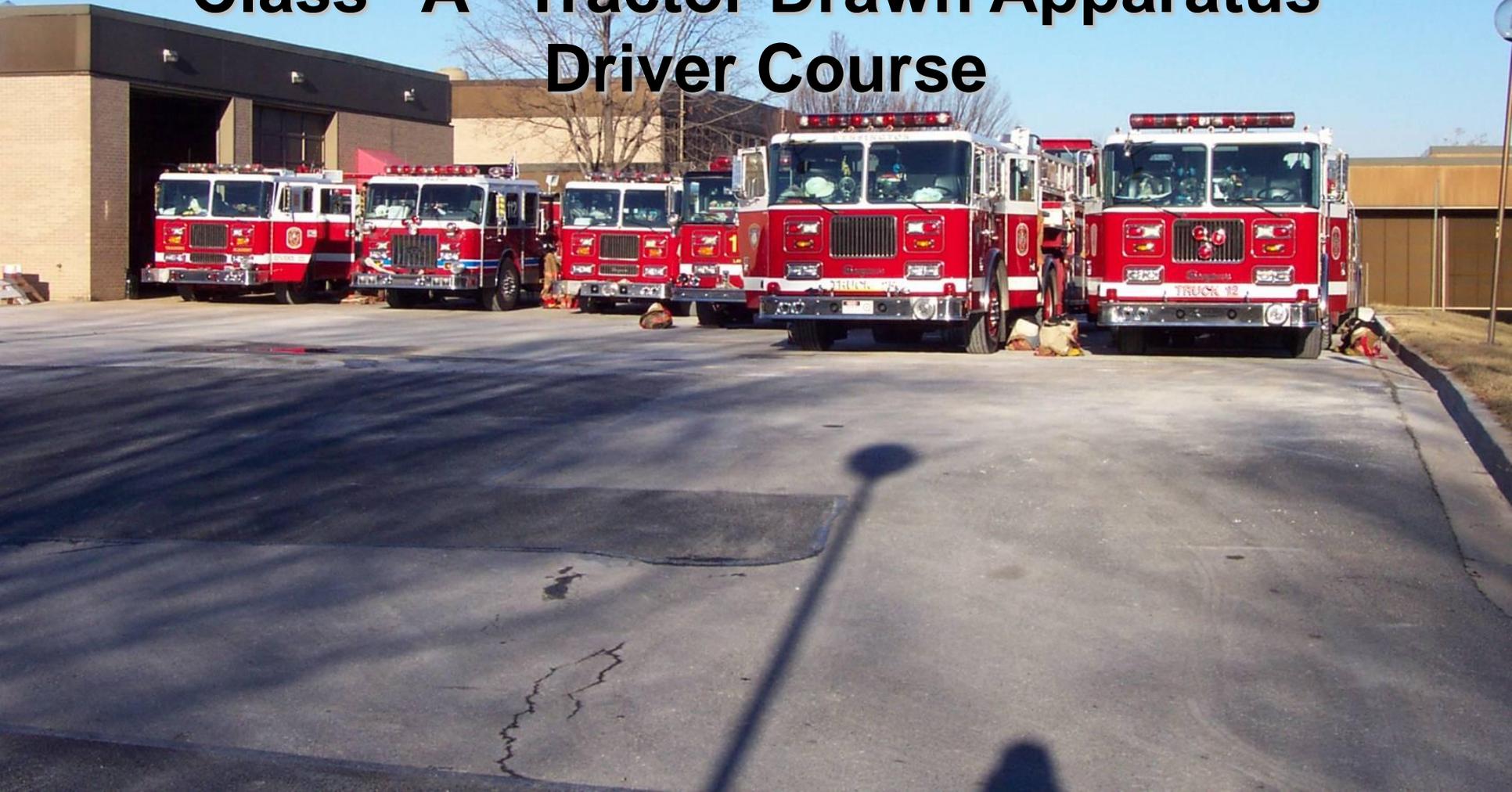




# Welcome to Montgomery County Fire Rescue Class "A" Tractor Drawn Apparatus Driver Course





# Class “A” Apparatus Driver Course

**Captain Derrell Walker**

**Program Manager**

**Contact Information**

**301-279-1148 Office**



Montgomery County Fire and Rescue

Class “A” Driver Course  
Version 07-1



# Class “A” Apparatus Driver Course

- Report Time is 0800 hrs
- Night Driving report Time 1400-2200
- All sessions are mandatory





# Class “A” Apparatus Driver Course

## Course Requirements

Written Exam      70% Passing

- Safe Driving Principles
- Maryland Motor Vehicle Law
- Air Brake Systems





# Class “A” Apparatus Driver Course

## Course Requirements

### Practical Exams 70% Passing

- Pre-Trip Inspection
- MCFRS Brake Test
- Skills Course (10 minute maximum time)
- Commentary Driving (Acceptable Evaluation)
- Parallel Parking (5 minute maximum time)
- Remedial Training if you passed the written exam





# Class “A” Apparatus Driver Course

## Overview

- Why Class “A” Driver Course?
- Driver & Officer Responsibility
- Review Motor Vehicle Statutes
- Legal Definitions
- Safe Vehicle Operation Policy
- Safe Driving Principles





# Why Class “A” Apparatus Driver Course?

## Maryland MVA Law Change

- 16-102. Persons exempt from licensing requirements
- (12) A member or employee of a fire department, rescue squad, emergency medical service unit, or volunteer fire company while driving an emergency vehicle if the driver:





# Why Class “A” Apparatus Driver Course?

- (i) Holds a valid Class C license issued to the driver under section 16-104.1 of this subtitle;
- (ii) Has been authorized by then political subdivision that operates a fire department rescue squad, emergency medical services unit, or volunteer fire department to operate the type of emergency vehicle being driven; and





# Why Class “A” Apparatus Driver Course?

(iii) Is driving the emergency vehicle in the performance of the official duties of the driver in or out of state.





# Why Class “A” Apparatus Driver Course?

## Regulation

(1) The Administration shall adopt regulations that establish mandatory training and testing requirements that a political subdivision that operates a fire department, rescue squad, emergency medical services unit, or volunteer fire department must implement before the political subdivision may authorize an individual to operate an emergency vehicle in accordance with subsection (a) (12) of this section.





# Why Class “A” Apparatus Driver Course?

## Implement Standardized Driver Training

### – Past Practices

- Class “B” & “A” training at the station level
- Inconsistent information
- Focus was not on “Safe Driving”
- Some personnel were “left out”





# Why Class “A” Apparatus Driver Course?

## Collision Reduction

MCFRS goal is to reduce frequency and severity of collisions involving MCFRS apparatus





