

# MABAS Training for the 2009 Polaris 700 Series 6X6 All Wheel Drive UTV and 6' X 10' Trailer



# Class Objectives

- ▶ Become familiar with the UTV /“Utility Terrain Vehicle.”
- ▶ Become more confident With / In UTV.
- ▶ Understand the limitations of the UTV.
- ▶ Realize there is no obstacle we can't overcome with proper team work.



# Benefits of UTVs

- ▶ Haul gear and search quickly
  - Saving energy for the mission
- ▶ Can evacuate injured victims reducing strain and possible injury to rescuers.
- ▶ Patrol and Search remote areas
- ▶ Can haul Indian Tanks/Firefighting Gear to brush fires
  - Saving human energy for fight the fire



# Uses for your UTV



“Only limited by the imagination and skill of the operators...”



# Protect The Environment

- ▶ Yes we have to move swiftly in a rescue situation. Time is important.  
But.....
- ▶ So is the environment. Be respectful of it try not to damage it anymore than absolutely necessary



# Tactical Operators Mindset ...

## T.O.M.

Work: (Mission Orientated -- We will get the job done)

LE

Fire Fighting

SAR

Play: (Having fun, relaxing, playing)

Personal Time

Personal Machine

After hours ...



# General Information

- ▶ The UTV is a statewide resource and may be deployed either within the state or within the division.
  - ▶ May be requested by IEMA or MABAS
  - ▶ Only operated by trained personnel
- 
- ▶ The primary mission of the UTV is to transport equipment and personnel. **(No changes should be made to UTV that interferes with this mission)**





# Features

- ▶ Model Year 2009
- ▶ 40 HP motor
- ▶ 6 Wheel Drive (Primary mode 4-wheel drive)
- ▶ Automatic Transmission
- ▶ 2000 pound towing capacity
- ▶ 1750 pound total payload capacity
- ▶ 1250 pound cargo box payload
- ▶ Seating for 3 people
- ▶ Has a 6' X 10' trailer
- ▶ Ground speed extremely fast (44 MPH)  
**Tremendous caution should be used**

# Features

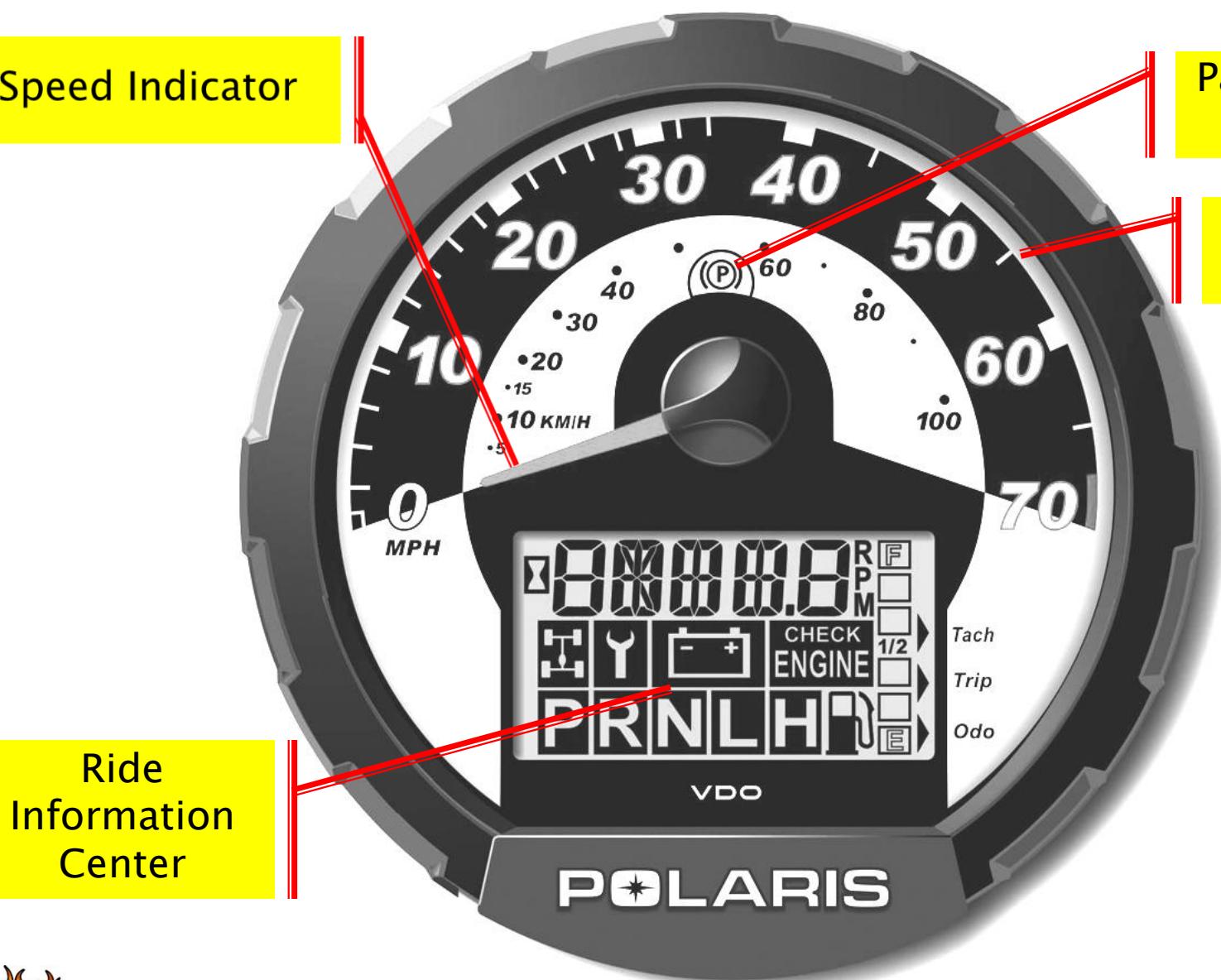
- ▶ Ground Clearance 7.2"
- ▶ Overall Length 120"
- ▶ Overall Width 60"
- ▶ Overall Height 75"
- ▶ Wheelbase 90"
- ▶ Turning radius is 186"
- ▶ Cargo Box (L x W x H) 58" x 48" x 10"
- ▶ Can be operated in water
- ▶ Dumping cargo bed (manual)
- ▶ Dry Weight 1410 pounds



