THIRD EYE TECHNOLOGY

THE IMAGE OF THE SPORT

Owners Manual

FET32 & Fet32Pro

Fully Electronic 1:32 Controller with 3rd Eye's exclusively designed
***"All FET Design"* Motor Drive "FETDrive" and Brakes "FETBrakes"**
Now with -- Improved brake adjustability
Built In – "Selectable Throttle Curve Controls" Cooling Fan, No Fuses Required

Keep Precision Resistor Clean (using a DRY Q-Tip)!

Hooking Up the FET32

- The FET32 is ONLY for use on **tracks wired for POSITIVE POLARITY (brake wired to "-" side of power supply/battery).** Verify the polarity of the track prior to use. **DO NOT attempt to connect the FET32 to a track wired for negative polarity or to Drag or HO tracks**.
- **ALL** power leads must be connected to the correct colored terminals. Failure to do so may cause unnecessary tripping of re-settable fuses and reduce the life of the FET32.
- When connecting the power leads, **ALWAYS connect the Red power lead first!** The Red lead must remain connected at all times. In the event the lead is not hooked up, the FET32 will supply full power and the car will take off.
- Once the controller is hooked up, verify the FET32 has power – the **blue** LED should be on/visible.

WARNING

ABSOLOUTLY NO EXCEPTIONS - Third Eye Technology has taken measures to prevent FET32 damage in the event of polarity reversal with resettable fuses. However, Third Eye Technology **does not warrant the FET32 against abusive and/or repeated intentional polarity reversal. It is important to ensure the FET32 is hooked up correctly at all times.**

Sensitivity Adjustment (Blue Control Knob)

- The **blue** knob is the **Sensitivity** adjustment. Turn the knob clockwise for less sensitivity, and counter-clockwise for greater sensitivity.
- (Option) A cluster of 4 small "DIP" (slide) switches is located on the side of the handle – these are **Throttle Curve Switches**. Setting a switch in the up position softens the bottom portion of the throttle curve. The switches have an additive effect - they all have the same weight and can be set in any order. Setting all four (4) switches in the up position will result in the "softest" throttle curve.
- (Option) The red "Mush" Button located at front of the handle when pressed, decreases the Sensitivity to minimum regardless of the sensitivity setting to allow cars to roll through glue.

Brake Adjustment (Red Control Knob)

- The **red** knob is the **Brake** adjustment.
  - Turn the knob clockwise for less Braking effect (car will "roll" further before coming to a complete stop)
  - Turn the knob counter-clockwise for greater Braking effect (car will "roll" less before coming to a complete stop)

Optional Electronic Choke Control (Yellow Knob)

- FET32 controllers are available with an optional Electronic Choke Control which provides racers with additional adjustments to fine-tune controller behavior.
- The Choke On/Off Switch in the up position turns the Choke On. When the switch is in the down position, the Choke is OFF.
- The **Yellow** knob is used to adjust the Choke (voltage reduction).
  - When the Choke On/Off switch is in the OFF (down) position, turning the **Yellow** knob has no effect.
  - When the Choke On/Off switch is in the ON (up) position, turning the **Yellow** knob clockwise will reduce the amount of power supply/battery voltage which the controller passes to the track
  - When the Choke On/Off switch is in the ON (up) position, the Full Throttle Bypass (FTB) switch described below will further determine how the Choke behaves
- The Choke FTB Switch (Full Throttle Bypass) works in conjunction with the Choke On/Off switch. The Choke On/Off switch must be in the ON (up) position for the FTB Switch to have any effect.
  - When the FTB Switch is in the down position (FTB OFF), the **Yellow** knob adjustment is in effect at all times. For example, if you've used the **Yellow** knob to dial out some track voltage, the reduction is in effect around the entire track (even on the straights).
  - When the FTB Switch is in the up position (FTB ON), the **Yellow** knob adjustment is ONLY in effect when the controller is NOT at full throttle. When the controller is at full throttle, the Choke setting is "bypassed" and full power supply/battery power is passed to the track. This setting is particularly helpful if you want to dial out some track voltage to improve performance in corners or technical sections but still want full power/speed when at full throttle (e.g. straight sections).

CARE AND MAINTENANCE

The **FET32** is a precision electronic instrument and should be treated accordingly. To ensure optimal performance, follow the steps described below.

Do NOT:

- Throw or misuse or abuse the FET32 in any way.
- Carry the FET32 by the handle or place excessive strain on the entire assembly.
- Pull the power leads from the track terminals. Always disconnect the power leads manually.
- Under any circumstances oil/lubricate the precision resistor or wiper button.
- Cut away the FET32 handle. The precision resistor must remain protected from damage, dirt and debris!
- Perform maintenance on the FET32 with the power applied.
- For any reason disassemble the Power box. There are no user serviceable components inside.

