

2008 Technical Regulations - IV
Specific Regulations for Production cars (Group N)

With effect from 1st January 2008

ARTICLE 1 : DEFINITION

Large scale series production touring cars.

ARTICLE 2 : HOMOLOGATION

At least 2500 identical units must have been produced in 12 consecutive months and homologated by the MAI in Touring Cars (Group A).

The Supply Variants (VF) homologated in Touring Cars (Group A) are also valid in Production Cars (Group N).

All Production Variants (VP) are valid in Production Cars (Group N).

Option Variants (VO) of the Touring Cars (Group A) form shall not be valid in Production Cars (Group N), unless they refer to:

- engine flywheel of the same diameter and the same weight as the original, if and only if this original flywheel is made up of two parts.
- fly-wheel for automatic gearboxes ;
- fuel tank ;
- automatic gearboxes ;
- sun roof (includes the roof vents with a flap);
- safety cage ;
- seat supports and anchorages;
- safety harness mounting points;
- 2/4 doors versions.

ARTICLE 3 : NUMBER OF SEATS

Seats With Head Rests Are Mandatory

- FIA Homologated Seats Are RECOMMENDED

- OE SEATS ARE NOT PERMITTED

THE TECHNICAL DELEGATE IS THE FINAL AUTHORITY ON THE CONDITION AND SAFETY OF THE SEATS USED

ARTICLE 4 : MODIFICATIONS AND ADJUNCTIONS ALLOWED OR OBLIGATORY

All the modifications which are not allowed by the present regulations are expressly forbidden.

The only work which may be carried out on the car is that necessary for its normal servicing, or for the replacements of parts worn through use or accident.

The limits of the modifications and fittings allowed are specified hereinafter.

Apart from these, **any part worn through use or accident can only be replaced by an original part identical to the damaged one.**

Blue printing of engines is not permitted.

However it is permitted to machine the following parts.

1). It is permitted to machine the gasket plane of the cylinder block, so long as Article 311 and Article 317 of the homologation form is respected.

2). It is permitted to machine the gasket plane of cylinder head, so long as Article 309 of the homologation form is respected. The finish of the combustion chamber should be as supplied by the manufacturer.

The cars must be strictly series production models identifiable by the homologation form data.

ARTICLE 5 : MINIMUM WEIGHT

5.1 Cars must have at least the weight appearing on the homologation form.

This is the real weight of the empty car (without persons or luggage aboard) without tools or jack, and with a maximum of one spare wheel. When two spare wheels are carried in the car, the second spare wheel must be removed before weighing.

All the liquid tanks (lubrication, cooling, braking, heating where applicable) must be at the normal level foreseen by the manufacturer, with the exception of the windscreen wiper or headlight wiper, brake cooling system, fuel and water injection tanks, which shall be empty.

Additional headlights which do not appear on the homologation form must be removed before weighing.

As far as rollcages which cannot be removed from the car, and which were manufactured in accordance with MAI Technical Regulations Group N – III Articles 8.2 and 8.3, are concerned, the following weights will be taken as a basis:

- Rollcage according to drawings 253-3/4: 30 kg
- Rollcage according to drawings 253-5 to 17C: 35 kg

ARTICLE 6 :

6.1 Engine

- Engine shields made of plastic material, the purpose of which is to hide mechanical components in the engine compartment, may be removed if they have a solely aesthetic function.

- Soundproofing material and trim fitted under the bonnet and not visible from the outside may be removed.

- The accelerator cable may be replaced or doubled by another one regardless of whether it comes from the manufacturer or not. This replacement cable must be an emergency cable, i.e. it must be fitted in parallel with the series accelerator cable.

If the series vehicle is fitted with a motorised throttle valve, a throttle kit with a mechanical linkage, homologated in Group N, may be used.

- The screws and bolts may be changed, provided that the replacements are made from ferrous material.

- **Ignition:** The make and type of the spark plugs, rev. limiter and high-tension leads are free.

