Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-CMOB-2001

TASK BEHAVIOR: Recommend obstacle placement

DATE OF LEARNING ANALYSIS: 20130429

Performance Step: 1. Analyze the mission.

Knowledge /Skills:	(a)	1.	KHT interpret the commander's intent
	(a)	2.	KHT/BAT analyze the mission
	(a)	3.	KHT/BAT interpret reconnaissance reports
	(a)	4.	HKO enemy capabilities
	(a)	5.	KHT/BAT derive key information from METT-TSL analysis
	(f)	6.	HKO requirements to employ explosive obstacles
	(a)	7.	KHT/BAT identify engineer tasks within the order

Performance Step: 2. Analyze avenues of approach.

Knowledge /Skills:	(a)	1.	KHT/BAT analyze avenues of approach
	(a)	2.	KHT/BAT analyze possible engagement areas and locations of weapons system
	(c)	3.	KHT/BAT determine ideal location of VCPs
	(a)	4.	KHT evaluate terrain
	(b)	5.	KHT/BAT determine ideal locations for obstacles
	(f)	6.	KHT/BAT determine ideal locations for explosive obstacles

Performance Step: 3. Analyze engagement areas, battle positions, and locations of weapons systems.

Knowledge /Skills:	(a)	1.	KHT/BAT determine battle positions
	(a)	2.	KHT/BAT determine engagement areas
	(a)	3.	KHT/BAT determine locations of weapons systems

Performance Step: 4. Determine possible obstacle locations and types.

Knowledge /Skills:	(b)	1.	KHT identify possible natural obstacles
	(d)	2.	KHT determine obstacle locations
	(c)	3.	KHT ensure obstacles support the obstacle plan and the commander's intent
	(a)	4.	KHT emplace obstacles to tie into existing natural or man-made obstacles
	(a)	5.	KHT select obstacle to maximize its effect on the enemy
	(b)	6.	KHT select obstacle to maximize its effect on the enemy
	(d)	7.	KHT/BAT select placement of obstacles for reinforcing other obstacles

	(d)	8.	KHT/BAT emplace expedient obstacles
	(d)	9.	KHT/BAT emplace VCPs
	(g)	10.	KHT/BAT establish an identifiable feature for a reference point
	(g)	11.	KHT/BAT identify a landmark (if required)
	(g)	12.	KHT determine elements for a good Observation Post
Performance Step:	5.	Determine the commander's obstacle priorities.	
Knowledge /Skills:	(c)	1.	KHT determine the commander's obstacle priorities based on intent
Performance Step:	6.	Determine resources.	
Knowledge /Skills:	(e)	1.	KHT calculate materials required to construct obstacles
	(e)	2.	KHT calculate man-hours required to construct obstacles
	(e)	3.	KHT determine assets required to construct obstacles
	(e)	4.	KHT determine resources needed for VCPs
	(f)	5.	KHT liaise with infantry for security support
	(h)	6.	BAT liaise with infantry for security support
	(i)	7.	BAT determine appropriate forms and reports to be completed
Performance Step:	7.	Determine work sequence.	
Knowledge /Skills:	(d)	1.	KHT/BAT determine work sequence needed for complex obstacle construction
Performance Step:	8.	Determine task organization.	
Knowledge /Skills:	(e)	1.	KHT determine personnel required
	(e)	2.	KHT determine equipment required
Performance Step:	9.	Determine coordination required.	
Knowledge /Skills:	(e)	1.	KHT determine resources required
	(e)	2.	KHT determine support required
	(e)	3.	KHT determine other requirements for obstacle construction
	(f)	4.	KHT/BAT determine type of explosive obstacle needed
	(i)	5.	HKO place a hasty protective obstacle (minefield)
	(i)	6.	HKO place a protective explosive row obstacle (minefield)
	(i)	7.	HKO foriegn minefields
	(g)	8.	KHT/BAT emplace a expedient explosive obstacle
	(g)	9.	KHT/BAT determine emplacement of a M18A1 Claymore mine
	(h)	10.	KHT/BAT account for safety pins and clips from explosive obstacles (if

		applicable)
(h)	11 .	KHT/BAT recover explosive obstacles (if required)
(i)	12 .	KHT/BAT complete completion forms/reports
(i)	13 .	KHT/BAT complete forms and reports
(g)	14 .	KHT account for all personnel
(g)	15 .	KHT account for all equipment
(h)	16 .	BAT account for all personnel
(h)	17 .	BAT account for all equipment

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-CMOB-2003

TASK BEHAVIOR: Employ booby traps

DATE OF LEARNING ANALYSIS: 20130429

Performance Step:	1.	Review the mission.	
Knowledge /Skills:	(a)	1.	KHT/BAT identify the principles of booby traps
	(a)	2.	KHT/BAT identify the types of booby traps
	(a)	3.	KHT/BAT identify the characteristics of booby traps
	(a)	4.	HKO obstacle intent
Performance Step:	2.	Perform area reconnaissance.	
Knowledge /Skills:	(del)	1.	BAT conduct engineer reconnaissance
	(a)	2.	KHT/BAT select locations for booby traps that will produce the maximum effect when activated
	(a)	3.	KHT/BAT evaluate terrain and surroundings
Performance Step:	3.	Determine location(s).	
Knowledge /Skills:	(del)	1.	KHT/BAT interpret commander's intent
	(a)	2.	BAT select locations for booby traps that will produce the maximum effect when activated
Performance Step:	4.	Determine type of trap (explosive/non-explosive).	
Knowledge /Skills:	(a)	1.	HKO commander's intent
	(a)	2.	KHT/BAT determine type of explosive boobytrap needed
	(a)	3.	KHT/BAT determine type of non-explosive boobytrap needed
Performance Step:	5.	Determine type of firing device(s).	
Knowledge /Skills:	(b)	1.	KHT/BAT employ M142 firing devices
	(b)	2.	KHT employ M1 firing device
	(b)	3.	KHT employ M3 firing device
	(b)	4.	KHT employ M5 firing device
	(b)	5.	KHT employ M1A1 firing device
	(b)	6.	KHT/BAT employ field expedient firing devices
Performance Step:	6.	Determine types and amount of Class V.	
Knowledge /Skills:	(b)	1.	KHT/BAT perform demolition calculations

(b) 2. KHT/BAT depict type of explosive needed for a specified booby trap

Performance Step: 7. Complete the firing chain.

Knowledge /Skills: (b) 1. KHT/BAT employ firing systems if required

Performance Step: 8. Arm booby trap(s).

Knowledge /Skills: (b) 1. BAT arm all firing devices listed in Performance Step 4

Performance Step: 9. Camouflage to its natural state.

Knowledge /Skills: (b) 1. KHT/BAT apply natural camouflage and concealment techniques

Performance Step: 10. Record the booby traps on DA Form 1355.

Knowledge /Skills: (c) 1. KHT/BAT annotate data and symbols

(c) 2. KHT/BAT complete DA Form 1355

(c) 3. KHT/BAT determine booby trap locations

Performance Step: 11. Turn in all safety pins and clips to the NCOIC.

Knowledge /Skills: (b) 1. BAT locate NCOIC

(b) 2. BAT account for all safety pins and clips

Performance Step: 12. Submit required report(s).

Knowledge /Skills: (c) 1. BAT complete DA Form 1355

(c) 2. BAT explain other types of reports associated with booby traps (i.e., intent, initiation, completion)

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-CMOB-2004

TASK BEHAVIOR: Destroy bridges using explosives

DATE OF LEARNING ANALYSIS: 20130501

Performance Step:	1.	Review the mission/bridge reconnaissance report.	
Knowledge /Skills:	(a)	1.	KHT review DA Form 2203R for critical information
	(c)	2.	KHT identify critical members of a span
	(b)	3.	KHT identify critical members of an intermediate support
	(a)	4.	KHT identify critical members of an abutment
	(a)	5.	KHT determine whether partial or complete destruction of the abutment is required
	(b)	6.	KHT determine whether partial or complete destruction of the intermediate support is required
	(c)	7.	KHT determine wether partial or complete destruction of the span is required
Performance Step:	2.	Determine bridge category.	
Knowledge /Skills:	(a)	1.	KHT determine the category of the bridge to be destroyed
Performance Step:	3.	Design collapse mechanism.	
Knowledge /Skills:	(a)	1.	KHT determine the collapse mechanism needed for a bridge for destruction
	(a)	2.	KHT determine the collapse mechanism needed for a bridge to become an obstacle
	(b)	3.	BAT design the desired effect of a collapse mechanism for a bridge
Performance Step:	4.	Select method of attack.	
Knowledge /Skills:	(a)	1.	KHT determine the method to be used on a bridge to be destroyed
	(c)	2.	BAT determine the desired effect on a span to be destroyed
	(c)	3.	BAT determine the desired effect on a intermediate support to be destroyed
	(c)	4.	BAT determine the desired effect on a abutment to be destroyed
	(b)	5.	BAT determine the angle of attack on a bridge structure
	(b)	6.	BAT determine the angle of attack on a miscellaneous (special) bridge
Performance Step:	5.	Establish security.	
Knowledge /Skills:	(a)	1.	KHT employ security measures
	(b)	2.	KHT coordinate external support for security measures

	(c)	3.	BAT position security personnel for proper safety and overwatch of bridge to be destroyed
Performance Step:	6. Calculate charges.		
Knowledge /Skills:	(a)	1.	KHT calculate concrete breaching formulas for an abutment
	(b)	2.	KHT calculate concrete breaching formulas for an intermediate support
	(c)	3.	KHT calculate concrete breaching formulas for a span
	(a)	4.	KHT calculate timber cutting charges for an abutment
	(b)	5.	KHT calculate timber cutting charges for an intermediate support
	(c)	6.	KHT calculate timber cutting charges for a span
	(b)	7.	KHT calculate steel cutting charges for an intermediate support
	(c)	8.	KHT calculate steel cutting charges for a span
	(d)	9.	KHT/BAT design initiation system(s)
	(d)	10.	KHT/BAT calculate initiating system
Performance Step:	7. Place charges.		
Knowledge /Skills:	(a)	1.	KHT determine whether partial or complete destruction of the abutment is required
	(b)	2.	KHT determine whether partial or complete destruction of the intermediate support is required
	(c)	3.	KHT determine whether partial or complete destruction of the span is required
	(c)	4.	KHT identify critical members of a span
	(b)	5.	KHT identify critical members of an intermediate support
	(a)	6.	KHT identify critical members of an abutment
	(e)	7.	KHT place charges to destroy abutments
	(e)	8.	KHT place charges to destroy intermediate supports
	(e)	9.	KHT place charges to destroy a span
Performance Step:	8. Initiate demolition.		
Knowledge /Skills:	(a,b,c)	1.	KHT place, prime and detonate charges for desired effect on bridge

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2001

TASK BEHAVIOR: Engage targets with expedient demolitions

DATE OF LEARNING ANALYSIS: 20130501

Performance Step: 1. Analyze target.

Knowledge /Skills:		
	(a)	1. BAT read and determine commander's intent
	(a)	2. BAT review the mission and capabilities of destroying target
	(a)	3. KHT analyze target to determine destruction technique

Performance Step: 2. Construct a platter charge.

Knowledge /Skills:		
	(c)	1. BAT select materials to construct the charge
	(c)	2. KHT/BAT prime the charge
	(c)	3. KHT/BAT determine required amount of explosives
	(c)	4. BAT construct the charge
	(a)	5. KHT explain the theory behind the charge
	(c)	6. BAT place the charge on the target to achieve desired effect

Performance Step: 3. Construct an expedient claymore.

Knowledge /Skills:		
	(d)	1. BAT select material to construct the charge
	(d)	2. KHT/BAT prime the charge
	(d)	3. KHT/BAT determine the amount of explosives to construct the charge
	(a)	4. KHT explain the theory behind the charge
	(d)	5. KHT/BAT construct the charge
	(d)	6. BAT place the charge on the target to achieve desired effect

Performance Step: 4. Construct a grape shot directional charge.

Knowledge /Skills:		
	(e)	1. BAT select the materials to construct the charge
	(e)	2. KHT/BAT determine the required amount of exolosives required
	(e)	3. KHT/BAT construct the charge
	(e)	4. KHT/BAT prime the charge
	(a)	5. KHT explain the theory behind the charge
	(e)	6. BAT place the charge on the target to achieve desired effect

Performance Step: 5. Construct an omni (360 degree) charge.

Knowledge /Skills:		
	(f)	1. BAT select materials required to construct the charge

(f)	2.	KHT/BAT determine required amount of explosives
(f)	3.	KHT/BAT construct the charge
(f)	4.	KHT/BAT prime the charge
(a)	5.	BAT explain the theory behind the charge
(f)	6.	BAT place the charge on the target to achieve desired effect

Performance Step: 6. Construct an expedient shaped charge.

Knowledge /Skills:		
(b)	1.	KHT/BAT select materials required to construct the charge
(b)	2.	KHT/BAT determine amount of explosives required
(b)	3.	KHT/BAT construct the charge
(b)	4.	KHT/BAT prime the charge
(a)	5.	KHT explain the theory behind the charge
(b)	6.	BAT place the charge on the target to achieve desired effect

Performance Step: 7. Construct an expedient flame charge.

Knowledge /Skills:		
(g)	1.	KHT select materials to construct the charge
(g)	2.	KHT determine amount of explosives required
(g)	3.	KHT construct the charge
(g)	4.	KHT prime the charge
(a)	5.	KHT explain the theory behind the charge
(g)	6.	KHT place charge on target
(g)	7.	KHT place the charge on the target to achieve desired effect

Performance Step: 8. Construct an expedient bangalore torpedo.

Knowledge /Skills:		
(h)	1.	KHT/BAT select materials to construct the charge
(h)	2.	KHT/BAT determine amount of explosives required
(h)	3.	KHT/BAT construct the charge
(h)	4.	KHT/BAT prime the charge
(a)	5.	KHT explain the theory behind the charge
(h)	6.	BAT place the charge on the target to achieve desired effect

Performance Step: 9. Engage target.

Knowledge /Skills:		
(b,c,d,e,f,g,h)	1.	BAT place the charge on the target to achieve maximum/desired results

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2002

TASK BEHAVIOR: Use specialized explosives

DATE OF LEARNING ANALYSIS: 20130501

Performance Step:	1.	Review demo target reconnaissance information.	
Knowledge /Skills:	(a)	1.	KHT/BAT gather required information from reconnaissance reports
	(a)	2.	KHT/BAT interpret commander's intent
	(a)	3.	BAT determine implied and explicit missions
Performance Step:	2.	Choose proper explosive.	
Knowledge /Skills:	(b)	1.	KHT identify different types of specialized explosives (i.e., datasheet, flex linear)
	(c)	2.	BAT identify different types of specialized explosives (i.e., datashhet, flex linear)
	(b)	3.	KHT determine effects of a given specialized explosive
	(c)	4.	BAT determine effects of a given specialized explosive
Performance Step:	3.	Calculate correct quantity of explosive.	
Knowledge /Skills:	(b)	1.	KHT classify the type of target to be attacked
	(c)	2.	BAT obtain critical deminsions of the target
	(a)	3.	BAT/KHT perform deliberate and hasty reconnaissance
	(b)	4.	BAT/KHT differentiate between explosive charcateristics and capabilities to ensure proper explosive is chosen
	(b)	5.	BAT calculate charges for a specific target
	(b)	6.	KHT calculate charges for a specific target
Performance Step:	4.	Place the charge on the target.	
Knowledge /Skills:	(b)	1.	KHT explain what constitutes proper placement based on the size/type of target engaged
	(c)	2.	BAT determine critical member/point of a target to ensure proper placement
	(b)	3.	KHT determine critical member/point of a target to ensure proper placement
Performance Step:	5.	Prime the explosive.	
Knowledge /Skills:	(c)	1.	BAT determine optimal priming location on charge to maximize explosive effect and minimze collateral damage

(b) 2. KHT determine optimal priming location on charge to maximize explosive effect and minimize collateral damage

(c) 3. KHT/BAT prime explosives

Performance Step: 6. Detonate the explosive.

Knowledge /Skills:

(c) 1. BAT identify different types of firing devices and their uses

(b) 2. KHT identify different types of firing devices and their uses

(c) 3. BAT detonate explosives

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2003

TASK BEHAVIOR: Maintain a Breacher's Logbook

DATE OF LEARNING ANALYSIS: 20130318

Performance Step: 1. Compile all necessary information.

Knowledge /Skills:	(del)	1.	KHT/BAT write
	(a)	2.	KHT/BAT identify materials needed for specific targets
	(a)	3.	KHT/BAT identify demolitions by DODICs
	(del)	4.	KHT/BAT determine the Net Explosive Weight (NEW)
	(a)	5.	KHT/BAT identify the priming system

Performance Step: 2. Complete pre-mission entries.

Knowledge /Skills:	(del)	1.	KHT/BAT determine NEW
	(b)	2.	KHT/BAT list materials needed for target
	(b)	3.	KHT/BAT sketch charge configuration
	(b)	4.	KHT/BAT write a breacher's brief
	(b)	5.	KHT/BAT draw placement of charges

Performance Step: 3. Complete post-mission entries.

