HumRRO

Interim Report

PRELIMINARY OUTLINE OF DRIVER DUTIES AND TASKS FOR US/FRG MBT-70

by

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January 1967
(Revised May 1967)

The George Washington University
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This Interim Report has been prepared to provide preliminary information on the results of a research effort. It does not necessarily represent official opinion or policy of either the Human Resources Research Office or the Department of the Army.

HumRRO Division No. 2 (Armor)

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In Project MBT, HumRRO was involved in the development of training guidelines for a proposed new Army tank, MBT-70. As part of that project, HumRRO prepared this preliminary collation of Driver duties as envisioned for this new tank. The collation was prepared on the basis of an analysis of available documents and interviews with contractor development personnel. Purpose of the report was to provide a basis for further analysis; it was not considered complete in the present form.

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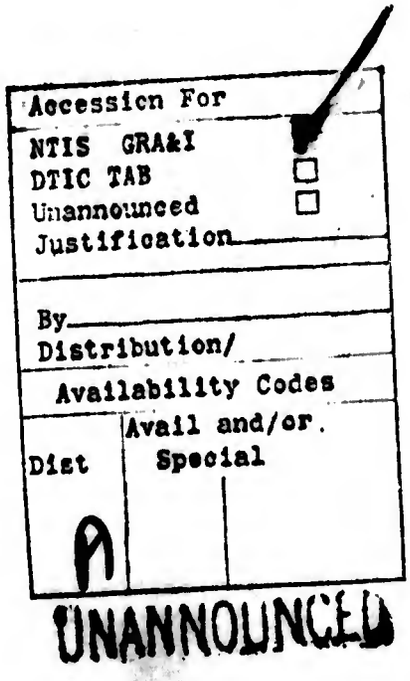
INTRODUCTION

This report represents a preliminary collation of available task analysis information pertinent to the US/FRG MBT-70. It is based on an analysis of available documents and interviews with contractor development personnel. The purpose of the report is to provide a basis for further analysis. As such it is not considered to be complete or accurate in its present form.

The report is divided into two major sections: MAINTENANCE and OPERATIONS. Each section first lists the tasks and duties for which the MBT-70 crew member will be responsible. Those tasks for which procedural descriptions have been obtained are designated by asterisks. These procedural descriptions are presented as a second part of the section. All procedures are numbered so as to cross-reference with the designated task.



MAINTENANCE CHECKS AND SERVICES

DUTIES AND TASKS

(Maintenance Checks and Services)

1.0 SERVICING BEFORE OPERATION

1.1 Checking the Tracks
1.2 Checking the Oil Level of Road Wheels
1.3 Checking the Oil Level of Compensating Idler Wheels
1.4 Checking the Oil Level of Support Roller Hubs
1.5 Checking the Hydropneumatic Suspension Units
1.6 Checking the Engine
1.7 Checking the Engine Oil Gage
1.8 Checking the Engine Oil Reservoir
1.9 Checking the Engine Fuel Shut Off Valves
1.10 Checking the Transmission
1.11 Checking the Transmission Oil Reservoir
1.12 Checking the Transmission Oil Cooler Lines and Fittings
1.13 Checking the Aftercoolers
1.14 Checking the Fuel Lines
1.15 Checking the Fuel Tanks
1.16 Checking for Fuel Condensate
1.17 Checking the Final Drive Oil Level
1.18 Checking the Oil Level in Accessory Drive
1.19 Checking the External Oil Lines
1.20 Checking the Exhaust Manifolds
1.21 Checking the Intake and Exhaust Grilles
1.22 Checking the Towing Hooks and Lifting Eyes
1.23 Checking the Fenders and Fender Guides
1.24 Checking the Access and Inspection Plate Covers
1.25 Checking the External Interphone and Housing
1.26 Checking the Service Lights
1.27 Checking the Infrared Lights
1.28 Checking the Blackout Lights
1.29 Checking the Taillights
1.30 Checking the Dome Light
1.31 Checking the Driver's Vision Blocks
1.32 Checking the Driver's Seat and Controls
1.33 Checking the Rotating Capsule
1.34 Checking the Raised Platform
1.35 Checking the Turret Lock
1.36 Checking the Switches, Gages and Panel Lights
1.37 Checking the Washer, Wiper, De-icer, and Flash Protectors

3.0 SERVICING AFTER OPERATION

3.42	Checking the Fuel Gage
3.43	Checking the Fuel Lines
3.44	Checking the Fuel Tanks
3.45	Checking the Fuel Pump
3.46	Checking for Fuel Condensate
3.47	Checking the Primary Fuel Filter Element
3.48	Checking the Secondary Fuel Filter Element
3.49	Checking the Final Drive
3.50	Checking the Final Drive Oil Level
3.51	Checking the Oil Level in Accessory Drive
3.52	Checking the Accessory Drive Coupling
3.53	Checking the External Oil Lines
3.54	Checking the Exhaust Manifolds
3.55	Checking the Manifold Heater Lines and Fittings
3.56	Checking the Intake and Exhaust Grilles
3.57	Checking the Towing Hooks and Lifting Eyes
3.58	Checking the Snorkel Assembly
3.59	Checking the Exhaust Pipe
3.60	Checking the Fenders and Fender Guides
3.61	Checking the Access and Inspection Plate Covers
3.62	Checking the External Interphone and Housing
3.63	Checking the Service Lights
3.64	Checking the Infrared Lights
3.65	Checking the Blackout Lights
3.66	Checking the Taillights
3.67	Checking the Dome Light
3.68	Checking the IR Periscope
3.69	Checking the Driver's Day Periscope
3.70	Checking the Driver's Vision Blocks
3.71	Checking the Driver's Seat and Controls
3.72	Checking the Rotating Capsule
3.73	Checking the Raised Platform
3.74	Checking the Turret Lock
3.75	Checking the Switches, Gages and Panel Lights
3.76	Checking the Washer, Wiper, De-Icer, and Flash Protectors
3.77	Checking the Driver's Hatch
3.78	Checking the Escape Hatch
3.79	Checking the Portable Fire Extinguisher
3.80	Checking the Fixed Fire Extinguisher
3.81	Checking the Adjustment of the Hand Controller
3.82	Checking the Batteries
3.83	Checking the Battery Electrolite

TASK DESCRIPTIONS

(Maintenance Checks and Services)

OPERATIONS

DUTIES AND TASKS

(Operations)

TASK DESCRIPTIONS

(Operations)

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.1 TASK Starting the Engine In Moderate or Hot Weather

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Driving rotary switch on auxiliary panel	Rotate to the ACCY position	Central warning light, master warning light, trans. warning lights, eng. warning lights (all red) illuminate	All accessory equipment not in immediate use must be placed in an "OFF" position
2	Range selector lever on main panel	Place in the A position, push in on knob of lever and slide lever back into the P position	Parking brakes are applied and locked in Park. Knob remains in "DOWN" position	
3	Steering handles on hand controller	Assure that they are in the "CENTER STEER" (null) position		The steering system is interlocked to the engine starting system. The engine will not start unless the steering system is in "CENTER STEER"
4	Transmission neutral (center) pushbutton on main panel	Depress O and release		

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Driving rotary switch on auxiliary panel	Rotate to the START position, hold, then release when engine starts	Driving rotary switch returns to DRIVE position	Do not operate "STARTER" over_____seconds. If engine fails to start, allow_____mins. for engine to cool off before again attempting to start
6	Accelerator grips on hand controller	Rotate outward as desired until the engine is warmed up, then return to "ENGINE IDLE" position	Engine runs at "WARM UP" rate, then slows to an "IDLE" rate	Warm-up period is normally _____mins.
7	Warning lights on main and auxiliary panel and and in hull near hatch opening	Monitor	Central, master, engine, and transmission warning lights (all red) extinguish	If any of the warning lights remain "ON", stop the engine immediately

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.2 TASK Starting the Engine In Cold Weather

