TAMIYA RADIO CONTROL GUIDE BOOK

TAMIYA
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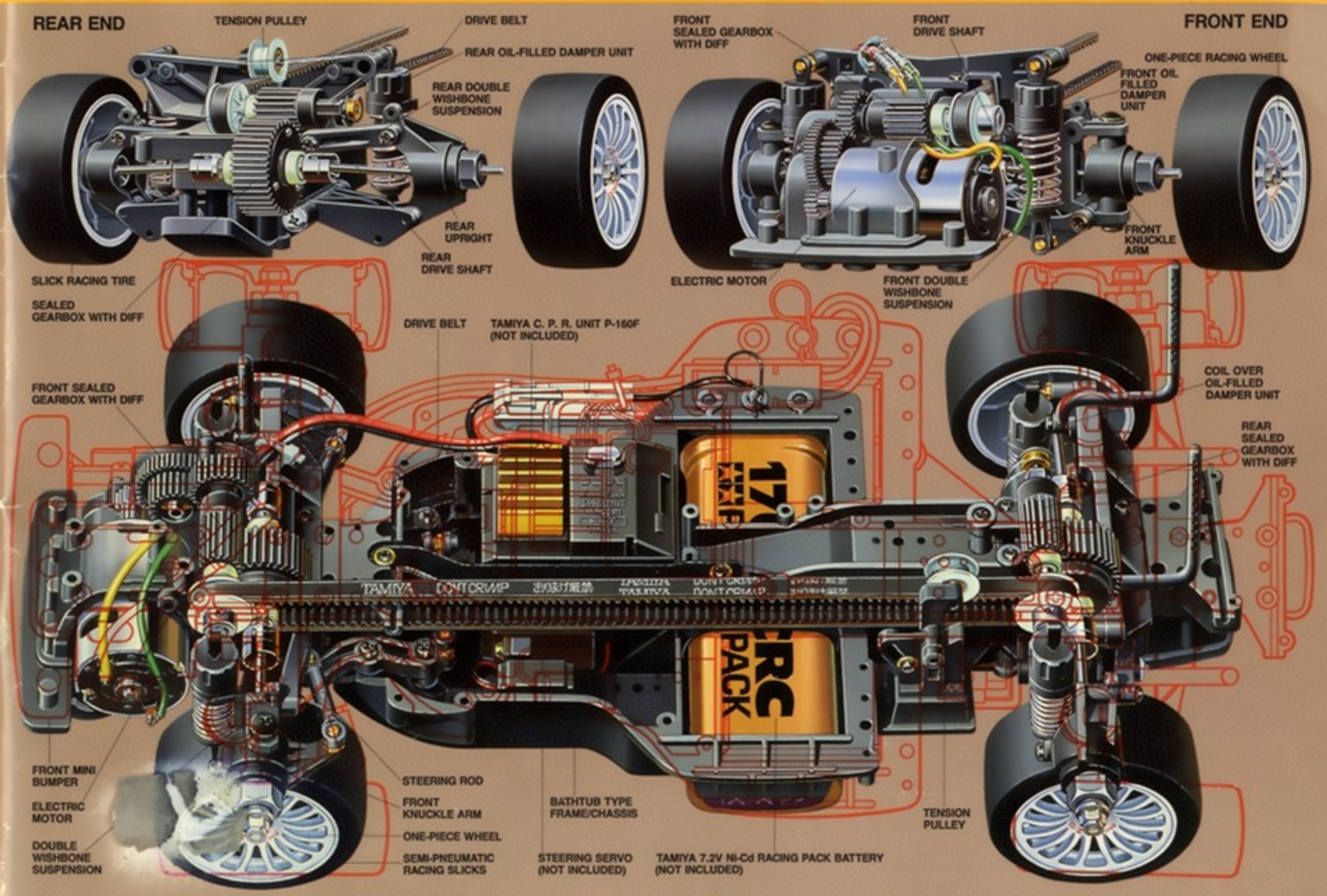

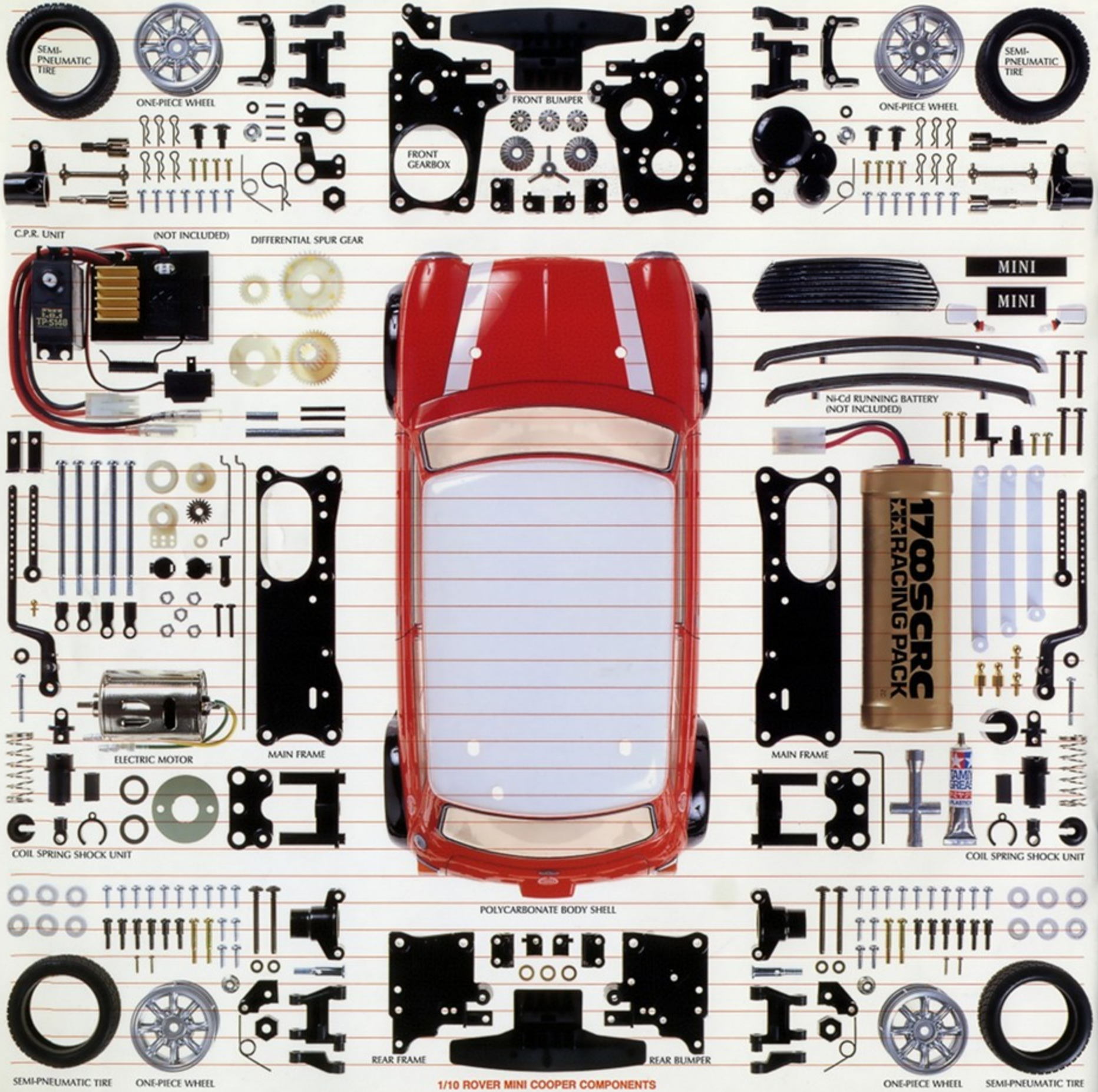

1/10 ROVER MINI COOPER COMPONENTS

TAMIYA RADIO CONTROL GUIDE BOOK

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Toys they're not.

ENJOY RADIO CONTROL

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A great number of people from around the world are enjoying this Radio Control sport. Cars, tanks, motorboats and sailing ships, plus many aircraft are available in the R/C format. People find excitement in the precise mechanics and high performance of these models. Assembly and finishing, customizing and tuning up, and organizing and participating in competition are just a few of the possibilities in this limitless hobby of radio control modeling.

This guide book was initially compiled to focus on the fundamentals of electric powered R/C car models; however, additional guidance on glow engine powered cars, sailing ships and motor gliders has been included. We hope it is instructional and informative to provide a better understanding of this fantastic sport.

1. RADIO CONTROLLED MODELS

Radio controlled models are nothing but models remotely controlled by radio signals. So most operating models, if they are big enough to mount radio control units, can be converted for radio control. Radio controlled models are classified under kinds of power units; there are ones with gas powered engines, with electric motors, with steam engines, and ones with no power units like sailboats and gliders. There are airplanes, helicopters, gliders, racing cars, buggies, tanks, boats and some others, each of which has many fans.

However, as for the radio control units, most of them in use today are fundamentally the same; they are the digital proportional type, although their capability varires from unit to unit.

●RADIO CONTROL SYSTEM

When you have bought a model, a radio control system designated for the model should be purchased separately which then is to be installed into the model.

Most predominant radio control systems on the market today are the digital proportional type. In short, they are called a radio. The digital proportional radio control system consists of a transmitter which is to be operated by a modeler, a receiver, and servos which are mounted into the model, plus power supplies for the units.

Transmitter

Your transmitter serves as the control box for R/C models. The standard transmitter uses control sticks, while a wheel and trigger type was developed for car models. When the transmitter is in operation, it emits signals by means of radio waves.

Receiver

The receiver accepts signals from the transmitter and converts them into pulses that operate the model's servo(s).

Servo

The servos get the electrical impulses from the receiver and convert them into mechanical movements. The servo motor then rotates an arm (servo horn) in a programmed direction. This movement then controls a specific model function; such as a car's steering or its speed, a ship's rudder, or the aileron/elevator on aircraft.

★Electric powered R/C models can use amplifier boosted electronic speed control, to eliminate the speed control servo and mechanical speed control unit.

Power source for the R/C system

Normally, twelve UM3 (AA) size batteries are required to operate an R/C system. Eight in the transmitter and four for the receiver.

★The four receiver batteries can be eliminated from electric powered R/C models if a Battery Eliminator Circuitry (BEC) is used. This allows the receiver and servos to draw power from the Ni-Cd running battery of the vehicle.

●THE NUMBER OF CHANNELS - THE NUMBER OF CONTROL OPERATIONS

The number of channels of the radio control system indicates the number of operations to be controlled at a time. A four channel digital proportional system will employ four servos to control four different types of action. The radio controlled electric car is basically designed to be controlled in two ways, speed control and steering control; therefore, a two channel radio control system is to be employed. In the present market, radio control systems are available with up to eight channels. The two channel type, though the most fundamental, is enough to control cars, tanks, boats, and gliders, except gas powered model airplane (which usually require over three channels).

Some models require a special R/C equipment; such as a 4-channel radio control system, etc. In such cases, the R/C requirements will be shown on the package or in the instruction manual of the model. Consult with your hobby dealer to choose a suitable R/C unit.

2. ABOUT RADIO FREQUENCIES-STATUTORY BANDS FOR RADIO CONTROL

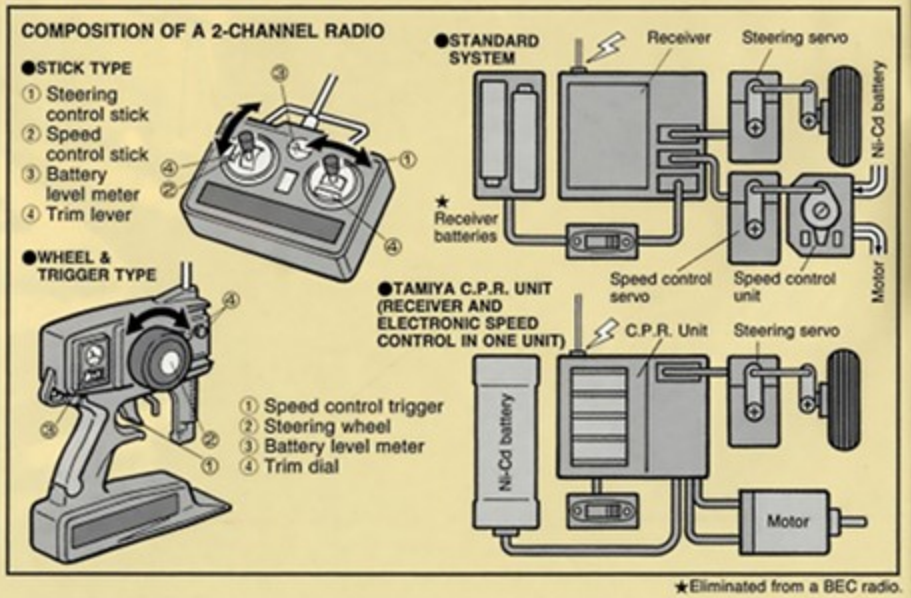
Radio waves are used very widely in the society and are very important for medical emergency, police and military, let alone radio and TV broadcastings. If these radio waves should be interfered with, obvious problems could develop. Therefore, specific frequency radio waves for different purposes are regulated to be handled by qualified personnel for the purpose of avoiding disorder. Thus a number of frequency ranges are designated for model radio control, and any other frequency ranges than the allocated ones should not be used under any circumstances.

●FREQUENCY BANDS

This phrase "frequency band" is used to denote the frequencies of radio waves. A receiver of the radio control system will accept signals emitted even from another transmitter, if the frequency used happens to be the same, the servos will also be put in motion. In other words, radio contol systems on the same frequency will respond to each other thus causing them to go out of control. However, a number of radio control systems all using different frequency bands can control many models. Hence, it is recommended to employ radio control systems with dispersed frequencies to avoid interfering with each other when organizing racing events in groups.

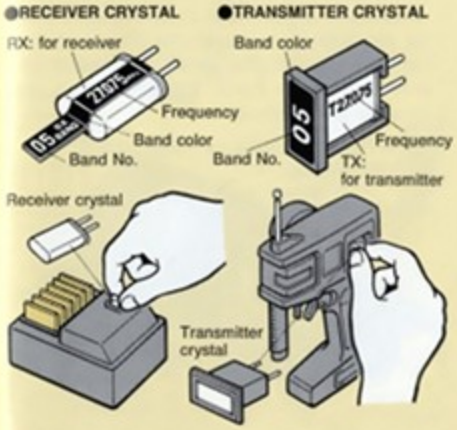
●FREQUENCY CRYSTALS

The frequency of an R/C system is determined by the crystals used in the transmitter and receiver. The frequency band can be al-



★Eliminated from a BEC radio.

tered by changing crystals with ones of a different frequency.



★Limitations on changing frequency

Radio waves used for hobby purposes are classified into several frequency ranges, such as 27MHz, 72MHz, etc. and the interchange of frequency crystals is only possible within the same range. In other words, you could not change a 27MHz frequency crystal to a 72MHz range by using a 72MHz crystal.

★Use the same frequency crystals in both transmitter and receiver

Replacing only the transmitter's or receiver's crystal will result in loss of control of the model. Crystals in the transmitter and receiver must have the same frequency. Even though the frequency is the same, if made by different manufacturers, they could cause control difficulties. Use spare crystals available from your R/C system manufacturer.

★FM and AM crystals are different

There are two types of radio signals: AM (amplitude modulated) and FM (frequency modulated). Each uses its own exclusive frequency crystals, and are therefore not interchangeable between AM and FM.

★Radio interference will occur even between AM and FM radios, if on the same frequency.

●RADIO INTERFERENCE IS DANGEROUS

Signal waves of radio control systems sometimes reach about 2 kilometers in the air and over 300 to 500 meters on the ground. When there is another person operating a radio control unit, compare the frequency of your radio control unit with his. Avoid the possibility of interference; operating radio control units of the same frequency will inevitably result in interference and get your model out of control. In such a case use an alternate frequency if possible.

★In radio controlled models, the fixed frequencies are used commonly among cars, airplanes, boats, and any other kind of model. So radio interference will occur so long as the same frequency is used regardless of the difference of types of models. Radio signals from other types of radio control units will interfere with your radio control model.

★Radio interference will occur even between AM and FM radios, if on the same frequency.

●CHECK ON INTERFERENCE

A device called a "monitor" can be used for detecting radio interference. There is another simple way: move your transmitter away from the model to some distance, and watch the response of your servos. If the servos move strangely, interference can possibly be recognized. While operating your models, if you recognize any sign of interference, stop running and check the cause.

●BE CAREFUL OF BATTERY POWER FOR R/C SYSTEM

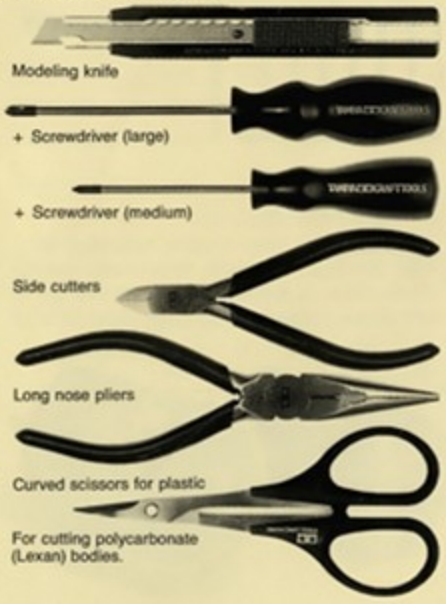
Weak or depleted battery power in a transmitter or receiver can cause loss of control. Check the transmitter battery power by means of its power level indicator prior to operation. Since a meter is not on the receiver it is recommended to replace these batteries with new ones prior to operation. If the receiver gets its power from the model's Ni-Cd battery, control difficulty can occur when the Ni-Cd depletes. It is best to stop operations and recover the model as soon as its running speed slows, to avoid loss of control.

3. NECESSARY TOOLS, PAINTS AND GLUE

Not many tools are required so long as you assemble a kit as is. The necessary tools are illustrated below. Tools especially in need are included in the kit, or at least an explanation about tools is given.

●Tools

Modeling knife, screwdrivers, long nose pliers, side cutters, etc.

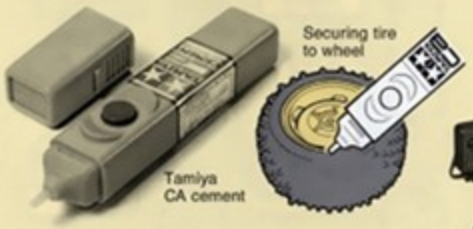


●Paints

Use plastic paints for styrene resins, and polycarbonate paints for clear Lexan R/C car bodies. Spray type paints are convenient for finishing larger areas such as bodies. For painting details like figures, bottle paints for brush application are available.

●Cement

The type of cement required will differ according to the model. If a special type is required, it will be indicated on the package or in the instructions. On a standard R/C car model, only the instant CA cement (cyanoacrylate) will be required to secure semi-pneumatic tires to the wheels.



●Oil and grease

It is necessary to lubricate gearboxes, shafts and bearings. Failure to lubricate will hinder rotation movement and result in serious problems, such as excessive wear and parts breakage. Greases and oils of many types and formulas are on the market. Select the type according to its intended use.

4. ADVICE ON SELECTING KITS

When buying your first kit, it is important to select a reliable store. A store that provides good servicing to customers, carries an ample stock of parts, and is willing to help and guide beginners to provide long term enjoyment in the hobby. Before purchasing any kit, be sure to clarify any questions about it, and study the contents and performance of the model, so that you can be satisfied with your purchase of the model kit.

●READINESS OF PARTS AND COMPONENTS

Select model, the parts of which are easy to obtain. Tires and gears can wear out; even a speed control switch is an expendable component in a sense. Bodies and chassis may have to be replaced after some collisions. In such a case, your models can be mended easily and economically if the repair and replacing parts are available. For the Tamiya models, such components as ball bearings and more powerful motors are available for improving model performance according to a modeler's controlling skill. Spare parts and components for tuning up are essential to make fun out of radio control to a further extent, so choose a model whose parts and accessories are easy to buy at model stores.

●POINTS IN PURCHASING

The assembly kit consists of numerous parts and accessories. So it is recommended to check up on the contents of a kit with a store attendant at the purchasing point. Also read through the assembly pamphlet to see how difficult or easy it is and ask questions, if any. Also you might as well inquire about the technical guidance and servicing by the store.

●SAFETY REGULATIONS AND OPERATIONAL BEHAVIOR

Some radio controlled models of airplanes, racing cars and boats powered by gas engines can achieve speeds of over 100 km/h. It can cause serious accident if they should lose control in the midst of operation; it might involve personal injury. Even electric radio controlled cars can attain speeds of 30 km/h. Be sure to abide by the rules stated below and be careful not to endanger or annoy others:

★Do not use the streets for running model cars.
★Do not operate near children or in crowds.
★When operating R/C aircraft, select a safe area where personal and/or property damage will not occur even if the model should crash.
★Glow engined R/C cars emit noise during running and this can be annoying to others. Do not operate your model in an area where noise might disturb others.
★Avoid radio interference.
★Inspect your transmitter, receiver and models prior to operation.

GUIDANCE TO ELECTRIC POWERED R/C CAR MODELS

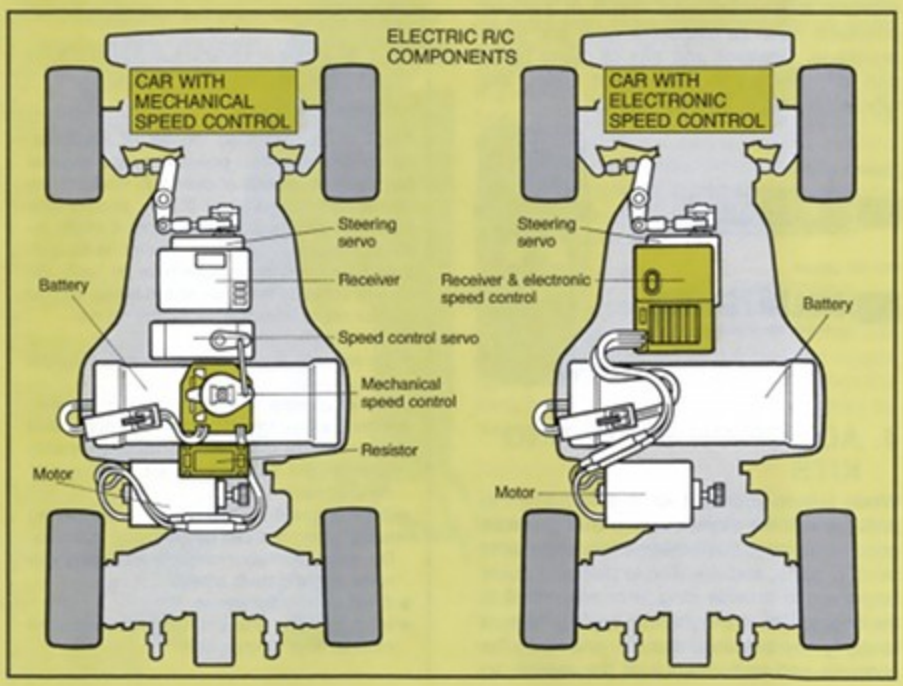
Of the many types of radio controlled models available, electric powered cars are most popular. Entry level kits are simple to construct and maintain, and ideal for learning the basics of this hobby, while the high performance electric racing cars have the potential of satisfying the most discriminating competition racers.

1. TYPES OF CARS

Electric powered R/C cars are classified by the scale size of the model, such as 1/10, 1/12 or 1/24. 1/10 scale is currently the most popular sized electric powered cars. When categorized by the surface they run on, they are roughly divided into three groups: on-road cars, such as formulas and stock types; off-road vehicles; and the dual purpose types such as rally cars and recreational vehicles.

2. RADIO CONTROL SYSTEM

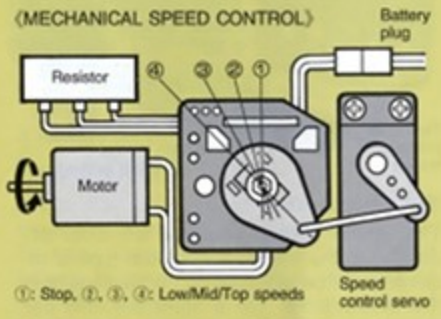
The standard electric R/C car is controlled by a 2-channel, 2-servo radio consisting of a transmitter, receiver and two servos. The servos control the car's direction (steering), and its speed via a mechanical speed control. A mechanical speed control and its servo can be replaced by an amplifier boosted electronic speed control. Normally, the receiver and electronic speed control are two separate units, but Tamiya's C.P.R. Unit combines these into one compact package. Transmitters are available in two types: stick control or wheel and trigger.