Knowledge /Skills:	(c)	1.	KHT/BAT place modifications to charge for future use.
	(c)	2.	KHT/BAT list corrective actions for future use
	(c)	3.	KHT/BAT report in logbook successful breaches

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2004

TASK BEHAVIOR: Compute the Net Explosive Weight (NEW)

DATE OF LEARNING ANALYSIS: 20121217

Performance Step:	1.	Utilizing conversion factors, convert weights of all explosives used into Tri-Nitro-Toluene (TNT) equivalent.		
Knowledge /Skills:	(c)	1.	KHT convert lbs to grains	
	(d)	2.	BAT convert lbs to grains	
	(c)	3.	KHT utilize conversion chart	
	(d)	4.	BAT utilize conversion chart	
	(c)	5.	KHT utilize relative effective factor (REF) to convert TNT equivalent	
	(d)	6.	BAT utilize relative effective factor (REF) to convert TNT equivalent	
	(b)	7.	KHT locate explosive weight in grains using references	
	(d)	8.	BAT locate explosive weight in grains using references	
	(a)	9.	KHT define net explosive weight	
	(c)	10.	KHT use formula to convert grams to pounds	
	(d)	11.	BAT use formula to convert grams to pounds	
	(b)	12.	KHT identify "grain weight" of explosives	
	(c)	13.	KHT convert grains to grams	
	(d)	14.	BAT convert grains to grams	
Performance Step:	2.	Determine NEW in pounds.		
Knowledge /Skills:	(c)	1.	KHT convert grains to pounds	
	(d)	2.	BAT convert grains to pounds	
Performance Step:	3.	Calculate safe-blast distance.		
Knowledge /Skills:	(d)	1.	KHT calculate safe blast distance for a specified breaching charge	
	(d)	2.	BAT calculate safe blast distance for a specified breaching charge	
Performance Step:	4.	Calculate safe-fragmentation distance.		
Knowledge /Skills:	(e)	1.	KHT calculate safe fragmentation distance for a specified charge	
	(e)	2.	BAT calculate safe fragmentation distance for a specified charge	

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2005

TASK BEHAVIOR: Take appropriate protective measures

DATE OF LEARNING ANALYSIS: 20121219

Performance Step: 1. Evaluate the target and surrounding areas.

Knowledge /Skills:	(b)	1.	KHT explain how the target surface will react to detonation
	(b)	2.	KHT identify the effects that spatial constraints have on/after detonation
	(b)	3.	KHT select the proper charge based on target surface criteria and spatial criteria

Performance Step: 2. Evaluate the explosive charge.

Knowledge /Skills:	(b)	1.	KHT/BAT identify possible collateral damage
	(b)	2.	BAT identify what a specific charge will do to a specific target surface

Performance Step: 3. Compute Net Explosive Weight (NEW).

Knowledge /Skills:	(a)	1.	KHT/BAT compute the NEW based on target and safety

Performance Step: 4. Compute safe standoff distance.

Knowledge /Skills:	(a)	1.	KHT/BAT compute the K-factor

Performance Step: 5. Determine possible effects of detonation on the target and surrounding structures.

Knowledge /Skills:	(a)	1.	KHT explain charge placement on target to minimize/reduce missle hazard
	(b)	2.	BAT explain charge placement on target to minimize/reduce missle hazard
	(d)	3.	KHT identify characteristics of PPE
	(d)	4.	KHT select proper PPE based on type of charge and tactical situation
	(b)	5.	KHT explain explosive effects
	(c)	6.	KHT determine what constitutes a "safe location"

Performance Step: 6. Explain protective measures taken for a given blast.

Knowledge /Skills:	(c)	1.	KHT explain proper positioning of individuals
	(c)	2.	BAT properly position individuals
	(c)	3.	KHT determine the minimum number of people required to be in the immediate vicinity of the detonation
	(d)	4.	BAT utilize the minimum number of people during the breach
	(d)	5.	KHT identify what constitutes an effective barrier from the blast
	(d)	6.	BAT effectively employ barriers during the breach

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Brief team members on explosive effects and safe locations.

Knowledge /Skills: (c) 1. KHT/BAT brief personnel on placement locations for breaching operations

Performance Step: 8. Position personnel in a safe location during detonation.

Knowledge /Skills: (c) 1. KHT/BAT properly position breaching team

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2006

TASK BEHAVIOR: Identify building construction

DATE OF LEARNING ANALYSIS: 20130415

Performance Step: 1. Identify building construction composition.

Knowledge /Skills:	(a)	1.	KHT identify different types of construction for framed structures
	(a)	2.	BAT identify different types of construction for framed structures
	(a)	3.	KHT identify different types of construction for frameless structures
	(a)	4.	BAT identify different types of construction for frameless structures

Performance Step: 2. Identify physical structural requirements for multi-level construction.

Knowledge /Skills:	(b)	1.	KHT identify structural requirements for multi-story framed buildings with interior spaces
	(c)	2.	BAT identify structural requirements for multi-story framed buildings with interior spaces
	(b)	3.	KHT identify structural requirements for multi-story frameless buildings with interior spaces
	(c)	4.	BAT identify structural requirements for multi-story frameless buildings with interior spaces
	(c)	5.	KHT determine appropriate breaching technique for exterior explosive/nonexplosive entry
	(c)	6.	BAT determine appropriate breaching technique for exterior explosive/nonexplosive entry
	(c)	7.	KHT determine appropriate breaching technique for interior space explosive/nonexplosive entry
	(c)	8.	BAT determine appropriate breaching technique for interior space explosive/nonexplosive entry

Performance Step: 3. Identify standard construction methods and materials by region of the world.

Knowledge /Skills:	(a)	1.	KHT determine construction code requirements by region
	(b)	2.	BAT determine construction code requirements by region

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2007

TASK BEHAVIOR: Employ a doughnut charge

DATE OF LEARNING ANALYSIS: 20120920

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(c)	1.	KHT identify the function of the doughnut charge
	(g)	2.	BAT identify the function of the doughnut charge
	(e)	3.	KHT explain the effect the charge will have on the target
	(g)	4.	BAT explain the effect the doughnut charge will have on the target
	(b)	5.	KHT determine the firing sytems available
	(g)	6.	BAT determine the firing sytems available
	(e)	7.	KHT select material to affix the doughnut charge to the target
	(g)	8.	BAT select material to affix the doughnut charge to the target
	(d)	9.	KHT select material needed to construct the doughnut charge
	(g)	10.	BAT select material needed to construct the doughnut charge
	(d)	11.	KHT identify explosive needed to construct the doughnut charge
	(g)	12.	BAT identify explosive needed to construct the doughnut charge
	(c)	13.	KHT identify target construction material
	(g)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(d)	1.	KHT tie standard demo knots
	(g)	2.	BAT tie standard demo knots
	(d)	3.	KHT use duct tape
	(g)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(a)	1.	KHT construct det cord loop
	(g)	2.	BAT construct det cord loop

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(f)	1.	KHT use the NEW to derive stand-off distances
	(g)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(f)	1.	KHT position the breach team before and during detonation
	(g)	2.	BAT position the breach team before and during detonation
	(f)	3.	HKO optimal team position in reference to target based on regional construction standards
	(h)	4.	KHT conduct a deliberate breacher's brief
	(h)	5.	BAT conduct a deliberate breacher's brief
	(i)	6.	KHT conduct a hasty breacher's brief
	(i)	7.	BAT conduct a deliberate breacher's brief

Performance Step: 6. Place the charge.

Knowledge /Skills:	(e)	1.	KHT position the doughnut charge on the target material
	(g)	2.	BAT position the doughnut charge on the target material
	(e)	3.	KHT attach the doughnut charge to the target
	(g)	4.	BAT attach the doughnut charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(a)	1.	KHT prime the doughnut charge
	(g)	2.	BAT prime the doughnut charge
	(b)	3.	KHT initiate explosive using a firing device
	(g)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(g)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2008

TASK BEHAVIOR: Employ a window charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(a)	8.	BAT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord loop
	(a)	2.	BAT construct det cord loop

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2009

TASK BEHAVIOR: Employ a water charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(a)	8.	BAT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord loop
	(a)	2.	BAT construct det cord loop

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2010

TASK BEHAVIOR: Employ an oval charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:		
	(del)	1. KHT identify the function of the charge
	(a)	2. BAT identify the function of the charge
	(del)	3. KHT explain the effect the charge will have on the target
	(a)	4. BAT explain the effect the charge will have on the target
	(del)	5. KHT determine the firing sytems available
	(a)	6. BAT determine the firing sytems available
	(del)	7. KHT select material to affix the charge to the target
	(a)	8. BAT select material to affix the charge to the target
	(del)	9. KHT select material needed to construct the charge
	(a)	10. BAT select material needed to construct the charge
	(del)	11. KHT identify explosive needed to construct the charge
	(a)	12. BAT identify explosive needed to construct the charge
	(del)	13. KHT identify target construction material
	(a)	14. BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:		
	(del)	1. KHT tie standard demo knots
	(a)	2. BAT tie standard demo knots
	(del)	3. KHT use duct tape
	(a)	4. BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:		
	(del)	1. KHT construct det cord intiating system
	(a)	2. BAT construct det cord intiating system

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:		
	(del)	1. KHT use the NEW to derive stand-off distances
	(a)	2. BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2011

TASK BEHAVIOR: Employ a Uli knot slider charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(a)	8.	BAT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord initiating system
	(a)	2.	BAT construct det cord initiating system

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2012

TASK BEHAVIOR: Employ a detonating cord linear charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord initiating system
	(a)	2.	BAT construct det cord initiating system

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation

	(a)	2.	BAT position the breach team before and during detonation
Performance Step:	6.	Place the charge.	
Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target
Performance Step:	7.	Detonate the charge.	
Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device
Performance Step:	8.	Follow up with mechanical breaching as required.	
Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2013

TASK BEHAVIOR: Employ a concrete charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(a)	8.	BAT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord initiating system
	(a)	2.	BAT construct det cord initiating system

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-DEMO-2014

TASK BEHAVIOR: Employ a fence charge

DATE OF LEARNING ANALYSIS: 20130101

Performance Step: 1. Select the appropriate explosives for the target.

Knowledge /Skills:	(del)	1.	KHT identify the function of the charge
	(a)	2.	BAT identify the function of the charge
	(del)	3.	KHT explain the effect the charge will have on the target
	(a)	4.	BAT explain the effect the charge will have on the target
	(del)	5.	KHT determine the firing sytems available
	(a)	6.	BAT determine the firing sytems available
	(del)	7.	KHT select material to affix the charge to the target
	(a)	8.	BAT select material to affix the charge to the target
	(del)	9.	KHT select material needed to construct the charge
	(a)	10.	BAT select material needed to construct the charge
	(del)	11.	KHT identify explosive needed to construct the charge
	(a)	12.	BAT identify explosive needed to construct the charge
	(del)	13.	KHT identify target construction material
	(a)	14.	BAT identify target construction material

Performance Step: 2. Construct the charge.

Knowledge /Skills:	(del)	1.	KHT tie standard demo knots
	(a)	2.	BAT tie standard demo knots
	(del)	3.	KHT use duct tape
	(a)	4.	BAT use duct tape

Performance Step: 3. Prepare an initiating system.

Knowledge /Skills:	(del)	1.	KHT construct det cord loop
	(a)	2.	BAT construct det cord loop

Performance Step: 4. Compute the Net Explosive Weight (NEW).

Knowledge /Skills:	(del)	1.	KHT use the NEW to derive stand-off distances
	(a)	2.	BAT use the NEW to derive stand-off distances

Performance Step: 5. Position assault element.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(del)	1.	KHT position the breach team before and during detonation
	(a)	2.	BAT position the breach team before and during detonation

Performance Step: 6. Place the charge.

Knowledge /Skills:	(del)	1.	KHT position the charge on the target material
	(a)	2.	BAT position the charge on the target material
	(del)	3.	KHT attach the charge to the target
	(a)	4.	BAT attach the charge to the target

Performance Step: 7. Detonate the charge.

Knowledge /Skills:	(del)	1.	KHT prime the charge
	(a)	2.	BAT prime the charge
	(del)	3.	KHT initiate explosive using a firing device
	(a)	4.	BAT initiate explosive using a firing device

Performance Step: 8. Follow up with mechanical breaching as required.

Knowledge /Skills:	(del)	1.	KHT determine proper mechanical breaching tool needed for follow-up breaching if required
	(a)	2.	BAT determine proper mechanical breaching tool needed for follow-up breaching if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2004

TASK BEHAVIOR: Repair damaged airfields (ADR)

DATE OF LEARNING ANALYSIS: 20130703

Performance Step: 1. Brief damage assessment teams.

Knowledge /Skills:		
(a)	1.	HKO ADR procedures
(h)	2.	HKO ADR tools and equipment
(b,g)	3.	HKO ADR team responsibilities and functions
(c)	4.	KHT/BAT to conduct a damage assessment
(j)	5.	KHT/BAT to conduct airfield repairs

Performance Step: 2. Conduct damage assessment.

Knowledge /Skills:		
(a)	1.	HKO ADR procedures
(c,i)	2.	KHT/BAT employ ADR tools and equipment
(c,d,e,f)	3.	KHT/BAT graphically show damage information collected during assessment as required
(e,f)	4.	KHT/BAT report results of assessment as required
(a)	5.	BAT identify spalls
(a)	6.	BAT identify craters
(a,f)	7.	BAT identify UXO
(d)	8.	KHT/BAT mark UXO
(a)	9.	BAT identify damaged facilities

Performance Step: 3. Recommend MOS.

Knowledge /Skills:		
(del)	1.	DELETE: TPD

Performance Step: 4. Coordinate UXO clearance (as required).

Knowledge /Skills:		
(del)	1.	Deleted; TPD (Not an NCO task to coordinate clearance of UXO with EOD)

Performance Step: 5. Repair spalls and craters to meet surface roughness criteria.

Knowledge /Skills:		
(a)	1.	BAT identify repair considerations
(j)	2.	KHT/BAT achieve the soil load bearing capacity required
(j)	3.	KHT/BAT conduct a crushed stone repair
(j)	4.	KHT/BAT conduct a sand grid repair
(j)	5.	KHT/BAT conduct a spall repair

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

(j) 6. KHT/BAT conduct a crater repair

(j,k) 7. KHT/BAT emplace a Foreign Object Damage (FOD) cover

Performance Step: 6. Install FOD cover on repaired crater(s) (as required).

Knowledge /Skills:

(k) 1. BAT decribe the purpose of the FOD cover

(k) 2. KHT/BAT connect FRP panels

(k) 3. BAT identify the minimum overlap of the FRP panels

(k) 4. KHT/BAT acnchor FRP panels

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2008

TASK BEHAVIOR: Conduct chainsaw operations

DATE OF LEARNING ANALYSIS: 20130701

Performance Step: 1. Analyze the mission.

Knowledge /Skills:	(b)	1.	HKO commander's intent
	(b)	2.	KHT/BAT interpret reconnaissance reports

Performance Step: 2. Conduct site survey.

Knowledge /Skills:	(c)	1.	KHT/BAT assess the area
	(b)	2.	KHT/BAT assess coniferous vegetation
	(b)	3.	KHT/BAT assess deciduous vegetation
	(b)	4.	HKO approaches to work area
	(del)	5.	KHT/BAT complete forms and reports
	(b)	6.	KHT/BAT assess environment surrounding work site

Performance Step: 3. Determine escape routes.

Knowledge /Skills:	(c)	1.	KHT/BAT determine egress routes
	(b)	2.	KHT/BAT assess environment

Performance Step: 4. Establish safe areas.

Knowledge /Skills:	(b)	1.	KHT/BAT assess the area
	(c)	2.	HKO weather conditions
	(c)	3.	KHT/BAT clear area (if required)
	(a)	4.	HKO safety equipment needed

Performance Step: 5. Task organize cut team(s).

Knowledge /Skills:	(b)	1.	HKO mission directives
	(a)	2.	KHT/BAT task organize chainsaw team(s)
	(a)	3.	KHT/BAT coordinate support (if required)
	(a)	4.	KHT/BAT assess licensed operators

Performance Step: 6. Task organize equipment.

