FIRST SETUP / 01

Know the Rhino

> The Rhino is a walk-behind electric tug for four-wheel wagons, carts and tow trains with articulating drawbars. The wagon carries its load on its own wheels. The Rhino carries ballast inside its aluminum housing to put enough weight on its drive tires.



Side view of the TRAX Rhino. The pintle is at the opposite end from the steering handle.

Identify the connection

The wagon connects to the built-in pintle hitch by its drawbar ring, also called a lunette ring. Check that the ring fits the supplied pintle and that its closure and retainer are present.

Know what stops the train

The Rhino has an automatic motor brake and no 7-way plug. It cannot apply wagon electric brakes through a trailer connector. Include the stopping needs of every loaded wagon when selecting a route and ballast configuration.

Check the order before setup

Locate the steering handle, thumb throttle and pintle hardware. For a plate-equipped Rhino, locate the weight-plate holder and clevis pin. If you ordered the nine-battery upgrade, check for its adapter plate and power cable system. The Rhino comes with an 8-hour on-board charger and an external power inlet. Report missing or damaged parts to TRAX before assembly.

FIRST SETUP / 02

Unpack and assemble the handle

> Lay out the kit on a clean surface. Park the Rhino on firm, level ground with the wagon disconnected. Switch the Rhino OFF, unplug the charger and disconnect the main battery harness before assembly.



Assembled T-handle with both grips and the thumb throttle.

Check the kit contents

☐ T-handle	☐ Thumb throttle	☐ Clevis pin
☐ Zip ties	☐ Red terminal boots	☐ Black terminal boots
☐ Quick-connect battery clips	☐ Small Allen wrench (2.5 mm)	☐ Medium Allen wrench (4 mm)

Set the battery clips and boots aside for battery installation.

1 Fit the thumb throttle

Slide the bare end of the handle crossbar through one side of the T-handle yoke. Slide the throttle onto the crossbar with its thumb lever facing up, away from the Rhino. Pass the bar through the other side of the yoke and fit the second grip. Use the Allen wrench that fits the throttle clamp screw to secure it. Check that the lever moves freely and returns when released.

2 Install the T-handle shaft

Slide the shaft into the handle socket on the Rhino and align the holes. Insert the handle clevis pin through both sides and secure its retainer. Pull gently on the shaft to check that it stays seated.

3 Route and connect the cable

Run the throttle cable under the yoke and between its sides. Use the zip ties to secure it along the shaft. Leave slack at the throttle body and at the plug so steering cannot pull on either end. Rotate the plug until it lines up with the socket on the Rhino, slide it in easily, then turn the blue locking collar clockwise.

FIRST SETUP / 03

Choose ballast for the loaded train

> A wagon with little or no tongue weight adds little downward force to the Rhino's drive tires. Ballast gives those tires the grip needed to start the train and resist its momentum when slowing down.



Open Rhino housing showing the batteries and standard weight plates.

Weigh the entire train

Add the loaded weight of every wagon, including cargo. TRAX lists an 8,000 lb towing capacity for the Rhino. Count the entire tow train against that figure. Surface, grade and the distance available to stop can reduce the usable load.

Option 1 · Standard weight plates

Use standard weight plates in the designated holder inside the aluminum housing. The holder accepts up to 800 lb of plates. Once the plates are in place, insert the clevis pin to retain them. Check that the pin is seated and the plates cannot shift before closing the housing.

Option 2 · Nine batteries total

The optional TRAX upgrade includes an adapter plate and power cable system for nine batteries total inside the aluminum housing. Their weight supplies ballast and the added battery capacity extends runtime. Secure every battery in its designated position and keep the terminals and cables clear of metal.

Confirm the setup

As the owner, confirm the ballast needed for each setup. Use the total weight you are tugging, the type of ground and the steepest grade on the route. Recheck whenever the load, surface or grade changes. Verify controlled starting and stopping on firm, level ground before entering the route. If grip or stopping remains uncertain, secure the train and contact TRAX.

FIRST SETUP / 04

Fit the battery leads and terminal boots

> Switch the Rhino OFF and unplug the charger. Fit the short leads to each battery while the battery is outside the dolly. If a positive terminal touches the aluminum housing, it can short the battery and damage the motor controller.

1

Gather the leads, boots and hardware

Inside the battery box, disconnect the short quick-connect leads from the main harness. Take out the red and black rubber terminal boots. For each battery, gather the two bolts, two penny washers, two lock washers and two nuts supplied in its carton.

