

# 1992 CATALOG AND HANDBOOK

## THE FINEST RADIO CONTROLLED MODELS

- SCALE RACING CARS ● SCALE SPORT CARS ● RACING TRUCKS
- CAR CRUSHERS ● CATERPILLAR ALL-TERRAIN VEHICLE
- COMPETITION RACING CARS ● OFF-ROAD RACERS ● MOTORCYCLES
- THERMAL GLIDERS ● MOTOR GLIDERS ● AIRPLANES
- HELICOPTERS ● RACING BOATS ● YACHTS ● SPECIAL MOTORS
- SUPER NiCd BATTERIES ● BATTERY CHARGERS
- SPECIAL EQUIPMENTS ● ACCESSORIES ● KYOSHO ORIGINALS

**KYOSHO**<sup>®</sup>  
THE FINEST RADIO CONTROL MODELS





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# R/C GENERAL INFORMATION

## RADIO CONTROL: THE GREAT HOBBY AND SPORT

### RADIO CONTROL MODELS

Radio control models may be miniatures of actual aircraft, cars, boats, etc., or they may be original creations that have no resemblance to any real machine. What they have in common is that they must be carefully designed and carefully built. Well-made models are the work of true craftsmen. Other than the fact that they are small, they have nothing in common with toys, which require no skill to make or operate.

Modellers with the time and the skill may do everything related to creating the model, from drawing the plans to decorating the finished model, but most modellers must depend on kits produced by manufacturers. These have been designed by experienced people and can be expected to perform properly when completed, in addition to which they can be built much more quickly than a model built from scratch. Many modellers do not even have the time to construct a model, and are being served by many companies that produce almost completely built models that require only a few hours for assembly and installation of the radio equipment. Kyosho is one of the world's major producers of kits for cars and airplanes, and of almost completely built airplanes, helicopters, cars and boats.

Models can be operated safely with care and attention, but many are large and fast enough to cause damage to property and injury to people. Any new modeller should have the assistance of an experienced modeller, and all modellers should have public liability insurance. There are national modelling associations in most countries, and it is worthwhile to join and support them. (Many have insurance programs.)

### INTRODUCTION TO RADIO CONTROL EQUIPMENT



Radio-controlled models are aircraft, cars, boats and other models that can be made to respond in a desired manner by means of radio signals sent from a hand-held transmitter to a receiver in the model. The most commonly used transmitters have two vertical "sticks" that are pivoted so that they can move. Each stick may control one function of the model via one radio channel and move in only one plane (right-left or back-forth), or may control two functions and move freely in any direction. Most cars, boats and gliders need only two controls, right-left and forward-reverse or up-down. Airplanes usually need at least three channels, to control right-left (rudder or ailerons), up-down (elevator), and engine (or motor) speed. Four channels is most common for airplanes, one each for rudder, ailerons, elevators and engine/motor. More elaborate models may have retracting landing gear, flaps, and other functions, requiring more channels. Helicopters require at least five channels.

The signal from the transmitter is picked up by the receiver, which decodes the signal and, in turn, causes the appropriate servo(s) to move in response to the movement of the stick(s) of the transmitter. A servo is a driver unit with a motor for power, gears to increase the torque of the motor, and electronic circuitry that receives the signal from the receiver and causes the output arm or wheel of the servo to move the exact amount specified by the extent of movement of the stick.

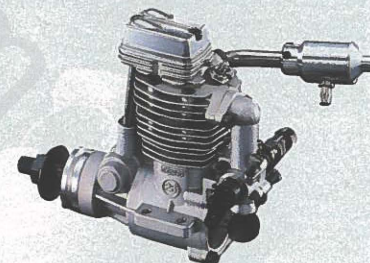
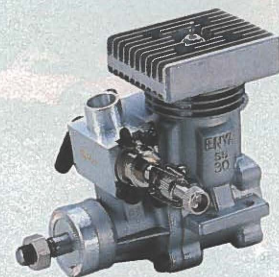
Each transmitter puts out a signal of a specific frequency. In most countries the government makes available a certain range (band) of frequencies for modelers, and modelers must use only these. In many countries, the law also specifies that frequencies assigned for aircraft may not be used for surface models (cars and boats), and vice versa. The purpose of this regulation is safety, for a receiver may be affected by any transmitter operating on the same frequency. If a car modeller were using an aircraft frequency and could not see an airplane that was flying within range of its signal, it could cause the airplane to go out of control and crash, with the risk of damage or injury.

The two common allocations for the sticks are shown on page 84. The two main controls of a Mode I set are operated by both hands, making it easy for beginners and for general flying. One hand must operate both of a Mode II set, so greater precision is required. It is regarded as best for pattern flying. One mode is usually dominant in a market, but the other mode can usually be ordered.

### ELECTRIC MOTORS



### ENGINES





# ALL R/C MODELS



## ① Rotor

The rotor is the part that rotates. It has an armature made of shaped steel plates and which is wound with coils of copper wire, and is mounted on a shaft so it can rotate. Electric current passing through the wires magnetizes each pole of the armature in turn, causing it to be attracted and rotated to one of the fixed permanent magnet poles in the case. Rotors used in model motors usually have 3 or 5 poles. The number of turns and the thickness of the wire determine the characteristics of the motor.

## ② Commutator

The commutator acts like a rotating switch that allows current to flow through one coil of the rotor, then another, as the rotor turns. It is made of copper segments, one per pole, wrapped around the shaft and insulated from it and from other segments. Current is passed to the segments by brushes.

## ③ Brushes and endbell

The brushes contact the commutator as it rotates and pass current to the rotor windings as the rotor turns. Brushes are made of carbon or mixtures based on carbon. The endbell forms one end of the motor. It holds the two brushes in insulated holders, and provides a mount for one of the bushings or bearings of the rotor shaft.

## NICKEL CADMIUM BATTERIES



Nickel-cadmium (NiCd) batteries are storage batteries that can provide good amounts of power for motor-driven cars and aircraft. NiCd batteries can normally be recharged 300 or more times. All NiCds can be slow-charged for 14-16 hours, but the types used for models can be fast-charged in about 15 minutes using an appropriate charger. Such chargers are powered by an ordinary 12V car battery. Each NiCd cell produces 1.2V. For modelling purposes, cells are connected in series to produce 4.8, 6, 7.2 and 8.4 volts. Each cell has a capacity measured in milliampere-hours (mAh). This indicates the length of time that the battery can deliver a specified current. Capacities of 1200 and 1700mAh are typical for powering cars, boats and airplanes.

## BATTERY CHARGERS



NiCd batteries must be recharged when the charge has been exhausted. Many types of charger are available, some intended for only one type of battery (voltage and capacity), and some that will charge a wide variety of batteries. To limit the charging period and avoid overcharging and damage to the cell, chargers are cut off by timer or by charging voltage characteristic.

## DISCHARGER

NiCd cells are not identical, and some will recharge better than others. Quick charging batteries does not recharge them to 100% of capacity, and less efficient cells will be charged to a lower level. From time to time it is useful to discharge all cells of a battery completely (at a low discharge current), then to recharge the battery to full charge at a low charging current (14-16 hour rate). There are specialized dischargers on the market, and some chargers also act as dischargers. A high resistance can also be used.

## FUEL

Radio control models have mostly been powered by engines. (Many now use electric motors.) The most popular type is the glow engine, which uses an alcohol-based fuel ignited by a glow plug that is heated by a battery for starting. Another type is the diesel engine. This has no glow plug, and the ether/kerosene-based fuel is ignited by the high temperature due to compression by the rising piston. Many large models have an engine with spark ignition and use fuels based on gasoline or alcohol.

There are both two- and four-stroke engines. The former is simpler and lighter, but is usually best used for turning relatively small propellers at quite high speeds (except diesels, which can turn both large and small propellers). Four-stroke engines can usually turn larger propellers than two-stroke glow engines of the same size, and are usually quieter and sound more pleasant, but they are heavier and more complex mechanically.

Model aircraft engines usually operate in the speed range between about 8000 and 15,000rpm, although engines for special purposes can run much faster.

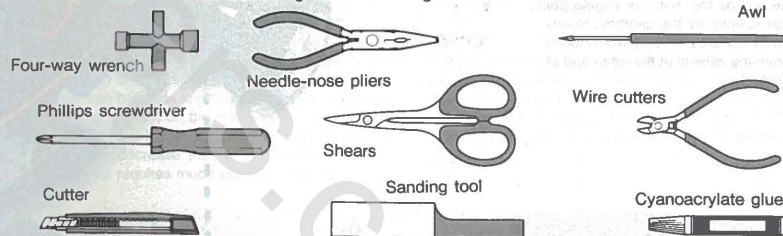
Engines range in size (displacement) from a tiny .010 cubic inches (.16cc) to multi-horsepower giants of more than 5 cubic inches (over 80 cc). Engines for most Kyosho models are in the .049 to .45 size range (2-stroke).



All engines require fuel. Fuel for glow engines is based on alcohol for the energy and a lubricant (typically castor oil, sometimes a synthetic oil) to prevent friction. Nitromethane is usually added (5-40% or more) to improve idling and maximum power. Diesels use a mixture of kerosene, ether and castor oil. Engines with spark ignition may use glow fuel, but more normally use gasoline with a suitable lubricant.

## MODELLING TOOLS

Tools shown are useful for making and assembling models.



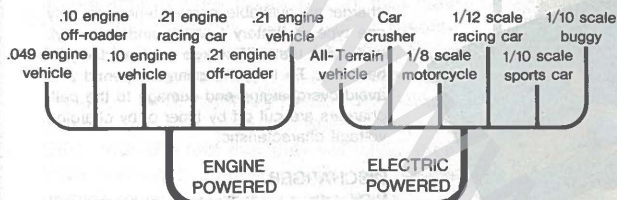
## PAINTING AND DECORATING



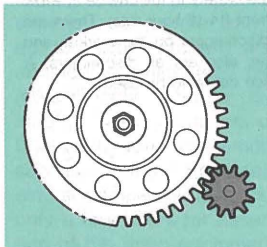
Most model cars have clear polycarbonate bodies. Special water-based acrylic paints, such as Polyca Color, are required, for organic solvents would damage the plastic of the body. Factory-made model airplanes usually are already finished and do not require painting. Models covered with a fabric-type of covering material can be covered with a clear finish, or can be painted. If a glow engine is used, the finish must be resistant to the fuel; such materials include butyrate dope and epoxy and urethane paints. Models using electric, gasoline or diesel power can use these paints as well as nitrate dope and enamels.



# R/C GENERAL INFORMATION

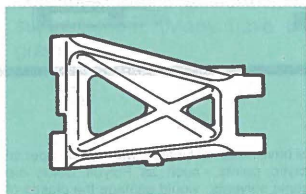


**TYPES OF R/C CARS**



## GEARING AND POWER TRANSFER

The torque of motors and engines is increased by a gearbox. Wheels at the same end as the motor or engine are driven directly by the gearbox. Nearly all 4WD vehicles have shafts or belts to drive the wheels at the other end of the vehicle.

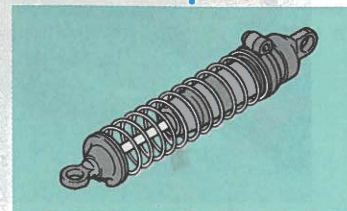
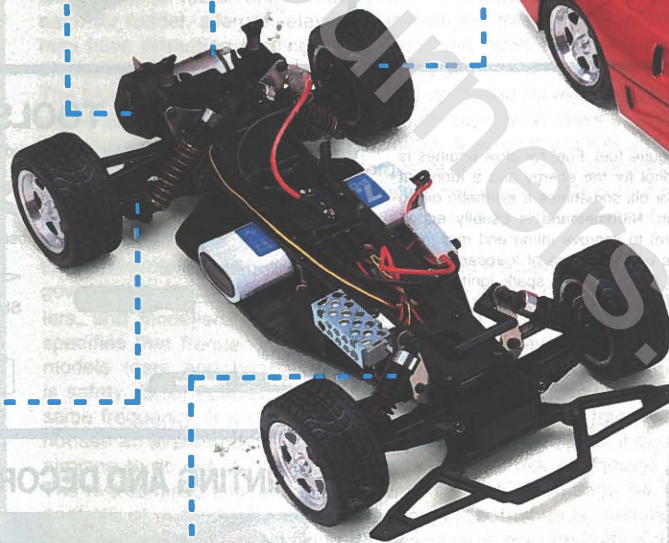
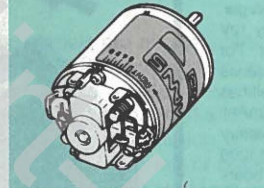
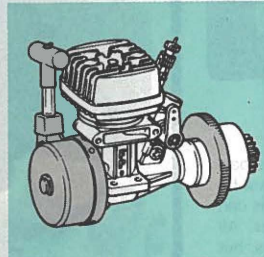


## SUSPENSION

Except for a couple of specialized vehicles, all Kyosho models have a sophisticated four-wheel independent suspension that allows each wheel to move separately in response to a bump and keeps the vehicle under control, even on rough surface.

## POWER UNIT

A vehicle can be driven by either an electric motor powered by a rechargeable nickel-cadmium (NiCd) battery, or by an engine burning an alcohol-based fuel and ignited by a glow plug.



## SHOCK ABSORBERS

Models have shock absorbers (dampers) to keep the suspension springs under control, and thus the vehicle, even on rough ground. In the oil-filled type a piston moves up and down in a cylinder full of oil, and the viscosity of the oil damps the wheel movement. In the friction type, mechanical friction in the shock body acts in the same way as oil in the oil-filled type.



## TIRES

There are two basic types of tire. The sponge type is made of a closed-cell material like a sponge. The semi-pneumatic type is hollow, and the design traps air inside the tire, although there is no inner tube. The shock-absorbing function is a combination of the air inside the tire and the stiffness of the sidewalls of the tires. There are many types of tread pattern, each suited to a particular type of road surface.

## PAINTING

Car bodies in kits are made of clear polycarbonate plastic, a very strong, impact-resistant material. It should be painted with acrylic paints, like Polycolor, which are water-based. Paints using an organic solvent will damage the body. The paint is usually applied to the inside of the body. This gives a glossy finish and protects the paint from scratch damage.



## RADIO-CONTROLLED CARS

R/C cars appeal to almost everyone because they make it possible to drive many interesting kinds of vehicle, in 1/8, 1/10 and 1/12 scale. High-quality products like those from Kyosho have the same design features as their full-size equivalents. The following gives a brief outline of the types of model vehicles available and the function of the major components.

There are two main types of R/C vehicle, "On-road" and "Off-road". The former are intended to run on smooth tracks like pavement, gym floors, etc., and include model Formula 1 cars, super-performance road cars, and competition cars, while the latter are designed to cope with rough ground, and have large tires, high ground clearance, and long-travel suspensions. In-between them are rally cars that, like the full-size cars, can travel at high speed on good surfaces, yet can cope with rough conditions too. In all these groups there are, also like full-size vehicles, rear-wheel drive, front-wheel drive, and four-wheel (4WD) models. Kyosho makes cars of all these types.

The powerplant of these R/C models is either an electric motor or a miniature piston engine. Each type has its advantages. Electric models are clean, quiet, and require very little adjustment, while the engine-powered models have the sound of a real engine and somewhat higher performance.



## COMPETITION

Owning a fast model car often leads to the desire to race it against other models. It's a lot of fun, and many competitors spend much time practicing and improving their cars. Many clubs and hobby shops organize races, so it is a good idea to ask them to find out what activities are available in your area.



### ROAD RACING

This is racing on a track with many corners, like a real road. Cars must be able to turn equally well in both directions, and this requires the ability to tune the chassis in the same way as real cars do.

Tracks may be laid out on flat areas, like parking lots, or may be permanent setups with hills as well.



### OVAL-TRACK RACES

It looks simple to drive around an oval course, but certain skills are required, as in American stock car racing at Indianapolis. To improve the performance of model cars, the batteries can be mounted toward the inside of the course to improve cornering. There are many other tricks.



### OFF-ROAD RACING

Off-road tracks are rough. For some drivers, the rougher the better! These courses require the best handling, which requires a long-travel all-independent suspension, good shock absorbers, a powerful motor, and the right choice of tire. It's a real test of skill.

## TECHNICAL INFORMATION



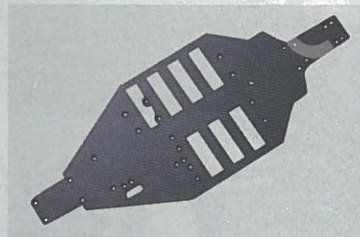
### MOTORS

There is a motor for every application. Some of the differences are the type of vehicle (2WD/4WD), duration of race, capacity of battery used (1200/1700mAh), size of vehicle, motor winding (single/double, wire diameter, number of turns), bushings/ball bearings, soldered/crimped commutator, etc. Expensive motors have advantages, but less-expensive ones also give good performance.



### SHOCKS

The handling of any vehicle will be affected by the relationship of the springs and shock absorbers. The springs can be made shorter and stiffer by changing the clamp position on the shock body, and more or less viscous oil can be used in the shocks to increase or decrease their effect. Finding the winning set-up requires much experimentation.



### CHASSIS

The standard chassis (glass-reinforced nylon or polyester) is quite adequate for all normal operation, but for maximum speed there can be an advantage in converting to an ultra-stiff carbon fiber reinforced chassis.



### GEARING AND DIFFERENTIAL

A low-geared model (high numerically) will accelerate quickly, but the top speed will be limited. Conversely, a higher-geared model will accelerate slower, but the top speed will probably be higher (if the power is available). If there is a choice of gearing for your model, it may be worth experimenting to find the best gearing. Also, if the differential is adjustable, there may be an advantage in trying various settings.



### TIRES

For On-road racing, the choice would be among tires of various diameters and hardnesses, soft for better cornering, harder for longer life. For Off-road vehicles, the type of tread (pin, spike, block, etc.) on the front and rear wheels would be selected for the best handling.



### NiCd BATTERY

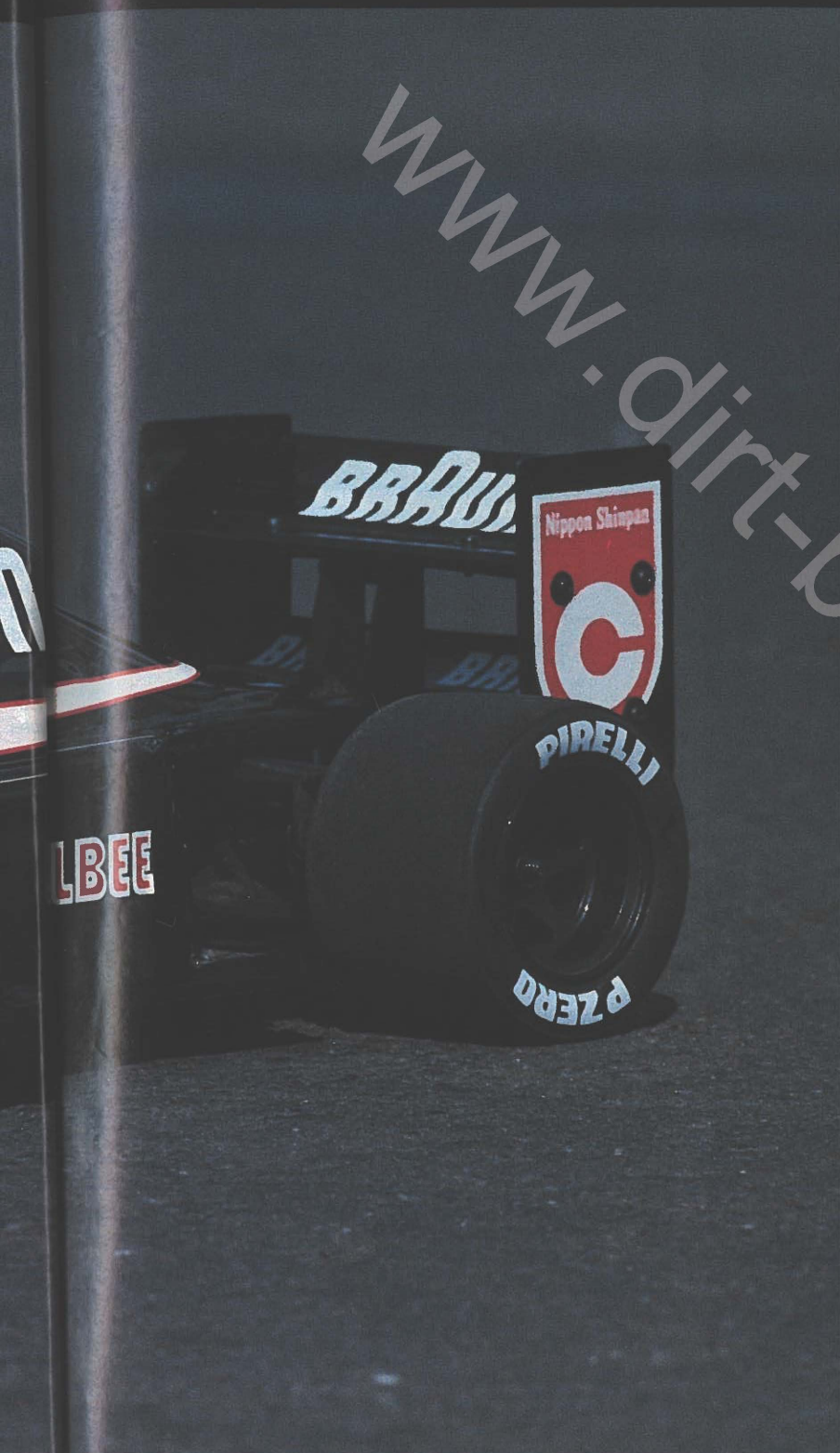
If the rules permit their use, batteries with the highest capacity will give the longest duration with high power (1700mAh vs 1200mAh).



# EP SCALE RACING CARS







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# F1 RACER SERIES

ELECTRIC POWERED SCALE F1 RACING CARS



BRABHAM-YAMAHA BT60Y  
No.4204



BRAUN TYRRELL HONDA  
No.4211



MOTOR HEATSINK INCLUDED. REDUCES MOTOR TEMPERATURE.



ILLUSTRATED SET IS  
FOR JAPAN MARKET ONLY.





1:10 SCALE



FERRARI F189  
No.4201



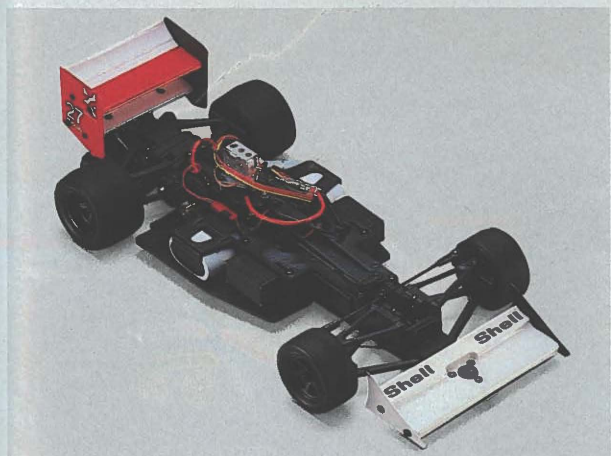
**SUPER PERFORMANCE! SUPER-  
REALISTIC APPEARANCE!**

THESE GRAND PRIX CARS LOOK AND HANDLE LIKE THE REAL THING! SUSPENSION LINKAGE (GLASS-NYLON DOUBLE WISHBONES ALL AROUND) IS SCALE WITH INBOARD-MOUNTED FRICTION-TYPE SHOCKS. ACCURATELY MOLDED AERODYNAMIC BODY AND WING. SLICK TIRES. SPONSOR INSIGNIAS. IT'S ALL THERE FOR EXCITING AND REALISTIC F-1 RACING IN MINIATURE! POWERFUL MEGA OUTLAW STOCK MOTOR (INCLUDED) AND BATTERY ARE MOUNTED MIDSHIPS FOR IDEAL BALANCE AND GOOD HANDLING. SPECIAL LATERAL-COMPLIANCE SUSPENSION AND SERVO SAVER PREVENT DAMAGE TO FRONT END AND STEERING SERVO. STRONG, LIGHT KELRON GLASS-REINFORCED DOUBLE-DECKER CHASSIS. QUICK BODY REMOVAL WITH DZUS FASTENERS. OPTIONAL SPONGE TIRES AND FULL (12) BALL-BEARING SET.

McLAREN HONDA MP4/5B  
No.4202



ESPO LARROUSSE 90  
No.4203



**Required for operation (not included)**

- NiCd battery (stick type): 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.2358/1849/2246)
- Radio control set: Two-channel w/two servos
- Electronic speed controller (No.4204, 4211 only)
- Color Decal sheet (No.1754)

**Technical data**

- Length/405mm (15.9") ● Width/190mm (7.5") ● Height/105mm (4.1") ● Wheelbase/247mm (9.7")
- Ground clearance/10mm (0.4") ● Track/F: 158mm (6.2"); R: 146mm (5.7") ● Tires/F:  $\phi$ 55x27mm; R:  $\phi$ 60x40mm
- Weight/1250g (44 oz) ● Gear ratio/3.9 : 1 ● Motor (included)/Mega Outlaw Stock
- Speed controller/4201, 4202, 4203: Kyosho Rotary (3 fwd/1 rev); included 4204, 4211: Electronic; not included



# GROUP C CAR SERIES

ELECTRIC POWERED SCALE GROUP C CARS





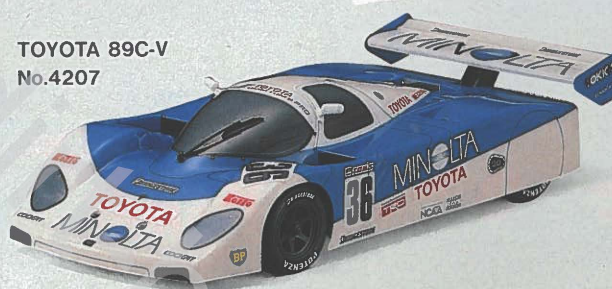
1:10 SCALE



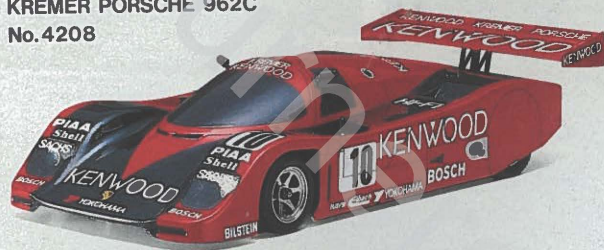
NISSAN R89C  
No.4206



TOYOTA 89C-V  
No.4207

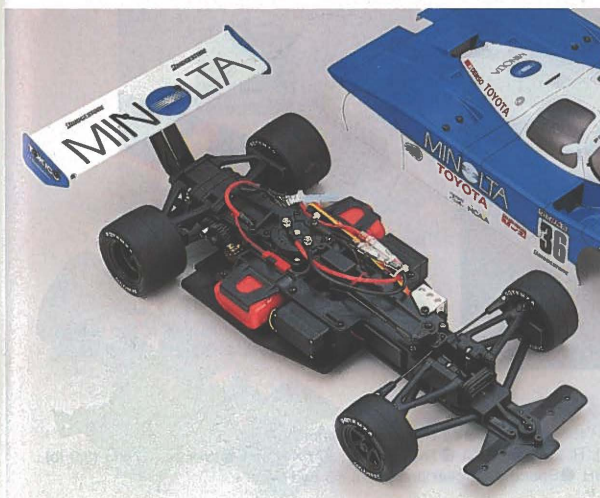


KENWOOD  
KREMER PORSCHE 962C  
No.4208



### EXCITING GROUP C RACING CARS

SOME OF THE WORLD'S MOST EXCITING CAR RACING TAKES PLACE IN THE GROUP C PROTOTYPE CLASS, SUCH AS THE 24 HOURS OF LE MANS. THESE THREE IMPRESSIVELY LARGE CARS ARE CLOSELY MODELLED AFTER THE FULL-SIZE ORIGINALS WITH ACCURATELY MOLDED BODIES. THE DOUBLE-WISHBONE ALL-INDEPENDENT SUSPENSION WITH INBOARD-MOUNTED FRICTION SHOCKS IS VERY REALISTIC AND GIVES GOOD HANDLING ON ROAD-TYPE TRACKS. SUPPORTING THE RUNNING GEAR IS A STRONG, LIGHT GLASS-REINFORCED KELRON DOUBLE-DECKER CHASSIS. SPONSOR INSIGNIAS, TIRES AND WHEELS ARE SCALE. KIT INCLUDES POWERFUL MEGA OUTLAW STOCK MOTOR AND ROTARY SPEED CONTROLLER. EASY BATTERY CHANGE. FULL SET OF 12 BALL BEARINGS AND HOP-UP MOTORS AVAILABLE AS OPTIONS FOR EVEN HIGHER PERFORMANCE.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

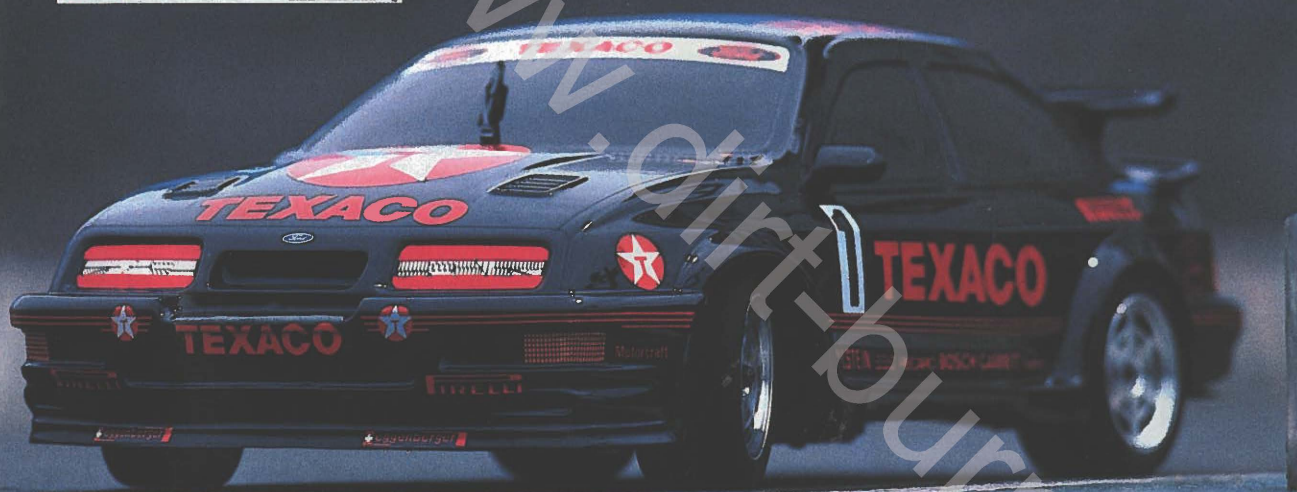
#### Technical data (TOYOTA 89C-V)

- Length/440mm (17.3") ● Width/190mm (7.5") ● Height/100mm (3.9") ● Wheelbase/247mm (9.7") ● Ground clearance/10mm (0.4")
- Track/F: 158mm (6.2"); R: 146mm (5.7") ● Tires/F:  $\phi 55 \times 27$ mm; R:  $\phi 60 \times 40$ mm ● Weight/1300g (2.9 lb) ● Gear ratio/3.9 : 1
- Motor (included)/Mega Outlaw Stock ● Speed controller (included)/Kyosho Rotary (3 fwd+rev)



**FORD RS500 COSWORTH**  
ELECTRIC POWERED SCALE MODEL CAR

**1:10 SCALE**  
No.3178



**FAST GROUP A CAR EXCITEMENT!**

LARGE, ACCURATELY-MOLDED FULL-DETAIL 1/10-SCALE MODEL OF EXCITING FORD COSWORTH Gr. A COMPETITION CAR. GOOD HANDLING ON SMOOTH AND ROUGH TRACKS. WISHBONE/ARM ALL-INDEPENDENT SUSPENSION WITH RELIABLE FRICTION SHOCK ABSORBERS. POWERFUL MABUCHI RS-540SH MOTOR AND SPEED CONTROLLER INCLUDED. STRONG, DURABLE PARTS. GEAR-TYPE DIFF AND SEALED GEARBOX FOR DUST PROTECTION. COLORFUL DECORATIVE SELF-ADHESIVE DECALS. EASY ASSEMBLY. A GREAT INTRODUCTION TO THE FUN OF RADIO CONTROLLED CARS!



**Required for operation (not included)**

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

**Technical data**

- Length/521mm (20.5") ● Width/255mm (10.0") ● Height/166mm (6.5") ● Wheelbase/273mm (10.7")
- Ground clearance/20mm (0.8") ● Track/F: 192mm (7.6"); R: 206mm (8.1") ● Tires (F/R)/φ77×36mm
- Weight/1750g (3.9 lb)
- Gear ratio/10.8 : 1 ● Motor (included)/Mabuchi RS-540SH ● Speed controller (included)/3 fwd + rev



# CITROËN ZX RALLYE RAID

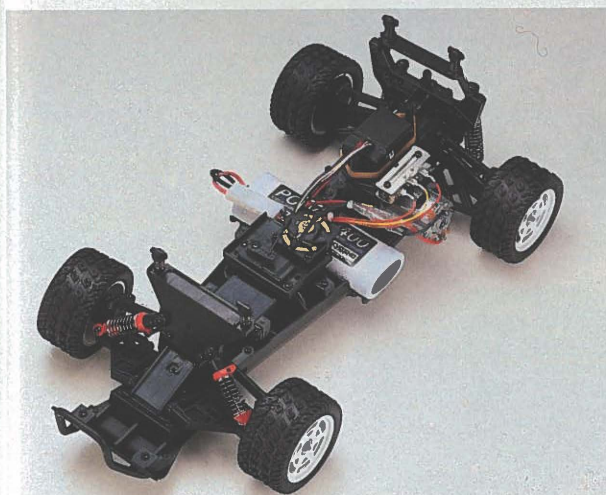
ELECTRIC POWERED RALLY CAR

1:10 SCALE  
No.3163



## GOOD LOOKS AND PEPPY PERFORMANCE

IN ITS FIRST YEAR OF COMPETITION THE CITROËN ZX WON THE GRUELLING 1991 PARIS TO DAKAR RALLY. THIS LARGE, EXCITING 1/10-SCALE KYOSHO MODEL HAS ALL THE CONTOURS OF THE ORIGINAL BODY IN PRECISION MOLDED POLY-CARBONATE. IT HAS SCALE TIRES AND METAL FINISH WHEELS, PLUS MANY DETAIL PARTS LIKE MIRRORS, WIPERS, AND REAR SPOILER, AND THE KIT HAS PLENTY OF SPONSOR DECALS TO ADD THE FINAL TOUCH OF REALISM TO YOUR PAINT SCHEME. THE ALL-INDEPENDENT WISHBONE/ARM SUSPENSION WITH LIGHTWEIGHT FRICTION-TYPE SHOCKS GIVES GOOD HANDLING ON SCALE ROUGH SURFACES, AND THE POWERFUL MID-MOUNTED MABUCHI RS-540SH MOTOR (INCLUDED), DRIVING THROUGH A PRECISION GEAR-TYPE DIFF, PUTS PLENTY OF POWER AT THE REAR WHEELS. THE SPEED CONTROLLER (INCLUDED) GIVES THREE FORWARD SPEEDS PLUS REVERSE. CONCEALED BODY MOUNTS MAINTAIN THE SMOOTH LINES BUT ALLOW QUICK ACCESS FOR BATTERY CHANGES.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polyca Color paint (No.2230)

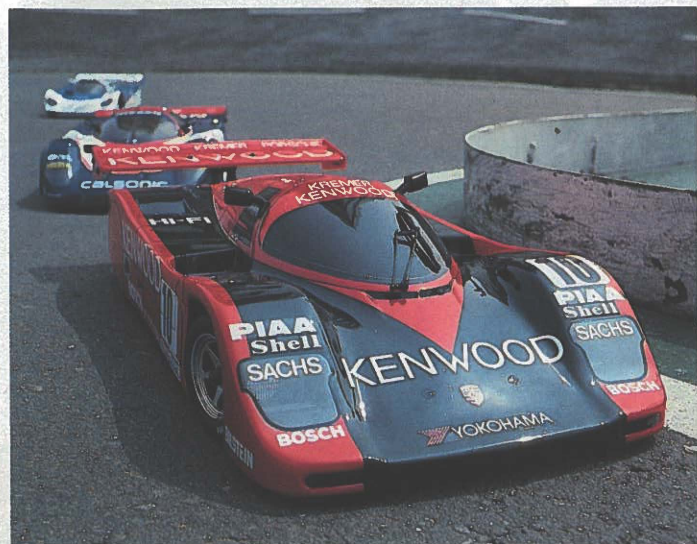
### Technical data

- Length/486mm (19.1") ● Width/235mm (9.3") ● Height/188mm (7.4") ● Wheelbase/273mm (10.7")
- Track/F: 192mm (7.6"); R: 195mm (7.7") ● Ground clearance/20mm (0.8") ● Weight/1670g (3.6 lb) ● Tires (F/R)/φ74×36mm
- Gear ratio/10.8 : 1 ● Motor (included)/Mabuchi RS-540SH ● Speed controller (included)/3 FWD+REV







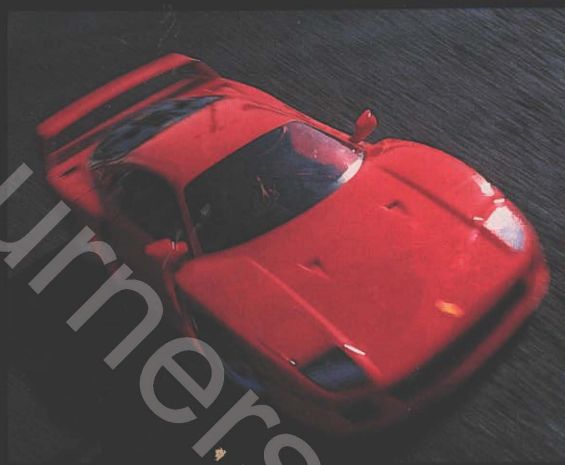
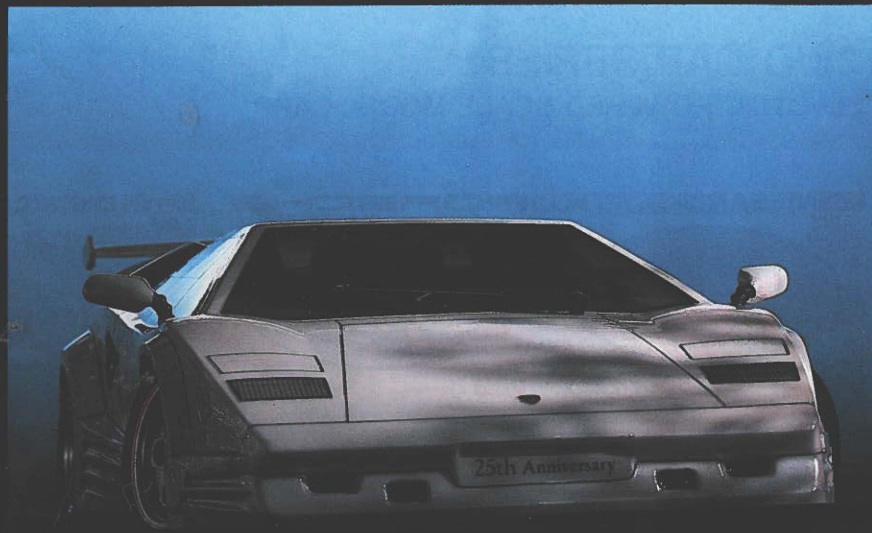




# EP SCALE CARS



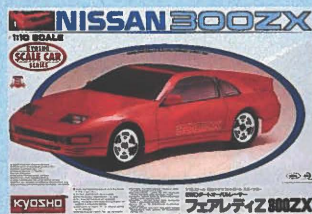






## 2WD CAR SERIES

ELECTRIC POWERED SCALE MODEL CARS







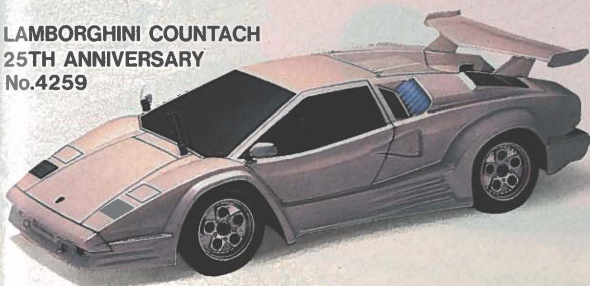
NISSAN 300ZX  
No.4251



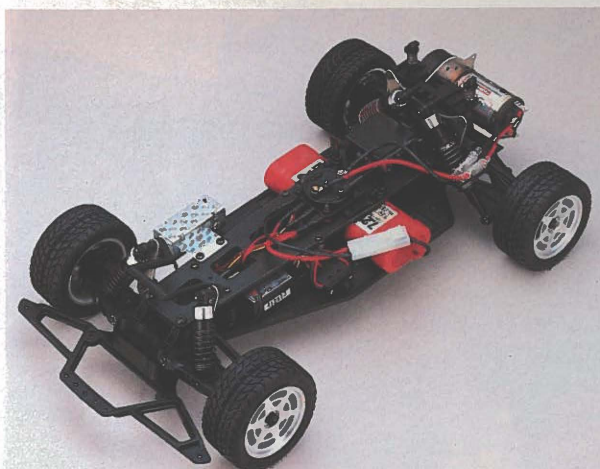
PORSCHE 911 FLATNOSE  
No. 4252



LAMBORGHINI COUNTACH  
25TH ANNIVERSARY  
No.4259



FERRARI TESTAROSSA  
No.4254



### EXCITING SPORT CARS IN 1/10-SCALE

FOUR OF THE WORLD'S MOST DESIRABLE HIGH-PERFORMANCE CARS IN LARGE 1/10-SCALE FOR RADIO CONTROLLED FUN! ACCURATELY MOLDED POLY-CARBONATE BODIES. RUNNING GEAR BASED ON KYOSHO CHAMPIONSHIP-WINNING TWO-WHEEL DRIVE MODEL, WITH LONG-TRAVEL ALL-INDEPENDENT WISHBONE/ARM SUSPENSION AND OIL-FILLED SHOCKS (PRESSURE TYPE) FOR TOP HANDLING EVEN ON ROUGH TRACKS. UNDERNEATH IS A STRONG, STIFF GLASS-REINFORCED *KELRON* DOUBLE-DECKER CHASSIS, AND PROVIDING THE GO IS A POWERFUL *LeMANS STOCK 05* MOTOR, UNDER THE CONTROL OF A ROTARY SPEED CONTROLLER. TOTALLY ENCLOSED GEARBOX AND GEAR-TYPE DIFF FOR DUST PROTECTION. GLASS-REINFORCED PARTS. SCALE TIRES AND ALUMINUM-FINISH WHEELS. MANY SCALE DETAIL FITTINGS INCLUDED, SUCH AS AIR INTAKE, MIRRORS, ETC. CAR CAN BE BALANCED EQUALLY RIGHT-LEFT WITH STICK OR SADDLEPACK BATTERY, OR WITH LEFT BIAS USING UNEQUALLY SPLIT PACK FOR RACING ON OVAL TRACKS. HOP-UP OPTIONS AVAILABLE FOR EVEN HOTTER PERFORMANCE (BALL BEARING SET, COMPETITION MOTORS, ETC).