Knowledge /Skills:	(del)	1.	HKO Pioneer Kit tools
	(a)	2.	KHT/BAT task organize equipment
	(c)	3.	KHT/BAT coordinate support required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step:	7.	Ensure safety equipment is donned (or on site).	
Knowledge /Skills:	(del)	1.	DELETE: TPD Covered in BCE POI (1371-EOPS-1002) Operate a Chainsaw T&R event.
Performance Step:	8.	Establish control procedures.	
Knowledge /Skills:	(c)	1.	KHT/BAT establish a safe area
	(c)	2.	KHT/BAT establish egress lanes
	(c)	3.	KHT/BAT assess potential fouling hazards (hang tree, widow maker, etc.)
	(c)	4.	HKO safety/cease work procedures
	(c)	5.	KHT/BAT establish felling areas
Performance Step:	9.	Perform mission.	
Knowledge /Skills:	(del)	1.	DELETE: Students will notionally plan mission per tactical situation given in course.
Performance Step:	10.	Submit required reports.	
Knowledge /Skills:	(del)	1.	DELETE: Performance step covered in other T&R events

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2009

TASK BEHAVIOR: Conduct rigging

DATE OF LEARNING ANALYSIS: 20130103

Performance Step:	1.	Review Mission.	
Knowledge /Skills:	(del)	1.	KHT/BAT identify material/equipment that requires lifting
	(del)	2.	KHT/BAT identify material/equipment that require lashing
	(del)	3.	KHT/BAT identify available materials
	(a)	4.	KHT/BAT evaluate terrain to verify suitability for rigging operations
	(a)	5.	KHT/BAT select appropriate lifting/lashing techniques to accomplish the mission requirements
	(a)	6.	KHT/BAT identify anchorage systems
	(a)	7.	BAT identify lifting systems
Performance Step:	2.	Examine rigging assets available.	
Knowledge /Skills:	(b)	1.	KHT/BAT identify ropes
	(b)	2.	KHT/BAT identify rigging equipment
	(b)	3.	KHT/BAT identify rope components
	(b)	4.	KHT/BAT inspect ropes for defects
	(b)	5.	KHT/BAT inspect rigging equipment for defects
	(b)	6.	KHT/BAT inspect construction material for defects
Performance Step:	3.	Examine resources as required.	
Knowledge /Skills:	(b)	1.	KHT/BAT inspect expedient construction material for defects
Performance Step:	4.	Examine rigging for serviceability.	
Knowledge /Skills:	(del)	1.	KHT/BAT tie standard military knots
	(del)	2.	KHT/BAT lash material/components together
	(b)	3.	KHT/BAT inspect knots/lashings
	(b)	4.	KHT/BAT inspect a lifting system that is constructed
	(b)	5.	KHT/BAT identify load capacities of rigging components
	(b)	6.	BAT apply quality control and safety procedures
Performance Step:	5.	Tie appropriate knots and lashings.	
Knowledge /Skills:	(del)	1.	KHT/BAT identify rope components

	(del)	2.	KHT/BAT tie standard military knots
	(del)	3.	KHT/BAT secure ropes in lashing operations
	(del)	4.	KHT/BAT properly utilize ropes in mechanical advantage operations
	(del)	5.	KHT/BAT tie a clove hitch
	(del)	6.	KHT/BAT tie a overhand knot
	(del)	7.	KHT/BAT tie a square knot
	(del)	8.	KHT/BAT tie a sheet bend
	(del)	9.	KHT/BAT tie a double sheet bend
	(del)	10.	KHT/BAT tie a fisherman's bend
	(del)	11.	KHT/BAT whip rope ends to prevent fraying
	(del)	12.	KHT/BAT cut rope to dimensions (if applicable)
	(del)	13.	KHT/BAT whip cable ends from fraying
	(del)	14.	KHT/BAT use cable cutter
Performance Step:	6.	Employ appropriate equipment to achieve required mechanical advantage.	
Knowledge /Skills:	(a)	1.	KHT/BAT identify equipment required for various lifting systems
	(a)	2.	KHT/BAT identify materials to construct lifting/achorage systems
	(c)	3.	KHT/BAT construct lifting/anchor systems
Performance Step:	7.	Submit required reports.	
Knowledge /Skills:	(del)	1.	KHT/BAT report usage and defects as required to higher
	(b)	2.	HKO rope log (if applicable)

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-HORZ-2001

TASK BEHAVIOR: Perform hasty soil analysis

DATE OF LEARNING ANALYSIS: 20121112

Performance Step: 1. Obtain a soil sample.

Knowledge /Skills:	(a)	1.	KHT/BAT select appropriate tools
	(c)	2.	KHT/BAT select site to retrieve soil
	(a)	3.	BAT utilize tools and equipment

Performance Step: 2. Perform a visual examination of the soil.

Knowledge /Skills:	(b)	1.	BAT state the characteristics of soils
	(b)	2.	HKO how soil is created by various forces in nature
	(c)	3.	BAT identify color variations of soil sample
	(c)	4.	BAT identify particle shape in soil sample
	(c)	5.	BAT determine maximum size aggregate (MSA)
	(b)	6.	BAT define commonly used terms and acronyms

Performance Step: 3. Separate gravel.

Knowledge /Skills:	(a)	1.	KHT/BAT identify sieves
	(a)	2.	KHT/BAT use sieves
	(c)	3.	BAT identify what size material classifies a gravel
	(c)	4.	KHT/BAT estimate percentage of gravel

Performance Step: 4. Conduct field identification tests on the -40 material.

Knowledge /Skills:	(c)	1.	KHT/BAT conduct an odor test
	(c)	2.	KHT/BAT conduct sedimentation test
	(c)	3.	KHT/BAT compare gravels, sands, and fines
	(c)	4.	KHT/BAT conduct a grit or bite test
	(c)	5.	KHT/BAT conduct a feel test
	(c)	6.	KHT/BAT conduct a wet shaking test
	(c)	7.	KHT/BAT conduct a thread test
	(c)	8.	KHT/BAT conduct a ribbon test
	(c)	9.	KHT/BAT conduct a shine test
	(c)	10.	KHT/BAT conduct a dry strength test

(c) 11. KHT/BAT estimate percentage of sand

(c) 12. KHT/BAT estimate percentage of fines

Performance Step: 5. Determine the USCS classification.

Knowledge /Skills:

(b,c) 1. HKO the USCS classification system

(c) 2. KHT/BAT utilize classification matrix

Performance Step: 6. Determine the CBR.

Knowledge /Skills:

(d) 1. BAT define bearing capacity

(d) 2. HKO the California Bearing Ratio (CBR) system

(a,d) 3. KHT/BAT utilize the Dynamic Cone Penetrometer (DCP)

(d) 4. BAT apply ORM

Performance Step: 7. Determine the moisture content.

Knowledge /Skills:

(a) 1. KHT/BAT identify appropriate test equipment

(a,e) 2. BAT utilize the speedy moisture tester

(e) 3. BAT apply ORM

Performance Step: 8. Record and report results.

Knowledge /Skills:

(d,e) 1. BAT identify proper forms and reports

(d,e) 2. BAT enter applicable data in forms and reports

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-HORZ-2002

TASK BEHAVIOR: Design expedient drainage structures

DATE OF LEARNING ANALYSIS: 20130114

Performance Step: 1. Review site specifications.

Knowledge /Skills:	(a)	1.	KHT/BAT interpret construction drawings/blueprints
	(a)	2.	KHT/BAT evaluate conditions conducive to culverts
	(a)	3.	KHT/BAT determine conditions conducive to drainage ditches

Performance Step: 2. Calculate area of waterway/peak run off.

Knowledge /Skills:	(b)	1.	KHT/BAT use the hasty method
	(b)	2.	KHT/BAT use the field estimate method

Performance Step: 3. Determine type of drainage structure required.

Knowledge /Skills:	(a)	1.	KHT/BAT evaluate conditions conducive to culverts
	(a)	2.	KHT/BAT determine conditions conducive to drainage ditches

Performance Step: 4. Calculate size/amount of culvert required.

Knowledge /Skills:	(c)	1.	KHT/BAT calculate maximum diameter of culvert
	(c)	2.	KHT/BAT calculate number of pipes
	(c)	3.	KHT/BAT calculate culvert length
	(c)	4.	KHT/BAT calculate total amout of culvert required

Performance Step: 5. Design a drainage ditch.

Knowledge /Skills:	(d)	1.	KHT/BAT identify various drainage ditches
	(d)	2.	KWT utilize a triangular "V" ditch
	(d)	3.	KWT utilize a trapezoidal ditch
	(d)	4.	KHT calculate for check dams
	(d)	5.	KHT design a triangular "V" ditch
	(d)	6.	KHT design a trapezoidal ditch

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-HORZ-2004

TASK BEHAVIOR: Design a concrete slab on grade

DATE OF LEARNING ANALYSIS: 20121008

Performance Step: 1. Review specifications.

Knowledge /Skills:	(a)	1.	KHT read blueprints
	(a)	2.	KHT identify when deformed steel bar is required
	(a)	3.	KHT identify when welded wire mesh is required
	(a)	4.	KHT determine minimum cover requirements
	(a)	5.	KHT determine minimum clear space requirements
	(a)	6.	KHT analyze job specifications
	(a)	7.	KHT identify strength requirements
	(a)	8.	KHT identify durability requirements
	(a)	9.	KHT identify water tightness criteria
	(a)	10.	HKO the components of concrete

Performance Step: 2. Determine slab classification.

Knowledge /Skills:	(h)	1.	KHT/BAT read charts and tables
	(h)	2.	BAT identify primary use of slab
	(h)	3.	BAT identify exposure of slab
	(h)	4.	BAT select the proper slump
	(f)	5.	BAT conduct a slump test to verify the proper slump is achieved

Performance Step: 3. Determine minimum compressive strength.

Knowledge /Skills:	(i)	1.	KHT/BAT read charts and tables
	(i)	2.	BAT determine design criteria

Performance Step: 4. Determine flexural tensile stress.

Knowledge /Skills:	(j)	1.	KHT/BAT read charts and tables
	(j)	2.	KHT/BAT solve mathmatical equations

Performance Step: 5. Determine equivalent static load and correct as necessary.

Knowledge /Skills:	(k)	1.	KHT/BAT solve mathmatical equations

Performance Step: 6. Determine slab thickness.

Knowledge /Skills:	(l)	1.	KHT/BAT read charts and tables

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Determine minimum cement content.

Knowledge /Skills:	(m)	1.	KHT/BAT read charts and tables

Performance Step: 8. Design form(s).

Knowledge /Skills:	(b)	1.	KHT/BAT identify types of forms
	(b)	2.	KHT/BAT identify form components
	(b)	3.	KHT/BAT determine form component spacing
	(b)	4.	BAT determine material for concrete form
	(del)	5.	BAT draw a sketch of form
	(c)	6.	BAT determine the Rate (R) of placement
	(e)	7.	BAT check concrete temperature
	(d)	8.	KHT/BAT determine maximum developed pressure (Pmax)
	(e)	9.	KHT/BAT adjust Rate (R) of placement to maintain Pmax and quality of pour
	(n)	10.	KHT/BAT read construction blueprints/drawings
	(b)	11.	BAT identify form components
	(del)	12.	KHT/BAT employ engineer construction tools
	(del)	13.	KHT/BAT place lumber
	(n)	14.	KHT/BAT place ties
	(n)	15.	KHT/BAT place bracing as required
	(a)	16.	BAT determine type of reinforcement
	(a)	17.	KHT/BAT determine splice overlap
	(a)	18.	KHT/BAT determine the size of rebar
	(a)	19.	KHT/.BAT determine rebar supports
	(o)	20.	KHT/BAT place welded wire mesh
	(o)	21.	KHT/BAT bend rebar
	(o)	22.	KHT/BAT cut rebar
	(o)	23.	KHT/BAT tie rebar
	(o)	24.	BAT identify proper placement of joints
	(o)	25.	BAT identify the use of various joints
	(o)	26.	KHT/BAT make appropriate joint
	(a)	27.	KHT/BAT identify anchor specifications
	(o)	28.	KHT/BAT determine anchor placement
	(o)	29.	KHT/BAT hold anchor in position during pour

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 9. Generate a Bill of Materials.

Knowledge /Skills: (del) 1. DELETE: Covered in Woodframe Design class

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MANT-2001

TASK BEHAVIOR: Maintain the unit's engineer equipment, chests, sets and kits maintenance programs

DATE OF LEARNING ANALYSIS: 20130725

Performance Step: 1. Maintain a publications library.

Knowledge /Skills:	(a)	1.	HKO Marine Corps Integrated Maintenance Management System (MIMMS)
	(a)	2.	HKO maintenance policies and elements
	(a)	3.	HKO maintenance management processes for engineer equipment
	(b)	4.	KHT differentiate between various forms of pubs (i.e. MCO, TM, MCBul, SL-3, UM, etc.)
	(b)	5.	HKO Marine Corps Publications Distribution System (MCPDS)
	(b)	6.	KHT use the MC-PLMS system
	(b)	7.	HKO controlled/non-controlled publications
	(b)	8.	KHT use the pubs manual numbering system
	(b)	9.	KHT determine appropriate pubs required by a unit based on unit TAM items from T/E
	(b,e)	10.	HKO GCSS-MC generated pubs listings
	(b)	11.	HKO non-technical publications
	(b)	12.	HKO other service(s) publications
	(b)	13.	KHT manage publication changes
	(b)	14.	KHT utilize the MC-PLMS system to requisition and maintain pubs

Performance Step: 2. Complete GCSS-MC entries or Consolidated Engineer Equipment Log and Service Record (NAVMC 10524), as required.

Knowledge /Skills:	(del)	1.	KHT supervise equipment maintenance
	(e)	2.	HKO GCSS-MC requirements
	(e)	3.	KHT/BAT state the benefits of GCSS-MC
	(e)	4.	KHT/BAT state capabilities of GCSS-MC
	(c)	5.	HKO GCSS-MC data entry requirements for engineer equipment
	(c)	6.	KHT/BAT report equipment hourly usage
	(c)	7.	KHT/BAT record equipment usage
	(c)	8.	HKO maintenance terminology
	(e)	9.	HKO other data bases/software supporting GCSS-MC

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step:	3.	Complete a Service Request (SR), as required.	
Knowledge /Skills:	(c)	1.	HKO maintenance levels
	(c)	2.	HKO echelons of maintenance
	(d)	3.	HKO unit tables of authorized materiel (TAM)
	(c,d)	4.	KHT read TAM control numbers
	(g)	5.	HKO different types of service requests
	(g)	6.	HKO requirements for a service request for services
	(g)	7.	HKO requirements for a service request for maintenance
	(g)	8.	HKO requirements for a service request for supply
Performance Step:	4.	Document Parts Requirements, as required.	
Knowledge /Skills:	(b)	1.	KHT read and SL-3/SL-4
	(g)	2.	KHT request SL-3 items
	(g)	3.	KHT request supply items
	(h)	4.	KHT pull GCSS-MC reports
	(f)	5.	KHT read reports
Performance Step:	5.	Complete GCSS-MC entries or Engineer Equipment Operational Records (NAVMC 10523), as required.	
Knowledge /Skills:	(f)	1.	HKO requirements to obtain operational hours on equipment
	(f)	2.	HKO requirements to report equipment operational data
	(f)	3.	HKO before, during, and after engineer equipment operation reporting requirements
	(del)	4.	KHT perform pre-op inspections
Performance Step:	6.	Complete GCSS-MC entries or a General Purpose Transaction Document (NAVMC 696), as required.	
Knowledge /Skills:	(TPD)	1.	Not a requirement for NCOs (UUAM enters data into GCSS-MC)
Performance Step:	7.	Analyze the Maintenance Production Report (MPR).	
Knowledge /Skills:	(h)	1.	HKO GCSS-MC reports
	(f)	2.	KHT identify defect codes
	(f)	3.	KHT identify job status codes
	(f)	4.	KHT identify operational codes
	(f)	5.	KHT review status of parts
Performance Step:	8.	Reconcile outstanding supply requests.	

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills: (TPD) 1. NOt a requirement for NCOs (RO/Plt Sgt)

Performance Step: 9. Complete modification control records, as required.

Knowledge /Skills: (TPD) 1. Not a requirement for NCOs (RO/Plt Sgt requirement)

Performance Step: 10. Direct maintenance program related actions, as required.

Knowledge /Skills:
(g) 1. HKO preventive maintenance services required on specific equipment
(g) 2. HKO corrective maintenance service required on specific equipment
(h) 3. KHT review statuses of parts
(d) 4. KHT/BAT idenitify descrepancies to CMR
(c) 5. KHT/BAT inventory engineer equipment
(f) 6. KHT maintain equipment record jackets
(f) 7. KHT perform limited technical inspections
(g) 8. HKO PEB requirements
(g) 9. HKO requirement for calibrations of specific equipment
(g) 10. HKO requirements for modifications to equipment
(g) 11. HKO special tool requirements

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2001

TASK BEHAVIOR: Design Tactical Landing Zones (TLZ)/Expeditionary Airfields (EAF)

DATE OF LEARNING ANALYSIS: 20130107

Performance Step: 1. Analyze METT-T and reconnaissance forms, if provided.

Knowledge /Skills:		
(del)	1.	BAT determine logistical requirements
(del)	2.	KHT/BAT calculate AM2 requirements
(b)	3.	KHT/BAT select terrain
(b)	4.	KHT/BAT interpret recon forms
(del)	5.	BAT determine manpower requirements
(del)	6.	KHT/BAT determine equipment requirements
(a)	7.	KHT/BAT determine TLZ criteria/limits
(a)	8.	KHT/BAT analyze METT-TSL for TLZ mission
(c)	9.	KHT/BAT determine minimum diameter requirements to fell timber

Performance Step: 2. Determine whether mission calls for a TLZ or a EAF.

