



PAMPANSANG PUNONGHIMPILAN TANOD BAYBAYIN NG PILIPINAS
(National Headquarters Philippine Coast Guard)
139 25th Street, Port Area
1018n Manila

NHQ-PCG/ CG-10

09 November 2021

STANDING OPERATING PROCEDURE

NUMBER.....22-21

**GUIDELINES IN THE MAINTENANCE AND UTILIZATION OF PCG ALUMINUM
BOATS, SMALL BOATS AND METAL SHARKS**

I. PURPOSE:

This Standing Operating Procedure serves as a useful guideline in the proper utilization of PCG Aluminum Boats, Small Boats and Metal Sharks that has been equally distributed to PCG Districts and Commands.

II. OBJECTIVES:

A. To ensure proper maintenance and utilization of PCG Aluminum Boats and Small Boats by performing and/ or observing regular preventive maintenance schedule (PMS) with checklist as a monitoring tool.

B. To ensure highest operational readiness and capability of all PCG Aluminum Boats, Small Boats and Metal Sharks.

C. To ensure safety of personnel in proper operation and utilization of all PCG Aluminum Boats, Small Boats and Metal Sharks.

D. To establish daily monitoring, monthly inventory of spare parts and timely maintenance schedule of all PCG Aluminum Boats and Small Boats, Metal Sharks to ensure operational readiness at all times.

E. To establish daily monitoring of PCG aluminum boats and other small boats, monthly inventory of spare parts, and timely maintenance schedule to ensure the operational readiness at all times.

III. DEFINITIONS:

A. **Aluminum Boat-** refers to a flat-bottomed boat constructed of aluminum with three (3) benches and an outboard motor mounted on the transom or rear portion of the boat.

B. Small Boats - refer to Rubber Boats and Rigid Hull Inflatable Boats (RHIB), constructed on its sides and bow made of rubber tubes containing pressurized gas propelled with one or two outboard motors mounted on the transom assembly or rear portion of the boat.

C. Metal Sharks - refer to boats that are provided by the USCG.

D. Other Types and make of Boats existing in PCG SAO Inventory.

E. Out Board Motor (OBM) - is a propulsion system for boats consisting of a self-contained unit that includes four (4) stroke or two (2) stroke engines attached in the aluminum boat and small boat in item III. B.

- Also, it refers to Honda BF40D four (4) stroke engine type, SOHC with 3-cylinder, 808 cm³ displacement, rated power of 29.4Kw (40PS) at 5,500 min⁻¹ (RPM), underwater type of exhaust system; and other types, make, brands, horse powers displacement, and strokes of Out Board Motor that is high- powered engine with transmission and propeller, attached to the transom or the boat, that is existing in PCG SAO Inventory.

F. In Board-Out Board Motor - refers to all types and make of motor/ engine that is attached and fixed to the hull with its transmission and propeller fully submerged in sea water, that is existing in PCG SAO inventory.

G. In Board Motor - refers to small engines with its transmission fixed and attached inside the boat, using shafting to rotate propellers that submerged in sea water.

H. Maintenance and Repair Team- refers to the PCG personnel who are directly in-charge in the maintenance and repair of PCG aluminum boats and small boats. Concerned units shall designate one (1) Officer-in-charge and at least three (3) of its members for the composition of repair and maintenance team.

H.1. Coast Guard Districts – Maintenance and Repair Unit, D-10 – refers to personnel who are directly in-charge in the operation and direct support in maintenance and repair of all PCG Aluminum Boats, Small Boats and Metal Sharks. The concerned unit shall designate at least (1) Officer and three (3) personnel from each Coast Guard District and two (2) key personnel from CGSSF-MRG capable of repairing and maintaining such water assets to attain its highest operational readiness at all times.

H.2. Coast Guard Surface Support Force – Maintenance and Repair Group - refers to technical personnel who are directly in-charge in the maintenance and repair of PCG Aluminum Boats, Small Boats and Metal Sharks. The Concerned units shall activate MRUs (with its Small Boat Branch) to be deployable in CG Districts, to designate the OIC, MRU as OIC, MRT (for AB, SB, & MS) to properly monitor all maintenance activities of the aforementioned watercrafts under maintenance control of HCGSSF and operational control of various Coast Guard Districts.

H.3. Coast Guard Surface Support Force – Ship's and Small Boats Maintenance and Repair Office, SF-10 - overall in-charge of the project documentation

and implementation pertaining to the repair, overhauling, supply and delivery of various spare parts intended for PCG Aluminum Boats, Small Boats and Metal Sharks.