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data (Nissan 300ZX)

- Length/475mm (18.7") ● Width/244mm (9.6") ● Height/135mm (5.3") ● Wheelbase/273mm (10.7") ● Ground clearance/25mm (1.0")
- Track/F: 192mm (7.6"); R: 208mm (8.1") ● Tires (F/R)/φ77×36mm ● Weight/1750g (3.9 lb) ● Gear ratio/9:1
- Motor (included)/LeMans Stock 05 ● Speed controller (included)/Rotary (3 fwd+rev)



**LAMBORGHINI DIABLO**  
ELECTRIC POWERED 4WD SPORT CAR  
No.4253

**XJ220 PROTO TYPE**  
ELECTRIC POWERED 4WD SPORT CAR  
No.4260





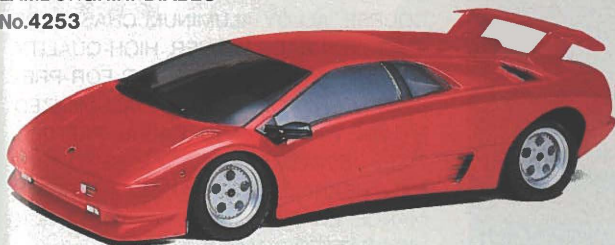
1:10 SCALE



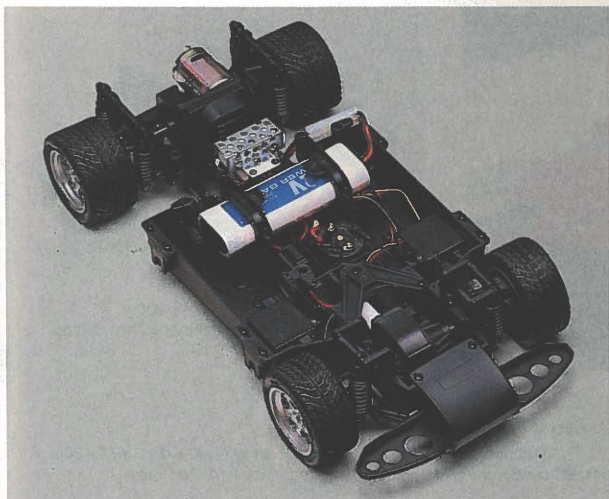
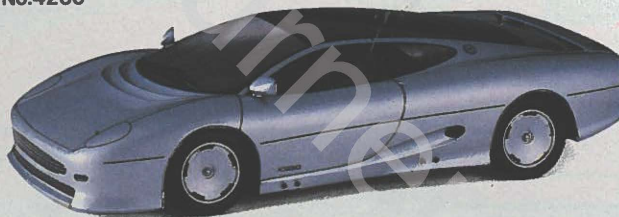
#### EXOTIC ROAD CARS IN 1/10-SCALE

TWO OF THE WORLD'S MOST EXOTIC AND COSTLY CARS IN FULL SIZE, BUT AFFORDABLE FOR RADIO CONTROL FUN DRIVING IN 1/10-SCALE! BOTH HAVE SUPER-REALISTIC BEAUTIFULLY MOLDED BODIES AND MANY DETAIL PARTS LIKE MIRRORS, ETC. POWERFUL LeMANS STOCK 05 MOTOR AND LIGHT, EFFICIENT SHAFT-TYPE FOUR-WHEEL DRIVE SYSTEM TO PUT THE POWER ONTO THE ROAD. DOUBLE-WISHBONE ALL-INDEPENDENT SUSPENSION WITH LIGHT, RELIABLE FRICTION-TYPE SHOCKS (F: 1/WHEEL; R: 2/WHEEL) FOR EXCELLENT HANDLING ON ALL ROAD-TYPE TRACKS. SCALE METAL-FINISH WHEELS AND PATTERNED TIRES. HIGH-QUALITY ROTARY SPEED CONTROLLER.

LAMBORGHINI DIABLO  
No.4253



XJ220 PROTO TYPE  
No.4260



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polyca Color paint (No.2230)

#### Technical data (LAMBORGHINI DIABLO)

- Length / 500mm (19.7")
- Width / 250mm (9.8")
- Height / 137mm (5.4")
- Wheelbase / 307mm (12.1")
- Ground clearance / 20mm (0.8")
- Track / F: 195mm (7.7"); R: 192mm (7.6")
- Tires / F:  $\phi 77 \times 36$ mm; R:  $\phi 80 \times 45$ mm
- Weight / 2150g (4.7 lb)
- Gear ratio / F: 9.16 : 1; R: 9.78 : 1
- Motor (included) / LeMans Stock 05
- Speed controller (included) / Rotary (3 fwd + rev)





## FERRARI F40

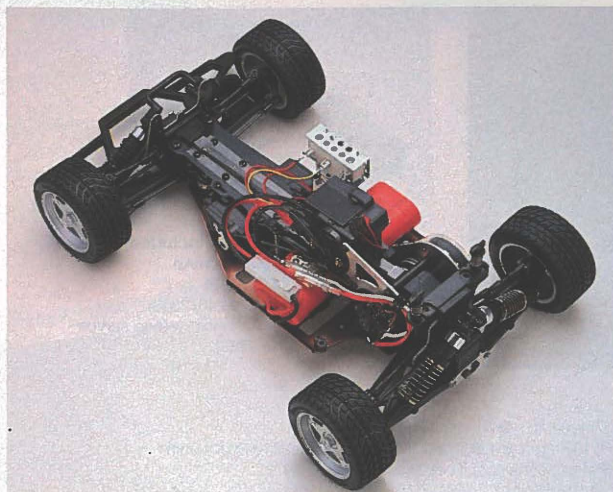
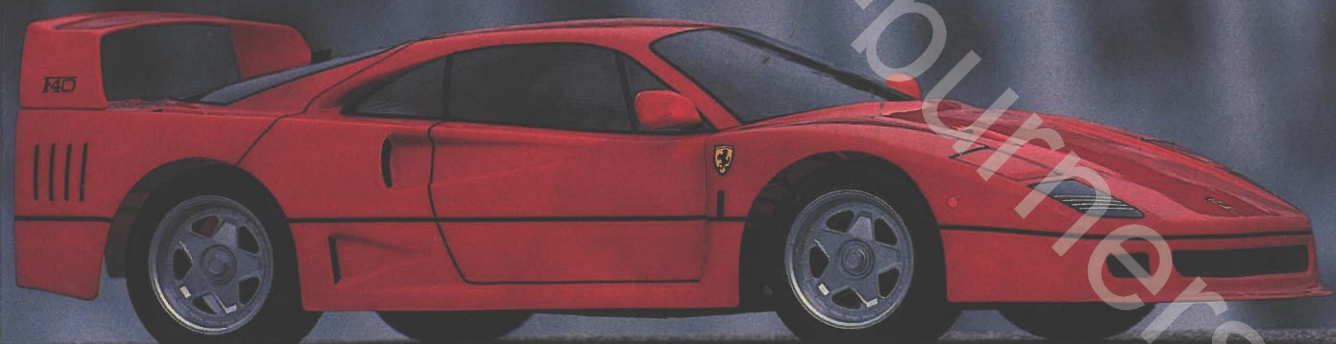
ELECTRIC POWERED 4WD SPORTS CAR

1:10 SCALE  
No.4257



### SUPER-PERFORMANCE ROAD CAR AT MODEL PRICES!

THE FERRARI F40 WAS BUILT TO MARK THE 40TH ANNIVERSARY OF THE FERRARI COMPANY IN A SPECTACULAR WAY. ITS 2.9 LITER V-8 ENGINE WITH TWIN-TURBOS TURNING 19,000 RPM DEVELOPS NEARLY 500 HP, AND PROPELS IT TO NEARLY 200 MPH (320KM/H). THIS LARGE FINELY DETAILED KYOSHO MODEL CAPTURES THE EXCITING APPEARANCE. IT FEATURES FOUR-WHEEL DRIVE BY EFFICIENT, LIGHTWEIGHT TOOTHED BELT, TWIN FACTORY-ASSEMBLED GEAR-TYPE DIFFERENTIALS, AND HIGH-QUALITY UNIVERSAL-JOINTED SWING SHAFTS AT THE FRONT TO PUT ALL THE POWER OF THE MEGA OUTLAW MOTOR ONTO THE ROAD. A LONG-TRAVEL WISHBONE/ARM ALL-INDEPENDENT SUSPENSION WITH STRONG GLASS-REINFORCED LINKAGES PLUS PRESSURE-TYPE OIL-FILLED SHOCK ABSORBERS KEEP IT ON COURSE. ALLOY ALUMINUM CHASSIS OF A PROVEN RACE WINNER. HIGH-QUALITY ROTARY SPEED CONTROLLER FOR PRECISE CONTROL. SCALE ALUMINIZED NYLON WHEELS AND RADIAL-PATTERN TIRES. SERVO SAVER. FULL SET OF 16 BALL BEARINGS FOR MAXIMUM PERFORMANCE. EITHER SADDLE-PACK OR STICK NiCd BATTERY CAN BE USED.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/498mm (19.7") ● Width/286mm (11.3") ● Height/130mm (5.1") ● Wheelbase/273mm (10.7")
- Ground clearance/20mm (0.8") ● Track/F: 205mm (8.1"); R: 209mm (8.2") ● Weight/1650g (3.6 lb) ● Tires (F/R)/φ77 × 36mm
- Gear ratio/9.8 : 1 ● Motor (included)/Mega Outlaw Stock ● Speed controller (included)/Kyosho Rotary (3 fwd + rev)





## CHEVY SPORT TRUCK

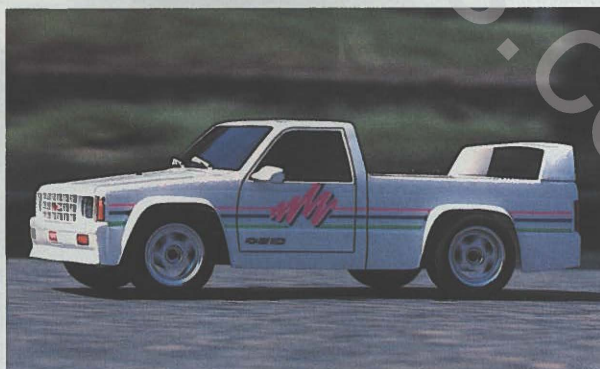
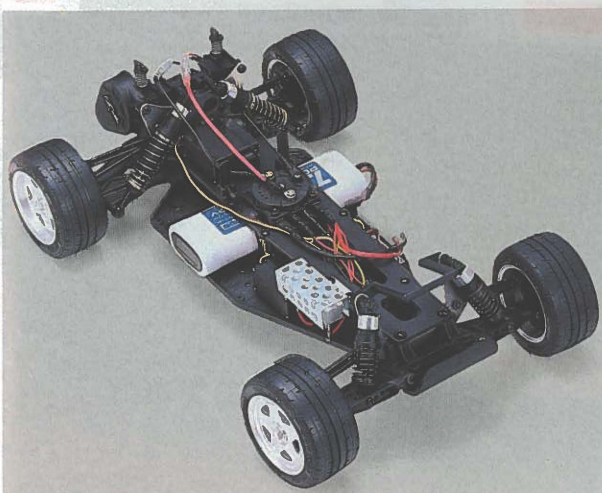
### ELECTRIC POWERED CUSTOM SCALE TRUCK

1:10 SCALE  
No.4241



#### FUN AND EXCITEMENT WITH AN AMERICAN FAVORITE!

THE CHEVY PICKUP IS FAMILIAR FROM ONE END OF AMERICA TO THE OTHER, AND IS POPULAR WITH CUSTOMIZERS. THIS KYOSHO 1/10-SCALE MODEL HAS THE GOOD BASIC LOOKS OF THE CHEVY WITH SOME WILD SPECIAL TOUCHES LIKE THE REAR WING. LET YOUR IMAGINATION GO WILD GO TO WORK ON IT! WHEELS AND TIRES ARE SCALE, THERE ARE MANY DETAIL PARTS LIKE WIPERS AND MIRRORS, AND TWO SETS OF DECORATIVE SELF-ADHESIVE TRANSFERS ARE INCLUDED FOR YOUR CHOICE. THE MODEL ALSO HAS GO-ANYWHERE PERFORMANCE WITH AN ALL-INDEPENDENT SUSPENSION FEATURING LONG-TRAVEL GEOMETRY AND HIGH-QUALITY OIL-FILLED SHOCK ABSORBERS THAT SOAK UP THE ROUGH STUFF AND KEEP THE CHEVY UNDER CONTROL AT ALL TIMES. A PEPPY LeMANS STOCK 05 MOTOR PROVIDES LOTS OF GO, WITH A ROTARY SPEED CONTROLLER VARYING THE SPEED. QUICK-RELEASE BODY MOUNTS ALLOW EASY BATTERY CHANGES AND ACCESS FOR MAINTENANCE. OTHER KYOSHO VEHICLE BODIES ALSO FIT THE CHASSIS, AND MANY HOP UP PARTS ARE AVAILABLE.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/475mm (18.5") ● Width/228mm (10.8") ● Height/160mm (6.3") ● Wheelbase/273mm (10.7")
- Ground clearance/30mm (1.2") ● Track/F: 192mm (7.6"); R: 206mm (8.1") ● Weight/1750g (3.9 lb) ● Tires (F/R)/φ77×36mm
- Gear ratio/8.3 : 1 ● Motor (included)/LeMans Stock 05 ● Speed controller (included)/Kyosho Rotary (3 fwd + rev)





# TOYOTA 4 RUNNER

ELECTRIC POWERED 4WD RECREATIONAL VEHICLE





1:9 SCALE  
No.4271



ALL MECHANICAL AND CHASSIS DETAILS ARE REPRODUCED EXACTLY.

### REALISTIC OFF-ROAD 4×4 ACTION

THE 4 RUNNER IS A POPULAR 4×4 VEHICLE WITH OFF-ROAD ENTHUSIASTS, BUT IT IS ALSO POPULAR WITH CITY DWELLERS WHO NEVER VENTURE OFF THE ROAD BUT WHO LIKE ITS RUGGED LOOKS. THIS SCALE KYOSHO VEHICLE CAPTURES THE FEELING OF OFF-ROAD ADVENTURE WITH THE REALISTIC APPEARANCE OF ITS MOLDED POLYCARBONATE BODY AND THE EQUALLY REALISTIC FOUR-WHEEL DRIVE ACTION. THE SUSPENSION IS COMPLETELY SCALE, INDEPENDENT AT THE FRONT AND A FOUR-LINK LIVE AXLE AT THE REAR. DRIVE IS BY TRANSFER CASE, TWO DRIVE SHAFTS, AND FRONT/REAR GEAR-TYPE DIFFERENTIALS. A MEGA MONSTER TRUCK MOTOR AND SPEED CONTROLLER ARE INCLUDED, AND A SECOND MOTOR CAN BE ADDED FOR EVEN GREATER POWER. DETAIL PARTS LIKE MIRRORS, WIPERS, PLUS SCALE WHEELS AND TIRES ARE PART OF THE KIT.



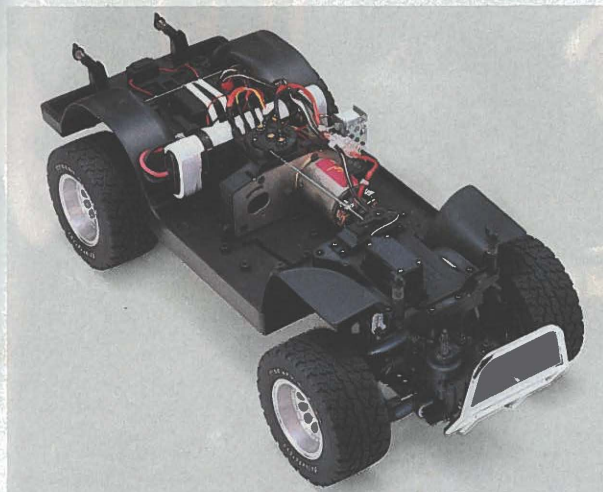
COMPLETELY SCALE FOUR-LINK LIVE-AXLE REAR SUSPENSION WITH FRICTION SHOCK ABSORBERS. DUAL SHOCKS CAN BE FITTED.



COMPLETELY SCALE LONG-TRAVEL DOUBLE-WISHBONE INDEPENDENT FRONT SUSPENSION WITH QUALITY FRICTION SHOCKS.



ACCURATELY MOLDED BODY AND SCALE TIRE TREAD PATTERN. HEADLIGHT KIT (NB-13) ADDS TO THE REALISM.



FOR VARIETY, THE NISSAN PATHFINDER BODY (RV-32; SEE PAGE 66) CAN BE FITTED TO THE CHASSIS.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

### Technical data

- Length/535mm (21.1") ● Width/217mm (8.5") ● Height/219mm (8.6") ● Wheelbase/295mm (11.6")
- Ground clearance/23mm (0.9") ● Track (F/R)/171mm (6.7 in) ● Weight/2300g (5.1 lb) ● Tires (F/R)/φ100×40mm
- Gear ratio/13.8 : 1 ● Motor (included)/ Mega Monster Truck ● Speed controller (included)/3 fwd + rev





## MINI COOPER

ELECTRIC POWERED SCALE MODEL CAR  
1:10 SCALE

## VW BEETLE

ELECTRIC POWERED SCALE MODEL CAR  
1:12 SCALE

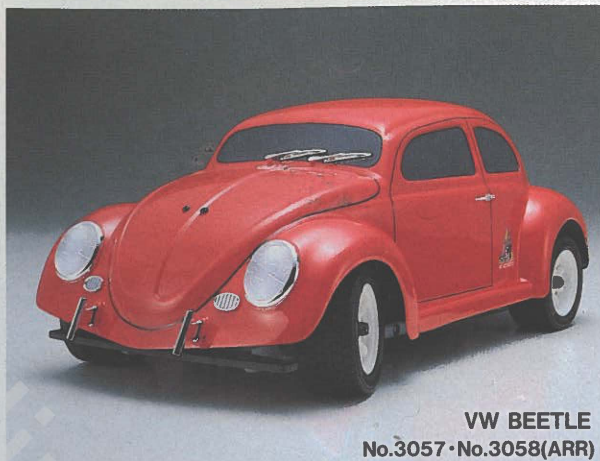




FACTORY ASSEMBLED (ARR) No.3056•No.3058  
KIT No.3055•No.3057



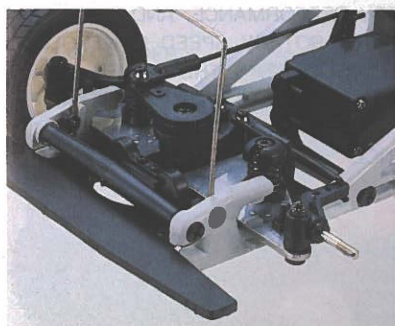
MINI COOPER  
No.3055•No.3056(ARR)



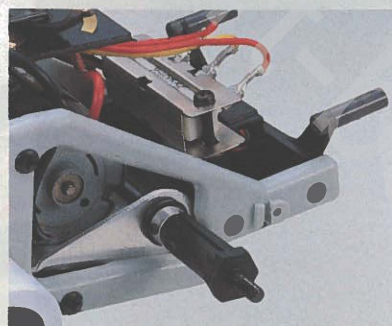
VW BEETLE  
No.3057•No.3058(ARR)

## TWO CARS THAT DEFINED AN AGE

THE MINI COOPER AND THE VW BEETLE WERE CARS THAT DEFINED THE 60's, THE COOPER HAD A BIG ENGINE IN A TINY PACKAGE AND GAVE GREAT PERFORMANCE, THE VW CHEAP AND RELIABLE TRANSPORTATION FOR MILLIONS OF YOUNG PEOPLE WHO MADE IT INTO A CULT CAR WITH PAINT SCHEMES TO MATCH. THESE KYOSHO 1/10-SCALE MINIATURES ARE SMALL IN EVERYTHING BUT PERFORMANCE, BOTH HAVE A STRONG NYLON CHASSIS AND AN INDEPENDENT SWING-ARM FRONT SUSPENSION AND THREE-POINT MOUNTED LIVE REAR AXLE WITH DIFFERENTIAL FOR GOOD HANDLING AND GREAT CORNERING ON SMOOTH TRACKS. THE BODIES ARE ACCURATELY MOLDED OF IMPACT-RESISTANT POLYCARBONATE, READY FOR YOUR WILDEST PAINT SCHEME, AND THERE ARE MANY CHROME-FINISH DETAIL PARTS. THE CHASSIS AND MECHANICAL PARTS ARE FACTORY ASSEMBLED, SO THE BUILDER JUST INSTALLS THE RADIO CONTROL EQUIPMENT. A POWERFUL MABUCHI RS-540SH MOTOR AND STEPLESS SPEED CONTROLLER ARE INCLUDED. QUICK-RELEASE BODY MOUNTS PERMIT EASY BATTERY CHANGES.



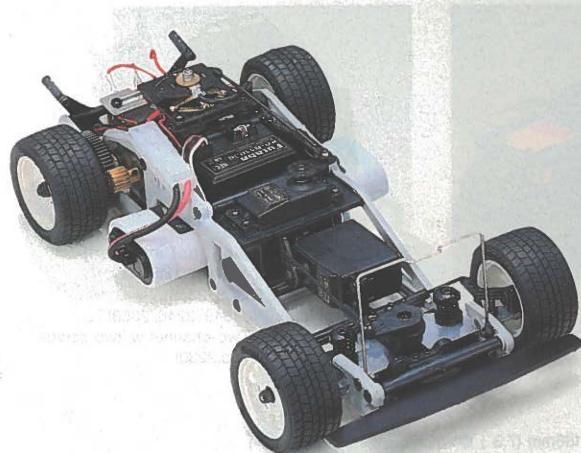
LIGHT, RELIABLE SWING ARM FRONT SUSPENSION GIVES FLAT CORNERING WITH SUFFICIENT WHEEL TRAVEL.



LIVE REAR AXLE IS SPRUNG BY CHASSIS PLATE FLEX. SIMPLE, LIGHT, AND EFFECTIVE.



DIRECTLY DRIVING MOTOR AND DIFFERENTIAL MEAN ZIPPY POWER, RELIABILITY, AND GOOD CORNERING.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

### Technical data (VW BEETLE)

- Length/339mm (13.3") ● Width/164mm (6.5") ● Height/121mm (4.8") ● Wheelbase/210mm (8.3")
- Ground clearance/12mm (0.5") ● Track (F/R)/130mm (5.1 in) ● Weight/1000g (2.2 lb) ● Tires (F/R)/φ55×27mm
- Gear ratio/4.07 : 1 ● Motor (included)/Mabuchi RS-540SH ● Speed controller (included)/3 fwd+rev



# OUTLAW ULTIMA TRUCK

## ELECTRIC POWERED OFF-ROAD RACER

1:10 SCALE  
No.3166



### ACTION IS THE NAME OF THE GAME!

COMBINE THE HIGH PERFORMANCE OF AN *ULTIMA* CHASSIS WITH A STYLISH TRUCK BODY, AND YOU'VE GOT HIGH-SPEED FUN ON THE ROUGHEST TRACKS WITH "TRUCK CULTURE" STYLING! THE LONG-TRAVEL ALL-INDEPENDENT SUSPENSION WITH OIL-FILLED SHOCKS SOAKS UP THE JOLTS AND BUMPS, AND THE STRONG *KELRON* CHASSIS KEEPS IT ALL ALIGNED. THE GEARS ARE SEALED TO KEEP OUT HARMFUL DUST, AND THE WHEELS ARE DESIGNED TO PREVENT DIRT FROM BUILDING UP AND AFFECTING THE HANDLING. THE POWERFUL *SUPER STOCK 34* MOTOR (INCLUDED) GIVES PEPPY PERFORMANCE, AND THE HIGH-QUALITY *ROTARY* SPEED CONTROLLER (INCLUDED) KEEPS THE POWER UNDER CONTROL. MOST *ULTIMA* OPTIONS FIT PERFECTLY FOR EVEN HIGHER PERFORMANCE.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/423mm (16.7") ● Width/286mm (11.3") ● Height/186mm (7.3") ● Wheelbase/280mm (11.0")
- Ground clearance/46mm (1.8") ● Track/F: 222mm (8.7"); R: 235mm (9.3") ● Tires (F/R)/φ104×56mm ● Weight/1850g (4.1 lb)
- Gear ratio/10.3 : 1 ● Motor (included)/Super Stock 34 ● Speed controller (included)/Rotary (3 fwd+rev)



**OUTLAW RAIDER**  
ELECTRIC POWERED  
OFF-ROAD RACING TRUCK

**OUTLAW RAIDER ARR**  
PRE-ASSEMBLED ELECTRIC POWERED  
OFF-ROAD RACING TRUCK

**1:10 SCALE** 



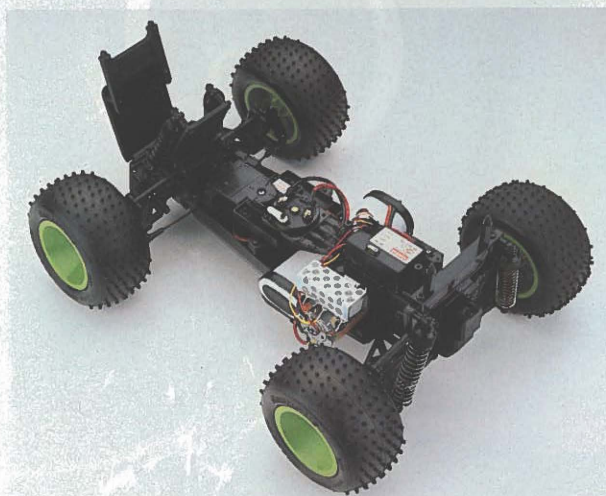
**STADIUM TRUCK PERFORMANCE  
WITH ENTRY-LEVEL  
EASE OF OPERATION**

THE *OUTLAW RAIDER* STADIUM TRUCK IS DESIGNED TO GET FIRST-TIME DRIVERS INTO THE EXCITEMENT OF RACING. BOTH VERSIONS ARE OF HIGH QUALITY AND BASED ON THE WILDLY SUCCESSFUL *RAIDER* OFF-ROAD BUGGIES THAT COMBINED HIGH PERFORMANCE WITH EASY ASSEMBLY AND MAINTENANCE. BOTH VERSIONS ARE IDENTICAL WHEN FINISHED, BUT THE ARR IS 90% FACTORY ASSEMBLED FOR FAST BUILDING AND ASSURED ALIGNMENT. THE SPECS INCLUDE HIGH GROUND CLEARANCE AND A LONG-TRAVEL ALL-INDEPENDENT WISHBONE/ARM SUSPENSION WITH LIGHT, RELIABLE FRICTION SHOCKS TO SOAK UP THE BUMPS, A STRONG, LIGHT, RESIN CHASSIS, PROTECTIVE FRONT BUMPER, A POWERFUL MABUCHI RS-540SH MOTOR AND HEAVY-DUTY SPEED CONTROLLER, HIGH-GRIP TIRES, AND DISHED NYLON WHEELS THAT RESIST WEIGHT BUILD-UP. THE HIGH-QUALITY GEAR-TYPE DIFF ASSURES GOOD TRACTION THROUGH CORNERS. MID-POSITIONED MOTOR AND BATTERY OPTIMIZE THE BALANCE, AND THE BATTERY MOUNT ALLOWS QUICK CHANGES.

**OUTLAW RAIDER**  
No.3161



**OUTLAW RAIDER ARR**  
No.3162



**Required for operation (not included)**

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Color Decal sheet (No.1754)

**Technical data**

- Length/440mm (17.3") ● Width/292mm (11.5") ● Height/224mm (8.8") ● Wheelbase/260mm (10.2") ● Ground clearance/29mm (1.1")
- Track/F: 200mm (7.9"); R: 210mm (8.3") ● Weight/1700g (60 oz) ● Tires/F:  $\phi$ 77 × 23mm; R:  $\phi$ 82 × 40mm
- Gear ratio/10.8 : 1 ● Body/polycarbonate (clear) ● Motor (included)/Mabuchi RS-540SH ● Speed controller (included)/3 fwd + rev



# CAR CRUSHERS









# CAR CRUSHER "USA-1 MONSTER TRUCK"

ELECTRIC POWERED OFF-ROAD RECREATIONAL VEHICLE

1:10 SCALE  
No.3165



## USA-1 MONSTER TRUCK TRUE-SCALE CAR CRUSHER

"USA-1" IS ONE OF THE MOST FAMOUS OF ALL CAR CRUSHER GIANT TRUCKS. THIS ACCURATE SCALE MODEL HAS THE SAME GREAT PERFORMANCE IN MINIATURE. TWIN HIGH-TORQUE MEGA MONSTER TRUCK MOTORS PROVIDE GREAT TRACTION THROUGH FOUR-WHEEL DRIVE AND GIANT 165mm (6.5") TIRES. ALL FOUR WHEELS STEER FOR GREAT MANEUVERABILITY. THE ALL-INDEPENDENT SUSPENSION, WITH EIGHT FRICTION SHOCKS, KEEPS IT UNDER CONTROL AT ALL TIMES. THE BODY IS A FULLY DETAILED SCALE CHEVROLET SILVERADO WITH DECALS THAT DUPLICATE THE COLOR SCHEME OF THE ORIGINAL. CHROME-FINISH CARBS, GRILL, MIRRORS AND OTHER ACCESSORIES ADD TO THE REALISM. HIGH-QUALITY ROTARY SPEED CONTROLLER INCLUDED. THE STRONG CHASSIS PROTECTS THE RADIO EQUIPMENT.



4WDS



HEADLIGHT KIT(NB-13) ADDS TO THE REALISM.

### Technical data

- Length/465mm (18.3") ● Width/400mm (15.7") ● Height/300mm (11.8") ● Wheelbase/265mm (10.4")
- Ground clearance/70mm (2.8") ● Track (F/R)/290mm (11.4") ● Tires (F/R)/φ165×110mm (6.5×4.3") ● Weight/3950g (8.7 lb)
- Gear ratio/20 : 1 ● Motors (included)/Mega Monster Truck (×2) ● Speed controller (included)/Rotary (3 fwd+rev)



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polyca Color paint (No.2230)



# CAR CRUSHER "DOUBLE DARE 4WDS"

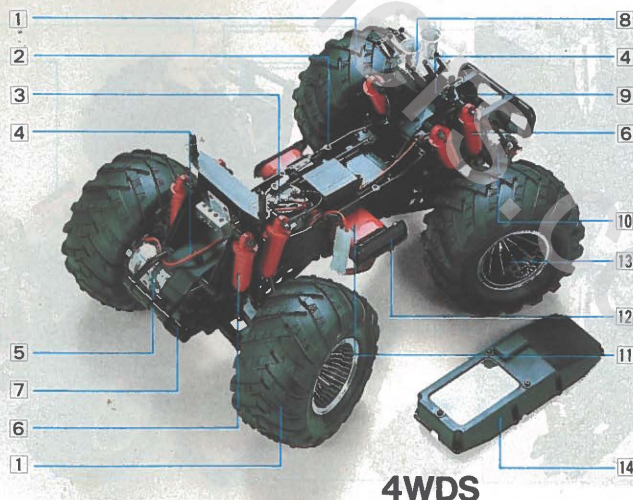
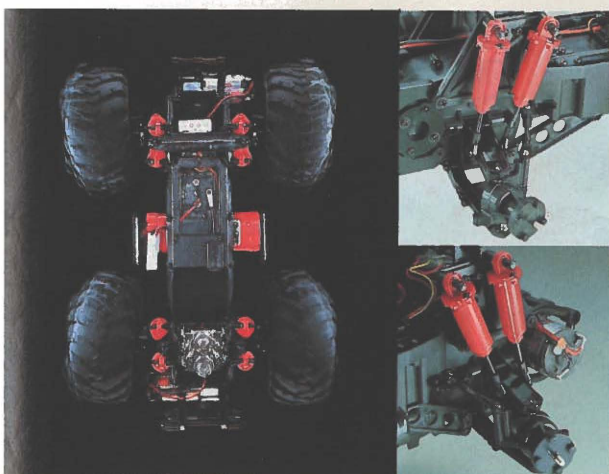
ELECTRIC POWERED OFF-ROAD RECREATIONAL VEHICLE

1:10 SCALE  
No.3106



## DOUBLE DARE DOUBLES YOUR CAR CRUSHING FUN!

IT'S NEARLY UNSTOPPABLE! DOUBLE DARE'S TWO POWERFUL MOTORS AND HUGE 146mm (5.75") TIRES TAKE IT OVER OBSTACLES CAR-CRUSHER STYLE! EACH MOTOR HAS ITS OWN GEARBOX AND DIFFERENTIAL WHICH MEANS NO CHAINS OR BELTS ARE REQUIRED. FOUR WHEEL STEERING FOR MAXIMUM MANEUVERABILITY AND SHARP TURNING. EXTRA LONG, FULLY INDEPENDENT DOUBLE WISH-BONE SUSPENSION MAKES FOR INCREDIBLE HANDLING. DOUBLE SHOCK ABSORBERS ON EACH WHEEL SOAK UP THE BUMPS. HIGH-QUALITY HEAVY DUTY ROTARY SPEED CONTROLLER IS SHIELDED TO PREVENT CONTAMINATION FROM DIRT, FEATURES PURE SILVER CONTACTS, AND GIVES THREE FORWARD SPEEDS, NEUTRAL, AND ONE IN REVERSE. UNDERNEATH THE SCALE-LIKE NISSAN PICKUP TRUCK BODY IS A STRONG TUB TYPE CHASSIS.



- 1 GIANT, SPECIAL PATTERN TIRE.
- 2 STRONG, DUST-SHIELDED TUB CHASSIS. LIGHT ABS RESIN.
- 3 HIGH-QUALITY HEAVY DUTY ROTARY SPEED CONTROLLER (INCLUDED).
- 4 GEARBOX AND DIFFERENTIAL (FRONT/REAR).
- 5 POWERFUL LeMANS STOCK 05 MOTOR (INCLUDED).
- 6 SHOCK ABSORBER (WITH INTERNAL SPRING).
- 7 REAR MOTOR GUARD.
- 8 REALISTIC CHROME-FINISH ENGINE REPLICA.
- 9 PROTECTIVE NYLON FRONT BUMPER.
- 10 POWERFUL LeMANS STOCK 05R MOTOR (INCLUDED).
- 11 7.2V "STICK" TYPE NiCd BATTERY (1200mAh OR LARGER; NOT INCLUDED).
- 12 QUICK CHANGE BATTERY HOLDER.
- 13 STRONG, LIGHT CHROME-FINISH NYLON WHEELS.
- 14 COVERED CHASSIS PROTECTS RADIO EQUIPMENT.

### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348) ● Battery charger (No.1849/2246/2358) ● Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

### Technical data

- Length/440mm (17.3") ● Width/310mm (12.2") ● Height/295mm (11.6") ● Wheelbase/265mm (10.4") ● Ground clearance/70mm (2.75") ● Front track/237mm (9.3") ● Rear track/237mm (9.3")
- Weight (track-ready)/2800g (6 lb 3oz) ● Tires/(F/R) φ146×73mm ● Motor (included)/LeMans Stock 05 (X2) ● Speed controller (included/kyosho Rotary (3fwd + rev)



# CAR CRUSHER "big BOSS"

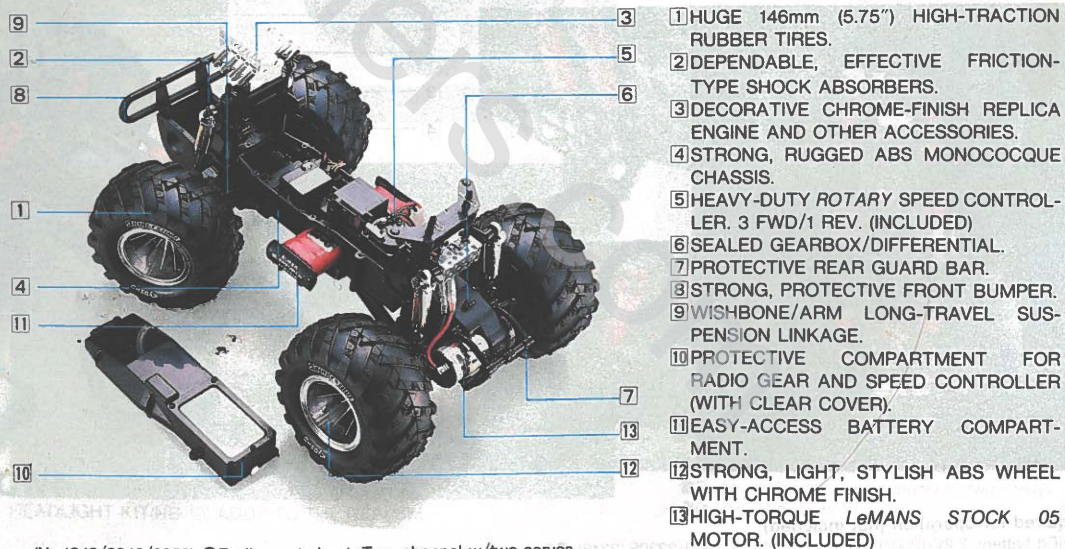
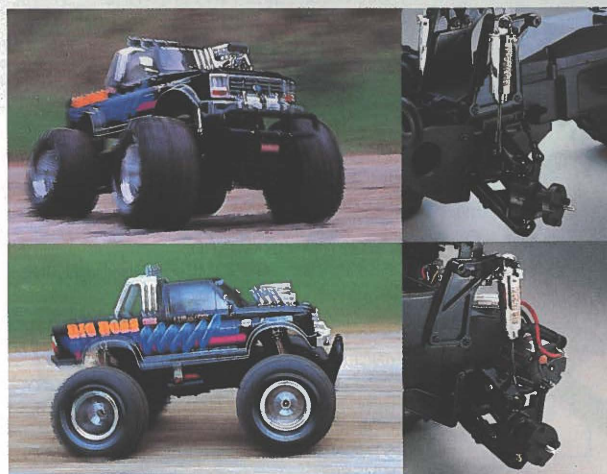
## ELECTRIC POWERED OFF-ROAD RECREATIONAL VEHICLE

1:10 SCALE  
No.3108



### AMERICAN-STYLE CAR CRUSHER FUN MACHINE

DRIVE YOUR OWN CAR CRUSHER FUN MACHINE IN 1/10-SCALE! DRIVE IT OVER SCALE CAR-SIZE OBJECTS AND THROUGH RUGGED TERRAIN. *big BOSS* TAKES IT ALL IN STRIDE! THE HUGE TIRES ROLL OVER ALMOST ANYTHING, THE LONG-TRAVEL ALL-INDEPENDENT SUSPENSION SOAKS UP ROUGH GROUND, AND THE HIGH-QUALITY *ROTARY* SPEED CONTROLLER (INCLUDED) KEEPS THE POWER OF THE HIGH-TORQUE *LeMANS STOCK 05* MOTOR (INCLUDED) UNDER PRECISE CONTROL. THE RUGGED TUB-TYPE ABS CHASSIS IS DESIGNED FOR THE ROUGHEST CONDITIONS, AND PROTECTS THE RADIO GEAR AND SPEED CONTROLLER FROM DUST AND ABUSE. *big BOSS* IS STYLED LIKE REAL FULL-SIZE MACHINES AND HAS MANY REALISTIC TOUCHES, LIKE THE CHROME-FINISH ENGINE AND GRILL.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/465mm (18.3")
- Width/300mm (11.8")
- Height/295mm (10.4")
- Wheelbase/283mm (11.1")
- Ground clearance/70mm (2.8")
- Track (F/R)/237mm (9.3")
- Tires (F/R)/φ146×73mm
- Weight/2650g (5.8 lb)
- Gear ratio/17 : 1
- Motor (included)/*LeMans Stock 05*
- Speed controller (included)/*Rotary* (3 fwd+rev)



# CAR CRUSHER "HI-RIDER CORVETTE"

## ELECTRIC POWERED OFF-ROAD RECREATIONAL VEHICLE

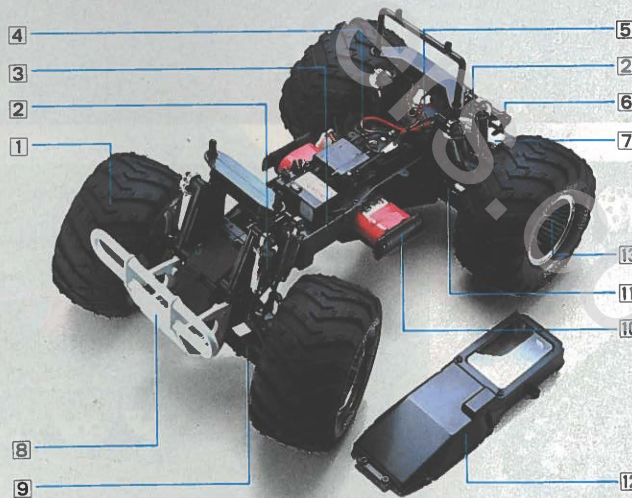
1:10 SCALE  
No.3107



### DO YOUR CAR CRUSHING IN STYLE!

COMBINE A RAKISH CORVETTE BODY WITH A BRUTAL CAR CRUSHER CHASSIS AND YOU HAVE AN INCREDIBLE ACTION MACHINE! UNDER THE STYLISH AND SOPHISTICATED BODY IS A SUPER RIGID TUB STYLE CHASSIS THAT HOUSES AND PROTECTS THE RADIO EQUIPMENT AND THE INCLUDED HEAVY DUTY *ROTARY* SPEED CONTROLLER. THE HUGE (146mm, 5.7") TIRES AND WHEELS ARE LINKED TO THE CHASSIS BY A FULLY INDEPENDENT WISHBONE/ARM SUSPENSION WITH TWO SHOCK ABSORBERS PER WHEEL AND FEATURING ADJUSTABLE SPRING ACTION. THE POWER TO DRIVE THIS VETTE OVER HIGH OBSTACLES COMES FROM A HIGH TORQUE *LeMANS STOCK 05* MOTOR DRIVING A SEALED TRANSMISSION/DIFFERENTIAL WITH STRONG ACETYL RESIN GEARS.

- 1 HUGE (146×73mm 5.75×2.87") HIGH TRACTION RUBBER TIRES.
- 2 DEPENDABLE AND EFFECTIVE SHOCK ABSORBER (2 PER WHEEL) WITH ADJUSTABLE SPRINGING.
- 3 STRONG, RUGGED ABS TUB TYPE CHASSIS.
- 4 HEAVY DUTY *ROTARY* SPEED CONTROLLER WITH 3 FORWARD SPEEDS, NEUTRAL, AND 1 REVERSE SPEED.
- 5 SEALED GEARBOX/DIFFERENTIAL.
- 6 PROTECTIVE REAR GUARD.
- 7 POWERFUL *LeMANS STOCK 05* MOTOR (INCLUDED).
- 8 STRONG, PROTECTIVE FRONT BUMPER.
- 9 WISHBONE/ARM FRONT SUSPENSION WITH LONG TRAVEL.
- 10 QUICK-CHANGE BATTERY COMPARTMENT.
- 11 WISHBONE/ARM REAR SUSPENSION WITH LONG TRAVEL. STRONG ABS PARTS.
- 12 FULLY ENCLOSED, PROTECTIVE COMPARTMENT FOR RADIO EQUIPMENT AND SPEED CONTROLLER.
- 13 STRONG, CHROME-FINISH NYLON WHEELS.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/465mm (18.3")
- Width/300mm (11.8")
- Height/285mm (10.4")
- Wheelbase/283mm (11.1")
- Ground clearance/70mm (2.8")
- Front track/237mm (9.3")
- Rear track/237mm (9.6")
- Weight (track-ready)/2650g (5 lb 13oz)
- Tires (F/R)/φ146×7.3mm
- Motor (included)/LeMans Stock 05





## HEAVY METAL MONSTER TANK

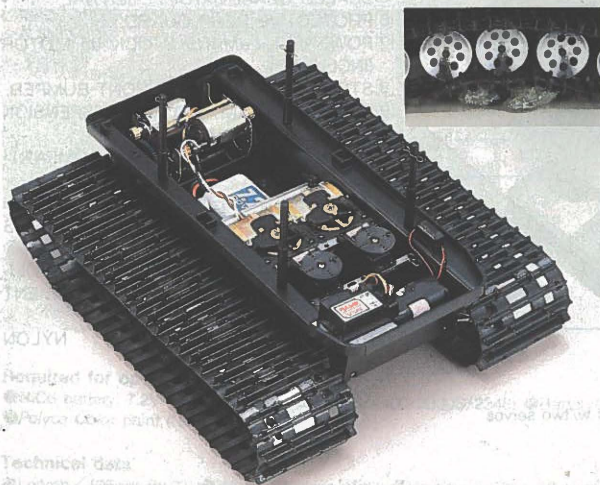
### ELECTRIC POWERED MONSTER TANK VEHICLE

1:12 SCALE  
No.2442



### RUGGED AND MEAN, AND IT GOES ANYWHERE!

SNOW. SAND. DIRT. GRASS. HILLS. ROUGH GROUND. NOTHING CAN STOP **HEAVY METAL!** THIS SCALE MODEL OF THE ULTIMATE GO-ANYWHERE RECREATIONAL VEHICLE AS SEEN AT MONSTER TRUCK EVENTS IN THE USA HAS THE SAME UNSTOPPABILITY. TWIN 3.5-INCH (90mm) CATERPILLAR TRACKS GIVE IT 45° HILL CLIMBING TRACTION, AND TWIN 380-SIZE MOTORS GIVE THE URGE. SPEED IS CONTINUOUSLY VARIABLE, AND THE SYSTEM GIVES DIFFERENTIAL-TRACK STEERING THAT LETS **HEAVY METAL** TURN IN ITS OWN LENGTH. THE BOGEYS HAVE A TRAILING LINK INDEPENDENT SUSPENSION AND TAKE THE ROUGHEST TERRAIN IN STRIDE. THE RUGGED GEARBOX HAS AN ALUMINUM FRAME AND NYLON GEARS, AND THERE'S A CHOICE OF TWO FINAL DRIVES, ONE A REAL STUMP-PULLER! A TUB-TYPE CHASSIS PROTECTS THE RADIO AND RUNNING GEAR. THE SCALE FORD ECONOLINE BODY IS ACCURATELY MOLDED, AND THERE ARE LOTS OF DETAIL TRANSFERS TO GIVE THE FINAL TOUCH TO YOUR PAINT JOB. TO MAKE YOUR JOB EASIER, THE MAJOR MECHANICAL PARTS HAVE BEEN FACTORY ASSEMBLED. OPTIONAL BALL BEARINGS FOR HIGHER PERFORMANCE.



