCOM Resolution No. 99-002"; and
- j. PNP Memorandum Circular No. 2011-026 "General Guidelines in the Conduct of Product Test, Post Qualification Test, Functional Test and Evaluation for Various Types of Air Transportation";

2. RATIONALE:

The Directorate for Research and Development (DRD), as an independent research facility of the PNP, shall conduct test of clothing, materiel, weapons, vehicles, and equipment required by the PNP.



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3. SITUATION:

On March 8, 2020, Proclamation No. 922 was issued declaring a State of Public Health Emergency throughout the Philippines due to the local transmission of COVID-19. In relation, the Office of the Executive Secretary issued a memorandum implementing community quarantine over the entire National Capital Region, which was later on elevated to an Enhanced Community Quarantine (ECQ) over the entire Luzon effective March 17, 2020.

As an effect of the ECQ, local and international travels were restricted, businesses and works were suspended, except for the identified essential-related works. While the Philippine National Police is not restricted to continue with its operational activities, this is not the case in some of its administrative activities like the conduct of Pre-Delivery Inspection (PDI) abroad for contracts it entered into before the onset of the COVID-19 pandemic. Because, aside from the international travel restrictions, the DBM has also issued National Budget Circular No. 580¹ mandating among others, the discontinuance of all foreign travels, except for ministerial meetings and scholarship/trainings that are grant-funded or undertaken at no cost to the government. For these reasons, the conduct of actual PDI abroad shall have to be discontinued.

In an effort to remedy the situation with the end view of implementing the contract, Airbus Helicopters has offered the conduct of e-PDI in lieu of the actual travel of the testing team for the conduct of the PDI of the newly procured three units H125 helicopters. As it appears, the required tests pursuant to the test parameters will still be conducted and the PNP Testing Team will witness the same thru a video conference.

4. PURPOSE:

This Memorandum Circular (MC) sets forth the Procedures in the Conduct of Functional Test and Evaluation during electronic Pre-Delivery Inspection of Single Engine Turbine Helicopter.

5. DEFINITION OF TERMS:

For purposes of this MC, the following terms shall mean:

- a. **Auto-Rotation** – is the state of flight where the main rotor system of a helicopter is being turned by the action of the air moving up through the rotor system rather than engine driven by compressed air;
- b. **Checklist** – a list of items to be noted, checked, or remembered;
- c. **Climb** – the act of increasing altitude by use of power;
- d. **Cruise** – the main part of the flight between top of climb after take-off and descent for landing;
- e. **Descend** – to lose altitude, especially in a planned maneuver;
- f. **e-PDI** - is the checking over of a vehicle/aircraft to ensure that everything is working properly and safely thru the use of video conferencing. Often, a checklist is worked through.

- g. **Endurance Test** – a test that determines the quality, act or power of withstanding stress of the vehicle;
- h. **Engine Displacement** – the total volume displaced by the piston in an internal combustion engine;
- i. **Hover** – to remain stationary relative to the earth while in the air;
- j. **Hydraulic Pressure** – the pressure exerted by the hydraulic fluid;
- k. **Hydrocarbon** – an organic compound like benzene or methane, that contains carbon and hydrogen;
- l. **Pilot-in-Command** – the person who has authority and responsibility for the operation and safety of the flight;
- m. **Pre-delivery inspection** - is a standard procedure carried out by a vehicle sales and workshop team. In a pre-delivery inspection, the vehicle is checked over to ensure that everything is working properly and safely. Often, a checklist is worked through.
- n. **Pre-Flight** – the set of procedures and checks that pilot and ground crew must carry out before an aircraft takes off;
- o. **Product Test** – an endurance test conducted on a certain product and/or a method to gauge/measure or evaluate the quality of a product;
- p. **Run-Up** – refers to a series of last minute checks performed by pilots on their aircraft prior take off;
- q. **Take-Off** – the procedure when an aircraft leaves the ground;
- r. **Torque** – a moment of force causing rotation;
- s. **CHT** – Cylinder Head Temperature;
- t. **EGT** – Exhaust Gas Temperature;
- u. **OAT** – Outside Air Temperature;
- v. **TOT** – Turbine Outlet Temperature;
- w. **RPM** – Revolution Per Minute;
- x. **TSN** – Time Since New;
- y. **TSO** – Time Since Overhauled;
- z. **TGT** – Turbine Gas Temperature;
- aa. **ITT** – Intern stage Turbine Temperature;
- bb. **N1 Helicopter** – Gas Generator Speed; and
- cc. **N2 Helicopter** – Power Turbine Generator.

