



RECREATIONAL OFF-HIGHWAY
VEHICLE ASSOCIATION

Tips Guide

FOR THE RECREATIONAL
OFF-HIGHWAY VEHICLE DRIVER

Recreational Off-Highway Vehicles (ROVs) operate and handle differently from other vehicles such as ATVs and motorcycles. Proper instruction and practice are important. ROVs can be hazardous to operate. For your safety, always fasten your seat belt, wear a helmet and other protective gear and keep all parts of your body inside the ROV. Avoid paved surfaces. ROVs are designed to be operated off-highway. Drive only in designated areas, at a safe speed, and use care when turning and crossing slopes. Never drive or ride under the influence of alcohol or drugs.

Never drive an ROV unless you're 16 or older and have a valid driver's license. ROVs are not toys. Never carry more passengers than the ROV is designed for, and never allow a passenger who is too small to sit in a passenger seat to ride in the ROV. Read and follow the operator's manual and warning labels.

The not-for-profit Recreational Off Highway Vehicle Association (ROHVA) is a source of information about the ROV industry. ROHVA is dedicated to enhancing ROV safety awareness. ROHVA is sponsored by BRP, Honda, Kawasaki, Mahindra, Polaris, Textron Specialized Vehicles, and Yamaha.



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To enroll in the online E-Course or hands-on *DriverCourse* nearest you, visit rohva.org

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Fun, functional and definitely versatile, ROVs, or recreational off-highway vehicles, are a new breed of machine, attracting the attention of outdoor enthusiasts in ever-increasing numbers. When adventure calls, ROVs have what it takes, whether it's transporting gear to a favorite campsite or simply exploring the great outdoors. Intended primarily for recreational use, ROVs also have carved a niche in the workplace, including farming, construction, and just about anywhere there's a job to be done.

Sometimes referred to as side-by-sides or UTVs, ROVs are motorized off-road highway vehicles designed to travel on four or more tires, with a steering wheel, non-straddle seating, seat belts, an occupant protective structure, and engine displacement up to 1,000 cc. Current models are designed with seats for a driver and one or more passengers. ROVs' performance and durability make them ideally suited for a variety of outdoor recreational activities as well as many work applications.

A Recreational Off-Highway Vehicle (ROV) is defined as a motorized off-highway vehicle designed to travel on four or more tires, intended by the manufacturer for recreational use by one or more persons and having the following characteristics:

- A steering wheel for steering control
- Foot controls for throttle and service brake
- Non-straddle seating
- Maximum speed capability greater than 30 mph (48 km/h)
- Gross Vehicle Weight Rating (GVWR) no greater than 2,500 kg (5,512 lbs)
- Overall width 2030 mm (80 in) or less
- Engine displacement equal to or less than 1,000 cc (61 cubic inches) for gasoline-fueled engines

Leading manufacturers are engaged in highly visible communications efforts targeted to users and prospective buyers about the safe and responsible use of ROVs. As a part of

Introduction

these efforts free online training is offered by these manufacturers. Hands-on training also is available for a modest fee.

Training curricula are developed, published and supported by the Recreational Off-Highway Vehicle Association.

This booklet is a guide that can be used as a supplement to your ROV's operator's manual. It is important to carefully read and follow the instructions in the ROV operator's manual and the warnings on its labels. ROVs handle differently from ATVs and motorcycles and while they are more similar to cars in their basic operation, they also handle differently from cars. An ROV has unique capabilities for off-highway operation, and special attention should be given to terrain, surface conditions, and the entire environment on which you choose to drive.

This guide will provide you with tips to help you operate your ROV safely and responsibly. The goal is to have each drive be an enjoyable and positive experience.

Safe and responsible use of your ROV begins with knowing your ROV and being able to handle it well, choosing an appropriate driving area, having essential tools and equipment, and keeping safety top-of-mind. Don't be in a hurry to get into difficult driving environments until you know your ROV's components, controls and basic operation. Drive on easy terrain before tackling rough or difficult situations. Complete the ROV Basic *DriverCourse*. Learn to handle the ROV at low speeds in a flat, open area before venturing out into trail situations. Keep in mind the differences between an ROV and ATV, motorcycle, car or truck. Have complete ROV control when accelerating, braking and turning. Wear the proper protective gear. Avoid getting into difficult situations before you are ready. Use the ROV's safety features. Remember, most ROV incidents are caused by inappropriate driver behavior.

