

Vex power pack

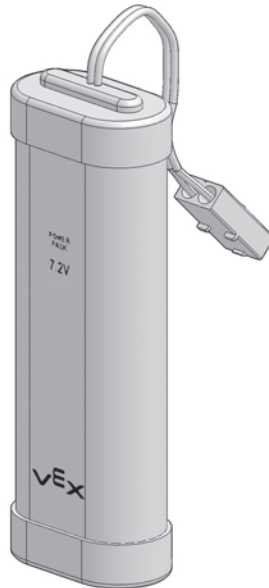
The **Vex Power Pack** is designed to provide reliable high-performance power for the Vex Robotics Design System. The kit includes one 9.6V NiCd rechargeable battery pack for the RF Transmitter, one 7.2V NiCd rechargeable battery pack for the Micro Controller, and a charger that can charge either battery safely in 3 hours or less (6 hours for both batteries). See the Power Subsystem in the Inventor's Guide for information on battery care.

INSERT THESE PAGES
at the **back of the**
Power Chapter in your
Vex Inventor's Guide.

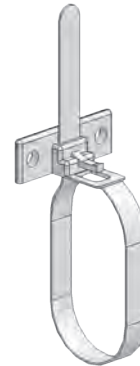
**9.6V Transmitter
Power Pack x 1**



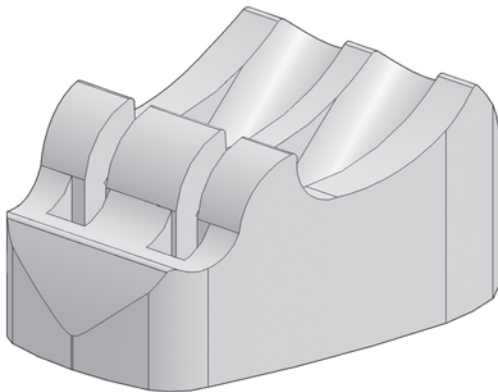
**7.2V Robot
Power Pack x 1**



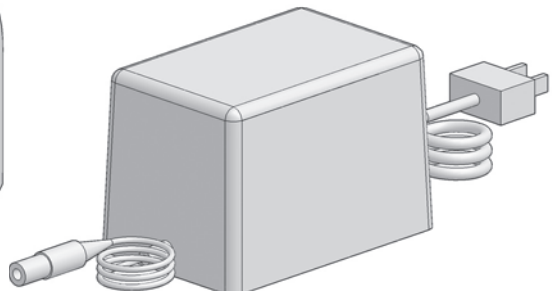
**Reusable Battery Strap
(for 7.2V battery) x 2**



