

ENGINEER EQUIPMENT OPERATOR - PROGRAM OF INSTRUCTION

v 2.0 - APPROVED

PREFACE

1. The purpose of the Basic Engineer Equipment Operators Course is to provide instruction for those tasks listed in SECTION I - APPENDIX B of this POI. These tasks have been selected from the Training and Readiness (T&R) manual Specialty (MOS) 1345. The terminal learning objectives for the lessons listed in Section IV have been developed from the task list.
2. All commands cited in Section VI are requested to review the contents of this POI and evaluate the performance of their graduates against field requirements and submit comments and recommendations to:

Commanding Officer
Marine Corps Detachment
686 Minnesota Ave
Fort Leonard Wood, MO 65473

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SECTION I - COURSE DESCRIPTIVE DATA

1. COURSE TITLE: ENGINEER EQUIPMENT OPERATOR
2. LOCATION: MARINE CORPS DETACHMENT, 686 MINNESOTA AVE, FORT LEONARD WOOD, MO 65473-8963
3. COURSE ID: A1613F1
4. OTHER SERVICE COURSE NUMBER: N/A
5. MILITARY ARTICLES AND SERVICE LIST NUMBER (MASL):
6. PURPOSE: Provide entry level training to personnel in the MOS 1345.
7. SCOPE: To provide entry-level training for Engineer Equipment Operators. This is a performance oriented course consisting of operating techniques, principles of employment in the operations and operator level maintenance of engineer equipment. This course provides for nine weeks of Marine Unique instruction on Shop operations, forklifts, Scoop loaders, Crawler Tractors, Backhoes, and grader.
8. LENGTH (PEACETIME): 45 Training Days
9. CURRICULUM BREAKDOWN (PEACETIME):
 - 339.00 Academic Hours
 - 20.50 Demonstration
 - 50.25 Lecture
 - 229.75 Practical Application
 - 0.50 Quiz
 - 30.00 Performance Examination
 - 8.00 Written Examination
 - 17.00 Administrative Hours
 - 12.00 Administrative
 - 1.00 Critique
 - 3.00 Graduation
 - 1.00 Lecture
10. LENGTH (MOBILIZATION): 28 Training Days
 - Mobilization Note: Due to the content of this course and the instructional strategy, there is no difference in the academic hours planned in the event of mobilization. MCEs FLW will teach the same course content for the existing course during mobilization, but will teach the course in a 6-day week, 10 hour training day basis, rather than the 5-day week, 8-hour training day used in peacetime.
11. CURRICULUM BREAKDOWN (MOBILIZATION): Same as PeaceTime
12. MAXIMUM CLASS CAPACITY: 12
13. OPTIMUM CLASS CAPACITY: 9



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SECTION I - COURSE DESCRIPTIVE DATA

- 14. MINIMUM CLASS CAPACITY: 6
- 15. CLASS FREQUENCY: 48
- 16. TARGET POPULATION DESCRIPTION/PREREQUISITES:

Target Population Description: Pvt - SSgt

Prerequisites: Corporal and below; minimum score of 95 in aptitude area MM; vision correctable to 20/20; depth perception (third degree binocular vision). Full use of upper and lower extremities; minimum height of 66 inches; weight proportional to height. Primarily intended for recruit distribution.

- 17. MOS RECEIVED. 1345 - ENGINEER EQUIPMENT OPERATOR
- 18. OCC FIELD. HQMC, I&L, LPE
- 19. FUNDING. MILPERS
TECOM (C464)
MARFORRES
- 20. REPORTING INSTRUCTIONS.

Students report to the Commanding Officer, Marine Corps Detachment, 686 Minnesota Ave, Fort Leonard Wood, MO. Students report to Bldg 1702 during normal working hours and Bldg 1769 after normal working hours. Messing and billeting are available for entry level Marines. All other Marines scheduled to attend this course must verify their billeting reservations by calling the Fort Leonard Wood billeting office at 1-800-677-8356 during normal working hours. Billeting is \$38 per day. Messing is available at per diem rate.

- 21. INSTRUCTOR STAFFING REQUIREMENTS. See Appendix A for Instructor Computation Worksheet.

LN#	GRADE	MOS	BILLET DESCRIPTION	FILLED	VACANT
108	E7	1349	Instructor	1	0
Comment: This is also the SNCOIC of the annex					
109	E6	1345	Instructor	1	0
110	E6	1345	Instructor	1	0
111	E6	1345	Instructor	1	0
112	E6	1345	Instructor	1	0
113	E6	1345	Instructor	1	0
114	E6	1345	Instructor	1	0
115	E6	1345	Instructor	1	0
116	E6	1345	Instructor	1	0
117	E6	1345	Instructor	1	0
118	E6	1345	Instructor	1	0
119	E6	1345	Instructor	1	0
120	E6	1345	Instructor	1	0



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LN#	GRADE	MOS	BILLET DESCRIPTION	FILLED	VACANT
121	E6	1345	Instructor	1	0
122	E6	1345	Instructor	1	0
123	E6	1345	Instructor	1	0
124	E6	1345	Instructor	1	0
125	E6	1345	Instructor	1	0
126	E6	1345	Instructor	1	0
340	E5	1345	Instructor	1	0
341	E5	1345	Instructor	1	0

22. SCHOOL OVERHEAD REQUIREMENTS.

LN#	GRADE	MOS	BILLET DESCRIPTION	FILLED	VACANT
048	E9	1349	Academics Chief	1	0
056	E7	1349	Programmer	1	0
103	O4	1302	Company Commander	1	0
104	W5	1310	Academics Officer	1	0
105	E8	8999	Company 1stSgt	1	0
106	E7	1349	Ops Chief/Co Gy	1	0
334	G09	0009	Curriculum developer	1	0

23. TRAINING/EDUCATION SUPPORT REQUIREMENTS.

The following facility requirements are identified for one iteration of the course:

FACILITY	FACILITY ID	SQ FT	REQ'D	ON HAND	SHORT
Bldg (BEEO headquarters)	5042	1236	1	1	0
Memo: This building consist of SNCOIC Office, Dispatch Office, conference room, and two classrooms.					
Bldg (Backhoe-1150)	5041	2608	1	1	0
Memo: This includes 3 classrooms 20x27 ea (540sqft), an instructor area of 308 sqft and a storage rm of 140sqft.					
Bldg (Classroom, MCT training)	12345	840	1	1	0
Memo: This includes Instructor office (300 sqft) and 1 class room (540 sqft)					



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Bldg (Head Facility)	5075A	250	1	1	0
Bldg (Head facility)	5046A	168	1	1	0
Bldg (MHE)	5075	1254	1	1	0
Memo: Instructors Office and 2 classrooms.					
Bldg (SL-3)	N/A	250	4	4	0
Memo: Used to store SL-3 components					
Bldg (Sun Shelter)	N/A	500	3	3	0
Memo: This shelter is for students to prevent heat casualties.					
Bldg (Tower, Instructor)	N/A	500	3	3	0
Memo: Instructor lookout tower.					
Bldg (Warm up Shed MHE)	5075B	465	1	1	0
Memo: Student warm up shed					
Bldg (Warm up shed Backhoes)	5040B/12707	465	2	2	0
Memo: Student warm up sheds 465 sqft ea					
Bldg (Warm up shed MCT)	12344	465	1	1	0
Memo: Student warm up shed					
Concrete Pad (1150)	N/A	2400	1	1	0
Memo: Parking line for equipment (1150E dozer)					
Concrete Pad (Backhoe and TRAM)	N/A	5760	1	1	0
Memo: Parking line for 420 Backhoe and attachments					
Concrete pad (MHE fork attachments)	N/A	2400	1	1	0
Concrete pad (MCT)	N/A	2400	1	1	0
Training area (Dozer phase)	N/A	348480	1	1	0
Memo: This area is 8 acres					
Training area (MHE)	N/A	696960	1	1	0
Memo: This training area is 16 acres					
Training area (Triple phase)	N/A	653400	1	1	0
Memo: This training area is 15 acres					
Training area (grader phase)	N/A	348480	1	1	0
Memo: This area is 8 acres					



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SECTION I - COURSE DESCRIPTIVE DATA

The following material requirements are identified for one iteration of the course:

NOMENCLATURE	NSN	UNITS OF ISSUE	REQ'D	ON HAND	SHORT
1150E Crawler Tractor	2410-01-125-1667	EACH	12	12	0
2 hole punch	7520-00-224-7589	EACH	5	5	0
3 hole punch	7520-00-163-2563	EACH	5	5	0
420E BACKHOE	3805-01-514-7166	EACH	10	10	0
Air Conditioners	FAS226R2A	EACH	8	8	0
Air compressor	C2002 TYPE3	EACH	5	5	0
Anti-Freeze	6850-01-464-9137	GALLON	30	30	0
Basic operator bag	5180-01-580-7176	EACH	7	7	0
Batteries (size 9V)	EVEEN22	BOX	1	1	0
Batteries (size AA)	6135-00-985-7845	BOX	2	2	0
Batteries (size AAA)	6135-00-826-4798	BOX	2	2	0
Batteries (size D)	6135-00-835-7210	BOX	2	2	0
Boot brush	7920-00-061-0038	EACH	10	10	0
Broom	7920-00-965-4886	EACH	10	10	0
Calender, desk	7510-01-545-3731	EACH	21	21	0
Chairs, Instructor	3GD4RA	EACH	21	21	0
Chairs, student	51171	EACH	96	96	0
Computer disk, blank	7045-01-470-3592	BOX	1	1	0
Computers	KR151AV	EACH	10	10	0
Cork board	7195-01-484-0005	EACH	8	8	0
Coveralls (Instructor)	8405-00-131-6507	EACH	21	21	0
Coveralls (student)	8405-00-131-6507	EACH	12	12	0
DD 518	1990504109	PACK	1	1	0
Daily Dispatching Record Of Vehicles`	0000-00-001-6104	PACK	1	1	0
Desk, Instructor	11943	EACH	21	21	0
Desk, student	41076	EACH	48	48	0
Memo: Two students per desk					
Document Protectors	7510-01-381-2219	BOX	1	1	0
Door mat	7220-01-386-6722	EACH	10	10	0
Dry-Erase Board	QRTS574	EACH	7	7	0
Engineer Equipment Operational Record	0000-00-005-6304	PACK	1	1	0