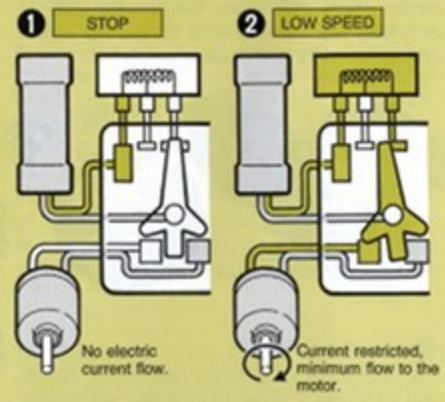


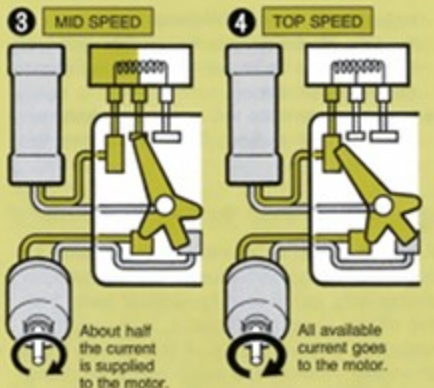
●MECHANICAL SPEED CONTROL

This system uses a resistor to impede the flow of electric current that governs the motors RPM. A 3-step mechanical speed control is used as an example here. At top speed, the resistor is bypassed, and all current goes to the motor. At low speed, the current flow to the motor is impeded by the resistor and bled off as heat. At mid speed, the amount bled off is about half of that at the low speed setting. The speed control servo moves a switch blade on the controller to vary the amount of electric current going to the motor.

〈MECHANICAL SPEED CONTROL〉



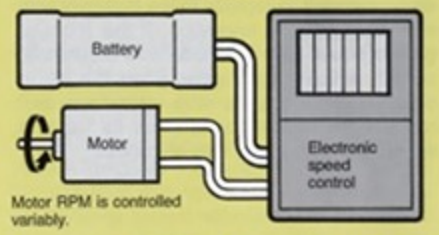


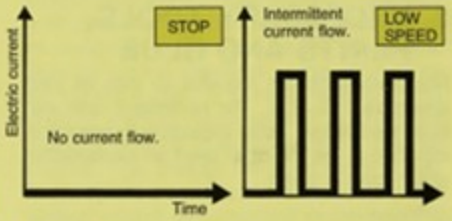


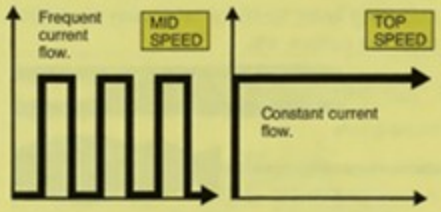
●AMPLIFIER BOOSTED ELECTRONIC SPEED CONTROL

The amplifier transistors in the unit control the current going to the motor, by interrupting the flow. The current, and consequently the motors RPM, is controlled by the frequency of this interruptions. At top speed, no current interruption takes place.

〈ELECTRONIC SPEED CONTROL〉







3. MOTORS

Electric motors used in radio controlled vehicles are equipped with noise-suppressing condensers, to prevent radio interference. A 540 sized motor is most often used in 1/10 scale model cars. Other sized motors are used depending on the scale or intended use of the model.

★Specially wound, high performance motors for competition are available. These motors can be adjusted and tuned for specific use and their spare parts, such as rotors and brushes are available.

〈HIGH PERFORMANCE MOTORS CAN BE DISASSEMBLED〉

4. MOTOR POWER SOURCE

Along with motors, the development of nickel-cadmium (Ni-Cd) batteries has brought high performance to electric R/C models. These batteries provide more power than conventional dry cells, and they can be safely recharged for repeated use. A compatible charger is required for recharging.

●Ni-Cd BATTERIES

Ni-Cd batteries are available in two forms. One is the packaged cell type, and the other is the individual cell. A 7.2V stick type battery pack uses six 1.2V Ni-Cd cells connected in series, and is the standard power source used in 1/10 scale R/C cars. Battery capacity is rated in milli-ampere (mAh), and a higher mAh rating will power the model longer. Smaller sized models may require UM3 (AA) sized Ni-Cd cells or specially sized battery packs.

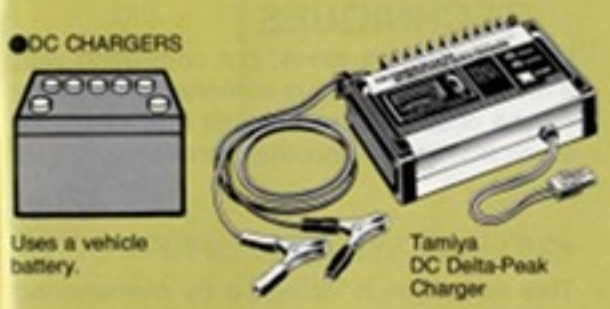
●COMPATIBLE Ni-Cd BATTERY CHARGERS

There are two types of chargers available. An AC (alternating current) type which gets its power from an electric wall outlet; and the DC (direct current) type which uses a vehicle battery as its source of power. Standard chargers take from 4 to 12 hours to charge a Ni-Cd battery. Quick chargers are also available, that shorten the charge time. Always refer to

your Ni-Cd battery specifications when purchasing a compatible charger. Never attempt to charge a different types of battery.

●AC CHARGERS

●DC CHARGERS



●Ni-Cd BATTERY CAUTIONS

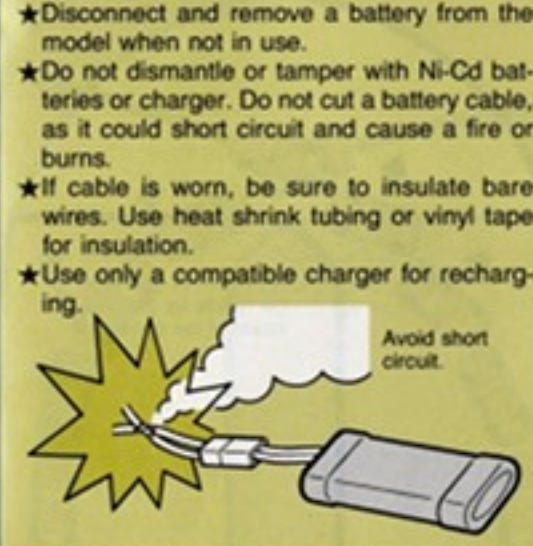
Large mAh capacity Ni-Cd batteries provide enormous current, therefore improper use or handling can cause serious accidents. Always follow the instructions included with the battery, charger and the model.

★Disconnect and remove a battery from the model when not in use.

★Do not dismantle or tamper with Ni-Cd batteries or charger. Do not cut a battery cable, as it could short circuit and cause a fire or burns.

★If cable is worn, be sure to insulate bare wires. Use heat shrink tubing or vinyl tape for insulation.

★Use only a compatible charger for recharging.



●CAUTIONS IN OPERATING THE MODEL

★The ceramic resistor of a mechanical speed control becomes very hot during use. If the car is run at low or mid speeds for extended periods, high heat develops, which could damage the resistor or other vehicle components.

★Do not attempt to run the model when its wheel movement is impeded. Avoid putting too much of a load on the motor, such as running in grass, dry sand, etc.

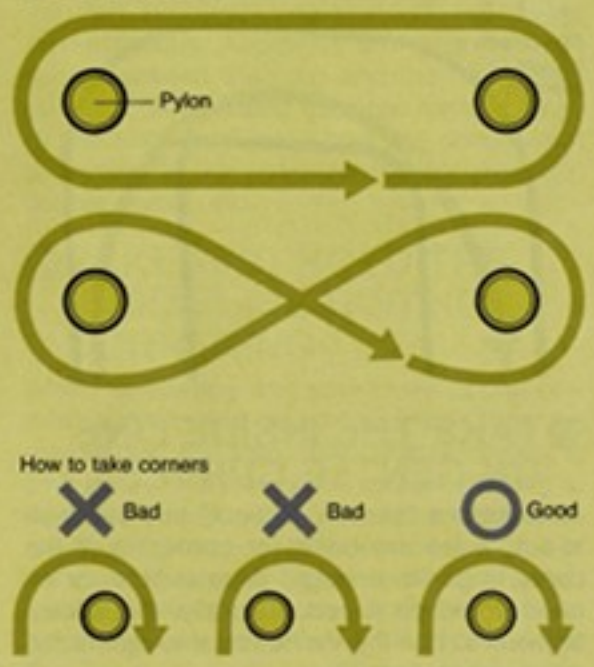
BASIC DRIVING TRAINING

You cannot make yourself a skilled driver just by running a car at will. Make a course using things like empty cans as pylons.

●OVAL COURSE 1

This is the simplest course using two pylons. It looks simple at first sight to drive a car along, but it will require some practice to achieve sharp and rigid turns made with the pylons as vertexes of the curves. Practice both ways, clockwise and counterclockwise, until you can make both rounds in about the same period of time. Figure "8" drill can be also done in the same track.

OVAL COURSE 1

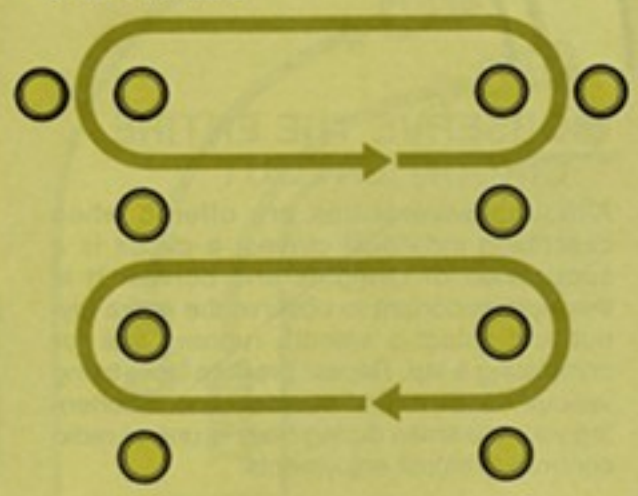


How to take corners

●OVAL COURSE 2

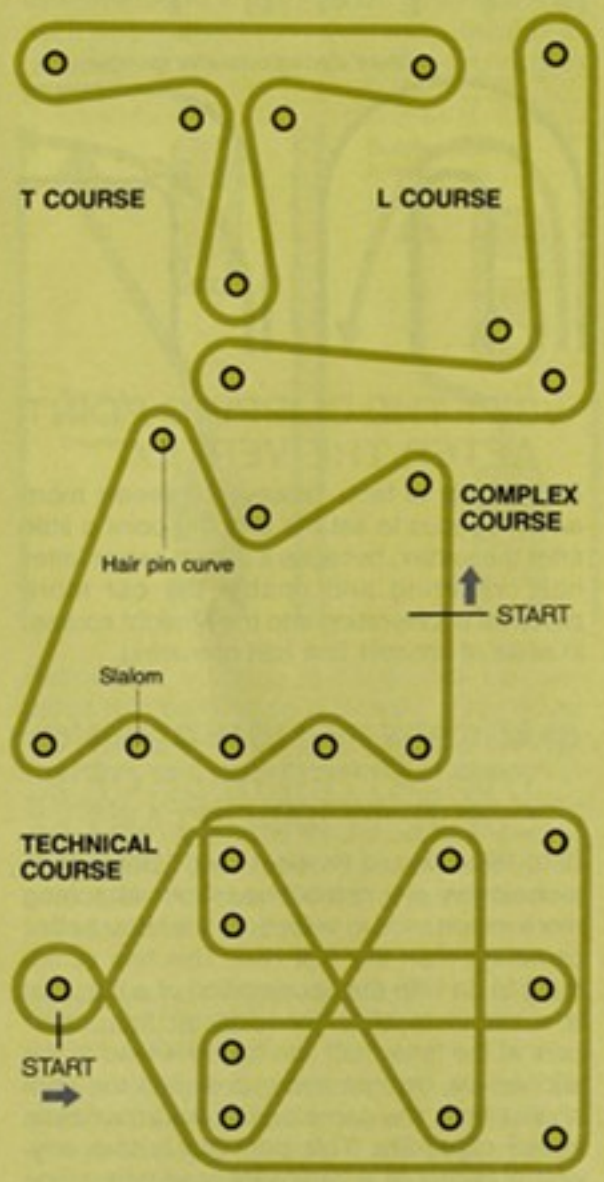
Have two or three pairs of pylons forming gates and run your car through them as accurately as possible. You will find it much harder than the oval course No.1. For the first period of time, arrange the pylons at a wide space, narrow them gradually, then at last put them at a space of one meter. Practice in both rotations, clockwise and counterclockwise.

OVAL COURSE 2



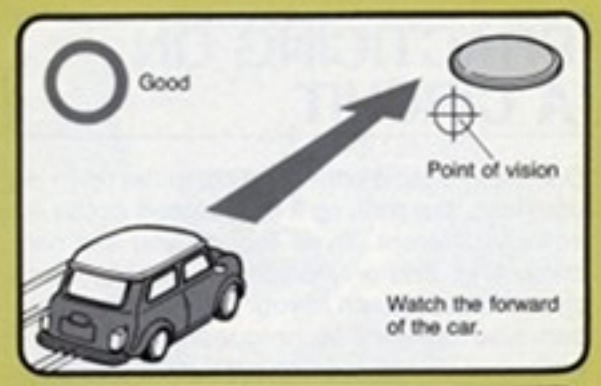
●ROAD COURSE

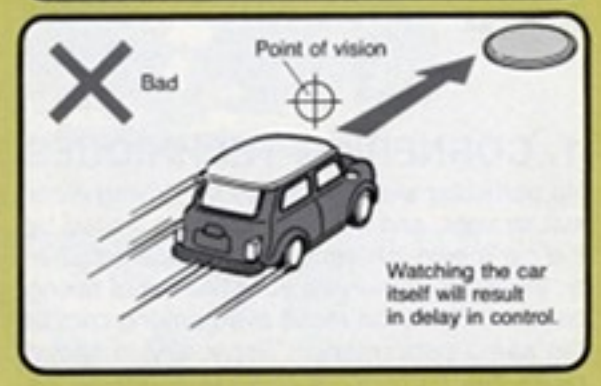
When finishing course No.1 and No.2 you have mastered the basic driving techniques. Now you should proceed to complex courses. Build a road course with the pylons, from basic figure "T" and "L" courses to more complicated circuits, assortment of figure "L" and hairpin curves, high speed curve and slaloms.



●CAR STEERS OPPOSITELY?

If you are a novice driver and not sufficiently accustomed to R/C car driving, you may feel as if the car steered oppositely to the transmitter movement when the car runs toward you. To solve this problem, try to imagine you were driving in the R/C car. As you repeat the basic exercise, you will get used to this way of thinking and control the model smoothly.

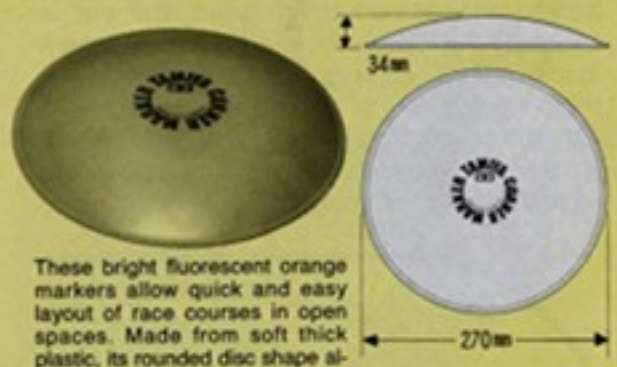




●WHERE TO LOOK WHEN DRIVING

When you drive a car, it is important what you keep your eye on. Suppose the squares described are the field of vision. Put your point of sight on the forward part of the area of vision with a car placed at the rear. The car moves at a rate of 8.3 meters per second when the hourly speed is 30 km/h. With your point of sight on the car itself, you cannot keep clear of obstacles ahead, because it is too late to notice them; nor can you take corners easily.

●53190 CORNER MARKERS (5 PCS.)



These bright fluorescent orange markers allow quick and easy layout of race courses in open spaces. Made from soft thick plastic, its rounded disc shape allow R/C cars to run over them without damage.

PRACTICING ON A CIRCUIT

Operating a radio controlled car in the open is one thing, but running it on a closed circuit is entirely different. Even though you are not competing, and only practicing, driving on a circuit will add much to your driving skills. You can also observe techniques used by experienced drivers running highly tuned cars at the circuit.

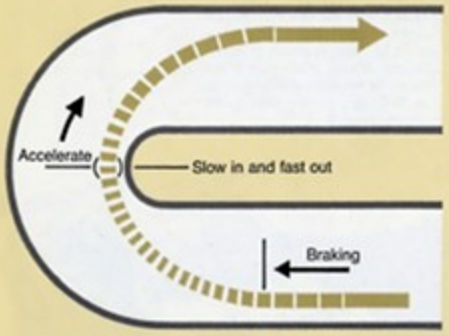
1. CORNERING TECHNIQUES

No particular skill is required for driving a car just straight, and the drag speed is limited by the car's own inherent performance capability. However, at curves, your finesse of taking corners affects the result even among cars of the same performance. Especially in speed races, the cornering technique is one of the decisive factors. After becoming accustomed to the car, try to practice smooth, speedy and stable cornerings.

"Slow-In and Fast-Out" is a golden rule in speed controlling at curves, and "Out-In-Out" instructs how to steer a car Briefly, you should control speed in "Slow-In and Fast-Out" manner and steer a car in "Out-In-Out" way.

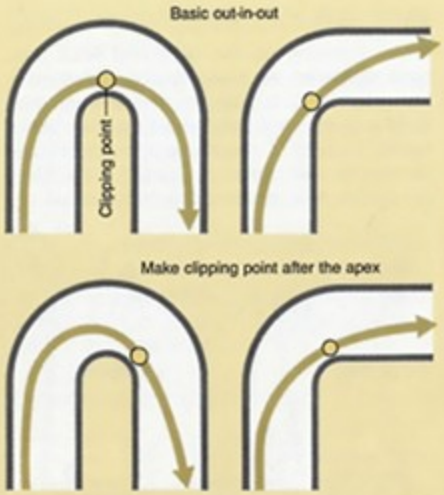
●WHAT'S "SLOW-IN AND FAST-OUT"

Decelerating when entering into a curve and picking up the speed after a vertex of the curve is the technique. In the case of entering bends without reducing speed, the car is forced to slow down before finishing corners to lose speed and stability. In the worst cases, the car might spin or run off the course. It also gets the car moving too late to pick up speed. As a result "Slow-In and Fast-Out" is the fastest way to take corners.



●WHAT'S "OUT-IN-OUT"

It is, as illustrated, a way of turning curves from the outside line of a course into the inside line to which the car will come closest at the vertexes (clipping points) and finishig the cornering approaching back to the outside line, thus making the longest possible turning radius. By utilizing the full width of the course, the car will make an easier turn than the actual curve. So the car may be allowed to run through it faster.



★SET THE CLIPPING POINT AFTER THE VERTEX

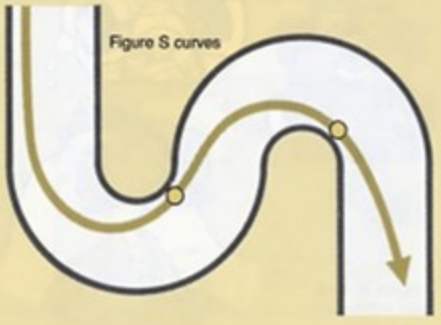
As a matter of fact, however, it seems more advantageous to set the clipping point a little after the vertex, because it allows easier latter half cornering and enable the car more powerful acceleration into the straight course, in spite of sharper first half cornering.

●ACCELERATION DURING THE LATTER HALF OF A CURVE IS IMPORTANT

Both "Slow-In and Fast-out" and "Out-in-Out" techniques are established from attaching more importance to velocity in the latter half of cornering than the first half. This has something to do with the acceleration of a car; that is a car increasing speed faster than other cars at the latter half can take the lead in the successive straight track, provided the cars should have the same pickup and maximum speed capability. This principle is true anywhere except in a very wide road where you are not required to reduce the speed at all.

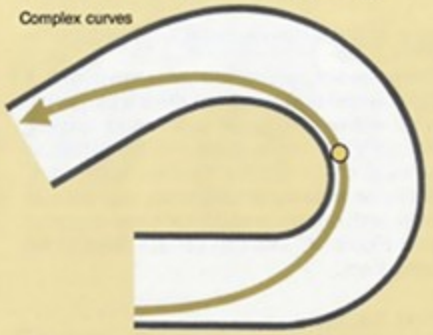
●THE LAST CURVE IS THE MOST IMPORTANT IN A CHICANE

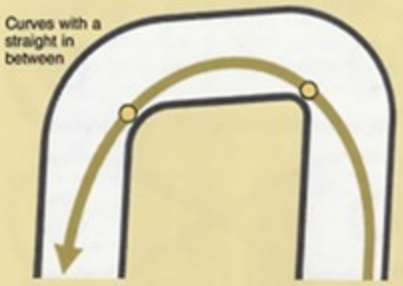
The last curve is the most important in continuous curves. In successive bends of a road, steer your car so that it will make the easiest turn at the last curve. Then you will be able to speed it up as soon as getting into the straight course.



●CONSIDER COMPLEX CURVES AS ONE

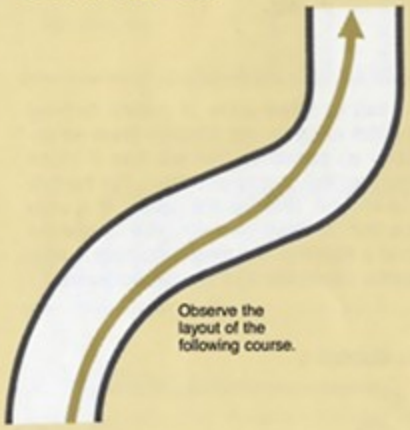
Consider complex curves as one integrated compound. In the case of complex curves with different radii, you can manage to get through by considering them as one complex curve and making a cornering passage.





●TAKE THE INSIDE LINE ON GENTLE CURVES

Although the "slow-in, fast-out" and the "out-in-out" rules are basic for cornering, if the curve is gentle enough, there is little, or no need to reduce speed. Naturally, it is advantageous to use the inside line throughout the curve, when possible.



●OBSERVE THE ENTIRE CIRCUIT LAYOUT

Although several tips are offered when describing individual curves, a circuit is a succession of straights and curves. It is therefore important to observe the entire layout and select a smooth running line for completing a lap. Repeat practice laps, trying various routes to find the ideal line. Shortening your lap times during trials is one of radio control's greatest enjoyments.

●WHEN PERFORMANCE GETS BETTER, THE DRIVING LINE SHOULD BE ALTERED

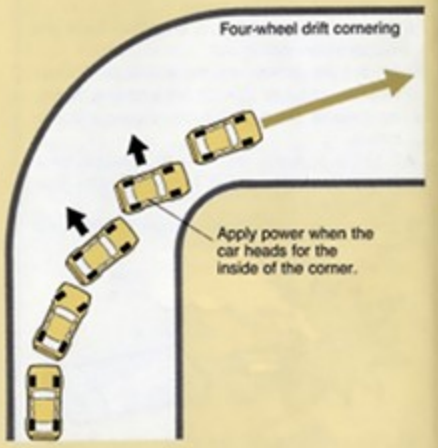
When your car's top speed becomes faster, by using a higher performance motor, etc., more deceleration will be required when entering corners. Not only the speed, but the handling characteristics, tire grip etc. will influence the driving line a car should take.

2. ADVANCED CORNERING TECHNIQUES

Not just steering alone, but combining with throttle control, various cornering techniques can be obtained. Practice and master this for much faster and smoother cornering.