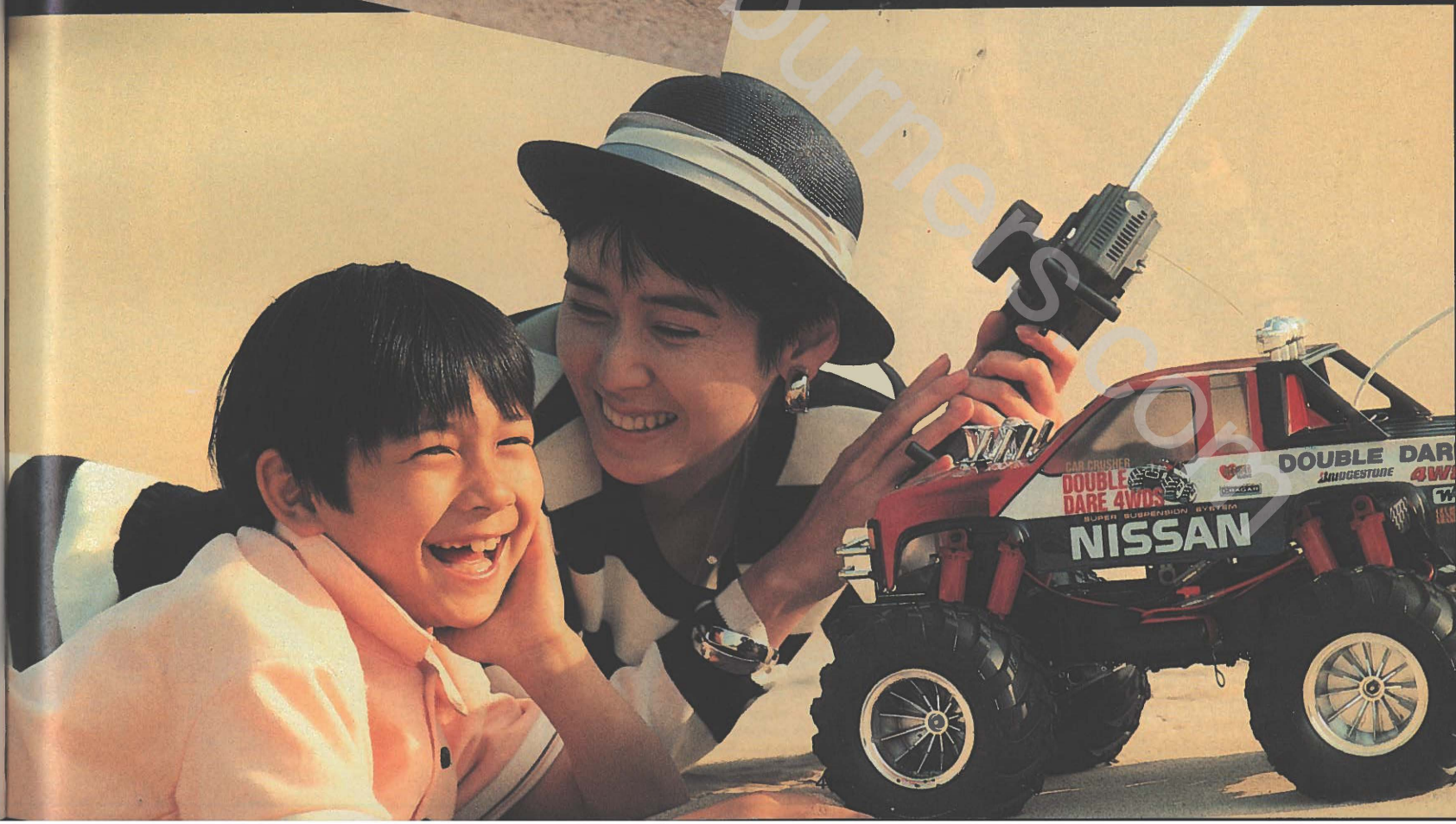
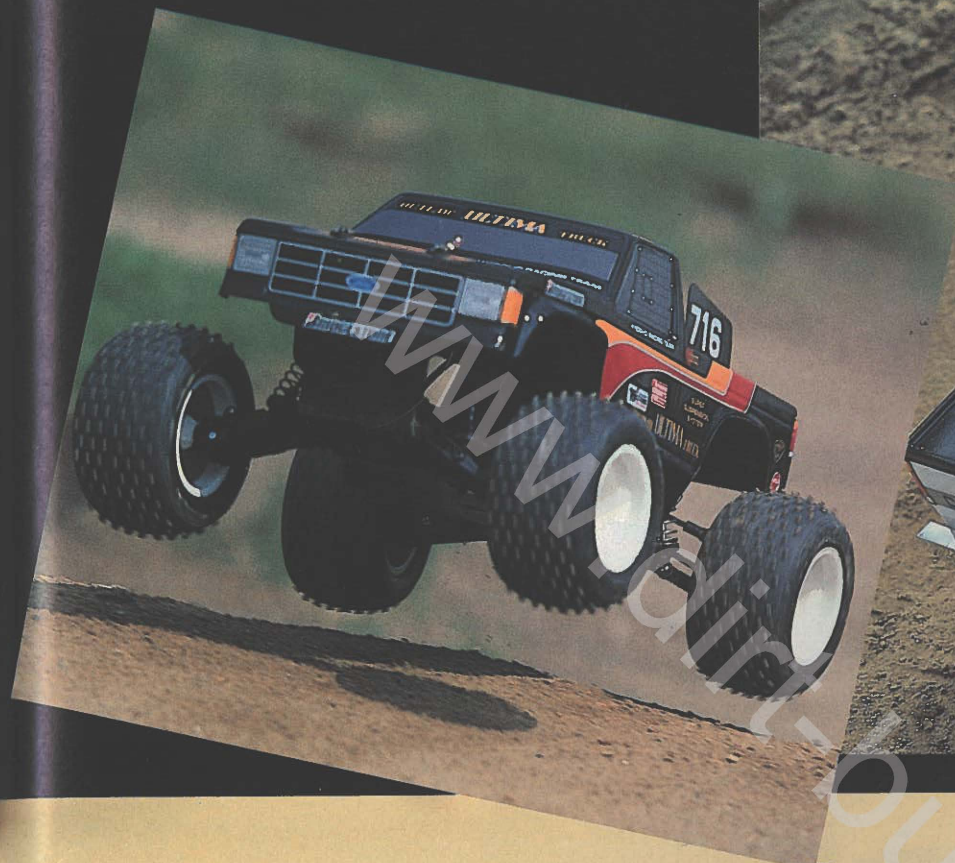
#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polyca Color paint (No.2230)

#### Technical data

- Length/370mm (14.6") ● Width/304mm (12.0") ● Height/195mm (7.7") ● Ground clearance/30mm (1.2") ● Track width/90mm (3.5")
- Weight/2100g (4.6 lb) ● Gear ratios (manually selectable)/16.1 : 1 (high), 27 : 1 (low) ● Motors (included)/380 size x 2
- Speed controllers (included)/Continuously variable type (2)







# EP COMPETITION SPECIAL





# RACING CARS

www.dirt-burners.com





# PLAZMA MKIII KS-2

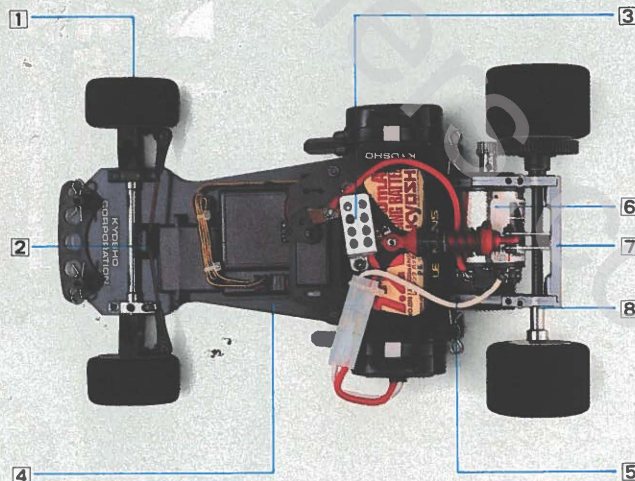
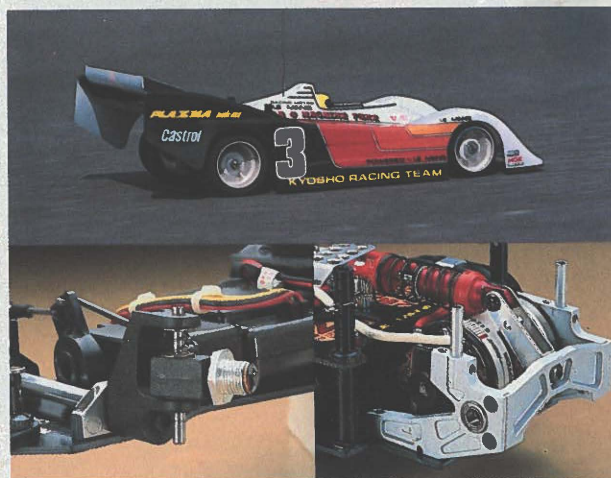
## ELECTRIC POWERED SUPER-LIGHT RACING CAR

1:12 SCALE  
No.3151



### A STRONG COMPETITOR

LOOKING FOR A REALLY COMPETITIVE SMOOTH-TRACK RACING CAR? LOOK NO FARTHER. THE PLAZMA IS A GREAT COMPETITOR, EVEN AGAINST CARS COSTING SEVERAL TIMES ITS MODEST PRICE. THE SLIDING PILLAR FRONT SUSPENSION CONTRIBUTES GREATLY TO TOP ROADHOLDING BY ALLOWING THE FRONT WHEELS TO MOVE INDEPENDENTLY WHILE KEEPING THEM PERPENDICULAR TO THE TRACK FOR TOP TRACTION. THE LIVE REAR AXLE IS LOCATED AND SPRUNG BY THE FRP CHASSIS PLATE AND A FRICTION-TYPE SHOCK ABSORBER. THE REAR AXLE RUNS IN TWIN BALL BEARINGS MOUNTED IN THE STRONG, LIGHT, HIGH-QUALITY DIE-CAST REAR AXLE CARRIER. 4WD CAN BE ADDED WITH OPTIONAL PARTS. PEPPY *LeMANS* 600E MOTOR AND CONTINUOUSLY-VARIABLE SPEED CONTROLLER INCLUDED. (240/480 TYPE MOTORS MAY BE FITTED FOR INCREASED PERFORMANCE.)



- 1 PILLAR-TYPE INDEPENDENT FRONT SUSPENSION.
- 2 DIRECT-MOUNTED SERVO SAVER.
- 3 MOLDED SPONGE HIGH-GRIP TIRES.
- 4 STIFF, LIGHT, FRP PLATE CHASSIS.
- 5 OIL-FILLED SHOCK ABSORBER.
- 6 POWERFUL *LeMANS* 600E MOTOR (INCLUDED).
- 7 ALUMINUM REAR AXLE CARRIER.
- 8 REAR AXLE BALL BEARING (X2).

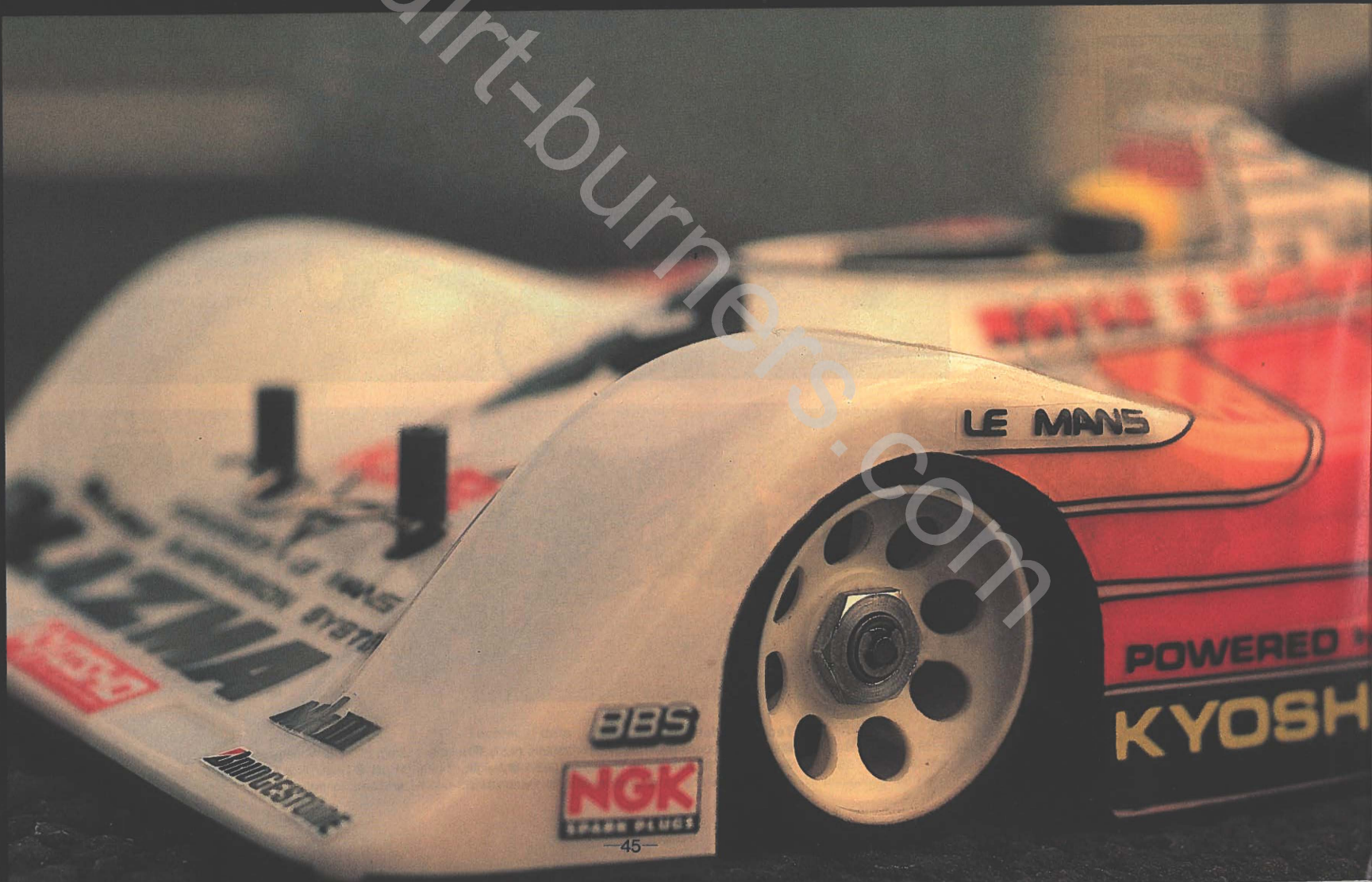
#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

#### Technical data

- Length/350mm (13.8")
- Width/170mm (6.7")
- Height/80mm (3.1")
- Wheelbase/200mm (7.9")
- Ground clearance/5mm (0.2")
- Track/F: 137mm (5.4"); R: 133mm (5.2")
- Tires/F:  $\phi 47 \times 23$ mm; R:  $\phi 52 \times 35$ mm
- Weight/870g (31 oz)
- Gear ratio/3.7 : 1
- Motor (included)/*LeMans* 600E
- Speed controller (included)/Continuously variable







**RAIDER PRO**  
ELECTRIC POWERED  
RACING BUGGY

**RAIDER PRO ARR**  
PRE-ASSEMBLED ELECTRIC  
POWERED RACING BUGGY

**1:10 SCALE**



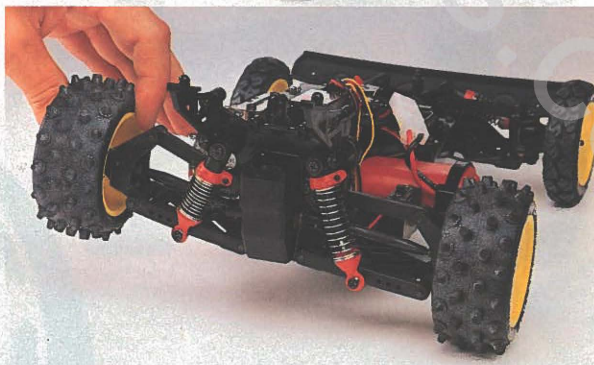
**RAIDER-THE IDEAL FIRST BUGGY**  
RAIDER BUGGIES JUST GET BETTER EVERY YEAR! DESIGNED AS THE IDEAL FIRST BUGGY FOR OFF-ROAD FUN, COMBINING HIGH PERFORMANCE WITH EASY ASSEMBLY AND MAINTENANCE, THE RAIDERS HAVE SUCCEEDED FABULOUSLY! BOTH THE PRO AND THE PRO ARR VERSIONS HAVE THE SAME SPECIFICATIONS, BUT THE ARR IS 90% FACTORY ASSEMBLED FOR FAST BUILDING AND ASSURED ALIGNMENT. THE SPECS INCLUDE A LONG-TRAVEL ALL-INDEPENDENT WISHBONE/ARM SUSPENSION WITH LIGHT, RELIABLE FRICTION SHOCKS TO SOAK UP THE BUMPS, A STRONG, LIGHT RESIN CHASSIS, STRONG AND PROTECTIVE FRONT BUMPER, A POWERFUL MABUCHI RS-540SH MOTOR AND HEAVY-DUTY SPEED CONTROLLER, HIGH-GRIP TIRES, AND STYLISH DISH-TYPE NYLON WHEELS. THE HIGH-QUALITY GEAR-TYPE DIFFERENTIAL ASSURES GOOD TRACTION THROUGH CORNERS, AND IS SEALED AGAINST DUST. THE MID POSITION OF THE MOTOR OPTIMIZES THE BALANCE, AND THE BATTERY MOUNT ALLOWS QUICK CHANGES. YOU CAN'T GO WRONG WITH A RAIDER!



**RAIDER PRO**  
No.3197



**RAIDER PRO ARR**  
No.3198



**Required for operation (not included)**

- NiCd battery (stick type): 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.2358/1849/2246)
- Radio control set: Two-channel w/two servos
- Color Decal sheet (No.1754)

**Technical data**

- Length/390mm (15.4") ● Width/250mm (9.8") ● Height/152mm (6.0") ● Wheelbase/260mm (10.2") ● Ground clearance/29mm (1.1")
- Track/F: 200mm (7.9"); R: 210mm (8.3") ● Weight/1450g (51 oz) ● Tires/F:  $\phi 77 \times 23$ mm; R:  $\phi 82 \times 40$ mm
- Gear ratio/10.8 : 1 ● Motor (included)/Mabuchi RS-540SH ● Speed controller (included)/3 fwd + rev



# OFF-ROAD RACER "ULTIMA II" ELECTRIC POWERED RACING BUGGY

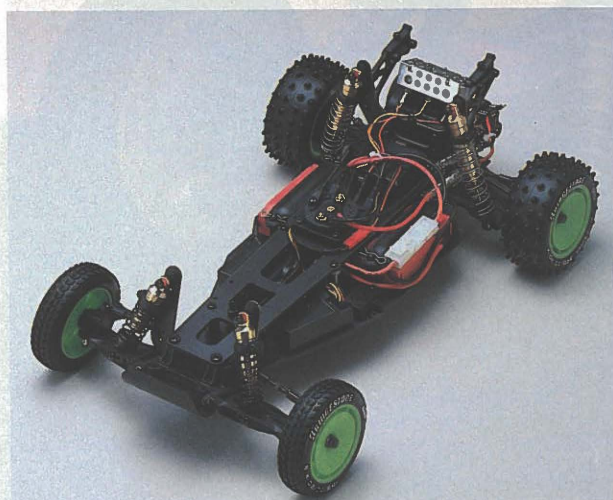
1:10 SCALE

No.3118



## FOR BEGINNING 2WD RACES

THE FIRST CHOICE FOR THE BEGINNER IN 2WD COMPETITION! BASED ON A CHAMPIONSHIP-WINNING DESIGN. EXCELLENT PERFORMANCE GUARANTEED! EXTENDED-LENGTH WISHBONE/ARM SUSPENSION WITH TOP QUALITY METAL-BODIED OIL-FILLED PRESSURE-TYPE SHOCKS TO SOAK UP THE BUMPS ON ANY TRACK. FINE-PITCH GEARS FOR SMOOTH POWER DELIVERY. EASY TOE-IN AND CAMBER ADJUSTMENTS. SEALED GEARBOX. FIVE-POSITION WING. STRONG, RIGID FRP CHASSIS. HIGH-GRIP PIN-SPIKE TIRES. POWERFUL LeMANS STOCK 05 MOTOR INCLUDED. CAN BE UPGRADED WITH MANY OPTION PARTS FOR EVEN BETTER PERFORMANCE.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.1849/2246/2358)
- Radio control set: Two-channel w/two servos
- Polycolor paint (No.2230)

### Technical data

- Length/360mm (14.2") ● Width/240mm (9.4") ● Height/130mm (5.1") ● Wheelbase/280mm (11.0") ● Ground clearance/40mm (1.6")
- Track (F/R)/200mm (7.9") ● Tires/F:  $\phi 75 \times 20\text{mm}$ ; R:  $\phi 85 \times 37\text{mm}$  ● Weight/1500g (3.3 lb) ● Gear ratio/8.2 : 1
- Motor (included)/LeMans Stock 05 ● Speed controller (included)/Rotary (3 fwd + rev)





# TRIUMPH

ELECTRIC POWERED 2WD OFF-ROAD RACER



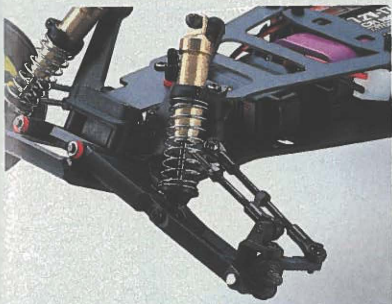


1:10 SCALE  
No.4301



### DESIGNED FOR ANOTHER KYOSHO 2WD

DESIGNED FOR ANOTHER KYOSHO 2WD WORLD CHAMPIONSHIP! THE TRIUMPH INCORPORATES ALL OF KYOSHO DESIGNERS' KNOWLEDGE OF SUSPENSION GEOMETRY, SHOCK ABSORBERS, AND DRIVE TRAINS. AMONG ITS MANY FEATURES ARE EXTRA-LONG WISHBONE/ARM SUSPENSION FOR MAXIMUM WHEEL TRAVEL AND BUMP ABSORPTION VITAL FOR TOP HANDLING ON ALL TRACK CONDITIONS; NEW-DESIGN "M" SIZE OIL-FILLED PRESSURE-TYPE SHOCKS; RIGID, LIGHT FRP DOUBLE-DECKER CHASSIS; EASY SUSPENSION ADJUSTMENT AND TUNING, INCLUDING CASTER AND FRONT WISHBONE PIVOT ANGLE, AND FRONT AND REAR TOE-IN BY QUICK-ADJUST THE RODS; LIGHT, RELIABLE DRIVE SYSTEM BY TOOTHED BELT AND TORQUE-LIMITING CLUTCH; FINE-PITCH GEARS FOR SMOOTHER POWER DELIVERY; NEW WHEELS AND HIGH-GRIP "H" PATTERN TIRES; FULL SET OF 12 BALL BEARINGS. EVERY IMPORTANT SUSPENSION PARAMETER CAN BE FINE-TUNED SO THAT IT TRACKS STRAIGHT AND TRUE REGARDLESS OF THE SURFACE. THE TRIUMPH WILL MAKE BEST USE OF THE MOST POWERFUL MOTORS!



EXTRA-LONG SUSPENSION ARMS GIVE LONG TRAVEL TO ABSORB BUMPS AND KEEP THE TRIUMPH ON COURSE.



TORQUE-LIMITING CLUTCH INCLUDED AS STANDARD. PROTECTS MOTOR FROM BURN OUT AND CAN BE ADJUSTED TO LIMIT WHEELSPIN.



STRONG, LIGHT DOUBLE DECKER FRP CHASSIS. QUICK-CHANGE BATTERY HOLDER.



#### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.2358/1849/2246)
- Radio control set: Two-channel w/servo and electronic speed controller
- Motor (LeMans Pro type)

#### Technical data

- Length/385mm (15.2") ● Width/245mm (9.6") ● Height/130mm (5.1") ● Wheelbase/274mm (10.8")
- Ground clearance/40mm (1.6") ● Track/F: 216mm (8.5"); R: 201mm (7.9") ● Weight/1550g (3.4 lb)
- Tires/F:  $\phi 81 \times 23$ mm; R:  $\phi 88 \times 40$ mm ● Gear ratio/10.1 : 1





**4WD OFF-ROAD RACER "LAZER ZX-R" "LAZER ZX SPORT"**  
**ELECTRIC POWERED SPECIAL RACING BUGGIES**



[www.dirt-burners.com](http://www.dirt-burners.com)

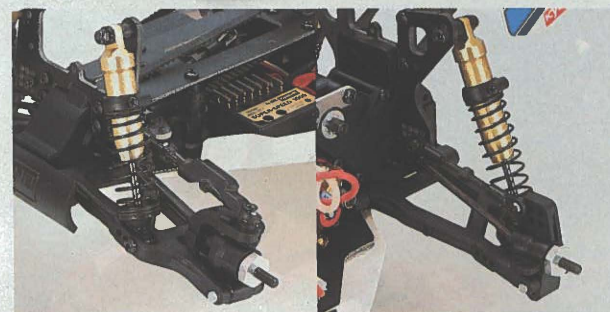




LAZER ZX-R  
No.3147



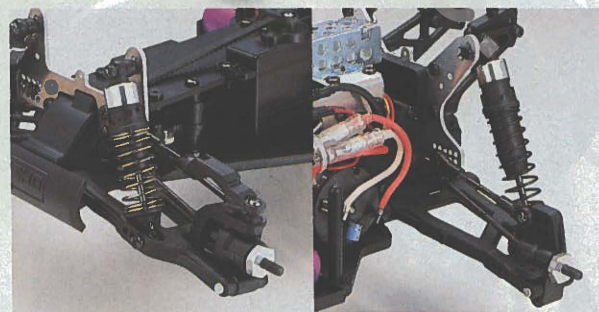
LAZER ZX SPORT  
No.3148



ZX-R: METAL-BODIED SHOCKS AND LIGHTWEIGHT FRP SHOCK TOWERS. HIGH-GRIP PIN-SPIKE TIRES FOR TOP TRACTION. LIGHT NYLON WHEELS. 14 BALL BEARINGS.

#### Technical data

- Length/360mm (14.2") ●Width/240mm (9.5") ●Height/130mm (5.1") ●Wheelbase/276mm (10.9")
- Ground clearance/30mm (1.2") ●Track/F: 202mm (8.0"); R: 201mm (7.9") ●Weight/1600g (3.5 lb)
- Tires/F:  $\phi$ 88×30mm; R:  $\phi$ 88×41mm ●Gear ratio/10.1 : 1



ZX SPORT: EFFECTIVE FRP-BODIED OIL-FILLED SHOCKS AND ALUMINUM SHOCK TOWERS. HIGH-GRIP PIN-SPIKE TIRES AND LIGHT NYLON WHEELS.

#### DESIGNED FOR THE CHAMPIONSHIP!

KYOSHO'S HIGHEST PERFORMANCE FOUR-WHEEL DRIVE OFF-ROADER, DESIGNED TO WORLD CHAMPIONSHIP ROADHOLDING STANDARDS. THE ZX-R VERSION WILL GIVE ALL-OUT PERFORMANCE IN THE HANDS OF THE TYPE OF TOP DRIVER WHO WILL WANT TO CHOOSE HIS OWN MOTOR AND ELECTRONIC SPEED CONTROLLER. IT HAS A FULL SET OF 14 QUALITY BALL BEARINGS, UNIVERSAL-JOINTED SWING SHAFTS AT THE FRONT, METAL-BODIED SHOCK ABSORBERS, ADJUSTABLE BALL-TYPE DIFFERENTIALS FRONT AND REAR, TORQUE-LIMITING COUPLING, FRP CHASSIS, AND QUICK-ADJUST LINKAGES. THE ZX SPORT HAS THE SAME EXTRA-LONG-TRAVEL WISHBONE/ARM SUSPENSION WITH LOW-MASS PARTS FOR REDUCED UNSPRUNG WEIGHT AND TOP HANDLING, PLUS THE SAME FOUR-WHEEL DRIVE BY DUAL TOOTHED BELTS, BUT THE KIT INCLUDES A SPIRITED LeMANS STOCK 05 MOTOR, ROTARY SPEED CONTROLLER, KELRON CHASSIS, HIGH-QUALITY OIL-FILLED FRP-BODIED SHOCKS, GEAR-TYPE DIFFS, AND THERE ARE TWO BALL BEARINGS. THE KIT CAN BE UPGRADED STEP BY STEP TO ZX-R SPECS WITH OPTIONAL BEARINGS AND OTHER PARTS.



#### Required for operation (not included)

- Radio control set: Two-channel w/servo and electronic speed controller (ZX-R) w/two servos (SPORT).
- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.2358/1849/2246)
- Motor: LeMans Pro type (ZX-R)  
LeMans Stock 05 (SPORT: included)



# GRAND PRIX RACING BIKES

## ELECTRIC POWERED MOTORCYCLES







**HONDA NSR500**  
No.3002



**SUZUKI RGV-T**  
No.3004



**YAMAHA YZR500**  
No.3006



**COMBINATION SET IS FOR  
JAPAN MARKET ONLY.**

### GRAND PRIX RACING BIKES

THREE FAMOUS 500cc GRAND PRIX RACING BIKES IN 1/8-SCALE. BIG PERFORMANCE, BUT UNIQUE GYRO-STEERING FRONT WHEEL MAKES THEM AS EASY TO DRIVE AS AN R/C CAR, EVEN FOR BEGINNERS: BIKES LEAN REALISTICALLY THROUGH BENDS, AND EVEN RIGHT THEMSELVES IF THEY TUMBLE. THE COMPACT, POWERFUL DM20 MOTOR DRIVES THE REAR WHEEL THROUGH A REAL ROLLER CHAIN. CHOICE OF THREE FINAL DRIVE RATIOS TO MATCH POWER TO THE TRACK CONDITIONS (THREE GEAR-SETS INCLUDED). RELIABLE FRICTION SHOCKS. STRONG GLASS-REINFORCED FRAME, POLYCARBONATE FAIRING. REALISTIC DRIVER. MANY OPTION PARTS (SEE PAGE 54) PLUS DMC20BB MOTOR AND 600mAh BATTERY.

#### Required for operation (not included)

- NiCd battery: 7.2V-270mAh (No.2312) or 7.2V-600mAh (No.2313)
- Battery charger: (No.1849/2332/2246)
- Radio control set: Two-channel w/micro servo and micro receiver/elec. speed controller
- Custom paint set (page 54)

#### Technical data

- Length/270mm (10.6") ● Width/81mm (3.2") ● Height/154mm (6.1")
- Wheelbase/185mm (7.3") ● Tires/F:  $\phi 78 \times 18$ mm; R:  $\phi 86 \times 23$ mm
- Weight/680g (24.7 oz) ● Gear ratio/13.8 : 1-19.3 : 1
- Motor (included)/LeMans DM20



# OPTION PARTS FOR GRAND PRIX RACERS



No.GPW-1 OIL-FILLED FRONT FORKS.  
BETTER CONTROL.



No.GPW-7 LIGHT FRONT WHEEL WEIGHT.  
FASTER STEERING RESPONSE.



No.GPW-2 OIL-FILLED SHOCK ABSORBER.  
BETTER CONTROL.



No.GPW-3 BRASS PINION GEARS.  
THREE RATIOS.



No.GPW-8 AN TEAM BLUE FOX  
DECAL SET. PRESSURE ADHESIVE.



No.GPW-4 '87 HRC WORKS DECAL SET.  
(HONDA GP BIKE)



No.1977 BALL BEARING SET.  
REDUCED FRICTION AND HIGHER  
PERFORMANCE.



TEAM COLOR PAINT SETS.

No.GPW-5  
ROTHMANS  
HONDA NSR500  
No.GPW-9  
PEPSI COLA  
SUZUKI RGV-T





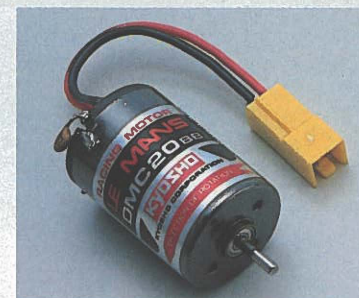
No.2312 7.2V-270mAh  
NiCd BATTERY



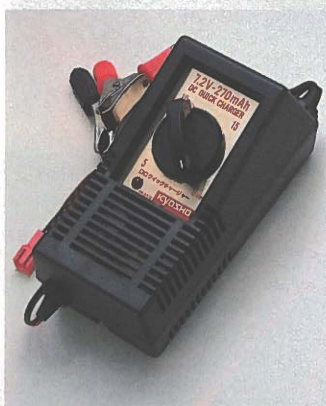
No.2313 GP7.2V-600mAh  
NiCd BATTERY



No.1934 LeMANS DM 20 MOTOR



No.1935 LeMANS DMC 20 BB MOTOR



No.2332 DC QUICK CHARGER  
7.2V-270mAh



AC CHARGER IS  
FOR JAPAN MARKET ONLY



AC CHARGER IS  
FOR JAPAN MARKET ONLY



No.2567 RECEIVER/CONTROLLER/  
SERVO UNIT



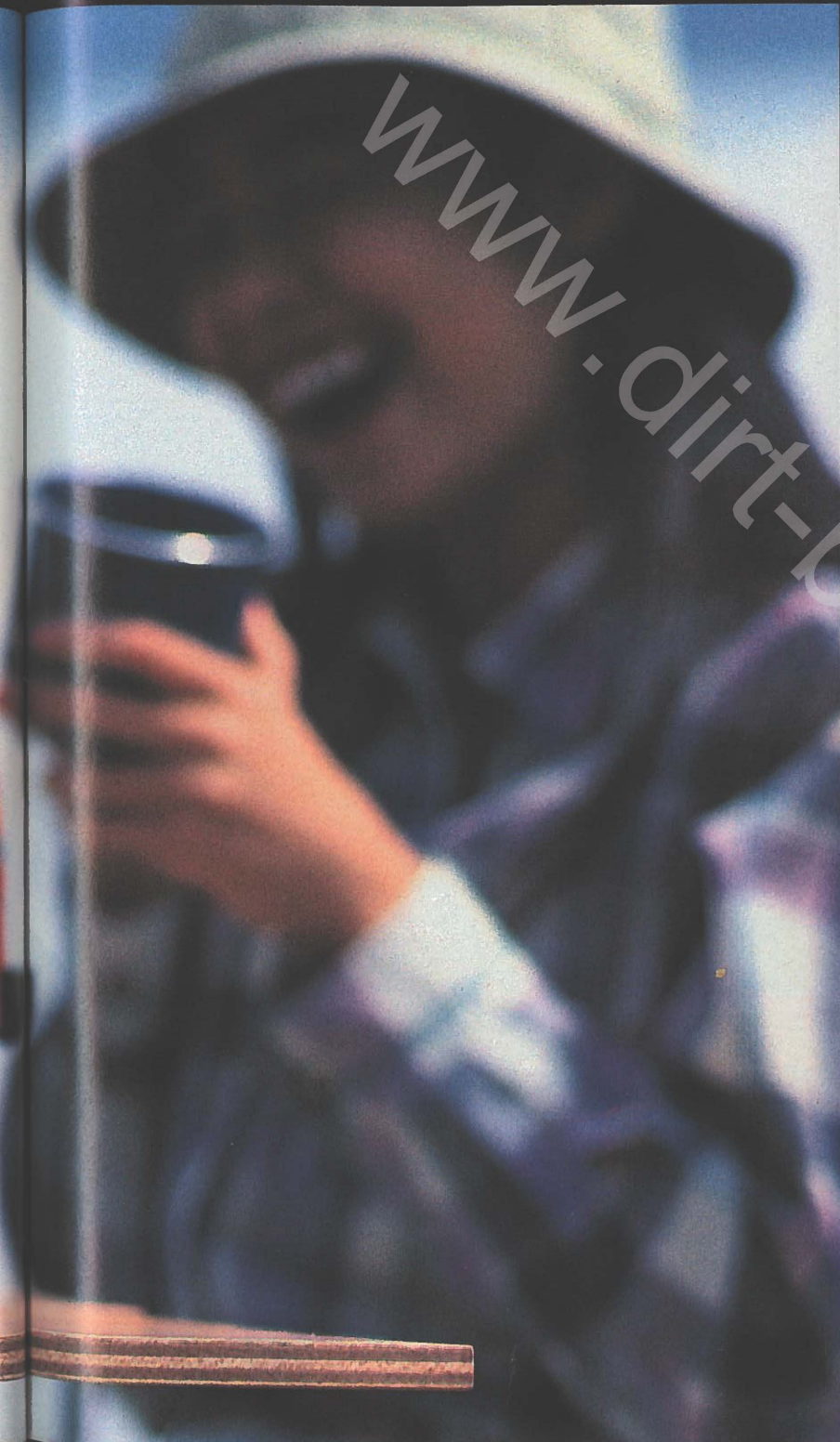


# ENGINE POWERED VEHICLE





# ES





049 FERRARI F189

.049 POWERED F1 RACER

No.4231

049 ESPO LARROUSSE 90

.049 POWERED F1 RACER

No.4232



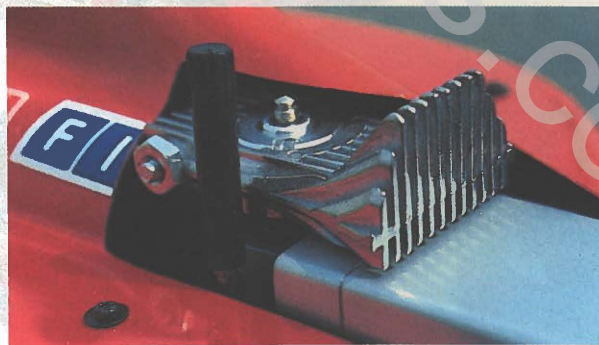




049 FERRARI F189 No.4231



049 ESPO LARROUSSE 90 No.4232



### SCALE MODELS OF EXCITING V-12 GRAND PRIX CARS

TWO GRAND PRIX CARS HAVE THE THRILLING SOUND OF A 3.5 LITER ITALIAN V-12 ENGINE. FERRARI MAKES ITS OWN, AND LARROUSSE USES AN EQUALLY EXOTIC POWERPLANT FROM LAMBORGHINI. THESE LARGE 1/10-SCALE MODELS HAVE DETAILED AERODYNAMIC BODY AND WING TO LOOK LIKE THE REAL ONES. FOR MOBILE EXCITEMENT THERE'S A PEPPY THROTTLE-EQUIPPED COX .049 GLOW ENGINE FOR BRISK PERFORMANCE AND JUST THE RIGHT AMOUNT OF HIGH-RPM EXHAUST SOUND. BUILT-IN PRIMING PUMP. JUST TWIST A REAR WHEEL FOR EASY STARTING. ABOUT 10 MINUTES PER TANKFUL. SCALE-LIKE DOUBLE-WISHBONE ALL-INDEPENDENT SUSPENSION, DAMAGE-PROTECTED AT FRONT. LIGHT, RELIABLE FRICTION-TYPE SHOCK ABSORBERS. HIGH-STRENGTH GLASS-REINFORCED CHASSIS. SERVO SAVER. QUICK-RELEASE BODY MOUNT FOR REFUELLING, ETC. SPONSOR AND DRIVER STICKERS. SLICK TIRES. OPTIONAL SPONGE TIRES AND BALL BEARING SET.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel
- D-cells for glow plug battery holder (two required: alkaline type recommended)
- Polycolor paint (No.2230)

#### Technical data

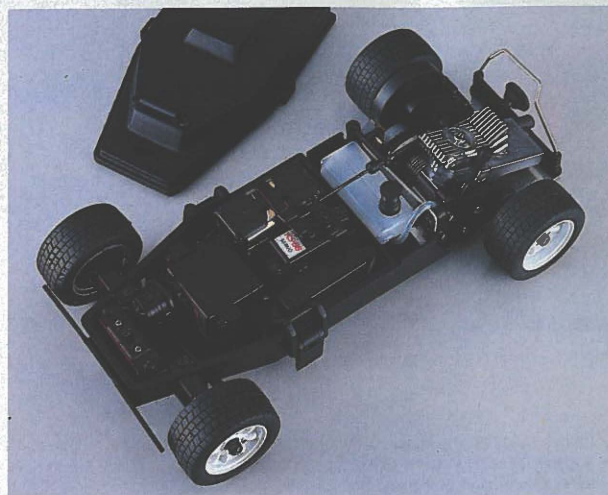
- Length/415mm (16.3") ● Width/186mm (7.3") ● Height/100mm (3.9") ● Wheelbase/247mm (9.7") ● Ground clearance/10mm (0.4")
- Track/F: 158mm (6.2"); R: 146mm (5.7") ● Tires/F:  $\phi 55 \times 27$ mm; R:  $\phi 60 \times 40$ mm ● Weight/1100g (39 oz) ● Gear ratio/5.4 : 1
- Engine (included)/Cox .049 w/headsink head and twist starter ● Fuel filler bottle and box for glow plug battery included.





**.049 MINI COOPER**  
**.049 ENGINE POWERED CAR**  
**1:10 SCALE No.2386**

**.049 VW BEETLE**  
**.049 ENGINE POWERED CAR**  
**1:12 SCALE No.2387**



**TWO '60s FAVORITES WITH ENGINE POWER**

TWO CARS THAT DEFINED THE 60s. THE VW BEETLE WAS PRODUCED IN MILLIONS AND WAS RELIABLE AND ECONOMICAL WITH A TOUCH OF SPORT. THE MINI COOPER WAS A MINIATURE HOT ROD WITH A POWERFUL ENGINE IN A SMALL, GOOD-HANDLING BODY. THESE KYOSHO MODELS ARE JUST AS MUCH FUN TO DRIVE IN MINIATURE. BOTH HAVE A PEPPY COX .049 ENGINE WITH THROTTLE, HEATSINK, AND LARGE-CAPACITY 35cc FUEL TANK (ABOUT 10 MINUTES PER TANKFUL). THE MUFFLER GIVES A SOUND THAT IS SPORTY WITHOUT BEING LOUD. STARTING IS A SNAP, LITERALLY. CONNECT THE GLOW PLUG BATTERY USING THE SUPPLIED EASY CONNECTOR, PRIME THE ENGINE, AND JUST PULL AND RELEASE THE KNOB OF THE RACK-TYPE STARTER. THE SPRING SPINS THE ENGINE AND STARTS THE FUN. HANDLING ON FLAT TRACKS IS SPORTY, WITH SLIDING PILLAR INDEPENDENT FRONT SUSPENSION THAT KEEPS THE WHEELS VERTICAL FOR TOP TRACTION. REAR DIFFERENTIAL AND SCALE RADIAL-PATTERN TIRES FOR GOOD CORNERING. STRONG NYLON CHASSIS. HIGHLY-DETAILED POLY-CARBONATE BODY WITH MANY METAL-FINISH DETAIL PARTS. QUICK-RELEASE BODY LATCH FOR EASY ENGINE ACCESS.



**Required for operation (not included)**

- Radio control set: two-channel w/two servos
- Fuel
- D-cells glow plug battery holder (two required; alkaline type recommended)
- Polyca Color paint (No.2230)

**Technical data (.049 VW BEETLE)**

- Length/339mm (13.3") ● Width/164mm (6.5") ● Height/121mm (4.8") ● Wheelbase/210mm (8.3") ● Weight/950g (2.1 lb)
- Ground clearance/12mm (0.5") ● Track (F/R)/130mm (5.1") ● Tires (F/R)/φ55×27mm ● Gear ratio/6.9 : 1
- Engine (included)/Cox .049 w/heatsink head and spring-rack starter ● Fuel filler bottle and box for glow plug battery included.



