Welcome

ROVAN LT-4WD

Welcome to use Rovan LT Truck with updated 4WD shaftdrive design and incorporated alloy chassis and High-strength plastic materials. Please read this manual carefully and make it fully understood, which would bring you more fun of operating this product.

It is a remote control vehicle with high performance. Power is from a 2T gasoline engine. LT need regular maintenance to make it optimize performance. Changing worn out or damaged parts regularly would make it keep best situation.

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Instructions and Precautions

SECTION A

Meaning Of Special Language

Notice

Procedures, which if not properly followed, create a possibility of physical property damage.

Caution /!\

Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

Warning

Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

😹 Warning:

Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of ROVAN company. This manual contains for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use in order to operate correctly and avoid damage or serious injury.

Instructions and Precautions

SECTION A

Attentions

- Not for Children under 14 years. This is not a toy.
- Caution: Always use 2.4Ghz transmitter or more stronger signal frequency transmitter to operate it.
- Warning: Failure to follow all instructions can to damage to your vehicle, property damage and bodily injury or death
- Notice: If you made changes or adjustments not shown in the instruction manual, your vehicle may be damaged. To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models
- Warning: This model is controlled by a radio signal subject to interference from many sources outside your control. This interference may cause momentary loss of control, so it is advisable to always keep some distance in all directions around your model as a safety margin to avoid collisions
- Notice: Always ensure all screws and nuts are tightened.
- Notice: Always carefully follow the directions and warnings for this and any

optional support equipment

- Warning: Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Notice: Always ensure the failsafe is properly set during binding.
- Notice: Always operate your model in an open area away from cars traffic and people.
- Warning: When operating this vehicle, always keep it at least 20 feet from spectators, especially small children
- Notice: Never run this vehicle in or through water
- Notice: Never run your model in a public street where damage can occur.
- Notice: Never run your model with low transmitter batteries
- When finished operating, always power off the engine first, then the receiver, the transmitter
- Notice: Always perform maintenance on the vehicle after each and every use.
- Notice: Due to engine vibration, all screws and nuts will need to be checked to ensure they are tight.

SECTION B

Included Components And Needed Equipment

>> Included Components



Body+Receiver+Transmitter+ Servos+ Engine+ Receiver battery



>> Needed Equipment

 $\mathbf{\hat{V}}^{-}$ CAUTION: For fuel mixing instructions, safety precautions and guidelines, see Section B.

SECTION B

Vehicle Preparation

>>> Removing The Body

Remove the 4 clips and 4 large screws from the bottom of the side guards as shown.

Battery Charging Precautions

>> Charging Warnings And Precautions

- Read all safety precautions and literature prior to use of this product.
- Never leave the battery and charger unattended during use.
- Never allow minors to charge battery packs.
- Always inspect the battery for damage before charging.
- Never attempt to charge dead or damaged batteries.
- Never charge a battery if the cable has been pinched or shorted.
- Never allow batteries or charger to come into contact with moisture at any time.
- Never charge batteries in extremely hot or cold places(recommended between 50-80 degrees Fahrenheit/10-27 Celsius)or place in direct sunlight.



Warning:

Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately and property damage.

- Always use only NiMH rechargeable batteries. This Charger cannot charge batteries such as "heavy duty," "alkaline battery," mercury battery."
- Always make connecting correct between positive & negative pole and battery charger.
- Please cut off battery and charger after charging.
- Please terminate all process and contact engineer of Rovan if there is something wrong with your product.
- Please make sure you know charging or releasing capacity of battery, and use correct battery accord with charger.
- Always keep checking battery temperature when charging.
- *Please stop charging if charger or battery has become too hot or out of shape.

SECTION B

>> Charging The Receiver Battery

- I. Remove the retaining clip and battery box lid.
- 2. Remove the receiver battery from the battery box.
- 3. Connect the receiver plug to the battery charger.
- Plug the battery charger into wall outlet. Charge the battery for 8 hours. DO NOT exceed 10 hours charge time.
- 5. Monitor battery while charging.

- 6. When the battery is fully charged: (a) disconnect the battery and (b) remove the battery charger from the wall outlet.
- 7. Place the receiver battery back in the battery box and connect the battery plug to the switch plug. The battery wire must be neatly folded in front of the battery and the foam block must be placed on top of the wires.
- 8. Reinstall battery box lid and the retaining clip.