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SECTION I - COURSE DESCRIPTIVE DATA

Equipment Repair Order	0109-LF-063-2900	PACK	1	1	0
Eraser, dry	7520-01-365-6126	EACH	7	7	0
Eye wash station	4240-00-551-3134	EACH	4	4	0
File cabinet	7110-00-004-6695	EACH	7	7	0
First aid kit	6545-00-663-9032	EACH	5	5	0
Folders	7530-00-291-0098	EACH	15	15	0
Fuel	9140-00-286-5294	GALLON	2560	2560	0
General Mechanics Tool kit	5180-01-554-4224	EACH	4	4	0
Glass cleaner	7930-00-901-2088	EACH	5	5	0
Grease (GAA)	9150-01-197-7692	POUND	4	4	0
Grease Guns	4930-00-253-2478	EACH	10	10	0
Hanging file folders	7530-01-364-9497	PACK	2	2	0
Hard Hats (Instructor)	45971-00001	EACH	21	21	0
Hard Hats (Student)	8415009353140	EACH	12	12	0
Haz Mat Locker	LK1028380	EACH	2	2	0
Hazmat spill kit	4235-01-457-0678	EACH	3	3	0
Hearing protection	6515-00-137-6345	BOX	1	1	0
Highlighters, yellow	7520009044476	DOZEN	1	1	0
Key locker	7120-00-285-3049	EACH	5	5	0
Leather gloves	13163M	EACH	15	15	0
Lysol cleaner	RAC95432	CAN	3	3	0
MCT 850JR	2320-01-558-5671	EACH	19	19	0
MMV TIER II	3930-01-508-0886	EACH	8	8	0
Map pens	7510-00-281-4432	BOX	7	7	0
Marker, fine tip dry erase	B1CGDEP41ASST	BOX	7	7	0
Markers, dry erase	7520011863605	ASSORTMEN T	7	7	0
NATO Slave cables	2590-00-148-7961	EACH	5	5	0
NAVMC 10523	0109-LF-063-7700	PACK	1	1	0
NAVMC 10524	0109-LF-063-7800	PACK	1	1	0
Oil (10w)	9150-01-496-1943	GALLON	52	52	0
Oil (15w40)	9150-01-421-1432	GALLON	52	52	0
Oil (80w90)	9150-01-035-5393	GALLON	13	13	0
Oil, 2 cycle	open purchase	PINT	1	1	0
POL Locker	B900	EACH	3	3	0
Pad lock	5340-00-115-83805	EACH	10	10	0
Paper Clips	7510-00-161-4292	BOX	1	1	0
Paper cutter	EPL26234	EACH	1	1	0
Paper towels	85400NIB0064	BOX	1	1	0
Pencil erasers	PAP70520	BOX	1	1	0
Pencil sharpner	EPL1716	EACH	5	5	0



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Pencil, #2	7510002815230	DOZEN	2	2	0
Penetrating fluid	6850009739091	CAN	3	3	0
Pens, black	7520013861618	DOZEN	2	2	0
Pens, red	7520013576842	DOZEN	2	2	0
Podium, classroom	N/L	EACH	8	8	0
Post it notes	7530011167865	DOZEN	3	3	0
Preventive Maintenance Checks and S	0109-LF-063-8800	PACK	1	1	0
Printer	HEWCE459A	EACH	6	3	3
Printer Paper	7530013352623	BOX	1	1	0
Projector	V11H328020	EACH	7	7	0
Projector Screen	ORT660S	EACH	7	7	0
Projector remote	KMW33374	EACH	7	7	0
Radio	5820-99-721-8335	EACH	42	42	0
Rags	7920002051711	BUNDLE	4	4	0
Refrigerator	FRT18L4JW	EACH	1	1	0
Remote Gyro	1000-02-LSN-0199	EACH	5	5	0
Riding lawn mower	LTX1046VT	EACH	1	1	0
Road Grader, 120M	3805-01-566-0558	EACH	10	10	0
SF 91	7540-00-634-4041	PACK	1	1	0
SF 94	7540-00-834-4045	PACK	1	1	0
Scissors	5110-00-223-6371	EACH	7	7	0
Shelves	7125-01-465-7394	EACH	2	2	0
Shovels	5120-21-103-7676	EACH	8	8	0
Simple green	7930-01-373-8849	BOTTLE	7	7	0
Stapler	7520-00-281-5895	EACH	7	7	0
Staples	7510002729818	BOX	1	1	0
Study guides	N/L	EACH	84	84	0
Surge protectors	5920-01-C00-0325	EACH	7	7	0
Swab buckets	7920-01-343-3776	EACH	5	5	0
Swabs	7920-00-205-0426	EACH	10	10	0
TM 4700-15/1H	18204600000	EACH	11	11	0
TRAM 624KR	3805-01-279-3635	EACH	10	10	0
TX-51-19M 5K	3930-00-153-0855	EACH	11	11	0
Tank bar	5210-01-355-2064	EACH	8	8	0
Tape, duct	7510008909874	ROLL	1	1	0
Tape, electrical	5970004194291	ROLL	1	1	0
Tape, scotch	7510005519825	ROLL	1	1	0
Test booklets	N/L	EACH	84	84	0
Toilet paper	8540-00-530-3770	BOX	1	1	0
Trash bags	8105-01-517-1365	BOX	1	1	0



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Trash can	7520-00-281-5911	EACH	7	7	0
Weed eater	CC4175	EACH	2	2	0
Wire Brush	7920-00-282-9246	EACH	10	10	0

24. TASK LIST. See Appendix B.

CDD NOTES:

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SECTION I - COURSE DESCRIPTIVE DATA

APPENDIX A - INSTRUCTOR COMPUTATION WORKSHEET (LOCKSTEP)

SECTION I COURSE DATA

COURSE: A1613F1 ENGINEER EQUIPMENT OPERATOR

LOCATION MARINE CORPS DETACHMENT, 686 MINNESOTA AVE, FORT
LEONARD WOOD, MO 65473-8963

PROGRAMMED ANNUAL INPUT (FY13): 576 LENGTH (AVG CAL DAYS): 63

PROGRAMMED NUMBER OF CLASSES/YEAR: 48 LENGTH (TRAINING DAYS): 45

SYLLABUS HOURS: 339

SECTION II CURRICULUM BREAKOUT

(A) TRAINING SITUATION	(B) MAX CLASS SIZE	(C) MAX RATIO (X:1)	(D) INST REQ	(E) SYLLABUS HOURS	(F) INST MANHOURS
Demonstration	12 /	6.00 =	2.00 X	15.00 =	30.00
Demonstration	12 /	12.00 =	1.00 X	5.50 =	5.50
Lecture	12 /	12.00 =	1.00 X	50.25 =	50.25
Performance Examination	12 /	4.00 =	3.00 X	6.00 =	18.00
Performance Examination	12 /	6.00 =	2.00 X	24.00 =	48.00
Practical Application	12 /	4.00 =	3.00 X	134.50 =	403.50
Practical Application	12 /	6.00 =	2.00 X	95.25 =	190.50
Quiz	12 /	12.00 =	1.00 X	0.50 =	0.50
Written Examination	12 /	12.00 =	1.00 X	8.00 =	8.00
TOTAL INSTRUCTOR MANHOURS PER CLASS(G):					754.25



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SECTION I - COURSE DESCRIPTIVE DATA

APPENDIX A - INSTRUCTOR COMPUTATION WORKSHEET (LOCKSTEP)

SECTION III INSTRUCTOR COMPUTATION

TOTAL INSTRUCTOR MANHOURS PER CLASS	X	PROGRAMMED NUMBER OF CLASSES	=	ANNUAL INSTRUCTOR CONTACT HOURS	36204
ANNUAL INSTRUCTOR CONTACT HOURS	X	1.26	=	ANNUAL INSTRUCTOR HOURS	45617.04
ANNUAL INSTRUCTOR HOURS	/	12	=	MONTHLY INSTRUCTOR HOURS	3801.42
MONTHLY INSTRUCTOR HOURS	/	145	=	INSTRUCTORS REQUIRED	26.217 = 26

ICW NOTES:

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SECTION I - COURSE DESCRIPTIVE DATA

APPENDIX B - TASKLIST

DUTY: 1345-ADMN Administration

TASKS: 1345-ADMN-1002 Conduct Shop Operations

DUTY: 1345-MANT Maintenance

TASKS: 1345-MANT-1001 Conduct engineer equipment preventive maintenance

DUTY: 1345-XENG Expeditionary Engineering

TASKS: 1345-XENG-1001 Operate the motorized road grader

1345-XENG-1002 Operate the tractor, rubber-tired, articulated steering, multi-purpose (TRAM) 624KR

1345-XENG-1003 Operate the Millennia Military Vehicle (MMV) extended boom forklift

1345-XENG-1004 Operate the Medium Crawler Tractor (MCT)

1345-XENG-1005 Operate the MC1150E tractor

1345-XENG-1007 Operate the Terex Light Capability Rough Terrain Forklift (LCRTF) forklift

1345-XENG-1008 Operate the 420D IT backhoe

TASK LIST NOTES: TECOM directed MCCA tasks covering Marine Corps values (Honor, courage, Commitment) and Marine Corps Mentoring.

