“Incident Protocol – Hazardous Materials”

Exam
ETP UNIT
Incident Protocol – Hazardous Materials
EXAMINATION

STUDENT NAME______________________________ DATE__________________

EXAM SCORE______________

Check ✓ appropriate answer:

1. When it comes to haz-mat incidents, the ETP Unit is trained to take the “Defensive” approach.
   □ True   □ False

2. As ETP operators, your first consideration when approaching any emergency scene is your own safety.
   □ True   □ False

3. As a first responder to an incident involving haz-mat, you should approach the scene from upwind and uphill, if possible.
   □ True   □ False

4. You should avoid driving in to smoke, visible vapor clouds and liquid run-off.
   □ True   □ False

5. It is not necessary for you to keep the COMMUNICATION CENTER dispatcher informed as to the ongoing progress of managing an incident scene.
   □ True   □ False
Multiple choice check √ appropriate answer:

6. How can we assure our own safety?
   _____ a. by following the unit's SOP's
   _____ b. limit your actions to your training level
   _____ c. use proper equipment for the task at hand
   _____ d. utilize back up, as needed, to accomplish the task
   _____ e. all of the above

7. How can we as ETP operators, limit our risk?
   _____ a. use proper traffic control techniques
   _____ b. use emergency warning lights
   _____ c. use arrow boards to re-direct traffic around the incident
   _____ d. position the ETP vehicle so it becomes a buffer to protect you, the
   victims, the scene, and other emergency service personnel
   _____ e. all of the above

8. As a first responder at the incident scene involving haz-mat, you should:
   _____ a. notify the COMMUNICATION CENTER upon your arrival
   _____ b. provide the COMMUNICATION CENTER with exact location, lanes
   effected, type & number of
   vehicles involved
   _____ c. survey the scene
   _____ d. all of the above

9. What type of information should you provide the COMMUNICATION CENTER
   dispatcher concerning
   the hazardous material, if possible?
   _____ a. type of materials involved
   _____ b. quantity of material
   _____ c. possibility of contamination
   _____ d. immediate exposure problems
   _____ e. all of the above
   _____ f. none of the above

10. How can identification of materials be accomplished?
    _____ a. by reading labels
    _____ b. placards
    _____ c. shipping papers
    _____ d. emergency response guidebook
    _____ e. all of the above.
"Crash Victim Extrication"

Course Overview

This course is designed to provide first responders with knowledge and information regarding the rescue of victims trapped in vehicles. This course provides valuable insight into the methods, dangers, and areas of concern when performing extrication.
ETP UNIT
Student Manual – Section 6
RESCUE OPERATIONS

“Crash Victim Extrication”

Instructor, Training Materials & Exam provided by Contract Source
“First Responder - Hazardous Materials”

Course Overview

This course is designed to introduce Fire, Police, Highway Emergency Response Operators, and others Emergency Personnel to the growing problem of hazardous materials emergencies. Emphasis is placed on providing the student with the skills necessary to properly identify hazardous materials along with a greater awareness of the potential hazard the material may present. Students will be provided with the skills to evaluate the impact or risk the substances pose to public health and methods to eliminate or reduce the impact of the incident.
ETP UNIT
Student Manual – Section 6
RESCUR OPERATIONS

“First Responders – Hazardous Materials”

Instructor, Training Materials & Exam provided by
Contract Source
“First Responder – First Aid”

Course Overview

This course is designed to instruct and train those individuals with the duty to respond in emergency situations (first responders) with the knowledge and skills necessary to help sustain life, reduce pain and minimize the consequences of injury or sudden illness until advanced medical help arrives.
ETP UNIT
Student Manual – Section 6
RESCUE OPERATIONS

“First Responder – First Aid”

Instructor, Training Materials & Exam provided by Contract Source
HERO UNIT STUDENT
TRAINING MANUAL

7. MOTORIST - AID
ETP UNIT
Student Manual - Section 7
MOTORIST-AID

Push Bumper Training
- Course Overview
- Push Bumper Brochure
- Instructor's Training Notes
- Visual Aid – See “Push Bumper” PowerPoint presentation
- Exam
- Answer Key

2. Towing & Recovery
- Course Overview
- Lesson Plan & Exam provided by Contract Source
“Push Bumper Training”

Course Overview
This course is designed to provide the ETP trainee with the proper techniques for pushing disabled vehicles from the travel lanes to an area of safety.

