

Stage III Controller Instructions

Controller Setup

Control Board Selection

Control Board Selection is determined by driving style and desired car response. Each type has its own advantages. A Resistor Control Board (RCB) will provide a softer application of power to the car and is preferred when driving cars with less downforce. An Electronic Control Board (ECB) will not load down as much when another car hops onto the lane. The main drive transistor will only be active when an ECB is inserted. A switch is not required to switch between Resistor and Electronic operation.

Control Board Insertion/Removal

Insert the desired Control Board into the connector on the back of the controller. Ensure the Stage III writing is readable. Place thumbs under the controller by the trigger and push the board down with index fingers. To remove the Control Board, grab by the sides and wiggle up.

Hookup

2-Wire Connection

Normal 2-Wire connections have White (+) and Black (Track) hookups. They are almost always Positive Gate. Connect the White and Black clips to the corresponding color hookups. For a Stage III R the POWER LED color is irrelevant with a 2-wire connection. For a Stage III the POWER LED should be green to allow the coast to work. If coast isn't being used then the POWER LED color is irrelevant.

3-Wire Connection

Normally, ensuring the POWER LED is lit **GREEN** with the Brakes on, and not lit with the Brakes off (car not on the lane), is all that is required. BUT, if the track is not correctly wired, additional testing is required. On a positive gate track the White wire is Positive (+), the Red wire is Negative (-), and the Black wire is connected to the left rail of the track. Below is a chart to assist in hooking up correctly if the colors on the track are incorrect. Before using the chart ensure the power to the track is on, the BRK/CST knob is turned fully CW, 100 ohms (**IMPORTANT**: or a short circuit may result), a car is not on the lane, the controller is not hooked up long if the connection isn't correct, and **MOST IMPORTANT**, the trigger is **NEVER** pulled before the connection is correct. Use of the following chart is only required when the track isn't wired correctly. **The Stage III R can operate on 2 or 3 wire tracks with both positive and negative gates.**

3-WIRE CONNECTION CHART			
BRK ON CW	BRK/CST OFF	SWAP	THEN SWAP
Green	Off	Correct	
Green	Green	Black & Red	
Red	Off	White & Red	
Red	Red	White & Black	Black & Red
Off	Keep BRK ON CW	White & Black	If Green , Correct
			If Red , swap White & Red

CONTROLLER OPERATION

Setting the Sensitivity Knob (Green)

Resistor

With a Resistor Control Board (RCB) inserted, turning the green SENS knob fully counterclockwise (CCW) to the RES MAX (FAST – Stage III R) position will place the controller in the maximum resistor sensitivity setting of the RCB. Turning the knob fully clockwise (CW) will place the controller in the minimum sensitivity setting. For example, a 60-120 RCB will be set at 60 ohms for max sensitivity (CCW) and 120 ohms for min sensitivity (CW). The SENS knob positions in between max and min are designed to give precisely 1/10 of the ohm range more/less sensitivity than the previous position. For a 60-120 ohm RCB, each position adds/subtracts 6 ohms exactly. So the 11 positions would be as follows: 60 (RES/FAST), 66 (1), 72 (2), 78 (3), 84 (4), 90 (5), 96 (6), 102 (7), 108 (8), 114 (9), 120 (XSTR/SLOW)

Electronic

With an Electronic Control Board (ECB) inserted, turning the green SENS knob fully CW to the MAX XSTR position will place the controller in the maximum sensitivity setting (Magnet Cars). Turning the knob fully CCW will place the controller in the minimum sensitivity setting (Tjets).

Setting the Brake/Coast Knob (Red)

Brakes

With the Brake/-/Coast Switch in the B position (UP), turning the red BRK/CST knob fully CCW to the BRK MAX (MAX – Stage III R) position will give maximum braking, zero ohms. Turning the knob fully CW gives minimum braking, 100 ohms.

Coast

Stage III. With the Brake/-/Coast Switch in the C position (DOWN), turning the red BRK/CST knob fully CW to the MAX CST position will give maximum Coast. Turning the knob fully CCW gives minimum Coast, which is zero power applied. The range of the BRK/CST knob will be greater the higher the SENS setting. **Coast works in a 2 or 3-Wire connection.**

Stage III R. With the Brake/-/Coast Switch in the C position (DOWN), turning the red BRK/CST knob fully CCW to the MAX position will give maximum Coast. Turning the knob fully CW gives minimum Coast, which is 100 ohms higher than the sensitivity setting. **Coast works in a 2 or 3-Wire connection.**

Off

With the Brake/-/Coast Switch in the OFF (-) position, the controller will not have brakes or coast.

Precautions

Avoid running a car Coast only at high sensitivity/low ohms. This can make the controller run very hot and may damage the transistor.

Keep the wiping surface clean. Dirt and metal shaving from the wiper and wiping surface can be trapped between the bands causing unpredictable operation. Use a cotton swab with alcohol to remove the debris. Reinstall lubrication before use.

All Stage III and Stage III R controllers are fused with a 1.5A Fast-Blow fuse. Do not use Slow-Blow fuses as controller damage may occur. Slow-Blow fuses allow excessive heat buildup during a high current condition before blowing. To replace the fuse, simply unscrew the holder in the bottom of the handle, replace the fuse, and screw back in.

Go to www.bat-jet.com for more info on the Stage III Controllers