Knowledge /Skills:		
(a)	1.	KHT select EAF critetia (FOB)
(a)	2.	KHT select LZ criteria

Performance Step: 3. Conduct site reconnaissance, keying on soil composition, drainage and obstructions.

Knowledge /Skills:		
(del)	1.	BAT test soil
(b)	2.	KHT/BAT complete Engineer Recon forms
(b)	3.	KHT/BAT analyze drainage conditions
(b)	4.	KHT/BAT calculate height of obstacles
(b)	5.	KHT/BAT calculate percent of slope
(b)	6.	KHT/BAT determine prevailing winds as required
(b)	7.	KKHT/BAT conduct survey for felling trees

Performance Step: 4. Conduct area clearance as required.

Knowledge /Skills:		
(del)	1.	KHT perform sweep operations
(del)	2.	KHT/BAT identify UXO
(d)	3.	HKO UXO identification

Performance Step: 5. Determine appropriate configuration.

Knowledge /Skills:		
(c)	1.	KHT/BAT determine number of landing points

(b) 2. BAT determine prevailing wind direction
(c) 3. BAT determine surface requirements
(c) 4. BAT determine geometric requirements for landing sites
(c) 5. BAT design appropriate type of TLZ/FOB

Performance Step: 6. Determine matting requirement (for EAF).

Knowledge /Skills:
(del) 1. KHT/BAT calculate AM2 requirements
(b) 2. KHT/BAT determine logistical support required on 1711R
(c) 3. BAT determine soil strength

Performance Step: 7. Calculate scope of engineer effort to prepare site.

Knowledge /Skills:
(del) 1. DELETE: TPD controlled by higher

Performance Step: 8. Determine equipment requirements.

Knowledge /Skills:
(c) 1. KHT/BAT annotate equipment on 1711R
(del) 2. KHT/BAT determine equipment needed
(c) 3. HKO equipment characteristics
(d) 4. HKO equipment capabilities from ADR kit
(d) 5. KHT/BAT request supporting equipment

Performance Step: 9. Estimate matting materials as required (for EAF).

Knowledge /Skills:
(a) 1. KHT/BAT determine size required
(a) 2. KHT/BAT determine criteria
(del) 3. KHT assemble AM2 MAT.
(del) 4. KHT anchor AM2 mat

Performance Step: 10. Determine marking requirements.

Knowledge /Skills:
(del) 1. KHT/BAT mark landing zone using panel markers
(del) 2. KHT/BAT mark landing zone using light source (ie chem lights, etc)
(c) 3. HKO different marking requirments for types of craft

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2002

TASK BEHAVIOR: Manage employment of the Medium Girder Bridge (MGB)

DATE OF LEARNING ANALYSIS: 20100325

Performance Step: 1. Review the references and the Pro Forma.

Knowledge /Skills:		
	(a)	1. HKO safety precautions
	(a)	2. HKO all safey rules and procedures
	(a)	3. KHT utilize references
	(d)	4. KHT/BAT employ pro forma worksheet in layout and construction phase
	(d)	5. KHT/BAT read booming chart
	(b)	6. BAT identify MGB limitation factors
	(b)	7. KHT select bridge type based on MLC
	(d)	8. KHT determine gap width

Performance Step: 2. Make crew assignments.

Knowledge /Skills:		
	(d)	1. KHT/BAT determine manpower requirements
	(d)	2. KHT/BAT determine logistical requirements
	(d)	3. KHT/BAT size up build teams
	(d)	4. KHT/BAT establish left, right, center teams

Performance Step: 3. Brief crews.

Knowledge /Skills:		
	(c)	1. KHT/BAT describe the construction sequence
	(c)	2. KHT/BAT describe the launch sequence
	(c)	3. KHT/BAT describe the landing sequence
	(c)	4. KHT/BAT describe the recovery sequence
	(c)	5. KHT/BAT describe the disassembly sequence
	(b)	6. KHT define Military Load Classification (MLC)

Performance Step: 4. Direct lay out the site based on critical pallet loads.

Knowledge /Skills:		
	(b)	1. HKO MGB components
	(b)	2. KHT/BAT identify pallet configurations (type/loads)
	(d)	3. KHT/BAT establish the build site

Performance Step: 5. Direct installation of front roller beam.

Knowledge /Skills:		
	(b)	1. BAT identify MGB components

(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. BAT employ the construction sequence
(d) 5. KHT/BAT raise and lower bridge
(d) 6. BAT connect components

Performance Step: 6. Direct build end of bridge (EOB)+1 components.

Knowledge /Skills:
(b) 1. BAT identify MGB components
(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. KHT/BAT read building and boom table
(d) 5. BAT employ the construction sequence
(d) 6. BAT connect components
(d) 7. KHT/BAT raise and lower bridge

Performance Step: 7. Direct installation of rear roller beam.

Knowledge /Skills:
(b) 1. BAT identify MGB components
(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. BAT employ the construction sequence
(d) 5. BAT connect components
(d) 6. KHT/BAT raise and lower bridge
(d) 7. KHT/BAT measure and square RRB from FRB

Performance Step: 8. Direct the building and booming of bridge (to include nose configuration).

Knowledge /Skills:
(b) 1. BAT identify MGB components
(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. KHT/BAT read building and boom table
(d) 5. BAT employ the construction sequence
(d) 6. BAT connect components
(d) 7. BAT boom bridge
(d) 8. KHT/BAT raise and lower bridge

Performance Step: 9. Direct the launch of bridge.

Knowledge /Skills:
(b) 1. BAT identify MGB components

(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. KHT/BAT read building and boom table
(d) 5. BAT employ the construction sequence
(d) 6. BAT connect components
(d) 7. BAT employ the launching sequence
(d) 8. BAT launch bridge
(d) 9. KHT/BAT raise and lower bridge
(d) 10. KHT/BAT read panel points
(d) 11. HKO bridge bearing point

Performance Step: 10. Direct the setting of bridge on deck (near and far shore).

Knowledge /Skills:
(d) 1. KHT/BAT employ pro forma worksheet in layout and construction phase
(d) 2. BAT employ the landing sequence
(d) 3. KHT/BAT raise and lower bridge
(d) 4. KHT/BAT use dunnage (if required)

Performance Step: 11. Direct dressing of bridge.

Knowledge /Skills:
(b) 1. BAT identify MGB components
(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. KHT/BAT read building and boom table
(d) 5. BAT employ the construction sequence
(d) 6. BAT connect components
(d) 7. BAT dress bridge
(d) 8. BAT mark the bridge

Performance Step: 12. DIrect anchoring as required.

Knowledge /Skills:
(b) 1. BAT identify MGB components
(d) 2. KHT/BAT employ pro forma worksheet in layout and construction phase
(b) 3. BAT determine bridge configuration
(d) 4. BAT employ the construction sequence
(d) 5. BAT connect components

Performance Step: 13. Direct MGB retrieval (as required).

Knowledge /Skills:
(b) 1. BAT identify MGB components

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

(e) 2. KHT/BAT raise and lower bridge

(e) 3. BAT employ the recovery sequence

(e) 4. KHT/BAT read delaunch table

(e) 5. BAT disassemble the bridge

(e) 6. BAT perform far-shore disassembly

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2003

TASK BEHAVIOR: Operate Bridge Erection Boat (BEB)

DATE OF LEARNING ANALYSIS: 20130121

Performance Step: 1. Inspect the launch area.

Knowledge /Skills:	(f)	1.	KHT/BAT identify bank/shore conditions
	(f)	2.	BAT identify wet gap conditions
	(f)	3.	BAT identify proper approaches
	(del)	4.	KHT/BAT launch BEB from cradle
	(f)	5.	KHT/BAT launch BEB from trailer

Performance Step: 2. Perform before/during/after operations checks on the boat/engine, as required.

Knowledge /Skills:	(a)	1.	BAT identify BEB components
	(d)	2.	BAT state the characteristics of the BEB
	(g)	3.	BAT operate components of BEB
	(b)	4.	BAT determine when operator maintenance is performed
	(b)	5.	BAT perform hull checks
	(b)	6.	BAT check fluid levels
	(b)	7.	BAT check operator's controls
	(b)	8.	BAT check battery terminals
	(b)	9.	BAT check fuel/water separator
	(b)	10.	BAT turn forward grease caps
	(b)	11.	BAT check BEB fixtures
	(b)	12.	BAT check drains and bilges
	(b)	13.	BAT check hydrojet intake grates
	(b)	14.	BAT check belts
	(b)	15.	BAT check navigational aids
	(b)	16.	BAT check fuel level
	(g)	17.	BAT monitor engine gauges
	(g)	18.	BAT backflush hydrojets
	(b)	19.	BAT check for leaks
	(b)	20.	BAT utilize pre-operation checklist
	(b)	21.	BAT utilize during operation checklist

(b)	22.	BAT utilize post operation checklist
(g)	23.	BAT properly fill floatation device
(g)	24.	BAT don floatation device
(g)	25.	BAT use fire extinguisher as required
(g)	26.	KHT start BEB
(g)	27.	KHT/BAT shut down BEB
(c)	28.	KHT/BAT recover BEB

Performance Step: 3. Perform start up procedures.

Knowledge /Skills:

(g)	1.	BAT operate components of BEB
(g)	2.	BAT perform pre-operation checks
(e)	3.	KHT/BAT identify required safety procedures
(e,g)	4.	BAT employ ORM
(g)	5.	BAT start BEB

Performance Step: 4. Maneuver the boat using the buckets.

Knowledge /Skills:

(g)	1.	BAT operate controls
(g)	2.	BAT execute emergency procedures
(e)	3.	BAT identify nautical hazards
(e)	4.	BAT identify navigational aids

Performance Step: 5. Maneuver the boat using the helm.

Knowledge /Skills:

(g)	1.	BAT operate controls
(g)	2.	BAT execute emergency procedures
(e)	3.	BAT identify nautical hazards
(e)	4.	BAT identify navigational aids

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2004

TASK BEHAVIOR: Manage the employment of the Improved Ribbon Bridge (IRB)

DATE OF LEARNING ANALYSIS: 20130121

Performance Step:	1.	Review the references and the design specifications.	
Knowledge /Skills:	(a)	1.	KHT/BAT identify IRB nomenclature
	(a)	2.	KHT/BAT identify IRB characteristics
	(a)	3.	KHT/BAT identify IRB capabilities
	(a)	4.	KHT utilize references
	(a)	5.	KHT/BAT determine raft/bridge design based on mission
	(a)	6.	KHT determine appropriate crossing condition
	(a)	7.	KHT determine vehicle speed based on crossing classification
	(a)	8.	KHT determine vehicle spacing based on crossing classification
	(a)	9.	KHT classify bridge
Performance Step:	2.	Brief crew on assignments.	
Knowledge /Skills:	(d)	1.	KHT/BAT determine manpower requirements
	(d)	2.	KHT/BAT determine logistical requirements
	(b)	3.	KHT/BAT describle construction techniques
	(b)	4.	KHT/BAT describe disassembly techniques
	(b)	5.	KHT/BAT describe recovery techniques
Performance Step:	3.	Don all PPE.	
Knowledge /Skills:	(c)	1.	HKO safety precautions
	(c)	2.	KHT/BAT employ ORM
Performance Step:	4.	Perform pre-operation checks and services on boats and IRB bays.	
Knowledge /Skills:	(a)	1.	KHT utilize references
	(d)	2.	KHT/BAT utilize inspection checklists
	(d)	3.	BAT identify appropriate SL-3 and tools for IRB operations
Performance Step:	5.	Deploy BEBs.	
Knowledge /Skills:	(a)	1.	KHT/BAT identify bank/shore conditions
	(b)	2.	KHT launch BEB from cradle
	(b)	3.	KHT/BAT launch BEB from trailer

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 6. Deploy IRB bays.

Knowledge /Skills:	(a)	1.	KHT/BAT identify bank/shore conditions
	(d)	2.	BAT select method of offloading bay into water
	(d)	3.	BAT configure bay for offload from vehicle (LVSR, MK48/18 variant)
	(d)	4.	BAT deploy bay

Performance Step: 7. Capture IRB bays.

Knowledge /Skills:	(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
	(d)	2.	BAT configure bay for connection
	(d)	3.	BAT tie knots and lashings
	(d)	4.	BAT connect bay to BEB
	(d)	5.	BAT use appropriate ribbon tools

Performance Step: 8. Connect IRB bays.

Knowledge /Skills:	(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
	(d)	2.	BAT tie knots and lashings
	(d)	3.	BAT connect bays
	(d)	4.	BAT use appropriate ribbon tools
	(d)	5.	BAT select the appropriate method of building bridge based on site conditions

Performance Step: 9. Position the bridge.

Knowledge /Skills:	(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
	(d)	2.	KHT position bridge based on build
	(d)	3.	KHT configure bridge for traffic

Performance Step: 10. Anchor the bridge.

Knowledge /Skills:	(a)	1.	KHT/BAT identify bank/shore conditions
	(a)	2.	KHT/BAT identify wet gap conditions
	(a)	3.	KHT/BAT identify appropriate means of anchoring bridge per conditions
	(d)	4.	BAT construct anchor system desired

Performance Step: 11. Provide up-stream, in water security measures.

Knowledge /Skills:	(a)	1.	KHT/BAT identify wet gap conditions
	(d)	2.	KHT/BAT identify environmental water borne threats to the IRB
	(d)	3.	KHT/BAT identify enemy water borne threat to the IRB

(d)	4.	KHT/BAT determine security measures required
(d)	5.	BAT emplace security measures

Performance Step: 12. Retrieve the bridge.

Knowledge /Skills: (a)	1.	KHT/BAT identify bank/shore conditions
(del)	2.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
(e)	3.	BAT configure bay for loading on vehicle (LVSR, MK48/18 variant)
(e)	4.	BAT retrieve bay
(e)	5.	BAT retrieve BEB

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2005

TASK BEHAVIOR: Manage military rafting operations

DATE OF LEARNING ANALYSIS: 20130122

Performance Step:	1.	Review the references and specifications.		
Knowledge /Skills:	(e)	1.	HKO safety precautions	
	(e)	2.	HKO all safey rules and procedures	
	(e)	3.	KHT utilize references	
	(c)	4.	BAT utilize charts and tables	
	(c)	5.	BAT determine raft requirements based upon mission specifications	
Performance Step:	2.	Brief/instruct the crew on the mission/assignment.		
Knowledge /Skills:	(e)	1.	KHT/BAT determine manpower requirements	
	(e)	2.	KHT/BAT determine logistical requirements	
	(e)	3.	KHT/BAT describle construction techniques	
	(e)	4.	KHT/BAT describe operation techniques	
	(e)	5.	KHT/BAT describe disassembly techniques	
	(e)	6.	KHT/BAT describe recovery techniques	
Performance Step:	3.	Inspect IRB components.		
Knowledge /Skills:	(d)	1.	KHT/BAT identify IRB nomenclature	
	(d)	2.	KHT/BAT identify IRB characteristics	
	(d)	3.	KHT/BAT identify IRB capabilities	
	(e)	4.	BAT identify appropriate SL-3 and tools for IRB operations	
	(e)	5.	KHT/BAT utilize inspection checklists	
Performance Step:	4.	Don all PPE.		
Knowledge /Skills:	(b)	1.	HKO safety precautions	
	(b)	2.	KHT/BAT employ ORM	
Performance Step:	5.	Conduct pre-operation checks and services on BEBs.		
Knowledge /Skills:	(del)	1.	Delete; Taught under 1371-MOBL-2003	
Performance Step:	6.	Launch BEBs.		
Knowledge /Skills:	(del)	1.	Delete; Taught under 1371-MOBL-2003	

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Launch IRB components (ramp and interior bays as required in specifications).

Knowledge /Skills:		
(del)	1.	Delete; Taught under 1371-MOBL-2004

Performance Step: 8. Capture IRB components.

Knowledge /Skills:		
(del)	1.	Delete; Taught under 1371-MOBL-2004

Performance Step: 9. Maneuver IRB components into position.

Knowledge /Skills:		
(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
(b)	2.	KHT configure raft for traffic
(e)	3.	HKO raft commander responsibilities
(b)	4.	BAT tie knots and lashings
(b)	5.	BAT use appropriate ribbon tools
(e)	6.	KHT/BAT use hand and arm signals

Performance Step: 10. Construct raft.

Knowledge /Skills:		
(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
(e)	2.	BAT tie knots and lashings
(e)	3.	BAT connect bays
(e)	4.	BAT use appropriate ribbon tools
(d)	5.	BAT select the appropriate method of building raft based on site conditions

Performance Step: 11. Re-position BEBs and rig to raft according to specifications.

Knowledge /Skills:		
(del)	1.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
(e)	2.	BAT use appropriate ribbon tools
(e)	3.	BAT tie knots and lashings
(e)	4.	KHT/BAT determine proper raft configuration

Performance Step: 12. Load raft.

Knowledge /Skills:		
(a)	1.	HKO raft load specifications
(a)	2.	BAT describe raft loading procedures
(a)	3.	KHT/BAT utilize hand and arm signals

Performance Step: 13. Maneuver the raft.