Speed Indicator

Parking Brake  
Indicator

Speedometer



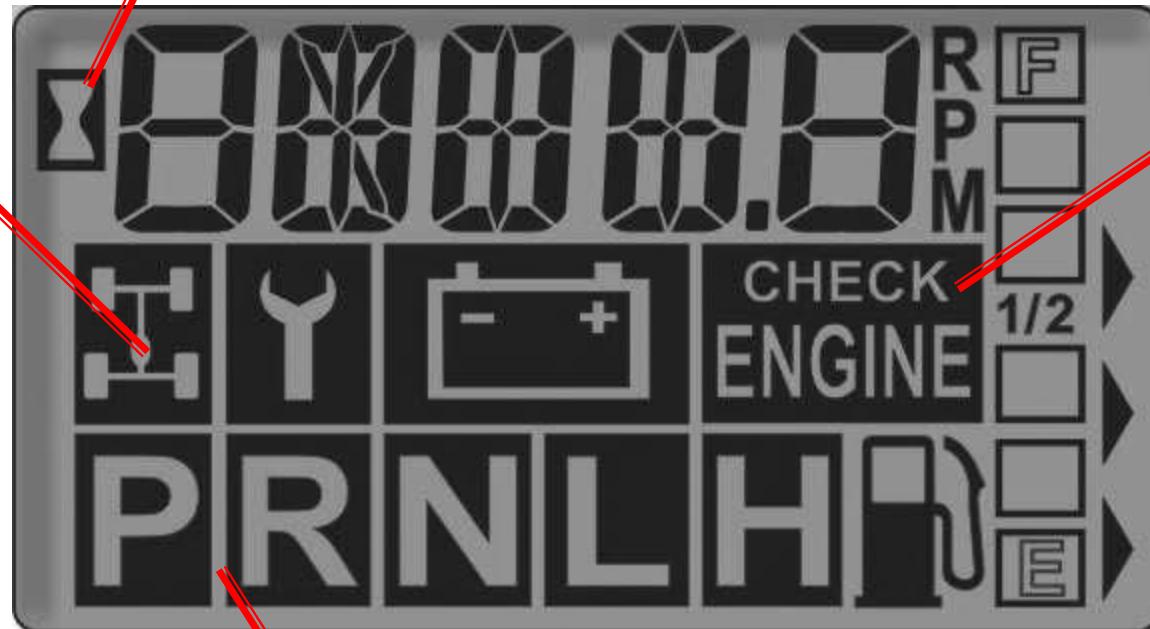
Ride  
Information  
Center



**NOTE: In addition to showing vehicle speed, the speedometer needle flashes when a low fuel condition exists.**

## Engine Hour Display Indicator

**AWD Indicator** – illuminates when the AWD switch is in the AWD position.



**Gear Indicator** – This indicator displays gear shifter position.

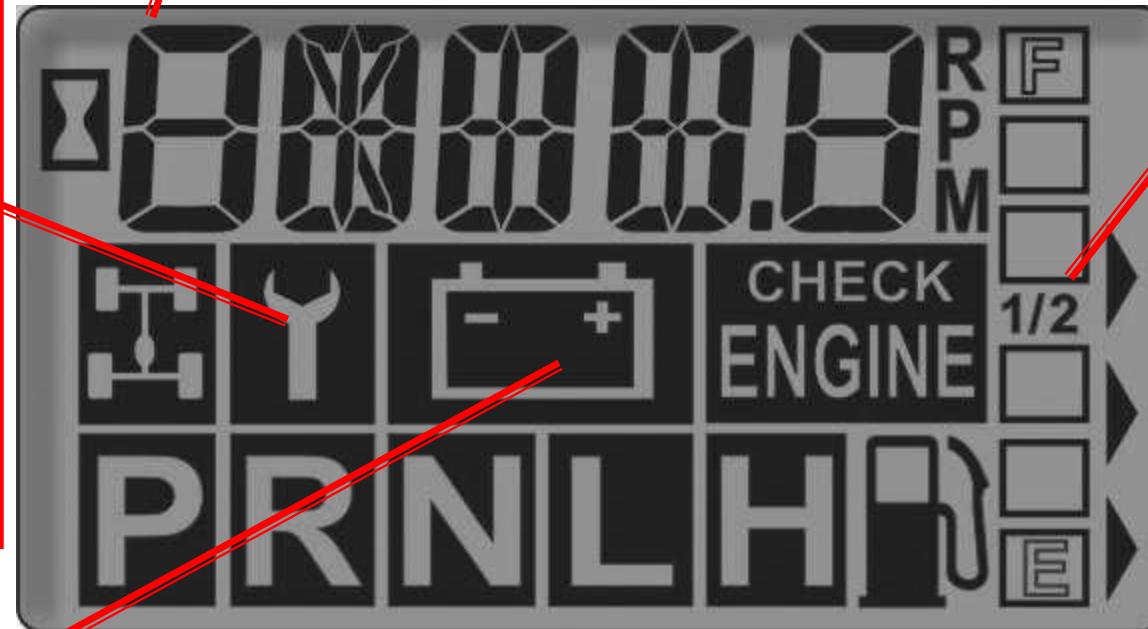
H = High Gear  
L = Low Gear  
N = Neutral  
R = Reverse Gear