1. Prevent Suicide (MCCA-VALU-1010)
2. Report Combat Stress-Related Reactions and Injuries (MCCA-LDR-1018)
3. Sexual Assault Prevention and Response (MCCA-VALU-1013)
4. Illegal Drugs (MCCA-VALU-1003)
5. Alcohol Abuse (MCCA-VALU-1004)
6. ORM/Safety (MCCA-LDR-1011)



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SECTION II - SUMMARY OF HOURS

PEACETIME (45 TRAINING DAYS)

ACADEMIC TIME

<u>TITLE</u>	<u>HOURS</u>	<u>ANNEX</u>
Shop operations	39.00	A
Equipment Operations	262.00	B
Exams	38.00	C
	<hr/>	
TOTAL ACADEMIC HOURS:	339.00	

ADMINISTRATIVE TIME

<u>TITLE</u>	<u>HOURS</u>	<u>ANNEX</u>
Check-Out	16.00	Z
VBT	1.00	Z
	<hr/>	
TOTAL ADMINISTRATIVE HOURS:	17.00	

SUMMARY (PEACETIME)

ACADEMIC TIME	339.00
ADMINISTRATIVE TIME	17.00
	<hr/>
TOTAL ACADEMIC AND ADMINISTRATIVE TIME:	356.00

MOBILIZATION (28 TRAINING DAYS)

Due to the content of this course and the instructional strategy, there is no difference in the academic hours planned in the event of mobilization. MCES FLW will teach the same course content for the existing course during mobilization, but will teach the course in a 6-day week, 10 hour training day basis, rather than the 5-day week, 8-hour training day used in peacetime.



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SECTION III - SCOPE OF ANNEXES

- A . Shop operations Provide instruction in records and forms, operator technical manuals, POL, tools, and ORM.
- B . Equipment Operations Provide instruction in the characteristics, PMCS, and operation of forklifts, dozers, back hoes and graders.
- C . Exams Written and performance exams
- Z . Administrative Check in and check out.



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SECTION IV - CONCEPT CARDS

1. A Concept card is developed to describe each academic or administrative block of time during a course. These concept cards are then grouped into subject areas, called annexes, which are summarized in Section III. Annexes A through Y are reserved for academic lessons and exams. Annex Z is reserved for administrative time.
2. The following information is contained on each academic concept card in section IV:
 - a. **Heading.** The heading listed at the top of the concept card includes the name of the course, the section of the POI, and the letter and title of the annex to which the lesson or exam is assigned.
 - b. **Lesson/Exam ID.** This designator is a unique code assigned to this specific lesson or exam within this course.
 - c. **Hours.** This number (carried to the second decimal place) depicts the amount of time required to conduct the lesson or exam once, even if it is presented multiple times to smaller groups of students.
 - d. **Type.** When Academic Concept Cards are entered there are 3 option types: Lesson Purpose, Task Oriented, and Exam.
 - e. **Category.** For a Training Curriculum, objectives from T&R Manuals will have a category of Training.
 - f. **Title.** This is the title assigned to this lesson or exam. It should refer to the subject matter covered in the lesson or exam when possible.
 - g. **Phase (optional).** This is a code depicting the phase (e.g., week, month, etc.) of the course during which this lesson or exam takes place.
 - h. **Group (optional).** This is a code depicting the instructional group or section of the course during which this lesson or exam takes place.
 - i. **Methods, Hours, S:I Ratio.** Displayed on the concept card are codes that symbolize the methods of instruction used to present this lesson or exam. Following each method code is the time (in hours) allocated to that method and the student to instructor ratio associated with that period of time. (The hours and ratios depicted on the concept card are used to determine instructor-staffing requirements.) The following is a comprehensive list of methods used in this course and their respective codes:

<u>Method</u>	<u>Code</u>
Administrative	ADMIN
Critique	CR
Demonstration	D
Graduation	G
Lecture	L
Practical Application	PA
Quiz	Q
Performance Examination	X(P)
Written Examination	X(W)

- j. **Media.** Displayed on the concept card are codes that symbolize the media used to support this lesson or exam. The following is a comprehensive list of media used in this course and their respective codes:



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SECTION IV - CONCEPT CARDS

<u>Medium</u>	<u>Code</u>
Actual Item/Object	AIO
Dry Erase Board	DB
Handout	HO
Performance Evaluation Checklist	PEC
PowerPoint Presentation	PPT
Technical Manual	TM
Test Booklet	TSTBK

k. **Learning Objective(s)/Lesson Purpose.** Academic Concept cards contain either learning objectives or a lesson purpose statement, but not both.

(1) **Learning Objective.** A learning objective describes a behavior that students are expected to perform following instruction, not necessarily identical to a behavior performed on the job. It also details the conditions under which that behavior is performed and the minimum standards of acceptable performance. A student masters the objective when his or her performance equals or exceeds the standard. (Information concerning student evaluation and mastery is contained in Section V of this POI.)

(a) **Terminal Learning Objective (TLO).** One, and only one, TLO is written for each task in section 1, Appendix B, of the POI. The behavior in the TLO duplicates the actual behavior required on the job, modified only if the constraints of the academic environment will not allow it. A TLO should only appear on a concept card for a lesson or exam during which students actually perform the TLO. Each TLO is assigned a numeric designator identical to the designator of its corresponding task in section 1, Annex B, which is identical to the designator of the Training and Readiness (T & R) from which the task was derived. This designator is located in parentheses at the end of the TLO.

(b) **Enabling Learning Objective (ELO).** ELOs are designed to teach students the knowledge and skills required for successful performance of the TLOs. Each ELO is placed only on concept cards for lesson or exams during which students actually perform the ELO. Many introductory lessons will contain only ELOs. Each ELO is assigned the same numeric designator as the TLO it supports, followed by a unique combination of one or two letters. This designator is located in parentheses at the end of the ELO. (The first 26 ELOs are assigned the letters "a" through "z" consecutively. If there are more than 26 ELOs, they are assigned the letters "aa" through "az", then "ba" through "bz", etc.)

(2) **Lesson Purpose.** A lesson purpose statement is recorded on a concept card where no learning objectives are appropriate (e.g., overview, orientation, or enrichment lesson) and the lesson is not to be evaluated. The lesson purpose statement clearly describes the rationale for presenting the lesson.

l. **Ammunition Requirements.** Whenever a lesson requires the use of ammunition by students or by the instructional staff in support of the lesson, the concept card for that lesson will include a table describing those requirements. Included for each type of ammunition will be its Department of Defense Identification Code (DODIC), its nomenclature, the average number of rounds used by each student and number of support rounds.

m. **Notes (Optional).** This section of the concept card contains any information pertinent to the lesson. Examples of items which may be addressed here are instructor requirements, scheduling notes, special prerequisites, references to test on that material will be evaluated, etc.

n. **References.** This section contains the source documents used for development of the lesson or other references which relate to the lesson. At a minimum, it must contain all documents referenced in the learning objectives included



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on the concept card.

3. The following information is contained on each administrative concept card in section IV:
 - a. **Heading.** The heading listed at the top of the concept card included the name of the course, the section of the POI, and the fact that this concept card is part of Annex Z, Administrative Time.
 - b. **Event ID.** This designator is a unique code assigned to this administrative event within the course.
 - c. **Hours.** This number (carried to the second decimal place) depicts the amount of administrative time required for this event. If this is a repeating event, one concept card may indicate the cumulative hours associated with this event throughout the course.
 - d. **Type.** When Administrative Concept Cards are entered, the type will always be Administrative.
 - e. **Category.** For a Training Curriculum, objectives from T&R Manuals will have a category of Training.
 - f. **Event.** This is a short description of the administrative event.
 - g. **Notes (Optional).** This section of the concept card contains any information pertinent to the administrative block of time.
4. The following pages contain useful information for locating the learning objectives and lessons that make up this course:
 - a. **Location of Learning Objectives Report.** This report lists, by learning objective designator, all learning objectives developed for this course. It also identifies every concept card on which learning objective is included.
 - b. **Academic and Administrative Summaries.** This report lists, by annex, all objective designators, all learning objectives developed for this course. It also identifies every concept card on which learning objective is included.



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-ADMN-1002	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002a	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002b	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002c	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002d	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002e	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002f	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-ADMN-1002g	A	BEEO-A01	Shop Operations
	C	BEEO-A01X(W)	Shop operations
1345-MANT-1001	B	BEEO-B01	Operate the TX 51-19 (LCRTF)
	C	BEEO-B01X(P)	Operate the TX 51-19 (LCRTF)
	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
	B	BEEO-B03	Operate the TRAM 624KR
	C	BEEO-B03X(P)	Operate the TRAM 624KR
	B	BEEO-B04	Operate the 420E Backhoe Loader
	C	BEEO-B04X(P)	Operate the 420E Backhoe Loader
	B	BEEO-B05	Operate the MC1150E Crawler Tractor
	C	BEEO-B05X(P)	Operate the MC1150E Crawler Tractor