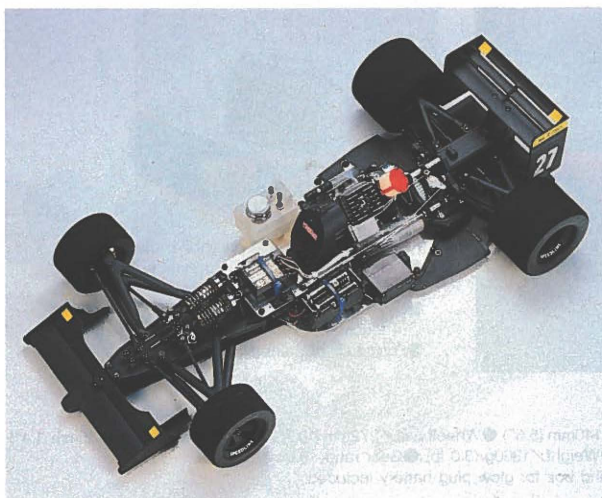
**FERRARI 643 GP-10**  
**.10 ENGINE POWERED F1 RACER**

**1:8 SCALE**  
**No.3272**



**FERRARI'S LATEST GRAND PRIX CAR**

FERRARI'S NEWEST GRAND PRIX CAR, WITH A POWERFUL 3.5 LITER V-12 ENGINE THAT SCREAMS TO MORE THAN 14,000 RPM, HAS A GOOD CHANCE AT THE 1992 FORMULA 1 WORLD CHAMPIONSHIP. THIS FINELY DETAILED MODEL BY KYOSHO, IN IMPRESSIVELY LARGE 1/8-SCALE, WILL GIVE THE SAME KIND OF EXCITEMENT WITH .10 ENGINE POWER. THE ALL-INDEPENDENT SUSPENSION IS SCALE, WITH DOUBLE WISHBONES AND INBOARD-MOUNTED OIL-FILLED SHOCK ABSORBERS, AND DELIVERS REALISTIC CORNERING ABILITY. OPERATION IS SIMPLE WITH THE RECOIL-TYPE PULL STARTER. JUST A COUPLE OF TUGS AND THE ENGINE IS RUNNING. ASSEMBLY IS ALSO EASY, WITH THE ENGINE AND GEARBOX UNIT BEING FACTORY ASSEMBLED. THE BODY HAS THE MOLDING ACCURACY FOR WHICH KYOSHO IS FAMOUS, AND THERE ARE DETAIL PARTS LIKE THE REAR WING AND DRIVER FIGURE. UNDERNEATH IS A STRONG ALLOY ALUMINUM PLATE CHASSIS. ALSO INCLUDED ARE A FUEL FILLER BOTTLE, GLOW PLUG WRENCH, AND BATTERY HOLDER (FOUR D-CELLS) PLUS CONNECTOR LEAD FOR HEATING THE GLOW PLUG. WHETHER YOU ARE A BEGINNER OR ARE AN EXPERIENCED CAR DRIVER, YOU'LL ENJOY DRIVING A FERRARI.



**Required for operation (not included)**

- Radio control set: Two-channel w/two servos
- Fuel
- D-cells for glow plug battery holder (4 required; alkaline type recommended)
- Polycolor paint (No.2230)

**Technical data**

- Length/540mm (21.3") ● Width/280mm (11.0") ● Height/180mm (7.1") ● Wheelbase/365mm (14.4")
- Ground clearance/12mm (0.5") ● Track/F: 248mm (11.0"); R: 222mm (8.7") ● Weight/1700g (3.7 lb)
- Tires/F:  $\phi$ 80 x 32mm; R:  $\phi$ 82 x 58mm ● Gear ratio/8.6 : 1 ● Engine (included)/.10 Size w/recoil-type pull starter



# ZR-1 CORVETTE

.10 ENGINE POWERED SPORT CAR

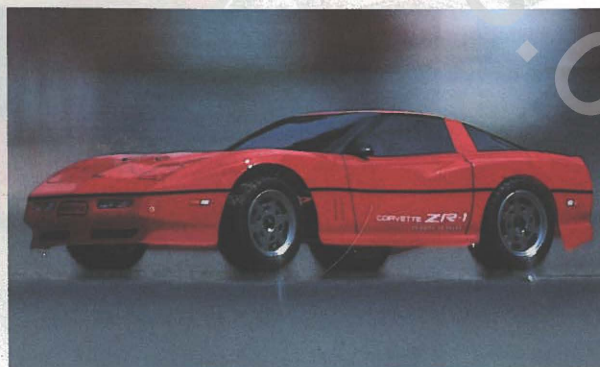
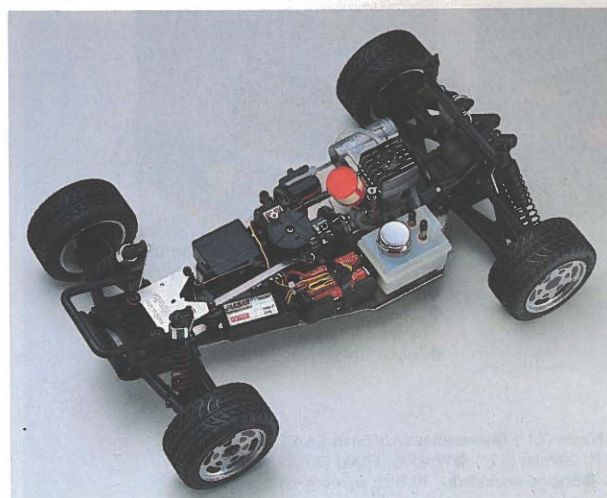
1:10 SCALE

No.3071



## EXCITING GOOD LOOKS, TOP PERFORMANCE AND EASY STARTING!

COMBINE A REALISTIC SCALE CORVETTE BODY WITH A SUPERB-HANDLING CHASSIS AND A SUPER-EASY STARTING, POWERFUL 10 SIZE GLOW ENGINE, AND THE RESULT IS FUN AND EXCITEMENT! EVEN THE BEGINNING MODEL DRIVER CAN BE CONFIDENT OF EASY OPERATION. ALL MECHANICAL PARTS, LIKE THE SUSPENSION AND DRIVE TRAIN, ARE FACTORY ASSEMBLED, SO YOU JUST INSTALL THE RADIO CONTROL EQUIPMENT AND DECORATE THE BODY TO YOUR TASTE. AND THE ZR-1 IS READY TO ROLL! STARTING THE ENGINE IS NO PROBLEM. JUST FILL THE FUEL TANK, PRIME THE ENGINE USING THE BUILT-IN PUMPS. CONNECT THE BATTERY TO THE GLOW PLUG (BATTERY HOLDER, LEADS AND CONNECTOR SUPPLIED); USES ORDINARY D-SIZE CELLS, AND PULL THE RECOIL STARTER ONCE OR TWICE. THAT'S ALL IT TAKES!



### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel
- D-cells for glow plug battery holder (4 required: alkaline type recommended)
- Polycolor paint (No.2230)

### Technical data

- Length/495mm (19.4") ● Width/235mm (9.3") ● Height/140mm (5.5") ● Wheelbase/272mm (10.7") ● Ground clearance/35mm (1.4")
- Track (F/R)/205mm (8.1") ● Tires (F/R)/φ77×36mm ● Weight/1360g (3.0 lb) ● Gear ratio/9.6 : 1
- Engine (included) w/recoil pull starter ● Fuel filler bottle and box for glow plug battery included.

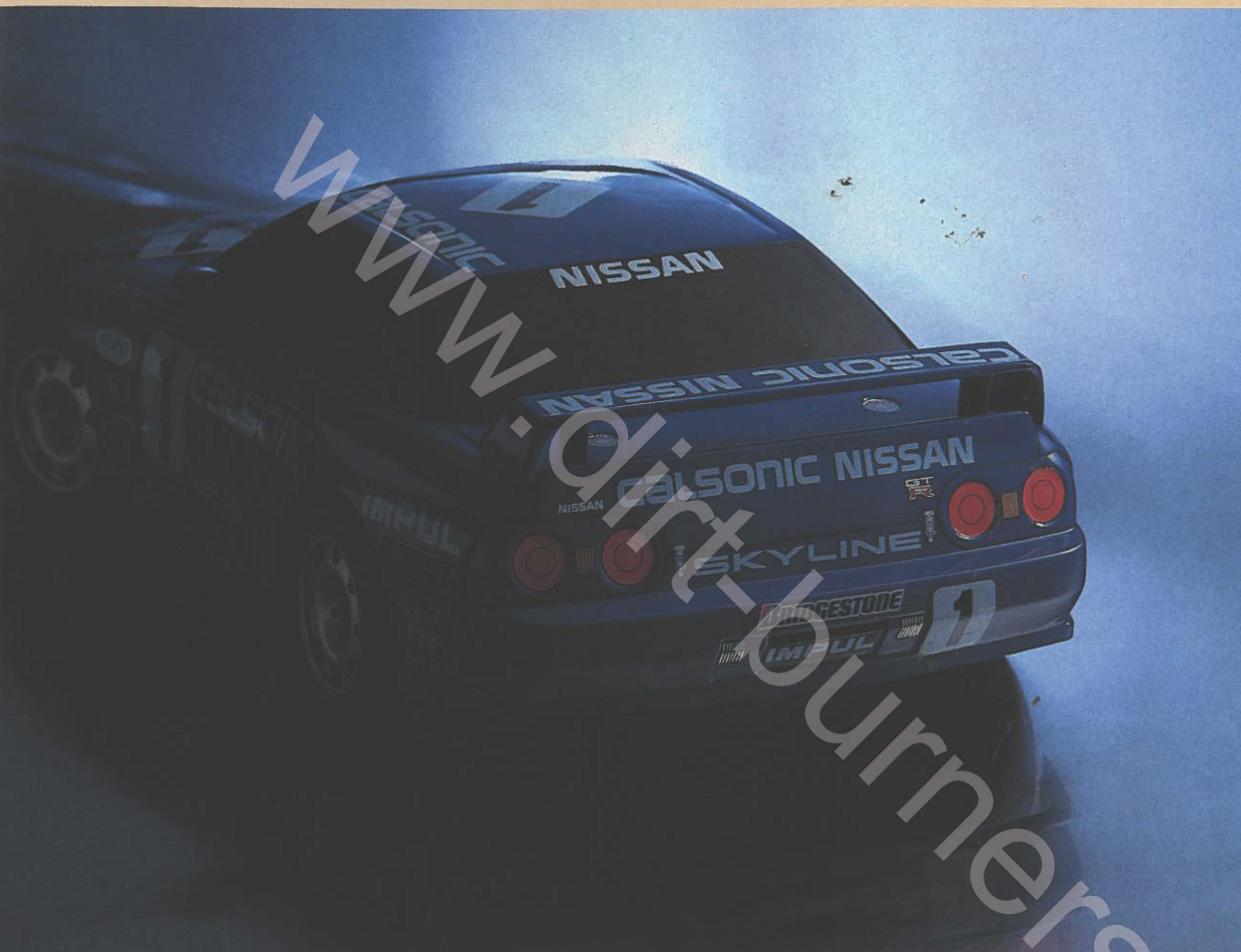




## CALSONIC SKYLINE GT-R GP-10

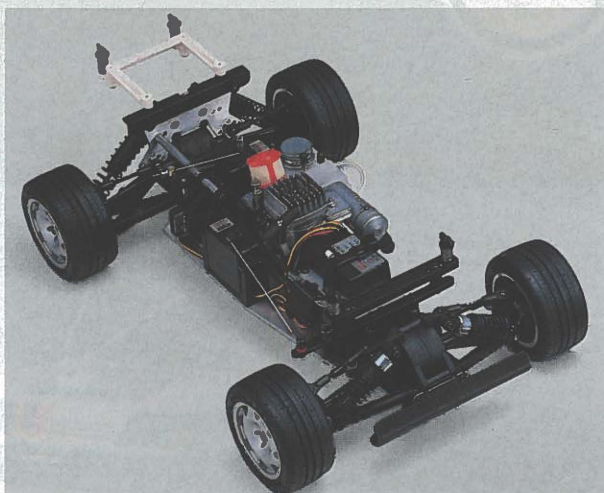
.10 ENGINE POWERED 4WD GROUP A CAR

1:10 SCALE  
No.3077



### A COMPETITION WINNER WITH EXCITING ENGINE POWER

THE CALSONIC GT-R NISSAN SKYLINE IS THE FASTEST PRODUCTION CLASS (GROUP A) RACING CAR IN JAPAN. THIS 1/10-SCALE KYOSHO MODEL HAS A TRUE-SCALE BODY ACCURATELY MOLDED IN IMPACT-RESISTANT POLYCARBONATE READY FOR PAINTING. CHOOSE THE SCALE COLOR OR LET YOUR IMAGINATION RUN WILD! DETAIL TOUCHES INCLUDE SPONSOR TRANSFERS, MIRRORS, WIPERS, WHEELS, AND SCALE PATTERN TIRES. PERFORMANCE IS PEPPY WITH THE .10 GLOW ENGINE DRIVING FRONT AND REAR WHEELS THROUGH A RELIABLE SYSTEM OF TOOTHED BELTS, DRIVE SHAFTS, AND TRIPLE DIFFS. THE POWER IS KEPT UNDER CONTROL ON ROUGH AND SMOOTH TRACKS BY THE ALL-INDEPENDENT LONG-TRAVEL WISH-BONE/ARM SUSPENSION WITH QUALITY OIL-FILLED SHOCKS. RUNNING AN ENGINE-POWERED MODEL CAR HAS NEVER BEEN EASIER. THE BUILT-IN RECOIL-TYPE PULL STARTER HAS THE ENGINE RUNNING WITH JUST A COUPLE OF TUGS ON THE CORD. THE ENGINE MAKES JUST A PURR, SO IT WON'T DISTURB ANYONE! QUICK-RELEASE BODY MOUNTS ALLOW EASY REFUELLING, AND THERE IS A STRONG ALLOY ALUMINUM FRAME UNDERNEATH.



SPONSOR LOGO TRANSFERS FOR FOUR OTHER TEAMS ARE AVAILABLE.  
 ●ZEXEL GT-R (No.1761) ●TAISAN KLEPPER GT-R (No.1762)  
 ●NICHIREI ACEROLA GT-R (No.1763) ●FALKEN GT-R (No.1764)

#### Technical data

- Length/495mm (19.5") ●Width/240mm (9.4") ●Height/150mm (5.9") ●Wheelbase/270mm (10.6")
- Ground clearance/25mm (1.0") ●Track (F/R)/205mm (8.1 in) ●Weight/1750g (3.9 lb) ●Tires (F/R)/φ77×36mm
- Gear ratio/12 : 1 ●Engine (included)/.10 Size Engine w/recoil starter
- Kit includes fuel filler bottle, glow plug wrench, and battery holder/connector clip for heating glow plug



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel
- D-cells for glow plug battery holder (4 required; alkaline type recommended)
- Polycy Color paint (No.2230)



# GP RALLY CAR SERIES

.10 ENGINE POWERED 4WD RALLY CARS







1:10 SCALE



FORD RS-200  
No.3013



PEUGEOT 405  
No.3014

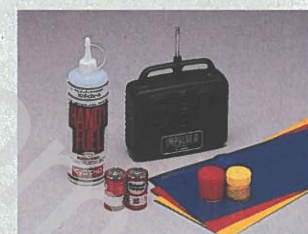
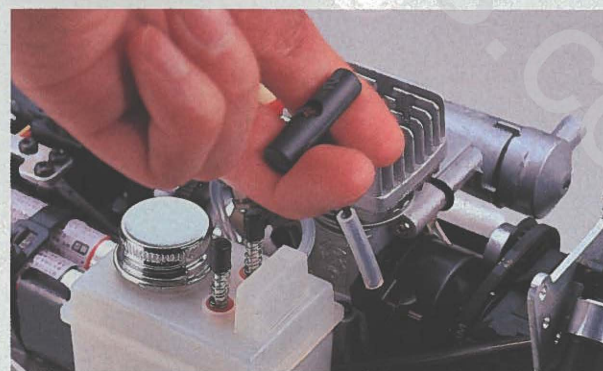
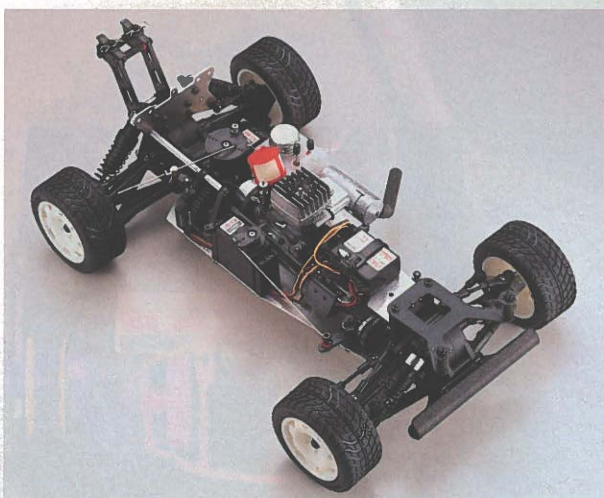


LANCIA DELTA INTEGRALE 16V  
No.3044



### FAMOUS RALLY CARS WITH EXCITING ENGINE POWER

IF YOU LIKE THE EXCITEMENT OF INTERNATIONAL CAR RALLIES AND THE HIGH-PERFORMANCE OF THE CARS THAT RUN IN THEM, YOU'LL LOVE THIS STABLE OF KYOSHO 1/10-SCALE MODELS OF THE MOST FAMOUS COMPETITORS. THE ORIGINALS NEED TO HAVE HIGH POWER, RUGGED CONSTRUCTION AND DURABILITY, AND GOOD HANDLING, FEATURES THAT ARE CARRIED OVER INTO THESE MODELS. EACH HAS AN ALL-INDEPENDENT LONG-TRAVEL WISHBONE/ARM SUSPENSION WITH QUALITY OIL-FILLED SHOCKS TO KEEP IT UNDER CONTROL ON ALL TYPES OF SCALE ROADS, BUT THE EXCITEMENT COMES FROM THE PEPPY PERFORMANCE FROM THE .10-SIZE ENGINE. RUNNING AN ENGINE-POWERED MODEL CAR HAS NEVER BEEN EASIER, FOR THE BUILT-IN RECOIL-TYPE PULL STARTER ENSURES THAT THE ENGINE IS READY TO GO WITH JUST A COUPLE OF TUGS ON THE CORD. THE POWER IS DELIVERED TO THE WHEELS BY A SOPHISTICATED FOUR-WHEEL DRIVE SYSTEM FEATURING TOOTHED BELTS, DRIVE SHAFTS, AND TRIPLE DIFFERENTIALS. MANY SPONSOR DECALS AND DETAIL PARTS LIKE MIRRORS AND WIPERS. THE WHEELS AND TIRES ARE SCALE, TOO.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel
- D-cells for glow plug battery holder (4 required; alkaline type recommended)
- Polycolor paint (No.2230)

#### Technical data

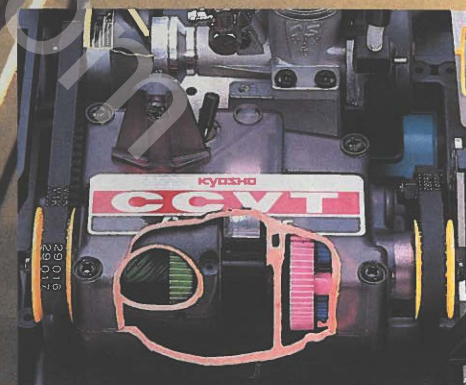
- Length/450/440/440mm (17.7/17.2/17.2")
- Width/240/235/235mm (9.4/9.2/9.2")
- Height/170/138/138mm (6.7/5.4/5.4")
- Wheelbase/270mm (10.6")
- Ground clearance/25mm (1.0")
- Track F/R/201mm (8.1 in)
- Weight/1750/1660/1660g (3.9/3.7/3.7 lb)
- Tires (F/R)/φ77×36mm
- Gear ratio/10 : 1/12 : 1/12 : 1
- Engine (included)/.10 glow w/recoil starter





# NISSAN PATHFINDER

.10 ENGINE POWERED 4WD RECREATIONAL VEHICLE







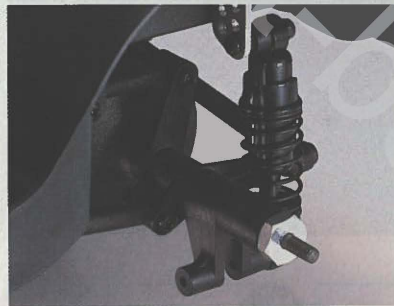
HEADLIGHT KIT (NB-13) ADDS REALISM.

### COMPLETELY SCALE, WITH AUTOMATIC TRANSMISSION

THIS 1/9-SCALE *PATHFINDER* IS COMPLETELY SCALE, FROM ENGINE POWER TO SUSPENSION, DRIVE SYSTEM, AND CHASSIS. TURN IT OVER AND YOU'LL SEE THE LIFELIKE FLOORPAN, TRIPLE DIFF CASES, FRONT AND REAR DRIVESHAFTS FOR FOUR-WHEEL DRIVE, FIVE-LINK REAR AXLE SUSPENSION, AND OTHER DETAILS. WITH ITS POWERFUL, FAN-COOLED .10 GLOW ENGINE IT PERFORMS REALISTICALLY TOO, ENGINE STARTING IS SUPER EASY WITH THE RECOIL-TYPE PULL STARTER. THE *PATHFINDER* IS ALSO SUPER-EASY TO DRIVE, WITH A CONTINUOUSLY-VARIABLE (CV) TRANSMISSION THAT LETS THE ENGINE DEVELOP GOOD POWER WHETHER THE VEHICLE IS JUST STARTING TO ROLL OR IS WELL UNDER WAY. (FOR TWO-CHANNEL OPERATION, ENGINE SPEED IS FIXED AND THE DRIVER VARIES THE GEAR RATIO. A THIRD CHANNEL ALLOWS ENGINE SPEED TO BE VARIED TOO.) THERE'S ALSO A REVERSE GEAR. MANY DETAIL PARTS ARE INCLUDED, SUCH AS GRILL, MIRRORS, WIPERS, AND SPARE TIRE CARRIER, PLUS SCALE WHEELS AND BRIDGESTONE DESERT DUELLER TIRES. KIT INCLUDES HOLDER FOR GLOW PLUG HEATER BATTERY, PLUG WRENCH, AND FUEL BOTTLE.



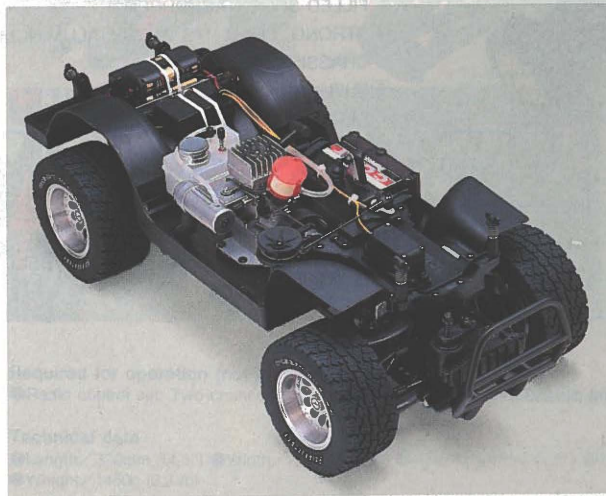
COMPLETELY SCALE DOUBLE-WISHBONE INDEPENDENT FRONT SUSPENSION WITH QUALITY FRICTION SHOCKS.



COMPLETELY SCALE FIVE-LINK LIVE-AXLE REAR SUSPENSION WITH FRICTION SHOCK ABSORBERS.



RECOIL-TYPE PULL STARTER AND CCVT AUTOMATIC TRANSMISSION MAKE OPERATION SIMPLE.



FOR VARIETY, THE BODY OF THE *HILUX SURF* (SEE PAGE 28) CAN BE FITTED TO THE CHASSIS (RV-42).



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos (for variable engine speed, use a three/four-channel set w/three servos)
- D-cells for glow plug battery holder (4required; alkaline type recommended)
- Fuel!

#### Technical data

- Length/545mm (21.5")
- Width/217mm (8.5")
- Height/218mm (8.6")
- Wheelbase/295mm (11.6")
- Ground clearance/23mm (0.9")
- Track (F/R)/171mm (6.7 in)
- Weight/2700g (5.9 lb)
- Tires (F/R)/φ100×40mm
- Gear ratio/9.6-35.9 : 1 (continuously variable)
- Engine (included)



# RAMPAGE GP-10

## 10 ENGINE POWERED 2WD RACING BUGGY

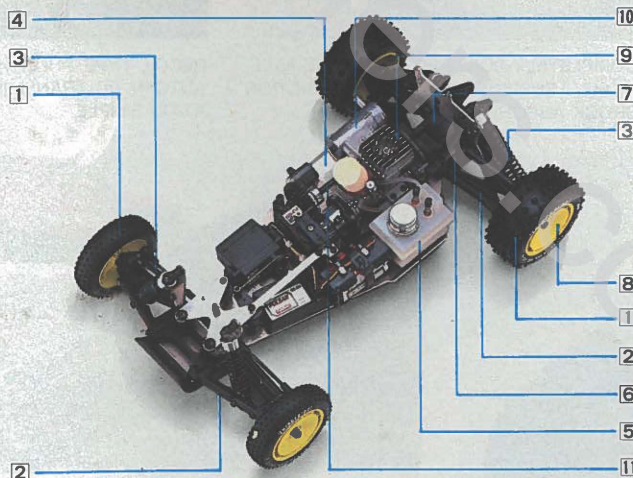
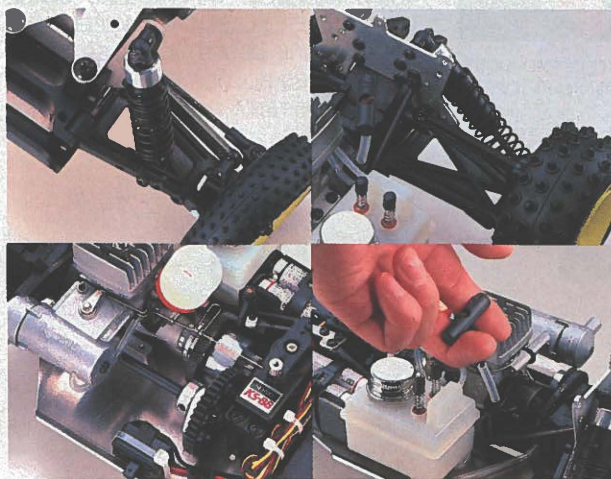
1:12 SCALE  
No.3072



### SUPER PERFORMANCE! SUPER-EASY STARTING!

THE EXCITEMENT OF RUNNING AN ENGINE-POWERED R/C BUGGY HAS NEVER BEEN SO EASY! JUST FILL THE TANK WITH FUEL, CONNECT THE GLOW-PLUG BATTERY, PRIME THE ENGINE USING THE PUMPS BUILT INTO THE FUEL TANK, AND PULL THE HANDLE OF THE RECOIL STARTER OF THE POWERFUL 10 ENGINE.

THAT'S ALL IT TAKES TO START THE RAMPAGE! NO ELECTRIC STARTER AND HEAVY BATTERY NEEDED! THE STANDARD MUFFLER PASSES JUST ENOUGH ENGINE SOUND TO BE EXCITING WITHOUT BOTHERING THE NEIGHBORS. ON THE TRACK, THE RAMPAGE IS PURE FUN TO DRIVE. ITS LONG-TRAVEL SUSPENSION WITH LARGE-CAPACITY OIL-FILLED PRESSURE SHOCK ABSORBERS SOAKS UP THE BUMPS, WHATEVER THE SURFACE, AND THE ENGINE DELIVERS THE SPEED! THE STYLISH BODY LOOKS GREAT, TOO!



- 1 PIN-SPIKE SOFT-COMPOUND TIRES (ALL-TERRAIN).
- 2 LONG-TRAVEL WISHBONE/ARM SUSPENSION (F/R).
- 3 LARGE-CAPACITY PRESSURE TYPE OIL-FILLED SHOCK ABSORBER.
- 4 STRONG, LIGHT 17S ALLOY ALUMINUM CHASSIS.
- 5 FUEL TANK W/PRIMING PUMPS.
- 6 RECOIL-STARTER HANDLE.
- 7 GEARBOX/DIFFERENTIAL.
- 8 STRONG, LIGHT NYLON WHEELS.
- 9 10 ENGINE (INCLUDED).
- 10 SUPER-SILENT MUFFLER (INCLUDED).
- 11 DRIVE MECHANISM: GEAR/SHAFT/BELT.

#### Required for operation (not included)

● Radio control set: Two-channel w/two servos ● Fuel and glow-plug batteries (D-size × 4; alkaline type recommended) ● Polyca Color paint (No.2330)

#### Technical data

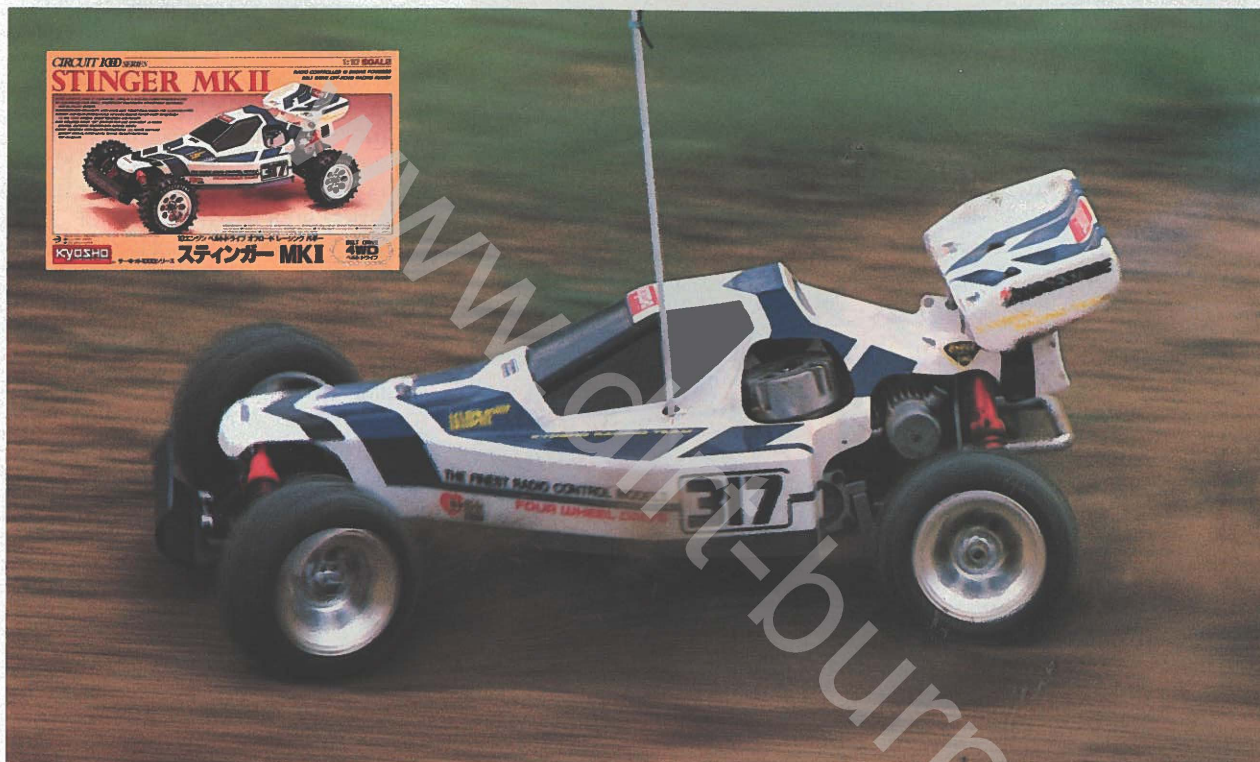
● Length/350mm (13.8") ● Width/240mm (9.4") ● Height/130mm (5.1") ● Wheelbase/272mm (10.7") ● Ground clearance/36mm (1.4")  
 ● Track/F: 208mm (8.2"); R: 205mm (8.1") ● Tires/F:  $\phi$ 70×20mm; R:  $\phi$ 85×37mm ● Weight/1360g (3.0 lb) ● Gear ratio/9.6 : 1  
 ● Engine (included)w/recoil pull starter ● Fuel filler bottle and box for glow plug battery included.



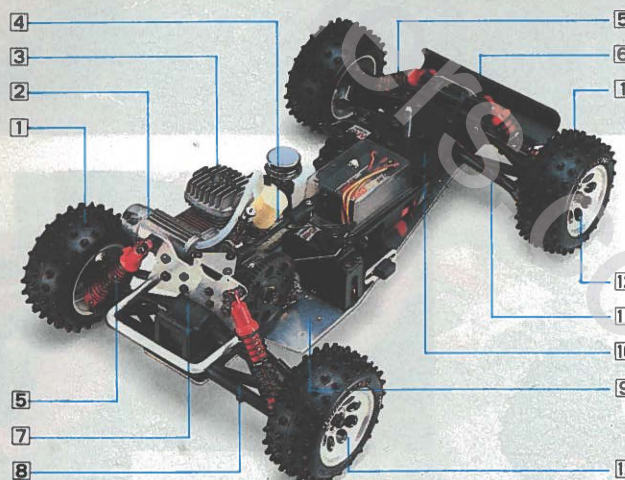
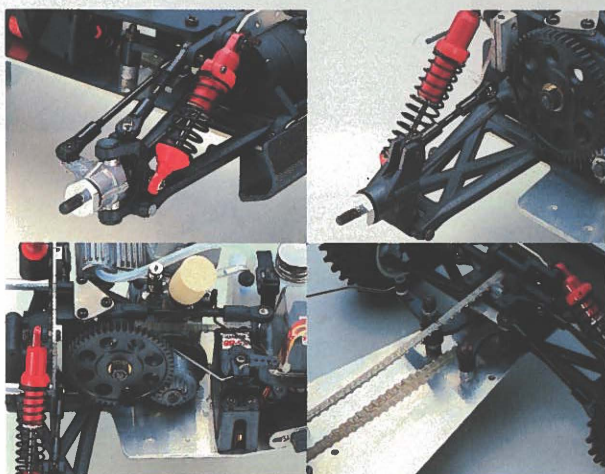
# CIRCUIT 1000 SERIES "STINGER MK- II"

10 ENGINE POWERED OFF-ROAD RACING BUGGY

1:10 SCALE  
No.3042



WITH A STRENGTHENED VERSION OF THE ADVANCED DRIVE AND SUSPENSION SYSTEMS OF THE FAMOUS OPTIMA, THE STINGER IS GOING TO MOVE ON ANY TERRAIN! HIGH-TRACTION FOUR-WHEEL DRIVE BY LIGHT, EFFICIENT AND RELIABLE GEAR/BELT SYSTEM. EXTRA-LONG-TRAVEL (35mm) WISHBONE/ARM SUSPENSION WITH EFFECTIVE OIL-FILLED SHOCKS. STRONG, LIGHT, ALLOY ALUMINUM CHASSIS. USES ALMOST ANY .09 - .11 ENGINE, SIDEWINDER MOUNTED WITH DIRECT DRIVE TO GEARBOX. FUEL TANK AND MUFFLER INCLUDED.



- 1 ULTRA-LOW PROFILE PIN-SPIKE TIRES FOR DEPENDABLE TRACTION ON ANY SURFACE.
- 2 MUFFLER (INCLUDED) GIVES PLEASANT SOUND WITH LOW POWER LOSS.
- 3 USES ALMOST ANY .09 - .11 ENGINE.
- 4 LIGHT, RELIABLE, EFFICIENT REINFORCED DRIVE BELT.
- 5 EFFECTIVE OIL-FILLED SHOCK ABSORBER.
- 6 PROTECTIVE NYLON BUMPER.
- 7 REAR GEARBOX AND DIFFERENTIAL WITH 5 BALL BEARINGS FOR LOW POWER LOSS.
- 8 LONG-TRAVEL WISHBONE/ARM REAR SUSPENSION. STRONG EX66 NYLON PARTS.
- 9 STRONG, LIGHT 17S ALLOY ALUMINUM CHASSIS.
- 10 EX66 NYLON UPPER CHASSIS PLATE.
- 11 GLASS-REINFORCED EX66 NYLON LONG-TRAVEL WISHBONE/ARM FRONT SUSPENSION.
- 12 STYLIZED STRONG, LIGHT, METALLIZED NYLON WHEELS.

#### Required for operation (not included)

● Radio control set: Two-channel w/two servos ● Engine (.09~.11 size buggy type) ● Fuel and glow-plug battery ● Starter (No.1791 or equiv.) and battery

#### Technical data

● Length/370mm (14.6") ● Width/240mm (9.9") ● Height/110mm (4.3") ● Wheelbase/275mm (10.8") ● Ground clearance/30mm (1.2") ● Track/F: 200mm (7.9"); R: 205mm (8.1") ● Tires (F/R)/φ85×37mm ● Weight/1450g (3.2 lb)



# CAR CRUSHER "NITRO BRUTE"

10 ENGINE POWERED OFF-ROAD RECREATIONAL VEHICLE

1:10 SCALE  
No.3110G



## HIGH-PERFORMANCE CAR CRUSHER!

WHAT'S THE BEST WAY TO HOP UP R/C CAR CRUSHER FUN? ADD THE POWER OF AN ENGINE! THE NITRO BRUTE HAS THE CLIMBING POWER THAT ONLY HUGE HIGH-GRIP 136 × 80mm (5.4 × 3.2") TIRES AND THE SURE-FOOTEDNESS OF THE ALL-INDEPENDENT DOUBLE-WISHBONE SUSPENSION CAN GIVE, CLIMBING POWER THAT TAKES IT OVER OBJECTS 50mm (2") HIGH. POWERFUL, HIGH-QUALITY ENYA QUICKY .09BB GLOW ENGINE (WITH TWIN BALL BEARINGS) STARTS EASILY WITH THE BUILT-IN "ZIP" STARTER OR AN ELECTRIC STARTER. PROTECTIVE BUMPERS AND STRONG ABS CHASSIS PROTECT RADIO EQUIPMENT. RELIABLE FRICTION-TYPE SHOCK ABSORBERS. LIGHTWEIGHT BODY FOR LOW CG. CHROME-FINISH GRILL, BUMPER, MIRRORS, ETC.



### Required for operation (not included)

●Radio control set: Two-channel w/two servos ●Fuel and glow-plug batteries ●Polyca Color paint (No.2330)

### Technical data

●Length/470mm (18.5") ●Width/310mm (12.2") ●Height/250mm (9.8") ●Wheelbase/290mm (11.4")  
●Ground clearance/70mm (2.8") ●Track/F: 220mm (8.7"); R: 215mm (8.5") ●Tires (F/R)/φ136×80mm ●Weight/1660g (5.7 lb)  
●Gear ratio/29 : 1 ●Engine (included)/Enya .09 Quicky with zip starter ●Fuel filler bottle and box for glow plug battery included.





## OUTLAW RAMPAGE TRUCK

.12 ENGINE POWERED OFF-ROAD RACER

1:10 SCALE  
No.3073



### ENGINE-POWERED OFF-ROAD TRUCK EXCITEMENT

REAL STADIUM RACING TRUCKS HAVE ENGINE POWER, AND LOTS OF IT! SO DOES THIS FUN-FILLED PERFORMER FROM KYOSHO. RUN IT ACROSS ROUGH GROUND OR YOUR OWN MINI-STADIUM AND IT JUST COMES BACK FOR MORE! THE URGE COMES FROM A GUTSY .10-SIZE GLOW ENGINE THAT MAKES REAL ENGINE SOUNDS, BUT IS QUIET AND WON'T DISTURB THE NEIGHBORS. ITS BUILT-IN RECOIL-TYPE PULL STARTER MAKES THE ENGINE SUPER EASY TO START. THE BUMP-GOBBLING WISHBONE/ARM SUSPENSION WITH LARGE-CAPACITY OIL-FILLED SHOCK ABSORBERS IS DERIVED FROM A CHAMPIONSHIP-WINNING OFF-ROADER, SO IT IS GOING TO KEEP THE RAMPAGE TRACKING TRUE WHATEVER THE TERRAIN! GEARBOX AND DIFF ARE SEALED FOR PROTECTION, AND THE HIGH-TRACTION PIN-SPIKE TIRES ARE DRIVEN BY A RELIABLE SHAFT AND BELT SYSTEM. PICK YOUR OWN WILD COLOR SCHEME FOR THE FORD PICKUP BODY. MANY SELF-ADHESIVE TRANSFERS ADD TO THE REALISM. UNDERNEATH IS A STRONG, LIGHT, ALLOY ALUMINUM CHASSIS.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel
- Cells for heating glow plug (two D-size; alkaline type recommended)
- Polycolor paint (No.2230)
- Color Decal sheet (No.1754)

#### Technical data

- Length/423mm (16.7") ● Width/292mm (11.5") ● Height/202mm (8.0") ● Wheelbase/272mm (10.7")
- Ground clearance/49mm (1.9") ● Track/F: 240mm (9.4"); R: 235mm (9.3") ● Weight/1650g (3.6 lb)
- Tires (F/R)/φ104×56mm (φ4.1×2.2") ● Gear ratio/11.5 : 1 ● Engine (included)/.10 glow w/built recoil-type starter





## USA-1 NITRO CRUSHER

.21 ENGINE POWERED 4WD RECREATIONAL VEHICLE

1:8 SCALE  
No.3241



### CAR CRUSHER WITH BIG-ENGINE POWER

POWER! POWER! POWER! LIKE THE FAMOUS FULL-SIZE USA-1 SUPER TRUCK, NITRO CRUSHER HAS POWER TO SPARE. WITH THE POWERFUL .21 ENGINE OF YOUR CHOICE, IT WILL ALMOST CLIMB WALLS! WHETHER CLAMBERING OVER OBSTACLES OR CHALLENGING FOR THE TRAILER-PULLING HONORS, NITRO CRUSHER HAS WHAT IT TAKES. FOUR-WHEEL DRIVE BY SHAFTS AND THREE METAL-GEAR DIFFS (BASED ON THE BURNS CHASSIS) AND GIANT 165mm (6.5") HIGH-GRIP TIRES GIVE UNBEATABLE TRACTION ON ANY SURFACE, AND ALL FOUR WHEELS STEER FOR GREAT MANEUVERABILITY. ALL-INDEPENDENT SUSPENSION, WITH EIGHT FRICTION SHOCKS, KEEPS IT UNDER CONTROL ON THE MOVE. THE SCALE CHEVROLET SILVERADO BODY IS FULLY DETAILED, AND SPONSOR TRANSFERS ARE INCLUDED SO YOU CAN DUPLICATE THE COLOR SCHEME OF THE ORIGINAL USA-1. CHROME-FINISH CARBS, GRILL, MIRRORS, AND OTHER ACCESSORIES ADD TO THE REALISM. UNDERNEATH IS A STRONG ALUMINUM PLATE CHASSIS.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Engine (.21 size buggy type)
- Starter, fuel, plug-heater battery
- Polycolor paint (No.2230)
- Color decal sheet (No.1754)

#### Technical data

- Length/492mm (19.4") ● Width/420mm (16.5") ● Height/375mm (14.8") ● Wheelbase/320mm (12.6")
- Ground clearance/62mm (2.4") ● Track (F/R)/310mm (12.2") ● Weight/4150g (9.1 lb)
- Tires (F/R)/φ165×110mm (6.5×4.3") ● Gear ratio/23.8 : 1 ● Engine (not included)/.21 glow or diesel



# BURNS DX 4WD

.21 ENGINE POWERED RACING BUGGY

1:8 SCALE

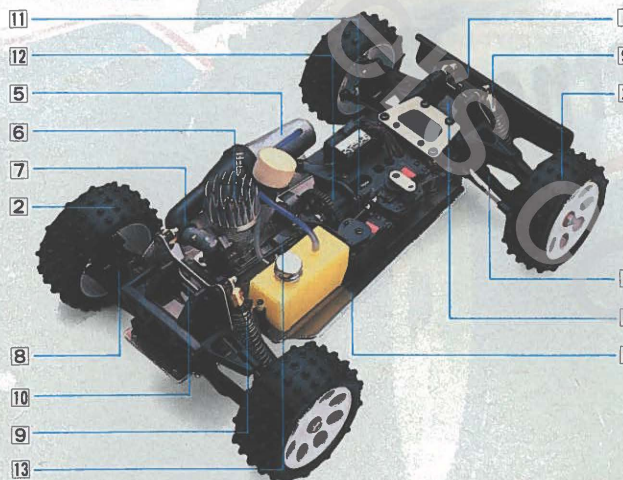


No.3099



## .21-ENGINE BUGGY PERFORMANCE AT ENTRY-LEVEL COST

THE IDEAL CHOICE FOR THE BEGINNER IN HIGH-PERFORMANCE BUGGIES. ALL THE POWER OF A .21 ENGINE, IN A CHASSIS DESIGNED TO EAT UP ROUGH TRACKS AND KEEP ON COURSE, WITHOUT BREAKING THE BUDGET. THE GOOD HANDLING COMES FROM THE LONG-TRAVEL DOUBLE-WISHBONE ALL-INDEPENDENT SUSPENSION AND THE HIGH-QUALITY METAL-BODY PRESSURE-TYPE OIL-FILLED SHOCKS. THE POWER OF THE ENGINE GETS TO THE GROUND VIA A SOPHISTICATED FOUR-WHEEL DRIVE SYSTEM OF TRANSFER BOX/CENTER DIFF, DRIVE SHAFTS, AND FRONT AND REAR DIFFS. FOR RELIABILITY, THE DIFFS ALL HAVE STRONG METAL GEARS. AND THE PERFORMANCE CAN BE RAISED EVEN HIGHER JUST BY FITTING OPTION PARTS, LIKE BALL BEARINGS, LONG-WHEELBASE CHASSIS, AND LONGER SUSPENSION ARMS. THE SPORTY BODY IS WAITING FOR YOUR WILDEST PAINT SCHEME. MANY SELF-ADHESIVE DECORATIVE TRANSFERS ARE INCLUDED IN THE KIT TO HELP WITH THE APPEARANCE.