●FOUR WHEEL DRIFT

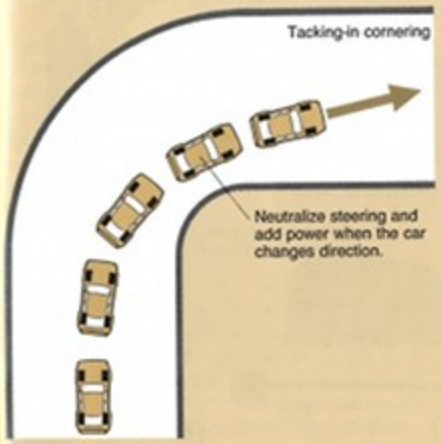
This technique is achieved by oversteering while deceleration during the early stage of cornering. As the rear wheels start to slide outward and the nose heads towards the inside of the corner, neutralize the steering and add power. The car will take the corner with all wheels sliding. This technique is suitable for rear wheel drive and 4WD race cars.



●TACKING-IN

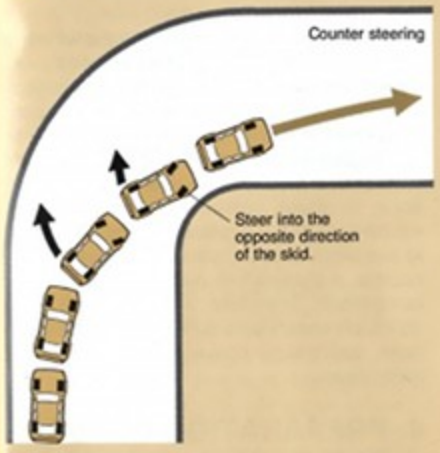
This technique is unique to front wheel drive cars. Enter a curve straight, then cut power and steer around the curve at the same time. The car will change direction quickly.

Straighten out and accelerate going through the corner.



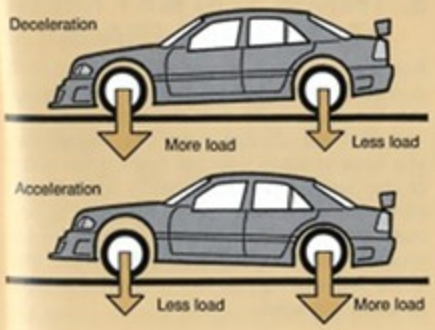
●COUNTER OR OPPOSITE LOCK STEERING

The term means to steer the wheels against the turn of a corner. If a car enters the corner too fast, the rear wheels could start to skid, resulting in a spin. To stop this, steer into the direction of the skid. This technique is used to prevent the car from spinning and is not for enhancing cornering speed.



●WEIGHT LOAD SHIFT ACCORDING TO POWER APPLIED

When running at a steady speed, the load is divided between the car's front and rear wheels in a fixed ratio. During deceleration, more of a load is put on the front wheels because of inertia, resulting in sharper steering response. Opposite of this is acceleration, where more of a load is put on the rear wheels, producing a slower steering response. Both the four-wheel drift and tack-in use this weight load shift to obtain desired cornering results.



3. PRACTICE AS IF YOU WERE RACING

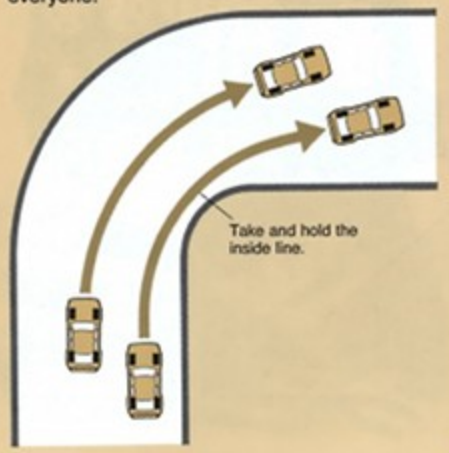
A race is run with many cars at the same time. If you want to become familiar with racing, the best way is to hold practice sessions with your friends as a group. It is important to feel the difference between driving a car by yourself and competition racing. You'll notice that the track seems somewhat narrower with all those cars and it becomes difficult to steer the car on the line you desire. Experience is what counts to get your car ahead of the others.

● START

The result of a race sometimes depends upon the start. However, a quick start is not always advantageous. Accidents are most liable to occur between the start and the first corner because participating cars are running close to one another. Decide how you should start according to the characteristics of your car, course layout, etc.

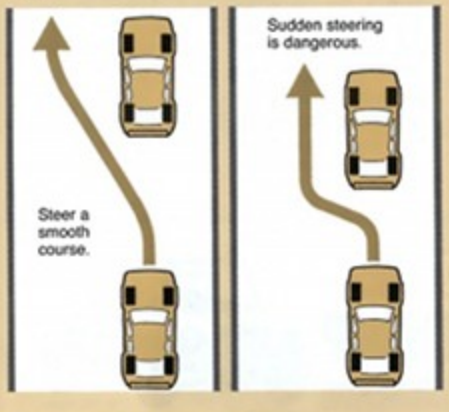
●TAKE AND HOLD THE INSIDE LINE DURING CORNERING

When competing with your rivals during cornering, take and keep the inside line for maintaining the lead. It is difficult for you to beat your opponent in the corner by trying to pass him on the inside line because both cars are running at about the same speed. If your car can manage a higher maximum speed than the others, only then, is passing on the outside line possible. Trying to take the inside line too early can lead to over-running the corner resulting in loss of time and running space for your car. While you're at the edge of the track, your rival can easily pass you on the inside. In order to avoid this, stick to the inside, forcing him to delay his acceleration. Taking and holding the inside line in the corner is a golden rule for taking the lead at corners. Confrontation between cars during cornering are the most exciting moments during a race, but be sure to avoid the selfish type of running that can cause collision and damage that will spoil the overall race for everyone.



●HOW TO PASS OTHERS

There are various places in which you can try to pass another car. A straight is the safest place to do so. It is dangerous to start passing a car when you are following close behind it. When you judge it is possible to pass, steer your car a little as soon as possible and attempt to pass. You may pass on either side, wherever there is more room. If the space on each side is about the same, it is advisable to go inside to make the next corner to negotiate.



Passing on a corner is dangerous as compared with passing on a straight. If the driver of the car you are going to pass is not skillful in control, your car is liable to be involved in its spinning. To make passing easier, it is advisable to go inside the rival's car and pass it after turning the corner. It is very difficult to pass it on the outside of the corner even if your car is much faster.

●IF THE CAR LOST STABILITY

If your car has hit another car and lost its stability, then reduce the speed by turning off the speed control switch. If you try to restore stability by steering, the car must be further disturbed. Start acceleration again only after the car has slowed down and is stable.

●Let's go to the R/C circuit!

Race tracks for R/C car models are becoming increasingly popular. Check an R/C magazine to locate a circuit and visit the one in your neighborhood. Confirm beforehand if it's an on or off-road track, and for electric powered or glow engined cars. As many R/C fans use these sites, frequency control is very important. Follow the site instructions, so everyone can enjoy the circuit.

★Follow the site rules and instructions of the staff.
★Make sure that no one else is using your frequency prior to switching on your transmitter.
★Never turn on your transmitter except when running your R/C car.
★Do not drive for long periods, as someone using your frequency may also be waiting. Yield your position to the next person when you finish one battery or a tank of fuel.
★Clean the site when you leave.


1/10 Williams Renault FW18


1/10 Honda S800 Racing

1/10 KURE NISMO GT-R


1/10 Isuzu mu

GUIDANCE TO PARTICIPATING IN RACE

Today the radio controlled car races are often held in many places promoted by manufacturers and hobby stores. Participate in the official competition when you get used to operating model cars to some extent. If you attain a good score, you will gain confidence. Even with poor grades, you will see better modelers operating a car which is most likely of better performance and helps you to improve your own control technique and your model. You will also find a different kind of delight other than playing with models among just your friends.

1. TYPES OF RACES

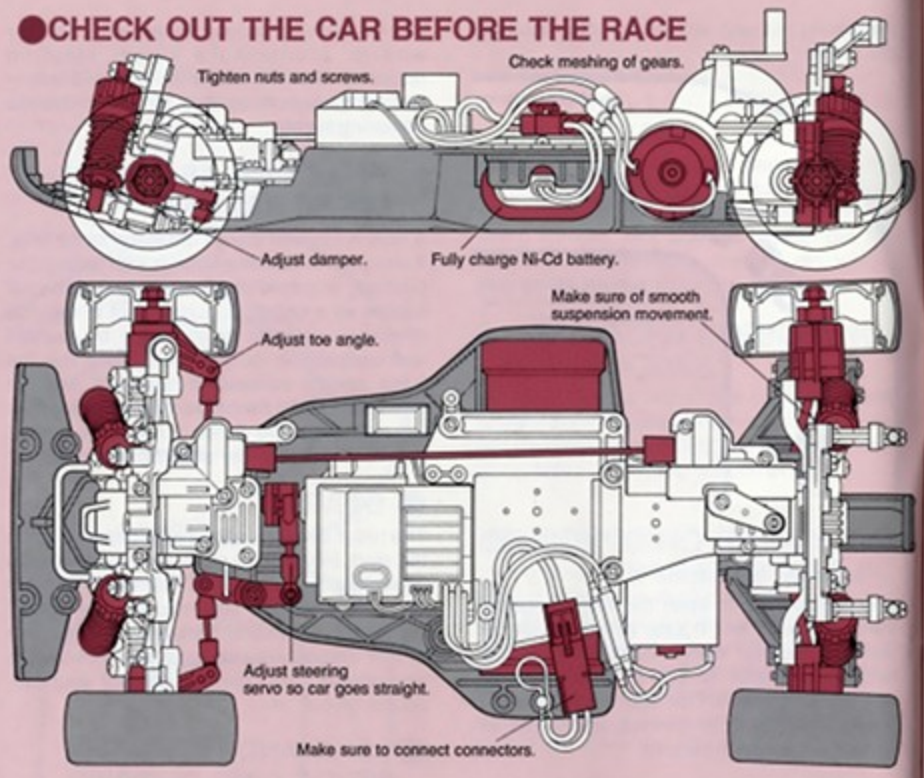
R/C car races can roughly be classified into two types: sprint races and endurance races. In most events, preliminary and final races are held and the winners are determined.

●Sprint race: Competed over a short distance and period. The winner is determined by the time required to run the fixed laps, or by the laps completed in a fixed time.

●Endurance race: Competed over an extended period, from 30 minutes to several hours. Battery replacement or refueling will be required during the race.

★Usually, the finals run longer distance/time than the preliminaries.

●CHECK OUT THE CAR BEFORE THE RACE



TAMIYA GRAND PRIX
TOURING CAR CHAMPIONSHIP
19XX Season Xth Round


1/10 R/C Rover Mini Cooper

●Also read the reverse side.

Car	Tamiya 1/10 Electric R/C Cars	Prizes	1st - 8th places for each class, concours prize, and entry souvenir for every participant.		
Classes	Participants	Cars	Motor & battery	Minimum laden weight	Site
Rookie	Novices and women	Tamiya 1/10 4WD & Front Wheel Drive Touring Cars	Stock 540 type Tamiya Ni-Cd 7.2V	FWD: No limit 4WD: 1600g	1st
Touring Car Junior	Elementary & Junior High School Students				1st
Touring Car N1 (A/B)	A: Less than 7 times of participation B: More than 7 times of participation				1st
Touring Car Gr.A	No limit		Acto-Power or Dynatech Tamiya Ni-Cd 7.2V		2nd
FWD Touring Car	No limit	Tamiya 1/10 Front Wheel Drive Touring Cars	Stock 540 type Tamiya Ni-Cd 7.2V		1st
M-Chassis Freshman	Less than 7 times of participation	Tamiya 1/10 M-Chassis Cars	Stock 540 type Tamiya Ni-Cd 7.2V	1200g	2nd
M-Chassis Expert	More than 7 times of participation				1st

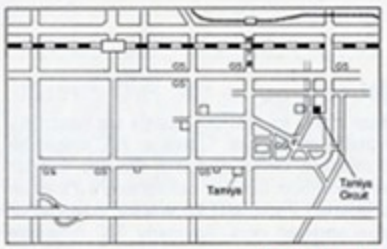
X month X day, 19XX

Entry Deadline: X month X day

●Registration: AM 8:00 - 9:00

19XX Season Tamiya Grand Prix

The 19XX Tamiya GP Touring Car Championship competes 3 rounds using Tamiya's 1/10 scale electric powered 4-wheel drive, Front wheel drive and M-Chassis R/C cars. Refer above for detailed classification and limitation.



Notes

★Entry: one car / one class / one driver.
★Rookie Class participants are limited to the first time participants to Tamiya G.P.
★Cars are limited to Tamiya 1/10 electric R/C models. Use of Tamiya Hop-Up Options are permitted in some classes.
★Use of any other manufacturer's parts or hand-made parts are prohibited.
★Completed entry form must be received by Xth, X month.

TAMIYA

TAMIYA GRAND PRIX
with TAMIYA G.P. TOURING CAR CHAMPIONSHIP ENTRY FORM

Name	(M/F)	Age & date of birth	Occupation or school grade	Team name
Address	SAMPLE			Car
Class	Rookie / Junior / N1/A / N1/B / Gr.A / FWD / M-Freshman / M-Expert		R/C Unit	
Frequency band	02 04 06 08 10 12 / 1 2 3 4 5 6 / 61 63 65 67 69			

★Check all frequency crystals you have, and bring them with you on the race day.

2. APPLICATION FOR PARTICIPATION

Schedule of races may be announced at the hobby stores or in the magazines. It is mandatory to enroll yourself in the contest roster; in most cases you cannot apply to an event on the very day. You are required to give the class and kind of your car and frequency you will use, besides your name and age.

3. CONFIRMATION OF RULES AND REGULATIONS

Rules of racing events usually tell you how the race proceeds, how to determine the winners, how to group the models, kinds of motors and batteries to use. Sometimes detailed regulations are provided to regulate the standard equipment of racing cars. Confirm these rules and regulations beforehand with your car, and remodel or modify if necessary for compliance. In official competition, car inspection will be done at the registration area on the day to see whether or not your car is qualified. Of course, a disqualified model is rejected for competition. Therefore, if there is any point you don't understand in the rules and regulations, you should check it with the host organization.

●Check spare parts and tools.

4. PREPARATION BEFORE THE RACE

Prepare your car the day before the race. The most important is the radio control system, because in the race day you will be requested not to turn on the transmitter except when it is your turn to race. In some events, you are requested to place the transmitter in custody of the host organization. Namely, you cannot tune it up on the competition site.

5. THINGS YOU MAY NEED AT THE RACE TRACK

It is needless to say to take a registration card or membership card with you, if anything like that is required. Be sure to bring tools, glue and oil which you use every day. Sometimes you have to mend your car even in the midst of competition. Do not forget to bring fragile parts and accessories which are easy to lose such as screws and bolts. It is advisable, in regards to the length of time of the event, that spare batteries may be recommended to have for caution's sake.

6. REGISTRATION AND CAR CHECK

Leave your home for the race site with ample time for arriving early for registration. Your delay for the registration may upset the whole schedule and annoy others. Very often registration and car check are conducted at the same spot. Undergo the registration desk, you may be given a contest number, perhaps marked on a pennant. During the whole event, you may be referred to with that number when being called or receiving your transmitter; so remember this number. Car check may be done after the registration. Your car will be examined with batteries on board. Even if your car should be disqualified, you might be admitted provided you could repair or modify your car on the spot in accordance with the rules of the organization.

7. BRIEFING FOR DRIVERS

Prior to the races, a briefing is held for letting the contestants know the procedures of the competition. Listen carefully, since how the races proceed, penalties for violating rules and other important affairs are explained.

8. MAKING UP RACING GROUPS

In a radio controlled model race, cars on the same frequency cannot compete at the same time. Therefore, those who use different frequencies will make up a competing group. Before the races the combinations of the groups are announced. You should confirm which race you will be in. When time is getting close to your turn, prepare yourself for the race.

9. TURN ON YOUR TRANSMITTER ONLY WHEN YOU ARE RACING

Using the same frequency at the same time may cause serious accidents. During a race event, never turn on your transmitter unless it is your turn to race. Any radio interference will result in hindering a smooth operation of the race, affecting the schedule of the day and annoying other participants.

10. YOUR TURN TO RACE

Your name or number is called to inform you of your turn. Most racing events hold two or three preliminary races, and then the finals are held. A practice lap may be allowed prior to the actual race in some cases.

★PRELIMINARY HEATS

It is recommended to run the first preliminary heat steadily, giving the priority to complete the race. When this is done, you can challenge the following preliminary for a better result. Keep your coolness during race and always bear in mind that accidents and/or retirement result in nothing!

★FINALS

Following the preliminaries, finalists are qualified. If you succeed in being qualified, do your best at the finals. Finalists are generally regarded to have a high level of driving skills and competing among them is a great honor. Try to fully display your ability to make the race exciting. Even if you fail in remaining in the finals, watching a white hot race competed by highly skilled drivers will surely contribute to improve your own techniques and inspire your R/C enthusiasm.

11. AFTER THE RACE

You have run the complete distance and the race is over. Switch off your receiver and transmitter immediately. Although you may be anxious about the result, do not stand around the finish line, as you may be in the way of the officials. Get back to your seat and check your car, preparing for the next competition.

12. ANNOUNCEMENT OF THE RESULTS AND COMMENDATION CEREMONY

After all the races are complete, the results are posted and the winners are honored. The winners should be praised by applause. Whether or not the competition is successful depends upon the attitude of everybody involved.

●ALTERING THE FREQUENCY

In some cases (particularly at the finals), you may be requested by the organizer to alter your frequency band. It is advisable to bring your spare frequency crystals to the race, so that you can help the organizer to proceed the race smoothly.

●MANNERS IN RACE

Spirit of fair play is essential in any game. It is desirable to make a pleasant race event through the fair play spirit of all the participants.

★Yield the way when you are about to be passed by a faster car.

★When you hit another car you should apologize. But do not ask for one after being hit. Responsibility should not be claimed by anyone for any collisions during a race.

★After all the races are over, clean the site. No rubbish should be left behind.

EURO-CUP GERMANY

EURO-CUP SPANIEN

EURO-CUP BELGIEN

TAMIYA CHAMPIONSHIP SERIES, U.S.A

THE CHALLENGE OF LE MANS

The Le Mans 24 hour race is done with racing sport cars, and the famous Spa-Francorchamps 24 hour race is done with touring type cars. A combination of driving ability and team-work of the pit crew are necessary for winning this type of race. Fuel; tire changes and the correction or replacement of broken parts is essential from the pit crew in the minimum time possible to remain competitive. Participating in an R/C long distance race requires team effort. In addition to driving the car, battery changes/refueling, spot repairs, plus the team management are all vital factors in endurance race competition. Team mate cooperation is the key to victory. By entering an endurance event, you will experience another dimension in radio control enjoyment.

1. CARS FOR LONG DISTANCE RACES

In any long distance race, you cannot say for certain that the fastest vehicle is going to be the winner. We are all familiar with the tale of the "Tortoise and the Hare." The turtle was far slower than the rabbit, but won the race by keeping a steady pace throughout the course. If you have a very high performance car, tuned up to its capacity, and attempt to run a long distance race, you are likely to spin out often if you are initially concerned with leading the pack at the races outset. Long distance vehicles also require a greater degree of precision tuning, better maintenance, and durable parts, and perhaps a different gear ratio. The vehicle that makes the fewest pit stops will most likely be the winner.

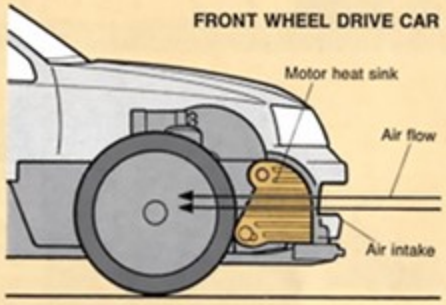
●Credibility & durability are the first requirements

A car made from a kit properly will have this durability and be competitive during the entire race; however, if it is not built and assembled accurately, the chances of it surviving a race are slim.

① Firmly tighten all screws and nuts, applying liquid thread lock where necessary.
② Stripped screws and/or nuts must be replaced with new ones.
③ Screw holes in plastic can become enlarged following repeated tightening/loosening of self-tapping screws. Use larger screws, or replace the worn plastic part.
④ Replace double-sided tape.
⑤ Gather and hold wiring in place using nylon bands, to keep them away from moving parts.
⑥ When chassis modifications are allowed, reinforcement becomes a priority. Weight-saving holes in the chassis, removing bracing, etc. are most often done, and is effective for sprint race cars, but this can result in unnecessary durability loss for endurance racing cars if done excessively.

●COOLING MOTOR OR ENGINE

Overheating is one of the biggest problems encountered during endurance racing. Particularly in the summertime, the track surface will be very hot and operating motors/engines under these conditions for extended times will result in lowering their performance. Pay attention to effective heat dissipation by adding a heat sink, or using a larger, more effective one. It is also recommended to make air intake holes in the body, so the motor/engine can receive a regular flow of cooling air. Try not to ruin the scale looks of the body shell in doing this.



●Pit practice and maintenance for victory

The majority of pit work during the race will be battery changes. By saving time during these stops, you can greatly advance your standing in the race. It is very necessary that your crew practice removing the body, change batteries, replace the body and secure it on the chassis. The more this is practiced, the quicker they will be during the race. One second saved in time is a gain of one second on the leader, and races are won and lost in less time than a second.

●M-CHASSIS QUICK-RELEASE BATTERY HOLDER (53238)
Enables a quick battery replacement on Tamiya M-Chassis cars.

●A powerful motor is not always profitable

A large, powerful motor is a necessity in sprint type races where no battery changes are needed; however, the same does not hold true for long distance racing. Small motors which use little electric current are much better as they require fewer pit stops for battery changes. Another point to consider, is that with the high current flow of the larger motor, the speed controller is more apt to cause trouble, and in any collision, the faster car is normally damaged to a greater extent because of the higher impact forces. A faster car is also more tiring to drive during long races and mistakes in driving are more likely to happen due to the speed at which it is traveling. All of these considerations must be taken into account when selecting a vehicle and motor for long distance racing.

2. LONG DISTANCE RACING ACHIEVEMENT DEPENDS UPON TEAM EFFORT

No matter how fast your car is, you cannot win an endurance race if too much time is spent in the pits. Prolonged driving of fast moving cars is more fatiguing than you realize, so it is advisable that two or more drivers be used. Preparation for a battery change or refueling, quick repairs of broken parts and recovery of the vehicle when an accident occurs, are all required during a race. Team members should understand and practice their individual roles, and reach perfection prior to competition.

●COMPOSITION OF A RACING TEAM

Generally, driver(s), a mechanic, a time keeper and a team manager are the basic members of an R/C endurance racing team.

★Driver

The driver must operate the car in accordance with the team manager's instructions. The driver is most sensitive to the cars performance and therefore likely to be the first to notice any problems. In such cases, he should immediately report it to the team manager and mechanic, so appropriate measures can be taken. He should also keep the relief driver informed about the car and track condition.

★Mechanic

He should prepare the battery/fuel, replacement parts and tools, for both planned and unplanned pit stops. Keep the pit area neat and tidy, and take great care in identifying newly charged and depleted batteries. In addition, the mechanic should be aware of the race situation. If the car stops, upsets or is off the course due to an accident or problem, he should immediately restore it to the track or bring it to the pits.

★Time keeper

The time keeper plays an important role in-as-much as he records all of the fundamental data that the team manager uses to formulate his race strategy and tactics. At a minimum, he should record the number of laps run and the lapsed time from the beginning of the race. If possible, he should calculate the average lap time of the team's vehicle, time the pit stop and record what was done, plus keep track of who was driving and when a change of drivers occured.

★Team manager

The team manager observes the progress of the other teams, and advises his driver as to pacing, pit stops etc. The team manager and time keeper should not be drivers in this race. During the second half of the race, when there is almost no difference between your car and the rivals team, it is the data provided by the time keeper that will give the team manager the necessary information to guide his driver on to victory. It is the manager who is responsible for victory or defeat in long distance races.

●Periodic pit stop maintenance

The number of pit stops made must be reduced to the absolute minimum. If your only stops are for battery changes and/or driver change, then your race is progressing well. Keep in mind though, that it is also necessary to periodically oil bearings, and shafts. Also look for any loosening screws and/or missing parts that may require maintenance during the next stop.

●Trouble pit stops

As soon as a problem is noticed by the driver, he should pit the vehicle the next lap. To keep running the car with a problem will only create a worse problem, and perhaps one that can no longer be repaired during the race. After a bad collision or spin out, observe the vehicle for a lap or so, and if there is a problem pit it as soon as possible. During the latter stages of a race, it is difficult to judge if your vehicle is performing the same as at the beginning. You must compare your performance with your rivals, and if your vehicles running compares favorably with your opponent, keep running it, even though you feel that its performance is not as good as at beginning. If you make a stop and discover that it will take too long to repair the fault, continue running the vehicle, rather than expending the repair time. The manager's judgement on this must be accepted.

