



**Balance of Performance Bulletin:
Hankook 12H SPA-FRANCORCHAMPS
Dated: 20.09.2017**

To Sporting & Technical Regulations 24H PROTO SERIES 2017
(with KNAF-permit No.: 0314.17.016)

Subject: BOP Hankook 12H SPA-FRANCORCHAMPS– 6-7 October 2017

Dear Teams and Drivers

In this bulletin you will find the Balance of Performance (BOP) for this specific event.

This BOP and other figures are in force with immediate application and replaces the figures of appendix 10 of the Sporting & Technical regulations and eventually previously published BOP-figures.

Notes on boost control:

Control of Pboost strategy as per document attached (Appendix: Control of Pboost strategy), for all cars of which Pboost max is specified.

KNAF approved at:

With KNAF Permit nr:



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1. Prototype Special cars Class P2

Brand & Type	Cylinder capacity	Minimum Weight	Max refuelling amount	BOP	Remarks
Ginetta G57-P2	6200cc/8cyl	900 kg	105 L		
Pescarolo 01	5500cc/10cyl	900 kg	100 L		
Your (P2-eligible) car not listed here? Please make an individual request to info@creventic.com					

2. Prototype Special cars Class P3

Brand & Type	Cylinder capacity	Minimum Weight	Max refuelling amount	BOP	Remarks
ADESS 03	5000cc/8cyl	900 kg	100 L		
Ginetta P3-15	5000cc/8cyl	900 kg	100 L		
Ligier JS P3	5000cc/8cyl	900 kg	100 L		
Norma M30	5000cc/8cyl	900 kg	100 L		
Riley-Ave P3	5000cc/8cyl	900 kg	100 L		
Your (P3-eligible) car not listed here? Please make an individual request to info@creventic.com					



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3. Prototype Special cars Class CN1

Brand & Type	Cylinder capacity	Minimum Weight	Max refuelling amount	BOP	Remarks
Aquila CR1	2000cc/4cyl	570 Kg	80L		
Caterham SP300R	2000cc/4cyl	570 Kg	80L		
Funyo 4 RC	2000cc/4cyl	570 Kg	80L		
Funyo 5	2000cc/4cyl	570 Kg	80L		
Gibson CN2012	2000cc/4cyl	570 Kg	80L		
Juno CN2011	2000cc/4cyl	570 Kg	80L		
Juno CN2012	2000cc/4cyl	570 Kg	80L		
Juno CN2016	2000cc/4cyl	570 Kg	80L		
Ligier JS53 EVO2	2000cc/4cyl	570 Kg	80L		
Lucchini P2	2000cc/4cyl	570 Kg	80L		
Merlin MP23	2000cc/4cyl	570 Kg	80L		
Norma M20 FC	2000cc/4cyl	570 Kg	80L		
Osella PA 21P Evo CN2000	2000cc/4cyl	570 Kg	80L		
Osella PA 21S Evo CN2000	2000cc/4cyl	570 Kg	80L		
Osella PA 2000 Evo E2B	2000cc/4cyl	570 Kg	80L		
PRC FPR 6	2000cc/4cyl	570 Kg	80L		
Radical SR3 RSX	1500cc/4cyl	570 Kg	80L		
Radical SR3 SL	2000cc/4cyl	570 Kg	80L		
Tiga CN2012	2000cc/4cyl	570 Kg	80L		
Tatuus PY012	2000cc/4cyl	570 Kg	80L		
Wolf GB08 CN	2000cc/4cyl	570 Kg	80L		
Wolf GB08 CN	1600cc/4cyl	570 Kg	80L	41,0mm	Supercharged engine, max. Pboost TBA
Your (CN1-eligible) car not listed here? Please make an individual request to info@creventic.com					

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4. GT cars*: Porsche 997 Cup and Porsche 991 Cup classes

Class	Brand & Type	Cylinder capacity	Minimum Weight	Max Refuelling amount	Remarks
Class 997	Porsche 997 Cup	3.600 cc	1150 kg	120 L	Models 2007 .. 2009 Restrictor-Blende N/A
		3.800 cc	1200 kg	120 L	Models 2010 .. 2013 Restrictor-Blende 65mm
Class 991	Porsche 991 Cup	3.800 cc	1230 kg	100L	Models 2014 .. 2016 Restrictor-Blende 65mm

