

U.S.S. RAZORBACK (SS394)
 SILENT RUNNING BILL
 CONNING TOWER

	<u>PATROL</u> <u>QUIET</u>	<u>BATTLE</u> <u>QUIET</u>	<u>SONAR</u> <u>QUIET</u>
1. Secure MB circuit and sonar talk back system.	NO	YES	YES
a. Man the XJA phones in all spaces.	NO	YES	YES
2. Obtain permission of the Commanding Officer before:			
a. Taking soundings.	YES	YES	YES
b. Using UQC.	YES	YES	YES
c. Active Sonar.	YES	YES	YES
d. Blowing sanitararies.	YES	YES	YES
3. Compartment blowers.	LOW	LOW	SECURED
4. Turn off all unnecessary lights.	YES	YES	YES
5. Steering.	NORMAL	HAND	HAND
6. Conduct ships routine quietly.	YES	YES	YES
7. The conditions of quiet (same as sonar) specified in this bill are designed not only to reduce ships generated noise by restricting immediate use of equipment but in addition is designed to reduce ships generated noise by reducing the ships electrical load. This will mean the ship will be required to snorkel less. It is imperative therefor that all unnecessary equipment be secured.			

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CONNING TOWER
FIRE BILL

1. Fire in Conning Tower

- a. Pass the word to Control.
- b. Turn on emergency lights.
- c. Shift steering to emergency.
- d. Fight fire using all available means.
- e. Remove VERY pistol signal kit to Control.
- f. Turn off fans.
- g. Isolate electrical circuits.
- h. Man XJA phone.
- i. If fire is beyond control, abandon and seal the Conning Tower on orders of the senior man present, or Control.
- j. If underway, surfaced, inform OOD of departure.

2. Fire in another compartment

- a. Man XJA phone.
- b. Turn on emergency lights.
- c. Conning officer prepare to surface, tactical situation permitting.

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U.S.S. RAZORBACK (SS 394)

RIG FOR DIVE SURFACE BILL
CONNING TOWER

ITEM	RIG FOR DIVE	RIG FOR SURFACE
1. Upper conning tower hatch OPERATE leave	OPEN	
a. Check light on TR panel with COC.		
2. Level in hydraulic steering system vent and surge tank	FULL	
3. Depth gage hull stop (1) back up stops (2) and individual gage stops (2)	OPEN	
4. a. Vents (2)	SHUT	
4. Periscope hydraulic supply and return valves	OPEN	
a. Raise and lower scopes, time travel in both directions		
b. Periscope wells drained.		
5. Match pointers on barometer, zero altimeter.		
6. Emergency lights (2) and battle lanterns (2) OPERATE, leave switches	OFF	
7. Report to COW, "Conning tower rigged for dive (surface)" and list any discrepancies.		

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CONNING TOWER
COLLISION AND FLOODING BILL

1. Sound the collision alarm and pass the word on the IMC, "COLLISION IN THE CONNING TOWER", or "COLLISION FORWARD", or "COLLISION AFT".
2. Shut upper and lower hatches.
3. Turn on emergency lights and battle lanterns.
4. Man XJA phone.

USS RAZORBACK (SS 394)
CONNING TOWER
RIG FOR DEEP SUBMERGENCE BILL

1. Helmsman man XJA phone.
2. Secure shallow water depth guage.

RIG FOR DEPTH CHARGE

1. Rig compartment for DEEP SUBMERGENCE.
2. Rig upper hatch depth charge dogs.
3. Secure all loose gear.
4. Turn on emergency lights.
5. FBT's will be rigged as MBT's on Conning Officer's orders.

USS RAZORBACK (SS394)

CONNING TOWER

ROUTINE AIR REVITALIZATION BILL

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1. When routine revitalization of all compartments is required, use the following procedure:
 - a. If it is known that the dive will last longer than $16\frac{1}{2}$ hours, spread CO2 absorbent before diving as follows:
 - (1) Divide 62.4 by the number of men on board. This equals the time in hours that one can of CO2 absorbent will last.
 - (2) Spread evenly on mattress covers of lower bunks throughout the boat.
 - b. Divide 1340 by the number of men on board. This equals the hours of safe air since diving or snorkeling. Upon expiration of this time, revitalize with either of the following methods:
 - (1) High pressure air banks - Pump a 2" vacuum in the boat (discharge the air into a low bank). Bleed air from a clean air bank until the pressure returns to atmospheric. This will be done hourly.
 - (2) Oxygen bleeding- Take 8.65 times the number of men on board. This equals the total required pressure drop of one oxygen bottle pressure gauge in pounds, for one hour. Bleed oxygen in the Forward Engineerroom in the vicinity of the supply blower intake.
 - c. Put the smoking lamp out.
 - d. Routine air revitalization (all compartments) will be controlled and administered by the Diving Officer.

EMERGENCY AIR REVITALIZATION BILL

CONNING TOWER

1. Compartment sealed:

- a. Immediately upon sealing the compartment, put the smoking lamp out and commence spreading CO2 absorbent in accordance with the following procedure:

- (1) 62.4 divided by the number of men in the compartment equals the length of time in hours that one can of CO2 absorbent will last.

$$N / \overline{62.4}$$

- (2) Spread CO2 absorbent evenly over mattress covers on lower bunks, insuring that it does not come in contact with water.
- (3) Spread absorbent carefully and keep it away from strong drafts. Avoid contact with eyes and wash hands after application.

- b. Air in this compartment is safe for a specific number of hours after diving or snorkeling. To compute the hours of safe air divide _____ by the number of men in this compartment. Upon expiration of the above time it is mandatory to bleed oxygen in accordance with the following procedure:

$$N / \overline{V} \text{ (volume of space)}$$

- (1) Take the number of men in the compartment times 8.65. This value equals the total pounds of pressure required to be bled from the oxygen bottle per hour.
- (2) For example: 10 men are in the compartment. Therefore 87 pounds of oxygen must be bled per hour. The oxygen bottle gauge reads 2400 pounds. 2400 minus 87 equals 2313 pounds. Oxygen is bled until the oxygen bottle gauge reads 2313 psi.
- (3) Never smoke or allow any open flame in the compartment while bleeding oxygen.

USS RAZORBACK (SS 394)
CONNING TOWER
EMERGENCY VENTILATION BILL

1. SURFACED

- a. Open upper and lower Conning Tower hatches.
- b. Open watertight door and bulkhead flappers from Control to After Battery, and After Battery to Forward Engine Room.
- c. Shut watertight door between Control and Forward Battery.
- d. Run #1 main engine pull air through Conning Tower, Control and After Battery.

TOXIC GAS BILL

1. Upon detecting toxic gas in compartment:

- a. If surfaced or in port abandon and seal the Conning Tower with the exception of the upper hatch.
- b. If submerged:
 - (1) Abandon Conning Tower.
 - (2) Shut lower hatch, Conning Tower ventilation flapper and Conning Tower drains (4).
 - (3) Conning Officer don OBA in Control and proceed to Conning Tower at his discretion.