



A day with...



**In the second of our spotlight on MR2 Specialist features we visit Kris and Lilly of KO Racing Inc, in Tualatin... KO Racing is known for it's engineered performance parts designed and manufactured in-house by Mechanical Engineer Kris Osheim (Loki)**

I would first like to introduce myself. My name is Kris Osheim, and I'm what one might call a car enthusiast. Ok, I might be a bit more than your average car enthusiast given the international success that the parts and products I've designed and produced have garnered, but I started just like every other car enthusiast where the automobile was just another hobby.

Sure, I always played with matchbox cars, radio controlled vehicles, and scale plastic models, etc. while growing up, but it was still somewhat surreal in 1992 when my father came home with a 1 year old, slightly used MR2 turbo as his vehicle of choice to relive his younger days again.

**Loki (the Norse mythology god of mischief)**

He wanted a red one, but this black one was too good a deal to pass up. Given the nature of the vehicle and as its purchase was to have some fun, that car was named Loki (the Norse mythology god of mischief). Each of me, my brother, and my sister got taken for rides in it up to and beyond the posted speed limits by my mother and father so we could all appreciate the new addition to the family.

I was fairly amazed at its performance, yet I don't know that it really turned me to MR2's at that time; rather as the years progressed it was a constant presence in my life.

A couple of years after that, I got my first car: a 1967 Ford Galaxie convertible, which I still own. The upside of owning an old American car was that the parts were cheap (here in the US) and the systems



simple enough for a 17 year old to work

on with a little guidance. It was upon the purchase of this vehicle that my fate was sealed. I knew exactly what I wanted to do with my life in so much as I wanted cars to be a part of it.

Over the next several years I worked at several full time jobs in the high tech industry, modified my Galaxie for more power, and put myself through college on a part time schedule. After completing the necessary courses, it was time to commute to a far off college campus and attend school full-time. I needed to drive something a little more economical than my Ford for the 90 miles to Oregon State University on a regular basis. It just so happened that my father had recently moved up to an M-class Mercedes and was thinking of selling the reliable MR2 (still stock, with 75,000 miles). It was

readily available, sporty, and turbocharged, what else could a college student ask for?

Even at this time, I was dedicated to improving my Galaxie and simply using the MR2 as a utilitarian commuter. That was short lived, however, once I started reading more and more on www.mr2.com about the cheap and free modifications that could be done.

**Turning point... MR2 enthusiast and future tuner**

So I installed a manual boost controller I made from Home Depot parts and a boost gauge and started dialing it up. I couldn't believe the instant gratification that came from increasing the boost level with such a simple device.

It was a turning point and secured me as an MR2 enthusiast and future tuner. As the proceeding years progressed and my desire for more power grew, I researched the available products and was unhappy to find the cost of many of them to be well out of my reach; perhaps not so hard to believe on a student's budget.

I had learned many useful skills during the course of my hot-rodding days and as a part of my engineering education including

welding, machining, programming, strength of materials, and insight into many manufacturing processes.

**Cat-back exhaust**

It was with these tools that I attempted and successfully created my first part – a cat-back exhaust using 4 stock turbo exhaust tips, a Camaro/Firebird style muffler, and several pieces of mandrel bent pipe. It was a little rough, but functional, and looked very good.

**KO Racing was born...**

After that I made an air intake, a downpipe and things really started to progress. I found that there were many others also involved with the MR2 that were in search of many of the same products I was making, thus KO Racing was born. While still in college I was making downpipes on the weekends and attending school and doing my school work during the week.

In 2002, I graduated from Oregon State University with a Bachelor of Science in Mechanical Engineering, incorporated KO Racing, and continued to modify Loki. I worked for over 4 years out of college as a design engineer at Freightliner, LLC (North America's largest truck manufacturer and a part of Daimler Chrysler) and worked evenings and weekends out of my garage turned fabrication shop on exhaust systems, downpipes, and later turbo kits.

**Uncompromising quality and a commitment to customer satisfaction**

As always with the production of our parts we followed the tenants of uncompromising quality and a commitment to customer satisfaction that is unsurpassed in the industry. I've designed several parts in my engineering work that were assembled on heavy trucks as well as installing many parts on hot rods and imports, thus having a





very keen understanding of what is required for a part to fit well and have appropriate tool access. I had a chance to also do some freelance fabrication work at a local tuner shop (Torque Freaks [www.torquefreaks.com](http://www.torquefreaks.com)) on a few project cars that gave me a little wider exposure to the sport compact market in general.