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6. GUIDELINES:

a. General:

- 1) Documents such as aircraft brochures indicating therein the specifications and capabilities of the aircraft, shall be presented during the e-PDI and shall be scanned and shared thru video conferencing.
- 2) All copies of documents presented during e-PDI shall be submitted thru email for documentation purposes.
- 3) Visualized items should be accounted and demonstrated for its functionality for the appreciation of the Committee.
- 4) All noted deficiencies during the e-PDI shall be corrected/complied prior delivery of the aircraft.
- 5) All procedures conducted during e-PDI will be subjected for validation upon delivery of the aircraft/s.

- 6) All documents/video recording during the e-PDI must be included during the delivery of the items procured.

b. Procedure:

- 1) DDay - 7: The e-PDI Team, in coordination with the Supplier shall provide the NHQ CIA the venue of the video teleconference considering the availability of high bandwidth of internet connection to ensure that no disruption will occur during the e-PDI.
- 2) DDay - 5: The NHQ CIA shall issue a Conference Notice to the e-PDI Team.
- 3) DDay - 3: The e-PDI Team shall conduct a run-through on the step by step procedure together with the Supplier or his authorized representative.
- 4) DDay: The e-PDI Team shall conduct the Functional Testing as to conformity to NAPOLCOM specifications through brochure and visuals.
- 5) DDay + 1: The e-PDI Team shall conduct the Functional Testing as to compliance to the Test Parameters (actual test flight – day and night capability).
- 6) DDay + 3: The e-PDI Team shall deliberate the video recording/result of the actual test flight.

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c. Test Parameters:

- 1) **Phase I – Visual and Functional Test**


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a) Purpose

To ascertain the completeness and correctness of the Aircraft(s) subject for test based on the requirements under NAPOLCOM Resolution No. 2017-433 entitled, “Approving the Amendment to NAPOLCOM Resolution No. 2005-237 that Prescribed the Standard Specifications for Single Engine Helicopter (Aircraft, Rotary) for use of PNP Air Unit, SAFG.” and NAPOLCOM Resolution No. 2005-237 entitled, “Prescribing the Standard Specifications for Single Engine Helicopter (Aircraft Rotary) for use of PNP Air Unit, SAFG” prior actual test and evaluation.

- a.1) Compliance to the latest NAPOLCOM Standard Specifications for **Single Engine Helicopter**;

No.	Description	Procedure	Standard
1	POWERPLANT	Brochures must be presented and focused on its capabilities for the determination of its conformity with the NAPOLCOM specifications	One (1) engine 457-1800 shp
	Number of Engine Take-off Rating		