**May, 2005**



**March 29, 2005**

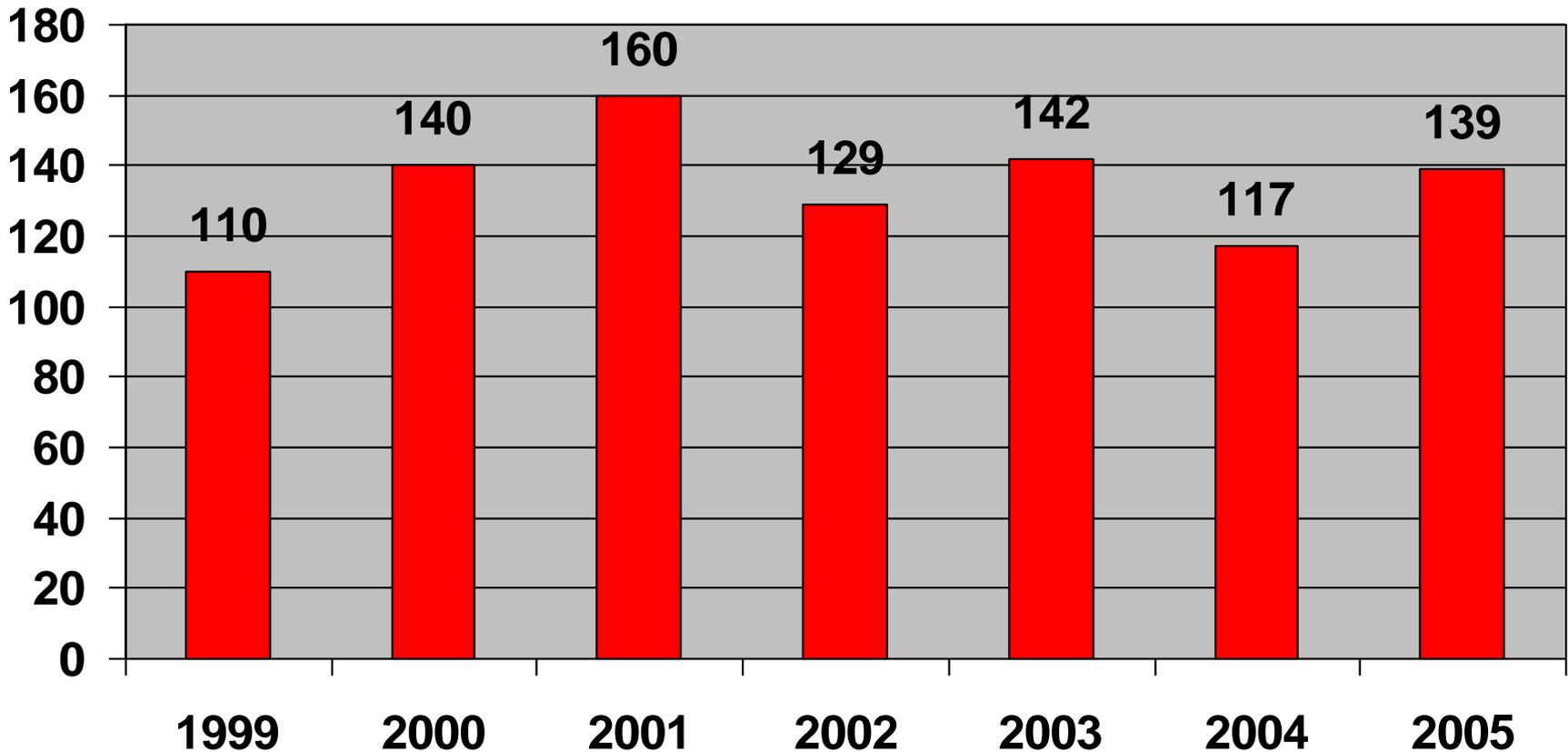


**July, 2005**



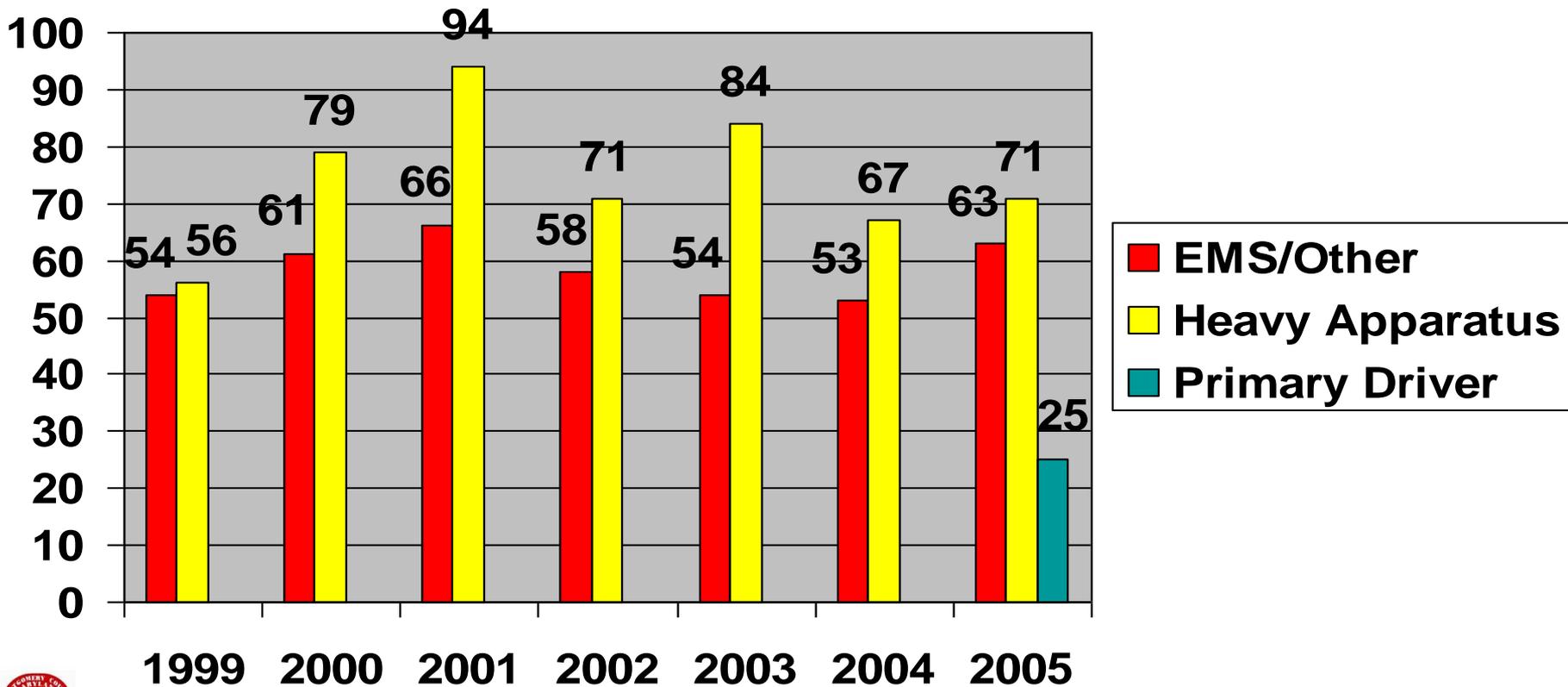
# CRASHES/INCIDENTS

2005 Data Includes LFRD





# EMS/OTHER UNITS VS. HEAVY APPARATUS

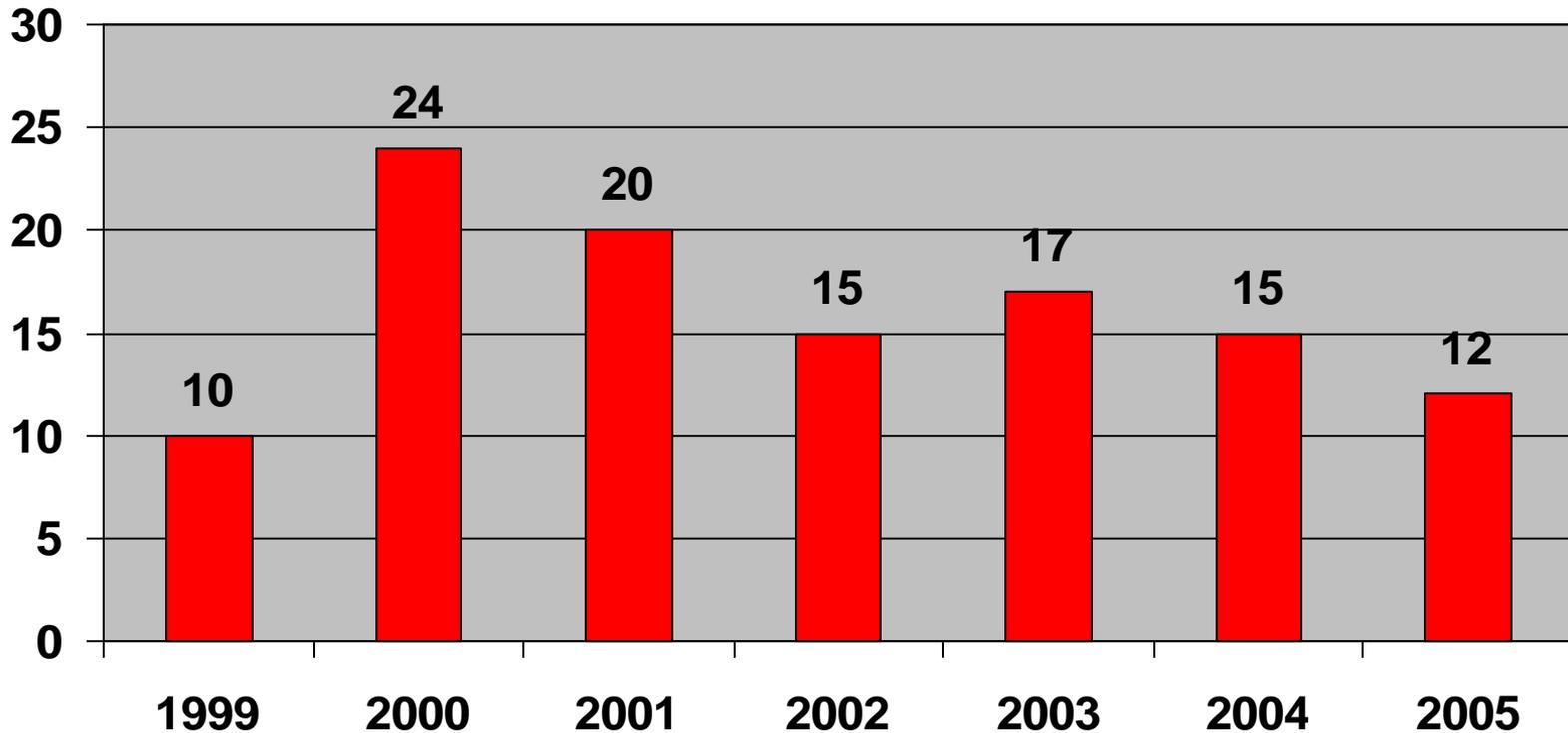


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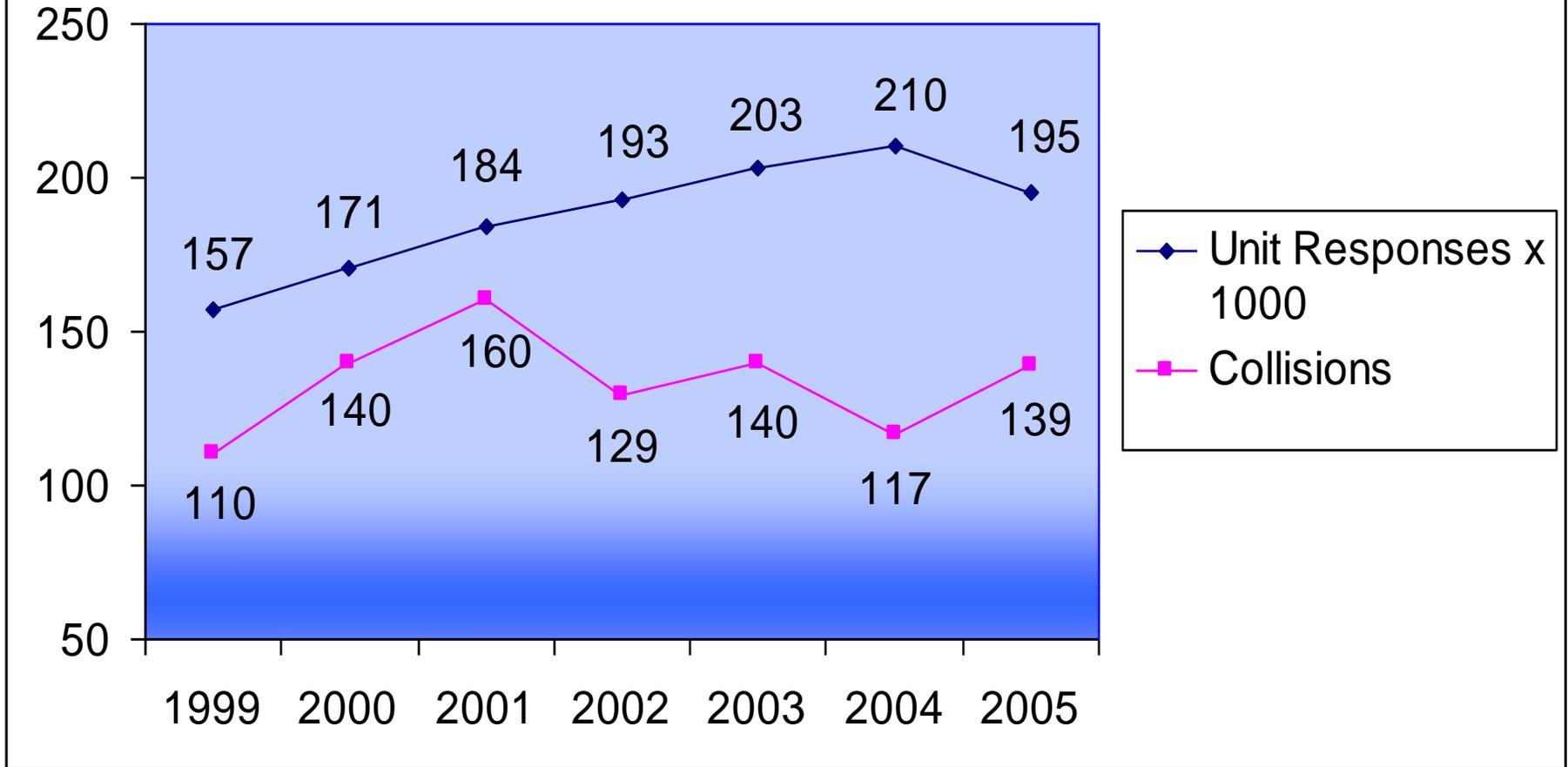


# BACKING INCIDENTS





## Unit Responses vs. Collision History





# Class "A" Apparatus Driver Course



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# New Philosophy

*We drive our vehicles with the mindset that the other driver will make a mistake in the path of our vehicle.*

*Our operators will drive proactively by adjusting their driving to avoid collisions triggered by other drivers, traffic, and environmental conditions.*





# Driver and Officer Responsibility

- All drivers of emergency vehicles shall be directly responsible for the safe and prudent operation of the vehicle under all conditions.
- Driver's first priority shall be for the safe arrival of the emergency vehicle at the emergency scene.
- Driver shall not move emergency vehicles until all personnel on the vehicle are seated and secured with seat belts and in approved riding positions.





# Driver and Officer Responsibility

- During emergency response, drivers of emergency vehicle shall be able to stop the vehicle to avoid a collision for any of the following:
  - **Red traffic lights**
  - **Stop signs**
  - **Negative right-of-way intersection**
  - **Blind intersections**
  - **When the driver cannot account for all lanes of traffic in an intersection**
  - **When other intersection hazards are present**
  - **When encountering a stopped school bus with flashing warning lights ( complete stop)**





# Driver and Officer Responsibility

- During non-emergency travel, drivers of emergency vehicles shall obey all traffic control signals and signs and all laws and rules set forth by state or local jurisdiction.
- During emergency response or non-emergency travel, drivers of emergency vehicle shall come to a complete stop at all railroad grade crossing.
- The driver shall be aware of his/her rate of closure on other vehicles and pedestrians.





