



THE 2010 TOMMI MÄKINEN RACING GROUP N CAR  
"THE DRIVE OF YOUR LIFE WHEN ONLY THE BEST WILL DO"

**TOMMI  
MÄKINEN**

*Racing*

[tommimakinen.com](http://tommimakinen.com)

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## “The best move of your career”

If you have been looking for the best move of your career, then you do not need to look any further. The 2010 Tommi Mäkinen Racing Group N Impreza rally car is a purpose built rally car to meet your specific requirements to help advance your career.

We talk with our clients about every stage of the cars' build, to ensure they are getting exactly what they are looking for. From the initial enquiry to the delivery of the finished product, our clients are very much part of the team assigned to each car's build and delivery.

Join Tommi Mäkinen Racing this season and make the best move of your career.



# NEW FOR 2010

2010 will see the third evolution of the TMR Group N car based on the Subaru Impreza hatchback chassis.

The TMR Engineering team working with a constant high level of feedback from a number of top Finnish drivers including our own resident test driver Tommi Mäkinen, have after also analysing countless feedback comments from our 2009 clients, produced a list of impressive improvements for the 2010 car.

The 2010 TMR Group N Impreza will continue with its ground breaking innovations as first seen in the previous models. Working within the FIA's latest regulations, the engineering team at TMR have created and tested the new car to the utmost limits of durability and performance to produce the final 2010 product.

## Chassis

The 2010 car benefits from the 2009 Homologation changes, and features the lighter stronger body shell developed by TMR to enhance the car's overall performance.

## Engine

The new twin scroll turbo charger with roller bearings, seen for the first time on the 2009 model, has also been retained for use on the 2010 car, but now features the new TMR designed 33 mm restrictor in line with the 2010 regulations. Improved mapping, with new full throttle gear shifting system, new anti lag strategies and

a revised launch control system, have enabled the TMR Engineering team to produce increases in both engine power and torque to increase performance and most importantly driveability of the new car.

## Suspension

A recently formed co-operation with the French suspension specialist Bos has led to an all new suspension package for the 2010 car. Utilising the combined experience of TMR and the engineering team at Bos to design, test, and develop the new package, has led to major suspension and car handling improvements over an already proven 2009 car.

## Interior

The 2010 car will feature an all new interior layout incorporating a new design driver data screen in the centre consol. The Gems GD25 is a 16 page colour display adapted to TMR specification to provide detailed information on request. TMR have worked extensively on the aesthetics of the new interior to produce a high tech, but practical approach to the new layout.

## General

In general, the 2010 TMR Group N car improvements represent a blend of balanced enhancements of chassis and suspension together with raw power and traction to produce an advanced Group N product of unparalleled comparisons, meaning the first drive of this new car could be the best move of your career!!!



# TECH 1/3



## TECHNICAL SPECIFICATION 2010

### Chassis design and specification

#### Design

- TMR/KBT designed roll cage in line with current 2009/2010 FIA regulations.
- TMR body work strengthening and preparation.

#### Car dimensions

Overall length .....	4415 mm
Overall width .....	1795 mm
Overall height .....	1475 mm
Wheel base .....	2625 mm

#### Car weight

##### Asphalt:

including one spare wheel, no fuel ..... 1355 kg

##### Gravel:

including one spare wheel, no fuel ..... 1375 kg

### Engine design and specification

#### Design

TMR step three flat four cylinder Boxer design featuring:

- Fly by wire throttle system.
- Full throttle gear shifting system.
- Variable inlet and exhaust cam shafts.
- Dual Anti-lag modes and intercooler water spray.
- Engine oil cooler system.
- New Homologated V/O radiator.

#### Dimensions

Capacity .....	1994 cc
Bore .....	92.00 mm
Stroke .....	75.00 mm

### Performance

Max Power ..... 290BHP @ 4130 RPM

Max Torque ..... 580nm @ 3200 RPM

### Turbo charger design and specification

IHI twin scroll roller bearing turbo charger with new 33 mm restrictor as per 2010 regulations.

### Power train design and specifications

#### Gearbox

- Five or six speed Modena dog engagement with STI short shift system.
- Gearbox oil cooler system.

#### Front differential

Homologated STI limited slip with 3 optional ramp angles.

#### Centre differential

Electro mechanical active DCCD with varying torque split from 41/59 to 50/50.

#### Rear differential

Homologated STI limited slip with 3 optional ramp angles.

#### Clutch

Homologated STI competition 240 mm 4 paddle single plate.

#### Drive shafts

Homologated STI strengthened.

# TECH 2/3



## TECHNICAL SPECIFICATION (continued)

### Control systems design and specification

#### Engine

TMR- Motec M800 engine control unit with data logging and fully CAN compliant.  
(Programmable for various fuels.)

#### Centre differential

TMR-Motec CAN compliant with 4 programmable options.

#### In car display

TMR - GEMS driver / co-driver display screen.  
New 16 page high resolution TFT colour screen with 32k information back up memory.

#### Exhaust system design and specification

TMR designed 1.25 mm wall thickness stainless steel exhaust with motorsport catalytic converter and optional 101 db silencer.

#### Fuel system design and specification

##### Fuel tank

TMR-Premier design centrally mounted under floor safety bag fuel tank, with 80 litres capacity.

##### Fuel pumps and fuel lines

Bosch high pressure fuel pumps with Aero Teflon fuel lines and FIA approved Staubli fuel sample connectors with quick release fuel filling and vent connectors.

### Car suspension design and specification

#### Dampers

TMR-Bos designed.

#### Front

TMR-Bos MacPherson strut 4 way adjustable with adjustable hydraulic bump stops.

#### Rear

TMR-Bos coil-over damper 4 way adjustable with adjustable hydraulic bump stops.

#### Top mounts

Homologated STI aluminium front and rear.

### Car brakes design and specification

Homologated AP Racing front and rear for Gravel and Asphalt.

#### Gravel

Front: Four piston 295 mm.

Rear: Four piston 285 mm.

#### Asphalt

Front: Four piston 355 mm.

Rear: Four piston 285 mm.

#### Handbrake

- Homologated vertical STI hydraulic lever with Homologated STI balance adjuster.
- TMR/Endless brake pads.



# TECH 3/3



## TECHNICAL SPECIFICATION (continued)

### Steering design and specification

- Subaru/STI designed power assisted steering rack with cooling system.
- Quick rack (13:1) for left and right hand drive.

### Wheels

Asphalt: .....	18" x 8"
Gravel: .....	15" x 7"
Snow: .....	16" x 5.5"

### Car under floor protection design and specification

Full Kevlar under floor protection for Gravel.

- Engine sump guard.
  - 5 mm asphalt and gravel
  - 8 mm rough gravel
- Rear differential guard.
  - 5 mm asphalt and gravel
  - 8 mm rough gravel
- Aluminium fuel tank guards.
  - 5 mm asphalt and gravel
  - 8 mm rough gravel

### Interior design and specification

#### Full TMR designed carbon interior to include:

- Four door panels.
- Driver and co-drivers foot rests.
- Centre console.
- Fuel tank cover.

#### Additional interior equipment

- OMP/TMR specification carbon seats and OMP six point safety harness.
- Electric fire extinguisher system.
- KYB light weight hydraulic scissor jack.

#### Full TMR electrics pack to include:

- GEMS GD 25 display screen.
- Master switch, external circuit breaker and codriver horn button.
- Light weight racing battery.
- Heated front windscreen.
- Carbon lamp pods with PIAA Xenon lamps.

# **TOMMI MÄKINEN** *Racing*

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