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Driving rotary switch on auxiliary panel	Rotate to the ACCY position	Central warning light, master warning light, trans warning lights, engine warning lights (all red) illuminate	All accessory equipment not in immediate use must be placed in an "OFF" position
2	Range selector lever on main panel	Place in the A position, push in on knob of lever and slide lever back into the P position	Parking brakes are applied and locked in park. Knob remains in "DOWN" position	
3	Steering handles on hand controller	Assure that they are in the "CENTER STEER" (null) position		The steering system is interlocked to the engine starting system. The engine will not start unless the steering system is in "CENTER STEER"
4	Transmission neutral (center) pushbutton on main panel	Depress O and release		

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Winterization kit	Place in the "ON" position	Noise occurs in engine compartment	Winterization kit preheats the engine, transmission, and batteries from -65°F to -25°F temperature
6	Manifold heat pushbutton on auxiliary panel	Depress and hold until engine starts	Noise occurs in engine compartment	Manifold heat system heats the engine, transmission and batteries from -25°F to a + °F temperature
7	Driving rotary switch on auxiliary panel	Rotate to the START position, hold, then release when engine starts	Driving rotary switch returns to DRIVE position. Manifold heat pushbutton is released	Do not operate "STARTER" over_____seconds. If engine fails to start, allow_____extra minutes for engine to heat up before again attempting to start
8	Accelerator grips on hand controller	Rotate outward as desired until the engine is warmed-up, then return to "ENGINE IDLE" position	Engine runs at "WARM UP" rate then slows to an "IDLE" rate	Warm-up period is normally _____minutes.
9	Warning lights on main and auxiliary panels and in hull near hatch opening	Monitor	Central, master, engine and transmission lights (all red) extinguish	If any of the warning lights remain "ON", stop the engine immediately

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
10	Winterization kit	Place in the "OFF" position.	Noise diminishes in engine compartment	
11	Personnel heater rotary switch	Rotate to the NORM position	Warm air flows into crew compartment	If insufficient heat is obtained, switch the comb. heater to the ON position

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.3 TASK Starting the Engine by Slaving

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Slave cable	Remove from stowage end connect to stalled vehicle's auxiliary power receptacle (located at the left rear sponsor under a trap door)		The driving rotary switch in the stalled vehicle must be in the OFF position
2	Slave cable	Connect opposite end to auxiliary vehicle's power receptacle		Polarity and voltage must be identical in both vehicles
3	Auxiliary vehicle	Start the engine		(Refer to 1.1 or 1.2)
4	Stalled vehicle	Start the engine		(Refer to 1.1 or 1.2)
5	Auxiliary vehicle	Stop the engine		(Refer to 1.25)
6	Slave cable	Disconnect from auxiliary vehicle's power receptacle		Caution must be exercised when removing slave cable. Current in wire is approx. 28 volts

Skill Elements

No.	Equipment	Activity	Indication	Remarks
7	Slave cable	Disconnect from stalled vehicle's auxiliary power receptacle		
8	Accelerator grips on hand controller	Rotate outward as desired	Engine accelerates and battery charges	Time required to replenish the stalled vehicle's power receptacle after the engine starts is normally____mins.
9	Slave cable	Stow as required		

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.5 TASK Braking

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until the tank comes to a complete stop and hold.	Service brakes are applied, tank stops, and the engine runs at a "FAST IDLE"	Assure that the retainer straps are fastened securely before making any abrupt stops. The steering handles are spring-loaded and will return to the "UP" position when released.

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.6 TASK Accelerating

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Accelerator grips on hand controller	Rotate outward or inward as desired	Engine accelerates or decelerates Speedometer indicates obtained speed	Accelerator grips are spring-loaded and will return to the "NULL" position when released

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.7 TASK Steering

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Turn right or left as desired	Tank responds accordingly	When driving forward turning the steering handle right turns the tank right; turning the steering wheel left, turns the tank left The steering handles are spring-loaded and will return to the "CENTER STEER" position when released Turn tank smoothly, never in jerks Tank must not exceed____ mph when turning sharply Avoid changing transmission drive within curving or turning actions, if possible

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.8 TASK Pivoting

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until the tank comes to a complete stop and hold	Service brakes are applied, tank stops and engine runs at a "FAST IDLE"	Tank must be at a complete stop before pivoting
2	Steering handles and accelerator grips on hand controller	Release forward pressure on the steering handles and turn to extreme right or left position while rotating the accelator grips outward as desired	Service brakes are released and tank begins pivot steer while engine is accelerated. Speedometer indicates obtained speed	Transmission must be in "PIVOT STEER":_____ Range selector must be in "PIVOT STEER":_____
3	Steering handles on hand controller	Return to "CENTER STEER" position when pivoting direction is obtained	Tank ends pivot steer and begins to travel in desired direction	The steering handles are spring-loaded and will return to the "CENTER STEER" position when released

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.9 TASK Changing the Transmission Drive

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Transmission pushbutton on main panel	Depress ↑, 0, or ↓ and release	Transmission is placed in desired direction	The transmission push-buttons are forward, neutral, and reverse
2	Range selector lever on main panel	Place in 4, 3, 2, 1, A, or P position	Transmission is placed in desired range	The range selector positions are 4th, 3rd, 2nd, 1st, automatic, and park Automatic contains only 2nd, 3rd, and 4th gears. First gear will not engage when in automatic position On extremely steep ascents or descents, place range selector lever in 1 position

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.10 TASK Backing Up

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until the tank comes to a complete stop and hold	Service brakes are applied, tank comes to a complete stop, and engine runs at a "FAST IDLE"	Assure that the reteiner straps are fastened securely before making any abrupt stops
2	Transmission reverse pushbutton on main panel	Depress ↓ and release	Transmission is placed in reverse direction	Changing of direction while driving is permissible only at speeds less than 9.5 mph or with engine speed at less than 1200 rpms
3	Range selector lever on main panel	Place in desired position	Lever is in 4, 3, 2, 1, or A position	
4	Steering handles and accelerator grips on hand controller	Release forward pressure on the steering handles and rotate the accelerator grips outward as desired	Service brakes are released, engine accelerates and tank backs up in reverse direction. Speedometer indicates obtained speed	The TC will, if necessary, provide driving instructions to assist the driver in backing up

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.11 TASK Driving the Vehicle Backward

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until the tank comes to a complete stop and hold	Service brakes are applied , tank stops, and the engine runs at a "FAST IDLE"	Assure that the retainer straps are fastened securely before making any abrupt stops
2	Transmission neutral pushbutton on main panel	Depress 0 and release		Do not depress the transmission 0 ("NEUTRAL") before the tank is in a "FULL STOP" position
3	Steering handles on hand controller	Release forward pressure and allow handles to return to the "CENTER STEER" position	Service brakes are released, engine runs at "IDLE" speed, and handles are in the "CENTER STEER" position	
4	Station latch lever	Pull down and hold	Rotating capsule gears are disengaged from the turret	The station latch lever engages and disengages the rotating capsule from and to the turret
5	Rotating capsule	Rotate using feet and hands		

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
6	Station latch lever	Release when in desired position	Roteting capsule gears are engaged to the turret	
7	Steering handles on hand controller	Rotate to the extreme forward position and hold	Service brakes are applied and engine runs at a "FAST IDLE"	
8	Range selector lever on controller	Place in the desired position	Lever is in 4, 3, 2, 1, or A position	
9	Transmission reverse pushbutton on main panel	Depress ↓ and release	Transmission is placed in reverse direction	
10	Accelerator grips on hand controller	Rotate accelerator grips outward as desired	Engine accelerates, and tank moves in reverse direction. Speedometer indicates obtained speed	When driving the tank backwerd, the emergency steering, braking and accelerating equipment becomes inoperative due to its location and installation position
11	Steering handles on hand controller	Turn right or left as desired	Tank responds accordingly	Steering is directly opposite to "NORMAL" steering. When driving backwerds, turning the steering handle right, turns the tank left; turning the steering handles left, turns the tank right