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
	B	BEEO-B06	Operate the 850JR MCT Crawler Dozer
	C	BEEO-B06X(P)	Operate the 850JR MCT Crawler Dozer
	B	BEEO-B07	Operate the 120M Motorized road grader
	C	BEEO-B07X(P)	Operate the 120M Motorized road grader
1345-MANT-1001a	B	BEEO-B01	Operate the TX 51-19 (LCRTF)
	C	BEEO-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-MANT-1001b	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-MANT-1001c	B	BEEO-B03	Operate the TRAM 624KR
	C	BEEO-B03X(P)	Operate the TRAM 624KR
1345-MANT-1001d	B	BEEO-B04	Operate the 420E Backhoe Loader
	C	BEEO-B04X(P)	Operate the 420E Backhoe Loader
1345-MANT-1001e	B	BEEO-B05	Operate the MC1150E Crawler Tractor
	C	BEEO-B05X(P)	Operate the MC1150E Crawler Tractor
1345-MANT-1001f	B	BEEO-B06	Operate the 850JR MCT Crawler Dozer
	C	BEEO-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-MANT-1001g	B	BEEO-B07	Operate the 120M Motorized road grader
	C	BEEO-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001	B	BEEO-B07	Operate the 120M Motorized road grader
	C	BEEO-B07X(P)	Operate the 120M Motorized road grader
	C	BEEO-B07X(W)	Operate the 120M Motorized road grader
1345-XENG-1001a	B	BEEO-B07	Operate the 120M Motorized road grader
	C	BEEO-B07X(W)	Operate the 120M Motorized road grader
1345-XENG-1001b	B	BEEO-B07	Operate the 120M Motorized road grader
	C	BEEO-B07X(P)	Operate the 120M Motorized road grader



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1001c	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001d	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001e	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001f	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001g	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001h	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001i	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001j	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001k	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1001l	B	BEE0-B07	Operate the 120M Motorized road grader
	C	BEE0-B07X(P)	Operate the 120M Motorized road grader
1345-XENG-1002	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
	C	BEE0-B03X(W)	Operate the TRAM 624KR
1345-XENG-1002a	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(W)	Operate the TRAM 624KR



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1002b	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002c	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002d	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002e	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002f	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002g	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002h	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002i	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002j	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1002k	B	BEE0-B03	Operate the TRAM 624KR
	C	BEE0-B03X(P)	Operate the TRAM 624KR
1345-XENG-1003	B	BEE0-B02	Operate the Extended Boom Forklift/MMV
	C	BEE0-B02X(P)	Operate the Extended Boom Forklift/MMV
	C	BEE0-B02X(W)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003a	B	BEE0-B02	Operate the Extended Boom Forklift/MMV



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
	C	BEEO-B02X(W)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003b	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003c	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003d	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003e	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003f	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003g	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003h	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003i	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1003j	B	BEEO-B02	Operate the Extended Boom Forklift/MMV
	C	BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV
1345-XENG-1004	B	BEEO-B06	Operate the 850JR MCT Crawler Dozer
	C	BEEO-B06X(P)	Operate the 850JR MCT Crawler Dozer
	C	BEEO-B06X(W)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004a	B	BEEO-B06	Operate the 850JR MCT Crawler Dozer
	C	BEEO-B06X(W)	Operate the 850JR MCT Crawler Dozer



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1004b	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004c	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004d	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004e	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004f	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004g	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004h	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004i	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004j	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004k	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004l	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(W)	Operate the 850JR MCT Crawler Dozer
1345-XENG-1004m	B	BEE0-B06	Operate the 850JR MCT Crawler Dozer
	C	BEE0-B06X(P)	Operate the 850JR MCT Crawler Dozer



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1005	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(W)	Operate the MC1150E Crawler Tractor
1345-XENG-1005a	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(W)	Operate the MC1150E Crawler Tractor
1345-XENG-1005b	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005c	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005d	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005e	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005f	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005g	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005h	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005i	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005j	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor
1345-XENG-1005k	B	BEE0-B05	Operate the MC1150E Crawler Tractor
	C	BEE0-B05X(P)	Operate the MC1150E Crawler Tractor



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1007	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(W)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007a	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(W)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007b	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007c	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007d	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007e	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007f	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007g	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007h	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1007i	B	BEE0-B01	Operate the TX 51-19 (LCRTF)
	C	BEE0-B01X(P)	Operate the TX 51-19 (LCRTF)
1345-XENG-1008	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
	C	BEE0-B04X(W)	Operate the 420E Backhoe Loader



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<u>LO</u>	<u>ANNEX</u>	<u>LESSON ID</u>	<u>LESSON TITLE</u>
1345-XENG-1008a	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(W)	Operate the 420E Backhoe Loader
1345-XENG-1008b	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008c	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008d	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008e	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008f	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008g	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008h	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008i	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008j	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008k	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader
1345-XENG-1008l	B	BEE0-B04	Operate the 420E Backhoe Loader
	C	BEE0-B04X(P)	Operate the 420E Backhoe Loader



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ACADEMIC SUMMARY

<u>IDENTIFIER</u>	<u>TITLE</u>	<u>HOUR</u>	<u>TYPE</u>	<u>CATEGORY</u>
ANNEX A	Shop operations			
BEEO-A01	Shop Operations	35.00	T	TRN
BEEO-A01(LP)	Multi piece rim demonstration	4.00	LP	TRN
		Annex Total:	39.00	
ANNEX B	Equipment Operations			
BEEO-B01	Operate the TX 51-19 (LCRTF)	36.00	T	TRN
BEEO-B02	Operate the Extended Boom Forklift/MMV	35.00	T	TRN
BEEO-B03	Operate the TRAM 624KR	35.00	T	TRN
BEEO-B04	Operate the 420E Backhoe Loader	35.00	T	TRN
BEEO-B05	Operate the MC1150E Crawler Tractor	35.00	T	TRN
BEEO-B06	Operate the 850JR MCT Crawler Dozer	34.00	T	TRN
BEEO-B07	Operate the 120M Motorized road grader	52.00	T	TRN
		Annex Total:	262.00	
ANNEX C	Exams			
BEEO-A01X(W)	Shop operations	1.00	E	TRN
BEEO-B01X(P)	Operate the TX 51-19 (LCRTF)	3.00	E	TRN
BEEO-B01X(W)	Operate the TX 51-19 (LCRTF)	1.00	E	TRN
BEEO-B02X(P)	Operate the Extended Boom Forklift/MMV	4.00	E	TRN
BEEO-B02X(W)	Operate the Extended Boom Forklift/MMV	1.00	E	TRN
BEEO-B03X(P)	Operate the TRAM 624KR	4.00	E	TRN
BEEO-B03X(W)	Operate the TRAM 624KR	1.00	E	TRN
BEEO-B04X(P)	Operate the 420E Backhoe Loader	4.00	E	TRN
BEEO-B04X(W)	Operate the 420E Backhoe Loader	1.00	E	TRN
BEEO-B05X(P)	Operate the MC1150E Crawler Tractor	4.00	E	TRN
BEEO-B05X(W)	Operate the MC1150E Crawler Tractor	1.00	E	TRN
BEEO-B06X(P)	Operate the 850JR MCT Crawler Dozer	5.00	E	TRN
BEEO-B06X(W)	Operate the 850JR MCT Crawler Dozer	1.00	E	TRN
BEEO-B07X(P)	Operate the 120M Motorized road grader	6.00	E	TRN
BEEO-B07X(W)	Operate the 120M Motorized road grader	1.00	E	TRN
		Annex Total:	38.00	
		Total Academic Hours:	339.00	



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ADMINISTRATIVE SUMMARY

<u>IDENTIFIER</u>	<u>TITLE</u>	<u>HOUR</u>	<u>TYPE</u>	<u>CATEGORY</u>
ANNEX Z	Administrative			
BEE0-Z01	Check-Out	16.00	ADM	TRN
BEE0-Z02	VBT	1.00	ADM	TRN
Total Administrative Hours:		17.00		
		Total POI Hours:	356.00	



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ANNEX A - Shop operations

LESSON ID: BEEO-A01

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Shop Operations

METHOD	HOURS	S:I RATIO
D	5.00	12 : 1
L	22.50	12 : 1
PA	7.50	12 : 2

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

1. Provided references, facilities, forms, personnel, tools and engineer equipment, conduct shop operations to maintain unit readiness without injury to personnel or damage to equipment. (1345-ADMN-1002)

ENABLING LEARNING OBJECTIVE(S)

1. Given technical manual short titles, and without the aid of reference, identify the four elements of a short title per MCO P4790.2C. (1345-ADMN-1002a)
2. With the aid of reference, identify lubrication orders utilized in the maintenance and operation of engineer equipment per TM-09135C-OR/A. (1345-ADMN-1002b)
3. Without the aid of reference, identify the levels of maintenance per MCO P4790.2C. (1345-ADMN-1002c)
4. Without the aid of reference, identify petroleum, oils, and lubricants (POL) utilized in the maintenance and operation of engineer equipment per the Student handout. (1345-ADMN-1002d)
5. Without the aid of reference, identify tools utilized in the maintenance and operation of engineer equipment per the SL-3-11825A. (1345-ADMN-1002e)
6. Without the aid of reference, select the correct records and forms per the TM 4700-15/1_. (1345-ADMN-1002f)
7. Without the aid of reference, identify the levels of operational risk management per the MCO 3500.27.



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ANNEX A - Shop operations

LESSON ID: BEEO-A01

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Shop Operations
(1345-ADMN-1002g)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Light Capability Rough Terrain (LCRTF)	TM-09135C-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
MIMMS Field Procedures Manual	MCO P4790.2_	
Operational Risk Management (ORM)	MCO 3500.27_	



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ANNEX A - Shop operations

LESSON ID: BEEO-A01(LP)

HOURS: 4.00

TYPE: Lesson Purpose

CATEGORY: Training

TITLE: Multi piece rim demonstration

METHOD	HOURS	S:I RATIO
D	0.50	12 : 1
L	3.50	12 : 1

MEDIA: AIO, DB, HO, PPT, TM

LESSON PURPOSE:

This lesson purpose class is designed to provide the basic engineer equipment operator an overview of split multi-piece rim maintenance procedures. The instruction focuses on safely replacing tires on multi-piece rims for engineer equipment. The lessons include lecture and demonstration. Learning objectives are neither specified nor measured during this lesson. Although this class consists of lecture and demonstration material presented in this class is utilized for knowledge to perform this task which is associated with maintaining engineer equipment.