I could see and examine many of the products produced by the major manufacturers and came to the conclusion that we were doing something right at KO Racing, as many of them weren't up to the quality standards I put on my own parts. The work I did at Torque Freaks allowed me to establish a good working relationship with them to gain access to use their Dynojet dynamometer when I required its use.

Since starting KO Racing, I've added Hydra Nemesis engine management and a larger fuel system to Loki tuning it to 375rwhp on race gas with a stock 2nd gen cylinder head, intake manifold, exhaust manifold and throttle body. I've been down the road that many other MR2 enthusiasts would like to travel in my search for power, and have encountered many of the obstacles others will also encounter. I utilize this knowledge to try to best help my customers to achieve their own goals with their cars.

**My largest support and partner making it possible...my wife Lilly**

KO Racing is largely me and my influence, but I would be remiss if I didn't point out the largest supporter and partner that make it possible: my wife Lilly. She responds to many emails and

phone calls as well as having taken the steps necessary to learn to weld and makes most of the TKO dual exhausts and downpipes we ship out today.

**2006, a monumental year for KO Racing...**

2006 has been a monumental year for KO Racing. We moved out of the garage and into a 7500 square foot facility located in Tualatin, OR and I quit working at Freightliner and dedicated myself full time to KO Racing. This opened up a lot of opportunities that were not feasible in my suburban home location.

We have 2 lifts to allow for long term and short term projects to be worked on simultaneously, we added a CNC milling machine to our tool repertoire as well as more welders, a machine lathe, and dedicated work stations for both MIG and TIG welding.

We've already conducted several NA to turbo conversions on the MKII MR2 since moving in last March. I've installed and tuned the Hydra Nemesis on several vehicles including MR2's and Celica All-tracs.

**New products**

We also introduced new products in 2006 adding versions of our Street Brawler turbo kits using the GT30R and GT35R turbos (\$2750) and a GT28RS turbo kit (\$1900). We've brought the manufacture of our turbo kit adapters and several other small parts in house with our CNC capability.

We have an unprecedented and unparalleled ability to be dynamic and flexible in producing whatever part necessary for a given project for the MR2.

**Mk1.5 project**

We are currently working on our first MK1.5 project utilizing a Gen3 engine and are of course doing our own take on this time honored conversion and will apply the same ingenuity, and commitment to quality that we have applied to all our ventures in solving the issues that arise.

KO Racing is also fully equipped to perform any service work from routine maintenance, to clutch installations, to complete engine rebuilds. Our ability to detail parts extends to show quality polishing, painting, and custom fiberglass work when necessary.

**New and innovative products in 2007**

We will be introducing several new and innovative products in 2007 for the MR2, but the details of which are still not ready for release.

Our website has been under a major overhaul since late 2005 and

is just about ready for release, so be sure to check [www.koracing.net](http://www.koracing.net) for details regarding new products as they come out.

We hope to expand our products and product line further as 2007 rolls on to include other Toyotas including the 2JZ powered turbo Supras (we have a couple of prototype turbo kits done so far) and the Tacoma Pickups.

We also have dabbled in diesel performance and offer a range of products for US domestic light duty truck applications.

Regardless of what other applications our product line may stretch to encompass, our hearts will always be with the MR2 and we will continue to make and invent parts to improve these wonderful automobiles.

**Kris Osheim, KO Racing**  
[www.koracing.net](http://www.koracing.net)

**KO Racing Services:**

- Engine swaps (MK2 NA to Turbo, MK1 to MK1.5 3SGTE)
- Engine rebuilding including performance rebuilding
- Suspension work
- Brake upgrades
- Exhaust fabrication
- Routine Maintenance
- Clutch installation
- Polishing SS or Aluminum parts
- Painting of parts with urethane catalyzed paints

- Powder coating of small parts
- Custom Fabrication (steel, stainless, aluminum, titanium)
- MIG and TIG welding
- Custom Turbocharging
- CNC Machining
- CAD services (AutoCAD, Rhino3D)
- Tuning services (Hydra Nemesis and AEM)
- Dyno testing
- Complete restoration services
- Auto transport services in our fully enclosed 26' car hauler.



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