Battery Charger x 1



**AC/DC Adapter
(for Battery Charger) x 1**

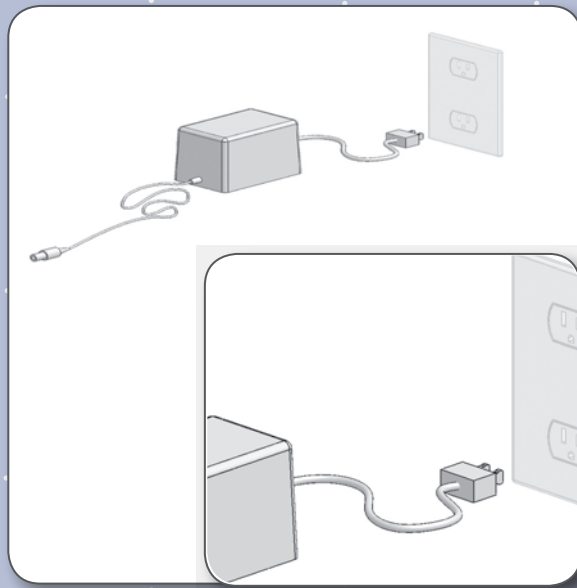


Vex power pack, continued

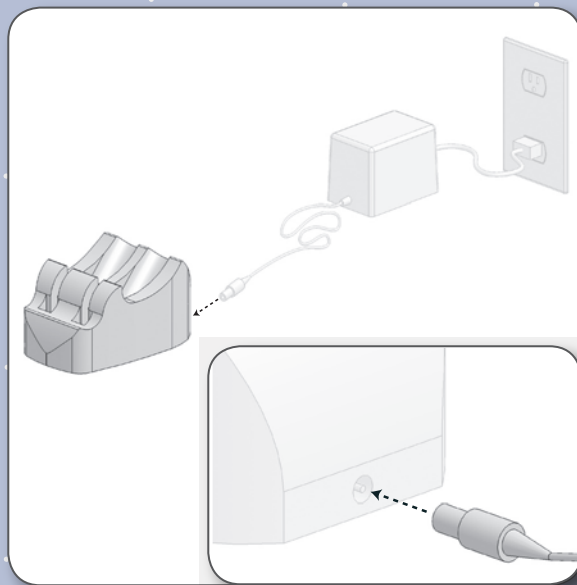
1 Plug in the Battery Charger

NiCd cells, like the ones in the Vex Power Pack, will lose charge over time even when not used. Your batteries have spent time in shipping and on the store shelf, so you will need to charge them before first use, and whenever they get low.

Begin by plugging the AC/DC Adapter into a standard household wall socket (120V, 60Hz AC).



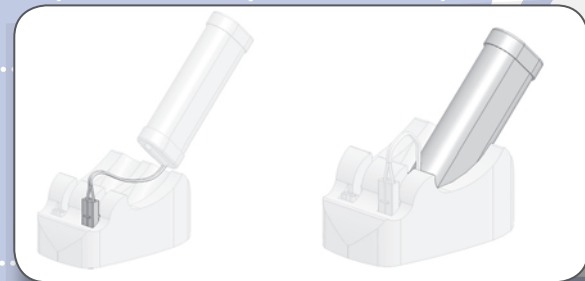
Plug the end of the adapter's cable into the back of the Battery Charger.



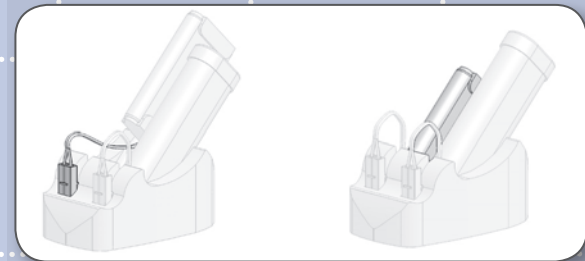
Note: The lights on the charger will not go on yet.

2 Plug the Battery Packs into the Charger

Slide the 7.2V Battery Pack into one of the charging slots on the Vex Battery Charger. The end of the 7.2V Battery must be firmly resting against the slot stops at the front of the charger. If the Battery is inserted correctly, you will not be able to see any of the black top of the Battery when viewing from the side. Now plug the battery connector into corresponding white port on the front of the Battery Charger.



Repeat the above procedure for the 9.6V Battery Pack.



Caution: Failure to fully seat the Battery Pack may cause permanent damage to the Battery.

The light on the front of the Charger indicates which battery is currently charging. The pack you plugged in first will charge first, and the other will automatically begin charging when the first one is fully charged.

You can unplug the first battery anytime after it is charged without interfering with the charge of the second battery.

Remove Batteries from the Charger after they are fully charged. Unplug the Charger from the wall when not in use.

Safety First:

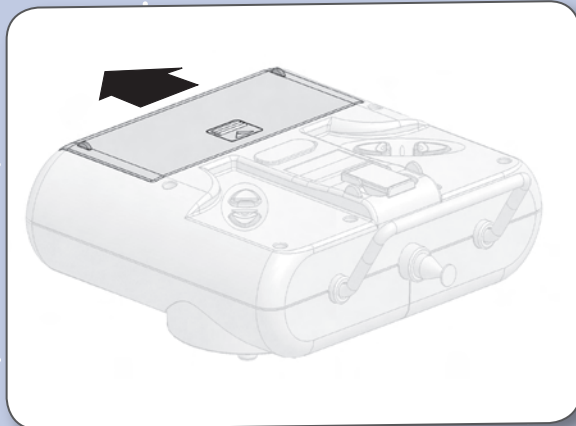
To understand how to reduce the risk of fire or electric shock, review the Vex Power Pack safety sheet located in Appendix C.