The electronic control unit and the ignition components in the electronic control unit are free, **NEVERTHELESS THE SYSTEM MUST BE MECHANICALLY INTERCHANGEABLE WITH THE ORIGINAL UNIT.**

The original loom must be kept and cannot be modified.

Sensors and actuators on the input side must be standard, as must their function.

No sensor may be added, even for the purpose of data recording. **IT IS PROHIBITED TO ADD A SWITCH IN THE ORIGINAL WIRING LOOM BETWEEN THE ELECTRONIC CONTROL UNIT AND A SENSOR AND/OR ACTUATOR.**

In the case of a model fitted with a multiplexed electric circuit, the use of a loom together with an electronic control unit homologated in Option Variant is permitted.

- Any data recording system is forbidden unless fitted on the homologated vehicle.

ONLY THE DATA LOGGING SYSTEM FITTED TO THE SERIES CAR MAY BE USED. IN NO CASE MAY IT BE MODIFIED OR RECORD ADDITIONAL PARAMETERS.

Only the following sensors are authorised:

Water temperature, oil temperature, oil pressure and engine speed.

Each of these sensors may only be linked to one or several visual display units (with data recording capability) by means of a harness that is completely independent of any other harness.

- **Cooling system:** The thermostat is free as is the control system and the temperature at which the fan cuts in.

Locking system for the radiator cap is free.

- **Carburettors:** The original system must be retained.

The components of the carburettor which control the quantity of petrol entering the combustion chamber may be modified, provided that they do not have any influence over the quantity of air admitted.

Air Filters – FREE (Air Filtration methods are free upto the carburettor or the throttle body).

- **Injection:** The original system must be retained.

Components of the injection system situated downstream of the air-flow measuring device, and which control the quantity of petrol entering the combustion chamber may be modified but not replaced, provided that they do not have any influence over the quantity of air admitted.

The electronic control unit for the injection is free.

Inputs to the electronic control unit (sensors, actuators, etc.), including their function, must remain as standard.

IT IS PROHIBITED TO ADD A SWITCH IN THE ORIGINAL WIRING LOOM BETWEEN THE ELECTRONIC CONTROL UNIT AND A SENSOR AND/OR ACTUATOR.

Outputs from the electronic control unit must retain their original functions in accordance with the homologation form.

In the case of a model fitted with a multiplexed electric circuit, the use of a loom together with an electronic control unit homologated in Option Variant is permitted.

It is necessary to be certain that the sensors used by a vehicle fitted with a multiplexed electric circuit can be retained with the homologated loom.

The injectors may be modified or replaced in order to modify their flow rate, but without modifying their operating principle and their mountings. The injector rail may be replaced with another of free design but fitted with threaded connectors for connecting the lines and the fuel pressure regulator, provided that the mounting of the injectors is identical to the original.

Air Filters – FREE (Air Filtration methods are free upto the carburettor or the throttle body).

The resonator unit located within the mudguard, only, may be removed. If removed, the original opening in the apron may be closed

- **Lubrication:** The fitting of baffles in the oil sump is authorised. Replacement oil filter cartridges are accepted in the same way as the original ones.

- **Mountings: The engine mountings ARE FREE , BUT NOT THEIR LOCATION AND NUMBER.**

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- ***Exhaust - FREE. (Exhaust manifold to the exit is free.) However the exhaust ports in the cylinder head should remain as provided by the manufacturer.***

- *The noise levels on the open road must not exceed 103dB(A) for an engine rotation speed of 3500 rpm for petrol engines and 2500 rpm for diesel engines*
- *The location of the exit of the exhaust pipe is free*
- *The exhaust system must not be provisional*
- *Exhaust gases may only exit at the end of the system*

These liberties must not entail any bodywork modifications and must respect the laws of the country, with regard to noise levels.

- Cylinder head gasket:

The material is free, but not the thickness and dimensions.

- Cruising speed controller:

This controller may be disconnected.

6.2 Transmission

6.2.1) Clutch:

The disc is free, including the weight, with the exception of the number. The diameter of the clutch disc may be increased.