**Check Engine Warning Indicator** – Serves two purposes. HOT displays if the engine overheats. EFI-related fault occurs. Do not operate the vehicle if warning appears. Serious engine damage could result.



## Odometer/Tachometer/Trip meter/ Hour Meter/Clock

Service  
Interval/  
Diagnostic  
Mode  
Indicator



**Low Battery and Over Voltage** – vehicle is operating at an RPM too low to keep the battery charged. It may also occur when the engine is at idle and high electrical load (lights, cooling fan, accessories) is applied. Drive at a higher RPM or recharge the battery to clear the warning.

**Fuel Gauge** – level of fuel in the fuel tank. When the last segment clears, a low fuel warning is activated. All segments will flash, FUEL will display in the LCD, and the speedometer needle will blink. Refuel immediately.

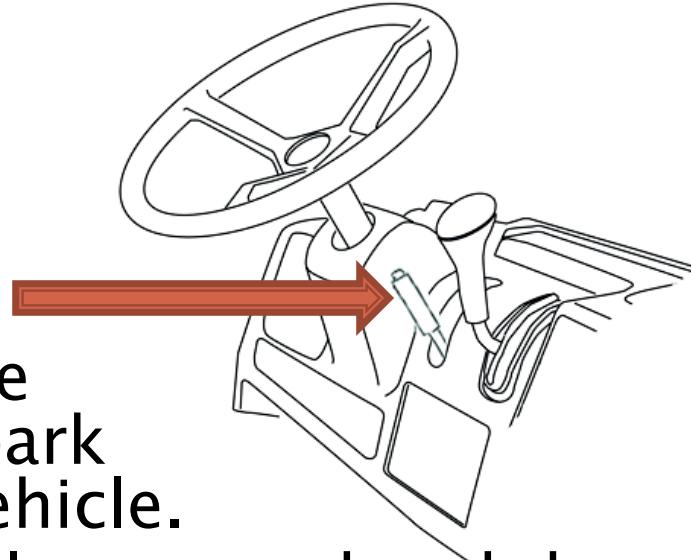


# Instrument Cluster

- ▶ **Standard Modes**
  - Use the yellow mode button located under the speedometer to toggle through the mode options.
- ▶ **Odometer Mode**
  - The odometer records the miles traveled by the vehicle.
- ▶ **Trip Meter Mode**
  - The trip meter records the miles traveled by the vehicle on each trip if it's reset before each trip. To reset the trip meter, select the trip meter mode. Press and hold the mode button (override button) until the total changes to 0.
  - **NOTE:** In the Rider Information Center, the trip meter display contains a decimal point, but the odometer displays without a decimal point.
- ▶ **Hour Meter Mode**
  - This mode logs the total hours the engine has been in operation.
- ▶ **Tachometer Mode**
  - The engine RPM is displayed digitally.
  - **NOTE:** Small fluctuations in the RPM from day to day may be normal because of changes in humidity, temperature and elevation.
- ▶ **Clock Mode**
  - The clock displays time in a 12-hour format.



# Park Brake Lever



- ▶ To help prevent the vehicle from rolling, engage the park brake when parking the vehicle.
- ▶ When the park brake is fully engaged and the park brake indicator is illuminated, engine speed is limited to 1300 RPM in all gears, including neutral.
- ▶ If throttle is applied, this limiting feature prevents operation, which protects the park brake pads from excessive wear.
- ▶ This feature will not operate properly if the park brake connector or switch (under the hood) malfunctions or becomes disconnected, or if the switch has moved.



# Operator Safety Practices

- ▶ Review manufacturer's operator manual
  - Document which members have done this in their training record,
  - Recommend reviewing and checking for updates regularly!
- ▶ Pay special attention to the safety section for: operations on rough terrains, water crossings, inclines, slopes and hills.
- ▶ **ALWAYS** perform a vehicle service check prior to use.



