

# 26' TRAILERABLE AIDS TO NAVIGATION BOAT (TANB) OPERATOR'S HANDBOOK

U.S. Department  
of Homeland  
Security

**United States  
Coast Guard**



**COMDTINST M16534.1**  
**June 2007**



Commandant  
United States Coast Guard

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Subj: 26' TRAILERABLE AIDS TO NAVIGATION BOAT OPERATOR'S HANDBOOK

1. PURPOSE. This Manual provides technical orientation, performance characteristics, and basic operating procedures for the 26' Trailerable Aids to Navigation Boat (TANB). It also standardizes boat outfit, storage and equipment layout.
2. ACTION. Area, district and sector commanders, commanders of maintenance and logistics commands, commanding officers of headquarters units, assistant commandants for directorates, Judge Advocate General, and special staff offices at Headquarters shall ensure adherence to the contents of this Manual. To ensure standardization, there is no command requirement with regard to the type or location of equipment carried except as noted. All design or structural alterations are prohibited unless specifically authorized in accordance with this Manual. Internet release authorized.
3. DIRECTIVES AFFECTED. None
4. DISCUSSION. This Manual contains information necessary to safely and efficiently operate the 26' TANB. The operational capabilities, limitations, and emergency procedures are clearly stipulated. The fittings, outfit list, and physical characteristics of the boat are described in detail.
5. PROCEDURE. Operational and unit commanders with a 26' TANB shall ensure the procedures and limitations detailed within this Instruction are followed. Forward any comments, corrections, recommendations, and questions regarding this handbook to the Aid to Navigation Facility Manager in accordance with Chapter 1, Section C.1 of this Manual. Design and structural change requests shall be submitted as outlined in the Naval Engineering Manual, COMDTINST M9000.6 (series).

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6. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS. Environmental considerations were examined in the development of this Manual and have been determined to be not applicable.
7. FORMS/REPORTS. None.

ROBERT C. PARKER/s/  
Rear Admiral, U. S. Coast Guard  
Assistant Commandant for Operations Capability





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# Chapter 1

## Introduction

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### Introduction

This handbook contains information necessary for the safe and efficient operation of the 26' Trailerable Aids to Navigation Boat (TANB). It defines operational capabilities, limitations, and emergency procedures. In addition, it shows or describes the fittings, outfit list, and physical characteristics of the boat.

---

### In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Warnings, Cautions, and Notes	1-3
B	Facility Manager	1-5
C	Changes	1-7
D	Action	1-9

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## Section A. Warnings, Cautions, and Notes

---

**A.1. General** The following definitions apply to Warnings, Cautions, and Notes found throughout the handbook.

---

**A.2. Warning** **WARNING**  To avoid personal injury or loss of life, operating procedures and techniques must be carefully followed.

---

**A.3. Caution** **CAUTION!** Operating procedures or techniques must be carefully followed to avoid equipment damage.

---

**A.4. Note** **NOTE**  An operating procedure or technique is essential to emphasize.

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## Section B. Facility Manager

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### B.1. General

Commandant (CG-37RCB) is the facility manager for the 26' TANB. The 26' TANB is a standard boat as defined in the *Boat Management Manual*, COMDTINST M16114.4 (series) and the *Naval Engineering Manual*, COMDTINST M9000.6 (series).

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## Section C. Changes

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### C.1. General

Commandant (CG-37RCB), the Office of Boat Forces, promulgates this handbook and its changes. Submit recommendations for changes to Commandant (CG-37RCB) via standard letter or electronic mail. For more information, contact Commandant (CG-37RCB), AtoN Boat Facility Manager at (202) 372-2464.

The address for the Office of Boat Forces is:

Commandant (CG-37RCB)  
U. S. Coast Guard Headquarters  
2100 Second Street S.W.  
Washington, D.C. 20593-0001

---

### C.2. Engineering Change Requests (ECRs)

All engineering change requests (ECRs) issued since the TANB has been in service are provided in *Appendix B* of this handbook. ECRs issued after the date of the release of this manual supersede information in this handbook where applicable.

Aids to Navigation Team Baltimore is the primary unit responsible for evaluation of prototypes for all 26' TANB engineering changes.

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## Section D. Action

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**D.1. General** Operational, supervisory, maintenance support commands, and boat crews will comply with procedures and limitations specified in this publication and any duly issued changes.

---

**D.2. Configuration Control** Configuration control for the 26' TANB is critical for standardization of equipment and safety of operations.

---

**NOTE**  To maintain fleet wide standardization, unit commanders shall not change or vary the type or location of equipment carried except where noted. Design or structural alterations are prohibited unless specifically authorized by the Commandant (CG-45) Office of Naval Engineering.

**NOTE**  Prototype testing of 26' TANB configuration changes may only be carried out with the specific authorization of the Commandant (CG-45) Office of Naval Engineering.

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## Chapter 2 Boat Characteristics

**Introduction** This chapter describes standard 26' TANB features. The systems described in this chapter are covered in more detail in Chapter 3, *Boat Systems*.

**NOTE**

All illustrations in this operator's handbook are for familiarization only. The location of machinery and equipment in these illustrations accurately reflect proper placement and installation of the production 26' TANB, CG-26101. Refer to the appropriate blueprint, NE-TIMS, or technical publication for all Engineering Changes implemented after the delivery of the production boat.

**In this chapter** This chapter contains the following sections:

Section	Topic	See Page
A	General Description	2-3
B	Compartments	2-7
C	Fittings and Deck Equipment	2-17
D	Mast	2-27
E	Anchor and Towline	2-31



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## Section A. General Description

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**A.1. Design** The 26' TANB (**Figure 2-1**) was designed and built by Metalshark Marine located in Jeanerette, LA.

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**A.2. Manufacturer** Metalshark Marine completed the detailed design and built the initial production 26' TANB (CG 251263) for testing. A total of 80 production 26' TANBs are scheduled to be replaced under the 26' TANB Recapitalization Project.

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**A.3. Missions** The 26' TANB is designed primarily to service aids to navigation within the inland waters of the United States. It is capable and equipped to support multi-mission operations.

---

**A.4. Boat Specifications** The following provides a list of all 26' TANB boat specifications:

---

A.4.a. Physical Characteristics	Hull Length	25'
	Length Overall (LOA)	29' 7"
	Hull Beam	8' 0"
	Beam Overall	8' 4"
	Freeboard	
	Bow	3'
	Amidships	2' 8" (door in) 0' 11" (door out)
	Aft	2' 6"
	Draft (normal operating condition)	2' 4"
	Highest Points	
	Fixed	9' (Radar Dome)
	Unfixed	14' 4-1/2" (Mast)
	Engines	Twin 150 HP 4-cycle outboard motors, counter rotating
	Rated Horsepower	300 HP total
	Fuel	Gasoline
	Fuel Capacity	
	100%	100 GAL
	95% (useable)	95 GAL
	Electrical Generation	Engine Alternators
	Propellers	Twin, fixed pitch, 3-blade, 15 1/4"

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A.4.a. Physical Characteristics (cont'd)

Displacement	diameter, 17” pitch
Hoisting condition (boat, full fuel, outfit; no crew or cargo)	7,360 LBS
Normal operating condition	8,200 LBS
Fully loaded condition (Normal operating condition + cargo)	9,700 LBS
Trailer Information	
Highest Fixed Point When Trailered	12’ 3” (Radar Dome)
Highest Unfixed Point When Trailered	16’ 7” (Mast)
Trailer Load Capacity	12,500 LBS
Trailer Weight	1,720 LBS
Weight of Trailer, Boat (fully loaded w/o crew)	10,600 LBS

**NOTE**

Trailer heights were measured from ground on a properly loaded TANB.

A.4.b. Operational Characteristics and Parameters

Crew Capacity	4
Maximum Passengers	7
Maximum Seas (transiting no load)	6’
Maximum Winds	25 KTS
Range (NM) (at cruising RPM) in calm water)	170 NM at 4800 RPM
Maximum Operating Distance from Shore	10 NM
Maximum Operating Distance from Parent Cutter	Not Applicable
Top RPM and Speed	38 KTS at 6000 RPM
Cruise Speed	30 KTS at 4800 RPM
Towing Capacity	10 Displacement Tons
Ice Breaking Capability	None

**NOTE**

Unit commanders shall comply with the minimum boat crew requirements when dispatching boats for Coast Guard operations in accordance with Volume I of the U.S. Coast Guard Boat Operations and Training Manual, COMDTINST M16114.32 (series), Part 2, Chapter 4, Section C.3. See Chapter 4 of this Manual for additional Crew Requirements.

**NOTE**

26’ TANBs can operate with a minimum complement of two, a coxswain and crewmember when transiting, not engaged in Aids to Navigation operations. Crew and passenger weights shall be 180 pounds per person when calculating weights for other loading configurations. Refer to Chapter 4 of this manual for further information.




---

A.4.c. AtoN Capabilities and Characteristics	Cargo Capacity	1,500 LBS
	Draft (fully loaded, normal load + cargo)	2' 9"
	Davit Safe Working Load Limit	500 LBS
	Maximum Sea State	2'

---

**NOTE**

Cargo capacity is set at 1500 pounds while engaged in aids to navigation operations (servicing buoys). The weight is based on stability calculations, testing, and taking into account potential environmental conditions a crew may experience when lifting sinkers.

---

**A.5. Hull**                      The hull is a planing design, made of aluminum plate that complies with ASTM B928, Alloy 5086-H116. Frames are made of aluminum and comply with ASTM B221 (extruded), Alloy 5086-H116.

---

A.5.a. Hull Construction                      The hull consists of a ¼” bottom and 3/16” side and transom shell. The hull has a fixed-fender system with rub rails to protect exterior hull surfaces. The rub rails are made of half-round rubber for the sides of the hull.

---

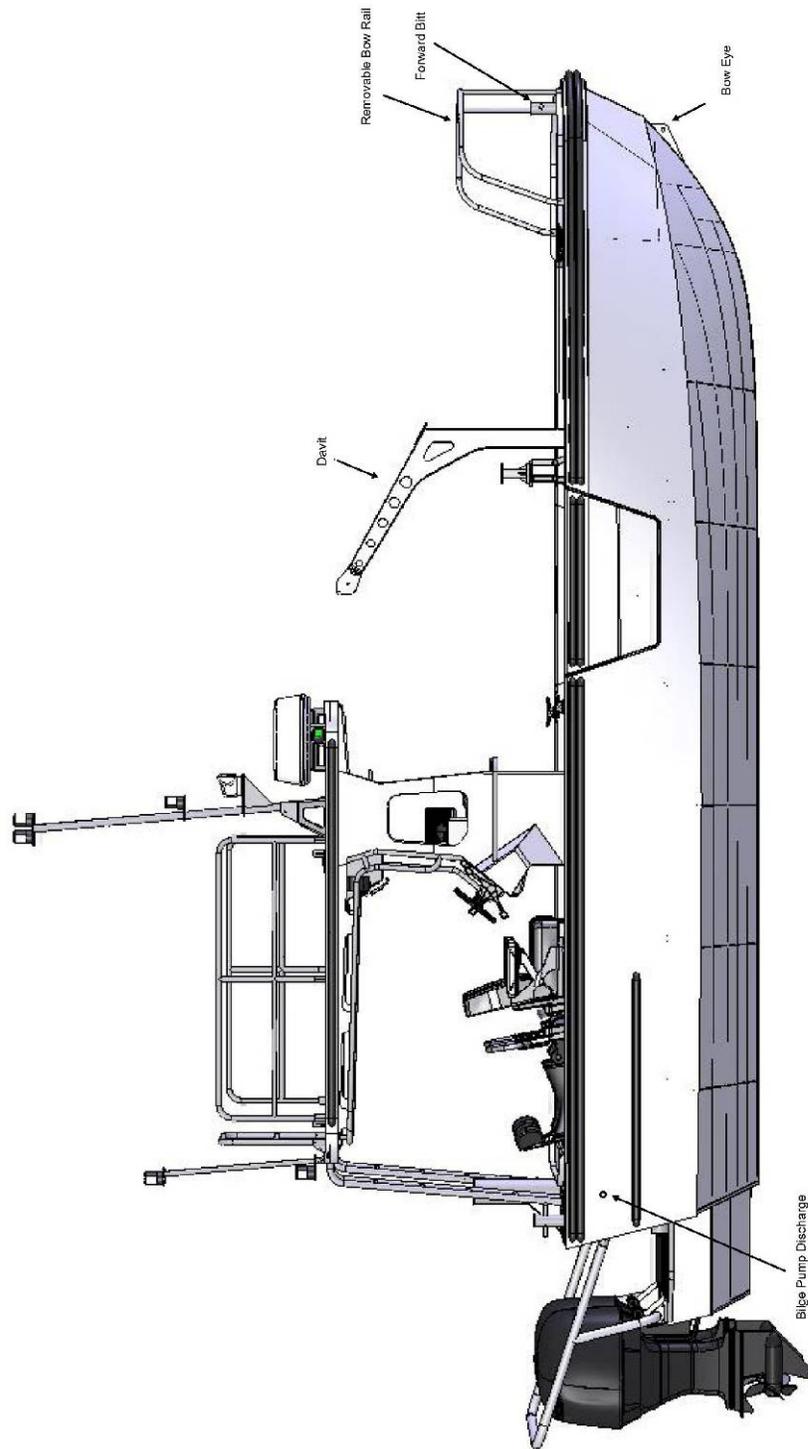


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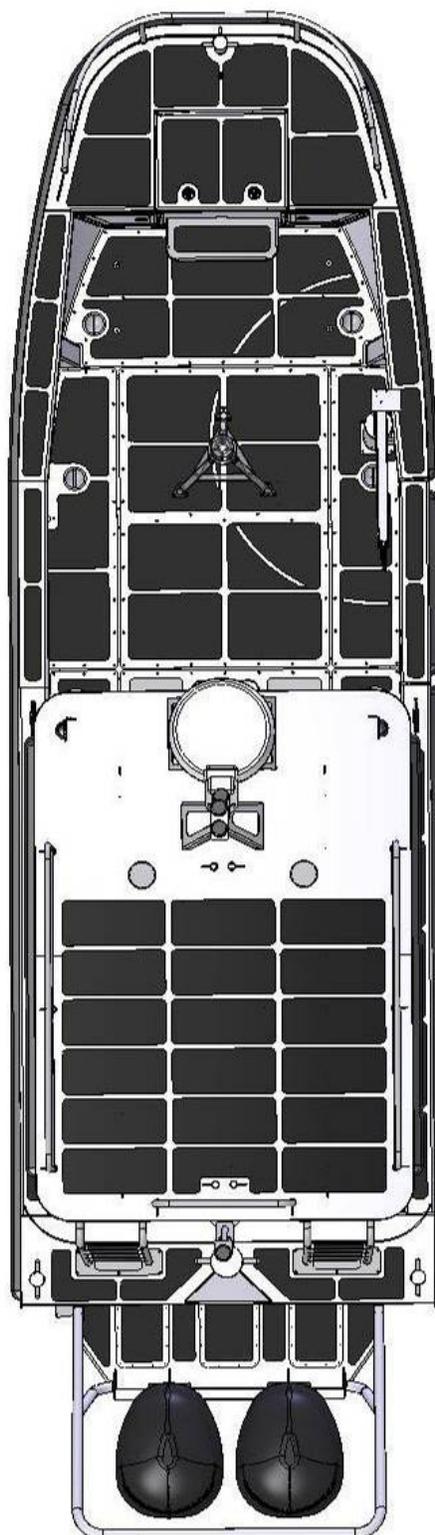


## Section B. Compartments

<b>Introduction</b>	The 26' TANB hull ( <b>Figure 2-2</b> ) is comprised of a single watertight, welded compartment. A 100 gallon fuel tank, fabricated from 3/16-inch 5086 aluminum and supported by rubber isolation mounts is part of the hull's structure.
<b>B.1. Forward Lockers</b>	Two lockers are located under the forward deck, port and starboard of the anchor locker ( <b>Figure 2-3</b> ). The starboard locker contains a fire extinguisher.
<b>B.2. Anchor Locker</b>	An anchor locker, with fabricated hatch cover ( <b>Figure 2-4, Figure 2-5</b> ), anchor tie-downs, and drain, is located at the bow.
<b>B.3. Buoy Deck Storage Locker and Removable Storage Box</b>	A storage locker is located forward of the console ( <b>Figure 2-6</b> ). The locker has a hinged cover. A removable storage box is secured on top of the storage locker. The removable storage box is used for additional AtoN equipment. If not needed, it can be stowed shore side for future use.
<b>B.4. Console Locker</b>	The door on the port side of the console provides access to the storage space within the console ( <b>Figure 2-7</b> ). This space contains the winch operating battery and the 12 VDC circuit breaker panel. A first aid kit and controllers for the searchlight are stowed on the compartment door.
<b>B.5. Transom Storage Lockers</b>	Storage lockers are located at the transom on the port and starboard sides.
<b>B.6. Battery Compartment</b>	The battery compartment is located centerline in the transom ( <b>Figure 2-8</b> ). It contains two batteries, battery switches, and circuit breakers for the 12 VDC distribution panel and battery isolators.
<b>B.7. Console</b>	The console is partially-enclosed with a soft canopy containing side and rear windows with an aluminum canopy ( <b>Figure 2-9</b> ). The windshield is fitted with windshield wipers ( <b>Figure 2-10</b> ).
<b>B.8. Bilge</b>	The bilge access is through a flush mounted, quick acting watertight hatch cover in the deck, on centerline, just forward of the battery compartment. The bilge contains an 1100 gph bilge pump and the depth sounder transducer ( <b>Figure 2-11</b> ).