Section 1: Knowing the Basics

ROV SAFETY RULES

1. Always fasten your seat belt, wear a helmet and other protective gear and keep all parts of your body inside the ROV.
2. Avoid paved surfaces. ROVs are designed to be operated off-highway.
3. Drive only in designated areas, at a safe speed, and use care when turning and crossing slopes.
4. Never drive or ride under the influence of alcohol or drugs.
5. Never drive an ROV unless you're 16 or older and have a valid driver's license. ROVs are not toys.
6. Never carry more passengers than the ROV is designed for, and never allow a passenger who is too small to sit in a passenger seat to ride in the ROV.
7. Read and follow the operator's manual and warning labels.

8. Take a hands-on ROV Basic *DriverCourse*SM and the free online E-Course. Visit rohva.org or call 866.267.2751.

DRIVER READINESS

When driving your ROV, always bring basic items to make your experience safe and enjoyable. Be prepared for whatever you may encounter.

- First aid kit
- Food and water
- Tool kit
- Cell phone
- Appropriate safety apparel
- Vehicle recovery kit (see vehicle recovery methods in Section 3)
- Work gloves
- Operator's/Owner's Manual

Section 1: Knowing the Basics

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PROTECTIVE GEAR

The nature of off-road driving demands that you and your passengers wear protective gear. Although complete protection is not possible, knowing what to wear and how to wear it can make you feel more comfortable when you drive your ROV and reduce the chance of injury. Never operate an ROV without a quality motorcycle or other vehicle helmet, eye protection, boots, gloves, long pants, and a long-sleeved shirt or jacket.

Helmets

Your helmet is the most important piece of protective gear for safe ROV driving. A helmet can help prevent a serious head injury.

There are a few basic tips to keep in mind when selecting a helmet. Select a helmet that carries the Department of Transportation (DOT) label or meets your jurisdiction's safety standards. Your helmet should fit snugly and fasten securely.

Full-face helmets help protect your face as well as your head. Open-face helmets are lighter and

may be cooler. Eye protection should be used with both types of helmets. (Goggles, protective sports eyewear or faceshield.)



Section 1: Knowing the Basics

There is also a special time to not wear a helmet. When you stop to talk with landowners or other people you meet on the trails, always take your helmet off. To some people your helmet is a mask and can be intimidating.

Eye Protection

You must be able to see clearly to drive safely.

An object such as a rock, branch, or even a bug that hits you in the face can distract you. If you are hit in the eyes without proper protection, you can be blinded. Regular sunglasses do not provide proper protection while driving an ROV.

Goggles, protective sports eyewear or faceshield will provide you with more protection and should be:

- Free from scratches and bear the standard marking VESC8 (or V-8) or z87.1 in one corner, or should be made of a hard-coated polycarbonate
- Fastened securely
- Well-ventilated to prevent fogging

In addition, you may wish to use gray tinted eye protection for driving on bright days or yellow for overcast days. Always use clear eye protection for driving at night.

Clothing

Good gloves can help keep your hands from getting sore, tired, or cold, as well as give you a better grip on the steering wheel. Off-highway style gloves, available at ROV dealerships, are padded over the knuckles to help prevent bruising, and provide the best combination of protection and comfort.

The recommended protective footwear is a pair of strong, over-the-ankle boots with soles having good grip to help prevent your feet from slipping off the pedals.

It is important to protect your skin from scratches from intruding branches. A long-sleeved shirt or jersey and long pants are minimum requirements for protection.

You can look stylish and ready for action, and still be well protected.

Section 1: Knowing the Basics



Steering

- Keep hands balanced on steering wheel to preserve range of motion (10 o'clock and 2 o'clock positions).
- Avoid curling thumbs inside steering wheel. In rough terrain, the steering wheel could "kick" back and injure your thumbs.
- For greater steering feel, do not grip steering wheel too firmly.
- Use hand-over-hand or shuffle steering.
- Always know which direction the wheels are pointing.
- Expect less steering feedback in loose or slippery terrain.

Throttle Use

- Always use smooth throttle operation.
- Never accelerate or decelerate too rapidly.
- If you feel your ROV is losing traction, decrease amount of throttle. Too much wheel spin means too much throttle!
- Read the terrain you are driving on and adjust speed accordingly.

Brake Use

- Always use smooth braking techniques.
- Apply brakes confidently.
- In loose or slippery terrain, avoid excessive braking to prevent losing traction or directional control.
- Use cadence braking to avoid locking the wheels. This means to gently but rapidly and repeatedly press and release the brake pedal.