# Driver and Officer Responsibility

- **Driver & Officer shall ensure that all personnel on the vehicle are seated and secured with seat belts and in approved riding positions prior to movement of the emergency vehicle.**
- **Driver & Officer shall ensure driver is operating the vehicle in a safe and prudent manner during response in accordance with departmental policy and state statutes.**
- **Officer shall issue warnings about road and physical hazards to the driver.**
- **Officer shall direct the driver to cease any unsafe driving, such as excess speed or unsafe intersection practices.**





# Driver and Officer Responsibility

- **Officer shall be responsible to operate the radio and communications equipment during response.**
- **Officer shall operate the audio and visual warning devices.**
- **Officer shall check map book, run cards or computers aided response to assist the driver in determining the safest and most direct route to the emergency scene.**
- **Officer shall assist the driver in intersection crossing and backing according to specific responsibilities outlined in the intersection and backing policies.**





# Maryland Vehicle Statutes

## Review

### **TR 11-118 Emergency Vehicle**

- **Vehicles of Federal, State or Local Law enforcement agencies;**
- **Vehicles of fire departments, rescue squads, volunteer fire departments,**
- **EMS systems and MD Fire & Rescue Institute**
- **State vehicles responding to Haz-Mat spills**
- **State vehicles designated by Commissioner of Corrections**
- **Ambulances**
- **Special vehicles funded or provided by governments and used for**
- **emergency or rescue purposes in this State.**





# Maryland Vehicle Statutes

## TR 11- 162 Definition of STOP

- Stop means complete cessation of movement.

## TR 19 – 103 Liability for Negligent Operation of Emergency Vehicle

- An authorized Emergency Vehicle Operator who is using the vehicle in an actual emergency (i.e. responding to an emergency call, etc...) has immunity from Liability.
- The owner or lease of an Emergency Vehicle is liable to an extent provided by 5-639 for any damages caused by a negligent act by the operator while using the vehicle in an actual emergency.