# Operator Safety

When Operating any UTV always wear proper PPE:

- ▶ EYE protection
- ▶ Helmet
- ▶ Gloves
- ▶ Boots -- Flexible enough to operate the pedals
- ▶ Long sleeve shirt and long pants should be worn whenever possible





# Operator Safety

- ▶ Only operated by personnel trained by and documentation on file within the division.
- ▶ Operate at speeds below 10 MPH in Low Gear
- ▶ Never operate your vehicle in fast-flowing water or in water deeper than that specified in this manual.
  - Maximum recommended depth equal to the floorboard
- ▶ Wet brakes have reduced stopping ability.

# Operator Safety

- ▶ The key to going fast even in a race is to actually go slow!
- ▶ You must always have your vehicle under control
- ▶ Be fully aware of your terrain
- ▶ Look ahead NOT down!
- ▶ Hitting the turns –  
Slow and steady



# Operator Safety

- ▶ Only operated by personnel trained by and documentation on file with in the division.
- ▶ Always be sure there are no obstacles or people behind your vehicle when operating in reverse.
- ▶ When it's safe to proceed in reverse, move slowly.
- ▶ Avoid turning at sharp angles in reverse.



# Operator Safety

- ▶ POTENTIAL HAZARD
  - Failure to inspect the vehicle before operating
  - Failure to properly maintain the vehicle
- ▶ WHAT CAN HAPPEN
  - Accident, equipment damage
- ▶ HOW TO AVOID THE HAZARD
  - Always inspect your *RANGER before each use to make sure it's in safe* operating condition.
  - Always follow the inspection and maintenance procedures and schedules.



# Operator Safety

## ▶ POTENTIAL HAZARD

- Failure to use extra caution when operating this vehicle on unfamiliar terrain

## ▶ WHAT CAN HAPPEN

- Loss of control, vehicle overturn

## ▶ HOW TO AVOID THE HAZARD

- Travel slowly and use extra caution when operating on unfamiliar terrain.
- Always be alert to changing terrain conditions when operating the vehicle.
- You may come upon hidden rocks, bumps, or holes suddenly, without enough time to react.



# Operator Safety

- ▶ **POTENTIAL HAZARD**
  - Hitting a curb or large rocks while moving fast.
- ▶ **WHAT CAN HAPPEN**
  - Loss of control, can cause tire to blow or fail.
- ▶ **HOW TO AVOID THE HAZARD**
  - Travel slowly and use extra caution when operating on unfamiliar terrain.
  - Slowly and cautiously climb over curb or rocks.





# Operator Safety

- ▶ Always maintain proper tire pressure (6–12 psi).
- ▶ Never exceed the stated load capacity for this vehicle. (1750 pound payload)
- ▶ Cargo should be properly distributed and securely attached.
- ▶ Reduce speed and follow the instructions in the manual for hauling cargo or pulling a trailer.

# Operator Safety

- ▶ Allow a greater distance for braking with trailer.
- ▶ Always wear the seat belts when operating this vehicle.
- ▶ Center Seatbelt Caution – If not in use, connect so it will not fall on exhaust.
- ▶ Seat belts reduce the severity of injury in case of a sudden stop or collision.



# Operator Safety

- ▶ Always keep arms and legs inside the cab frame while the vehicle is in motion.
- ▶ Always engage the parking brake before getting out of the vehicle.
- ▶ Always apply the service brakes before releasing the park brake.



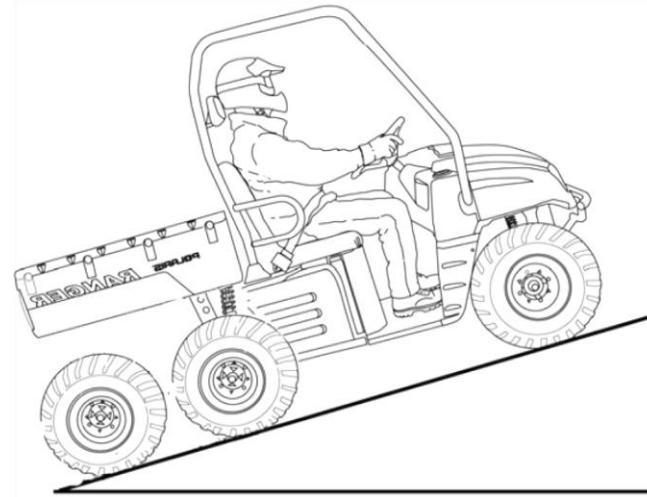
# Operator Safety



- ▶ Always turn off the engine before refueling.
- ▶ Make sure the refueling area is well ventilated and free of any source of flame or sparks.
- ▶ Always remove the ignition key when the vehicle is not in use to prevent unauthorized use or accidental starting.
- ▶ **FOR MORE INFORMATION ABOUT SAFETY, call Polaris at 1-800-342-3764.**

# Warnings

- ▶ POTENTIAL HAZARD
  - Stalling
  - Rolling backwards while climbing a hill
- ▶ WHAT CAN HAPPEN
  - Vehicle overturn
- ▶ HOW TO AVOID THE HAZARD
  - Maintain a steady speed when climbing a hill.
- ▶ *If you lose all forward speed:*
  - Apply the brakes.
  - Engage the parking brake after fully stopped.
- ▶ *If you begin rolling backwards:*
  - Apply the brakes gradually until the vehicle is fully stopped.
  - Place the transmission in reverse and slowly allow the vehicle to roll straight downhill while applying light brake pressure to control speed.