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Care, Maintenance, repair, and inspection of Pneumatic tires and inner tubes	TM 9-2610-200-14	
Maintenance procedures for the multi piece rim	TI 11270-OI	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B01

HOURS: 36.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the TX 51-19 (LCRTF)

METHOD	HOURS	S:I RATIO
D	1.75	12 : 2
L	2.50	12 : 1
PA	31.75	12 : 2

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided a Light Capability Rough Terrain Forklift (LCRTF), an engineer equipment requirement, and engineer equipment records and forms, operate the Terex Light Capability Rough Terrain Forklift (LCRTF) forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1007)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (LCRTF), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM-09135C-OR/A. (1345-MANT-1001a)
- 2 . Given the description and characteristics of the (LCRTF), and with the aid of references, identify the characteristics per the TM-09135C-OR/A. (1345-XENG-1007a)
- 3 . Provided a (LCRTF), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1007b)
- 4 . Provided a (LCRTF), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-09135C-OR/A. (1345-XENG-1007c)
- 5 . Provided a (LCRTF), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1007d)



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B01

HOURS: 36.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the TX 51-19 (LCRTF)

- 6 . Provided a (LCRTF), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM-09135C-OR/A. (1345-XENG-1007e)

- 7 . Provided a (LCRTF), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM-09135C-OR/A. (1345-XENG-1007f)

- 8 . Provided a (LCRTF), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1007g)

- 9 . Provided a (LCRTF), engineer equipment records and forms, and references, perform material handling operations per the TM-09135C-OR/A. (1345-XENG-1007h)

- 10 . Provided a (LCRTF), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1007i)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Light Capability Rough Terrain (LCRTF)	TM-09135C-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B02

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the Extended Boom Forklift/MMV

METHOD	HOURS	S:I RATIO
D	1.75	12 : 2
L	3.75	12 : 1
PA	29.00	12 : 2
Q	0.50	12 : 1

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided an MMV, an engineer requirement, and engineer equipment records and forms, operate the Military Millennium Vehicle (MMV) extended boom forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1003)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided an (EBFL-MMV), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 10794B-OR/A. (1345-MANT-1001b)
- 2 . Given the description and characteristics of the (EBFL-MMV), with the aid of references, identify the characteristics per the TM 10794B-OR/A. (1345-XENG-1003a)
- 3 . Provided an (EBFL-MMV), engineer equipment records and forms, with the aid of references initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1003b)
- 4 . Provided a (EBFL-MMV), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 10794B-OR/A. (1345-XENG-1003c)
- 5 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1003d)



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B02

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the Extended Boom Forklift/MMV

- 6 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 10794B-OR/A. (1345-XENG-1003e)
- 7 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 10794B-OR/A. (1345-XENG-1003f)
- 8 . Provided an (EBFL-MMV), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1003g)
- 9 . Provided an (EBFL-MMV), engineer equipment records and forms, and references, perform material handling operations per the TM 10794B-OR/A. (1345-XENG-1003h)
- 10 . Provided an (EBFL-MMV), attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 10794B-OR/A. (1345-XENG-1003i)
- 11 . Provided an (EBFL-MMV), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1003j)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Extendable Boom (EBFL)	TM 10794B-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B03

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the TRAM 624KR

METHOD	HOURS	S:I RATIO
D	2.00	12 : 2
L	3.00	12 : 1
PA	30.00	12 : 3

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided a TRAM, an engineer requirement, and equipment records and forms, operate the tractor, rubber-tired, articulated steering, multi-purpose (TRAM) 624KR to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1002)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the 624KR (TRAM), and without the aid of references, identify the characteristics per the TM 11412A-OR. (1345-XENG-1002a)
- 2 . Provided a 624KR (TRAM), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1002b)
- 3 . Provided a 624KR (TRAM), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 11412A-OR. (1345-XENG-1002c)
- 4 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1002d)
- 5 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 11412A-OR. (1345-XENG-1002e)



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B03

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the TRAM 624KR

- 6 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11412A-OR. (1345-XENG-1002f)
- 7 . Provided a 624KR (TRAM), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1002g)
- 8 . Provided a 624KR (TRAM) with forks, engineer equipment records and forms, and references, perform material handling operations per the TM 11412A-OR. (1345-XENG-1002h)
- 9 . Provided a 624KR (TRAM) with bucket, engineer equipment records and forms, and reference, perform bucket/clamshell operations per the TM 11412A-OR. (1345-XENG-1002i)
- 10 . Provided a 624KR (TRAM), attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 11412A-OR. (1345-XENG-1002j)
- 11 . Provided a 624KR (TRAM), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1002k)
- 12 . Provided a 624KR (TRAM), tools, petroleum, oils, and lubricants, equipment records, and references, Conduct preventive maintenance per the TM 11412A-OR. (1345-MANT-1001c)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Components list for Loader, scoop type	SL-3-09148A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Operator's Manual 624KR Loader	TM 11412A-OR	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B04

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader

METHOD	HOURS	S:I RATIO
D	2.00	12 : 2
L	2.00	12 : 1
PA	31.00	12 : 3

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided a 420E backhoe, an engineer requirement, and engineer equipment records and forms, operate the 420E IT backhoe to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1008)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a 420E Backhoe Loader, tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 10996A-OR/A. (1345-MANT-1001d)
- 2 . Given the description and characteristics of the 420E Backhoe Loader, and without the aid of references, identify the characteristics per the TM 10996A-OR/A. (1345-XENG-1008a)
- 3 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1008b)
- 4 . Provided a 420E Backhoe Loader, engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 10996A-OR/A. (1345-XENG-1008c)
- 5 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1008d)



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B04

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader

- 6 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 10996A-OR/A. (1345-XENG-1008e)
- 7 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 10996A-OR/A. (1345-XENG-1008f)
- 8 . Provided a 420E Backhoe Loader, an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1008g)
- 9 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and references, perform front end Loader operations per the TM 10996A-OR/A. (1345-XENG-1008h)
- 10 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and references, perform ditching/trenching operations per the TM 10996A-OR/A. (1345-XENG-1008i)
- 11 . Provided a 420E Backhoe Loader, an engineer equipment trailer (EET), engineer equipment records and forms, and with the aid of references, load/unload the 420E IT Backhoe Loader onto/off the (EET) per the TM 10996A-OR/A. (1345-XENG-1008j)
- 12 . Provided a 420E Backhoe Loader, attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 10996A-OR/A. (1345-XENG-1008k)
- 13 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1008l)

NOTE(S):

REFERENCE - TITLE

PUBLICATION ID

CHAPTER/PAGE

Backhoe Loader Caterpillar Model 420E IT

TM 10996A-OR/A

Basic Operators Bag

SL-3-11825A

Ground Equipment Record Procedures

TM 4700-15/1_



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B04

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader

Use and Care of Hand Tools and Measuring Tools TM 10209-10/1_

Visual Signals

FM 21-60

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ANNEX B - Equipment Operations

LESSON ID: BEEO-B05

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the MC1150E Crawler Tractor

METHOD	HOURS	S:I RATIO
D	1.50	12 : 2
L	2.00	12 : 1
PA	31.50	12 : 3

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)

- 2 . Provided an MC 1150E tractor, an engineer equipment requirement and engineer equipment records and forms, operate the MC1150E tractor to safely meet the operational requirement with no injury to personnel or damage to equipment. (1345-XENG-1005)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the MC 1150E tractor, and without the aid of references, identify the characteristics per the TM-09062A-OR. (1345-XENG-1005a)

- 2 . Provided a MC 1150E, engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1005b)

- 3 . Provided a MC 1150E, engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-09062A-OR. (1345-XENG-1005c)

- 4 . Provided a MC 1150E, engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1005d)

- 5 . Provided a MC 1150E, engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM-09062A-OR. (1345-XENG-1005e)



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B05

HOURS: 35.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the MC1150E Crawler Tractor

- 6 . Provided with a MC1150E tractor, engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM-09062A-OR. (1345-XENG-1005f)
- 7 . Provided with a MC1150E tractor, an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1005g)
- 8 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform stockpiling operations per the TM-09062A-OR. (1345-XENG-1005h)
- 9 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform leveling operations utilizing six way blade per the TM-09062A-OR. (1345-XENG-1005i)
- 10 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform ditching operations per the TM-09062A-OR. (1345-XENG-1005j)
- 11 . Provided a MC1150E, engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1005k)
- 12 . Provided a MC1150E, tools, petroleum, oils, and lubricants, equipment records, and references, Conduct preventive maintenance per the TM-09062A-OR. (1345-MANT-1001e)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Tractor, Full Tracked, With Angle Blade and Rear-Mounted Winch (Model: MC1150E)	TM-09062A-OR	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B06

HOURS: 34.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer

METHOD	HOURS	S:I RATIO
D	3.00	12 : 2
L	4.00	12 : 1
PA	27.00	12 : 2

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided an MCT, an engineer equipment requirement, and engineer records and forms, operate the Medium Crawler Tractor (MCT) to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1004)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (MCT), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 11503A-OR. (1345-MANT-1001f)
- 2 . Given the description and characteristics of the Medium Crawler Tractor (MCT), and without the aid of references, identify the characteristics per the TM 11503A-OR. (1345-XENG-1004a)
- 3 . Provided a (MCT), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1004b)
- 4 . Provided a (MCT), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 11503A-OR. (1345-XENG-1004c)
- 5 . Provided a (MCT), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1004d)