I. **Pre-Inspection** - refers to the conduct of inspection of PCG aluminum boats, small boats and metal sharks to be conducted by the Maintenance and Repair Team prior performing relevant maritime missions and/ or operations at sea.

J. **Post-Inspection** - refers to the inspection to be conducted by the Maintenance and Repair Team after performing relevant maritime missions and/ or operations at sea.

K. **Derangements** - refer to the damage of hull, electrical, electronic and mechanical problems such as engine failure and deterioration of some equipment installed in the PCG aluminum boat and small boats.

L. **Preventive Maintenance Checklist** - is a monitoring tool provided by CGSSF-MRG derived from OBMs, engines and small boats manufacturer's Service Manual indicating therein the items that need to be inspected by the Maintenance and Repair Team.

M. **Comprehensive Inventory Report** - refers to the monthly submission of concerned units indicating therein the status, accomplishments, derangements, and preventive maintenance conducted or its upcoming schedule, deployments or other related activities, and logistical requirements per inventory of fast moving and critical spare parts of PCG Aluminum Boats and Small Boats, and Metal Sharks to be encoded in the Database System.

N. **Boat Operations Logbook**- refers to a useful monitoring tool to indicate all the details of operation of PCG Aluminum Boats, Small Boats and Metal Sharks such as type of operation numbers of passengers, purpose of deployment, time of departure /arrival, estimated running hours/ minutes within the day, fuel consumption and record of derangement, if any.

O. **Database System** - complete lists of all records of boats pertaining to its hull engine/s, and other equipment status, including parameters, derangements, schedule of PMS, and MPCs (Maintenance Procedure Cards) needed and important remarks, to be developed, maintained, and operated by CGSSF-MRG. Updated copies of Preventive Maintenance Checklist should be forwarded to CG Districts for the MRT's guide and filled up PMC should return back to MRG for Database System updating. All boat's status report should be forwarded to HCGSSF (Attn: SF10)

IV. GUIDELINES AND POLICIES:

A. All District/ Unit Commanders with operational control of issued PCG Aluminum Boats, Small Boats and Metal Sharks shall designate one (1) Officer to become assistant to the OIC, MRT and at least three (3) of its members to compose one (1) MK/ EN rating, one (1) EM rating and one (1) SK rating to work together with MRU personnel developed in CG District, as integrated members of the Maintenance and Repair Team with issued unit orders.



A.1. Shall direct CG Station and Sub-Station to provide BMs and Coxswains for AB, SB and MS Operations to become an integrated part of the MRT.

B. All Districts/Units Commanders shall direct the MRT to provide information needed to fill in the Protective Maintenance Checklist, Pre-Inspection, Post- Inspection forms, and to perform maintenance and repair works required.

C. CGSSF shall direct MRG to create, develop, operate, and maintain Database System for maintenance of Aluminum Boats, Small Boats and Metal Sharks to be accessible among designated Maintenance and Repair Units.

D. CGSSF shall direct MRG to provide an updated preventive Checklist from Database to be set as Guidelines for the maintenance of Aluminum Boats, Small Boats and Metal Sharks to be distributed among designated Maintenance and Repair Units.

E. CGSSF shall direct Surface Training Group to provide training for BMs and Coxswains to operate Aluminum Boats, Small Boats and Metal Sharks properly.

F. All official deployment of aluminum boats, small boats and metal sharks shall be recorded in Boat Operations Logbook including type of operation, number of crew and passengers, purpose of deployment, date and time of departure/arrival running hours/minutes per utilization, fuel consumption and existing or new derangements, if any.

G. Minimum crew for every deployment to ensure safety of boat operations should be composed of one (1) Boatswain Mate or Coxswain from SOU of CG District personnel, and one (1) Machinery Technician/ Engineman or Electricians Mate from MRU of CG District personnel.

H. Maintenance and Repair Team shall conduct pre-inspection before deployment and post –inspection after deployment of the Aluminum Boats, Small Boats and Metal Sharks.

V. DUTIES AND RESPONSIBILITIES:

A. PCG District Commander/ Unit Commanders

(1) Shall ensure the timely monthly submission of comprehensive inventory report to Higher Headquarters [Attn: O/CG-10, Via: CGSSF (Attn: SF 10, MRG) Info: CGSOF]

(2) Shall designate knowledgeable Officer and personnel with regards to repair and maintenance for the composition of CG District Maintenance and Repair Team to become integrated part of AB, SM & MS Maintenance and Repair Team.