6.2.2) Gearbox:

The interior of the gearbox is free.

The number of teeth and ratios homologated in Group N must be retained.

The joints of the gearbox linkage are free.

The gear selection grid pattern homologated on the series model must be retained.

The Gear – box mountings are free, but not their location and number.

THE GEAR BOX RATIOS AND THE FINAL DRIVE RATIOS OF THE MARUTI ESTEEM, MAY BE INTERCHANGED WITH THE OTHER HOMOLOGATED RATIOS OF MARUTI CARS eg MARUTI ZEN / MARUTI 1000 etc

6.2.3) Differential:

4 – Pinion differential case is permitted, so long as it can be fitted in the series housing.

The use of a mechanical type limited slip differential is authorised, provided that it can be fitted in the series housing and is homologated in Option Variant (VO).

"Mechanical limited slip differential" means any system which works purely mechanically, i.e. without the help of a hydraulic or electric system.

A viscous clutch is not considered to be a mechanical system.

If the homologated vehicle is fitted with a viscous clutch, it may be retained but it will not be possible to add another differential.

Welding or locking of the differential pin (spider pin) to the differential is permitted.

6.2.4) Half-shafts :

They must be original or homologated in Option Variant (VO).

6.3 Suspension

The modification of spring and shock absorber adjustments from the cockpit is prohibited.

The reinforcing of the structural parts of the suspension (with the exception of anti-roll bars) and its anchorage points by the addition of material is allowed.

The suspension reinforcements must not create hollow sections and must not allow two separate parts to be joined together to form one.

- Springs:

The spring seats may be adjustable if the adjustable structural part is a part of the spring seat and is separated from the original suspension parts/bodywork (it may be removed).

Coil springs:

The length is free, as are the number of coils, the wire diameter, the external diameter, the type of spring (progressive or not) and the shape of the spring seats.

The number of springs and spring seats is free provided the springs are mounted in series.

Leaf springs:

The length, width, thickness and vertical curvature are free.

Torsion bars:

The diameter is free.

These freedoms on the suspension springs do not authorise one to disregard article 205 of the homologation form (minimum height of the centre of the hubcap, wheel passage opening).

- Shock absorbers:

Free, provided that their number, their type (telescopic, arm, etc.), their working principle (hydraulic, friction, mixed, etc.), and their attachment points remain unchanged.

The checking of the operating principle of the shock absorbers will be carried out as follows :

Once the springs and/or the torsion bars are removed, the vehicle must sink down to the bump stops in less than 5 minutes.

The damper tanks may be attached onto the unmodified shell of the cars.

If the shock absorbers have separate fluid reserves located in the cockpit, or in the boot if this is not separated from the cockpit, these must be strongly fixed and must have a protection.

A silent block may be replaced by a "Uniball" joint, but only on condition that its position is same as the original. (Shock absorber top mounting)

Gas filled dampers, regarding their working principle, will be considered as hydraulic dampers.

- Mc Pherson type suspension damper

If, in order to change the damping element of a Mac Pherson suspension, or a suspension operating in an identical manner, it is necessary to replace the telescopic part and/or the shock strut (damper and system of connection to the hub carrier), the replacement parts

must be mechanically equivalent to the original ones and have the same mounting points.

For McPherson suspensions, the shape of the spring seats is free. Their material is free.

In the case of oil-pneumatic suspension, the spheres may be changed as regards their dimension, shape and material, but not their number. A tap, adjustable from outside of the car, may be fitted on the spheres.

- Silent blocks:

The elastomer of a silent block may only be replaced with an elastomer (maximum hardness 80 Shores).

