2024 FIA FORMULA REGIONAL - 2ND GEN HOMOLOGATION REGULATIONS

SUMMARY

ARTICLE 1: Manufacturer registration

Only those manufacturers registered and approved as FIA Formula 3 Regional component manufacturers are eligible to homologate FIA Formula 3 Regional chassis and Power Units.

ARTICLE 2: Chassis Homologation

2.1 Compliance with Technical Regulations:

Only chassis and/or components complying fully with the FIA Formula Regional 2nd GEN Technical Regulations (ISC Appendix J, Article 275) may be homologated.
Only parts having successfully passed the required crash tests may be homologated.

2.2 Chassis homologation perimeter:

2.2.1 The survival cell, headrest, roll hoop, front and rear impact-absorbing structures, front wing support, rear wing support, collapsible steering column, steering rack assembly, fuel system, gearbox and fire extinguishing system must be homologated by the rolling chassis manufacturer before 31 March of the year during which they are intended for use (or the first competitive use).

The rolling chassis manufacturer may homologate the above-mentioned parts only once between 1st January 2024 and 31st December 2029. The homologation will remain valid until 31st December XXXX.

2.2.2 The complete rolling chassis comprising the following parts

- Complete car ready to run without parts mentioned in Articles 2.2.1 and 3.7

In particular:

- All parts related to the driver installation such as extractable seat, seat belts, cockpit padding and seat gap filler
- Secondary Roll Structure (Halo)
- Bodywork and wings (front wing material at the choice of the customer)
- Complete suspension (with adjustable or non-adjustable damper) including brakes and driveshafts
- One set of rims without tyres
- Gearbox
- Water radiator
- Oil tank
- Water and oil system outside Power Unit perimeter
- Steering wheel with display and paddles
- Full sensor equipment (as defined in Article X.X of the Formula Regional 2nd GEN Technical Regulations), chassis loom (including common connector) and the master switch (or relay)
- Gearbox actuator (complete with compressor, pressure storage if necessary, required sensors)
- Gearbox control
- Onboard camera system
- Auxiliary battery

- Power Unit installation kit, such as
  - Exhaust and silencer (if required)
  - Bellhouse
  - Power Unit / Engine mounting studs
  - Clutch shaft
  - Power Unit / Engine frame (if required)
  - Intercooler including piping (if required)
  - Oil cooler / heat exchanger (if chassis mounted) including oil lines (if required)
- Basic parts for the options mentioned in Article 2.3

must be homologated by the rolling chassis manufacturer before 31 March of the year during which they are intended for use (or the first competitive use).

The rolling chassis manufacturer may homologate only one complete car between 1st November 2021 and 31st December 2026. The homologation will remain valid until 31st December 2029.

2.3 Options:

The rolling chassis manufacturer may homologate the following options.
The costs of the options are not included in the cost requirements under Article 4.2 except for those parts mentioned in Article 2.2.2.

The maximum prices given in Appendix 1 must be respected.

Power Unit Installation kit	Modifications and different parts (such as exhaust, bellhouse, clutch shaft etc.) for the sole purpose of installing different Power units may be homologated
	Exhaust system must comply with homologated exhaust geometry of a power unit and with the requirements laid down in Art. 3.3
	Only one installation kit per chassis and homologated Power Unit permitted
	Different options allowed to suit requirements of different climatic conditions
	Only one configuration per Championship allowed (defined in Sporting Regulations of each Championship)
Silencer / catalytic converter	Optional silencer and / or catalytic converter may be homologated
Rims	Different rims / spacers to adjust track for different rim widths
Springs	Eight springs in total to be used for both front and rear
Anti-roll bars	Three anti-roll bars for the front and three anti-roll bars for the rear
Modifications due to driver sizes	Modifications and optional parts for the sole purpose of fitting different driver sizes may be homologated
Gearbox options	Different pairs of gear ratios may be homologated
	Available gear ratios must be defined in the Sporting Regulations of each Championship
Damper	Different dampers may be homologated
	Requirements of FIA Formula Regional Technical Regulations (ISC Appendix J, Article 275) have to be respected