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.12 TASK Driving Over An Obstruction

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Do not allow tank to roll backwards while the transmission is in a drive range Maximum height of an obstruction that a tank can drive over is____inches Minimum width of an obstruction that a tank can drive over is____inches Tank must meet obstruction squarely All hatches must be locked in an "OPEN" or "CLOSED" position and the crew members alerted and braced

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				Refrain from shifting geers and steering unnecessarily while driving over an obstruction Upon reaching the crest of an obstruction, allow the tank to settle before accelerating

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.13 TASK Driving In A Wooded Area

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				In a wooded area, the secondary weapon, searchlight and nightsight must be placed in a stowed position when not in immediate use In a wooded area, make certain that the gun tube does not strike trees or protruding branches In a wooded area, avoid striking trees whenever possible. If it becomes necessary, do not strike trees when traveling over _____mph and trees no wider than _____inches

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.14 TASK Driving Across A Ditch, Shellhole, or Trench

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Do not allow tank to roll backwards while the transmission is in a drive range Maximum depth of an obstruction that a tank can drive across is _____inches Minimum width of an obstruction that a tank can drive across is _____ inches Tank must meet obstructions squarely All hatches must be locked in an "OPEN" or "CLOSED" position and the crew members alerted and braced Refrain from shifting gears and steering unnecessarily while driving across a ditch, shellhole, or trench

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				Upon reaching the crest of a ditch, shellhole, or trench, allow the tank to settle before accelerating

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.15 TASK Driving with Hatch Open

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Hatch	Open and lock in "OPEN" position		(Refer to 9.1)
2	Seat and platform	Unlock, raise to desired height and lock in position		Seat is spring-loaded and will "stow" when body weight is removed (Refer to 9.2)
3	Hand controller	Unlock, raise to desired height, and lock in position		(Refer to 9.3)
4	Steering handles on hand controller	Angle as desired to obtain optimum steering of tank, and lock in position		(Refer to 9.7)
5	Master warning light in hull near hatch opening	Monitor	Master warning light (red) is extinguished	If master warning light illuminates, respond as required. (Refer to 4.2)

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.16 TASK Driving Through the Snow

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Snow must be ____ft. or less in order to prevent deeper snow from "packing" up and causing a bellied tank. Close observation of the terrain is extremely necessary. Snow may hide numerous obstructions such as ditches, shellholes, or trenches The transmission must be in the proper range and the required speed maintained to prevent overheeting of the engine and transmission The warning light(s) must be monitored at all times for possible engine and/or transmission malfunction

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.17 TASK Driving Through Mud or Send

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				The tank must be steered around mud or sand whenever possible When in mud or sand, accelerate sufficiently to keep tracks moving and the engine from stalling The transmission must be in the proper range and the required speed maintained to prevent overheating of the engine and transmission The warning light(s) must be monitored at all times for possible engine and/or transmission malfunction

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.18 TASK Driving In Convoy

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Without tank lights and with good visibility, the TC will signal the following tanks to CLOSE UP or SPREAD OUT in accordance with SOP With blackout markers on, the driver must close to approximately 20 yards behind the lead tank so that each of its rear markers appear to show two points of light If the blackout stoplight on the lead tank illuminates, apply the brakes as required The normal driving distance, with or without headlights, is approximately 50-100 yards behind the lead tank

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				The fender guides located on the left and right front of the tank should be used to remain orientated properly with the lead tank Respond to all road signs and traffic signals as required unless the TC directs otherwise

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.19 TASK Driving with Service Headlights

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Driving rotary switch must be in the ACCY or DRIVE position
1	Light safety switch on auxiliary panel	Push up to the UNLOCK position and hold	Main lightswitch is unlocked	
2	Main light switch on auxiliary panel	Rotate right to the SER LIGHT position	Service headlights, (2) and service taillights and stoplight illuminate	Service taillight and stoplight illuminate brighter when brakes are applied
3	Light safety switch on auxiliary panel	Release	Main light switch is locked in SER LIGHT position	
4	Dimmer switch	Depress and release	Headlights low or high beam is visibly noticeable on distant objects	For better vision at nights, with headlights illuminated, turn eyes slightly to the right or left of objects being observed
				When driving at night with headlights illuminated,

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				reduce speed to maintain a safe driving rate and observe for dark shadowy places which normally indicate hidden ditches or obstacles

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.20 TASK Driving with Infrared Headlights

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Driving rotary switch must be in the ACCY or DRIVE positions and the IR periscope installed
1	Light safety switch on auxiliary panel	Push up to the UNLOCK position and hold	Main light switch is unlocked	
2	Main lightswitch on auxiliary panel	Rotate to the BO DRIVE position		
3	Light safety switch on auxiliary panel	Release	Main lightswitch is locked in BO DRIVE position	
4	IR - BO toggle switch on auxiliary panel	Switch to the IR position	BO stoplight, BO marker lights (front and rear), and IR lights illuminate	When IR periscope is used, distance of objects becomes difficult to estimate For better vision at night with IR lights illuminated, turn eyes slightly to the right or left of objects being observed

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				When driving at night with IR lights illuminated, reduce speed to maintain a safe driving rate and observe for dark, shadowy places which normally indicate hidden ditches or obstacles

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.21 TASK Driving with Blackout Markers

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Driving rotary switch must be in the ACCY or DRIVE positions
1	Light safety switch on auxiliary panel	Push up to the UNLOCK position and hold	Main lightswitch is unlocked	
2	Main lightswitch on auxiliary panel	Rotate left to the BO MARKER position	BO marker lights (front and rear) illuminate	
3	Light safety switch on auxiliary panel	Release	Main lightswitch is locked in BO MARKER position	When driving at night with BO marker lights, reduce speed to maintain a safe driving rate and observe for dark, shadowy places which normally indicate hidden ditches or obstacles

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.22 TASK Driving with Blackout Lights

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Driving rotary switch must be in the ACCY or DRIVE positions
1	Light safety switch on auxiliary panel	Push up to the UNLOCK position and hold	Main lightswitch is unlocked	
2	Main light switch on auxiliary panel	Rotate left to the BO DRIVE position		
3	Light safety switch on auxiliary panel	Release	Main lightswitch is locked in BO DRIVE position	
4	IR - BO toggle switch on auxiliary panel	Switch to the BO position	BO stoplight, BO marker lights (front and rear) and BO drive light illuminate	When driving at night with BO drive light, reduce speed to maintain a safe rate and observe for dark shadowy places which normally indicate hidden ditches or obstacles

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.23 TASK Driving with TV System

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
				Driving rotary switch must be in the ACCY or DRIVE position and the TV cameras installed in the driver's compartment
1	TV system toggle switch	Switch to the ON position	TV system projects area objects in its range of view on the camera screen	TV camera will project objects approximately 10 feet in front of vehicle, and ____feet on either side
2	Contrast knob	Rotate as desired	Picture contrast is adjusted	
3	Brightness knob	Rotate as desired	Picture brightness is adjusted	

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.24 TASK Stopping For A Halt

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until the tank comes to a complete stop and hold	Service brakes are applied, tank stops, and the engine runs at a "FAST IDLE"	Assure that the retainer straps are fastened securely before making any abrupt stops
2	Transmission neutral pushbutton on main panel	Depress O and release		
3	Range selector lever on main panel	Place in the A position push in on knob of lever and slide the lever back into the P position.	Parking brakes are applied and locked in park. Knob remains in "DOWN" position	
4	Steering handles on hand controller	Release forward pressure and allow handles to return to the "CENTER STEER" position	Service brakes are released, engine runs at "IDLE" speed and handles are in the "CENTER STEER" position	Steering handles are spring-loaded and will return automatically to the "CENTER STEER" position when released
5	Light safety switch on auxiliary panel	Push up to the UNLOCK position and hold	Main light switch is unlocked	Steps 5,6, and 7 are necessary only if the tank is to be at a halt for 10 or more mins.