●Pit tools and spare parts

Keep the total number of tools in the pit to a minimum; however, make sure that you have all of the required tools to completely assemble the vehicle. A box wrench, for instance, is much better than an adjustable spanner. Needlenose pliers and tweezers are also required. If you take only one glue, the instant cyanoacrylate is recommended. Gummed tape, vinyl tape and soft iron wire are also very useful for making emergency repairs. Take

along enough parts to completely rebuild the vehicle. Extra parts for the front-end and steering, and those parts that require assembly, should be assembled prior to the race, so that they can be installed as a unit, rather than part by part during a pit stop.

●CHANGING TIRES

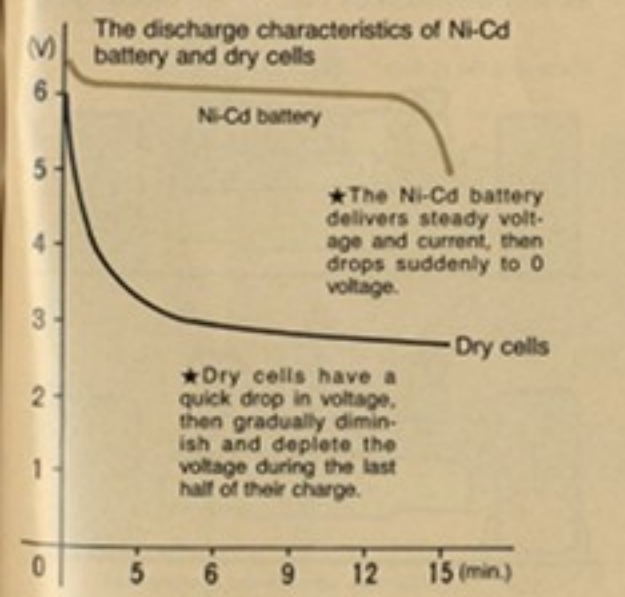
Sponge tires do not normally require replacement in races of two hours or less; however, the sponge may be damaged during an upset or crash. Semi-pneumatic tires will require two or three replacements in a two-hour event. Prepare spare wheels/tires in advance for quick replacement. Secure sponge tires to wheels using double-sided tape, and semi-pneumatic tires using instant cement or cyanoacrylate (CA).

●BATTERY CHANGING OR REFUELING

It is advisable that you know beforehand how long the car will run on one Ni-Cd battery or a full tank of fuel. You can then calculate how many batteries or amount fuel will be required to complete the race. Some extra batteries or fuel should be prepared, because the car will not always run smoothly during the race due to accidents, upsets or obstruction by other cars, thus using extra battery power or fuel.

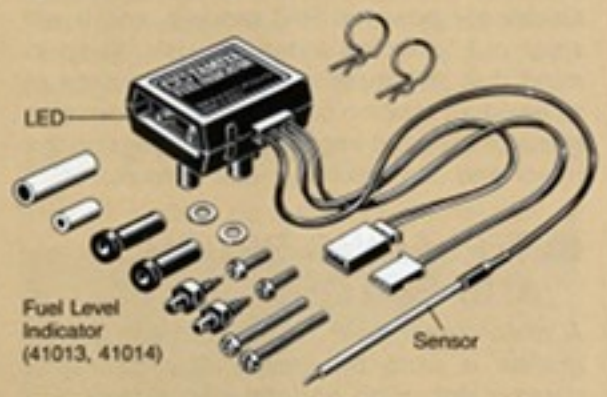
★Ni-Cd BATTERY VOLTAGE DROPS SUDDENLY

Dry cell voltage falls gradually from the start, while Ni-Cd batteries can deliver a constant, even voltage until it is almost depleted. In other words, its voltage drops suddenly at the end of the charge. This is why a Ni-Cd battery powered R/C car runs at a steady speed for a certain period, then suddenly stops. It is advisable not to determine the time for a battery change from the car's running speed, but from its running time or number of laps completed.



★FUEL LEVEL INDICATOR

Tamiya's Fuel Indicator helps to find the refueling time for glow-engined R/C cars by sensing the remaining fuel in the tank. When the level becomes low, light-emitting diodes light up indicating that refueling is required.



●Radio control battery life

Normally, you will not require a fresh receiver or transmitter battery during a race that is not longer than one hour, if you start the race with fresh batteries or recharged Ni-Cds. Note however, that the more servos you use, the more the receiver battery is used. In glow engined cars, replacement of the receiver batteries will be required if the race lasts two hours or longer. Whatever equipment you use, you must be familiar with the nominal life expectancy of the batteries, and if there is a possibility of the race lasting longer than expected, prepare extra batteries beforehand, just in case they are needed at a pit stop.

3. TECHNIQUES FOR WINNING LONG DISTANCE RACES

Endurance or long distance races are very much like human distance racing. To win, you must establish and keep a steady pace throughout the race, avoiding useless dead-heats with other rivals at all times. Keep clear of trouble on the track and run your car at a steady even pace.

●Start

You do not have to "Jack Rabbit" start. Take it easy and run carefully at the beginning, especially at the first corner, where accidents often occur. Enter the corner high, even if you are left behind at this curve. Accidents at the beginning of the race often leave the driver irritated and confused, and the original plan of pacing is lost. For the first two or three laps be very deliberate in your driving. You will start to relax, learn the track and how the others are pacing themselves. If you should spin out, don't become upset and dash to catch up. Keep the pace and drive smoothly.

●How to pass and get ahead of rivals

Success in long distance racing usually comes from not being in the lead for most of the race. When you are the front runner, you are always concerned about those who are behind you trying to pass. If you cannot maintain enough distance in the lead over your rivals, it is better to let one or two pass you, than constantly worrying about them. You can then use the leader as a pace setter for you, and when the time comes for you to pass, do it right after a corner that is followed by a long straightaway. Even if your car seems to be slower than others in the race, you still have a good chance of winning. Remember that the faster a car runs, the more battery it consumes, and the faster cars will have to make more pit stops. This is your chance to catch up and pass them. If you can just manage to keep your own pace, throughout the race, you have a good chance for the winner's trophy.

●Relax when cornering

During the endurance races, take the middle or high corner, rather than at the track inside edge. This is where many accidents occur, and those that are trying to catch up from their last spin out will be fighting for that inside lane, and most likely spin out again. If you are there, you could be knocked out in the accident. Stay high in the corner and relax, except for that time when you need the extra speed and dash for winning the race. Relax and win!

●ESTABLISHING A PACE FOR VICTORY

"Safety first" is a golden rule for long distance competition; however, you cannot be the final winner if you always give way to the rival. Driving at a faster pace is sometimes required to win. This does not mean short spurts of speed or acceleration. You should set a slightly faster pace for several laps, to gradually catch up with, and then outrun your competitor.

4. KEEPING RECORDS

In long distance races, it is advisable to keep a record of the race. Later, you will be able to review it with your team mates and determine where time was lost. This is a very useful and positive approach to improve and strengthen your team for other long races.

★Car settings

The type of motor or engine, gear ratio, type of tires, damper setting, etc.

★Weather condition & temperature

★Conduct of the race

Lap records, pit stops, time in the pit, driver changes, running position, etc.

●PIT RECORD EXAMPLE

TAMIYA LONG DISTANCE SERIES

PIT RECORD SHEET

Team: Tamiya Racing Factory
Drivers: Taki, Kiya, Voss
Pit crew: Arimura, Sano, Fujino Date:

	Laps	Time Pit in	Time Pit out	Operation	Driver	Position	Recorder
Start	0		/				
1st	43	11'35"	11'49"	Battery&driver change	Taki → Kiya	2	David
2nd	84	23'25"	23'31"	"	Kiya → Voss	3	"
3rd	127	35'21"	35'30	"	Voss → Taki	2	"
4th	170	47'06"	47'15"	"	Taki → Kiya	4	"
5th	210	59'37"	59'45"	" Tire change	Kiya → Voss	5	"
6th	247	68'45"	69'02"	"	Voss → Taki	3	"
7th	256	71'11"	71'18"	Tie-rod failure	Taki → Taki	4	"
8th	297	83'07"	83'15"	Battery&driver change	Taki → Kiya	5	"
9th	321	96'27"	96'42"	"	Kiya → Voss	3	"
10th	358	109'59"	105'12"	"	Voss → Taki	3	"
11th	405	123'09"	123'15"	Tire change	Taki → Taki	2	"
12th	443	139'37"	140'58"	Battery&driver change	Taki → Kiya	2	"
13th	496	145'15"	145'48"	"	Kiya → Voss	3	"
14th	545	162'34"	163'32"	"	Voss → Taki	2	"
15th	593	180'19"	/	Finish!	→	1	"

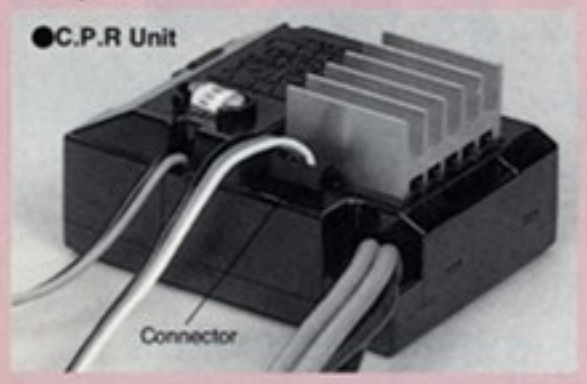
DAILY MAINTENANCE

To keep your car at optimum performance, daily maintenance is important. This will also help discover any hidden problem areas. Without this daily care, your car's performance can deteriorate rapidly. Keep it in the best possible condition at all times.

1. MAINTENANCE OF R/C UNITS

Your radio control receiver, transmitter, servos and amplifier boosted speed control are precision electronic instruments. Clean these components after use, especially the connector sockets on the receiver, as they collect dust. Remove plugs and clean the sockets using a soft bristled brush.

★If a malfunction occurs with your radio, do not attempt to dismantle and repair by yourself. No user serviceable parts are inside. Send to the manufacturer or service station for repair.



●IF THE RECEIVER ANTENNA CABLE BREAKS

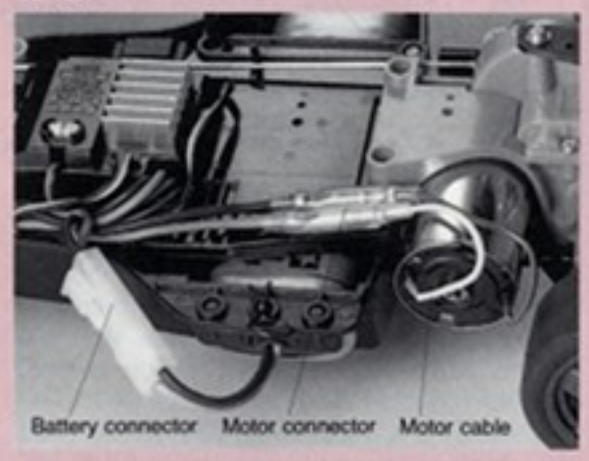
If the antenna breaks at its base, do not dismantle the receiver. Send it to the manufacturer for repair. If the insulation is worn, cover the bare wire using vinyl tape. If left uncovered, accidental contact with metal parts will cause radio interference and loss of control of the model.

2. MAINTENANCE OF ELECTRIC COMPONENTS

Electrical components play a vital role in R/C models, whether battery powered or glow engined. Make sure to check them prior to and after each use.

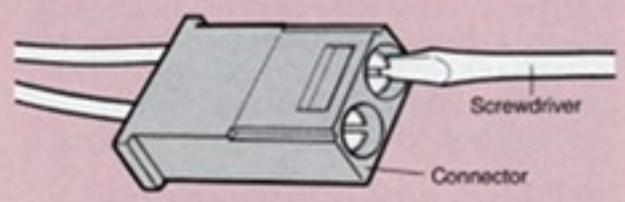
●ELECTRIC CABLES

Electrical wire/cables can withstand some degree of stretch; however, if excessively pulled, they can break or become detached from a solder joint. Insulation will wear off if rubbed against the ground or a car's rotating part while running. Special attention should be paid to motor/battery cables on Ni-Cd battery powered models, due to the enormous amount of current that flows in these circuits. Any short circuit can cause a fire or serious burns.



●CONNECTORS

Connectors can become loose and develop bad contact following repeated use. Crimp the tubular contact points using the tip of a screwdriver to maintain firm contact in the plug.



●MECHANICAL SPEED CONTROL

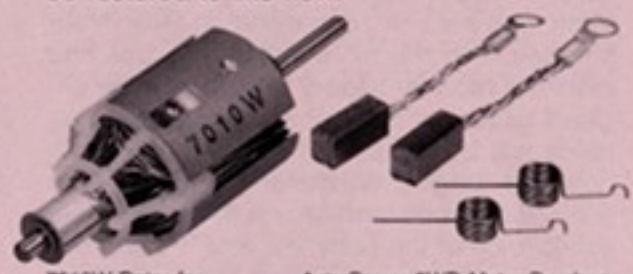
A mechanical speed control passes large currents and its metal contacts repeatedly rub against each other during operation. Metal wears more rapidly than you expect, and this causes poor electrical contact, scorching of points, and sparking. Scorched contact points can be cleaned using fine abrasive paper, but if badly worn, the entire speed control unit should be replaced. Keep dust and sand away from metal contacts, and periodically apply switch lubricant for smooth movement and good contact.

3. MAINTENANCE OF ELECTRIC MOTORS

The electric motor is the vital component in electrically powered R/C models, and it will wear out following extended use. Keep in mind that stiff meshing gears, hindrance of wheel/shaft rotation and running the model in grass or dry sand imposes great stress on the motor and can result in motor burn out.

●REPLACING BRUSHES AND ROTORS

A major reason for reduced motor performance is worn brushes and/or damaged commutator. High performance motors can be disassembled for cleaning, and new brushes and rotors are available for replacement. In these cases, motor performance can be restored to like new.



7010W Rotor for Dynatech 02H Motor

Acto-Power 2WD Motor Brushes

●NOISE SUPPRESSING CONDENSERS

Electric motors generate electromagnetic noise during operation, so R/C electric motors are equipped with noise suppressing condensers to filter out this noise. A standard 540 size motor houses its condenser inside the case so there is little possibility it will come off; however some high performance motors have their condenser attached outside on the end bell. Check that it is firmly attached and re-solder if necessary.

4. MAINTENANCE OF CHASSIS COMPONENTS

Properly assembled and operating chassis mechanics are the basis for optimum performance of an R/C car. Keep your car in peak condition by constantly inspecting and maintaining it.

1 LOOSENED OR DAMAGED SCREWS & NUTS

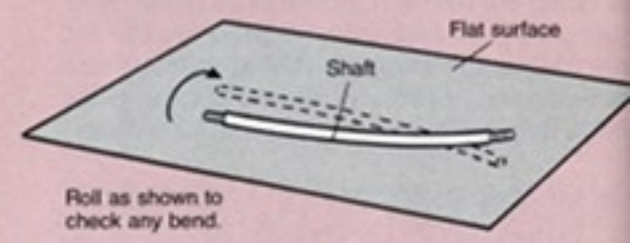
Screws and nuts can become loosened from vibration while running. They can even become bent and distorted from a collision. Tighten screws and nuts and replace those that are bent, cracked or damaged. Stripped screws and nuts must also be replaced.

2 GEARS AND JOINTS

Even durable plastic or metal, gears and joints are subject to wear because they are always in motion during use. Proper lubrication reduces friction, and helps prolong the life of these parts. If gears are exposed, foreign objects such as sand and debris gets between the teeth, damaging the gears. Check and replace any damaged or worn gears and joints immediately.

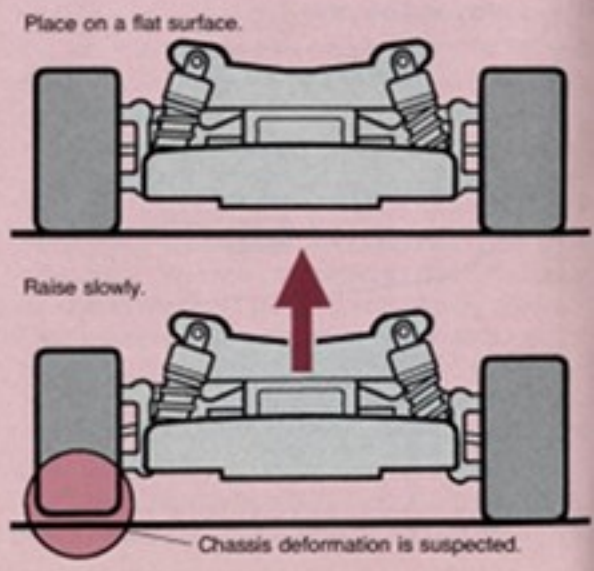
3 BENT SHAFTS

Shafts can become bent following a collision. Even a slight bend in an axle or propeller shaft can cause vibration and unstableness of the car. Periodically remove them from the car to check if they are straight. Bends can be found by rolling the shaft slowly along a flat surface.



4 DAMAGED OR DISTORTED FRAME/CHASSIS

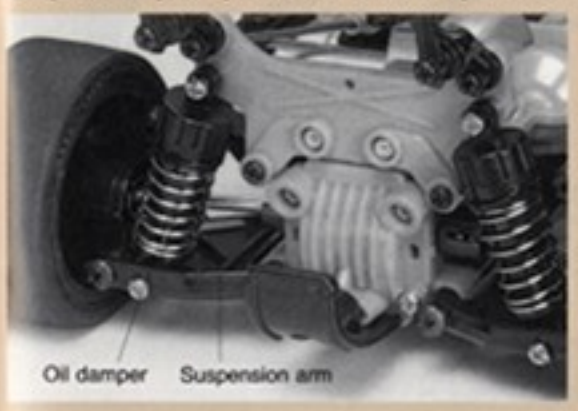
The frame/chassis is the backbone of your car, and made to withstand extreme stresses. However, it can become damaged or distorted following repeated hard collisions. Check for any distortion by placing the model on a



flat surface and gradually raising it from the surface. If a wheel on either side leaves the surface sooner than the other, chassis deformation or an incorrect suspension setting can be suspected. A slight distortion can be corrected by twisting the chassis in the opposite direction, but it is best to replace it with a new one as soon as possible. Check screw holes on the frame/chassis for cracks or damage.

5 SUSPENSION COMPONENTS

Suspension arms and pivots are subject to damage during collisions. Check and replace deformed arms, bent shafts etc. Lubricate all suspension pivot points for smooth operation.



6 OIL DAMPER CHECKS

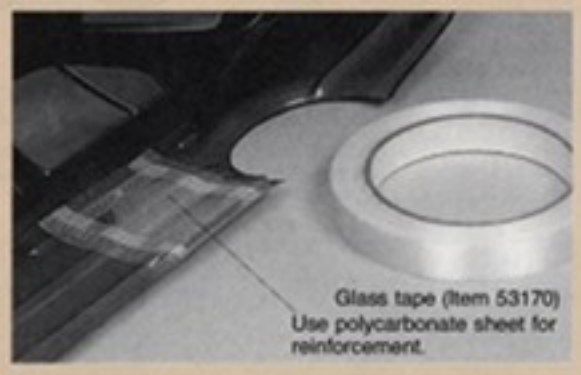
Oil filled shock absorber units can leak due to improper assembly, rugged use, or the deterioration of the seals and O-rings. Periodically check to see if the damper oil is full, and add oil when required. Check damper piston rods for bends following a collision.

7 STEERING LINKAGE

Because a steering servo saver is constantly receiving external shocks from direct contact with the steering mechanics, it will gradually deteriorate with prolonged use. Plastic ball sockets used at tie-rod ends can become loose after repeated attachment and removal. Periodic replacement of these parts will be required. In due course, replace any damaged components immediately.

●BODY REPAIRS

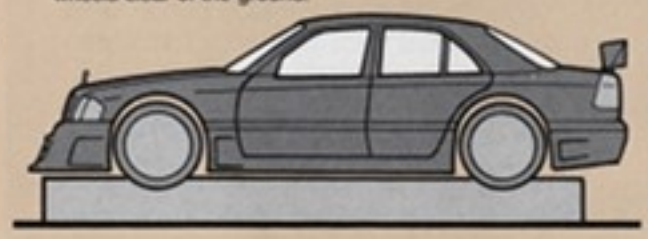
Even a slightly damaged or cracked body shell will worsen beyond repair due to running vibrations. Styrene bodies can be repaired using plastic cement or instant glues (Cyanoacrylates). Apply sheet styrene from the inside for reinforcement. Polycarbonate (Lexan) body shells cannot be repaired with cements, so use cloth tape or fiberglass reinforced tape for repairs. Polycarbonate sheet, cut from a body shell can be used as reinforcement under the cloth tape.



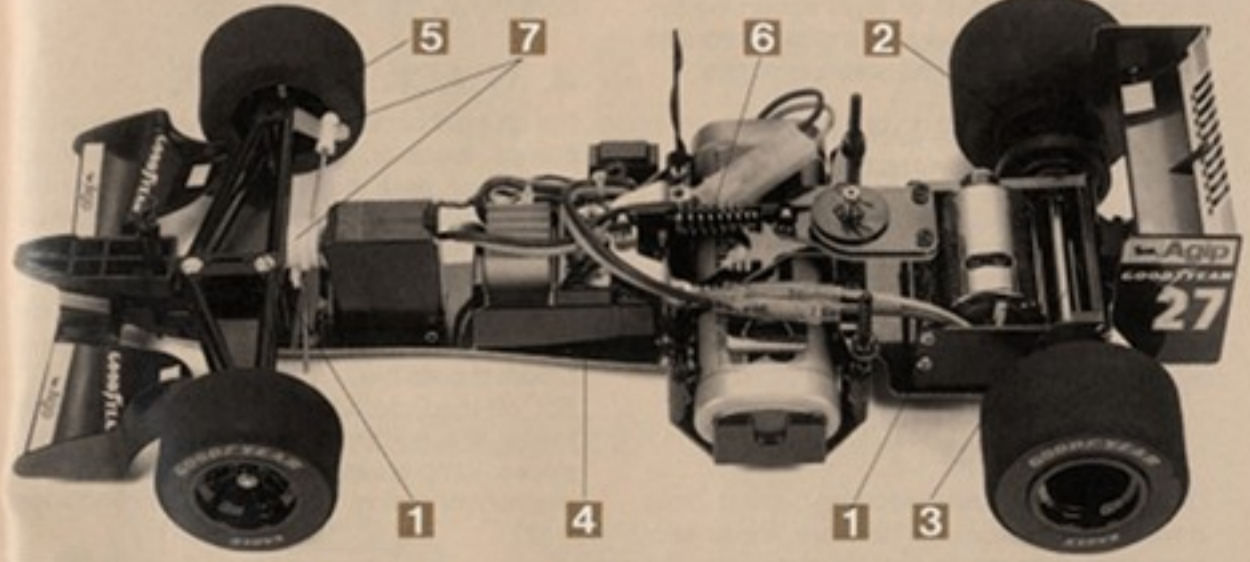
●LONG TERM STORAGE

Remove all batteries from model. If the car is to be stored for an extended period, remove the wheels, or put the model on a stand with the wheels clear of the ground. This prevents the tires from deforming.