# Maryland Vehicle Statutes

## TR 21 – 106 Emergency Vehicle Privileges

### – The driver of an emergency may:

- Park or stand without regard to the law
- Go through a red light, stop sign or yield after slowing for safety
- Reasonably exceed the max. speed limit
- Disregard any traffic control signal regarding turning or movement
  - (no left turn, not u-turn)





# Maryland Vehicle Statutes

## TR 21 – 405 Operation of Vehicles on Approach of Emergency Vehicles

- **Upon approach of an emergency vehicle using audible and visual signals, or a police vehicle using a audible signal, the driver of every other vehicle shall yield right of way.**
- **Upon approach of an emergency vehicle, every other vehicle shall drive immediately to a position parallel to and as close as possible to the edge or curb of the roadway clear of any intersection.**





# Maryland Vehicle Statutes

- **Stopping until emergency vehicle passed:**  
Driver of every other vehicle shall stop and stay in that position until passed.
- **Passing of emergency vehicle:** only allowed when directed by a police officer or when the vehicle has stopped.
- Driver must drive with due regard for safety of all persons.





# Maryland Vehicle Statutes

## TR 21 – 510 Pedestrians to Yield Right – of – Way to Emergency Vehicle

- **A pedestrian who crosses a roadway shall yield right of way to any approaching emergency vehicle that is using audible and visual signals.**
- **This includes police vehicles using only a siren**
- **The driver of any emergency vehicle must still drive with due regard for the safety of all people.**





# Maryland Vehicle Statutes

## TR 21 – 706 Overtaking and Passing School Vehicle

- **Driver to stop on meeting or overtaking stopped school vehicle:** If a school vehicle has stopped on a roadway and operating stop lights, the driver of any vehicle meeting or overtaking the school vehicle shall stop at least 20 feet away in the front or rear of vehicle
- **The driver of vehicle meeting or overtaking a school vehicle may not proceed until school vehicle resumes motion or deactivates red stop lights.**
- **Exception: does not apply to driver, if school vehicle is on different roadway.**





# Maryland Vehicle Statutes

## TR 21 – 1003 Stopping, Standing or Parking Prohibited

- **Prohibited in:**
  - **Front of public driveway**
  - **On a sidewalk**
  - **In an intersection**
  - **On a crosswalk**
  - **In a highway tunnel**
  - **On any bridge**





# Maryland Vehicle Statutes

## TR 21 – 1003 Stopping, Standing or Parking Prohibited

- **Within 15ft. of a fire hydrant**
- **Within 30ft on approach to flashing signals, traffic control signal, side of roadway, stop sign, or yield sign.**
- **Within 20ft of driveway entrance to fire station**
- **Within 50ft of railroad crossing**





# Maryland Vehicle Statutes

## TR 21 – 1110 Crossing Fire Hose

- **Driver of vehicle may not drive over any unprotected fire hose of a fire department that is laid down on any highway or private driveway without consent of fire department official in command.**





# Maryland Vehicle Statutes

## TR 22 -218 Audible and Visual Signals

- **Every emergency vehicle must have a siren, exhaust whistle, or bell**
- **Emergency vehicles shall have signal lamps mounted as high as practicable. Must be visible at 500 ft. in normal sunlight.**
- **No person shall drive on any highway a vehicle equipped with oscillating, rotating, blinking, or other type of emission of light**





# Maryland Vehicle Statutes

## TR 22 – 412.4 Seat Belts or Restraining Devices

- **Vehicle registered & manufactured after 1990 shall be equipped with a seatbelt or safety restraining device for each position that may be lawfully occupied by a passenger.**
- **However, failure to use seatbelt or safety restraining device may not be considered evidence of negligence, may not be considered a moving violation, nor may civil action be taken.**





# Maryland Vehicle Statutes

- “PRIVILEGE” and “EXEMPTION” demand due regard, care & caution by the Emergency Vehicle Operator
- “DUE” always imports a fixed obligation or liability.
- “CARE” refers to avoiding a collision
- “DUE AND REASONABLE CARE” refers to the “Doctrine of Reasonable Man”





# Legal Definitions

“A **TRUE EMERGENCY** is a situation in which there is a high probability of death or serious injury to an individual or significant property loss, and action by (you) an emergency vehicle operator may reduce the seriousness of the situation.”

U.S. Department of Transportation

*“Emergency Vehicle Operators Instructor Course Manual”*





# Legal Definitions

## Negligence

- A legal deficiency or wrong that results whenever a person fails to exercise that degree of care that a prudent person would exercise under similar circumstances





# Legal Definitions

## Gross Negligence

- The reckless disregard of the consequences of an act of another person

## Willful and Wanton

- Intentional or with careless indifference (considered the most serious form of negligence)





# Case Study

TW 17 Fatal Collision June 22, 2000



Montgomery County Fire and Rescue

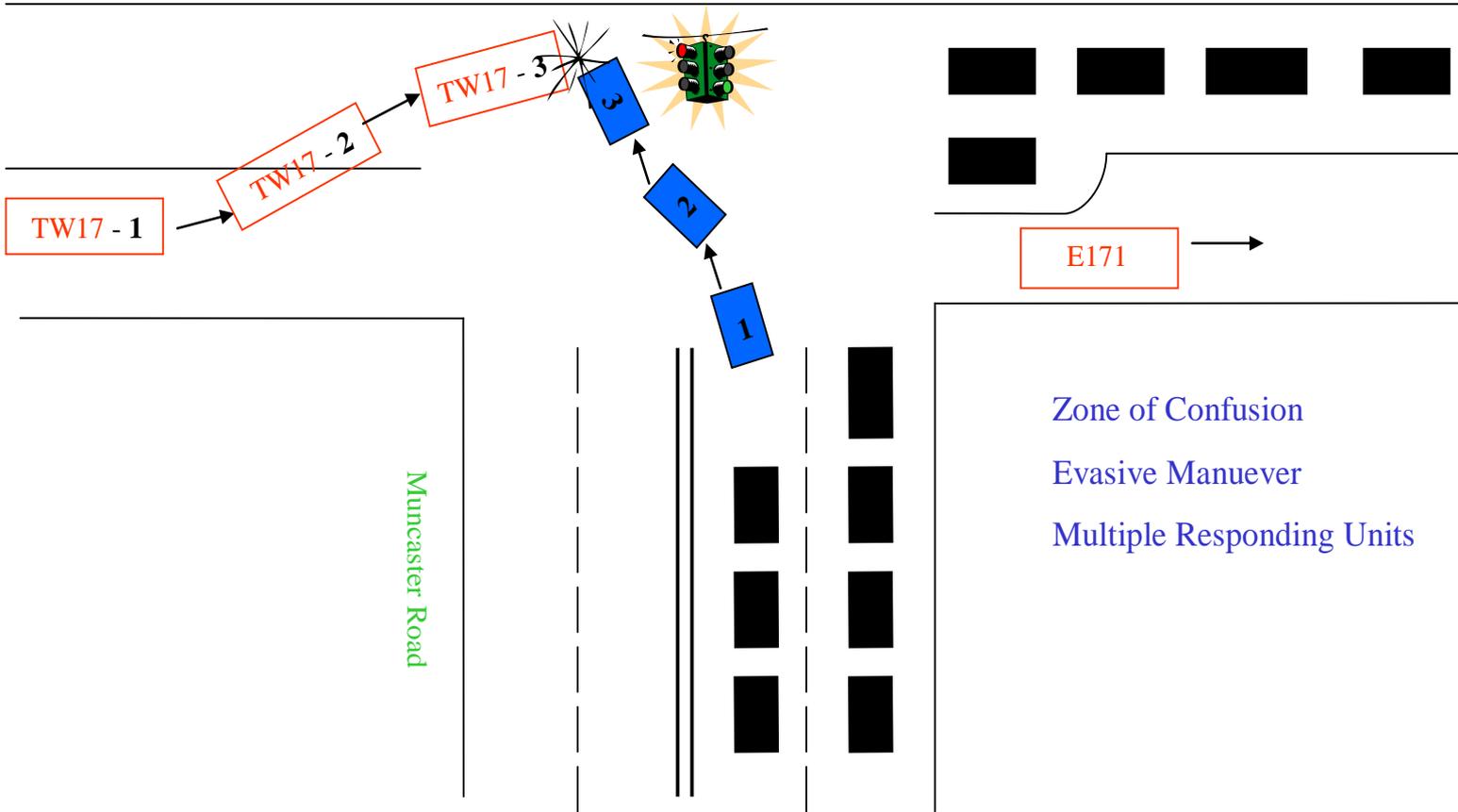
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June 22, 2000  
Warm, Clear & Dry  
0800hrs

Brookeville Road

Route 108

Olney →



Zone of Confusion  
Evasive Maneuver  
Multiple Responding Units







EAST  
BLAND  
08  
→

LAYTONVILLE  
VOL. FIRE DEPT.