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
6	Main lightswitch on auxiliary panel	Rotate to STOPLIGHT position	Service taillight and stoplight illuminates	
7	Light safety switch on auxiliary panel	Release	Main lightswitch is locked in STOPLIGHT position	

JOB ELEMENTS

1.0 DUTY DRIVING THE TANK

1.25 TASK Stopping the Engine

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward until tank comes to a complete stop and hold	Service brakes are applied, tank stops, and engine runs at a "FAST IDLE"	Assure that the retainer straps are fastened securely before making any abrupt stops
2	Transmission neutral pushbutton on main panel	Depress O and release		
3	Range selector lever on main panel	Place in the A position, push in on knob of lever, and slide the lever back into P position	Parking brakes are applied and locked in park. Knob remains in "DOWN" position	
4	Steering handles on hand controller	Release forward pressure and allow handles to return to the "CENTER STEER" position	Service brakes are released, engine runs at "IDLE" speed, and handles are in "CENTER STEER" position	Steering handles are spring-loaded and will return automatically to the "CENTER STEER" position when released
5	Engine stop pushbutton on auxiliary panel	Depress and hold until the engine stops	Engine stops and the engine pushbutton is released. Master warning light (red), transmission warning lights	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
			(red), and engine warning lights (red) extinguish	
6	Driving rotary switch on auxiliary panel	Rotate to the OFF position	All lights in tank extinguish	The fire extinguisher system (and light) remains activated at all times
7		Perform After Operation Maintenance check and services as soon as the situation permits		

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.1 TASK Preparing the Tank for Fording

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Select a gradual sloping bank of firm ground that is free of rocks, stumps, or debris		Avoid drop offs into water, soft ground, or steep grades where the tank may lose traction, mire down, or skid
2		Determine maximum depth of water, if possible		Water must not exceed a depth of ___ feet when fording
3	Air intakes (2) on rear sponsons	Raise and lock in position		The gunner will perform this step, if the situation demands it
4	Driver's hatch	Close		(Refer to 9.1)
5	Gunner's hatch	Have the gunner close and lock		The TC will normally have his hatch open for observation
6	Tank engine	Start		(Refer to 1.1 or 1.2)
7	Fording rotary switch on auxiliary panel	Rotate to the FORD position	FORD light (green) illuminates	Fording valves are closed and locked when the FORD light illuminates

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.3 TASK Entering the Water

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward and hold	Service brakes are applied, engine runs at a "FAST IDLE"	
2	Range selector lever on main panel	Push down on knob of lever and place lever in the A position	Parking brakes are released, knob is in the "UP" position, and the lever is in the A position	
3	Transmission forward pushbutton on main panel	Depress ↑ and release	Transmission is placed in a forward direction, and the brakes "grab" as the tank jerks slightly forward	
4	Bilge pump toggle switch on auxiliary panel	Switch to the ON position	Bilge pump operates; gurgling sounds become noticeable	DO NOT operate the bilge pump out of the water for more than 10 seconds

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Steering handles on hand controller	Release forward pressure gradually while rotating outward	Service brakes are released, tank moves slowly forward, engine accelerates and bilge pumps "gurgle"	
6	Steering handles on hand controller	Enter the water at predetermined point	Tank enters the water, speedometer indicates attained speed	10 mph is the maximum safe water-entry speed from slopes up to 15% 5 mph is the maximum safe water-entry speed from slopes of 15 to 30% The tank must be eased into the water slowly if slopes are over 30%, since the front of the tank becomes buoyant before entry is completed Avoid high speed entry from steep slopes. It will cause failure of flotation components and endanger tank personnel

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.4 TASK Fording

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Respond to driver's commands when they are issued by TC		DO NOT operate the engine below ___ mphs while fording Avoid forming a "bow wave" by maintaining a moderate speed of ___ mph During fording, if a solid stream of water continues to emit from bilge pump outlets, the tank must be beached immediately and the cause of the leakage determined When turning the tank, return steering handles to the "CENTER STEER" position before turn is completed. This allows the momentum of the tank to complete its turn

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				Acceleration and steering are equivalent in water or land If engine becomes inoperative during amphibious operation, the crew should prepare to evacuate the tank If it becomes necessary to tow the tank while in the water, towing speed must not exceed 5 mph

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.5 TASK Driving Fully Submerged

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Respond to all drive commands issued by TC		Driver must maintain a constant speed and avoid unnecessary steering or braking
2	Central warning lights	Monitor	Central warning light (red) is extinguished	If the central warning light illuminates, notify the TC immediately
3		Listen for any unusual noise which may indicate an equipment malfunction		If an unusual noise is detected, notify the TC immediately

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.6 TASK Stopping the Tank in Water

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Steering handles on hand controller	Rotate forward gradually until the tank stops	Service brakes are applied	Abrupt stops will create bow waves detrimental to tank and crew personnel
2	Transmission neutral pushbutton on main panel	Depress 0 and release		
3	Steering handles on hand controller	Rotate outward and maintain a "FAST IDLE" speed	Tank is stopped and the engine accelerates at a "FAST IDLE"	The engine must be accelerated sufficiently so that "stalling" does not occur

JOB ELEMENTS

2.0. DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.7 TASK Leaving the Water

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Select a gradual sloping bank that is free of rocks, stumps or debris		Avoid mushy banks or steep slopes where the tank may lose traction, mire down, or skid
2	Steering handles on hand controller	Turn left or right until tank approaches the bank squarely	Tank aligns with bank	
3	Steering handles on hand controller	Rotate inward, and allow the tank to coast until both tracks make solid contact with the ground	Tank slows and tracks contact ground	
4	Range selector lever on main panel	Place in the 1 position	Transmission is placed in 1st (low) range	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Steering handles on hand controller	Rotate outward until tank is on firm ground	Engine accelerates, tank moves out of the water, and speedometer indicates attained speed	
6	Bilge pump toggle switch on auxiliary panel	Switch to the OFF position	Gurgling sounds stop and bilge pumps are turned off	DO NOT operate the bilge pumps out of the water for more than 10 seconds
7	Fording rotary switch on auxiliary panel	Rotate to the NORM position	FORD light (green) extinguishes	Fording valves are unlocked and opened when the FORD light extinguishes
8	Tank engine	Stop		(Refer to 1.25)

JOB ELEMENTS

2.0 DUTY PERFORMING AMPHIBIOUS OPERATIONS

2.8 TASK Preparing the Tank for Land Operation After Fording

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Driver's hatch	Open		(Refer to 9.1)
2	Air intakes (2) on rear sponsons	Unlock and swivel down in a stowed position		The gunner will assist in this task, if the situation permits
3	Tracks, roadwheels, compensating idler, etc.	Remove all debris		Lubrication and after-operation preventive-maintenance must be performed as soon as possible, if the situation permits

JOB ELEMENTS

3.0 DUTY OPERATING THE F & H SUSPENSION SYSTEM

3.1 TASK Setting Vehicle Attitude

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Determine present vehicle attitude by sensing position and movements		
2		Compare present attitude with knowledge or optimum altitude for extended vehicle operation		Knowledge of optimum vehicle attitude for various terrain conditions, traction requirements, and for orientating gun platform in defilade and firing modes must be applied
3	Ground clearnace indicators (4) on F & H control panel	Determine ground clearance presently set in at each quadrant	Control settings for each quadrant indicates present ground clearance	The quadrants are: left front, right front, left rear, and right rear
4.	Ground clearance knobs (4) on F & H control panel	Rotate to set in changes at quadrents requiring change of ground clearance to achieve desired attitude	New control settings indicates ground clearance to be obtained when the system is activated	A mental estimate of relation between desired vehicle height and differentials required in settings of quadrants must be applied
5	Lockout toggle switch on F & H control panel	Switch to the "UNLOCK" position	Lockout system is de-energized	Controls should normally be locked in order that readouts are actual previous to inputs