5. A6-BOP-TABLE

BOP- table class A6-Pro & A6-Am

Class*	Qualifying range	Race Minimum reference lap time	Balance Of Performance***		Remarks***
			Weight	Refuelling	
A6-Am	> 2.26	2.26,0**	-/- 50kg	120 L	BOP-advantage
	2.24 .. 2.26	2.24,0**	+0kg	+0 L	BOP-neutral
A6-Pro	< 2.24	free	+30kg	-/- 5 L	BOP-handicap (No lap time restrictions)

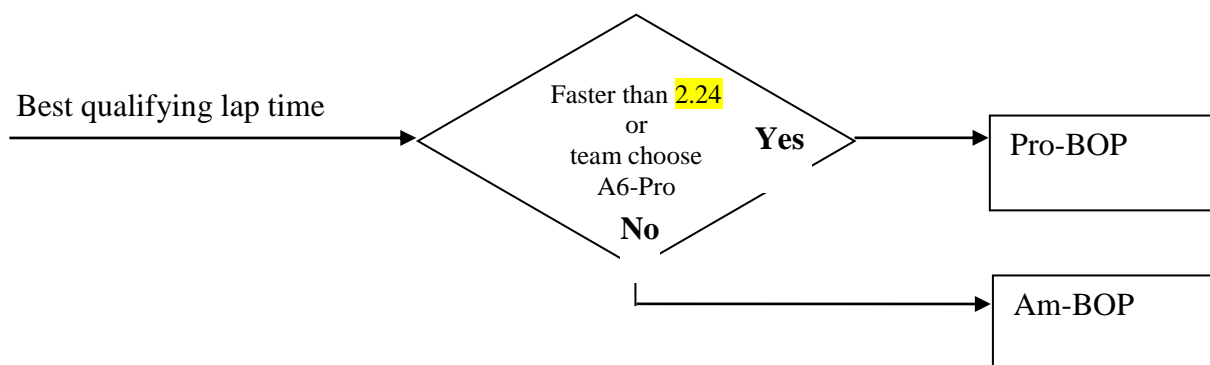
* Class (A6-Am or A6-Pro) is basically determined by the best qualifying lap.

According to the regulations: The organiser reserves the right to modify BOP for individual cars at any time of the event.

** Applicable Minimum reference lap time during the race. In case a fast driver is faster than the Minimum reference lap time, by incident, the team can use one of the "Escape Joker" (Each team in class A6-Am will receive 10 escape jokers)

*** BOP adjusted (+/-) ballast weight and refuelling amount, referred to initial value specified in Appendix 1 (Class Overview)

Criteria to be assigned with Pro-BOP or Am-BOP:



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6. GT cars (Mainly GT cars, also American GT's are eligible) Class A6-Am & Class A6-Pro

