



INFOSHEET *jr11*

Season 2010/11



beat the limits
joanneum racing graz



THE TEAM

The U.A.S. Graz racing team was established in 2003. Every year a new "jr" race-car is conceived, designed and built by a team of motivated students. The main purpose every year is the participation in the international design competition 'Formula Student'.

This year a group of 32 students was formed to master this unique project. The team consists of not only vehicle engineers whose course of study carries the project, but also from eager students who are studying the following subjects, Electronics and Technology management, Journalism and Public Relations, Industrial Design, Design of Information, Production Technology and Organization and Physiotherapy. The collaboration of the different subjects and years guarantees an extremely professional working environment of *joanneum racing graz*.

It is to our advantage that the members of the team change yearly; a breath of fresh air and a new passion, coupled with the know-how of the older "Weasels", are the reasons, why great achievements will be made.

This year's *jr11-team* is strong once again. 32 members who gel together like a family will develop a racing car which unites old-proven and innovation: *jr11* which will be introduced on the 06th May 2011, at its Roll-out.

THE WEASELS – BEAT THE LIMITS

What does it have, actually, with these weasels? The answer is easy to give: Weasels are agile and dynamic, own a "healthy amount" of aggressiveness and are nocturnal. Certainly these are the reasons, why the members from *joanneum racing graz* call themselves with pleasure "Weasels".

And these qualities definitely are of benefit for them, because up to Rolling-out *jr11* on the 06th May 2011 several working hours and sleepless nights will still pass. Since, at least, there is this year's motto: Beat the limits – by any account necessary!



THE RACE CAR - jrX

The *jrX* is the most elaborated and most innovative racer of *joanneum racing graz*. Following the high graduations, the construction of the *jr11* will also be a top performance of all involved.

Type:	Monoposto conceived for Formula SAE
Vehicle weight:	185 kg
Wheel base:	1.650 mm
Track width:	1.206/1.140 mm (F/R)
Drive mode:	Rear-wheel drive
Power transm.:	Chain
Clutch:	Hydraulically actuated
Differential:	DREXLER limited slip differential
Engine:	ROTAX 450ccm turbocharged single-cylinder
Max. RPM:	10.500 min ⁻¹
Max. power:	59 kW (80 PS) @ 8250 min ⁻¹
Max. torque:	85 Nm @ 6000 min ⁻¹
Charging:	Turbo charging, resonance-charging and intercooling
Air-restrictor:	19 mm in diameter, after throttle (regulation Formula SAE)
Gearbox:	4-speed sequential gearbox, electrohydraulically actuated via shift-paddles
Chassis:	Complete carbon fibre monocoque
Crashbox:	CFRP
Suspension:	Double wishbones with unequal length, pullrod actuated ÖHLINS spring-damper-units
Rims:	One-piece CFRP rims 6x13 inch
Tyres:	Goodyear 6.2x13 inch



THE RESULTS

How the following results cover, is the team from *joanneum racing graz* one of the top teams in the Formula SAE and counts in the coming season again to the favourites.

Season 09/10

2nd place Fuel Economy in Silverstone

Award „Best Powertrain Installation“ by Mercedes Benz HPE in Silverstone

Season 08/09

2nd place Design Event in Verano de Melegari

2nd Overall & 3rd place Design Event in Melk

2nd Design Event in Hockenheim

Award "Most Professionally Operated Team" by BrawnGP in Silverstone

Season 07/08

3rd place Overall in Silverstone

3rd place Skid Pad & Autocross in Fiorano

5th Overall in Detroit & 2nd place Skid Pad & Design Event in Detroit

Awards „BMW Best Drivetrain“ and „ZF Best Suspension“ in Hockenheim

Season 06/07

2nd place Skid Pad in Detroit

2nd place Design Event & 3rd place Skid Pad in Fiorano

3rd Overall & 3rd place Acceleration & 3rd place Design Event in Hockenheim

1st place & **European record** in Acceleration & 1st place Skid Pad in Silverstone

„BMW Best Drivetrain Award“ in Hockenheim

„Best use of Polymer Matrix Composites Award“, „William R. Adam Engineering Excellence Award“ und „Best Design Communication Award“ in Detroit

Saison 05/06

1st place **Overall** in Balocco

1st place Skid Pad in Detroit

1st place Skid Pad in Bruntingthorpe

Saison 04/05

2nd place Design Event in Balocco



FORMULA STUDENT

The Formula SAE (Society of automotives Engineers) is a construction competition for students which is organized yearly in different international speedways like Hockenheim, Silverstone Circuit and Ferrari Fiorano Racetrack.

From all over the world gifted students of more than 500 universities arrive to prove their skills. The Formula student is supported by the idea to found a (fictive) enterprise which builds and sells a Monoposto racer. Each of these teams builds a (real) prototype which is defeated by the austere regulations of the Formula student SAE.

With the static competitions the team achievement is valued in respect of innovation, creativity and cost-optimum construction. In the dynamic competitions the international teams compete in Acceleration, Skid Pad, autocross and Endurance. The efficiency of the racing vehicles is compared directly.

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