Knowledge /Skills:		
(b)	1.	HKO raft commander hand and arm signals
(del)	2.	KHT/BAT operate BEB- Taught under 1371-MOBL-2003
(b)	3.	KHT/BAT operate IRB components
(b)	4.	KHT/BAT use hand and arm signals

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 14. Maintain rafting schedule.

Knowledge /Skills: (c) 1. KHT/BAT employ rafting time tables

Performance Step: 15. Perform during-operation checks.

Knowledge /Skills: (del) 1. Delete; Taught under 1371-MOBL-2003

(del) 2. Delete; Taught under 1371-MOBL-2004

Performance Step: 16. Perform post-operation checks and services.

Knowledge /Skills: (del) 1. Delete; Taught under 1371-MOBL-2003

(del) 2. Delete; Taught under 1371-MOBL-2004

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2010

TASK BEHAVIOR: Employ M58/M68 linear demolition charge

DATE OF LEARNING ANALYSIS: 20111114

Performance Step: 1. Inspect all equipment.

Knowledge /Skills:		
	(a)	1. KHT check for unserviceable components
	(g)	2. BAT check for unserviceable components
	(b)	3. KHT check accumulator for serviceability
	(g)	4. BAT check accumulator for serviceability
	(b)	5. KHT check the launcher for serviceability
	(g)	6. BAT check the launcher for serviceability
	(e)	7. BAT check M68 fuze for serviceability

Performance Step: 2. Set up M58/M68/M155 for employment.

Knowledge /Skills:		
	(c)	1. KHT place M58/M68 on trailer
	(g)	2. BAT place M58/M68 on trailer
	(c)	3. KHT strap down M58/M68 to trailer
	(g)	4. BAT strap down M58/M68 to trailer
	(d)	5. KHT connect M58/M68 to J-Box
	(g)	6. BAT connect M58/M68 to J-Box
	(d)	7. KHT connect control box to J-Box
	(g)	8. BAT connect control box to J-Box
	(e)	9. BAT connect fuze to line charge arrestor cable

Performance Step: 3. Perform all circuit/pre-operational checks.

Knowledge /Skills:		
	(e)	1. KHT check for electrical continuity on the firing system
	(g)	2. BAT check for electrical continuity on the firing system
	(d)	3. KHT check for launcher raising
	(g)	4. BAT check for launcher raising
	(f)	5. KHT install launching nose pin on rocket
	(g)	6. BAT install launching nose pin on rocket

Performance Step: 4. Move to firing area.

Knowledge /Skills:		
	(e)	1. KHT connect MICLIC trailer to prime mover

(g) 2. BAT connect MICLIC trailer to prime mover
(f) 3. KHT estimate stand-off distance for line charge employment
(g) 4. BAT estimate stand-off distance for line charge employment

Performance Step: 5. Ensure proper standoff distance.

Knowledge /Skills:
(f) 1. KHT estimate stand-off distance for line charge employment
(g) 2. BAT estimate stand-off distance for line charge employment

Performance Step: 6. Fire the rocket.

Knowledge /Skills:
(f) 1. KHT operate the fire control box
(g) 2. BAT operate the fire control box
(f) 3. HKO authorization to fire procedures

Performance Step: 7. Fire the charge.

Knowledge /Skills:
(f) 1. KHT operate fire control box
(g) 2. BAT operate fire control box
(del) 3. BAT get authorization to fire charge

Performance Step: 8. Perform immediate actions for misfire (if required).

Knowledge /Skills:
(c) 1. KHT check electrical system for continuity
(g) 2. BAT check electrical system for continuity
(g) 3. BAT reapply firing procedures
(e) 4. KHT prime line charge manually in case of misfire if required
(g) 5. BAT prime line charge manually in case of misfire if required

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2011

TASK BEHAVIOR: Employ the APOBS

DATE OF LEARNING ANALYSIS: 20121018

Performance Step: 1. Inspect all equipment.

Knowledge /Skills:	(b)	1.	BAT identify nomenclature
	(a)	2.	BAT understand capabilities
	(b)	3.	KHT/BAT identify components
	(c)	4.	BAT unpack APOBS
	(d)	5.	BAT inspect storage container to check seviceability

Performance Step: 2. Set up APOBS.

Knowledge /Skills:	(e)	1.	BAT remove APOBS from shipping container
	(e)	2.	BAT connect rocket motor to front pack assembly
	(e)	3.	BAT connect front pack assembly to rear pack assembly
	(e)	4.	BAT aim the APOBS
	(e)	5.	BAT aim the APOBS

Performance Step: 3. Perform circuit/pre-deployment checks.

Knowledge /Skills:	(e)	1.	BAT inspect fuses (front and rear)
	(e)	2.	BAT equalize pressure and remove lid of front and rear unit
	(e)	3.	BAT remove safety pins
	(e)	4.	BAT reinstall safety pins
	(e)	5.	BAT visually inspect the rear charge
	(e)	6.	BAT reinstall lids
	(e)	7.	BAT inspect forward charge
	(e)	8.	BAT check serviceability of male/female connectors
	(e)	9.	BAT ensure that aiming rod is present and serviceable
	(e)	10.	BAT inspect rocket motor assembly
	(e)	11.	BAT inspect forward fuse
	(e)	12.	BAT inspect mechanical initiator
	(e)	13.	BAT conduct test of electronic switch

Performance Step: 4. Move to firing area.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:
(e) 1. BAT prepare fuses for firing
(e) 2. BAT prepare rear and forward packs for firing
(e) 3. BAT prepare rocket motor assembly for firing
(e) 4. BAT prepare electrical firing system
(e) 5. BAT select appropriate firing method

Performance Step: 5. Ensure proper standoff.

Knowledge /Skills:
(e) 1. BAT determine proper stand-off distances
(e) 2. BAT aim the APOBS

Performance Step: 6. Initiate the system.

Knowledge /Skills:
(f) 1. BAT remove safeties from mechanical initiators
(f) 2. BAT ignite mechanical initiator
(f) 3. BAT take cover
(f) 4. BAT install electrical squib
(f) 5. BAT connect electrical firing wire
(f) 6. BAT operate electrical firing device

Performance Step: 7. Perform immediate action for misfire (if required).

Knowledge /Skills:
(g) 1. BAT explain training misfire procedures for delay mode
(g) 2. BAT explain wartime misfire procedures for delay mode
(g) 3. BAT explain electrical misfire procedures

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2012

TASK BEHAVIOR: Conduct obstacle breaching operations

DATE OF LEARNING ANALYSIS: 20120910

Performance Step: 1. Analyze METT-T and available reconnaissance reports.

Knowledge /Skills:		
	(a)	1. HKO breaching doctrine
	(a)	2. KHT/BAT analyze the mission
	(a)	3. KHT/BAT analyze enemy and terrain
	(a)	4. KHT/BAT analyze reconnaissance reports

Performance Step: 2. Organize obstacle clearing detachment(s).

Knowledge /Skills:		
	(a)	1. KHT organize a breaching team to clear an obstacle
	(b)	2. BAT organize a breaching team to clear an obstacle

Performance Step: 3. Proceed to final assembly area.

Knowledge /Skills:		
	(c)	1. KHT employ tactical formations
	(c)	2. BAT employ tactical formations
	(c)	3. BAT explain the approach
	(d)	4. KHT perform final preparations
	(d)	5. BAT perform final preparations

Performance Step: 4. Verify obstacle location(s) and possible bypass route(s).

Knowledge /Skills:		
	(c)	1. KHT identify possible bypasses
	(c)	2. BAT identify possible bypasses
	(d)	3. KHT perform engineer reconnaissance on obstacle location
	(d)	4. BAT perform engineer reconnaissance on obstacle location

Performance Step: 5. Move to obstacle while suppressing enemy fire.

Knowledge /Skills:		
	(e)	1. BAT suppress enemy fire during movement
	(e)	2. BAT call for support fires (if required)

Performance Step: 6. Direct reduction of enemy positions.

Knowledge /Skills:		
	(e)	1. KHT employ SMAW
	(e)	2. BAT employ SMAW
	(e)	3. BAT direct indirect fires (if required)

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Coordinate obscuration of entire obstacle with supporting arms.

Knowledge /Skills:	(e)	1.	BAT call for supporting arms fire for obscuration on obstacle location
	(e)	2.	BAT coordinate supporting arms shifting of fire support

Performance Step: 8. Direct reduction of the obstacle(s).

Knowledge /Skills:	(f)	1.	BAT to employ military demolitions
	(f)	2.	BAT to employ APOBS
	(f)	3.	BAT to employ line charge
	(f)	4.	KHT employ heavy equipment assets to reduce obstacle
	(f)	5.	BAT employ heavy equipment assets to reduce obstacle
	(f)	6.	HKO employment of AVLB/JAB
	(f)	7.	KHT enploy fascines
	(f)	8.	KHT employ the SMAW weapon system
	(f)	9.	BAT employ the SMAW weapon system
	(f)	10.	KHT employ the ABV
	(g)	11.	KHT breach a lane
	(g)	12.	BAT breach a lane

Performance Step: 9. Set up security on near side of obstacle.

Knowledge /Skills:	(g)	1.	BAT to secure breach lane on near and far side of obstacle
	(g)	2.	KHT employ organic weapons to secure breach lane
	(g)	3.	BAT employ organic weapons to secure breach lane

Performance Step: 10. Proof the lane.

Knowledge /Skills:	(h)	1.	KHT employ ACE for proofing breach lane
	(h)	2.	KHT employ the tank width mine plow
	(h)	3.	KHT employ the mine rake
	(h)	4.	KHT employ the ABV
	(h)	5.	KHT proof breach lane manually
	(h)	6.	BAT proof breach lane manually

Performance Step: 11. Mark the lane.

Knowledge /Skills:	(i)	1.	KHT place breach lane panel marker
	(i)	2.	BAT place breach lane panel marker
	(i)	3.	KHT mark entrance funnel

(i) 4. BAT mark entrance funnel

(i) 5. KHT mark breach lane in explsove hazard area (minefield)

(i) 6. BAT mark breach lane in explosive hazard area (minefield)

(i) 7. KHT mark exit funnel

(i) 8. BAT mark exit funnel

Performance Step: 12. Control movement through the breach.

Knowledge /Skills:

(j) 1. KHT properly control movement through the breach lane

(j) 2. BAT properly control movement through the breach lane

Performance Step: 13. Conduct turnover of breaching lane(s) to supporting units.

Knowledge /Skills:

(k) 1. KHT turnover breaching lanes to supporting units

(k) 2. BAT turnover breaching lanes to supporting units

Performance Step: 14. Consolidate and re-supply the breach force.

Knowledge /Skills:

(k) 1. KHT assemble obstacle clearing detachment after the breach

(k) 2. BAT assemble obstacle clearing detachment after the breach

(k) 3. KHT request re-supply of Class V

(k) 4. BAT request re-supply of Class V

(k) 5. KHT report clearing of obstacle is complete

(k) 6. BAT report clearing of obstacle is complete

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2013

TASK BEHAVIOR: Engage stationary targets with the shotgun

DATE OF LEARNING ANALYSIS: 20130715

Performance Step:	1.	Perform weapons handling procedures with the shotgun.	
Knowledge /Skills:	(h)	1.	KHT/BAT demonstrate proper weapons carry
	(h)	2.	KHT/BAT demonstrate the tactical carry
	(a)	3.	KHT/BAT state the characteristics of the shotgun
	(b)	4.	KHT/BAT described the components of the shotgun
	(c)	5.	BAT state the four safety rules in handling weapons
	(h)	6.	KHT/BAT carry the shotgun in the "ready" position
	(a)	7.	KHT/BAT demonstate proper weapons storage and handling
	(m)	8.	KHT perform immediate action drills
	(n)	9.	KHT perform remedial action drills
Performance Step:	2.	Clear the shotgun.	
Knowledge /Skills:	(l)	1.	KHT/BAT place the shotgun into Condition 4
	(l)	2.	KHT/BAT inspect chamber for rounds
	(l)	3.	KHT/BAT inspect magazine tube for rounds
Performance Step:	3.	Select the appropriate ammunition type.	
Knowledge /Skills:	(k)	1.	KHT/BAT select appropriate rounds
	(k)	2.	KHT/BAT select rounds for training
Performance Step:	4.	Fill the magazine tube.	
Knowledge /Skills:	(i)	1.	KHT/BAT insert rounds into shotgun
	(i,l)	2.	KHT/BAT put weapon selector on safe
Performance Step:	5.	Place the weapon in Condition 1.	
Knowledge /Skills:	(i)	1.	KHT place shotgun into Condition 1
	(j)	2.	BAT place the shotgun into Condition 1
Performance Step:	6.	Effectively engage targets on command.	
Knowledge /Skills:	(j)	1.	KHT/BAT place shotgun into Condition 3
	(k)	2.	KHT/BAT place safety selector switch to "fire"
	(k)	3.	KHT/BAT sight in the weapon to the target

(k)	4.	KHT/BAT engage targets with the shotgun
(k)	5.	KHT/BAT cycle the weapon with rounds inserted
(m)	6.	BAT perform immediate action on shotgun
(n)	7.	BAT perform remedial action on shotgun

Performance Step: 7. Place weapon in Condition 4.

Knowledge /Skills:		
(l)	1.	KHT/BAT place weapon into Condition 4
(l)	2.	KHT/BAT clear the weapon
(l)	3.	KHT/BAT engage safety

Performance Step: 8. Assess ammunition effects from 15 yards.

Knowledge /Skills:		
(l)	1.	KHT/BAT determine effectiveness of round on target

Performance Step: 9. Repeat stteps 1 through 7 with "weak" side from 15 yards.

Knowledge /Skills:		
(k)	1.	KHT/BAT engage targets with "strong" side
(k)	2.	KHT/BAT engage targets with "weak" side

Performance Step: 10. Unload weapon and show clear.

Knowledge /Skills:		
(l)	1.	KHT/BAT place weapon into Condition 4
(l)	2.	KHT/BAT show weapon is clear of rounds

Performance Step: 11. Maintain the shotgun.

Knowledge /Skills:		
(del)	1.	KHT/BAT safely handle the shotgun
(d)	2.	HKO weapon safeties
(del)	3.	KHT/BAT place the shotgun into Condition 4
(d)	4.	KHT/BAT disassemble the shotgun
(b)	5.	KHT/BAT identify components of the shotgun
(e)	6.	BAT identify cleaning materials
(e)	7.	KHT/BAT clean the shotgun
(e,f)	8.	KHT/BAT identify unserviceable components
(f)	9.	KHT/BAT assemble the shotgun
(g)	10.	KHT/BAT perform a function check on the shotgun
(g)	11.	KHT/BAT unload and show clear

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2014

TASK BEHAVIOR: Perform select shot drills with the shotgun

DATE OF LEARNING ANALYSIS: 20130715

Performance Step: 1. Clear the shotgun.

Knowledge /Skills:		
(del)	1.	KHT/BAT dry cycle the weapon
(del)	2.	KHT/BAT physically inspect the breach of the weapon

Performance Step: 2. Assume the Ready Carry.

Knowledge /Skills:		
(del)	1.	KHT/BAT employ tactical weapon carries

Performance Step: 3. Fill the magazine tube with three rounds.

Knowledge /Skills:		
(a)	1.	KHT/BAT load the shotgun with limited rounds
(b)	2.	KHT/BAT load the shotgun magazine fully with rounds

Performance Step: 4. Place the weapon in Condition 1.

Knowledge /Skills:		
(a)	1.	KHT/BAT cycle the weapon with limited rounds in the magazine
(b)	2.	KHT/BAT cycle the weapon with magazine fully loaded
(a)	3.	KHT/BAT place a weapon that has limited rounds into Condition 1
(b)	4.	KHT/BAT place a fully loaded weapon into Condition 1

Performance Step: 5. Engage paper targets while conducting magazine tube not fully filled procedures.

Knowledge /Skills:		
(a,b)	1.	KHT/BAT place safety selector switch to "fire"
(a,b)	2.	KHT/BAT sight-in the weapon to the target
(a)	3.	KHT/BAT engage targets with a weapon not fully loaded
(a)	4.	KHT/BAT cycle the weapon with limited rounds inserted

Performance Step: 6. Place the weapon in Condition 4.

Knowledge /Skills:		
(a)	1.	KHT/BAT clear a weapon not fully loaded
(a,b)	2.	KHT/BAT place the weapon into Condition 4

Performance Step: 7. Fill the magazine tube completely.

Knowledge /Skills:		
(a,b)	1.	KHT/BAT put weapon selector on "safe"
(b)	2.	KHT/BAT insert rounds into weapon to ensure fully loaded

Performance Step: 8. Place the weapon in Condition 1.

Knowledge /Skills:		
(del)	1.	DELETE: Covered in Performance Step #4

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 9. Fill the magazine tube with one final round.

Knowledge /Skills: (b) 1. KHT/BAT insert additional round(s) into magazine of weapon while in Condition 1

Performance Step: 10. Engage paper targets while conducting magazine tube fully filled procedures.

