



Technical Bulletin

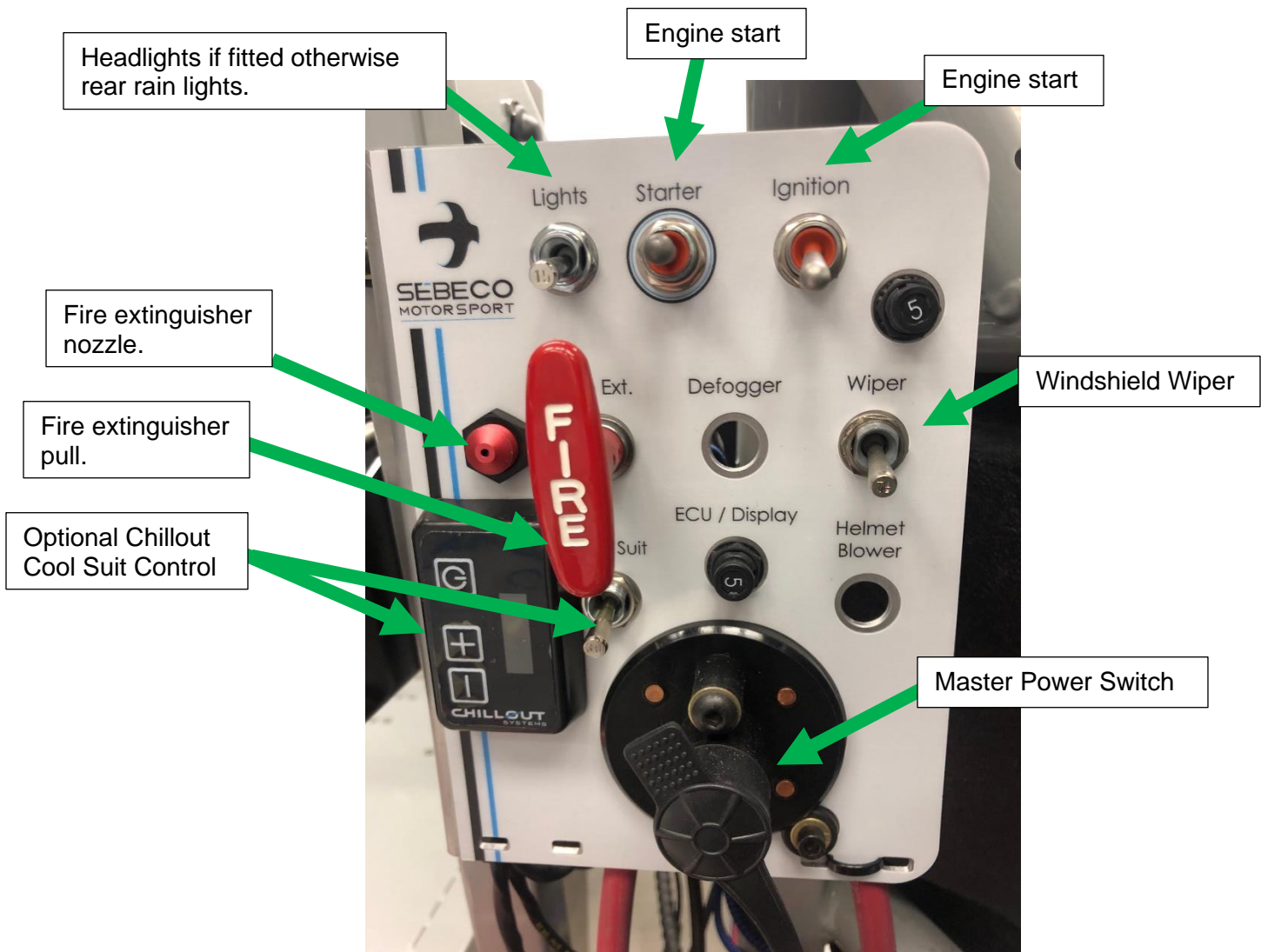
NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper- Project Engineer, NP01		
Subject:		Date:	



