

COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-ADMN-2001

TASK BEHAVIOR: Manage unit training

DATE OF LEARNING ANALYSIS: 20140306

Performance Step: 1. Determine mission requirements.

- Knowledge /Skills:
- (a) 1. KHT/BAT identify individual MOS tasks
 - (a) 2. KHT/BAT identify collective MOS tasks
 - (a) 3. KHT/BAT utilize T&R Manual
 - (a) 4. KHT/BAT identify a Mission Essential Task (MET)
 - (b) 5. BAT define sustainment training
 - (b) 6. BAT define train-up training
 - (b) 7. BAT define cross training
 - (b) 8. BAT define Managed On-the-Job Training (MOJT)
 - (b) 9. BAT describe an individual training evaluation program
 - (c) 10. BAT utilize the MCRP 3-0A & MCRP 3-0B

Performance Step: 2. Determine current unit capabilities.

- Knowledge /Skills:
- (a) 1. KHT/BAT analyze unit mission requirements
 - (a) 2. BAT determine unit-training goals
 - (a) 3. BAT analyze the current unit training status
 - (c) 4. BAT inventory available training resources
 - (c) 5. BAT analyze impact of external influences

Performance Step: 3. Identify training shortfalls and strengths of unit.

- Knowledge /Skills:
- (a) 1. BAT evaluate pretest results
 - (c) 2. BAT identify internal resources
 - (c) 3. BAT identify internal resource shortfalls
 - (c) 4. BAT identify external resources
 - (e) 5. BAT identify external influences that negatively affect training goals
 - (c) 6. BAT evaluate unit SOPs for gaps
 - (c) 7. KHT/BAT research authoritative material (i.e. MCRPs, MCWPs, MCIPs, TMs, etc...) to fill gaps in SOPs
 - (c) 8. BAT gather input for SMEs
 - (g) 9. KHT/BAT evaluate the conduct of training



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- (g) 10. KHT/BAT conduct post training evaluations to identify improvement or shortfalls
- (g) 11. BAT identify training problems
- (e) 12. KHT/BAT conduct an Operational Risk Assessment (ORA) on specified training to be implemented

Performance Step: 4. Determine specific training objectives to correct shortfalls in accordance with the T&R Manual and METs.

- Knowledge /Skills:
- (a) 1. BAT identify individuals to be trained
 - (a) 2. KHT/BAT identify individual tasks
 - (a) 3. BAT identify units to be trained
 - (a) 4. KHT/BAT identify collective tasks
 - (c) 5. BAT prioritize training events
 - (c) 6. BAT chain training events

Performance Step: 5. Develop logical sequence for training.

- Knowledge /Skills:
- (c) 1. BAT sequence training events
 - (c) 2. BAT chain training events
 - (c) 3. KHT/BAT organize training from individual to collective tasks as required
 - (c) 4. BAT determine if the training is progressive in nature (crawl, walk, run)
 - (c) 5. BAT select training settings, methods, and media to support training
 - (c) 6. BAT evaluate time required to complete required training
 - (c) 7. BAT determine required resources to conduct training (trainers, facilities, ranges, vehicles, Class IV & V, etc...)
 - (e) 8. BAT phase in resource requirements to support training
 - (e) 9. KHT/BAT develop a training plan
 - (e) 10. KHT/BAT develop a training schedule

Performance Step: 6. Brief commander on training plan, as required.

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct a military brief

Performance Step: 7. Prepare a training schedule.

- Knowledge /Skills:
- (d) 1. BAT analyze a training plan
 - (d) 2. BAT develop an outline of training activities
 - (a,e) 3. BAT determine the time allotted to conduct training
 - (c) 4. BAT determine time requirements to complete tasks
 - (e) 5. KHT/BAT coordinate resource support to conduct training



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- (e) 6. BAT identify the parts of a daily training schedule
- (e) 7. BAT identify the parts of a weekly training schedule
- (e) 8. BAT identify the entries required to complete a training schedule (daily/weekly)

Performance Step: 8. Issue order.

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct a military brief
 - (del) 2. BAT conduct training as planned
 - (e) 3. KHT/BAT construct an LOI
 - (d) 4. BAT brief participants on risks and hazards (ORM)

Performance Step: 9. Coordinate logistical support.

- Knowledge /Skills:
- (f) 1. KHT/BAT complete a Training Support Request (TSR)
 - (e) 2. KHT/BAT determine support required
 - (f) 3. KHT/BAT submit logistical support requests to appropriate staff sections
 - (f) 4. BAT coordinate with external units (i.e. range control, ASP, etc...)
 - (f) 5. BAT follow-up on TSR as required by SOPs

Performance Step: 10. Submit required reports.

- Knowledge /Skills:
- (g) 1. KHT/BAT submit completed training
 - (g) 2. KHT/BAT complete evaluation matrix
 - (d) 3. KHT/BAT submit ORAW matrices
 - (g) 4. BAT submit After Action Rieview (AAR)



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-ADMN-2002

TASK BEHAVIOR: Deliver a military brief

DATE OF LEARNING ANALYSIS: 20140306

Performance Step: 1. Review the operations order and commander's intent.

- Knowledge /Skills:
- (a) 1. KHT/BAT identify the commander's guidance/intent
 - (b) 2. BAT analyze METT-T

Performance Step: 2. Review the engineer situation.

- Knowledge /Skills:
- (b) 1. BAT identify impact of METT-T analysis on engineer operations
 - (b) 2. BAT conduct engineer analysis of available intelligence
 - (b) 3. BAT determine additional intelligence required
 - (b) 4. BAT identify engineer personnel readiness
 - (b) 5. BAT identify engineer equipment readiness
 - (b) 6. BAT identify current engineer operations
 - (b) 7. BAT identify future engineer operations
 - (b) 8. BAT identify Bulk III assets
 - (b) 9. BAT identify Bulk IV assets
 - (b) 10. BAT identify Bulk V assets
 - (b) 11. BAT identify engineer operations
 - (b) 12. BAT determine classes of supply to execute engineer operations

Performance Step: 3. Develop a briefing outline for the engineer situation.

- Knowledge /Skills:
- (a) 1. BAT identify types of military briefs
 - (a) 2. BAT select appropriate type of military brief as situation indicates
 - (b) 3. BAT analyze topic
 - (b) 4. BAT analyze target audience
 - (b) 5. BAT research topic
 - (d) 6. BAT write an outline
 - (c) 7. BAT organize the brief
 - (d) 8. BAT prepare a briefing packet
 - (d) 9. KHT rehearse for a brief
 - (e) 10. BAT employ visual aids
 - (e) 11. BAT deliver a brief



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(e) 12. BAT employ effective briefing techniques

Performance Step: 4. Brief engineer situation to the commander.

- Knowledge /Skills:
- (e) 1. KHT/BAT advise the commander on Requests for Information (RFI)
 - (del) 2. BAT analyze METT-T
 - (del) 3. BAT analyze intel reports
 - (e) 4. KHT/BAT advise the commander on recommended engineer support
 - (del) 5. BAT develop general engineering plan
 - (del) 6. BAT develop a survivability plan
 - (del) 7. BAT develop a gap crossing plan
 - (del) 8. BAT develop a countermobility plan
 - (del) 9. BAT develop a mobility plan
 - (e) 10. KHT/BAT advise the commander on effects of terrain and weather
 - (del) 11. BAT determine the effects of terrain and weather on general engineering operations
 - (del) 12. BAT determine the effects of terrain and weather on the survivability operations
 - (del) 13. BAT determine the effects of terrain and weather on gap crossing operations
 - (del) 14. BAT determine the effects of terrain and weather on countermobility operations
 - (del) 15. BAT determine the effects of terrain and weather on mobility operations
 - (del) 16. BAT develop an engineer estimate of supportability
 - (del) 17. BAT identify non-organic engineer support
 - (del) 18. KHT/BAT identify logistical requirements to S-4/G-4
 - (del) 19. BAT calculate logistical requirements
 - (del) 20. BAT identify logistical shortfalls
 - (e) 21. KHT/BAT employ effective briefing techniques
 - (e) 22. BAT deliver a brief
 - (e) 23. BAT employ visual aids
 - (e) 24. BAT create a engineer overlays and products



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-CMOB-2002

TASK BEHAVIOR: Prepare an obstacle plan

DATE OF LEARNING ANALYSIS: 20140306

Performance Step: 1. Analyze mission.