SECTION B

Transmitter Manual

>> Transmitter





- I. name
- 2. reverse for servo
- 3. max angle adjustment of servo
- 4. balance micro-adjustment of servo.
- 5. servo balance
- 6. brake adjustment

SECTION B

>> Transmitter Manual

Adjustment Before Starting

please open transmitter firstly,then open power source of receiver;

make sure no interference from same frequency around;baja can be worked on if you think everything is ok;

stop operating it if frequency has problem.

E POINT : adjusting max range of left or right of servo

REV: adjustment of reverse or forward

TRIM: micro-adjustment of servo center to make balance.

ABS: brake type:quick-frying stop,quick antiexplosion,slow anti-explosion.

Operating Example

if we need to adjust "E point".please follow below steps:

- turn knob "ENTER",when light move to "E POINT";
- pressing"Enter", you can see no."1"in a flicker situation, then turn"Enter"to change between steering servo and throttle servo; pressing "end" to change to 100% to reach adjustment of swing range; pressing"ENTER" again to quit operation.



- I. END
- 2. ENTER
- 3. "I"means steering servo and"2"means throttle servo.
- 4. Range and direction of servo are controlled by arrow on the number.

SECTION B

Transmitter Setup

These are starting points for your transmitter. You may have to adjust the "Trim" and "Sub-Trim" as noted in the radio manual to set the neutral position of the linkages. Transmitters without sub-trim may require mechanical adjustment to the linkages.

>> Caution

- When binding, follow the failsafe instructions of your specific transmitter so that the throttle will be reduced if the signal is lost.
- Always remove the bind plug from the receiver after binding is complete.
- Never plug receiver battery packs into telemetry ports marked RPM,TEMP,or LAP.

>> The Binding Process

- Set all trims(and sub-trims if included)on your transmitter to "0"or neutral(half way between end points).
- 2. Remove the cover of the radio box and note that the bind plug is installed into the first port marked "BINE/RS" of the receiver.
- 3. Turn on the power-a light will flash at the right front corner of the receiver.
- 4. Turn on your transmitter and follow the instructions in your transmitter manual for binding.
- 5. When the light in the receiver stops blinking and is on solid, the radio is bound.
- 6. Turn off the power, remove the bind plug, and reinstall the radio box cover.

This will damage the receiver.

- Make sure the antenna plug in the antenna tube fully.
- It is necessary to rebind when different failsafe positions are desired or when throttle or steering reversing has been changed.



SECTION B

Steering Trim

Adjust the steering trim to center the tires. Use sub-trim (see your transmitter's instruction manual) if needed. If steering output arm is not close to its desired neutral position after the binding process and sub-trim, please take the following steps:

I. Make sure trim and sub-trim are set to "0" or

neutral.

- 2. Remove the servo output arm using a Phillips screw driver and included Allen driver and replace the arm in correct orientation.
- 3. Trim the steering as described above.



SECTION B

Throttle Trim

Adjust the throttle trim so the carburetor is completely closed at neutral and there is a little gap between the servo arm and collar (Fig. A:gap should be less than I mm).Use sub-trim (refer to your transmitter instructions)if needed. If throttle output arm is not close to its desired neutral position after the binding process and throttle cannot be centered using trim and subtrim, please take the following steps:

- I. Make sure trim and sub-trim are set to "0" or neutral.
- 2. Remove the servo output arm using a Phillips screw driver and replace the arm in correct orientation.
- 3. Trim the throttle as described above.



V Notice:

Always ensure servo arm is parallel with the vehicle center line at neutral and the gap in the throttle linkage is less than I mm. Failure to do so could result in engine malfunction causing loss of control of the vehicle, resulting in property damage and injury.

SECTION B

Close Setup

>>> Turning The System Off

Turn off the receiver first, then turn off the transmitter.

∛ Notice:

You will lose control of vehicle if you suddenly shut off the transmitter without setup of the failsafe.



>> Replacing The Body

Replace the 4 clips and 4 large screws in the bottom of the side guards as shown.



Fuel Preparation

SECTION C

Basic Fuel Warnings And Guidelines

- Always observe all warnings and precautionary statements on fuel.
- Fuel is a fire accelerant. Never operate your vehicle near open flames. Never smoke while operating your vehicle or while handling fuel.
- Always only use a mixture of gasoline and two-

cycle oil for fuel. Do not use glow (nitro) fuel.

- Always use caution when handling gasoline.
- Always run your model engine in a wellventilated area. Model engines produce harmful carbon monoxide fumes.