ETP UNIT
PUSH BUMPER TRAINING

I. INTRODUCTION
This course is designed to provide the ETP operator with the proper techniques for pushing disabled vehicles from the travel lanes to an area of safety.

II. OVERVIEW

ETP operators are frequently required to push disabled vehicles from the travel lanes in order to re-open obstructed lanes to traffic. Operators must make every effort to ensure that this pushing occurs with the least amount of hazard to themselves, the disabled party and other traffic in the vicinity.

III. FACTS

Approximately 7% to 8% of all motorist assist, involves pushing a disabled vehicle from travel lanes. Therefore, if the ETP Unit averages 25,000 ± assists annually, that means the unit pushes 1,750 to 2,000 disabled vehicles annually, for that reason, it is extremely important that we know how to do this procedure correctly.

IV. PUSHING VEHICLES

On arrival at the scene:

- Protect the scene by using the ETP vehicle as a buffer, while utilizing the emergency warning lights and arrow board
- Contact the driver of the disabled vehicle find out the problem and determine if pushing will be necessary
- Ask the driver if he/she is physically and emotionally capable of operating the vehicle while being pushed, if not, request assistance
- If yes, tell the driver what you plan to do and what you expect them to do
- Tell the driver the path of travel, where you plan to push them
- Make sure they understand
- If at night, make sure that their headlights are "on", if operating
- Remind the driver that their brakes and steering may not be power assisted and make take more force to both steer and stop their vehicle
- Make sure the transmission is in "neutral"
- Make sure the brake is "off"
- Make sure ignition is in "on" position
- Make sure path of travel is clear to the driver
- Tell the driver where to steer and where to stop
- Check bumper of disabled vehicle for structural damage
- Make sure bumpers align
- Make contact gently at the center of the bumper of the disabled vehicle
- Push vehicle slowly

REMEMBER:

The Illinois Emergency Vehicle Code, requires that we use both visible and audible warnings while actually pushing a disabled vehicle
Pushing should only be undertaken in an emergency situation

If using the PA system:

- Ask the driver to "wave" his/her hand or give a "thumbs up", if they understand your directions

V. WHEN NOT TO PUSH A VEHICLE

- The vehicle is too large (truck, bus, etc.)
- Its wheels are immobile
- The driver is viewed to be incapable of driving the vehicle under the conditions
- There is not a shoulder or emergency pull-off nearby

VI. THINGS TO REMEMBER

- Get permission from the driver first
- Always instruct the driver of what you plan to do
- Usually push the vehicle to the right shoulder (gore point or ais)
- Push the vehicle slowly
- Watch for trailer hitches and other protrusions (ladders, spare tire)

VII. SUMMARY

The single act of pushing a stranded vehicle from the travel lanes to the shoulder is a major step toward relieving traffic congestion. Push bumpers provide the capability for ETP vehicles to push a variety of vehicles with various bumper configurations.

ETP UNIT
Student Manual – Section 7
MOTORIST- AID
1. When approaching a stalled vehicle you should *always* advise the driver what your intentions are on your PA system.

   □ True   □ False

2. It is not important for the bumper of the stalled vehicle to be compatible with yours.

   □ True   □ False

3. You should always insure that the vehicle operator is physically and emotionally able to steer and control their vehicle while being pushed.

   □ True   □ False

4. You should never tell the driver where to steer their vehicle.

   □ True   □ False

5. When pushing a vehicle you should make contact with their bumper, place your vehicle in first gear and accelerate slowly.