Vex power pack, continued

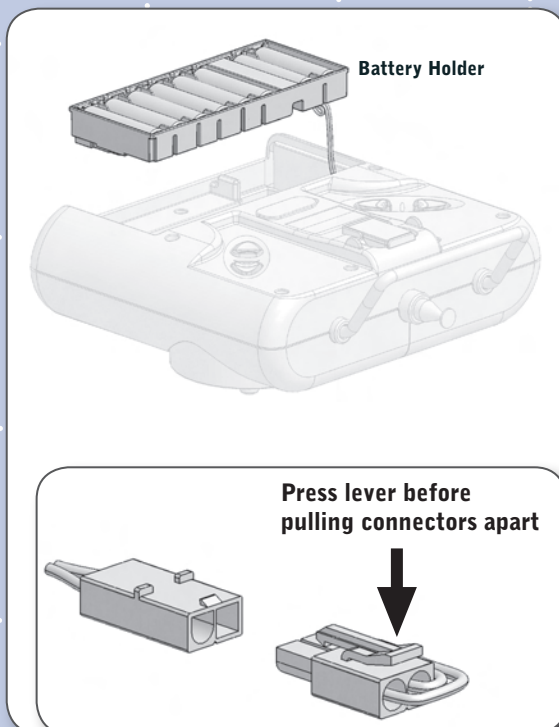
3 Remove the Battery Holder from the Transmitter

Once your batteries have finished charging, you can install them in place of the existing AA battery holders in the Transmitter and on the robot.

Slide the battery cover off the back of the Transmitter.



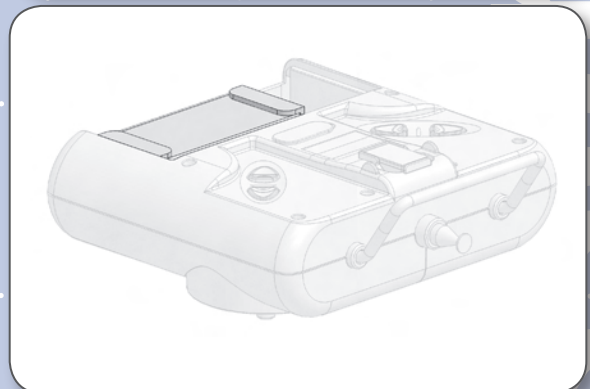
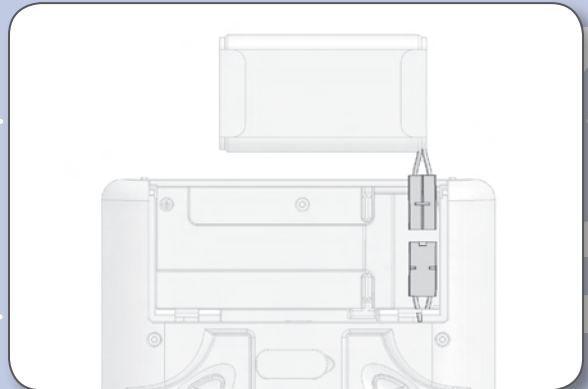
Lift the Transmitter Battery Holder out of the Transmitter housing. Be careful not to pull on the wire that attaches the Battery Holder to the Transmitter. Unplug the Battery Holder from the Transmitter Power Cable. Press down on the lever on the Transmitter Plug side to release the latch before separating the plugs.



4 Install the 9.6V Battery Pack inside the Transmitter

Plug the 9.6V Battery Pack into the transmitter's power socket where the Battery Holder was previously plugged in.

Place the 9.6V Battery Pack inside the Transmitter. It will not take up the whole space; it rests in the larger side of the compartment.



