HMX 8 TECHNICAL INFORMATION

RULE #1!

ITS NOT NORMAL TO HAVE GLITCHES/STUTTERS OR NO POWER, IT MEANS SOMETHING IS WRONG. YOU NEED TO STOP USING THE ESC AND FIX THE ISSUE. SWITCHING THE ESC OFF AND ON AGAIN WILL NOT FIX ANYTHING! IF YOU DON'T FIX THE ISSUE, YOU WILL BIOW UP THE ESC!

Following the release of the HMX 8 ESC and feedback from customers and the issues they might have had, I feel the need to provide extra information. Please read and comply with the following recommendations.

HMX AND 1/8 SPECIFICITIES

- The HMX system is a full sensor system, the ESC needs a continuous and clean sensor signal (hence the special Performa motors). There cannot be interruptions or interference of the signal. If the signal is not clean, the ESC can malfunction or fail. This means that the installation needs to be tidy and reliable.
- 1/8 scale cars put a massive load on electronics and the chassis flexes considerably under the mechanical stresses of jumps, landings, crashes etc.
- The components inside the car have a tight fit, it means there is a chance that they will crash one against the other in case of high flex, like on missed landings and crashes.
- Some cars have a very tight fit, there have been issues because of the ESC hitting the sensor wire/sensor port on the back of the motor. The sensor wire gets damaged, sensor signal is compromised, the ESC can malfunction and if you don't stop using the ESC immediately there is a good chance it will fail.

INSTALLATION

- You need to think about the chassis flex when you install your electronics, wires need to have enough give so that they can move around with the chassis when it flexes and you need to protect connections from damage if other components are likely to hit them.
- You need to install the sensor wire so that it is protected from mechanical stress and damage and you need to check its state regularly.
- Basically you can use things like Zip Ties to manage the direction you want wires to point into, but if you decided to make the wires tight you really need to make sure there is enough give to allow them to follow the flex of the car. Otherwise extreme forces will pull on the wires or connections. I've seen installations with wires as short as possible and in my opinion, it is certainly not the safest way to do it even if it looks "professional", it's best to leave an inch of wire so that it can flex around.
- Do not attach the sensor wire together with the motor wires and do not route it with the motor wires as the current going through the motor wire can cause interference to the sensor signal.
- Keep the sensor wire away from the motor wires.
- Install the capacitors where they are out of the way and not pulling on their wires.
- We recommend using very thick or two layers of double-sided tape to attach the ESC to the chassis this will help dampen impacts etc. than can mechanically damage the ESC.

BATTERY CONNECTIONS

- You need to use strong and reliable connectors for the battery. Gold plugs etc. will loosen up with time and you need to "re-open" them regularly so that they always fit tight inside the battery tubes.
- Loose plugs will increase the electrical resistance and current, overloading the ESC and ultimately causing it to fail if the issue is not fixed in time. Also here don't make your wires unnecessarily short, It will only cause issues.

CALIBRATION

We have tested the HMX ESC with all popular transmitter brands, even low end RTR stuff and it has always worked for us. We cannot test every single transmitter/receiver combination in the world. If the ESC is not calibrating:

- Use a fresh memory profile inside the radio without any trims/curve/expo/abs active.
- Try using the reverse function for throttle channel
- Make sure your radio is functioning properly
- Check that the throttle travel is correct and not glitching/jumping
- Check that the throttle neutral point is not glitching/jumping

FIRST USE

Don't mash the throttle all the way, accelerate slowly and make sure the motor spins. If you accelerate slowly and the motor doesn't spin you can check your connections etc. If you mash your throttle and something is not right, you might blow up the ESC.

TROUBLESHOOTING

- In our testing (which means using equipment that works 100% and proper installation) we've had very few issues. It's not normal to have glitches or low power or anything of that type. Anytime there is a glitch or stutter while you are driving, you need to stop and find out the cause, it probably means there is a faulty connection somewhere. Things will not self-repair magically, if there is an issue, restarting the ESC or waiting for 5 minutes before driving again is not a solution, doing that will most likely cause the ESC to stop working very soon.
- The ESC has an overheating protection that will cut off all the power to the motor when a certain limit is reached.
- The ESC battery low voltage cut-off will decrease the motor power when the pre-set voltage limit is reached.
- Bad connections can cause overloads and/or ESC resets that can cause the ESC to lose power and/or malfunction.

Things to think about :

- Good tight electrical connections all around.
- Enough give in the wires to follow the chassis flex, especially if you attach the wires to the chassis.
- Don't attach the sensor wire with the motor wires or route it near to the motor wires as it can cause interference to the sensor signal
- The sensor connection is critical, you need to check the wire and connections regularly.
- Use large and tight connectors for the battery, connectors will loosen quickly.
- The BEC circuit that supplies power to the receiver and servo also powers the ESC itself and the sensor circuitry. It means that if you have faulty equipment or too much load on the receiver side (receiver, servo, transponder, fans, etc.) it can cause the ESC to malfunction or fail.
- Depending on the servo type you use it can draw 2-3 times more current than another servo. This can overload the ESC and cause it to malfunction.
- Receivers with extra functions like fail-safe, telemetry, etc. have been known to make issues.

PC APP

- Power everything ON as if you were going to drive the car, before plugging in the USB cable.
- Plug in the USB cable to the ESC and your PC (micro USB connector for the ESC).
- The first time you connect an HMX to your PC, it will install some drivers automatically for the HMX to be recognized. For this to work you need to be connected to the internet.
- After you see the Windows message that a new device has been installed, you can launch the PC app, select the COM port and press CONNECT.
- If there is a connection issue you also need to disconnect the USB to reset everything, not only switch the ESC OFF.