



Section A. 41' UTB Basic Engineering Casualty Control Exercises

Introduction This Section provides a list of the standard engineering casualty control drills for the 41' UTB that will be administered by evaluation teams assigned to the Boat Readiness and Standardization Program.

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Exercise: Fire in the Engine Room

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
 - d. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Terminal Performance Objective Combat a simulated main space fire.

Conditions Given a CG boat with required fire fighting equipment and installed systems, take corrective action for combating a fire in the main space.

Standards Crewmembers shall demonstrate proper methods of controlling and extinguishing an engine room fire too large to be combated with only the portable fire extinguishers onboard, in accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs to neutral on both engines and then secure. (P)			
b. Notify crew of casualty. (P/T)			
c. Engineer check engine room through lower cabin view port to assess situation. (P)			
d. Contact and inform Station of situation and current position. (P/N)			
e. Secure electrical power. (P)			
f. On coxswain command, engineer energizes HALON system by pulling pin and actuating the handle (simulate). (T/P/O)			
g. Mark time when HALON system activated. (P)			
h. Crew member rig the anchor, if needed. (P/O)			
i. Disconnect life raft at weak link and move forward. (P)			
2. Crew Teamwork and Coordination:			
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T)			
d. Crew always aware of other's location. (T)			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear crew safety and survival equipment properly. (P/T)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			

Exercise: Loss of Steering (Cable/Hydraulics)

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
 - d. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Terminal Performance Objective Given a steering casualty, take corrective action.

Conditions Given a CG boat, a certified crew operating in prescribed limitations, take corrective actions for a loss of steering, caused by a break in the steering cable.

Standards Emergency tiller installed on the port rudderpost and positive control of both rudders maintained, in accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs on both engines. (P)			
b. Notify crew of casualty. (T)			
c. Verify current position and evaluate situation. (P/T/N)			
d. Coxswain steer with engines, if needed. (T)			
e. Engineer investigate the casualty. (P)			
f. Crew member rig the anchor, if necessary. (P/O)			
g. Crew member provide emergency tiller from lazarette. (P/T)			
h. Place engines in neutral. (P)			
i. Install emergency tiller on the port rudderpost and maintain positive control. (S/P)			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
j. Detach release pin on starboard rudderpost to disconnect steering cable. Tie cable out of way. (P/T)			
k. Test rudders for complete range of motion (full port to full starboard). (T/P/O)			
l. Place tiller amidships. (P/O)			
m. Engage engines separately. (P)			
n. Keep RPMs at minimum speed. (P)			
o. Utilize standard steering commands. (P/T)			
p. Notify Station . (P/O)			
2. Crew Teamwork and Coordination:			
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T)			
d. Crew always aware of other's location. (T)			
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear crew safety and survival equipment properly. (P/T)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			



Exercise: Loss of Steering (Jammed Rudder)

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
 - d. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Terminal Performance Objective Given a steering casualty, take corrective action.

Conditions Given a CG boat, a certified crew operating in prescribed limitations, take corrective actions for a loss of steering, caused by a jammed rudder.

Standards Emergency tiller installed on the port rudderpost and positive control of both rudders maintained, in accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs on both engines. (P)			
b. Notify crew of casualty. (T)			
c. Coxswain steer with engines, if needed. (T)			
d. Engineer investigate the casualty. (P)			
e. Crew member rig the anchor, if necessary. (P/O)			
f. Crew member provide emergency tiller from lazarette. (P/T)			
g. Place engines in neutral. (P)			
h. Install emergency tiller on the port rudderpost and maintain positive control. (P)			
i. Engineer remove tie rod bar between port and starboard rudderposts, if necessary. (P/O)			
j. Exercise rudders to determine which rudder is jammed. (P/O)			
k. Make attempts to free jammed rudder with tiller. (P)			
l. Secure rudder to prevent movement if unable to free jammed rudder. (P)			
m. Keep RPMs at minimum speed. (P)			
n. Utilize standard steering commands. (P/T)			
o. Notify Station . (P/O)			
2. Crew Teamwork and Coordination:			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T)			
d. Crew always aware of other's location. (T)			
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear crew safety and survival equipment properly. (P/T)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			

Exercise: Collision With Submerged Object

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
 - d. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Terminal Performance Objective Crew simulates striking a submerged object while underway and takes appropriate action.