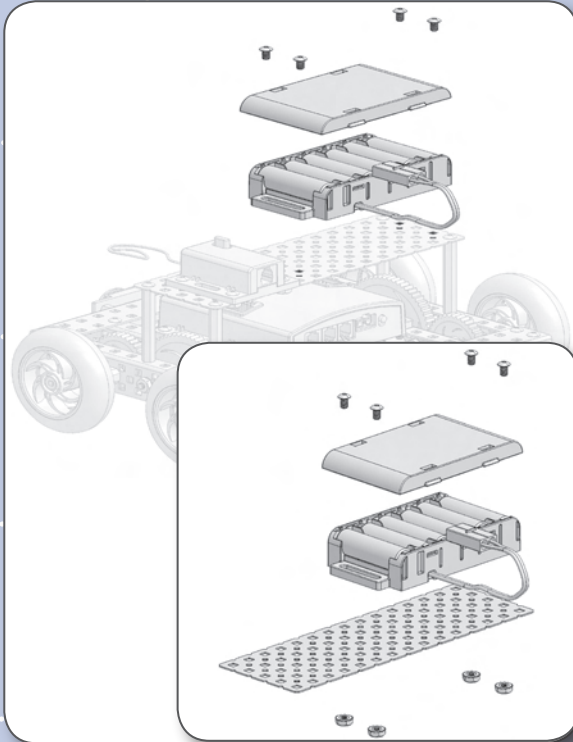
Replace the Battery Cover on the Transmitter.

Vex power pack, continued

5 Mount the 7.2V Battery Pack on the Robot

Start by removing the AA Battery Holder.

Unplug the Battery Holder from the Micro Controller. Detach the Battery Holder by removing the cover and unscrewing the four screws that are holding it in place. Lift the Battery Holder up off the robot, and put it away somewhere safe.

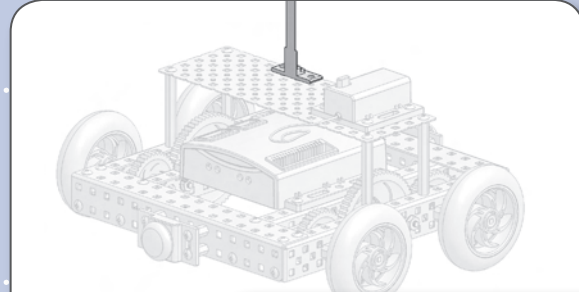


Note: Remove batteries if you will not be using the battery pack for more than a week as batteries can leak chemicals that can damage electronic parts.

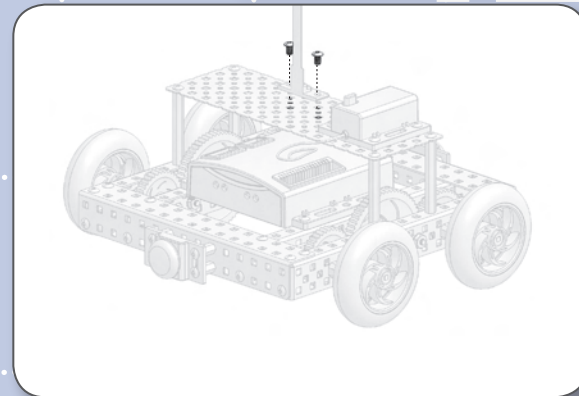


Important: The EPA certified RBRC® Battery Recycling Seal on the nickel-cadmium (Ni-Cd) battery indicates Innovation First voluntarily participates in an industry program that collects and recycles NiCd batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cd batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-8-battery for information on Ni-Cd battery recycling and disposal bans/restrictions in your area. Innovation First's involvement in this program is part of the company's commitment to preserving our environment and conserving our natural resources.

