AIR FORCE
QUALIFICATION TRAINING PACKAGE (AFQTP)

FOR

PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR
(3E2X1)

MODULE 17
COMPACTION EQUIPMENT

TABLE OF CONTENTS

MODULE 17

COMPACTION EQUIPMENT

Career Field Education and Training Plan (CFETP) references from 5 August 2002 version.

OPR: HQ AFCESA/CEOF
(SMSgt James R. Faulkner)
Supersedes AFQTP 3E2X1-17, 5 Aug 02

Certified by: HQ AFCESA/CEOF
(CMSgt Myrl F. Kibbe)
Pages: 23/Distribution F

AIR FORCE QUALIFICATION TRAINING PACKAGES

FOR

PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR
(3E2X1)

INTRODUCTION

Before starting this AFQTP, refer to and read the "AFQTP Trainer/Trainee Guide."

AFQTPs are mandatory and must be completed to fulfill task knowledge requirements on **core** and **diamond tasks** for upgrade training. ***It is important for the trainer and trainee to understand*** that an AFQTP ***does not*** replace hands-on training, nor will completion of an AFQTP meet the requirement for core task certification. AFQTPs will be used in conjunction with applicable technical references and hands-on training.

AFQTPs and Certification and Testing (CerTest) must be used as minimum upgrade requirements for Diamond tasks.

MANDATORY minimum upgrade requirements:

Core task:
AFQTP completion
Hands-on certification

Diamond task:
AFQTP completion
CerTest completion (80% minimum to pass)

Note: *Trainees will receive hands-on certification training for Diamond Tasks when equipment becomes available either at home station or at a TDY location*.

Put this package to use. Subject matter experts under the direction and guidance of HQ AFCESA/CEOF revised this AFQTP. If you have any recommendations for improving this document, please contact the Career Field Manager at the address below.

HQ AFCESA/CEOF
139 Barnes Dr Suite 1
Tyndall AFB FL 32403-5319
DSN: 523-6074, Comm: (850) 283-6074
Fax: DSN 523-6488
E-mail: ceof.helpdesk@tyndall.af.mil

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

COMPACTION EQUIPMENT

MODULE 17 AFQTP UNIT 1

PERFORM OPERATIONAL CHECKS (17.1.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

PERFORM OPERATIONAL CHECKS

Task Training Guide

STS Reference Number/Title:	17.1. - Perform operational checks on compaction equipment (roller).
Training References:	1. Career Development Course (CDC) Pavements and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208: *Design Features and Operation of the Sheepfoot, Steelwheel, and Pneumatic-tired Rollers*. 2. Technical Order (TO) 36C20 series. 3. Air Force Joint Manual (AFJMAN) 24-306, *Manual for the Wheeled Vehicle Driver.* 4. AF Form 1806, *Operator's Inspection Guide and Trouble Report (Aircraft Towing, Base Maintenance Deicers, High Reach and Snow Removal).* 5. Owner's manual. 6. Local procedures.
Prerequisites:	1. **Possess a minimum of a 3E231 AFSC.** 2. **Review the following references:** 2.1. CDC Pavement and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208. 2.2. Applicable TO or owner's manual. 2.3. AFJMAN 24-306, Chapter 1, page 1-6; *Driver Responsibilities* and Chapter 15, page 15-1; *Inspections*. 2.4. AF Form 1806. 2.5. Local procedures.
Equipment/Tools Required:	1. Roller. 2. Personal safety equipment. 3. AF Form 1806. 4. Owner's manual.
Learning Objective:	The trainee will be able to perform operational checks on a roller.
Samples of Behavior:	The trainee will demonstrate the proper procedures for operational checks.
Notes:	
1. Personnel are **required** to wear all *personal protective equipment* pertaining to each task (i.e. work gloves, hearing protection, and safety glass/goggles). 2. Any safety violation is an **automatic failure.**	

PERFORM OPERATIONAL CHECKS

1. Background. The U.S. Air Force has many different types of compaction equipment. All are designed to achieve compaction on various types of surfaces. Specific pre-operational inspection procedures can be found in the owner's manual that accompanied the equipment. It is important to properly check and service the equipment prior to operation. Failure to do so may result in damage or injury.

2. Operational Checks Procedures. Follow these steps to perform operational checks on a roller:

Step 1: Utilizing AF Form 1806.

1.1. Check all items listed that pertain to the equipment being inspected.

1.2. Sign AF Form 1806 after properly inspecting equipment.

Step 2: Inspect Vehicle Exterior. Inspection of the vehicle exterior begins with a 360-degree walk-around looking for damage and leaks.