   □ True   □ False

*Multiple Choice Check* √ *appropriate answer:*

6. When pushing a disabled vehicle you should maintain _______ contact area?

   ___ a. the right
   ___ b. the center
   ___ c. the same
   ___ d. none of the above
7. How should you push a disabled vehicle?
   _____ a. As fast as possible and never break contact
   _____ b. Slowly and break contact when crossing a curb or other obstacle
   _____ c. Push vehicle initially, then break contact and let it coast to safety
   _____ d. Push vehicle slowly and never break contact, no matter what

8. When possible, at what location should you make contact with the bumper of the
disabled vehicle being pushed?
   _____ a. right side
   _____ b. left side
   _____ c. anywhere you can
   _____ d. center

9. Which side of the roadway (shoulder) is the preferred location to push a disabled
vehicle?
   _____ a. left shoulder
   _____ b. right shoulder
   _____ c. it really doesn’t matter
   _____ d. grassed median

10. Which of the following statements are true? Do NOT push a vehicle when:
    _____ a. The vehicle is too large
    _____ b. Its wheels are immobile
    _____ c. The driver is viewed as incapable of driving
    _____ d. all of the above
“Towing & Recovery”
(Wreckmaster Training)

Course Overview

This course is designed to inform the ETP operator of the most efficient approved methods of towing and recovering damaged and/or disabled vehicles from the roadway system.

This course also includes the basic methods for up righting overturned vehicles.

ETP UNIT
Student Manual – Section 7
MOTORIST - AID
“Towing & Recovery”
(Wreckmaster)

Instructor, Training Materials & Exam provided by Contract Source
# TRAA Vehicle Identification Guide

## Classes 1 to 6

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<th>Class</th>
<th>Type</th>
<th>GVW Range</th>
<th>Tires</th>
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<td>(19,501 - 26,000 lbs.)</td>
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Classes 1 to 2 include passenger vehicles, light trucks, minivans, full-size pickups, sport utility vehicles, and full-size vans.

Classes 3 through 6 include a wide range of mid-size vehicles, delivery trucks, utility vehicles, motorhomes, parcel trucks, ambulances, small dump trucks, landscape trucks, flatbed and stake trucks, refrigerated box trucks, small and medium school and transit buses.

## Classes 7 & 8

<table>
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<td>8</td>
<td>Heavy-Duty</td>
<td>(33,000 lbs. and over)</td>
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Classes 7 and 8 include a wide range of heavy vehicles, large delivery trucks, motor coaches, refuse trucks, cement mixers, all tractor trailer combinations including double trailers.

## Information Needed to Correctly Dispatch Towing and Recovery Units:

- Year, Make and Model of Vehicle to be Towed or Recovered
- DOT Classification (Class 1 – 8 based on GVW)
- Location of Vehicle
- Type of Tow (impound, accident, recovery, motorist assist, etc.)
- Additional Vehicle Information
  - 2 wheel drive, 4 wheel drive, all wheel drive
  - Damage to vehicle, tire condition
  - Vehicle loaded or empty
  - Cargo contents
  - Does the vehicle have a trailer
  - Are the keys with the vehicle

*Note:* Any vehicle may carry hazardous materials. Advise if present.

*Note:* The Gross Vehicle Weight Rating (GVWR) of the vehicle to be towed or recovered can be found on the identification label on the vehicle’s driver's side doorframe. The number of pounds listed on the label can then be compared with the DOT Classification Vehicle Type Chart for the correct DOT class.
Law enforcement communications with towing and recovery operators describing an incident and the vehicles involved can insure quick and efficient clearing of these scenes and less disruption to traffic flow. In an effort to standardize communications, the towing industry is adopting the federal vehicle class standards as outlined herein.

**VIN CODES**

The year of the vehicle is critical information for towing operators in order for them to reference correct towing procedures. The diagrams on the front are examples of classifications. The following information about vehicle identification numbers affixed to the chassis will help determine the vehicle’s year. As noted, the vehicle’s year, identified by a letter or number in the VIN sequence, is the eighth character from the right.

