

Jet Scream - a hybird powered R/C vehicle
General product description
Vehicle set up 4
Transmitter set up
Finding a good location to run the Jet Scream vehicle
Operating the vehicle
Digital speed control - Make Jet Scream go faster !
Steering trimadjustment
Loading the "Rocket" motor 6
"Firing" the Rocket Motor for maximum speed
Recharging the Rocket Motor 7
Going out of range
Overheating alarm 8
Being careful with water:
Special notes on filling the "Rocket" tank
Cleaning the vehicle
Special notes about Ni-cad batteries 9
Trouble shooting
Warning review 12
Battery warnings

Jet Scream – a hybrid powered R/C vehicle

One of the latest breakthroughs in the manufacture of real automobiles is something called "Hybrid power technology". These cars are powered by two separate energy systems. One system is an internal combustion (gasoline) engine and the other power source is rechargeable batteries and an electric motor. The purpose of combining these two energy sources is to make a car that has excellent fuel economy AND enough reserve power to let it accelerate quickly in traffic. The Jet Scream uses the same principle to propel itself forward. But, the main purpose of using a "Hybrid" power source in the Jet Scream is a little different. It's to make it go FAST!

The Jet Scream is the first R/C vehicle to combine a powerful 9.6-volt Ni-cad electric motor with the additional thrust of a massive water "Rocket" motor. This combination makes the Jet Scream fun, fast, and highly controllable. The radio transmitter uses the latest in digital broadcast technology to allow multiple control functions over a single analog signal. This system allows the car to have full functional control PLUS the additional feature of being able to "Fire" the "Rocket" motor on command!

The "Rocket" motor is completely safe and does not use combustion for propulsion. The "Fuel" is simply plain tap water and compressed air. The principles are based in physics. A rocket works by providing a force in one direction so that the vehicle can move in the opposite. When the water is ejected at high velocity from the rear of the vehicle, it provides a thrust to help move the Jet Scream forward. By adding the power of the 9.6V electric motor with

the thrust of the rocket motor, the total acceleration is increased dramatically (not to mention making a cool "Blast" effect!)

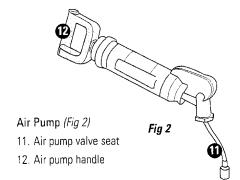
The Jet Scream was designed to be extremely tough. For example, the clear blue canopy uses the same material as helmets for motorcycles and racing cars. The front bumper is made from a high-tech plastic that will absorb shocks still retain its shape. But, even with all this technology, the Jet Scream still needs YOU to care for it and drive it safely. By following these instructions completely, you and your Jet Scream vehicle will have the maximum amount of fun for the longest period of time.

Please review these instructions carefully and keep them in safe place for future reference.

General product description

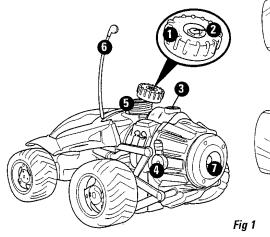
Jet Scream vehicle (Fig 1)

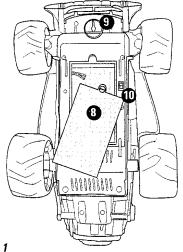
- 1. Pressure cap
- 2. Air pump valve
- 3. Pressure relief valve
- 4. Valve reset lever
- 5. Water tank
- 6. Radio antenna
- 7. Rocket motor nozzle
- 8. 9.6V Ni-Cad battery box
- 9. Steering trim adjustment lever
- 10. ON/OFF switch

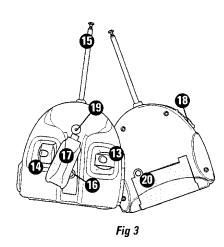


R/C controller (Fig 3)

- 13. Right/left lever
- 14. Forward/reverse lever
- 15. Antenna
- 16. Rocket blast button
- 17. Rocket blast shield
- 18. ON/OFF switch
- 19. LED power indicator
- 20. 9-volt battery box





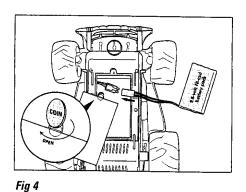


Vehicle set un

You will need to supply a fully charged 9.6-volt Ni-cad battery pack to make the Jet Scream run. These are very commonly available at most toy stores and are made by manufacturers such as Nikko or Earlylight. These will work perfectly for your vehicle. If you purchase a Ni-cad pack from a hobby store, DO NOT select one with a value greater than 800ma/hour. Using Ni-cad batteries higher than 800ma/hr may cause premature burn out of your electric motor.