(3) Shall designate at least one (1) Personnel-In-Charge (PIC) for the monitoring and inventory of spare parts and other related part of Aluminum Boats, Small Boats and Metal Sharks.



(4) Shall designate at least one (1) Personnel-In-Charge (PIC) for the monitoring and inventory of spare parts and other related part of Aluminum Boats, Small Boats and Metal Sharks.

B. Commander, CGSSF

1. Shall maintain the standard form for the preventive maintenance checklist to be performed by designated Maintenance and Repair Team.

2. Direct and instruct MRUs personnel thru CGSSF-MRG to conduct Troops Information and Education (TI & E) pertaining to repair and preventive maintenance of PCG Aluminum Boats, Small Boats and Metal Sharks to SOU boarding team and other CG Districts and CGSSF personnel.

3. To deploy Maintenance and Repair Units to different CG District/Units composed of one (1) Officer In-Charge and complete organization complements and Division Technicians designated to perform repair maintenance of PCG Aluminum Boats, Small Boats and Metal Sharks.

C. Commander, CGSOF

1. Shall direct SOU to help provide information needed for the pre- inspection, post inspection, Preventive Maintenance Checklist and Comprehensive Inventory Report as part of operations of Aluminum Boats, Small Boats and Metal Sharks, but not limited to maintenance works for Maintenance and Repair Team.

2. Shall Direct CGSOU personnel to conduct TI & E to all designated boats operators and crew of CG District, Stations and Sub- Stations for Boat Handling operation per CGSSF-STG Standards and Basic Maintenance Procedures per CGSSF-MRG standards.

D. CG District Maintenance and Repair Team (AB, SB, & MS)

1. OIC, Maintenance and Repair Team (The OIC, MRU)

(a) To ensure performance of proper implementation of preventive maintenance checklist, pre-inspections and post- inspection requirements.

(b) Shall report to HCGSSF and CG District/ Unit Commander with regards to the status of Aluminum Boats, Small Boats and Metal Sharks repair and maintenance.

(c) Shall submit derangement report to HCGSSF and CG District/Units Commanders that occurs with regards to Aluminum Boats, Small Boats and Metal Sharks.

(d) Shall be responsible for the submission of Preventive Maintenance checklist and Comprehensive Inventory Report to Higher Headquarters.

2. Assistant OIC, Maintenance and Repair Team



(a) Shall be the direct supervisor of all repair and maintenance related activities for Aluminum Boats, Small Boats and Metal Sharks.

(b) Shall prepare and consolidate Preventive Maintenance checklist and Comprehensive Inventory Report prior submission to OIC, MRT.

3. POIC, Maintenance and Repair Team

(a) Shall be responsible for the implementation of maintenance checklist pre-inspection and post-inspection forms intended for aluminum boats, small boats and metal sharks.

(b) Shall report to the Office-In-Charge (OIC), Maintenance and Repair Team any arising concerns pertaining to the repair and maintenance of Aluminum Boats, Small Boats and Metal Sharks.

(c) Shall assist the Officer-In-charge, Maintenance and Repair Team in the preparation and consolidation of pre- inspection, post-inspection, preventive maintenance checklist, and reports prior submission to Higher Headquarters.

(d) Ensures that the Aluminum Boat, Small Boat and Metal Sharks are properly kept and secured in an enclose designated area when not in use.

4. Member/s Maintenance and Repair Team

(a) Shall assist the POIC in the conduct of regular Preventive Maintenance Schedule for Aluminum Boats, Small Boats and Metal Sharks.

(b) Shall ensure the proper filling of documents such as preventive maintenance checklist, comprehensive inventory report pertaining to the repair and maintenance of aluminum boats, small boats and metal sharks.

(c) In-Charge to indicate in Boat Operation Logbook all details of deployment, pre and post inspection before and after deployment missions.

(d) Assists the POIC in securing the Aluminum Boats, Small Boats and Metal Sharks when not in use in designated enclose area.