Brand & Type	Cylinder capacity	Minimum Weight	Max Refuelling amount	BOP	Remarks
ASTON MARTIN VANTAGE GT3	5900cc/12cyl	1280 kg	110 L	2x41,5mm	FIA-restrictor design
AUDI R8 LMS Ultra	5200cc/10cyl	1245 kg	110 L	2x47,2mm	up to and incl. 2014
AUDI R8 LMS (GT3-038)	5200cc/10cyl	1240 kg	100L	2x39,0mm	Or 1280kg/2x40mm (only for A6-AM) FIA-restrictor design
BMW Z4 GT3	4400cc/8cyl.	1230 kg	105 L	1x70,0mm	
CHEVROLET CORVETTE C6-ZR1	5500cc/8cyl.	1250 kg	100 L	2x31,6mm	LMGTE-2-04 Chas #00002
DODGE VIPER CC SERIES 2	8400cc/10cyl	1280 kg	115 L	N/A	Chas #VCC-113
FERRARI 458 ITALIA GT3	4500cc/8cyl.	1260 kg	110L	2x50,0mm	FIA-restrictor design
FERRARI 488 GT3	3900cc/8cyl.	1300 kg	95L	N/A	Max Boost(barA/rpm) 1,47/4000 1,51/4500 1,56/5000 1,60/5500 1,63/6000 1,59//6500 1,54/7000 1,49/>7250
FERRARI F458GT (VdeV1)	4500cc/8cyl.	1230 kg	100 L	2x56,0mm	Chas #2850# Chas #2842#
LAMBORGHINI GALLARDO LP560 GT3	5200cc/10cyl	1205 kg	100 L	2x47,2mm	
LAMBORGHINI HURACAN GT3	5200cc/10cyl	1260 kg	100 L	2x39,0mm	FIA-restrictor design
MASERATI GRANTURISMO MC GT3	4700cc/8cyl.	1200 kg	105 L	1x65,0mm	
McLaren MP4-12C GT3	3800cc/8cyl.	1255 kg	115 L	2x36,0mm	Max Boost(barA/rpm) 1,82/4000 1,80/4500 1,78/5000 1,76/5000 1,72/6000 1,65//6500 1,59/7000 1,53/>7500
McLaren 650S GT3	3800cc/8cyl.	Tba	Tba	Tba	Max Boost(barA/rpm) Tba
MERCEDES SLS AMG GT3	6200cc/8cyl.	1330 kg	105 L	2x38,0mm	FIA-restrictor design
MERCEDES AMG GT3	6200cc/8cyl.	1330 kg	105 L	2x36,0mm	FIA-restrictor design
NISSAN GT-R GT3	3800cc/6cyl.	1315 kg	115 L	2x40,0mm	Up to and incl. 2014 Max Pboost 2,05 barA (all rpm)
	3800cc/6cyl.	1280 kg	110 L	2x40,0mm	EVO 2015 Max Pboost 2,0 barA (all rpm)
PORSCHE 997 GT3 R	4000cc/6cyl.	1205 kg	100 L	1x72,0mm	MY2012 or older
	4000cc/6cyl.	1205 kg	100 L	1x60,0mm	MY2013
PORSCHE 991 GT3 R	4000cc/6cyl.	1245 kg	95 L	2x41,5mm	FIA-restrictor design
RADICAL SPORTSCARS RXC TURBO GT3	3500cc/6cyl.	Tba	Tba	Tba	Max Boost(barA/rpm) Tba
RENAULT SPORT RS01 Configuration BOP GT3	3800cc/6cyl.	1220 kg	105L	2x42,0mm	Max Pboost 1,95 barA (all rpm) See also appendix Renault RS01 aerodynamics
SCG 003C	3500cc/6cyl.	1260 kg	115 L	2x35,0mm	Max Pboost 1,95 barA (all rpm)
SRT VIPER GT3-R	8400cc/10cyl	Tba	Tba	Tba	

Your (GT) car not listed here? Please make an individual request to info@creventic.com

* FIA-restrictor design, according FIA-2013/2014/2015/2016/2017 restrictor design

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7. Exceptional cars, class SPX

BOP / Minimum reference laptime table for class SPX

Class SPX cars with (partly) fixed BOP

Brand & Type	Cylinder capacity	Minimum Weight	Max Refuelling amount	BOP*	*In case car will be amalgamated to class A6. Initial BOP will be:
LAMBORGHINI Huracan Super Trofeo	5200cc/10cyl	1275 kg	*According BOP-table below	2x41,0mm	1275kg/110L/2x42mm
Porsche GT America	4000cc/6cyl	1250 kg	*According BOP-table below	N/A	TBA
Porsche 911 GT3 Cup 2017 model (991 II)	4000cc/6cyl	1200 kg	*According BOP-table below	N/A	TBA
Vortex 1.0	6200cc/8cyl	1100 kg	*According BOP-table below	N/A	1100kg/105 L
KTM X-bow (special)	2000cc/4cyl.	1030 kg	*According BOP-table below @ column 1050 kg	Pboost max is 2,7bar (independent of ambient air pressure) Max rpm 7000 at all gears Ride height is free	1000kg/120L Pboost max is 2,7bar (independent of ambient air pressure) Max rpm 7000 at all gears Ride height is free
Your (GT) car not listed here? Please make an individual request to info@creventic.com					

Class SPX (for these cars there is a "Minimum reference lap times" applicable)

Class	Minimum reference lap time / Theoretical Min. Reference lap time	Minimum Weight 1050 kg	Minimum Weight 1150 kg	Minimum Weight 1250 kg
SPX	Min ref lap time* 2min24 (Spa) / Theoretical Min Ref lap time 2min23	80 L	90 L	100 L
	Min ref lap time* 2min25 (Spa) / Theoretical Min Ref lap time 2min24	90 L	100 L	110 L
	Min ref lap time* 2min26 (Spa) / Theoretical Min Ref lap time 2min25	100 L	110 L	120 L

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8. Exceptional cars, class SP2

BOP / Minimum reference laptime table for class SP2

Porsche 991 /997 Cup S: Fix BOP for accepted (modified) models.

