



FIA R4 KIT

ACCESS TO A TOP RALLY CLASS



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R4



#1

THE R4 CONCEPT

R4 : CONCEPT OVERVIEW



FACT : A REAL DEMAND

The R4 category comes from the identification of too wide a gap in the World Rally Car hierarchy between the FWD categories represented by R2 and R3 and the 4WD R5 category. This is a real demand from competitors!

AN INNOVATIVE APPROACH : A REAL UNIVERSAL KIT

The R4 category cars are equipped with an universal kit that consists of a turbocharged petrol engine and a 4WD transmission. The R4 kit is adaptable to all kinds of mass-produced vehicles, thereby empowering preparation companies and opening the doors of competitive racing to a variety of brands, concessions and importers from around the world through a model of their choice.

A HIGHLY PERFORMING CATEGORY WITH COMPETITIVE BUDGETS

The R4 kit's performance indicators are targeted below R5-level, with moderate purchase prices and most importantly with a considerably lower running cost. The majority of the consumable parts of the kit are standard and can be purchased locally.

A WORLDWIDE MINDSET

The R4 kit is developed with a real worldwide mindset, thanks to the base technical regulations that suit are national and regional FIA championships.

** Minimum of 2500 units produced each 12 months.*

R4 : THE BEST BUDGET/PERFORMANCE RATIO



A TRUE TOP CLASS

R4 category vehicles will be positioned to perform on average 1 second per kilometre slower than R5: 1.6 L turbo engine, 5-speed sequential gearbox, 4WD and large suspension travel to be competitive on gravel and tarmac.

AN ATTRACTIVE ENTRY FEE

The price of the R4 has been planned so that a complete car can be ready to race at a very competitive budget for this performance level. All the parts not supplied within the kit can be sourced freely – they must all be homologated within specific limitations imposed by the regulations. Hereby, each preparation company can allocate their budget according to their needs in the construction of each car.

« ENTRY LEVEL » RUNNING COSTS

The R4 kit has been developed with one main philosophy: Minimisation of the running costs thanks to two main factors:

- The reliability of the set of parts.
- The philosophy behind the conception of each part.

R4 : REDISCOVERING THE PREPARATION'S DNA



AN OPEN « KIT SPEC » PHILOSOPHY

With an identical base kit, the R4's philosophy is to address the widest variety of preparation companies, being accessible even to those with little or no experience in the construction of a racing car. Each one of them can make their own technical choices which will directly impact the performance of their car.

REDISCOVERING THE ADDED VALUE OF THE PREPARATION

The R4 has been conceived so that each preparation company can fully express themselves. The frame, bodywork, protections, engine bay, suspension and cockpit are developed freely to allow for a complet ajustement of the price/performance ratio.

A CATEGORY FOR ALL PRODUCTION MODELS

Thanks to the R4, each importer, group of concessions or private team can enter a model of their choice (produced in more than 2500 units over a period of 12 months) in competitive racing at a regional and national FIA championship level.

R4 : FULLY RECOGNISED



NATIONAL CHAMPIONSHIPS IN ALL 5 CONTINENTS

Over all continents, the R4 category will be accepted in all kinds of of championships (under the agreement of the local Federations).

REGIONAL CHAMPIONSHIPS IN ALL 5 CONTINENTS

The R4 category is recognised in all kinds of regional championships.

The FIA is studying the incorporation of the R4 into its WRC programme in the near future.





#2

THE R4 KIT

STRENGTH AND RELIABILITY

The elements of the kit have been developed to withstand the challenges of gravel and tarmac rallying.

MAINTENANCE COST REDUCTION

The parts that undergo major wear and tear are standard and available locally (ball joints, ball bearings...).

CONTROLLED ENGINE COST

The engine is very close to its standard spec which allows moderate running costs and good reliability for high levels of performance.

MULTI-FUNCTION PARTS

The hub carriers and brake calipers are identical on all 4 wheels and compatible on the tarmac and gravel versions. Suspension triangles are also identical on both sides of the vehicle and on gravel and tarmac configuration.