Brake pads	Different brake pads may be homologated
	A competitor may choose at maximum between three different types of homologated brake pads
	Total number of brake pads may be more than three. The brake pad types will be then split into groups of three each. A competitor has to choose one group for the complete season. The brake pads available must be defined in the Sporting Regulations of each Championship
Optional parts for specific Championships	Optional parts used only in specific Championships, mainly for commercial reasons, may be homologated. These parts will replace the original specification in the homologation and are mandatory in the respective Championship
Additional steering ratio	Two different steering ratios may be homologated for the sole purpose of driver comfort
Connection Interface	An alternative connection interface between Power Unit and chassis loom may be homologated for the sole purpose of cost saving. The alternative solution must provide the same functionality
Parts made from alternative materials	Parts made form alternative materials (such as natural fibres) for the purpose of improving sustainability and cost-saving may be homologated. The costs of the alternative parts may only be equal or less than the originally homologated part. The alternative parts will replace the original specification in the homologation and are mandatory in the respective Championship. The homologation of the alternative parts may be rejected by the FIA in case of safety or cost concerns. In particular, alternative parts will not be accepted should they create a disadvantage in terms of running costs, repairability or handling.

2.4 Mandatory selling of parts:

Any rolling chassis manufacturer must make the following homologated parts available on normal commercial terms:

- Survival cell
- Headrest
- Roll hoop
- Fuel system
- Front crash structure
- Front wing support
- Rear crash structure
- Rear wing support
- Collapsible steering column
- Steering rack assembly
- Steering wheel
- Gearbox
- Parts for mechanical Power Unit installation (e.g. brackets, bellhouse, adapter plates, clutch shaft)

These parts must be available for the price indicated in Appendix 1 throughout the homologation period, and a maximum of 3 months will be allowed between the order and the delivery.

Any other manufacturer may homologate a new car using the complete set of the above-listed parts of a car which has already been homologated, without repeating the crash test.

2.5 Homologation weight

The homologation weight of the complete car without driver must be no more than 575.0 kg and no less than 625.0 kg.

It is the responsibility of the chassis manufacturer to respect the above-mentioned weight limit.

The homologation weight will be established with the car in the following condition:

- Complete car ready to run (parts mentioned in Article 2.2.1, 2.2.2 and 3.7)
- Rims including tyres of total weight of 30.0kg
- Without driver and fuel
- Empty of any kind of liquids (oil, hydraulic fluid, coolant, water etc.), but taking a total sum of 10.0kg for all liquids into account
- Largest extractable seat shell without foam insert
- Without catalytic converter and optional silencer
- Without championship specific equipment such as voice radios, marshalling systems etc.
- Without ADR
- Bare, unpainted without stickers
- Unused consumable parts such as skid block, brake disc, brake pads etc.

ARTICLE 3: Power Unit Homologation

3.1 Compliance with Technical Regulations:

Only Power Units complying fully with the FIA Formula Regional 2nd GEN Technical Regulations (ISC Appendix J, Article 275) may be homologated.

3.2 Lifetime requirements:

The target lifetime per season is 10,000 km.

3.3 Power output:

The power output of the Power Unit should lie between the target power curves shown in Appendix 3 and a maximum power curve calculated with the following formula:

$$\frac{minimum\ weight\ of\ the\ car\ in\ kg\ (as\ per\ regulations\ including\ driver)}{650.0\ kg} \cdot Power\ output\ for\ calculation\ as\ per\ Appendix\ 3$$

The performance criteria between new Power Units must stay within +/- 1.5% on the RPM operating range defined by the FIA, compared to the reference power curve declared by the Power unit manufacturer during the homologation.

The Power Unit manufacturer must declare the performance tolerance over a lifetime of 10.000km considering ideal conditions (engine dyno). The Power Unit performance has to stay within a band of 2.0% on the RPM operating range defined by the FIA, compared to the reference power curve declared by the Power Unit manufacturer during the homologation.

The exhaust layout modifications to fit a given chassis must be such that Power Unit performance stays the same.