Knowledge /Skills: (b) 1. KHT/BAT engage targets with a fully loaded weapon

Performance Step: 11. Place the weapon in Condition 4.

Knowledge /Skills: (del) 1. DELETE: Covered in Performance Step #6

Performance Step: 12. Maintain the shotgun.

Knowledge /Skills: (del) 1. DELETE: Covered in 1371-MOBL-2013 event

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2016

TASK BEHAVIOR: Conduct ballistic breach

DATE OF LEARNING ANALYSIS: 20130326

Performance Step:	1.	Select the appropriate ammunition.		
Knowledge /Skills:	(del)	1.	KHT/BAT select appropriate rounds for breaching method	
Performance Step:	2.	Fill the magazine tube with suitable ammunition.		
Knowledge /Skills:	(del)	1.	KHT/BAT load magazine tube of weapon	
Performance Step:	3.	Place the weapon in Condition One.		
Knowledge /Skills:	(del)	1.	KHT/BAT place weapon into Condition 1	
Performance Step:	4.	Select attack point(s) on the target.		
Knowledge /Skills:	(del)	1.	KHT/BAT select proper round for breach	
	(a)	2.	HKO breaching SOP	
	(a)	3.	KHT/BAT determine standoff for breach	
	(a)	4.	KHT/BAT visually inspect breach points	
	(del)	5.	HKO component construction to be breached	
	(c)	6.	KHT/BAT locate hinges of a door to be breached	
	(b)	7.	KHT/BAT locate locksets of a door to be breached	
Performance Step:	5.	Position the muzzle.		
Knowledge /Skills:	(b)	1.	KHT/BAT position the muzzle properly	
	(d)	2.	KHT/BAT determine proper standoff from target points	
	(del)	3.	HKO possible enemy location inside	
Performance Step:	6.	Fire the shotgun.		
Knowledge /Skills:	(d)	1.	KHT/BAT engage hinges in "weak" side position	
	(c)	2.	KHT/BAT engage hinges in "strong" side position	
	(b)	3.	KHT/BAT engage locksets in "weak" side position	
	(a)	4.	KHT/BAT engage locksets in "strong" side position	
Performance Step:	7.	Perform immediate action as required.		
Knowledge /Skills:	(d)	1.	KHT/BAT perform immediate action in "weak" side position when engaging hinges	

(c) 2. KHT/BAT perform immediate action in "strong" side position when engaging hinges

(b) 3. KHT/BAT perform immediate action in "weak" side position when engaging locksets

(a) 4. KHT/BAT perform immediate action in "strong" side position when engaging locksets

Performance Step: 8. Perform remedial action as required.

Knowledge /Skills: (a,b,c,d) 1. KHT/BAT conduct remedial actions for weapons malfunction

Performance Step: 9. Follow up with mechanical breaching as required.

Knowledge /Skills: (del) 1. DELETE: Taught during mechanical breaching

Performance Step: 10. Reload and prepare for follow-on actions.

Knowledge /Skills: (b,d) 1. KHT/BAT reload weapon from "weak" side position

(a,c) 2. KHT/BAT reload weapon from "strong" side position

Performance Step: 11. Maintain the shotgun.

Knowledge /Skills: (del) 1. DELETE: Taught in 1371-MOBL-2013 event

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2018

TASK BEHAVIOR: Lead a dismounted route sweep

DATE OF LEARNING ANALYSIS: 20120716

Performance Step:	1.	Analyze mission.	
Knowledge /Skills:	(a)	1.	KHT/BAT identify key terrain
	(a)	2.	HKO enemy threat doctrine
	(a)	3.	HKO threat SOP
Performance Step:	2.	Task organize personnel and equipment.	
Knowledge /Skills:	(b)	1.	KHT/BAT determine different types of sweep teams
	(b)	2.	KHT/BAT organize appropriate teams depending on mission requirements
	(c)	3.	KHT/BAT identify specific equipment required for each team
	(c)	4.	HKO specific detection equipment
Performance Step:	3.	Issue the order.	
Knowledge /Skills:	(del)	1.	BAT orally give mission order
	(d)	2.	KHT/BAT issue a warning order
Performance Step:	4.	Conduct rehearsals.	
Knowledge /Skills:	(d)	1.	KHT/BAT use sweep team techniques
	(a)	2.	KHT/BAT identify international warning signs
	(a)	3.	KHT/BAT correlate movement of indigenous people with possible location of explosive hazards
	(a)	4.	KHT/BAT identify explosive hazard dunnage
	(a)	5.	KHT/BAT identify disturbed earth
	(a)	6.	KHT/BAT identify misplaced objects
	(a)	7.	KHT/BAT identify anomalies in the environment
	(a)	8.	HKO markers and indicators
Performance Step:	5.	Ensure all mines/obstacles are detected, marked, and reduced (as required).	
Knowledge /Skills:	(d)	1.	KHT/BAT use explosive hazard detectors
	(d)	2.	KHT/BAT use mine probers
	(d)	3.	KHT/BAT use the minefield marking kit
	(del)	4.	KHT/BAT use military demolitions as required

(d) 5. KHT/BAT reduce explosive hazard as required

Performance Step: 6. Submit required reports.

Knowledge /Skills:
(del) 1. KHT/BAT transmit engineer sitreps
(d) 2. KHT/BAT transmit an EOD 9-Line
(d) 3. KHT/BAT transmit engineer reports
(d) 4. KHT/BAT transmit explosive hazard reports

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2019

TASK BEHAVIOR: Perform manual breaching

DATE OF LEARNING ANALYSIS: 20130107

Performance Step: 1. Conduct target analysis.

Knowledge /Skills:	(a)	1.	KHT analyze the target to breach
	(a)	2.	BAT analyze the target to breach

Performance Step: 2. Select appropriate tool.

Knowledge /Skills:	(a)	1.	HKO tools organic to the assault breacher kit
	(a)	2.	BAT select proper tool to follow-on a partial breach

Performance Step: 3. Employ the tool.

Knowledge /Skills:	(a)	1.	KHT employ the hooligan breaching tool
	(b)	2.	BAT employ the hooligan breaching tool
	(b)	3.	KHT employ tools to effectively breach a partially breached target
	(b)	4.	BAT employ tools to effectively breach a partially breached target
	(a)	5.	KHT employ a sledge hammer
	(b)	6.	BAT employ a sledge hammer
	(a)	7.	KHT employ a battering ram
	(b)	8.	BAT employ a battering ram
	(a)	9.	KHT employ a wrecking bar
	(b)	10.	BAT employ a wrecking bar

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2021

TASK BEHAVIOR: Lead Route and Area Clearance Operations

DATE OF LEARNING ANALYSIS: 20130319

Performance Step: 1. Analyze mission.

Knowledge /Skills:			
	(del)	1.	HKO threat doctrine
	(c)	2.	HKO threat SOP
	(h)	3.	KHT/BAT identify key terrain
	(h)	4.	HKO known obstacle location from imperical data
	(c)	5.	KHT/BAT define the tenets of IED-D

Performance Step: 2. Task organize personnel and equipment.

Knowledge /Skills:			
	(f)	1.	KHT/BAT determine different types of clearance teams
	(h)	2.	HKO obstacles in route or area
	(f)	3.	KHT/BAT organize appropriate teams depending on mission requirements
	(g)	4.	KHT/BAT determine specific equipment needed per mission requirements
	(g)	5.	KHT/BAT identify the characteristics of detection equipment
	(g)	6.	KHT/BAT identify the capabilities of detection equipment
	(g)	7.	KHT/BAT identify the capabilities of interrogation equipment
	(g)	8.	KHT/BAT identify the capabilities of remote equipment (robots)
	(d)	9.	BAT identify the capabilities of MRAP CAT III (Buffalo)
	(e)	10.	BAT identify the capabilities of the Vehicle Mounted Mine Detector (VMMD)
	(b)	11.	KHT/BAT utilize hand held mine detectors (HSTAMIDS)

Performance Step: 3. Issue the order.

Knowledge /Skills:			
	(a)	1.	KHT/BAT complete a warning order
	(i)	2.	BAT issue a warning order
	(f)	3.	KHT/BAT task organize security element
	(f)	4.	KHT/BAT task organize detection element
	(f)	5.	KHT/BAT task organize interrogation element
	(i)	6.	KHT/BAT issue mission orders

Performance Step: 4. Conduct rehearsals.

Knowledge /Skills:			
	(c)	1.	KHT/BAT perform the 5 Cs

(h)	2.	KHT/BAT perform 5-25-200 mehtod of visual detection
(del)	3.	BAT draw required Class(s) of materiel for operation
(i)	4.	BAT operate as a route clearance team
(i)	5.	BAT perform operation checks on equipment
(b)	6.	KHT/BAT identify team responsibilities
(c)	7.	KHT/BAT identify the phases of route clearing

Performance Step: 5. Ensure all obstacles are detected, identified, and marked.

Knowledge /Skills:		
(h)	1.	KHT/BAT visually detect primary/secondary markers
(i)	2.	KHT/BAT identify explosive hazards
(i)	3.	KHT/BAT mark obstacles
(d)	4.	KHT/BAT interrogate obstacles using engineer equipment
(e)	5.	KHT/BAT detect explosive hazards with VMMD
(h)	6.	KHT/BAT idenitfy typical locations of HME

Performance Step: 6. Reduce or by-pass obstacle per commander's intent.

Knowledge /Skills:		
(c)	1.	HKO commander's decision matrix
(i)	2.	KHT/BAT use demolitions
(i)	3.	KHT/BAT place a charge properly
(c)	4.	KHT/BAT identify explosive hazard
(c)	5.	HKO bypasses in area
(a)	6.	KHT/BAT comply with the phases of route/area clearing
(i)	7.	KHT/BAT collect remnants of destroyed hazards if required
(c)	8.	KHT/BAT cordon off area for EOD support

Performance Step: 7. Submit required reports.

Knowledge /Skills:		
(b)	1.	KHT/BAT submit engineer sitreps
(i)	2.	KHT/BAT submit EOD 9-Line report
(i)	3.	KHT/BAT submit explosive hazard reports
(del)	4.	KHT/BAT submit expenditure reports

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2022

TASK BEHAVIOR: Identify Explosive Hazards (EH)

DATE OF LEARNING ANALYSIS: 20120620

Performance Step: 1. Visually identify explosive hazard markers and indicators.

Knowledge /Skills:	(a)	1.	Know terms related to IEDs
	(a)	2.	Know terms related to projected munitions
	(a)	3.	Know terms related to dropped munitions
	(a)	4.	Know terms related to placed munitions
	(a)	5.	Know terms relates to boobytraps
	(a)	6.	Know terms related to thrown munitions
	(a)	7.	Know NATO/International marking symbols
	(b)	8.	KHT/BAT recognize primary and secondary markers for enemy EH
	(b)	9.	KHT/BAT identify possible locations of EH
	(b)	10.	BAT identify out of place objects
	(b)	11.	BAT identify disturbed earth
	(b)	12.	KHT/BAT identify changes in civilian behavior
	(b)	13.	KHT/BAT recognize out of place vegetation
	(b)	14.	KHT/BAT recognize out of place non-organic debris
	(b)	15.	BAT identify potential aiming points
	(b)	16.	KHT/BAT identify suspicious vehicles
	(b)	17.	KHT/BAT look for ammunition packing material
	(b)	18.	KHT/BAT look for animal carcasses
	(b)	19.	KHT/BAT look for surface laid EH
	(b)	20.	HKO known EH areas
	(b)	21.	KHT/BAT look for vehicle path indicators
	(b)	22.	KHT/BAT look for displaced civilian traffic patterns
	(b)	24.	BAT locate abandon tools and equipment
	(b)	25.	KHT/BAT identify precursors of explosive hazards (IED, HME, manufactured munitions)

Performance Step: 2. Identify components of Improvised Explosive Devices (IEDs).

Knowledge /Skills:	(a)	1.	KHT/BAT define IEDs
	(c)	2.	KHT/BAT recognize command detonated initiating systems

(c)	3.	KHT/BAT recognize timed detonating systems
(c)	4.	KHT/BAT recognize victim activated initiating systems
(c)	5.	KHT/BAT recognize casing of suspected IED
(c)	6.	KHT/BAT identify types of main charges
(i)	7.	BAT define HME
(i)	8.	KHT/BAT determine biological/chemical components of IED
(i)	9.	KHT/BAT identify HME
(c)	10.	KHT/BAT identify power source
(del)	11.	KHT/BAT utilize chemical detection devices/equipment

Performance Step: 3. Identify booby traps.

Knowledge /Skills:

(d)	1.	KHT/BAT recognize explosive boobytraps
(d)	2.	KHT/BAT recognize non-explosive boobtraps
(d)	3.	KHT/BAT identify key components of a boobytrap
(a)	4.	BAT define boobytraps
(d)	5.	KHT/BAT identify initiating system of a boobytrap
(d)	6.	BAT recognize trip wire/pull initiating systems
(d)	7.	BAT recognize a pressure activated initiating system
(d)	8.	BAT identify pressure release initiating system
(d)	9.	BAT identify tension release initiating system
(d)	10.	KHT/BAT recognize biological/chemical boobytraps

Performance Step: 4. Identify thrown munitions.

Knowledge /Skills:

(a)	1.	BAT define thrown munitions
(e)	2.	KHT/BAT identify safeties of thrown munitions
(e)	3.	KHT/BAT identify striker-release fuzing of thrown munitions
(e)	4.	KHT/BAT identify pull-friction fuzing of thrown munitions
(e)	5.	KHT/BAT identify a HEAT thrown munitions
(e)	6.	KHT/BAT identify a fragmentary thrown munitions
(e)	7.	KHT/BAT identify incendiary thrown munitions
(e)	8.	KHT/BAT identify smoke grenades
(e)	9.	KHT/BAT identify riot control grenades
(e)	10.	KHT/BAT identify blast thrown munitions

Performance Step: 5. Identify projected munitions.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(a)	1.	BAT define projected munitions
	(f)	2.	KHT/BAT identify markings of projected munitions
	(f)	3.	KHT/BAT identify main charges of projected munitions
	(f)	4.	KHT/BAT identify safeties of projected munitions
	(f)	5.	BAT identify the characteristics rocket assisted projected munitions
	(f)	6.	KHT/BAT identify rocket projected munitions
	(f)	7.	KHT/BAT identify characteristics of a mortar projected munitions
	(f)	8.	KHT/BAT identify characteristics of ejection munitions
	(f)	9.	KHT/BAT identify the characteristics of bursting smoke projected munitions
	(f)	10.	KHT/BAT identify the characteristics of chemical projected munitions
	(f)	11.	KHT/BAT identify projected projectile munitions
	(f)	12.	KHT/BAT identify rifle grenades

Performance Step: 6. Identify dropped munitions.

Knowledge /Skills:	(a)	1.	BAT define dropped munitions
	(g)	2.	KHT/BAT identify markings of dropped munitions
	(g)	3.	KHT/BAT identify safeties for dropped munitions
	(g)	4.	KHT/BAT identify the characteristics of dropped munitions
	(g)	5.	KHT/BAT identify the fuzing of dropped munitions
	(g)	6.	KHT/BAT identify the initiation system for dropped munitions placed as an IED
	(g)	7.	KHT/BAT identify general purpose bombs
	(g)	8.	KHT/BAT identify general purpose low drag (GPLD) bombs
	(g)	9.	KHT/BAT identify guided dropped munitions
	(g)	10.	KHT/BAT identify dispensed (sub munitions) dropped munitions

Performance Step: 7. Identify placed munitions.

Knowledge /Skills:	(a)	1.	BAT define placed munitions
	(h)	2.	KHT/BAT identify markings of placed munitions
	(h)	3.	KHT/BAT identify characteristics of placed munitions
	(h)	4.	KHT/BAT identify the fuzing of placed munitions
	(h)	5.	KHT/BAT identify the safeties of placed munitions
	(h)	6.	KHT/BAT identify typical locations of placed munitions
	(h)	7.	KHT/BAT identify the characteristics of AP mines

(h)	8 .	KHT/BAT identify the characteristics of AT mines
(b)	9 .	KHT/BAT identify markings of HME
(i)	10 .	KHT/BAT identify charcateristics of HME
(i)	11 .	KHT/BAT identify fuzing of HME
(i)	12 .	KHT/BAT identify safeties of HME

Performance Step: 8 . Record and report results.

Knowledge /Skills:	(del)	1 .	BAT report Explosive Spot reports
	(del)	2 .	BAT report appropriate EOD 9-Line
	(del)	3 .	BAT record/report UXO reports

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2023

TASK BEHAVIOR: Reduce Explosive Hazards (EH)

DATE OF LEARNING ANALYSIS: 20120523

Performance Step: 1. Evaluate go/no go criteria per the explosive hazard decision matrix.

Knowledge /Skills:	(a)	1.	KHT/BAT define the EH Decision Matrix
	(b)	2.	HKO commander's intent
	(c)	3.	KHT execute the 5 Cs
	(b)	4.	HKO mission parameters
	(b)	5.	BAT identify the explosive hazard
	(b)	6.	KHT/BAT determine what support is available
	(b)	7.	KHT/BAT determine bypass feasibility
	(b)	8.	KHT/BAT determine Op-tempo vs forensic requirements
	(b)	9.	KHT/BAT determine if you can safely reduce hazard
	(e)	10.	KHT/BAT positively identify the explosive hazard

Performance Step: 2. Employ protective measures.