DO NOT RIDE  
ON REAR STEP

OPEN



EAST

MARYLAND

108



LONG & FOSTER  
OPEN

LAYTONSVILLE  
VOL. FIRE DEPT.

DO NOT RIDE  
ON REAR STEP

TRAIL BLAZER

TRAIL BLAZER





# Safe Emergency Vehicle Operation Policy # 808

## Policy Review



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# Vehicle Backing

- If you can avoid backing, avoid it!
- Never be in a hurry when backing
- Consider backing when you arrive
- Drivers should not rely solely on the spotter





# Vehicle Backing

- If there is no spotter available:
  - Make a reasonable attempt to get someone to act as a spotter.
  - If a spotter cannot be obtained, get out the unit and walk around the unit completing a "circle of safety" and survey the backing area. Before proceeding to back unit, being sure to also check overhead clearance.
  - Give a final warning of two horn blasts just prior to backing.





# Vehicle Backing

## Driver Responsibilities

- ✓ Bring the unit to a complete stop.
- ✓ Roll window down completely.
- ✓ Make visual and verbal contact with the spotter. “If you cannot see or hear the spotter, **do not backup!**”
- ✓ Driver and spotter must establish and continue eye contact in the left rear view mirror at all times.
- ✓ Survey area for obstructions prior to backing





# Vehicle Backing

- ✓ Drivers must have a thorough knowledge of spotter hand signals.
- ✓ The spotter hand signals to the driver indicating it is safe to begin backing.
- ✓ The driver gives a two blast warning on the horn just prior to backing.





# Vehicle Backing

## Spotter Responsibilities:

- ✓ Conduct a "circle of safety" and survey the backing area and all other sides of the vehicle checking for hazards. Before proceeding to back unit, being sure to also check overhead clearance.
- ✓ Communicate any observed hazards to the driver.
- ✓ Place yourself eight to ten feet to the left rear of the unit.





# Vehicle Backing

## Spotter Responsibilities:

- ✓ Establish visual and verbal contact with the driver and continue eye to eye contact in the left rear view mirror at all times.
- ✓ Be familiar with hand signals before allowing backing maneuvers to begin.
- ✓ Stop the driver if any hazards are observed or if you are uncertain of the direction that the driver is maneuvering.





# At Risk Behaviors

- Weight Restricted Bridges
- Distracted Drivers
- Influence of Drugs and Alcohol
- Emotional Drivers





# Operating Tractor Drawn Apparatus

## Principles for Driving Tractor Drawn Apparatus

### –**Teamwork is Essential**

- Good communication can avoid collisions
- Driver is responsible for the entire apparatus
- Tiller person is there to assist





# Operating Tractor Drawn Apparatus

## Advantages of TDA

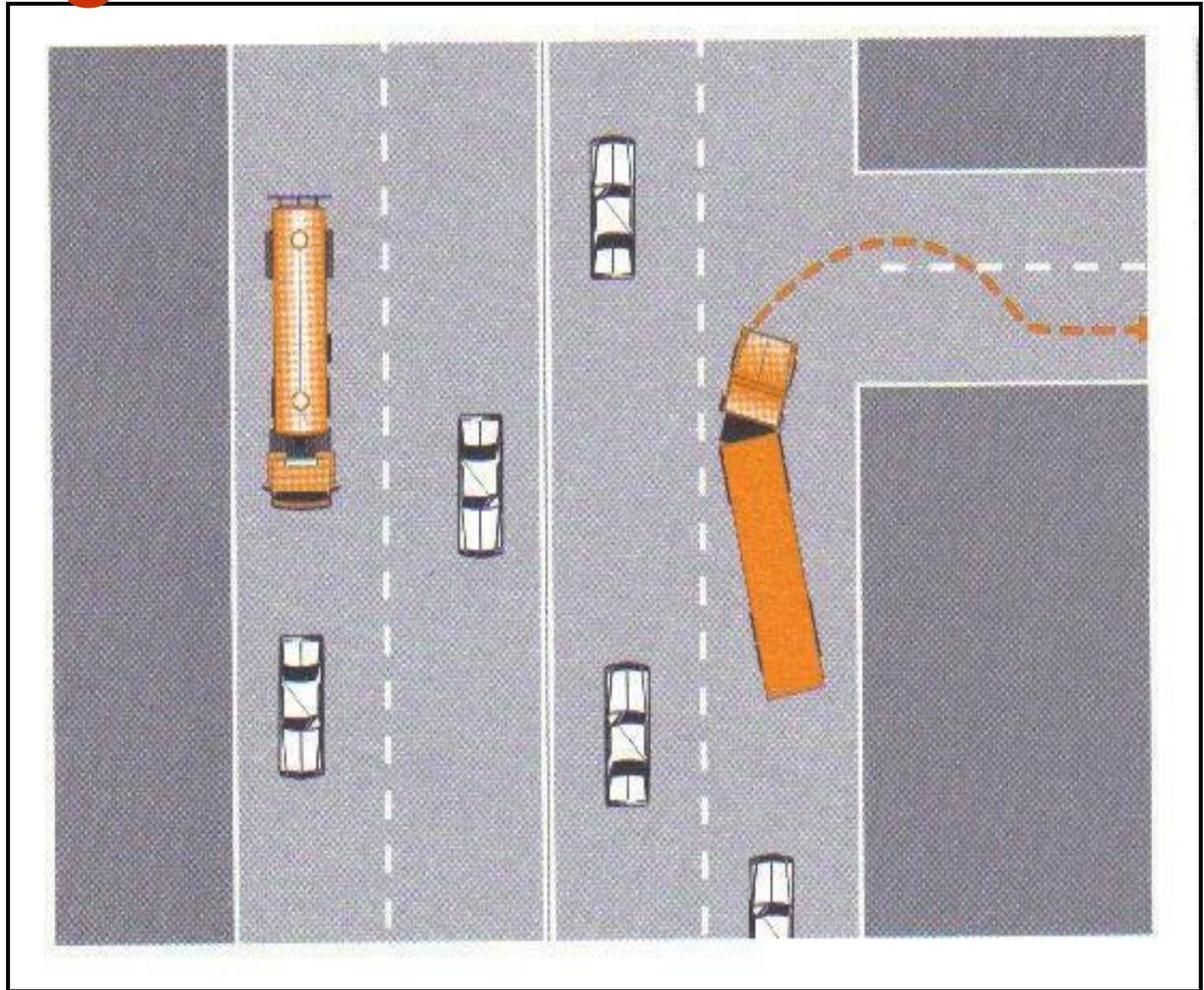
- Maneuverability in congested traffic areas
- Allows for better positioning at incidents
- Compartment space for equipment