2.1. Check wheels/tires for wear, lug nut tightness, and correct air pressure.

2.2. Check mirrors and windows for cleanliness and cracks.

2.3. Check lights and safety devices.

2.4. Note any discrepancies on the AF form 1806 and notify supervisor.

HINT:

Puddles of fluid and dirty areas on the engine or ground normally indicate problem areas and should be investigated prior to operating.

Step 3: Inspect Drive Engine / Battery Compartments.

3.1. Check engine oil, coolant, brake, power steering, and transmission fluid levels and fill as needed.

3.2. Inspect the drive belts for wear, tension, and alignment.

3.3. Ensure battery connections are secure and free from corrosion.

3.4. Start engine and let idle. Look for oil and water leaks.

Step 4: Inspection of Compaction Equipment Unique Items. The following are the unique items to inspect for steel wheel rollers and pneumatic-tired rollers and not listed on the AF Form 1806; add these items in the spaces provided for additional items.

4.1. Steel wheel rollers do not have tires but are equipped with steel drums that can be filled with fluid to increase roller weight.

4.1.1. Inspect drums for pits and drain after each day's use.

4.1.2. Complete a function check by testing brakes, steering, water system and if equipped, vibratory action.

4.2. Inspect tires on the pneumatic-tired roller for tire pressure, weather cracks, and wear.

4.2.1. Correct low pressure on the spot. All tires must have the same air pressure.

4.2.2. Turn the roller into maintenance for repair if tires are cracked or worn.

4.3. The steel wheel roller and pneumatic-tired roller are equipped with scraper blades, cocoa mats, and spray bars to keep foreign material from sticking to the drums or tires.

4.3.1. Inspect scraper blades, cocoa mat, and spray bars to ensure they are functioning properly.

4.3.2. Drain the spray bar water system when temperatures are expected below freezing.

4.4. Grease both types of rollers. All bearings and fittings should be greased as stated in the technical order or owner manual.

REVIEW QUESTIONS
FOR
PERFORM OPERATIONAL CHECKS

QUESTION	ANSWER
1. On the steel wheel roller, how do you increase the roller weight?	a. By adding fluid to the roller drums. b. By placing rocks in the ballast wells. c. By decreasing the tire pressure. d. By increasing the tire pressure.
2. The inspection is the same on all rollers?	a. True. b. False.
3. What keeps foreign materials from sticking to the rollers drums and tires?	a. An asphalt emulsion. b. Diesel fuel. c. Cocoa mats and spray bars. d. A shovel.
4. The tire pressure on a pneumatic-tired roller is incorrect, what do you do?	a. Call mobile maintenance. b. Correct it on the spot. c. Not worry about it. d. Have someone else correct it.

PERFORM OPERATIONAL CHECKS

PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must satisfactorily perform all parts of the task without assistance. Evaluate the trainee's performance using this checklist.

DID THE TRAINEE….	YES	NO
1. utilize AF Form 1806?		
2. check vehicle exterior by: 2.1. completing a 360 degree walk around? 2.2. checking tires lug nuts and air pressure? 2.3. checking lights and safety devices?		
3. inspect drive engine/battery compartment by checking: 3.1. engine oil, coolant, and transmission fluid levels and fill as needed? 3.2. engine drive belts for wear, tension, and alignment? 3.3. battery connections for tightness and free of corrosion? 3.4. for leaks after starting engine?		
4. inspect unique items by: 4.1. checking steel drums for pits? (If applicable.) 4.2. checking scraper blades, cocoa mats, and sprinkler bars to ensure they were functioning properly? (Drained spray bar if temperatures were expected below freezing.) 4.3. checking pneumatic-tires for tire pressure, weather cracks, and wear? (If applicable.) 4.4. greasing all bearing and fitting?		
5. sign AF Form 1806?		
6. comply with all safety requirements?		

FEEDBACK: Trainer/Certifier should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer/certifier.