Knowledge /Skills:	(d)	1.	KHT/BAT identify requirements needed for protective measures
	(d)	2.	KHT/BAT identify what is needed to protect nearby structures
	(f)	3.	KHT prevent earth shock effects from EH reduction
	(f)	4.	KHT prepare site with sand bags
	(f)	5.	KHT prepare site with entrenching techniques
	(f)	6.	KHT prepare site with buttressing techniques
	(f)	7.	KHT construct blast walls
	(d)	8.	KHT/BAT identify additional protection needed for personnel
	(d)	9.	KHT/BAT identify structure/facility protection requirements
	(g)	10.	KHT/BAT identify any accelerant that could be effected by EH reduction
	(g)	11.	BAT determine the NEW
	(g)	12.	BAT determine safety distance based on blast and frag (K Factor)

Performance Step: 3. Build a charge.

Knowledge /Skills:	(g)	1.	KHT/BAT calculate the NEW for disposal of EH
	(g)	2.	BAT determine required tools and equipment
	(g)	3.	BAT determine amount of Class V for single item destruction

(g)	4.	BAT determine amount of Class V for multi-item destruction
(g)	5.	BAT define the main components of the charge
(g)	6.	BAT define the different types of initiating systems
(g)	7.	BAT determine initiating system
(h)	8.	BAT check non-electrical firing systems
(h)	9.	BAT check remote power source
(h)	10.	BAT check continuity of electrical firing systems if applicable (galvanometer, wire, and caps)
(i)	11.	KHT/BAT calculate time fuze if applicable
(i)	12.	BAT build the charge
(i)	13.	BAT crimp blasting caps
(i)	14.	BAT prime the charge systems
(i)	15.	KHT build charge transport system
(i)	16.	BAT prepare charge for transport

Performance Step: 4. Remotely place the charge.

Knowledge /Skills:		
(del)	1.	KHT/BAT determine best avenue of approach
(i)	2.	BAT determine how to carry the charge
(j)	3.	KHT/BAT place charge to counter main charge of EH (IED, HME, manufactured munitions)
(j)	4.	KHT/BAT place charge to counter rocket motor
(j)	5.	BAT initiate non-electric charge if applicable
(j)	6.	BAT manipulate robotic arm for charge placement
(j)	7.	KHT/BAT remotely verify charge placement
(del)	8.	KHT/BAT determine avenue of egress
(del)	9.	BAT return robotic equipment to safe area

Performance Step: 5. Detonate the charge.

Knowledge /Skills:		
(k)	1.	BAT verify all personnel and equipment are outside blast and fragmentation radius
(k)	2.	KHT/BAT notify HAS units of intent to initiate shot
(k)	3.	KHT/BAT attach firing system if applicable
(h)	4.	BAT check firing system (continuity)
(l)	5.	BAT detonate charge
(o)	6.	KHT/BAT conduct immediate action for misfire

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 6. Report results.

Knowledge /Skills:	(n)	1.	BAT define engineer post-blast analysis
	(n)	2.	KHT/BAT check shot
	(n)	3.	KHT look for kick-out and other explosive debris
	(o)	4.	KHT/BAT retrieve remnants and components of destroyed munitions for follow-on disposal as required
	(o)	5.	KHT/BAT retrieve remnants and components for turnover or final disposition to proper authorities as required
	(p)	6.	BAT report explosive Spot reports
	(p)	7.	BAT report appropriate EOD 9-Line
	(p)	8.	BAT record/report UXO reports
	(p)	9.	KHT/BAT complete expenditure report

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2035

TASK BEHAVIOR: Operate a robot

DATE OF LEARNING ANALYSIS: 20130621

Performance Step: 1. Identify hazard(s).

Knowledge /Skills:	(e)	1.	KHT/BAT determine best avenue of approach/egress for robot
	(e)	2.	KHT determine primary/alternate operating positions
	(c)	3.	BAT visually identify ditches
	(c)	4.	KHT/BAT visually identify adverse slopes
	(c)	5.	BAT identify any protruding objects for minimum ground clearance
	(c)	6.	KHT/BAT identify communication dead areas
	(c)	7.	KHT/BAT identify potential signal interference
	(c)	8.	BAT identify potential water hazards
	(c)	9.	BAT identify potential hazards for robot
	(c)	10.	KHT/BAT identify restrictive/constrictive terrain
	(c)	11.	BAT identify man-made structure(s)

Performance Step: 2. Prepare robot for operation.

Knowledge /Skills:	(b)	1.	KHT/BAT remove robot from transport vehicle
	(b)	2.	KHT/BAT inspect robot components for serviceability
	(b)	3.	BAT identify batteries for robot and OCU
	(b)	4.	KHT/BAT inspect battery charge for operation
	(b)	5.	KHT/BAT install battieries
	(b)	6.	KHT/BAT install antennas on OCU if required
	(b)	7.	KHT/BAT turn on OCU
	(b)	8.	KHT ensure connectivity between OCU and robot
	(b)	9.	KHT/BAT function check the robot
	(b)	10.	BAT perform pre-operations checks
	(b)	11.	KHT check speaker/microphone if applicable
	(b)	12.	KHT check on-board lighting
	(b)	13.	KHT/BAT check the camera for operation (zoom/pan)
	(b)	14.	KHT/BAT check tracks for mobility
	(b)	15.	KHT/BAT check gripper functions

	(b)	16.	KHT/BAT check firing device(s) if applicable
	(b)	17.	KHT/BAT check fiber optic wire if applicable
	(a)	18.	KHT/BAT determine which type of robot to use if required
	(a)	19.	KHT/BAT accont for all components and SL-3 equipment

Performance Step: 3. Operate the robot

Knowledge /Skills:	(a)	1.	BAT identify operational capabilities
	(g)	2.	KHT/BAT perform Pre-Set functions
	(c)	3.	KHT/BAT manipulate track controls
	(d)	4.	KHT/BAT manipulate arm controls
	(d)	5.	BAT operate the gripper
	(d)	6.	BAT manipulate camera controls
	(d)	7.	BAT operate speaker/microphone if applicable
	(c)	8.	BAT operate robot in forward/reverse
	(c)	9.	BAT perform a left/right turn
	(d)	10.	BAT operate robot in urban terrain conditions
	(c)	11.	BAT operate robot in different speed modes
	(d)	12.	KHT/BAT operate robot in adverse weather conditions
	(d)	13.	BAT operate robot in limited visibility conditions using on-board lighting
	(d)	14.	BAT operate remotely by cameras
	(e)	15.	KHT/BAT perform immediate action for loss of operation
	(d)	16.	BAT operate robot in heavy vegetation
	(d)	17.	BAT operate robot to navigate up and down stairs
	(d)	18.	KHT/BAT operate robot in confined space
	(d)	19.	KHT/BAT operate robot while transporting objects
	(c)	20.	KHT/BAT grip objects with robot
	(f)	21.	KHT/BAT place objects with the gripper
	(e)	22.	KHT apply operator remedial actions
	(d)	23.	KHT/BAT displace objects with robot
	(d)	24.	KHT operate robotic attachments

Performance Step: 4. Conduct robotic reconnaissance.

Knowledge /Skills:	(a)	1.	KHT/BAT setup robot for reconnaissance operations
	(c)	2.	BAT identify potential explosive hazards
	(d)	3.	KHT/BAT interrogate objects

(f)	4.	KHT/BAT recon culverts for suspected objects
(f)	5.	KHT/BAT recon urban structures for suspected objects
(f)	6.	KHT/BAT recon vehicles for suspected objects
(f)	7.	KHT recon subterranean structures
(d)	8.	KHT/BAT investigate using camera systems
(f)	9.	BAT manipulate attachments for interrogation

Performance Step: 5. Retrieve the robot.

Knowledge /Skills:

(g)	1.	BAT verify location of any towed wiring/cable systems
(e)	2.	KHT/BAT perform actions to up-right robot
(e)	3.	KHT/BAT perform immediate actions for loss of operation
(g)	4.	BAT return robot to safe area/OCU
(g)	5.	KHT/BAT recover robot remotely
(g)	6.	BAT recover robot manually

Performance Step: 6. Conduct post-op PMCS.

Knowledge /Skills:

(h)	1.	BAT remove all dirt and debris from robot
(b)	2.	KHT/BAT inspect robot for component damage
(b)	3.	KHT/BAT inspect cable/wire harness for damage and frays
(b)	4.	KHT/BAT inspect component connectors for damage
(del)	5.	KHT/BAT inspect antennas for damage
(h)	6.	BAT check cameras for cracks
(h)	7.	BAT check tracks for cuts and damage
(h)	8.	BAT inspect drive sprockets for obstruction or damage
(h)	9.	KHT/BAT report damage to organizational maintenance
(b)	10.	KHT/BAT prepare robot for storage
(del)	11.	KHT/BAT remove batteries
(b)	12.	KHT/BAT recharge batteries
(h)	13.	KHT/BAT prepare operational forms and reports if applicable
(h)	14.	KHT/BAT record data on appropriate forms

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-RECN-2001

TASK BEHAVIOR: Conduct engineer reconnaissance

DATE OF LEARNING ANALYSIS: 20120216

Performance Step: 1. Analyze mission.

Knowledge /Skills:		
	(del)	1. KHT identify key terrain
	(a)	2. KHT identify the effects of terrain on mobility
	(del)	3. KHT identify threat capabilities
	(del)	4. HKO threat tactics
	(a)	5. HKO mobility requirements
	(del)	6. HKO firendly area of operations and influence
	(a)	7. KHT/BAT obtain latest satelitte imagery
	(a)	8. BAT obtain latest intelligence report(s)

Performance Step: 2. Review the map of the route to be taken.

Knowledge /Skills:		
	(del)	1. KHT/BAT orient a map
	(b)	2. KHT/BAT identify mobility restrictions
	(a)	3. KHT/BAT identify key terrain features
	(b)	4. KHT determine slope areas
	(a)	5. KHT/BAT identify map symbols
	(a)	6. KHT/BAT identify key structures on route
	(a)	7. KHT/BAT plot primary routes
	(a)	8. KHT/BAT plot alternate routes

Performance Step: 3. Proceed to assigned objective.

Knowledge /Skills:		
	(del)	1. KHT conduct patrolling
	(del)	2. KHT/BAT task organize personnel
	(del)	3. KHT/BAT task organize equipment
	(a-i)	4. BAT conduct land navigation
	(a-i)	5. KHT/BAT avoid enemy in route to objective

Performance Step: 4. Calculate route width (minimum and maximum).

Knowledge /Skills:		
	(a)	1. HKO entire route
	(b)	2. KHT/BAT determine width restrictions on route

	(b)	3.	KHT/BAT conduct road width measurements
	(a)	4.	KHT/BAT determine MLC based on width of route
	(b)	5.	KHT/BAT determine road width chart symbols

Performance Step: 5. Determine shoulder condition (if any).

Knowledge /Skills:	(a)	1.	KHT/BAT identify shoulder conditions
	(b)	2.	KHT/BAT determine drainage conditions
	(b)	3.	KHT/BAT determine possible landslides
	(b)	4.	KHT/BAT determine possible sinkholes
	(a)	5.	HKO erosion on routes
	(b)	6.	KHT/BAT determine soil type

Performance Step: 6. Determine surface material.

Knowledge /Skills:	(b)	1.	KHT/BAT determine type of road surface
	(a-i)	2.	KHT/BAT read GTA 5-2-5
	(b)	3.	KHT/BAT determine surface classifcation symbols

Performance Step: 7. Plot length of passable route.

Knowledge /Skills:	(a)	1.	KHT/BAT plot routes
	(b)	2.	KHT/BAT determine route measurements
	(b)	3.	BAT determine route mileage

Performance Step: 8. List obstacles.

Knowledge /Skills:	(b)	1.	KHT/BAT determine drainage problems
	(a,b)	2.	KHT/BAT determine width restriction
	(b)	3.	KHT/BAT determine radius of curve
	(b,f,g,i)	4.	KHT/BAT determine height restrictions
	(a,b,f,g,i)	5.	KHT/BAT determine slope restrictions
	(a,b,f,g,i)	6.	KHT/BAT identify mobility restrictions
	(a)	7.	KHT/BAT identify route obstructions

Performance Step: 9. Indicate special weather conditions which may affect the route.

Knowledge /Skills:	(a,b)	1.	KHT/BAT identify special weather considerations pertaining to route
	(a,b)	2.	KHT/BAT use correct symbols when identifying weather conditions effect on routes

Performance Step: 10. Identify constrictions.

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:	(a,b)	1.	KHT/BAT identify choke points by map reconnaissance
	(a,b,g,i)	2.	KHT/BAT identify width constrictions hendering mobility
	(j)	3.	KHT/BAT plot constrictions on overlay

Performance Step: 11. Determine overhead clearance.

Knowledge /Skills:	(b,f,i)	1.	KHT/BAT identify height constrictions
	(b,f,i)	2.	KHT/BAT measure for overhead clearance
	(b,f,h,i)	3.	HKO military vehicle deminsions when fully loaded

Performance Step: 12. Classify road(s).

Knowledge /Skills:	(b)	1.	KHT/BAT classify a road
	(b,j)	2.	KHT/BAT annotate proper road classification formula
	(b,j)	3.	KHT/BAT annotate road conditions/obstructions on forms/overlays
	(b)	4.	KHT/BAT determine an MLC for a road

Performance Step: 13. Record cover and concealment.

Knowledge /Skills:	(a,j)	1.	BAT determine route is covered or concealed from enemy observation/fire

Performance Step: 14. Identify underpasses.

Knowledge /Skills:	(a)	1.	KHT/BAT identify map features
	(a,f)	2.	KHT/BAT identify road underpasses on a map
	(f)	3.	KHT/BAT determine if underpasses are an obstruction

Performance Step: 15. Calculate tunnel specifications.

Knowledge /Skills:	(f)	1.	KHT/BAT obtain critical measurements for a tunnel/underpass
	(f)	2.	KHT/BAT determine conditions of a tunnel/underpass
	(f)	3.	KHT/BAT calculate tunnel specifications
	(f,j)	4.	KHT/BAT annotate data/proper military symbol for tunnel
	(f)	5.	BAT identify types of portal/bore construction
	(f)	6.	KHT/BAT determine bore ventilation
	(f)	7.	BAT determine walkways in the bore

Performance Step: 16. Classify bridge(s) (if any).

Knowledge /Skills:	(g)	1.	KHT/BAT reconnoiter a bridge
	(g)	2.	KHT/BAT obtain critical information of a bridge
	(g)	3.	KHT/BAT inspect bridge avenues of approach
	(g)	4.	KHT/BAT inspect bridge components for defects

(g,h)	5.	KHT/BAT calculate critical bridge data
(c,g,h)	6.	KHT/BAT reconnoiter gap/river/stream
(c,g,h,i)	7.	KHT/BAT evaluate turnouts
(h)	8.	KHT/BAT determine bridge MLC
(c,g,h)	9.	KHT/BAT determine water current speed
(c,g,h)	10.	KHT/BAT determine river bottom conditions
(a-i)	11.	KHT draw schematics
(h)	12.	KHT/BAT classify each span if applicable

Performance Step: 17. Determine wet gap fording/bridging/ferrying sites.

Knowledge /Skills:	(b,c,d,e,g,i)	1.	KHT/BAT evaluate approaches
	(b,c,d,e,g)	2.	KHT/BAT evaluate turnouts
	(b,c,d,e,g)	3.	KHT/BAT reconnoiter river/stream
	(b,c,d,e,g)	4.	KHT/BAT determine current speeds
	(b,c,d,e,g)	5.	KHT/BAT determine gap width using offset method
	(b,c,d,e,g)	6.	KHT/BAT determine gap width using electronic equipment (surveying/laser range finder)
	(b,c,d,e,g)	7.	KHT/BAT determine approach slopes
	(b,c,d,e,g)	8.	KHT/BAT evaluate near and far bank conditions
	(d)	9.	KHT/BAT evaluate a fording site
	(g)	10.	KHT/BAT evaluate a bridging site
	(e)	11.	KHT/BAT evaluate a ferrying site
	(h)	12.	KHT/BAT determine gross vehicle weights
	(h)	13.	KHT/BAT determine vehicle MLC

Performance Step: 18. Identify suitable bypasses.

Knowledge /Skills:	(a,c,d,e,f,g,i)	1.	KHT/BAT identify possible bypasses
	(a,c,d,e,f,g,i,j)	2.	KHT/BAT annotate bypass symbols

Performance Step: 19. Classify the route.

Knowledge /Skills:	(a-i)	1.	KHT/BAT compile all data on route
	(a-i)	2.	KHT/BAT list all pertinent information on appropriate forms
	(a)	3.	KHT/BAT determine route classification
	(j)	4.	KHT/BAT correctly annotate route classification formula

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COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 20. Submit reconnaissance report(s) and overlays.