- 1 PROTECTIVE FRONT BUMPER.
- 2 LOW PROFILE PIN-SPIKE TIRES.
- 3 LONG-TRAVEL DOUBLE-WISHBONE FRONT SUSPENSION.
- 4 STRONG ALLOY-ALUMINUM CHASSIS.
- 5 SPECIAL CUSTOM MUFFLER INCLUDED.
- 6 ENGINE MOUNTS SUIT ALMOST ANY .21 BUGGY ENGINE.
- 7 SPECIAL CUSTOM MANIFOLD INCLUDED.
- 8 LONG-TRAVEL DOUBLE-WISHBONE REAR SUSPENSION.
- 9 HIGH-PERFORMANCE METAL-BODY PRESSURE-TYPE SHOCK ABSORBER ON EACH WHEEL.
- 10 SEALED REAR GEARBOX/DIFFERENTIAL UNIT. METAL GEARS.
- 11 DISC BRAKE.
- 12 CENTER DIFF AND TRANSFER BOX.
- 13 REAR DRIVESHAFT.
- 14 SEALED FRONT GEARBOX/DIFFERENTIAL UNIT. METAL GEARS.

### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Engine (.21 size buggy type)
- Fuel and glow-plug battery
- Starter and battery
- Polycolor paint (No.2230)
- Micron Line striping tape (No.1841/2/3)
- Color Decal sheet (No.1754)

### Technical data

- Length/420mm (16.5")
- Width/300mm (11.8")
- Height/160mm (6.3")
- Wheelbase/320mm (12.5")
- Ground clearance/40mm (1.4")
- Track (F/R)/250mm (9.8")
- Tires (F/R)/ $\phi$ 115 x 50mm
- Weight/3200g (7.0 lb)
- Gear ratio/10.1:1



# INFERNO 4WD

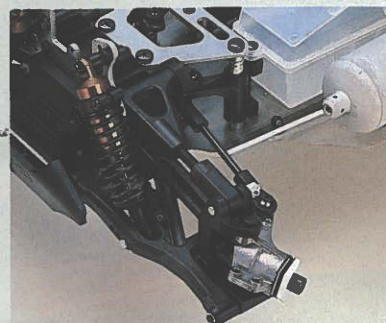
.21 ENGINE POWERED RACING BUGGY

INFERNO 4WD  
.21 ENGINE POWERED RACING BUGGY

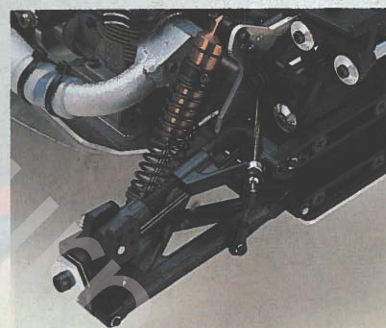




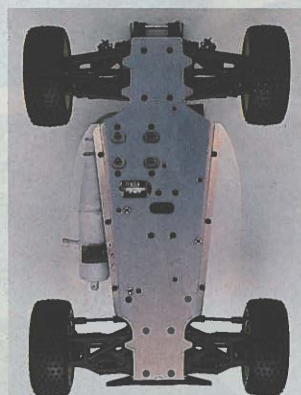
1:8 SCALE  
No.3281



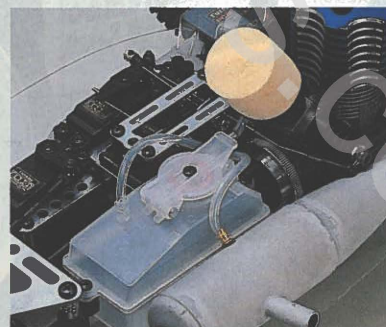
DOUBLE WISHBONE FRONT SUSPENSION. EASY CAMBER ADJUSTMENT. PRESSURE-TYPE OIL-FILLED SHOCK. STRONG GLASS-REINFORCED PARTS.



DOUBLE-WISHBONE REAR SUSPENSION. ANTI-SWAY BAR. PRESSURE-TYPE METAL BODY SHOCKS.



STRONG, RIGID ALLOY-ALUMINUM PLATE-TYPE CHASSIS. FLAT-HEAD SCREWS FOR FLAT BOTTOM.



DUAL DISC BRAKES. INDIVIDUALLY ADJUSTABLE FOR GRIP. SELF-SEALING FUEL TANK.

### FAST AND FURIOUS! MAXIMUM-PERFORMANCE 4WD .21-ENGINE BUGGY

THE INFERNO INHERITS ALL THE GREAT FEATURES OF KYOSHO SUPER-PERFORMANCE .21-ENGINE BUGGIES, AND HAS IMPROVEMENTS BASED ON LONG RACE-WINNING EXPERIENCE. THE DOUBLE-WISHBONE SUSPENSION HAS EVEN LONGER TRAVEL FOR STILL BETTER HANDLING, AND SUPER-CAPACITY PRESSURE-TYPE SHOCKS ARE NOW STANDARD. ALSO STANDARD ARE UNIVERSAL-JOINTED SWING SHAFTS AT THE FRONT. ANTI-SWAY BAR AT THE REAR. STRONG, EFFICIENT FOUR-WHEEL DRIVE SYSTEM BY SHAFTS AND STRENGTHENED FRONT, REAR, AND TRANSFER-BOX DIFFERENTIALS WITH METAL GEARS, REDESIGNED FOR EASIER MAINTENANCE. FULL SET OF PRECISION BALL BEARINGS. LIGHT, RUGGED 2.5mm ALLOY ALUMINUM CHASSIS. FRONT AND REAR DISC BRAKES WITH ADJUSTABLE BIAS. STRONG GLASS-FILLED NYLON PARTS. HEAVY-DUTY FRONT BUMPER. SPRING-LOADED QUICK-FILL FUEL TANK CAP RESEALS WHEN RELEASED. RACY BODY, READY FOR DECORATION WITH YOUR PERSONAL PAINT SCHEME. AERODYNAMIC WING. MANY SELF-ADHESIVE TRANSFERS INCLUDED.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Engine (.21 size buggy type)
- Fuel and glow-plug battery
- Starter (No.1791 or equiv.) and 12V battery
- Color Decal sheet (No.1754)

#### Technical data

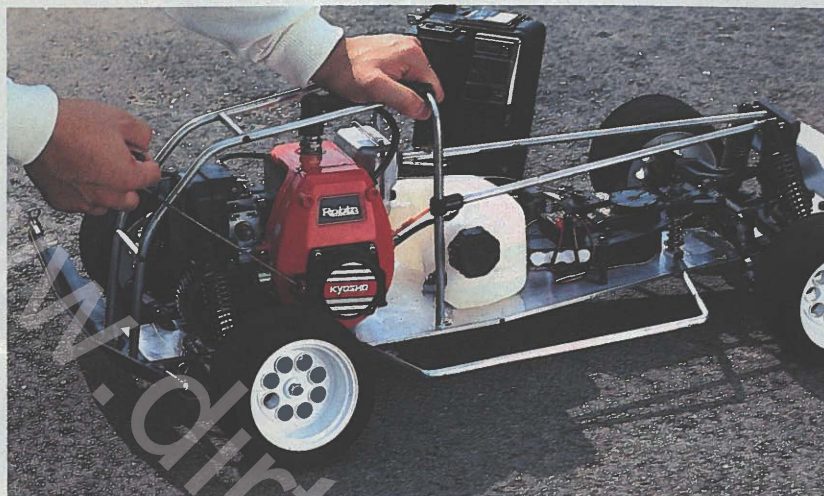
- Length/480mm (18.9")
- Width/305mm (12.0")
- Height/180mm (7.9")
- Wheelbase/328mm (12.9")
- Ground clearance/35mm (1.4")
- Track (F/R)/255mm (10.0")
- Tires (F/R)/ $\phi$ 115×43mm
- Weight/3400g (7.5 lb)
- Gear ratio/12 : 1



**LANCIA DELTA INTEGRALE 16V**  
ENGINE POWERED RALLY CAR

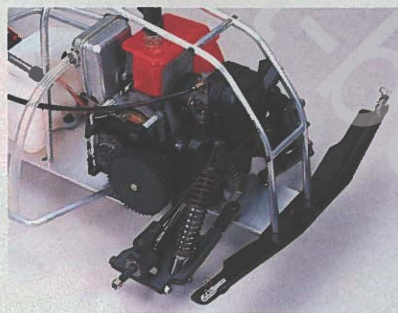






### BIG, IMPRESSIVE, AND FUN!

A 1/5-SCALE MODEL RADIO-CONTROLLED LANCIA DELTA RALLY COMPETITION CAR IS IMPRESSIVE TO LOOK AT, AND EVEN MORE FUN TO DRIVE! THIS KYOSHO MODEL IS BUILT TO GO, WITH A POWERFUL ENGINE AND THE SUSPENSION TO KEEP IT UNDER CONTROL ON THE TRACK. THE ENGINE HAS A BUILT-IN PULL STARTER AND RUNS ON AN ECONOMICAL GASOLINE-OIL MIXTURE. THE SUSPENSION IS DOUBLE-WISHBONE ON ALL WHEELS WITH COIL SPRINGS AND HIGH-QUALITY OIL-FILLED SHOCK ABSORBERS TO SOAK UP THE BUMPS. THE GEAR-TYPE DIFFERENTIAL GIVES SMOOTH CORNERING. UNDERNEATH THE IMPACT-RESISTING, ACCURATELY MOLDED POLY-CARBONATE BODY IS A STRONG 4mm ALLOY ALUMINUM CHASSIS. MAYBE BEST OF ALL, THE MAJOR MECHANICAL PARTS ARE FACTORY ASSEMBLED. SO THE MODEL CAN BE PUT TOGETHER EASILY AND BE READY TO RUN QUICKLY. JUST CHOOSE THE COLOR SCHEME YOU WANT. MANY SELF-ADHESIVE SPONSOR TRANSFERS ARE INCLUDED FOR THE FINISHING TOUCH.



FRONT AND REAR SUSPENSION IS INDEPENDENT WITH DOUBLE WISHBONES AND HIGH-QUALITY OIL-FILLED SHOCKS.



STEERING SERVO SHOULD DEVELOP AT LEAST 8kg.cm (110oz.in) OF TORQUE (OR USE TWO SERVOS OF 4kg.cm MINIMUM). THIS IS A BIG MACHINE!



THE 22cc TWO-STROKE ENGINE HAS A BUILT-IN RECOIL-TYPE PULL STARTER, AND IS FAN-COOLED FOR RELIABILITY.



THE SKILL FROM YEARS OF DESIGNING KYOSHO OFF-ROAD VEHICLES HAS GONE INTO THIS IMPRESSIVE MODEL.



#### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel (25 : 1 gasoline (petrol) and 2-stroke oil)
- Polycolor paint (No.2230)
- Micron Line striping tape (No.1841/2/3)
- Color Decal sheet (No.1754)

#### Technical data

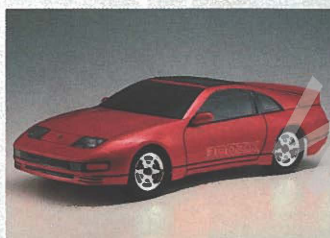
- Length/820mm (32.3") ● Width/430mm (16.9") ● Height/290mm (11.4") ● Wheelbase/520mm (20.5")
- Ground clearance/30mm (1.2") ● Track (F/R)/420mm (16.5 in) ● Weight/9700g (21.4 lb) ● Tires (F/R)/φ140×68mm
- Gear ratio/9.8 : 1 ● Engine/EC 02EHR 22cc 1.1hp two-stroke w/recoil pull starter (for 25 : 1 gasoline/oil mixture) ● Fuel tank/0.5 liter
- Body/Polycarbonate (2mm)







# SCALE BODIES FOR CARS



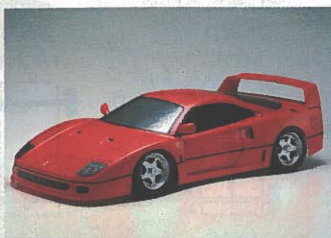
■ **NISSAN 300ZX BODY SET**  
No.OR-39  
(Wheelbase/270 ± 5mm)



■ **CALSONIC SKYLINE BODY SET**  
No.OR-52  
(Wheelbase/270 ± 5mm)



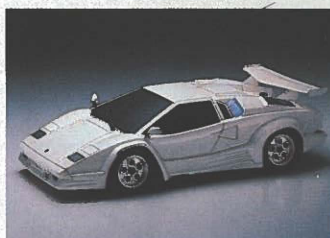
■ **PORSCHE 911 TURBO BODY SET**  
No.OR-34  
(Wheelbase/270 ± 5mm)



■ **FERRARI F40 BODY SET**  
No.OR-47  
(Wheelbase/270 ± 5mm)



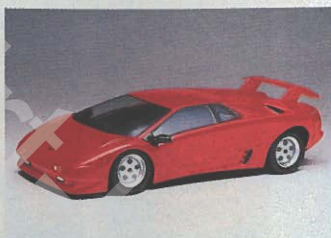
■ **FERRARI TESTAROSSA BODY SET**  
No.OR-65  
(Wheelbase/270 ± 5mm)



■ **LAMBORGHINI COUNTACH BODY SET**  
No.OR-70  
(Wheelbase/270 ± 5mm)



■ **FORD RS500 COSWORTH BODY SET**  
No.SI-5  
(Wheelbase/270 ± 5mm)



■ **LAMBORGHINI DIABLO BODY SET**  
No.OR-102  
(Wheelbase/305 ± 5mm)



■ **XJ220 PROTOTYPE BODY SET**  
No.OR-106  
(Wheelbase/305 ± 5mm)



■ **ZR-1 CORVETTE**  
BODY No.RM-17·BODY PARTS No.RM-16  
DECAL SHEET No.RM-18  
(Wheelbase/265 ± 5mm)



■ **PEUGEOT 405 RALLY**  
BODY No.FD-39·BODY PARTS No.FD-41  
REAR WING No.FD-42  
DECAL SHEET No.FD-40  
(Wheelbase/265 ± 5mm)



■ **LANCIA DELTA INTEGRALE 16V RALLY BODY SET**  
No.FD-53  
(Wheelbase/265 ± 5mm)



■ **FERRARI F189 BODY SET**  
No.FI-53  
(FOR F1/Gr.C SERIES)



■ **McLAREN HONDA MP4/5B BODY SET**  
No.FI-52  
(FOR F1/Gr.C SERIES)



■ **ESPO LARROUSSE 90 BODY SET**  
No.FI-75  
(FOR F1/Gr.C SERIES)



■ **BRABHAM-YAMAHA BT60Y BODY SET**  
No.FI-54  
(FOR F1/Gr.C SERIES)



■ **BRAUN TYRRELL HONDA 020 BODY SET**  
No.FI-76  
(FOR F1/Gr.C SERIES)



■ **NISSAN R89C**  
BODY No.FI-30·BODY PARTS No.FI-29  
DECAL SHEET No.FI-31A  
(FOR F1/Gr.C SERIES)



■ **TOYOTA 89C-V**  
BODY No.FI-36  
BODY PARTS No.FI-35  
DECAL SHEET No.FI-37A  
(FOR F1/Gr.C SERIES)



■ **KENWOOD KREMER PORSCHE 962C**  
BODY No.FI-47  
BODY PARTS No.FI-46  
DECAL SHEET No.FI-48A  
(FOR F1/Gr.C SERIES)

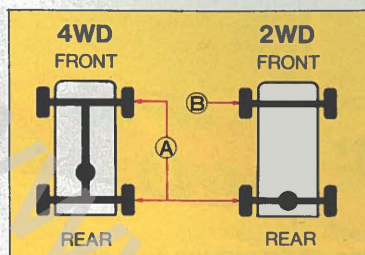


# WHEELS & TIRES FOR CARS



## WHEELS

- FOR 1/10 SCALE CARS
- FOR 1/10 SCALE BUGGIES
- FOR 1/8 SCALE BUGGIES



**No. OR-38**  
TYPEⒷ WHITE (×2)  
**No. OR-58**  
TYPEⒶ WHITE (×2)



**No. OR-67**  
TYPEⒷ SILVER (×2)  
**No. OR-51**  
TYPEⒶ SILVER (×2)



**No. RM-14**  
TYPEⒷ SILVER (×2)  
**No. RM-15**  
TYPEⒶ SILVER (×2)



**No. OR-72**  
TYPEⒷ SILVER (×2)  
**No. OR-73**  
TYPEⒶ SILVER (×2)



**No. OR-56**  
TYPEⒶ GUNMETAL (×2)  
**No. OR-109**  
TYPEⒶ SILVER (×2)  
**No. OT-90**  
TYPEⒶ WHITE (×4)



**No. OR-84**  
TYPEⒶ SILVER (×2)  
**No. OR-101**  
WHEEL CAPS SILVER (×4)



**No. OR-85**  
WIDE TYPE SILVER (×2)  
**No. OR-101**  
WHEEL CAPS SILVER (×4)



**No. OR-84**  
TYPEⒶ SILVER (×2)  
**No. OR-105**  
WHEEL CAPS SILVER (×4)



**No. OR-85**  
WIDE TYPE SILVER (×2)  
**No. OR-105**  
WHEEL CAPS SILVER (×4)



**No. FD-2**  
TYPEⒶ WHITE (×4)  
**No. MA-17**  
TYPEⒶ YELLOW (×4)



**No. W-5025**  
56 SIZE YELLOW (×2)



**No. W-5026**  
56 SIZE YELLOW (×2)



**No. W-5027**  
56 SIZE YELLOW (×2)



**No. BS-58**  
L SIZE WHITE (×2)



**No. BS-59**  
S SIZE WHITE (×2)



**No. BS-105**  
M SIZE YELLOW (×2)



**No. BSW-8**  
S SIZE YELLOW (×2)



**No. BSW-9**  
L SIZE YELLOW (×2)

## TIRES

- FOR 1/10 SCALE CARS
- FOR 1/10 SCALE BUGGIES
- FOR 1/8 SCALE BUGGIES



**No. W-5053**  
RADIAL PATTERN A (×2)



**No. W-5054**  
RADIAL PATTERN B (×2)



**No. W-5055**  
SLICKS (×2)



**No. W-5056**  
RADIAL PATTERN C (×2)



**No. W-5057**  
RADIAL PATTERN C WIDE (×2)



**No. W-5058**  
RALLY PATTERN (×2)



**No. W-5621S**  
56 SIZE LB TYPE SOFT (×2)  
**No. W-5621M**  
56 SIZE LB TYPE MEDIUM (×2)



**No. W-5631S**  
56 SIZE H-PIN NARROW SOFT (×2)  
**No. W-5631M**  
56 SIZE H-PIN NARROW MEDIUM (×2)



**No. W-5641S**  
56 SIZE H-PIN SOFT (×2)  
**No. W-5641M**  
56 SIZE H-PIN MEDIUM (×2)



**No. W-5642S**  
56 SIZE MICRO BLOCK SOFT (×2)  
**No. W-5642M**  
56 SIZE MICRO BLOCK MEDIUM (×2)

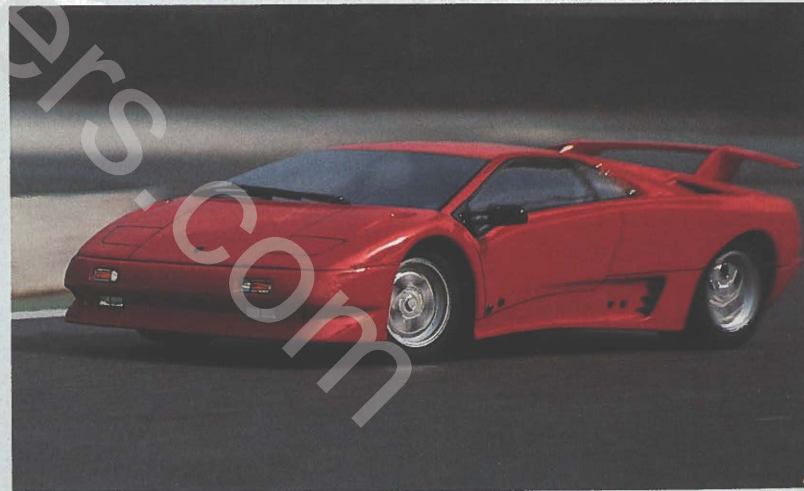


**No. BSW-40**  
M SIZE MULTI PIN MEDIUM (×2)  
**No. BSW-40S**  
M SIZE MULTI PIN SOFT (×2)



**No. BSW-47**  
M SIZE MICRO BLOCK (×2)  
**No. BSW-47S**  
M SIZE MICRO BLOCK HARD (×2)







# AIR CRAFTS

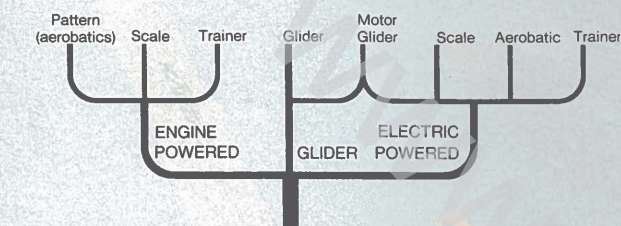








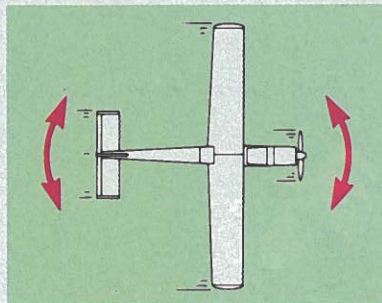
# R/C GENERAL INFORMATION



TYPES OF R/C AIRPLANES

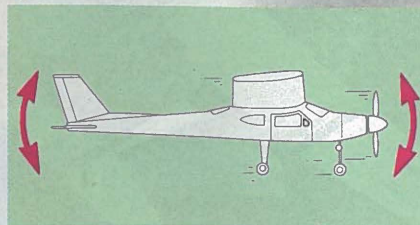
## RUDDER

The rudder is the movable part attached to the fin (also called the vertical stabilizer, the part that keeps the plane flying straight). When it moves, it causes the tail of the model to swing right or left, an effect called yaw. The effect of the yaw depends on the design of the model. A low-wing model may simply continue flying in a crabbed attitude (slightly sideways), while an airplane with a high wing, particularly one with several degrees of dihedral, will lean in the direction in which the rudder initially turned it, and it will make a smooth turn. Many gliders have only rudder and elevator controls, and can turn very well.



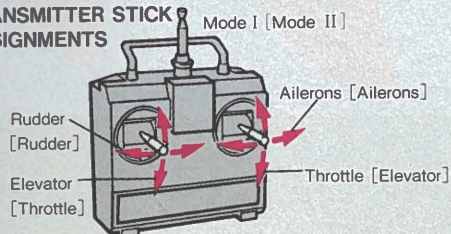
## ELEVATOR

The elevator is the movable part attached to the (horizontal) stabilizer (the part that keeps the plane from changing attitude). It controls the pitch or angle of attack of the model. If it moves down, the model will pitch down and dive and gain speed, while moving it up will cause the nose to rise. The action then depends on the amount of power; it may climb, or it may slow down. A very important function is to prevent the nose of the model from dropping during a turn; some up-elevator must be given, otherwise the plane will spiral into a dive.



## RADIO CONTROL FUNDAMENTALS

### TRANSMITTER STICK ASSIGNMENTS



## ANTENNA

The antenna is the wire extending from the receiver. The antenna should be strung straight and as far as possible from long metal parts, like pushrods. The antenna wire should never be cut short nor tied in a knot.



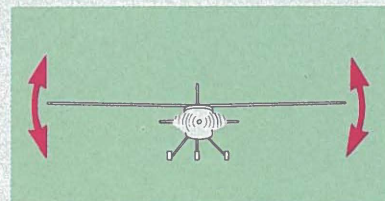
## FUNDAMENTALS OF MODEL AIRCRAFT CONTROL

A model airplane is controlled by the same forces and laws of physics as a full-size airplane. It is just smaller. It can be moved right-left, up-down, and at various speeds by the actions of the rudder, elevator, ailerons and power unit. The controls of an airplane interact with each other, and the descriptions on this page are simpler than in actuality.

Transmitters with stick assignment shown for Mode II are very widely used in the USA and Canada. Mode I is most common in other countries.

## AILERONS

Ailerons are movable surfaces in the right and left trailing edges of the wing. They always move in opposite directions, one up and one down. The wing with the down aileron will rise, causing the model to bank (lean) and turn away from the down aileron. As with a turn started with the rudder, it is usually necessary to apply some up elevator to prevent the model from diving.



## POWER UNIT

The engine of simple engine-powered models has only one speed, but the engines of most R/C models have a servo-operated carburetor that can vary the speed. The motor of an electric airplane may be connected directly to the battery and run only at full speed, or a speed controller may be used. This is controlled directly by the receiver, and no servo is required.



## TYPES OF KYOSHO RADIO CONTROL AIRPLANES

If there is time, every modeller would gain valuable knowledge by building the model that he or she flies. However, many people do not have the time, and are happy to be able to buy kits in which the main parts have been factory made.

Koysho makes a number of Almost-Ready-to Fly (ARF) kits, using various types of construction. OHS material has a core of polystyrene foam covered with a glossy outer OPS film that can be printed with any desired pattern. It is used for wings, fuselages and tail surfaces. LSS is a polypropylene material that can be molded into strong and crash-resistant fuselages. The wings of many kits are factory made using classic balsa construction with ribs, spars, and leading edge sheeting, covered with a thin, strong Excelcote polyester film.

**DANGER! DO NOT FLY RADIO-CONTROLLED AIRCRAFT IN ANY OF THE LOCATIONS OR CONDITIONS SHOWN.**



- Near high-tension power lines
- Near train lines
- Near highways
- Near airports or aircraft flight paths
- Near houses or buildings
- Near any areas open to the public
- Near thunderstorms (transmitter antennas act as lightning rods)

**BE SURE THAT THE AREA AROUND THE FLYING FIELD IS CLEAR FOR AT LEAST A KILOMETER (OVER HALF A MILE).**

### WIND

When you are first learning to fly, do not try to fly when the wind is strong, for you will have much difficulty keeping your plane from crashing. Always take off (or hand-launch) into the wind. Also, always try to land into the wind.

## STARTING A GLOW ENGINE

Engines used with Kyosho models can be started safely by hand, although it is safer to start larger engines with an electric starter.

The following instructions will be sufficient to start virtually any glow engine in good condition.



### PRIMING THE ENGINE

Fill the fuel tank. Switch the radio set on. Close the needle valve completely, then open it about 4 turns. Open the throttle fully, block the intake with a finger and turn the propeller slowly until fuel is drawn up to the carburetor inlet. Either turn the engine more to draw in fuel, or use a dropper to put a couple of drops of fuel into the intake. Do not put in too much fuel!



### DRAWING IN FUEL

Flip the propeller a couple of times to draw the fuel into the crankcase.



### HEATING THE GLOW PLUG

Connect the glow plug battery to the plug. A one-piece connector is shown. If using separate leads, connect one lead to the center terminal of the glow plug and the other to any metal part of the engine. Make sure that the battery is behind the wing and that the wires cannot be caught by the propeller.



### FLIPPING

Set the carburetor opening just above idle. Flip the propeller as quickly as possible. The engine should start within a couple of flips. If it does not start after a few flips, put another couple of drops into the inlet and flip again. (Do not put more fuel than this into the engine. A flooded engine is very difficult to start.)



### ENGINE ADJUSTMENT (1)

When the engine is running, its speed will be low. Slowly open the carburetor fully, then turn in the needle valve slowly, a little at a time, waiting for speed to stabilize before turning it again. When the speed is quite fast and even, the battery leads may be disconnected. (Always be careful of the turning propeller!)



### ENGINE ADJUSTMENT (2)

Hold the model as shown. Turn in the needle valve a little. Wait 10 seconds. Repeat. The speed should increase. When this causes the speed to drop, the engine is too lean. Quickly screw the needle valve out to full speed plus a further 4 clicks or so. (This compensates for higher engine speed in flight.) If idle adjustment is required, refer to engine instructions.



# HARMONY

ALMOST READY-TO-FLY HAND LAUNCH GLIDER





WINGSPAN:1100mm

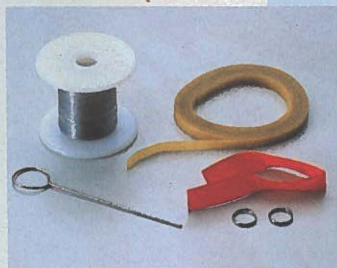
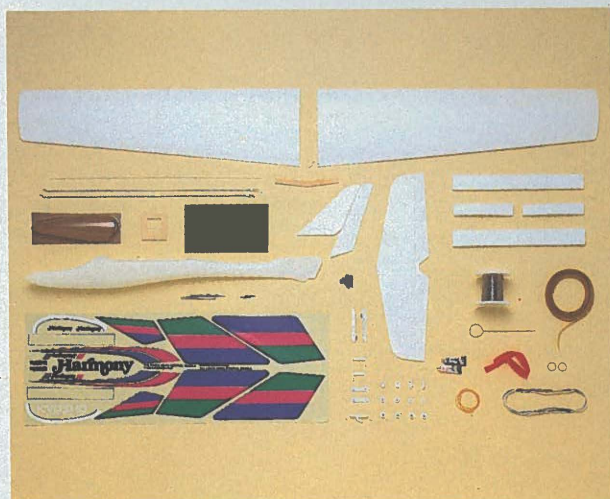
No.4027



### A SWEET FLIER

HARMONY IS A GRACEFUL THERMAL FLIER. LAUNCH BY BUNGEE CORD. LAUNCH FROM A BREEZE-SWEPT SLOPE. OR JUST GIVE IT A STRONG THROW-EASY DUE TO ITS LIGHT WEIGHT-AND SEARCH FOR LOW THERMALS. NO CONSTRUCTION REQUIRED, JUST EASY ASSEMBLY OF THE FACTORY-MADE FUSELAGE, WING HALVES, AND TAIL PARTS. COLORFUL DECORATIVE SELF-ADHESIVE STICKERS INCLUDED. STRONG, LIGHT, NEARLY CRASHPROOF, LSS FUSELAGE, USEFUL FOR SURVIVING ROUGH LANDINGS. ONLY TWO-CHANNEL RADIO WITH SMALL SERVOS REQUIRED. WINGS EASILY REMOVED FOR TRANSPORTING HARMONY TO AND FROM THE FLYING FIELD. RUBBER HI-START AND GROUND STAKE INCLUDED IN KIT. COMPLETELY SILENT. LIGHT AND SAFE. FLY IN ANY AREA LARGE ENOUGH TO LAUNCH.

LSS  
Last Step System



Required for operation (not included)

●Radio control set: Two-channel w/two mini/micro servos and receiver

#### Technical data

●Wingspan / 1100mm (43.3") ●Length / 620mm (24.4") ●Wing area / 13.2dm<sup>2</sup> (205 in<sup>2</sup>) ●Total weight / 350g (12 oz) ●Airfoil / Eppler 178  
●Dihedral / 6°



# ELECTRIC POWERED AIR C





# CRAFTS





# PETIT BALLAD 900

ALMOST READY-TO-FLY ELECTRIC-POWERED AIRPLANE

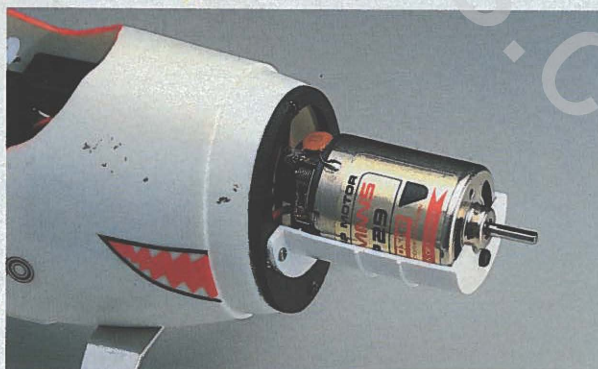
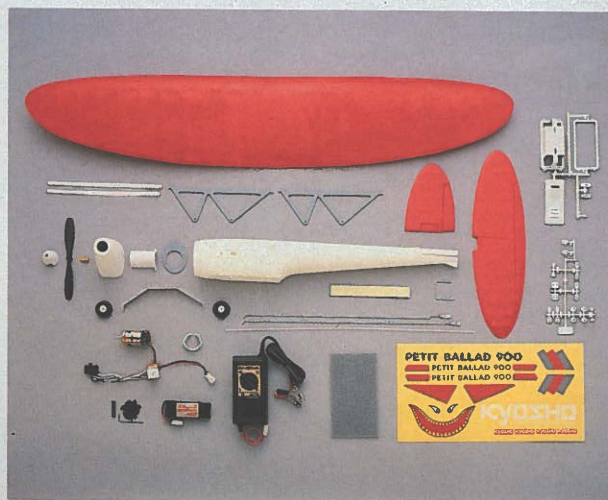
WINGSPAN : 900mm  
No.4094



LSS  
Laser Systems & Services

## THE IDEAL FUN PLANE! AN EXCELLENT TRAINER!

CAN BE FLOWN ALMOST ANYWHERE. THE HIGH-LIFT WING ALLOWS SLOW, STABLE FLIGHT, AT ANY SMALL FIELD. *PETIT BALLAD* IS EXCELLENT FOR THE BEGINNER FLIER BECAUSE ITS LOW SPEED GIVES LOTS OF TIME TO THINK AHEAD, AND THE FUSELAGE, WING AND TAIL ARE ALL STRUCTURALLY STRONG AND RESISTANT TO DAMAGE. ALL PARTS ARE FACTORY MADE AND EASILY ASSEMBLED IN A FEW HOURS. COMPLETE KIT, WITH EVERYTHING BUT RADIO CONTROL EQUIPMENT. (USE SET WITH MINI/MICRO SERVOS) INCLUDES POWERFUL AP29 MOTOR, 6V-450mAh NiCd BATTERY. QUICK CHARGER (RECHARGE BATTERY IN 15 MINUTES) AND AUTO-SHUTOFF UNIT. MOTOR BATTERY POWERS RECEIVER.



**Required for operation (not included)**  
●Radio control set: Two-channel with mini/micro servos

### Technical data

- Wingspan/900mm (35.4") ●Length/590mm (23.2") ●Wing area/13.5dm<sup>2</sup> (210 in<sup>2</sup>) ●Total weight/500~600g (19.4~21.1 oz)
- Motor/LeMans AP29 (included, with propeller) ●Battery/6V-450mAh (included, with charger)



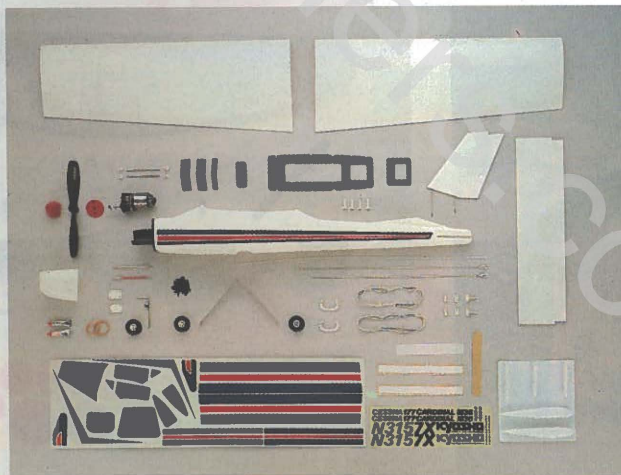
**CESSNA 177 CARDINAL M36**  
ALMOST READY-TO-FLY ELECTRIC POWERED AIRPLANE

**WINGSPAN: 1190mm**  
No.4073



**QUIET ENJOYMENT FOR THE  
BEGINNER AND EXPERT**

THE *CARDINAL 177* HAS IT ALL! IT LOOKS GREAT, IT IS STABLE AND EASY TO FLY, IT IS ALMOST SILENT IN THE AIR, AND IT IS EASY TO PUT TOGETHER. THE 177 IS AN ACCURATE 1/9 SCALE MODEL, AND FLIES REALISTICALLY. IT MAKES A GOOD TRAINER FOR THE BEGINNER, AND IS FUN AS WELL FOR THE EXPERT. ALL PARTS ARE FACTORY MADE, AND ASSEMBLY IS QUICK. THE WING IS BUILT-UP Balsa FOR STRENGTH AND LIGHTNESS, FACTORY-MADE IN JIGS FOR ACCURACY, AND COVERED WITH EXCEL-COTE FILM. THE FUSELAGE IS STRONG, LIGHT MOLDED RESIN. THE POWERFUL ELECTRIC MOTOR UNIT (AP36 MOTOR, GEARBOX, AND PROP) IS INCLUDED IN THE KIT. ONLY A FEW HOURS BETWEEN BUYING AND FLYING! AND BECAUSE IT'S SO QUIET, YOU CAN FLY IT ALMOST ANYWHERE.



**Required for operation (not included)**

●Radio control set: three-channel with electronic speed controller ●NiCd battery: 7.2V-1200/1700mAh (No.2361/2310S/4400/2330S/2348) ●Battery charger (No.2358, 1849, 2246)

**Technical data**

●Wingspan/1190mm (46.9") ●Length/865mm (34") ●Wing area/23.5dm<sup>2</sup> (365 in<sup>2</sup>) ●Total weight/1100-1200g (39-42 oz) ●Motor unit (included)/AP36 motor w/matched gearbox and propeller



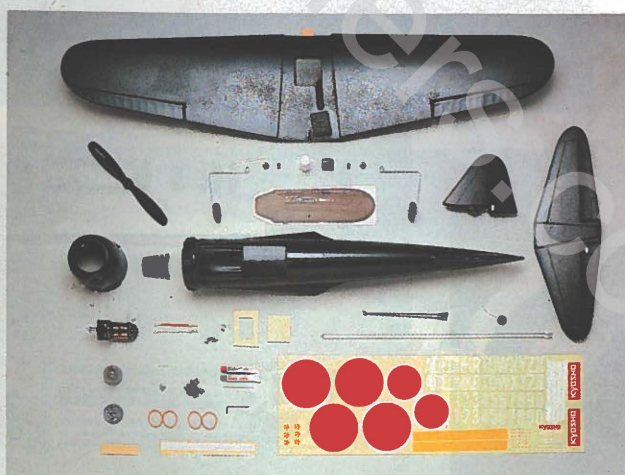
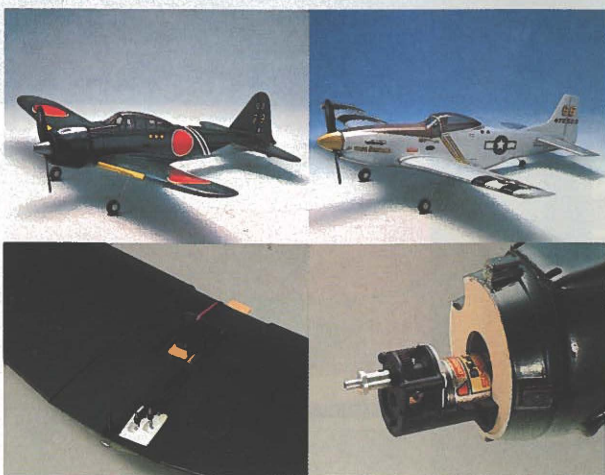
**ZERO FIGHTER M36** WINGSPAN: 1000mm  
ELECTRIC POWERED AUTHENTIC SCALE MODEL  
READY-TO-FLY AIRPLANE No.4055

**P-51D MUSTANG M36** WINGSPAN: 1020mm  
ELECTRIC POWERED AUTHENTIC SCALE MODEL  
READY-TO-FLY AIRPLANE No.4056



**ALMOST READY-FLY ELECTRIC POWERED AIRCRAFT**

THESE 1/11-SCALE MODELS OF TWO OF THE MOST FAMOUS FIGHTERS OF WWII OFFER HIGH-PERFORMANCE FLYING WITH ELECTRIC QUIET. BOTH CAN DO THE STANDARD AEROBATICS, LIKE ROLLS AND LOOPS, WITH POWER TO SPARE. (THEY ARE NOT RECOMMENDED FOR BEGINNERS BECAUSE THEIR PERFORMANCE IS TOO QUICK.) THE AP36 MOTOR WAS SPECIALLY DEVELOPED FOR AIRCRAFT USE, AND HAS A GEARBOX WITH TWO BALL BEARINGS TO MATCH ITS POWER TO THE SPECIAL PROPELLER. (MOTOR, GEARBOX AND PROP ALL INCLUDED.) BOTH FLY VERY WELL WITH A 7.2V NiCd BATTERY PACK. PERFORMANCE BECOMES EXPLOSIVE WITH 8.4V! THEY DON'T KNOW THAT THEY'RE ELECTRIC, AND FLY LIKE ENGINE-POWERED MODELS! WING, FUSELAGE AND TAIL PARTS ARE FACTORY MOLDED OF HIGH-STRENGTH POLYSTYRENE FOAM, AND ARE PAINTED IN TRUE COLORS. BOTH ARE VERY REALISTIC IN APPEARANCE, IN THE AIR AND ON THE GROUND. AILERON LINKAGE IS FACTORY INSTALLED. ASSEMBLY TAKES ONLY A FEW HOURS.