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
6	Raise and lower toggle switch on F & H control panel	Switch to the ON position	Suspension mechanism for changing ground clearance at quadrants is activated, ground clearance indicators report changes in height, and indicator lamps (2) illuminate-until desired ground clearance is obtained then extinguish	
7	Raise and lower toggle switch on F & H control panel	Switch to the OFF position	Suspension mechanism indicator lamps are extinguished	
8	Lockout toggle switch on F & H control panel	Switch to the "LOCK" position	Lockout system is energized; controls are locked	
9		Verify attainment of correct attitude and ground clearance		Verification is obtained by repeating steps 1, 2, and 3

JOB ELEMENTS

3.0 DUTY OPERATING THE F & H SUSPENSION SYSTEM

3.2 TASK Setting Ground Clearance

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Ground clearance indicators on F & H control panel	Determine present vehicle height in terms of ground clearance	Indicators provide displays of clearance as either a single overall height or as height at quadrants	Ground clearance is assumed to be more important information than suspension range
2		Compare present height with knowledge of optimum height for intended operation	Indicators reveal present heights on scales in relation to possible range in ground clearance	One ground clearance indicator would be adequate for this task
3	Ground clearance knobs on F & H control panel	Rotate to set in changes to be made either overall or at each quadrant	Control settings for each quadrant indicates ground clearance to be obtained when system is activated	
4	Lockout toggle switch on F & H control panel	Switch to the "UNLOCK" position	Lockout system is de-energized	Controls should normally be locked in order that readouts are actual previous to inputs
5	Raise and lower toggle switch on F & H control panel	Switch to the ON position	Suspension mechanism for changing ground clearance at quadrants is	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
			activated, ground clearance indicators report changes in height, and indicator lamps (2) illuminate-until desired ground clearance is obtained-then extinguish	
6	Raise and lower toggle switch on F & H control panel	Switch to the OFF position	Suspension mechanism is de-activated; indicator lamps (2) are extinguished	
7	Lockout toggle switch on F & H control panel	Switch to the "LOCK" position	Lockout system is energized; controls are locked	
8		Verify attainment of correct height either overall or at quadrants		Verification is obtained repeating steps 1 and 2 above

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.1 TASK Responding to Central Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Central warning light on main panel	Monitor	The CENTRAL warning light (red) illuminates	The central warning light is monitored when driving with hatch closed
2	Warning lights on the auxiliary panel	Check lights to determine where the existing malfunction is located and respond as required	Warning light(s) corresponding to the existing malfunction illuminates	(Refer to 4.3 to 4.8)

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.2 TASK Responding to the Master Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Master warning light in hull near hatch opening	Monitor	The MASTER warning light (red) illuminates	The master warning light is monitored when driving with hatch open
2	Hand controller	Lower		(Refer to 9.3)
3	Seat and platform	Lower		(Refer to 9.2)
4	Steering handles on hand controller	Angle		(Refer to 9.7)
5	Warning lights on the auxiliary panel	Check lights to determine where the existing malfunction is located and respond as required	Warning light(s) corresponding to the existing malfunction illuminates	(Refer to 4.3 to 4.8)

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.3 TASK Responding to Fire Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank and fire warning light on auxiliary panel	Stop for a halt when the fire warning light illuminates	FIRE warning light (red) is illuminated	Fire extinguisher discharges automatically to combat the fire in the engine compartment. The fire light will extinguish when the fire goes out. If the fire light remains "ON" then the fire extinguisher bottles are empty and the fire continues in the engine compartment. Perform step 2
2	Fixed fire extinguisher interior control	Operate	Fixed fire extinguisher system should discharge, engine should stop and the fire warning light should extinguish	(Refer to 10.2 or 10.3) If the fire light remains "ON" or if the interior control for the fixed fire extinguisher fails to operate, evacuate the tank immediately and perform step 3

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
3	Fixed fire extinguisher exterior control(s)	Operate	Fixed fire extinguisher should discharge, engine should remain running, and the fire warning light should extinguish	After the fire has been extinguished notify organizational maintenance personnel. Replacement of fixed fire extinguisher cylinders must be made and the power plant inspected before the vehicle can possibly return to service

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.4 TASK Responding to Transmission Pressure Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank and transmission pressure light on auxiliary panel	Stop for a halt when the transmission pressure warning light illuminates	Transmission PRESSURE warning light (red) is illuminated	(Refer to 1.24) The transmission pressure must be above _____ while engine is operating before the warning light will illuminate
2	Accelerator grips on hand controller	Rotate outward to achieve a "FAST IDLE" speed	Engine runs at "FAST IDLE" speed. Warning light remains illuminated	If warning light remains on at "FAST IDLE" speed, pressure is less than _____
3	Tank engine	Stop	Engine stops and all warning lights extinguish	(Refer to 1.25)
4	Transmission oil level	Check and replenish system as required		(Refer to)

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Tank engine	Start	ALL warning lights extinguish	(Refer to 1.1 or 1.2) If transmission pressure is still low, stop the engine, and notify organizational maintenance personnel

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.5 TASK Responding to Transmission Temperature Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank and transmission temperature light on auxiliary panel	Stop for a halt when the transmission temperature warning light illuminates	Transmission temperature warning light (red) is illuminated	(Refer to 1.24) The transmission temperature must be above _____ while engine is operating before the warning light will illuminate
2	Accelerator grips on hand controller	Release to "NULL" position and allow engine to run at this speed for approximately 3 mins.	Engine runs at "IDLE" speed	
3	Warning lights on auxiliary panel	Monitor	All warning lights extinguish	If transmission temperature light is still on after approximately 3 minutes, stop the engine and notify organizational maintenance personnel

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNI'G LIGHTS

4.6 TASK Responding to Steer Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank and steer warning light on auxiliary panel	Stop for a halt when the steer warning light illuminates	STEER warning light (red) is illuminated; steering handles return to "CENTER STEER" position	The steer warning light illuminates when the steering system goes out
2	Emergency steering controls	Install and operate		(Refer to 10.7)
3	Emergency braking controls	Install and operate		(Refer to 10.5)

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.7 TASK Responding to Engine Pressure Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank, engine, and engine pressure light on auxiliary panel	Stop the tank and turn off the engine	Engine PRESSURE warning light (red) extinguishes when engine is turned off	(Refer to 1.25) Engine pressure must be above _____ while the engine is operating before the warning lights will illuminate
2	Engine oil level	Check and replenish system as required		(Refer to) If oil is at proper level, notify organizational maintenance personnel
3	Tank engine	Start	ALL warning lights extinguish	(Refer to 1.1 or 1.2) If engine pressure is still low, stop the engine and notify organizational maintenance personnel

JOB ELEMENTS

4.0 DUTY RESPONDING TO WARNING LIGHTS

4.8 TASK Responding to Engine Temperature Warning Light

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank, engine, and the engine temperature warning light on auxiliary panel	Stop the tank and turn off the engine	ENGINE TEMPERATURE warning light (red) extinguishes when engine is shut off	(Refer to 1.25) Engine coolant temperature must be above _____ while engine is operating before the warning light will illuminate
2	Coolant surge tank	Check coolant level. If low, fill system and allow engine to cool		(Refer to)
3	Tank engine	Start	ALL warning lights extinguish	(Refer to 1.1 or 1.2) If engine temperature is still excessive, stop the engine and notify organizational maintenance personnel

JOB ELEMENTS

5.0 DUTY OPERATING THE SIGHTING EQUIPMENT

5.6 TASK Operating the Flash Protector, De-Icer, Washer, and Wiper

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Flash toggle switch on vision block control unit	Switch to ON or OFF position	Flash protectors are lowered or raised	Driving rotary switch must be in the ACCY or DRIVE positions
2	De-ice toggle switch on vision block control unit	Switch to ON or OFF position	De-icer is activated or deactivated	
3	Wash toggle switch on vision block control unit	Switch to ON or OFF position	Washer is activated or deactivated	
4	Wipe toggle switch on vision block control unit	Switch to ON or OFF position	Wipers are activated or deactivated	