2

Match polarity and fit the boots

Check the + and − stamps on the battery and the markings on its leads. Match red to positive (+) and black to negative (−). Keep tools clear of exposed posts. Before fastening either cable eye, thread each short lead through its matching rubber boot.

3

Assemble each terminal in order

Pass the bolt through the cable eye, then through the battery lug. On the opposite side of the lug, fit the penny washer first, then the lock washer, then the nut. Tighten to the battery manufacturer's specification. Most bolts take a 10 mm wrench or socket. Some also have a large Phillips recess.

4

Cover the terminal and repeat

Slide the rubber boot over the completed terminal. Repeat the same hardware sequence for the other colour lead and cover that terminal with its boot. Complete both terminals on every battery before placing it in the housing.

5

Connect the batteries to the Rhino

Secure the batteries in the tray. Route the cables and mate the quick-connect leads in the sequence shown on the TRAX harness diagram for your battery count. For the optional nine-battery adapter, use the diagram supplied with the upgrade. If the matching diagram is missing, obtain it from TRAX before connecting. Close the lid only when all terminals are covered and the cables clear the lid.

FIRST SETUP / 05

Charge the batteries

> The Rhino uses a 36 V drive system. The standard configuration uses three 12 V batteries. The optional adapter plate and power cable system

> accommodate nine batteries total. The included 8-hour on-board charger is accessible from the external power inlet on the aluminum housing.



External AC power inlet



8-hour on-board charger installed inside the Rhino housing (above the batteries).

Charge through the external inlet

Park in a dry, ventilated area. With the Rhino switched off, plug the supplied AC cord into the external power inlet on the housing, then into a standard wall outlet. Turn on the charger switch if fitted. Red indicates power. The separate status light is yellow while charging and green at full charge.

If the nine-battery upgrade is installed

Use the power cable system supplied with the adapter plate. Follow the nine-battery kit diagram for cable routing and connections. If the diagram is missing, obtain it from TRAX before connecting the batteries.

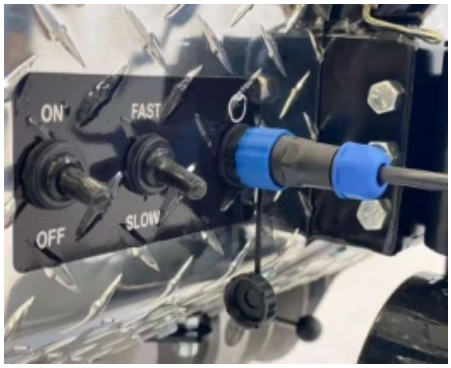
Before driving

Disconnect AC power and stow the cord. Restore any battery connections required by the supplied charging instructions. Check battery restraints, terminal boots and cable clearance, then close and secure the housing.

FIRST SETUP / 06

Practise with the Rhino unloaded

> Begin on a clear, firm, level surface with the wagon disconnected. Check the steering handle and its retainer. The throttle cable needs enough slack to steer freely without pulling on the plug or catching a tire.



The Rhino control panel shows the power switch, FAST/SLOW selector and throttle connector.

Read the battery lights on the thumb throttle

Keep the thumb lever released and switch the Rhino ON. Green, yellow and red lit together indicate full charge. As the charge drops, green goes out first, leaving yellow and red. When only red remains, recharge before towing.

Select SLOW or FAST on the body panel

With the Rhino stopped and the throttle released, flip the speed switch down to SLOW (low) or up to FAST (high). Use SLOW for practice, hitching and tight turns. The switch sets the speed range. In either range, press the thumb lever lightly to creep and increase pressure gradually to go faster.

Select forward or reverse at the handle

The soft gray button just above the thumb lever switches direction with each press. With the wagon disconnected and SLOW selected, lightly press the lever to see which way the Rhino moves. Release it and stop completely. Press the gray button once, then lightly press the lever again to confirm travel in the opposite direction. If the Rhino continues driving after throttle release, switch it off when safe and contact TRAX before hitching.

Check the running gear

Inspect both drive tires and the caster for wear, damage or debris. If pneumatic tires are installed, check both cold pressures against the approved setting for the fitted tires and load. Check that the pintle, handle and housing fasteners are secure.

FIRST SETUP / 07

Use the differential lock

> Choose the axle setting for the next part of your route. You can reach the differential handle through the access window on the front of the Rhino.



Engaged — Locked



Disengaged — Unlocked

When to lock

For a straight push or pull on loose gravel over a firm base, lock the axle for traction. Both drive wheels turn together, so the wheel on firmer ground can keep pulling if the other loses grip.