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SECTION IV - CONCEPT CARDS

ANNEX B - Equipment Operations

LESSON ID: BEEO-B06

HOURS: 34.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer

- 6 . Provided a (MCT), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 11503A-OR. (1345-XENG-1004e)
- 7 . Provided a (MCT), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11503A-OR. (1345-XENG-1004f)
- 8 . Provided a (MCT), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1004g)
- 9 . Provided a (MCT), engineer equipment records and forms, and references, perform berming operations per the TM 11503A-OR. (1345-XENG-1004h)
- 10 . Provided a (MCT), engineer equipment records and forms, and references, perform rough leveling per the TM 11503A-OR. (1345-XENG-1004i)
- 11 . Provided a (MCT), engineer equipment records and forms, and references, perform ripper operations per the TM 11503A-OR. (1345-XENG-1004j)
- 12 . Provided a (MCT), engineer equipment records and forms, and references, perform ditching operations per the TM 11503A-OR. (1345-XENG-1004k)
- 13 . Provided a (MCT), engineer equipment records and forms, and without references, identify winching operations per the TM 11503A-OR. (1345-XENG-1004l)
- 14 . Provided a (MCT), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1004m)

NOTE(S):

REFERENCE - TITLE

850 JR Crawler Dozer

PUBLICATION ID

TM 11503A-OR

CHAPTER/PAGE



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B06

HOURS: 34.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer

Basic Operators Bag	SL-3-11825A
Ground Equipment Record Procedures	TM 4700-15/1_
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_
Visual Signals	FM 21-60

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ANNEX B - Equipment Operations

LESSON ID: BEEO-B07

HOURS: 52.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader

METHOD	HOURS	S:I RATIO
D	3.00	12 : 2
L	7.00	12 : 1
PA	42.00	12 : 3

MEDIA: AIO, DB, HO, PPT, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)

- 2 . Provided a motorized road grader, an engineer equipment requirement, and engineer equipment records and forms, operate the motorized road grader to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1001)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (120M), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM-11621A-OR. (1345-MANT-1001g)

- 2 . Given the description and characteristics of the (120M), and with the aid of references, identify the characteristics per the TM-11621A-OR. (1345-XENG-1001a)

- 3 . Provided a (120M), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1001b)

- 4 . Provided a (120M), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-11621A-OR. (1345-XENG-1001c)

- 5 . Provided a (120M), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use tools per the TM 10209-10/1. (1345-XENG-1001d)



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SECTION IV - CONCEPT CARDS**

ANNEX B - Equipment Operations

LESSON ID: BEEO-B07

HOURS: 52.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader

- 6 . Provided a (120M), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricant per the TM 11621A-OR. (1345-XENG-1001e)
- 7 . Provided a (120M), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11621A-OR. (1345-XENG-1001f)
- 8 . Provided a (120M), an operator, and without the aid of reference, perform hand and arm signals per the FM21-60. (1345-XENG-1001g)
- 9 . Provided a (120M), engineer equipment records and forms, and references, perform area leveling per the TM-11621A-OR. (1345-XENG-1001h)
- 10 . Provided a (120M), engineer equipment records and forms, and references, perform ditching operations per the TM-11621A-OR. (1345-XENG-1001i)
- 11 . Provided a (120M), engineer equipment records and forms, and references, perform road improvement operations per the TM-11621A-OR. (1345-XENG-1001j)
- 12 . Provided a (120M), engineer equipment records and forms, and references, perform seven-step military road operations per the TM-11621A-OR. (1345-XENG-1001k)
- 13 . Provided a (120M), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1001l)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
MOTORIZED ROAD GRADER, MODEL 120M	TM 11621A-OR	



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ANNEX B - Equipment Operations

LESSON ID: BEEO-B07

HOURS: 52.00

TYPE: Task Oriented

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader

Use and Care of Hand Tools and Measuring Tools TM 10209-10/1_

Visual Signals

FM 21-60

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SECTION IV - CONCEPT CARDS

ANNEX C - Exams

LESSON ID: BEEO-A01X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Shop operations

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided references, facilities, forms, personnel, tools and engineer equipment, conduct shop operations to maintain unit readiness without injury to personnel or damage to equipment. (1345-ADMN-1002)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given technical manual short titles, and without the aid of reference, identify the four elements of a short title per MCO P4790.2C. (1345-ADMN-1002a)
- 2 . With the aid of reference, identify lubrication orders utilized in the maintenance and operation of engineer equipment per TM-09135C-OR/A. (1345-ADMN-1002b)
- 3 . Without the aid of reference, identify the levels of maintenance per MCO P4790.2C. (1345-ADMN-1002c)
- 4 . Without the aid of reference, identify petroleum, oils, and lubricants (POL) utilized in the maintenance and operation of engineer equipment per the Student handout. (1345-ADMN-1002d)
- 5 . Without the aid of reference, identify tools utilized in the maintenance and operation of engineer equipment per the SL-3-11825A. (1345-ADMN-1002e)
- 6 . Without the aid of reference, select the correct records and forms per the TM 4700-15/1_. (1345-ADMN-1002f)
- 7 . Without the aid of reference, identify the levels of operational risk management per the MCO 3500.27. (1345-ADMN-1002g)

NOTE(S):



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ANNEX C - Exams

LESSON ID: BEEO-A01X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Shop operations

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Light Capability Rough Terrain (LCRTF)	TM-09135C-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
MIMMS Field Procedures Manual	MCO P4790.2_	
Operational Risk Management (ORM)	MCO 3500.27_	
STUDENT HANDOUTS	STUDENT HANDOUTS	



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ANNEX C - Exams

LESSON ID: BEEO-B01X(P)

HOURS: 3.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TX 51-19 (LCRTF)

METHOD	HOURS	S:I RATIO
X(P)	3.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)

- 2 . Provided a Light Capability Rough Terrain Forklift (LCRTF), an engineer equipment requirement, and engineer equipment records and forms, operate the Terex Light Capability Rough Terrain Forklift (LCRTF) forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1007)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (LCRTF), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM-09135C-OR/A. (1345-MANT-1001a)

- 2 . Provided a (LCRTF), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1007b)

- 3 . Provided a (LCRTF), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-09135C-OR/A. (1345-XENG-1007c)

- 4 . Provided a (LCRTF), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1007d)

- 5 . Provided a (LCRTF), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM-09135C-OR/A. (1345-XENG-1007e)

- 6 . Provided a (LCRTF), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and



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ANNEX C - Exams

LESSON ID: BEEO-B01X(P)

HOURS: 3.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TX 51-19 (LCRTF)

with the aid of references, perform operation checks (before, during, and after) per the TM-09135C-OR/A. (1345-XENG-1007f)

- 7. Provided a (LCRTF), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1007g)
- 8. Provided a (LCRTF), engineer equipment records and forms, and references, perform material handling operations per the TM-09135C-OR/A. (1345-XENG-1007h)
- 9. Provided a (LCRTF), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1007i)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Light Capability Rough Terrain (LCRTF)	TM-09135C-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B01X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TX 51-19 (LCRTF)

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: HO, TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided a Light Capability Rough Terrain Forklift (LCRTF), an engineer equipment requirement, and engineer equipment records and forms, operate the Terex Light Capability Rough Terrain Forklift (LCRTF) forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1007)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the (LCRTF), and with the aid of references, identify the characteristics per the TM-09135C-OR/A. (1345-XENG-1007a)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Forklift, Light Capability Rough Terrain (LCRTF)	TM-09135C-OR/A	



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ANNEX C - Exams

LESSON ID: BEEO-B02X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the Extended Boom Forklift/MMV

METHOD	HOURS	S:I RATIO
X(P)	4.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided an MMV, an engineer requirement, and engineer equipment records and forms, operate the Military Millennium Vehicle (MMV) extended boom forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1003)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided an (EBFL-MMV), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 10794B-OR/A. (1345-MANT-1001b)
- 2 . Provided an (EBFL-MMV), engineer equipment records and forms, with the aid of references initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1003b)
- 3 . Provided a (EBFL-MMV), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 10794B-OR/A. (1345-XENG-1003c)
- 4 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1003d)
- 5 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 10794B-OR/A. (1345-XENG-1003e)
- 6 . Provided an (EBFL-MMV), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the



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ANNEX C - Exams

LESSON ID: BEEO-B02X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the Extended Boom Forklift/MMV
TM 10794B-OR/A. (1345-XENG-1003f)

- 7 . Provided an (EBFL-MMV), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1003g)
- 8 . Provided an (EBFL-MMV), engineer equipment records and forms, and references, perform material handling operations per the TM 10794B-OR/A. (1345-XENG-1003h)
- 9 . Provided an (EBFL-MMV), attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 10794B-OR/A. (1345-XENG-1003i)
- 10 . Provided an (EBFL-MMV), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1003j)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Forklift, Extendable Boom (EBFL)	TM 10794B-OR/A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B02X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the Extended Boom Forklift/MMV

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: HO, TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided an MMV, an engineer requirement, and engineer equipment records and forms, operate the Military Millennia Vehicle (MMV) extended boom forklift to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1003)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the (EBFL-MMV), with the aid of references, identify the characteristics per the TM 10794B-OR/A. (1345-XENG-1003a)

NOTE(S):

REFERENCE - TITLE

Forklift, Extendable Boom (EBFL)

PUBLICATION ID

TM 10794B-OR/A

CHAPTER/PAGE



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ANNEX C - Exams

LESSON ID: BEEO-B03X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TRAM 624KR

METHOD	HOURS	S:I RATIO
X(P)	4.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided a TRAM, an engineer requirement, and equipment records and forms, operate the tractor, rubber-tired, articulated steering, multi-purpose (TRAM) 624KR to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1002)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a 624KR (TRAM), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1002b)
- 2 . Provided a 624KR (TRAM), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 11412A-OR. (1345-XENG-1002c)
- 3 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1002d)
- 4 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 11412A-OR. (1345-XENG-1002e)
- 5 . Provided a 624KR (TRAM), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11412A-OR. (1345-XENG-1002f)
- 6 . Provided a 624KR (TRAM), an operator, and without the aid of reference, perform hand and arm signals