# Right Turns

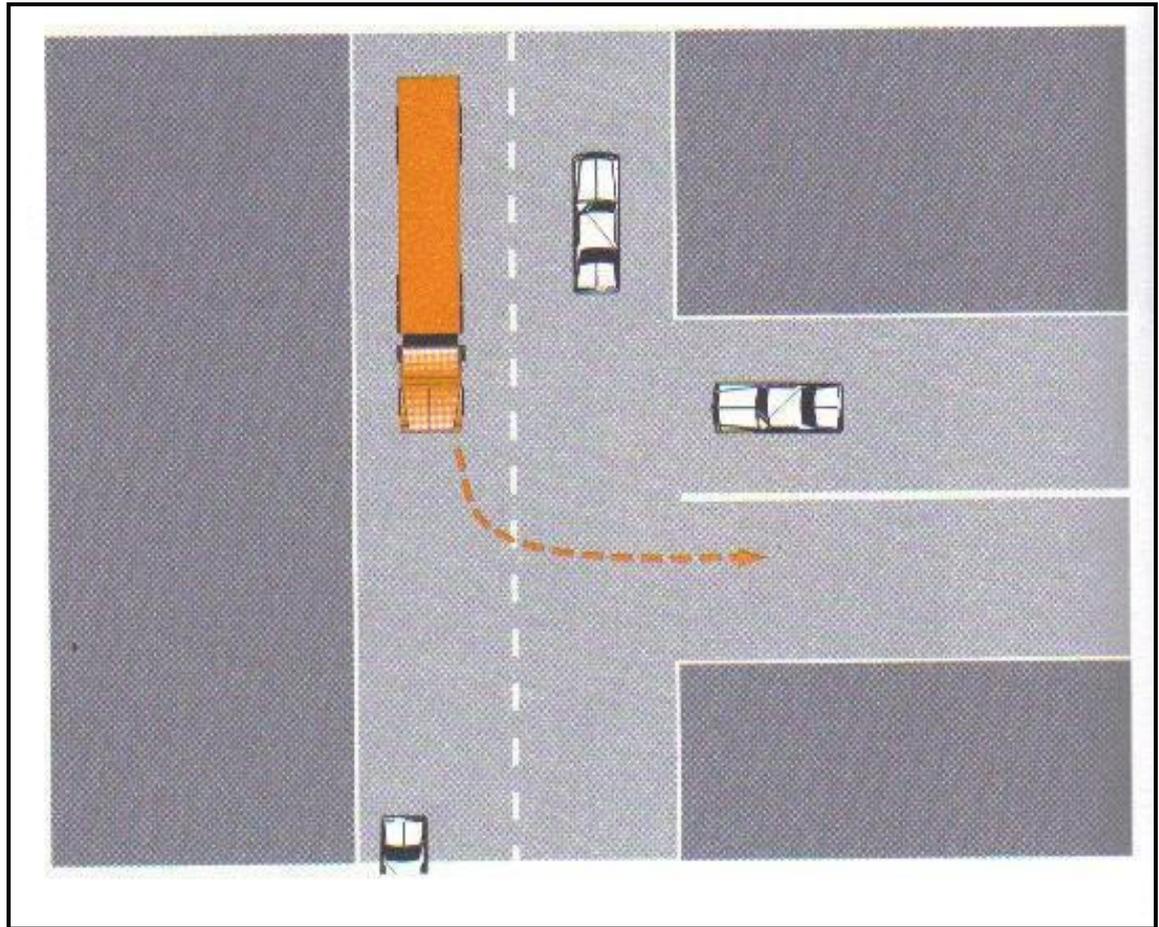
- Lane Position
- Traffic Patterns
- Road Type
- Passing on Right





# Left Turns

- Lane Position
- Traffic Pattern
- Road Design
- Vehicle Position
- Round off Turn
- 90%