**EXAMPLE 1995 VIN NUMBER:**

1P8ZA1279SZ215470

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**TOW TRUCK/CAR CARRIER CLASSIFICATION**

**LIGHT-DUTY**

- TOW TRUCK
- CAR CARRIER

**MEDIUM-DUTY**

- TOW TRUCK
- CAR CARRIER

**HEAVY-DUTY**

**LOW BOY TRAILER**

Information provided by Towing and Recovery Association of America Inc. • 1-800-728-0135 • 703-684-7713 • Sponsored by Tow Times® Magazine.
“Basic Auto Mechanics”

Course Overview

This course is designed to provide instruction regarding combustion engine operations and basic mechanics for the internal combustion engine. Basic roadside procedures will be introduced and demonstrated.

The course includes:

- Roadside troubleshooting
- Diesel engine components
- Water removal from diesel engines
- Air-brake operations
- Use of roadside troubleshooting guide
Basic Roadside Troubleshooting

I. Theory

A. How a Four Cycle Engine Works

1. Four Engine Cycle
   a. Intake
   b. Compression
   c. Power
   d. Exhaust

2. Engine Components
   a. Intake Manifold
   b. Cylinder Block
   c. Head and Valves
      (1) Intake Valves
      (2) Exhaust Valves
   d. Exhaust Manifolds

3. Combustion Requirements
   a. Air - Oxygen
   b. Fuel
   c. Means of Compression
   d. Means of Ignition

B. Resources

1. John Deere FMO - engine slides
2. Fundamentals of Machine Operation

C. Demonstrations

1. Calculation of engine displacement given bore and stroke using demonstration short block on stand
2. Demonstrate difference between displacement and compression ratio using board and demonstration short block on stand
3. Identify engine components using demonstration engine on stand
4. Engine components available for examination
II. Car Won't Start

A. Ignition - Is there a Spark at the Plug?
   1. Testing of the Ignition System
      a. Distributor Type
      b. Distributorless
   2. Ignition Coils
      a. Types - In the Distributor Cap, External Coils, Distributor less type
      b. Quick Test - High Output from Ignition Wires, 12 volt at the Coil

B. Fuel - Is there Fuel in the Tank?
   1. Carburetors - Visual Inspection
      a. Mechanical
      b. Computer Controlled
   2. Fuel Injection
      a. Ported Injection - Pressure Test
      b. Throttle Body - Visual Inspection
      c. Ford and GM Fuel Tank Tap Test
   3. Dos and Don'ts in Fuel Injection Testing
      a. DON'T DISCONNECT FUEL LINES!
      b. DON'T POUR FUEL IN THE ENGINE! - Pour fuel in the tank.

C. Air - Is the engine Breathing?
   1. Stopped up Air Filter - Inspection Methods
   2. Plugged Exhaust - Collapsed Catalytic Converter or Muffler

D. Compression - Are the Engine Mechanisms Working Properly?
   1. Is the Distributor Turning?
   2. Large Quantities of Oil Leaking from the Crankcase Spell Big Trouble
   3. Odd Noises coming from the Crankcase
   4. Engine Cranking with no Compression

E. Resources
   1. Troubleshooting Guide (developed in house)
   2. John Deere FMO Engine Slides
   3. Components on loan from G.M. Delco
      a. Port fuel injection rail
      b. Fuel injection throttle body
      c. Distributorless ignition coil
      d. Distributor and ignition coil
      e. Carburetor - computer controlled
      f. Electric fuel pump - in tank unit
F. Demonstration
1. Spark output test using simple spark gap test
2. Fuel pressure test
   a. Ported fuel injection
   b. Throttle body injection
   c. Carburetor
3. Stopped up fuel filter demonstration using vacuum gauge on the intake manifold
4. Compression test demonstration with cylinder leak down test

III. Obvious No Run Problems

A. Overheating Due to Loss of Coolant
1. DON'T REMOVE THE RADIATOR CAP FROM A HOT RADIATOR!
   1. Feel Top Radiator Hose of Pressure
   2. 260°F Degree Liquid will Cause Instant Second Degree Burns
2. Pressure Test a Cold System to Find any Leaks
   1. Bypass Hose leaks - Carry 5/8 in. and 3/4 in. Heater Hose
   2. A Top Hose split near the End can be Shortened
3. Fill with 50/50 Premixed Antifreeze - Never add Coolant to a Hot system that is not running
4. Locked Closed Thermostat - Remove Top Hose and Open with a Long Screwdriver
5. Demonstration
   a. Removing radiator cap techniques
   b. Correcting top hose problems
   c. Pressurizing radiator and cap for test