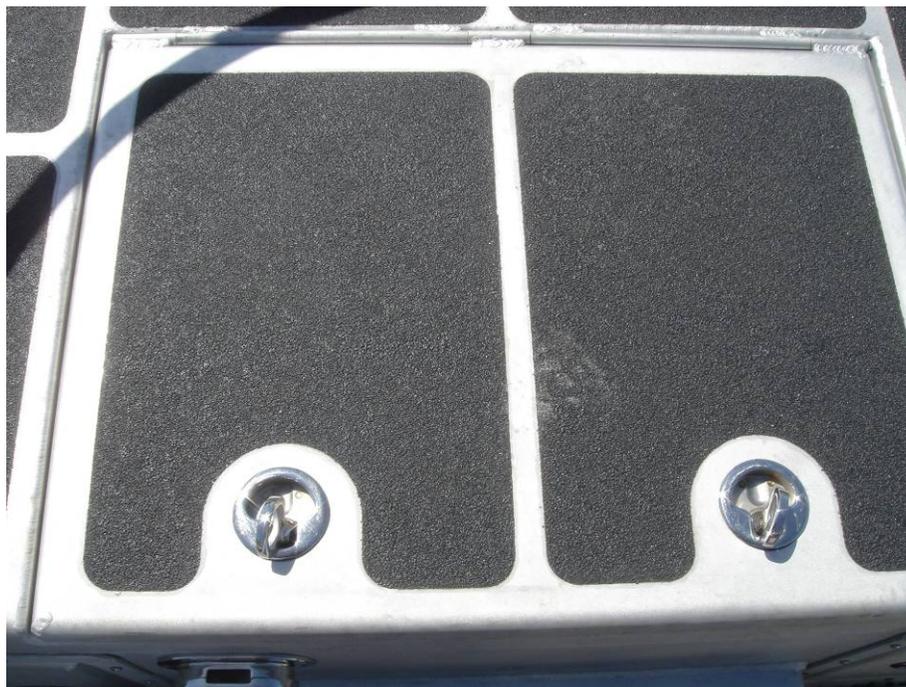
**Figure 2-1**  
**26' TANB Outboard Profile**



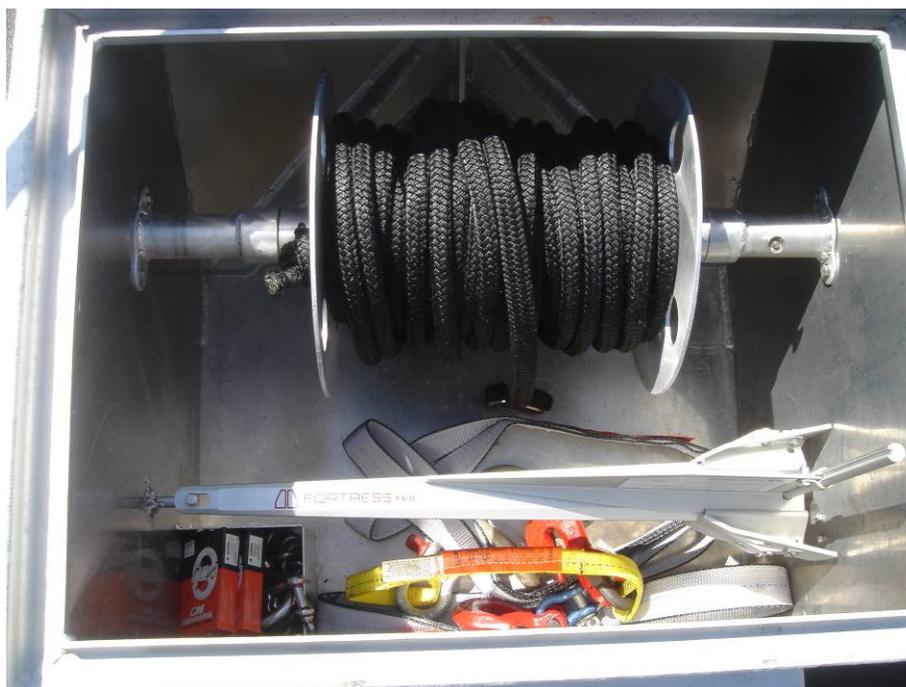
**Figure 2-2**  
**26' TANB Top View**



**Figure 2-3**  
**Bow Stowage Lockers**



**Figure 2-4**  
**Anchor Locker Hatch Cover**



**Figure 2-5**  
**Anchor Locker Interior**



**Figure 2-6**  
**Console Front Storage Locker**



**Figure 2-7**  
**Console Locker Port Side Access**



**Figure 2-8**  
**Battery Compartment**



**Figure 2-9**  
**Console Weather Shield**



**Figure 2-10**  
**Windshield Wipers**



**Figure 2-11**  
**Bilge Access**



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## Section C. Fittings and Deck Equipment

---

### C.1. Bow Eye

An aluminum padeye is welded to the stem (**Figure 2-12**). The bow eye has two holes, one for the trailer winch hook and one for the trailer safety chain.

---



**Figure 2-12**  
**Bow Eye**



---

**C.2. Standard Cleats**

Two 10-inch aluminum standard cleats are welded on top of the gunwale. The cleats are positioned to facilitate mooring, assist along side towing and aid to navigation servicing. The cleats are located on the port and starboard sides; two forward, two amidships.

---

**C.3. Tow Bitts**

Two tow bitts, one forward and one aft; consist of Norman (cross) pins located at the centerline, to be used for towing/anchoring. The aft bitt is much larger and capable of towing up to 20,000 lbs (**Figure 2-13**).

---

**C.4. Davit**

A removable davit with a 500 lb safe working load limit can be stored forward near the buoy port (**Figure 2-14**). The davit is outfitted with a cable winch rated at 3,300 lbs. The winch is operated by a hand-held remote switch. The remote control box for the winch control is located in the console. An appropriate electrical socket for the winch is located under the gunwale just forward of both the port and starboard davit foundations.

Electrical power to the winch is controlled by a battery switch located on the console dash within easy reach of the coxswain. The winch battery can be isolated from the rest of the electrical system to prevent accidental discharge of the starting batteries during extended winch operations.

---

**C.5. Buoy Port/Dive Door**

Buoy port doors are located in the starboard bulwark, forward of the console (**Figure 2-15, Figure 2-16**). See Chapter 3 Section J for operating instructions.

---

**C.6. Deck Padeyes**

The boat incorporates six recessed padeyes, five with a safe working load limit of 250 lbs and one (starboard aft) with a 500 lb limit. The starboard aft pad-eye is recessed into a welded deck plate. The starboard aft pad-eye will most likely have more weight and stress placed upon it as it will be used to secure chain during the buoy deck evolution. Two padeyes are located forward and aft of the buoy port. Four padeyes are located in the corners of the deck in the buoy handling area.

---



**Figure 2-13**  
**Aft Towing Bitt**



**Figure 2-14**  
**Davit and Electric Winch**



**Figure 2-15**  
**Buoy Port/Dive Door**



**Figure 2-16**  
**Buoy Port/Dive Door Panels Removed**



---

**C.7. Canopy  
Top**

An aluminum canopy extends aft from the control console. The canopy serves as an access platform for servicing aids to navigation. Ladders at the aft end of the canopy provide access to the platform. A portable stanchion and lifeline system can be set up on the canopy top when it is being used as a service platform. Removable stanchions for the lifelines are placed in support bases and held in place with a knurled threaded pin at the top and a quick pin inserted through the bottom of the base (**Figure 2-17**).

---



**Figure 2-17**  
**Canopy Top Stanchion Socket**



---

**C.8. Non-Skid**

The exterior decks are covered with non-skid pads. All non-skid edges are treated with edge seal. There is a 1-inch clearance between the non-skid pads, deck fixtures, accesses, and openings on all working surfaces as shown in **Figure 2-18**.

---

**C.9. Gun Mount Attachments**

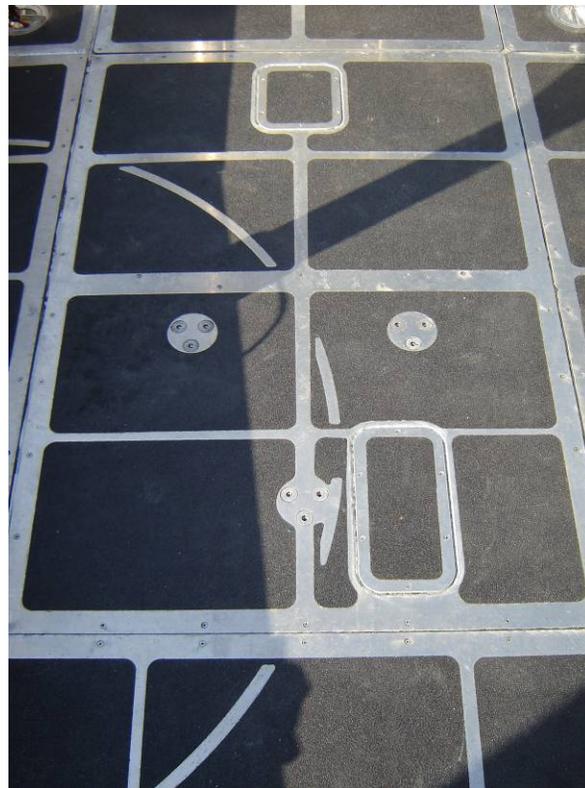
Attachment points for a MK 16 Mod 9 tripod gun mount are located on the buoy deck (**Figure 2-18**). Set screws are inserted into the mounting points to keep them free of dirt and debris. They are to be removed with an allen wrench when installing the gun mount.

---

**C.10. Transom Bitts**

Aluminum Sampson Posts, port and starboard on the transom, are used for mooring, alongside towing, and for securing the 26' TANB to the trailer (**Figure 2-19**).

---



**Figure 2-18**  
**MK 16 Mod 9 Tripod Mounting**



**Figure 2-19**  
**Sampson Post and Strap Securing the 26' TANB to the Trailer**



---

**C.11. Navigation Lights**

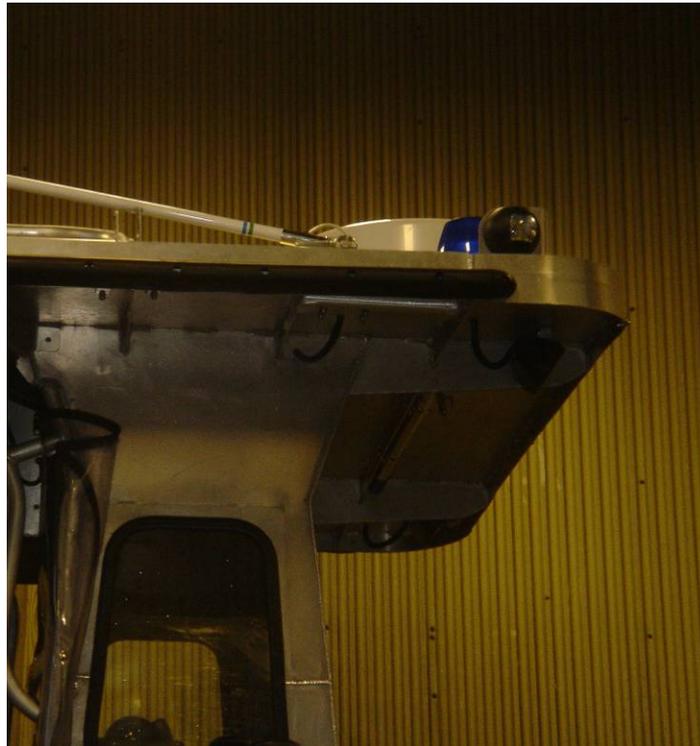
Port and starboard navigation side lights are mounted forward on the canopy top (**Figure 2-20**). The side lights are light emitting diode types.

---

**C.12. Ring Buoy and Strobe Light**

A 24” ring buoy and strobe light is mounted on the overhead of the canopy, aft of the console seats (**Figure 2-21**). The ring buoy is required to have 2” SOLAS grade retro reflective tape at four points equally spaced around the perimeter. Also required are the words “U.S. COAST GUARD” stenciled on the ring buoy’s lower semi-circle and the boat number or station name (upper case) on the buoy’s upper semi-circle.

---



**Figure 2-20**  
**Navigation Side Lights**



**Figure 2-21**  
**Ring Buoy and Strobe Light**



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## Section D. Mast

---

**D.1. Location** The mast is mounted at the centerline on the canopy top (**Figure 2-22**).

---

**D.2. Physical Characteristics** The mast is constructed of aluminum pipe, capable of being folded down by one person without assistance.

The mast is held in place by a knurled threaded pin through the mast step (**Figure 2-23, Figure 2-24**).

Attached to the mast are the following components:

- anchor light (combined masthead and stern light operation)
- masthead light
- stern light
- lower tow light
- search light

A separate towing mast with the amber towing light mounts in a socket on the aft end of the canopy. A cable with power for the light is located next to the socket (**Figure 2-25**).

---



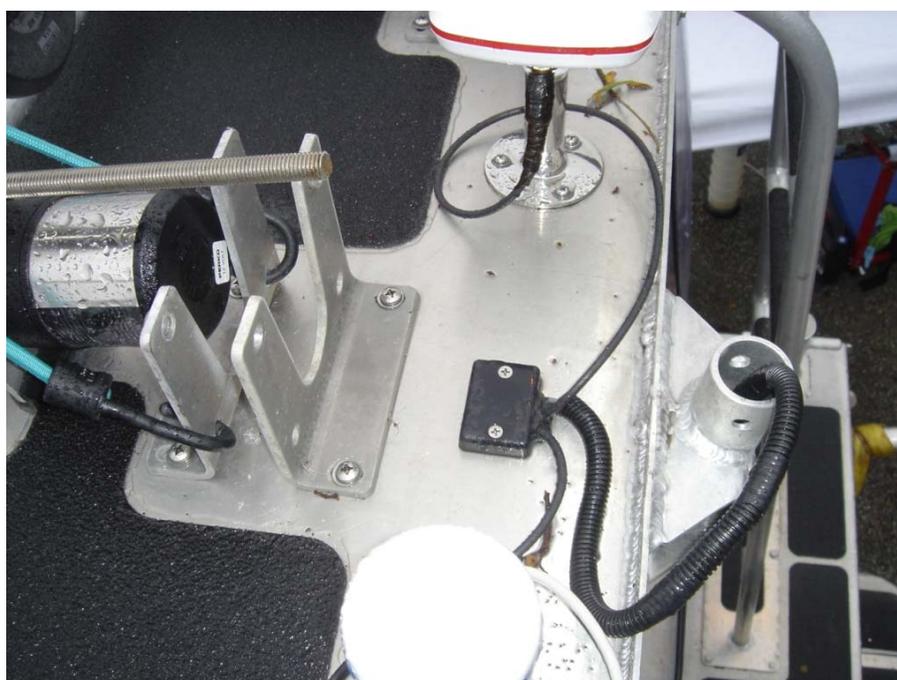
**Figure 2-22**  
**Mast**



**Figure 2-23**  
**Mast Step**



**Figure 2-24  
Mast Step Pin**



**Figure 2-25  
Towing Mast Socket and Power Cable**



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## Section E. Anchor and Towline

---

**E.1. Location** The anchor is stowed in the forward, centerline compartment (**Figures 2-4 and 2-5**).

---

**E.2. Physical Description** The anchoring system is comprised of:

- A Danforth type anchor, Fortress model FX-11
- 3/8" 316 stainless steel or galvanized shackle with captive pin
- 9 feet of 3/8" 316L stainless steel or galvanized anchor chain
- A 316 stainless steel or galvanized jaw-to-jaw swivel and 3/4" thimble
- 150' of 2-1/4" circumference double braided nylon line

The anchor line reel has a locking mechanism to prevent it from free wheeling when not in use. The bitter-end of the anchor line is fastened to the anchor line reel.

The anchor line also serves as the towline.

---



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## Chapter 3 Boat Systems

---

### Introduction

This chapter discusses the 26' TANB's mechanical, electrical, and manual operating systems. Information contained in this chapter describes basic characteristics and provides information to assist boat crews in safe and efficient operations.

---

### In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Propulsion System	3-3
B	Hull System	3-15
C	Electronic Navigation System	3-19
D	Magnetic Compass	3-23
E	Navigation Lights, Searchlights, Floodlights, and Signaling Devices	3-25
F	Fire Extinguishing Equipment	3-29
G	Bilge System	3-31
H	Windshield Wipers and Washers	3-33
I	Cathodic Protection System	3-37
J	Buoy Handling System	3-39
K	Trailer System	3-47

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## Section A. Propulsion System

---

### Introduction

The propulsion system for the 26' TANB consists of twin Honda outboard engines, (**Figure 3-1**) both mounted to an engine mount bracket.

---

### NOTE

All references to engine locations are taken standing behind the engine propeller looking forward.

---

### A.1. Engines

Each engine, rated 150 HP at 5,000-6,000 RPM, is a four-stroke, in-line, four cylinder, water-cooled engine. The total weight of each engine is approximately 490 pounds.

---



**Figure 3-1**  
**Outboard Engines**



---

## A.2. Lubrication Systems

The engine oil system is a trochaic pump pressure system with a capacity of 6.9 quarts of SAE 10W-30, API standard (SG, SH, SJ). The engine oil dipstick (**Figure 3-2**) is located under the engine cover on the starboard side of each engine. The oil fill cap (**Figure 3-2**) is located under the engine cover on the forward port side of the engine. The oil drain plug (**Figure 3-2**) is located on the starboard side of the engine behind a small rectangular cover, held in place by a screw. A spin-on, disposable oil filter is mounted on the back of the engine block directly above the engine fuel filter.

The gear case requires 1.04 quarts of SAE 90 outboard motor gear oil, API standard (GL-4/5). The gear case utilizes a splash-type lubrication system. A gear-oil-level plug (**Figure 3-2**) is located on the forward starboard side of the engine directly above the anti-ventilation plate. The gear oil drain plug (**Figure 3-2**) is located on the starboard side of the horizontal propeller shaft fairing.

---

## A.3. Engine Cooling System

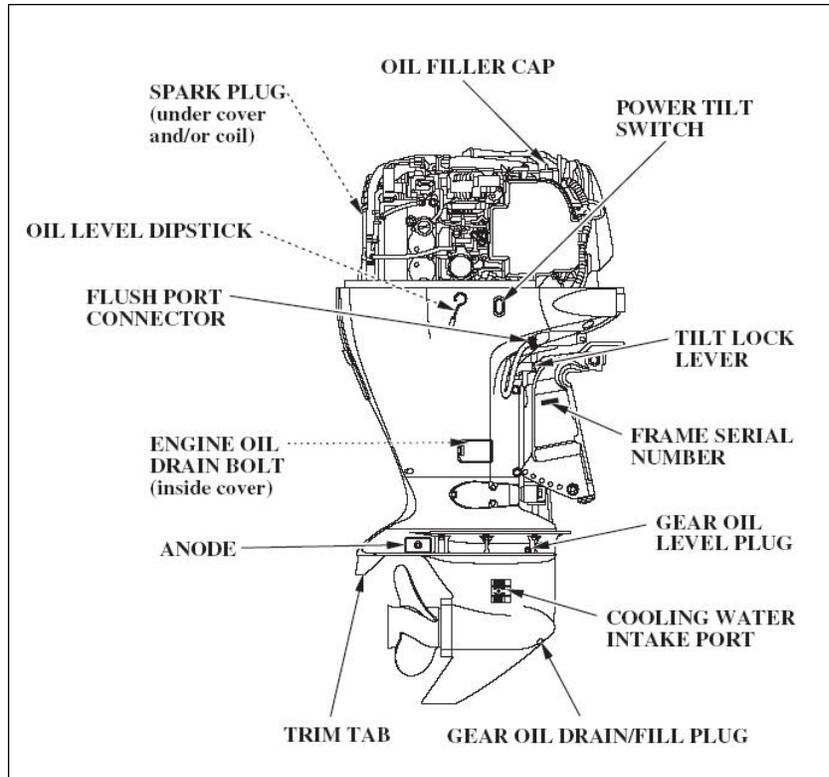
The engine cooling system consists of an impeller type pump and thermostats (2) mounted on the engine. Two cooling water intake ports (**Figure 3-2**) are located on the port and starboard sides of the lower outboard fairing directly above the horizontal propeller shaft. A cooling system indicator (**Figure 3-3, Figure 3-4**) on the port side of the engine cover shows that water is circulating through the engine cooling system.