COMPACTION EQUIPMENT

MODULE 17 AFQTP UNIT 2

PERFORM OPERATORS MAINTENANCE (17.2.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

PERFORM OPERATORS MAINTENANCE

Task Training Guide

STS Reference Number/Title:	17.2. - Perform operators maintenance on compaction equipment (roller).
Training References:	1. Career Development Course (CDC) Pavements and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208: *Design Features and Operation of the Sheepfoot, Steelwheel, and Pneumatic-tired Rollers*. 2. Technical Order (TO) 36C20 series. 3. Air Force Joint Manual (AFJMAN) 24-306, *Manual for the Wheeled Vehicle Driver.* 4. AF Form 1806, *Operator's Inspection Guide and Trouble Report (Aircraft Towing, Base Maintenance Deicers, High Reach and Snow Removal).* 5. Owner's manual. 6. Local procedures.
Prerequisites:	1. **Possess a minimum of a 3E231 AFSC.** 2. **Review the following references:** 2.1. CDC Pavements and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208. 2.2. Applicable TO or owner's manual. 2.3. AFJMAN 24-306, Chapter 1, page 1-6; *Driver Responsibilities* and Chapter 15, page 15-1; *Preventive Maintenance*. 2.4. AF Form 1806. 2.5. Local procedures.
Equipment/Tools Required:	1. Roller. 2. Personal safety equipment. 3. AF Form 1806. 4. Owner's manual.
Learning Objective:	The trainee will properly perform operator maintenance checks on compaction equipment.
Samples of Behavior:	The trainee will demonstrate steps in performing operator maintenance on compaction equipment.
Notes:	
1. Personnel are **required** to wear all *personal protective equipment* pertaining to each task (i.e. work gloves, hearing protection, and safety glass/goggles). 2. Any safety violation is an **automatic failure.**	

PERFORM OPERATORS MAINTENANCE

1. Background. Compaction equipment maintenance, like any other maintenance, is very important. If the machine is not running properly, then how is the job going to get done? The more effective maintenance program we have for the equipment, the better our operation will run.

2. Maintenance Program. Correct and timely operator maintenance ensures equipment will do the job when needed and last longer, saving the Air Force needless expenditure. A good operator maintenance program includes inspections to detect and correct minor deficiencies before they develop into major defects resulting in costly repairs and equipment downtime. This also includes cleaning and servicing. Poor maintenance will not result in mission success.

3. Operator Maintenance Procedures. Follow these steps to perform operator maintenance:

Step 1: Cleaning. Keep the roller clean.

1.1. Remove trash and dirt from the vehicle. Find lubrication points from the lube chart.

1.2. Inspect the equipment for damaged or loose bolts.

Step 2: Lubrication.

2.1. Lubricate the vehicle according to intervals listed in the maintenance chart. When operating the machine in severe conditions, lubricate the machine more frequently.

2.2. Remove all dirt and grease from grease fittings before and after lubricating.

Step 3: Refueling.

3.1. Fuel the equipment **at the end of each working day** to prevent moisture from condensing and forming droplets within the fuel tank.

3.2. Contact base fuels for delivery of fuel to the job site if the equipment can't be driven to the service station. Ensure the correct tank is filled with the correct fuel.

3.3. Ensure the vehicle has a minimum of ¾ of a tank of fuel at the end of the duty day to ensure the equipment will be ready for any emergencies.

Step 4: Post Operation Inspection. As stated in operational checks, inspection is the best way to ensure that you give the proper care to your equipment. A short post operation inspection will ensure the equipment is ready for the next task. Air intake filters are of special importance. There are generally two elements: (1) the primary (outer) element and, (2) the secondary (inner) element.

4.1. Clean both elements daily under dusty operating conditions (even more often if working conditions are extremely dusty).

4.2. Use guidelines stated in the operator's maintenance manual for cleaning procedures.

REVIEW QUESTIONS
FOR
PERFORM OPERATORS MAINTENANCE

QUESTION	ANSWER
1. Why is cleaning an important part of vehicle maintenance?	a. To minimize breakdowns and save the AF money. b. It is required by AF Form 1806. c. It ensures a professional appearance. d. It isn't.
2. How can you find lubrication points?	a. Search for them. b. Ask another airman. c. Look at the lube chart. d. Find them in your CDC's.
3. Generally there are __ elements in an air filter.	a. 1 b. 2 c. 3 d. 4
4. The vehicle will have a full tank of fuel at the end of each duty day.	a. True. b. False.

PERFORM OPERATORS MAINTENANCE

PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must satisfactorily perform all parts of the task without assistance. Evaluate the trainee's performance using this checklist.

DID THE TRAINEE….	YES	NO
1. lubricate the roller according to the maintenance chart?		
2. remove all the dirt and grease from the grease fittings before and after lubricating?		
3. check the fuel level and refuel if needed?		
4. inspect and clean the air intake breathers?		
5. clean the roller?		
6. comply with all safety requirements?		

FEEDBACK: Trainer/Certifier should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer/certifier.