JOB ELEMENTS

6.0 DUTY MANUALLY LOADING AMMUNITION INTO MAIN GUN

6.1 TASK Opening and Closing the Breech Manually

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Breech actuator handle lever	Position to engage slot in end of spindle visible at center of handle casting and rotate counter-clockwise until the mechanical stop is reached in the "ROLL-OVER" position	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position	DO NOT actuate breech electrically whenever breech actuator handle is engaged for manual operation
2	Breech actuator handle lever	Rotate clockwise until the breech is in the "FULLY CLOSED" position	Breech mechanism rotates to the left and stops in the "FULLY CLOSED" position	

JOB ELEMENTS

6.0 DUTY MANUALLY LOADING AMMUNITION INTO MAIN GUN

6.2 TASK Opening and Closing the Breech Electrically

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Have gunner position the main gun at approximately a 6^{o} angle in elevation		Main gun must be at approximately a 6^{o} angle in elevation before the breech will open electrically
2	Loading panel cover	Unlock, raise to the "UP" position, and lock		
3	Loading rotary switch on loading panel	Rotate to the HANDLOAD position	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position	
4	Loading rotary switch on loading panel	Rotate to the AUTO position	Breech mechanism rotates to the left until it is in the "FULLY CLOSED" position, and AUTO light illuminates on loading panel	

JOB ELEMENTS

6.0 DUTY MANUALLY LOADING AMMUNITION INTO MAIN GUN

6.3 TASK Hand-Loading the Main Gun with Power

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Have the gunner position the main gun at approximately a 6^{o} angle in elevation		
2	Seat	Rotate right to "LOADING" position	Seat is positioned so that the loading panel and ammunition stowage racks are readily accessible	The "LOADING" position is approximately a 90^{o} right angle or 3 o'clock (Refer to 9.5)
3	Loading panel cover	Unlock, raise to the "UP" position, and lock		
4	Loading rotary switch on loading panel	Rotate to the HANDLOAD position	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position automatically	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Ejector mechanism lever in breech	Place in the eject or non-eject position	Lever is up or down	Make certain that ejector mechanism lever is in the eject (DOWN) position for missiles and in the non-eject (UP) position for conventional rounds
6	Missile or conventic al round	Remove from stowage, check, place correctly on the loading tray, and firmly shove into breech until detent is engaged	Ammo is "seated" in breech	If a missile is to be loaded, assure that white index stripe on missile is facing up and that nose cone is not dented
7	Ammo type pushbutton on loading panel	Depress type of ammo selected and release	Ammo counter on TC's panel will subtract 1 from type of ammo loaded	Signal is transmitted to the computer as to type of ammo loaded
8	Loading rotary switch on loading panel	Rotate to the AUTO position	AUTO light illuminates. Breech mechanism rotates to the left until it is in the "FULLY CLOSED" position, and AUTO light extinguishes.	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
			Ready to fire light in the gunner's primary periscope illuminates when breech is fully closed	
9	Seat	Rotate left to the "NORMAL" position	The seat is positioned so that it faces directly to the front	The "NORMAL" position is at 0^{o} or 12 o'clock
10		Announce UP	Ammo is loaded and ready for firing	

JOB ELEMENTS

6.0 DUTY MANUALLY LOADING AMMUNITION INTO MAIN GUN

6.4 TASK Hand-Loading the Main Gun Without Power

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Have the gunner position the main gun at approximately a 6^{o} angle in elevation		Gunner must use manual elevation hand crank
2	Seat	Rotate right to the "LOADING" position	Seat is positioned so that the loading panel and ammunition stowage racks are readily accessible	The "LOADING" position is approximately a 90^{o} right angle or 3 o'clock (Refer to 9.5)
3	Loading panel cover	Unlock, raise to the "UP" position, and lock		
4	Breech actuator handle lever	Position to engage slot in end of spindle visible at center of handle casting and rotate counter-clockwise until the mechanical stop is reached in the "ROLL-OVER" position	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position	Do not actuate breech electrically whenever breech actuator handle is engaged for manual operation

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Ejector mechanism lever in breech	Place in the "NON-EJECT" position	Lever is up	
6	Conventional round	Remove from stowage, check, place on the loading tray, and firmly shove into the breech until detent is engaged	Ammo is "seated" in breech	Use only correct lots of ammunition and handle with care. Avoid striking fuze or primer
7	Breech actuator handle lever	Rotate clockwise until the breech is in the "FULLY CLOSED" position	Breech mechanism rotates to the left and stops in the "FULLY CLOSED" position	
8	Seat	Rotate left to the "NORMAL" position	The seat is positioned so that it faces directly to the front	The "NORMAL" position is at 0^{o} or 12 o'clock
9		Announce HE (type of conventional round loaded) and UP	Ammo is loaded and ready for firing	

JOB ELEMENTS

6.0 DUTY MANUALLY LOADING AMMUNITION INTO MAIN GUN

6.5 TASK Replenishing the Auto Loader from Driver's Compartment

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1		Have the gunner position the main gun at approximately a 20° angle in elevation		
2	Seat	Rotate right to the "LOADING" position	Seat is positioned so that the loading panel and ammunition stowage racks are readily accessible	The "LOADING" position is approximately a 90° right angle or 3 o'clock (Refer to 9.5)
3	Loading panel cover	Unlock, raise to the "UP" position, and lock		
4	Loading rotary switch on loading panel	Rotate to the RESTOW position	Auto loader seeks an empty round holder, rammer positions itself in loading tube, and restow lamp illuminates	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Missile or conventional round	Remove from stowage, check, place on loading tray, and firmly shove back until contact with the rammer is made	Ammo is "seated" in rammer	Make certain ammo is "seated" in rammer by pulling round forward
6	Retract pushbutton on loading panel	Depress and release	Round is pulled into the empty round holder in the auto loader by the rammer. Ammo counter on TC's panel will add 1 to type of ammo loaded in auto loader	
7	Loading rotary switch on loading panel	Rotate to the AUTO position	AUTO light illuminates, then extinguishes. FULL light illuminates, then extinguishes	If FULL light illuminates, auto loader is fully loaded (26 rounds). If not, repeat steps 4 to 7.
8	Loading panel cover	Unlock from "UP" position, lower, and lock	Loading panel is covered and locked	
9	Seat	Rotate left to the "NORMAL" position	The seat is positioned so that it faces directly to the front	The "NORMAL" position is at 0^{o} or 12 o'clock

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
10		Announce to TC that RESTOWING IS COMPLETED		TC will be able to determine that the auto loader is fully loaded by checking his ammo counter

JOB ELEMENTS

7.0 DUTY MANUALLY UNLOADING AMMUNITION FROM MAIN GUN

7.1 TASK Unloading An Unfired or Misfired Missile

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Tank	Stop for a halt	Range selector is in park, transmission is in neutral, steering handles are in "CENTER STEER" position, engine is at idle, and stoplight is illuminated	The gunner's mode or the TC's weapon selector must be in the OFF position to break firing circuit to missile Wait 1 minute after last (3rd) attempt to fire before removing a misfired missile Keep clear of breech in case missile ignites and gun launcher recoils
2	Seat	Rotate right to the "LOADING" position	Seat is positioned so that the breech is readily accessible	The loading position is at approximately a 90° right angle or 3 o'clock (Refer to 9.5)
3	Ejector mechanism lever	Place in the "NON-EJECT" position	Lever is up	If lever is in the "EJECT" (down) position, the ejector will cut open the missile case when the breech opens, allowing propellant particles to escape into

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
				the turret, thus creeting an extremely hazerdous condition
4	Breech	Open electrically or manuelly	Breech mechanism rotates to the left and stops in the "ROLL-OVER" position	(Refer to 6.1 or 6.2)
5	Detent release handle	Rotate down and hold		
6	Missile	Grasp and slide rearward onto the loading trey	Missile is unloaded	A misfired missile removed from the breech is safe to handle once vehicle power is cut off from missile
7	Detent release handle	Release	Handle returns to "UP" position	
8	Missile	Return to rack and stow as required		Missile must be returned to ammo personnel as soon as possible for disposition
9	Firing probe	Check and clean if necessary to assure proper operation		