---



**Figure 3-2**  
**Outboard Engine –**  
**Starboard Side**

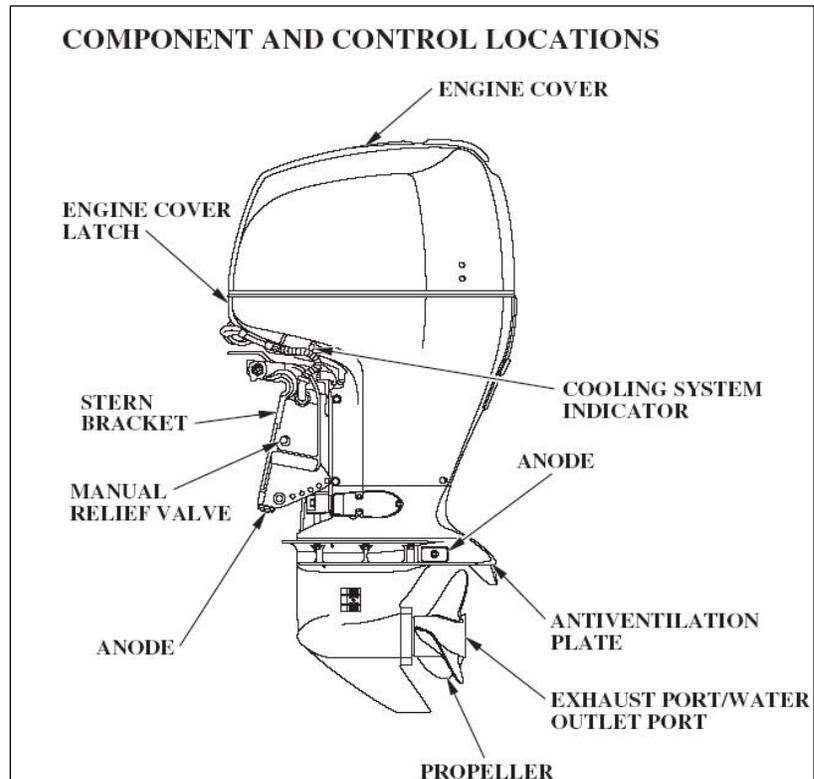
1. Oil dipstick
2. Power tilt switch
3. Tilt lock lever
4. Frame serial number
5. Flush port connector
6. Cooling water intake port
7. Trim tab
8. Anodes (2)
9. Engine oil drain bolt
10. Spark plug
11. Oil filler cap
12. Gear oil level plug
13. Gear oil plug





**Figure 3-3**  
**Outboard Engine – Port Side**

1. Engine cover latch
2. Engine cover
3. Anode
4. Anti-ventilation plate
5. Exhaust port
6. Propeller
7. Anodes (2)
8. Manual relief valve
9. Stern bracket
10. Cooling system indicator



**Figure 3-4**  
**Cooling System Indicator**



---

**CAUTION!**

The fuel system requires unleaded 86-octane gasoline or higher.

---

**A.4. Engine Fuel System**

An electric fuel pump provides fuel to each cylinder as metered by an electronic fuel injection system. A priming bulb (**Figure 3-5**), located in the inlet line to the outboard engine, primes and pressurizes the outboard engine fuel system for starting. A water separator with a translucent cup (**Figure 3-6**) is located beside the oil dipstick and provides a visual indication of water in the fuel. Excess water also sets off a buzzer at the control console. The water separator should be cleaned when excessive water is present.

A low pressure fuel filter is located adjacent to the water separator. The filter is mounted in a translucent cup to provide a visual indication of sediment or water. The filter is disposable and should be replaced periodically or when excessive sediment or water is observed.

Fuel for the outboard engines is stored in an aluminum, hull-mounted fuel tank.

---

**A.5. Ignition System**

The ignition system is a fully transistorized battery ignition system with four spark plugs and four ignition coils. The left and right engine under covers must be removed to gain access to the plugs and coils. Spark plugs specified by the manufacturer are DENSO, part number SKJ20DR-M11, or NKG, part number IZFR6K11.

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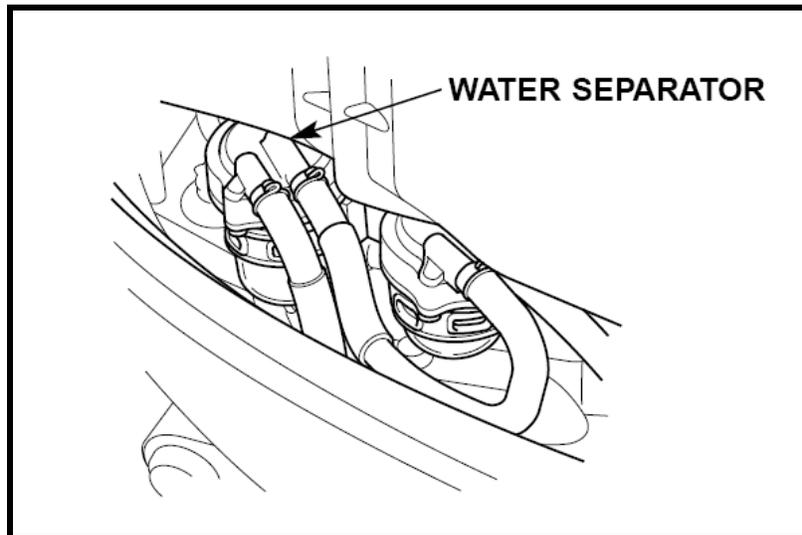
**A.6. Starter**

A direct cranking starter is mounted on the outboard side of each engine. The starter requires 12 VDC and 80 ampere hours starting power.

---



**Figure 3-5**  
**Fuel Priming Bulb**



**Figure 3-6**  
**Water Separator**



### A.7. Engine Controls

The gearshift and throttle controls (**Figure 3-7**) for both engines are located on the starboard side of the dash panel. Each lever controls engine RPM and ahead or astern movement. Moving the throttle lever 35 degrees from neutral selects the gear, forward or reverse, and further movement increases engine speed. The port throttle lever contains the power trim/tilt switches for both engines. These rocker-type switches, labeled UP and DN, change the angle of the outboard motor to trim the boat for normal operations, shallow water operations, beaching, launching, and/or mooring.



**Figure 3-7**  
**Gearshift and Throttle Control**



---

### A.8. Engine Key Switch Panels

The 26' TANB has one engine key switch panel (**Figure 3-8**) mounted next to the throttles. Each engine has an ignition key switch for starting, labeled “OFF ON START”. The key switch is interlocked to allow engine starting only with the throttle lever in the neutral position.

---

#### A.8.a. Engine Kill Switch

One engine kill switch is installed between the ignition key switches for each of the engines (**Figure 3-8**). The engine kill switch clip must be inserted in the engine kill switch in order for the engines to start and run. The kill switch clip is attached to an 18-inch lanyard, which must be attached to the operator’s PFD or boat crew survival vest. Should the operator/coxswain fall away from the controls, the engine(s) will immediately stop.

Engine warning lights are mounted above and below the key switches on the switch panels.

---



**Figure 3-8**  
**Key Switch Panels**



**CAUTION!**

The engines must be up and locked for all trailering evolutions.

**A.9. Power Tilt Switch**

The local power tilt switch (**Figure 3-9**) is mounted on the starboard side of the engine, just below the cover. The power tilt switch will operate without turning the ignition on. The switch is used when the engine is stopped to raise the engine for mooring, trailering, or maintenance.



**Figure 3-9  
Power Tilt Switch**



---

### A.10. Manual Relief Valve

The manual relief valve (**Figure 3-10**) is located on the port side of the engine's stern bracket and is used in conjunction with the tilt lock lever. By inserting a screwdriver in the manual release valve and turning the screw counterclockwise to release the pressure, the engine can be manually tilted and locked when battery power is not available.

---



**Figure 3-10**  
**Manual Relief Valve**



---

**A.11. Tilt Lock Lever**

The tilt lock lever (**Figure 3-11**) is used to support the engine in the *fully raised* position. The lever is located between the engine housing and the frame of the engine.

---

**A.12. Sacrificial Anodes**

Sacrificial anodes (**Figure 3-2, Figure 3-3**) are used to protect the outboard motor from corrosion. Two of the anodes are located on the gear case, one on the stern bracket, and two small anodes are located in the water passages of the engine block.

---

**A.13. Engine Exhaust Port**

The engine exhaust gases discharge around the propeller shaft and through the hub of the propeller.

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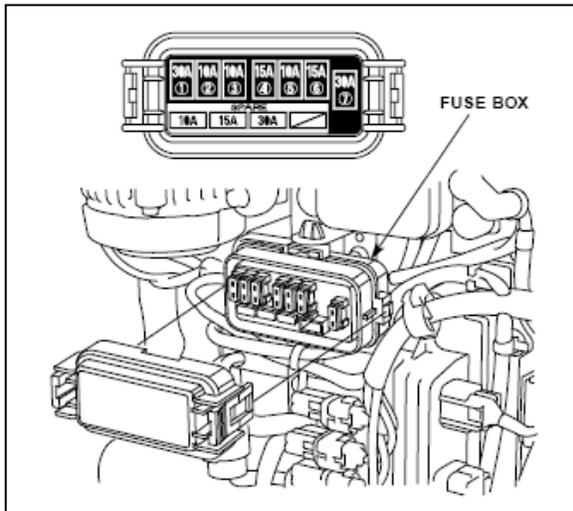


**Figure 3-11  
Tilt Lock Lever**

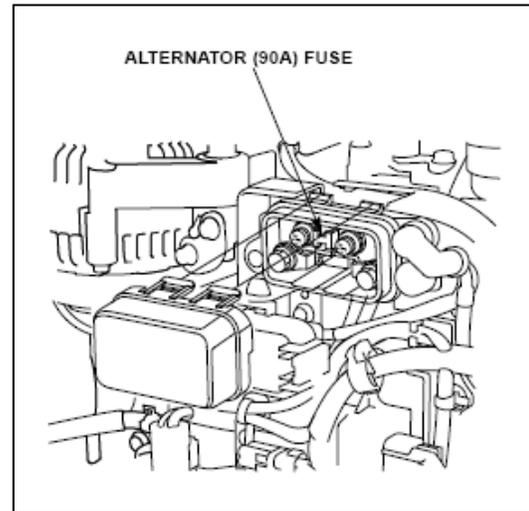


**A.14. Fuse Panels**

Two fuse panels are located under the outboard engine cover (**Figure 3-12, Figure 3-13**). The side-mounted fuse panel houses 10-amp, 15-amp, and 30-amp fuses for the ignition switch circuit, power trim/tilt switch circuit, and electric starter circuit. The top-mounted fuse panel houses the 90-amp alternator/charging circuit fuse.



**Figure 3-12  
Main Fuses**



**Figure 3-13  
Alternator/Charging Circuit Fuse**

**A.15. Propellers**

26' TANBs utilize a stainless steel, three-blade propeller with a 15 1/4" diameter and 18" pitch.

**CAUTION!**

The left- and right-hand propellers ARE NOT interchangeable.

**CAUTION!**

Changing the propeller configuration will change the operating characteristics of the boat. Any recommended changes must be submitted in accordance with the *Naval Engineering Manual*, COMDTINST M9000.6 (series).



## Section B. Hull System

---

### Introduction

The 26' TANB hull is fabricated from 5086 marine grade aluminum. The hull's design is a Vee mono-hull with a pointed bow and flat transom. The deadrise is 22 degrees at the transom; defined as the angle between the baseline plane and the hull bottom when measured perpendicular to the boat's centerline.

The hull consists of ¼" 5086 marine grade aluminum bottom plating. The decks and side plating are 3/16" 5086 marine grade aluminum. The boat has a fixed fender system to protect the exterior of the hull during alongside work. The boat's hull has sufficient buoyancy and stability to float upright if swamped.

### NOTE

To prevent galvanic corrosion of the aluminum hull, the outboard engines should be raised out of the water when the boat is moored for prolonged periods of time.

### CAUTION!

With the engines trimmed to the maximum depth and the boat making no headway, the draft is 2 ft - 3 inches.

### B.1. Draft

The hull's deepest draft with the engines raised is 2' – 0" .

### B.2. Bilge Access Points

The 26' TANB has a watertight, self-bailing deck. Access to the bilge for inspection is located on the centerline, just forward of the battery locker.

### B.3. Scuppers

The scuppers are located port and starboard at the transom. The scupper discharge is fitted with a flap to limit backflow through the scupper (**Figure 3-15**).

### B.4. Trim Tabs

The hull is outfitted with trim tabs (**Figure 3-16**). The trim tabs are controlled from the console, just below the engine gauges.

### B.5. Hull Fendering System

The hull is outfitted with a rubber fendering system that is mechanically attached to the hull at the top of the freeboard (gunwhale). The fendering system is shown in **Figure 3-17**. A welded, permanently attached rub-strake is positioned mid way between the chine and the upper fendering system for increased strength and protection for the hull when alongside structures.

---



**Figure 3-14**  
**Scupper – Inboard**



**Figure 3-15**  
**Scupper Discharge**



**Figure 3-16**  
**Trim Tab**



**Figure 3-17**  
**Fender Attachment**



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## Section C. Electronic Navigation System

---

- C.1. General** The electronic navigation system (**Figure 3-18 through Figure 3-20**) consists of the following:
- 1834/NT-2 Radar/Video Plotter
  - PG 1000 Heading Sensor
  - RD-30 Multi Display Unit
  - 235DT-SSE Depth Sensor
  - DGPS System
  - VHF Radios
  - UHF Radio
  - Automated Identification System (AIS)
  - Loudhailer/Intercom
- 
- C.2. Furuno Radar Display** The Furuno NAVNET-2 Radar Display (**Figure 3-18**) unit is mounted on the center of the console. The antenna and receiver/transmitter unit is mounted on the centerline of the canopy top.
- 
- C.3. Multi-Display Unit** The multi-display unit (**Figure 3-18**) monitor is mounted on the starboard side of the NAVNET-2 Radar Display.
- 
- C.4. Differential Global Satellite Positioning System (DGPS)** The DGPS display (**Figure 3-18**) is located on the port side of the console. The DGPS antenna is mounted on the centerline and aft on the canopy top. The DGPS interfaces with the IATONIS buoy positioning computer through NEMA output two.
-



---

**C.5. VHF  
Radio  
(Standard  
Horizon )**

A VHF-FM radio with Digital Selective Calling (DSC) and power output selection between 25 watts high power and 1 watt low power is flush mounted over the console (Figure 3-19). A whip antenna for the unit is mounted on the canopy top, starboard side.

---

**C.6. VHF  
Radio  
(Motorola XTL  
5000)**

A Motorola XTL 5000 VHF-FM radio with output selection between 50 watts high power and 1 watt low power is provided. The remote head is mounted over the console (Figure 3-19). A whip antenna for the Motorola 5000 is mounted on the canopy top, port side. The radio has Over the Air Re-keying (OTAR) and multi-key format options. It is capable of encrypted operations in the AES, DES, DES-XL and DES-OFB modes.

---

**C.7. UHF  
Radio  
(Motorola XTL  
5000)**

A Motorola Astro XTL-5000 Digital Mobile UHF Radio is installed inside the console in a custom bracket located above the door. The W-9 Remote Control Head is bracket mounted on the overhead dash panel. Power is supplied to the XTL-5000/W-9 from the Distribution Panel. A Morad UHF-HD Antenna is connected to the radio and mounted on the cabin top. The antenna is attached to a Shakespeare extra heavy-duty Style 4187-HD Ratchet Mount. The antenna cable passes through the top via a watertight fitting and into the rear of the Radio Box.

An external Motorola speaker is attached to the radio and mounted in the overhead dash panel. Volume to the speaker is controlled from the W-9 control head.

During normal operations, the radio is energized/de-energized using the on/off switch located on the control head.

---

**C.8. L3  
ProTec-M AIS**

An L-3 ProTec-M AIS AFT (V2) is installed on the console radio panel. Power is supplied to the ProTec from the Distribution Panel. A Shakespeare 5241 Antenna is connected to the radio and mounted on the top. The antenna is attached to a Shakespeare extra heavy-duty Style 4187-HD Ratchet Mount. The antenna cable passes through the canopy top via a watertight fitting and into the rear of the Radio Box. A Furuno GPA017S/S GPS antenna is also connected to the unit and mounted on the aft edge of the canopy top. The antenna is attached to a stainless steel fixed pipe mount.

During normal operations, the AIS is energized/de-energized using the on/off switch located on the unit face.

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**C.9. EPIRB**

A manually deployable, self-buoyant, 406MHz CAT II EPIRB with a built-in GPS location transmitter is located on the starboard side at the transom (Figure 3-20).

---

**C.10.  
Loudhailer /  
Intercom  
(Furuno)**

The loudhailer/intercom (Figure 3-19) is used for hailing interior and exterior manned weather deck locations, and has talk-back capability. The loudhailer is located in the center of the console.

The loudhailer can also provide six different navigational sound signals, audible foghorn patterns that correspond to boat operating conditions.

---



**Figure 3-18  
Furuno NAVNET-2 Radar Display and Multi-Display Unit**



**Figure 3-19**  
**VHF-FM Marine Radios and Loudhailer**



**Figure 3-20**  
**EPIRB**



## Section D. Magnetic Compass

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### D.1. General

The magnetic compass (**Figure 3-21**) is mounted on the control console in front of the coxswain. It is the standby or backup compass used in navigation. The compass has 10-degree increments on a 4-inch card dial and is back lighted. The compass deviation card is installed below the compass and provides the date the compass was last swung and the deviation from the major cardinal points.

---



**Figure 3-21**  
Compass



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## Section E. Navigation Lights, Searchlights, Floodlights, and Signal Devices

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### E.1. Navigation Lights

The navigation lights (**Figure 3-22** and **Figure 3-23**) are controlled from a light switch panel mounted over the console near the VHF-FM radios. Toggle switches provide for lighting configurations based upon the boat's operating configuration; underway, anchor, towing (inland).

The following is a list of installed navigation lights:

- red light - port side of canopy top
- green light - starboard side of canopy top
- white light (forward) - masthead light top of the mast
- white light (forward) - lower tow light, second light from top of the mast
- white light (aft) - stern light, top of the mast
- white light (all around) anchor light, top of mast using combined masthead and aft light
- amber light (aft) - stern tow light, on portable mast

---

### E.2. Searchlights

One, 500,000-candlepower searchlight is mounted on the mast (**Figure 3-23**). The light is capable of illuminating 350 degrees horizontally and 70 degrees vertically. The searchlight is controlled from the control console and also has a remote control. The controls allow for *on*, *off*, and *directional* control of the searchlight.

---

### E.3. Floodlights

Two white floodlights (**Figure 3-24**) are mounted on the underside of the canopy, forward, to provide illumination for buoy handling and the cargo storage area. Switches on the console control the floodlights.

---



#### **E.4. Signal Devices**

One horn (**Figure 3-24**) is mounted on top of the canopy. The horn is controlled by a momentary contact toggle switch on the console. The siren toggle switch is next to the horn toggle switch.



**Figure 3-22**  
**Navigation Side Lights**



**Figure 3-23**  
**Navigation Lights and Searchlight on Mast, Mast in Lowered Position**



**Figure 3-24**  
**Floodlights and Loudhailer**



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## Section F. Fire Extinguishing Equipment

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### F.1. General

Two B-I dry chemical fire extinguishers are installed on the 26' TANB. One extinguisher is located in the forward starboard storage locker at the bow (**Figure 3-25**). The other is located under the forward portside crew seat at the console.

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**Figure 3-25**  
**Fire Extinguisher Stowage – Forward**



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## Section G. Bilge System

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### G.1. General

The bilge system consists of an installed bilge pump, float switch, and a bilge pump control switch. The system is designed to remove small amounts of water that occur due to condensation, small leaks, or water used to clean decks and other surfaces.