B. Won't Start Due to Battery Problems
1. HYDROGEN GAS BUILD-UP IS EXPLOSIVE! VERY DANGEROUS!
   a. Open Hood Completely
   b. Remove Battery Caps
   c. Use No Flames or Sparks - Wear Safety Glasses!
2. Proper Jumper Cable Hookup - Last Hookup made away from Battery
   a. Run Engine of Vehicle with Good Battery to Charge Vehicle with Bad Battery
   b. Remove Jumper Cables as soon as Possible to Avoid Alternator Damage
3. Battery Load Test - Troubleshooting Battery Reserve
   a. Excessive Starter Current Draw
   b. Weak Battery
   c. No Charge Alternator
   d. Poor Battery Connections
   e. Dead Fuse Panel - Burned Fusible Link - Jumper from Battery to Firewall Terminal

4. Demonstration
   a. Proper battery charging techniques
   b. Proper battery load testing techniques
   c. Proper battery jump starting

C. Flat Tires

1. "Space Saver" Spares have up to 15 Line up Holes

2. Good Hydraulic Jack on Firm Ground under A-frame or under Rear Axle

3. Don't over tighten wheel lugs - 100 ft. lb.
   a. Broken or Stripped Wheel Studs Can Result
   b. Warped Disk Brake Rotors Can Result

4. Lug Nut Sizes - 3/4 in., 13/16 in., 21 mm, 22 mm, and 7/8 in. for Light trucks

5. Don't Install Slick "Space Saver" Spares (Identified as Temporary Tires) or Regular Type Spare Tires with less than 2/32 in. Tread Remaining.

6. Demonstration
   a. Jacking car points and lifting heights
   b. Lug tightening techniques with torque wrench
   c. Tread depth and tire pressure measurement

7. Resources
   a. Demo vehicle with easy access to radiator, battery, and spare tire
   b. Lug wrench
   c. Proper sockets and torque wrench
   d. Radiator pressure tester
   e. Battery charger jumper cables
   f. Battery load tester
Diesel Engines - Operation and Maintenance

Theory

A. Why Use Diesel Engines?

Advantages
1. Horsepower produced per pound of fuel is higher than gasoline.
2. Diesel Engines are built heavier and stronger, and therefore last longer.
   a. Diesel Fuel itself is an excellent Upper Cylinder Lubricant.
   b. Diesel Fuel Burns Cooler in a Diesel Engine – Exhaust Valve Temperatures are much less than Gasoline.
   c. Slow Engine Speeds mean very low foot per minute piston Speeds thusly longer Piston Ring and Engine Life

Disadvantages
   d. High running Vibration Requires Expensive Engine High Quality Engine Parts.
   e. Dirty Exhaust - Emission Control Problems - Requires Turbocharging.
   f. Heavy Engine Weight and Higher Purchase Costs.

B. Types of Diesel Engines
1. Medium Duty Diesel
   a. Precombustion Chambers
   b. Glow Plugs - USE NO ETHER!
2. Heavy Duty Diesel
   a. Direct Injected
   b. High Compression

C. Turbocharging and Intercooling
1. Turbocharging Theory
   a. Exhaust Gas Operation
   b. Immediate crankup on Stalling
   c. Cool down after working before Shutdown
2. Intercooler Theory (Aftercooler)
   a. Radiator in the Intake Manifold
   b. Turbocharger compression causes heating
D. Resources - Trucks
   1. Medium diesel - Pre-combustion injection
   2. Heavy duty diesel - Direct injection
   3. Cold weather starting video from Caterpillar
   4. Injection pump - Distributor type - In line type
   5. Diesel piston & rings
   6. Turbo-charger

E. Demonstration
   1. Bleeding injection system after filter change
   2. Pressurizing intake manifold with turbocharger