COMPACTION EQUIPMENT

COMPACT EARTHEN MATERIALS USING:

MODULE 17 AFQTP UNIT 3

STEEL WHEEL VIBRATORY ROLLER (17.3.4.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

COMPACT EARTHEN MATERIALS USING STEEL WHEEL VIBRATORY ROLLER

Task Training Guide

STS Reference Number/Title:	17.3.4. - Compact earthen materials using steel wheel vibratory roller.
Training References:	1. Career Development Course (CDC) Pavements and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208: *Design Features and Operation of the Sheepfoot, Steelwheel, and Pneumatic-tired Rollers* and 3E25A, Volume 3, Unit 1, Section 1-3, Lesson 407: *How to Compact Bituminous Material.* 2. Technical Order (TO) 36C20 series. 3. Air Force Joint Manual (AFJMAN) 24-306, *Manual for the Wheeled Vehicle Driver.* 4. AF Form 1806, *Operator's Inspection Guide and Trouble Report (Aircraft Towing, Base Maintenance Deicers, High Reach and Snow Removal).* 5. Owner's manual. 6. Local procedures.
Prerequisites:	1. **Possess a minimum of a 3E231 AFSC.** 2. **Possess an AF form 171** (Request for Driver's Training and Addition to U.S. Governments driving license). 3. **Review the following references:** 3.1. CDC Pavements and Construction Equipment Operator Journeyman 3E251B, Volume 2, Unit 1, Section 1-3, Lesson 208 and 3E251A, Volume 3, Unit 1, Section 1-3, Lesson 407. 3.2. Applicable TO or owner's manual. 3.3. AF Form 1806. 3.4. Local procedures. 4. **Complete Module 17, Unit 1: Perform Operational Checks (17.1.) before starting this task.**
Equipment/Tools Required:	1. Steel wheel vibratory roller. 2. Personal safety equipment. 3. General tool kit.
Learning Objective:	The trainee will be able to properly operate a steel wheel vibratory roller.
Samples of Behavior:	The trainee will demonstrate how to operate the steel wheel vibratory roller.
Notes:	
1. Personnel are **required** to wear all *personal protective equipment* pertaining to each task (i.e. work gloves, hearing protection, and safety glass/goggles). 2. Any safety violation is an **automatic failure.** 3. Trainer will need to develop a training scenario.	

COMPACT EARTHEN MATERIALS USING STEEL WHEEL VIBRATORY ROLLER

1. Background. During construction of roads or areas where soil is disturbed and fill material is used, it becomes expanded and very loose. This loose soil/fill material must be compressed into a solid mass and the process of compressing loose soil/fill material is called compaction. If soil/fill material is not properly compacted, it will settle and the area will fail. There are various types of compaction equipment used in the Air Force that you will be required to operate, and one of these is the steel wheel vibratory roller. The steel wheel vibratory roller can be used for compacting base course and finishing asphalt.

2. Definition of Compaction. Compaction is the pressing together of soil particles into a closer state of contact, thus, expelling excess air and water.

3. Compaction Terms.

3.1. Static Compaction – uses the weight of the machine only to compact.

3.2. Ballast Compaction – when extra weight is added to the machine (water, sand).

3.3. Dynamic Compaction – the use of shock waves to compact soil particles.

4. Compaction Techniques.

4.1. Compact in lifts – a lift is a single layer of material to be compacted (refer to CDC 3E2X1A; *Rigid Pavements*, Volume 2, Unit 2, Section 2-3, Lesson 218; *How to Compact a Sub Grade)*.

4.2. Compacting straight-line roads – roll from ditch line to centerline to maintain crown.

4.3. Compacting banked curves – roll from bottom to top to maintain even thickness and prevent material from being pushed downhill.

4.4. Compacting speed – a slow walk not to exceed 3 miles per hour.

NOTE TO TRAINER/CERTIFIER:

If a compaction project is not available, then the *minimum* required for upgrade training is the following: give trainee a scenario based on the steps below. Have the trainee compact a soil area 10' x 20'. Examples: gravel parking lot, equipment storage yard, stockpile area.

5. Compaction Procedures. Follow these steps to compact earthen materials using steel wheel vibratory roller:

Step 1: Perform an operational inspection. (Refer to Module 17, Unit 1; *Perform Operational Checks*.)

Step 2: Start engine.

2.1. Ensure parking brake is set, transmission is in neutral, and governor/direction control lever is in the neutral low idle position. Look to see if anyone is too close to the machine. Have by-standers move to a safe zone.