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Backing Up

For many people, driving in reverse is quite difficult to master. Figuring out which way to turn the steering wheel is usually the source of the problem. The easiest way to remember is to turn the top of the wheel in the direction you want the back end to turn. For example, if you want the rear of the vehicle to turn right, turn the steering wheel to the right. If you want the rear of the vehicle to turn left, turn the wheel to the left. Backing up is the only driving situation where holding the steering wheel with one hand is advisable. Movement of the steering wheel with one hand is recommended only for backing maneuvers which do not require full left or right turns. Since it is more difficult to maintain steering control and vehicle balance when the vehicle is in reverse, always back at slow speeds. Follow these steps to carefully maneuver your vehicle in reverse:

- 1) Grasp or palm your steering wheel for control.
- 2) Position your body so you can clearly see in the direction you will be traveling.
- 3) Make sure that the path behind you is clear of people and obstacles.
- 4) When clear to proceed, slowly depress the accelerator pedal. Avoid making sharp turns.

Section 1: Knowing the Basics



PRE-OPERATION SAFETY CHECK

Inspecting the mechanical condition of your ROV before venturing out is important to minimize the chance of being injured or stranded. Remember, you can drive farther in one hour than you can walk in a day. The best source of inspection information is your ROV's owner's manual. It is easy to check the important parts. Here is a basic inspection list called "T-CLOC":

T – Tires and Wheels

- Condition – Check for cuts or gouges that could cause air leakage or sudden failure.
- Tread – Check that there is adequate tread to provide good traction.
- Air pressure – Always maintain the recommended tire pressure. Check that tires on both sides of your ROV are inflated to the same pressure so the vehicle doesn't pull to one side. Under-inflated tires may cause wheel damage when driving over bumpy terrain and may

cause sluggish handling. Over-inflation may damage the tires or reduce traction.

- Check wheel lug nuts for tightness.

C – Controls

- Seat adjustment – Adjust seat for best reach to pedals and steering wheel before driving, and ensure it's securely latched.
- Brakes – Confirm proper operation of service and parking brakes.
- Gear and Drive Train Selector – Confirm proper operation.
- Hand Hold(s) – Confirm hand holds, including grab bars or straps, are securely attached to ROV.
- Mirrors (if equipped) – Check for clarity and adjustment.
- Safety Belts – Ensure belts are not twisted or frayed. Confirm secure latching.

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L – Lights

- Lenses and Reflectors – Check for cracks and clarity.
- Illumination – Check for proper operation.

O – Oil and Other Fluids

- Oil – Check level and condition.
- Fuel – Check level.
- Coolant – Check level and condition.
- Leaks – Check around gaskets, seals, and fittings.

C – Chassis and Accessories

- Shocks, Fasteners, Undercarriage – Check for secure attachment and damage.
- ROPS – Check for secure attachment and damage.
- Occupant retention system – Check for correct and secure attachment/closure. Ensure nets are not twisted or frayed. Ensure nets and doors latch properly.

- Other equipment – Check for secure attachment.

Routine maintenance goes beyond a pre-ride inspection. Wear and tear is normal over time, and routine maintenance helps prevent more costly corrective maintenance. The schedule for regular upkeep is provided in the owner's manual.

Tool Kit

After completing the pre-ride inspection, check to make sure you have an adequate tool kit in case you encounter any mechanical problems. Carrying the right tools and equipment with you is important for the safe enjoyment of your ROV.

Examine the tool kit that came with your machine. You may want to add a few spare parts — a spark plug or two, perhaps some wire and tape, maybe a headlight bulb. Prepare for the unexpected, and carry what you need to handle emergencies. Consider carrying a good strong tow rope/strap.

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Also remember that off-road driving is hard on your ROV, so it is especially important to perform periodic maintenance as outlined in your owner's manual. Do not risk injury or vehicle breakdown due to lack of proper maintenance.

SAFETY DEVICES

Seatbelts

Every ROV is equipped with driver and passenger seatbelts. The seatbelts must be worn by the driver and passengers at all times. For proper use, be sure the seatbelt is not twisted, is close fitting across the hips and chest, and is latched securely. Do not wear the lap belt across the abdomen or stomach. Do not put the shoulder belt behind the back. Failure to use the seatbelts properly may lead to an increased risk of injury.