II. How to Start a Diesel Engine

A. Medium Duty Diesel Engine with Precombustion Chambers
   1. "Wait" light on Dash while Glow Plugs are Heating
   2. USE NO ETHER on this Type Diesel Engine
   3. Below Freezing Block Heaters (Water Jacket Heaters) Must be Used

B. Heavy Duty Diesel Engines - Direct Injected
   1. Some have "Glow Plug" like Heaters in the Intake Manifold
   2. Use of Ether in this Type Diesel Engine could cause an Explosion

C. Correct Use of Ether Starting Aid in Cold Weather
   1. USE NO ETHER on Glow Plug Diesel Engines or those with Intake Manifold Heaters.
   2. Inject Ether into the Intake System only when the Temperature is below 35 degrees F. and only with the Starter Turning the Engine.
      a. Overetherizing is the Number One Cause of Breaking Top Piston Rings and Burned Piston Crowns.
   3. Best Advise - Use the Electricity Control Connection Ports to Inject Ether Directly into the Intake Manifold.

D. Resources
   1. Piston with failed ring lands
   2. Broken piston rings
   3. Glow plug
   4. Water jacket heater

E. Demonstration
   1. Injecting ether starting aid
   2. Starting precombustion chamber diesel engine
III. Diesel’s Worst Enemy - Water

A. Water in Fuel - Where does it come from?
   1. Condensation and Leaking Tanks
   2. Prevention
      a. Fill equipment at the end of the work day.
      c. Don’t carry fuel in 5 gallon cans.
   3. Injection Pumps are lubricated by fuel - very close tolerances - .0001 in.
      a. Water lacks any lubrication qualities
         c. Large amount of water - immediate lockup
            1. Emulsified water in fuel
            2. Separated water can be drained from water separator

C. The Fuel Filter in Between the Transfer Pump and the Injection Pump

D. Electric Water Indicator in the Fuel Tank and Water Drain on the Fuel Tank Bottom

E. Use Fuel Conditioner
   1. Contains Alcohol to Collect Emulsified Water in Fuel
   2. Contains Lubricant that Helps the Injection Pump and Injectors
   3. Prevents Fuel Waxing at Low Temperatures
   4. Prevents Growth of Protoplasm During Storage

F. Resources
   1. Diesel Truck

G. Demonstration
   1. Draining water from water separator
   2. Water and fuel mix in jar - add fuel conditioner or alcohol

Air Brakes - Operation and Maintenance
I. Components

A. Air Compressor with Governor

B. Air Tanks
   1. Wet Tank
      a. Front Axle Tank
      b. Rear Axle Tank
   2. Water Drain Devises
      a. "Jerk" Valves
      b. Air Dryer
      c. Automatic Water Ejectors

C. Brake Chambers
   1. Service Brakes
      a. Foot Valve
      b. Relay Valve
      c. Quick Release Valve
      d. Front Axle Ratio Valve
   2. Spring Brakes
      a. Emergency Brakes
      b. Supply Air System
      c. Manual Disengagement Method Using Brake Pins
      d. Air Gauges and Automatic Low pressure Indicators
      e. Check Valves to Limit Loss of Complete Brake System
      f. Tractor Protection Valve
   3. Cam Type Brakes
      a. Slack Adjusters - Automatic Adjusters
      b. Brake Compounding - Anticompounding Valve
      c. Lining Wear can cause "Cam Over" condition
      d. Oversized Lining for Undersized Drums

II. Resources
   1. Truck with air brakes
   2. Air brake diagram
   3. Brake chamber
   4. Relay valve
   5. Quick release Valve

III. Demonstration
   1. Bleeding water from air system
   2. Removing spring brakes for towing
   3. Adjusting slack adjusters
Roadside Troubleshooting Guide
- Engine Turns Over but Car Won't Start

I. Troubleshooting Guide

Step #1 - Is there fuel in the tank?
   A. Yes - Go to Step #2
   B. No - Add fuel to tank and try to start
      (1) Starts
      (2) Won't start - Go to Step #2

Step #2 - Open hood and check for Spark at the Plug Wire end
   A. No spark - Go to (1)
   B. Good spark - Go to Step #3
      (1) No Spark at the Plug
         (a) Yes - Indicates secondary ignition problem that cannot be fixed at roadside - STOP!
         (b) No -
            (b.1) No voltage - Indicates burned fuseable links – no power to fuse panel -
            (1) Starts
            (II) Won't start - Indicates secondary ignition problem that cannot be fixed at roadside - STOP!
         (b.2)
            (I) Starts
            (II) (III) Won't start - Indicates secondary ignition problem that cannot be fixed at roadside - STOP!