2.2. Crank engine.

2.3. Allow engine to warm up and fluids to circulate.

Step 3: Start compaction.

3.1. Compact sub-grade.

3.1.1. With engine running and governor/direction control lever in neutral, increase to full throttle position, release the park brake and slowly move the control lever in the desired direction of travel.

3.1.2. To change direction, move the lever to the neutral position bringing the roller to a complete stop, then move the lever to the opposite direction.

3.1.3. Compaction can be done in both forward and reverse.

3.1.4. When rolling sub-grade or base course, overlap the previous compacted area from 12-inches to half the drive drum.

3.1.5. Conditions will dictate weather or not to use vibratory compaction. Refer to CDC's mentioned in paragraph 4, Compaction Techniques.

3.2. Compact asphalt.

3.2.1. With engine running and governor/direction control lever in neutral, increase to full throttle position, release the park brake and slowly move the control lever in the desired direction of travel.

3.2.2. Roll edges first according to CDC 3E251A, Volume 3, Unit 1, Section 1-3, Lesson 407. Ensure to roll completely off fresh asphalt before changing directions.

3.2.2.1. To change direction, move the lever to the neutral position bringing the roller to a complete stop, then move the lever to the opposite direction.

3.2.2.2. Failure to roll completely off will result in shoved pavement.

3.2.3. When rolling asphalt, overlap the previous compaction six to twelve inches.

3.2.4. Conditions will dictate weather or not to use vibratory compaction. Refer to CDC's 3E2X1A, Volume 3; *Flexible Pavements*, Unit 1, Section 1-3, Lesson 407; *How to Compact Bituminous Materials.*

NOTE:

Never make sudden changes in direction with the compacting equipment. Damage to transmission may result.

Step 4: Shutdown procedures.

4.1. Place governor/direction control lever in the neutral position.

4.2. Decrease to the low idle position and apply park brake.

4.3. Allow 3-5 minutes for engine cool down before shutting off engine.

4.4. Shut down engine.

Step 5: Perform a post-operational inspection.

5.1. Check engine compartment for leaks and loose belts.

CAUTION
PARTS MAY BE HOT.

5.2. Check fluid and fuel levels.

5.3. Ensure roller has been cleaned.

5.4. Perform a 360-degree walk-around inspection.

REVIEW QUESTIONS
FOR
COMPACT EARTHEN MATERIALS USING STEEL WHEEL VIBRATORY ROLLER

QUESTION	ANSWER
1. Which type of compaction uses shock waves?	a. Static Compaction. b. Ballast Compaction. c. Dynamic Compaction. d. Reverse Compaction.
2. When compacting banked curves, why do you roll from bottom to top?	a. Prevents material from being pushed downhill. b. Prevents fuel from leaking out of overflow tube. c. It aids in bonding of base course. d. Prevents erosion.
3. When compacting asphalt, what do you roll first?	a. Base course. b. Sub-grade. c. Edges. d. Center line.
4. When compacting sub-grade and base course, how much overlap should you have?	a. 12-inches to half the drive drum. b. 6-inches to half the drive drum. c. 3-inches to half the drive drum. d. 3- to 6-inches.

COMPACT EARTHEN MATERIALS USING STEEL WHEEL VIBRATORY ROLLER

PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must satisfactorily perform all parts of the task without assistance. Evaluate the trainee's performance using this checklist.

