



Kyosho

OPTIMA

from Great Planes Model Distributors

by JOSEPH BRUNI

I_t has been two years since Kyosho of Japan, distributed in the U.S. by Great Planes Model Distributors*, introduced the most successful line of off-road, four-wheel-drive, 1/10-scale racing models, the Optima series. Now with the culmination of two year's racing experience, the innovative research and development team at Kyosho has meticulously fused the advanced performance technology of the



Track Report

From its successful predecessor, the Optima, the Salute has evolved into a superior contender.



world champion Turbo Optima with a sleek new aerodynamic body to create the perfect and superior clone, the Salute. By adding an optional LeMans 240 SB motor and the new Kyosho 7-cell 8.4-volt Turbo racing pack, the synergy is lethal!

THE KIT. As soon as you open the Salute's colorful sturdy box you'll notice that all the parts are securely packaged and labeled. The 28-page assembly manual is the finest I've ever seen. Aside from having detailed diagrams, there are several pages of vital adjustment, maintenance and performance hints as well as a list of suggested optional parts and further readings. Included in the kit are three Allen wrenches, shock oil, silicone, and screw-locking compound. For proper assembly, the builder will need to supply a Phillips screwdriver, needle-nose pliers, hobby knife, and scissors.

The Salute boasts an impressive list of performance features. Designed for quick and easy adjustments, the strong aluminum ladder-type frame is the basis of the car's structure. By adding Option House gold premium fully adjustable racing shocks, four heavy-duty extra-long nylon wishbones, front and rear adjustable stabilizer bars, Kyosho has produced a state-of-the-art suspension system that's very hard to beat. The four-wheel-drive power system is composed of twin (front and rear) differentials connected directly by a hardened-steel chain, optimizing maximum torque to each wheel. The motor is mounted to the rear of the Salute, creating a perfectly balanced center of gravity and is integrated to a unique torque-limiter system. This

photo courtesy of KYOSHO



system mimics a clutch, thus preventing any excess motor strain or gear damage from sudden high-torque starts or if the wheels become jammed. The kit also includes 16 ball bearings and the new Battery Eliminator Circuitry (B.E.C.) with the option of a 8.4- or 7.2-volt connector, depending on the power source used.

There is all the necessary mounting hardware for any major-brand two-channel radio system. I chose the new Kyosho Pulsar 2000 pistol-grip, two-channel radio system for my Salute. The system features adjustable wheel-grip tension, servo reversing and adjustable throttle trigger centering. The two small KR-88 servos and mini-lightweight KR-2M receiver are extremely versatile and fit any scale R/C car. One feature of the Pulsar is its ability to be converted in a matter of minutes to accommodate a right- or left-handed driver.

CONSTRUCTION. The 53-step assembly took about six hours from box to track. Before beginning, as a general rule, whenever aluminum parts are utilized in an R/C kit, the builder is advised to apply a thread-locking compound to nuts and bolts in order to prevent their loosening during operation.

The Salute's assembly begins with the twin differential systems. In keeping with Kyosho's tradition, the differentials are pre-assembled at the factory. Following the addition of six ball bearings and choosing one of three possible gear ratios,

the two differentials are sandwiched between two fiber-filled nylon gear housings and connected to each other by a tempered-steel chain. Since my local track has a number of steep inclines, I chose the 18-tooth-rear to 19-tooth-front gear ratio. This combo provides increased power to the rear wheels for accelerated climbing and cornering capabilities.

Construction continues with the addition of the eight aluminum chassis components. At this point the Salute's strong cage-frame is complete. Next is the integration of Kyosho's race-proven suspension system. The extra-long suspension arms are composed of a revolutionary, lightweight EX6 nylon that enables the car to plow over any type of terrain without the worry of cracking or breaking. Power is transferred to all four wheels by hardened-steel swing shafts. The Kyosho racing shocks are pre-assembled and require addition of shock seals and the proper amount of shock oil.

The Salute arrives without a motor, I chose the LeMans 240 SB for this track report. This is Kyosho's quickest 4-minute off-road motor, churning out more than 30,000 rpm. The motor features dual ball bearings, aluminum endbell, adjustable timing, diamond-trued commutators and coils potted in epoxy resin. All necessary

mounting hardware is included in the kit.

Installation of the Kyosho Pulsar radio system was flawless. The receiver On/Off switch, throttle servo and speed controller are mounted to a fiberglass radio plate that also provides mounts for the motor battery. The car includes two battery connectors and can be set-up for a standard 6-cell, 7.2-volt battery or, as I chose, a 7-cell 8.4-volt racing pack. The aerodynamic Salute body, wing driver are clear and require painting and trimming. I applied two coats of Tamiya's specially formulated polycarbonate paint. The body was then trimmed and further detailed with the included pressure-sensitive decals.

PERFORMANCE. Before my initial test-run, I chose to advance the LeMans 240 SB's timing 4°, thus increasing top end and improving acceleration. This task was easily accomplished by following the detailed performance adjustment section of the instruction manual. After a 20-minute quick charge to the 7-cell, 8.4-volt turbo pack and some minor camber adjustments, the Salute was ready for action.

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As always, my first run was on the asphalt street in front of my house. The usual pit crew accompanied me: Johnny, age twelve, switch and battery man; Tony, thirteen, adjustment and clean-up man; and my lovely wife, Edeet, traffic-alert coordinator. Edeet gave us the coast-is-clear signal and Johnny placed the car down and switched on the power. I then maneuvered the car to a starting position and buried the throttle. The Salute layed down four streaks of Bridgestone rubber and shot down the block. Johnny, Tony and Edeet expressed varied looks of surprise.

With no time to waste, we picked up the car and headed for the local dirt track, where we repeated the street scene.

The Salute has an incredibly high top end and the quickest acceleration of any

car I've ever seen. The four low-profile Bridgestone off-road racing tires clawed deeper and deeper, enabling the Salute to conquer any terrain. The highlight of the car's performance was the way the high-tech suspension system handled the track's jumps and bumps. It simply absorbed everything in its way without any signs of jolting or stiffness, landing smoothly jump after jump.

As mentioned, I chose the 18:19 differential gear ratio. The car not only climbed every incline and jump with wrenching power but the ratio improved the cornering and steering performance. Initially, the car leaned somewhat into the wider turns, so I decided to take a second and rolled into the pit area where Johnny quickly readjusted the front and rear stabilizer bars to a stiffer setting. I was out in less than 30 seconds. With these new adjustments and the Salute's already-low

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center of gravity, the car seemed to be sucked into each turn without the least bit of sliding or leaning.

To say the Salute was exciting to drive is a gross understatement. The car delivers the kind of performance that serious R/Cers expect from a competitive racing machine. There are a few mentionable options, obtainable from Kyosho's Option House, that would enhance the Salute's performance. There's an array of racing tires designed for any track condition as well as the new line of pinion gear racing clutches with different numbers of teeth. I recommend using the optional side and motor guards to protect the car from jealous kamikaze-type rivals.

**The following is the address of the company mentioned in this article:*

Great Planes Model Distributors, P.O. Box 4021, Champaign, IL 61820. ■