Contact: info@sebecomotorsport.com Tel: Ben - 678 863 8606

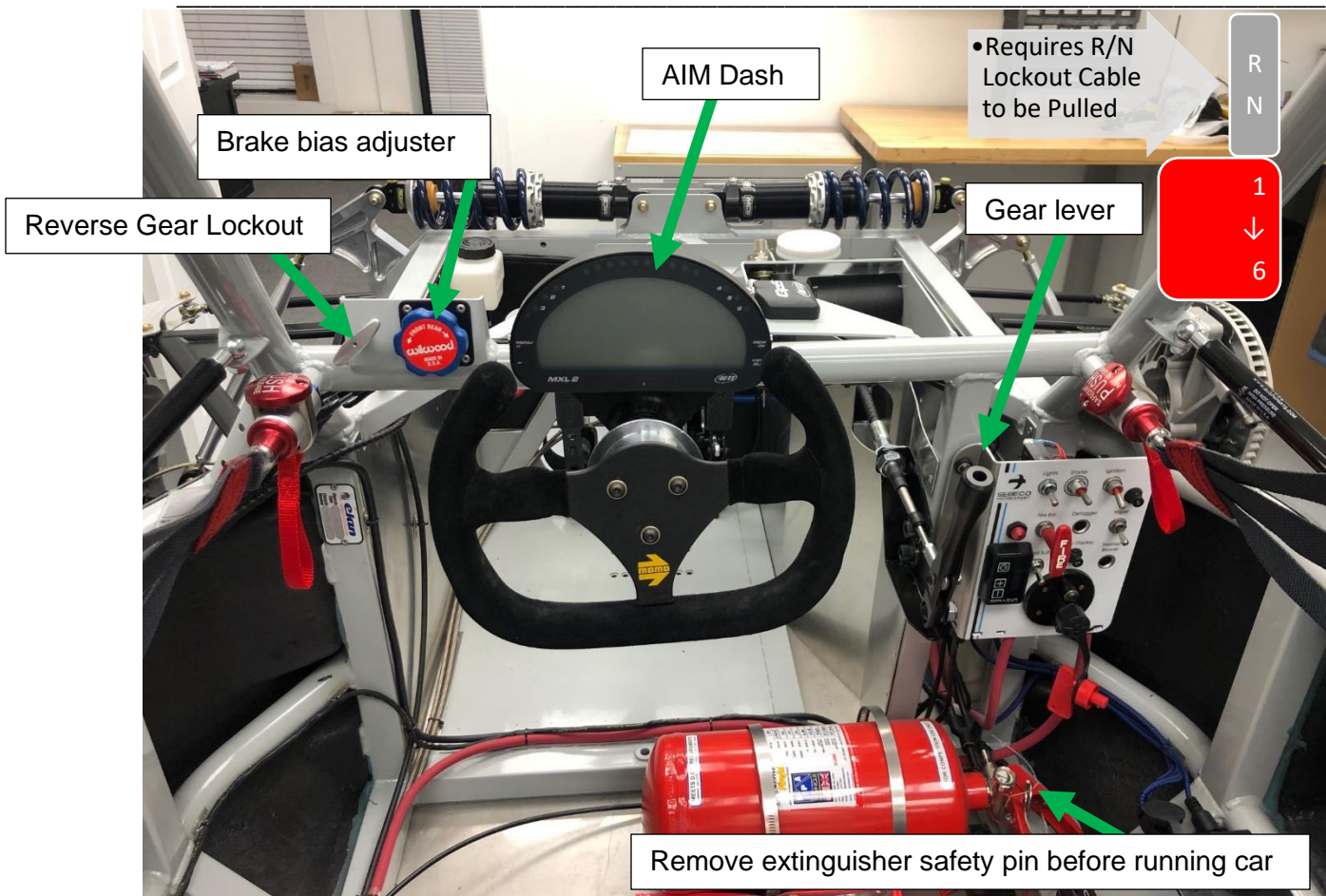
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NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Switch Panel	Date:	



Technical Bulletin

NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Cockpit Controls	Date:	





Technical Bulletin

NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Engine set up and maintenance	Date:	

Fuel- Use 91 to 93 octane, unleaded pump gas. Using higher octane fuel will reduce performance. Do not use any race derived fuel. Drain fuel completely from cell after each event.