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

Performance Step: 2. Conduct Intelligence Preparation of the Battlespace (IPB).

Knowledge /Skills: (a) 1. BAT define the battlefield environment
(a) 2. BAT define the battlefield environment
(a) 3. BAT analyze the threat
(a) 4. BAT determine threat courses of action

Performance Step: 3. Identify Requests for Information (RFI).

Knowledge /Skills: (b) 1. BAT identify additional intelligence required
(b) 2. BAT submit RFIs

Performance Step: 4. Provide guidance for the location and intent of obstacles to the S-3.

Knowledge /Skills: (c) 1. BAT identify natural and/or existing obstacles
(d) 2. BAT determine the placement of reinforcing obstacles
(c) 3. KHT/BAT identify types of constructed obstacles
(c) 4. BAT determine obstacle intent
(g) 5. KHT/BAT develop Modified Combined Obstacle Overlay (MCOO)

Performance Step: 5. Identify logistics requirements.

Knowledge /Skills: (e) 1. BAT identify countermobility tasks
(e) 2. BAT calculate for Class IV based on tasks/types of obstacles
(e) 3. BAT calculate Class V based on tasks/types of obstacles
(e) 4. BAT identify logistical shortfalls
(e) 5. BAT complete countermobility worksheets

Performance Step: 6. Identify and prioritize fire support requirements.

Knowledge /Skills: (d) 1. BAT identify placement of reinforcing obstacles
(c) 2. BAT identify obstacle intent
(f) 3. BAT identify an obstacle's effect on the enemy



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LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Prepare an overlay and an obstacle plan appendix to the operations order.

- Knowledge /Skills:
- (g) 1. KHT/BAT display obstacle plan on overlay
 - (g) 2. KHT/BAT use correct military symbols
 - (del) 3. KHT/BAT assist in obstacle plan appendix



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2005

TASK BEHAVIOR: Design concrete structures

DATE OF LEARNING ANALYSIS: 20130313

Performance Step: 1. Review the specifications.

- Knowledge /Skills:
- (del) 1. KHT/BAT read blueprints
 - (a) 2. KHT/BAT identify types of concrete forms for slabs/footers
 - (a) 3. KHT/BAT identify types of concrete forms for walls
 - (a) 4. KHT/BAT identify wales
 - (a) 5. KHT/BAT identify form studs
 - (a) 6. KHT/BAT identify form fasteners
 - (b) 7. KHT/BAT identify ties (wire, snap)
 - (b) 8. KHT/BAT identify from design locking configurations

Performance Step: 2. Design a concrete footing.

- Knowledge /Skills:
- (del) 1. KHT/BAT compute earthwork for forming
 - (a) 2. KHT/BAT determine plan area of the form
 - (a) 3. KHT/BAT compact earthen forms
 - (del) 4. KHT/BAT properly place forms

Performance Step: 3. Design a concrete wall.

- Knowledge /Skills:
- (b) 1. KHT/BAT determine placement rate
 - (a) 2. KHT/BAT determine plan area of the form
 - (b) 3. KHT/BAT determine maximum concrete pressure
 - (a) 4. KHT/BAT determine stud spacing
 - (a) 5. KHT/BAT determine wale spacing
 - (b) 6. KHT/BAT determine tie spacing
 - (a) 7. KHT/BAT adjust rate of placement
 - (b) 8. KHT/BAT determine snap tie spacing
 - (c) 9. KHT/BAT determine types of CMU required

Performance Step: 4. Design a reinforced concrete structure.

- Knowledge /Skills:
- (e) 1. KHT/BAT identify types of Portland cement
 - (e) 2. KHT/BAT determine suitable aggregate types



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- (d) 3. KHT/BAT determine slump
- (e) 4. KHT/BAT determine type of reinforcement material
- (del) 5. KHT/BAT place reinforcement material
- (d) 6. KHT/BAT adjust mix proportions based on moisture content
- (a) 7. HKO PMAX
- (a) 8. HKO ESL

Performance Step: 5. Design a concrete block structure.

- Knowledge /Skills:
- (c) 1. KHT/BAT plan a block structure
 - (c) 2. KHT/BAT compute amount of blocks for a structure
 - (c) 3. KHT/BAT determine type of mortar needed for CMU structures
 - (c,e) 4. KHT/BAT determine amount of mortar needed
 - (c,e) 5. KHT/BAT determine reinforcement material needed for CMU structures
 - (c,e) 6. KHT/BAT determine anchorage needed

Performance Step: 6. Generate a Bill of Materials for each type of design.

- Knowledge /Skills:
- (e) 1. KHT/BAT determine amount/type of lumber needed
 - (e) 2. KHT/BAT determine amount/type of fastners needed
 - (e) 3. KHT/BAT identify amount concrete mixture needed
 - (e) 4. KHT/BAT determine amount/type of cement needed
 - (e) 5. KHT/BAT determine amount/size of course aggregate
 - (e) 6. KHT/BAT determine amount of sand needed
 - (e) 7. KHT/BAT determine amount of air entrainment needed
 - (e) 8. KHT/BAT determine amount of water needed
 - (e) 9. KHT/BAT determine amount/type of CMU block
 - (e) 10. KHT/BAT determine amount of reinforcement material needed



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2011

TASK BEHAVIOR: Establish project/operation schedules

DATE OF LEARNING ANALYSIS: 20140115

Performance Step: 1. Review the mission.

- Knowledge /Skills:
- (a) 1. KHT analyze a job directive
 - (a) 2. KHT conduct preliminary planning
 - (a) 3. KHT develop checklists for site reconnaissance
 - (a) 4. KHT conduct site reconnaissance
 - (a) 5. HKO the Theater Construction Management System (TCMS)

Performance Step: 2. Determine activities/tasks necessary to complete the project.

- Knowledge /Skills:
- (a) 1. KHT brainstorm
 - (a) 2. KHT/BAT consolidate construction tasks
 - (a) 3. KHT/BAT determine construction sequences

Performance Step: 3. Arrange activities/tasks in logical sequence.

- Knowledge /Skills:
- (b) 1. KHT/BAT construct an IPB list
 - (del) 2. KHT/BAT develop a logic diagram

Performance Step: 4. Complete activity estimate sheets.

- Knowledge /Skills:
- (b) 1. KHT/BAT identify project number
 - (b) 2. KHT/BAT identify activity number
 - (b) 3. KHT/BAT develop activity description
 - (b) 4. KHT/BAT calculate materials take off
 - (b) 5. KHT/BAT calculate equipment and manpower
 - (b) 6. KHT/BAT graphically show activity

Performance Step: 5. Identify critical tasks.

- Knowledge /Skills:
- (del) 1. KHT develop a logic diagram
 - (b) 2. KHT/BAT identify a critical path
 - (del) 3. KHT construct an IPB list
 - (c) 4. HKO Priority Engineer Project List (PEPL) from higher

Performance Step: 6. Graphically depict schedule.

- Knowledge /Skills:
- (del) 1. KHT develop an activity on the node logic diagram



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- (del) 2. KHT construct an early start schedule
- (b) 3. KHT calculate activity durations
- (c) 4. KHT sum resources
- (b) 5. KHT conduct time analysis
- (del) 6. KHT solve for float time
- (del) 7. KHT employ lag time
- (c) 8. KHT task organize workforce

Performance Step: 7. Update schedule throughout duration of project/operation.