6.4 Wheels and tyres

6.4.1) Wheels:

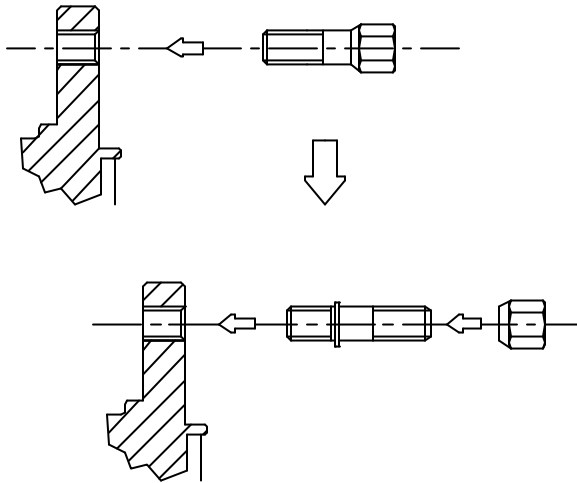
The wheels are free, respecting the homologated maximum diameter (article 801.a), and maximum width (article 801.b).

The use of wheels with lesser dimensions is permitted.

Wheels made from forged magnesium are forbidden (including standard wheels).

They must be covered by the wings (same checking system as in Group A, article 255-5.4), and the maximum track given on the homologation form must be respected.

Wheels fixations by bolts may be changed to fixations by pins and nuts provided that the number of attachment points and the diameter of the threaded parts as indicated on Drawing 254-1 are respected.



254-1

The wheel nuts may be changed, provided that their material remains ferrous.

Air extractors added on the wheels are forbidden.

6.4.2) Tyres:

TYRES ARE FREE provided that they can be mounted on those wheels.

The use of any device for maintaining the performance of the tyre with an internal pressure equal to or less than the atmospheric pressure is forbidden. The interior of the tyre (space between the rim and internal part of the tyre) must be filled only with air.

6.4.3) Spare wheel:

The spare wheel (wheels) is (are) compulsory if mentioned in the homologation form.

The spare wheel may be brought inside the driving compartment, on condition that it is firmly secured there and that it is not installed in the space reserved for the occupants.

6.5 Braking system

With the exception of the modifications authorised by this article, the braking system must be original or homologated in Option Variant (VO).

The electronic control unit of the braking system is free, but must be entirely interchangeable with the original unit (i.e. the braking system must work when the unit is replaced with the series unit).

Sensors and actuators on the input side must be standard, as must their function.

No sensor may be added, even for the purpose of data recording.

The electrical harness must not be modified.

Brake linings are free, as well as their mountings (riveted, bonded, etc.) provided that the contact surface of the brakes is not increased.

Protection plates may be removed or bent.

In the case of a car fitted with servo-assisted brakes, this device may be disconnected or replaced with the kit homologated in Option Variant (VO).

The same applies for anti-lock braking systems.

If the anti-lock braking system (ABS) is disconnected or removed, the use of a mechanical rear braking distributor homologated by the manufacturer in VO is authorised.

It is permitted to add a spring in the bore of the calipers and to replace the seals and the dust covers of the callipers.

Brake lines may be changed for aviation type lines.

A device for scraping away the mud which collects on the brake discs and / or the wheels may be added.

6.5.1) **Handbrake:** The handbrake locking mechanism may be removed in order to obtain instant unlocking (fly-off handbrake).

The mechanical handbrake may be replaced with a hydraulic system homologated in Group N, but in this case a diagonal brake circuit (X shape) or the original system is mandatory.

6.6 Steering

The lines linking the power steering pump to the rack may be replaced with lines conforming to article 253-3.2.

6.7 Bodywork

6.7.1) Exterior :

Hubcaps must be removed.

Protective headlight covers may be fitted provided that their only function is to cover the glass, and that they have no influence on the car's aerodynamics.

The fitting of underbody protections is authorised in rallies only, provided that these really are protections which respect the ground clearance, which are removable and which are designed exclusively and specifically in order to protect the following parts: engine, radiator, suspension, gearbox, tank, transmission, steering, exhaust, extinguisher bottles.

Underbody protections may extend the whole width of the underside part of the front bumper only in front of the front wheel axis.

The mountings of the front and rear bumpers cannot be modified (no additional mounting is authorised).

Any locking system may be used for the cap of the petrol tank.

The changing of the front and rear windscreen wiper blades is authorised.