3.4 Power Unit space template

Except for the ECU and the Power Unit loom, all parts of the Power Unit (as listed in Article 3.7) have to be positioned within the Power Unit - bellhouse - gearbox space template as defined by Article 5.3 of the FIA Formula Regional 2nd GEN Technical Regulations.

If necessary, for the installation of the Power Unit, local extensions may be added to the bodywork of the car. The size and shape of the local extensions must be defined during the homologation procedure and form part of the homologation.

3.5 Mechanical Power Unit installation

Each Power Unit manufacturer must provide a supplier source as well as drawings and CAD models free of IP rights of all parts for the mechanical Power Unit installation (e.g. bellhouse, brackets, adapter plates, clutch shaft) which have been previously homologated for any chassis manufacturer using the respective Power Unit.

3.6 Minimum current provided by alternator

The current provided by the alternator for the electric system of the chassis must be at least 30A.

3.7 Power Unit homologation perimeter

- Engine ready to run including all specific systems except water radiators and all other parts mentioned in Article 2.2 and 2.3.
- Air intake system including airbox, manifold, throttle body, air filter
- Oil filter, oil pumps and engine mounted oil-water heat exchanger
- Water and oil lines up to first connection
- ERS system (including ES and power circuit wiring)
- Alternator (May be replaced by the MGU if present)
- Starter (May be replaced by the MGU if present)
- Flywheel including spigot bearing
- Clutch
- Power Unit loom (with common connector)
- Power Unit sensors including Lambda sensor (if required)
- ECU including Datalogger
- Lap Beacon
- ECU software version
- Channels available via CAN for competitors and Power Unit support and scrutineering
- Power Unit power curve and measures to ensure the performance criteria mentioned in Article 3.3
- Spare parts, repairs price list and parts classification
- Exhaust geometry

A detailed list of parts inside the power unit perimeter, optional and outside the perimeter can be found in Appendix 4.

Should the definition of the chassis and engine perimeter be unclear for any part, it will be clarified by the FIA Technical Department on a case by case basis.

Spare power unit perimeter

- Engine ready to run including all specific systems except water radiators and all other parts mentioned in Article 2.3 and 2.4. and self-sealing fuel line connectors
- Air intake system including manifold and throttle body, excluding airbox and air filter
- Oil filter, oil pumps and engine mounted oil-water heat exchanger
- Water and oil lines up to first connection
- Alternator
- Flywheel
- Power Unit sensors mounted on the engine

3.8 Homologation weight

The maximum homologation weight of the Power Unit as defined in Article 3.7 must not be more than 150.0 kg.

3.9 Push to pass System

With reference to Article 5.10 of the Formula Regional Technical Regulations, whilst the push to pass system is active the power output may be temporarily above the limit stated in Article 3.3. Subject to the approval of the FIA Technical department, the cost / lifetime requirements in Article 4.3 may be exceeded.

ARTICLE 4: Commercial terms

4.1 General

The price of the rolling chassis, the maximum Power Unit sales price, the maximum engine rebuild cost and homologated chassis and engine spare parts price lists may be increased once per year by a rate fixed by the FIA based on the OECD "Key Short-Term Economic Indicator".

The rate will be published by the FIA at the end of a year for the following year.
The rate is the maximum increase allowed for each part separately.
No modifications to the prices of this list are allowed without the prior approval of the FIA.

The below-mentioned prices are ex-factory/ex-works without VAT.

4.2 Chassis

The price of the rolling chassis (as defined in Article 2.2) may not exceed €100,000.

The spare parts prices mentioned in Appendix 1 must be respected. The sum of prices of single parts must not exceed the price of assemblies mentioned in Appendix 1.

The chassis manufacturer must provide a complete list of spare parts prices, including optional parts, which forms part of the homologation. No modifications to the price list are allowed without the prior approval of the FIA.

The prices for options such as springs, gear ratio pairs and anti-roll bars must not exceed those of the originally supplied variants.

4.3 Power Unit

The following cost requirements are for a Power Unit perimeter as defined in Article 3.7.