# Warnings

- ▶ **POTENTIAL HAZARD**
  - Operating this vehicle on paved surfaces
- ▶ **WHAT CAN HAPPEN**
  - Loss of control – Excessive Tire Wear
- ▶ **HOW TO AVOID THE HAZARD**
  - This vehicle's tires are designed for off-road use only, not for use on pavement.
  - Paved surfaces may seriously affect handling and control of the vehicle, and may cause the vehicle to go out of control.
  - Avoid operating the vehicle on pavement.
    - MABAS is not responsible for tire replacement.
- ▶ **If you must operate on a paved surface, travel slowly and do not make sudden turns or stops.**



# Warnings



- ▶ **POTENTIAL HAZARD**
  - Operating this vehicle on public streets, roads or highways
- ▶ **WHAT CAN HAPPEN**
  - Collision with another vehicle
- ▶ **HOW TO AVOID THE HAZARD**
  - Never operate this vehicle on any public street, road or highway, including dirt or gravel.
- ▶ In many states it's illegal to operate vehicles of this type on public streets, roads and highways.



# Warnings

## ▶ POTENTIAL HAZARD

- Operating this vehicle at excessive speeds
- **UTV should be operated at speeds under 10mph**

## ▶ WHAT CAN HAPPEN

- Loss of control, accident
- Serious injury or death

## ▶ HOW TO AVOID THE HAZARD

- Always travel at a speed proper for the terrain, visibility and operating conditions, and your experience.



# Warnings

## ▶ POTENTIAL HAZARD

- Attempting jumps and other stunts

## ▶ WHAT CAN HAPPEN

- Loss of control, accident and/or vehicle overturn

## ▶ HOW TO AVOID THE HAZARD

- Never attempt jumps and other stunts.
- Avoid exhibition driving.



# Warnings

## ► POTENTIAL HAZARD

- Operating on frozen bodies of water.

## ► WHAT CAN HAPPEN

- Severe injury or death can result if the vehicle and/or the operator fall through the ice.

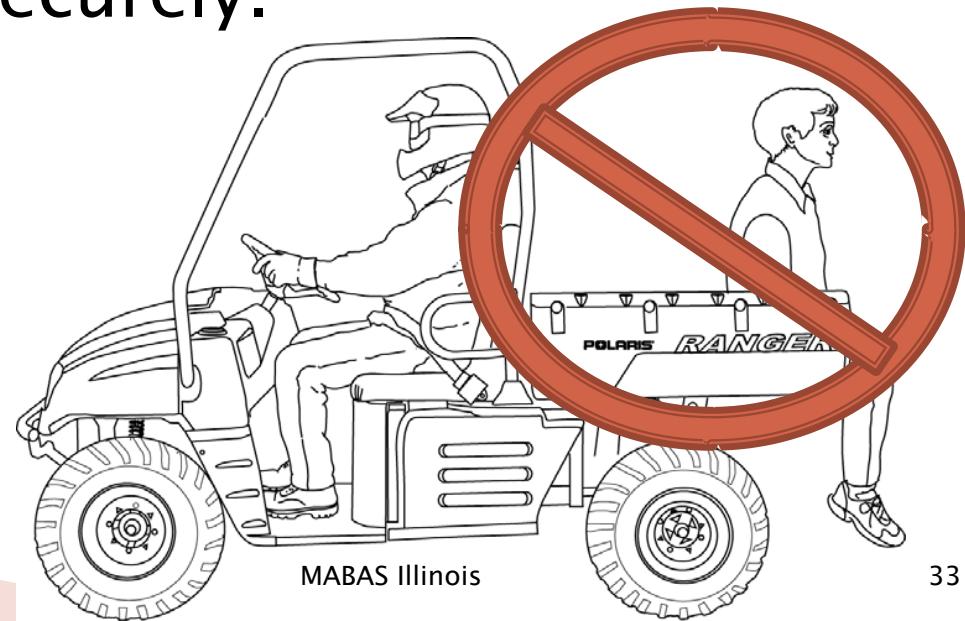
## ► HOW TO AVOID THE HAZARD

- Never operate the *RANGER* on a frozen body of water.



# Passengers

- ▶ Driving with passengers in the cargo box can result in severe injury or death.
- ▶ Never allow passengers to ride in the cargo box.
- ▶ Passengers must always ride in the cab with seat belts fastened securely.



# Warnings

- ▶ Exhaust system components are very hot during and after use of the vehicle.
  - Watch tie down straps.
  - Center seat belt.
- ▶ Hot components can cause serious burns and fire.



# Warnings

- ▶ Do not touch hot exhaust system components.
- ▶ Always keep combustible materials away from the exhaust system.
- ▶ Use caution when traveling through tall grass, especially dry grass.



# Fuel Safety

- ▶ Gasoline is highly flammable and is explosive under certain conditions.
- ▶ Always exercise extreme caution whenever handling gasoline.
- ▶ Always stop the engine when refueling.
- ▶ Always refuel outdoors or in a well ventilated area.
- ▶ Do not smoke or allow open flames or sparks in or near the refueling area or where gasoline is stored.