Step #3 - Good spark - Check for fuel at the Intake Manifold
   A. Carburator - With engine turning over look in carb bores for fuel – No fuel indicates a problem that cannot be fixed at roadside - STOP!
   B. Throttle Body Injection - Turn ignition off and on and check for fuel at the throttle

Bores
(1) Fuel - See Step #4
(2) No fuel - Check fuse panel for blown fuse
   (a) Fuse good - Indicates Fuel Pump problem that cannot be fixed at roadside - STOP!
(b) Fuse bad - Replace fuse and try to start
   (I) Starts
   (II) Won't start - Indicates fuel pump problem that
       cannot be fixed at roadside - STOP!

III. Resources - Vehicles with:
   A. Distributor Ignition
   B. Distributorless Ignition
   C. Port Fuel Injection
   D. Throttle Body Injection
ETP UNIT
Student Manual – Section 7
MOTORIST-AID

“Basic Auto Mechanics”

Instructor, Training Materials & Exam provided by OEM
8. EQUIPMENT CARE & OPERATIONS
ETP UNIT
Student Manual - Section 8
EQUIPMENT CARE & OPERATIONS

1. Air Compressor – Operations & Maintenance
   - Course Overview
   - Instructor’s Training Notes, combined with Transfer Fuel Tank
   - Visual Aid – See “Air Compressor – Operations & Maintenance” PowerPoint presentation
   - Exam and Answer Key, combined with Transfer Fuel Tank

2. Preventive Maintenance
   - Course Overview
   - Visual Aid – See “Preventive Maintenance” PowerPoint presentation
   - No Instructor Notes
   - No Written Exam, “Hands – On” Exam
“Air Compressor – Operations & Maintenance”

Course Overview

This course is designed to provide a basic review of the operation and maintenance of the ETP vehicle’s air tank compressor.
"Transfer Fuel Pump – Operations & Maintenance"

Course Overview

This course is designed to provide a basic review of the operation and maintenance of the ETP Heavy Wrecker Fuel Transfer Fuel Pump.
ETP UNIT

AIR COMPRESSOR / Fuel Transfer Pump - OPERATIONS & MAINTENANCE

AIR COMPRESSOR

I. OVERVIEW

This course is designed to provide a basic review of the operation and maintenance of the ETP vehicle's air compressor.

II. PURPOSE

The purpose of equipping the ETP vehicles with air compressors is three-fold:

- To operate the vehicle air brake system
- To make the job duties of the ETP operator somewhat easier
- To help the operator do his/her job duties faster
- To make the ETP Unit much more efficient

III. PRIMARY USAGE

- To run air tools for performing mechanical repairs on disabled vehicles
- To run an air wrench when assisting motorists in changing flat tires
- To provide air for flat and/or under inflated tires
- To operate the vehicle air brake system

IV. OPERATIONS

Air hose reel located in the driver side and rear compartment. The trucks air tank may also be used.

IV. OPERATION SEQUENCE

- Select air tool to be used
- Connect tool to air supply hose (located at the front and rear of the ETP vehicle)
- Begin work
- Disconnect tools when finished
- Return tools to storage

VI. MAINTENANCE OF AIR COMPRESSOR

Periodically, drain self-bleeder system and check for oil in the air system. Inspect connecting air hoses and air tools daily for damage and report any damages to your shift supervisor. It is very important to drain air system in the winter months.

VII. SUMMARY

The air compressor is an essential piece of equipment in the day to day operation of the ETP Unit, and for that reason, must be kept in good working condition.
TRANSFER FUEL PUMP

I. OVERVIEW

This training course is designed to provide guidelines for the operations and maintenance of the unit's transfer fuel tank.