Plastic sound-proofing parts may be removed from the wheel openings. These plastic elements may be changed for aluminium or plastic elements of the same shape.

Plastic protection parts fitted under the body (licked by the air flow) may be removed.

6.7.2) Interior :

The front seats may be moved backwards but not beyond the vertical plane defined by the front edge of the original rear seat.

The limit relating to the front seat is formed by the height of the seat without the headrest, and if the headrest is incorporated into the seat, by the rearmost point of the driver's shoulders.

The rear seats may be removed.

The rear safety belts may be removed.

6.7.2.1) Should the fuel tank be installed in the boot and the rear seats removed, a fireproof and liquid-proof bulkhead must separate the cockpit from the fuel tank.

In the case of twin-volume cars it will be possible to use a non-structural partition wall in transparent, non-flammable plastic between the cockpit and the tank arrangement.

6.7.2.2) Dashboard:

The dashboard and the central console must remain original.

6.7.2.3) Doors - Side trim:

It is permitted to remove the soundproofing material from the doors, provided that this does not modify the shape of the doors.

It is permitted to remove the original trim (door pads) from the doors provided a fabricated trim is installed in its place.

It is permitted to replace manual winders with electric ones.

6.7.2.4) Floor :

Carpets are free and may thus be removed.

6.7.2.5) Other sound-proofing materials and trim:

Other soundproofing materials and trim, except for those mentioned under Articles 6.7.2.3 (Doors) and 6.7.2.2 (Dashboard), may be removed.

6.7.2.6) Heating system:

The original heating equipment must be retained.

The following parts of the air conditioning system may be removed: condenser and auxiliary fan, fluid tank, evaporator and fan, expansion valve, as well as all pipes, connections, contact switches, sensors and actuators necessary for the functioning of the system.

The compressor may be rendered inoperative.

6.7.2.7) The removable rear shelf in twin-volume cars may be removed.

6.7.3) Additional accessories:

All those which have no influence on the car's behaviour, for example equipment which improves the aesthetics or comfort of the car interior (lighting, heating, radio, etc.), are allowed without restriction.

In no case may these accessories increase the engine power or influence the steering, transmission, brakes, or roadholding, even in an indirect fashion.

All controls must retain the role laid down for them by the manufacturer. They may be adapted to facilitate their use and accessibility, for example a longer handbrake lever, an additional flange on the brake pedal, etc.

The following is allowed:

1) Measuring instruments such as speedometers etc. may be installed or replaced, and possibly have different functions. Such installations must not involve any risk. However, the speedometer may not be removed if the supplementary regulations of the event prevent this.

2) The horn may be changed and/or an additional one added, within reach of the passenger.

The horn is not compulsory on closed roads.

3) The handbrake locking mechanism may be removed in order to obtain instant unlocking (fly-off handbrake).

4) The steering wheel is free.

The locking system of the anti-theft steering lock may be rendered inoperative.

The release must be operated by pulling the flange along the steering wheel axis.

5) Additional compartments may be added to the glove compartment and additional pockets in the doors, provided that they use the original panels.

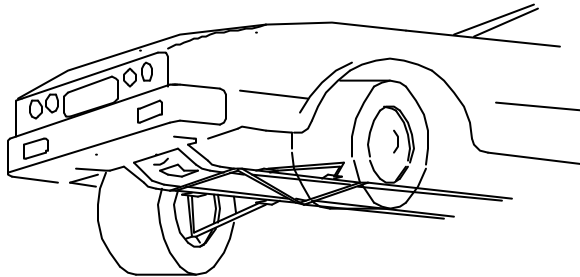
6) Insulating material may be added to protect the passengers or parts from fire or heating.