- Knowledge /Skills:
- (b) 1. KHT make spot adjustments to work rates/processes
 - (c) 2. KHT perform resource constraining
 - (c) 3. KHT perform resource leveling



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2012

TASK BEHAVIOR: Arrange external support for engineer projects/operations

DATE OF LEARNING ANALYSIS: 20130621

Performance Step: 1. Review the operations order.

Knowledge /Skills: (del) 1. KHT/BAT conduct a METT-T analysis

Performance Step: 2. Identify tasks/missions beyond organic capabilities.

Knowledge /Skills: (del) 1. KHT/BAT conduct a METT-T analysis
(b) 2. KHT/BAT identify engineer unit capabilities
(b) 3. KHT/BAT identify engineer unit structure
(c) 4. BAT identify engineer unit Mission Essential Tasks (METs)
(b) 5. HKO engineer unit equipment requirements (i.e. licensing)
(b) 6. HKO unit MOSs
(c) 7. BAT identify engineer unit mission
(b) 8. KHT/BAT identify reserve engineer unit capabilities
(b) 9. KHT identify external MAGTF engineer unit capabilities

Performance Step: 3. Determine sources of support.

Knowledge /Skills: (b) 1. KHT/BAT identify specific engineer unit capabilities by MAGTF element (i.e. Division, Wing, MLG)
(TPD) 2. KHT/BAT identify engineer support from other services (Army/Airforce)
(TPD) 3. KHT/BAT identify Host Nation engineer support
(a) 4. BAT identify engineer units in the MAGTF

Performance Step: 4. Ensure required support is coordinated/provided.

Knowledge /Skills: (d) 1. KHT/BAT determine support required
(b) 2. KHT/BAT identify adjacent engineer support available
(TPD) 3. KHT/BAT determine support from host nation available
(d) 4. KHT/BAT submit logistical support requests to appropriate staff sections



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-EOPS-2013

TASK BEHAVIOR: Conduct range operations

DATE OF LEARNING ANALYSIS: 20140515

Performance Step: 1. Plan training.

- Knowledge /Skills:
- (del) 1. KHT/BAT develop a training plan
 - (del) 2. KHT/BAT develop a training schedule
 - (del) 3. KHT/BAT identify tasks to train to
 - (del) 4. KHT/BAT manage unit training (MUT) 1371-ADMN-2001

Performance Step: 2. Conduct site reconnaissance, if required.

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct a map study
 - (del) 2. KHT/BAT evaluate terrain (conduct site survey)
 - (a,b) 3. KHT/BAT identify restrictions
 - (a,b) 4. KHT/BAT identify possible terrain effects on SDZ

Performance Step: 3. Build target folders(s), if required.

- Knowledge /Skills:
- (del) 1. KHT/BAT determine what type of Class V is to be utilized
 - (a) 2. KHT/BAT determine range limits allowed (max. pounds)
 - (b) 3. KHT/BAT select appropriate targets to accomplish individual or collective training event goals
 - (b) 4. KHT/BAT select appropriate charges to accomplish individual or collective training event goals
 - (del) 5. KHT/BAT employ military explosives
 - (del) 6. KHT/BAT estimate explosive materials required
 - (del) 7. KHT/BAT estimate construction materials required
 - (b) 8. KHT/BAT identify individual shots to be executed
 - (b) 9. KHT/BAT organize individual shots in a logical sequence to facilitate efficient training

Performance Step: 4. Submit logistical support requirements.

- Knowledge /Skills:
- (del) 1. KHT/BAT calculate explosive charges
 - (del) 2. KHT/BAT estimate construction material
 - (c) 3. KHT/BAT determine support required
 - (c) 4. KHT/BAT identify transportation requirements



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- (del) 5. KHT/BAT submit logistical support requests to appropriate staff sections
- (del) 6. KHT/BAT submit requests
- (c) 7. KHT/BAT complete a Training Support Request (TSR)

Performance Step: 5. Calculate Class V requirements.

- Knowledge /Skills:
- (del) 1. KHT/BAT calculate explosive charges
 - (del) 2. KHT/BAT calculate ammunition

Performance Step: 6. Review SDZs/range regulations, if required.

- Knowledge /Skills:
- (a) 1. HKO existing range regulations, if available (training at an established facility)
 - (a) 2. KHT/BAT develop range regulations, if required (establishing a training facility)
 - (b) 3. KHT determine max allowable poundage
 - (a) 4. KHT mark off the range
 - (a) 5. KHT identify detonation points
 - (a) 6. KHT establish SDZs (Surface Danger Zones)
 - (d) 7. KHT establish offsets
 - (c) 8. KHT establish comm procedures
 - (d) 9. KHT establish check fire procedures
 - (del) 10. KHT handle misfires
 - (del) 11. KHT coordinate with subordinate/adjacent/higher units
 - (c) 12. KHT establish a T/O for range operations
 - (c) 13. KHT identify equipment required to conduct range operations (to include safety equipment)

Performance Step: 7. Conduct training.

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct an Operational Risk Assessment (ORA)
 - (a) 2. KHT/BAT establish cease training criteria
 - (del) 3. KHT identify hazards associated with military explosives
 - (del) 4. KHT mitigate hazards associated with military explosives
 - (del) 5. KHT follow established procedures
 - (del) 6. KHT supervise
 - (c) 7. KHT set-up issue procedures
 - (del) 8. KHT employ military explosives
 - (del) 9. KHT check charge calculations



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- (del) 10. KHT inspect charge for proper construction
- (del) 11. KHT check charges for proper employment
- (del) 12. BAT supervise live fire exercise
- (del) 13. BAT supervise detonation of shots

Performance Step: 8. Submit required reports

- Knowledge /Skills:
- (e) 1. KHT fill out an expenditure report
 - (e) 2. KHT file an expenditure report
 - (e) 3. KHT reconcile draw vs. expenditure

Performance Step: 9. Conduct accountability of personnel, weapons, and equipment.

- Knowledge /Skills:
- (del) 1. KHT/BAT manage unit training (MUT) 1371-ADMN-2001

Performance Step: 10. Repair/restore range, as required.

- Knowledge /Skills:
- (del) 1. KHT/BAT manage unit training (MUT) 1371-ADMN-2001
 - (d,e) 2. HKO range regulations (occupation and checkout procedures)

Performance Step: 11. Conduct line-out.

- Knowledge /Skills:
- (e) 1. HKO line-out procedures after live fire exercise



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-HORZ-2005

TASK BEHAVIOR: Determine required concrete mixture

DATE OF LEARNING ANALYSIS: 20140507

Performance Step: 1. Determine the type of cement to be used.

- Knowledge /Skills:
- (a) 1. HKO types of cement
 - (a) 2. KHT determine which type of Portland cement per requirements
 - (a) 3. BAT determine which type of Portland cement per requirements

Performance Step: 2. Identify suitable water source.

- Knowledge /Skills:
- (a) 1. KHT identify water for suitability per specifications
 - (a) 2. BAT identify water for suitability per specifications
 - (a) 3. HKO salt water use degradation of concrete
 - (a) 4. HKO water contaminate degradation of concrete
 - (a) 5. HKO weight of water

Performance Step: 3. Identify suitable aggregate.

- Knowledge /Skills:
- (a) 1. KHT identify suitable coarse aggregate for use on concrete structures
 - (a) 2. BAT identify suitable coarse aggregate for use on concrete structures
 - (a) 3. KHT determine suitable fine aggregate for use on concrete structures
 - (a) 4. BAT determine suitable fine aggregate for use on concrete structures
 - (a) 5. KHT determine size of aggregates
 - (a) 6. HKO ways to locate natural aggregates

Performance Step: 4. Determine desired slump.

- Knowledge /Skills:
- (a) 1. KHT read slump chart
 - (a) 2. KHT determine slump based on specifications
 - (a) 3. BAT determine slump based on specifications

Performance Step: 5. Determine percentage of air entrainment, as required.

