944 Engine for Endurance racing

Posted by karbuf - 02 Aug 2012 05:26

Hi Members,

I'm brand new to road racing (number of years of asphalt roundy-round racing though). I want to run in the Chumpcar series next year and I'm seriously considering the 944 platform.

Endurance is a big deal (up to 24hr races)... What is the best way to prep the 2.5L for this type racing? ie. baffle in oil pan? what can be done within reason and rules to make it bullet proof?

What other challenges with the chassi should I look at? ie. aluminum vs steel control arms? (visa versa).. I've seen some chatter about these but dont have the experience to know the issue..

ANY words of wisdom would be greatly appreciated.. I have just started reading the discussions and tech articles on this forum too. Great source of info.

I live in Tampa, FL.

Thanks in advance..

tim.....

==========

Re: 944 Engine for Endurance racing

Posted by michaelreich - 29 Sep 2012 10:04

---

on the power steering, don't forget to replace the small springs for the torsion bar with solid spacers - really improves the feel.

==========

Re: 944 Engine for Endurance racing

Posted by Sterling Doc - 29 Sep 2012 10:36

Explain- what springs?

==========

Re: 944 Engine for Endurance racing

Posted by joeblow - 29 Sep 2012 11:33

X2??

Swap steering rack bushings with solid units perhaps??

michaelreich wrote:

on the power steering, don't forget to replace the small springs for the torsion bar with solid spacers - really improves the feel.

==========

Re: 944 Engine for Endurance racing

Posted by michaelreich - 29 Sep 2012 12:31

I have read a lot about how people don't like the "feel" of them and I often wonder if people modified them correctly. It is a bit difficult to explain, but if you wiki power steering, I think you can find some graphics. If you already know what I am going explain, I do not intend to insult your intelligence.

A power steering system works by diverting oil pressure into one side of the rack to help push the rack in that direction. The way that it does this is by the use of a torsion bar in the steering. When the steering is straight ahead, there is no torque of the shaft and the pressure is equal on both sides of the rack. When you turn the wheel, it twists the torsion bar just enough to divert the oil into the side of rack. This assists the steering and the more the torque, the more assist (this is the reason you do not want to one side and apply a lot of torque - it maximizes pressure into one side of the rack with no movement in the steering). Okay, to try to bring this close, the manufacturers "tune" their steering systems by putting springs (they are small) on either side of the torsion bar to resist the twisting and act as a full stop when you hit about 15 degrees of twist. If you carefully turn a steering wheel of a ps car with the engine off, you can see this effect. You can turn the steering wheel a bit before the wheels turn. If you are going to modify the rack, it feels better (at least to me) if you take out the springs and replace them with washers or a ground down set screw. I hope this makes sense. It is much easier to understand with the graphics. I'll see if I can find a link.

==========

Re: 944 Engine for Endurance racing

Posted by joeblow - 29 Sep 2012 14:33

I think this is applicable for 'other' applications. I have not seen any of this in a Porsche. The PWR rack is virtually identical to a mechanical rack except for the different gear ratio and the applicable hydo piston and fittings for the plumbing.

I have seen what you describe in steering boxes like found on GM cars/trucks, Ford etc... There is ZERO or near zero play in a Porsche rack and pinion whether the engine is running or not.

The difference in 'feel' is due to the different ratio and in cases where the hydro piston is left in which causes some drag. I like the taller ratio in the pwr rack myself on the track since I 'feel' more of what is going on and have less tendency to over control the car. It is a pain in the pits because it is very stiff at slow speed.

michaelreich wrote:

I have read a lot about how people don't like the "feel" of them and I often wonder if people modified them correctly. It is a bit difficult to explain, but if you wiki power steering, I think you can find some graphics. If you already know what I am going explain, I do not intend to insult your intelligence.

A power steering system works by diverting oil pressure into one side of the rack to help push the rack in that direction. The way that it does this is by the use of a torsion bar in the steering. When the steering is straight ahead, there is no torque of the shaft and the pressure is equal on both sides of the rack. When you turn the wheel, it twists the torsion bar just enough to divert the oil into the side of rack. This assists the steering and the more the torque, the more assist (this is the reason you do not want to one side and apply a lot of torque - it maximizes pressure into one side of the rack with no movement in the steering). Okay, to try to bring this close, the manufacturers "tune" their steering systems by putting springs (they are small) on either side of the torsion bar to resist the twisting and act as a full stop when you hit about 15 degrees of twist. If you carefully turn a steering wheel of a ps car with the engine off, you can see this effect. You can turn the steering wheel a bit before the wheels turn. If you are going to modify the rack, it feels better (at least to me) if you take out the springs and replace them with washers or a ground down set screw. I hope this makes sense. It is much easier to understand with the graphics. I'll see if I can find a link.

==========