Passenger handholds

Your ROV will be equipped with one or more different types of passenger handholds. Some

are mounted directly to the rollover protective structure, and some are mounted to the dash or floorboard. These handholds are designed to help passengers maintain proper position and balance while keeping their arms inside the vehicle.

ROPS

In the event of driver error or misuse, your ROV could roll over. The roll-over protective structure (ROPS) is designed to help protect properly seated and belted occupants in the event of a roll-over incident. The ROPS is also meant to help limit the intrusion of branches and other objects into the cabin area. Plus, it is an integral structural component of the chassis and serves as a reinforced mounting point for other equipped safety features such as an occupant retention system and passenger handholds.

It's important to note that the ROPS is designed to be used with seat belts, and with this protective structure comes added responsibility. Never operate your ROV with the ROPS

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removed. Occupant injury or severe vehicle damage could occur. Never put your hands or feet outside of the vehicle for any reason. Any part of your body outside the vehicle can be crushed by the protective structure in the event of a roll-over or collision.

ROVs are equipped with an occupant retention system. The occupant retention system includes seatbelts and handholds, and may include nets, doors, and other features or a combination of devices. If your ROV starts to tip or feels like it might be rolling over, you should always brace your feet against the floor boards and hold tight to the steering wheel or passenger handholds. Never place your arms or legs outside of the vehicle. You will not be able to stop the vehicle from tipping over by using your body. Always wear your seat belt and always follow the instructions and warnings in your owner's manual. Do not place any part of your body outside the vehicle during operation.

Tips for the ROV Driver

Section 1: Knowing the Basics

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KNOW YOUR ROV'S DIMENSIONS

Ground clearance

Your ROV's ground clearance is determined by looking underneath and finding the lowest point. Typically this will be the axle housing or chassis. Also pay special attention to delicate parts such as brakes, brake lines and inner wheel components. This will determine what type of obstacles or terrain you can safely negotiate.

ROV height

Know the height of your ROV. How tall is your ROV? Will your ROV safely negotiate trails with low overhead obstacles such as tree branches?

ROV length

Know the length of your ROV. How long is the ROV? Will it negotiate trails with tight turns or switchbacks? The length of your ROV also determines ramp angle (see ramp angle section, next page).

ROV width

Know the width of your ROV. How wide is the ROV? Will the ROV fit safely between narrow trees or obstacles on the trail? Is your ROV the right size for the trail?

Approach angle

Your ROV's approach angle can be determined by looking at the front end of the vehicle. Visualize a straight line from the front tires to the lowest point on the front of the ROV. This may be the bumper, brush guard or any accessories fitted to your ROV. The approach angle will determine the size of obstacle or angle of steep slopes you can cross without damaging the ROV.



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Departure angle

Your ROV's departure angle can be determined much like the front (approach angle). Take a look at the back of your vehicle and visualize a straight line from the rear tire to the lowest point on the rear of the ROV. This is typically the rear bumper, bed or a hitch. This angle will determine what size obstacle or slope you can safely pass with the back of the ROV. Note: Approach angle is usually greater than the departure angle. Just because you can clear an obstacle with the front doesn't mean you can clear it with the back. Consider both.



Ramp angle

Ramp angle is the amount of underbody clearance beneath the center of your ROV. Measure this by a straight line from the front tire to the center of the underbody, and from the rear tire to the center point. This will determine how steep of a ridge or sharp angle you can cross without the underbody of the ROV getting stuck on top of the ridge or an obstacle.



Tips for the ROV Driver

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KNOW YOUR ROV'S DRIVETRAIN

Understanding what type of drivetrain the ROV has is a key element in operating your ROV effectively. Today's ROV manufacturers have developed sophisticated drivetrain systems to help you navigate on almost any type of terrain. The controls for these systems are fairly simple. Your ROV is equipped with various switches, buttons or levers to transfer power to the wheels. Typically you will be able to select 2-wheel drive, 4-wheel drive (some ROVs will have a 6-wheel drive option), differential-locked or differential-unlocked, and high or low gearing. Be aware of which selection you have made and its effect on traction and performance. Refer to the operator's manual for further explanation of the ROV's specific features.

CHOOSING A DRIVING AREA

Your best first drive is in a hands-on ROV Basic *DriverCourse*. Once you have basic skills, begin driving by choosing an easy area with different types of terrain. The terrain should not be considered difficult to negotiate. Rocks or obstacles should be small and mud, sand, and water should not be deep. Learning to drive your ROV in a low-risk and controlled environment will help you learn skills and techniques to safely and enjoyably operate your ROV. Always get permission from landowners if you are riding on private property. Do not practice on paved surfaces or public roads. ROVs are designed to be operated off-highway.