- Knowledge /Skills:
- (a) 1. KHT determine proper air entrainment percentage if required
 - (a) 2. BAT determine proper air entrainment percentage if required

Performance Step: 6. Determine amount of water.

- Knowledge /Skills:
- (a) 1. KHT determine amount of water needed for proper mixture
 - (a) 2. BAT determine amount of water needed for proper mixture



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LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 7. Determine a water:cement ratio.

- Knowledge /Skills:
- (a) 1. HKO water:cement ratio chart
 - (a) 2. KHT determine proper water to cement ratio based on desired PSI (compressive strength)
 - (a) 3. BAT determine proper water to cement ratio based on desired PSI (compressive strength)

Performance Step: 8. Determine amount of cement.

- Knowledge /Skills:
- (a) 1. KHT determine amount of Portland cement based on water ratio
 - (a) 2. BAT determine amount of Portland cement based on water ratio

Performance Step: 9. Determine loose volume of gravel.

- Knowledge /Skills:
- (a) 1. KHT determine loose volume of gravel
 - (a) 2. BAT compute loose volume of gravel

Performance Step: 10. Convert weights to absolute volumes.

- Knowledge /Skills:
- (a) 1. KHT/BAT convert weight of water to absolute volume
 - (a) 2. KHT/BAT convert weight of cement to absolute volume
 - (a) 3. KHT/BAT convert weight of coarse aggregate to absolute volume

Performance Step: 11. Determine weight of sand.

- Knowledge /Skills:
- (a) 1. KHT determine weight of sand based on the absolute volumes of loose material
 - (a) 2. BAT determine weight of sand based on the absolute volumes of loose material

Performance Step: 12. Determine loose volume of sand.

- Knowledge /Skills:
- (a) 1. KHT to convert weight of sand to loose volume
 - (a) 2. BAT to convert weight of sand to loose volume

Performance Step: 13. List final proportions for a one cubic yard batch.

- Knowledge /Skills:
- (b) 1. KHT/BAT identify final proportion of water for one cubic yard batch
 - (b) 2. KHT/BAT identify final proportion of cement for one cubic yard batch
 - (b) 3. KHT/BAT identify final proportion of coarse aggregate for one cubic yard batch
 - (b) 4. KHT/BAT identify final proportion of fine aggregate for one cubic yard batch

Performance Step: 14. Perform field moisture test on the aggregates.



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- Knowledge /Skills:
- (a) 1. KHT compute for free surface moisture
 - (a) 2. BAT compute for free surface moisture
 - (a) 3. HKO field testing for free surface moisture

Performance Step: 15. Adjust mix design to account for aggregate moisture as required.

- Knowledge /Skills:
- (a) 1. KHT adjust mix to adjust for aggregate moisture
 - (a) 2. BAT adjust mix to adjust for aggregate moisture



COMBAT ENGINEER PLATOON SERGEANT (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



COMBAT ENGINEER PLATOON SERGEANT (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 (UAM 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.



COMBAT ENGINEER PLATOON SERGEANT (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 identify discrepancies 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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MANT-2002TASK BEHAVIOR: Monitor the maintenance management of the unit's combat engineer equipment, chests, sets and kitsDATE OF LEARNING ANALYSIS: 20141008Performance Step: 1. Obtain current Maintenance Process Report (MPR).

Knowledge /Skills:

(del)	1. HKO latest GPN
(a)	2. KHT/BAT generate an MPR from GCSS-MC
(a)	3. KHT/BAT pull GCSS-MC reports

Performance Step: 2. Review references.

Knowledge /Skills:

(del)	1. HKO latest GPN
(a)	2. KHT/BAT review unit MMSOP

Performance Step: 3. Review supporting documentation (equipment records).

Knowledge /Skills:

(b)	1. HKO unit/platoon MAL/CMR
(b)	2. HKO unit/platoon equipment records
(b)	3. KHT/BAT read records
(a)	4. HKO calibration reports
(a)	5. HKO modification reports
(a)	6. HKO parent equipment
(b)	7. KHT/BAT identify discrepancies
(a)	8. HKO report codes

Performance Step: 4. Review MPR maintenance cycle times.

Knowledge /Skills:

(c)	1. KHT/BAT identify required maintenance for equipment
(c)	2. HKO required calibrations if required
(c)	3. HKO required modifications
(c)	4. KHT/BAT update equipment status boards

Performance Step: 5. Validate maintenance reports (per unit's SOP).

Knowledge /Skills:

(c)	1. HKO problem/defect codes
(c)	2. HKO status codes
(c)	3. HKO julian dates
(c)	4. KHT/BAT validate maintenance statuses



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

(b) 5. KHT/BAT verify maintenance processes

Performance Step: 6. Identify "exceptions."

- Knowledge /Skills:
- (c) 1. KHT identify exceptions to equipment in preventive/corrective maintenance cycle
 - (a) 2. HKO unit/platoon mission requirements
 - (c) 3. BAT identify exceptions to maintenance process of specific equipment

Performance Step: 7. Determine actions to correct "exceptions" (as required).

- Knowledge /Skills:
- (c) 1. KHT/BAT reconcile with maintenance
 - (c) 2. KHT/BAT reconcile with supply
 - (c) 3. HKO unit MMSOP
 - (c) 4. HKO unit/platoon exceptions on equipment maintenance cycles
 - (c) 5. HKO risks associated with putting in "exceptions"
 - (c) 6. KHT/BAT reschedule required maintenance of equipment



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2006

TASK BEHAVIOR: Determine raft size required for wet gap crossing

DATE OF LEARNING ANALYSIS: 20140326

Performance Step: 1. Review the reconnaissance reports.

- Knowledge /Skills:
- (del) 1. KHT analyze METT-TSL
 - (a) 2. KHT read recon reports
 - (a) 3. KHT analyze reconnaissance information
 - (a) 4. HKO possible enemy (locations and overwatch)

Performance Step: 2. Determine raft size based on MLC.

- Knowledge /Skills:
- (a) 1. KHT determine assets to be crossed
 - (a) 2. KHT determine military load classification on vehicles
 - (b) 3. KHT read rafting charts
 - (b) 4. BAT determine raft size based on military load classification

Performance Step: 3. Determine rafting configuration based on current velocity.

- Knowledge /Skills:
- (c) 1. HKO geographical weather/river data
 - (c) 2. KHT compute water velocity for near and far shore
 - (c) 3. KHT compute water velocity for mid stream
 - (b) 4. KHT read rafting chart
 - (b) 5. BAT read rafting chart
 - (a) 6. HKO Bridge Erection Boat operations
 - (b) 7. HKO conventional rafting
 - (b) 8. HKO longitudinal rafting

Performance Step: 4. Determine rafting cycle time.

- Knowledge /Skills:
- (a) 1. HKO available rafting assets
 - (c) 2. KHT read rafting charts
 - (c) 3. BAT read rafting charts

Performance Step: 5. Determine total force crossing time.

- Knowledge /Skills:
- (d) 1. KHT assign rafting serial crossing assignments
 - (d) 2. BAT assign rafting serial crossing assignments
 - (d) 3. KHT compute rafting times based on width of crossing site



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 6. Determine logistical requirements.

- Knowledge /Skills:
- (b) 1. KHT determine T/O and T/E
 - (b) 2. KHT determine assets required
 - (del) 3. KHT make liaison with the supported unit
 - (e) 4. KHT identify hazards associated with rafting operations
 - (e) 5. KHT implement ORM

COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2007TASK BEHAVIOR: Determine tactical bridging assets required to span a gapDATE OF LEARNING ANALYSIS: 20140408Performance Step: 1. Review the mission, reconnaissance reports, maps, and any other intelligence data available.

Knowledge /Skills: (del) 1. KHT analyze METT-TSL
 (a) 2. KHT read recon reports
 (del) 3. KHT conduct engineer recon

Performance Step: 2. Evaluate potential crossing sites.