II. PURPOSE

The purpose of the transfer fuel pump is to provide a method for removing diesel fuel from the saddle tanks of tractor trailers, when involved in vehicle accidents. This device enables the ETP Unit to transfer fuel from damaged or leaking fuel tanks, thus removing a potential hazard from the scene of the incident. It also enables the unit to eliminate or minimize fuel spillage, which helps the environment.

III. OPERATION SEQUENCE

- Engine needs to be running
- Connect air hose to pump
- Remove cap from vehicle recovery tank
- Remove hose cap
- Connect nozzle to hose
- Place nozzle in the fuel tank to be siphoned
- Turn transfer switch to on, fill tank in other vehicle
- When siphoning is completed turn the transfer switch to the —off— position, disconnect the nozzle from the hose, hose from the compressor, replace equipment.
- To dump or pump the fuel from the vehicle recovery tank to the holding tank, follow the same process except, turn the transfer switch to the right, —Empty Tank—
ETP UNIT
Student Manual – Section 8
EQUIPMENT CARE & OPERATIONS

“Air Compressor – Operations & Maintenance”
AND
“Fuel Transfer Pump – Operations & Maintenance”
Exam
(Exams combined)
ETP UNIT
Air Compressor / Transfer Fuel Tank
EXAMINATION

STUDENT NAME_________________________DATE________________

EXAM SCORE________________

Check √ appropriate answer:

1. The air compressor makes the job duties of the ETP operator, easier and more convenient.
   □ True □ False

2. The air compressor enables the operator to utilize air tools.
   □ True □ False

3. You should drain the air tank daily, if equipped with a drain cock.
   □ True □ False

4. This device enables our unit to eliminate or at least minimize fuel spillage, which helps the environment.
   □ True □ False

5. The power take off (PTO) does not have to be engaged, in order to operate the transfer fuel tank.
   □ True □ False

6. You should never remove the cap from the vehicle recovery tank, while siphoning or pumping recovered fuel.
   □ True □ False
Multiple choice check ✓ appropriate answer:

11. The purpose of the air compressor is:
   ____ a. to make the job duties of the ETP operators somewhat easier
   ____ b. to enable the operator do his/her job duties quicker
   ____ c. to make the ETP Unit more efficient
   ____ d. all of the above

12. The usages of the air compressor are:
   ____ a. run air tools for performing mechanical repairs on disabled vehicles
   ____ b. run air wrench when changing tires
   ____ c. provide air for flat and/or under inflated tires.
   ____ d. all of the above

13. What maintenance is required for the air compressor?
   ____ a. inspect connecting air hoses for damage
   ____ b. inspect air tools daily for damage
   ____ c. drain tank and leave open overnight, if equipped with a drain cock
   ____ d. all of the above

14. If a damaged item is found, what should you do?
   ____ a. swipe the item from another operator and exchange it with yours
   ____ b. don't say anything, just hope you want need it
   ____ c. advise your shift supervisor immediately
   ____ d. none of the above

15. The fuel transfer pump is designed for recovering what type of fuel only?
   ____ a. regular gasoline
   ____ b. unleaded gasoline
   ____ c. diesel
   ____ d. methanol
ETP UNIT
Student Manual – Section 8
EQUIPMENT CARE & OPERATIONS

“Preventive Maintenance”

Course Overview

This course is designed to provide the ETP operator with the knowledge and skills for performing preventive maintenance on assigned equipment.
This training is designed to prevent premature equipment failure from a lack of grease, oil, coolant, air or minor repair/adjustment.
Preventive Maintenance is required to insure the operational ready status of all ETP vehicles and equipment.
ETP UNIT
Student Manual – Section 8
EQUIPMENT CARE & OPERATIONS

“Preventive Maintenance”

No Instructor’s Notes
(See PowerPoint Presentation)
ETP UNIT
Student Manual – Section 8
EQUIPMENT CARE & OPERATIONS

“Preventive Maintenance”

No Written Exam – “Hands–On” Evaluation