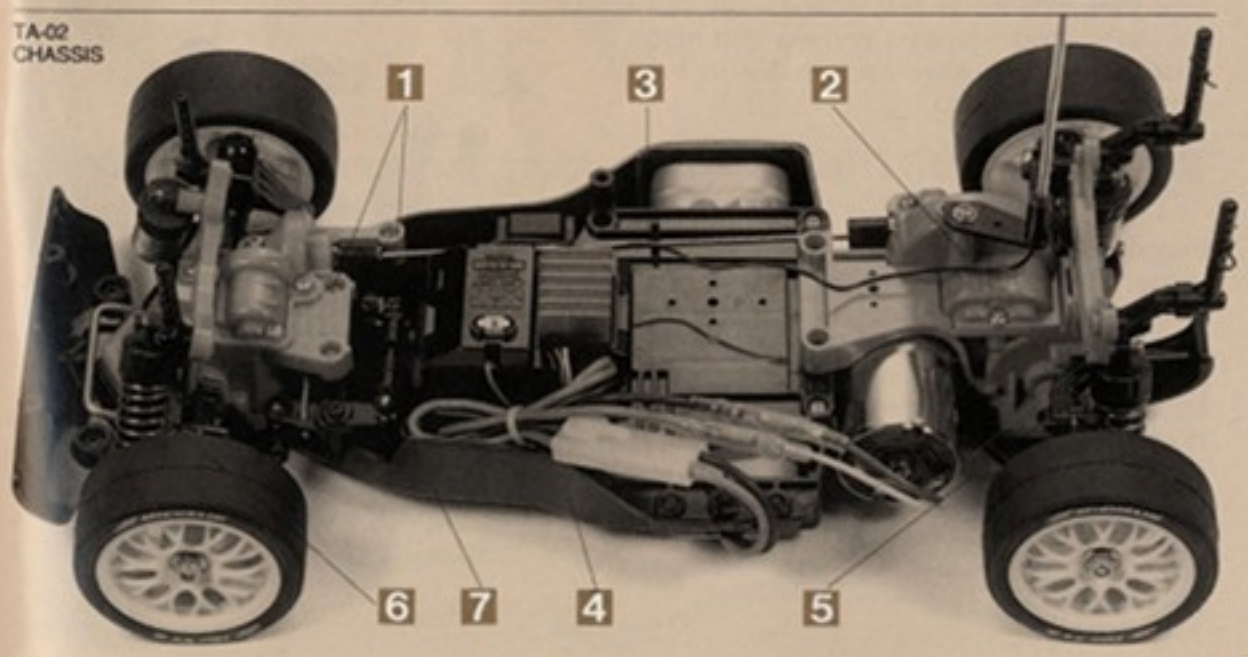
Put the model on a stand with the wheels clear of the ground.



■ MAINTENANCE POINTS



TA-02 CHASSIS



●CHARGING/DISCHARGING OF Ni-Cd BATTERIES

The performance and life span of Ni-Cd batteries is influenced by its treatment and handling. Note the following points.

Ni-Cd 7.2V-1700mAh Racing Pack SCRC

Compatible charger

★NEVER RECHARGE A BATTERY WHEN IT IS WARM.

In most cases, a Ni-Cd battery becomes heated during use. Let the battery cool before recharging, to avoid damaging it.

★COMPLETELY DISCHARGE A BATTERY PRIOR TO RECHARGING.

If you repeatedly recharge a Ni-Cd battery before it is completely discharged, you decrease its capacity for a full charge. Discharge it with a suitable Ni-Cd battery discharger, each use.

Ni-Cd 7.2V Racing Pack Auto-Discharger

●IF NOT USED FOR A LONG TIME, A Ni-Cd BATTERY BECOMES DIFFICULT TO CHARGE.

In such cases, charging and discharging several times will usually bring it back to normal operation.

HOW TO BUILD A CIRCUIT

Building a racing course, even a simple one, lets you enjoy it far better than running a car in a large open space freely. You can make one very easily, i.e., by drawing lines with chalk or using empty bottles for pylons (when using a space of someone's possession, like a parking lot; of course, permission should be acquired beforehand). To make race more fun, some knowledge of courses are required.

1 A TRACK BEFITTING THE CARS

You cannot expect thrills and excitement when running cars on a track that is too wide. Conversely, a too narrow track means you cannot enjoy the fastest racing. Considering R/C car size and performance, suggested track dimensions are shown on the following diagram.

	1/10 Electric car	1/8 Engine car
Course length	100 200m	200 - 300m
Course width	3 - 4m	5 6m
Longest straight	30m or more	50m or more

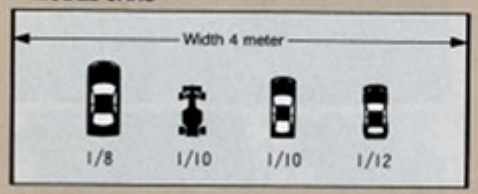
●COURSE LENGTH

With electric powered R/C cars top speeds at around 40km/h, this equates to a little more than 11 meters per second. Taking into account deceleration at corners, a car will lap a 100m circuit in about 15 seconds or less. The top speed of glow engined R/C cars can exceed 60km/h. The faster a car's top speed, the longer and wider the racing circuit should be.

●COURSE WIDTH

Course width should be determined by the models size and the number of cars that will be raced at the same time.

●COMPARISON OF A 4m WIDE COURSE AND MODEL CARS



★Areas distant from drivers should be made broader.

The farther away from drivers, the narrower the course will look, because of parallax. This can cause problems for drivers. To compensate for this, track sections in these areas should be 1 to 2m wider than other areas.

★Wider sections can be used for the pit area.

Make a very wide section near the drivers control stand to be used as the pit area for endurance racing and other events.

★Vertexes of curves should be made wider

Cars are apt to deviate from the course outward on high speed curves, and inwards on low speed curves. The width of corners should be increased accordingly.

●STRAIGHTAWAY

There should be at least one straight stretch where cars can run at their maximum speed. If a car's top speed is 40km/h, it will travel over 30 meters in less than 3 seconds. Drivers can relax and enjoy top speed driving on these straights. A longer straight may be desired depending upon the car's speed potential. A straight of over 40m will allow drag racing, for cars designed with quick acceleration performance (a 400m full sized track is 40m in 1/10 scale).

2. TRACK CHARACTERISTICS ARE DETERMINED BY CURVES

Circuits are roughly classified in two groups; a high speed course where velocity is important, and a low speed course where control techniques are more important. The features of a track are formed with the number and characteristics of many curves. An ideal circuit conceivable is a mixture of high and low speed courses.

●CURVES AND CORNERS

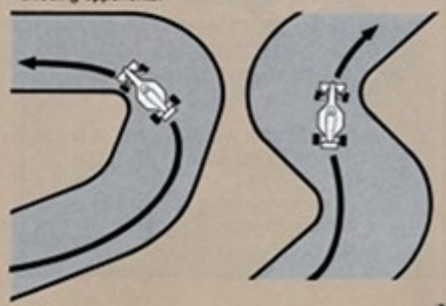
Curves and corners can be divided into three groups in terms of their layout and a car's possible passing speed. It is recommended to use at least one each of the high, medium and low speed curves, plus a complex one consisting of different radii, on the circuit.

●KINDS AND CHARACTERISTICS OF CURVES

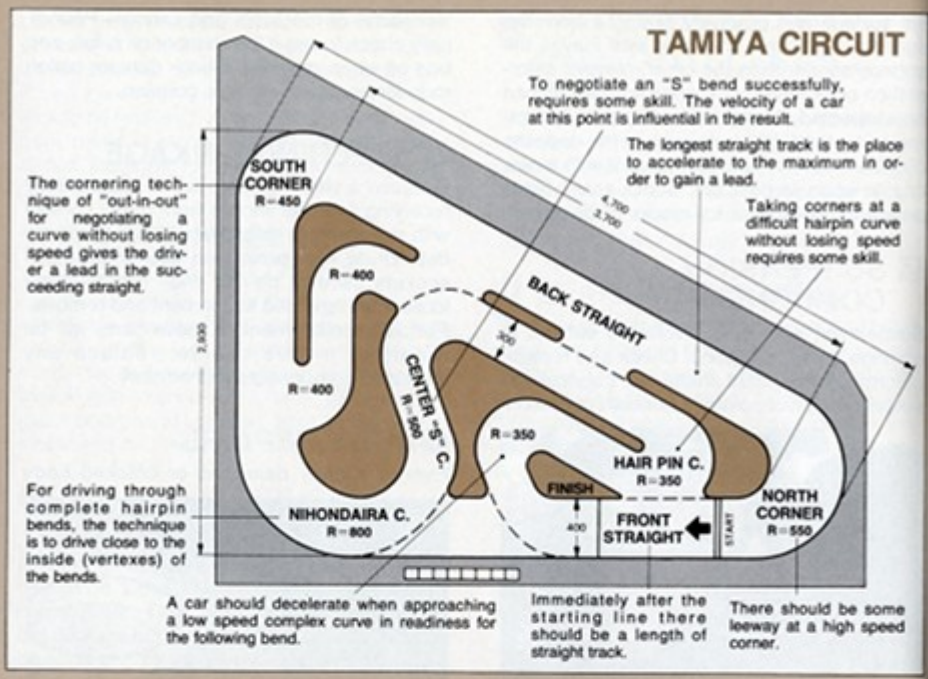
High speed curve = Cars can pass through at high speed (challenging running).
Medium speed curve = Some slow down is called for (this is where passing is done. Many car will be spinning and leave the course).
Low speed curve = Hair pin curve (prudent running is required).

●COMPLEX CURVE & SUCCESSION OF MULTIPLE CURVES

Try to anticipate the course ahead. Watch for places to pass skidding opponents.



TAMIYA CIRCUIT



●COMBINATION OF STRAIGHTS AND CURVES

A circuit's characteristics can be changed by how the straights and curves are combined. A short straight between curves of different radii makes a kind of complex course. A high speed corner, following a long straightaway, emphasizes the thrill of high speed performance. A hairpin corner after a straight requires hard braking and careful steering control.

3. FROM THE DRIVERS POINT OF VIEW

Apart from its size, the biggest difference between real cars and R/C cars is the position of the driver. The following points should be fully considered.

●SECTIONS FAR FROM DRIVERS SHOULD BE MADE SIMPLE

On a circuit, track sections distant from drivers look narrower. Therefore, these sections should be made simpler and wider. Put the demanding, complex corners and high speed curves as near as possible to the drivers' control stand.

●DO NOT OBSTRUCT THE DRIVERS VIEW

Bridges and gates are often seen on real race tracks, and putting them on R/C circuits creates a proper racing atmosphere; however, these decorations can often hinder the drivers view. Avoid positioning them on or near corners, and always check their position by viewing from the control stand.

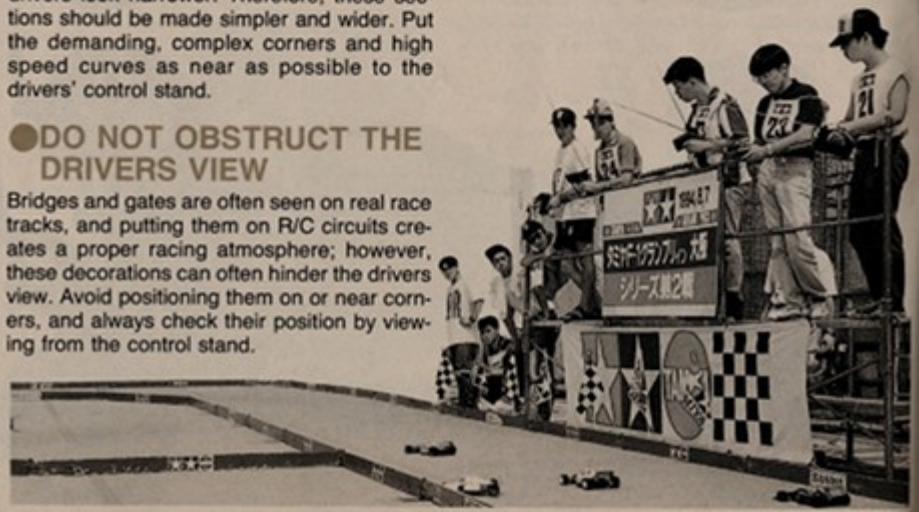
●INCORPORATE A STRAIGHTAWAY AFTER THE START

In competition, cars run in a tight group just after the start, and collisions are apt to occur. It is therefore desirable to have a straightaway long enough for the drivers to observe things from the start to the first corner.

4. TRACK SURFACE

For on-road circuits, it is not advisable to have bumps, recessed lines or bulges, as on-road cars have only minimal ground clearance. Some undulations and gentle slopes can be allowed, as long as they do not hinder a car's running. Sand and dust on paved surfaces reduce traction excessively, and should be washed off with water or swept clean with a broom if possible.

For off-road circuits, rough or uneven surfaces are no problem. On the contrary, slopes, jump areas, and banks add to the excitement of racing. Varying surface conditions



require more advanced driving skills and proper car setting, thus providing a greater challenge and more total enjoyment. Pebbles should be picked up and tall grass should be removed from the course surface.

PLAN COURSE DRAINAGE CAREFULLY

Unless built indoors, drainage is very important for both on-road and off-road circuits. If possible, slightly raise either side or the center of the course, so that water does not remain on the running surface.

5. COURSE EDGES

On permanent circuits it is recommended to have shortly mowed lawn or artificial turf on the edges. The area between the course and its edges spaces should be level or have a gentle slope, with the outside being higher. This will reduce damage to cars if they leave the course and it ensures easy entry back onto the track. When the spacing between course lanes is very short, some fencing should be used to prevent cars from short cutting across the course.
If you build a temporary circuit using logs, boards etc., these should be 10 to 15cm in height so that the drivers view is not obstructed. Painting these in light colors will help the drivers recognize the course, and it also enhance a racing atmosphere.

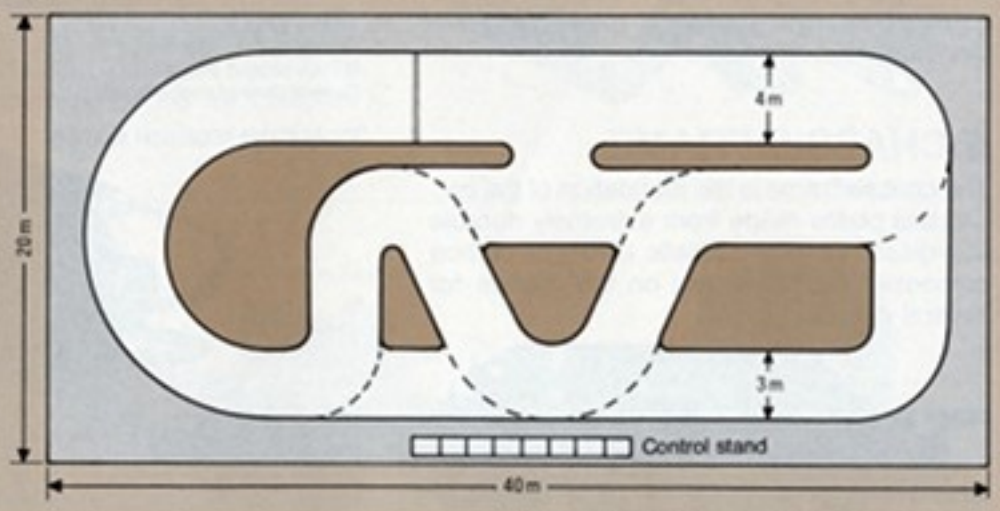
6. DRIVERS CONTROL STAND

In order to provide the best view for drivers, a raised control stand is desirable. You can use large boxes, chairs, or a truck's platform, but be careful of their sturdiness and stability.
The larger a circuit becomes, the higher the control stand should be; however, too tall of a stand is inconvenient to get on and off, and ladders may be required. You should also consider hand rails for safety.

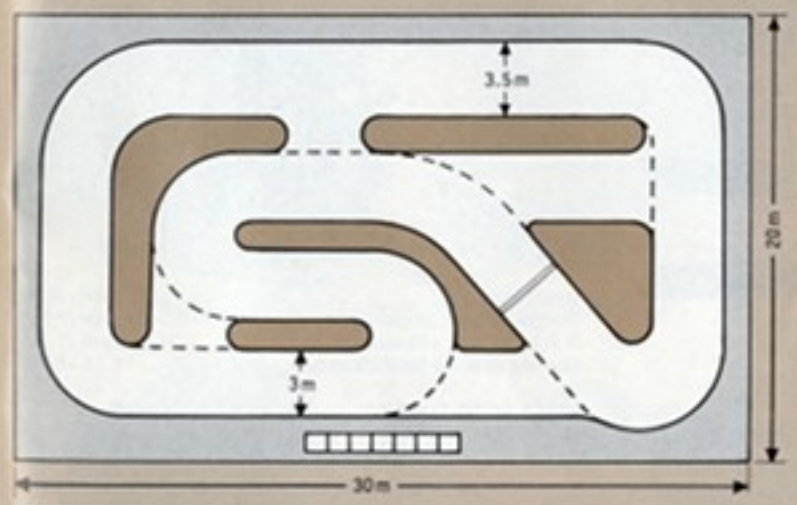
7. SPECTATOR SAFETY

R/C cars travel at very high speeds and can cause serious accidents if they deviate from the course and collide with onlookers. To prevent this, fences of at least 50cm high should be used around the course.
Glow engined R/C cars emit noise during running and this can be annoying to others. When choosing a location to run these cars, be aware of the environment so that you do not disturb people around you.

VARIOUS PLANS OF CIRCUIT LAYOUT

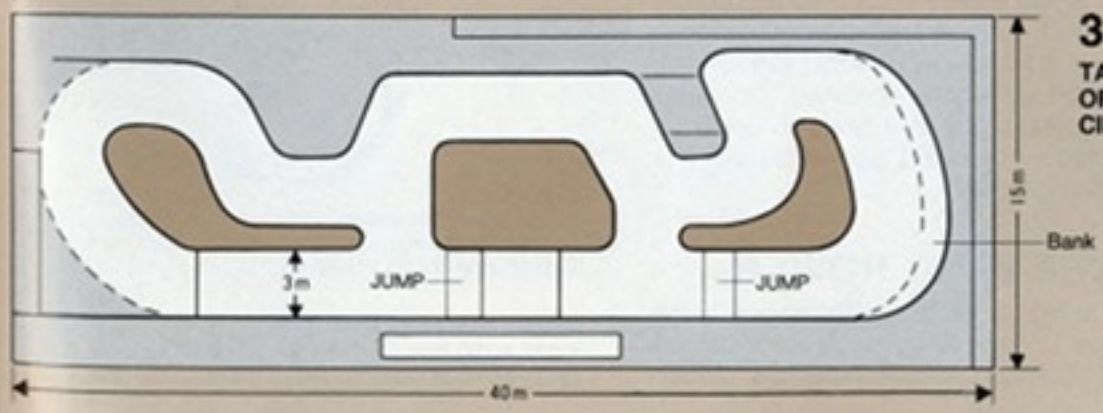


1 LARGE CIRCUIT



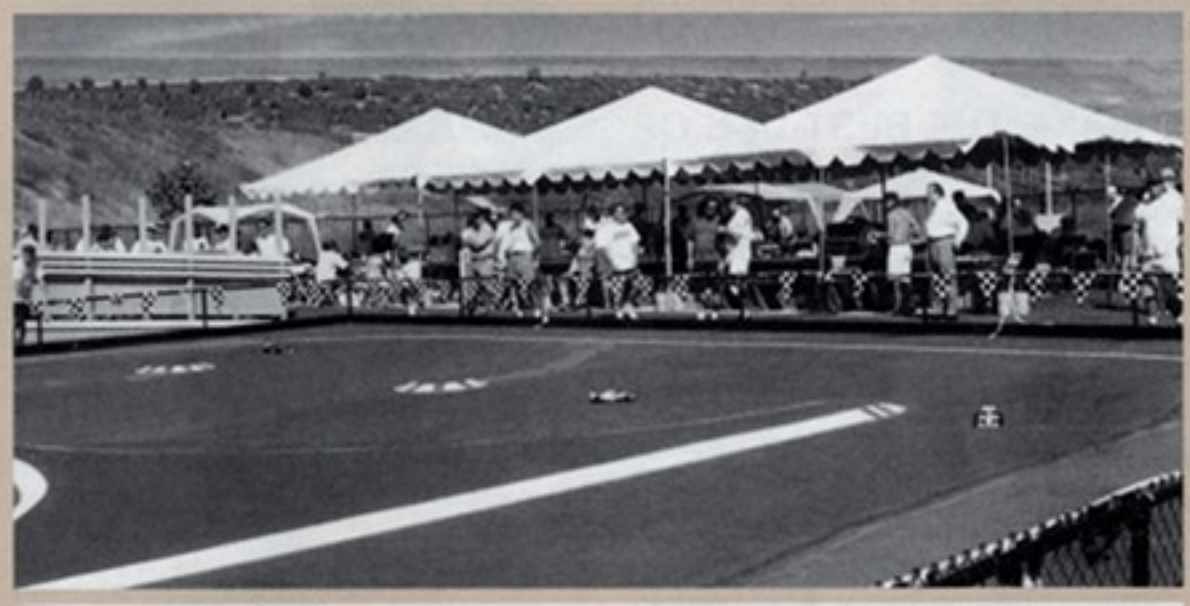
Lay the longest straightaway first and design the rest of the area accordingly.

2 HIGH SPEED TECHNICAL CIRCUIT



3 TAMIYA OFF ROAD CIRCUIT

R/C CIRCUIT IN GERMANY



R/C CIRCUIT IN U.S.A.

R/C CIRCUIT IN ENGLAND

TAMIYA KAKEGAWA CIRCUIT IN JAPAN

ENJOYMENT OF IMPROVING PERFORMANCE

As you attain proficiency in controlling cars, you will be tempted to improve your car. This chapter will introduce handy ways of increasing performance. The most important matter you have to keep in mind when you modify your car is to keep everything in balance. By putting a big motor on your car, you can make it run faster. Still it cannot be an improvement of performance if it has lost stability. Most kits on the market are produced by the manufacturer with all factors considered such as speed, maneuverability and durability. So try to enhance the collective performance of your car.

1. MAKE THE BEST USE OF AVAILABLE POWER

Even though you use a high performance motor or engine, friction during transmission can cause considerable power loss and reduced performance. Keep the friction power loss to the minimum and get the most of the available motor/engine power.

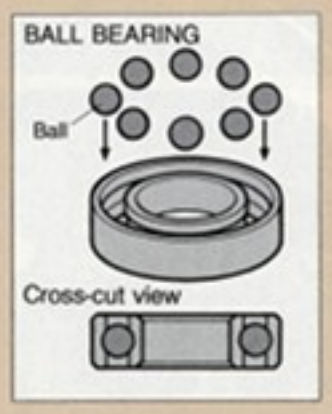
●BALL BEARINGS

Motor and engine power is transmitted to the car's wheels via gears and shafts. Plastic and metal bushings are often used with these shafts, and replacing them with ball bearings is not only simple, but an effective first step for improving your car's performance. Ball bearings consist of an outer and inner race, with steel balls between the races. The balls roll smoothly when the inner or outer race rotates, keeping friction power loss to a minimum. When properly maintained, ball bearings have a much longer life span than plastic or metal bushings. Bushings used in uprights can be replaced with ball bearings after completing the model, while model disassembly is required for replacement if housed inside a sealed gearbox. It is therefore recommended that ball bearings be installed during initial assembly.


850 Ball Bearing


1150 Ball Bearing


1510 Ball Bearing



●WEIGHT SAVINGS

Reducing the weight of a model is another effective way to enhance performance. Even though you have the same power output, a lighter car will accelerate quicker, have a higher top speed and sharper handling response.

★CUTTING AND TRIMMING PARTS

Reducing weight by removing structural ribs or making openings in the chassis/frame are often observed. Reducing the weight of heavy components and/or rotating parts greatly contribute to better performance. When doing this however, keep in mind that you must maintain the car's rigidity. A model car is designed by its manufacturer to withstand normal usage shocks. Careless modifications to the chassis structure can result in breakage of the car, beyond repair.


Making openings
(Note sand and debris)

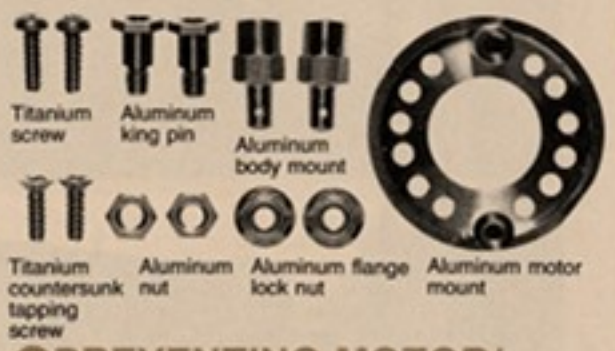

Removing spokes from wheel


Openings on chassis. Keep car's rigidity.

★Most contests limit the minimum weight of a car. Check your car's weight and the contest regulations prior to entry.

★REPLACING WITH LIGHTER PARTS

Several components made from lightweight materials, such as aluminum and titanium are available on the market. A considerable number of steel screws and nuts are used in R/C models and replacement with titanium screws and aluminum nuts will significantly reduce the model's total weight. These are also effective in maintaining/increasing the model's rigidity.



●PREVENTING MOTOR/ ENGINE OVERHEATING

The performance of electric motors and glow engines deteriorate with heat buildup. Overheating can result in damage to your motor/engine. To prevent this, aluminum heat sinks are available, which are effective in heat dissipation.