The only parts that differ between tarmac and gravel versions are:

- Brake discs and their mounting bells.
- The interface between the hub carriers and the suspension triangles.

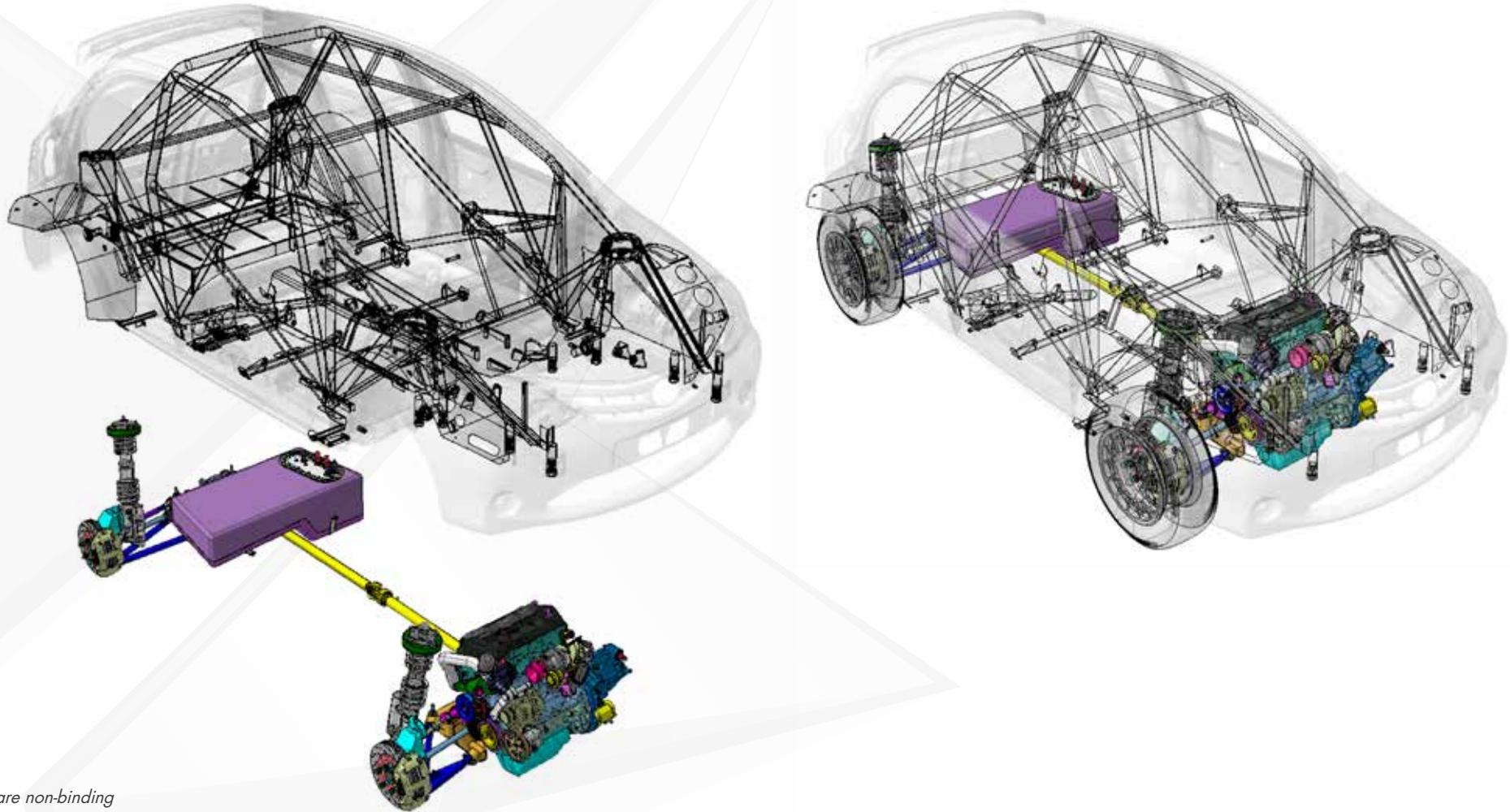
CONTENTS OF THE R4 KIT



SUB-SECTIONS	COMPONENTS
Engine	Intake and exhaust manifold, throttle body, turbo, ECU, electrical harness, alternator, starter, power steering pump, flywheel, clutch
Transmission	Drive shafts (longitudinal and transversal), gearbox, rear differential
Front axle	Suspension cradles and triangles, complete hub carriers, steering rack, steering tie rods
