2018 FIA FORMULA 4 HOMOLOGATION REGULATIONS

SUMMARY

ARTICLE 1: Manufacturer registration

Only those manufacturers registered and approved as FIA Formula 4 component manufacturers are eligible to homologate FIA Formula 4 chassis and engines.

ARTICLE 2: Chassis Homologation

2.1 Compliance with Technical Regulations:

Only chassis and/or components complying fully with the FIA F4 Technical Regulations (ISC Appendix J, Article 274) may be homologated.
Only parts having successfully passed the required crash tests may be homologated.

2.2 Price/cost requirements:

The price of the rolling chassis (as defined in Article 2.3) may not exceed €33,000.

In case the rolling chassis is sold including the 2018 Safety Update Kit, the price may be increased by maximum €2,200.

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.

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

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

Only 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%

The spare parts prices mentioned in Appendix 1 and the homologated spare parts price list may be increased once per year for inflationary adjustment by a rate fixed by the FIA.

The rate is the maximum increase allowed for each part separately.

This increase allowance does not apply for the price of the rolling chassis nor to the price of data logging / paddle shift system package mentioned in Appendix 1.

For 2017, to cover the inflation rate of 2014, 2015 and 2016, one single increase of 1% is allowed.

2.3 Chassis homologation perimeter:

2.3.1 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 if earlier).

The rolling chassis manufacturer may homologate the above-mentioned parts only once between 1 January 2014 and 31 December 2019.

2.3.2 The complete rolling chassis comprising the following parts

- Complete car ready to run without parts mentioned in Articles 2.3.1 and 3.6

Especially:

- 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
- Steering wheel, basic display, lap trigger
- Mechanical gearshift
- Basic chassis loom
- Radiators
- Engine installation kit (such as exhaust, silencer, bellhouse, clutch shaft, etc.)
- Basic parts for the options 2.4.4. to 2.4.8

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 if earlier).

The rolling chassis manufacturer may homologate only one complete car between 1 January 2014 and 31 December 2019.

2.4 Options:

The rolling chassis manufacturer may homologate the following options.
The costs of the options are not included in the cost requirements under Article 2.2 except for those parts mentioned in Article 2.3.2.

The maximum prices given in Appendix 1 must be respected.

2.4.1 Engine installation kit

Modifications and different parts (such as exhaust, bellhouse, clutch shaft, etc.) for the sole purpose of installing different engines may be homologated.

Any exhaust system must comply with the homologated exhaust geometry of an engine and with the requirements laid down in Article 3.3.

Only one installation kit per chassis and homologated engine is permitted.

With exception to the above, different options may be homologated to suit the requirements of different climatic conditions.

Only one configuration per Championship is allowed. The admitted parts must be defined in the Sporting Regulations of each Championship.

2.4.2 Silencer

In order to incorporate different noise limit requirements, an optional silencer may be homologated.

2.4.3 Rims

Different rims and spacers to adjust track for different rim widths may be homologated.

2.4.4 Springs

Six different springs for the front and six for the rear may be homologated between 1 January 2014 and 31 December 2019.

2.4.5 Anti-roll bars

Two different anti-roll bars for the front and two for the rear per championship may be homologated between 1 January 2014 and 31 December 2019.

2.4.6 L-shaped gurney flap

One L-shaped gurney flap to be attached to the front wing may be homologated between 1 January 2014 and 31 December 2019.

2.4.7 Modifications due to different driver sizes

Modifications and optional parts for the sole purpose of fitting different driver sizes may be homologated.

2.4.8 Gearbox options

15 different pairs of gear ratios may be homologated between 1 January 2014 and 31 December 2019.

2.4.9 Data logging system

One optional data logging system, including sensors and dashboard or steering wheel display, may be homologated.

The homologation includes all necessary parts for the hardware installation as well as the software of the data logger.

The rolling chassis manufacturer may homologate only one optional data logging system between 1 January 2014 and 31 December 2019.

2.4.10 Paddle shift system

One optional paddle shift system may be homologated. The homologation includes all necessary parts for the hardware installation as well as the software of the gearbox control unit.

The rolling chassis manufacturer may homologate only one optional paddle shift system between 1 January 2014 and 31 December 2019.