2	PERFORMANCE		
	Cruise Speed	Brochures must be presented and focused on its capabilities for the determination of its conformity with the NAPOLCOM specifications	100 knots
	Range		250NM (min)- 552 NM (max)
	Endurance		2hrs+00mins (min) – 4hrs+42mins (max)
	Hover Ceiling (IGE)		10,000ft (min)- 20,000ft (max)
	Hover Ceiling (OGE)		6,000ft- 16,000ft
3	WEIGHT		
	Maximum Take-Off Weight	Brochures must be presented and focused on its capabilities for the determination of its conformity with the NAPOLCOM specifications	3,968 lbs (min)- 11,000 lbs (max)
	Maximum Payload		1,543 lbs (min)- 5,000 lbs (max)
OTHERS			
4	Fuel Capacity	Brochures must be presented and focused on its capabilities for the determination of its conformity with the NAPOLCOM specifications	440-1500 iters
	Seating Capacity		2 Pilots + 4 Passengers (min)
5	OPTION:		
	SAR	Must be presented and focused on viewing for record purposes	Must be complied, if required
	EMS capable		
	Cargo hook for sling operation		
	Armaments retrofitting capable		
Color and Markings	Must be presented and focused on its completeness and must be measured based on the approved NAPOLCOM specifications for color and markings		
WARRANTY:		Must be presented focusing on the coverage of the warranty	Must be provided
MAINTENANCE MANUAL:		Must be presented focusing on the updated changes or additional information, if any	Must be provided

a.2) Visual and Technical Inspection: To determine the aircraft history by checking its data record; and

a.3) Functional (Ground) Test: To determine the aircraft airworthiness, engine performance, proper functioning of equipment, and other accessories.

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2) Phase II – Test Flight

- a) Purpose: To determine the aircraft performance and capabilities during actual flight.
- b) Procedure:
 - b.1) The aircraft shall undergo the test flight performed by the authorized Manufacturer's pilot and aircraft mechanic.
 - b.2) Using the prescribed format for the particular aircraft, the end-user unit shall record the performance of the aircraft based on the aircraft manual.
 - b.3) All activities during test flight shall be recorded thru video, focusing on the instrument readings that are being recorded and shall be played during e-PDI.

FORMAT 1: HELICOPTER (TURBINE SINGLE ENGINE)

AIRCRAFT IDENTIFICATION NO.: _____ ENGINE TIME SINCE NEW: _____
 AIRCRAFT SERIAL NO.: _____ ENGINE TIME SINCE OVERHAULED(TSO): _____
 MAKE/MODEL: _____ MAIN ROTOR BLADE TSN: _____
 ENGINE MAKE: _____ TAIL ROTOR BLADE TSN: _____
 MODEL: _____

	Engine	N1 Gas Gen.	N2 Power Turbine	Rotor RPM	Torque %	TOT	Engine Oil Temp.	Trans. Oil Temp.	ALT	Engine Oil Press.	Trans. Oil Press.	Fuel Flow	Airspeed Knots	Gen. Load Meter	Remark
TAKE OFF															
HOVER															
CLIMB															
CRUISE															
DESCEND															
AUTO															
ROTATION															

REMARKS/OBSERVATION(S):

RECOMMENDATION(S):

Date : _____
 Pilot/s : _____
 (Print name & Signature)
 License : _____
 Purpose of Flights : _____
 Off Blocks : _____
 On Blocks : _____
 Duration of Flights : _____
 Altitude : _____
 Local : _____

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Note: All activities relative to the operation of the aircraft shall be in accordance with the manufacturer's manual and shall be conducted by End-users unit.

c) **Standard:**

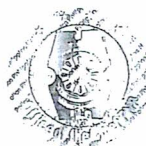
- c.1) The recorded results of rating/data from the above prescribed format should conform to the operator's aircrafts manual;
- c.2) Test Flight-minimum of one (1) hour and thirty minutes (90 minutes);
- c.3) Maximum of thirty (30) flying hours shall be complied; and
- c.4) Night Flight Test capability-if applicable.

7. RESCISSION:

All other policies, guidelines or Standard Operating Procedures regarding the conduct of tests and evaluations during e-PDI pertaining to Single Engine Turbine Helicopter are hereby rescinded accordingly.

8. EFFECTIVITY:

This MC shall take effect after 15 days from filing a copy thereof at the UP Law Center in consonance with Section 3, Chapter 2, Book VII of Executive Order 292, otherwise known as the "Revised Administrative Code of 1987," as amended.



[Signature]
ARCHIE FRANCISCO F GAMBOA
Police General
Chief, PNP

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