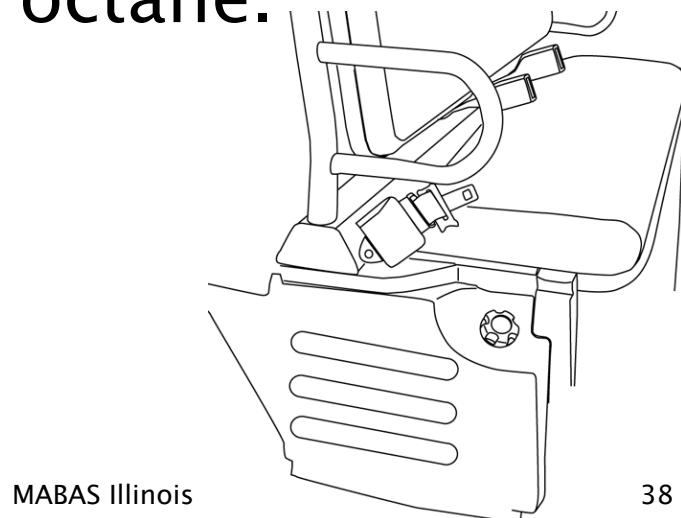
# Fuel Safety

- ▶ Do not over fill the tank.
- ▶ Do not fill the tank neck.
- ▶ If gasoline spills on your skin or clothing, immediately wash it off with soap and water and change clothing.
- ▶ Never start the engine or let it run in an enclosed area. Gasoline powered engine exhaust fumes are poisonous and can cause loss of consciousness and death in a short time.



# Fuel

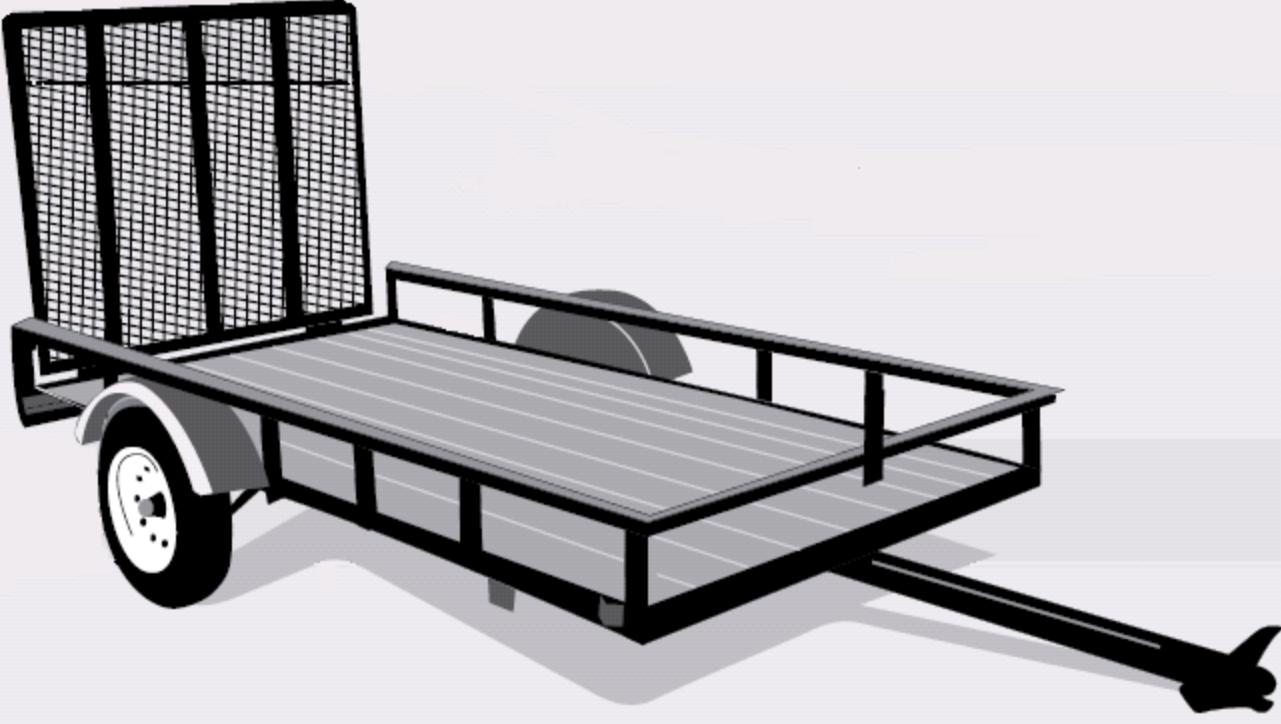
- ▶ Fuel Cap
- ▶ The fuel tank filler cap is located on the right-hand side of the vehicle near the passenger seat.
- ▶ When refueling, always use either leaded or unleaded gasoline with a minimum pump octane number of 87 R+M/2 octane.
- ▶ *Do not use E-85 fuel.*
- ▶ *Fuel capacity is 8.8 gallon*



# ATV MISC.

- ▶ NOTE: Low gear is the primary range for operating the *RANGER*. High gear is intended for use on hard-packed surfaces with light loads.
- ▶ Avoid sharp turns on concrete due to tire wear.
- ▶ Keep center seat belt around seat when not used.
- ▶ Avoid climbing steep hills (15° maximum).
- ▶ Recommended water depth equal to the floor.
- ▶ AWD – never shift into AWD while wheels are spinning.
- ▶ Follow proper procedures when securing UTV on Trailer
- ▶ Tire pressure 10–12 psi on all tires