Oil- We recommend Mobil 1, 5W-30 synthetic oil. Change oil every 8 hours run time.

Gearbox Oil – We recommend Motul or NEO 75-140. Change oil after each event. Oil capacity 1.5 quarts. 2.5 Quarts if running gearbox oil cooler.

Sadev SL75 / SL82 – Follow recommended service as detailed in included Sadev gearbox manual.

Minimum thickness of clutch disc is 0.180 of an inch.

After engine oil and filter change

- Remove coils and spark plugs
- Fill oil tank with 5 quarts of Mobil One 5-30 synthetic oil and 1 quart in the road car oil fill hole on the engine cam cover. Ignore the oil weight printed on the filler cap.
- With crank sensor un-plugged (to keep injectors from opening) press starter switch to turn engine and achieve 10 psi oil pressure.
- Check oil level
- Add oil until the level in the tank is 4 inches above the input shaft tube in the oil tank
- During initial startup it is recommended that the engine be stopped and oil level checked several times as levels may change rapidly during this phase.
- **Standard oil checking procedure- each time before going on track, with engine warm, raise the engine rpm to 3000 for five seconds, turn engine off and quickly check oil by measuring from the input shaft tube inside the oil tank. The oil level must be 4"-5" above this tube.**
- Clean both the engine oil pan scavenge screen filters and oil tank screen filters once a year.

Throttle set up.

Your new NP01-Evo is set up correctly from the factory. Over time the throttle cable may stretch so checking the throttle stop periodically is advised.

- Full throttle must be limited by the pedal stop only. Not the throttle body stop.
- While viewing the throttle position on the dash, depress the throttle pedal and adjust and lock the pedal stop to achieve 98% throttle.
- The throttle position sensor is calibrated and its orientation should not be changed.
- The idle target speed (warm) is 1800 RPM, this may require small adjustments on the idle adjustment screw on the throttle body.



Technical Bulletin

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From:	Ben Cooper– Project Engineer, NP01		
Subject:	Engine set up and maintenance (cont)	Date:	

Filling/Capping cooling system

- On dry system fill with approx. 1.7 gallons of distilled water plus 6 fl oz of water wetter until the water is visible at the bottom of the expansion tank.
- Run the engine until the coolant temp reaches 60° C (150F°)
- Add or remove water to ensure header tank is **half full** at 150°F and cap system.
- This warming and capping procedure should be done at the beginning of each day on track.
- **Do not run the car on track with water temps below 71° C (160F). The engine will not run properly at these low temps.**

Min/ max temps

- The maximum allowable coolant temp is 108°c (226°F) on track
- The maximum oil temp on track is 110° C (230°F)
- The minimum coolant and oil temp on track should 76° C / 170F (it may be necessary in extremely cold to blank a portion of the radiator to achieve this minimum temp.)

Minimum oil pressure

- Minimum oil pressure on tack, above 3000 rpm should be 35 psi.
- Track data should be reviewed and insure that no low oil pressure spikes exist. Low oil pressure light may come on at low rpm's after being on track. This is normal but check oil pressure is not zero.



Technical Bulletin

NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Brake Pad / Rotor Bedding	Date:	

Brake Pad / Rotor Bedding

- Start with medium brake pedal pressure for two laps. Approx 90mph to 50 mph and allow time to cool in between.
- Increase speed and brake pressure for another lap or two depending on track and ability / safety to perform straight line brake applications. Approx 100 mph to 30 mph. Accelerate hard between these two speeds.
- Allow pads and rotors to cool to ambient temperature.
- Pads and rotors are now ready to use.