NOTE: Follow ALL instructions provided by the manufacturer for your battery pack and charging unit exactly.

When the Ni-cad battery is charged and allowed to cool, open the battery box in the bottom of the Jet Scream vehicle. (Fig 4) Connect and lock the power cables as shown and carefully replace the battery door. Turn the key to lock the



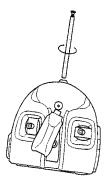


Fig 5

Transmitter set up

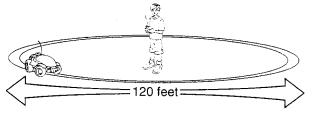
Find the metal antenna and screw it into the top of the Transmitter. (Fig 5)

Next, open the battery box in the back of the transmitter and insert a 9V battery as shown. (Fig 6) Replace the battery door and screw. Carefully extend the metal antenna to its full length. You're Jet Scream is now ready to drive!

Finding a good location to run the Jet Scream vehicle

Jet Scream is designed to work well on HARD surfaces. It will not work well in heavy carpet, soft dirt or sand. Pick a surface such as asphalt, concrete, blacktop, or hard compacted dirt.

The Jet Scream has a radio radius of approximately 120 feet. (Fig 7) It can move very fast so it needs all the room it can get. Outdoor play is always suggested.



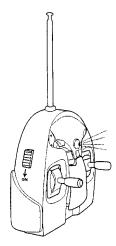


Fig 8

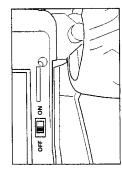


Fig 9

Take the Jet Car to a location that will allow you to SAFELY play with it in a large open area. A playground, unused parking lot, or open field with a flat surface will work well. Try to avoid areas that have concrete barriers, walls, or hard obstacles that the vehicle can accidentally hit. NEVER play with your Jet Scream vehicle in a street where cars, bicycles, people or animals may be, as this can be highly dangerous.

If you decide to run it indoors, be careful to not hit objects, persons, or animals that may get in the way.

WARNING: Using the "Rocket" motor function should ONLY be done outdoors. The rocket will spray a large blast of water and the vehicle will accelerate to a high rate of speed.

Operating the vehicle

Turn the On/Off Switch on the transmitter to the On position. The red LED will glow. (Fig 8)

Turn the On/Off Switch on the bottom of the Jet Scream car to the ON position. (Fig 9)

You can now drive the car as you would normally.

Move the Forward/ Reverse lever to make the car to ahead or back. (Fig 10) You can also use the Reverse as a "Brake" by quickly moving it to the reverse position while the car is going forward.

Use the Right/Left lever to control the direction of the car

Digital speed control · Make Jet Scream go faster!

The Jet Scream has a special digital circuit to allow you to control the speed of your vehicle. Move the Forward/Reverse button forward, then back to the center, and then back to the forward position again. (Fig 11) You will see the vehicle speed up. You can use this to help control the exact speed you want to run your vehicle.

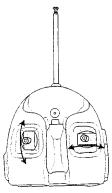


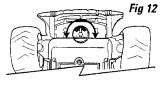
Fig 10



Fig 11

Steering trim adjustment

Each Jet Scream car may require some small adjustment from you to make it go in a straight line. If you car is making a





constant turn to right or left when you are trying to move straight, you can use the Steering Trim Adjustment Lever to try to correct it. Simply move the lever in the opposite direction and try to run the vehicle again until the vehicle goes straight. (Fig 12)

NOTE: Different surfaces will affect how well your car goes in a straight line. Generally, the smoother the surface, the straighter the car will go.

Loading the "Rocket" motor

NOTE: WHEN FILLING THE TANK, BE CAREFUL TO NOT HIT THE ANTENNA WITH YOUR EYE.

Bring some water with you when you go out to run your Jet Scream. You can use an old plastic container for bottled water and refill it with ordinary tap water for this purpose. Or, a paper cup and a small bucket of water will do. (Fig 13)

- 1) Close and lock the Rocket Motor Valve by moving the Valve Set Lever from the vertical position to the horizontal position. It will automatically return upright on it's own. (Fig 14)
- 2) Unscrew the orange Pressure Cap and remove it.
- **3)** Pour in the water until you see water get near the top of the neck of the tank (*Fig 15*). Stop pouring water when you get to about one-quarter inch from the top.
- **4)** Screw the orange Pressure Cap back on to the tank and hand tighten. NEVER use a tool to tighten the cap or it may cause permanent damage to seals.
- **5)** Take the Air Pump Valve Seat and attach it to the Air Valve Seat on the Orange Pressure Cap. Turn the Valve Seat clockwise until it tightens. (Fig 16) DO NOT OVER TIGHTEN.
- **6)** Pump the Air Pump using the handle. After a few strokes, you will begin to hear a "Jet noise" coming from the vehicle. This tells you that the water tank is beginning to take on pressure.