Not all off-highway trails are open to ROVs.

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Once you have mastered the basics, consider the various levels of trail difficulty. The following are designation levels for driving areas. Each level has certain characteristics, and there may be some overlap in levels.

Level I

Minimally challenging trail. Unimproved dirt track with loose dirt, gravel or mud. Trail should be clear of obstacles with gradual uphill and downhill grades. Trail is mostly scenic with few, if any, challenging spots. There is virtually no likelihood of getting stuck. A spotter, a person outside the ROV who assists the operator in the navigation of difficult terrain, is not likely to be needed.

Level II

Moderately challenging trail. Unimproved dirt, gravel, mud or sand track with uneven terrain. There may be a variety of challenges, including shallow mud holes, small rocks a few inches in height, and shallow water crossings.

The likelihood of getting stuck is minimal. The terrain may be slightly steeper than Level I.

Level III

Moderately challenging trail. Unimproved dirt, gravel, sand, mud or rock track with mostly uneven terrain. Steep uphill and downhill slopes with slight tilts. The likelihood of getting stuck is moderate. Mud holes may be deep (over the axle) and rock climbing would be arduous. Medium and large obstacles would be numerous. A spotter would occasionally be needed.

Level IV

Very demanding trail. Loose, uneven terrain and varying surface composition. Vertical and horizontal challenges, deep mud or deep sand. Large boulders or rock face. Winching likely. A spotter would be frequently needed and is strongly recommended. There is considerable likelihood of getting stuck or losing forward momentum without the use of a spotter.

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Level V

Most demanding trail. Four-wheel drive needed at all times. Large, uneven obstacles, steep and uneven terrain. Deep mud or water crossings. Maximum ground clearance needed. Winching very likely. ROV body damage likely. A spotter is needed continuously and is strongly recommended.

At this level of difficulty you will become stuck at various points along the trail. Never attempt this level of difficulty without a spotter.

Section 2: Different Types of Terrain

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Your ROV is designed to handle a wide variety of terrain and conditions. Mud, sand, rocks, trees, water crossing, and hills all require a different driving style and in many situations different driving gear selections. Even though your ROV is equipped to drive through mud and shallow water, you should avoid water crossings where you might cause damage to streambeds and fish spawning grounds, or where you might cause erosion to the banks of a stream or creek. This precaution not only adds to your personal safety and fun, but it preserves the environment for others to enjoy as well. Always scout your chosen riding area before you use it.

Regardless of the type of terrain, when cresting a hill or approaching a blind curve, slow your ROV and move as far right as possible on the trail. Always assume another off-road vehicle is coming the other way.



ROCKY TERRAIN

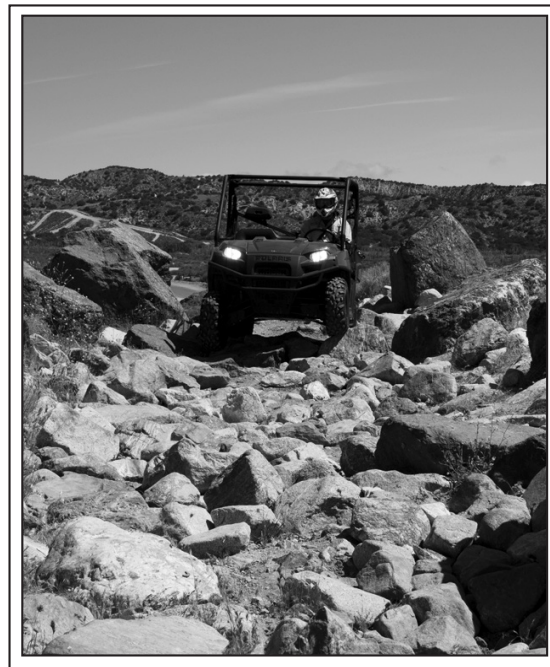
Tips for the ROV Driver

Section 2: Different Types of Terrain

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Rocky terrain requires careful precision placement of the tires on the uneven surface. A spotter can help the driver and vehicle navigate through challenging sections of the trail.

- Always be mindful of ground clearance when driving on rocky ground.
- Select low gear; differential may be locked.
- Increase ground clearance when possible by putting larger obstacles under tires.
- Maintain a delicate balance of throttle and brake.
- Avoid excessive braking.
- Pay close attention to approach, ramp, and departure angles.
- Use spotter when necessary (see using a spotter in Section 3).