Maximum Power Unit sales price: €30,000
(complete PU perimeter sold with a new car)

Maximum Spare power Unit sales price: €XX.XXX

Maximum rebuild cost after minimum 10,000 km: €X,XXX

Maximum costs per kilometre calculated on a 30.000km basis: €X.XX/km

Different selling or lease-purchase concepts may be approved by the FIA, provided the maximum costs per kilometre for minimum 30.000km is respected. After maximum 3 years the Power Unit must become the property of the competitor.

The Power Unit manufacturer must provide the prices of spare parts as listed in Appendix 2 which forms part of the homologation. In case the homologated Power Unit perimeter contains type 1 or type 2 parts that are not mentioned in Appendix 2, the list must be extended accordingly.

The total sum of prices of all spare parts listed in Appendix 2 may not be more than 150% of the selling price of the complete Power Unit.

Optional additional sensor equipment for engine protection may be homologated, provided the sole purpose of the additional sensors is to create warnings in case the engine is operated outside of safe running conditions.
The price of the optional additional sensor equipment is limited to €XXX.

4.4 Procedure for upgrading engine specifications

Should the engine specification be upgraded together with a price increase, the following procedure should be applied to upgrade existing engines:

- An engine is sold on Year N with a target price per km of X_n euros/km over 3 years
- If the increase happens between year 1 and 2:

- On year N+1 the price is increased to X_{n+1} euros/km.
    - The reconditioning price of this engine should allow to stay below a maximum price per kilometer of $(X_n+2*X_{n+1})/3$
- If the increase happens between year 2 and 3:
    - On year N+2 the price is increased to X_{n+2} euros/km.
    - The reconditioning price of this engine should allow to stay below a maximum price per kilometer of $(2*X_n+X_{n+2})/3$

4.5 Retail price

The following increase for distributor and on-track service is admitted:

- Manufacturer's home continent:
    - Retail price from distributor: price ex works + shipping costs
    - Retail price with track support: price ex works + shipping costs + 5%
- Overseas
    - Retail price from distributor: price ex works + shipping costs + taxes + 5%
    - Retail price with track support: price ex works + shipping costs + taxes + 10%

4.6 Exchange rate

Each manufacturer has to choose from the following options when homologating a component (chassis or engine). The choice will be valid for the entire homologation period and may not be modified afterwards.

- Sell in Euro
- Sell in own currency: At date of homologation, the price, converted in euro using the exchange rate of the day, must be below the maximum price stipulated in the FIA Formula Regional 2nd Gen Homologation Regulations. This initial exchange rate will be the one used during the whole homologation period to update the price when the annual price increase is decided.
- Sell in own currency: Price must stay below maximum price when converted into euros using an annually updated exchange rate (on 1st January) which is based on the average of the preceding year.

4.7 Maximum overall sales price

	Basic price
Chassis	€ 100,000
Power Unit	€ 30,000
Total	€ 130,000

ARTICLE 5: Homologation procedure

The complete car (rolling chassis and Power Unit ready to run) must be divided into three types of part.

Type 1: These parts must be supplied by the manufacturer and used exactly as supplied. Repairs may be carried out only by the manufacturer.

Type 2: These parts are Type 1 parts with specific restrictions. Only the modifications indicated in the homologation may be carried out. Repairs are allowed only in the described range.

Type 3: These parts are unrestricted, provided they are used as designed by the manufacturer and do not fulfil any additional function.

Besides the homologation form duly filled in, each manufacturer must provide a complete spare parts list indicating the categorization of parts and the admitted changes (for Type 2 parts).

The parts classification and the user manual form part of the homologation, both documents will be supplied by the respective manufacturer.

The manufacturer must provide the FIA with all necessary details (drawings, pictures, CAD models, etc.) in order to identify the homologated parts.

In particular, the ply book for the main carbon safety elements must be submitted.

The chassis manufacturer has to supply the following aero data:

Downforce (SCz), Drag (SCx) and Balance (%F) as percentage offset from a baseline setup for the following parameter

- Ride height
- Front wing
- Front wing gurneys
- Rear wing (upper and lower)

ARTICLE 6: Changes to homologated parts

Once homologated, no changes may be made to the design or construction of the homologated parts for the duration of the homologation period. Exceptional changes for the purpose of improving reliability, safety and cost-saving may be approved by the FIA.