Knowledge /Skills: (a) 1. KHT determine suitable access routes for MGB
 (b) 2. KHT determine best crossing site for MGB
 (b) 3. KHT determine best crossing site for IRB
 (a) 4. KHT perform recon by the map

Performance Step: 3. Select the best crossing means.

Knowledge /Skills: (c) 1. KHT determine width of a gap
 (c) 2. KHT compute width of gap to selected charts
 (a,e) 3. KHT select type of military bridge to use
 (c) 4. KHT select best bridge length in reference to gap width

Performance Step: 4. Select final bridge site.

Knowledge /Skills: (c,e) 1. KHT read bridge selection chart

Performance Step: 5. Calculate required bridge length.

Knowledge /Skills: (del) 1. DELETE - Taught in previous performance steps

Performance Step: 6. Fill out Pro Forma as necessary.

Knowledge /Skills: (a,d) 1. KHT read reconnaissance reports
 (d) 2. KHT obtain reconnaissance information
 (d) 3. KHT complete MGB Pro forma based on reconnaissance information
 (d) 4. BAT complete MGB Pro forma based on reconnaissance information

Performance Step: 7. Determine bridging assets required, i.e., number of bays, number of boats, number of pallets.

Knowledge /Skills: (e) 1. KHT calculate assets required based on wet gap calculations



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

(e) 2. KHT calculate assets required based on dry gap calculations

Performance Step: 8. Determine crew size.

- Knowledge /Skills: (f) 1. KHT determine crew size needed for construction of MGB
(f) 2. KHT determine crew size needed for construction and operation of IRB rafting
(f) 3. KHT determine crew size needed for construction and operation of IRB bridge

Performance Step: 9. Determine logistical support.

- Knowledge /Skills: (f) 1. KHT determine logistical support needed for wet gap operations
(f) 2. KHT determine logistical support needed for dry gap operations

Performance Step: 10. Calculate total time to construct the bridge.

- Knowledge /Skills: (f) 1. KHT calculate construction time needed for MGB based on size of bridge
(f) 2. KHT calculate construction time needed for IRB based on number of bays required
(f) 3. KHT calculate construction time needed for IRB based on raft size



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2017

TASK BEHAVIOR: Plan breaching of a complex obstacle

DATE OF LEARNING ANALYSIS: 20140506

Performance Step: 1. Analyze the mission.

- Knowledge /Skills:
- (a) 1. HKO operation order(s)
 - (a) 2. KHT determine enemy COAs
 - (a) 3. KHT identify breaching tenents

Performance Step: 2. Identify possible bypasses.

- Knowledge /Skills:
- (a) 1. KHT identify possible bypasses
 - (a) 2. KHT define what a bypass is
 - (a) 3. KHT conduct engineer reconnaissance
 - (del) 4. KHT conduct engineer reconnaissance
 - (a) 5. BAT conduct map reconnaissance

Performance Step: 3. Identify the type of breaching operation required.

- Knowledge /Skills:
- (a) 1. HKO breaching doctrine
 - (a) 2. KHT define the types of breaches (bypass, hasty, in-stride, assault and clandestine)

Performance Step: 4. Identify the number of lanes required.

- Knowledge /Skills:
- (f) 1. Know commander's intent
 - (f) 2. HKO breaching force
 - (f) 3. HKO concept of operations
 - (f) 4. HKO maneuver force
 - (e) 5. HKO support force
 - (f) 6. KHT determine breach lanes required

Performance Step: 5. Identify potential breach sites.

- Knowledge /Skills:
- (del) 1. HKO barrier plans
 - (del) 2. HKO obstacle plans
 - (b) 3. KHT interpret obstacle intelligence (OBSTINTEL)
 - (b) 4. KHT determine threat capabilities
 - (del) 5. HKO obstacle construction



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

(a) 6. KHT/BAT identify friendly mobility requirements

Performance Step: 6. Identify Requests for Information (RFI).

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

Performance Step: 7. Determine type of explosive/non-explosive breaching assets available.

Knowledge /Skills: (c) 1. KHT employ military demoltions
(c) 2. KHT employ APOBS
(c) 3. KHT employ line charge
(c) 4. KHT employ ABV
(d) 5. KHT employ bulldozer
(c) 6. KHT employ MK154 AAV
(d) 7. KHT employ ACE
(d) 8. KHT employ mine plows
(d) 9. KHT employ the mine rollers
(d) 10. KHT employ the mine rake
(d) 11. KHT employ the AVLB
(d) 12. KHT employ AMMAD
(d) 13. KHT employ facines
(c) 14. KHT employ the SMAW weapon system

Performance Step: 8. Task organize engineer personnel and equipment within the assault breach force.

Knowledge /Skills: (a) 1. KHT identify breaching organization
(a) 2. KHT explain breaching fundamentals
(a) 3. KHT/BAT task organize personnel
(a) 4. KHT/BAT task organize equipment

Performance Step: 9. Determine proper sequencing of the breach force.

Knowledge /Skills: (del) 1. KHT employ tactical formations
(a) 2. KHT explain breaching fundamentals
(a,f) 3. KHT/BAT explain the approach phase
(a,f) 4. KHT/BAT explain deploy phase
(a,f) 5. KHT/BAT explain reduce phase
(a,f) 6. KHT/BAT explain assault phase

Performance Step: 10. Develop battle drills.



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- Knowledge /Skills: (del) 1. KHT follow unit SOP
(del) 2. KHT rehearse and prepare unit to execute SOP

Performance Step: 11. Determine support requirements.

- Knowledge /Skills: (del) 1. KHT calculate explosives
(del) 2. KHT compute earthwork volumes
(del) 3. KHT replenish Class V
(e) 4. HKO compatability of explosive breaching assets and recovery vehicles
(e) 5. KHT coordinate security to ensure safety of breach team
(e) 6. HKO requirement for suppression and obscuration during breaching operations
(e) 7. KHT mark and disseminate breach lanes

Performance Step: 12. Plan, prioritize, and recommend fire support.

- Knowledge /Skills: (del) 1. KHT call for fire
(e) 2. KHT coordinate for direct and indirect fire support
(e) 3. HKO supporting arms capabilities
(e,f) 4. BAT integrate breach plan with maneuver unit
(e) 5. HKO breaching execution checklists

Performance Step: 13. Prepare appendix for the operation order.

- Knowledge /Skills: (a) 1. HKO operations order
(a) 2. KHT assist in writing appendix for op order



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2021

TASK BEHAVIOR: Lead Route and Area Clearance Operations

DATE OF LEARNING ANALYSIS: 20140513

Performance Step: 1. Analyze mission.

- Knowledge /Skills:
- (del) 1. HKO threat doctrine
 - (del) 2. HKO threat SOP
 - (f) 3. KHT/BAT identify key terrain
 - (f) 4. BAT obtain intelligence information on threat
 - (f) 5. HKO known obstacle location from imperial data
 - (a) 6. KHT/BAT define the tenets of IED-D

Performance Step: 2. Task organize personnel and equipment.

- Knowledge /Skills:
- (c) 1. KHT/BAT determine different types of clearance teams
 - (c) 2. HKO clearance team roles
 - (c) 3. HKO responsibilities within clearance teams
 - (d) 4. KHT/BAT organize mounted clearance teams
 - (d) 5. KHT/BAT organize dismounted clearance teams
 - (f) 6. HKO obstacles in route or area
 - (d) 7. BAT organize appropriate teams depending on mission requirements
 - (e) 8. KHT/BAT determine specific equipment needed per mission requirements
 - (e) 9. KHT/BAT identify the characteristics of detection equipment
 - (e) 10. KHT/BAT identify the capabilities of detection equipment
 - (e) 11. KHT/BAT identify the capabilities of interrogation equipment
 - (e) 12. KHT/BAT identify the capabilities of remote equipment
 - (e) 13. BAT identify the capabilities of MRAP CAT III (Buffalo)
 - (e) 14. BAT identify the capabilities of the Vehicle Mounted Mine Detector (VMMD)
 - (del) 15. KHT/BAT utilize hand-held mine detectors (HSTAMIDS)

Performance Step: 3. Issue the order.