6.7.4) Reinforcements :

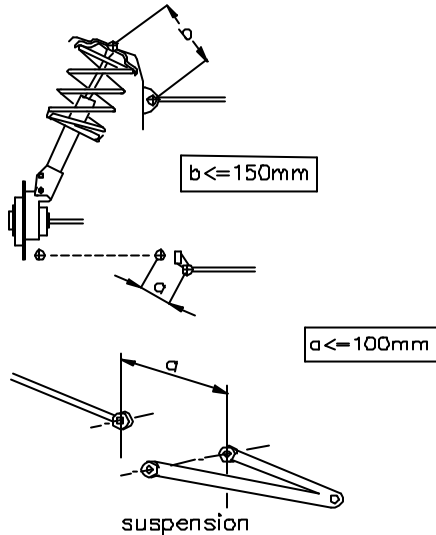
Reinforcement bars may be fitted on the suspension mounting points to the bodyshell or chassis of the same axle, on each side of the car's longitudinal axis, on condition that they are removable and are attached by means of bolts.

The distance between a suspension attachment point and an anchorage point of the bar cannot be more than 100 mm, unless the bar is a transversal strut homologated with the safety cage, or unless it is an upper bar attached to a MacPherson suspension or similar. In the latter case, the maximum distance between an anchorage point of the bar and the upper articulation point will be 150 mm (Drawings 255-2 and 255-4).

Apart from these points, this bar must not be mounted on the bodyshell or the mechanical parts.



255-2

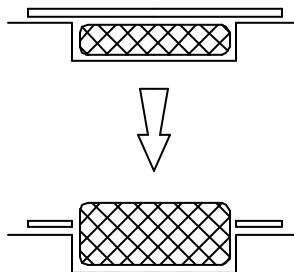


255-4

If the series vehicle is equipped with a reinforcement bar, it is permitted to remove or replace the series bar with a bar conforming to the prescriptions mentioned above.

Strengthening of the suspended part is allowed provided that the material used follows the original shape and is in contact with it.

6.7.5) When the spare wheel is originally set in a closed accommodation, and when this wheel is changed for a thicker one (see article 6.4), situated in this space, it is possible to remove from the cover of the location of the wheel the surface induced by the diameter of the new wheel (Drawing 254-2).



254-2

6.8 Electrical system

- Battery:

The make, capacity, and battery cables are free.

The tension and the site of the battery may be changed

A power take-off connected to the battery is permitted in the passenger space.

- Generator:

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May be replaced by a more powerful one.

A dynamo may not be replaced by an alternator and vice-versa.

- Lighting system:

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Additional headlights including the corresponding relays are allowed, provided that the total does not exceed eight (tail and parking lights not included) and that this is accepted by the laws of the country.

They may not be housed within the bodywork.

Headlights and other exterior lights must always exist in pairs.

The original headlights can be made inoperative and covered with adhesive tape.

They can be replaced by other headlights, in compliance with this article.

A reversing light may be fitted provided it can only be used when the gear lever is in the "reverse" position, and provided that the police regulations on this subject are observed.

- Fuses may be added to the electrical system.

6.9 Fuel circuit

Providing the original tank is equipped with an electric pump and an interior filter, it is possible when using an FT3 1999, FT3.5 or FT5 tank or another tank homologated by the manufacturer on the car's homologation form to place a filter and a pump with identical characteristics to the homologated one outside.

These parts must be protected in adequate fashion

The fitting of a second fuel pump is authorised, but this must be only a spare fuel pump, i.e. it cannot operate in addition to the authorised pump.

It must be connectable only when the car is immobile and by means of a purely mechanical device situated beside the pumps.

The filler holes may not be located in the window panels.

Fuel lines must be changed for aviation type lines if an FT3 1999, FT3.5 or FT5 tank is used, the route of these lines being free.

Should a series production tank be used, this change is optional.

The total capacity of the tanks must not exceed that indicated in article 401.d of the Group N homologation form, except for rallies, if the car is fitted with FT3 1999, FT3.5 or FT5 tanks.

In this case, the total capacity of the tanks must not exceed the following limits, in relation to the engine capacity:

up to	700 cm ³ :	60 l	
over	700 cm ³ and up to	1000 cm ³ :	70 l
over	1000 cm ³ and up to 1400 cm ³ :	80 l	
over	1400 cm ³ :	95 l	

For twin-volume cars homologated from 01.01.98 with a fuel tank installed in the luggage compartment, a fireproof and liquid-proof case must surround the fuel tank and its filler holes.