- Minimum weight: 1260kg
- Restrictor-Blende: 62mm
- Ride Height is free
- Refuel amount according SP2-BOP-Table

GC Automobile V8: Fixed BOP

- Minimum weight: 1100kg
- Refuel amount according SP2-BOP-Table

KTM X-bow: Fixed BOP:

- Minimum weight: 1030 kg
- Pboost max is: 2,3bar (independent of ambient air pressure)
- Max rpm: 7000 rpm (at all gears)
- The car must be equipped with a data logger including pressure sensor according art.4.10 of chapter II of the Sporting & Technical Regulations.
- Ride Height is free
- Refuel amount according SP2-BOP-Table

Mercedes-AMG GT4

- Min. weight: 1380 Kg
- Power: 350 KW/ 479 HP
- Torque: 600Nm
- Max Turbo Boost (absolute): 1,9 bar
- The Turbo Boost control strategy is according to the Appendix of this bulletin
- The maximum refuelling amount is according to the class SP2 table

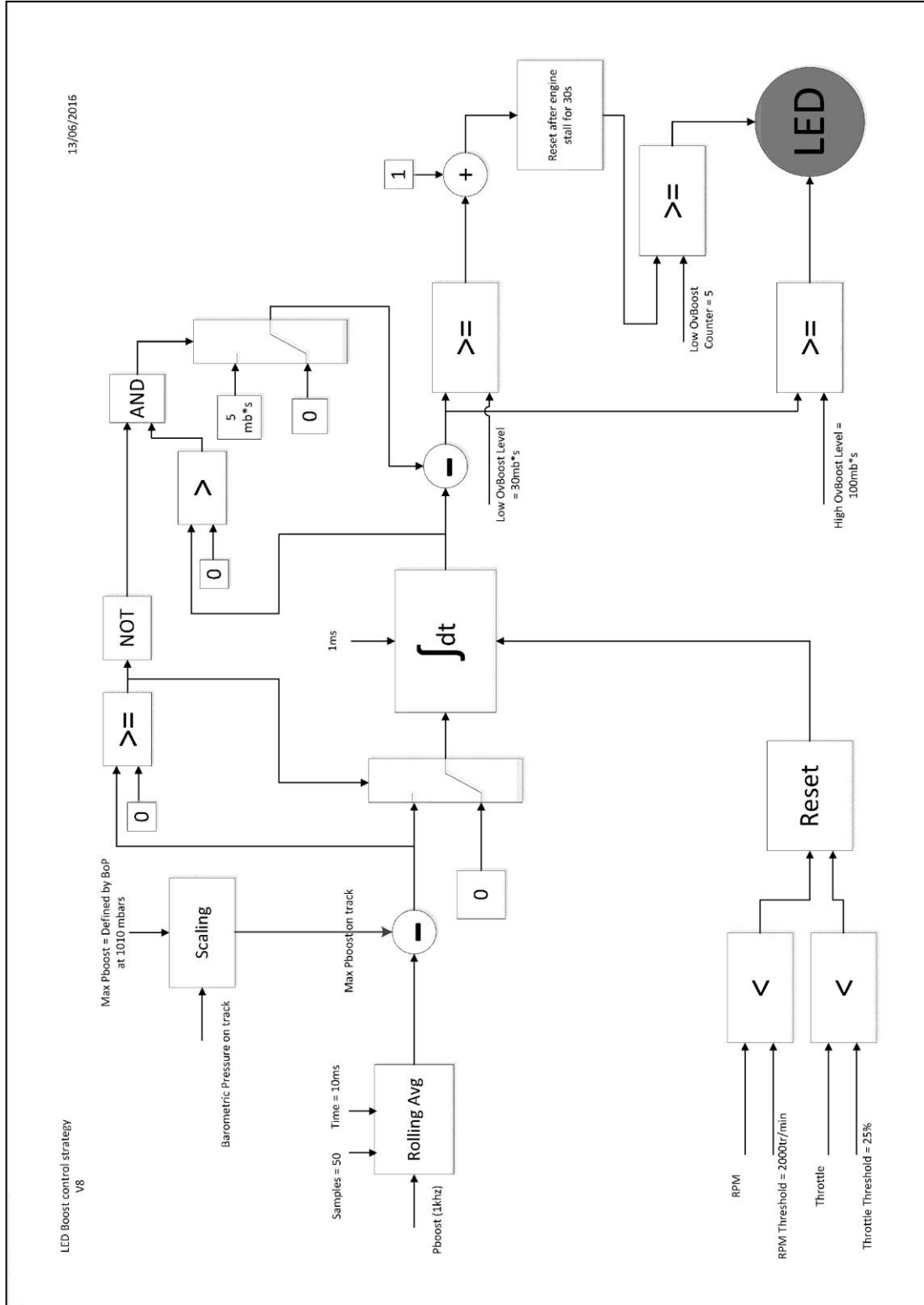
For all other SP2 cars:

Class	Minimum reference lap time / Theoretical Min. Reference lap time	Max Refuelling amount		
		Minimum Weight 750 kg	Minimum Weight 1000 kg	Minimum Weight 1250 kg
SP2	Min ref lap time* 2min28 (Spa) / Theoretical Min Ref lap time 2min27	80 L	90 L	100 L
	Min ref lap time* 2min29 (Spa) / Theoretical Min Ref lap time 2min28	90 L	100 L	110 L
	Min ref lap time* 2min30 (Spa) / Theoretical Min Ref lap time 2min29	100 L	110 L	120 L

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Appendix: Control of Pboost strategy



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Appendix: Renault RS01 aerodynamics



PHOTO N° 01

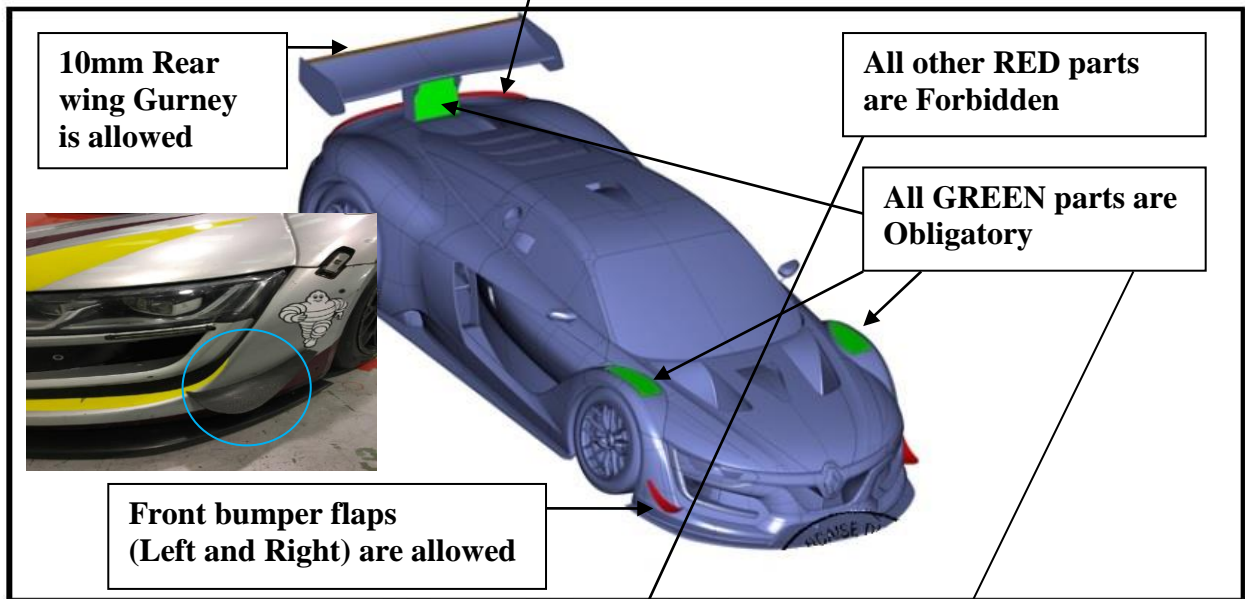


PHOTO N° 02