- Knowledge /Skills:
- (g) 1. KHT/BAT complete a route/area clearance patrol order
 - (g) 2. KHT/BAT complete a warning order
 - (h) 3. BAT issue a warning order



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (c) 4. KHT/BAT task organize security element
- (c) 5. KHT/BAT task organize detection element
- (c) 6. KHT/BAT task organize interrogation element
- (h) 7. KHT/BAT brief mission

Performance Step: 4. Conduct rehearsals.

- Knowledge /Skills:
- (f) 1. KHT perform 5 Cs
 - (f) 2. KHT perform method of visual detection (5-25-250)
 - (del) 3. BAT draw required Class(s) of Material for operation
 - (g) 4. KHT lead a route clearance team
 - (del) 5. BAT perform operation checks on equipment
 - (c) 6. KHT/BAT identify team responsibilities
 - (b) 7. KHT/BAT identify the phases of route clearing

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

- Knowledge /Skills:
- (f) 1. KHT visually detect primary/secondary markers
 - (del) 2. BAT visually detect primary/secondary markers
 - (f) 3. KHT identify explosive hazards
 - (del) 4. BAT identify explosive hazards
 - (b) 5. KHT mark obstacles
 - (del) 6. BAT mark obstacles
 - (e) 7. KHT interrogate obstacles using engineer equipment
 - (del) 8. BAT interrogate obstacles using engineer equipment
 - (e) 9. KHT detect explosive hazards with VMMD
 - (del) 10. BAT detect explosive hazards with VMMD

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

- Knowledge /Skills:
- (h) 1. HKO leader's decision considerations (decision matrix)
 - (del) 2. KHT/BAT use demolitions
 - (del) 3. KHT/BAT place charge properly
 - (f) 4. KHT identify explosive hazard(s)
 - (del) 5. BAT identify explosive hazard(s)
 - (h) 6. HKO bypasses in area
 - (h) 7. KHT/BAT comply by the phases of route/area clearing
 - (h) 8. KHT collect remnants of destroyed hazards



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (del) 9. BAT collect remnants of destroyed hazards
- (del) 10. KHT/BAT cordon off area for EOD support
- (h) 11. HKO CASEVAC plan
- (h) 12. BAT brief route/area clearance mission

Performance Step: 7. Submit required reports.

- Knowledge /Skills:
- (del) 1. BAT submit engineer sitreps
 - (h) 2. KHT submit EOD 9-Line report
 - (del) 3. BAT submit EOD 9-Line report
 - (h) 4. KHT submit UXO reports
 - (del) 5. BAT submit UXO reports
 - (del) 6. KHT/BAT submit expenditure reports



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2022

TASK BEHAVIOR: Identify Explosive Hazards (EH)

DATE OF LEARNING ANALYSIS: 20120719

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
 - (a) 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) 23. HKO HUMINT
 - (b) 24. BAT locate abandon tools and equipment

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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (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

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 thorwn 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.

- Knowledge /Skills:
- (a) 1. BAT define projected munitions



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (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 los 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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

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



COMBAT ENGINEER PLATOON SERGEANT (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 Leader's Decision Consideration (go/no-go matrix)
 - (b) 2. HKO commander's intent
 - (b) 3. HKO mission parameters
 - (b) 4. BAT identify the explosive hazard
 - (c) 5. KHT execute the 5 Cs
 - (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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (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
 - (m) 6. KHT/BAT conduct immediate action for misfire



COMBAT ENGINEER PLATOON SERGEANT (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 complete expenditure report



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-MOBL-2035

TASK BEHAVIOR: Operate a robot

DATE OF LEARNING ANALYSIS: 20130626

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 batteries
 - (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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (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 account 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 hazards
- (d) 3. KHT/BAT interrogate objects



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (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



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-PLAN-2001

TASK BEHAVIOR: Participate in the Marine Corps Planning Process (MCP)

DATE OF LEARNING ANALYSIS: 20130718

Performance Step: 1. Assist in problem framing.

- Knowledge /Skills:
- (a) 1. KHT/BAT analyze METT-T from a engineer's perspective
 - (a) 2. KHT/BAT conduct Intelligence Preparation of the Battlefield (IPB)
 - (a) 3. KHT/BAT define the battlefield environment
 - (a) 4. KHT/BAT describe battlefield effects
 - (a) 5. KHT/BAT analyze the threat
 - (a) 6. BAT determine enemy courses of action
 - (a) 7. BAT identify mobility corridors
 - (a) 8. BAT identify restrictive terrain
 - (a) 9. BAT identify severely restrictive terrain
 - (del) 10. BAT identify fields of fire
 - (a) 11. KHT/BAT identify Requests for Information (RFI) to the S-2/G-2
 - (a) 12. BAT identify existing intelligence
 - (a) 13. BAT analyze existing intelligence
 - (a) 14. BAT identify additional intel required
 - (a) 15. KHT/BAT submit RFIs
 - (del) 16. KHT/BAT conduct engineer reconnaissance as required
 - (a) 17. BAT conduct map reconnaissance
 - (a) 18. BAT interpret existing intel reports
 - (a) 19. BAT determine whether engineer reconnaissance is required
 - (del) 20. BAT select TO/TE for reconnaissance mission
 - (del) 21. BAT issue orders
 - (del) 22. BAT execute an engineer recon mission
 - (del) 23. BAT submit required reports
 - (a,b) 24. KHT/BAT identify units requiring engineering support
 - (a) 25. KHT/BAT determine commander's intent
 - (a,b) 26. BAT identify support relationships
 - (a,b) 27. KHT/BAT determine specialized engineer mission
 - (a) 28. KHT/BAT determine implied engineer mission



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (a) 29. KHT/BAT determine the commander's end state
- (a,b) 30. KHT/BAT determine mobility requirements for the supported unit
- (a) 31. KHT/BAT identify available engineer resources within the Area of Responsibility
- (a) 32. KHT/BAT identify TO/TE
- (a) 33. KHT analyze the scheme of maneuver
- (del) 34. KHT select breach sites

Performance Step: 2. Assist in course(s) of action developement.

- Knowledge /Skills:
- (b,c) 1. KHT/BAT prepare engineer estimate of supportability
 - (b) 2. BAT determine engineer platoon capabilities
 - (del) 3. BAT employ project management tool
 - (b) 4. BAT determine engineer mission requirements
 - (del) 5. BAT identify logistical requirements to the S-4
 - (del) 6. BAT determine priority of engineer requirements
 - (b) 7. KHT/BAT develop an engineer mission
 - (b) 8. KHT/BAT develop engineer concept of operations
 - (a) 9. KHT/BAT identify engineer tasks
 - (a) 10. KHT/BAT identify support requirements of engineer tasks
 - (b) 11. KHT/BAT identify the parts of a course of action
 - (b) 12. KHT/BAT identify the course of action (COA) which best utilizes engineer assets in support of the commander's intent
 - (del) 13. KHT employ SOSRR
 - (del) 14. KHT employ MAGTF breaching fundamentals
 - (del) 15. KHT employ supporting arms

Performance Step: 3. Assist in war gaming course(s) of action.

- Knowledge /Skills:
- (del) 1. KHT/BAT analyze threat engineer equipment capabilities
 - (del) 2. KHT/BAT identify threat engineer doctrine
 - (a,b) 3. KHT/BAT Identify the effects of terrain and weather on threat operations
 - (del) 4. KHT/BAT identify means of defeating threat capabilities
 - (del) 5. BAT analyze courses of action

Performance Step: 4. Assist in comparison and recommendation of course(s) of action.