Section 2: Different Types of Terrain

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SANDY TERRAIN

This loose, shifting terrain demands constant input from the driver to the ROV to properly maneuver the vehicle. Here are some points to remember.

- In sandy terrain, always maintain momentum.
- Avoid breaking traction or spinning wheels.
- Maintain flotation in dry sand by not following in tracks. Wet sand is typically more dense, providing greater flotation and allowing you to drive in wheel tracks.
- Use gentle throttle.

DRIVING NEAR TREES

Knowing the size of your ROV is imperative. Navigating through tight areas requires knowledge of the dimensions of your vehicle and its handling characteristics.

- Know the length and height of your ROV!
- Note: The back of the ROV may track closer to obstacles than the front. Longer ROVs will require a wider turning area.

- Be sure your ROV has cleared an obstacle before continuing the turn.
- Reference ROV length in sections front A, mid body B, and rear C. Be sure that at all points the width and height of the ROV can clear the obstacle. In a situation where tight turns through trees are required, allow adequate clearance for each point of the ROV to pass safely. Adjust your path of travel to allow for these clearances.

WATER CROSSINGS

Never operate your ROV in fast-flowing water or in water deeper than that specified in the operator's manual. Check the operator's manual to find out the maximum depth your ROV can negotiate. Water crossing should be avoided when possible to reduce impact on the environment, but if it can not be avoided, use the following tips to help keep you safe and dry.

- Avoid deep water.
- Check water depth with a shovel or stick before attempting to cross.

Tips for the ROV Driver

Section 2: Different Types of Terrain

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- Use steady throttle.
- Avoid spinning wheels.
- Avoid splashing.
- Create a bow-wave with the front of the ROV. A bow-wave is a small wave created at the front of your ROV when fording water crossings. Maintain steady forward momentum to keep the bow-wave in front of you. This will create a dip or shallow depression in the water around your ROV, preventing deep water from entering the cab and saturating electronics.



- Pay special attention to delicate electronics.
- After a successful crossing, gently apply brakes for a short period to dry the brakes.

MUDDY TERRAIN

Mud or water may slow the ROV abruptly and could cause loss of control if you enter too swiftly. Use a moderate speed with higher than usual engine speed. Traction is the key to passing through muddy sections of the trail.

- In loose or muddy terrain, use gentle throttle to avoid breaking traction.
- Use a steady throttle.
- Maintain momentum.
- Avoid excessive braking.
- On deep muddy tracks, keep wheels inside ruts.
- Be sure your wheels are straight.
- Once you are back on dry surface, decrease throttle.
- Avoid spinning your wheels.

Section 2: Different Types of Terrain

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HILLS AND SIDE HILLING

Climbing hills improperly could cause loss of control or cause the ROV to overturn. Always follow proper procedures for your ROV contained in the operator's manual.

- When going uphill, keep the ROV straight ahead. Never go uphill at an angle!
- Typically select high range (the differential, which allows the wheels to spin at different rates, may be locked) and use gentle throttle.
- When approaching the top of the hill, let off the throttle.
- Be aware of hidden hazards on the other side of the hill.
- When going downhill, select low range.
- Use little throttle when descending.
- Avoid excessive braking. This could cause your ROV to slide.
- Maintain traction by going at a slow, steady speed.

- On side hills, lean your weight slightly uphill.
- Be sure to keep your wheels straight.
- Never turn your wheels uphill when side hilling.
- Be alert to loose surface conditions that could cause sliding.



Tips for the ROV Driver

Section 3: Vehicle Recovery Methods and Kit

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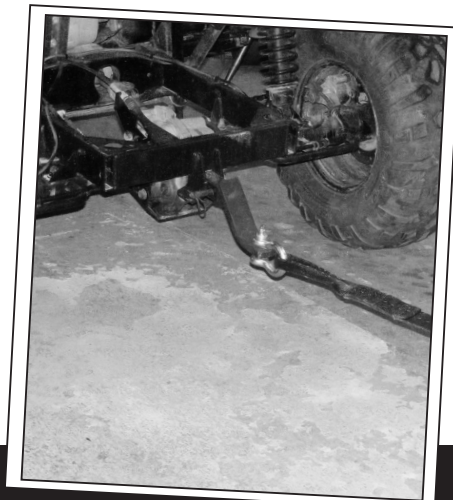
Because of the nature of off-highway driving, there is the possibility of getting stuck. Use safe and responsible recovery methods to get your ROV moving again. You should also be prepared for such an encounter by carrying a recovery kit.