Technical Bulletin

NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Initial Running from new	Date:	

Starting the NP01

1. Main kill switch on
2. Ignition on – wait for fuel pump to build pressure (newer cars will have separate fuel pump switch)
3. Starter switch to start. Release as soon as engine fires.
4. To turn the car off switch the ignition off.
5. **Never turn off the engine by using the main kill switch (unless in an emergency)**

The engine and gearbox in your car are new. The engine has been dyno run in. The gearbox has not been run other than to check selection of gears. Both engine and gearbox have been filled with the correct amount of oil. We recommend checking engine oil level at the start of each day after the warm up procedure.

Warm Up Procedure. Remove radiator cap from the water expansion tank.

Start engine and allow to warm up to 150F. At this point the water level should be half way up the sight tube. Add or remove (with a syringe) if required. At this point replace the radiator cap. The water system is now ready. Before heading out on to track make sure the water temperature is at least 170F

We recommend that your first session on track is completed at reduced speed and revs. You will not harm the engine by using all the revs but a sensible shake down session is always a good idea. Once back to the pit area remove engine cover and using a flashlight check over the engine bay for any leaks. Assuming all is well your NP01 Evo is ready for the track.

If you experience gear change difficulty after a few hours running this is normal (with manual shift cars). As the gearbox beds in you may need to replace one thick washer from the ignition cut module on the gearbox with a thinner one. These are supplied with new cars. Contact Sebeco if you are unsure.





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NP01	Maintenance Manual	SEBECO MOTORSPORT	
From:	Ben Cooper– Project Engineer, NP01		
Subject:	Torque Specs	Date:	

TORQUE CHECK ALL FASTENERS PERIODICALLY OVER A RACE WEEKEND AND FULLY CHECK ALL CRITICAL FASTENERS AFTER EACH WEEKEND.

Front Suspension / Steering		Ft-Lbs
Upper wishbone inner mounts to chassis	22	Anti Seize
Upper wishbone to camber bracket	22	Anti Seize
Lower wishbone inner mounts to chassis	30	Anti Seize
Lower wishbone outer to upright stud	40	Anti Seize
Camber bracket to upright	22	Anti Seize
Wheel bearing to upright	77	Loctite Blue
Wheel lug nuts	95	Anti Seize
Brake calliper to upright	40	Anti Seize
Brake Rotor to Hat	24	
Lower ball joint stud to upright	80	Loctite Red on thread Anti Seize on shoulder
Tie rod to camber bracket	22	Anti Seize
Tie rod to steering rack	22	Anti Seize
Steering rack mount to chassis	11	Anti Seize
FARB to chassis bracket	11	Anti Seize
FARB rod end upper mount	11	Anti Seize
FARB rod end lower mount	11	Anti Seize
Rocker arm to chassis mount	22	Anti Seize
Push rod lower mount	30	Anti Seize
Push rod upper mount	30	Anti Seize
Damper to rocker arm	30	Anti Seize
Damper to chassis	30	Anti Seize
Forward steering shaft to rack	14	Loctite Blue
Rod end for shaft support	Tight	Loctite Blue
Steering column U-joint forward	22	Anti Seize
Main steering shaft at U-joint	22	Anti Seize
Steering shaft support bracket to chassis	8	Anti Seize
Steering wheel hub	11	Anti Seize
Brake Calliper Bleed Nipple	8.5 – 11.5	



Technical Bulletin

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From:	Ben Cooper– Project Engineer, NP01		
Subject:	Torque Specs (cont)	Date:	

Rear Suspension

	Ft-Lbs	
Mounting point brackets to gearbox	16	Loctite Blue
Upper wishbone inner mount to brackets	22	Anti Seize
Upper wishbone outer mount to camber bracket	22	Anti Seize
Lower wishbone inner mount to brackets	30	Anti Seize
Lower wishbone outer mount point to upright stud	40	Anti Seize
Camber bracket to upright	12	Anti Seize
Wheel bearing to upright	77	Loctite Blue
36mm outer axle nut (check before each track day)		160
Anti Seize		
Wheel lug nuts	95	Anti Seize
Brake caliper to upright	40	Anti Seize
Lower ball joint stud to upright	80	Red Loctite on thread
		Anti Seize on shoulder
Tie rod end to camber bracket	30	Anti Seize
Tie rod end to wishbone bracket	30	Anti Seize
Rocker arm top gearbox mount	22	Anti Seize
Pushrod lower mount	30	Anti Seize
Pushrod upper mount	30	Anti Seize
Damper to rocker arm	30	Anti Seize
Damper to chassis mount bracket	30	Anti Seize
Damper chassis mount to gearbox	16	Anti Seize