FWD Car Aluminum Motor Heat Sink


Formula Aluminum Heat Sink Motor Mount

2. IMPROVING SUSPENSION PERFORMANCE

Shock absorbers are used on suspension systems to absorb and dissipate road shock energy received while running. Simple coil spring dampers can be replaced with coil over oil-filled shock absorbers for a better damping effect.

3. A QUICKER STEERING RESPONSE

A smooth and quick operating steering system is a must in high performing cars. Spring loaded high-torque servo savers, and special steering servos, with a quicker operating speed, are on the market.

4. ADDING RIGIDITY AND RELIABILITY

Radio controlled cars can run at speeds exceeding 30 40km/h, and are subject to constant vibration and road shock. To fully utilize a car's potential, its entire structure must be built rigid to withstand this. When its performance becomes greater, a more rigid construction will be required.

●CHASSIS/FRAME

The chassis/frame is the foundation of the car. Chassis plates made from extremely durable fiberglass reinforced plastic (FRP) or carbon composite materials, are on the market for several models.


TA-02 & FWD Car FRP Chassis Set

F-1 Hard Type Carbon-Graphite Chassis Plate

●SHAFTS AND PIVOTS

Kit-supplied shafts can be damaged or deformed from excessive shock. By using optional parts made from more durable materials such as tempered or stainless steel, and carbon composites, greater rigidity and smoother movement is obtained. Universal joint drive shafts are less likely to come off during collisions, and are also more efficient in transmitting power.

5. INCREASING POWER

Installing a higher output motor/engine is the final stage in improving your car's performance. Following careful tuning and reinforcement of your chassis components, the car can make the best use of the higher power.

●USING HIGHER OUTPUT MOTOR/ENGINE

Several types of high performance motors and engines are on the market. Select a suitable one for your model. Some motors/engines were developed for specific usage, such as on or off road running, etc. Specially wound rotors are available for some electric motors, and replacing the stock rotor will provide more available power.

★Modifying a motor and/or engine requires a high degree of knowledge, experience and facilities, and is not recommended. Most contests restrict or prohibit the modification of engines/motors.

COMPETITION MOTORS

53068 SPORT-TUNED MOTOR

Usable voltage	6V - 8.4V
Torque at best efficiency	350g-cm (7.2V)
R.P.M. at best efficiency	18,300rpm (7.2V)
Current drainat best efficiency	12.0A (7.2V)

53044 DYNATECH 02H MOTOR

Usable voltage	7.2V - 8.4V
Torque at best efficiency	413g-cm (7.2V)
R.P.M. at best efficiency	25,500rpm (7.2V)
Current drain at best efficiency	20.0A (7.2V)

53154 ACTO-POWER FORMULA MOTOR

Usable voltage	7.2V - 8.4V
Torque at best efficiency	400g-cm (7.2V)
R.P.M. at best efficiency	22,500rpm (7.2V)
Current drain at best efficiency	16.7A (7.2V)

53251 ACTO-TUNED M-SPECIAL MOTOR

Usable voltage	7.2V - 8.4V
Torque at best efficiency	200g-cm (7.2V)
R.P.M. at best efficiency	19,000rpm (7.2V)
Current drain at best efficiency	11.6A (7.2V)

53001 DYNATECH 01R MOTOR
53122 ACTO-POWER OFF ROADER 2WD MOTOR
53153 ACTO-POWER TOURING SPECIAL MOTOR

53263 DYNA-RUN RACING STOCK MOTOR

Usable voltage	7.2V - 8.4V
Torque at best efficiency	390g-cm (7.2V)
R.P.M. at best efficiency	26,500rpm (7.2V)
Current drain at best efficiency	26.0A (7.2V)

53272 DYNA-RUN SUPER TOURING MOTOR

Usable voltage	7.2V - 8.4V
Torque at best efficiency	350g-cm (7.2V)
R.P.M. at best efficiency	18,400rpm (7.2V)
Current drain at best efficiency	15.1A (7.2V)

USING BATTERY OR FUELS WITH HIGHER SPECIFICATIONS

Ni-Cd batteries and glow fuels are power sources for electric and engine powered radio control models. Higher performance Ni-Cd batteries have been developed for competition, which have larger capacity and/or smoother internal current flow, thus providing the motor with a higher output of power. For glow engines, fuels containing a higher percentage of Nitro Methane are available.

Ni-Cd 7.2V Racing Pack SCRC

Rev-Top Super 30

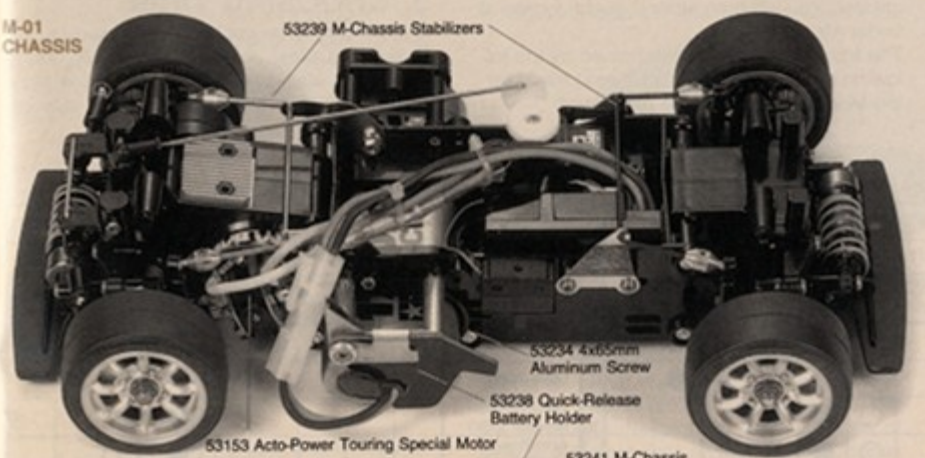
LARGER CAPACITY ELECTRONIC SPEED CONTROL

Large electric currents flow in the circuits of Ni-Cd battery powered R/C cars. When high performance motors are used, an enormous current flows during the start. To safely manage these large currents, the use of a high capacity electronic speed control is recommended.

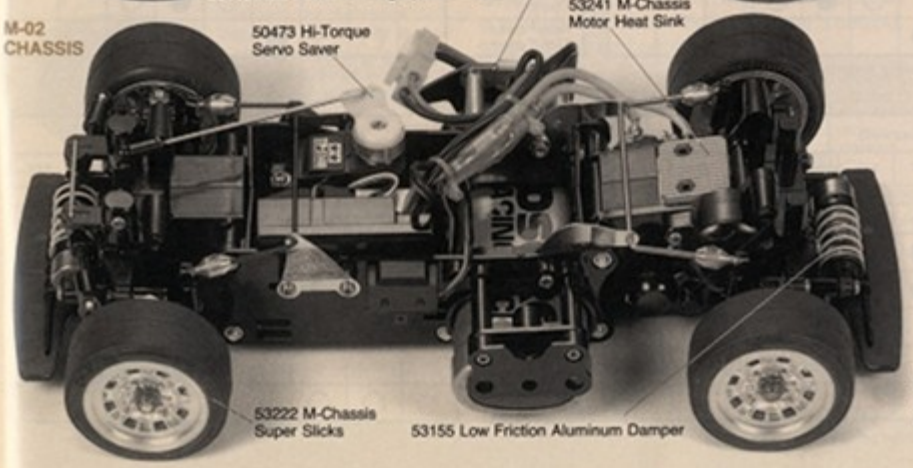
C.P.R. Unit P-160F

TUNE-UP EXAMPLES

M-01 CHASSIS

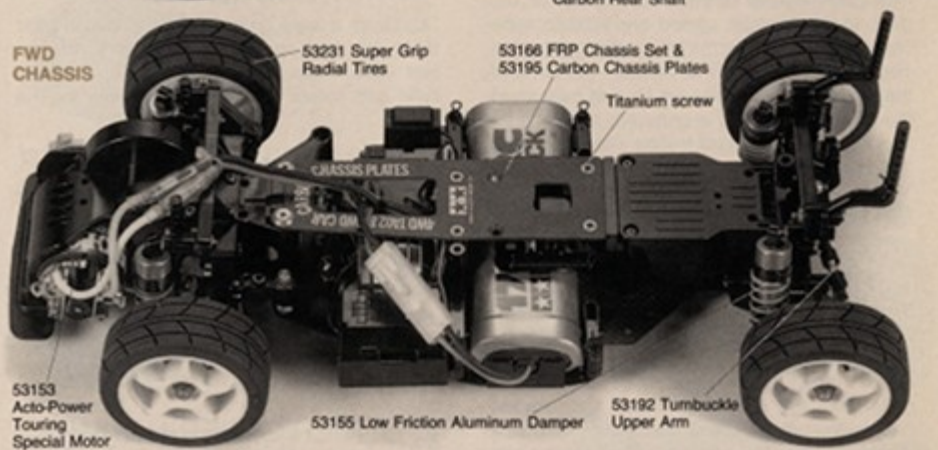


M-02 CHASSIS

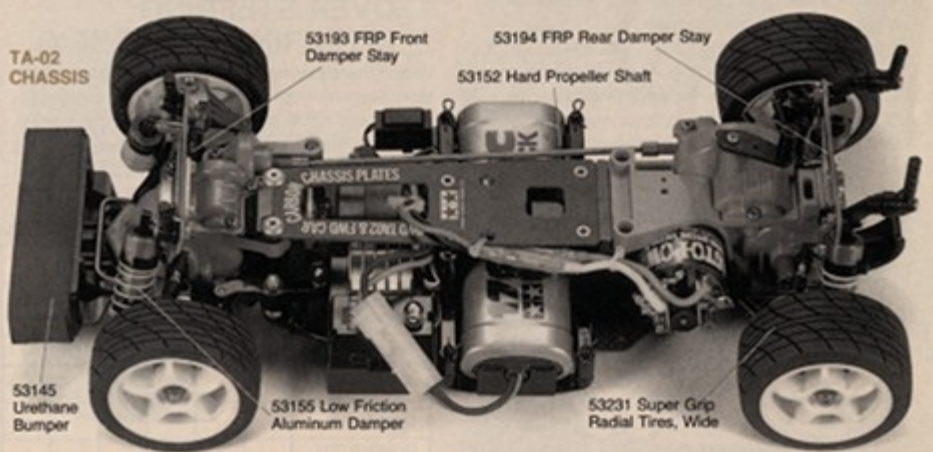


F103 CHASSIS

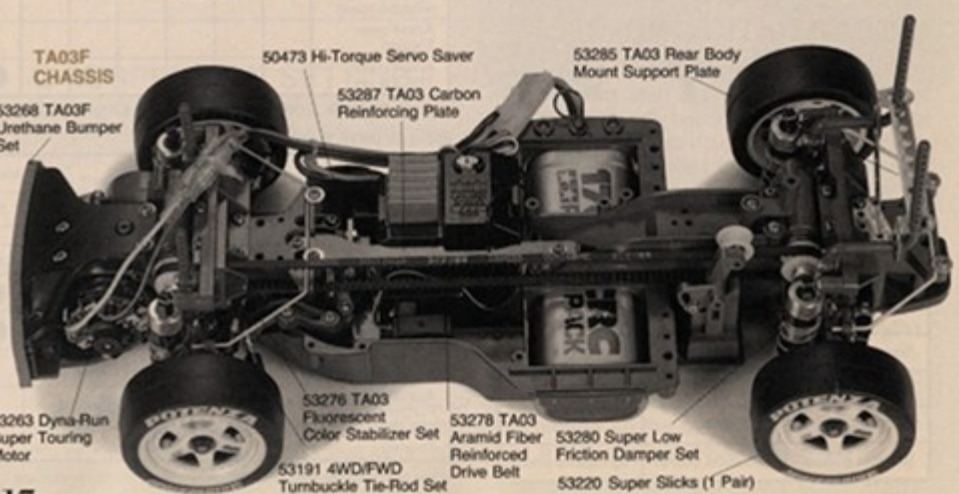
FWD CHASSIS



TA-02 CHASSIS



TA03F CHASSIS



CHARACTERIZING A CAR

There are a variety of car characters; fast cars, cars with excellent acceleration, cars with good cornering capability, and so forth. Cars assembled from kits come out diversified in quality because they are built up through the assembler's own techniques. Build your car in your own way. The most apparent characterizations are formed in the gear ratio and the steering characteristics.

1 GEAR RATIO SETTING

At a given output power of the motor or engine, the maximum speed and acceleration capabilities are determined by the gear ratio. The gear ratio means how many rotations of the pinion gear are required for one rotation of the drive wheel. This is generally adjusted by altering the pinion gear to one with a different teeth number.

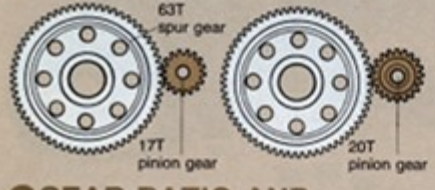
●RELATION BETWEEN THE GEAR RATIO AND SPEED/ACCELERATION

You will have a higher gear ratio with a smaller pinion gear (smaller number of teeth) and a larger gear on the rear axle. The opposite makes a low gear ratio. With a high gear ratio, the car has a better acceleration capability, but a limited maximum speed. A car with a low gear ratio has poor acceleration but a higher maximum speed.

A car with high gear ratio is suitable for a technical course which is built with hair pin curves demanding low speed driving, while a car with a low gear ratio is for a speed course consisting of longer straightaways and curves of larger radii.

★A too low of a gear ratio will overload the motor/engine, resulting in overheating and eventual burn-out.

High gear ratio (3.71:1) Low gear ratio (3.15:1)



●GEAR RATIO AND RUNNING TIME

In general, the higher the gear ratio is, the longer the running time, and vice-versa. When entering a time race such as a 4-minute or 8-minute competition, a suitable gear ratio to complete the race must be chosen. In endurance competitions, the gear ratio influences times of battery change or refueling.

	Large gear ratio	Small gear ratio
Top speed	Low	High
Acceleration	Good	Poor
Running time	Long	Short
Suitable course	Technical course	High speed course

●GEAR RATIO SUITABLE TO THE MOTOR/ENGINE

A wide range of optional pinion gears are on the market for many variations in the gear ratio settings. You should always bear in mind that motors and engines have their own power output characteristics and effective power range. If the motor or engine is replaced with one with higher performance, replacement of the pinion gear will also be required to obtain a suitable gear ratio. The diagrams below indicates suitable pinion gear for Tamiya electric R/C cars and motors.

●GEAR RATIO SETTING PROCEDURE

Start from a large gear ratio (small pinion gear teeth number) and move to smaller gear ratios. Check lap times on a track or running time and select a suitable gear ratio for the track.

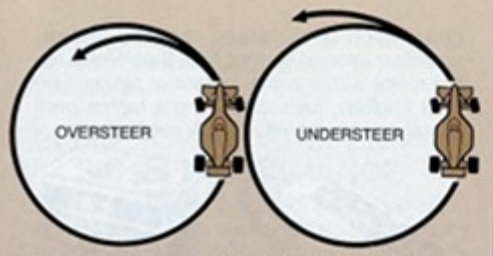
★DRIVE WHEEL DIAMETER

The diameter of the drive wheels are also related to the speed and acceleration characteristics. The larger the diameter of the drive wheels is, the higher the speed of the car will develop within certain limitations.

★Attaching too large a diameter of wheels will overload the motor/engine and resulting in eating and burn-out.

2. UNDER STEERING AND OVER STEERING (STEERING TENDENCY)

When the steering wheel is turned, the car will also turn in the same direction. However, most cars have the tendency to turn excessively or inadequately. These characteristics



are called steering traits. Cars that turn excessively have over steering traits and the others have under steering traits. Cars that turn in close proportion to the control have neutral steering. This is hardly achieved except with cars that are running at a low speed. A car with slight under steering is easy to drive. A car with over steering will spin when taking corners at a high speed. Even on a straight course, it is unstable. An under steering car has difficulty making sharp turns, and at a high speed it may not be able to take corners and could leave the course. In either case, excessive steering makes a car difficult to control.

●FACTORS TO DETERMINE STEERING CHARACTERISTICS

The steering characteristics are affected by the difference between the traction of the front and rear tires. When the traction of the front tires is greater than that of the rear tires, the result is over steering. The opposite condition causes under steering. Therefore, adjust the traction of the rear tires so that it is a little greater. You will then attain a slight degree of under steering.

The traction of a tire is determined by the following factors. By adjusting these, the steering tendency of a car can be altered.

★Tire's material, tread pattern, and contact area with the ground
★Car's suspension setting and wheel alignment
★Weight distribution between the front and rear wheels
★Aerodynamic effect of wing and spoiler

		Understeer (higher traction at rear)	Oversteer (Higher traction at front)
Tire stiffness	Front	Stiff	Soft
	Rear	Soft	Stiff
Tire width	Front	Narrow	Wide
	Rear	Wide	Narrow
Suspension	Front	Stiff	Soft
	Rear	Soft	Stiff
Weight load	Front	Light	Heavy
	Rear	Heavy	Light
Wing size & angle	Front	Small	Large
	Rear	Large	Small
Wheel alignment	Front toe-angle	Toe-in	Toe-out
	Rear toe-angle	Toe-in	Toe-out
	Front caster angle	Large	Small
	Front camber angle	Positive	Negative
	Rear camber angle	Negative	Positive

The diagram above indicates the steering tendency and its relating factors. In addition, the track and wheelbase greatly influence the car's basic running characteristics.

3. CHOOSING TIRES

Motor/engine power is transmitted to the ground via tires, and a car's stability during running is also greatly affected by the tire's traction. Choosing suitable tires is a very im-

MOTOR/PINION GEAR DIAGRAM ●4WD TOURING CARS

Spur gear	74T (Kit-supplied)						69T (53127 Speed-Tuned Gear)					66T (53127)	
Pinion gear (Item No.)	16T (53054)	17T	18T (53055)	19T	20T (53056)	21T	21T (53056)	22T (53057)	23T	24T (50477)	25T	24T (50477)	25T
Gear ratio	11.27:1	10.61:1	10.02:1	9.49:1	9.02:1	8.59:1	8.01:1	7.64:1	7.31:1	7.01:1	6.73:1	6.70:1	6.44:1
Stock 540-type												○	●
Sport-Tuned												●	○
Dynatech 02H (w/stock rotor)								○	●	○			
Acto-Power Touring								○	●	○			
Acto-Power TRF-Tuned					○	○	●						

●○: Suitable, ●: Most efficient ✻Five-digit numbers indicate Tamiya item numbers.

●FRONT WHEEL DRIVE TOURING CARS

Spur gear	71T (Kit-supplied)							66T (53127)	
Pinion gear (Item No.)	19T (53055)	20T (53056)	21T	22T (53057)	23T	24T (50477)	25T	24T (50477)	25T
Gear ratio	9.11:1	8.65:1	8.24:1	7.87:1	7.52:1	7.21:1	6.92:1	6.70:1	6.44:1
Stock 540-type								○	●
Sport-Tuned							○	●	○
Dynatech 02H (w/stock rotor)					○	●	○		
Acto-Power Touring					○	●	○		
Acto-Power TRF-Tuned		○	○	●					

●F-1 & INDY CARS

Spur gear	63T (Kit-supplied)										
Pinion gear (Item No.)	13T (53063)	14T (53064)	15T	16T (50354)	17T	18T (50355)	19T	20T (50356)	21T	22T (50357)	23T
Gear ratio	4.85:1	4.50:1	4.20:1	3.94:1	3.71:1	3.50:1	3.32:1	3.15:1	3.00:1	2.86:1	2.74:1
Stock 540-type					○	●	○	○			
Sport-Tuned					○	●	○				
Dynatech 02H (w/stock rotor)		○	○								
Acto-Power Formula			○	●	○						
Acto-Power Touring		○	○								

Spur gear	93T (53104 0.4 Spur Gear Set)							
Pinion gear (Item No.)	20T (53101)	21T	22T (53102)	23T	24T (53103)	25T	26T (53117)	27T
Gear ratio	4.65:1	4.43:1	4.23:1	4.04:1	3.88:1	3.72:1	3.58:1	3.44:1
Stock 540-type						○	●	○
Sport-Tuned					○	●	○	
Dynatech 02H (w/stock rotor)		○	○					
Acto-Power Formula					●			
Acto-Power Touring		○	○					

●○: Suitable, ●: Most efficient ✻Five-digit numbers indicate Tamiya item numbers.

●COMPARISON OF TAMIYA R/C TIRES' TRACTION

Grip	4WD/FWD Touring Car Tires
HIGH	53220 Super Slick
	53214 Super Grip Radial
	53224 M2 Slick
	53227 M2 Radial
	53178 M-Grip Super Slick
	50454 Racing Slick
	50419 Racing Radial
	50476 Rally Block
	★Wide tires provide higher traction.

Grip	M-Chassis Tires
HIGH	53222 M-Chassis Super Slick
	53215 M-Chassis Slick
	50568 M-Chassis Radial

Grip	F-1 Sponge Tires
HIGH	53134 & 53129 HBR Soft
	53128 & 53135 HBR Medium
	50441 & 50390 RD Sponge

Grip	F-1 Capped Tires
HIGH	53184 RD Tire Cap (Soft)
	53139 Integrated Slick, Medium
	53090 RD Tire Cap
	53138 Integrated Slick, Hard

portant point in the car's setting.
Two types of tires are used on R/C cars; synthetic rubber semi-pneumatic tires and sponge tires. In addition, tires of various materials, widths, tread patterns etc. are available for broad range of settings.
★The diagram above indicates the grip of Tamiya optional tires. The tire grip may differ depending upon the track surface condition, temperature, etc.

●ON-ROAD TIRES

Both sponge and semi-pneumatic tires are used for on-road track running. In case of sponge tires, sponges of different stiffness are used to obtain different traction. Special synthetic rubber caps are sometimes used to cover the surface of sponge tires (these are called "capped tires"). Semi-pneumatic tires for on-road running are roughly divided into the treadless slicks or treaded tires. These are sometimes used in combination with inner sponges.

●SPONGE TIRES

Suitable on paved surfaces like asphalt, etc. Tire's foamed surface grips small undulations on the ground, providing positive traction. Not suitable for wet tracks. Also their merit is weight-savings compared to rubber tires.

●CAPPED TIRES

A soft rubber material covers the surfaces of sponge tire. These tires provide considerable traction even on slippery surfaces such as wet or dusty tracks.

●SEMI-PNEUMATIC SLICKS

Slick tires are often used on the full-sized racing cars. Tires of various compounds are available, providing different traction.

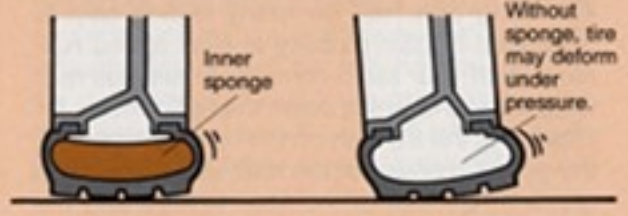
●SEMI-PNEUMATIC TREADED TIRES

Realistic tread patterns are indented on the tire surface. It has less traction than slicks on dry tracks, but can provide adequate grip on wet surfaces.

●EFFECT OF INNER SPONGE

Inner sponges are inserted into the semi-pneumatic tires. They provide an equal contact for the tire and ground relation, and are effective in increasing overall traction. Tire inserts are synthetic foam rubber ring shaped to fit the cavity between the wheel and tire.

Without the inner sponge, the car's weight is carried by tires side walls, therefore the tire edges are liable to wear. In addition, tires may deform under excessive pressure during cornering etc. Inner sponge helps prevent these problems, by providing an even contact of the tire surface to the ground. Inner sponges of several stiffnesses are on the market. Choose a suitable one according to your car's setting, track layout and condition etc.



●OFF-ROAD TIRES

Semi-pneumatic tires are mainly used for off-road cars. Tires with various spikes and tread patterns are available. These spikes and patterns provide positive traction while running on rough terrain. Choose tires according to the running surface. Semi-pneumatic off-road tires can be combined with inner sponges when necessary.

●SPIKED TIRES

Provide excellent traction on soft soil surfaces. Spikes of various lengths, shapes and numbers can be seen. Not suitable on hard surface running because spikes wear rapidly.

●BLOCK PATTERN TIRES

Blocks of various shapes are molded on the tire surface. Even though they provide less traction than spiked tires, the block pattern tires are less liable to wear during hard surface running.