For three-volume cars homologated from 01.01.98, a fireproof and liquid-proof bulkhead must separate the cockpit from the fuel tank.

Nevertheless, it is recommended that this liquid-proof bulkhead be replaced by a liquid-proof case as for twin-volume cars.

6.10 Jack

The jacking points may be strengthened, moved and increased in number. These modifications are limited exclusively to the jacking points.

The cage of any car with a corrected cylinder capacity greater than 2000 cm³, homologated after 01/01/2006 must be homologated or certified by an ASN, or homologated by the FIA.

ARTICLE 7: CARS WITH A CORRECTED CYLINDER CAPACITY GREATER THAN 2L

The following articles apply only to cars with a corrected cylinder capacity greater than 2L.

7.1 Engine

7.1.1) Engine flywheel

It will be possible to use an engine flywheel homologated as a Group N Option Variant.

7.1.2) Cooling system

It will be possible to use lines homologated as a Group N Option Variant.

7.1.3) Data logging

A data logging system is authorised, even if the series vehicle is not so equipped.

It must be connected only:

- to the series sensors
- to the following sensors which it will be possible to add: water temperature, oil temperature, oil pressure and engine speed.

Any exchange of data with the car by a method other than cable link or chip card is prohibited.

7.1.4) Anti-lag system

A switch and an electric loom may be added for the sole purpose of activating the anti-lag system.

7.2 Transmission

7.2.1) Clutch

It will be possible to use the clutch mechanism pressure plate as well as the controls homologated as a Group N Option Variant.

7.2.2) Gearbox control

It will be possible to use the control homologated as a Group N Option Variant.

7.2.3) Front and rear differentials

Only mechanical type limited-slip differentials with plates are authorised.

Mechanical type limited-slip differentials with plates must:

- either come from the series model
- or be homologated as a Group N Option Variant.

A mechanical limited-slip differential is any system that works exclusively mechanically, that is, without the assistance of a hydraulic or electric system.

A viscous clutch is not considered as a mechanical system.

Any differential with electronic management is prohibited.

The number and the type of the plates are free.

7.2.4) Lubrification

An additional lubrication and oil cooling device is allowed provided it is homologated in Option-Variant (VO).

7.3 Suspension

7.3.1) Upper suspension plate

It will be possible to use upper suspension plates homologated as a Group N Option Variant.

7.3.2) Anti-roll bars

It will be possible to use anti-roll bar diameters homologated as a Group N Option Variant.

7.4 Brakes

7.4.1) Brake discs

It will be possible to use brake discs homologated as a Group N Option Variant.

7.4.2) Brake callipers

It will be possible to use brake callipers homologated as a Group N Option Variant.

7.5 Wheels and Tyres

Complete wheels (as well as tracks) are free, provided that they can be housed within the original bodywork; this means that the upper part of

the complete wheel, located vertically over the wheel hub centre, must be covered by the bodywork when measured vertically.

Wheel fixations by bolts may be freely changed to fixations by pins and nuts.

The use of tyres intended for motorcycles is forbidden.

Rims must imperatively be made from aluminium **alloy or steel**.

* For gravel rallies, the maximum dimension of the rims is 7" x 15".

* If specified in the Supplementary Regulations of the event (such as snow rallies), the maximum dimension of the rims is ~~5" x 16"~~ **5.5" x 16"**.

* For asphalt rallies, the maximum dimension of the rims is 8" x 18".

Air extractors added on to the wheels are prohibited.

Specific Regulations for Maruti Esteem

1. MPFI Engines may be installed into Type I cars. The car should comply with the MPFI homologation form, irrespective of model and year of manufacture example – if a Type I Maruti Esteem is fitted with an MPFI engine, the car in totality should comply with the MPFI homologation form (including the body shell components)

It means that any car presented for pre-event scrutiny, must comply with a homologation form in totality.