Knowledge /Skills:	(a-i)	1.	KHT/BAT complete form DA 1711-R (Engineer Reconnaissance Report)
	(b)	2.	KHT/BAT complete form DA 1248 (Road Reconnaissance Report)
	(g)	3.	KHT/BAT complete form DA 1249 (Bridge Reconnaissance Report)
	(f)	4.	KHT/BAT complete form DA 1250 (Tunnel Reconnaissance Report)
	(d)	5.	KHT/BAT complete form DA 1251 (Ford Reconnaissance Report)
	(e)	6.	KHT/BAT complete form DA 1252 (Ferry reconnaissance Report)
	(c)	7.	KHT/BAT complete form DA 7398 (River Reconnaissance Report)
	(i)	8.	KHT/BAT complete additonal reports for urban infrastructure as required
	(j)	9.	KHT/BAT create a map overlay utilizing engineer reconnaissance reports
	(j)	10.	KHT/BAT create a map overlay with proper military/engineer reconnaissance symbols

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-RECN-2002

TASK BEHAVIOR: Conduct demolition reconnaissance

DATE OF LEARNING ANALYSIS: 20120116

Performance Step: 1. Analyze mission.

Knowledge /Skills:	(del)	1.	HKO commander's intent
	(del)	2.	KHT/BAT determine enemy locations
	(del)	3.	KHT/BAT determine enemy threat weapons
	(g)	4.	HKO target folders

Performance Step: 2. Conduct map reconnaissance.

Knowledge /Skills:	(a)	1.	KHT/BAT conduct map reconnaissance
	(a)	2.	KHT/BAT read map symbols
	(a)	3.	KHT/BAT depict man-made features
	(a)	4.	KHT/BAT depict key features
	(a)	5.	KHT/BAT determine route to objective(s)

Performance Step: 3. Proceed to assigned objective.

Knowledge /Skills:	(b)	1.	KHT conduct a reconnaissance patrol
	(b)	2.	BAT conduct a patrol to designated area
	(b)	3.	KHT read a map
	(b)	4.	BAT navigate to a designated area
	(a)	5.	KHT/BAT depict an alternate route to objective

Performance Step: 4. Estimate explosives and logistics required.

Knowledge /Skills:	(c)	1.	BAT identify the target
	(c)	2.	KHT/BAT measure critical dimensions of the target
	(c)	3.	KHT/BAT perform demolition calculations
	(c)	4.	KHT/BAT estimate logistical support requirements

Performance Step: 5. Estimate personnel and time required to complete mission.

Knowledge /Skills:	(del)	1.	HKO unit capabillities
	(d)	2.	KHT/BAT estimate personnel requirements
	(d)	3.	KHT/BAT estimate equipment needed
	(d)	4.	KHT/BAT calculate time required

(d) 5. BAT task organize personnel and equipment

Performance Step: 6. Identify bypass requirements.

Knowledge /Skills:
- (a) 1. BAT perform engineer reconnaissance
- (a) 2. KHT/BAT identify alternate routes by using the map
- (a) 3. KHT/BAT determine bypass requirements based on commander's intent

Performance Step: 7. Sketch side views of target and cross sections of members to be cut.

Knowledge /Skills:
- (e) 1. BAT determine critical members of the target
- (e) 2. KHT/BAT draw to scale
- (e) 3. BAT record sketches on DA 2203-R form

Performance Step: 8. Sketch a plan of the firing circuits and firing points.

Knowledge /Skills:
- (f) 1. HKO explosive firing systems
- (f) 2. KHT/BAT diagram explosive firing systems
- (f) 3. KHT/BAT depict optimal firing point(s)

Performance Step: 9. Submit appropriate form(s).

Knowledge /Skills:
- (g) 1. BAT complete a DA Form 2203-R
- (g) 2. HKO chain of comand for report submittal
- (g) 3. BAT submit completed report(s)
- (g) 4. HKO report classification prior to submittal (secret, confidential, unclassified)

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-SURV-2001

TASK BEHAVIOR: Design survivability positions

DATE OF LEARNING ANALYSIS: 20110816

Performance Step:	1.	Submit Requests for Information (RFI) to S/G-2.		
Knowledge /Skills:		(a)	1.	KHT/BAT conduct a METT-T analysis
		(a)	2.	KHT/BAT identify enemy weaponry that is a threat to your position
		(a)	3.	KHT/BAT identify additional intelligence required
		(a)	4.	KHT/BAT submit RFIs to appropriate staff sections
Performance Step:	2.	Determine types of positions required.		
Knowledge /Skills:		(a)	1.	KHT/BAT identify survivability position categories
		(a)	2.	KHT/BAT identify other field fortification structures needed
		(a)	3.	KHT/BAT identify survivability position advantages and disadvantages
		(a)	4.	KHT/BAT determine the difference between a protective and a fighting position
		(a)	5.	KHT/BAT identify the effects of threat weapons
Performance Step:	3.	Design positions.		
Knowledge /Skills:		(a)	1.	KHT/BAT identify the components of a survivability position
		(a)	2.	KHT/BAT determine the appropriate shielding material to counteract the effects of enemy fires
		(a)	3.	KHT/BAT design overhead cover to counteract the effects of enemy fires
		(c)	4.	KHT/BAT identify the purpose of an ECP
		(c)	5.	KHT/BAT identify the zones of an ECP
		(c)	6.	KHT/BAT layout/design an ECP to take advantage of existing terrain
		(c)	7.	KHT/BAT layout/design an ECP that will mitigate the effects of the enemy threat
		(del)	8.	HKO construction techniques
Performance Step:	4.	Determine material requirements.		
Knowledge /Skills:		(d)	1.	KHT/BAT identify material available
		(d)	2.	KHT/BAT determine suitability of material/appropriate material
		(a)	3.	KHT/BAT determine the amount of shielding material required
		(d)	4.	KHT/BAT determine Class IV material required for survivability positions

(b) 5. KHT/BAT utilize empirical data from tables and charts

Performance Step: 5. Calculate the time required for construction.

Knowledge /Skills:
- (d) 1. KHT/BAT utilize empirical data from tables and charts
- (del) 2. HKO construction techniques
- (del) 3. HKO tools and equipment

Performance Step: 6. Submit designs/work estimates.

Knowledge /Skills:
- (d) 1. KHT/BAT determine the scope of work required
- (b) 2. KHT/BAT identify personnel and equipment required
- (a) 3. KHT/BAT calculate for a stringer roof
- (a) 4. KHT/BAT graphically show desired survivability position
- (c) 5. KHT/BAT graphically show the layout of the designed ECP

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-VERT-2002

TASK BEHAVIOR: Layout wood frame structure

DATE OF LEARNING ANALYSIS: 20120417

Performance Step: 1. Lay out a rectangle.

Knowledge /Skills:	(del)	1.	KHT perform engineer reconnaissance
	(a)	2.	KHT/BAT read construction blueprints/drawings to determine building dimensions
	(del)	3.	KHT/BAT use lay out tools
	(b)	4.	KHT/BAT perform mathmatical calculations
	(b)	5.	KHT/BAT lay out from established line
	(b)	6.	KHT/BAT lay out from an existing monument
	(c)	7.	HKO survey equipment
	(c)	8.	KHT/BAT use survey equipment

Performance Step: 2. Set batter board posts.

Knowledge /Skills:	(del)	1.	KHT/BAT use cutting and driving tools
	(b)	2.	BAT state the purpose of the batter board system
	(b)	3.	KHT/BAT determine the location of batter boards
	(b)	4.	KHT/BAT construct batter boards
	(b)	5.	BAT drive batter board posts

Performance Step: 3. Drive corner stakes.

Knowledge /Skills:	(a)	1.	KHT/BAT read construction blueprints/drawings to determine building dimensions
	(del)	2.	KHT/BAT use cutting and driving tools
	(b)	3.	KHT/BAT place corner stake one
	(del)	4.	KHT/BAT use lay out tools
	(b)	5.	KHT/BAT place additional required corner stakes
	(b)	6.	KHT/BAT check for square

Performance Step: 4. Install batter boards to finished heights.

Knowledge /Skills:	(a)	1.	KHT/BAT read construction blueprints/drawings to determine building elevations
	(b)	2.	KHT/BAT determine elevation of batter board

(c)	3.	KHT/BAT use surveying laser level to determine elevation
(c)	4.	KHT/BAT read a ground rod (i.e. Philadelphia leveling rod)
(del)	5.	KHT/BAT use lay out tools
(del)	6.	KHT/BAT attach batter boards
(b)	7.	BAT verify batter board placement
(d)	8.	KHT/BAT determine floor height

Performance Step: 5. Run building lines.

Knowledge /Skills:		
(del)	1.	KHT/BAT locate building corner stakes
(del)	2.	KHT/BAT use lay out tools
(b)	3.	BAT run building lines above building corner stakes
(b)	4.	KHT/BAT check building line elevation
(b)	5.	KHT/BAT check building lines to ensure they are square
(b)	6.	BAT describe the use of building lines

Performance Step: 6. Square building lines.

Knowledge /Skills:		
(b)	1.	KHT/BAT perform mathmatical calculations
(del)	2.	KHT/BAT use lay out tools
(b)	3.	BAT square building lines using the 3-4-5 or 6-8-10 method
(b)	4.	BAT square building lines using the diagonal method
(c)	5.	HKO survey equipment

Performance Step: 7. Lay out wall components.

Knowledge /Skills:		
(a)	1.	KHT/BAT read construction blueprints/drawings to identify components
(a)	2.	KHT/BAT read construction blueprints/drawings to identify component placement
(del)	3.	KHT/BAT use layout tools
(d)	4.	KHT/BAT identify floor component location to support wall structures
(f)	5.	BAT determine the on center spacing for wall components (i.e. studs)
(g)	6.	BAT determine placement for rough openings (i.e. doors and windows)
(f)	7.	BAT calculate the length of components to achieve the required elevation
(g)	8.	BAT state the steps to plumb a corner post of a wall
(g)	9.	BAT state the steps to plumb and straighten a wall
(d)	10.	KHT/BAT determine floor components
(e)	11.	BAT layout floor components
(f)	12.	KHT identify wall structural components

(d)	13.	HKO finished floor component
(g)	14.	BAT mark out component locations

Performance Step: 8. Lay out truss components.

Knowledge /Skills:		
(a)	1.	KHT/BAT read construction blueprints/drawings to determine roof design
(h)	2.	KHT/BAT determine a roof pitch
(h)	3.	BAT determine rise
(h)	4.	BAT determine run
(h)	5.	BAT describe the components of a truss
(h)	6.	BAT determine the upper cord/rafter length
(h)	7.	BAT determine the lower cord length
(i)	8.	BAT determine the placement of truss webbing
(i)	9.	KHT/BAT use a framing square to layout a truss/rafter
(i)	10.	KHT/BAT create a jig to build the appropriate size truss

Performance Step: 9. Lay out stair components.

Knowledge /Skills:		
(a)	1.	KHT/BAT read construction blueprints/drawings to determine elevations
(j)	2.	KHT/BAT read construction blueprints/drawings to determine stair design
(j)	3.	KHT/BAT read construction blueprints/drawings to determine stair location
(j)	4.	BAT identify stair components
(k)	5.	KHT/BAT layout stairs using the story-pole method
(k)	6.	KHT/BAT layout stairs using the mathmatical method
(j)	7.	BAT state the rule of thumb used to check the dimensions of risers and treads

Date: 20160211

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: ILC-IMPL-2100

TASK BEHAVIOR: Lead guided discussion

DATE OF LEARNING ANALYSIS: 20100208

Performance Step: 1. Define guided discussion

Knowledge /Skills:		
	(a)	1. BAT state the definition of guided discussion
	(DEL)	2. Know the advantages of guided discussion
	(DEL)	3. Know the disadvantages of guided discussion
	(DEL)	4. Know the limitations of guided discussion
	(a)	5. Know definition of guided discussion

Performance Step: 2. Identify guided discussion characteristics

Knowledge /Skills:		
	(a)	1. Know discussion is not ideal for presenting many ideas in a short time
	(DEL)	2. Know discussion is suitable for introducing a topic
	(DEL)	3. Know discussion is convenient for instructing large groups
	(a)	4. Know discussion can supplement material from other sources
	(a)	5. Know evaluation is not inherent with this method
	(a)	6. Know discussion is dependent on active participation of students
	(a)	7. Know discussion is dependent on instructors facilitation skills
	(a)	8. Know interaction by all is critical

Performance Step: 3. Identify suitable TPD

Knowledge /Skills:		
	(DEL)	1. Know TPD characteristics
	(DEL)	2. Know TPD education level
	(DEL)	3. Know TPD experience level

Performance Step: 4. Determine suitable instructional setting

Knowledge /Skills:		
	(a)	1. KHT determine class size according to the number of objectives
	(a)	2. BAT determine class size according to the number of objectives
	(c)	3. KHT determine suitable discussion space
	(c)	4. BAT determine suitable discussion space
	(a)	5. KHT determine adequate time
	(a)	6. BAT determine adequate time

Performance Step: 5. Determine suitable subject matter

COMBAT ENGINEER NCO (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:
(a) 1. KHT tailor subject matter complexity to TPD
(a) 2. BAT tailor subject matter complexity to TPD
(a) 3. Know guided discussion target the entire cognitive domain
(a) 4. Know subjective topics are suited for discussion
(a) 5. Know guided discussion can target the affective domain

Performance Step: 6. Develop discussion guide outline

Knowledge /Skills:
(b) 1. KHT identify training outcomes
(b) 2. BAT identify training outcomes
(b) 3. KHT identify learning outcomes
(b) 4. BAT identify learning outcomes
(b) 5. KHT map pertinent sub-topics of planned discussion
(b) 6. BAT map pertinent sub-topics of planned discussion
(b) 7. KHT select topic
(b) 8. BAT select topic
(b) 9. KHT develop media as required
(b) 10. BAT develop media as required
(b) 11. KHT tie-in key points to learning outcomes
(b) 12. BAT tie-in key points to learning outcomes
(b) 13. KHT select supplemental material
(b) 14. BAT select supplemental material
(b) 15. KHT develop an introduction
(b) 16. BAT develop an introduction
(b) 17. KHT develop key points
(b) 18. BAT develop key points
(b) 19. KHT develop interim summary
(b) 20. BAT develop interim summary
(b) 21. KHT develop summary
(b) 22. BAT develop summary
(b) 23. KHT develop closing statement
(b) 24. BAT develop closing statement

Performance Step: 7. Prepare for facilitation

Knowledge /Skills:
(c) 1. KHT determine ground-rules on discussion
(c) 2. BAT determine ground-rules on discussion

(c)	3.	BAT prepare for guided discussion
(c)	4.	KHT reflect on subject
(c)	5.	BAT reflect on subject
(c)	6.	KHT become familiar with subject
(c)	7.	BAT become familiar with subject
(c)	8.	KHT prepare extra material
(c)	9.	BAT prepare extra material
(c)	10.	KHT prepare for a guided discussion

Performance Step: 8. Lead guided discussion

Knowledge /Skills:

(DEL)	1.	KHT manage arguments
(DEL)	2.	BAT manage arguments
(DEL)	3.	KHT manage emotional reactions
(DEL)	4.	BAT manage emotional reactions
(DEL)	5.	KHT balance student discussion among all members
(DEL)	6.	BAT balance student discussion among all members
(DEL)	7.	BAT recognize non-verbal communication
(DEL)	8.	KHT recognize non-verbal communication
(DEL)	9.	KHT identify potential barriers
(DEL)	10.	BAT identify potential barriers
(DEL)	11.	BAT act as SME
(DEL)	12.	BAT tolerate unknowns
(DEL)	13.	BAT encourage interaction by all
(DEL)	14.	BAT allow students to exchange ideas, values and attitudes
(DEL)	15.	BAT respond to students needs
(DEL)	16.	BAT engage non-participants
(DEL)	17.	BAT manage discussion monopolizers
(DEL)	18.	BAT use Socratic questioning
(DEL)	19.	BAT use scaffolding
(DEL)	20.	BAT coach
(d)	21.	BAT summarize the key points
(d)	22.	KHT summarize the key points
(d)	23.	KHT end the discussion
(d)	24.	BAT end the discussion

(d)	25.	KHT conduct a guided discussion
(d)	26.	BAT conduct a guided discussion

Performance Step: 9. Evaluate the learning outcome

Knowledge /Skills: (DEL)	1.	BAT identify required learning outcomes
(e)	2.	KHT assess students understanding of applied learning outcome
(e)	3.	BAT assess students understanding of applied learning outcome
(e)	4.	KHT summarize discussion to enhance understanding
(e)	5.	BAT summarize discussion to enhance understanding
(e)	6.	BAT task students to contribute to summary
(e)	7.	BAT to re-emphasize key points brought out during the discussion
(e)	8.	KHT to re-emphasize key points brought out during the discussion
(DEL)	9.	BAT link summary of discussion with USMC standards
(e)	10.	KHT task studets to contribute to summary