●LUG PATTERN TIRES

The tread pattern on these tires are molded laterally, as often seen on full-size construction vehicles. These fat tires are suitable for R/C "Big-Tire" cars, and running on soft soil surfaces.

●RIB PATTERN TIRES

Straight ribs are molded lengthwise on the tire surface, providing excellent straight running stability. These tires are mainly used at the front of the rear wheel drive off-road buggies.

●RIB/SPIKE TIRES

Straight ribs and spikes are molded on these tires. In addition to the straight running stability, better traction can be obtained than the rib pattern tires. Used at front of the 4WD off-road cars.

4. SUSPENSION SETTING

On full-sized vehicles, the suspension is important in providing a comfort ride with passengers. On R/C cars, its main objective is to keep the wheels on the ground and maintain constant traction to obtain the maximum maneuverability.

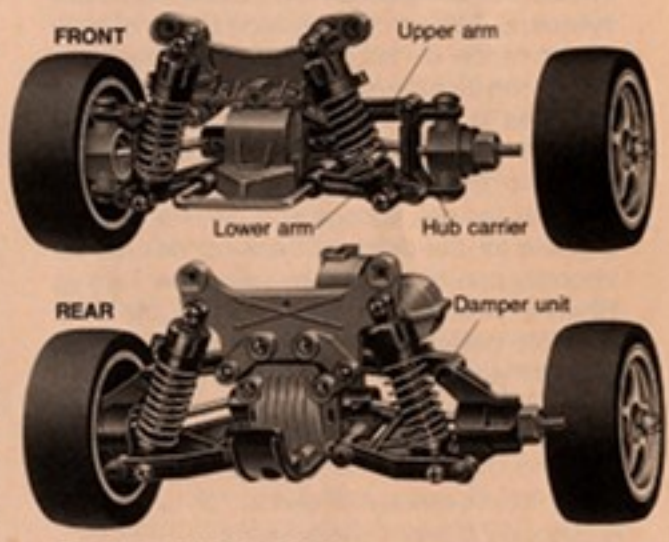
●A GOOD WORKING SUSPENSION PROVIDES TRACK-HUGGING PERFORMANCE

In order to run a radio controlled model smoothly and swiftly over differing road conditions, the suspension system that joins the wheels to the chassis, plays an important roll. Various types of suspension system are used for buggies and on road cars to obtain maximum traction from the tires on the running surface.

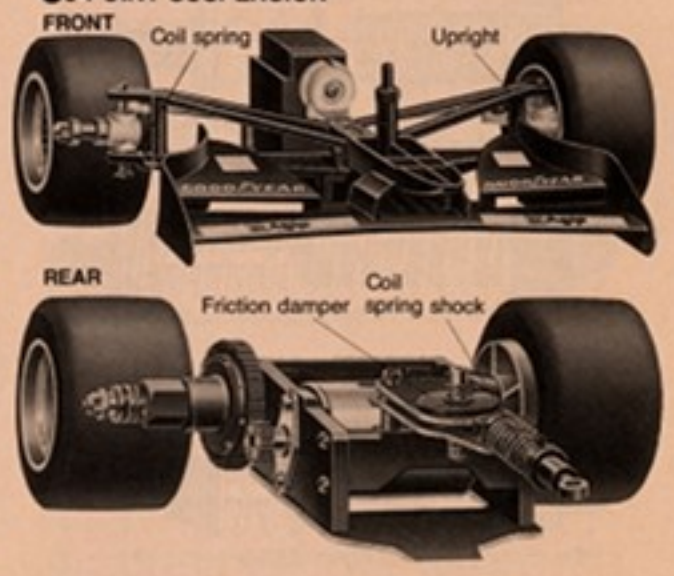
●SPRING AND DAMPER STIFFNESS ARE IMPORTANT

Suspension systems such as double wishbone, and trailing arm type are used on R/C model cars just as on full sized vehicles. These are basically composed of upper and lower arms, coil springs, and damper units that absorb the energy stored in the spring upon compression. A simple 3-point suspension system is often used on the Formula-type on-road R/C cars. In this case, front wheels are independently damped by coil springs, while the rear wheels are damped by a single shock unit. When adjusting suspension systems to track conditions, first adjust the coil spring stiffness, then the damper.

●DOUBLE WISHBONE SUSPENSION



●3-POINT SUSPENSION



●COIL SPRING ADJUSTMENTS

Coil springs fitted to suspension units are there to assist the suspension in following the surface it's running on. It is a mechanical device that stores and dissipates shock energy to keep the car running steadily on the track. A too stiff spring results in an uncontrolled suspension that will cause the car to hop around wildly. If it's too soft, the car will bottom out on the ground at each bump on the track. Springs should be adjusted ac-

cording to the overall weight that compresses them. The coil springs included in the kits are designed and matched to the car, and should provide standard performance. If the car is modified and trimmed for lighter weight, use a softer spring. Springs should be stiffened using spacers, after installing higher output motors, in order to compensate for the extra power. Using stiffer springs on rough terrain and softer springs on flat tracks is the normal rule.

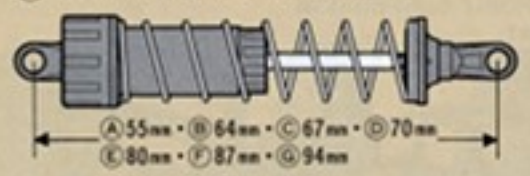
●ADJUST DAMPER ACCORDING TO SPRING STIFFNESS

The dampers widely used in R/C cars are of the oil filled type. The higher the viscosity of the damper oil, the stiffer the damper, on the other hand, the lower the viscosity, the softer the damper. When using hard springs use harder damper oil, and for soft springs use softer damper oil.

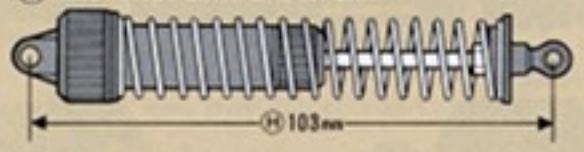
OIL FILLED SHOCK UNITS

From the economical and long-wear plastic cylinders to competition low-friction aluminum cylinders, Tamiya offers a wide range of high performance oil filled shocks to meet your car's requirement. All shock units are designed to provide the smoothest shock action while providing optimum road hugging ability to the vehicle. Adjustments can be made at the coil springs and pistons to compensate for the different track conditions. Oil viscosity can be altered by using the Tamiya Silicone Damper Oil set, to obtain the best possible performance. ★Shock unit dimensions differ according to the vehicle. Refer to illustration and notes.

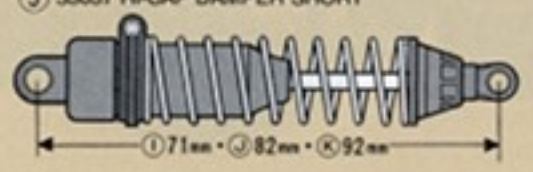
① 50519 C.V.A. MINI SHOCK UNIT II
② 50520 C.V.A. SHORT SHOCK UNIT II



③ 50304 C.V.A. LONG SHOCK UNIT



④ 53036 Hi-CAP DAMPER MINI
⑤ 53037 Hi-CAP DAMPER SHORT



⑥ 53125 SLEEVED DAMPER SHORT

⑦ 53155 LOW-FRICTION ALUMINUM DAMPER
⑧ 53173 FORMULA CAR LOW-FRICTION ALUMINUM DAMPER

TAMIYA SILICONE DAMPER OIL

Tamiya's quality Silicone Damper Oil is developed exclusively for oil filled shock units used on R/C car models. It is formulated to maintain constant viscosity throughout a wide temperature range. 3 sets; Soft, Medium and Hard, are available with each set consisting 2 bottles of different viscosity oil. Select oil according to your track requirements.

Tamiya Silicone Damper Oil Set

		FRONT				REAR			
		C.V.A.	Hi-Cap	Sleeved	Low-Friction	C.V.A.	Hi-Cap	Sleeved	Low-Friction
BIG TIRE CARS	Midnight Pumpkin	2×Ⓐ	2×Ⓒ	2×Ⓒ		2×Ⓐ	2×Ⓒ	2×Ⓒ	
	Clod Buster Bullhead	2×Ⓐ				2×Ⓐ			
	Stadium Blitzer Blitzer Beetle	2×Ⓑ	2×Ⓒ			2×Ⓑ	2×Ⓒ	2×Ⓜ	
	Dyna Blaster	2×Ⓑ	2×Ⓒ	2×Ⓒ		2×Ⓑ	2×Ⓒ	2×Ⓜ	
CROSS-COUNTRY	Mitsubishi Pajero Jeep Wrangler Isuzu Mu	2×Ⓓ				2×Ⓓ			
BUGGIES 2WD	Madcap ※	2×Ⓑ	2×Ⓒ			2×Ⓑ	2×Ⓒ	2×Ⓜ	
BUGGIES 4WD	Manta Ray Top-Force Evolution	2×Ⓑ	2×Ⓒ	2×Ⓒ		2×Ⓑ	2×Ⓒ	2×Ⓜ	
F-1 & INDY CARS	F103,F103L								2×Ⓠ
FWD	FWD Touring Cars	2×Ⓐ			2×Ⓝ	2×Ⓐ			2×Ⓝ
M-CHASSIS	M01,M02	2×Ⓐ			2×Ⓝ	2×Ⓐ			2×Ⓝ
4WD TOURING	TA01,TA02	2×Ⓐ			2×Ⓝ	2×Ⓐ			2×Ⓝ
4WD TOURING	TA02W	2×Ⓐ			2×Ⓝ	2×Ⓐ			2×Ⓝ
4WD RALLY	TA01,TA02	2×Ⓑ			2×Ⓟ	2×Ⓑ			2×Ⓟ
4WD ENGINED RALLY	TGX-Mk.1 TS	2×Ⓓ			2×Ⓟ	2×Ⓓ			2×Ⓟ
	Gr.C & Sports Car					2×Ⓑ			2×Ⓠ

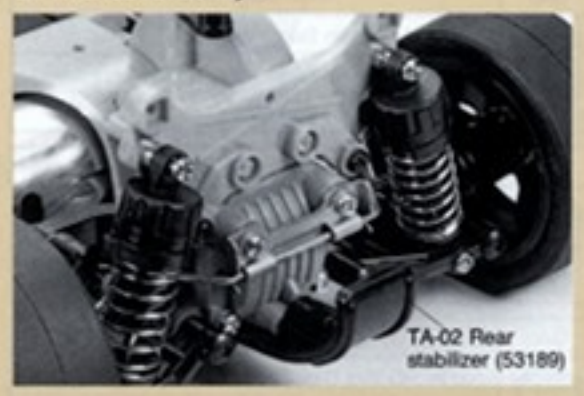
※ Use springs& mounts in car kit when installing C.V.A.

★FRICTION DAMPERS

This damping system is used on some on-road R/C racing cars. Several discs and pads are overlaid and damping effect is obtained by their friction. By applying oil or grease to the pads, the damping effect can be adjusted. Oils and greases of different viscosities are on the market for this purpose.

●STABILIZER

During high speed cornering, a car tends to roll or incline outward, resulting in less traction of the inner wheels and causing instability of the car. Stabilizers are used to reduce the roll, and it contributes in improving the car's overall maneuverability.

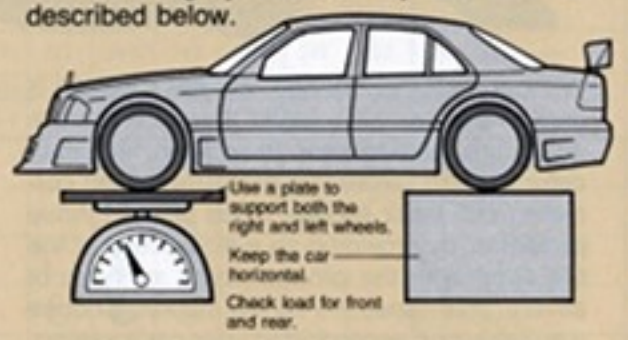

TA-02 Rear stabilizer (53189)

●HOW TO CHECK YOUR CAR'S SUSPENSION SETTING

Place your car on a flat surface, and if its damper springs are slightly compressed with the car's weight, spring stiffness is set correctly. Press the car down to the ground and release. If the car rises smoothly (not instantly), an adequate damping is obtained. For off-road cars, drop the car to the ground from a height of about 30cm. If the setting is acceptable, the car will not bump or its bottom does not hit the ground because the dampers absorb shock. Of course, the final adjustment must be done while test running the car.

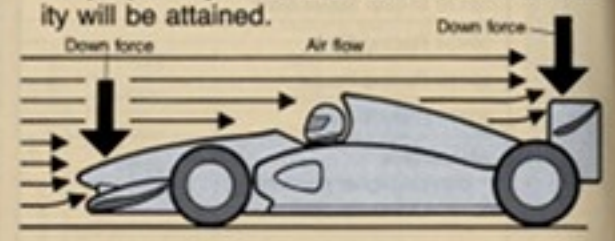
5. WEIGHT DISTRIBUTION BETWEEN WHEELS

The heavier load is carried by a wheel, the more traction it has because more pressure to the ground is produced. Thus, the weight distribution between the front and rear wheels greatly influences the car's handling characteristics. Generally, the distribution ratio between the front and rear is from 35:65 to 45:55. Adjust weight distribution by moving heavy components such as Ni-Cd battery to the desired direction. Front or rear wheel load can be roughly checked by the method described below.



6. WING & SPOILER

The wing attached on many racing cars is employed to gain stability at high speed running. With your radio controlled cars, the rear wing is used to press down the rear wheels for improving the traction on the road. In this way, the gripping power of the rear wheel becomes greater than that of the front wheels and the steering trait changes toward understeering. The faster the car goes, the more effective the wing becomes, that is, the greater the down thrust on the rear wheels. Depending upon the way you adjust the wing, the car can have an excellent cornering characteristic on a low speed curve, but still keep superb stability on the high speed straights. Such a car, also, will show a good adhesion to the road at high speed running. The effect of the wing is lessened when the wing is flattened. The more it is lifted, the greater the down-force. However, it increases the air drag, too, and the velocity of the car slowed. Therefore, the adjustment of the wing must be made carefully, and with the proper adjustment an ideal maneuverability will be attained.



●A TOO LARGE WING WILL INCREASE AIR DRAG

The larger and the more angled a wing is, the more downward force is produced during running by the air flow. However, a too large or too steep wing will produce a more air drag than desired, resulting in reduced speed of the car. The position of a wing/spoiler also influences its effectiveness. If attached at front, it increases the traction of the front wheels, and vice-versa.

●DOWNFORCE DIFFERS ACCORDING TO RUNNING SPEED

Wings and spoilers produce more downward force during running, as the car's speed becomes faster. If a car has an oversteer tendency, use a large, steep angled rear wing. During high speed running, it will produce more downforce and augment its rear wheel traction, thus understeering characteristics can be obtained. When the speed becomes low, the effect of the wing lessens, and the car recovers its original oversteer characteristics.

★MOUNT THE WING FIRMLY

If a wing is mounted to the chassis with a flexible stay, the downforce produced by the wing cannot be effectively utilized by the car. Some cars' wings are mounted directly onto their polycarbonate body shell. In such cases, the body itself should be firmly secured to the chassis.

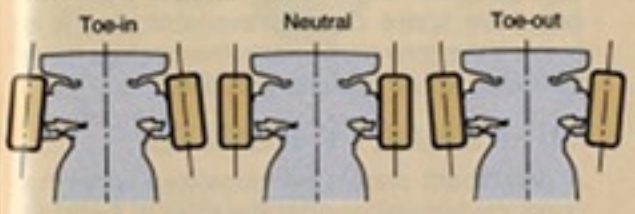
7. WHEEL ALIGNMENT

This is the term for indicating under what condition the wheels are attached to the chassis. Typical factors are toe angles, caster angles and camber angles, which plays important roles in R/C car settings.

●TOE ANGLE

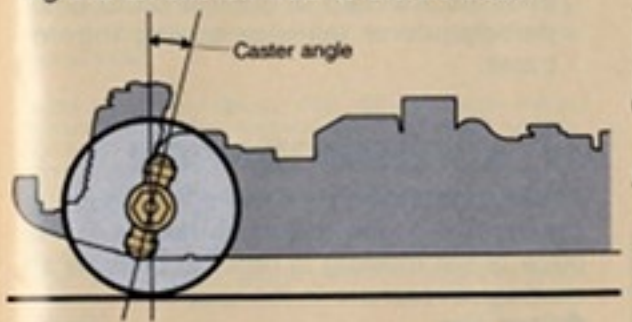
This term indicates the wheels on the both sides are parallel or inclined when viewed from above. If they are inclined forward, it is called "toe-in" and if inclined rearward, they are in a "toe-out" setting. If they are parallel to each other, they are neutral. Toe angles on the front wheels can be adjusted by altering the length of the steering tie-rods. In addition to the standard adjustable tie-rods, turnbuckle tie-rods are available which allow quick and easy adjustment of the length without removal

of the rod. Rear wheel toe-angle is adjustable on some cars, but in most cases, replacement of suspension arms etc. will be required. Take care not to set an excessive toe-in or toe-out, otherwise the resulting drag will hinder the handling of the car. Begin with a little toe-in and work from there.



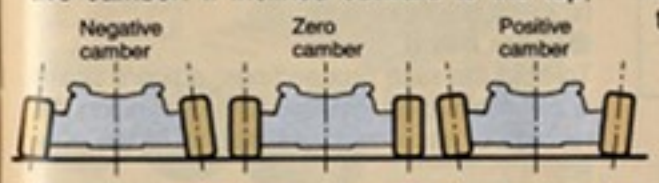
●CASTER ANGLE

This angle indicates how much the king pin on the front upright is inclined rearward from the vertical. Generally, a larger caster angle improves the car's straight running stability. However, with a large caster angle, the front wheels become slanted when steered. This may result in reduced traction during cornering and an uneven wear to the tire tread.



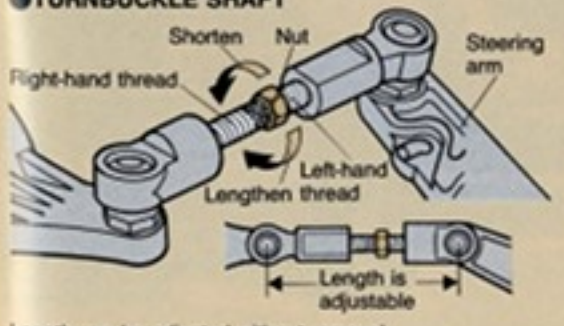
●CAMBER ANGLE

This is the angle of the right and left wheels when viewed from the front or rear. If the wheels incline inward to the top, it is in negative camber. If inclined outward to the top,



they have a positive camber. The camber angle determines the area of contact on each tire during cornering, and therefore the traction of the tires can be made greater or lesser through its adjustments. To increase traction during cornering, adjust to negative, and for reducing traction, adjust to positive. The steering characteristics can be changed by altering the traction of the front and rear tires. The car can be made to oversteer with the front adjusted to negative camber and the rear to positive. To cause the car to understeer, adjust front to positive camber and rear to negative. Camber angle adjustment is done by altering the length of the suspension upper arms. Use of turnbuckle shafts on upper arms allows quick camber angle adjustments.

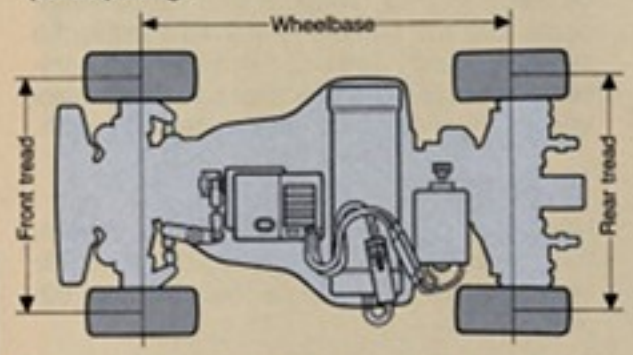
●TURNBUCKLE SHAFT



Length can be adjusted without removal.

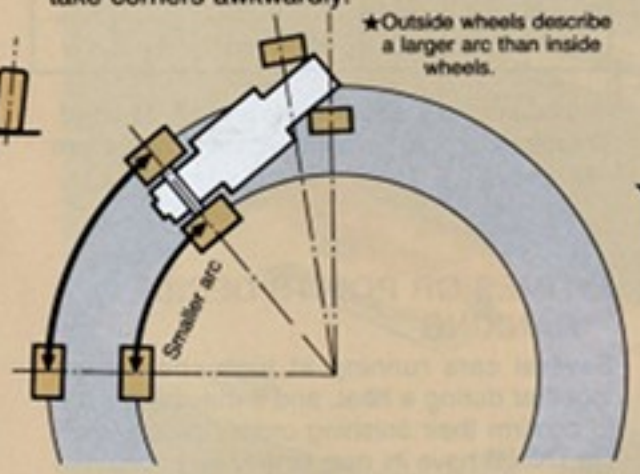
8. WHEELBASE AND TREAD (TRACK)

Wheelbase is the distance between the car's front and rear axles. Tread or track means the distance between the left and right wheels. If the tread is the same, a car with longer wheelbase has better straight running stability and reduced cornering performance. If the wheelbase is the same, a wider tread provides quicker cornering. Cars which have adjustable wheelbase are not common, but in some cases, this can be done by adding spacers or replacing chassis members, etc. Tread can be altered by using wider or narrower wheels or of different offsets. When doing this, you should be careful so that the wheels do not contact the body shell, and also within the limits of race regulations in which you are participating.



9. DIFFERENTIAL GEARING

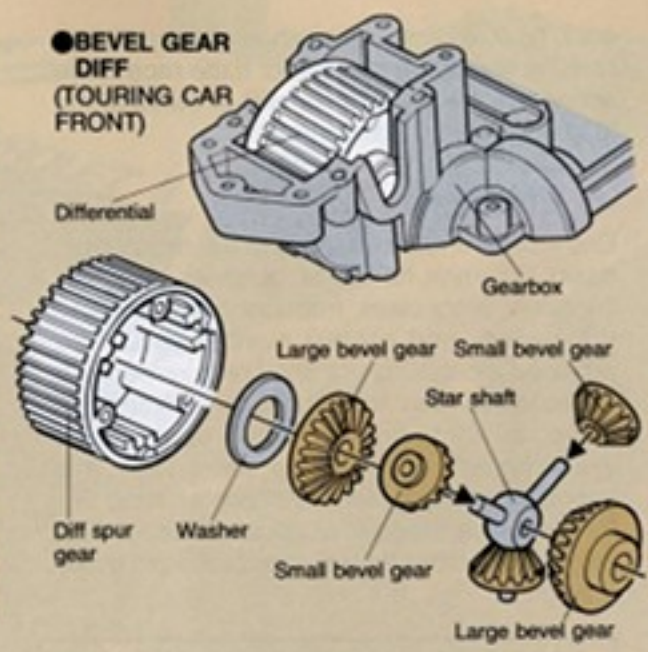
When the car is turning, the distance travelled by the inside wheels is less than that of the outside wheels. The differential gearing provides a smoother cornering performance by absorbing these differences by altering the rotating speed of each wheel. Without the differential, a car is apt to make big turns or take corners awkwardly.



●BEVEL GEAR DIFFERENTIAL

This differential system is used on both the full-sized vehicles and R/C cars. During straight running and if both the left and right wheels contact with the ground, the differential does not work and the motor/engine power is transmitted to both wheels evenly. When cornering, the bevel gears in the differential unit rotate according to the travel of the left or right wheels, thus absorbing the difference of their rotation. One shortcoming of this system is that when the wheel of either side loses contact with the ground, the power is transmitted only to this wheel to rotate it, and the wheel keeping contact with the ground will not rotate, thus the car's driving force will be totally lost.