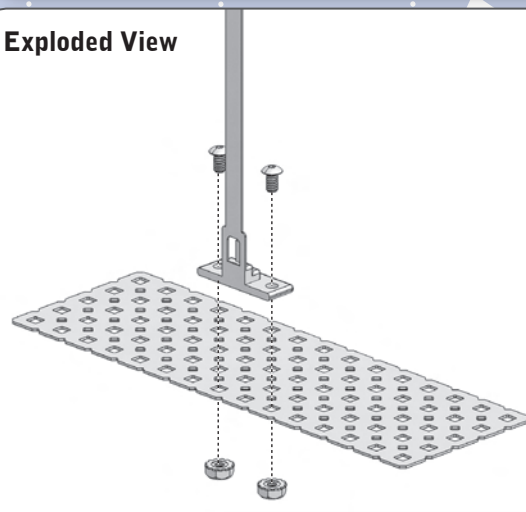
Attach the Battery Strap. Use two 8-32 ³/₈" screws and two keps nuts to secure the base of the strap.



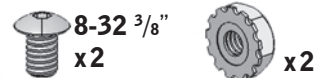
Parts needed in this step:



Exploded View



Parts needed in this step:



Vex power pack, continued

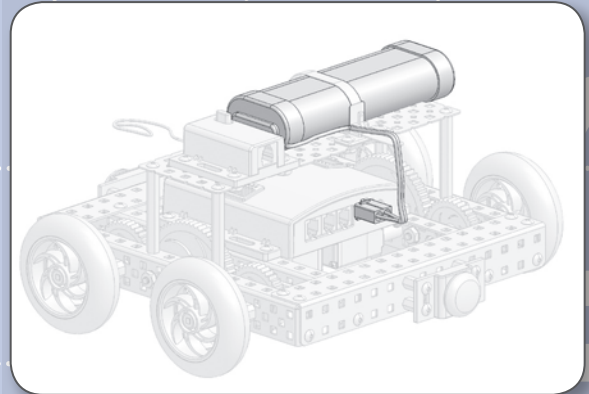
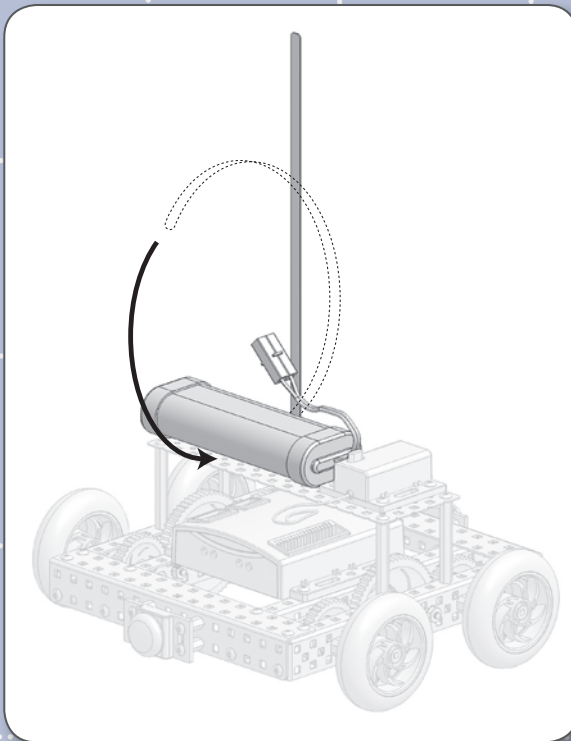
5 Mount the 7.2V Battery Pack, continued

Attach the rechargeable battery pack to the desired location on the robot. The strap will go over the top, around, and under the battery and through the locking mechanism (as shown). Be sure the battery's cord will be able to reach the power port on the Robot Controller.