**Required for operation (not included)**

- Radio control set: three-channel with three servos and electronic speed controller
- NiCd battery: 7.2V-1200/1400/1700mAh (No.2310S/2361, 4400, or 2348/2330S) or 8.4V-1200/1700mAh (No.2318 or 2338)
- Battery charger (No.2246, 2358, 1849)

**Technical data**

- Wingspan / 1000mm (39.4")
- Length / 815mm (32.1")
- Wing area / 17.5dm<sup>2</sup> (272 in<sup>2</sup>)
- Total weight (typical) / 1200g (42 oz)
- Motor unit (included) / LeMans AP36 with integral gearbox (with propeller)



# REFLEX

ALMOST READY-TO-FLY ELECTRIC POWERED HIGH PERFORMANCE SPORTS AIRPLANE

WINGSPAN: 1150mm

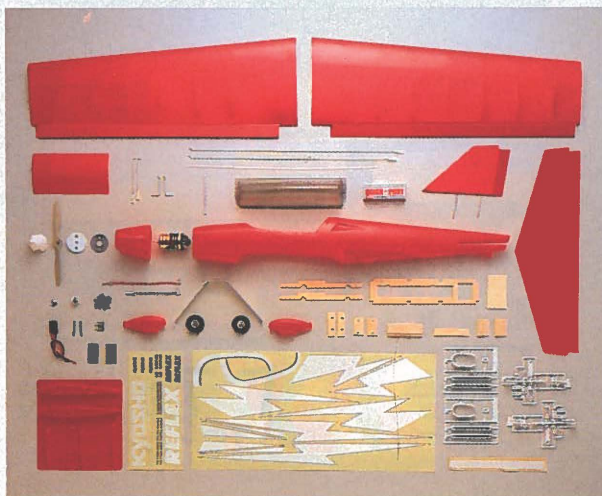
No.4026



**LSS**  
Light Strong & Streamline

## THE SPORTS PLANE THAT DOESN'T KNOW IT'S ELECTRIC!

THE PERFORMANCE OF THE REFLEX IS SO HOT IT'LL CHANGE EVERYONE'S MIND ABOUT ELECTRIC AIRPLANES! FLIERS WITH ADVANCED AND INTERMEDIATE SKILLS WILL HAVE A BALL WITH THE QUICK RESPONSE AND HIGH SPEEDS. THE HANDSOME PYLON-RACER STYLING ISN'T JUST FOR DECORATION! ALL STRUCTURAL PARTS, INCLUDING THE BUILT-UP Balsa WINGS, MOLDED LSS Resin FUSELAGE AND TAIL PARTS, ARE FACTORY MADE FOR ACCURACY AND CONVENIENCE, AND ASSEMBLE QUICKLY. JUST INSTALL YOUR RADIO GEAR AND BATTERY, AND THE POWERFUL LeMANS AP36L MOTOR IS READY TO PROVIDE THE EXCITEMENT. DECORATIVE STICKERS AND ALL FITTINGS AND LINKAGES INCLUDED.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2318/2338)
- Battery charger (No.2246/2358/1849)
- Radio control set: 3- or 4-channel with electronic speed controller

### Technical data

- Wingspan/1150mm (45.3")
- Length/820mm (32.3")
- Wing area/20.1dm<sup>2</sup> (311 in<sup>2</sup>)
- Weight/1230g (2.7 lb)
- Airfoil/Selig S-3021
- Dihedral/2
- Motor (included)/LeMans AP36L (specialized direct-drive aircraft motor)
- Propeller (included)/7-4.5



**SOARUS II** WINGSPAN:1910mm  
ALMOST READY-TO-FLY ELECTRIC POWERED THERMAL GLIDER  
No.4018

**STRATUS 2000** WINGSPAN:1920mm  
ALMOST READY-TO-FLY ELECTRIC POWERED THERMAL GLIDER  
No.4017



**LSS**  
Light Strong & Stable



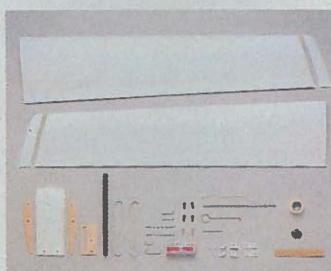
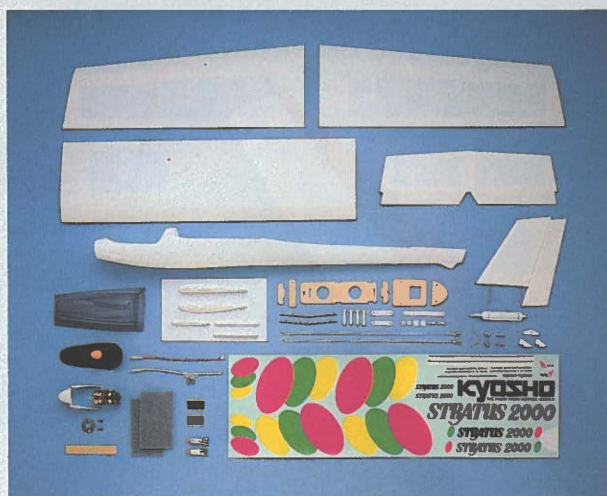
SOARUS II No.4018





## BEAUTIFUL IN THE AIR! A DREAM TO FLY!

BOTH *STRATUS* AND *SOARUS II* ARE BEAUTIFUL FINE-FLYING GLIDERS WITH THE THRUST OF A POWERFUL *LeMANS AP36L* DIRECT-DRIVE MOTOR TO LIFT THEM HIGH INTO THE SKY. *SOARUS II* WAS DESIGNED FOR HIGH-SPEED HIGH-PERFORMANCE SOARING, WITH THE LIFT FOR SLOW FLYING IN RISING AIR, THE HIGH SPEED FOR GETTING TO THE NEXT THERMAL, AND AILERONS FOR FAST TURNS. *STRATUS* IS A DUAL-PURPOSE MODEL. WITH THE STANDARD WING IT IS A STABLE AND GRACEFUL THERMAL SOARER. WITH THE OPTIONAL AILERON WING IT CONVERTS INTO A HIGH-SPEED FLIER LIKE THE *SOARUS*. THE WINGS DISMANTLE INTO TWO OR THREE PARTS FOR TRANSPORTATION. BOTH FEATURE FACTORY-MADE MOLDED FUSELAGES AND BUILT-UP Balsa WINGS/TAILS. NO BUILDING REQUIRED, EASY ASSEMBLY. LOW-DRAG FOLDING PROPELLER FITS FLUSH AGAINST SIDES OF FUSELAGE TO REDUCE DRAG WHEN MOTOR IS NOT OPERATING (INCLUDED). EFFICIENT S-3021 AIRFOIL. EASY BATTERY ACCESS. PILOT DUMMY INCLUDED.



No.1721  
FOLDING PROPELLER UNIT



### Required for operation (not included)

- NiCd battery: 8.4V-1200/1700mAh (No.2318/2338)
- Battery charger (No.2246/2358/1849)
- Radio control set: 3 or 4-channel with electronic speed controller

No.4044  
AILERON WING CONVERSION KIT  
1890mm (74.4")/33.7dm<sup>2</sup> (522 in<sup>2</sup>)/2  
dihedral

### Technical data

**STRATUS 2000** ●Wingspan/1920mm (75.6") ●Length/1015mm (40") ●Wing area/36.0dm<sup>2</sup> (560 in<sup>2</sup>) ●Total weight/1250g (44 oz)  
 ●Motor (included)/LeMans AP36L w/7-3 folding prop ●Airfoil/Selig S-3021 ●Dihedral/10  
**SOARUS II** ●Wingspan/1830mm (72.0") ●Length/1015mm (40") ●Wing area/32.1dm<sup>2</sup> (500 in<sup>2</sup>) ●Total weight/1150g (42 oz)  
 ●Motor (included)/LeMans AP36L w/7-3 folding prop ●Airfoil/Selig S-3021 ●Dihedral/5



**ACROSKY M36**  
ELECTRIC POWERED BIPLANE

[www.dirt-burners.com](http://www.dirt-burners.com)





WINGSPAN: 980mm

No.4074



### GOLDEN-ERA BIPLANE LOOKS AND PERFORMANCE.

RELIVE THE GOLDEN AGE OF AVIATION, WHEN AIRPLANES HAD TWO WINGS AND OPEN COCKPITS! THE ACROSKY M36 IS A SMOOTH FLYING, GOOD PERFORMING BIPLANE WITH MODERN AND QUIET ELECTRIC POWER. THE TWO WINGS PACK PLENTY OF LIFTING SURFACE INTO A SMALL SPAN, SO IT IS COMPACT AND CAN BE CARRIED EASILY EVEN IN A SMALL CAR. ASSEMBLY AT THE FIELD IS QUICK AND EASY. AND BECAUSE IT DOESN'T USE FUEL, IT IS ALWAYS CLEAN, SO THERE IS NO RISK OF MESS. BUILDING TIME IS QUICK. THE FUSELAGE IS FACTORY MADE, AND THE BUILT-UP Balsa WINGS AND TAIL PARTS ARE READY FOR COVERING WITH THE WHITE SUPER MONOKOTE FILM INCLUDED IN THE KIT. (OR USE EXCELCOTE OR OTHER FILM OF ANOTHER COLOR.) THE LeMANS AP36 MOTOR WAS SPECIFICALLY DESIGNED FOR HIGH-POWER AIRCRAFT APPLICATIONS, AND HAS A MATCHED GEARBOX THAT DRIVES THE EFFICIENT 9-6 PROP (INCLUDED) AT OPTIMUM SPEED.



STRONG, LIGHT WINGS AND TAIL PARTS ARE FACTORY MADE AND READY FOR COVERING.



SHOCK-ABSORBING LANDING GEAR PROTECTS MODEL FROM DAMAGE IN ROUGH LANDINGS.



BATTERY IS EASILY INSTALLED AND REMOVED VIA THE REMOVABLE COCKPIT AREA.



THE LeMANS AP36 MOTOR AND GEARBOX PROVIDE PLENTY OF POWER FOR REALISTIC AND ENJOYABLE FLIGHTS.



#### Required for operation (not included)

- NiCd battery: 8.4V-1700mAh SCR-type (No.2338 or equiv.)
- Battery charger (No.2358/1849/2246)
- Radio control set: Three four-channel w/electronic speed controller
- Wheels, adhesives linkages

#### Technical data

- Wingspan/980mm (38.6")
- Length/790mm (31.1")
- Wing area/30.4dm<sup>2</sup> (460 in<sup>2</sup>)
- Dihedral/4'
- Controls/Elevator, rudder
- Weight/1400g (49.4 oz)
- Motor unit (included)/LeMans AP36 motor w/integral 2.81 : 1 reduction unit



# ENGINE POWERED AIR CRAFT





# RAFTS





## 049 CESSNA 182 SKYLANE

ALMOST READY-TO-FLY 049 ENGINE POWERED AIRPLANE

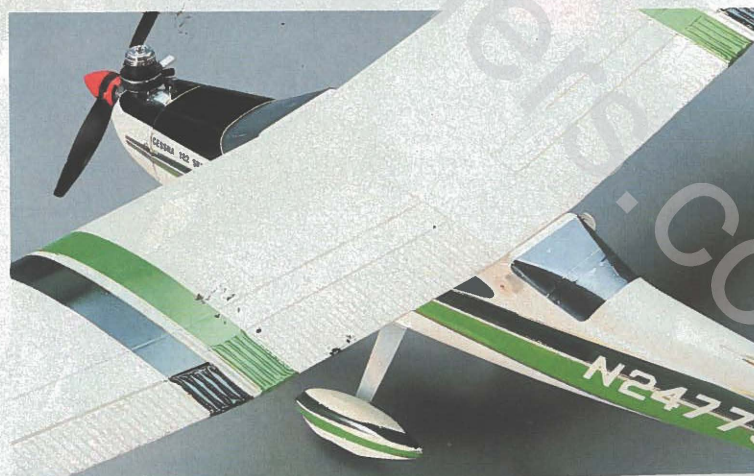
WINGSPAN: 930mm

No.4066



### ALMOST READY-TO-FLY AIRPLANE (ENGINE INCLUDED).

GETTING STARTED IN RADIO CONTROLLED FLYING HAS NEVER BEEN SO SIMPLE AND EASY. SKYLANE IS EASY TO FLY EVEN WITH A MINIMUM OF INSTRUCTION, AND MAKES AN EXCELLENT TRAINER BECAUSE OF ITS SLOW AND STABLE FLIGHT CHARACTERISTICS. IT'S GREAT LOOKING TOO, WITH MOLDED-IN DETAILS AND BRIGHT COLOR SCHEME. "STUDENT PILOT'S" ROUGH LANDINGS WILL BE LITTLE PROBLEM BECAUSE OF THE GREAT STRENGTH OF THE OHS RESIN SANDWICH-COMPOSITE STRUCTURAL MATERIAL. AND IT'S QUIET TOO WITH AN EASY-STARTING COX QRC .049 ENGINE.



#### Required for operation (not included)

- Radio control set: two-channel, two-servo
- Fuel
- Battery for glow plug

#### Technical data

- Wingspan/930mm (36.6")
- Length/737mm (29.0")
- Wing area/14.8dm<sup>2</sup> (230 in<sup>2</sup>)
- Total weight/600g (21.2 oz)
- Engine (included)/Cox QRC .049 (w/muffler, spring starter, 6-3 prop, spinner)



# CESSNA 177 CARDINAL 10

ALMOST READY-TO-FLY RADIO CONTROLLED ENGINE-POWERED MODEL AIRPLANE

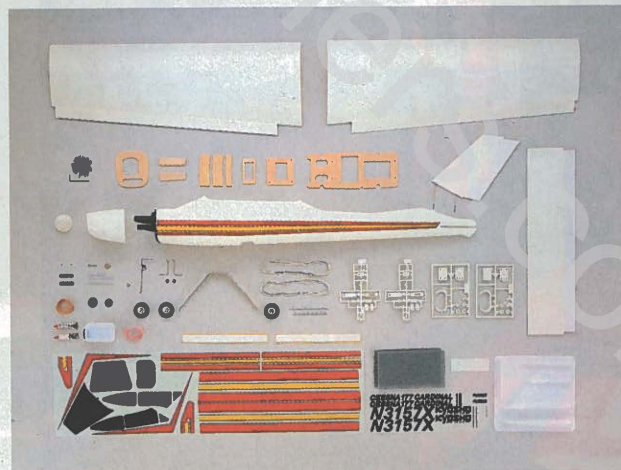
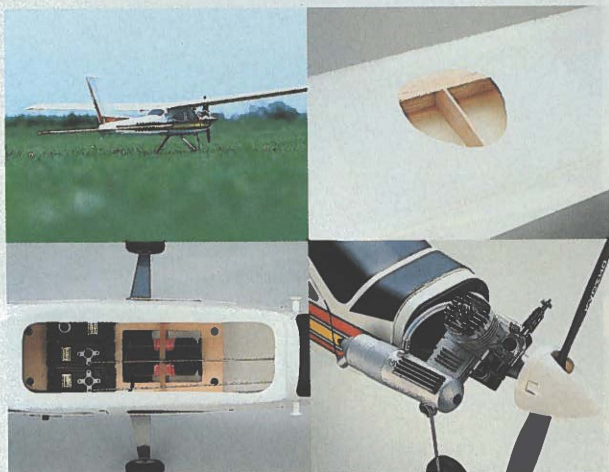
WINGSPAN: 1190mm

No.4079



## REALISTIC SCALE FLYING WITH ENGINE PERFORMANCE!

THE *CARDINAL 10* FLIES SUPERBLY WITH ANY .09-.15 GLOW OR DIESEL SPORTS ENGINE. THE LARGE WING AREA GIVES SHORT TAKE-OFFS AND GENTLE LANDINGS, AND AILERON CONTROL ALLOWS MANY SMOOTH MANEUVERS. THE 177 IS STABLE ENOUGH TO BE USED AS A FIRST TRAINER, BUT IS ENOUGH FUN TO SATISFY THE EXPERIENCED MODELER AS WELL. BECAUSE ALL STRUCTURAL PARTS ARE FACTORY MADE AND COVERED, THE 177 GOES TOGETHER QUICKLY, AND CAN BE FLYING IN A FEW SHORT HOURS. THE TANK AND ALL LINKAGES ARE INCLUDED, AS IS A UNIVERSAL ENGINE MOUNT. THE Balsa-STRUCTURE WING IS BUILT IN JIGS FOR ACCURACY AND FACTORY COVERED WITH STRONG *EXCELCOTE* POLYESTER FILM. THE FUSELAGE IS LIGHT AND CRASH-RESISTANT *LSS* MOLDED RESIN. GET INTO THE AIR WITH A GREAT FLYING AND GREAT LOOKING PLANE!



### Required for operation (not included)

● Engine: .09-.15 glow or diesel 2-stroke ● Fuel, battery, etc ● Radio control set: 4-channel

### Technical data

● Wingspan/1190mm (46.9") ● Length/865mm (34") ● Wing area/23.4dm<sup>2</sup> (365 in<sup>2</sup>) ● Total weight/900-1000g (35-39 oz)











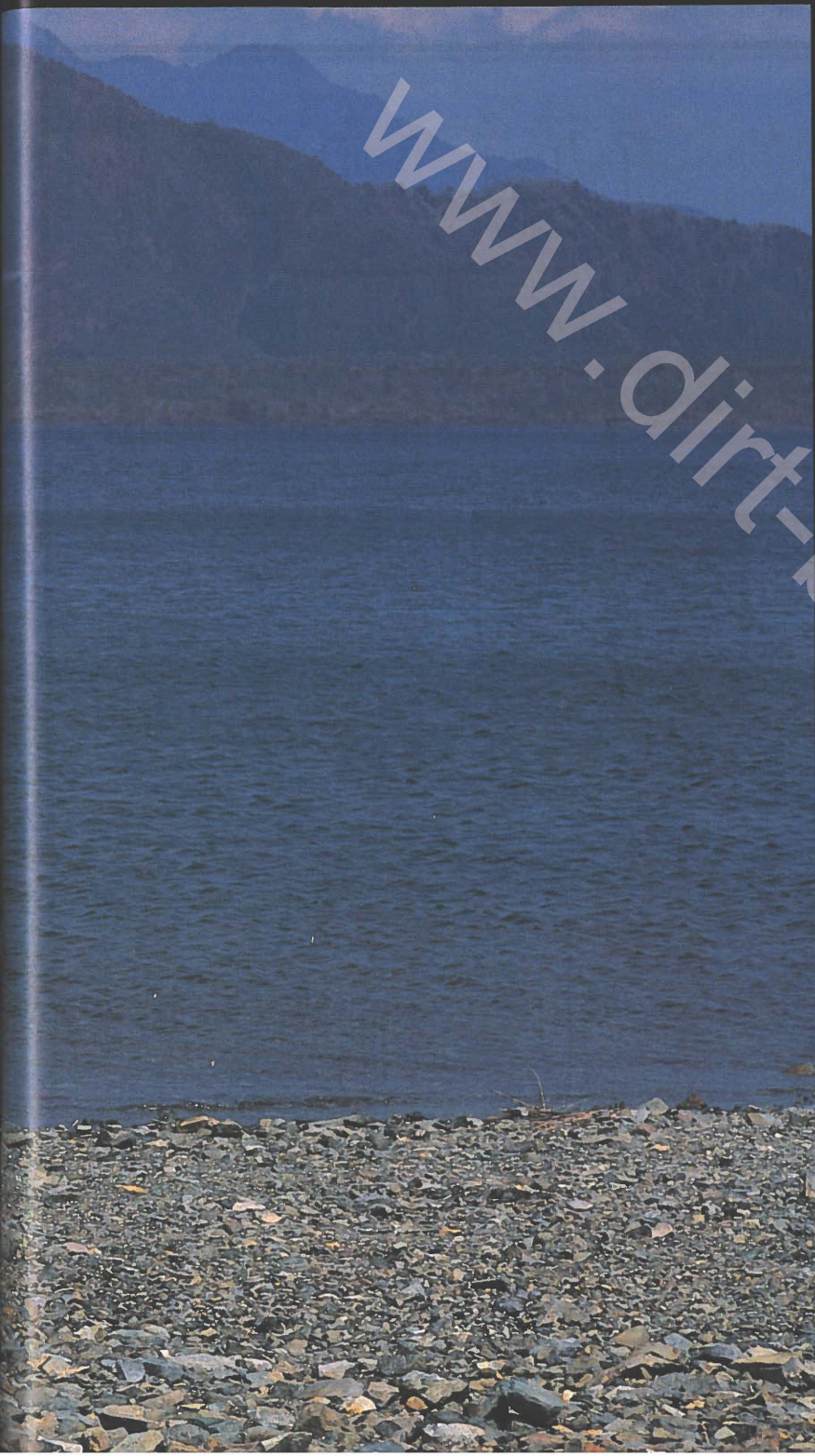
# HELICOPTERS



www.dirtburners.com









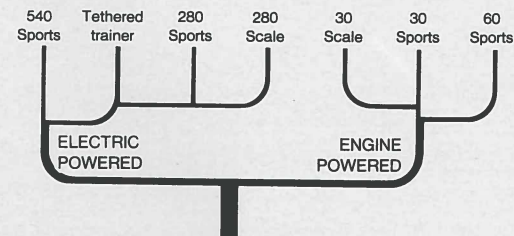
# R/C GENERAL INFORMATION

## HELICOPTER FLYING

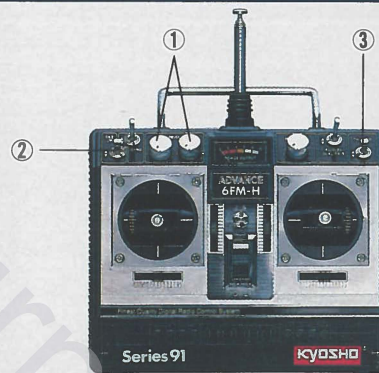
The model helicopter dates back only about 15 years. Any helicopter is inherently unstable and continually trying to go out of control, and it takes years to develop the control systems required to master it and the mechanisms light enough to allow helicopters to fly. Model helicopters can now do every maneuver that full-size machines are capable of, such as hovering, flying backward, etc., and can also do aerobatics that would be too risky for a real one. For these reasons, and because helicopters can be flown in spaces too small for airplanes, model helicopters have become more popular year by year.

There are international competitions (category F3C of the FIA), and the first one was won by Mr. Shigetada Taya, who later designed the fabulously successful Concept 30 series of helicopters for Kyosho.

Almost anyone can learn to fly a model helicopter. It does require time and good instruction, and a good model. Kyosho is probably the best source in the world for the machine, for it manufactures a full range of high-quality models from the tethered electric-powered trainer, Convert, through the free-flying electric helicopter Convert EX and EP Concept, to the various models of the Concept 30 and the new Concept 60. There are models for all skill levels, from beginner to the most advanced expert.



TYPES OF R/C HELICOPTERS



### ③ THROTTLE HOLD SWITCH

A helicopter can be landed safely without engine power if the rotor is spinning at a sufficiently high speed. This is called "autorotation". To practice autorotation with the engine running, it is desirable to keep the engine idling and control the flight by varying the rotor pitch. The Throttle Hold Switch will keep the engine at idle regardless of the movements of the pitch control stick.

## HELICOPTER RADIOS

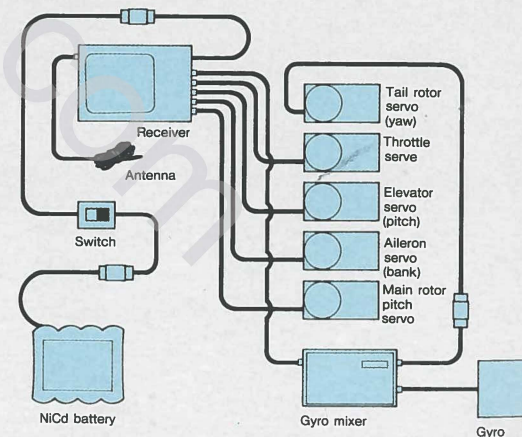
A radio set for helicopter flying has the same type of control sticks, etc., as for airplanes, but there are some special controls.

### ① TAIL ROTOR MIXING

When the main rotor is being driven, the driving torque would cause the body to swing in the opposite direction. This swing is counteracted by the tail rotor, which generates thrust against the torque. If the torque driving the main rotor is to be increased (or decreased), the effect of the tail rotor must be changed to match. The Tail Rotor Mixing function of the transmitter makes this change automatically by operating the servos that control the pitch of both the main and tail rotors together.

### ② IDLE UP SWITCH

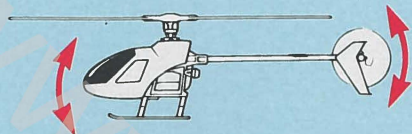
The throttle and main rotor pitch change together. During aerobatics like loops and rolls the pitch must sometimes be reduced, but it is not desirable for the engine speed to drop to idle at such times. The Idle Up switch increases the idle speed when engaged.





## SWASH PLATE

The pitch of each blade of the main rotor can be varied independently at any point around the circle described by a blade as it rotates. The swash plate is the device that controls the pitch of each blade, thus it has major influence on the path taken by the helicopter (bank right/left, pitch down/up).



## PITCH AXIS

As with an airplane, the pitch axis is an imaginary line through the side of the body about which the body rotates nose down or nose up. When a helicopter is pitched forward, it will tend to move forward. When it is pitched up, it will tend to stop or move backward. Pitch is controlled by the elevator stick.

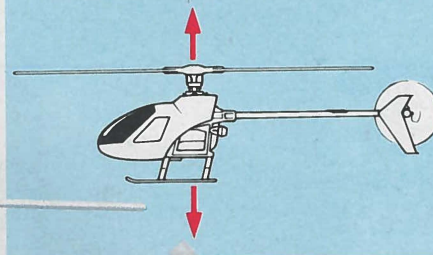


## ROLL AXIS

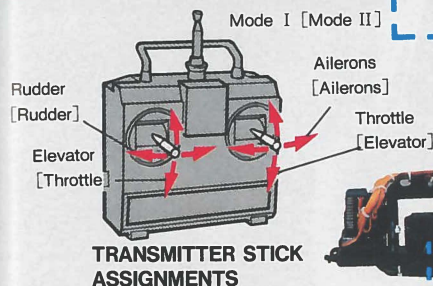
As with an airplane, the roll axis is an imaginary line from nose to tail through the body about which the body rotates (banks). When a helicopter is banked to the right, it will tend to turn and move to the right, and likewise to the left. Roll is controlled by the aileron stick.

## MAIN ROTOR

The main rotor provides the vertical thrust that lifts and supports the helicopter. (As described under "swash plate", it also controls the direction that the helicopter flies.) The lift increases with increased rotor speed or pitch (provided that the engine power increases in proportion). The pitch is controlled by the collective pitch mechanism; this is linked with the throttle, so a change in throttle by the throttle stick will also bring about a matching change in blade pitch.

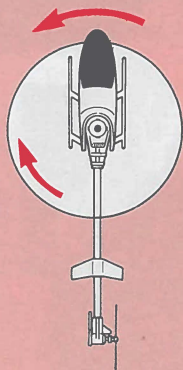


## TECHNICAL DETAILS



## TAIL ROTOR: COUNTERACTING MAIN ROTOR TORQUE

The main rotor is driven by the torque of the engine. By the law of physics regarding action and reaction, the same torque tries to turn the body of the helicopter in the opposite direction. This is counteracted by thrust generated by the tail rotor. A modern model helicopter system is designed to match the thrust of the tail rotor (by varying the blade pitch) to the torque driving the main rotor so that the body does not turn unless this is desired.

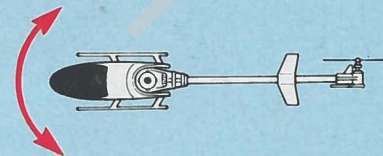


## GYRO (gyroscopic stabilizer)

The gyro is a device that makes controlling a helicopter much easier by minimizing swinging of the tail. The gyroscope of a gyro unit is a motor-driven flywheel that resists any effort to rotate it. Sensors detect any such rotation. The unit is positioned to detect swing of the tail. If there is any swing not commanded from the transmitter, the sensor sends a signal to the gyro mixer. This unit combines the signals from the gyro and the receiver, and causes the tail rotor servo to adjust the pitch of the rotor to counteract the swing.

## TAIL ROTOR: YAW CONTROL

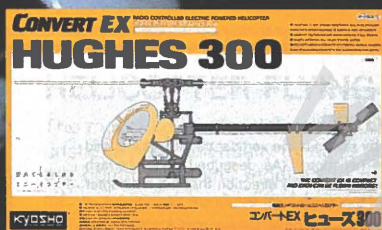
The yaw axis is an imaginary line through the center of the main rotor about which the helicopter swings. This swinging rotation is yaw, and is counteracted by the tail rotor, which acts like a rudder under control of the rudder stick.





**CONVERT EX**  
ELECTRIC POWERED HELICOPTER  
No.3537

**CONVERT EX HUGHES 300**  
ELECTRIC POWERED SCALE MODEL HELICOPTER  
No.3539







CONVERT EX No.3537



CONVERT EX HUGHES 300 No.3539

## FLY A HELICOPTER IN YOUR LIVING ROOM!

THE *CONVERT EX* IS A FREE-FLYING RADIO CONTROLLED HELICOPTER THAT YOU CAN FLY IN YOUR LIVING ROOM OR OTHER SHELTERED OPEN SPACE. THE COMBINATION OF A POWERFUL AP29BB CUSTOM MOTOR (INCLUDED) AND 8.4V-600mAh NiCd BATTERY (NOT INCLUDED) GIVE THE CAPABILITY OF FLIGHT ANY DIRECTION, INCLUDING HOVERING. KIT INCLUDES 14 BALL BEARINGS FOR MINIMUM FRICTION. AND EXTENSION POWER CABLE (2m/6.5 ft) THAT ALLOWS HIGHER CAPACITY 8.4V-1700mAh EXTERNAL BATTERY (NOT INCLUDED) FOR LONGER FLIGHT TIME AND IMPROVED FLIGHT PERFORMANCE DUE TO REDUCED WEIGHT. CHOICE OF STANDARD *CONVERT EX* BODY (No.3537) OR HUGHES 300 BODY (No.3539).



HEAD DESIGN ADAPTED FROM CONCEPT 30, WITH SAMEPLANE FLYBAR FOR DIRECTACTING STABILIZING. BELL-HILLER CONTROL SYSTEM.



TAIL ROTOR RUNS IN LOW-FRICTION BALL BEARINGS. PRECISION PITCH CONTROL LINKAGE.



STANDARD FLIGHT BATTERY: 8.4V-600mAh NiCd (No.2354). FOR EXTENDED FLIGHTS, USE 8.4V-1700mAh NiCd (No.2338) PLUS EXTENSION CORD (No. FH-42).



### Required for operation (not included)

- Radio control set: Four-channel w/three mini/micro servos and elec. speed controller
- NiCd rechargeable battery: 8.4V-600mAh (No.2354) [Option: 8.4V-1700mAh (No.2338/2318)]
- Battery charger (No.2246/1849)



### Technical data

- Fuselage length/550mm (21.7")
- Fuselage width/70mm (2.8")
- Overall height/200mm (7.9")
- Main rotor diameter/585mm (23.0")
- Tail rotor/120mm (4.7")
- Weight/640g (1.4 lb)
- Gear ratio (motor : main : tail)/7.36: 1: 4
- Motor (included)/LeMans AP29BB
- Shaft drive to tail rotor
- Hiller pitch control



**EP CONCEPT**  
ELECTRIC POWERED HELICOPTER  
No.3546

**EP CONCEPT HUGHES 500**  
ELECTRIC POWERED SCALE HELICOPTER  
No.3548

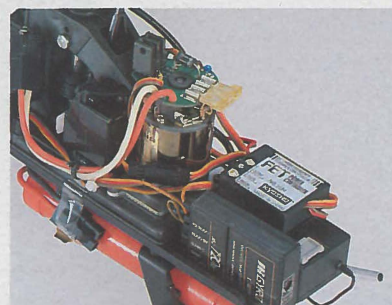


EP CONCEPT HUGHES 500 No.3548





EP CONCEPT No.3546



KYOSHO ELECTRONIC SPEED CONTROLLER (No.2594) IS CUSTOM DESIGNED TO GIVE SMOOTH CONTROL AT HIGH AND LOW SPEEDS.



RECOMMENDED NiCd BATTERY (No.2355) WAS CUSTOM DESIGNED FOR TOP PERFORMANCE AND MAXIMUM FLIGHT TIME WITH MINIMUM WEIGHT.



TRAINING STAND (No.2162) MAKES LEARNING TO FLY A HELICOPTER FUN AND CRASH-FREE!



SET ILLUSTRATED IS FOR JAPANESE MARKET ONLY.



SET ILLUSTRATED IS FOR JAPANESE MARKET ONLY.

**Technical data (Hughes 500 in parentheses)**

- Fuselage length/830 (800)mm(32.7/31.5") ●Fuselage width/90mm (3.5") ●Overall height/210mm (8.3")
- Main rotor diameter/912mm (35.9") ●Tail rotor/175mm (6.9") ●Weight/1330-1420g (2.9-3.1 lb) ●Gear ratio (motor: main: tail)
- Motor (included)/LeMans AP36 (AP36BB) ●Belt drive to tail rotor ●Bell-Hiller pitch control

**HIGH-PERFORMANCE ELECTRIC R/C HELICOPTER**

EP CONCEPT TAKES THE ELECTRIC MODEL HELICOPTER INTO PERFORMANCE AND OUTDOORS FLYING, WITH A DESIGN TAKEN DIRECTLY FROM THE HIGHLY-REGARDED CONCEPT 30. A POWERFUL AP36 (HUGHES 500: AP36BB) CUSTOM AIRCRAFT MOTOR (INCLUDED) AND SPECIAL LIGHTWEIGHT HIGH-CAPACITY 8.4V-1000mAh NiCd BATTERY (NOT INCLUDED) GIVE IT HIGH SPEED AND AEROBATIC PERFORMANCE. OVER-RUN CLUTCH FOR AUTOROTATION. STRONG GLASS-REINFORCED) FRAME. AIRCRAFT-ALLOY ALUMINUM MAST. METAL BALLS ON SWASH PLATE, NO-SLOP LINKAGES, AND BELL-HILLER PITCH CONTROL SYSTEM WITH SAME-PLANE FLYBAR FOR PRECISION FLYING. BELT TAIL ROTOR DRIVE. OHS COMPOSITE MATERIAL ROTOR BLADES FOR TOP PERFORMANCE. STRONG MOLDED LSS BODY. SET OF 20 BALL BEARINGS FOR MINIMUM FRICTION. PARTIALLY FACTORY ASSEMBLED.



**Required for operation (not included)**

- Radio control set: Helicopter set w/four mini servos, mini gyro, and elec. speed controller
- NiCd battery: 8.4V-1000/1700mAh (No.2355/2318/2338)
- Battery charger (No.1849/2358/2246)
- Color Decal trim sheet (No.1754)



# ENGINE POWERED HELICO

[www.dirt-burners.com](http://www.dirt-burners.com)





# PTERS

www.dirt-burp.com





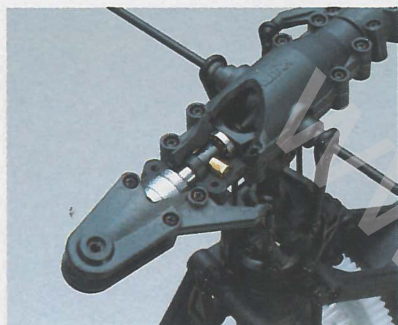
# CONCEPT 30 SE

.30 ENGINE POWERED HELICOPTER

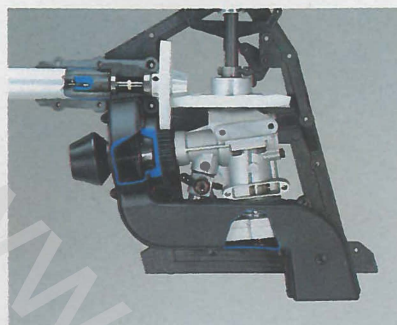




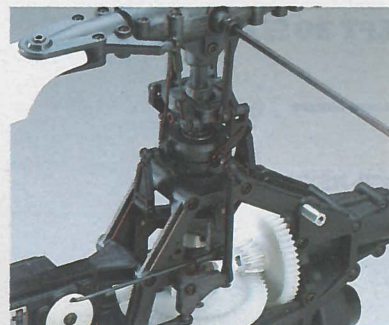
**FACTORY ASSEMBLED W/.32 ENGINE/No.4086  
KIT W/O ENGINE/No.4090**



FLYBAR IS IN SAME PLANE AS MAIN ROTOR, ELIMINATING SLOP-PRONE LINKAGES OF OTHER DESIGNS.



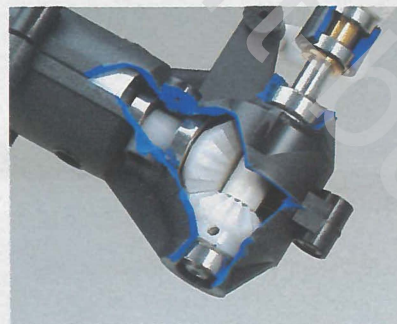
ENGINE IS ANGLED TO ALLOW EASY APPLICATION OF ORDINARY ELECTRIC STARTER TO CONE. NO BELT REQUIRED.



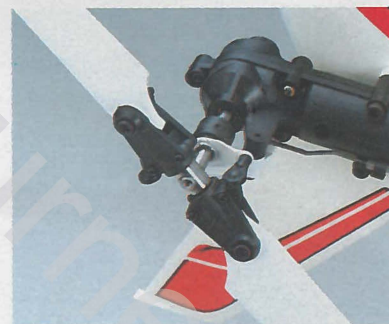
SEPARATE CONTROL OF CYCLIC PITCH (SWASH PLATE) AND COLLECTIVE PITCH (SLIDING RING).



CHORDWISE WEIGHT DISTRIBUTION GIVES BLADE NEARLY PERFECT CG FOR OSCILLATION-FREE FLYING.



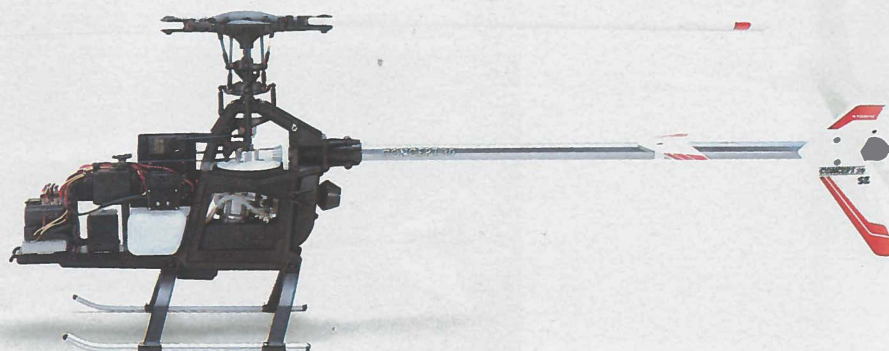
RELIABLE SHAFT-TYPE TAIL ROTOR DRIVE. PRECISION-MOLDED GEARS. FULL COMPLETION OF BALL BEARINGS.



BALL-BEARING SUPPORTED TAIL ROTOR SHAFT. SMOOTH, PRECISE PITCH CONTROL.

**HIGH-PERFORMANCE R/C HELICOPTER FLYING WITH .30-SIZE ENGINE**

BEFORE THE *CONCEPT 30*, EVERYBODY THOUGHT THAT NO HELICOPTER WITH A .30-SIZE ENGINE (.28-.35) COULD GIVE SATISFYING PERFORMANCE. HOW WRONG THEY WERE! THE *CONCEPT 30* SHOWED THAT THIS SIZE OF HELICOPTER CAN BE FULLY AEROBATIC AND CAPABLE OF PRECISION FLIGHT, USING LESS POWER, LESS FUEL, IN SMALLER SPACES, AND AT LOWER OVERALL COST. THE DESIGN IS LIGHT AND STRONG, WITH GLASS-REINFORCED NYLON FRAME PARTS AND MANY ORIGINAL IDEAS. FLYBAR IS IN SAME PLANE AS MAIN ROTOR FOR DIRECT STABILIZING EFFECT. NO-SLOP BALL LINKAGES AND BELL-HILLER PITCH CONTROL SYSTEM FOR PRECISION FLYING. OHS COMPOSITE-MATERIAL ROTOR BLADES WITH NEAR-PERFECT CG POSITION FOR TOP PERFORMANCE. AUTOROTATION POSSIBLE. SET OF 31 BALL BEARINGS FOR MINIMUM FRICTION. DESIGNED FOR EASY ACCESS TO MECHANICAL PARTS.



**Required for operation (not included)**

- Radio control set: Five-channel (or more) w/five servos
- Engine: .28-.35 2-stroke helicopter type
- Fuel and glow-plug battery
- Recoil starter (No.1786) or electric starter (No.1791 or equiv.)
- Color Decal sheet (No.1754)

**Technical data**

- Fuselage length/1010mm (39.8") ● Fuselage width/120mm (4.7") ● Overall height/345mm (13.6") ● Main rotor diameter/1160mm (45.7")
- Tail rotor/210mm (8.3") ● Weight/2500g (5.5 lb) ● Gear ratio (engine: main: tail)/9.76:1:4.6 ● Shaft drive to tail rotor ● Bell-Hiller pitch control



# CONCEPT 30 SX

30 ENGINE POWERED HELICOPTER



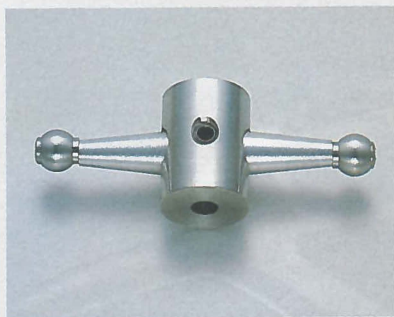


**FACTORY ASSEMBLED W/.32 ENGINE/No.3523**  
**KIT W/O ENGINE/No.3522**



### DESIGNED FOR HIGH-PERFORMANCE AEROBATICS

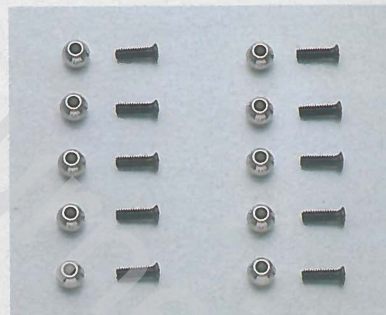
THE AEROBATIC FULL-OPTION *CONCEPT* WITH NEW HIGH-PERFORMANCE PARTS. NEW-DESIGN SWASH PLATE WITH SLOP-FREE STAINLESS STEEL LINKAGE BALLS. MAIN-ROTOR SHAFT BALL-TYPE THRUST BEARING FOR PROLONGED INVERTED FLIGHT. BALL-TYPE CLUTCH BEARINGS FOR IMPROVED OPERATION AND MINIMUM FRICTION. HIGHER-PRECISION MACHINED-ALUMINUM MIXING BASE. MANY HIGHER-PRECISION LINKAGES. NEW-DESIGN MAIN ROTOR GRIP. INCREASED RANGE OF PITCH ANGLE:  $\pm 10^\circ$  FOR MORE RESPONSIVE AEROBATIC FLIGHT. LARGER FLYBAR PADDLES FOR INCREASED EFFECT. NEW-DESIGN BODY. HIGH-STRENGTH CAP SCREWS USED WHERE STRESSES ARE HIGHEST. FULL SET OF 34 BALL BEARINGS. ALL THE EXCELLENT FEATURES OF THE STANDARD *CONCEPT*, SUCH AS THE GLASS-REINFORCED NYLON FRAME, COMPOSITE-MATERIAL ROTOR BLADES, AND EASY ACCESS TO MECHANICAL PARTS.



MACHINED-ALUMINUM HILLER CONTROL LEVER FOR IMPROVED FLIGHT PRECISION.



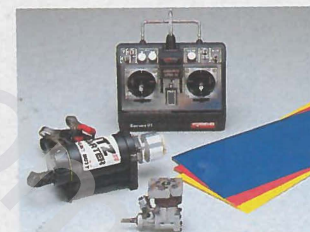
MACHINED-ALUMINUM MIXING BASE FOR INCREASED CONTROL PRECISION.



HIGH-PRECISION METAL-BALL LINKAGES FOR IMPROVED CONTROL.



UPGRADED HEAD. NEW ROTOR GRIP. STAINLESS BALL LINKAGES. NEW THRUST BEARING. HARD DAMPER.



#### Required for operation (not included)

- Radio control set: Five-channel (or more) w/five servos [gyro recommended]
- Engine: .32-.35 2-stroke helicopter type
- Fuel and glow-plug battery
- Recoil starter (No.1786) or electric starter (No.1791 or equiv.) and 12V battery

#### Technical data

- Fuselage length/1010mm (39.8")
- Fuselage width/120mm (4.7")
- Overall height/345mm (13.6")
- Main rotor diameter/1160mm (45.7")
- Tail rotor/210mm (8.3")
- Weight/2500g (5.5 lb)
- Gear ratio (engine: main: tail)/9.76: 1: 4.6
- Shaft drive to tail rotor
- Bell-Hiller pitch control

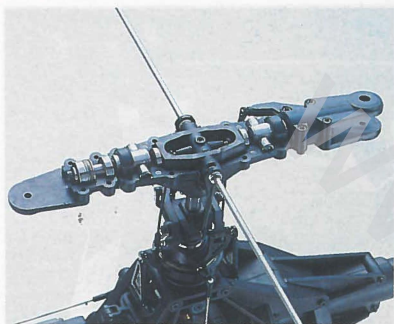


# CONCEPT 60

.60 ENGINE POWERED HELICOPTER



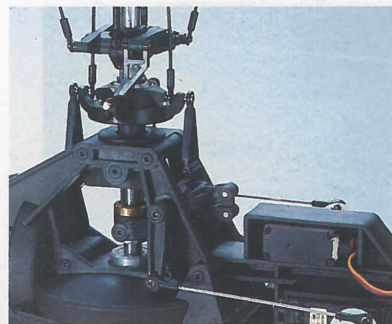




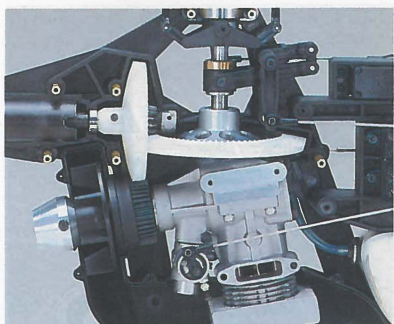
HEAD HAS BALL BEARINGS FOR NEARLY ALL FUNCTIONS TO GIVE LOW FRICTION AND HIGH PRECISION IN NORMAL FLIGHT AND IN AEROBATICS.



