ECU REFLASH FORM

Please fill in the following form and post it with your ECU. For any questions or order enquiries please email info@worx.com.au

CUSTOMER DETAILS: *Required

*Name: *Date Sent: *Order No.:

*Phone: *Email:

*Return Address:

Address Line 2:

*Suburb: *State: *ZIP Code:

SKI DETAILS: *Required

*Brand: *Model:

ECU Number: *Hull Number:

Hours: Injectors: cc

*Current HP (If Spark): *RPM Wanted:

List any previous upgrades:

Special Requests:

Please ship your ECU to: Worx Racing Components, 2440 Kiowa Blvd. N, Lake Havasu City, AZ, 86403

Worx Racing Components takes no responsibility for your ECU while in transit. ECU orders are typically processed within 1-2 days of receiving your ECU unit. All ECU units will be returned using Express postage with tracking to return address listed on ECU order form.

Australia:
10B 354 Brisbane Rd Arundel QLD 4214
Phone: +61 7 5563 1031
info@worx.com.au | worx.com.au

United States:
2440 Kiowa Blvd. N, Lake Havasu City, AZ, 86403
Phone: (951) 684-9679
info@worxracingusa.com | worxracingusa.com

Worx ECU
Tuning Explanation

RPM (Revolutions Per Minute) Limit

RPM limit is the point that the motor is limited to. Occasionally, it might spike over this number, typically when the ski leaves the water, as the processing power of the ecu is not fast enough to make changes needed. For this reason, we typically offer a 8650 RPM Limit as it has enough range that even with spikes, it won't harm the motor. Having a high RPM makes the supercharger spin faster which in turn creates more boost and this increases power. To makes the ski rev harder you have to adjust the impeller to get the desired rpm for your setup. We usually try and keep 150-200 rpm away from the rpm limit.

Ignition Timing

Ignition timing is what makes power; this can be adjusted right up to the point of knock in your engine. Knock, however, will cause engine failure. This is why the octane and freshness of the Fuel is important as it suppresses knock. With more knock suppressed, a higher ignition timing number can be used so that the engine can produce more power. The balance of timing with fuel quality is also very important.

Fuel

You need to match the fuel to the fuel quality and piston temperature so it can help suppress knock and aid in keeping exhaust temperature to a manageable number.

Throttle Feel/Response

Throttle feel can be adjusted to be able to make it feel touchier of duller. Often in other companies ECU tunes, throttle feel is greatly adjusted to give the rider the false perception that greater increases than can be expected have been made to the engine and overall power.

Map Scaling

Map Scaling allows more accurate tuning on the higher rpm and manifold sites as these points are not typically addressed in the stock ECU tune.

Speed Limiters

Some models do have a power limitation or speed limiter, this is rare in Australia however and is typically seen on American models.

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info@worxracingusa.com | worxracingusa.com

Myths

"An ECU tune is as simple as flicking a switch and will make my ski do 90MPH".

Unfortunately this is false and there is no magic adjustment that can be made to provide a huge gain in horsepower and yet still be as reliable as standard. Worx Racing Components pride themselves on recommending and offering safe and reliable tunes that help customers reach new peaks, whilst still maintaining reliability.

Tuning is a combination of fuel ignition timing and rpm that the tuner feels suits the setup recommend to get the results they were after.

"My ECU suddenly changed while riding and now I'm not reaching the speeds I was".

Once an ECU has been programmed, it cannot change or be removed without making a physical change to the ECU and writing over the existing file. If your motor is running differently, or there's a sudden change, Worx Racing Components recommends doing all the normal diagnosis checks to identify the underlying issue.

"My friend's ski's Speedo says it's faster than mine but we're still neck and neck".

The OEM speedo's are not accurate, offsets can be put into GPS speedo's that give false spikes of speed as they do not refresh at a fast rate. Most GPS work at a 1HZ refresh rate, the higher the HZ the faster and more accurate it works. For example, most GPS are 1 HZ so they refresh once per second, whereas a Radar Gun is closer to 100HZ and can refresh at 100 times per second.

"My friend and I have the same parts and tune but theirs is faster than mine".

Not all skis perform the same per model. Often you can have two skis from the same brand, year and model perform differently. This is often due to variations in motor and hull shape. Hull drag is one of the biggest performance factors seen in watercrafts as they drag produced by water is a lot greater than the drag produced from air. While skis can have the same design of hull, depending on the time at which they were produced and the quality of the mould at the time of production, some hulls can show greater defects or warping even when brand new.

Other factors that greatly affect ski performance at the higher range include but are not limited to, riding position, rider weight, rider height, water and wind conditions, and even termperature as the engine can lose performance in hotter temperatures.