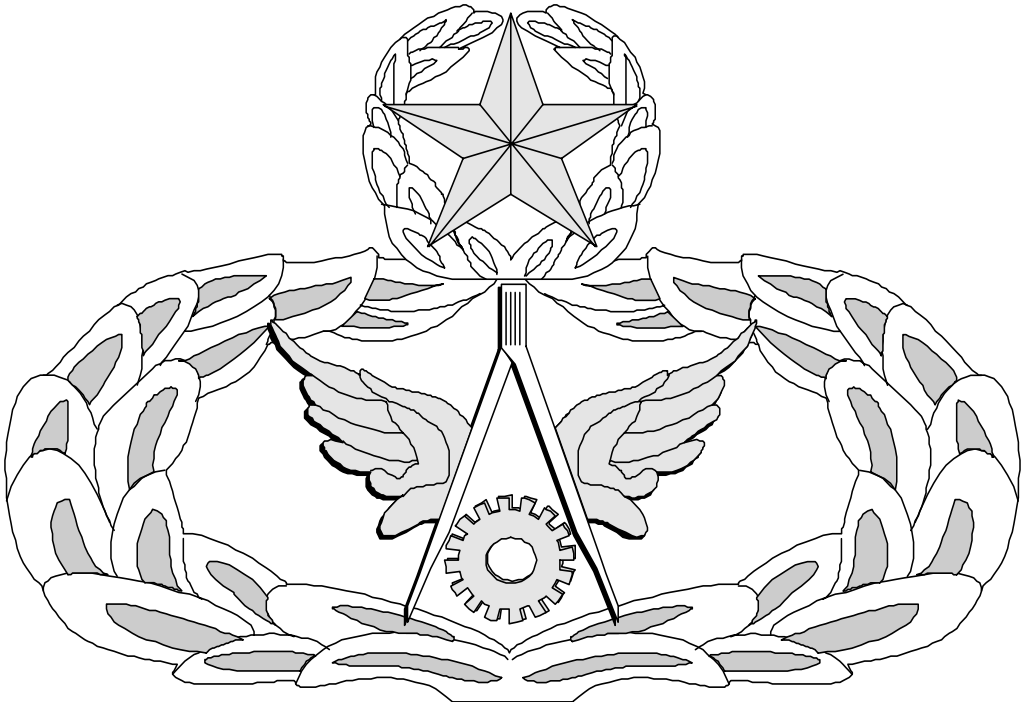
DID THE TRAINEE….	YES	NO
1. perform an operational inspection by utilizing AF Form 1806? (Refer to Unit 1, Perform Operational Checks.)		
2. sign AF Form 1806?		
3. start engine correctly?		
4. compact soil area correctly by: 4.1. moving without sudden directional changes? 4.2. overlapping previous pass twelve inches to half drive drum?		
5. follow the shutdown procedure correctly?		
6. perform a post-operational inspection by: 6.1. checking engine compartment for leaks and loose belts? 6.2. checking fluid and fuel levels? 6.3. ensuring roller have been cleaned? 6.4. performing 360-degree walk-around inspection?		
7. comply with all safety requirements?		

FEEDBACK: Trainer/Certifier should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer/certifier.

Air Force Civil Engineer

QUALIFICATION TRAINING PACKAGE (QTP)

REVIEW ANSWER KEY



FOR

PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR

(3E2X1)

MODULE 17

COMPACTION EQUIPMENT

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

PERFORM OPERATIONAL CHECKS
(3E2X1-17.1.)

QUESTION	ANSWER
1. On the steel wheel roller, how do you increase the roller weight?	a. By adding fluid to the roller drums.
2. The inspection is the same on all rollers?	b. False.
3. What keeps foreign materials from sticking to the rollers drums and tires?	c. Cocoa mats and spray bars.
4. The tire pressure on a pneumatic-tired roller is incorrect, what do you do?	b. Correct it on the spot.

PERFORM OPERATORS MAINTENANCE
(3E2X1-17.2.)

QUESTION	ANSWER
1. Why is cleaning an important part of vehicle maintenance?	a. To minimize breakdowns and save the AF money.
2. How can you find lubrication points?	c. Look at the lube chart.
3. Generally there are __ elements in an air filter.	b. 2
4. The vehicle will have a full tank of fuel at the end of each duty day.	a. True.

COMPACT EARTHEN MATERIAL USING STEEL WHEEL VIBRATORY ROLLER
(3E2X1-17.3.4.)

QUESTION	ANSWER
1. Which type of compaction uses shock waves?	c. Dynamic Compaction.
2. When compacting banked curves, why do you roll from bottom to top?	a. Prevents material from being pushed downhill
3. When compacting asphalt, what do you roll first?	c. Edges.
4. When compacting sub-grade and base course, how much overlap should you have?	a. 12-inches to half the drive drum.

MEMORANDUM FOR HQ AFCESA/CEOF
139 Barnes Drive Suite 1
Tyndall AFB, FL 32403-5319

FROM:

SUBJECT: Qualification Training Package Improvement

1. Identify module.

   Module # and title_____

2. Identify improvement/correction section(s):

   _____ STS Task Reference
   _____ Training Reference
   _____ Evaluation Instructions
   _____ Performance Resources
   _____ Steps in Task Performance
   _____ Performance Checklist
   _____ Feedback
   _____ Format
   _____ Other

3. Recommended changes--use a continuation sheet if necessary.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

4. You may choose to call in your recommendations to DSN 523-6074 or FAX DSN/Commercial 523-6488 or (850) 283-6488 or email ceof.helpdesk@tyndall.af.mil.

5. Thank you for your time and interest.

YOUR NAME, RANK, USAF
Title/Position