Fuel Requirements

The fuel is a mixture of gasoline and 2-cycle oil. Use a 25:1 ratio gasoline to oil. Gasoline should be 92-98 Octane RON in Europe and 87-93 Octane AKI in the US.

Mixing The Fuel



Fuel Preparation

SECTION C

Fuel Mixing Precautions And Guidelines

- Always observe all warnings and precautionary statements and instructions supplied by the fuel.
- Only use gasoline mixed with two-cycle engine oil.
- Always use 92-98 Octane R(Europe)and 87-93 Octane AKI(US)gasoline.
- Always mix fuel in a sealable, water-resistant container specifically made for gasoline.

Fuel Storage Precautions And Guidelines

- Always drain your engine after you have finished running your vehicle.Do not store the vehicle with fuel in the gas tank.
- Never handle model engines and mufflers until they have had time to cool. They become extremely hot when in use.
- Always store your fuel in a safe place well away from sparks,heat or anything that can ignite.
- Always ensure that gasoline and fuel are stored in a clearly marked container well away from the reach of children.
- Always store your fuel safely in a sealed,water-

resistant container specifically made for gasoline.

- Always store fuel in a cool,dry location.Do not allow fuel containers to come in direct contact with concrete,as the fuel may absorb moisture.
- Always responsibly discard fuel if there is condensation and/or water inside the fuel container.
- Never allow fuel to come into contact with eyes or mouth. Gasoline and other fuels used in model engines are poisous.
- Never return unused fuel from the fuel tank back into the fuel container.

Vehicle Starting And Running

SECTI D

Fueling The Vehicle

Remove the fuel tank cap and fill the fuel tank. Tighten the fuel tank cap securely back in place. Please note that the body does not have to be removed to fuel the vehicle.



-ˈd̪- Notice

Do not tilt the vehicle even when the Fuel Tank Cap is back in place as gasoline may leak from the vent hole in the cap.

Turning The System

Turn the transmitter first, then turn on the receiver.



Vehicle Starting And Running SECTION D

Priming The Engine

>>> Engine



Votice:

Make sure you understand all engine instructions before attempting to start the engine.

Failure to follow all instructions can lead to damage to your vehicle, property damage and bodily injury.

If there is a problem with the engine, press the engine stop switch to shut off the engine.

The engine must be primed before it can be successfully started. Push the primer bulb (pictured) until you can see fuel in the yellow return tube (also pictured).



Vehicle Starting And Running SECTION D

Starting Procedure

Only use the choke if the engine does not start normally. Using the choke can easily flood the engine with fuel.

>> Cold Engine

- I. Set choke lever as shown in Step I.
- Pull start cord in a quick continuous motion(about 3 times)until you hear the engine almost start, then stop.
- 3. Be careful not to flood the engine with fuel.

Do not pull more than 50 cm/20 in or you can damage the pull start assembly.

- 4. Set the choke lever as shown in Step 3.
- 5. Pull the starter cord start the engine.
- 6. The engine should start within 6 pulls.



>> Hot Engine

- I. Set the choke lever as shown in Step I.
- Pull the starter cord in a quick continuous motion to start the engine. The engine should start within 6 pulls.

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Vehicle Starting And Running SECTION D

Breaking In The Engine



Stopping The Engine

-Ò- Notice:

Do not adjust carburetor settings during break-in .Doing so will cause engine damage.

Break in the engine by driving slowly for the first half tank of fuel (about 25 minutes).



-Ò Notice:

Do not touch the engine and muffler as they can become extremely hot during use.

Push engine stop switch to shut off engine.

Turning The System Off





Never powe off the transmitter or receiver before stopping the engine. You will lose control of your vehicle.

Turn off the receiver first, then turn off the transmitter.

SECTION E

Engine Tuning

>> Introduction To Engine Tuning

The engine can be further tuned from the factory settings to optimize performance under various conditions, if you lose track of the engine settings, please revert back to the factory carburetor settings (see next page) before making adjustments: Please make sure that the small vent in the Fuel Tank Cap is open and air filter is clean, as it will affect engine performance and tuning. The carburetor needle is very sensitive. Adjusting the needle even 1/16 of a turn is a significant change. Be careful when making adjustments.

>> Factory Carburetor Settings



SECTION E

>> Adjusting The High-Speed Needle

If the speed is slow, turn in the high-speed needle 1/16 turn and test Do not exceed 1/4 turn in from factory setting (minimum 11/4 turn out from closed)or the engine will be damaged.