---

### G.2. Bilge Pumps and Float Switches

The bilge has a fixed, automatic bilge pump that operates on 12 VDC. The pump is located beneath the centerline hatch cover, just forward of the battery locker (**Figure 3-26**). The bilge pump is rated at approximately 1100 gph. A check valve installed in the overboard discharge line prevents backflow through the pump. A float switch is installed to turn the pump *on* when the fluid level is approximately 5 inches deep, and *off* when the level drops to approximately 4 inches deep.

---

### G.3. Bilge Pump Panel

The bilge pump toggle switch is located on the control panel. The bilge pump switch is protected to prevent the pump from being turned on inadvertently. The switch should remain in the auto position. A light illuminates when the bilge pump is operating (**Figure 3-27**).

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**Figure 3-26**  
**Bilge Pump and Float Switch**



**Figure 3-27**  
**Auxiliary Switches**



## Section H. Windshield Wipers and Washers

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**H.1. General** Windshield wipers, washers, and a window defroster are installed on the forward facing windshield (**Figure 3-28**).

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**H.1.a. Wipers and Washers** The wipers utilize a 12-VDC motor. The wiper/washer control is a knob located on the console (**Figure 3-27**). The washer fluid bottle holds approximately one-half gallon of fluid. The bottle is within the console and the fill is located on the starboard outboard side of the console (**Figure 3-29**).

---

**H.1.b. Defroster** The defroster (**Figure 3-30**) is located on the console dash, centerline and forward. The defroster is controlled by a toggle switch located on the console.

---



**Figure 3-28**  
**Windshield Wipers**



**Figure 3-29**  
**Windshield Wiper Fluid Fill**



**Figure 3-30**  
**Starboard Defroster Fan**



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## Section I. Cathodic Protection System

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**I.1. General** The cathodic protection system (**Figure 3-31**) helps to reduce corrosion on exterior hull surfaces.

---

**I.2. Sacrificial Anodes** The cathodic protection system installed on the boat consists of sacrificial anodes bolted to studs on the port and starboard sides of the outboard engine mounting bracket below the waterline.

---



**Figure 3-31**  
**Sacrificial Anode**



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## Section J. Buoy Handling System

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**J.1. General** The 26' TANB is equipped with removable buoy port doors, a davit, and deck padeyes for handling and securing buoys.

---

**J.2. Buoy Port Doors** The buoy port door is of aluminum construction and can be split in two sections (**Figure 3-32**). The upper section can be removed by moving the upper locking lever from the aft to the forward position (**Figure 3-33**). The lower section can also be removed by moving the lower locking lever from the aft to the forward position. Both sections can be removed as a unit by leaving the upper locking lever in the aft position and moving the lower locking lever to the forward position.

---

**NOTE** 

Buoy port doors locking levers must be securely fastened in the aft position whenever the doors are in the bulwark.

**J.3. Buoy Port Door Stowage** Storage brackets are provided on the portside gunwale for stowing the buoy port doors when the door is removed for buoy handling (**Figure 3-34, Figure 3-35**).

---

**J.4. Davit** The davit has a safe working load of 500 lbs (**Figure 3-37**). During production, the davit was weight tested in accordance with the *Naval Engineering Manual*, COMDTINST M9000.6 (series) Chapter 589. A placard is located on the davit stating information regarding the weight test.

The davit is removable and two sockets are provided, one each on the port and starboard sides of the buoy handling area. A lead plug equal to the davit's weight is stowed in the opposite socket to offset the weight of the davit (**Figure 3-37**).

---

**J.5. Davit Winch** The davit is equipped with an electric winch. A rotary switch at the control console (**Figure 3-38**) provides power to the winch control box. The switch must be in position 1 to operate the winch. The davit power cable is plugged into the winch power box located under each gunwale (**Figure 3-39**). A hand controller for the winch is plugged into the winch control box under the starboard gunwale. **Figure 3-40** shows the controller and the control box. The control box is located forward of the power plug.

---



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### **J.6. Deck Padeyes**

There are six recessed padeyes, five with a safe working load limit of 250 lbs and one with a limit of 500 lbs. The starboard aft padeye is recessed into a welded deck plate. The starboard aft padeye will have more weight and stress placed upon it because it will be used to secure chain during the buoy deck evolution. Therefore, the working load limit was increased to 500 lbs. Two padeyes are located forward and aft of the buoy port. Four padeyes are located in the corners of the deck in the buoy handling area.

---



**Figure 3-32**  
**Buoy Port Doors in Place in Gunwale**



**Figure 3-33**  
**Buoy Port Door Locking Levers**



**Figure 3-34**  
**Buoy Port Door Stowage Clips**



**Figure 3-35**  
**Buoy Port Door Stowed on Clips**



**Figure 3-36**  
**Davit**



**Figure 3-37**  
**Lead Davit Counter Weight**



**Figure 3-38**  
**Davit Winch Power Switch**



**Figure 3-39**  
**Davit Winch Power Socket Port Side**



**Figure 3-40**  
**Davit Winch Controller, Control Box and Power Socket Starboard Side**



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## Section K. Trailer System

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**Introduction** The trailer that accompanies the 26' TANB is custom built by Boat Master. It is designed to transport the 26' TANB on public roadways.

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**K.1. General** The boat trailer associated equipment is an important part of your boat's readiness. All too often, the trailer and tow vehicles do not receive the attention required to ensure proper operation.

For additional guidance and policy on qualifications and trailering procedures, refer to Coast Guard Trailering Manual, COMDTINST M11240.10 (series).

---

**NOTE**  The only trailer authorized for the 26' TANB is the Boatmaster Trailer designed for this class of boat.

**WARNING**  Lack of preventative maintenance contributes to a significant amount of trailering mishaps each year. In fact, poor maintenance endangers the safety of the boat crew, you, and the public.

---

**K.2. Tow Vehicle** The tow vehicle must be capable of handling the weight of the trailer (including boat and equipment), as well as the weight of the passengers and equipment carried inside the vehicle. This may require that the tow vehicle be specially equipped with the following:

- Engine of adequate power.
  - Transmission and rear-end designed for towing.
  - Larger cooling systems for the engine and transmission.
  - Heavy-duty brakes.
  - Load bearing hitch attached to the frame, not the bumper.
  - Heavy duty suspension
- 

**NOTE**  The towing vehicle must be rated at the combined weight of the boat and trailer. The vehicle's towing limitations can be found in the owner's manual.

**NOTE**  Should the combined weight of the boat, trailer, personnel, and equipment be too close to the tow vehicle's rating, consider using a second vehicle to transport some of the extra personnel and equipment.

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### K.3. Hitch

The trailer hitch is attached to the tow vehicle's frame, thus providing a secure fitting for the receiver and ball mount (**Figure 3-41**). Each component of the hitch system, including hitch receiver, shank and ball, must be rated for 10,600 lbs or greater. The hitch receiver must be rated for 10,600 lbs dead weight (weight carrying rating); weight distribution rating will be higher. The hitch must be stamped (by the manufacturer) or have a manufacturer sticker stating the class and the rated towing capacity (10,600 lbs or greater).

---

### K.4. Ball Mount and Ball

The ball mount attaches to the trailer hitch, providing a secure fitting to mount the trailer ball. The trailer coupler must be secured on the hitch ball using the safety latch mechanism. If the safety latch does not easily slide into place, reposition trailer coupler to ensure proper fit.

The ball mount must have a capable trailer weight of 10,600 lbs or greater. The ball mount must be stamped by the manufacturer, or have a sticker affixed from the manufacturer stating the rated towing capacity is 10,600 lbs or greater. Should a ball mount require hardware (bolts and nuts), the hardware must have a rating of 10,600 lbs or greater.

The ball size must be 2 5/16" and have a rating of 10,600 lbs or greater. It shall be stamped and clearly legible. The ball should be inspected often for cracks, abnormal wear, and proper lubrication.

---



**Figure 3-41**  
**Hitch, Ball Mount, and Ball Assembly**



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**K.5. Trailer  
Coupler, Safety  
Chains and  
Hydraulic  
Brake Actuator**

The trailer coupler attaches to the ball of the tow vehicle (**Figure 3-42**). The coupler engages the ball and provides a positive mechanical lock between the trailer and tow vehicle. The coupler must be for a 2 5/16" ball and have a rating of 10,600 lbs or greater. It shall be stamped and clearly legible.

Two safety chains or cables attached to the trailer provide trailer retention to the vehicle should the coupler disengage from the ball. The safety chains or wire cables must be rated for 10,600 lbs or greater. One end of the safety wire cable or chain is bolted directly to the trailer. The bitter ends are attached to the tow vehicle's hitch with 1/2 inch galvanized safety hooks that are rated for 2 tons.

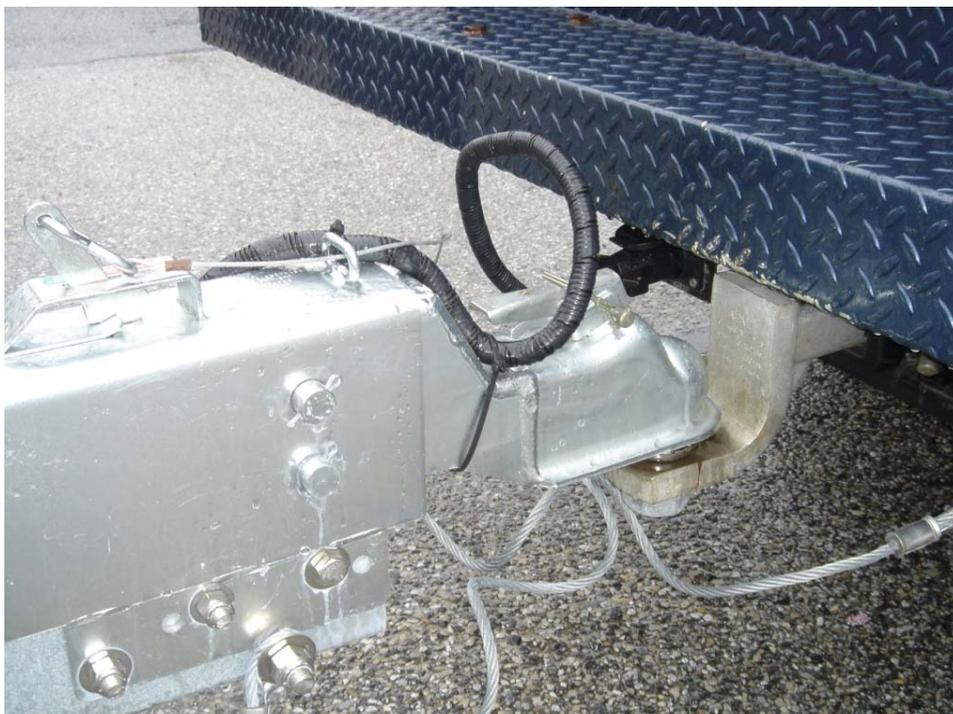
The breakaway lever actuating wire (Hydraulic Brake Actuator) is attached to the vehicle during towing operations. Should the coupler disengage from the ball, the actuator wire will be pulled forward, actuating the breakaway lever automatically, thus applying the trailer's brakes. The actuator wire must be attached to the hitch by using a 1/4" shackle plus an additional 1/2" shackle. The actuator wire shall be shorter in length so that the brakes activate before the safety cables or chains are fully extended (**Figure 3-43**).

**NOTE** 

Always use a designated "spotter" when hooking up the trailer. The spotter can provide detailed instructions to the tow vehicle operator when backing up, which will prevent damage to both the tow vehicle and trailer.



**Figure 3-42**  
**Trailer Coupling Assembly**



**Figure 3-43**  
**Trailer Hook-Up**



### **K.6. Trailer Construction and Equipment**

The primary frame of the trailer is made up of 7 ½” aluminum “I beam”. The suspension is a torsion axle system that contains dual axles, 4 tires (2 per axle), and 1 spare. Two tie-down straps are provided to secure the boat to the trailer. The wheels are attached to the hub system.

The trailer lights are incandescent lamps, which include: braking, tail and clearance.

### **K.7. Attaching Tow Vehicle to the Trailer**

When attaching the tow vehicle to the trailer, the same procedures should be performed every time. Whether you are transiting to a local boat ramp just down the road or going on a long trip, the trailer should always be completely attached to the tow vehicle.

Follow these steps for attaching the trailer to the tow vehicle:

<b>Step</b>	<b>Action</b>
1	Using a spotter, carefully back the tow vehicle so that the trailer ball is aligned under the trailer’s coupler.
2	Using the hand-crank jack, lower the trailer coupler until it is completely seated on the trailer ball.
3	Engage the coupler latch and insert the coupler latch pin to ensure it does not come undone during transit. NOTE: The coupler latch pin should have a lanyard long enough to facilitate insertion and removal.
4	Attach the safety wire cables or chains. They shall be crisscrossed and have enough slack to allow for sharp turns in both directions, yet short enough to not drag on the ground.
5	Attach the breakaway lever actuating wire. Ensure there is enough slack in the safety and actuator cables to allow for sharp turns in both directions, yet short enough to ensure the brakes will be activated before the safety cables or chains are fully extended.
6	Connect the wiring harness to the tow vehicle. The wiring harness (pig tail) should have enough slack to allow sharp turns in both directions, and be short enough as to not drag on the



	ground.
7	Check trailer lights to ensure they are operating properly.

**NOTE**

The towing vehicle must be rated at the combined weight of the boat and trailer. The vehicle’s towing limitations can be found in the Owner’s Manual.

**CAUTION!**

Once connected to the tow vehicle, ensure the trailer is being towed level to the ground. If the trailer is not level to the ground, a drop bar/ball mount of a different height may be necessary and/or the trailer coupler may need adjustment.

**WARNING**

Do not exceed the maximum weight rating on the trailer. Exceeding the maximum rating voids the manufacturer’s warranty and may lead to failure of the trailer, causing damage to the boat and creating an unsafe towing condition.

**K.8. Securing the Boat to the Trailer**

Before taking the trailer and boat into tow, you must first ensure that the boat is properly secured to the trailer. **Damage to the boat and trailer could result if the two are not properly connected.** Strap down the 26’ TANB in the following manner:

Tie-down straps must be attached and tightened between the aft Samson posts and the trailer (**Figure 3-44**).

The forward safety cable or chain must be connected to the lower hole in the bow eye (**Figure 3-45**).

Tie-downs shall be rated for at least 6,000 lbs and be the same style and model as the issued tie-downs that came with the Boat Master Trailer.

The winch strap shall not be used as a tie down and must not exceed light strain (**Figure 3-45**).

**NOTE**

Trailer chafing skids or “Bunks” must be kept in good condition to prevent scratching and gouging of the hull.



**Figure 3-44**  
**Trailer to Transom Tie Down**



**Figure 3-45**  
**Boat Trailer, Forward Tie Down**

**WARNING** 

The boat and trailer will hinder the driver's ability to judge distances and negotiate turns.

**K.9. Towing Precautions**

Pulling a trailer presents several problems: more time is required to brake, accelerate, pass, and stop. The presence of the boat on the trailer will increase the size of the vehicle's blind spots, especially when using rear view mirrors for backing. The turning radius is also much greater; curbs and roadside barriers must be given a wide berth when negotiating corners.

Prior to operating on the open road, the vehicle operator should practice turning, backing up, and other maneuvers at a level, non-congested parking area. Backing a trailer is a challenge, even to the most experienced drivers, and requires considerable practice.

The 26' TANB and trailer are closely matched to the minimum trailer-truck-hitch requirements. Safe trailering requires that the trailer be properly balanced and loaded. Overloading a trailer on the highway is as dangerous as overloading your boat on the water. Carrying additional equipment (beyond the boat outfit) or personal gear on the boat may add substantially to the trailer's gross weight and play havoc with the load




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distribution.

Vehicle speed shall not exceed posted speed limit or 60 mph (which ever is less) in ideal weather and road conditions. For wet road surfaces, speed should be reduced by 30 percent. While towing a boat, following distance should increase to five seconds rather than the normal three second following distance.

---

**WARNING** 

Do not overload the trailer by carrying additional equipment or personal gear in the boat.

**NOTE** 

Many units require tow vehicle operators to complete a unit generated Performance Qualification Standard (PQS) before they tow a trailer.

---

**K.10. Trailering Checklist**

Before your trip, ensure the following items have been checked:

Check intended routes for restrictions on bridges and tunnels, and low overhead clearances. All antennas, including the anchor light mast, must be rotated to the down position. With the antennas and the anchor light mast in the down position, the highest point of the trailered boat becomes the top of the Radar Dome, at 12' 3" above the ground.

The tow ball and coupler must be the same size, and tow balls with nut/washers have to be tightly secured (the vibration of road travel can loosen trailer hardware).

Confirm the coupler is completely over the ball, and the latching mechanism is locked down and secured with locking pin.

The safety wire cables or chains are securely attached, crisscrossing under the coupler to the hitch. Should the hitch fail, the trailer's tongue would be held up by the chains, allowing the trailer to follow in a straight line, thus preventing the coupler from dragging on the road.

Ensure the hydraulic brake actuator safety wire is attached to the hitch.

Ensure the jack is fully cranked up.

Vehicle side-view mirrors should be large enough and adjusted for the driver. This will provide an unobstructed rear view on both sides of the

---



vehicle.

Check all vehicle and trailer lights signal operation. When trailer lights are submerged during launching/recovery, they have a greater chance of failure. Always disconnect the trailer-wiring harness before submerging the trailer’s lights.

Test the brakes before getting on the road. Drive forward and apply the brakes several times at slow, safe speeds; this will help determine a safe stopping distance.

Check all tires, including the trailer’s spare tire and towing vehicle tires, for condition and proper air pressure. Improper air pressures will cause difficulties in steering. Read the tire sidewall and trailer specifications to determine tire pressure required. Furthermore, check for tire wear, cracks, bubbles, or foreign objects imbedded in the tire. When trailer wheels are immersed in water (especially salt water), the bearings should be inspected and greased on a regular basis in accordance with PMS procedures.

Inspect areas for standing water. Remove water and inspect for source.

**Ensure the trailer is loaded evenly, from front to rear as well as side-to-side. Too much weight on the hitch will cause the rear of the tow vehicle to sag and will make steering more difficult.**

**WARNING** 

The soft canopy cover must be removed before trailering: The cover will not withstand trailering speeds. Trailering with cover in place will void the warranty if damaged during over the road transits.

**K.11. Launching the Boat**

Once at the boat ramp, use the following procedures to launch the boat:

Step	Action
1	Use a spotter to help back the trailer down the boat ramp to the water’s edge. Remember to set the parking brake.
2	Remove all tie-down straps that secure the boat to the trailer. <b>DO NOT</b> disconnect the trailer winch connection.
3	Visually inspect the boat’s hull and engines for any damage



	that may have occurred during transit.
4	With a crew member in the boat, have another crew member stand-by to release the trailer winch connection once in the water.
5	Carefully back the trailer into the water until approximately three-quarters of the boat is floating free of the trailer. Set the towing vehicle's parking brake.
6	Check spaces for flooding.
7	Lower engines into the water and start. Ensure the water level in the vicinity of the outboards is sufficient for operation and clear of hazards.
8	If crew is satisfied with condition of boat/engines and is ready to get underway, release the trailer winch connection and carefully push/power the boat back off the trailer.
9	Carefully pull tow vehicle forward clear of boat ramp.

**NOTE** 

After launching or recovering the boat, always rinse down the trailer with fresh water and check the trailer lights for proper operation.