- Knowledge /Skills:
- (a,b) 1. KHT/BAT identify external support required
 - (c) 2. BAT create concept of operations



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (c) 3. KHT/BAT determine command relationships
- (c) 4. KHT/BAT determine support relationships
- (c) 5. KHT/BAT revise engineer estimate/statement of supportability
- (del) 6. KHT/BAT conduct a military brief

Performance Step: 5. Assist in development of appropriate staff products, operation plans, orders, annexes, and appendices.

- Knowledge /Skills:
- (del) 1. KHT/BAT employ project management tool
 - (d) 2. KHT/BAT fill out appropriate engineer reports
 - (del) 3. BAT develop an engineer concept of operations
 - (b) 4. BAT determine protection requirements of given TO/TE
 - (del) 5. BAT determine engineer priorities
 - (del) 6. KHT/BAT task organize personnel
 - (del) 7. KHT/BAT task organize equipment
 - (c,d) 8. KHT/BAT determine command relationships
 - (c,d) 9. KHT/BAT determine support relationships
 - (a,d) 10. KHT/BAT develop mission statement
 - (b) 11. KHT/BAT identify external support required
 - (del) 12. KHT/BAT coordinate external support required
 - (d) 13. KHT/BAT identify operation order
 - (d) 14. KHT/BAT create an operation order
 - (d) 15. KHT/BAT identify an engineer annex or appendix to an operation order
 - (d) 16. KHT/BAT develop an engineer annex or appendix to an operation order
 - (d) 17. BAT identify required reports
 - (d) 18. KHT/BAT develop required reports
 - (del) 19. KHT/BAT submit reports
 - (d) 20. KHT/BAT develop overlays

Performance Step: 6. Assist in transition by compiling the components of an operations order for distribution to subordinate units.

- Knowledge /Skills:
- (e) 1. BAT issue an operation order
 - (e) 2. BAT identify different types of transition drills
 - (e) 3. KHT/BAT participate in transition drills
 - (del) 4. BAT conduct a military brief



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-PLAN-2002TASK BEHAVIOR: Plan a base campDATE OF LEARNING ANALYSIS: 20140507Performance Step: 1. Analyze mission.Knowledge /Skills: (del) 1. KHT/BAT analyze METT-TPerformance Step: 2. Identify Requests for Information (RFI).

Knowledge /Skills: (del) 1. BAT determine information requirements
 (del) 2. KHT/BAT identify staff appropriate sections
 (del) 3. KHT/BAT submit request RFIs

Performance Step: 3. Conduct reconnaissance.

Knowledge /Skills: (del) 1. KHT/BAT read a map
 (del) 2. KHT/BAT develop overlays
 (del) 3. BAT identify features of engineer interest
 (del) 4. BAT conduct site reconnaissance

Performance Step: 4. Determine location.

Knowledge /Skills: (f) 1. KHT/BAT determine footprint of base camp
 (f) 2. KHT/BAT determine spatial requirements
 (del) 3. KHT/BAT conduct map reconnaissance
 (f) 4. HKO combat outpost requirements
 (f) 5. HKO satellite operations
 (f) 6. HKO forward arming and refueling points
 (f) 7. HKO forward operating base requirements

Performance Step: 5. Plan road network.

Knowledge /Skills: (del) 1. KHT/BAT determine soil type
 (j) 2. KHT/BAT determine drainage requirements
 (g) 3. KHT/BAT compute Average Daily Traffic (ADT)
 (i) 4. KHT/BAT establish geometric controls
 (j) 5. KHT/BAT determine structural design
 (h) 6. KHT/BAT compute earthwork volumes
 (k) 7. KHT/BAT develop a maintenance repair plan



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (del) 8. KHT/BAT determine class of road needed
- (del) 9. KHT/BAT design road network to interior facilities/locations
- (a) 10. HKO approach/egress to base camp

Performance Step: 6. Select facilities required to support the base camp.

Knowledge /Skills:

- (del) 1. KHT/BAT locate heads
- (del) 2. KHT/BAT locate messing facilities
- (d) 3. KHT/BAT locate hygiene facilities
- (f) 4. KHT/BAT locate ammunition supply points
- (f) 5. KHT/BAT locate landing zones
- (del) 6. KHT/BAT locate medical facilities
- (f) 7. KHT/BAT locate billeting facilities
- (c) 8. KHT/BAT locate fuel points
- (del) 9. KHT/BAT determine COC spatial requirements
- (f) 10. KHT/BAT locate COC
- (del) 11. KHT/BAT determine tantage required
- (del) 12. KHT/BAT locate other commodities (Supply, Class IV lot, HE/MT lot, Hazmat, Comm, etc.)
- (a) 13. KHT/BAT locate roads
- (a,b) 14. KHT/BAT identify what type of temporary facilities are required
- (del) 15. KHT/BAT analyze Commander's Intent/Concept of Operations
- (b,c,d) 16. KHT/BAT determine temporary facility requirements to meet operational requirements listed in the commander's Intent/Concept of Operations

Performance Step: 7. Determine utility requirements.

Knowledge /Skills:

- (e) 1. BAT determine priorities for electrical power
- (del) 2. BAT determine hours of operation for various commodities
- (del) 3. BAT task organize personnel and equipment for the employment of the Mobile Electric Power Distribution System (MEPDIST)
- (c) 4. KHT determine water consumption based on environmental and manning factors
- (c) 5. KHT review a plan for production, purification storage and distribution of water
- (e) 6. KHT determine task organization of personnel and equipment to operate water points and distribution system
- (del) 7. KHT review a distribution diagram
- (del) 8. BAT determine field sanitation requirements



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (e) 9. BAT estimate demand load
- (e,f) 10. KHT establish criteria for generator placement
- (f) 11. KHT select generator sites
- (e) 12. KHT select generators based on priorities
- (del) 13. KHT determine proper mix of MEP equipment based on priorities for power and operational tempo
- (del) 14. KHT identify components of MEPDIST
- (del) 15. KHT determine what 1100 MOSs are required to set up, operate and maintain MEPDIST system
- (c,d,e) 16. KHT identify hygiene equipment capabilities
- (c,d,e) 17. KHT utilities requirements for a FOB (FARP, COP)

Performance Step: 8. Determine fuel requirements.

- Knowledge /Skills:
- (c) 1. KHT/BAT calculate fuel consumption of equipment
 - (c) 2. BAT calculate daily fuel requirements
 - (del) 3. BAT identify fuel types required for specific equipment
 - (del) 4. BAT identify fuel storage capabilities
 - (c) 5. KHT/BAT identify fuel equipment
 - (c) 6. KHT/BAT identify fuel storage and distribution requirements

Performance Step: 9. Determine drainage requirements.

- Knowledge /Skills:
- (del) 1. KHT/BAT develop a drainage plan
 - (d,f) 2. BAT develop seepage pit/leach fields based upon hygiene and sanitation requirements

Performance Step: 10. Develop obstacle/barrier plan as required.

- Knowledge /Skills:
- (a) 1. BAT conduct countermobility planning
 - (a) 2. HKO enemy threat capabilities
 - (a) 3. KHT/BAT design entry access point
 - (a) 4. HKO barriers and obstacles (man-made/expedient)
 - (a) 5. KHT/BAT incorporate barriers into force protection

Performance Step: 11. Develop survivability plan as required.

- Knowledge /Skills:
- (b) 1. BAT conduct survivability planning
 - (a) 2. BAT develop force protection initiatives
 - (b) 3. HKO existing structures
 - (b) 4. KHT/BAT plan survival positions



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Performance Step: 12. Determine bill of materials (BOM).

- Knowledge /Skills:
- (del) 1. KHT/BAT calculate Class IV materials estimations
 - (del) 2. KHT/BAT identify the required information to submit for a BOM
 - (e) 3. BAT identify sources of Class IV material available

Performance Step: 13. Determine camp layout.