Fig 14



Fig 15

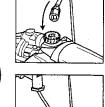


Fig 16

NOTE: If you see water squirting out of the Rocket Nozzle on the back of the vehicle, move the Valve Set Lever back to the horizontal position again.

- 7) Pump the Air pump about 20 to 25 times. You will feel that the handle becomes difficult to move. This is normal. Do not try to pump more that 25 times as the internal Pressure Relief valve will bleed off any additional pressure.
- **8)** Remove the Air Pump by unscrewing the Air Pump Valve Seat counterclockwise. You're ready to roll!

"Firing" the Rocket Motor for maximum speed

Fig 17

The Rocket Motor can be fired at any time the vehicle is being powered FOR-WARD and the tank is fully pressurized with Water and Air. Lift up the Rocket Blast Button Shield exposing the orange Rocket Blast Button, move the Forward/ Reverse Button to the forward position, and press the orange Rocket Blast Button AT THE SAME TIME. (Fig 17) You only need to press the button. You can releae it once the Rocket motor starts to blast.

Immediately a blast of water will be ejected from the Rocket motor and the car will move forward at

great speed. Try to keep the vehicle moving forward and control the direction with the Left/Right Lever. You'll see the speed is quite high so you'll need all your skills to control it. Stay alert!

After the motor is exhausted, the vehicle can still be driven as normal but the "Jet" noise will slow down and stop.

Recharging the Rocket Motor

Simply drive the vehicle back to your location and repeat the steps in "Loading the Rocket motor".

Going out of range

If your Jet Scream vehicle goes out of effective range of the Transmitter, the car will automatically go into a right turn and shut the electric motor off. You will not have control of the vehicle until you get back into range.

It's best to start your rocket motor from the far edge of the range and make it go past you. (Fig 18) This will allow you the maximum distance to control your vehicle in a straight line before it goes out of range.

NOTE: Radio range will vary depending on where you run your vehicle. If you are in an area of high radio "Noise" (such as a power transformer, overhead electric lines, or large metal structures), your range may be greatly reduced.



Fig 18

Overheating alarm

It is possible that the high-powered electric motor can become overheated when used in a hot environment or during a high level of continuous use. To prevent permanent damage to the motor, a heat sensor has been installed to shut the vehicle off and allow the motor to cool when the temperature goes too high.

If this occurs, you will hear a "Beeping" sound from the vehicle. You will not be able to operate any function of the vehicle until the "Beeping" sound stops. Normally, the beeping will stop within about 2 minutes. YOU MUST WAIT FOR THE MOTOR TO COOL BY LEAVING IT TO REST. DO NOT ATTEMPT TO COOL IT WITH WATER OR ANY OTHER METHOD!

If the Jet Scream should become "Jammed" under an object, DO NOT move the Forward/Reverse switch back and forth to dislodge it. This will cause maximum heat to be generated in the motor and can cause permanent damage. Walk over to the vehicle and move it to freedom by hand.

 $\ensuremath{\mathsf{DO}}$ NOT touch the lower part of the motor housing under the vehicle, as it may be HOT.

Being careful with water

The Jet Scream is designed to allow a very limited amount of water to make contact with it from normal spills while filling. However, IT IS NOT A SUBMARINE. Do not drive it through water or mud puddles of any kind. Do not place it under a water faucet to fill the tank. Do not wash the vehicle with a hose. Quickly wipe or blow away any water that may drip onto the vehicle when the filling the tank.

Keep all liquids from entering the cooling slots by the motor under the car.

Special notes on filling the "Rocket" tank

The Rocket Tank is to be ONLY filled with ordinary tap water. NEVER put any type of chemical mixture into the tank under any circumstances. .

ALWAYS use the Air Pump supplied with the vehicle to energize the tank. NEVER use a compressed air tank or electric pump to fill the tank or permanent damage to the tank or lines will occur.

Cleaning the vehicle

Do not place the vehicle in water. Remove the Ni-cad batteries before any cleaning. Use ONLY use a damp rag or cloth to rub any dirt off from the body or chassis. Do not use any "Spray" cleaners as this may damage the electronic circuits.