Rear axle	Suspension cradles and triangles, complete hub carriers
Braking system	Brake calipers, brake discs
Fuel system	Fuel tank complete with internal pumps
Chassis	Suspension mountings to be welded to chassis
Documents / Manuals	All the assembly plans and 3D files on demand. Conception guide for the body frame, roll cage and electrical harness. Manual for assembly and maintenance

DESCRIPTION OF THE R4 KIT

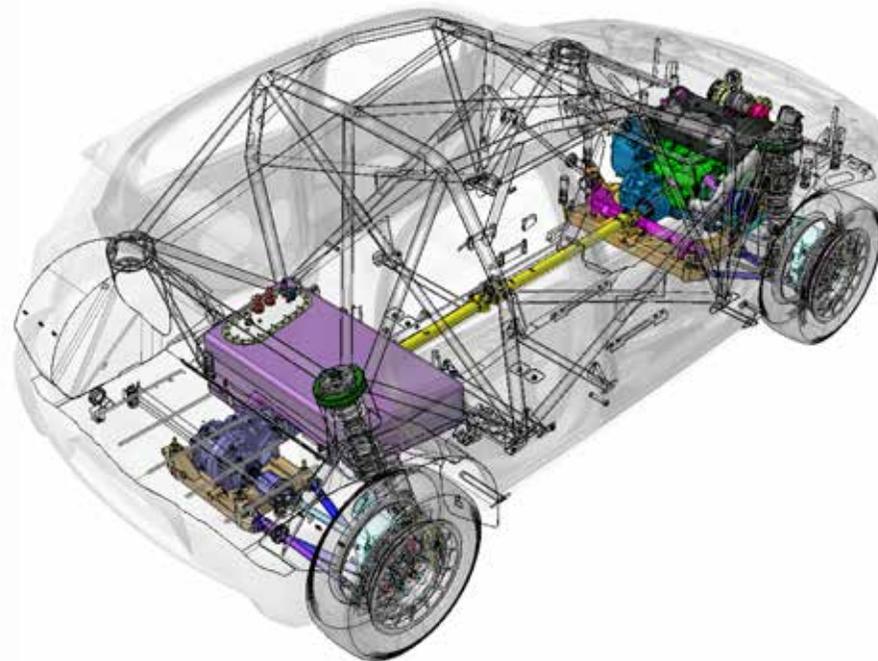
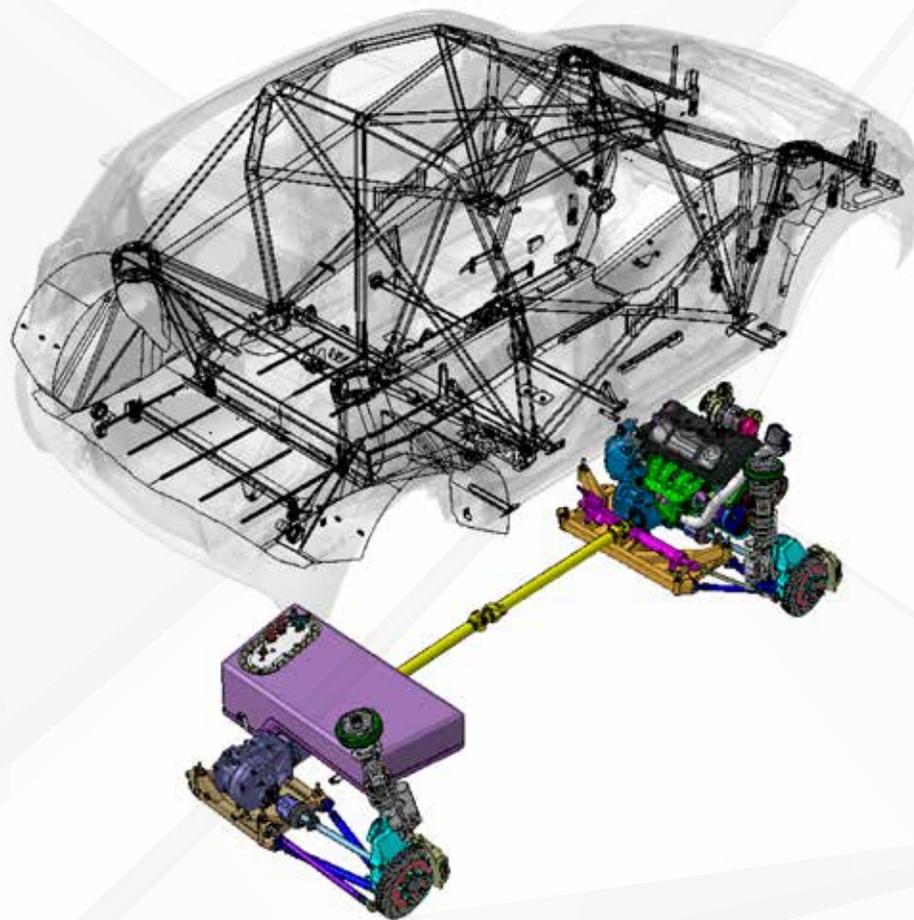
R4