**CAUTION!**

During recovery, ensure 1” to 2” of space remains between the bow and the bow stops. This will ensure proper loading and weight distribution.

**CAUTION!**

Always use a spotter when backing a trailer! Windows should be open and tow vehicle radio should be off.



**K.12.  
Recovering  
the Boat**

When finished with boat operations, use the following procedures to recover the boat:

<b>Step</b>	<b>Action</b>
1	Disconnect trailer-wiring harness from tow vehicle. Set parking brake.
2	Using a spotter, carefully back trailer down the ramp until approximately three-quarters of the trailer is submerged.
3	Align the center of the boat with the center of the trailer and carefully maneuver the boat onto the trailer. Check water level in the vicinity of the trailer and trim engines up or secure as needed.
4	Attach trailer winch to top hole in bow eye of boat and pull boat forward onto the trailer until 1” to 2” of space remains between the bow and the bow stops. Always ensure boat stays centered on trailer.
5	Secure engines on boat (if still running).
6	Slowly pull the tow vehicle forward until the trailer is clear of the water.
7	Attach all tie-down straps securing the boat to the trailer. Lower antennas, console canopy rails, and anchor light mast before transporting on roadways.
8	Ensure trailer lighting is operating properly.
9	Do a complete visual inspection of the tow vehicle, trailer, and boat before transiting on highway.



## Chapter 4 Crew Requirements

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### Introduction

The *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I*, COMDTINST M16114.32 (series), provides minimum standards and guidelines for competence onboard 26' TANB. Every crew member shall be familiar with the duties of other crew members in addition to his/her own duties. 26' TANB crew members need to commit to memory all important characteristics of the boat and its equipment in addition to boat casualty procedures. Each crew member should mentally rehearse the procedures for operational casualties, including other positions of the crew. Teamwork is the common thread that allows the crew to succeed. Whenever the opportunity is available, the crew should get the boat underway to practice operational and emergency procedures.

---

### In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Minimum Crew	4-3
B	Coxswain	4-5
C	Crewmembers	4-7
D	Passengers	4-9
E	Safety Equipment	4-11

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## Section A. Minimum Crew

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### **Introduction**

Units shall comply with the minimum boat crew requirements prescribed in the *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I*, COMDTINST M16114.32 (series).

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### **A.1. Certified Crew**

All crew members shall meet the qualification requirements prescribed in the *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series).

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## Section B. Coxswain

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### Introduction

The U.S. Coast Guard places great trust in each coxswain and his or her ability to accomplish the assigned missions in a safe and professional manner, even under adverse conditions. The position of coxswain is one of high regard and great responsibility.

The coxswain is responsible for the boat, its crew, and passengers during every mission. The coxswain assigns and directs all onboard functions during each operation.

---

### B.1. Authority and Responsibility

The extent of the authority and responsibility of the coxswain is specified in *United States Coast Guard Regulations 1992*, COMDTINST M5000.3 (series), as follows:

*“The coxswain shall be responsible, in order of precedence, for the safety and conduct of passengers and crew; the safe operation and navigation of the boat assigned; and the completion of the sortie or mission(s) assigned or undertaken pursuant to USCG policy and regulations. An underway coxswain will at all times respond, within the limits of capabilities and legal authority, to observed hazards to life or property, and violations of law or regulations.”*

The coxswain is the direct representative of the Commanding Officer (CO) or Officer-in-Charge (OIC) and, as such, (subject to *Articles 88-89* of the *UCMJ*) has the authority and responsibilities that are independent of rank or seniority in relation to other personnel embarked. The authority and responsibility of the coxswain exist only when the boat is engaged on a specific sortie or mission.

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### B.2. Relief of Responsibility

The only person embarked in the boat who may relieve the coxswain of the responsibility as described above is:

- The CO, OIC, Executive Officer (XO), or Executive Petty Officer (XPO).
  - A senior officer at the scene of a distress emergency, or other abnormal situation, who exercises authority under the provisions of *United States Coast Guard Regulations 1992*, COMDTINST M5000.3 (series); whether or not other units are involved.
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## Section C. Crewmembers

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### **Introduction**

Under direct supervision of the coxswain, the crew is responsible for line handling, acting as lookout, and assisting the coxswain as required during all evolutions or maneuvers.

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### **C.1. Certified Crew Member**

The crew member must be certified in accordance with the *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I*, COMDTINST M16114.32 (series) and *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series).

Additionally, the crew member may be responsible for operating the communications/navigation equipment when directed by the coxswain.

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### **C.2. Additional Crew Members**

Additional crew members are assigned by the coxswain and certified by the CO/OIC based upon mission requirements.

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## Section D. Passengers

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### **Introduction**

26' TANBs are designed to carry a crew of two for normal transits, and a crew of three when engaged in Aids to Navigation operations. Four additional crew or passengers can be carried in support of various missions, not to exceed the designed weight capacity of the boat. Crew and passengers shall be seated as directed by the coxswain.

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## Section E. Safety Equipment

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### E.1. Personal Protective Equipment (PPE)

During all boat operations, crew members shall wear Personal Protective Equipment (PPE) as required by the *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series) and the *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series).

### WARNING

The use of the engine kill switch is required whenever the boat is started or is underway. The engine kill switch is located below the start switch. The activation clip for the kill switch **MUST** be inserted into the switch body to start the engine. The lanyard **MUST** be properly attached to the coxswain at all times during boat operation. A second kill switch lanyard with activation clip **MUST** be carried onboard to enable remaining crew members to operate the boat in the event the coxswain is ejected.

### NOTE

The coxswain is responsible for ensuring that all required personal safety equipment is worn, and worn correctly.

### E.2. Seat Belts and Helmets

COs and OICs shall routinely discuss seat belt, helmet and hard hat use with their crews and establish unit policy. Sector Ready For Operations teams shall ensure units have adequate seat belt, helmet and hard hat polices in place.

Prior to getting underway, as well as throughout the mission, boat crews shall continuously assess and manage risks in accordance with *Team Coordination Training*, COMDTINST 1541.1 (series) and *Operational Risk Management*, COMDTINST 3500.3 (series). During these assessments, the crew should consider whether or not seat belts and/or helmets should be worn. Factors for the crew to consider are:

- Sea State
- Time of day
- Mission
- Anticipated boat speed and maneuvering.

The coxswain is ultimately responsible and accountable for the safety of the crew and the boat, as well as the mission.

---



**NOTE** 

No single piece of PPE will completely eliminate the risk of personal injury that can result when operating a boat irresponsibly. A combination of PPE and prudent, responsible boat handling is required to prevent injury. Seat belts, helmets, and other protective equipment work only to reduce injury. The best way to prevent injuries is to operate the boat responsibly and follow the operational risk management process.

**NOTE** 

While transitioning, crews are encouraged to “buckle up” regardless of speed, sea state, or mission. Groundings, collisions, and the need to make sudden, unannounced maneuvers can occur at any time. Using seat belts is your best defense from injury. Wearing seatbelts at all times is a good habit to learn and practice.

**E.3. Protective Equipment During Buoy Handling Operations**

The following equipment shall be available for use during buoy handling operation:

- hard hat with chin strap
- safety toed shoes
- personal floatation device (PFD)
- leather gloves
- eye protection (safety goggles/safety glasses)
- rubber gloves and apron when handling batteries
- knife
- safety harness
- hearing protection

All crew members shall follow the guidelines set forth in the *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series).



## Chapter 5

# Operational Guidelines

---

### Introduction

This chapter describes how to operate the 26' TANB in the safest and most efficient manner. These policies and performance criteria should be used as guidelines for boat operations. Within these guidelines, consider *Navigation Rules of the Road (International-Inland)*, COMDTINST M16672.2 (series), local operating areas and the skill of the crew to determine how 26' TANB boating capabilities are to be used. These factors must be considered prior to each sortie or mission.

---

### In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Operating Parameters	5-3
B	Performance Data	5-7
C	Performance Monitoring	5-11

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## Section A. Operating Parameters

---

### Introduction

The readiness of 26’ TANBs shall be continuously monitored to ensure unrestricted operations. Readiness monitoring is accomplished through a variety of programs of procedures, including daily boat checks, the boat Preventive Maintenance System (PMS) schedule, engineering inspections and Ready For Operation (RFO) evaluations.

Operating parameters for 26’ TANB boat crew members include the following areas:

- Disabling Casualties
  - Restrictive Discrepancies
  - Major Discrepancies
  - Minor Discrepancies
  - Responsibilities
  - Environmental Limits
- 

### A.1. Disabling Casualties

Disabling casualties are those that make the boat not serviceable. *Appendix D* contains a listing of disabling casualties. If a disabling casualty is identified, the boat shall not get underway until the casualty is corrected and command notifications are made.

Disabling casualties shall be reported immediately to the CO/OIC. The boat shall be immediately placed in “Charlie” status and repaired. If the casualties cannot be repaired within 48 hours, a Casualty Report (CASREP) shall be sent within 24 hours of the casualty.

---

### A.2. Restrictive Discrepancies

Restrictive discrepancies are those that restrict the operations of the boat such that it can perform some, but not all, missions safely. *Appendix E* contains a listing of restrictive discrepancies.

Step	Procedure
1	The coxswain shall immediately notify the CO/OIC with all pertinent information and a recommendation as to whether to continue or abort the mission.



2	The CO/OIC shall notify the coxswain as to whether or not continuing the mission is authorized and the conditions under which the boat may be operated.
---	---

**A.3. Major Discrepancies**

Major discrepancies are those that degrade the effectiveness of the boat to perform one or more missions. *Appendix E* contains a listing of major discrepancies.

---

**A.4. Minor Discrepancies**

Minor discrepancies do not affect the operational readiness of the boat. However, a boat with minor discrepancies does not meet the standardization criteria established for the boat.

In the event that the addition of portable equipment, not part of the standard boat outfit, is necessary to meet mission needs, units are authorized to temporarily carry this extra equipment. This authorization is on a case-by-case basis only, and care must be taken to properly secure any extra gear and to ensure it does not interfere with safe egress or the boat's standard outfit/systems. Under no circumstances shall permanent alterations be made to accommodate extra equipment.

---

**A.5. Responsibilities**

The coxswain is always responsible for the safe operation of the boat. The platform coxswain must decide if the mission warrants subjecting the crew to an unsafe situation dictated by the mission, weather, and sea conditions anticipated.

---

**A.5.a. Disabling Casualty - Underway**

In the event that the boat sustains a disabling casualty while underway, the boat crew shall inform the coxswain who will immediately contact the CO/OIC.

---



A.5.b.  
Restrictive  
Discrepancy -  
Underway

In the event the boat sustains a restrictive discrepancy while underway, the coxswain should not normally proceed without authorization, unless aborting the mission would increase the level of risk. The situation and recommendations must be effectively communicated to the operational commander to allow for prudent risk assessment at all levels. The following is the procedure for communicating the discrepancy while underway:

Step	Procedure
1	The coxswain shall immediately notify the CO/OIC with all pertinent information and a recommendation as to whether to continue or abort the mission.
2	The CO/OIC shall notify the coxswain as to whether or not continuing the mission is authorized and the conditions under which the boat may be operated.

A.5.c. Major  
Discrepancy -  
Underway

The occurrence of major discrepancies shall be documented. A plan to correct these discrepancies shall be formulated and carried out. The operational commander is responsible for monitoring the status of repairs to these discrepancies.

A.5.d. Minor  
Discrepancy -  
Underway

The occurrence and repair of minor discrepancies shall be documented and monitored at the unit level.



<b>Casualty/Discrepancy</b>	<b>Consequence</b>	<b>Required Action</b>
<p><b><u>Disabling Casualty</u></b></p> <p>“Boat is not serviceable.”</p>	<p>Not authorized to get underway.</p> <p>Notify the CO/OIC immediately.</p>	<p>Assign “Charlie” status to the boat, and commence repairs immediately. Submit CASREP if applicable.</p>
<p><b><u>Restrictive Discrepancy</u></b></p> <p>“Boat and crew cannot perform <u>all</u> missions safely.”</p>	<p>Operations restricted.</p> <p>Notify CO/OIC if repairs cannot be made in 1 hour.</p>	<p>Create repair plan and set deadline for completion of repairs. CO/OIC shall monitor progress of repairs. Operations before restrictive discrepancies are repaired require written waiver by the operational commander. Submit CASREP if applicable.</p>
<p><b><u>Major Discrepancy</u></b></p> <p>“Boat and crew can perform all missions but <u>some</u> degradation in effectiveness or readiness should be expected.”</p>	<p>Operations unrestricted.</p> <p>Discrepancy occurrence and repair is documented.</p>	<p>Maintenance plan is carried out. CO/OIC shall monitor status of repairs to the discrepancies.</p>
<p><b><u>Minor Discrepancy</u></b></p> <p>“Boat and crew readiness not affected nor impaired. Boat does not meet standards.”</p>	<p>Operations unrestricted.</p> <p>Discrepancy occurrence and repair is documented.</p>	<p>Maintenance plan is carried out. CO/OIC monitors completion of maintenance/repair.</p>

**A.6. Environmental Limits**

**WARNING** 

The following is a critical operational and environmental limitation:

- Maximum sea state for transiting (6', no surf)
- Maximum operating winds 25 KTS
- Maximum towing capacity 10 displacement tons
- Maximum operating distance from shore 10 NM
- Outside air temperature 0 – 105 degrees F
- Outside water temperature 28 – 95 degrees F
- No ice operations

**WARNING** 

Do not operate in breaking seas or surf conditions.



## Section B. Performance Data

### B.1. Fuel Consumption

Fuel consumption and operating range are affected by engine tuning, weather conditions, trim, type of evolution, and operating area. The 26' TANB is capable of operating a maximum of 170 NM at 30 KTS in calm water and in the Normal Operating Condition (full load of fuel, liquids in machinery at normal levels, crew of two). Fuel consumption information may be found in **Table 5-1**.

**Table 5-1**  
**26' TANB Fuel Consumption Information**

Engines: 2 x BF150 Honda, 4-Stroke, RH-LH		
• Fuel tank capacity: 100 gallons		
• Propellers: PowerTech 15 ¼" by 17" P, RH-LH		
RPM	KNOTS	GPH
6000	40	28.6
5500	38	27.6
4500	31	17.6
4000	28	13.0
3500	22	9.2
3000	16	6.4
2500	12	4.2
2000	9	2.8
1500	7	2.0
1000	5	1.2
700		



**WARNING** 

The coxswain is responsible for ensuring that all required personal safety equipment is worn, and worn correctly.

**B.2. Seakeeping**

Positioning the boat with respect to the wind, seas, and other craft is essential to prevent damage to the hull or injuries to the crew.

**B.2.a. Operating in Beam Seas**

Operating with the seas on the beam is more uncomfortable than dangerous when following basic boat handling guidelines. Use the following techniques to minimize danger:

- Tacking - With large seas on your beam, tack across the seas at a slight angle in a zigzag fashion. Tacking prevents exposure of the beam to heavy swells.
- Changing Course - To change course heading, allow the boat to lose headway, turn the wheel hard over, and apply power to come smartly to the new heading.

**B.2.b. Operating in Following Seas**

Following seas present the greatest dangers to the 26' TANB. The boat does not have the balanced buoyancy or ability to lay-to in a following sea. The operational limitations are the controlling guideline and must be followed at all times. Consider the following point and technique when operating under these conditions:

- Do not power the boat over the crest of a wave and into the trough of the next wave or bury the bow into the back of the next wave.

**WARNING** 

The position of the boat in relation to a breaking wave crest is critical. Severe wave slap will occur in the area approximately two boat lengths in either direction of the breaking water, however, this area presents less danger of capsizing.

**CAUTION !**

When operating in beam seas, do not allow the boat to become "dead-in-the-water" and be hit broadside by a wave.

**B.3. Stability**

By virtue of hull design and equipment placement, 26' TANBs provide for stable maneuvering through all operating speeds. Ensuring the deck areas are always free of standing water and eliminating the free surface/"sloshing" effect of liquids are essential to maintaining stability of the boat.



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**B.4. Speed**

26' TANBs achieve a top speed of approximately 38 KTS at 5600 RPM at Normal Operating Condition in calm water.

---

**NOTE** 

Do not use rapid accelerations from dead-in-the-water (DIW) to full speed except when necessary. This conserves fuel and helps prolong engine life.

**NOTE** 

Avoid rapid acceleration unless absolutely necessary to prolong engine life and conserve fuel. Maximum speed/power should only be used when operationally necessary. Under non-urgent conditions, operate the boat at cruise speed.

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## Section C. Performance Monitoring

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### C.1. Performance Monitoring

It is essential that the coxswain and crew members be aware of installed monitoring equipment, gauges, and warning indicators to ensure safe and efficient operation of 26' TANB propulsion and ancillary systems. Crew members should be aware of the “normal range” or indication of all gauges and indicators, and report and react accordingly when changes occur.

---

### C.2. Control Panel Indicators

The control console is shown in Figure 5-1. The control panel (Figure 5-2) is located on the control console, starboard side of the helm, below the magnetic compass. The panel contains the following:

- Ignition switch
  - Engine kill switch
  - Alternator (ACG) indicator
  - Programmed fuel injection (PGM-FI) indicator
  - Oil pressure indicator
  - Overheating indicator
- 



**Figure 5-1**  
**Control Console**



**Figure 5-2  
Control Panel Indicators**

C.2.a.  
Overheating  
Indicator

---

If the engine overheats, the RED indicator light will come on, engine speed will be automatically reduced, and the engine will stop after 20 seconds. The overheating indicator is activated via the engine control module (ECM) by two overheat sensors mounted on the engine. The Honda 150 HP engines require approximately 12 PSI water pressure with a minimum water pressure of 5 PSI to maintain adequate engine cooling and prevent engine damage. If water is flowing from the cooling system indicator, idle the engine for 30 seconds. If the cooling system is OK, the light will go off in 30 seconds and the throttle will respond normally. If no water is flowing, stop the engine, tilt it up, and clear the water intake screens. Lower the engine, restart, and check for cooling water flow. If there is still no water flowing or the RED indicator light remains activated, shut down the engine and return on the unaffected engine.

C.2.b. Oil  
Pressure Indicator

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If oil pressure becomes low, less than 23 PSI at 1800 RPM, the GREEN oil pressure light will go off. If at cruising speed, the ECM will gradually decrease engine speed. Stop the engine and check and service the oil level. Restart the engine. The GREEN indicator light should come on within 30 seconds and throttle operation should be normal. If the engine protection

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system remains activated, oil indicator light *off*, engine RPM will not increase with throttle movement. Stop the engine and repair as required.

---

C.2.c. Alternator Indicator      The RED indicator light will come on if there is a malfunction in the charging system. Each engine alternator is rated at 12 VDC, 20 amps at 750 RPM, and produces 40 amps of power at 2000 RPM and over. The alternators are belt driven by the engines and protected by a 50-amp fuse installed in the fuse case mounted on the engine.

---

C.2.d. Programmed Fuel Injection Indicator      The RED indicator light will come on when the ECM senses an abnormality from one of the nine engine-mounted sensors. Continue to carefully monitor engine performance and stop engine if performance deteriorates or becomes erratic.