 $\dot{\nabla}^{-}$ Notice:

When making adjustments, only turn the needle 1/16 turn at a time. Never exceed 1/4 turn in (11/4 turn out from closed) or the engine will be damaged.



>> Adjusting The Low-Speed Needle

If the vehicle accelerates slowly,turn in the low-speed needle 1/6 turn and test.Do not exceed 1/4 turn in from factory setting (minimum 1 turn out from closed) or the engine will be damaged.

⁻ਊ⁻ Notice:

When making adjustments,only turn the needle 1/16 turn at a time. Never exceed 1/4 turn in (1 turn out from closed)or the engine will de damaged.

>> Idle Adjustment

If the idle is set too high(vehicle moves at idle) or too low(engine does not stay running). Adjust the idle speed on the carburetor.



SECTION E

Vehicle Tuning

This Vehicle Tuning Guide will take you through the basic tuning adjustments and will describe the changes to the handling of your vehicle. Before making any setup changes, make sure all suspensions parts move freely and that there are no broken or dislodged parts. Only make one change at a time to clearly feel

the impact of that change .If a change does not provide the desired impact, return to the previous setting and consider a different setup change. Please note that the factory setup has proven to be reliable, consistent and easy to drive.

>> Camber

Camber Links		Characteristics	
Lowering the Link	Front	Increases off-power steering and makes the truck more responsive.Handling consistency may decrease as off-power steering increases.	
	Rear	Increases off-power chassis rotation and makes the truck more responsive.	
Dejoing the link	Front	Reduces off-power steering and provides greater handling consistency.	
	Rear	Reduces off-power chassis rotation and provides greater handling consistency.	
Length of the	Longer	Gives greater stability entering turns and more steering upon exit.	
Link(rear)	Shorter	Increases chassis rotation while entering turns but decreases sheering upon exit.	
More Negative	Front	Quicker reaction with more steering.	
Camber	Rear	Less rear traction on entry and mid-corner	
Less Negative	Front	Slower reaction with less steering	
Camber	Rear	More reaction on entry and mid-corner.	

SECTION E

Factory Setting

Always use negative camber (tires leaning in). Standard negative camber settings range from -1/2 to -3 degrees



>> Front Toe

Front Toe	Characteristics
Toe-out	Toe-out(shorter sheering rods) increases steering response when entering the turn and straight line stability;however, it will decrease on-power steering.
	Increases off-power chassis rotation and makes the truck more responsive.

Factory Setting



SECTION E

>>> Sway Bars

The LT is equipped with medium (3.5mm) sway bars on the front and rear. A thinner front sway bar increases front off-power traction, but has less on-power steering. A thinner rear sway bar increases off-power traction with smoother steering. Entering the turn, but have more on-power steering. A thinner rear sway bar increases rear traction and decreases on-power steering. A thicker rear sway bar increases stability in turns and on-power steering. Thicker sway bars are more stable on high-speed, high-traction tracks.

>> Shock

Shock Mounting Positions

Moving the shocks in on the tower makes the truck more forgiving. Moving the shocks out on the tower makes the truck more responsive and better for technical tracks.

Shock Down Stroke

Please measure truck's down stroke after fixing shocks. Down stroke is the part between the center of shocks top and bottom screws. More down stroke on front suspension increases steering which make rear truck more rotation while increasing more gas. More down stroke on rear increases off-power steering which make front truck more rotation

Shock Oil

Lighter shock fluid responds quicker and creates more chassis roll. Heavier shock fluid reacts slower and creates less chassis roll. On high traction/smooth tracks, heavier oil



while giving gas. More down stroke on the Front and Rear will increase more speed on the bumpy ground. But truck may happen rolling over when it turns. Less down stroke on the Front and Rear maybe lose better tracking , but it will behave better while turning, which is more suitable for high-speed track.

is easier. Adjust shock oil weight when there is a drastic temperature change. Use lighter oil as it gets colder and heavier oil as it gets warmer.

SECTION E

>> Gearing

Stock gearing for the LT is 19/58 If you are running on a large, sweeping track and need more top speed, a 20-tooth pinion is available. For shorter, technical tracks, a 18-tooth pinion is also available.

>>> Brake Bias

Standard brake bias is 60% rear and 40% front. If you need more chassis rotation under braking adjust the linkage for less front brake. If the truck is loose entering turns under braking, adjust the linkage for less rear brake or more front brake.



>> Ride Height

Set the truck on a flat surface and turn the threaded collars on the shocks evenly so both the front and rear suspension arms are level.







SECTION F



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