- Knowledge /Skills:
- (f) 1. KHT/BAT determine spatial offsets for heads
 - (del) 2. KHT/BAT determine spatial offsets for messing facilities
 - (f) 3. KHT/BAT determine spatial offsets for ammunition supply points
 - (f) 4. KHT/BAT determine spatial offsets for landing zones
 - (del) 5. KHT/BAT determine spatial offsets for medical facilities
 - (f) 6. KHT/BAT determine spatial offsets for billeting facilities
 - (c) 7. KHT/BAT determine spatial offsets for fuel points
 - (del) 8. KHT/BAT determine spatial offsets for staff functional areas/structures
 - (c) 9. KHT/BAT determine spatial offsets for hygiene facilities
 - (del) 10. KHT/BAT determine spatial offsets for equipment/work areas

Performance Step: 14. Determine task organization of personnel and equipment.

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct CPM planning
 - (e) 2. BAT determine personnel and equipment required
 - (e) 3. BAT determine personnel and equipment available

Performance Step: 15. Determine logistical support requirements.

- Knowledge /Skills:
- (e) 1. KHT determine sources of support
 - (del) 2. KHT/BAT coordinate Host Nation support
 - (del) 3. KHT/BAT coordinate purple (joint) support
 - (del) 4. HKO which US agencies are available for support
 - (del) 5. HKO what kind of support US agencies can provide
 - (del) 6. HKO what types of support DOD contractors can provide
 - (del) 7. HKO the Maritime Prepositioned Ship embark manifest
 - (d,e) 8. KHT/BAT determine logistical requirements

Performance Step: 16. Establish a project schedule.

- Knowledge /Skills:
- (e) 1. KHT/BAT establish a BOM for Class IV materials
 - (a,b) 2. KHT/BAT calculate production estimation



Date: 20150604

COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (del) 3. KHT/BAT adjust for attachments/detachments
- (del) 4. KHT/BAT conduct CPM planning

Performance Step: 17. Illustrate final design.

Knowledge /Skills: (f) 1. BAT develop a scale drawing



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-SURV-2002

TASK BEHAVIOR: Prepare a survivability plan

DATE OF LEARNING ANALYSIS: 20141001

Performance Step: 1. Analyze the mission.

- Knowledge /Skills:
- (del) 1. HKO METT-T acronym
 - (a) 2. KHT/BAT identify specified tasks
 - (a) 3. KHT/BAT identify implied tasks
 - (a) 4. KHT/BAT identify essential tasks
 - (a) 5. KHT/BAT identify the commander's intent/guidance
 - (a) 6. KHT/BAT identify enemy capabilities
 - (c) 7. KHT/BAT identify the effects of terrain
 - (c) 8. KHT/BAT identify the effects of weather
 - (a) 9. KHT/BAT identify troops and support available
 - (e) 10. KHT/BAT determine troops and support required
 - (a) 11. KHT/BAT identify command relationships for operation(s)
 - (a) 12. KHT/BAT analyze how space affects time
 - (a) 13. KHT/BAT identify mission deadlines
 - (a) 14. KHT/BAT identify time requirements
 - (a) 15. KHT/BAT analyze the area of operations from an engineer perspective
 - (e) 16. KHT/BAT identify materials required
 - (e) 17. KHT/BAT identify SME requirements and shortfalls
 - (a) 18. KHT/BAT identify mission restraints and constraints
 - (a) 19. KHT/BAT identify key terrain that will affect engineer operations

Performance Step: 2. Conduct Intelligence Preparation of the Battlespace (IPB).

- Knowledge /Skills:
- (a) 1. KHT/BAT define the battlefield environment
 - (a) 2. KHT/BAT describe battlefield effects
 - (a) 3. KHT/BAT analyze the threat
 - (a) 4. KHT/BAT identify threat courses of action

Performance Step: 3. Identify Requests for Information (RFI).

- Knowledge /Skills:
- (del) 1. KHT/BAT conduct a METT-T analysis
 - (a) 2. KHT/BAT identify additional intelligence required



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

- (del) 3. KHT/BAT identify the S-2
- (del) 4. KHT/BAT submit RFIs to appropriate staff section

Performance Step: 4. Identify location(s) of survivability positions.

- Knowledge /Skills:
- (del) 1. KHT/BAT analyze METT-T
 - (a) 2. KHT/BAT analyze commander's intent
 - (c) 3. KHT/BAT determine protective effects of terrain
 - (del) 4. KHT/BAT analyze the threat
 - (c) 5. KHT/BAT determine the locations of survivability positions

Performance Step: 5. Identify survivability requirements.

- Knowledge /Skills:
- (a) 1. KHT/BAT determine the protective requirements for a given T/E
 - (b) 2. HKO equipment survivability requirements
 - (a) 3. KHT/BAT determine level of protection required based on enemy threat

Performance Step: 6. Prioritize survivability requirements.

- Knowledge /Skills:
- (b) 1. HKO higher headquarter's Priority Engineer Project List (PEPL)
 - (b) 2. KHT/BAT determine priority of survivability requirements

Performance Step: 7. Plan for protective obstacle integration.

- Knowledge /Skills:
- (del) 1. KHT/BAT identify existing obstacles
 - (del) 2. KHT/BAT determine placement of reinforcing obstacles
 - (del) 3. KHT/BAT determine obstacle intent for reinforcing obstacles
 - (b) 4. KHT/BAT prioritize emplacements of reinforcing obstacles that support survivability requirements

Performance Step: 8. Task organize engineer equipment and personnel.

- Knowledge /Skills:
- (del) 1. KHT/BAT determine engineer equipment and personnel available
 - (b) 2. KHT/BAT prioritize survivability requirements
 - (e) 3. KHT/BAT allocate personnel and equipment to accomplish survivability missions
 - (e) 4. KHT/BAT determine logistical requirements for survivability positions

Performance Step: 9. Plan inspections of survivability positions for proper construction techniques.

- Knowledge /Skills:
- (del) 1. KHT/BAT identify proper construction techniques
 - (del) 2. KHT/BAT inspect survivability positions

Performance Step: 10. Prepare survivability appendix to the operation order.



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

Knowledge /Skills:

- (del) 1. HKO operation orders
- (del) 2. KHT/BAT analyze METT-T
- (del) 3. KHT/BAT conduct engineer IPB
- (del) 4. KHT/BAT determine engineer mission requirements
- (del) 5. KHT/BAT identify logistical requirements to the S-4/G-4
- (d) 6. KHT/BAT develop an engineer concept of operations
- (f) 7. KHT/BAT develop an engineer appendix



COMBAT ENGINEER PLATOON SERGEANT (WORKING)

LEARNING ANALYSIS WORKSHEET (LAW)

TASK: 1371-VERT-2001

TASK BEHAVIOR: Plan wood frame structure

DATE OF LEARNING ANALYSIS: 20140115

Performance Step: 1. Review construction drawings, blueprints or specifications.

- Knowledge /Skills:
- (a) 1. KHT read blueprints
 - (a) 2. KHT identify structural components
 - (a) 3. KHT identify construction standards
 - (a) 4. KHT design temporary structures

Performance Step: 2. Prepare a materials takeoff sheet.

- Knowledge /Skills:
- (b) 1. KHT calculate material for building components
 - (b) 2. KHT calculate board feet
 - (a) 3. KHT perform mathematical equations
 - (b) 4. KHT calculate fasteners
 - (b) 5. KHT determine material take-off list
 - (b) 6. BAT determine material take-off list

Performance Step: 3. Prepare a bill of materials.

- Knowledge /Skills:
- (b) 1. KHT calculate board feet
 - (a) 2. KHT perform mathematical equations
 - (b) 3. KHT determine economical order lengths
 - (c) 4. KHT prepare a bill of materials
 - (c) 5. BAT prepare a bill of materials

Performance Step: 4. Submit required documents.

- Knowledge /Skills:
- (c) 1. KHT submit BOM
 - (a) 2. KHT submit changes to specifications/drawings