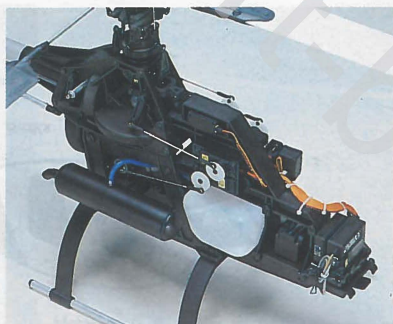
OPTIONAL PARTS CONVERT THE HEAD TO FULL BALL BEARINGS WHEN YOUR SKILLS ARE READY FOR THE UPGRADE.



PITCH CONTROL LINKAGE IS VERY PRECISE FOR EXCELLENT CONTROL IN ALL PHASES OF AEROBATIC FLIGHT.



ENGINE IS ANGLED DOWN 10 DEGREES TO MAKE STARTING EASY. ALSO SIMPLIFIES STARTING WHEN SCALE BODY IS FITTED.



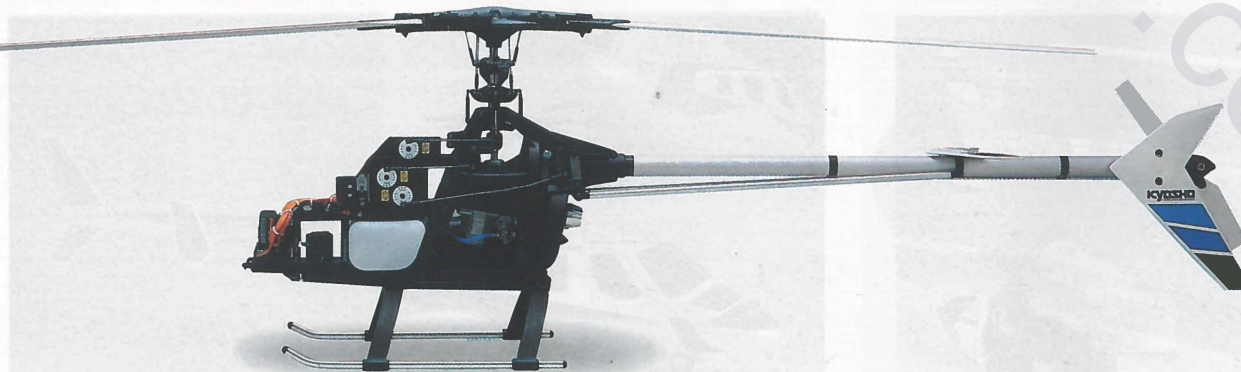
FRAME IS GLASS-REINFORCED ENGINEERING RESIN FOR HIGH STRENGTH WITH LOW WEIGHT. SUPERIOR TO METAL!



SHAFT-DRIVEN TAIL FOR RELIABILITY. INTERNAL PITCH CONTROL LINKAGE. EXCELLENT FOR COMPETITION.

### THE POWER OF A .61 ENGINE FOR FULLY AEROBATIC PERFORMANCE!

FOR HELICOPTER AEROBATICS NOTHING BEATS PURE POWER IN A WELL-DESIGNED MACHINE! THE *CONCEPT 60* HARNESSSES A POWERFUL .61 ENGINE TO A DESIGN BY S. TAYA, WINNER OF THE FIRST R/C HELICOPTER WORLD CHAMPIONSHIP AND DESIGNER OF THE FABULOUSLY SUCCESSFUL "30" SERIES *CONCEPTS*. EVERY FEATURE HAS BEEN SPECIFIED FOR SUPERB FLYING QUALITIES. THESE INCLUDE INDEPENDENT FEATHERING HINGE AND FLAPPING HINGES; FULL RANGE OF PITCH ADJUSTMENTS FOR ALL MANEUVERS, UPRIGHT OR INVERTED; MAINSHAFT THRUST BEARING FOR PROBLEM-FREE INVERTED FLIGHT; LIGHT, STRONG FRAME MADE OF GLASS-REINFORCED NYLON; RELIABLE SHAFT DRIVE TO THE REAR ROTOR; FULL SET OF 34 BALL BEARINGS FOR MINIMUM POWER LOSS; PRECISION STAINLESS STEEL BALL-TYPE CONTROL LINKAGES FOR CRISP RESPONSE; EASY ACCESS TO THE MECHANICAL PARTS FOR MAINTENANCE; DUST-SEALED GEARS FOR LONGER LIFE; AND MANY OTHER FEATURES TO MAKE THIS ONE FINE FLYING MACHINE.



#### Required for operation (not included)

- Radio control set: Five-channel (or more) helicopter type w/five servos [gyro recommended]
- Engine: .61 helicopter type
- Fuel and glow-plug battery
- Electric starter (No.1791 or equiv.) and 12V battery
- Color Decal trim sheet (No.1754)

#### Technical data

- Length/1400mm (55.1") ● Body width/170mm (6.7") ● Overall height/440mm (17.3") ● Main rotor diameter/1500mm (59.1")
- Tail rotor diameter/260mm (10.2") ● Weight/4400g (9.7 lb) ● Gear ratio (engine: main: tail)/9.8 : 1 : 5.4
- Engine/.61 class helicopter type ● Tail rotor drive/Shaft ● Pitch control system/Bell-Hiller ● Blade material/wood



# OPTION PARTS FOR HELICOPTERS



No.FH-43 HUGHES 300 BODY (CONVERT)  
No.FH-44 TAIL WING SET (CONVERT)



No.EH-81 HUGHES 500 BODY SET (EP CONCEPT)  
No.EH-82 BODY MOUNT (EP CONCEPT)



No.H-3208 HUGHES 300 BODY SET (CONCEPT 30)



No.H-3214 HUGHES 500 BODY SET (CONCEPT 30)



No.H-3213 JET RANGER BODY SET (CONCEPT 30)



No.H-3251 BELL 222 BODY SET (CONCEPT 30)

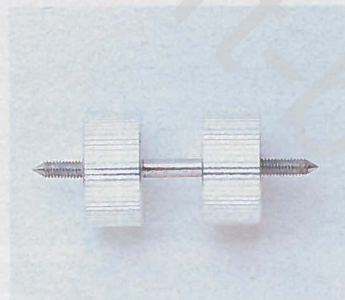




No.H-6218 JET RANGER BODY SET (CONCEPT 60)



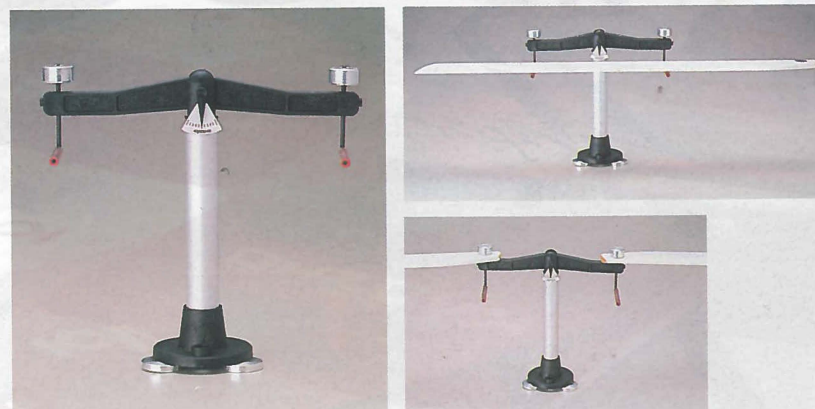
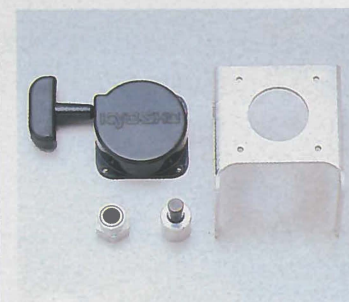
No.2162 TRAINING STAND (FOR EP HELIS.)



No.EH-72 ROTOR BLADE  
BALANCER (FOR EP HELIS.)



No.1786 RECOIL STARTER (CONCEPT 30)



No.2161 ROTOR BLADE BALANCER (FOR ALL HELIS.)



No.H-3220 BLADE TRACKING TAPE. TWO COLORS.



# BOATS & YACHTS

[www.dirt-burners.com](http://www.dirt-burners.com)

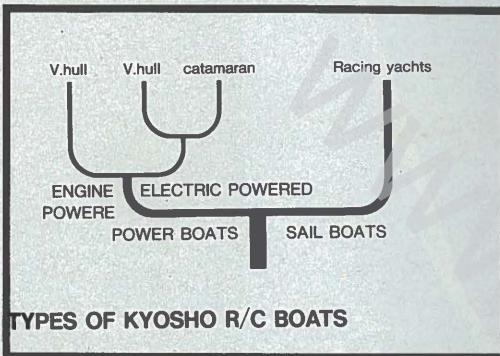




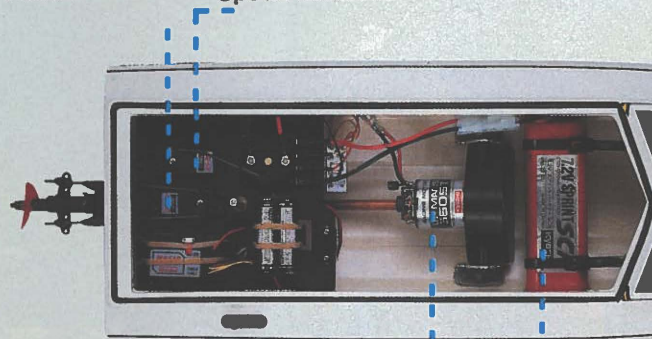




# R/C GENERAL INFORMATION



Rudder servo Speed controller



Motor NiCd battery (for motor)

Propeller

Transom



## POWERBOATS

A successful powerboat, full-size or model, must be able to go fast with the available power, and must be stable both in rough water and when turning. Achieving all three is the aim of all boat designers.

For sports and much high-speed boating, the V hull is preferred. It cuts through high waves and is stable in turns, resisting side-slip. The shape of the hull normally changes to a flat bottom at the rear, and at high speed the boat planes on this small area for minimum drag.

Boats intended purely for competition are designed for minimum surface in contact with the water, and will typically have two sponsons or partial hulls that lift the nose of the boat out of the water. At the rear, the boat is supported out of the water by the propeller. Because of the small surface in contact with the water, this type is more prone to skidding in turns, and has to be designed carefully.

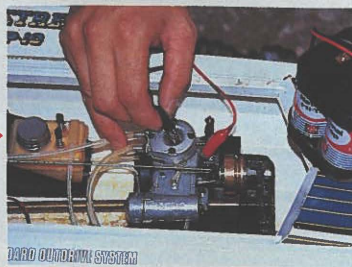
Kyosho offers both types of boat. Viper, Jetstream 800 (electric) and Jetstream GP-10 (engine) are of the V hull type, while the Hurricane (electric) is a Catamaran twin-hull type. Both the Jetstreams and the Hurricane have a very efficient inboard-outdrive unit that angles the propeller for maximum thrust and which permits the prop to pivot and redirect the thrust for full-power, stable turns.

## STARTING THE ENGINE

Starting the engine in a Kyosho inboard motorboat



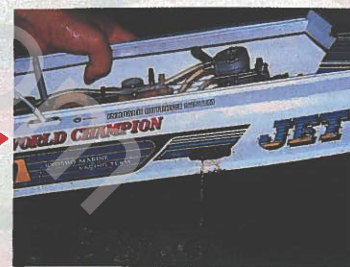
Fill the fuel tank. Close the engine needle valve completely (don't force it), then open it 4 turns. Push the priming pump on the fuel tank until fuel can be seen reaching the carburetor inlet and press once again. Switch the radio set ON and set the throttle to LOW. Pull the starter 2-3 times.



Set the throttle to a little above idle. Connect the glow plug battery, one clip to the top of the center post of the glow plug, the other to any metal part of the engine. Be careful not to short circuit the clips.



Pull the starter quickly. If several pulls do not succeed, repeat Step 1). Check that fuel is reaching engine. Engine will also be difficult to start if it is flooded (too much fuel). In this case, close the needle valve, pull the starter repeatedly, then reopen the needle valve and repeat Step 1.



When engine starts, disconnect battery and put boat into water. Open throttle fully. Let engine run for 20 seconds, then close the needle valve in small steps (pause each time) until speed is maximum, then open it again 4-5 clicks (Running at peak setting would damage engine.) Check that cooling water is exiting port.

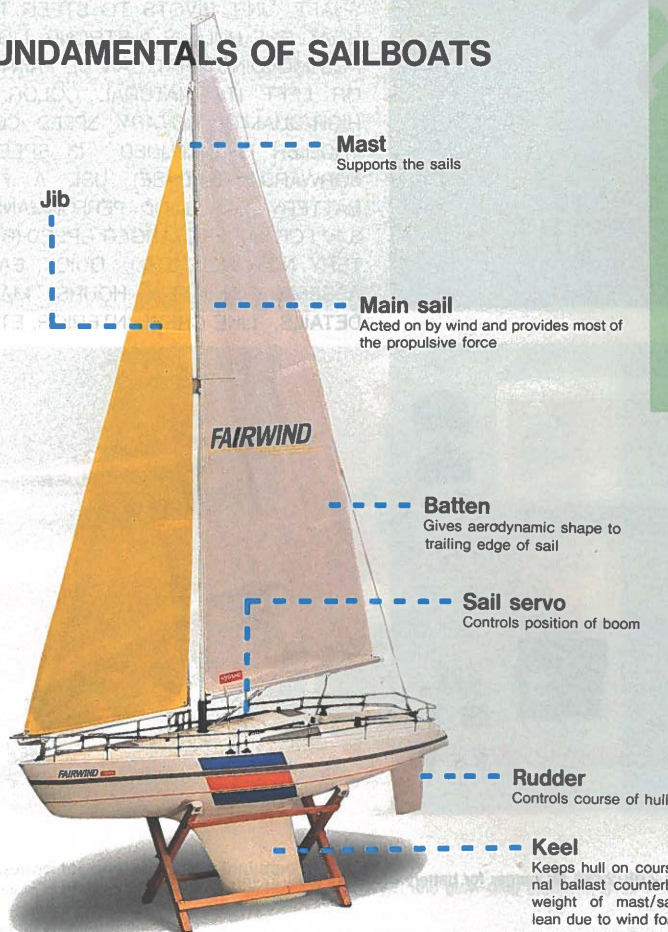




## SAILBOATS

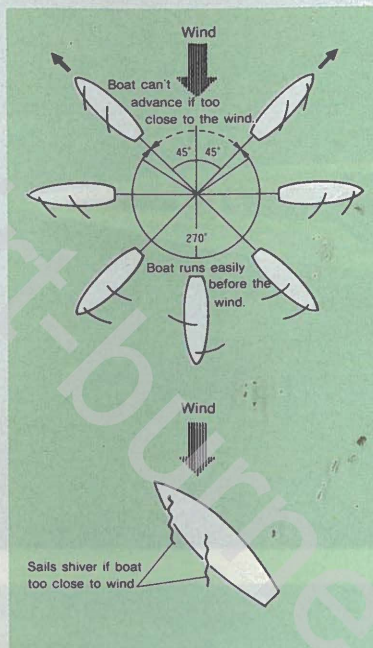
Sailboats are graceful to watch and can be operated almost anywhere because they make no noise. A well-designed sail does not operate just by the wind pushing against it, but actually has an airfoil shape like an airplane wing that can pull the boat along, allowing the boat to sail at quite a sharp angle toward the wind. Kyosho's Fairwind and Ocean 500 are both graceful sailboats that can be assembled and operated easily, and both look good as a home decoration, too.

## FUNDAMENTALS OF SAILBOATS



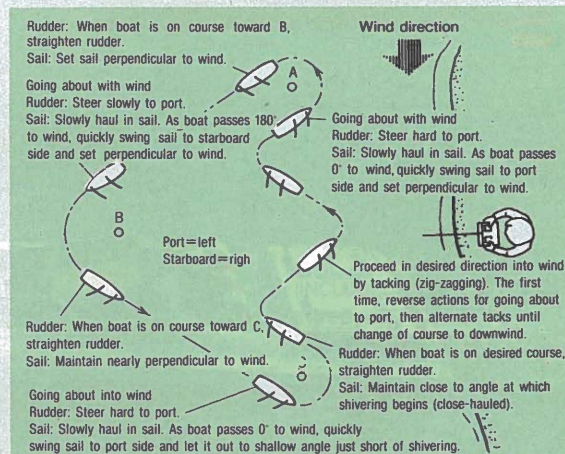
## RELATIONSHIP OF WIND AND OF HULL

The drawing shows the required mainsail settings for various headings relative to the wind. The closest heading is about 45° to either side of the wind. Any closer and the sails will shiver (flap uselessly). Sailing with the wind is "running", close to perpendicular, "reaching", and against, "luffing".



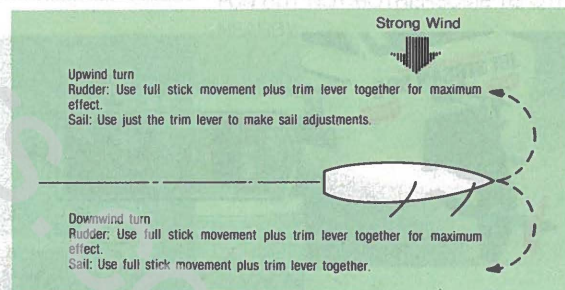
## SAILING SKILLS

The figure below shows the position of the sails for various headings around a marked course. If the boat has no sail control, use only the rudder.



- To change direction, the boat must be moving forward so that the rudder is effective. First swing the rudder so that the hull turns onto the desired heading, then quickly readjust the mainsail to the appropriate angle relative to the wind.
- Learn to sail with gentle winds. Strong winds make control difficult.
- Try to sail on water with no current, otherwise the boat may be put out of control or carried away.

**Strong wind** If the wind becomes strong, use these special instructions to help bring the boat back to shore.





# JET STREAM 800

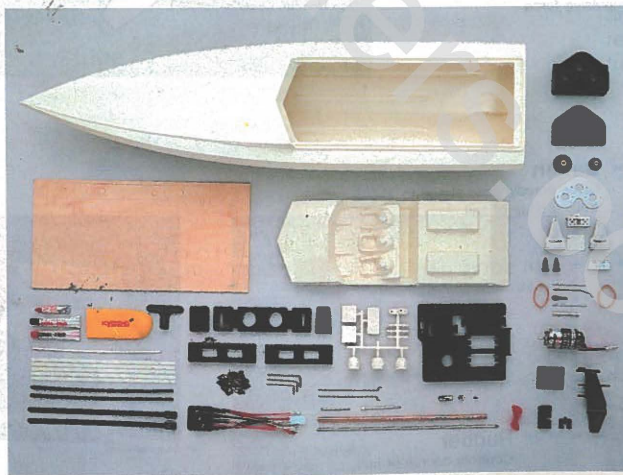
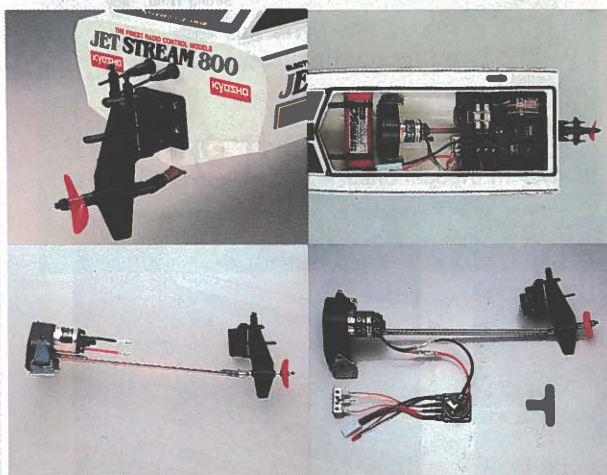
ELECTRIC POWERED INBOARD/OUTDRIVE OFFSHORE RACING BOAT

LENGTH: 880mm  
No.2270



## ALL THE EXCITEMENT OF OFFSHORE POWERBOAT RACING

THIS SCALE REPRODUCTION GIVES JUST AS MANY THRILLS AS THE FULL-SIZE OFFSHORE RACING ORIGINALS! THE SLEEK, LONG VEE HULL CUTS THROUGH THE WATER, DRIVEN BY A POWERFUL LeMANS 360ST MOTOR (INCLUDED) AND EFFICIENT INBOARD-OUTBOARD STERN-DRIVE UNIT. THE MOTOR AND REDUCTION UNIT ARE INSIDE THE HULL FOR GOOD BALANCE, AND DRIVE THE PROP VIA A SHAFT AND UNIVERSAL JOINT. THE PROP IS ANGLED PERPENDICULAR TO THE SURFACE FOR MAXIMUM THRUST, AND THE PROP SHAFT UNIT PIVOTS TO STEER THE BOAT. THE HULL IS A STRONG, LIGHT ABS MOLDING THAT CAN BE PAINTED OR LEFT ITS NATURAL COLOR. A HIGH-QUALITY ROTARY SPEED CONTROLLER IS INCLUDED (3 SPEEDS FORWARD/1 REVERSE). USE A 7.2V BATTERY FOR GOOD PERFORMANCE, 8.4V FOR SUPERCHARGED SPEED. (BATTERY NOT INCLUDED.) QUICK, EASY ASSEMBLY IN A FEW HOURS. MANY DETAILS, LIKE CREW, INTERIOR, ETC.



### Required for operation (not included)

●Radio control set: Two-channel w/two servos ●NiCd battery: 7.2V/8.4V-1200/1700mAh (No.2310S/2361/4400/2330S/2348 or 2318/2338) ●Charger for battery (No.2358/1849/2246)

### Technical data

●Length/880mm (34.6") ●Beam/205mm (8.1") ●Weight (ready to run)/1850g (4.1 lb) ●Drive unit (included)/Inboard-outboard ●Motor (included)/LeMans 360ST ●Propeller (included)/42×60mm  
●Reduction gear ratio/15:1



# JET STREAM GP-10

10 ENGINE POWERED INBOARD/OUTDRIVE RACING BOAT

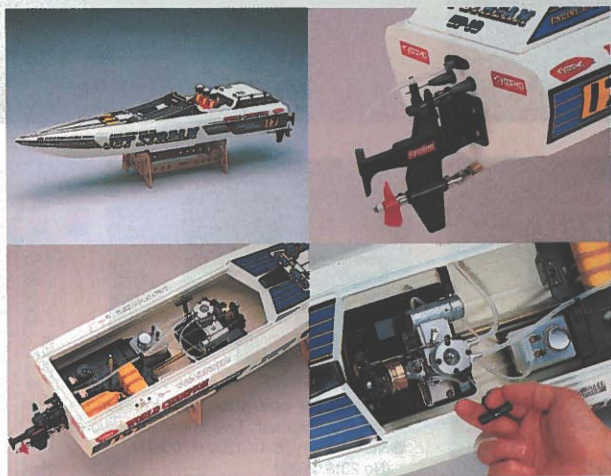
LENGTH: 890mm

No.2286



## ENGINE-POWERED EXCITEMENT WITH EASY OPERATION

JETSTREAM GP-10 GIVES THE EXCITEMENT OF A HIGH-SPEED OFFSHORE POWERBOAT IN LAKE-SIZE PROPORTIONS, WITH THE FUN AND SPEED THAT ONLY AN ENGINE CAN DELIVER! STARTING IS SIMPLE. JUST FILL THE TANK (FUEL NOT INCLUDED), CONNECT THE GLOW-PLUG BATTERY (NOT INCLUDED), PRESS THE PRIMING PUMPS OF THE FUEL TANK, AND TUG THE HANDLE OF THE BUILT-IN RECOIL STARTER ONCE OR TWICE TO BRING THE POWERFUL 10 GLOW ENGINE (INCLUDED) INTO LIFE. POWER IS TRANSMITTED EFFICIENTLY VIA THE SPEED-MATCHING GEARBOX TO THE SHAFT OF THE INBOARD/OUTDRIVE UNIT. THE PROPELLER OF THE OUTBOARD UNIT ACTUALLY SWIVELS TO DIRECT THE THRUST FOR RAPID TURNS AND MINIMUM POWER LOSS. ENGINE HAS A WATER JACKET FOR COOLING, SO FULL POWER CAN BE USED WITHOUT RISK TO THE ENGINE. AND THE MUFFLER PRODUCES A PURR OF POWER, LOTS OF FUN BUT NOT BOTHERSOME TO OTHERS NEARBY.



### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- Fuel and glow-plug batteries (D-size x 4; alkaline type recommended)

### Technical data

- Overall length/890mm (35")
- Hull length/800mm (31.5")
- Beam/205mm (8.1")
- Weight/1700g (3.75 lb)
- Engine (included) w/recoil pull starter, water-cooling head, muffler; and fuel tank w/priming pumps
- Gearbox ratio/1.5 : 1
- Drive unit (included)/Inboard/outdrive
- Propeller/42x60mm (D x P)



# HURRICANE

ELECTRIC POWERED CATAMARAN RACING BOAT

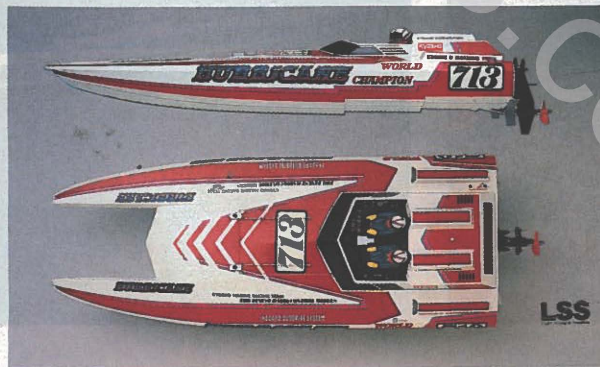
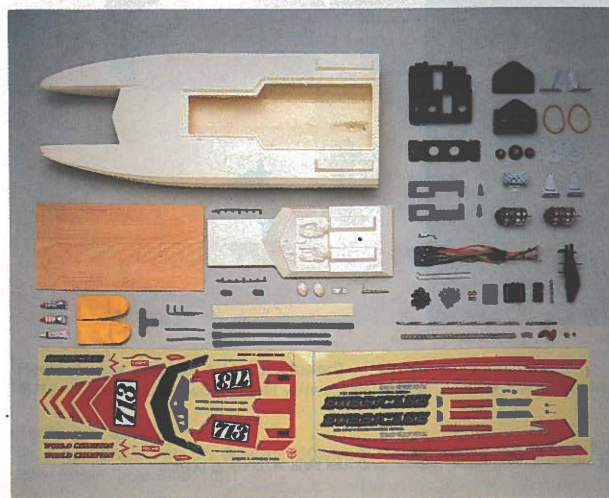
LENGTH:790mm

No.2271



## HIGH-SPEED TWIN-MOTOR PERFORMANCE!

POWERFUL TWIN LeMANS 360ST MOTORS. HIGH-EFFICIENCY INBOARD/OUTDRIVE SYSTEM MAXIMIZES POWER TO THE PROP. PROP RUNS AT THE MOST EFFICIENT ANGLE OF 90° TO THE WATER SURFACE TO MAXIMIZE THRUST ON THE STRAIGHTS, AND SWIVELS TO DIRECT THE THRUST FOR FULL-POWER TURNS. GEARBOX MATCHES MOTOR AND PROP CHARACTERISTICS. STYLING IS THAT OF A TYPICAL OFFSHORE CATAMARAN RACING BOAT, AND SCALE SPEEDS REACH OVER 200 km/hr (125 mph). THE TWIN HULLS GIVE MAXIMUM STABILITY AT HIGH SPEED AND CONTROLLABLE, SMOOTH TURNS, AIDED BY TWIN TRIM FINS. STRONG, LIGHT FACTORY-MOLDED LSS RESIN HULL WITH DRIVERS AND COLORFUL DECALS.



### Required for operation (not included)

- Radio control set: Two-channel w/two servos
- NiCd battery: 8.4V-1200/1700mAh (No.2318/2338)
- Battery charger (No.2358/1849/2246)

### Technical data

- Overall length/790mm (31.1")
- Hull length/700mm (27.6")
- Width/270mm (10.6")
- Weight/2100g (4.6 lb)
- Motors (included)/LeMans 360ST x 2
- Drive system/Integrated inboard-outboard
- Gear ratio/2 : 1
- Propeller/42 x 60mm (D/P)
- Speed controller (included)/Rotary (3 fwd+rev)





## VIPER

ELECTRIC POWERED SPORT BOAT

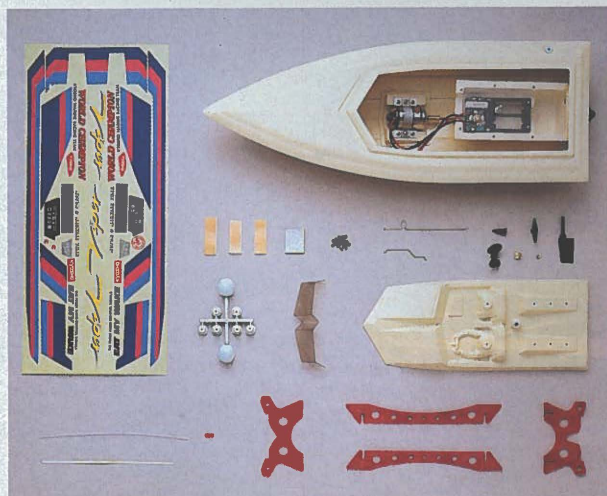
LENGTH: 640mm

No.2281



### HIGH-SPEED WATER EXCITEMENT!

MAKE ANY LAKE OR RIVER INTO A MINI POWERBOAT RACE COURSE WITH THE VIPER! RACING POWERBOATS GREW FROM MODEST SPEEDS IN 1904 TO 3500 hp POWERHOUSES CAPABLE OF MORE THAN 250 km/h (150 mph). THE LINES OF THE VIPER CAPTURE THE SPIRIT OF THESE MACHINES. BEST OF ALL, IT CAN BE READY TO HIT THE WATER IN A SHORT TIME, SINCE THE SLEEK MOLDED-ABS HULL IS FINISHED AND MOST OF THE MECHANICAL PARTS ARE ALREADY ASSEMBLED. THE HIGH-TORQUE LeMANS 350ST MOTOR (INCLUDED) IS AN IDEAL POWERPLANT AND GIVES EXCELLENT PERFORMANCE WITH A STANDARD 7.2V NiCd BATTERY (1200-1700mAh) AS USED FOR MODEL CARS. THE MANY DECORATIVE STICKERS IN THE KIT ADD TO THE GREAT APPEARANCE, AND THE DRIVER FIGURE BRINGS IT TO LIFE. AND WHEN THE WEATHER IS UNSUITABLE, THE VIPER MAKES AN ATTRACTIVE DISPLAY MODEL.



### Required for operation (not included)

- NiCd battery: 7.2V-1200/1700mAh (No.2310S/4400/2330S/2348)
- Battery charger (No.2358/1849/2246)
- Radio control set: Two-channel w/two servos

### Technical data

- Length/640mm (25.2") ● Beam/220mm (8.7") ● Weight/1250g (2.8 lb) ● Speed controller (included)/2 fwd+2 rev
- Drive system/Inboard motor w/shaft drive (350×42P (mm) prop) ● Motor (included)/LeMans 360ST



# OCEAN 500

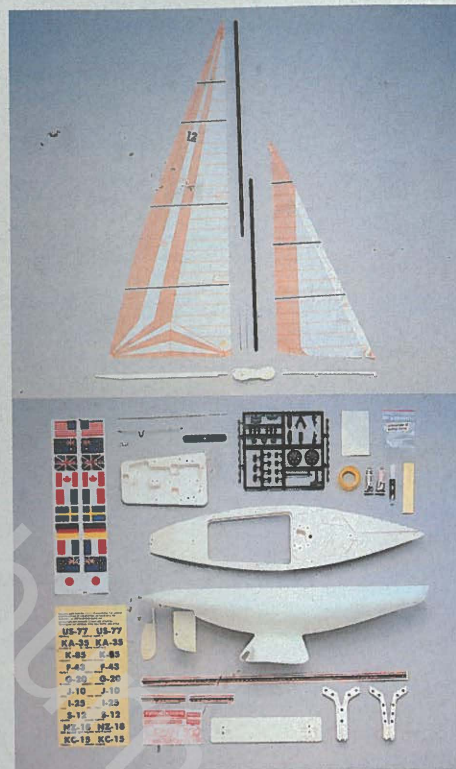
AMERICA'S CUP STYLE 12-METER RACING YACHT





LENGTH: 500mm

No.9071



**REALISTIC AMERICA'S CUP FUN!**  
THE OCEAN 500 IS A REALISTIC MODEL YACHT. SHE'S EXCITING CUTTING THROUGH THE WATER, AND SHE LOOKS EQUALLY GOOD AS A DISPLAY MODEL. IT TAKES ONLY AN ORDINARY TWO-CHANNEL RADIO CONTROL SET TO GUIDE THE OCEAN. FOR DISPLAY, THE KIT HAS MANY DETAIL FITTINGS THAT ADD REALISM. LIKE THE WINNING AUSTRALIA II, THE OCEAN HAS A HYDRODYNAMIC WINGED KEEL TO STABILIZE AND INCREASE THE SPEED OF THE BOAT, IN LIGHT WIND OR STRONG. FOR STABILITY, THE KEEL IS ALREADY LOADED WITH BALLAST. THE OCEAN GOES TOGETHER QUICKLY. THE GLOSSY HULL AND KEEL IS A ONE-PIECE MOLDING OF STRONG ABS RESIN. IT CAN BE LEFT IN ITS NATURAL WHITE OR PAINTED WITH A GLOSSY ACRYLIC PAINT. THE STRONG MAST CAN BE REMOVED AND SEPARATED INTO TWO PIECES FOR EASY CARRYING.

**Required for operation (not included)**

- Radio control set: Two-channel w/two standard servos

**Technical data**

- Length/500mm (19.7") ● Beam/118mm (4.6") ● Height/795mm (31.7") ● Weight/950g (2 lb) ● Sail area/10.5dm<sup>2</sup> (163 in<sup>2</sup>)



**FAIRWIND**  
RADIO CONTROLLED YACHT





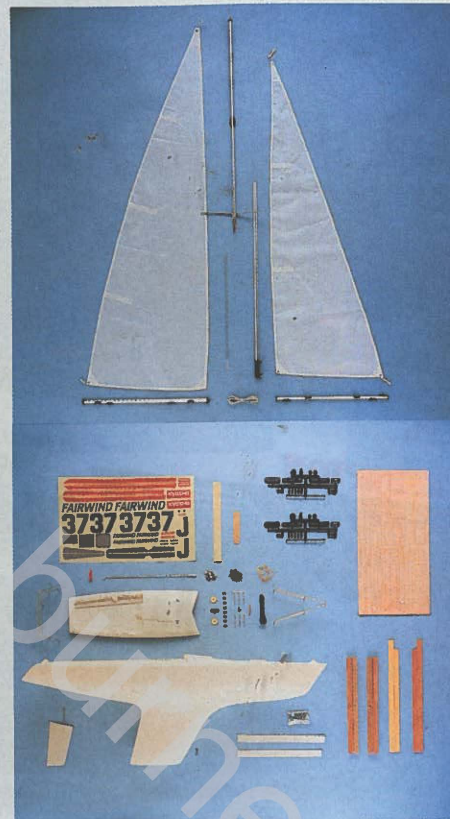
LENGTH: 900mm

No.3421



LSS  
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### THE MOST BEAUTIFUL SAILING YACHT TO HIT THE WAVES!

THE GRACEFUL AND ELEGANT LINES OF A CLASSIC RACING YACHT IN AN ARS (ALMOST READY TO SAIL) MODEL. FAIRWIND IS SILENT, SO SHE CAN BE SAILED WHERE POWER MODELS AREN'T WELCOME. EASY TO ASSEMBLE AND EASY TO SAIL. CONTROL WITH A SINGLE STANDARD SERVO (RUDDER ONLY) OR ADD A WINCH SERVO FOR THE SAIL. SMOOTH. GLOSSY ONE-PIECE MOLDED ABS HULL TO CUT THROUGH THE WATER. EASILY MOUNTED DECORATIVE FITTINGS, HATCHES, ETC. STRONG ALUMINUM MAST. DACRON SAILS WITH BATTENS FOR SHAPE. MANY DECORATIVE PRESSURE-ADHESIVE DECAL STICKERS. EQUALLY PRETTY ON THE WATER OR AS A DISPLAY MODEL.



#### Required for operation (not included)

- Radio control set: Two-channel w/one servo (option: sail winch servo)
- Ballast (No.Y-08)

#### Technical data

●Length/900mm (35.4") ●Beam/225mm (8.9") ●Height/1560mm (61.4") ●Total weight/3600-4200g (7.9-9.3 lb)





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**WORLD CHAMPION**

**17**

KYOSHO MARINE  
RACING TEAM

70 ENGINE-POWERED RACING BOAT

**JET STREAM**

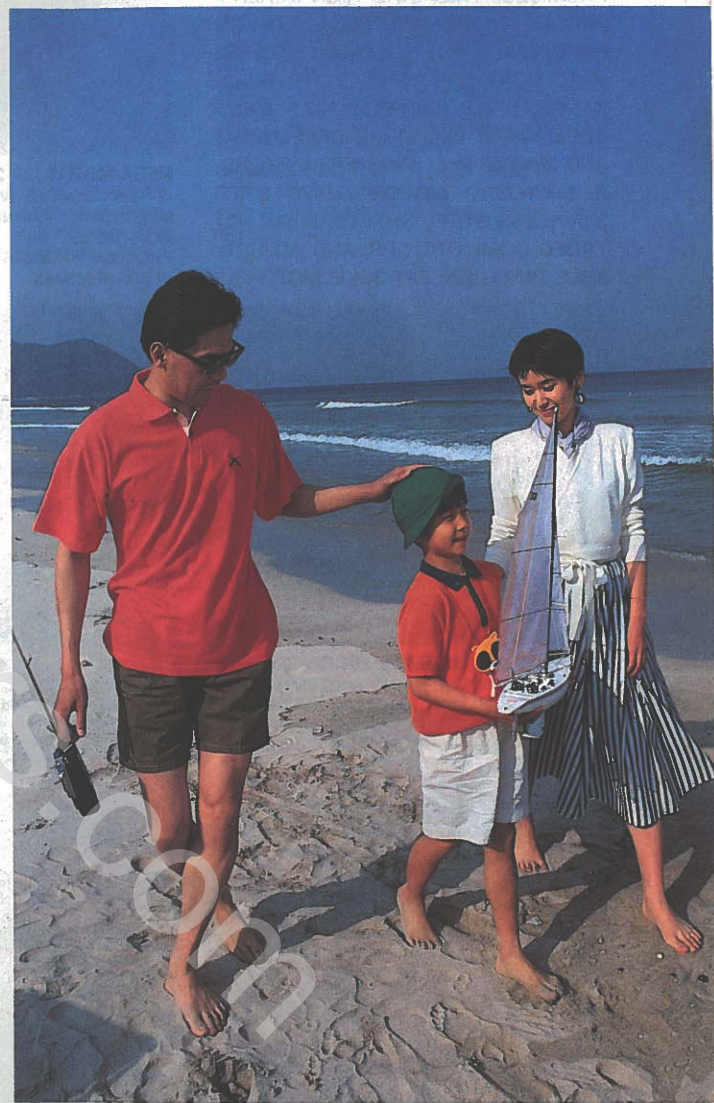
THE FASTEST RACING CRAFT EVER BUILT





2500 RPM MAX

3000 RPM



No. 19 54  
FACTORY



# CUSTOM MODEL MOTORS

## HIGH-PERFORMANCE MOTORS FOR ELECTRIC MODELS

### A MOTOR FOR EVERY MODEL AND BUDGET!

ALL KYOSHO MOTORS HAVE BEEN CUSTOM DESIGNED SPECIFICALLY FOR USE IN MODELS, NOT GENERAL-PURPOSE MOTORS WITH DESIGN COMPROMISES. THEY ARE HIGH-QUALITY PRODUCTS, AND ARE DESIGNED FOR HIGH POWER OUTPUT AND LONG SERVICE LIFE REGARDLESS OF THE PRICE RANGE. FOUR KYOSHO STAFF MEMBERS WORK FULL-TIME DEVELOPING AND IMPROVING KYOSHO'S MOTORS. ALL KYOSHO MOTORS HAVE STIFF STAINLESS STEEL SHAFTS, DIAMOND-TRUED COMMUTATORS, AND ADJUSTABLE TIMING (EXCEPT SOME MOTORS).



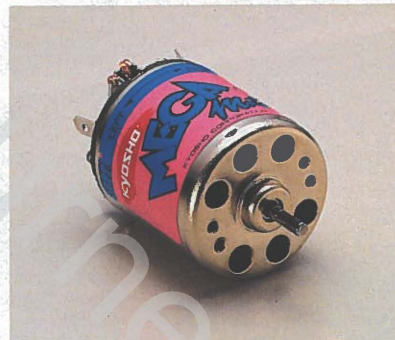
**MEGA MOTOR 12x2 PAVED OVAL No.2471**  
12 TURN DOUBLE WIND. IDEAL FOR ANY ON-ROAD OVAL RACING. ALSO SUITABLE FOR HIGH-SPEED DIRT OVAL RACING. WET-PROCESS MAGNETS FOR EXTRA POWER. 37,000 RPM MAX.



**MEGA MOTOR 14x2 DIRT OVAL No.2472**  
14 TURN DOUBLE WIND. IDEAL FOR ANY DIRT OVAL RACING. ALSO SUITABLE FOR 4WD OFF-ROAD AND 1/10 ON-ROAD RACING. WET-PROCESS MAGNETS FOR EXTRA POWER. 33,000 RPM MAX.



**MEGA MOTOR 16x2 4WD OFF-ROAD No.2473**  
16 TURN DOUBLE WIND. IDEAL FOR ANY 4WD OFF-ROAD RACING. ALSO SUITABLE FOR 2WD OFF-ROAD AND 1/10 SCALE ON-ROAD RACING. WET-PROCESS MAGNETS FOR EXTRA POWER. 29,000 RPM MAX.



**MEGA MOTOR 18x2 2WD OFF-ROAD No.2474**  
18 TURN DOUBLE WIND. IDEAL FOR ANY 2WD OFF-ROAD RACING. ALSO SUITABLE FOR 4WD OFF-ROAD RACING. AND 1/12 SCALE RACING. WET-PROCESS MAGNETS FOR EXTRA POWER. 27,000 RPM MAX.

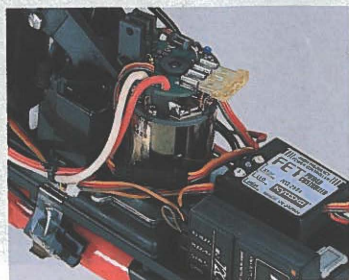
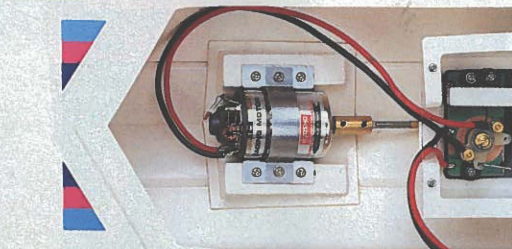
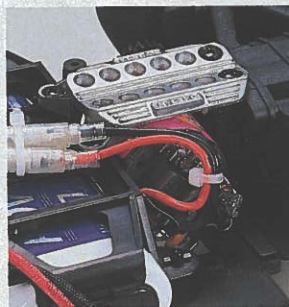
**MEGA MOTOR 20x2 ON-ROAD No.2475**  
20 TURN DOUBLE WIND. IDEAL FOR ANY 1/10 OR 1/12 SCALE ON-ROAD RACING. ALSO SUITABLE FOR 2WD OFF-ROAD RACING. WET-PROCESS MAGNETS FOR EXTRA POWER. 24,000 RPM MAX.



**MEGA MOTOR 22x1 OUTLAW STOCK No.2476**  
22 TURN SINGLE WIND. FOR ANY OFF-ROAD OR ON-ROAD OUTLAW STOCK VEHICLE. ROAR APPROVED MODIFIED MOTOR. WET-PROCESS MAGNETS FOR EXTRA POWER. 22,000 RPM MAX.