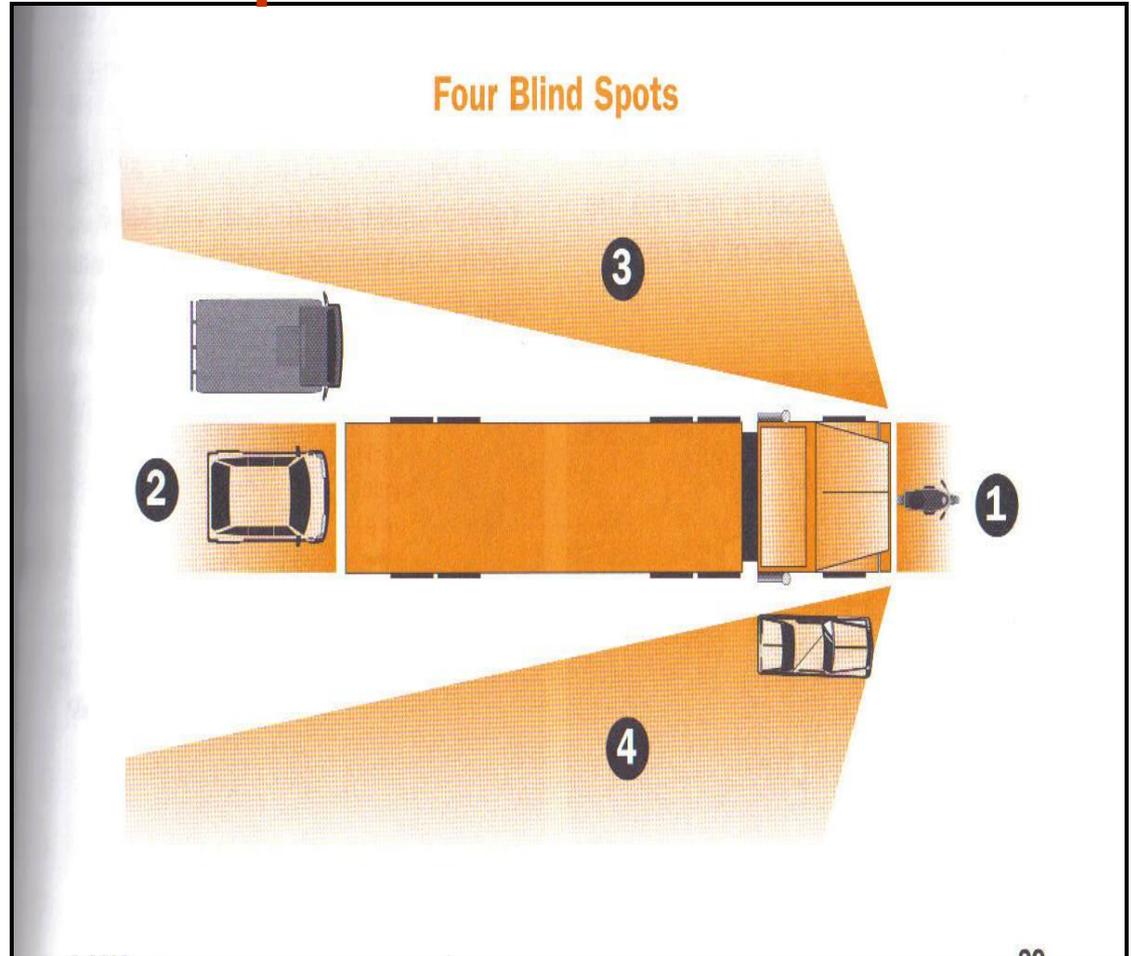




# Blind Spots

## Driver & Tiller Person

- Front
- Right Side
- Rear
- Left Side

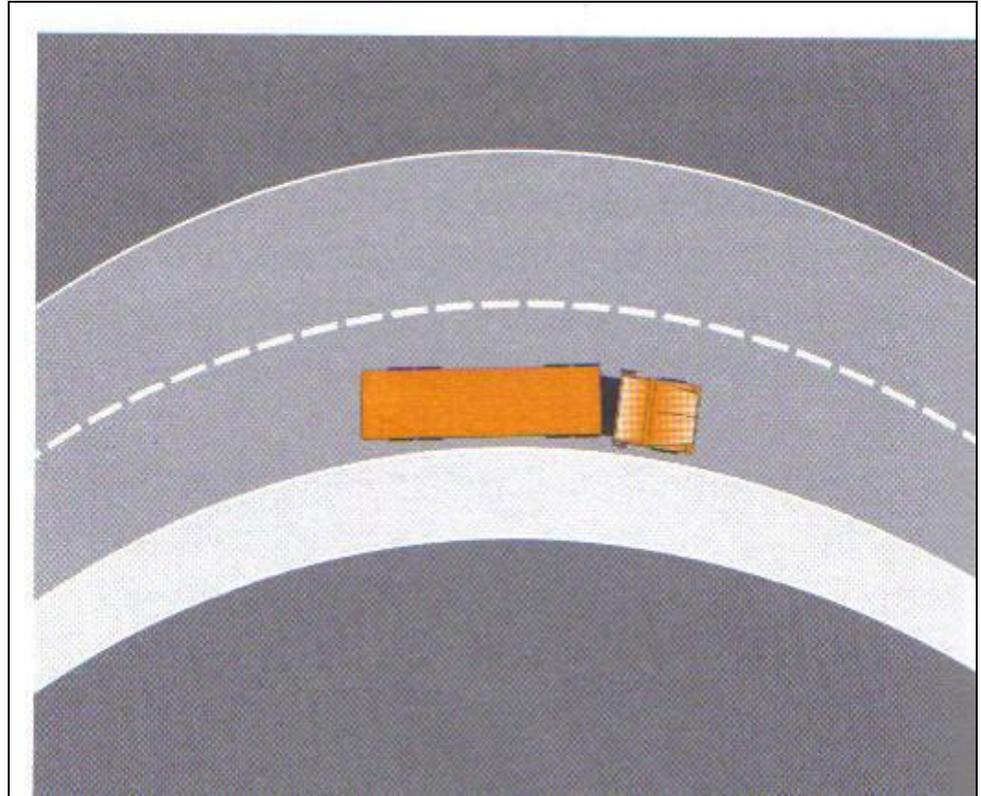




# Curves

Rear wheels will track  
at a shorter distance

Tiller person may  
have to counter steer  
to off-set centrifugal  
force

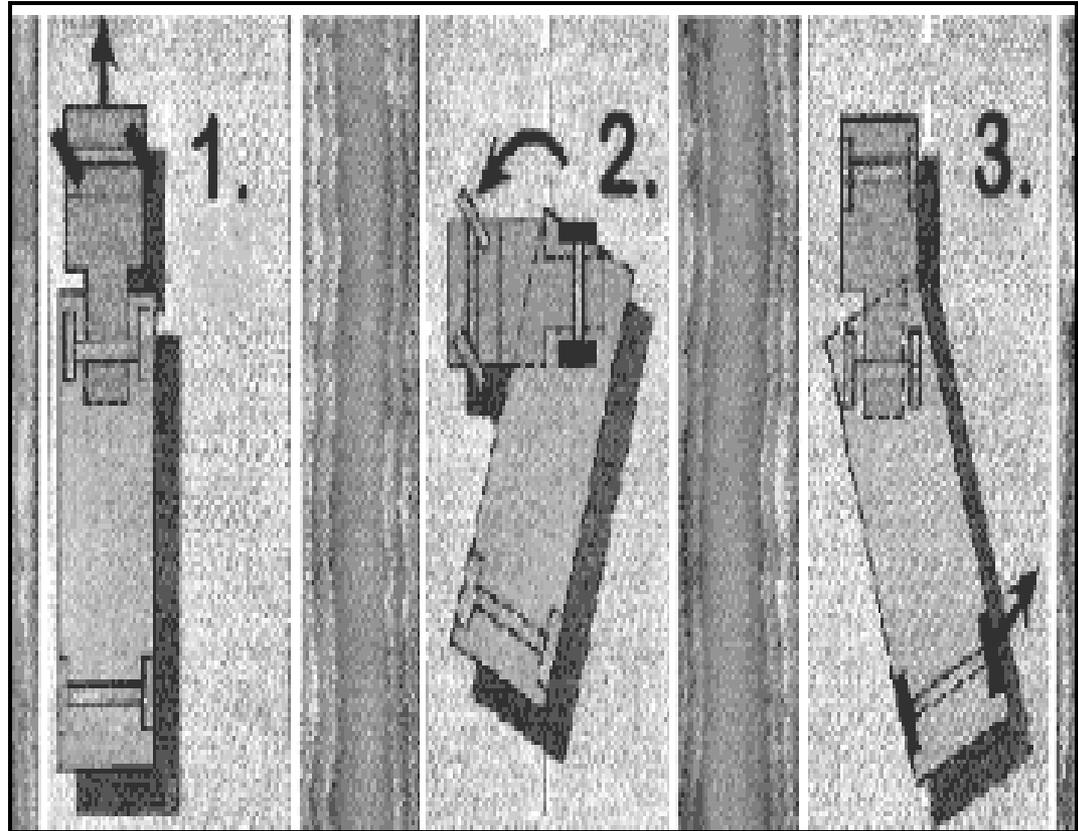




# Tractor Drawn Apparatus

## Jackknifing

**Figure 1.** If you lock the steering axle brakes, the rig will move straight ahead regardless of the wheel angle.

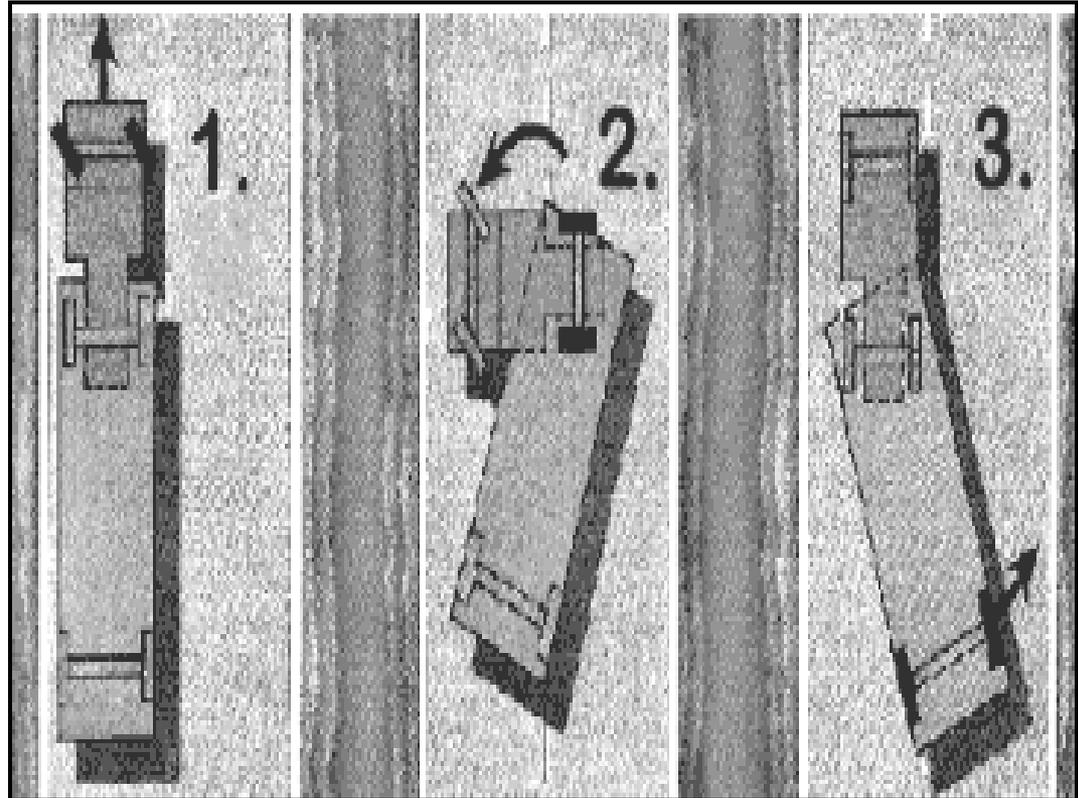




# Tractor Drawn Apparatus

## Jackknifing

**Figure 2.** If you lock the drive axles, the rig will jackknife.

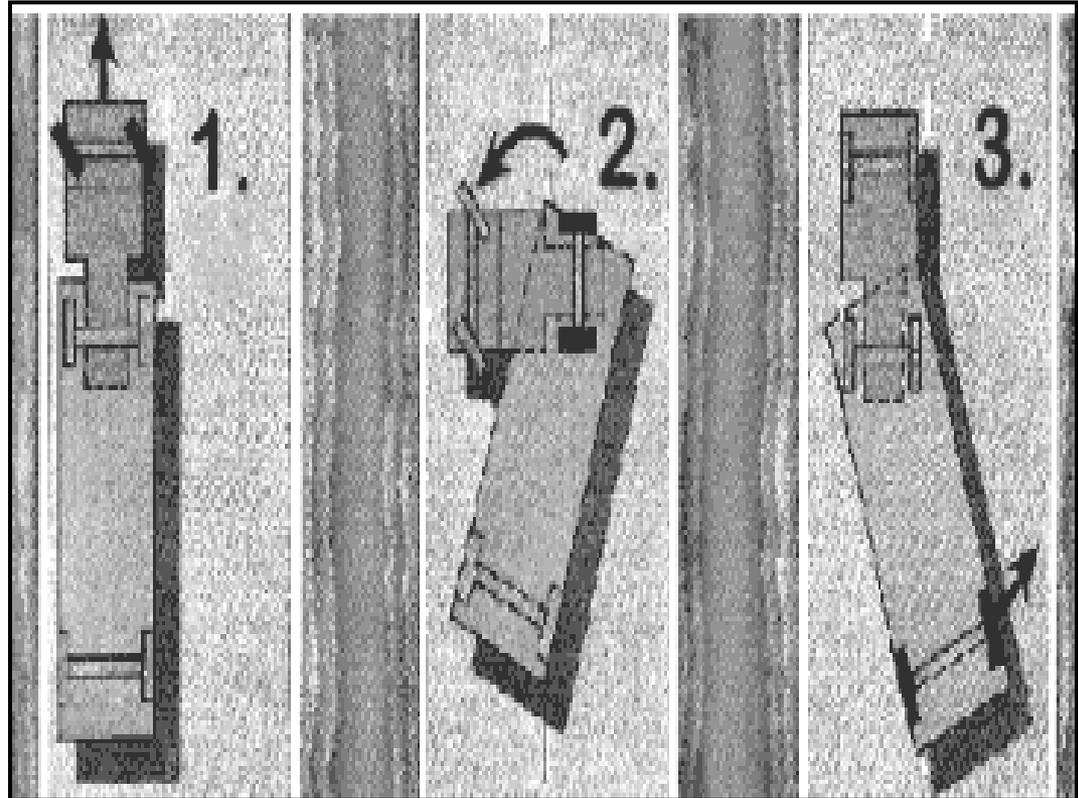




# Tractor Drawn Apparatus

## Jackknifing

**Figure 3.** If you lock the trailer axles, you will get trailer swing.





# Terminology

- When operating tiller trucks, the following terminology should be understood.
- Signals from the driver to the tillerman without headsets:
  - 1 beep for stop
  - 2 beeps for forward
  - 3 beeps for back up