WHY AM I STUCK?

If you find yourself stuck while operating your ROV, the first step is to release the throttle to avoid wheel spin, apply the parking brake, and turn off the engine, except if stuck in water. If poor traction or spinning wheels is the issue, increase traction and check gear selection. If you find yourself stuck in water, apply the parking brake but leave the engine running to keep the water from entering the engine. After you have safely shut down the vehicle, you should get out and determine why you are stuck. Check for objects in front of your tires or beneath the ROV that may be creating resistance. You can typically move the objects to decrease that resistance, but you must find them first. Choose the appropriate tools from your recovery kit. Rig the ROV safely. Your goal is to regain traction and forward motion.

RIGGING YOUR ROV

- Always use tree-saver straps.
- Never hook winch cables or chains around trees.
- Be sure to use designated recovery points on your ROV (refer to the operator's manual).
- Never hook chains, cables or straps to the axle of your ROV.
- If using a winch, refer to the winch operator's manual.



Section 3: Vehicle Recovery Methods and Kit

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BUILDING A RECOVERY KIT

You should consider putting together an adequate ROV recovery kit. Here is a list of a basic kit.

- Work gloves
- Tow strap with loop ends (never hooks)
- Shovel
- Two recovery shackles
- Small section of sturdy chain
- Winch kit, if winching (includes two shackles, small section of chain, and snatch block)
- First aid kit
- Farm jack
- Wheel chock
- Tree saver strap



USING A SPOTTER

In difficult terrain or driving conditions as well as in ROV recovery situations, the use of a spotter is recommended. A spotter is a person outside the vehicle who assists and provides a perspective of the situation and surroundings. In most cases a driver cannot see the terrain underneath the ROV. Use a spotter whenever possible to provide guidance. Designate one person as a spotter and be sure the role is understood. Be sure the spotter is far enough away from the vehicle to be out of the path of danger. The spotter should maintain a safe distance from the ROV but be close enough for the driver to see the spotter's hand signals and hear the spotter's directions.



Tips for the ROV Driver

Section 4: Safe and Responsible Practices

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SEARCH/EVALUATE/EXECUTE (SEE)

SEE is a simple and powerful strategy. This decision-making process allows you to process variables on the trail and implement a course of action. To SEE is to Search for factors that might lead to risky situations, to Evaluate how the factors might interact to create risk, and to Execute an action to maintain a margin of safety.

SEARCH

Search aggressively ahead, and to the sides, without fixating on any one point. How assertively you search, and how much time and space you have, can eliminate or reduce harm. Focus even more on finding potential escape routes in areas of limited visibility.

Search for factors such as:

- Other off-road vehicles that may enter your path
- Hikers or animals you may encounter

- Pathway characteristics such as tight corners, drop-offs, or hillcrests
- Surface characteristics such as mud, ice, or fast-flowing water
- Obstacles such as logs, rocks, or low-hanging branches

EVALUATE

Think about how hazards can mix to create risks for you. Anticipate potential problems and have a plan to reduce risks.

Types of questions to ask yourself include:

- Should I stop, swerve, or speed up to avoid a collision?
- What's on the other side of the hill or sand dune I'm driving over?
- How loose are the rocks/how deep is the mud?
- Would it be better to go over or around the obstacle?

Section 4: Safe and Responsible Practices

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EXECUTE

Have the skill to carry out your decision precisely and with control. Whether adjusting speed or path of travel, stay within the limits of your skill set. Consider surface conditions and overall environment for your actions.

Maintain your margin of safety by:

- Using the controls smoothly and confidently
- Staying within the limitations of the ROV
- Respond by using time and space well to avoid the need to respond abruptly

CONCLUSION

It's better to respond smoothly and well ahead of time than to have to react to a hazard at the last possible moment.

LAWS AND REGULATIONS

Laws establish an understanding between ROV drivers and enforcement officers concerning the proper way to behave while driving off-road. These laws help protect people, property, and the sport of off-roading. You can encourage other ROV operators to follow local and state laws by practicing them yourself. In this way, ROV drivers can set a good, positive example and to some extent, monitor themselves on the trails. And it is important to follow not just the letter of the law, but the spirit of the law too.