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ANNEX C - Exams

LESSON ID: BEEO-B03X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TRAM 624KR
per the FM 21-60. (1345-XENG-1002g)

- 7 . Provided a 624KR (TRAM) with forks, engineer equipment records and forms, and references, perform material handling operations per the TM 11412A-OR. (1345-XENG-1002h)
- 8 . Provided a 624KR (TRAM) with bucket, engineer equipment records and forms, and reference, perform bucket/clamshell operations per the TM 11412A-OR. (1345-XENG-1002i)
- 9 . Provided a 624KR (TRAM), attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 11412A-OR. (1345-XENG-1002j)
- 10 . Provided a 624KR (TRAM), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1002k)
- 11 . Provided a 624KR (TRAM), tools, petroleum, oils, and lubricants, equipment records, and references, Conduct preventive maintenance per the TM 11412A-OR. (1345-MANT-1001c)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Components list for Loader, scoop type	SL-3-09148A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Operator's Manual 624KR Loader	TM 11412A-OR	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B03X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the TRAM 624KR

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided a TRAM, an engineer requirement, and equipment records and forms, operate the tractor, rubber-tired, articulated steering, multi-purpose (TRAM) 624KR to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1002)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the 624KR (TRAM), and without the aid of references, identify the characteristics per the TM 11412A-OR. (1345-XENG-1002a)

NOTE(S):

REFERENCE - TITLE

Operator's Manual 624KR Loader

PUBLICATION ID

TM 11412A-OR

CHAPTER/PAGE



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ANNEX C - Exams

LESSON ID: BEEO-B04X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader

METHOD	HOURS	S:I RATIO
X(P)	4.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)

- 2 . Provided a 420E backhoe, an engineer requirement, and engineer equipment records and forms, operate the 420E IT backhoe to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1008)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a 420E Backhoe Loader, tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 10996A-OR/A. (1345-MANT-1001d)

- 2 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1008b)

- 3 . Provided a 420E Backhoe Loader, engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 10996A-OR/A. (1345-XENG-1008c)

- 4 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1008d)

- 5 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 10996A-OR/A. (1345-XENG-1008e)

- 6 . Provided a 420E Backhoe Loader, engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the



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ANNEX C - Exams

LESSON ID: BEEO-B04X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader
TM 10996A-OR/A. (1345-XENG-1008f)

- 7 . Provided a 420E Backhoe Loader, an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1008g)
- 8 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and references, perform front end Loader operations per the TM 10996A-OR/A. (1345-XENG-1008h)
- 9 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and references, perform ditching/trenching operations per the TM 10996A-OR/A. (1345-XENG-1008i)
- 10 . Provided a 420E Backhoe Loader, an engineer equipment trailer (EET), engineer equipment records and forms, and with the aid of references, load/unload the 420E IT Backhoe Loader onto/off the (EET) per the TM 10996A-OR/A. (1345-XENG-1008j)
- 11 . Provided a 420E Backhoe Loader, attachments, tools, engineer equipment records and forms, and references, change attachments per the TM 10996A-OR/A. (1345-XENG-1008k)
- 12 . Provided a 420E Backhoe Loader, engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1008l)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Backhoe Loader Caterpillar Model 420E IT	TM 10996A-OR/A	
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B04X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 420E Backhoe Loader

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided a 420E backhoe, an engineer requirement, and engineer equipment records and forms, operate the 420E IT backhoe to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1008)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the 420E Backhoe Loader, and without the aid of references, identify the characteristics per the TM 10996A-OR/A. (1345-XENG-1008a)

NOTE(S):

REFERENCE - TITLE

Backhoe Loader Caterpillar Model 420E IT

PUBLICATION ID

TM 10996A-OR/A

CHAPTER/PAGE



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ANNEX C - Exams

LESSON ID: BEEO-B05X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the MC1150E Crawler Tractor

METHOD	HOURS	S:I RATIO
X(P)	4.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided an MC 1150E tractor, an engineer equipment requirement and engineer equipment records and forms, operate the MC1150E tractor to safely meet the operational requirement with no injury to personnel or damage to equipment. (1345-XENG-1005)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a MC 1150E, engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1005b)
- 2 . Provided a MC 1150E, engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-09062A-OR. (1345-XENG-1005c)
- 3 . Provided a MC 1150E, engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1005d)
- 4 . Provided a MC 1150E, engineer equipment records and forms, tools, petroleum, oils, and lubricants and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM-09062A-OR. (1345-XENG-1005e)
- 5 . Provided with a MC1150E tractor, engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM-09062A-OR. (1345-XENG-1005f)
- 6 . Provided with a MC1150E tractor, an operator, and without the aid of reference, perform hand and arm



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ANNEX C - Exams

LESSON ID: BEEO-B05X(P)

HOURS: 4.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the MC1150E Crawler Tractor signals per the FM 21-60. (1345-XENG-1005g)

- 7 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform stockpiling operations per the TM-09062A-OR. (1345-XENG-1005h)
- 8 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform leveling operations utilizing six way blade per the TM-09062A-OR. (1345-XENG-1005i)
- 9 . Provided with a MC1150E tractor, engineer equipment records and forms, and references, perform ditching operations per the TM-09062A-OR. (1345-XENG-1005j)
- 10 . Provided a MC1150E, engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1005k)
- 11 . Provided a MC1150E, tools, petroleum, oils, and lubricants, equipment records, and references, Conduct preventive maintenance per the TM-09062A-OR. (1345-MANT-1001e)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Tractor, Full Tracked, With Angle Blade and Rear-Mounted Winch (Model: MC1150E)	TM-09062A-OR	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B05X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the MC1150E Crawler Tractor

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided an MC 1150E tractor, an engineer equipment requirement and engineer equipment records and forms, operate the MC1150E tractor to safely meet the operational requirement with no injury to personnel or damage to equipment. (1345-XENG-1005)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the MC 1150E tractor, and without the aid of references, identify the characteristics per the TM-09062A-OR. (1345-XENG-1005a)

NOTE(S):

REFERENCE - TITLE

Tractor, Full Tracked, With Angle Blade and Rear-Mounted Winch (Model: MC1150E)

PUBLICATION ID

TM-09062A-OR

CHAPTER/PAGE



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ANNEX C - Exams

LESSON ID: BEEO-B06X(P)

HOURS: 5.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer

METHOD	HOURS	S:I RATIO
X(P)	5.00	12 : 2

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)
- 2 . Provided an MCT, an engineer equipment requirement, and engineer records and forms, operate the Medium Crawler Tractor (MCT) to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1004)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (MCT), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM 11503A-OR. (1345-MANT-1001f)
- 2 . Provided a (MCT), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1004b)
- 3 . Provided a (MCT), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM 11503A-OR. (1345-XENG-1004c)
- 4 . Provided a (MCT), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use of tools per the TM 10209-10/1. (1345-XENG-1004d)
- 5 . Provided a (MCT), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricants per the TM 11503A-OR. (1345-XENG-1004e)
- 6 . Provided a (MCT), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11503A-OR.



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ANNEX C - Exams

LESSON ID: BEEO-B06X(P)

HOURS: 5.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer
(1345-XENG-1004f)

- 7 . Provided a (MCT), an operator, and without the aid of reference, perform hand and arm signals per the FM 21-60. (1345-XENG-1004g)
- 8 . Provided a (MCT), engineer equipment records and forms, and references, perform berming operations per the TM 11503A-OR. (1345-XENG-1004h)
- 9 . Provided a (MCT), engineer equipment records and forms, and references, perform rough leveling per the TM 11503A-OR. (1345-XENG-1004i)
- 10 . Provided a (MCT), engineer equipment records and forms, and references, perform ripper operations per the TM 11503A-OR. (1345-XENG-1004j)
- 11 . Provided a (MCT), engineer equipment records and forms, and references, perform ditching operations per the TM 11503A-OR. (1345-XENG-1004k)
- 12 . Provided a (MCT), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1004m)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
850 JR Crawler Dozer	TM 11503A-OR	
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B06X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 850JR MCT Crawler Dozer

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided an MCT, an engineer equipment requirement, and engineer records and forms, operate the Medium Crawler Tractor (MCT) to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1004)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the Medium Crawler Tractor (MCT), and without the aid of references, identify the characteristics per the TM 11503A-OR. (1345-XENG-1004a)
- 2 . Provided a (MCT), engineer equipment records and forms, and without references, identify winching operations per the TM 11503A-OR. (1345-XENG-1004l)

NOTE(S):

REFERENCE - TITLE

850 JR Crawler Dozer

PUBLICATION ID

TM 11503A-OR

CHAPTER/PAGE



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ANNEX C - Exams

LESSON ID: BEEO-B07X(P)

HOURS: 6.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader

METHOD	HOURS	S:I RATIO
X(P)	6.00	12 : 3

MEDIA: AIO, HO, PEC, TM

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided engineer equipment, tools, equipment records and references, conduct engineer equipment preventive maintenance so that equipment is checked and serviced per the appropriate technical manual and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H. (1345-MANT-1001)

- 2 . Provided a motorized road grader, an engineer equipment requirement, and engineer equipment records and forms, operate the motorized road grader to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1001)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Provided a (120M), tools, petroleum, oils, and lubricants, equipment records, and references, conduct preventive maintenance per the TM-11621A-OR. (1345-MANT-1001g)

- 2 . Provided a (120M), engineer equipment records and forms, and with the aid of references, initiate operator forms and records per the TM 4700-15/1_. (1345-XENG-1001b)

- 3 . Provided a (120M), engineer equipment records and forms, technical manuals and lubrication orders, perform technical manual research per the TM-11621A-OR. (1345-XENG-1001c)

- 4 . Provided a (120M), engineer equipment records and forms, tools, and with the aid of references, demonstrate correct use tools per the TM 10209-10/1. (1345-XENG-1001d)

- 5 . Provided a (120M), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, demonstrate correct use of petroleum, oils, and lubricant per the TM 11621A-OR. (1345-XENG-1001e)

- 6 . Provided a (120M), engineer equipment records and forms, tools, petroleum, oils, and lubricants, and with the aid of references, perform operation checks (before, during, and after) per the TM 11621A-OR.