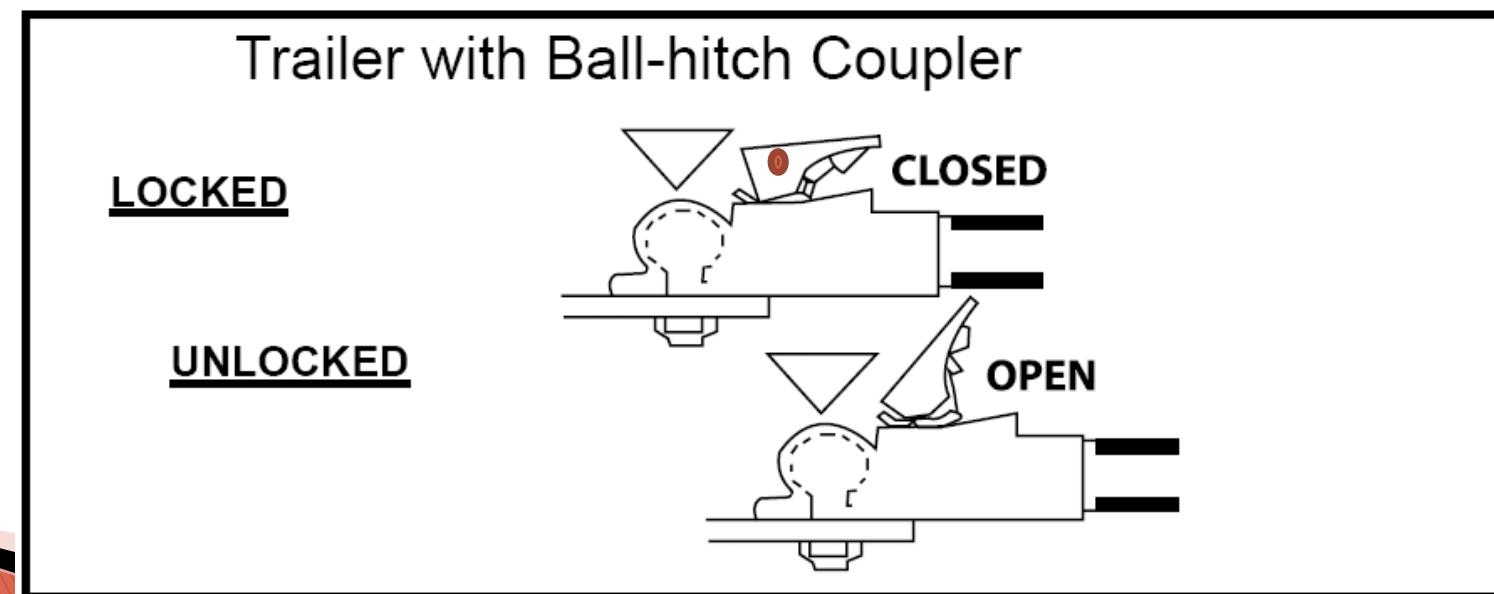
# Carry-On Trailer

## 2,990 LB. GVWR



# Trailer Info

- ▶ Tongue weight of between 350–400 lbs loaded
- ▶ Distribute the load front-to-rear to provide proper tongue weight.
- ▶ 2" ball – make sure locked and pinned



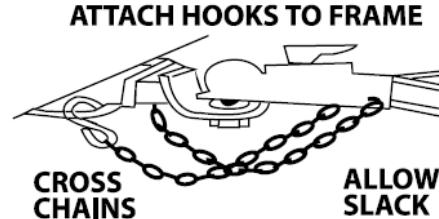
# Trailer Info

- ▶ Be sure the coupler is all the way on the hitch ball and the locking mechanism is engaged.
- ▶ A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear of the tow vehicle by 1 inch, after the coupler is locked to the hitch.
- ▶ If the coupler cannot be secured to the hitch ball, do not tow the trailer.
- ▶ Lower the trailer so that its entire tongue weight is held by the hitch, and continue retracting the jack to its fully retraced position.



## SAFETY CHAIN ARRANGEMENT> BUMPER PULL TRAILER

# Trailer Info



- ▶ Safety chains are safely secured and crossed under the hitch.
- ▶ Distribute the load evenly, right and left, to avoid tire overload.
- ▶ The ramp gate is in the up and locked position with holding pins in place.
- ▶ If the ramp gate opens, your cargo may be ejected onto the road, resulting in death or serious injury to other drivers.



# Trailer Safety Info

- ▶ Load is secured and properly tied down to trailer.
- ▶ Lights are working and safely connected to tow vehicle.
- ▶ Load is within maximum load carrying capacity.
- ▶ Lug nuts are tight.
- ▶ Tires are inflated to correct PSI.
- ▶ Improper trailer loading causes many accidents and deaths.
- ▶ To safely load a trailer, you must consider:
  - Overall load weight;
  - Load weight distribution;
  - Proper tongue weight; and
  - Securing the load properly.