D1. Organization of Maintenance and Repair

COMMANDER, CG DISTRICT/ UNIT

OIC, MRT (for AB, SB, and MS) – The MRU Commander (CGSSF-MRG)
Assistant OIC, MRT –The CG District MRT Officer-In-Charge (for AB, SB and MS)

POIC, MRRT (for AB, SM, and MS) – MRU Personnel (Small Boat Division)

Members: MK/EN – One (1) MRU Personnel

–One (1) CG Sub-Station Personnel

EM – One (1) MRU Personnel

–One (1) CG Sub-Station Personnel

SK – One (1) MRU Personnel



–One (1) CG Sub-Station Personnel
POIC, Operations (of AB, SM, and MS) – CG Sub-Station Personnel
Member: BM – SOU or CG Sub-Station Personnel
Coxswain – SOU or CG Sub-Station Personnel
Crew – SOU or CG Sub-Station Personnel

VI. REPORTING AND MONITORING:

(a) All concerned units shall submit monthly comprehensive report to Higher Headquarters [(Attn: O/CG-10) via: CGSSF (Attn: SF10, MRG); Info: CGSOF]

(b) The OIC, Maintenance and Repair Team shall report immediately all derangements that occur from Aluminum Boats, Small Boats and Metal Sharks.

(c) Deputy Chief of Coast Guard Staff for Ships and Aircraft Engineering (O/CG-10) shall monitor, consolidate and evaluate the monthly submission of Comprehensive Inventory Report of Aluminum Boats, Small Boats and Metal Sharks.

VII. RESCISSION:

All other publications in conflict with this SOP are hereby rescinded.

VIII. EFFECTIVITY:

This Standing Operating Procedure shall take effect upon approval.

BY COMMAND OF CG VICE ADMIRAL LEOPOLDO V LAROYA:

OFFICIAL:

FERDINAN B PICAR
CG COMMO
Chief of Coast Guard Staff


JAYSIEBELL B FERRER
CG CDR
Coast Guard Adjutant

ANNEXES:

ANNEX I: Standard Comprehensive Inventory Form
ANNEX II: Pre-Operation Checklist
ANNEX III: Post-Operation Checklist
ANNEX IV: Preventive Maintenance Checklist

ANNEX I

UNIT HEADING

Comprehensive Inventory Report of Aluminum Boat

(For Months of _____ [Year])

ARTICLE (Type of Item)	DESCRIPTION (Description of Article)	PROPERTY NUMBER account codes	QTY	UNIT OF MEASURE	UNIT VALUE	TOTAL VALUE	DATE ACQUIRED	SERIAL NUMBER	DISTRICT/ MAJOR UNITS/ STAFFS	LOCATION	REMARKS

Prepared by: _____

POIC, Maintenance and Repair Team

Noted by: _____

OIC, Maintenance and Repair Team

ANNEX II

PRE-OPERATION CHECKLIST

No.	Inspection	Status		Remarks
		OK	NOT	
<i>SAFETY INSPECTION</i>				
1	Look around the outboard motor for signs of oil or gasoline leak.			
2	Check that the fuel hose is undamaged and properly connected.			
3	Wipe up the spills before starting the engine.			
4	Check the stern bracket to be sure that the outboard motor is securely installed.			
5	Check all controls are operating properly			
6	Replace damaged parts			
7	Check all fasteners are in place and securely tightened			
8	Check the emergency stop switch for proper operation. Start the Engine. Make sure that Engine stops by pulling the emergency stop switch.			
<i>BEFORE STARTING CHECKS</i>				
1	Check the engine oil level, Running the engine in low oil level can cause engine damage.			
2	Check and make sure the propeller is undamaged and castle nut is secured with cutter pin.			
3	Check that the anodes are securely attached to the stern bracket and the gear case and are not excessively worn. The anodes help protect the outboard motor from corrosion.			
4	Make sure that the tool kit is onboard. Replace any missing items.			
5	Check fuel level in the fuel tanks.			
6	Check the battery fluid is between the upper and lower levels, and the battery leads are connected securely.			
7	Check the water separator for water contamination.			
8	Check that there are no fuel leaks.			
<i>BEFORE STARTING CHECKS</i>				
1	Check if the Aluminum Boat has any dents, scratches, cracks, holes and other signs of collision with other objects especially hull structures.			
2	Check for unusual engine sounds and ensure that the cooling water is flowing			

	freely from the check hole especially upon engine starting.			
3	Lubricate rudder control assembly before and after sailing especially when used in salt water.			

