

Introduction to Improved Production Racing



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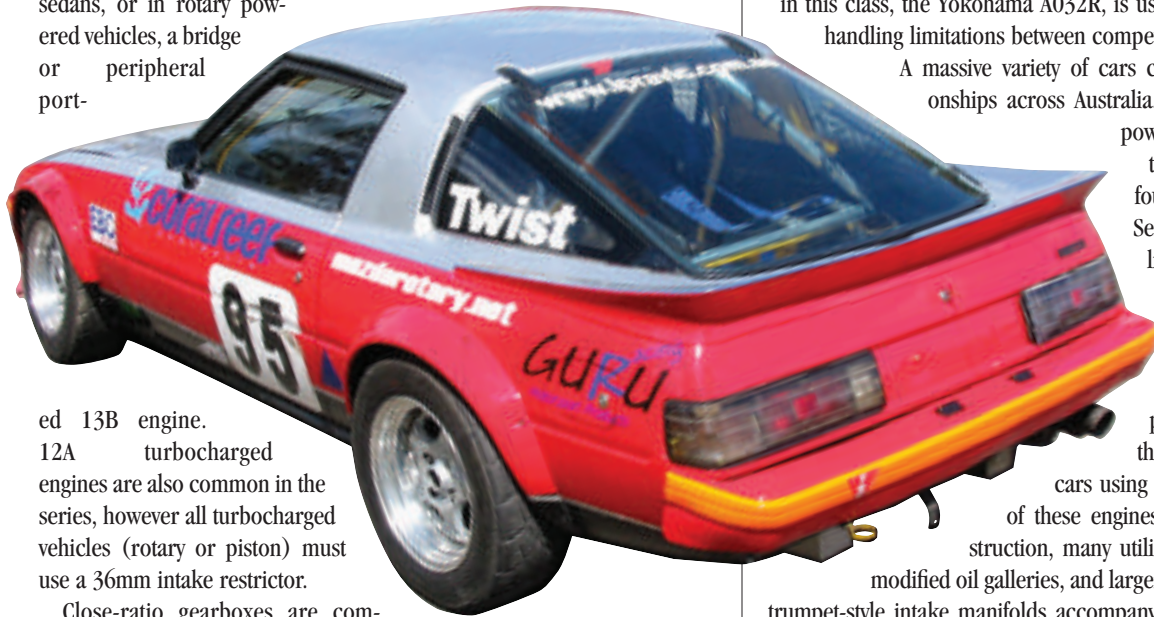
IMPROVED PRODUCTION RACING, or IPR, is currently one of the fastest growing circuit racing categories in Australia. Each state down under runs its own IPR series, as there are a number of tracks within each state. Once a year, a "Nationals" event is held which is open to drivers from all over the continent.

A recent increase in participation levels driven by a number of factors, but mainly because of the reasonably low budget needed to compete in the category, compared to other motorsport series. Additionally, competitors are able to take advantage of a wide variety of machinery combinations, as other classes of racing promote more strict regulations on how a vehicle is outfitted. Improved production cars are defined as modified road cars, and eligibility regulations require that cars must be classified as a touring vehicle (able to seat four adults), and have, at some point, been released for sale on Australian roads.

Among a number of other limited modifications, the drivetrain is permitted to include a larger engine from the same manufacturer as the chassis. This results in creations like SR20DET-powered Datsun 1600 (510)



sedans, or in rotary powered vehicles, a bridge or peripheral port-



ed 13B engine. 12A turbocharged engines are also common in the series, however all turbocharged vehicles (rotary or piston) must use a 36mm intake restrictor.

Close-ratio gearboxes are commonly used (with five forward gears), most being of the dog-gear variety. Differentials can be locked, or fitted with limited-slip or torque bias sensing centres. Braking options are free, how-



ever they must be dual circuit for safety reasons. Typically, 1st Gen RX-7s use four-spot calipers from 2nd Gen RX-7s with slotted and/or cross-drilled discs.

Suspension modifications are also nearly limitless, and include being allowed to lower the car within 100mm of the ground; excluding the exhaust. Springs, shocks, sway bars and fitment of urethane bushes are also common upgrades. For vehicles with over three litres in capacity, wheel width can be increased to a maximum eight inches.

Exterior modifications generally involve the installation of front and rear spoilers for improved aerodynamics along with the common addition of wheel-arch flares. On the inside, cars are usually fully stripped except for the dash and a mandatory full roll cage along with an approved bucket racing seat and harness.

For someone unfamiliar with racing, the most uncommon restriction associated with this class may be a uniform tire requirement. A control tire,

in this class, the Yokohama A032R, is used in an attempt to uniform the handling limitations between competitors.

A massive variety of cars compete in the various championships across Australia. They range from five liter V8-powered Australian family cars like the Holden Commodore, to turbo four cylinder Datsuns and BMW 3-Series. Four-wheel drive weapons like the Subaru Impreza WRX try their hand, as do early model Mazdas such as RX-3 sedans, and 1st Gen RX-7s.

The most common rotary powered vehicles seen in IPR are the RX-7s with the majority of these cars using bridgeported 13B engines. Most of these engines have undergone detailed construction, many utilizing improved 3mm apex seals, modified oil galleries, and larger injectors. Intricate tuned-length trumpet-style intake manifolds accompany hand-fabricated extractors and custom exhausts that are usually three inches in diameter. Electronic engine management systems from companies like Microtech and Haltech are required to control both the electronic and mechanical functions of these vehicles. The leading RX-7s participating in IPR are producing power in the region of 186 kilowatts at the rear wheels (250 horsepower) which is considered impressive for a naturally aspirated rotary engine.

Racing is fast, invigorating, and an absolute aural delight for rotary fans as they experience 15 to 20 rotary powered cars revving to in excess of 9,000rpm down the main straight of a circuit, not to mention the two-foot flames most RX-7s shoot from the exhaust when shifting. Held as a support series in most states to more premier motorsport categories, IPR is slowly becoming a spectacle on its own, with field numbers increasing each year along with spectators. **RX**

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