Modifications to the homologated survival cell may be carried out by the chassis manufacturer in order to facilitate the installation of new ancillaries, provided this is the sole purpose.

ARTICLE 7: FIA right of veto

The FIA may reject the homologation of any part or construction that is considered not in keeping with the present regulations, not in line with the quality requirements or unreasonable in terms of cost targets.

APPENDIX 1

PRICE LIMITS FOR CONSUMPTION PARTS

Maximum prices for spare parts The sum of prices of single parts must not exceed the price of assemblies. Maximum 10 prices may be increased by maximum 15% if other prices are reduced by the same amount in total.				
			Basic price	-
Safety elements	Safety structures	Headrest (one piece)		
		Main roll hoop		
		Halo (incl. Fixation)		
		Survival cell (including intrusion panels and FAIP)		
		Extractable seat shell (identical price for all sizes)		
		Seat gap fillers		
		Leg padding		
	Crash structures	Front crash structure (including nose tip)		
		Nose tip		
		Rear crash structure (without tether assembly)		
		Rear light (incl. Bracket) (3 lights)		
		Front intrusion panel		
Bodywork	Upper bodywork complete	Damper cover		
		Engine cover		
		Right sidepod		
		Right air duct		
		Left sidepod		
		Left air duct		
	Lower bodywork complete	Stepfloor		
		Chassis bib		
	Wooden floor			
	Skid block			
Suspension	Front suspension (per side) including uniball joints	Track rod		
		Push rod		
		Upper wishbone		
		Lower wishbone		
		Ackerman		
		Brackets chassis side		
	Rear suspension (per side) including uniball joints	Lower wishbone		
		Upper wishbone		
		Push rod		
		Toe link		
		Brackets gearbox side		
	Suspension components (per item)	ARB		
		Rocker assembly		
		Damper, adjustable		
		Damper, non-adjustable		

Brake system (per part)		Brake disc (without disc bell)			
		Brake caliper			
		Brake pads (4 pads = one axle)			
Rim					
Steering assembly		Steering column (from rack to quick release, without wire)			
		Steering rack			
		Steering wheel (complete with quick release, display, connector, paddles etc.)			
Upright assembly (per side / item)		Front upright complete	Upright		
			Wheel hub		
			Wheel bearing		
			Wheel drive pins		
			Brackets (wheel tether fixation, pushrod, lower wishbone)		
			Additional mounts on the hub		
			Bolts of the uniball joints		
			Standard installation parts		
		Rear upright complete	Upright		
			Wheel hub		
			Wheel bearing		
			Wheel drive pins		
			Brackets (wheel tether fixation, pushrod, upper wishbone, lower wishbone, trackrod)		
			Additional mounts on the hub		
			Bolts of the uniball joints		
			Complete driveshaft assembly (incl. tripods, circlips, boot, etc.)		
			Standard installation parts		
		Wheel nut			
Wings	Front wing assembly complete	Main plane (Composite) Endplates Gurney Support			
		Main plane (Aluminium) Endplates Gurney Support			
	Rear wing assembly complete	Top main wing			
		Beam wing			
		Endplates (including light housing and cable routing but not lights itself)			
		Support			

Complete fuel system (including fuel cell, pumps, collector pods, connection hoses, hatch cover, roll over valve etc.)			
Gearbox	Gearbox assembly with clutch shaft and output flange		
	Paddle shift system complete		
Data logging system	Video system with data overlay (incl. Bracket)		
	Sensor equipment complete (all chassis sensors)		
	Chassis looms complete (all looms on chassis side)		
Power Unit installation kit	Oil cooler system		
	Intercooler system		
	Water system		
	Bellhouse		
	Power Unit / Engine frame (if required)		
	Exhaust system		