Conditions Given a CG boat with a certified crew operating in prescribed limitations, take corrective action for striking a submerged object.

Standards In accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs to neutral on both engines. (P)			
b. Notify crew of casualty. (P/T)			
c. Coxswain verify position. (N/P/T)			
d. Engineer proceed to the engine room to check for compartment flooding. (P)			
e. Crew member check all other compartments for flooding. (P)			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
f. Take appropriate measures to reduce flooding, if applicable. (P)			
g. Engage engines at various speeds to check for vibration. (P/O)			
h. Notify Station of situation. (P/O)			
2. Crew Teamwork and Coordination:			
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T)			
d. Crew always aware of other's location. (T)			
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear crew safety and survival equipment properly. (P/T)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			

Exercise: Loss of Main Engine Lube Oil Pressure

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
 - d. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Terminal Performance Objective Given a simulated loss of lube oil pressure in a main diesel engine, take corrective action.

Conditions Given a CG boat with a certified crew operating within prescribed limitations, take corrective action for loss of lube oil pressure.

Standards In accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs to clutch ahead on both engines. (P/O)			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
b. Identify affected engine. (P)			
c. Notify crew of casualty. (T)			
d. Secure affected engine. (P/O)			
e. Verify current position and evaluate situation. (P/T/N)			
f. Engineer check engine room through lower cabin view port to assess the situation. (P)			
g. Crew member rig the anchor, if necessary. (P/O)			
h. Engineer enter engine room, crew member act as safety observer for engineer. (P/T)			
i. Fire extinguishers O/S. (P/O)			
j. Check bilge area for lube oil. (P)			
k. Check lube oil for quality and quantity. (P)			
l. Notify Station . (P/O)			
m. Return to Station if cause cannot be determined or repaired. (P/T)			
2. Crew Teamwork and Coordination:			
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T)			
d. Crew always aware of other's location. (T)			
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear crew safety and survival equipment properly. (P/T)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			



Exercise: Main Engine High Water Temperature

Score SAT / UNSAT

Unit Name _____ **Boat #** _____ **Date** _____

Coxswain _____ **Engineer** _____

Crewmember _____ **Crewmember** _____

Weather During Drill: **Winds** _____ **Seas** _____ **Current** _____ **Visibility** _____

- References**
- a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)
 - b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)
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Terminal Performance Objective Given a simulated high water temperature in a main diesel engine, take corrective action.

Conditions Given a CG boat with a certified crew operating in prescribed limitations, take corrective action for high water temperature.

Standards In accordance with procedures set forth in the above references.

ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
1. Casualty:			
a. Reduce RPMs to clutch ahead on both engines. (P/O)			
b. Identify affected engine. (P)			
c. Notify crew of casualty. (P/T)			
d. Verify current position and evaluate situation. (P/T/N)			
e. Secure engine, if temperature continues to rise. (P/O)			
f. Check overboard discharge. (P)			
g. Engineer check engine room through lower cabin view port to assess the situation. (P)			
h. Crew member rig the anchor, if necessary. (P/O)			
i. Engineer enter engine room, crewmember act as safety observer for engineer. (P/T)			
j. Sea suction valves open. (P)			
k. Check sea strainers, shift strainers, if necessary. (P/O)			
l. Check bilges. (P)			
m. Check cooling lines. (P)			
n. Check raw water pump with back of hand. (P)			
o. Check expansion tank after engine has cooled. (P)			
p. Notify Station . (T/P/O)			



ENABLING OBJECTIVES	SAT	UNSAT	REMARKS
2. Crew Teamwork and Coordination:			
a. Coxswain brief crew of specific job and mission responsibilities. (T)			
b. Crew communicate effectively and assertively during evolution. (T)			
c. Crew assist each other as needed. (T/P)			
d. Crew always aware of other's location. (T)			
e. Coxswain provide appropriate and timely guidance throughout evolution. (T)			
f. Wear and use crew safety and survival equipment properly. (P/T/O)			
g. Do not jeopardize safety of vessel and crew. (T)			
h. Coxswain keep Station informed during evolution. (P/T)			