Special notes about Ni-cad batteries

The Ni-cad batteries will last about 15 to 20 minutes in normal continuous play provided the Ni-cad batteries are in good operating condition and were charged properly.

If you use a brand new set of Ni-cad batteries for the first time, the run time may be significantly less. This is normal. Ni-cad batteries may take a few charges and complete discharges until they reach their maximum energy potential.

When the Ni-cad batteries are in use, they will get warm to the touch. THIS IS NORMAL. It is also normal that they will become warm when being recharged.

Ni-cad batteries will only be rechargeable for a limited amount of times. Normally, you can charge and discharge them about 1000 times. To help ensure their maximum life and efficiency, always wait until the batteries have cooled before using them or recharging them.

Run the batteries completely down before recharging them. This will allow them to recharge to their peak performance.

ALWAYS comply with the instructions of the manufacturer of your battery pack fully. Always dispose of them in a safe and environmentally correct manner.

Trouble shooting

Difficulty	So	ution
My car did not eject any water.	1)	Make sure the tank fully energized and the "jet" motor sound was heard.
	2)	Check to see that only ordinary tap water was used in the tank.
	3)	Make sure that you are moving the Forward/Reverse button to the FORWARD
		position while pressing the Blast Button AT THE SAME TIME.
My car is leaking water from the nozzle when		Move the Valve Set Lever from the vertical position to the horizontal
I pump it.		position and try to pump again.
My car ejects only a small amount of water from	1)	Make sure you are pumping the Air Pump at least 20 times .
the tank.	2)	Check to make sure that the Orange Water Cap is on tight and not
		leaking.
My car did not run more than 5 minutes before	1)	Make sure the batteries were fully charged.
significantly slowing down.	2)	Make sure the batteries had a chance to cool down from recharging before
		using them.
	3)	If they are brand new batteries used for the first time, try to
		recharge them again.

Difficulty

My car tends to not go in a straight line.

I hear a "hissing" sound from the top of the vehicle

My car slows down significantly when I play for about 15 to 20 minutes.

My car will not move and is making a "beeping" sound.

Solution

Use the Steering Trim Adjustment Lever to make any corrections.

- 1) Check to see if the Orange Water Cap is on tightly.
- 2) Don't pump the tank more than 25 times of the pressure relief valve will begin to open.

This is normal.Remove the Ni-cad batteries and replace them with a fully charged set.

The motor is too hot to run. When the motor has cooled the beeping sounds will stop and the car can be run again.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
Consult the dealer or an experienced radio/TV technician for help.

Warning review

WHEN FILLING THE TANK, BE CAREFUL TO NOT HIT THE ANTENNA WITH YOUR EYE.

NEVER PUT ANY LIQUID OR CHEMICAL OTHER THAN PLAIN TAP WATER IN THE TANK.

NEVER RUN THE VEHICLE WHERE IT MAY HIT OBJECTS, PERSONS, OR ANIMALS.

NEVER PRESSURIZE THE TANK WITH ANY METHOD OTHER THAN THE SUPPLIED HAND AIR PUMP.

NEVER TOUCH THE AREA NEAR THE MOTOR IMMEDIATELY AFTER THE VEHI-CLE HAS BEEN RUN. THIS AREA MAY BE HOT.

NEVER ATTEMPT TO "UN-JAM" A STUCK VEHICLE BY MOVING THE CONTROL LEVERS FROM THE FORWARD TO REVERSE POSITIONS SEVERAL TIMES IN A ROW.

DO NOT ATTEMPT TO COOL THE MOTOR IN ANY WAY OTHER THAN SIMPLY ALLOWING IT TO REST A WHILE.

ALWAYS INSTALL THE NI-CAD BATTERIES IN THE CORRECT ORIENTATION OF THE CLIPS AND WIRES.

ALWAYS FOLLOW THE INSTRUCTIONS FROM THE MANUFACTURER OF THE NI-CAD BATTERIES.

Battery warnings

- Do not dispose of batteries in fire, batteries may explode or leak.
- Do not mix old and new batteries.
- Do not mix alkaline, standard, (carbon zinc) or rechargeable. (nickel-cadmium) batteries.
- One 9.6 volt Rechargeable battery is required to operate the toy.
- Batteries should be replaced by adults because of small parts.
- Non-rechargeable batteries are not be recharged. Only batteries of the same or equivalent type as recommended are to be used. Exhausted batteries are be removed from the toy.
- The supply terminals are not be short-circuited.

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