---

**C.3. Helm Dash Panel**      The helm dash panel (**Figure 5-3**) mounts the following:

- Trim tilt indicators
  - Tachometers
  - Fuel totalizer
- 



**Figure 5-3**  
**Helm Dash Panel**



---

C.3.a. Trim Tilt Indicators

The trim tilt indicators indicate the trim angle of the outboard motors and have a range of -4 to 72 degrees. Use the trim tilt indicators when operating the power tilt/trim switch to achieve best performance from the boat.

---

C.3.b. Tachometer

The tachometer shows engine speed in RPM. The Honda 150 engine is designed to idle at 750±50 RPM. The tachometer also has a display for engine operating hours.

---

C.3.c. Fuel Totalizer

The fuel totalizer is a single gauge that provides an indication of fuel consumption and rate in GPH for each engine.

---

**C.4. Voltmeters**

Two voltmeters (**Figure 5-4**), one for each engine, are located at the coxswain's console. The voltmeters provide a visual indication of the voltage output of each engine's alternator. During operation, the minimum voltage indicated should be 12.7 volts.

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**Figure 5-4**  
**Alternator Meters**



## Chapter 6

# Mission Performance

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### Introduction

The actions and techniques described in this chapter are products of field experience. They are intended to give boat crew members information on how 26' TANBs perform and react in various mission scenarios. The information is not intended to provide the “only way” to perform an action or complete a mission. Boat crews should use effective communications and teamwork skills along with this general information to adapt their actions to each unique mission scenario.

---

### In this chapter

This chapter contains the following sections:

Section	Topic	See Page
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B	Underway	6-5
C	Aids to Navigation Operations	6-7
D	Going Alongside Boats and Vessels of Interest	6-13
E	Handling Characteristics	6-17
F	Operating with Helicopters	6-23
G	Anchoring	6-25
H	Towing	6-27
I	Securing Procedures	6-29

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## Section A. Starting Procedures

### Introduction

The following procedures must be followed before starting a cold engine.

### A.1. Pre-Start

The following pre-start checks must be accomplished before the first mission of the day and prior to engine start:

Step	Action
1	Ensure fuel tank is full, verify fuel level gauge as required.
2	Check fuel filter/water separator sediment/water bowls for presence of contamination. Drain sediment/water bowls as required. Check the fuel filter located in the bilge, below the QAWT hatch.
3	Ensure the port and starboard cooling water intakes on the lower engine shaft housing are free of debris.
4	Check outboard engine cover gasket for damage. Check that outboards are secure to the transom and all mounting hardware is tight.
5	Trim engines down until lower unit is submerged (ensure full tilt/trim travel on each engine).
6	Ensure engine oil level is filled to 'FULL' mark.
7	Check hydraulic steering system for leaks at helm and at steering ram by outboards.
8	Check fuel primer bulbs for firmness. If not, squeeze fuel primer bulbs until firm.
9	Ensure the engine kill switch clip is installed and lanyard attached.
10	Install start keys and turn key to <i>on</i> position. Ensure the engine alarm system is operating.



**A.2. Engine Starting**

The following procedures must be followed for starting the engines:

Step	Action
1	Set throttle levers to <i>neutral</i> position.
2	Ensure electronics, antennas, buoy port doors, the davit and all deck cargo are secured.
3	Ensure the engine kill switch clip is installed and lanyard attached. One spare clip and lanyard must be onboard and stored inside the cabin.
4	Turn key to <i>start</i> position until engine starts.
5	Check outboards for nominal or adequate cooling water output at the discharge ports on each engine.
<p><b>CAUTION!</b> If cooling water output is not evident, immediately secure engine and investigate.</p>	
6	Check crew and passengers for appropriate PPE including helmets/hard hats (if required).

**A.3. Energizing Equipment**

The following steps must be completed prior to getting underway:

Step	Action
1	Close (turn <i>on</i> ) all of the remaining switches on the 12 VDC power panels.
2	Energize and test all installed electronic components.
3	Conduct a test of the hydraulic steering ensuring that motors respond appropriately.
4	Test throttles operation in <i>forward</i> and <i>reverse</i> .
5	Ensure gear is properly stowed



## Section B. Underway

---

### Introduction

It is the responsibility of the coxswain and crew members to ensure that once the boat is underway, the boat and its systems are operated in a safe and efficient manner. The safety of the crew and any embarked personnel is also incumbent on all crew members.

After getting underway, observe all appropriate machinery gauges. If an abnormal condition develops, take corrective action to prevent further damage, in accordance with the *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I*, COMDTINST M16114.32 (series) and the *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series). Report any abnormal conditions to the coxswain.

---

### B.1. Personal Protective Gear

Always observe requirements of this manual, the *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), and the *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series) for wearing protective clothing, personal flotation devices, and boat crew signal kits.

---

### B.2. Communications

Crew communications and coordination is the key to safe operations. Crew members should inform the coxswain of their location when moving about the deck. Engine noise can make crew communications difficult on 26' TANBs. Speak loudly and clearly and repeat as necessary until acknowledged.

---

### NOTE

When operating the boat with minimal crew, effective crew communications are critical. Speak loud enough to be heard over the background noise. Ensure the receiver hears and understands the message being passed. A common strategy is to have the receiver repeat back the message that was sent.

### CAUTION!

The enclosed steering station can create a sense of isolation from the elements and other marine traffic. Crew members should use all available means to maintain awareness of wave action, winds, currents, and traffic.

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## Section C. Aids to Navigation Operations

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### C.1. General

The 26' TANB is a side loading buoy boat with the buoy deck forward, providing good visibility and coordination between coxswain and crew. The 26' TANB has the following operating characteristics:

- The davit has a working load limit of 500 LBS.
- The boat has a cargo capacity of 1,500 LBS.
- It is twin screw.

The 26' TANB provides the crew the ability to relieve floating aids up to and including a 1995 Type 5NFR, a 2000 Type 5CFR buoy, a sinker of 500 LBS and handle up to ½" chain. Units shall pay particular attention to the bottom type prior to breaking the sinker free from the bottom. The weight of the sinker does not take into account the fact that the sinker may be mudded into the bottom. When heaving around on the sinker it is important to note that if the water reaches the bottom of the buoy port opening, you have reached to davit working load of 500 LBS.

Prior to any buoy deck evolution, the crew shall perform daily inspections of all rigging equipment.

---

### C.2. Personal Protective Equipment

The following personal protective equipment shall be worn at all times while the buoy evolution is being performed:

- Hard hat with chin strap
  - Safety glasses (ANSI Z87.1) rated
  - Personal floatation device appropriate for weather conditions
  - SAR Vest (may be removed during buoy operations by direction of the CO/OINC and Coxswain)
  - Safety toed boots
  - Leather gloves (unless handling lines)
  - Knife
- 

### WARNING

Removal of all jewelry (watches, rings, etc.) during buoy deck evolutions is mandatory.

---



**C.3. Energizing the Davit Winch**

Perform the following procedures to properly energize the davit electric winch:

1	Ensure that the davit winch power cable is plugged into the power socket.
2	Ensure the power switch is in the first position at the console.
3	Test the winch by lowering and raising the hook.

**NOTE** 

When operating the boat with minimal crew, effective crew communications are critical. Speak loud enough to be heard over the background noise. Ensure the receiver hears and understands the message being passed. A common strategy is to have the receiver repeat back the message that was sent.

**C.4. Preparing the Work Area**

Prepare for the buoy handling evolution by performing the following procedures:

1	Layout and inspect all gear needed for the operation.
2	Perform safety brief prior to buoy operations.
3	Obtain permission to remove the buoy port door.

**WARNING** 

When lifting heavy sinkers/DORMORs, exercise extreme caution when the lower door is not installed. When lifting sinkers/DORMORs greater than 250 LBS, the bottom door is required to be left in place.



**C.5. Hoisting the Buoy**

The boat is maneuvered to the buoy and is maintained in a steady position. When the coxswain is ready, "hook it when you can" is passed. The crew now has permission to bring the buoy aboard. Perform the procedures in the following order to properly hoist the buoy:

**NOTE**

The following information is the STANDARD evolution for buoy operations with the 26' TANB.

**WARNING**

Perform safety brief prior to buoy operations.

<b>Action</b>	
	<p><b>WARNING</b>  The use of mechanical mousing devices on hoist hooks or securing the figure eights with a weather hitch is strictly forbidden.</p>
1	Hook the buoy and mouse the hook. Lift the buoy until the davit is supporting the weight of the buoy.
2	Slew the davit inboard, snugging the buoy against the boat. Attach a tagline to the buoy bail and secure the line to the portside cleat.
3	Lift the buoy and slew the davit inboard while keeping the tagline taught. Ensure the load is kept close to the deck.
4	Pass the pelican hook on the buoy mooring chain. Ease the tagline until the chain fetches up on the pelican hook.
5	Lower the buoy to the deck (the use of dunnage under the buoy is required).
6	Gripe the buoy.
7	<b>Break the mooring.</b>

**C.6. Pulling Chain**

Perform the following procedures to properly pull chain:

<b>Step</b>	<b>Action</b>
1	Attach hoist to the mooring chain. Pass “request permission to pull chain”. Take up slack in mooring chain as to not shock load hoist.
2	Clear the pelican hook.
3	Take a pick, pass the pelican. Repeat procedure until chain is at short stay.
4	Once at short stay, pass the pelican, clear the hoist, and advise the coxswain.
5	Maneuver the boat to break out the sinker (if needed).
6	Attach hoist to the mooring chain.
7	Clear the pelican hook.
8	Take a pick, pass the pelican. Repeat procedure until sinker is at the water’s edge.
9	Fake out mooring chain leaving a clear landing zone for the sinker.
10	Reposition the hoist to bring the sinker aboard. Utilize a tagline tended from the portside to control the sinker as it comes aboard.
11	Lay out dunnage (if needed).
12	Bring the sinker aboard, set it on the dunnage, and gripe it down.



### C.7. Setting the Buoy

Perform the procedures in the following order to properly set the buoy:

Step	Action
1	Stage sinker/DORMOR at the deck edge of the buoy port.
2	Fake the mooring chain in the buoy port.
3	Pass pelican hook to the mooring chain above the sinker, leaving enough chain to hang the sinker below water's edge.
4	Request to hang the sinker. Use the hoist to lift sinker over the rail. Lower until sinker is suspended on the pelican hook. Clear the hoist.
5	Request to shackle and hang the buoy. Shackle the buoy. Position the hoist to place the buoy in the water. Use a tagline to steady the buoy. Once the buoy is in the water, secure the tagline to a cleat. Clear the hoist.
6	Pass "ready on deck."
7	Coxswain maneuvers to the aids assigned position and, when satisfied with position, will pass "set it."
<p><b>WARNING</b>  Ensure all personnel are well clear of buoy port as mooring chain will run briskly once pelican is tripped.</p>	
8	At this command, trip the pelican deploying the sinker.
9	Once coxswain is satisfied with position, slip the tagline and release the buoy. Pass "Buoy's away" to the coxswain.



**C.8. Securing the System**

Perform the following procedures to properly secure the buoy handling system:

<b>Step</b>	<b>Action</b>
1	Secure the davit and stow deck lines and winch control box.
2	Ensure all deck cargo is properly griped down.
3	Secure the power to the davit winch at the pilot house console.
4	Insert and secure the buoy port doors.
5	Check the buoy port door locks to be sure they are secure in the locked position.



## Section D. Going Alongside Boats and Vessels of Interest

### Introduction

The following is a generic procedure for going alongside. 26' TANB boat crews must be familiar with the applicable U.S. Coast Guard instructions and Standard Operating Procedures (SOP) for going alongside a vessel of interest and shall be accomplished in accordance with the *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), Chapter 10.

The height of the cabin and the width of the canopy make the 26' TANB's canopy vulnerable to damage when coming alongside another vessel. Sea state, location of installed rub rails, and the flare of the other vessel's hull increases the likelihood of damage if the two vessels roll towards each other. A thorough risk assessment, including asset selection, is essential to reduce the potential of personnel injury and property damage.

Step	Action
1	Ensure that communications between the 26' TANB and the Operational Commander are established and reliable.
2	Attempt to make and establish contact with the vessel of interest on designated marine band frequencies.
3	Make approach preparations and inform the crew. The coxswain should determine where to make contact with the vessel.
<b>NOTE</b> 	Pick a contact point well clear of a larger vessel's propeller (including in the area of suction screw current), rudder, and quarter wave. Forces from these could cause loss of control.
4	Conditions permitting, match your speed to the other vessel and then start closing in from the side.
5	Close at a 15 to 30 degree angle to the other vessel's heading. This should provide a safe rate of lateral closure at no more than one-half the forward speed.
<b>NOTE</b> 	If your initial heading was parallel to the other vessel, you will have to increase speed slightly when you start to close at an angle.



<p><b>WARNING</b>  Applicable U.S. Coast Guard instructions and standard operating procedures must be strictly adhered to when/if the 26' TANB boat is in close proximity to any vessel that fails to identify itself.</p>	
6	<p>If contact has been made with the vessel of interest, determine if a sea painter has been provided for going alongside. Also, determine if a boarding ladder (if necessary) is available and rigged.</p>
<p><b>NOTE</b>  In some instances, a sea painter may be used in going alongside a larger vessel underway. The sea painter is a line used to sheer a boat clear of a ship's side, when underway or at anchor, to hold a boat in position under shipboard hoisting davits, and occasionally to hold the boat alongside a ship in order to embark or disembark personnel. It leads from the larger vessel's deck, well forward of where the boat will come alongside.</p>	
<p><b>WARNING</b>  Never secure the sea painter to the boat's stem nor to the side of the boat away from the vessel of interest. If secured to the "outboard" side of the boat, capsizing could result.</p>	
<p><b>NOTE</b>  As both the 26' TANB boat and vessel of interest have headway, the pressure of the water on the boat's bow will cause it to sheer away from the vessel of interest. Use this force by touching on the helm to control sheer, in or out, by catching the current on one side of the bow or the other side. Riding the sea painter will help maintain the position and control of your boat while alongside.</p>	
<p><b>NOTE</b>  When sheering in or out, apply helm slowly and be prepared to counteract the tendency of the boat to close or open quickly.</p>	
7	<p>Come alongside of the vessel, matching its course and speed. When close to the larger vessel, and forward of the desired contact point, ask the vessel to pass the sea painter.</p>
8	<p>Receive the sea painter and secure it inboard just aft of the bow.</p>
9	<p>The sea painter is usually passed by use of a heaving line. Quickly haul in the heaving line and adjust the boat's heading and speed to control slack in the sea painter so that these lines do not get into the boat's propeller or mast.</p>
10	<p>Reduce your speed slowly and drift back on the painter (ride the painter).</p>



11	Use helm to hold the boat at the desired position alongside or at some distance off the vessel.
12	If set toward the vessel, apply helm to sheer the bow out. If too far away, apply rudder to sheer the bow in. The forward strain on the painter will pull the boat and provide steering way.
<p><b>NOTE</b>  If approaching a vessel anchored in a strong current, the sea painter provides a means to lay alongside. Procedures are the same as if the vessel is making way. Approach from leeward, against the current.</p>	
13	Make contact with the forward sections of your boat (about halfway between the bow and amidships). Use helm and power (if not on a sea painter) to hold the bow into the other vessel at the same forward speed. Do not use so much helm or power that you cause the other vessel to change course.
14	Ensure that communication with the Operational Commander is established to update the status of the assigned mission. If personnel are to be embarked/disembarked on the vessel of interest, utilize a boarding ladder as provided. Minimize the time alongside. If necessary and following U.S. Coast Guard instructions and standard operating procedures, “make-up” to the other vessel rather than relying on helm and power to maintain contact.
15	When the mission is complete, embark all personnel. Sheer the stern in with the helm to get the bow out. Avoid getting set toward the side or stern of the vessel.
<p><b>NOTE</b>  If on a sea painter, its strain sheers the boat clear.</p>	
16	If on a sea painter, use enough speed to get slack in the line, and then cast off when clear. Ensure the sea painter is hauled back aboard the larger vessel immediately to keep it from getting caught in the outdrive or mast.
<p><b>CAUTION!</b> Never back down when clearing alongside, parallel to another vessel that is making way. Outboard powered vessels with a large portion of weight aft are susceptible to shipping water while backing, particularly in a chop.</p>	



17	Apply gradual power to gain slight relative speed. Maneuver the boat away from the vessel of interest. Continue to update position and status of the mission with the Operational Commander.
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## Section E. Handling Characteristics

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### Introduction

Boat handling is a complex skill that requires knowledge and practical, underway experience to build confidence and skill level. Always use forethought and finesse when handling the boat. Know the boat's handling features, monitor weather conditions, and be aware of the operating limitations of the boat.

---

### In this section

This section contains the following information:

Topic	See Page
General Boat Handling	6-18
Turning and Pivoting	6-19
Head Seas	6-19
Beam Seas, Following Seas, and Quartering the Seas	6-20
Effects of Wind	6-21
Station Keeping	6-21

---



## General Boat Handling

---

### E.1. Characteristics

The 26' TANB is a powerful, highly maneuverable platform which requires a solid understanding of boat handling concepts; particularly, the effects of trim on hull efficiency, engine performance, and reduction of impact stress and injuries to boat crews. In addition, coxswains and crews should be familiar with the capabilities, limitations, and handling characteristics of the boat, as well as their own personal training and experience levels.

When operating at high speed, it is critical that the engines be trimmed down (in) before making hard turns or maneuvers. Trimming the engines down (in) causes the bow of the boat to be pushed down by the thrust of the engines and is considered the safest position when accelerating, performing hard maneuvers, and heading into wind and waves.

Performing high-speed turns and maneuvers with the engines trimmed out (up) or level can result in hooking a chine, where the chine of the boat abruptly catches the water. The result can be violent in nature, the physical forces of which may cause personnel in the boat to be thrown in the direction of momentum.

### WARNING

High-speed turns while “trimmed out” (up) or “trimmed level” can result in “hooking a chine”, causing a violent reaction which may create immediate loss of control of the boat and sufficient force to pitch crew members overboard. Refer to the *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series) for further guidance.

### CAUTION!

The 26' TANB is sensitive to changes to the Longitudinal Center of Gravity (LCG). These changes can occur by adding or subtracting weight, or through simple crew movements. These changes will change the way the boat handles in any given situation. The coxswain must assess any LCG change and may have to make many trim adjustments during a sortie.

Prior to making a high-speed or tactical turn, crew and passengers must be forewarned and given the opportunity to prepare themselves for the maneuver. The forces created as the boat turns at high speeds will result in injury and ejection if crews are not properly restrained.

---



## Turning and Pivoting

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### E.2. Characteristics

The 26' TANB turns or pivots, for steering purposes, on its vertical axis at approximately the front of the console when engines are fully trimmed in. Because of this characteristic (which provides other benefits such as straight-line tracking and planing), coxswains must be aware of the boat's turning capabilities.

### WARNING

High-speed turns while improperly trimmed may result in injury to crew or damage to the boat.

### E.2.a. Turning on Plane

Avoid making sharp, high-speed turns while improperly trimmed. Due to the reduced amount of wetted surface (hull in water), sharp, high-speed turns may result in "hooking a chine". This can be hazardous and may result in injury to the crew or damage to the boat. If a sharp turn is required, trim the engines in before turning.

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## Head Seas

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### E.3. Buoyancy

The primary consideration when advancing in head seas is to maintain forward momentum and keep the bow into the swell. The buoyant construction of the boat allows it to ride up over oncoming seas.