2.4.11 **Damper**

Different dampers may be homologated.
The requirements of the FIA F4 Technical Regulations (ISC Appendix J, Article 274) Article 1.22 and 10.7 have to be respected.

2.4.12 Brake pads

Different brake pads may be homologated.

A competitor may choose at maximum between three different types of homologated brake pads.

For one championship, the 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.

2.4.13 Front wing material

Front wings made from two different materials may be homologated.

Only one type per Championship is allowed. The front wing type must be defined in the Sporting Regulations of each Championship.

2.5 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 engine 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.

2.6 Single supplier parts

In case of open chassis championships, one type of gearbox including paddle shift system and suspension damper must be determined as a mandatory single supplier part. Only parts which have already been homologated may be chosen.

Modifications and optional parts for the sole purpose of facilitating the installation of these parts may be homologated.

ARTICLE 3: Engine Homologation

3.1 Compliance with Technical Regulations:

Only engines complying fully with the FIA F4 Technical Regulations (ISC Appendix J, Article 274) may be homologated.

3.2 Cost/lifetime requirements:

The following cost requirements are for an engine perimeter as defined in Article 3.6.

The target lifetime per season is 10,000 km.

3.2.1 Sale concept

Maximum engine price: €10,500

Maximum rebuild cost after minimum 10,000 km: €4000

Maximum costs per kilometre calculated on a 3-year basis: €0.7/km

3.2.2 Leasing concept

Maximum leasing fee (3-year basis): €6000

Maximum rebuild cost after minimum 10,000 km: €1500

Maximum costs per kilometre calculated on a 3-year basis: €0.7/km

After a 3-year leasing contract, the engine must become the property of the lessee.

3.3 Power output:

The power output of the engine should lie between the target power curves shown in Appendix 2. Deviation from this target may be accepted by the FIA during the homologation procedure.

The admitted tolerance for the power output will be defined during the homologation procedure.

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

3.4 Mechanical engine installation

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

3.5 Engine space template

Except for the ECU, the engine loom and the intercooler, all parts of the engine (as listed in Article 3.6) have to be positioned within the engine space template as defined by Article 5.3 of the FIA F4 Technical Regulations (ISC Appendix J, Article 274).

If necessary for the installation of the engine, 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.

3.6 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 Engine homologation perimeter

- Engine ready to run including all specific systems except water radiators
- Air intake system including manifold, throttle body, air filter (and intercooler if required)
- Oil filter, oil heat exchanger and oil pumps
- Alternator
- Starter
- Flywheel
- Clutch
- Space frame
- Engine loom (with common connector)
- Engine sensors
- ECU
- ECU software version
- Channels available via CAN for competitors and engine support and scrutineering
- Engine power curve
- Spare parts and repairs price list
- Exhaust geometry

ARTICLE 4: Homologation procedure

The complete car (rolling chassis and engine 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 gurney
- Rear wing (upper and lower)

ARTICLE 5: 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 6: 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

