

Auto Gear Equipment 'Syracuse' Two-Speed

Straight Talk About Bent Gears

Circle track racing is all about mechanical efficiency, and all things being equal, the car with a gearbox that weighs less and sends a greater percentage of the engine's power down the driveshaft will lap faster and finish in the winner's circle more often.

So, when we set out to design our new 'Syracuse' two-speed, we were surprised to discover an obsession with straight-cut gearing in the racing community. Angle-cut gears -- "helicals" -- because they spread the load over two or more teeth at once -- we call that "helical overlap" -- are, all else being equal, stronger per unit width than straight gears. That means that equally strong helical gears can be narrower than straight gears. Not only does this mean that the helical gearbox will be lighter, but the "pumping losses" -- the amount of power lost in churning and thereby heating the oil -- will be less as well. These aren't big differences, but winners turn little advantages like these into gold every weekend. So our new design has helical gears. Not a big helix -- just enough.

AUTO GEAR gearboxes are different by design -- watch this site and from time to time we'll tell you why.