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### E.4. Over-Acceleration

When heading into the wind and up the face of large waves, care must be taken to avoid over-accelerating, which can result in the bow being caught in the face of a wave and creating a pitch-pole situation where the boat is inverted end-over-end.

---



## Beam Seas, Following Seas, and Quartering the Seas

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**E.5. Beam Seas** Whenever possible, the coxswain should avoid steering a course parallel (broadside) to heavy swells. Tack across the swells at a 30- to 40-degree angle. If necessary, steer a zigzag course, making each leg as long as possible, and adjust the boat speed for a safe and comfortable ride. Seas directly off the beam of the boat can cause adverse rolling conditions.

When transiting parallel to the seas, the boat will tend to ride the contour of the wave surface. This means that the boat's vertical axis will remain perpendicular to the surface on which the boat is operated. A wave face of 20 degrees will cause a 20 degree heel.

---

**E.6. Following Seas** Following swells up to 6 feet can be safely negotiated as long as the boat remains stable as it travels down the front of the swell. Powering over the crest of a wave can cause the bow to bury into the back of the next wave and cause extensive damage. In bad weather, 26' TANBs are relatively safe running before the sea due to their speed. If caught in breaking seas, this advantage is used to ride the back of the waves while adjusting speed as required.

**NOTE** 

Extreme caution should be exercised when operating in following swells (Refer to: Section 5.B.2.b; Operating in Following Seas).

**E.7. Quartering the Seas** Taking larger head seas slightly off of either bow can create a more comfortable ride, as the boat may proceed more gently off the back of the wave instead of slamming violently. The speed and angle of approach will have to be adjusted as needed for the optimum ride. This is sometimes referred to as quartering the seas, which is not to be confused with taking a following sea on the quarter.

---



## Effects of Wind

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**E.8. Maneuverability** In calm or negligible wind and seas, 26' TANBs respond well using standard twin-screw operating practices. In stiff winds, several design features combine to make handling this boat challenging. With the majority of weight and the deepest draft aft, the bow is very susceptible to the effects of the wind. Moderate winds may have an effect on maneuverability and can often be the predominant environmental factor in maneuvering situations. In some cases, it can be difficult to recover and turn the bow into the wind at slow speeds.

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## Station Keeping

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**E.9. Stern-To** Station keeping requires concentration to maintain a constant heading and position. The boat tends to work well with its stern to the wind. If stern-to station keeping is not an option, the operator must use extra care to counteract environmental factors.

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## Section F. Operating with Helicopters

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### Introduction

The 26' TANB was not designed to conduct helicopter hoisting operations and presents many safety obstacles. Therefore, conducting helicopter training on this platform is **prohibited**.

In the event of an extreme emergency requiring helicopter hoists from a 26' TANB, crew members shall rely on knowledge gained from qualification tasks associated with boat crew member training and appropriate operational risk management.

In the event of an emergency requiring a helicopter hoist, the on-scene helicopter pilot shall provide appropriate instruction for a safe hoisting evolution.

### NOTE

Crew members on boats less than 30 feet in length are only required to possess knowledge of helicopter operations for qualification purposes. Always refer to the U.S. Coast Guard Boat Operations and Training Manual - Volume II, COMDTINST M16114.33 (series) for current qualification requirements.



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## Section G. Anchoring

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### Introduction

Care must be taken when anchoring to ensure that the anchor line fairlead is over the bow.

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### WARNING

If the anchor line fairlead is from any point other than the bow, there is the potential for a tripping hazard and possible capsize. Never anchor from the stern.

### NOTE

Anchoring procedures are described in the *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series).

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## Section H. Towing

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### Introduction

Towing a disabled vessel requires a high degree of awareness of all potential hazards, as well as full knowledge of the capabilities and limitations of the particular components within the towing operation. The safety of your crew and the crew of the towed vessel is more important than property.

### NOTE

Towing procedures are described in the *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series).

### WARNING

Due to their limited size and hull design, 26' TANBs are more susceptible to tripping. A boat is said to be tripping when it is towed sideways by an opposing force on its own towline. There is imminent danger that a boat will capsize when in a tripping situation. If your boat is caught in a tripping situation, the coxswain must attempt to maneuver to position the stern back under the towline; or sever the towline at the bitt.

### H.1. Angular Momentum

Overcoming angular momentum can be far more hazardous on smaller non-displacement hulls such as the 26' TANB. When changing the direction of the tow, the towed vessel will develop angular momentum; the vessel's heading begins to change and it wants to keep changing in that same direction. Attempts to correct angular momentum can create a tripping hazard. Coxswains need to anticipate how the momentum will affect the towed vessel's motion and apply an offsetting force early and gradually.

### H.2. Alongside Towing

The height of the cabin and the width of the canopy make the 26' TANB canopy vulnerable to damage when coming along side another vessel. Sea state, location of installed rub rails and the flare of the other vessel's hull increases the likelihood of damage if the two vessels roll towards each other. A thorough risk assessment, including asset selection, is essential to reduce the potential of personnel injury and property damage

### WARNING

When going along side a vessel with a high freeboard, rig fenders along the cabin's handrail to prevent damage to the cabin.



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## Section I. Securing Procedures

### Introduction

Once a mission is complete, it is essential that boat equipment be correctly secured to enhance subsequent equipment performance and equipment longevity.

### I.1. Procedure

The following procedure should be completed after each mission:

Step	Action
1	Secure all non-essential electrical and electronic gear.
2	Ensure all equipment necessary to moor the boat is available on deck.
3	If necessary, remove the tow light mast and lower the VHF-FM antennas.
4	Idle and stop engines.
5	Secure all non-essential breakers and switches on the 12 VDC power panels.
6	Turn the main battery, davit battery, and accessory battery switches to the off position.
7	Secure all pyrotechnics, weapons and ammunition as directed by U.S. Coast Guard instruction or station operating requirements.
8	Check and refill all machinery fluid levels.
9	Refuel the boat
10	Raise the engines out of the water when the boat is moored for prolonged periods of time.

### NOTE

Keeping the boat clean and neat is very important to control corrosion. Having aluminum in contact with dissimilar metal, particularly a copper alloy, can cause major corrosion problems. Something as small as a penny left in the bilge can cause serious damage. Maintaining corrosion control is the responsibility of everyone in the crew.

### NOTE

The mission is not complete until the boat is ready for the next mission.



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## Chapter 7

# Emergency Procedures

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### Introduction

Responding to equipment casualties and emergencies aboard 26' TANBs should be second nature to all crew members. The ability of crew members to take immediate action during emergency situations is critical in preventing a bad situation from getting worse. While every event is different, step-by-step procedures help gain control of the casualty and aid in troubleshooting.

The first step in responding to a casualty is to protect the immediate safety of crew members. It is the coxswain's responsibility to keep the operational commander informed of all emergencies encountered during the operation of the boat.

The coxswain and crew should work together to determine if equipment casualties can be safely repaired while underway. The coxswain must decide whether a casualty has impacted the ability of the boat and crew to complete the mission. The coxswain should not make the decision in a vacuum. In fact, the coxswain needs input from other crew members and needs to have communications with the operational commander. All information should be used to determine whether to continue on with the mission or not. The following factors should be considered:

	<b>Factors</b>
1	The safety and physical condition of the crew and boat.
2	Equipment limitations due to the casualty.
3	Current and forecasted weather and sea conditions.
4	The urgency of the mission.

---



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**In this chapter** This chapter contains the following sections:

<b>Section</b>	<b>Topic</b>	<b>Page</b>
A	Capsizing	7-3
B	Steering Casualty	7-7
C	Loss of Control of Engine RPM	7-9
D	Loss of Fuel Pressure	7-11
E	Loss of Lube Oil Pressure	7-13
F	Engine High Water Temperature	7-15
G	No Power/Insufficient Power to Communications/Navigation Equipment	7-17

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## Section A. Capsizing

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**A.1. Introduction** The 26' TANB is a fast, highly maneuverable platform, capable of performing a variety of missions in seas up to six feet in height and winds up to 25 KTS. The canopy and side curtains on this boat provide protection in a maritime environment. However, they also raise concerns of crew safety and egress in the unlikely event of capsizing.

---

**A.2. Prevention** The best way to survive a capsizing is to never place yourself in a position that can lead to a capsizing. The *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series) provides excellent recommendations on how to prevent a capsizing situation.

---

**NOTE** 

Boat crew personnel should be familiar with the *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), Chapter 16, Water Survival Skills.

---

**A.3. Potential Causes**

Four scenarios are likely for a 26' TANB to become capsized. They are:

- **High Speed Maneuver:** The boat operating in a high-speed/high-maneuver environment may result in loss of control leading to capsizing. High-speed hard turns while “trimmed out” or “trimmed level” can also result in “hooking a chine,” causing a violent reaction which may lead to capsizing.
  - **Aid to Navigation Operations:** While lifting a sinker off the bottom and beam to the current or wind, a great potential for capsizing exists.
  - **Extreme Seas/Surf:** A 26' TANB may also capsize as a result of the loss of maneuverability or power when operating in extreme seas or surf conditions.
  - **Towing:** The 26' TANB towing another vessel can experience “tripping.” Tripping occurs when the towline becomes sideways or perpendicular to the vessel.
- 

**NOTE** 

After capsizing, if possible, climb atop the hull. The boat is inherently buoyant even after capsizing. The boat is designed to remain afloat with crew members on it in capsized position.

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**A.4. Precautions** If the hull is intact after capsizing, the 26’ TANB will not sink for some time, even in rough seas. The crew will have time to escape if panic is avoided. Precautions ahead of time include:

- Stow all loose gear and have all equipment and doors operating properly for ease in escaping.
- Know the location and use of all survival equipment. Check it regularly to be sure that it is adequate, in good repair, and that all signaling devices work.
- Be ready to grab a sturdy support to prevent being thrown about and to provide a point of reference.

---

**A.5. Egress Hazards**

Boat crews must be thoroughly familiar with capsize and egress hazards specific to 26’ TANB. These hazards differ depending on the side curtain configuration at the time of capsizing.

- Visibility may be hindered due to low or no lighting. Egress may have to be accomplished in low or no lighting conditions.
- The seats will hinder movement after capsize.
- The side curtain doors were relatively easy to open during the testing. However, it should be noted that this may not be the case for a boat that has been in service for a long time.
- Egress through the zippered cabin door is not recommended. Operating the zipper while underwater will consume too much air and energy.
- Egress by cutting the side curtain with a knife.
- Increased buoyancy from your Type III PFD, anti-exposure coveralls, air trapped inside the dry suit, and inflated PFD will make it difficult (but not impossible) to egress safely from beneath the canopy of a capsized 26’ TANB.

---

**NOTE** 

The preferred method of egress from a 26’ TANB is through the open doors or other openings in the side curtains.



A capsized 26’ TANBs hull will provide considerable buoyancy, which will cause the boat to take on a “bow up” profile with area covered by the canopy underwater.

- The area covered by the canopy will fill immediately, even with the side curtains secured.
- Fuel and fuel vapors may collect under the capsized boat and on the surface in areas surrounding the boat following capsizing.

**A.6. Egress Procedures**

Boat crews must be thoroughly familiar with capsize and egress procedures specific to the 26’ TANB. These procedures will differ depending on the side curtain configuration at the time of capsizing.

**WARNING** 

The automatic inflatable PFD will activate under the canopy area of a capsized 26’ TANB boat.

**A.6.a. Egress Procedures With Side Curtains Down**

Water will immediately fill the area under the canopy and the boat will come to rest inverted.

- Prepare and brace for impact.
- Hold onto a reference point until the violent motion subsides.
- When rushing water slows, maintain hold on reference points and pull hand-over-hand to pre-determined exits. Pull sharply through the exit.
- Swim clear of the boat and inflate personal flotation device if applicable. Muster as directed.

**A.7. Post Egress Procedures**

Every effort should be made to escape from a capsized boat. Following egress, crew members should take the following actions:

Step	Action
1	Muster the crew and passengers and account for any missing occupants.
2	Remain upwind/up current to prevent ingestion of gasoline that may be present.
3	Attempt to climb aboard the inverted hull.
4	Check for injuries and administer first aid to the best of your abilities.



5	Conduct an inventory of signaling equipment. Activate Personal Locator Beacon (PLB).
6	Check for the presence of gasoline in the water before activating pyrotechnic signaling devices.
7	Stay with the boat and do not swim for shore. Distances to the beach can be deceiving, and strenuous activities such as swimming in cold water can hasten the onset of hypothermia.



## Section B. Steering Casualty

**B.1. Symptoms**      Sluggish response or no response when wheel is turned to port or starboard.

**B.2. Actions**      When partial or complete steering loss occurs, take the following actions:

Step	Action
1	Coxswain notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Notify the operational commander of the casualty.
3	Check for steering fluid in the console and engine mount, around the helm pump, and adjacent to the transom near the steering actuator.
<p><b>WARNING</b>  Do not turn the wheel while crew members are inspecting the steering system linkage.</p>	
4	Ensure that all lines and fittings in the steering system are installed and tight.
5	Report all findings to the coxswain.
6	Steering will be possible, but difficult, by jockeying the engine throttles.



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## Section C. Loss of Control of Engine RPM

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- C.1. Symptoms**
- Throttle position changed with no apparent change in engine RPM.
  - No ahead or astern movement of the boat.
- 

- C.2. Actions**      When the engine fails to respond to throttle commands, take the following actions:

Step	Action
1	Coxswain notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Crew members should: <ul style="list-style-type: none"> <li>• Check throttle and shift control cables.</li> <li>• Check throttle arm on engine.</li> <li>• Report all findings to the coxswain.</li> </ul>
3	If required, secure engine while in gear.
4	Coxswain report status of casualty to the operational commander.



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## Section D. Loss of Fuel Pressure

- D.1. Symptoms**
- Erratic or unstable engine RPM.
  - Engine stops completely.

- D.2. Actions** When it appears that the engine has sustained a loss of fuel pressure, take the following actions:

Step	Action
1	Coxswain notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Verify the fuel tank level at the gauge on the coxswain's console. Sound the fuel tank to ascertain tank level.
3	Crew members should: <ul style="list-style-type: none"> <li>• Check the transom area for fuel.</li> <li>• Check for the presence of fuel around the engine cover.</li> <li>• Check the condition of the secondary (Racor) fuel filters.</li> <li>• Check engine fuel lines for holes or loose connections.</li> <li>• Check engine fuel filter and water separator for visual contamination, as applicable.</li> <li>• Report all findings to the coxswain.</li> </ul>
4	Coxswain report status of casualty to the operational commander.



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## Section E. Loss of Lube Oil Pressure

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- E.1. Symptoms**
- Loss of engine power when throttle is increased.
  - Green light extinguishes on ignition panel indicating low oil pressure.
- 

**E.2. Actions** If the engine experiences a loss of oil pressure and shuts down, take the following action:

Step	Action
1	Coxswain notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Coxswain secure the engine if this has not already occurred.
3	Crew members should: <ul style="list-style-type: none"> <li>• Check the outboard engine area for oil.</li> <li>• Verify oil level on dipstick.</li> <li>• Check that spin-on oil filter is tightly installed.</li> <li>• Check oil drain fitting for security.</li> <li>• Report all findings to the coxswain.</li> </ul>
4	Coxswain report status of casualty to the operational commander.



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## Section F. Engine High Water Temperature

- F.1. Symptoms**
- Loss of engine power when throttle is increased.
  - Red light (overheating indicator) illuminates on ignition control panel.

**NOTE** 

When the red overheat light illuminates, the engine speed is reduced automatically to 1800 RPM. If the condition persists another 20 seconds, the engine shuts down.

- F.2. Actions** If the engine experiences high water temperature, take the following actions:

Step	Action
1	Coxswain notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Coxswain bring engine to idle and stop the engine.
3	Crew members should: <ul style="list-style-type: none"> <li>• Check engine cover with the back of the hand to ascertain any abnormal temperature.</li> <li>• Check around engine cover for evidence of steam.</li> <li>• If possible, tilt engine forward and check cooling water intake screen for obstructions.</li> <li>• Report all findings to the coxswain.</li> </ul>
4	Coxswain report status of casualty to the operational commander.



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## Section G. No Power/Insufficient Power to Communications/Navigation Equipment

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- G.1. Symptoms**
- VHF-FM, radar, DGPS, or buoy positioning system(s) fail to operate properly.
- 

- G.2. Actions**
- If there is no power to operate the communications/navigation equipment, take the following actions:

Step	Action
1	Coxswain, notify and direct the crew to investigate the casualty, and report status, cause and, if applicable, estimated time to repair.
2	Verify alternator output on voltmeter for each engine.
3	Check the position on power panels of all breakers and switches for the affected equipment.
4	Crew members report all findings to the coxswain.
5	Coxswain report status of casualty to the operational commander.



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## Appendix A. Outfit List and Stowage Plan

**Introduction** This appendix contains the standard stowage plan for 26' TANB outfitting. No deviation from this list is authorized, except in the event that the addition of portable equipment, not part of the standard boat outfit, is necessary to meet mission needs; units are authorized to temporarily carry this extra equipment on a per sortie basis.

26' TANB Management Information, Configuration, and Allowances (MICA) provides National Stock Numbers (NSNs) and ordering information for all outfit list items.

### WARNING

Any time the boat is started or has way on, the coxswain MUST have the lanyard of the engine kill switch clipped to his/her survival vest or PFD. A second kill switch activation clip and lanyard MUST be carried onboard to enable remaining crew members to operate the boat in the event the coxswain is ejected.