Chassis

Upper forward engine mount to engine	38	Anti Seize
Upper forward engine mount bracket to chassis	32	Anti Seize
Lower forward engine mount to engine	24	Anti Seize
Lower forward engine mount to chassis	22	Anti Seize
		(Check regularly)
Bellhousing to chassis	36	Anti Seize
Bellhousing to engine	24	Anti Seize
Rear wing pylons to gearbox	14	Loctite Blue
		(Check regularly)
Rear wing pylon support post	8	Anti Seize
Rear bodywork cross brace to pylons	11	Anti Seize
Seat belt mounting bolts	22	Anti Seize

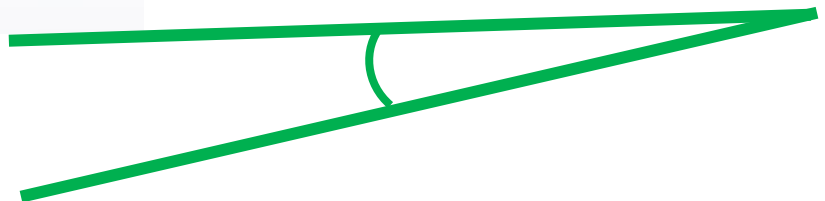
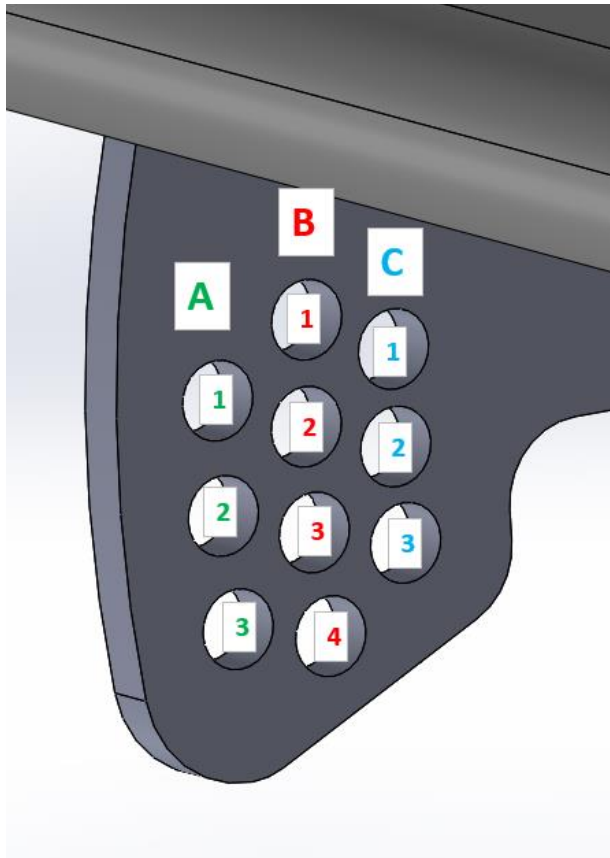


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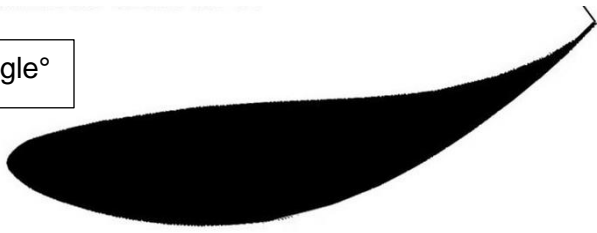
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Subject:	Owners Manual	Date:	