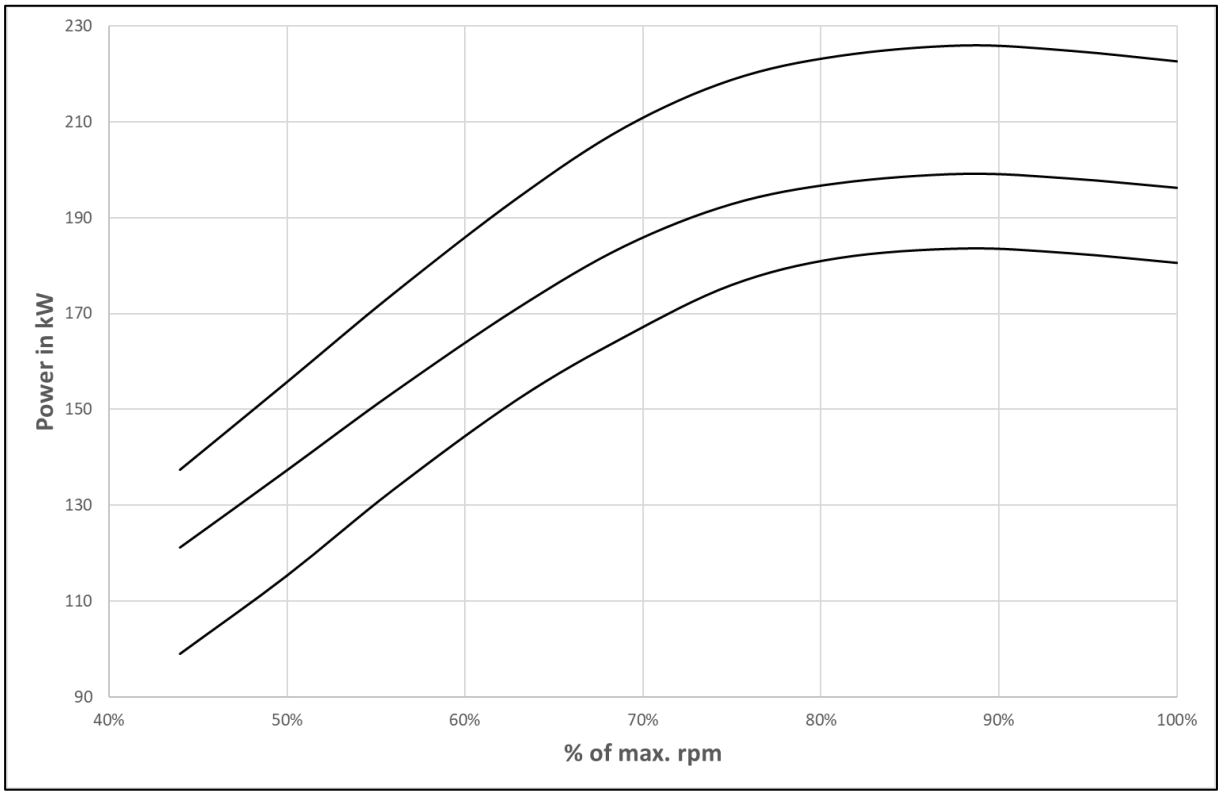
APPENDIX 2

POWER UNIT SPARE PARTS

Power Unit spare parts	
Crankcase	Turbocharger
Cylinder Liner	Waste gate
Crankshaft bearing caps	Waste gate actuator
Crankshaft	Dump valve
Crankshaft shell bearings	Air injection system
Sump / Bedplate	Air injection system actuator
Piston	Exhaust Manifold (for TC engines only)
Rings	
Piston pin (including clips)	Flywheel
Connecting rod	Flywheel mounting screws
Connecting rod screws	Clutch
Connecting rod shell bearings	
Water pump	Intake manifold
Water pump associated pipes	Intake trumpets
Oil pressure pump	Throttle body
Oil pressure pump associated pipes	Air filter
Oil scavenge pump	
Oil scavenge pump associated pipes	Starter
Oil air separator	
Oil filter	Power Unit loom
Oil heat exchanger	Power Unit sensors (Price of each)
	ECU
Cylinder head	
Cylinder head gasket	Spark plug
Camshaft bearing caps	Ignition coils
Inlet camshaft	Alternator
Exhaust camshaft	
Inlet valve	ES
Exhaust valve	ERS Loom
Finger followers / Tappets	MGU
Valve springs	MGU Drive
Cam cover	DC-DC Converter
Camshaft drive cover	
Camshaft drive elements from crankshaft to camshafts	
Injectors	
Injector rail	
Fuel pipes	
High pressure fuel pump	