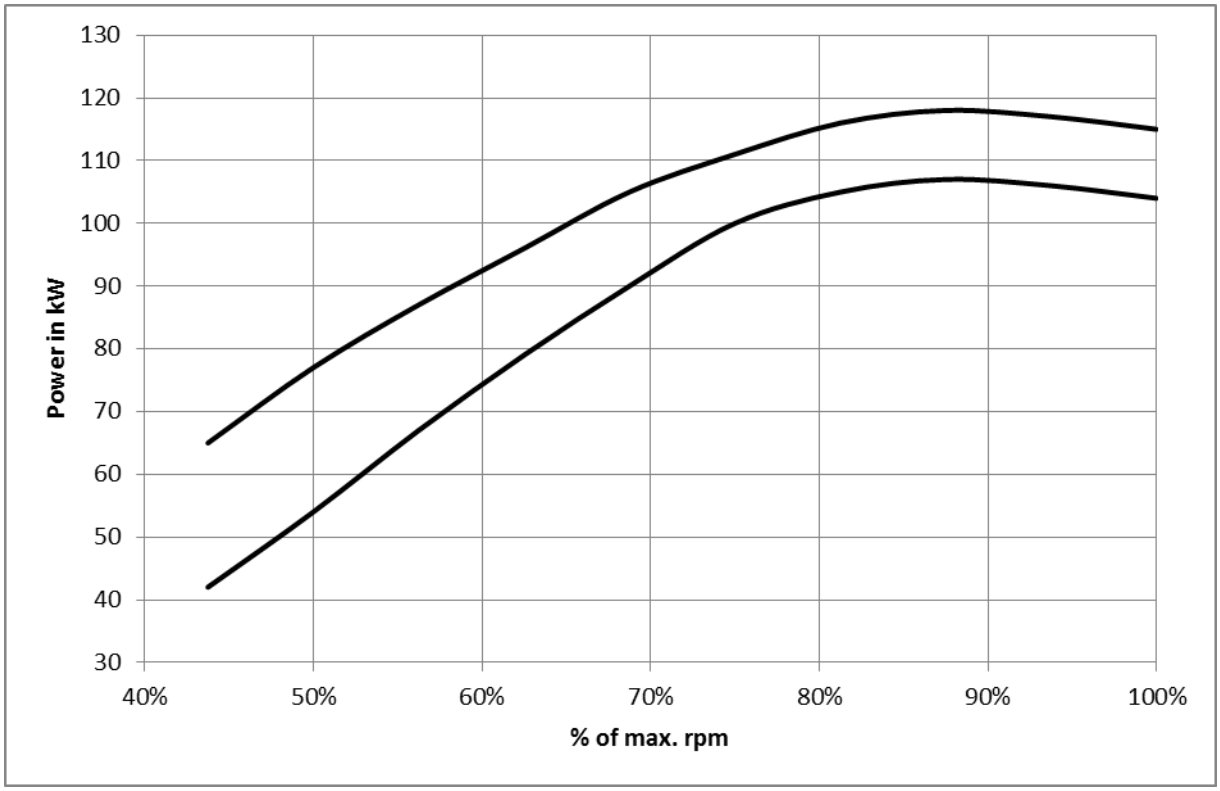
PRICE LIMITS FOR CONSUMPTION PARTS

Maximum prices for spare parts The sum of prices of single parts must not exceed the price of assemblies.	
Survival cell (including side intrusion panels)	€14,500
Headrest	€1500
Roll hoop	€800
Fuel system	€2800
Collapsible steering column	€650
Steering rack assembly	€1600
Steering wheel (display included, without paddles and quick release)	€1300
Steering wheel (without display, paddles and quick release)	€160
Gearbox (including clutch shaft and output flange)	€8,000
Bellhouse	€1800
Front wing assembly incl. support (aluminium wing)	€750
Front wing assembly incl. support (composite wing)	€ 1000
Front crash structure	€1550
Rear wing assembly incl. support	€950
Rear crash structure	€1850 ~~€1400~~
Complete skid block	€200
Complete set of wooden floor plates	€350
Front suspension comprising (one side): Upper and lower wishbone Track rod Push rod Including uniball joints	€1150
Rear suspension comprising (one side): Upper and lower wishbone Track rod Push rod Including uniball joints	€1000
Upright (bare)	€550
Driveshaft (bare without joints)	€300
Wheel bearing	€130
Brake disc	€100
Rims	€250
Anti-roll bar	€210
Radiator	€300

Complete data logging system (including complete sensors perimeter (Article 8.5.2 F4 Technical Regulations) and on-board camera) and complete paddle shift system and any parts necessary for the implementation of a throttle fail safe algorithm	€6500
Damper, adjustable	€700
Damper, non-adjustable	€400
Brake pads (4 pads)	€150
Frontal Anti-Intrusion panel	€1800
2018 Safety Update Kit (compromising 2018 Rear Impact Structure and Frontal Anti-Intrusion Panel)	€3500

APPENDIX 2

ENGINE POWER OUTPUT



% of max. rpm	Min. Power in kW	Max. Power in kW
44%	**42.0**	**65.0**
50%	**54.0**	**77.0**
56%	**67.0**	**87.0**
63%	**79.0**	**96.0**
69%	**90.0**	**105.0**
75%	**100.0**	**111.0**
81%	**105.0**	**116.0**
88%	**107.0**	**118.0**
94%	**106.0**	**117.0**
100%	**104.0**	**115.0**

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

APPENDIX 3

APPROVAL OF SAFETY STRUCTURES

Approval of Safety Structures for Formula 4 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.

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 (€2574 for 2018).

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.