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
10	Breech	Close electrically or manually	Breech mechanism rotates to the right and stops in the "FULLY CLOSED" position	(Refer to 6.1 or 6.2)
11	Ejector mechanism lever in breech	Place in the "EJECT" position	Lever is down	Make certain that ejector lever is in the eject "DOWN" position
12	Seat	Rotate left to the "NORMAL" position	The seat is positioned so that it faces directly to the front	The normal position is 0° or 12 o'clock (Refer to 9.5)

JOB ELEMENTS

7.0 DUTY MANUALLY UNLOADING AMMUNITION FROM MAIN GUN

7.2 TASK Unloading An Unfired or Misfired Conventional Round

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank	Stop for a halt	Range selector is in park, transmission is in neutral, steering handles are in "CENTER STEER" position, engine is at idle speed, and stoplight is illuminated	The gunner mode or the TC's weapon selector must be in the OFF position to break firing circuit to round Wait 1 minute after last (3rd) attempt to fire before attempting to remove a misfired round Keep clear of the breech in case round ignites and gun launcher recoils
2	Seat	Rotate right to the "LOADING" position	Seat is positioned so that the breech is readily accessible	The "LOADING" position is at approximately a 90° right angle or 3 o'clock (Refer to 9.5)
3	Ejector mechanism lever in breech	Make certain it is in the "NON-EJECT" position	Lever is up	If lever is in the "EJECT" (down) position, the ejector will cut open the case upon breech opening, allowing propellant particles to escape into the turret, thus creating an extremely hazardous condition

Skill Elements				
No	Equipment	Activity	Indication	Remarks
4	Breech	Open electrically or manually	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position	(Refer to 6.1 or 6.2)
5	Detent release handle	Rotate down and hold	Handle is held in "DOWN" position	
6	Conventional Round	Grasp and slide onto the loading tray	Round is unloaded	
7	Detent release handle	Release	Handle is in the "UP" position	
8	Conventional round	Return to rack and stow as required		Round must be returned to ammo personnel as soon as possible for disposition
9	Firing probe	Check and clean if necessary to assure proper operation		
10	Breech	Close electrically or manually	Breech mechanism rotates to the left and stops in the "FULLY CLOSED" position	(Refer to 6.1 or 6.2)
11	Ejector mechanism lever in breech	Make certain it is in the "NON-EJECT" position		

Skill Elements				
No	Equipment	Activity	Indication	Remarks
12	Seat	Rotate left to the "NORMAL" position	The seat is positioned so that it faces directly to the front	The "NORMAL" position is at 0^{o} or 12 o'clock (Refer to 9.5)

JOB ELEMENTS

7.0 DUTY MANUALLY UNLOADING AMMUNITION FROM MAIN GUN

7.4 TASK Unloeding A Stuck Conventional Round

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Tank	Stop for a halt	Range selector is in park, transmission is in neutral, engine is at idle speed, steering handles are in the "CENTER STEER" position, and the stoplight is illuminated	The gunner's mode or the TC's weapon selector must be in the OFF position to break firing circuit to round (Refer to 1.24)
2	Seat	Rotate right to the "LOADING" position	Seat is positioned so that the breech is readily accessible	The "LOADING" position is at approximately a 90° right angle or 3 o'clock (Refer to 9.5)
3	Breech	Open electrically or manually	Breech mechanism rotates to the right and stops in the "ROLL-OVER" position	(Refer to 6.1 or 6.2)
4	M15 cleaning staff and rammer	Have the gunner unstow and assemble to rammer	Staff assembly is unstowed. Staff and rammer are screwed together	
5	Staff assembly	Have the gunner slide the assembly gently down gun-launcher bore until seated on ogive or projectile, then exert		

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
		steedy pressure until the round clears the chamber		
6	Conventionsl round	Receive from the chamber end stow as required	Round is out of chamber	
7	Breech	Close electrically or manually	Breech mechanism rotates to the left and stops in the "FULLY CLOSED" position	(Refer to 6.1 or 6.2)
8	Seat	Rotate left to the "NORMAL" position	Seat is positioned so that it faces directly to the front	The "NORMAL" position is at approximately 0° or 3 o'clock
9	M15 cleening staff end rammer	Have the gunner disassemble end stow	Staff is unscrewed from rammer	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.1 TASK Opening and Closing the Hatch

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Hatch handwheel	Rotate clockwise, push hatch back with both hands until turret hatch catch is engaged, and release	Hatch retaining "dogs" (3) retract as hand wheel rotates clockwise, hatch rotates up and back, hand wheel returns to "STARTING" position and hatch locks in the "OPEN" position	Hatch handwheel is spring-loaded and will return to the "STARTING" position when released
2	Turret lock release handle	Pull out and raise hatch slightly to disengage it from hatch catch	Hatch is unlocked from turret hatch	
3	Hatch handwheel	Rotate clockwise, pull hatch down with both hands until forward movement stops, and release	Hatch retaining "dogs" (3) retract as handwheel rotates clockwise, hatch rotates up and down, handwheel returns to "STARTING" position and hatch locks in the "CLOSED" position	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.2 TASK Raising and Lowering the Platform

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Hydraulic controller pumping handle on left side of seat	Pump forward and backward until platform is at desired height	Seat and platform raise and stop in desired position	Driver must remain in seat. Seat is spring-loaded and will "stow" when body weight is removed
2	Foot pedal	Depress and release	Seat and platform lower to lowest position	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.3 TASK Raising and Lowering the Hand Controller

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Height adjustment knob on hand controller	Pull out and hold	Hand controller unlocks and lowers to the minimum height	The minimum height possible is _____ ft.
2	Hand controller	Raise up to the desired height		The hand controller will raise _____ ft.
3	Height adjustment knob on hand controller	Release	Hand controller locks at desired height	The maximum height possible is _____ ft.

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.4 TASK Rotating the Driver's Capsule

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Station hatch lever	Pull down and hold	Rotating capsule gears are disengaged from the turret	
2	Rotatable capsule	Reposition with feet and hands in relation to the hull	Rotating capsule turns towards desired direction	
3	Station hatch lever	Release when in the desired position	Rotating capsule gears are engaged to the turret	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.5 TASK Rotating the Seat

POSITION DRIVER

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Foot pedal	Depress and hold	Seat is unlocked from rotating capsule and foot pedal is in a "DOWN" position	The seat rotates 360° to allow manual loading of the main weapon by the driver
2	Seat	Rotate right or left by using hands and shifting body weight until reaching desired position	Seat rotates right or left and stops	The driver must remain in seat since it is spring-loaded and will raise to the "STOWED" position when body weight is removed
3	Foot pedal	Release downward pressure	Seat is locked to rotating capsule and foot pedal is in an "UP" position	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.6 TASK Adjusting the Backrest

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Backrest adjustment knobs on left and right sides of seat (2)	Pull out on both simultaneously and hold	Backrest is unlocked from seat and both adjustment knobs are in the "OUT" position	For open hatch driving, the driver may sit on the top of the backrest to obtain proper balance
2	Backrest	Rotate forward or backward by shifting back weight until reaching desired position	Backrest rotates forward or backward and stops	
3	Backrest adjustment knobs on left and right side of seat (2)	Release outward pressure	Backrest is locked to seat and both adjustment knobs are in the "IN" position	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.7 TASK Angling the Steering Handles

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Angle adjustment knob on hand controller	Pull out and hold	Steering handles unlock and rotate down to the minimum angle	The minimum angle possible is _____ degrees
2	Steering handles on hand controller	Rotate up to the desired angle		The steering handles will rotate _____ degrees
3	Angle adjustment knob on hand controller	Release	Steering handles lock at desired angle	The maximum angle possible is _____ degrees

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.8 TASK Locking and Unlocking the Turret