# Terminology

**In-Line:** Tractor & Trailer are in straight alignment, wheels straight.





# Terminology

- 5<sup>th</sup> Wheel Push
  - Where the driver steers the tractor to assist the tillerman with pivoting the truck during backing. Only when necessary!!

Jackknifing

Happy hands





# Principles of Backing

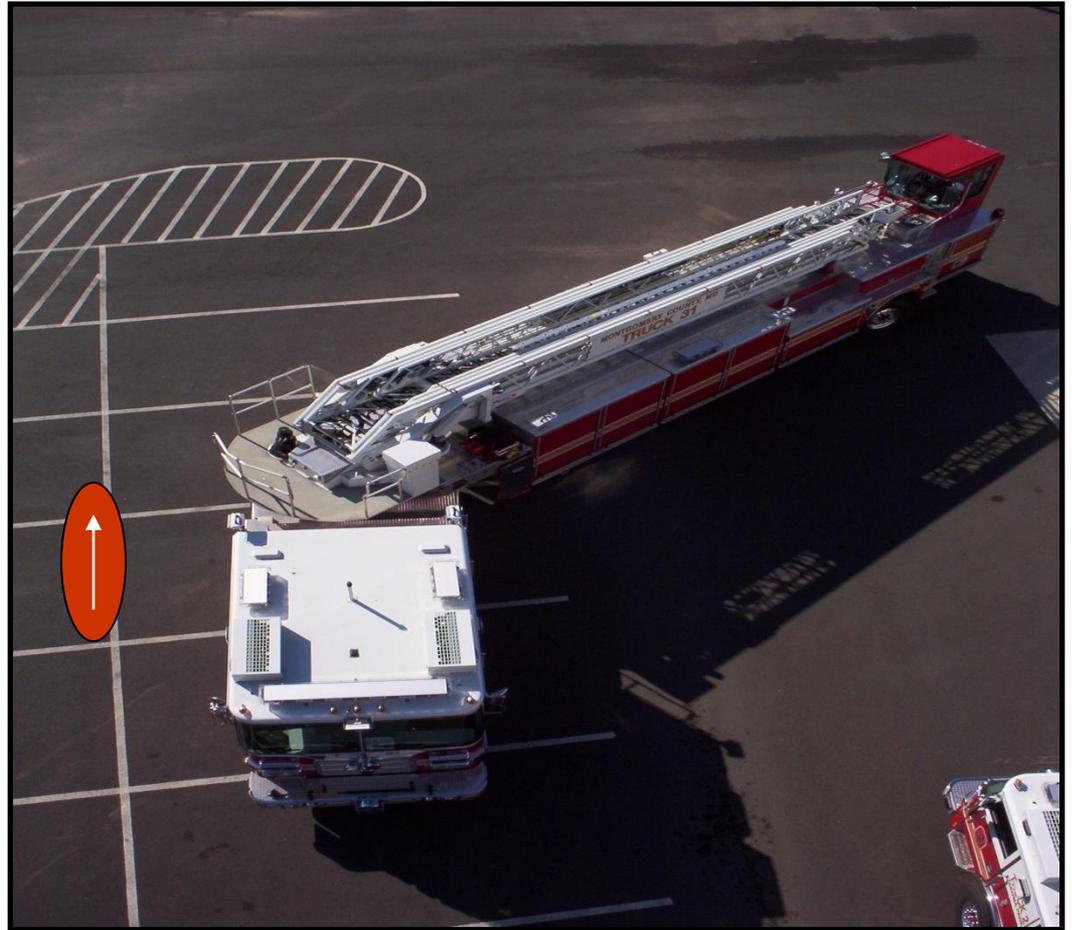
- The tiller person leads the truck
- Tractor follows the trailer.
- 5th Wheel Push





# Principles of Backing

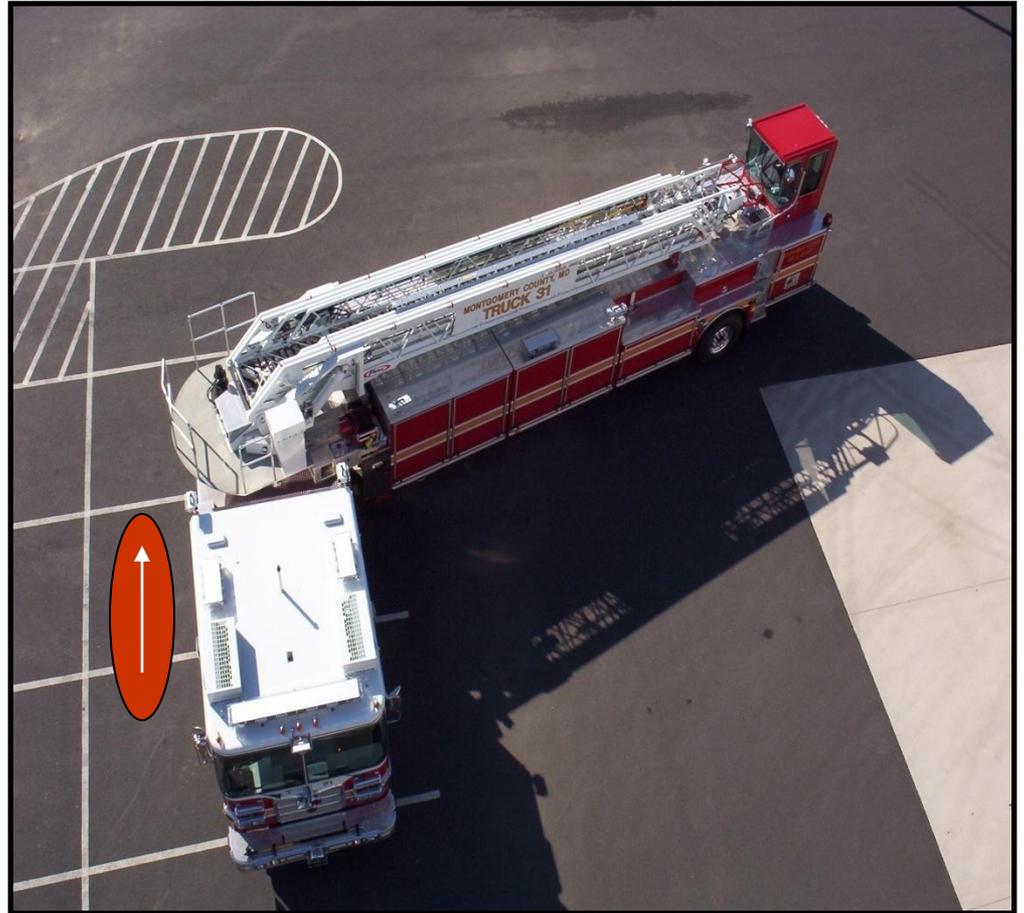
- The tractor follows the trailer
- 5th Wheel Push





# Principles of Backing

## 5th Wheel Push





# Principles of Backing



Hand Position: Turn steering wheel clockwise, Trailer will steer to the left





# Principles of Backing



Hand Position: Turn steering wheel counter clockwise, Trailer will steer to the right





# Tillering

## Hand Position

**9 and 3 or  
5 and 7  
For moving  
forward !!!!!**





# The View from the Tiller Seat



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# View from the driver's mirror



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