# Trailer Safety Info

- ▶ With ideal road conditions, the maximum speed when safely towing a trailer is 60 m.p.h.
- ▶ If you drive too fast, the trailer tires will overheat and possibly blowout.
- ▶ Decrease your speed as road, weather and lighting conditions deteriorate.
- ▶ Driving too fast for conditions can result in loss of control and cause death or serious injury.



# Trailer Safety Info

- ▶ Anticipate the trailer “swaying.” Swaying is the trailer reaction to the air pressure wave caused by passing trucks and busses.
- ▶ **Do not apply the brakes to correct trailer swaying.**
  - Continued pulling of the trailer provides a stabilizing force to correct swaying.
- ▶ Lug nuts are prone to loosen right after a wheel is mounted to a hub.
- ▶ Check to see if the lug nuts are tight after:
  - 1<sup>st</sup> mile
  - 15<sup>th</sup> mile
  - 30<sup>th</sup> mile
  - 60<sup>th</sup> mile
  - before each tow thereafter.



# REQUEST PROCEDURES

- ▶ A call for the equipment within the division should be a special call for the UTV.
- ▶ This call will be initiated by the requesting department and using divisional dispatch procedures.
- ▶ Once the divisional dispatch center receives the call, they will dispatch the equipment using the appropriate call method.
- ▶ At this time, hosting department will deliver it to the scene or to the requesting department.
- ▶ The division will meet all applicable minimum standards as established by MABAS and ITTF for statewide response.



# REQUEST PROCEDURES

- ▶ For a deployment within the state, the request will come from RED center or possibly from another division.
- ▶ Only properly trained and experienced individuals are allowed to operate this equipment.
- ▶ Equipment shall only be utilized for OFFICIAL MABAS USE.
  - Use may include requests from other emergency response agencies (law enforcement, EMS, EMA, etc.)



# REQUEST PROCEDURES

- ▶ If the requesting department is scheduling the use of the UTV for a special event:
  - Fill out the UTV request form and returned it to the hosting department.
  - Request form must be signed by the chief of the requesting department.
  - Request should be submitted at least 30 days in advance to allow time for division approval.
  - Once the use has been approved by the division you will be notified your request had been authorized.
  - The requesting department is responsible for picking up the UTV and returning it.



# REQUEST PROCEDURES

- ▶ Equipment will be kept full of fuel and 100% operational at all times.
- ▶ After use, the requesting department will ensure the UTV is returned full of fuel and in same condition it was when delivered.
- ▶ Failing to fuel or return the equipment in same condition as delivered may result in a bill for the fuel or repair costs.



# REQUEST PROCEDURES

- ▶ There shall be an inventory sheet kept with the equipment and it shall be inventoried prior to deployment and upon return.
- ▶ May not charge another local jurisdiction or governmental unit for the use of the equipment or other response costs.



# REQUEST PROCEDURES

- ▶ Equipment shall not be loaned to any other non MABAS agency without the written consent of MABAS Executive Board.
  - May be requested and used in conjunction with law enforcement (local, state or ILEAS).
    - Requesting agency must have trained and experienced operator, or one must be provided with the unit when deployed.



# REQUEST PROCEDURES

- ▶ May submit for reimbursement as provided by law, during an IEMA authorized response and/or declaration of disaster or under applicable spiller pays ordinances and statutes, if applicable.
- ▶ If untrained personnel are observed operating this equipment the department in violation will not be permitted to use UTV again.
- ▶ Seatbelts must be worn anytime the UTV is in motion.



**APPLICATION AND AGREEMENT REQUESTING USE OF THE  
UTV AND TRAILER FOR A SCHEDULED EVENT  
MABAS DIVISION \_\_\_\_\_**

**INSTRUCTIONS:**  
This form must be completed and returned at least thirty (30) days in advance of intended use.

Department making request: \_\_\_\_\_  
Person to contact: \_\_\_\_\_  
Telephone: \_\_\_\_\_

Reason UTV is being requested: \_\_\_\_\_

Date(s) and time(s) UTV is being requested.  
Dates: \_\_\_\_\_

Hours: \_\_\_\_\_ to \_\_\_\_\_

Name(s) of personnel that completed authorized training to operate this equipment:

- \_\_\_\_\_
- \_\_\_\_\_

The undersigned department agrees to pay MABAS Division \_\_\_\_\_ any and all charges that may be applicable for misuse of equipment and to abide by all rules and policies pertaining to use of the UTV and trailer. I understand and agree to pay actual charges if occurred within 30 days of billing.

I further understand and state that MABAS, Division \_\_\_\_\_, its executive board and individual members thereof, and its members shall be indemnified and held harmless by the person or department making this application and using said equipment from any and all damages (including attorneys fees and costs) arising, in whole or in part, out of or resulting, in whole or in part, from the use of the equipment, regardless of any negligent acts or omissions.

The undersigned affirms the equipment is being utilized for OFFICIAL MABAS USE and will be operated only by the listed individuals with documented authorized training.

Signature of Requesting Fire Chief: \_\_\_\_\_

Date: \_\_\_\_\_  
(DIVISION USE ONLY)

Approved	Not Approved	If Not Approved Reason



Authority: \_\_\_\_\_ Date: \_\_\_\_\_

Hour Meter / Fuel Reading When Delivered

Hour Meter / Fuel Reading When Returned

Hours:

Fuel:

MABAS Illinois



# QUESTIONS?