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ANNEX C - Exams

LESSON ID: BEEO-B07X(P)

HOURS: 6.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader
(1345-XENG-1001f)

- 7 . Provided a (120M), an operator, and without the aid of reference, perform hand and arm signals per the FM21-60. (1345-XENG-1001g)
- 8 . Provided a (120M), engineer equipment records and forms, and references, perform area leveling per the TM-11621A-OR. (1345-XENG-1001h)
- 9 . Provided a (120M), engineer equipment records and forms, and references, perform ditching operations per the TM-11621A-OR. (1345-XENG-1001i)
- 10 . Provided a (120M), engineer equipment records and forms, and references, perform road improvement operations per the TM-11621A-OR. (1345-XENG-1001j)
- 11 . Provided a (120M), engineer equipment records and forms, and references, perform seven-step military road operations per the TM-11621A-OR. (1345-XENG-1001k)
- 12 . Provided a (120M), engineer equipment records and forms, and with the aid of references, complete operator forms and records per the TM 4700-15/1_. (1345-XENG-1001l)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Basic Operators Bag	SL-3-11825A	
Ground Equipment Record Procedures	TM 4700-15/1_	
MOTORIZED ROAD GRADER, MODEL 120M	TM 11621A-OR	
Use and Care of Hand Tools and Measuring Tools	TM 10209-10/1_	
Visual Signals	FM 21-60	



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ANNEX C - Exams

LESSON ID: BEEO-B07X(W)

HOURS: 1.00

TYPE: Exam

CATEGORY: Training

TITLE: Operate the 120M Motorized road grader

METHOD	HOURS	S:I RATIO
X(W)	1.00	12 : 1

MEDIA: TSTBK

TERMINAL LEARNING OBJECTIVE(S)

- 1 . Provided a motorized road grader, an engineer equipment requirement, and engineer equipment records and forms, operate the motorized road grader to safely meet operational requirements with no injury to personnel or damage to the equipment. (1345-XENG-1001)

ENABLING LEARNING OBJECTIVE(S)

- 1 . Given the description and characteristics of the (120M), and with the aid of references, identify the characteristics per the TM-11621A-OR. (1345-XENG-1001a)

NOTE(S):

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
MOTORIZED ROAD GRADER, MODEL 120M	TM 11621A-OR	



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ANNEX Z - Administrative

LESSON ID: BEEO-Z01

HOURS: 16.00

TYPE: Administrative

CATEGORY: Training

TITLE: Check-Out

METHOD	HOURS	S:I RATIO
ADMIN	12.00	12 : 1
CR	1.00	12 : 1
G	3.00	12 : 1

MEDIA:

NOTE(S):

REFERENCE - TITLE

PUBLICATION ID

CHAPTER/PAGE



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ANNEX Z - Administrative

LESSON ID: BEEO-Z02

HOURS: 1.00

TYPE: Administrative

CATEGORY: Training

TITLE: VBT

METHOD	HOURS	S:I RATIO
L	1.00	12 : 1

MEDIA: HO

NOTE(S):

TECOM directive implementing MCCS tasks covering Marine Corps values (Honor, courage, Commitment) and Marine Corps Mentoring, will be covered at no specified times during the normal training day. During the normal training day the Class Commander/Instructor/Assistant Instructor will mentor there Marines before class starts, during chow, while students are waiting to operate equipment or during Class Commander Time.

MCCS tasks covered are as follows:

1. Prevent Suicide (MCCS-VALU-1010)
2. Report Combat Stress-Related Reactions and Injuries (MCCS-LDR-1018)
3. Sexual Assault Prevention and Response (MCCS-VALU-1013)
4. Illegal Drugs (MCCS-VALU-1003)
5. Alcohol Abuse (MCCS-VALU-1004)
6. ORM/Safety (MCCS-LDR-1011)
7. ORM/Safety" (MCCS-LDR-1011) VBT requirement will be covered during class orientation and due to inherent dangers involved during this course, it will be reiterated throughout training.

Instructor: You will cover the following subjects when conducting your guided discussion:

"Illegal Drugs" (MCCS-VALU-1003)

1. The policy concerning distribution, possession, and use of illegal drugs in the Marine Corps per the references.
2. The administrative and legal actions for both officers and enlisted which may result from the distribution, possession, and use of illegal drugs per the references.

"Alcohol Abuse" (MCCS-VALU-1004)

1. Alcohol abuse per the references.
2. The indicators of alcohol abuse per the references.
3. The policy on the use and abuse of alcohol per the references.
4. The administrated and legal actions which may result from alcohol abuse per the references.
5. The reporting process for alcohol abuse per the references.

"Report Combat Stress-Related Reactions and Injuries" (MCCS-LDR-1018)

1. Identify stress reactions per the references.
2. Identify inappropriate behaviors exhibited due to stress reactions per the references.
3. Describe how to communicate Marines who are identified with stress problems to your next higher level in the chain-of-command per the reference.

"Prevent Suicide" (MCCS-VALU-1010)



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ANNEX Z - Administrative

LESSON ID: BEEO-Z02

HOURS: 1.00

TYPE: Administrative

CATEGORY: Training

TITLE: VBT

1. Identify warning signs per the references.
2. Take Action per the references.
3. Identify recourses per the reference.
"Sexual Assault Prevention and Response" (MCCS-VALU-1013)
1. The Marine Corps policy on sexual assault per the references.
2. Define sexual assault per the references.
3. Describe factors that contribute to sexual assault incident per the reference.
4. Discuss sexual assault prevention measures per the references.
5. Describe Article 120, rape per the references.
6. Describe Article 125, forced sodomy per the references.
7. Describe Article 134, assault with the intent to commit rape per the reference.
8. Describe Article 134, indecent assault per the reference.

<u>REFERENCE - TITLE</u>	<u>PUBLICATION ID</u>	<u>CHAPTER/PAGE</u>
Marine Corps Mentoring Program (MCMP)	MCO 1500.58_	
Marine Corps Semper Fit Program Manual	MCO P1700.29	
Marine Corps Substance Abuse Program	MCO P1700.24_	
Marine Corps Values	MCRP 6-11B	
Marine Corps Values Program	MCO 1500.56	
Military Thinking and Decision Making Exercises	MCO 1500.55	
Operational Risk Management	MCO 3500.27	
Sexual Assault Prevention and Response	SECNAVINST 1752.4A	



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SECTION V - STUDENT PERFORMANCE EVALUATION

Students are evaluated on each lesson's learning objectives (T&R tasks) through written examinations concerning the subject material and formal observation of student performance during performance evaluations.

a. Written Evaluation. Knowledge-based learning objectives are evaluated by written test items. Students are required to attain a score of 80% or better on all written evaluations unless otherwise specified.

b. Practical Application. Students will be informally evaluated and provided feedback by instructors through observation of student performance during all practical application. Instructors will provide additional instruction if needed.

c. Performance Evaluation. Performance testing covering all performance-based learning objectives conducted throughout the course. Students are required to master all performance-based evaluations to graduate the course. Performance-based evaluation procedures/checklists will be adhered to for master/non-master based on learning objectives.

d. The following T&R task events are mastered in Annex C of this POI:

1345-ADMN-1002 Conduct shop operations - BEE0-A01X(W)

1345-MANT-1001 Conduct engineer equipment preventive maintenance - BEE0-B01X(P), BEE0-B02X(P), BEE0-B03X(P), BEE0-B04X(P), BEE0-B05X(P), BEE0-B06X(P), BEE0-B07X(P)

1345-XENG-1001 Operate the motorized road grader - BEE0-B07X(P) and BEE0-B07X(W)

1345-XENG-1002 Operate the tractor, rubber-tired, articulated steering, multi-purpose - (TRAM) 624KR BEE0-B03X(P) and BEE0-B03X(W)

1345-XENG-1003 Operate the Military Millennia Vehicle (MMV) extended boom forklift - BEE0-B02X(P) and BEE0-B02X(W)

1345-XENG-1004 Operate the Medium Crawler Tractor (MCT) - BEE0-B06X(P) and BEE0-B06X(W)

1345-XENG-1005 Operate the MC1150E tractor - BEE0-B05X(P) and BEE0-B05X(W)

1345-XENG-1007 Operate the Terex Light Capability Rough Terrain Forklift - BEE0-B01X(P) and BEE0-B01X(W)

1345-XENG-1008 Operate the 420E IT backhoe - BEE0-B04X(P) and BEE0-B04X(W)

e. Examination Violations. Any student caught cheating or violating any element while conducting written or performance examinations will be dropped from the course, counseled by Academics Chief and placed in next available course or returned back to the parent unit with appropriate proficiency/conduct remarks or special fitness report comments.

f. Examination Failures. Any student who has failed an examination will be counseled and retested on the designated lesson. Failing the retest will result in student being counseled by the Academic Chief, re-taught the lesson and retested. Students failing any lesson examination three times will be dropped from the course. Students must pass all tests to graduate the course with an average score of 80% or better.

g. Commanding Officer or Academic Officer/Chief retain discretion over enforcement of the above procedures.



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SECTION VI - DISTRIBUTION LIST

<u>DISTRIBUTION</u>	<u>QUANTITY</u>
COMMARFORLANT	1
COMMARFORPAC	1
COMMARFORRES	1
Marine Corps Institute (MCI)	1