APPENDIX 3

POWER UNIT POWER OUTPUT



% of max. rpm	Min. Power in kW	Power output for calculation in kW	Overall Max. Power in kW
44%	**99.0**	**121,2**	**137,4**
50%	**115.3**	**137,3**	**155,7**
56%	**133.3**	**153,6**	**174,2**
63%	**152.2**	**171,3**	**194,3**
69%	**165.2**	**184,2**	**208,9**
75%	**176.0**	**192,9**	**218,8**
81%	**181.6**	**197,3**	**223,8**
88%	**183.6**	**199,2**	**226,0**
94%	**182.6**	**198,3**	**224,9**
100%	**180.6**	**196,3**	**222,7**

Measured at ambient conditions:
Pressure: 1013 mbar;
Temperature: 20°C;
Humidity: 50%

APPENDIX 4

MANDATORY IN POWER UNIT PERIMETER

MANDATORY IN PERIMETER	OPTION (Eligible to extra charges)	OUTSIDE PERIMETER
Base Engine with its ancillaries, actuators and sensors	Timing belt protection	Exhaust and silencer (if required)
Air intake system including airbox, manifold, throttle body, air filter	Removable Heatshields	Bellhouse
Oil filter, oil pumps and engine mounted oil-water heat exchanger	Clutch reconditioning	Power Unit / Engine mounting studs
Water and oil lines up to first connection	Fluids replacement	Clutch shaft
ERS system	Oil filter replacement	Power Unit / Engine frame (if required)
Alternator (May be replaced by the MGU if present)	Air filter cleaning/replacement	Intercooler including piping (if required)
Starter (May be replaced by the MGU if present)		Oil cooler / heat exchanger (if chassis mounted) including oil lines (if required)
Flywheel including spigot bearing		Water radiator
Clutch		Oil tank
Power Unit loom (with common connector)		
Power Unit sensors including Lambda sensor (if required)		
ECU including Datalogger		
Lap Beacon		

All parts included in the “mandatory in perimeter” column must be included in the selling price and in the price per km (reconditioning price) mentioned in Article 4.3 with the exception of the parts/work listed in the “Option” column.

APPENDIX 5

APPROVAL OF SAFETY STRUCTURES

Approval of Safety Structures for Formula 3 Regional cars

1) Safety structures

The following safety structures must be approved by the FIA:

a) Survival cell.

b) Front and rear rollover structures.

c) Frontal impact-absorbing structure.

d) Rear impact-absorbing structure.

e) Side impact-absorbing structure.

To approve any of the above structures, the presence of an FIA technical delegate is required. The static load tests must be carried out with measuring equipment verified by the FIA; the dynamic impact tests must be carried out at an FIA-approved institute.

2) Request for approval

In order for one of the above-mentioned safety structures to be approved, the FIA must receive a request from the rolling chassis manufacturer beforehand at the following address:

FIA Technical Department
2 Chemin de Blandonnet
CH 1215 Geneva 15
Switzerland
Tel.: +41 22 544 44 00
Fax: +41 22 544 44 50

3) Approval procedure

Upon receipt of a request for any of the above-mentioned tests, the FIA will arrange a date and venue with the rolling chassis manufacturer and will appoint a technical delegate to supervise these scheduled tests.

For each trip made by an FIA technical delegate to supervise any scheduled tests, the manufacturer will be charged a fee, which is levied annually by the FIA (€XXXX for 2023).

Once all the safety structure tests have been successfully carried out and the manufacturer has settled the FIA fee, he will receive the FIA chassis test report for his car.

The rolling chassis manufacturer is obliged to supply all his customers with a copy of the FIA chassis test report together with the survival cell.