Rear Wing Hole Positions. Car supplied from the factory in B2



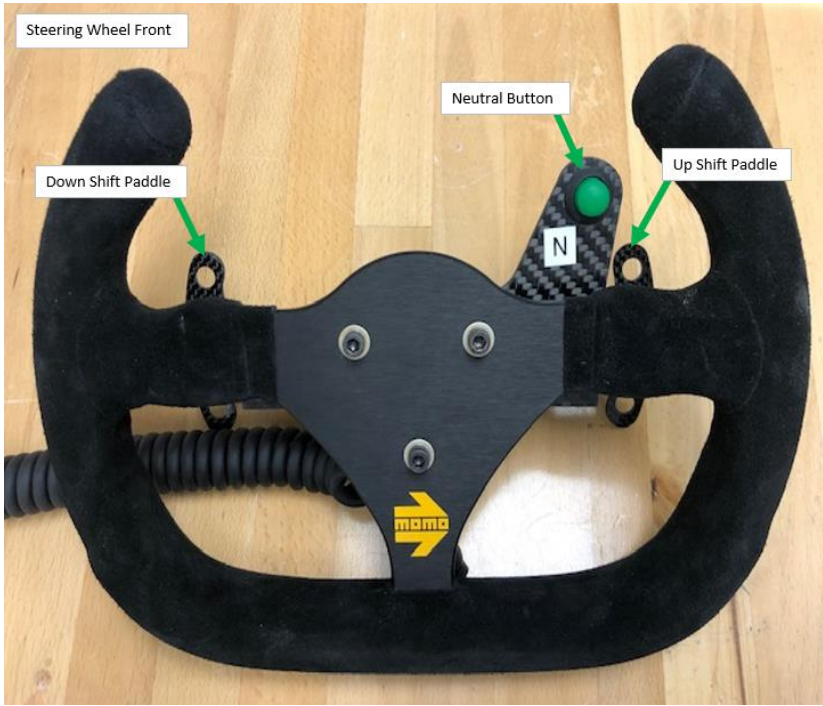
Wing angle°



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Technical Bulletin

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From:	Ben Cooper– Project Engineer, NP01		
Subject:	Owners Manual	Date:	10/14/2021



To select first gear with the car in neutral. Depress clutch. Press Neutral button and 1 click on the upshift paddle. Make sure '1' is displayed on the dash.

All subsequent upsifts are slected with the right side Up Shift paddle.

Down shifting is achieved by pulling the left Down Shift Paddle. The clutch is not required and the system will automatically blip the throttle.

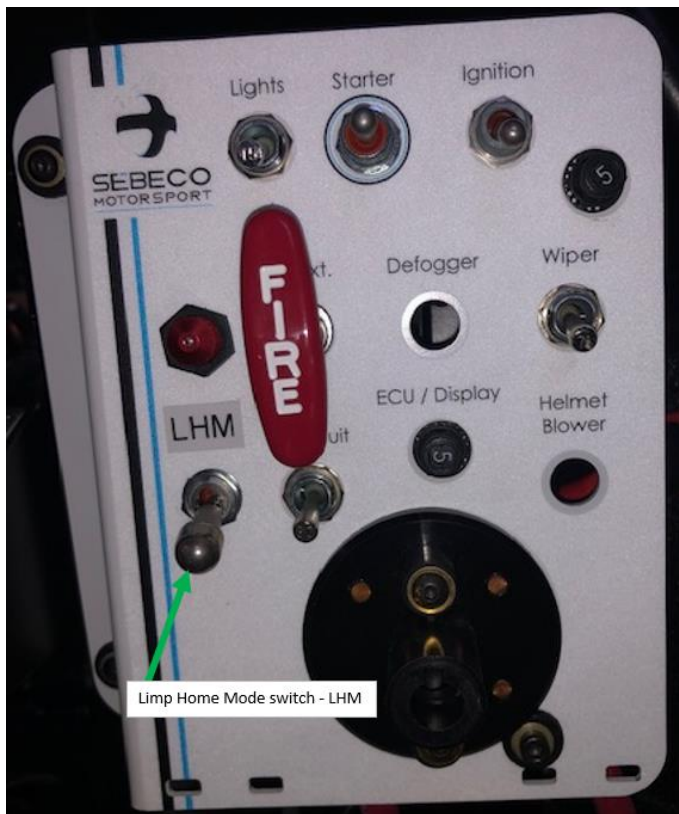
To select Neutral from first gear. Depress clutch. Press Neutral Button. Make sure 'N' appears on the dash before releasing clutch.