**Photos are non-binding*

DESCRIPTION OF THE R4 KIT

R4

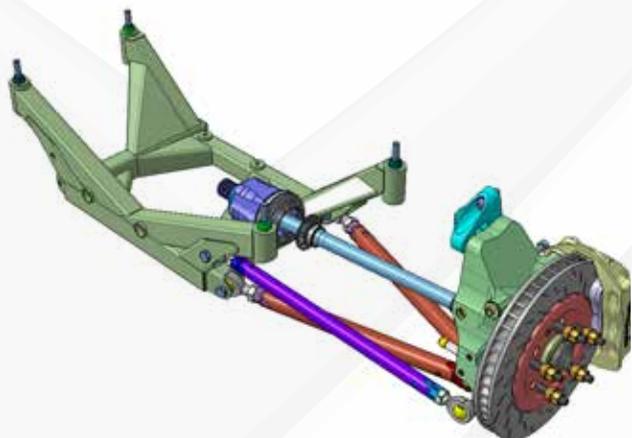


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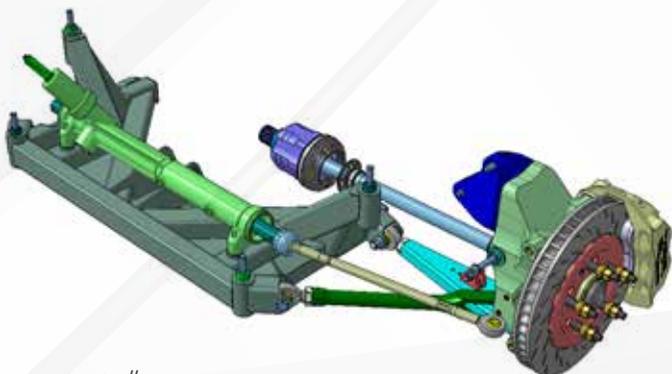
DESCRIPTION OF THE R4 KIT : RUNNING GEAR



ARRIÈRE



AVANT



The running gear is conceived to be competitive against the current highest performing vehicles, integrating original solutions to reduce maintenance costs:

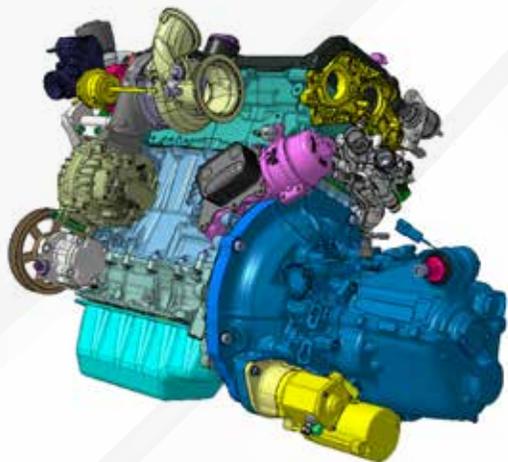
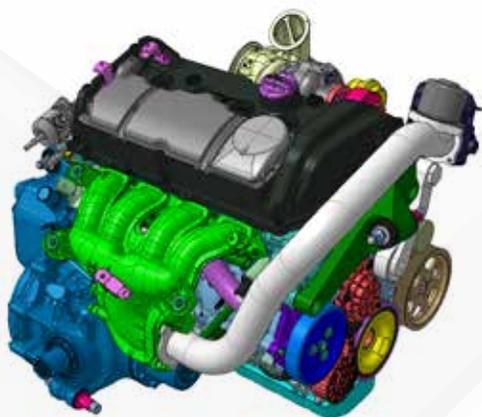
- Wheel bearing and hub are standard car parts.
- Cradles and triangles are conceived for increased robustness.
- Ball joints are standard parts and available at several local distributors.

All other components such as steering rack, toe links, front and rear triangles, hub carriers, cradles, brakes (calipers and discs) and transmission parts are conceived to the highest standard of performance.

The set of dampers, struts and springs are not included in the R4 kit. Their dimensions and interfaces must be respected, but they are an open component to allow each preparation company to adapt each car to their individual needs and those of the country, leveraging on their know-how.

**Photos non contractuelles*

DESCRIPTION OF THE R4 KIT : ENGINE & TRANSMISSION



- Engine 1600cc turbocharged, direct injection of last generation (motorised butterfly valves, aluminium cylinder block).
- Performances close to R5 category: 263 horsepower and 39 m.kg of torque (98 octane unleaded fuel).
- Engine and mapping development is rally-specific which provides full versatility.
- The engine specification is very close to its standard configuration which guarantees a low maintenance cost. It is provided together with the turbo, restrictor, alternator, sensors and actuators.
- Magneti Marelli type SRG-340 electronics, identical to most R5 cars.
- Software specifically developed by ORECA for rallying: multi mapping, road/stage mode management, multiple corrections in real time, back-up strategy in case of engine sensor failure.
- Data acquisition system proposed as an option.
- Gearbox and rear differential straight out of an R5 guarantee performance and reliability.
- Robust transversal and longitudinal shafts.
- The mountings for the engine and gearbox are provided within the kit, only the interface with the chassis must be done.