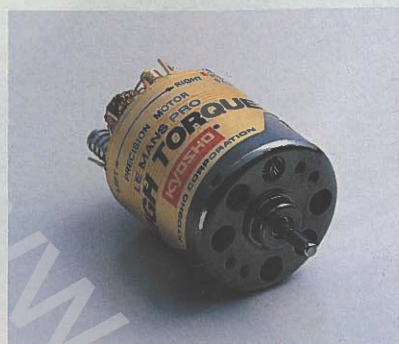
**MEGA MOTOR 360 MONSTER TRUCK No.2477**  
IDEAL FOR USE IN MONSTER TRUCKS. ALSO SUITABLE FOR ELECTRIC BOATS AND OFF-ROAD RACING. 550 SIZE CAN FOR MORE TORQUE. 21,000 RPM MAX.







**LeMANS PRO HIGH SPEED No.2481**  
FOR HIGH-SPEED OFF-ROAD SPRINT RACES. HIGH-EFFICIENCY, HIGH-POWER MOTOR FOR HIGH-LEVEL COMPETITION. OPTIMIZED FOR FULL POWER WITH 1700mAh BATTERIES.



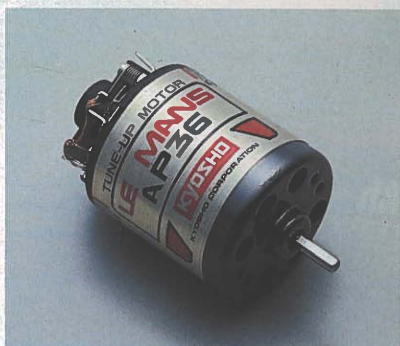
**LeMANS PRO HIGH TORQUE No.2483**  
FOR TWISTY OFF-ROAD RACES. HIGH-EFFICIENCY, HIGH-POWER MOTOR FOR HIGH-LEVEL COMPETITION. OPTIMIZED FOR FULL POWER WITH 1700mAh BATTERIES.



**LeMANS PRO ON-ROAD No.2485**  
FOR HIGH-SPEED ON-ROAD 8-MINUTE RACES. HIGH-EFFICIENCY, HIGH-POWER MOTOR FOR HIGH-LEVEL COMPETITION. OPTIMIZED FOR FULL POWER WITH 1700mAh BATTERIES.



**LeMANS PRO SUPER HELI No.1984**  
SPECIALLY DESIGNED TO MEET THE NEEDS OF ELECTRIC HELICOPTERS. TWIN BALL BEARINGS.



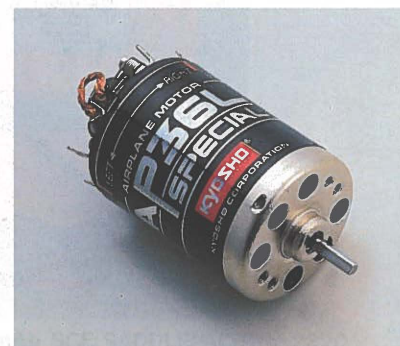
**LeMANS AP36 No.1962**  
CUSTOM DESIGNED FOR ELECTRIC MODEL HELICOPTERS OF EP CONCEPT TYPE AND FOR AIRPLANES USING GEARED PROP-DRIVE UNITS. HIGH POWER-TO-WEIGHT RATIO. 7.2/8.4V.



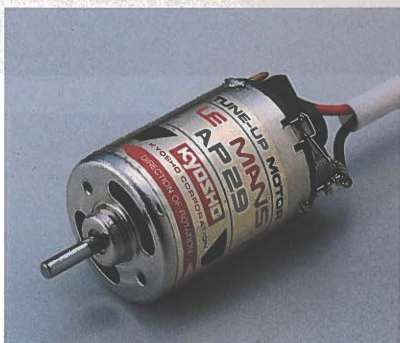
**LeMANS AP36BB No.1966**  
SPECIAL HIGH-PERFORMANCE VERSION OF No.1962 WITH TWO PRECISION BALL BEARINGS FOR REDUCED FRICTION, HIGHER POWER, AND LONGER FLIGHT TIME.



**LeMANS AP36L No.ES-15**  
HIGH-TORQUE 550-TYPE MODEL AIRPLANE MOTOR CUSTOM DESIGNED FOR DIRECT DRIVE. ADJUSTABLE TIMING FOR OPTIMUM POWER/CURRENT CHARACTERISTICS. 7.2/8.4V.



**LeMANS AP36L SPECIAL No.2461**  
SPECIAL VERSION OF No.ES-15 WITH TWO PRECISION BALL BEARINGS FOR REDUCED FRICTION, HIGHER POWER, AND LONGER FLIGHT TIME.



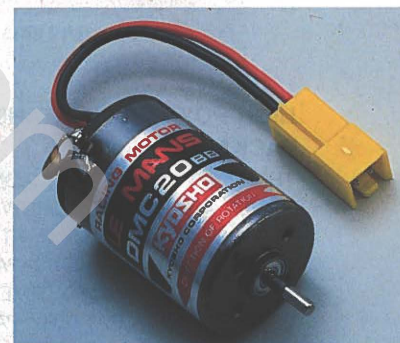
**LeMANS AP29 No.1929**  
HIGH TORQUE MOTOR SPECIALLY DESIGNED FOR MODEL AIRPLANES AND BOATS.



**LeMANS AP29BB No.1930**  
SPECIAL VERSION OF AP29 MOTOR, WITH TWO PRECISION BALL BEARINGS FOR REDUCED FRICTION AND EVEN HIGHER POWER.



**LeMANS DM20 No.1934**  
POWERFUL MINI MOTOR FOR 1/8-SCALE MOTORCYCLES



**LeMANS DMC20BB No.1935**  
SPECIAL VERSION OF No.1934 WITH TWO PRECISION BALL BEARINGS FOR REDUCED FRICTION AND EVEN HIGHER POWER.



## SUPER NiCd FAST-CHARGE BATTERIES

### POWER PACKED BATTERIES FOR ELECTRIC MODELS

KYOSHO NICKEL-CADMIUM (NiCd) BATTERY PACKS ARE DESIGNED SPECIFICALLY TO DELIVER THE HIGH OUTPUT CURRENTS REQUIRED FOR MODEL MOTORS. THEY CAN ALL BE RECHARGED IN ABOUT 15 MINUTES USING AN APPROPRIATE KYOSHO CHARGER. NiCd BATTERIES CAN BE RECHARGED UP TO 500 TIMES UNDER GOOD CONDITIONS. (FOR MAXIMUM LIFE, BATTERIES SHOULD ALWAYS BE ALLOWED TO COOL BEFORE BEING RECHARGED, AND SHOULD NEVER BE OVERCHARGED AT HIGH CHARGE RATES.)



### HIGH POWER IN A STANDARD PACKAGE!

THESE TWO NICKEL CADMIUM BATTERIES ARE THE IDEAL POWER SOURCE FOR MODEL VEHICLES, BOATS, AND AIRPLANES. THEIR 1700mAh CAPACITY GIVES 40% LONGER RUNNING TIME THAN THE USUAL 1200mAh BATTERY PACKS WITHOUT ANY EXTRA WEIGHT. THE LOW INTERNAL RESISTANCE OF THE SCR CELLS MEANS THAT THERE IS NO LOSS OF POWER, EITHER. THE POWER IS THERE WHEN YOU NEED IT!



#### ● 8.4V-1700mAh SCR No.2338

SPECIAL MAXIMUM CAPACITY 8.4V BATTERY WITH REMARKABLY LOW WEIGHT. FOR SUPERCHARGED PERFORMANCE WITH LONG DURATION IN AIRPLANES, CARS AND BOATS.



#### ● 7.2V-1700mAh SCR No.2348

SPECIAL MAXIMUM CAPACITY 7.2V BATTERY WITH REMARKABLY LOW WEIGHT. FOR HIGH PERFORMANCE WITH LONG DURATION IN AIRCRAFT, CARS AND BOATS.





●8.4V-1200mAh FLIGHT POWER SCR No.2318  
FOR SUPERCHARGED PERFORMANCE IN AIRCRAFT, CARS  
AND BOATS.



●8.4V-1000mAh SCR No.2355  
FOR EP CONCEPT ELECTRIC HELICOPTERS AND OTHER  
APPLICATIONS WHERE VERY HIGH POWER WITH EXCEP-  
TIONALLY LOW WEIGHT ARE REQUIRED.



●8.4V-600mAh AE No.2354  
FOR CONVERT EX ELECTRIC HELICOPTERS.



●7.2V-1700mAh SPEED SCE No.2330S  
FOR HIGH POWER WITH LONG DURATION IN AIRCRAFT,  
CARS AND BOATS.



●7.2V-1400 POWER BATTERY No.4400  
HIGHER CAPACITY THAN STANDARD 1200mAh BATTERIES  
WITH LOWER WEIGHT AND ECONOMICAL PRICE.



●7.2V-1700mAh SCE SADDLEPACK No.2320  
COMPOSED OF SAME CELLS AS 2330 BUT IN TWO  
GROUPS OF THREE FOR DISTRIBUTING WEIGHT.  
STRONG, LIGHT PLASTIC CASE.



●7.2V-1200mAh SPRINT SCR No.2310S  
THE STANDARD 7.2V BATTERY. HIGH CURRENT-OUTPUT  
CAPACITY.



●7.2V-1200mAh SPORTS BATTERY No.2361  
FOR GOOD PERFORMANCE IN NON-COMPETITION SPORTS  
APPLICATIONS.



●7.2V-1200mAh SCR SADDLEPACK No.2331  
COMPOSED OF SAME CELLS AS 2310 BUT IN TWO  
GROUPS OF THREE FOR DISTRIBUTING WEIGHT.  
STRONG, LIGHT PLASTIC CASE.



●GP7.2V-600mAh No.2313  
HIGH-CAPACITY BATTERY FOR EXTENDED RUNNING WITH  
GRAND PRIX MOTORCYCLES (TYPICALLY 15 MINUTES),  
ETC.



●7.2V-270mAh No.2312  
SPARE BATTERY FOR GRAND PRIX MOTORCYCLES, ETC.



# BATTERY CHARGERS





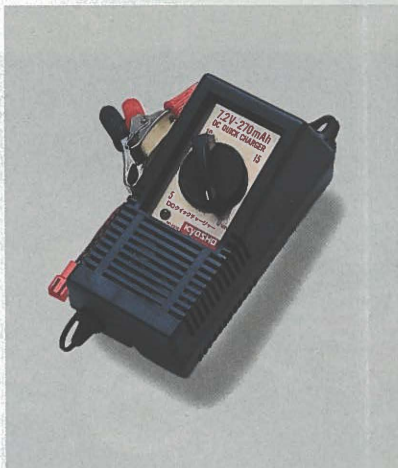


## DC CHARGERS

THESE CHARGERS ARE ALL DESIGNED TO RECHARGE QUICK-CHARGE NiCd BATTERY PACKS IN 15-20 MINUTES (FULLY-DISCHARGED PACK; LESS IF BATTERY STILL PARTIALLY CHARGED) USING A STANDARD 12V CAR BATTERY AS POWER SOURCE. CHARGING CURRENT STOPS AFTER REQUIRED TIME. SUPPLIED CONNECTORS (EXC. 2246) ARE FOR KYOSHO NiCd PACKS, BUT ANY FAST-CHARGE NiCd PACK OF THE SAME CAPACITY CAN ALSO BE CHARGED IF A SUITABLE CONNECTOR IS USED. OF THE CHARGERS SHOWN, FOUR ARE FOR SPECIFIC VOLTAGE AND CAPACITY RATINGS, AND TWO ARE UNIVERSAL.



●FET DELTA PEAK AUTO-CUTOFF CHARGER No.2246 AUTOMATICALLY CHARGES ANY FAST-CHARGEABLE NiCd PACK OF 4.8/8.4V-270/1700mAh CAPACITY. SET THE CHARGING RATE USING THE METER AND PRESS THE START BUTTON. WHEN PACK IS CHARGED FULLY (20 MINUTES OR LESS) CHARGING CURRENT STOPS AUTOMATICALLY (DELTA PEAK DETECTION CIRCUIT).



●DC QUICK CHARGER 7.2V-270mAh No.2332 FULLY CHARGES 7.2V-270mAh BATTERY IN 15 MINUTES. MECHANICAL TIMER ADJUST 0-15 MINUTES.



●DC QUICK CHARGER II No.2358 ONE CHARGER FOR QUICK-CHARGING ALL 7.2V AND 8.4V FAST-CHARGEABLE NiCd BATTERY PACKS OF 1000 TO 1800mAh CAPACITY USES 12V CAR BATTERY. TIMER CUT-OFF SEMI-RATED CURRENT CHARGING SYSTEM. CHARGES PACKS IN 15 TO 25 MINUTES. LEADS AND CONNECTORS INCLUDED.



●MULTI-CHARGER II No.1849 CHARGES ANY 4.8/8.4V-270/1700mAh NiCd AT RATE SET USING AMMETER. TIME PERIODS OF 3, 10, 15, OR 20 MINUTES SELECTED BY PRESS-BUTTON. ELECTRONIC TIMER. ALSO DISCHARGES AT FIXED CURRENT. COMPARTMENT FOR LEADS.

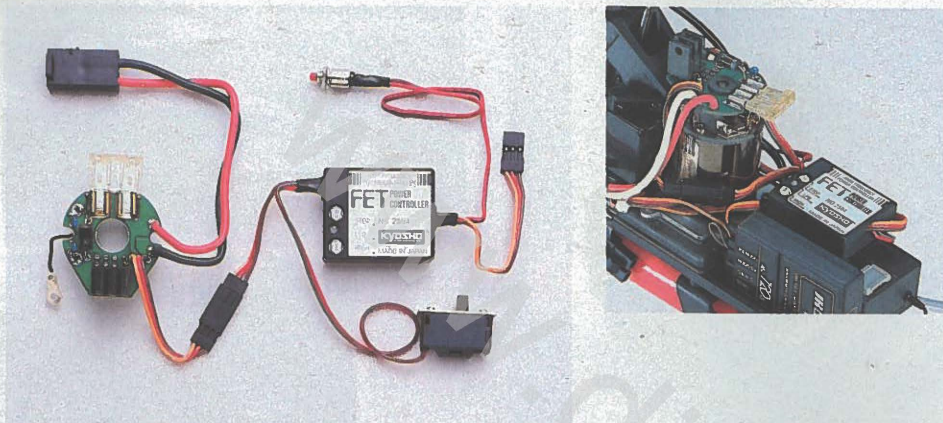


## FET SPEED CONTROLLER

No.2594

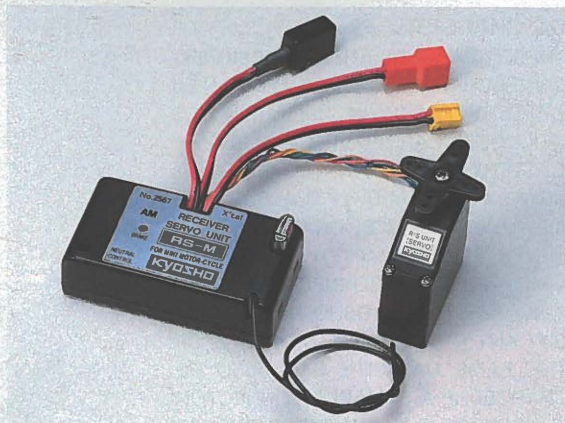
## RECEIVER/CONTROLLER/SERVO UNIT

No.2567



### FET SPEED CONTROLLER No.2594

CUSTOM DESIGNED FOR ULTRA-SMOOTH MOTOR-SPEED CONTROL AT LOW SPEEDS. IDEAL FOR ELECTRIC HELICOPTERS AND APPLICATIONS WHERE A HIGH-QUALITY ELECTRONIC SPEED CONTROLLER IS NEEDED. HIGH-FREQUENCY TYPE FOR MOST PRECISE CONTROL. TWO-PART UNIT. POWER-CONTROL (FET) UNIT ATTACHES DIRECTLY TO MOTOR.



### RECEIVER/CONTROLLER/SERVO UNIT No.2567

CUSTOM DESIGNED FOR MINIATURE MOTORCYCLES, LIKE THE 1/8-SCALE HONDA NSR500 AND YAMAHA YZR500, MINIATURE COMBINED RECEIVER AND ELECTRONIC SPEED CONTROLLER WITH ONE MINI SERVO. FORWARD SPEED CONTROL AND BRAKE FUNCTIONS.









## COLOR DECAL

No.1754

## MICRON LINE TAPE

No.1841/42/43/59/60

## POLYCA COLOR

No.2230

## MASKING SHEET

No.1947



### FOR WRINKLE-FREE TRIMMING AND CUSTOMIZING YOUR MODEL!

KYOSHO'S COLOR DECAL SHEETS ARE PRESSURE SENSITIVE, SOLID-COLOR TRIM SHEETS. CUT OUT THE PATTERN AND STICK IT DOWN. WRINKLE-FREE! SHEET STRETCHES OVER CURVES.



- No.1754W WHITE
  - No.1754BK BLACK
  - No.1754R RED
  - No.1754Y YELLOW
  - No.1754O ORANGE
  - No.1754RB ROYAL BLUE
  - No.1754LB LIGHT BLUE
  - No.1754GR GREEN
  - No.1754MG GOLD
  - No.1754MS SILVER
  - No.1754KY FLUORESCENT YELLOW
  - No.1754KG FLUORESCENT GREEN
  - No.1754KO FLUORESCENT ORANGE
  - No.1754KP FLUORESCENT PINK
  - No.1754SG SMOKE GRAY
- SIZE:155×400mm (6.1×15.7in)



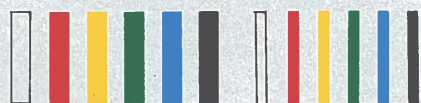
COLOR DECAL



MICRON LINE TAPE

### FOR THE FINISHING TOUCH

MICRON LINE TAPE GIVES THE LOOK THAT MARKS THE WORK OF A CRAFTSMAN, NEAT STRIPES OF EVEN WIDTH FROM ONE END TO THE OTHER. MICRON LINE CAN FOLLOW ALMOST ANY CURVE AND IS SELF-ADHESIVE, STICKING WITH JUST A TOUCH TO ANY SMOOTH SURFACE SUCH AS PLASTIC CAR BODIES, EXCELCOTE AND OTHER COVERING MATERIALS, DOPED SURFACES, ETC.



No.1841  
2.5mm×5m, six colors

No.1842  
1.5mm×5m, six colors



No.1843  
1mm×5m, six colors



No.1859  
0.7mm×8m,  
Black only



No.1860  
0.4mm×8m,  
Black only



MASKING SHEET No.1947

### MASKING SHEET

AN AID FOR NEATLY MASKED PAINT JOBS. A FLEXIBLE POLYETHYLENE SHEET 55cm×35m (1.8×114.8ft) WITH ONE SELF-ADHESIVE EDGE. JUST STICK IT DOWN ALONG THE PAINT LINE.



### POLYCA COLOR PAINTS THE BEAUTIFUL FINISH

POLYCA ACRYLIC COLOR PAINT IS FORMULATED FOR USE ON NEARLY ALL PLASTIC MATERIALS USED FOR MODELS, SUCH AS POLYCARBONATE, ABS, BUTYRATE, ETC. POLYCA IS THINNED AND CLEANED FROM BRUSHES WITH WATER, IS FLEXIBLE, AND DOES NOT CRACK. 16 BRILLIANT COLORS.



POLYCA COLOR No.2230



# BLITZ STARTER MULTI-TACH

No.1791

No.1839



- DIRECT-DRIVE, HIGH-SPEED, HIGH-TORQUE TYPE.
- STARTS 2-STROKE ENGINES UP TO .61 SIZE, 4-STROKE UP TO .91 SIZE (TO 1.2 SIZE WITH LARGE BATTERY).
- STARTS SMALL 2-STROKE ENGINES REQUIRING HIGH CRANKING SPEED.
- STARTS AIRCRAFT ENGINES WITH OR WITHOUT SPINNER.
- STARTS CAR ENGINES BY RUBBER DRIVE WHEEL (OPTION No.BZ-1)
- STARTS HELICOPTER/BOAT ENGINES USING BELT WITH GROOVED PULLEY (BELT NOT INCLUDED).
- SQUEEZE-TYPE SWITCH FOR CONVENIENT ONE-HAND OPERATION.
- COLOR-CODED BATTERY CLIPS FITTED.
- OPERATES FROM 12V BATTERY (5Ah RATING OR HIGHER).



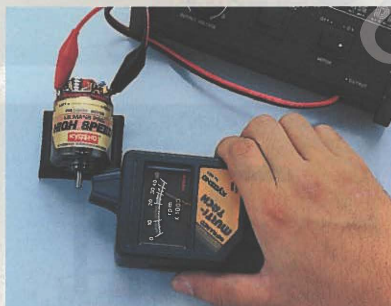
BLITZ STARTER No.1791

#### Technical data

- Weight: 1550g (3.4 lb)
- Length: 185mm (7.3")
- No-load speed: 6200rpm
- Max torque: 12.6kg·cm (11.1 lb·in)
- Battery: 12V motorcycle or car battery; 5Ah rating or higher

## HOW FAST IS THAT TURNING?

USE THIS VERSATILE AND USEFUL INSTRUMENT FOR MEASURING THE SPEED OF ANY ROTATING OBJECT, SUCH AS MACHINERY, VEHICLE WHEEL, ENGINE, ETC. TACH HAS BUILT-IN LIGHT SOURCE (INFRARED LED), SO DOES NOT DEPEND ON AMBIENT LIGHT. TACH REQUIRES ONE PULSE PER REVOLUTION, GENERATED BY CONTRASTING REFLECTIVE SURFACE (LIGHT ON DARK BACKGROUND OR VICE VERSA). MAX SPEED READING: 50,000RPM. EASY OPERATION.



#### MOTOR SPEED

TACH WILL USUALLY RESPOND TO "D" CUT ON SHAFT. IF SHAFT IS ROUND, APPLY A CONTRASTING MARK IN AREA SURVEYED BY SENSOR.



#### WHEEL SPEED.

FOR TESTING MOTOR POWER ADJUSTMENTS, ETC. ATTACH ONE PIECE OF REFLECTIVE TAPE, ETC., TO SIDE OF WHEEL TO ACTIVATE SENSOR.



#### PROP SPEED

TAKE SPEED READING FROM SINGLE SMALL REFLECTIVE SPOT ON SPINNER. (IF AIMED AT PROPELLER, TACH WILL READ IN ERROR BY NUMBER OF BLADES.)



MULTI-TACH No.1839

#### Technical data

- Size: 134×66×30mm (5.3×2.6×1.2 in)
- Weight: 170g (6 oz)
- Battery (not included): 9V 006P type
- Maximum reading: 50,000rpm



# ACCESSORIES FOR ALL MODELS



FLUORESCENT STRAP (YELLOW)



No.1700KY (2.5×102mm×18)  
No.1701KY (3.5×150mm×18)  
No.1702KY (4×200mm×12)

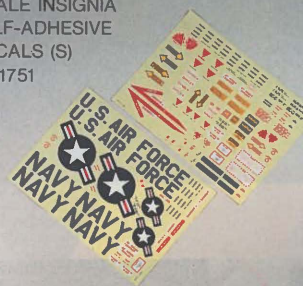
FLUORESCENT STRAP (PINK)



No.1700KP (2.5×102mm×18)  
No.1701KP (3.5×150mm×18)  
No.1707KP (4×200mm×12)

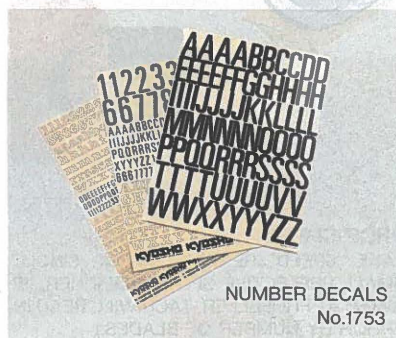
SCALE INSIGNIA  
SELF-ADHESIVE  
DECALS (S)

No.1751



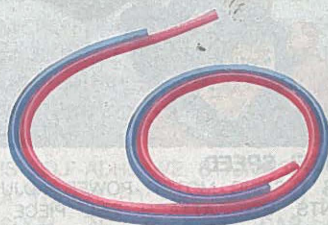
SCALE INSIGNIA  
SELF-ADHESIVE  
DECALS (M)

No.1752

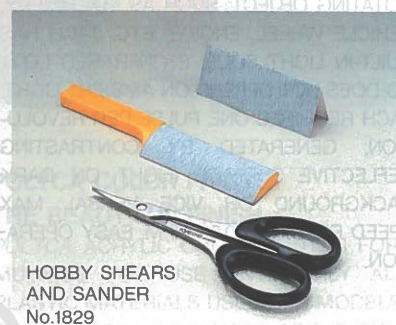
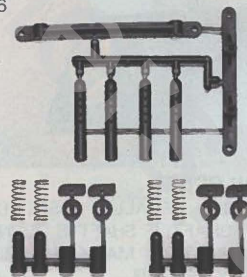


NUMBER DECALS  
No.1753

SILICONE FUEL TUBING  
No.1790 (500mm×2)

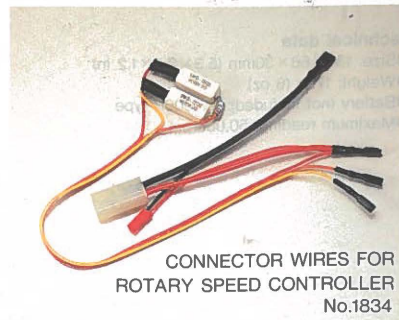
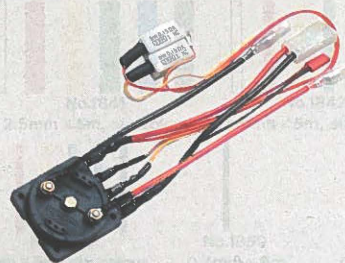


QUICK BODY MOUNT SET  
No.1806

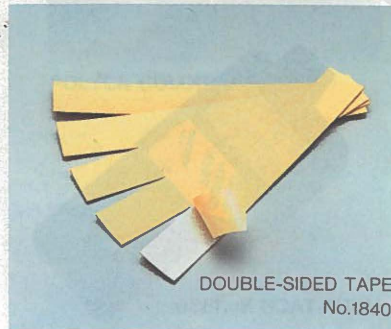


HOBBY SHEARS  
AND SANDER  
No.1829

ROTARY SPEED CONTROLLER  
No.1833



CONNECTOR WIRES FOR  
ROTARY SPEED CONTROLLER  
No.1834

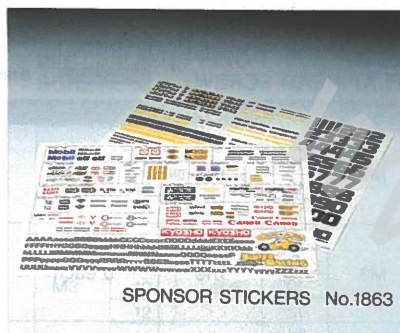


DOUBLE-SIDED TAPE  
No.1840



ANTENNA HOLDERS  
No.1844





SPONSOR STICKERS No.1863



PRIMER FOR  
POLYOLEFIN  
PLASTICS  
(LSS, ETC.)  
No.1865



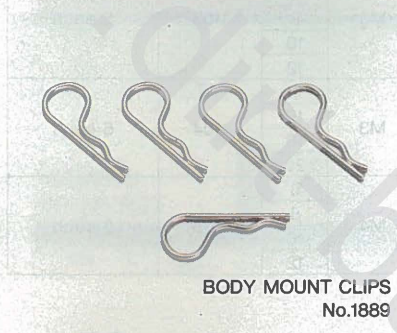
FUEL FILTER  
No.1876



THREAD LOCKING  
COMPOUND (2 TUBES)  
No.1878



PTFE-SUSPENSION OIL No.1883



BODY MOUNT CLIPS  
No.1889



4-WAY METRIC WRENCH  
No.1943



OIL SPRAY  
No.1945



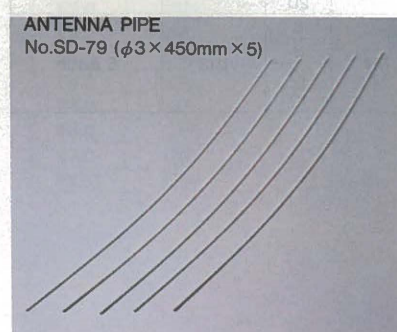
SILICONE SHOCK OIL  
No.1953(S) No.1954(M) No.1955(H)



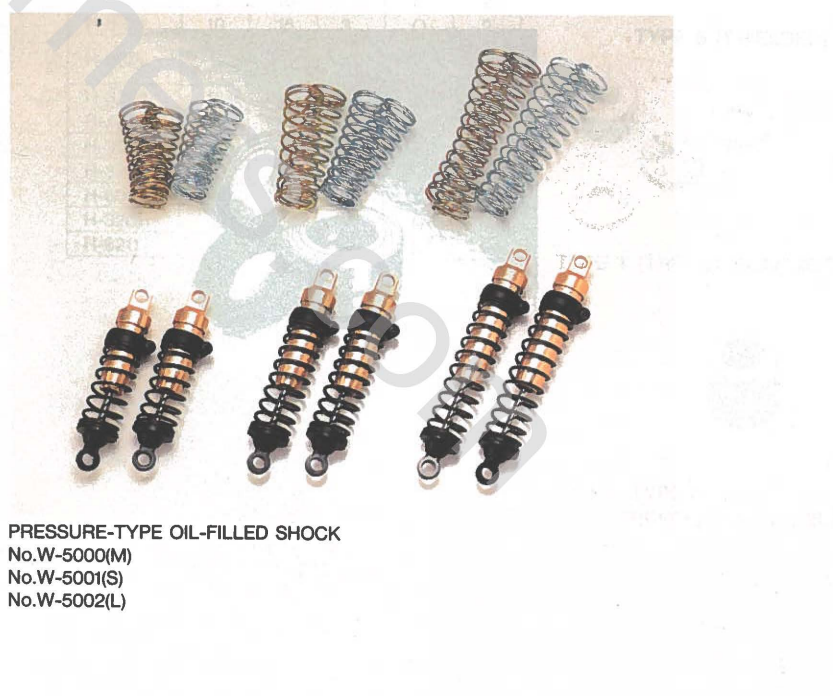
SILICONE SHOCK OIL  
No.1956 (SUPER HARD)



COMPACT CONTINUOUSLY VARIABLE  
TRANSMISSION  
No.3221



ANTENNA PIPE  
No.SD-79 ( $\phi 3 \times 450\text{mm} \times 5$ )



PRESSURE-TYPE OIL-FILLED SHOCK  
No.W-5000(M)  
No.W-5001(S)  
No.W-5002(L)



# ACCESSORIES FOR ALL MODELS



No. W-5005(L)  
No. W-5001(S)  
No. W-5001(M)  
PRESSURE-TYPE OIL-PRETTED BRONZE

## ROUND HEAD SCREW

a	b	No.	
M2	6	1101	5 each
	8		
	10		
	15		
M2.6	8	1102	5 each
	10		
	12		
	14		
M3	4	1103	5 each
	6		
	8		
	10		
M3	12	1104	5 each
	14		
	16		
	18		
M4	20	1105	5 each
	6		
	8		
	10		

## FLAT HEAD SCREW

a	b	No.	
M2.6	8	1118	5 each
	10		
	12		
	14		
M3	6	1119	5 each
	8		
	10		
	12		
M3	14	1120	5 each
	16		
	18		
	20		
M4	8	1121	5 each
	10		
	15		
	20		

## CAP SCREW

a	b	No.	
M3	8	1126	2 each
	10		
	12		
M3	14	1127	2 each
	15		
	16		
	18		
	20		

## BIND SCREW

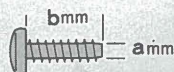
a	b	No.	
M2.6	4	1110	5 each
	6		
	8		
	12		
M3	4	1111	5 each
	6		
	8		
	10		
M3	12	1112	5 each
	14		
	16		
	18		
M4	20	1113	5 each
	6		
	8		
	10		

## ROUND HEAD SELF-TAPPING SCREW

a	b	No.	
M2	4	1132	5 each
	6		
	8		
	10		
M2.6	6	1133	5 each
	8		
	10		
	12		
M3	6	1134	5 each
	8		
	10		
	12		
M3	14	1104	5 each
	15		
	16		
	18		
	20		

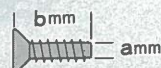


### BIND SELF-TAPPING SCREW



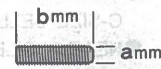
a	b	No.	
M2.6	6	1140	5 each
	8		
	10		
	12		
M3	6	1141	5 each
	8		
	10		
	12		
	14		
M3	15	1142	5 each
	16		
	18		
	20		

### FLAT HEAD SELF-TAPPING SCREW



a	b	No.	
M2.6	6	1147	5 each
	8		
	10		
	12		
M3	6	1148	5 each
	8		
	10		
	12		
M3	14	1149	5 each
	15		
	16		
	18		
	20		

### SET SCREW



a	b	No.	
M3	3	1161	3 each
	4		
	5		
	10		
M3	4	1162	3 each
	5		
	8		
	12		
M5	4	1163	3 each
	5		
	6		
M5	30	1164	3 each
	40		

### NUT



a	No.	
M2	1171	10 each
M2.6		
M3		
M4	1172	10 each

### NYLON NUT



a	No.	
M2.6	1177	5 pcs.
M3	1178	5 pcs.
M4	1179	5 pcs.

### FLANGED NYLON NUT



a	No.	
M4	1180	5 pcs.

### WASHER



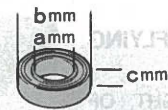
a	No.	
M2	1185	10 each
M2.6		
M3		
M4	1186	10 each
M5		

### E-CLIPS



a	No.	
E1.5	1380	10 pcs.
E2.0	1381	10 pcs.
E2.5	1382	10 pcs.
E3.0	1383	10 pcs.
E4.0	1384	10 pcs.
E5.0	1385	10 pcs.
E6.0	1386	10 pcs.
E7.0	1387	6 pcs.
E10.0	1390	6 pcs.

### PRECISION BEARINGS



No.	a	b	c	TYPE	pcs.
H-3103	3	6	2	O	4
FH-21	3	6	2	S	2
PFW-1	3	6	2.5	S	2
1977	3	6	2.5	S	4
	5	10	4	S	4
1995	4	7	2.5	F·S	2
1903	4	8	3	S	2
FH-22	4	8	2	F·O	2
EH-9	4	10	4	S	2
1902	5	8	2.5	S	2
1901	5	10	4	S	2
	5	13	4	S	2
H-3006	5	13	4	S	2
H-3034	5	13	4	S	1
	5	16	5	S	1
H-3048	6	10	3	S	2
BMT-147	6	11	3	O	1
H-3101	6	12	3	O	2
PS-7	6	13	5	S	2
EH-37	7	14	3.5	O	1
EH-16	7	14	5	S	1
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PI-15	8	12	3.5	S	2
H-3040	8	14	3.5	O	2
1911	8	14	4	S	2
BS-16	8	16	5	S	2
H-3106	10	15	3	O	2
	10	19	5	S	1
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H-6007	8	16	5	T	2
H-3201	3	6.5	6	N	4
H-6211	4	9	9	N	4



TYPE F (FLANGED)



TYPE O (OPEN)



TYPE S (SHIELDED)



TYPE T (THRUST BEARINGS)



TYPE N  
(NEEDLE ROLLER BEARINGS)



# FREE FLIGHT PLANE



## EASY-ASSEMBLING EASY-FLYING FREE-FLIGHT MODELS

ENJOY THE GRACEFUL FLIGHT OF FREE-FLYING MODEL AIRPLANES WITH A MINIMUM OF PREPARATION. THE MODELS OF THESE TWO SERIES CAN BE ASSEMBLED IN A FEW EASY MINUTES AND FLY WELL. ALL PARTS NECESSARY ARE INCLUDED IN THE KITS. FLY IN ANY PARK.



No.1632Y YELLOW STAR

No.1632W WHITE STAR

No.1631Y YELLOW HAWK

No.1631R RED HAWK



### Technical data

- Length/356mm(14.0) ●Wingspan/638mm(25.1) ●Wing area/4.3dm<sup>2</sup> (67 in<sup>2</sup>) ●Weight/82g (3.2 oz) ●Motor/LeMANS Mini AP (Included)
- Battery/2.4V-110mAh NiCd (Included) ●Propeller/φ130

## ELECTRIC FLYING MODELS

A QUICK-CHARGING NiCd BATTERY AND HIGH-PERFORMANCE MOTOR POWERS EACH OF THESE CUTE MODELS. FACTORY-MADE WINGS, FUSELAGE, ETC. QUICK ASSEMBLY.

- ASSEMBLE IN LESS THAN AN HOUR.
- RECHARGE IN A MINUTE OR LESS.
- FLIGHTS OF 40-60 SECONDS TYPICAL.
- CHARGER INCLUDED (REQUIRES 4 C-SIZE CELLS).
- NEARLY SILENT IN FLIGHT.

## RUBBER FLYING MODELS

RELIEVE THE FUN OF EARLY MODEL AVIATION! WIND IT UP AND LET IT GO! THESE MODELS ARE SIMPLE TO PUT TOGETHER AND FLY WELL. ALL PARTS FACTORY MADE.

- ASSEMBLE IN LESS THAN AN HOUR.
- SMALL SIZE. DISMANTLE FOR EASY CARRYING.
- JUST WIND UP AND LAUNCH. FLY ANYWHERE.
- SPARE RUBBER MOTOR INCLUDED.
- GRACEFUL AND NEARLY SILENT.

No.1612Y YELLOW BIRD

No.1612W WHITE BIRD

No.1611Y YELLOW LARK

No.1611R RED LARK



### Technical data

- Length/356mm(14.0) ●Wingspan/638mm(25.1) ●Wing area/4.3dm<sup>2</sup> (67 in<sup>2</sup>) ●Weight/61g (2.4 oz) ●Propeller/φ180 ●Rubber/240mm(9.4) × 2



# KYOSHO ORIGINALS



**PIT BOX**  
No.1776 (420×240×330mm)



**TOOL BOX**  
No.4139 (330×230×65mm)



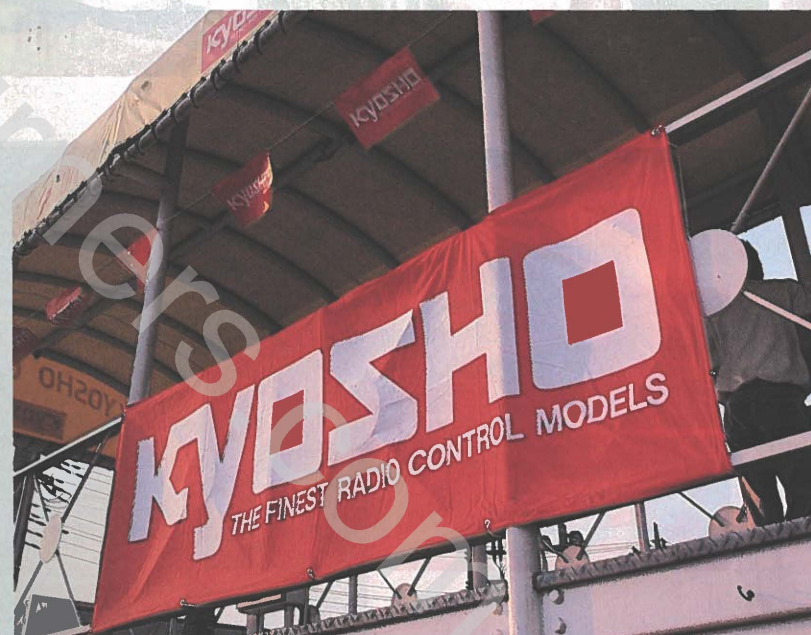
**PARTS BOX**  
(S) No.4137 (120×83×25mm)  
(M) No.4138 (180×98×50mm)



## LOGO-TYPE STICKERS

- (S) No.4100 (106×35mm)
- (M) No.4101 (290×72mm)
- (L) No.4102 (363×90mm)
- (LL) No.4103 (900×220mm)

**BANNERS (20) ON ROPE**  
No.4106



**KYOSHO BANNER**  
No.4105





KYUSHO ORIO



- FLYING MODEL
- SERIAL NUMBER
- CARRYING
- JUST WHOSE
- ANYWHERE
- SPARE RUBBER MOTOR
- GRACEFUL AND NEARLY







# THE KYOSHO WORLD FAMILY

## KYOSHO DEUTSCHLAND



This is the headquarters of KYOSHO Deutschland at Kaltenkirchen, near Hamburg. It is equipped to meet the requirements of the country that has the largest toy and hobby show in the world.

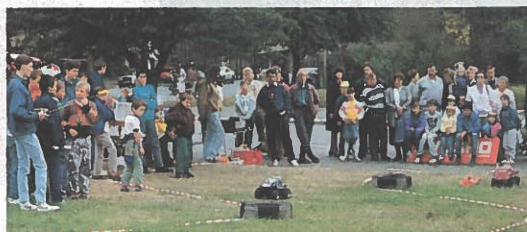


Invaluable publicity for both the hobby and for Kyosho comes from this van belonging to one of our best customers.



KYOSHO Deutschland is also active in promoting R/C modelling in areas of eastern Europe where consumer goods are finally available to the public. This is the First 1/10 Off-road Championship event in Czechoslovakia (10/91), where Kyosho Lazars took the first four places.

KYOSHO Deutschland has established several permanent buggy tracks in eastern Germany, mostly in conjunction with dealers for full-size cars. Monster trucks are especially popular, although all R/C items are interesting to the public.



Here we are demonstrating a Kyosho EP concept at the large consumer show held Budapest (9/91).

## PEMAR MODEL KYOSHO-SPAIN



More than 1200 square metres of warehouse, with a big stock, in order to have an efficient distribution all over the country.



PEMAR MODEL-KYOSHO attend every competition with a wide sport and publicity effort. We won the Spanish championship the last five years.

The clue of the service of KYOSHO in Spain is the permanent availability of models and spare parts, and a quick service to our customers.



Detail of Pemar Model/Kyosho's stand. The presence of Kyosho in the most important fair is each year more people.



## RIPMAX PLC-KYOSHO UK



A few members of our in-house sales team gather in front of Ripmax's headquarters.

The new Ripmax exhibition trailer, visiting one of the many model shows earlier this year.



The Ripmax exhibition stand is a regular feature of one of Europe's largest annual model symposiums, held at the Sandown Park racecourse in the U.K.

A section of Harrods, London's most prestigious and famous department store is devoted to Kyosho Product.

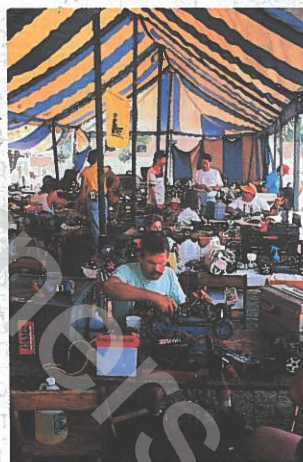


## HOBBICO KYOSHO-USA



This picture shows just a small part of the huge Hobbico warehouse in Champaign, located in the heart of the USA.

Kyosho and Hobbico sponsored a large double event at Champaign, one for 1/8 gas off-road buggies, and one for 1/10 stadium trucks (8/91).

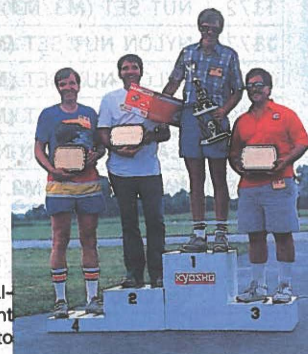


The "pits", bright and sheltered under canvas, were a beehive of activity as competitors made necessary adjustments and repairs.



These winners took home awards, but everyone who participated was a winner. And Kyosho gained much valuable publicity.

The Second Annual Kyosho Challenge for R/C helicopters brought large numbers of participants to Champaign (8/91).





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OR-73	WHEELS (LAMBORGHINI TYPE)	80
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OR-85	WHEELS (DISH TYPE, WIDE)	80
OR-90	WHEELS (PEUGEOT TYPE, WHITE)	80
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W-5621M	TIRES (56 SIZE, FRONT, MEDIUM)	80
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W-5631M	TIRES (56 SIZE, NARROW, MEDIUM)	80
W-5641S	TIRES (56 SIZE, REAR, SOFT)	80
W-5641M	TIRES (56 SIZE, REAR, MEDIUM)	80
W-5642S	TIRES (56 SIZE, REAR, SOFT)	80
W-5642M	TIRES (56 SIZE, REAR, MEDIUM)	80



# KYOSHO CORPORATION



Main Office in central Tokyo



Atsugi Operation Center



KYOSHO CIRCUIT in Atsugi







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