To select Reverse from neutral. Depress clutch. Press Neutral Button and hold left Down Shift Paddle for a minimum of 1 second. Make sure '7' appears on the dash indicating Reverse has been selected.



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Limp Home Mode – LHM.

This switch is **ONLY** to be activated in the event of a gear position sensor failure that disables gear shifts. To activate switch pull gently on the toggle lock out and move switch upwards. Proceed slowly to the pits. **NOTE – With this switch activated it is possible to select Neutral and Reverse without pressing the Neutral button. Extreme care should be taken to avoid selecting Neutral or Reverse accidentally.**
 Once you've returned to the pits make sure the LHM is switched **OFF**



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Brakes.

Optimum brake temps –

700°F Front

600°F Rear

Hoosier NP01 Tire

17-18psi Cold

24 – 25psi Hot

Rear Jack –

<https://www.summitracing.com/parts/bgr-bgr153p>

Front Jack –

<https://www.summitracing.com/parts/bgr-bgr156p>

AEM Infinity software –

<https://www.aemelectronics.com/products/software-aemnet/infinity-engine-management-system-software>

AEM Engine Controls

- The AEM, NP01 engine calibration is not accessible to competitors
- The engine channels are transmitted to the dash.
- The engine data can also be recorded via a USB stick, following the AEM instructions.



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Subject:	<i>Owners manual</i>	Date:	10/14/2021

Front crank damper and Oil pump drive bolt

- The engine can be rotated in either direction by this bolt but under no circumstances should this bolt be loosened by the teams.

Engine Torque Specs

	Ft-Lb	
Flywheel	83	Red Loctite
Clutch plate	24	Light anti seize
Spark Plugs	15	Light anti seize

Collecting your car from Sebeco.

The Sebeco NP01-Evo has a very low ride height so you will need long ramps to load the car into your trailer. We recommend Race Ramps part number RR-TR-11-2 to make life much easier. The minimum trailer size we suggest is 18' x 8.5' with 24' x 8.5' and longer allowing for tool boxes, fuel cans and any spare parts etc. We also recommend strapping the car down over the tires with e-track underneath each wheel. An alternative is to use straps through the rear wheels to a tie down anchor on each side of the trailer as widely spaced as possible. At the front you can either strap through the wheels or use the tow hooks situated either side of the front crash box. Make sure straps and ratchets are well clear of any bodywork to avoid damage. **Never** ratchet strap the car down by any part of the suspension or the rear wing pylon. **Never** leave the car in gear whilst towing.



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NP01	<i>Maintenance Manual</i>	<i>SEBECO MOTORSPORT</i>	
From:	<i>Ben Cooper– Project Engineer, NP01</i>		
Subject:	<i>Brake Temperatures / Upright Stud Install</i>	Date:	<i>10/14/2021</i>

General Notes on Sebeco NP01-Evo ownership.

The Sebeco NP01-Evo is a purpose built race car. As such it will require more prevenative maintenace than a road car based track car. Part of running a sucessful race car is to keep it clean. Correct maintenance starts with a clean car. Over the course of a race weekend or track day periodically check critical fasteners around the suspension, brake calipers, wing mounts etc etc. Purpose built race cars do vibrate far more than road cars and this can loosen fastnrs.

After each weekend we recommend pumping out the fuel. There are several reason why it's beneficial to that. Reducing the amount of time that the fuel cell foam is in contact with the fuel will prolong the life of the foam.

Spinning. We all do it! If you happen to spin your car it's very important to 'put both feet in'. That is to say clutch and brake. Do not allow the engine to spin backwards. Like most engines, they don't like suddenly being rotated bakwards. When this happens it's possible to break the cam drive system which can result in serious engine damage.