***** Important *** Keep Precision Resistor Clean (using a DRY Q-tip)!**

Maintaining the FET32

***** Warning *** - Never use solvents/cleaning fluids other than Motor Spray** (such as PURE contact cleaner for slot cars) **to clean the Precision Resistor. Use only in extreme cases.**

The FET32 requires minimal maintenance to achieve optimal performance:

- **Handle Hardware (Required) – Do not loose the Spacer at the front of the back cover or the #4 washer and nylon spacer that set over the trigger stop screw at the front of the handles circuit board.**
- Whenever the Precision Resistor shows evidence of "tracking" (discoloration across the face of the Precision Resistor where the Wiper Button travels), cleaning is recommended.
- Use a **DRY** Q-tip to clean the precision resistor – move the Q-tip up/down (same direction as resistor windings). NEVER use any type of liquid/chemical!
- Occasionally place a drop of light oil on either side of the trigger bushing.

Mush Button Installation

- The mush button is not standard and is a user installed option. Radio Shack P/N **275-1547.**
- Using a step drill, drill a ¼ inch hole into the front of the front cover near the throttle resistor area, allowing clearance so the button does not make contact with other components.
- There are 2 pads at the back of the handle marked "Mush". Solder wires onto the 2 pads then connect the other wire ends to the Mush Button.

Trigger Arm Adjustment Initial and periodic maintenance is necessary **(Perform the below procedure before contacting 3rd Eye for repairs). "Adjustment maybe need to fit your driving style"**

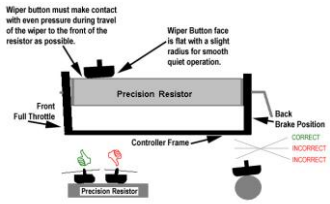
##Trigger Button Break-In Period##. Follow the below procedure:
When the trigger is new, the Trigger Button needs use to become fully seated to provide smooth trigger action. Sometime after use the trigger will become scratchy. When this occurs, the button will require sanding to smooth the operation. Several sandings may be required to achieve longer-term smooth operation.
The Trigger Arm Button must remain in contact and track correctly across Precision Resistor at all times in order to function properly. Indications of an improperly adjusted trigger are inconsistent Trigger response or a scratchy/rough feeling when the Trigger is pulled during various points of throttle travel including reasonable side pressure on the Trigger (the car stutters or is inconsistent or inoperative).

If the Button and Trigger Arm are in good condition perform the following steps as necessary. This function provides smooth and quiet Trigger operation and is a critical for maximum performance.

Caution -- Use extreme care when around the throttle resistor, do not use sharp objects, damage may occur. In the event the throttle resistor is damaged, replacements are not available and repair by 3rd Eye will be necessary.

1. Remove the three (3) screws/nuts, which hold the 2 halves of the handle together. Carefully remove the Printed Circuit Board (PCB), which includes the Trigger assembly.
2. With the return spring installed, Adjust the Button tension on the Precision Resistor, by SLIGHTLY bending the Trigger Arm **near the base** (where it is already bent) to increase the tension or pulling LIGHTLY on the arm at the button to decrease the tension. Keep in mind that the Button must track at a slight angle with the Precision Resistor as illustrated below. If not, use your fingers to SLIGHTLY (carefully) bend the Trigger Arm until proper alignment is achieved.
3. Verify that proper tension is achieved when the Trigger slides across the Precision Resistor easily. Also, check when the trigger is slowly released and comes to rest, it must easily and repeatedly make contact with the Brake Stop. It may be necessary to repeat step 1. Note: This portion of the operation is critical.
4. Remove the Return Spring then "Pre-seat" the Trigger Button by placing slight pressure on the trigger button then cycling the button across the Precision Resistor until tracking occurs on the resistor. Blow off the tracked material.
5. Re-connect the return spring then carefully insert a 1"x3" piece of 400-600 grit sand paper between the Precision Resistor and Button length wise to the Resistor with the abrasive side facing toward the Button (AWAY from the resistor).
6. Holding the sandpaper in place and by pulling on the Trigger, cycle the Trigger Button across the full travel of the Resistor a number of times until the sand paper is loaded, then move the sand paper slightly and repeat.
7. Verify that the Trigger action is very smooth, all stops contacts and trigger travel/alignment is correct.
8. Check to see that under normal side thrust does not cause the Trigger Button to lift away from the Precision Resistor.
9. Carefully put the PCB in the Handle and re-assemble.
10. Apply power to the Hitman and verify everything is functioning properly.

Replacement Trigger Arm/Button
Contact your local track or 3rd Eye for replacement part # 003.



Any questions about products, repairs, or Track Sales locations contact Third Eye Technology (Justin Zimmerman) at (209)756-9650 or E-mail at justin@thirdeyecontrollers.com