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Turret lock handle on left side next to auxiliary panel	Push down on knob and pull towards driver	Turret lock gears are disengaged from the hull and the knob springs back to the "UP" position	
2	Turret lock handle	Push down on knob and into desired locking position	Turret lock gears are engaged to the hull and the knob springs back to the "UP" position	The turret lock engages and disengages the turret and hull manually

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.9 TASK Opening the Escape Hatch

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Escape hatch protective cover in center of turret	Pull up to release clips and lay aside	Escape hatch protective cover is removed and placed out of reach	
2	Turret quick-disconnect cables (7) in upper ring	Half-twist to the right and pull outward until rotation stops	Turret cable rotates to the right a half-turn and disconnects	Repeat procedure until all 7 cables are disconnected
3	Turret hydraulic quick-disconnect latches (2)	Flip up to unlatch both latches	Turret hydraulic latches are released, hydraulic plumbing disconnects from slip ring	If turret hydraulic latches are hot, use a screwdriver or protective glove to disconnect
4	Hull quick-disconnect cables (4) in bottom ring	Half-twist to the right and pull outward until rotation stops	Hull cable rotates to the right a half-turn and disconnects	Repeat procedure until all 4 cables are disconnected

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Hull hydraulic quick-disconnect hatch (1)	Flip up to unlatch	Hull hydraulic latch is released and hydraulic plumbing disconnects from slip ring	If hull hydraulic latches are hot, use a screw-driver or protective glove to disconnect
6	Slip ring mounting pins (2)	Pull up until both are released from slots	Slip ring mounting pins are removed and the slip ring is unlocked	Do not remove all 3 pins
7	Slip ring	Grasp with both hands and rotate up towards remaining slip ring mounting pin	Slip ring pivots up and back on ball joint	
8	Escape hatch lever	Rotate clockwise until hatch drops to the ground	Escape hatch with lever rotates to the right, retaining "dogs" (3) retract and escape hatch drops to ground	

JOB ELEMENTS

9.0 DUTY OPERATING AUXILIARY EQUIPMENT

9.10 TASK Closing the Escape Hatch

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Hydraulic jack	Remove from stowage and position directly under the escape hatch opening in the hull	Hydraulic jack is unstowed and positioned	Another crew member must assist in this task as directed by the TC
2	Escape hatch	Lift up, place on hydraulic jack and center	Escape hatch is positioned on hydraulic jack	
3	Hydraulic jack lever	Pump on lever and angle the hatch until the lip on escape hatch connects with slot in hull		One of the crew members must angle the escape hatch when the lip is ready to be installed to slot in hull
4	Escape hatch handle	Grasp, pull up, and level until it seats, then rotate counterclockwise until rotation stops	Escape hatch is raised into the hull, centered, and locked	
5	Slip ring	Grasp with both hands and rotate downward into hull opening until rotation stops	Slip ring pivots down into hull opening and stops in place	

Skill Elements

No.	Equipment	Activity	Indication	Remarks
6	Slip ring mounting pins (2)	Insert into slot	Slip ring mounting pin is replaced	Repeat procedure until both pins are replaced and slip ring is locked completely
7	Hull hydraulic quick-disconnect hatch (1)	Rotate forward until rotation stops	Hull hydraulic hatch is secured	
8	Hull quick-disconnect cables (4) in bottom ring	Push into appropriate connector and half-twist to the left until rotation stops	Hull cable rotates to the left a half-turn and connect	Repeat procedure until all 4 cables are connected
9	Turret hydraulic quick-disconnect hatches	Rotate forward until rotation stops	Turret hydraulic hatch is secured	Repeat procedure until both hatches are secured
10	Turret quick-disconnect cables (7) in upper ring	Push into appropriate connector and half-twist to the left until rotation stops	Turret cable rotates to the left a half-turn and connect	Repeat procedure until all 7 cables are connected
11	Escape hatch protective cover in center of turret	Pleace over upper ring and push down to engage clips	Escape hatch protective cover is installed and locked in place	

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.1 TASK Operating the Portable Fire Extinguisher

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Ring pin	Pull		
2	Horn	Point close to base of fire		
3	Trigger	Depress and hold, keeping base of flames covered	Fire extinguisher discharges	Avoid breathing of smoke or fumes

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.2 TASK Operating the Fixed Fire Extinguisher From Inside Vehicle

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Escape hatch cover	Pull up from clips and lay aside	Escape hatch cover is removed and the slip ring is exposed	
2	Fixed fire extinguisher cable half way down slip ring	Pull vigorously	Fixed fire extinguisher is activated and the engine stops	

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.3 TASK Operating the Fixed Fire Extinguisher From Outside Vehicle

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Fixed fire extinguisher handles on right and left side of hull exterior	Pull either one vigorously	Fixed fire extinguisher is activated and the engine continues to operate	The engine DOES NOT STOP when the fixed fire extinguisher exterior handle is pulled

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.4 TASK Emergency Shifting

POSITION Driver

TANK MBT-70

DATE 15 May 1967

No.	Skill Elements			
	Equipment	Activity	Indication	Remarks
1	Emergency shifting handle	Pull up from the "LOCKED" position and rotate downward to center of shifting tube	The emergency shifting handle is unlocked and in the "SHIFTING" position	The emergency shifting handle is spring-loaded and is mounted on the left side of the hull next to driver
2	Emergency shifting handle	Slide rearward to the NEUTRAL, FORWARD, or PUSH-START position; or slide all the way forward to the REVERSE position as desired	The desired transmission range is aligned at a 90° right angle or at 3 o'clock with the emergency shifting handle in the "SHIFTING" position	
3	Emergency shifting handle	Rotate to the "UP" position and release	Emergency shifting handle drops down into range selected and locks in position	The emergency shifting handle must be returned to the "LOCKED" or "STOWED" position when not in immediate use

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.5 TASK Emergency Braking

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements

No.	Equipment	Activity	Indication	Remarks
1	Emergency brake retaining pin	Pull out of retaining slot	Emergency brake is unlocked from stowed position	The emergency brake is used whenever electrical failure occurs and is located in the hull on the left side of the driver
2	Emergency brake unit	Remove from stowed position and insert down into holding bracket on capsule platform until a noticeable "click" occurs	Emergency brake is installed and locked in position	
3	Emergency brake unit	Depress fully and hold	Tank stops and the engine runs as accelerated	

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.6 TASK Emergency Accelerating

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Emergency steering unit (T-bar) right hand grip	Rotate forward or rearward as desired	Engine accelerates or decelerates	Right hand grip is spring-loaded and returns to the center (NULL) position when released. The left hand grip is stationary

JOB ELEMENTS

10.0 DUTY OPERATING EMERGENCY EQUIPMENT

10.7 TASK Emergency Steering

POSITION Driver

TANK MBT-70

DATE 15 May 1967

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
1	Angle adjustment knob on hand controller	Pull out and hold	Hand controller unlocks and rotates to extreme down position	The emergency brake unit mus be installed and operated when steering "goes out" (Refer to 10.5)
2	Angle adjustment knob on hand controller	Release	Hand controller locks in position	
3	Emergency steering unit (T-bar) retaining pin	Pull out of retaining slot	Emergency steering unit is unlocked from stowed position	The emergency steering unit is used whenever electrical failure occurs and is located in the hull on the left side of the driver
4	Emergency steering unit (T-bar)	Remove from stowed position and insert into "V" slot on top of hand controller	Emergency steering unit (T-bar) is seated in position	

Skill Elements				
No.	Equipment	Activity	Indication	Remarks
5	Emergency steering unit (T-bar) retaining pin	Insert into slot on side of hand controller	Emergency steering unit is locked in position	Retaining slots on hand controller provide individual height adjustment
6	Emergency steering unit (T-bar)	Turn right or left as desired	Tank responds accordingly	When driving backwards turning the T-bar right turns the tank left; turning the T-bar left turns the tank right Turn tank smoothly, never in jerks Tank must not exceed _____ mph when turning sharply