Inspection by: _____

POIC/ Member, Maintenance and Repair Team

Noted by: _____

OIC, Maintenance and Repair Team

ANNEX III

POST-OPERATION CHECKLIST

No.	Inspection	Status		Remarks
		OK	NOT	
1	Flush the engine with fresh water especially when after operated in salt water, turbid or muddy water.			
2	Inspect the boat for any signs of dents, scratches, cracks, holes and other signs of collision with other objects especially in hull structures.			
3	When stowing the trailer, always cover the Aluminum Boat with a canvass to avoid degradation though weather exposure			
4	Check the propeller if no signs of damage.			
5	Take out unnecessary objects or materials inside the aluminum boat.			
6	Make sure that in the Deployment Aluminum Boat Logbook shall indicate the record of running hours/ minutes conducted during the operation.			

Inspection by: _____

POIC/ Member, Maintenance and Repair Team

Noted by: _____

OIC, Maintenance and Repair Team

ANNEX IV

PREVENTIVE MAINTENANCE CHECKLIST

NO	Inspection List	STATUS		REMARKS
		OK	NOT	
GENERAL MAINTENANCE				
1	Always clean/rinse the boat with fresh water every after use to wash away seawater			
2	Inspect the boat for any signs of dents, nicks, scratches, flanking, holes, cracks and other signs of impact before and after using;			
3	Do not keep the boat afloat the water for more than a week or two. Stow the boats in its trailer so as not to hasten hull degradation.			
4	Clean the underside of the hull using soft bristle brush;			
5	Operate the boat with care especially during docking and undocking			
6	Ensure that the battery cables are properly connected to battery posts, check the tightness and clamp. Grease the post to prevent moisture accumulation;			
7	Avoid fuel leaks on board and do not operate if fuel is leaking off its container;			
8	Regularly apply grease on the trailer and its winch;			
9	Conduct repacking of bearing on its tire hub every time that the trailer is launched at sea;			
10	Warm up the Outboard Motor (OBM) at least twice a week for fifteen (15) minutes.			

Inspected by:

POIC, Member, Maintenance and Repair Team

Noted by:

OIC, Maintenance and Repair Team

MAINTENANCE CHECKLIST

ITEM	PERFORM	REGULAR SERVICE PERIOD (2) Perform at every indicated month or operating hours interval, which ever come first.					
		Each Use	After Use	First month or 20 hrs	Every 6 months or 100 hrs	Every year or 200 hrs	Every 2 years of 400 hrs
Engine Oil	Check Level	•					
	Change			•	•		
Gear Case Oil	Change			•	•		
Engine Oil Filter	Replace					•	
Timing Belt	Check Adjust					•	
	Replace	As necessary					
Throttle Linkage	Check Adjust			•	•		
	Repair	As necessary					
Idle Speed	Check Adjust			•	•		
Valve Clearance	Check Adjust					•	
Spark Plug	Check Adjust/ Replace				•		
Propeller and Cotter Pin	Check	•					
Anode Metal (Frame)	Check	•					
Anode Metal (Engine)	Check						•
Lubrication	Grease			•	•		
Water Separator (If Equipped)	Drain	•					
	Replace				•		
Fuel Tank and Tank Filter	Clean					•	
Fuel Filter (Low Pressure Side)	Check	•					
	Replace						•
Fuel Filter (High Pressure Side)	Replace						•
Thermostat	Check	As necessary					
Fuel Line	Check	•					
Battery and Cable Connection	Check Level and Tightness	•					
Bolts and Nuts	Check Tightness					•	
Crankcase Breather Tube	Check					•	
Impeller	Check	•					
	Replace						•
Cooling Water Passages	Clean		•				
Water Pump	Check	As necessary					
Emergency Stop Switch	Check	•					
Engine Oil Leak	Check	•					
Engine Operation Part	Check	•					
Engine Condition	Check	•					
Power Trim and Tilt	Check	•					
Shift Cable	Check/Adjust	As necessary					

Note:

- 1) Lubricate more frequently when used in salt water
- 2) Log hours of operation to determine proper maintenance intervals.
- 3) Flush the engine with clean water after each use, especially when operated in salt water, turbid or muddy water.
- 4) Check for unusual engine sounds and ensure that cooling water is flowing freely from the check hole, especially upon start-up.
- 5) Replace when metal has been reduced to 2/3 its original size.
- 6) Unless equipped with skills and tools it is highly advised to call on PROPMECH CORPORATION for repair or replacement.

Inspected by:

POIC/Member, Maintenance and Repair Team

Noted by:

OIC, Maintenance and Repair Team