## 26' TANB Outfit List and Stowage Plan

Forward Storage Lockers		
<b>Forward Locker (starboard side)</b>		
Mooring Lines 2" or 2 1/4" x 25' circumference DBN x 25'	Samson 618040202561	6 each
Fire Extinguisher (Type B-1)	Kidde 91203	1 each
<b>Forward Locker (centerline)</b>		
Anchor Line Reel		1 each
Fortress 7 lb Anchor	FX11	1 each
3/8" Stainless Steel Anchor Shackle w/ captive pin WWL-2000 lbs		1 each
3/8" 316L Stainless Steel Anchor Chain		9 feet
Jaw to Jaw Swivel 316 Stainless Steel		1 each
Thimble 3/4" 316 Stainless Steel		1 each
Anchor Line (2-1/4" circumference DBN x 150 feet)		1 each
<b>Forward Locker (port side)</b>		



## 26' TANB Outfit List and Stowage Plan

Fenders (5½"x20")		2 each
<b>Locker on Front of Console</b>		
<b>Gear Bag</b> Containing 1½" DBN Skiff hook line 9' 1½" DBN Towing Bridle 15' SS Shackles (3/8" and ½") Mousing Wire Ties Hand bilge pump Air Horn Ratchet straps Lifting straps		1 each 1 each 1 each 2 total 4 min. 1 each 1 each 2 each 2 each
<b>Tool Box on Front of Console</b>		
Picking Pendant Saddle Style Alloy Grab Hook (1/2" Size) attached to a Alloy Closed Pear Master link w/ Hammer Lock  Pelican Hook Assembly (for ½" chain) ½" Grade 8 Alloy chain Hammerlock Shackle to attach to deck.  Chain Hooks Ratchet Straps (1 ½" wide strap, w/ min. 500 lbs. WLL) Slings (as appropriate) Tools for ATON Operation (as appropriate)	Gunnebo Johnson OG-13-8 SKG-7/8-8	1 Total              1 Total              2 Total 6 Total
<b>Port Side Locker -- Console</b>		
First Aid Kit	First Aid Pak MSP 50/SBP999	1 kit
Winch controller		1 each
Controllers for searchlight		1 each



## 26' TANB Outfit List and Stowage Plan

<b>Spare Parts kit/Tool Bag</b> Containing Lube Oil (10w/30) Phillips and Slotted Screwdriver Metric Wrench Set (10mm -20mm) Pliers Rags 3/16" T-Allen Wrench 90 Degree Phillips Screwdriver Spark Plug Wrench with 4" extension		1 each 2 qts 1 each 1 each 1 each Misc. 1 each 1 each 1 each
<b>Port Seat- Console Area</b>		
Fire Extinguisher (Type B-1)	Kidde 91203	1 each
<b>Aft Locker (Starboard)</b>		
No stowage, potential for damage from fuel		
<b>Aft Locker (Port)</b>		
No stowage, potential for damage from fuel		
<b>Seat backs or Bottom Cushions (4)</b>		
Boat Crew Survival Vest		4 each
<b>Main Deck</b>		
Garelick Deluxe Telescoping Boat Hook 8'	55170	1 each
24" Throwable Life Ring	Jim Buoy GO-X-24T	1 each
Life Ring Strobe Light	ACR SM-2	1 each
National Ensign	8345-00-245-2040	1 each
CG Ensign	8345-00-242-0275	1 each
406 MHz Category II EPIRB with GPS	ACR Model 2744	1 each
Throw Line Bag (port & starboard console rail)		2 each
<b>Port Seat Pocket</b>		
Flashlight (No larger than 2 D cell size)		1 each



## 26' TANB Outfit List and Stowage Plan

Binoculars		1 pair
<b>Starboard Seat Pocket</b>		
Spare Kill Switch Lanyard		1 each



## Appendix B. Engineering and Configuration Changes

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**Introduction** This appendix contains a list of authorized Engineering Changes (ECs) and Configuration Changes (CCs) for 26' TANBs.

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**NOTE**

For a complete breakdown of the Engineering Change Request, see the *Naval Engineering Manual*, COMDTINST M9000.6 (series), Chapter 41.

**In this appendix** This appendix contains the following information:

Topic	See Page
Engineering Changes (ECs)s	B-2
Configuration Changes	B-3

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## Engineering Changes (ECs)

EC Number	Subject	Date



# Configuration Changes (CCs)

<b>CC Number</b>	<b>Subject</b>	<b>Date</b>



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## Appendix C. Materiel Inspection Checklist

---

**Introduction** This appendix is meant to be a systematic means to inspect a 26' TANB and to ensure the entire boat is prepared to meet mission demands.

This checklist may be locally reproduced.

---

**In this appendix** This appendix contains the following information:

No.	Area	See Page
I	Hull	C-3
II	Deck	C-4
III	Bilge	C-6
IV	Systems	C-7
V	Outboard Engines and Steering Actuator	C-8
VI	Console	C-10

---



# Materiel Inspection Checklist

**Boat Number:** \_\_\_\_\_  
**Station:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

- References:**
- *26' TANB Operator's Handbook*, COMDTINST M16114.37 (series)
  - *Naval Engineering Manual*, COMDTINST M9000.6 (series)
  - *Coatings and Color Manual*, COMDTINST M10360.3 (series)
  - *Coast Guard Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

**WARNING** 

The engine kill switch lanyard and activation clip **MUST** be inspected daily. Damaged, deteriorated or frayed lanyards must be replaced prior to engine start. Engine kill switch operation must be tested weekly.

**Inspection Standards:**

The following inspection standards apply to the TANB hull, machinery, equipment, outfit, and all installed systems and accessories:

- Operates smoothly and correctly.
- Free of grease, oil, rust, and corrosion.
- All fluid levels and pressure readings are within tolerances.
- Protective coatings applied correctly and neatly.
- Free of rips, tears, abrasions, and cracks.
- Outfit and equipment correctly installed, adjusted, and stowed to specifications and design (see *Appendix A*).
- Labels, test dates, and placards properly displayed.
- Free of non-standard/unapproved installations or equipment.
- Maintained according to current manufacturer's guidelines and Commandant Directives.

**Inspection Guidelines:**

Inspections require a minimum of *two* experienced personnel, preferably one Boatswain's Mate and one Machinery Technician, who have a strong working knowledge of the contents of all references listed above. Each item on the checklist should be judged against applicable standards and references. Additional discrepancies, uninstalled engineering changes (ECs), etc. should be listed.

**Inspected By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Inspected By:** \_\_\_\_\_ **Date:** \_\_\_\_\_



# I. Hull

**WARNING** 

Any time the boat is started or is underway, the coxswain **MUST** have the lanyard of the engine kill switch clipped to his/her survival vest or PFD. A second engine kill switch activation clip and lanyard **MUST** be carried onboard to enable remaining crew members to operate the boat in the event the coxswain is ejected.

ITEM	SAT	UNSAT	REMARKS
Hull (Visible Surfaces)			
Fender (Gunwhale rubrail)			
Transom			
Depth Sounder Transducer			
Tie-Downs			
Outboard Engines			
Steering Actuator			
Anodes			
Lettering/Numbering/Decals			
Waterline			
Self-Bailing One-Way Scuppers			
Navigation Lights (Red/Green)			

**REMARKS:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## II. Deck

ITEM	SAT	UNSAT	REMARKS
Radar Pod Fittings and Hinge			
Lifting Eyes and Tie-Downs			
Deck Covering (Non-Skid)			
Forward Tow Bitt			
Aft Tow Bitt			
Gun Mounting Points			
Anchor Locker			
EPIRB			
VHF Antennas			
Horn			
Radar Antenna			
GPS Antenna			
Blue Strobe Lights			
Loudhailer Speaker			
Floodlights			
Anchor Light			
Towlight Mast			
Searchlight			
Weather Curtains System			
Windshield			
Windshield Wipers			

Appendix C – Materiel Inspection Checklist



ITEM	SAT	UNSAT	REMARKS
Battery Vent(s)			

**REMARKS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



### III. Bilge

ITEM	SAT	UNSAT	REMARKS
Depth Sounder Transducer Wiring			
Electric Dewatering Pump			

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## IV. Systems

ITEM	SAT	UNSAT	REMARKS
12-VDC Bus Bar			
Primer Bulbs (Fuel hose – Inline)			
Fuel Tank Level Sensor			
Fuel Filters (Racor)			
Fuel Fill Cap			
Fuel Fill Line			
Fuel Vent(s)			
Portable Fire Extinguishers			

**REMARKS:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## V. Outboard Engines and Steering Actuator

ITEM	SAT	UNSAT	REMARKS
Engine			
Engine Cover			
Oil Dipstick			
Oil Fill Cap			
Propeller			
Engine Attachment Points			
Cooling Water Flow Indicator			
Cooling Water Intakes			
Anodes			
Belts			
Hoses			
Water Separator Bowl			
Wiring			
Control Cables and Linkage			
Steering Actuator			
Actuator Shaft (Exposed Area)			
Cylinder			
Attaching Hardware			
Tie Bar			

Appendix C – Materiel Inspection Checklist



ITEM	SAT	UNSAT	REMARKS
Hydraulic Lines and Fittings			

**REMARKS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## VI. Console

ITEM	SAT	UNSAT	REMARKS
Crew Seats			
Battery Switches			
Batteries and Battery Locker			
Ignition Panels (Start Keys, Engine Kill Switch Clips, and Lanyards)			
Communications/Navigation Equipment			
VHF-FM Radios			
Radar			
Depth Sounders			
Microphones			
ATON Position Computer Mount			
Engine Throttle Control			
Steering Wheel			
Helm Pump			
Power Panels and Switches			
Defroster Control			
Searchlight Control			
Engine Gauges and Warning Lights			
Interior Lights			

Appendix C – Materiel Inspection Checklist



ITEM	SAT	UNSAT	REMARKS
Windshield Wipers and Washer Controls			
Portable Fire Extinguisher			
Towlight Mast			

**REMARKS:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



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## Appendix D. Disabling Casualties

---

**Introduction** This appendix contains disabling casualties for 26' TANBs. Refer to *Chapter 5.A* of this handbook for steps to follow if any of these casualties occur.

---

**In this appendix** This appendix contains the following information:

Topic	See Page
Engine Parameters	D-2
Engineering System Components	D-2
Electronics/Navigation	D-2
Safety	D-3
General Material	D-3

---



## Disabling Casualty List

---

### Engine Parameters

- Engine Lube Oil Pressure:
    - Green Engine Oil Pressure Light extinguishes on ignition panel, engine RPM is automatically limited to 1800 RPM.
  - Engine Cooling Water:
    - Red overheating indicator illuminates on the ignition panel, engine speed is automatically reduced to 1800 RPM. If condition continues for another 20 seconds, the engine automatically shuts down.
- 

### Engineering System Components

- Engine fails to start.
  - Uncontrollable overheating.
  - Inoperable visual or audible alarms.
  - Metallic/non-metallic noise: metal-on-metal/fuel-knock/bearing/clicking.
  - Excessive engine vibration.
  - Any gasoline fuel system leak.
  - Engine oil level empty (no oil on the dipstick).
  - Any engine wiring insulation damaged or chafed resulting in an exposed conductor.
  - Engine surging (over 50 RPM).
  - Engine over speed (over 6000 RPM).
  - Loss of engine control.
  - Continuous electrical breaker trip.
  - Continuous failure of outboard engine fuses.
  - Steering system inoperative.
  - Engine mount hardware loose or missing.
  - Loose/missing propeller coupling nut.
  - Loose/disconnected engine control hardware.
  - Loose/disconnected steering actuator hardware.
- 

### Electronics/Navigation

- No electronic means of signaling distress (i.e., no radio, EPIRB not installed or unserviceable, etc.).
  - 12-Volt system will not energize.
-



---

**Safety**

- Truck and complete hitch system (hitch, ball mount, and ball) not rated at 10,500 lbs or greater, rating must be marked by manufacturer’s sticker or stamp.
- Electrical arcing and sparking.
- Odor of insulation overheating.
- No portable fire extinguishers (unserviceable).
- No spare engine kill switch activation clip and lanyard available.

---

**General  
Material**

- Hull/transom plate breach below the waterline.
  - Crack in transom plate perimeter weld.
-



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## Appendix E. Restrictive and Major Discrepancies

---

**Introduction** This appendix contains restrictive and major discrepancies for the 26' TANB. Refer to *Chapter 5* of this handbook for steps to follow if any of these casualties occur.

---

**In this appendix** This appendix contains the following information:

Topic	See Page
Restrictive Discrepancies	E-2
Major Discrepancies	E-4

---



## Restrictive Discrepancies

---

### Engine and Boat Systems

- Engine performance:
    - Minimum RPM of 4500 for two minutes.
    - Overheating indicator illuminates, alarm sounds.
  - Any leaks
    - Outboard cooling water components.
    - Outboard engine lubrication system components.
    - Steering actuator help pump, hoses or fittings.
  - Inoperable tilt/trim system.
  - Inoperable trim tabs.
  - Inoperable fuel gauge.
  - Buoy handling equipment inoperative or damaged:
    - Davit winch ,wire rope, wire rope fittings, electrical cables, and electrical connections.
  - Buoy handling equipment and rigging gear not inspected:
    - Weight handling equipment not of proper grade, that has not been calibrated or pull tested annually, and material condition that degrades equipment.
    - Buoy handling system level I inspection/ annually.
    - Buoy handling system level II inspection/ every four years.
- 

### Engineering System Components

- Electric bilge dewatering pump is inoperative.
- 

### Electronics/ Navigation

- Navigation lights inoperative or displaying improper characteristics.
  - Depth sounder inoperative.
  - GPS inoperative.
  - Radar inoperative.
  - Magnetic compass affected as described below:
    - Deviation table missing.
    - Compass deviation greater than 5 degrees.
  - Electronics:
    - One VHF-FM transceiver inoperative.
  - Both loudhailer and horn inoperable.
-



---

**General  
Material and  
Safety**

- Watertight integrity:
    - Holes/cracks in the hull/transom plate above the waterline.
  - One portable fire extinguisher missing or unserviceable.
  - Navigation/anchor lights extinguished or inoperative.
  - Missing non-skid section (8 ½ x 11”).
  - Missing boat crew survival vest.
  - Weight handling equipment not of proper grade, that has not been calibrated or pull tested, and material condition that degrades equipment.
- 

**Trailer**

- Damage or deformation of the wheel rim flange which results in exposure of the tire bead (sealing surface) and/or damage or deformation which warps the circular shape of the rim.
  - Tire air pressure below 40 PSI.
  - Tire tread depth less than 4/32” (1/8”).
  - Brake/tail light incandescent bulb extinguished
  - Missing lug nut.
  - Missing or flat, improper size, damaged or worn tire(s).
  - Trailer running lights inoperative or wrong characteristic.
  - Brake actuator or back up solenoid inoperative or no fluid.
  - Wheel bearings or brakes have excessive noise or play.
  - Structural cracks.
  - Missing safety wire cables or brake emergency chain.
  - Emergency brake latch fails to operate.
  - Missing tie down straps (2 required/not including winch strap).
-



## Major Discrepancies

---

### Engine and Boat Systems

- Electric bilge dewatering hose missing hose clamp.
  - Loose/missing fittings, nuts, bolts, brackets, etc.
  - Loose/missing hardware on the engines used for attaching accessories and sensors.
  - Battery terminal loose or corroded.
  - Engine control cables loose.
  - Fluid levels below minimum required.
  - Charging system faulty or inoperative.
  - Any engine wiring insulation damaged or chaffed, without an exposed conductor.
  - Inoperable engine cover latch.
  - Any standard boat machinery, with the exception of those listed on the disabling or restrictive list, not operating properly.
- 

### Boat Outfit

- Life ring and/or distress lights (missing/unserviceable).
  - Missing seat belts.
  - Missing mooring lines.
  - Missing fenders.
  - Missing/inoperable skiff hook.
  - Missing/inoperable hand bilge pump.
  - Fire Extinguisher PMS not recorded on equipment tag or improperly completed.
-



---

**Electronics/  
Navigation**

- Compass light inoperative.
- Expired deviation table.
- Any standard boat electronics, with the exception of those listed on the restrictive list, not operating properly.

---

**General  
Material and  
Safety**

- Watertight integrity:
- Improperly repaired damage to hull.
  - Damage to folding mast.
  - Loose/missing/improper fittings, nuts, bolts, brackets, etc.
  - Missing/improperly outfitted first aid kit.
  - Crack in transom plate to engine well weld.
  - Crack in transom support gusset.
  - Extinguished deck illumination light (interior or exterior).
  - Any standard boat machinery or system, with the exception of those listed on the disabling or restrictive lists, not operating properly.

---

**Trailer**

- Loose, missing, or improper hardware.
  - Brake fluid level low.
  - Nonstandard type tie-down straps.
  - Missing section of DOT reflective tape.
  - Missing/damaged/misaligned bunks.
  - Missing/damaged tire change kit.
  - Tire air pressure 50-65 PSI.
  - Tire air pressure above 80 PSI.
  - Clearance light extinguished.
  - Bearing lubricator damaged or missing.
  - Damage or deformation of the wheel rim flange which does not result in exposure of the tire bead (sealing surface).
-



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## Appendix F. 26' TANB Power Trial

---

**Introduction** This appendix contains the power trial procedure for the 26' TANBs to ensure that the boat operates to prescribed standards.

---

**Pre-U/W Trial** Back the boat down into the water. While the boat is still on the trailer, lower the outboards into the water and start-up, check overboard discharge. Check the operation of all the gauges and throttle control, note results. Pull kill switches, outboards should shutdown. Place the kill switch(s) back on and place throttles into gear. Attempt to start while in gear. Engines should not start while in gear. Restart the engines and energize all equipment and ensure the following: satisfactory radio checks, GPS lock on, depth finder operates, and radar transmits.

---

**Power Trial** After all disabling casualties and restrictive discrepancies have been corrected or waived; the boat may get underway for a power trial.

Get the boat underway, trim engines all the way down, and bring it to a location where it can run for two (2) minutes on a relatively straight course.

Bring the engines up to min 4400 rpm. Check the boat for any vibrations. Have the operator remove both hands from the helm and see how the boat reacts. It should hold a relatively straight heading. Check the throttle handles to see if they hold 4500 rpm or creep back. If they creep back, have the operator hold the throttles at 4400 rpm for the two (2) minute period and note the discrepancy. On the return trip to the station, check full power, noting engine speed and rpm. Engines cannot run above 6000 rpm. If the engines exceed 6000 rpm, it is considered a **Disabling Casualty**. Once back at the pier, check the engines, fuel system, and steering system for evidence of leaks. While underway, compare electronic compass with GPS. If there is more than 5 degrees difference between electronic compass and GPS, electronic compass deviation can be determined by steering on a fixed range and known course. While steering on known course, compare course with electronic compass. If deviation is greater than 5 degrees, the electronic compass will need to be calibrated. After compass has been calibrated, complete a new test. If compass is unable to be calibrated to within 5 degrees, it is considered a **Restrictive Discrepancy**.

---



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## Appendix G. List of Acronyms

---

**Introduction** This appendix contains a list of acronyms used throughout the handbook.

---

**In this appendix** This appendix contains the following information:

Topic	See Page
List of Acronyms	G-2

---



<b>ACRONYM</b>	<b>DEFINITION</b>
AC	Aircraft
ATF	Automatic Transmission Fluid
BCRB	Bow Collar Reinforcement Bracket
CASREP	Casualty Report
CO	Commanding Officer
COLREGS	Collision Regulations
DBN	Double-Braided Nylon
DES	Digital Encryption Standard
DGPS	Differential Global Positioning System
DIW	Dead-in-the-Water
DO	Defense Operations
DSC	Digital Selective Calling
EC	Engineering Change
ECM	Engine Control Module
ELC	Engineering Logistics Center
ELT	Enforcement of Laws and Treaties
EMI	Electro-Magnetic Interference
EPIRB	Emergency Position Indicating Radio Beacon
GPH	Gallons Per Hour
GPS	Global Positioning System
HPA	Helm Pump Assembly
LED	Light Emitting Diode
MARPA	Mini Automatic Radar Plotting Aid
MEP	Marine Environmental Protection
MICA	Management Information, Configuration, and Allowances
MIG	Metal Inert Gas
MOB	Man Overboard
MSO	Marine Safety Office
MSS	Marine Safety and Security
MSST	Marine Safety and Security Team
NM	Nautical Mile
NSN	National Stock Number
OHIP	Overhead Hinged Instrument Panel



ACRONYM	DEFINITION
OIC	Officer-in-Charge
PFD	Personal Flotation Device
PGM-FI	Programmed Fuel Injection
PMS	Preventive Maintenance System
PPE	Personal Protective Equipment
PSS	Port Safety and Security
RBS	Recreational Boating Safety
RFO	Ready for Operation
SAFE	Secured Around Flotation Equipped
SAR	Search and Rescue
SINS	Scalable Integrated Navigation System
SOP	Standard Operating Procedure
TIG	Tungsten Inert Gas
UHMW	Ultra High Molecular Weight
UV	Ultraviolet
VDC	Volts Direct Current
WAAS	Wide Area Augmentation System
XO	Executive Officer
XPO	Executive Petty Officer
XTE	Cross Track Error



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