Your ROV is an off-highway vehicle and is not designed for street or highway use. Many states require that you register your ROV through the Department of Motor Vehicles or other licensing agency. ROVs used for agricultural or utility purposes may be subject to different provisions than recreational ROVs. Check when buying your ROV. Your dealer should be able to provide information on the laws and help with registration information. Fines and/or penalties for driving an unregistered ROV can be

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expensive, and you take the risk of having your ROV impounded.

Some states have off-highway registration fees. By paying these fees, you are helping to maintain current off-highway areas and gain access to additional driving areas. Each state's registration requirements vary. Before planning an out-of-state drive, learn that area's laws.

TREAD LIGHTLY!

Riding behavior that harms the land is self-defeating and irresponsible. Learn to protect and preserve your driving areas. In other words, TREAD Lightly!

- Travel responsibly on designated trails or in permitted off-highway areas.
- Respect the rights of others including private property owners and all recreational trail users, campers and others to allow them to enjoy their recreational activities undisturbed.
- Educate yourself prior to your trip by obtaining travel maps and regulations from

public agencies, planning for your trip, taking recreational skills classes, and knowing how to use and operate your equipment safely.

- Avoid sensitive areas such as meadows, lakeshores, wetlands and streams, unless on designated routes. This protects wildlife habitat and sensitive soils from damage.
- Do your part by leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, restoring degraded areas, and joining a local enthusiast organization.

Visit treadlightly.org for further information about TREAD Lightly!

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POST-RIDE CLEANING AND T-CLOC

- **Invasive/noxious weeds:** Off-highway vehicles can inadvertently spread invasive/noxious weeds. It is important that vehicles be weed-free before travelling off-highway. Seeds can be trapped in the components of the ROV and even be loaded on the dried mud that will fall off along the trails. Thoroughly washing the ROVs will ensure that the seeds are removed and will help mitigate the spread of noxious weeds.
- **Identification of maintenance and repair:** The added benefit of washing your ROV is it allows you to inspect the vehicle for damage or loose parts as you clean your machine. Remove any loose or hanging debris such as rocks, sticks/limbs, vines or plant life. The debris may cause serious damage to the underbody components on your ROV. Performing a post-ride T-CLOC while you clean your vehicle will help you identify any needed maintenance or repairs. Make sure that you carefully clean and inspect

the radiator fins, brake calipers and rotors, steering linkage, axle boots, and other critical components to ensure that your ROV will be properly operating for its next use. Look for any tears in axle boots. Finding a cut or torn axle boot now can save you a costly repair later and help prevent you from getting stranded on the trail. Read your owner's manual for recommendations and precautions on washing your ROV.

Tips for the ROV Driver

Take the ROV E-Course

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The ROV E-Course is a free, multi-media, interactive online safety course available 24/7 at rohva.org. The E-Course is an important resource for the growing community of ROV enthusiasts and reinforces:

- Key risk factors associated with ROV operation
- Safe driving practices that will reduce risk of injury
- The best resources for learning about your particular vehicle

The two-hour safety course helps develop safe driving habits but it is not a “learn to drive” course. It is intended to improve awareness about ROVs and inspire a safety-minded approach to off-road recreation. Users can save their progress and stop the course at any time and pick up later where they left off. At various places during the course there are ROV safety quiz questions to test what you have learned.



Take the Basic *DriverCourse*

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ROHVA's Basic *DriverCourse* (RBDC) combines a free online course with a hands-on driving session to give the off-highway recreationist exposure to a wide variety of driving strategies and techniques.

The RBDC, conducted by certified ROV DriverCoaches, provides about two hours of driving time plus discussions, and includes six closed-range exercises. Additional open trail experiences are available at some locations and add from 30 minutes to more than 4 hours to the course, depending on the location and number of lessons.

The prerequisite ROV E-Course must be taken before attending the RBDC, but can also be taken by anyone interested in learning more about safe off-highway driving practices.

Then, the RBDC provides for driver development in the areas of vehicle familiarization and basic operational skills, and emphasizes safety awareness and risk-management strategies.

Drivers practice ROV operation in:

- Straight line driving
- Braking, both normal and quick stops
- Turning
- Swerving
- Driving on various terrains

The cost of the ROV *DriverCourse* varies depending on the training provider and content offered. Students must have a valid driver's license and be at least 16 years old. Register for the E-Course and the *DriverCourse* online at rohva.org.





**To enroll in the ROV DriverCourse nearest you, visit
rohva.org or call 866.267.2751**

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