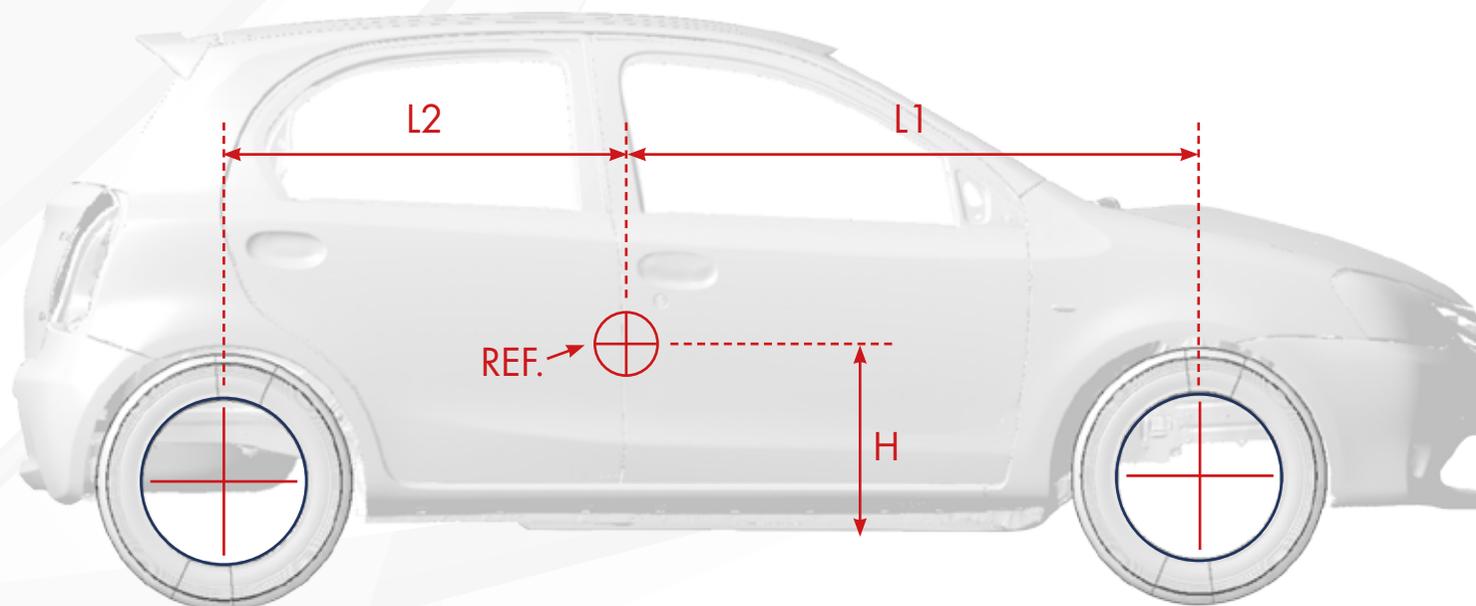
**Photos non contractuelles*

DESCRIPTION OF THE R4 KIT: SET UP



DEFINITION OF THE REFERENCE POINT « REF. » SAME AS THAT ON THE STANDARD VEHICLE USED:

- Reference point « REF. » is clearly identifiable on the door mounting point (holes, bosses, ...).
- « H » is the vertical distance between « REF. » and the lowest point on the standard vehicle.
- « L1 » is the distance between the front wheel centre and the « REF. » point.
- « L2 » is the distance between the rear wheel centre and the « REF. » point.



DESCRIPTION OF THE R4 KIT: SET UP



SET UP OF THE FRONT AXLE / POWERTRAIN / STRUT TOWERS:

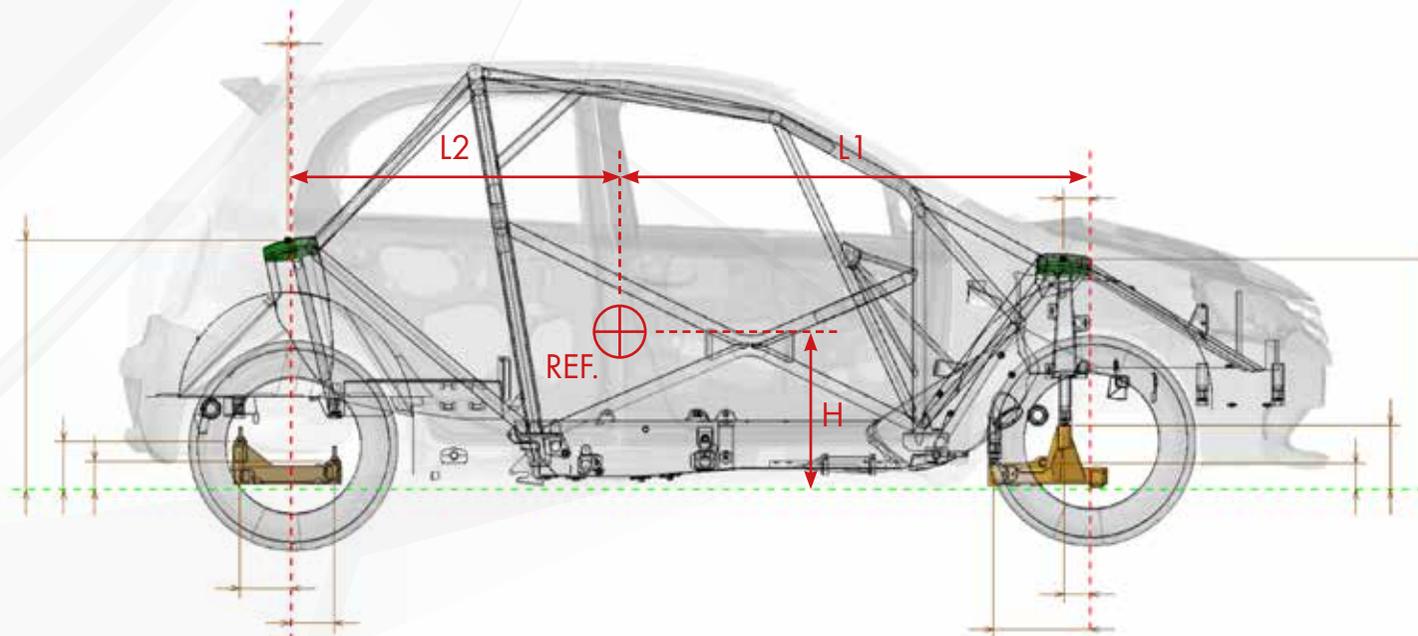
Positioning in reference to:

- Horizontal reference plane (H)
- Vertical reference plane (L1)

SET UP OF THE REAR AXLE / STRUT TOWERS:

Positioning in reference to:

- Horizontal reference plane (H)
- Vertical reference plane (L2)



R4



#3

HOMOLOGATION PROCESS



APPROVED

HOMOLOGATION PROCESS



- During this homologation process, the Federation and ORECA can command certain modifications to guarantee that the technical and safety rules are followed.
- Once the homologation form is completed it is:
 - Validated by the Federation and by ORECA,
 - Sent to the FIA for approval.
 - > The car is homologated as an R4 National-level car.
 - Once the National homologation is obtained, an International homologation request may have to be filed with the FIA.
 - > The car is homologated as an FIA R4 International-level car.
- ORECA will propose a construction guide to accompany and facilitate the job of the preparation companies during the homologation phase with the Federations, to guarantee a reliable, confident and performing car.



R4



#4

THE R4 CUSTOMER SUPPORT

A COMMERCIAL TEAM AT YOUR DISPOSAL

Patrick BERNARD	Yannick LE GALL	Carlos PINA VAZ
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A COMMERCIAL PLATFORM AVAILABLE 24/7

ORECA has developed a digital platform for the sale of motorsport parts and accessories where all R4 parts will be available for order. With your username and password you can process your orders directly online.

AN R4-DEDICATED OFFER

ORECA has developed R4-specific kits to be ordered as options: Suspension (dampers, anti-roll bar ...), cockpit (steering, handbrake, pedals ...), chassis (protections, pannels ...), engine (cooling, exhaust ...), electrical systems (sensors, cables, ...), tools (chassis structure, geometry tools ...).

THE WIDEST MOTORSPORT OFFER

ORECA can propose as a complement to the R4 kit all the equipment and accessories required to for the assembly of your car.

A TECHNICAL SUPPORT HOTLINE DEDICATED TO THE R4

A technical support is at the disposal of all R4 customers in order to accompany the closest possible the assembly and running of their R4 kit.

Mathieu BASSOU

Technical Representative R4
mbassou@oreca.fr

A WEALTH OF DOCUMENTED SUPPORT AVAILABLE ONLINE

Our digital platform will also be useful to share all the technical documents and assembly manuals.

R4



#5

PRICING & ORDERING PROCESS

KIT R4 TARIFS & ORDER PROCESS



FIA KIT R4 GRAVEL OR ASPHALTE TARIF: 108 000 € HT (transport not included)

THE ADDITION OF ALL SPARE PARTS IS EQUIVALENT TO THE KIT'S PRICE

ORDER VALIDATION

The order will be validated at the moment of the transfer of a 30% upfront payment, the remainder being paid at the time of expedition.

DELIVERY PLANNING

The R4 kit will be homologated on the 1st July and available from August onwards, following the order sequence.

LIFECYCLE OF THE KIT

The kit's homologation is valid for a period of 7 years, being eligible to an extension until 11 years.



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