When to unlock

Unlock the differential for a tight turn. Each wheel can follow its own path, and the wheels can rotate in opposite directions during a pivot. This reduces tire scrub and makes the T-handle easier to steer.

Position the handle for either setting

Keep your hands clear of the front access window. Slowly drive the Rhino forward or in reverse until the differential handle rotates into view through the window. Release the throttle, stop completely and switch the Rhino OFF. If a wagon or tow train is attached, secure it against rolling before reaching in.

To lock the axle for traction

Pull the handle out and rotate it until the knob lines up with the cut-out channel. Let the knob drop fully into the channel. The seated, lowered knob locks the two drive wheels together.

To unlock the differential for pivoting

Pull the knob out of the channel, rotate the handle a quarter turn (90°) and release it. Check that the knob stays raised, clear of the channel. The wheels can now turn independently.

Changing surfaces

When moving from gravel to a tight parking spot, use the lock for the straight gravel section if you need traction. Stop and unlock the differential before pivoting on firm ground.

EVERY MOVE / 08

Connect the wagon drawbar

> Park on firm, level ground. Chock the wagon and secure any additional wagons before positioning the tug. Support the drawbar so the ring cannot fall or swing.



Rhino pintle with its upper closure, lower 2-inch ball and retaining hardware.

Inspect the pintle and ring

Check the hitch body, ball, upper closure and retainer for wear, cracks or missing hardware. Inspect the wagon ring and drawbar attachment. Verify ring compatibility and the ratings of the hitch, drawbar and all inter-wagon couplings.

Align and seat the ring

Approach in SLOW with everyone clear of the space between tug and wagon. Stop, release the throttle and switch the Rhino off. Open the pintle closure using its fitted retainer and latch. Position the supported ring over the ball and lower it fully into the hitch. Keep fingers out of the opening.

Close and retain the pintle

Close the upper jaw over the seated ring, engage the latch and install its retainer. Visually check that the jaw is fully closed, the latch is secured and the ring is captured. Fit any secondary connections required for the wagon.

Check the rest of the train

Repeat the coupling and retainer check at every wagon. Make sure each drawbar can articulate without binding. Keep the wagons secured until the route is clear and the operator is ready to move.

EVERY MOVE / 09

Start, steer and stop the train

> Walk the whole route. Check the surface and grade, sight lines, doorways, blind corners and space beyond the stopping point. Allow for the inside path of the last wagon as well as the path of the Rhino.

Check the stopping arrangement

Confirm that the train can be stopped and held on the planned route. If a wagon or site procedure requires a separate braking system, verify its operation before towing. Keep clear of routes that require brake control the setup cannot provide.

Make a low-speed check

With the couplings checked and the area clear, remove the chocks only when ready to move. Start smoothly in SLOW on firm, level ground. Move a short distance in a clear area and release the throttle to check controlled stopping with the actual load.

Take turns wide and slow

Watch each wagon through the turn. The rear wagon may cut inside the Rhino's path or swing near an obstacle. Plan a forward exit when possible. Stop completely before changing direction. If you lose sight of the end of the train or your spotter, stop.

If the train pushes the Rhino

If tires spin or skid, a wagon closes up unexpectedly, or stopping takes more space than planned, stop the move and secure the train. Recheck the load, ballast, tires, route and braking arrangements before moving again.

AFTER EACH MOVE / 10

Park, disconnect and inspect

> Choose a firm, level parking area with room to leave the wagons secured. Keep the pintle closed until the wagon is independently held and the drawbar is supported.

Secure the train

Release the throttle and stop completely. Switch the Rhino off. Apply the wagon parking brakes where fitted and chock the wagons against movement. Check that no wagon is pulling or pushing against the hitch.

Disconnect the drawbar

Support the drawbar before releasing the retainer. Open the pintle closure and lift the ring clear. Leave the drawbar supported, then close and retain the empty pintle. Clear people and obstructions before moving the Rhino away.

After use

Recharge using the approved charger. Store the Rhino dry. Inspect the pintle and ring, retainers, ballast or battery restraints, tires, caster, handle and battery connections. Remove a damaged hitch or failed control from service.

Get help from TRAX

> Visit the TRAX support page for practical tips and troubleshooting help for your Rhino.
>
> **Explore TRAX support tips(debugger.traxdolly.com)**

For setup or service, have the Rhino serial number, battery count, ballast weight, tire type, total loaded train weight and route details ready. Call 1-844-488-8729, extension 2, or email help@traxpowerdolly.com.