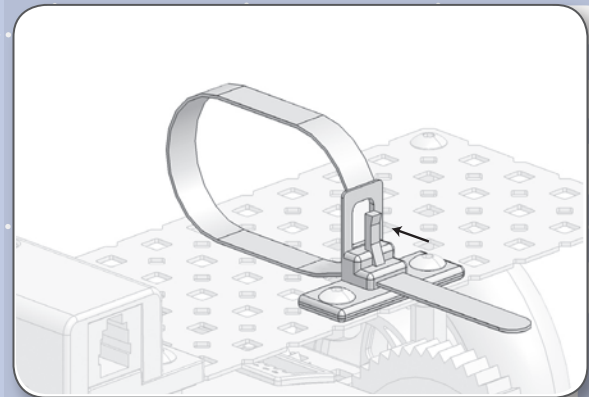
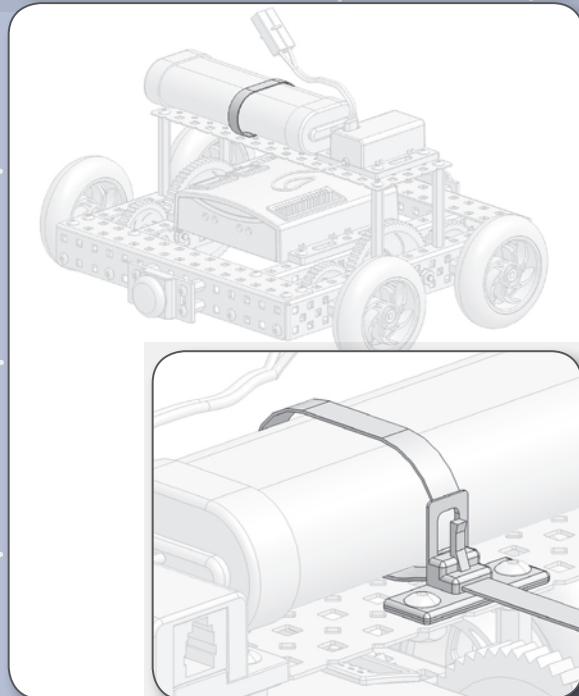
Plug the 7.2V Battery Pack into the power (+ -) port into the Micro Controller.

Secure rechargeable battery pack with battery strap, pull till the battery is firmly attached.

Note: A second mounting strap could be used to keep the battery from slipping while the robot is in use.



Straps are reusable, just press and hold the lever to unlock and then pull out the strap.



Vex power pack, continued

Tips and Notes

The Battery Charger includes the following features:

Automatic Charging Current Selection — automatically detects the battery voltage and selects the appropriate charging current.

Reverse Polarity Protection — protects the charger and batteries when incorrectly installed.

Short Circuit Protection — protects the charger and batteries against shorted batteries.

Automatic Power-Off — turns off the charger to prevent overcharging.

Overcurrent Protection — controls the charging current.

Warm Batteries - It is normal for the batteries to become warm during charging.

Status Lights - The lights on the Battery Charger will flash if there is a problem during charging with either the battery or the charger. Try a different battery on the port with the flashing light to determine whether the battery or the charger is causing the error.

Operating Conditions - Charge batteries in an area between 60 and 85 °F. Batteries do not fully charge when they are cold. If the area is too warm, the batteries can permanently lose their ability to charge.

Unplugging - To prevent damage to your charger and risk of shock, always unplug the AC/DC Transformer from the AC outlet before you unplug it from the charger.

Battery and Charging Info: 9.6V Transmitter Power Pack

Battery Type	Battery Capacity	Charging Current	Charging Rate	Charging Time
NiCd	1000mAh	700mA	1 - 0.7 C	1.4 - 2.0 hrs

7.2V Robot Power Pack

Battery Type	Battery Capacity	Charging Current	Charging Rate	Charging Time
NiCd	2000mAh	1000mA	1 - 0.5 C	1.4 - 2.8 hrs

Maintenance - Keep the charger dry; if it gets wet, wipe it dry immediately. Use and store the charger only in normal temperature environments. Handle the charger carefully; do not drop it. Keep the charger away from dust and dirt, and wipe it with a damp cloth occasionally to keep it looking new.

Limited 90-day Warranty
This product is warranted by Innovation First against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from authorized Innovation First dealers. For complete warranty details and exclusions, check with your dealer.

Innovation First, Inc.
1519 IH 30 W
Greenville, TX 75402

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Ideas:

Extra batteries for competitions

Competitions are a huge test of endurance for your robot's power components. Between the intensive demands of on-field performance and long sessions of adjustments and testing between rounds, your robot's batteries will be taxed often beyond their capacities. It is always a good idea to have extra batteries charged and ready to go in a competition setting! Bring additional Vex Power Packs if possible, or have a set of NiCd AA batteries ready as a backup in case your main power packs get low.

accessories