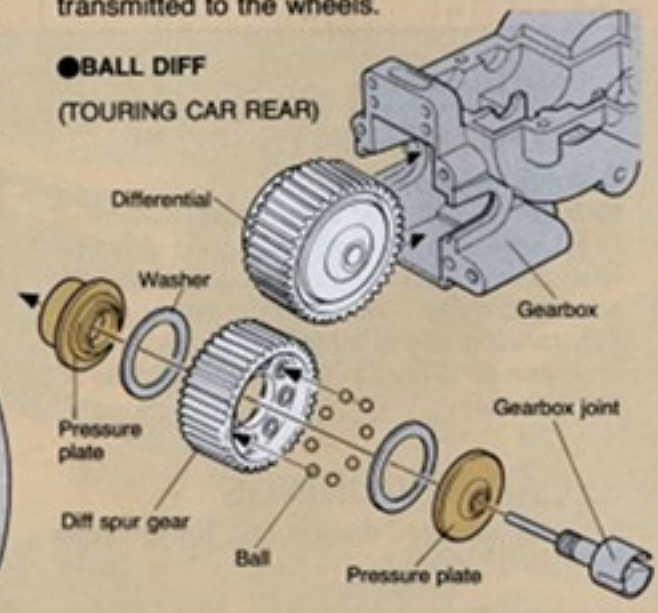
●BEVEL GEAR DIFF
(TOURING CAR FRONT)



●BALL DIFFERENTIAL

This is a unique differential system used on R/C cars. A ball differential consists of metal balls sandwitched between two pressure plates. The balls work like the small bevel gears in a gear differential, absorbing rotation differential between the right and left wheels during cornering. Even when a wheel leaves the ground, because of the friction caused by the pressure to the balls, power is transmitted to some extent to the wheel that is in contact with the ground, thus a total loss of the driving force is avoided. The pressure can be adjusted by tightening a screw, and adding spacers or washers etc. A too little pressure results in slipping of the balls, so the power is not transmitted to the wheels.

●BALL DIFF
(TOURING CAR REAR)



●TORQUE SPLITTERS AND ONE-WAY DIFF UNITS

There is a slight difference of travel between the front and rear wheels. The rear wheels turns more inward than the front wheels, so the front wheels rotate more than the rear. In a shaft-driven four wheel drive cars, the front and rear wheels are connected with a propeller shaft, and the rotation difference causes stress to the propeller shaft. Torque splitter and one-way diff units are developed to solve this problem. Both systems use a one-way bearing which rotates freely only in one direction, allowing the front wheels to rotate faster than the propeller shaft rotation during cornering.

10. FINE-TUNING AN R/C CAR'S PERFORMANCE

A car's performance characteristics is influenced by many factors. Unthought alteration of various components results in mere confusion. Observe and follow the points described below.

●TRACTION OF THE DRIVING WHEELS IS IMPORTANT

The motor/engine power is transmitted to the car's driving wheels and propels the car. To make the best use of the power, concentrate on obtaining the utmost traction at the driving wheels.

●REAR WHEELS' TRACTION MAKES A CAR STABLE

When a car turns its direction, the front wheels steer while the rear wheels acts like a fulcrum. If these support points do not grip the ground properly, the car's stability will be reduced. In rear wheel drive and four wheel drive cars, the rear wheel traction should be most valued. In front wheel drive cars, balance between the front driving wheels and rear wheels traction should also be carefully considered.

●ALTER STEP BY STEP

Attempting to modify-it-all in one try should be avoided, because if any effect is obtained, you cannot figure out exactly which alteration led to the obtained result. Alter/adjust one point at a time and perform a test run each time. By repeating this procedure, you will know the individual effect of each adjustment, which greatly helps you in attaining a balanced setting on your car.

●BALANCED ADJUSTMENT BETWEEN THE RIGHT AND LEFT

If a suspension setting is different between the left and right side of your car, it will have different tendencies when taking corners and turns. Settings must be equal on the right and left.

★In oval track competitions as seen on the full-sized Indy Car events, cars have a different weight distribution on the right and left side, because these cars take corners only in one direction.

●CONSIDER THE WEATHER AND TEMPERATURE

High temperatures cause oil and grease becoming softer and thus their viscosities are lowered. Conversely, they become stiffer under low temperatures. Therefore, different greases and oils will be required to obtain the same setting condition during summer and winter. The setting should be also done according to the track surface conditions. When running on a wet or slippery surfaces, higher traction tires and/or larger spoilers to produce stronger down force, should be employed.

GUIDANCE FOR ORGANIZING A COMPETITION

It is a thrill to participate in a race; however, it is a more significant experience to organize a contest. A competition requires many people; timekeepers, course committee members, etc. In small races, such as those organized by hobby stores, players often serve concurrently as officials. It will be appreciated if you can offer a hand as an official. It is not only welcomed by an organization, but it is also rewarding to yourself. The experience of taking part in a race meet as an official will surely help you with organizing another event. Moreover, it will be of much benefit to you when you participate in a contest as racer.

1. TYPES OF RACES

There are many types of races; series, single ones, and others. It is a common purpose to compete with fellow racers and to develop skills. The more races you participate in, the better results you can expect. Many races are organized in a series to compete throughout the year in order to single out a champion.

●POINT SYSTEM SERIES

Points are given to contestants in proportion to records achieved at each individual race. The winner, 2nd, 3rd places and so forth are determined respectively by the total points accumulated in the series.

●REPECHAGE SERIES (PRELIMINARY)

A big drawback of the point system series is that it is unfavorable to participants who join late. The repechage series has been organized for eliminating this drawback. For example, minor races are held every month to choose a champion of the month. The annual event is conducted to determine a champion of the year Anyone who has become a champion of the month is eliminated from the following monthly events. In this way, a new champion (competent person to the annual final race) is chosen every month, and contestants from the middle will not be put at a disadvantage. At the same time, this system will give an opportunity to low scores to win a monthly race.

2. QUALIFICATION FOR PARTICIPATION

These are two typical systems. It is usually common that employees or members of the host organization are not eligible, but they may be admitted under the condition that they are eliminated from obtaining awards and ranking.

3. ANNOUNCEMENT OF A RACE

It can be announced through posters. Handouts are also good media to publicize the competition. Essential factors such as when, where, qualification, way of grouping, kinds of cars, type of race and method of determining ranking should be described. If the race is the series system, announcement of dates of the following events is desirable.

4. ENTRY

Entry forms should be ready at the registration desk. Columns for name, address, age, occupation, entry class, frequency of radio control system, and contest number should be provided along with entrance requirements. It is recommended for a host organization to make an entry register book, as it will be useful for reference. With a series race, it is important to keep records of contestants. Entry forms are made in duplicate; one for participant, the other for the organization to make a ledger.

STORE GRAND PRIX ENTRY CARD

Name Address	
Age (Grade)	Occupation
Class	
Car Number (check one)	
Frequency Band	01 02 03 04 05 06 07 08 09 10 11 12 61 63 65 67 69

Store Grand Prix Entry Card

1st		2nd		3rd		4th	
5th		6th		7th		8th	

5. GROUPING OF CONTESTANTS

●Group by age

●Group by skill and experience

The above two methods are good ways to form groups. There can be a beginner and an advanced class, if sorting is carefully done. Top ranking contestants in the beginner's class can be placed in the advanced class in the next race.

6. CAR GROUPINGS

Basically cars are divided into two groups; Stock and Modified.

●STOCK CLASS

Cars in this class must use a standard (stock) 540 type electric motor, and be built right from the box. Modifications or tuning up is not allowed, except for the use of the most fundamental items, such as ball bearings. The stock class is highly recommended for beginning drivers as it allows them to quickly become acquainted with the racing environment and gain needed experience.

●MODIFIED CLASS

As modelers gain more experience from racing and learn more about radio control, they are encouraged to modify and increase the cars performance. This can be a frustrating proposition as the costs and technical finesse required, allow only a few to be successful at it. It is more practical however, to organize a modified class, by setting some limits on the degree of modifications allowed.

7. REGISTRATION ON THE DAY

Ascertain who the participants are with the entry form. Check if the car is qualified under the requirements of the particular racing class.

8. GROUPING OF PARTICIPANTS FOR PRELIMINARY HEATS

During most racing events, entrants run in two or more heat races while working up to final event. As R/C cars on the same frequency cannot run at the same time, grouping should be made so they are separated into different heats. List the number of entrants using the same frequency and sort them out. The number of cars racing in one heat can be from six to eight, depending on track width and length.

●GROUPING EXAMPLE

Number of participants: 01 band: six drivers, 02: three, 03: five, 04: three, 05: five, 06: three, 61: one, 63: one, 65: two, 67: one, 69: one.

Band / Group	1	2	3	4	5	6
1	01	03	05	02	06	63
2	01	03	05	04	65	
3	01	03	05	04	65	
4	01	03	05	04	67	
5	01	03	02	06	69	
6	01	05	02	06	61	

In this example, six drivers use the 01 band. Therefore at least six preliminary heats are required.

●TIMES OR POINTS DECIDE RANKING

Several cars running at high speed race together during a heat, and it may be difficult to confirm their finishing order. Ideally, each car should have its own time keeper, with the ranking determined by the elapsed time for the heat. This method requires many stopwatches. you can use a point system to rank cars by giving points for the cars finishing position. The final ranking is determined by adding the points a car received in each heat race.

9. FINALS

Finalists are decided from the results of the preliminary heats. Only one final is held in each class, however, if the schedule will allow, several final groups, such as A-final, B-final etc. can be had so that as many participants as possible can be in a final event. In such cases, racing distances or elapsed times are normally longer as the rankings are higher.

●CHANGING FREQUENCIES FOR FINALS

As the final grouping is determined by the results of the heat races, it is possible that two or more cars for the final will have the same frequency. In these cases, it is necessary to change some frequencies. The race organizer can have spare crystals available, but it is better if the race participants themselves have their own spare crystals with them.

10. PENALTY POINTS

A participant should be penalized when he conducts himself against the spirit of fair play or against the smooth progress of a contest. The punishment is disqualification and then imposition of a cut in marks or additional penalty time.

★It is usual that interference to other cars and remodeling exceeding the limit should be liable to disqualification.

★A breakaway is subject to demerit mark. The penalty system should be constituted from the standard of annoyance to other participants or injustice among the entrants.

11. ACCOMMODATION

Ample consideration is desired to be given to conveniences and accommodations in the place of the meeting in order to produce an exciting atmosphere to the race.

●Start flag

Generally a national flag or a flag of the host organization is in use.

●Finish flag (checkered flag)

A checkered flag of black and white is waved to the winner's car just before and when crossing the finish line.

●Score board

To help the race proceedings, a score board is desirable to be installed for announcing the records of each heat and ranking to the public.

●Control stand

A stand is very convenient to install so that the drivers can control in better view of the course and the cars while racing.

●Props in the course layout

A bridge made of a tire or advertisement sign boards of companies which can be seen along a real racing track, and miniature guard rails used as pylons in the course will enliven the race.

146 CHEVY S-10
シェビーS10

Stadium racing events are gaining much popularity in the U.S and other countries. Now, this same excitement can be had with Tamiya's R/C model of the Chevy S-10 stadium racing pickup truck. It uses heavy duty, shaft driven full-time 4WD mechanics, and a double wishbone suspension system for rough terrain running. Coil over oil-filled damper units are mounted at all corners. Front and rear sealed gearboxes keep out sand and debris, preventing abnormal wear to the gears. The stylish pickup type body shell is vacuum formed of transparent polycarbonate plastic. High grip all-terrain tires are accurate down to the exact tread pattern, and the metal plated wheels enhance its overall looks.

(Model specifications) ●Scale: 1/10th. ●Overall length: 410mm. ●Overall width: 190mm. ●Overall height: 174mm. ●Wheelbase: 255mm. ●Tread: Front and rear 155mm. ●Weight fully equipped: Approximately 1,600gms. ●Tire width/diameter: Front and rear 83/88mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:10.61. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

Chevrolet, Chevy, the Bow Tie Emblem, S-10 emblem and body design and Chevy Thunder are trademarks of Chevrolet Motor Division, General Motors Corporation and used under license to Tamiya Inc.

1/10th SCALE (58146) 7.2Vレーシングパック各種

161 4×4 RACING TRUCK FORD F-150
フォードF 150

The "Outlaw" class pickup truck racing is extremely popular in the United States. Highly modified pickup trucks running through tough and rough conditions are spectacular to watch. Now you can enjoy this same excitement using Tamiya's R/C model of Ford's F-150 racing pickup. Its sophisticated shaft driven 4WD system efficiently transmits the power from the 540 type electric motor to all four wheels. Four wheel independent double wishbone suspension is damped by oil-filled shock absorbers at the four corners. Semi-pneumatic all terrain tires are reproduced down to its realistic tread pattern. Light and tough polycarbonate (Lexan) body shell can be easily decorated by using Tamiya's excellent line of polycarbonate paints. Colorful racing stickers enhance its overall good looks.

(Model specifications) ●Scale: 1/10th. ●Overall length: 410mm. ●Overall width: 190mm. ●Overall height: 165mm. ●Wheelbase: 255mm. ●Tread: Front and rear 155mm. ●Weight fully equipped: Approximately 1,600gms. ●Tire width/diameter: Front and rear 83/88mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:10.61 ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58161) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

121 IDEMITSU MOTION MUGEN CIVIC
出光MOTION無限シビック

Honda's "Civic" has been very active on Japanese Touring Car race scene. Many teams use this compact car in vying for the title, and one of them is the Idemitsu Motion Mugen, who won the 1992 Class-3 Constructors and Driver's titles. Tamiya's electric powered R/C model of this champion machine uses a front motor, front wheel drive format just like the full sized winner. Bathtub type frame/chassis is injection molded of light and tough engineering plastic. Front sealed gearbox houses a precision ball type differential. Front and rear double wishbone suspension system is damped by oil-filled shock units at all corners. Detailed body shell is made from lightweight and tough polycarbonate. Colorful stickers and realistic cockpit parts add to the realism.

(Model specifications) ●Scale: 1/10 ●Overall length: 414mm ●Overall width: 184mm ●Overall height: 133mm ●Wheelbase: 258mm ●Tread: Front and rear 153mm ●Weight fully equipped: Approximately 1,480gms ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel REC radio. (Battery and radio unit are available separately)

127 CASTROL HONDA CIVIC VTi
カストロールホンダシビックVTi

Using the Civic VTi compact car, Team Castrol Honda entered their new car in the 1993 British National Saloon Car Cup race. The team entered the N class race consisting of near-to-stock cars competing for a national championship, and the Castrol Civic demonstrated superb performance. Tamiya's R/C model of the Castrol Civic VTi utilizes a front motor, front wheel drive format, just like the full-sized Civic. Bathtub type frame/chassis is injection molded of light and tough engineering plastic. Front sealed gearbox houses precision ball type differential. Front and rear double wishbone suspension system is damped by oil-filled shock units at all corners. Detailed body shell is made of lightweight, but tough polycarbonate. Authentic stickers and realistic cockpit interior are included to enhance total realism.

(Model specifications) ●Scale: 1/10 ●Overall length: 414mm ●Overall width: 184mm ●Overall height: 133mm ●Wheelbase: 258mm ●Tread: Front and rear 153mm ●Weight fully equipped: Approximately 1,480gms ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel REC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice

131 TOM'S LEVIN
トムス・レビン

Toyota's lightweight Levin was a rival to Honda's Civic during the Japanese Touring Car Championships. Supported by the Toyota Works Racing Team, the TOM's Levin showed its fantastic potential at the track during the 1993 racing season. Now Tamiya introduces an electric powered R/C model of this potent racing machine. The model utilizes a front motor, front wheel drive format just like its full-sized counterpart. Engineering plastic molded bathtub type frame/chassis is lightweight and sturdy. Front and rear double wishbone suspension system is damped by four oil-filled damper units. Front sealed gearbox houses precision ball type differential gearing. Lightweight one-piece molded wheels are matched to low-profile racing slicks. Highly detailed body shell is vacuum formed of light and tough polycarbonate.

(Model specifications) ●Scale: 1/10 ●Overall length: 439mm ●Overall width: 182mm ●Overall height: 130mm ●Wheelbase: 258mm ●Tread: Front and rear 153mm ●Weight fully equipped: Approximately 1,485gms. ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel REC radio. (Battery and radio unit are available separately)

133 JACCS CIVIC
ジャックス シビック

Honda's "Civic" is used by many racing teams on the Japanese Touring Car Championships. One of them, the Jaccs Team, monopolized the 1993 Class-3 Constructors and Driver's titles. Tamiya's electric powered R/C model of this champion machine uses a front motor, front wheel drive format just like the full sized winner. Bathtub type frame/chassis is injection molded of light and tough engineering plastic. Front sealed gearbox houses a precision ball type differential. Front and rear double wishbone suspension system is damped by oil-filled shock units at all corners. Detailed body shell is made from lightweight and tough polycarbonate. Colorful stickers and realistic cockpit parts add to the realism.

(Model specifications) ●Scale: 1/10 ●Overall length: 414mm ●Overall width: 184mm ●Overall height: 132mm ●Wheelbase: 258mm ●Tread: Front and rear 153mm ●Weight fully equipped: Approximately 1,480gms. ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel REC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice.

159 HKS OPEL VECTRA JTCC
HKS オペル ベクトラ JTCC

Using the highly competitive Opel Vectra, the HKS racing team entered the 1995 Japanese Touring Car Championships (JTCC), with Tamiya as a sponsor. The Vectra, decorated with Tamiya logos, displayed its positive performance at the track throughout the season. Tamiya's R/C model of the HKS Opel Vectra uses nimble Front Wheel Drive chassis mechanics. A powerful 540 type electric motor is mounted at the front, driving the front wheels. Sealed gearbox houses a precision ball type differential for improved cornering performance. Four wheel independent double wishbone suspension is damped by competition oil-filled shock units all around. Highly detailed transparent polycarbonate (Lexan) body shell is light in weight and almost indestructible.

(Model specifications) ●Scale: 1/10 ●Overall length: 442mm ●Overall width: 184mm ●Overall height: 145mm ●Wheelbase: 258mm ●Tread: Front and rear 157mm ●Weight fully equipped: Approximately 1,482gms ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel BEC radio. (Battery and radio unit are available separately)

147 CASTROL NISSAN PRIMERA JTCC
カストロール ニッサン プリメーラ JTCC

Nissan entered their Primera for the 1994 Japanese Touring Car Championships (JTCC). This 4-door sedan was completely race tuned using Nissan's latest competition components and technology, in vying for the title. Tamiya's model of the Castrol Primera uses front wheel drive mechanics, just like the full-sized racer. Front sealed gearbox houses a precision ball type differential for improved cornering performance and gear protection. Engineering plastic molded bathtub type main frame is light and sturdy. Suspension system is a sophisticated four wheel independent double wishbone type. The car is equipped with coil over oil-filled shock units at all corners. Vacuum formed polycarbonate body shell is realistically detailed like the full sized racer.

(Model specifications) ●Scale: 1/10 ●Overall length: 446mm ●Overall width: 183mm ●Overall height: 138mm ●Wheelbase: 258mm ●Tread: Front and rear 153mm ●Weight fully equipped: Approximately 1,485gms ●Tire width/diameter: Front and rear 27/62mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel BEC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice.

117 LANCIA DELTA HF INTEGRALE
ランチアデルタHFインテグラーレ

World Rally Championships are a grueling challenge for any automobile manufacturer competing for a rally title. The Lancia firm of Italy is renowned for their accomplishments in producing title-winning rally racing machines. For the 1992 season, Lancia entered their latest achievement, known as the Delta HF Integrale, to secure their 6th consecutive maker's title. Now this highly sophisticated rally racer is available from Tamiya as an electric powered R/C model. It uses shaft driven 4WD mechanics. Front and rear sealed gearboxes incorporate precision differential gearing. Double wishbone suspension system is damped by compact oil-damper units all around. The highly detailed body shell is vacuum formed of light and sturdy polycarbonate (Lexan). Kit includes realistic interior cockpit parts.

(Model Specifications) ● Scale: 1/10th. ● Overall length: 407mm. ● Overall width: 186mm. ● Overall height: 150mm. ● Wheelbase: 260mm. ● Tread: Front and rear 153mm. ● Weight fully equipped: Approximatery 1,600g. ● Tire width/diameter: Front and rear 27/65mm. ● Polycarbonate (Lexan) body. ● Frame: Impact resistant resin bathtub type, with honeycomb pattern rib molding inside. ● Suspension: Four wheel independent double wishbone system. ● Includes four coil over oil-filled shock absorbers. ● Motor: 540 type. ● Gear ratio: 18.59. ● Power source: Ni-Cd 7.2V Racing Pack. ● Speed control: 3 step forward/reverse ● Radio control unit: Requires a Tamiya R/C system or other REC type 2 chan. R/C equipment. (Battery and radio unit are available separately)

112 FORD ESCORT RS COSWORTH
フォード・エスコートRSコスワース

Ford developed the Escort RS Cosworth to compete against the dominant Lancia and Toyota entries in the World Rally Championships. This nimble monster uses a highly tuned, 2 liter in-line four DOHC engine that produces an impressive 300hp. A torque-splitting, full-time 4WD drive train efficiently transmits this tremendous power to the wheels. Tamiya's 1/10 scale, electric powered R/C model of the Ford Escort RS Cosworth racer provides both racing excitement and realistic scale looks. It uses sophisticated shaft driven full-time 4WD mechanics. Front and rear sealed gearboxes incorporate precision differential gearing. The four-wheel independent, double wishbone suspension system is damped by compact oil-damper units all around. Highly detailed body shell is vacuum formed of light and sturdy polycarbonate (Lexan).

(Model Specifications) ● Scale: 1/10th. ● Overall length: 425mm. ● Overall width: 193mm. ● Overall height: 152mm. ● Wheelbase: 260mm. ● Tread: Front 156mm, rear 156mm. ● Weight ready to run: approximatery 1,600g. ● Tire width/diameter: Front and rear 29/68mm. ● Polycarbonate (Lexan) body. ● Frame: Impact resistant resin bathtub type, with inside honeycomb pattern rib molding. ● Suspension: Four wheel independent double wishbone. ● Includes four coil over oil-filled shock absorbers. ● Motor: 540 type. ● Gear ratio: 18.59. ● Power source: Ni-Cd 7.2V Racing Pack. ● Speed control: 3 step forward/reverse ● Radio control unit: Requires a Tamiya R/C System or other REC type 2 chan. R/C equipment. (Battery and radio available separately)

★Specifications are subject to change without notice.

189 MARTINI ALFA ROMEO 155 V6 TI
マルティニ アルファロメオ 155 V 6 TI

For the 1996 International Touring Car Championships (ITC), the Alfa Romeo of Italy constructed a number of Alfa Romeo 155 V6 TI cars. Three racing teams entered a total of eight 155 V6 TI racers, and among them, the Martini sponsored 155 V6 TI's were piloted by the talented drivers N. Larini and A. Nannini. With its eye-catching color scheme and aggressive performance, the Martini Alfa Romeo 155 V6 TI pleased the racing fans throughout the 1996 ITC season. Tamiya's 1/10th scale radio control model of the Alfa Romeo 155 V6 TI racer provides the fun and excitement of driving a high performance R/C car. It uses highly sophisticated belt driven full-time 4WD. The four-wheel independent, double wishbone suspension system is damped by oil filled shock units all around. The highly detailed body shell is vacuum formed of transparent polycarbonate (Lexan).

(Model Specifications) ●Scale: 1/10 ●Overall length: 462mm ●Overall width: 185mm ●Overall height: 143mm ●Wheelbase: 257mm ●Tread: Front and rear 157mm ●Weight fully equipped: approx. 1,605g ●Tire width/diameter: Front and rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 18.51 ●Motor: 540 type electric ●Power source: Tamiya Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C System or a 2 channel REC radio. (Battery and radio unit are available separately)

188 OPEL CALIBRA Cliff
オペル カリブラ クリフ

The Opel firm of Germany entered six Calibra's into the 1995 International Touring Car Championships (ITC), to compete against the dominant Mercedes and Alfa Romeo. The Calibra used a Cosworth tuned, 2.5 liter V-6 cylinder DOHC engine that yielded an awesome 420 horsepower. With the former F-1 driver J. J. Lehto at the wheel, this distinctive Calibra Cliff pleased racing fans throughout the season. Tamiya's R/C model of this Opel Calibra Cliff uses track proven components from the ground up. It uses a belt driven full-time 4WD system and a highly sophisticated four wheel independent double wishbone suspension system. The system is damped by four, coil over oil-filled shock absorbers. Engineering plastic bathtub type frame is light and sturdy. Highly detailed polycarbonate (Lexan) body shell accurately depicts the aggressive looks of its full-sized counterpart.

(Model Specifications) ●Scale: 1/10 ●Overall length: 448mm ●Overall width: 185mm ●Overall height: 130mm ●Wheelbase: 257mm ●Tread: Front and rear 153mm ●Weight fully equipped: approx. 1,690g ●Tire width/diameter: Front and rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 18.51 ●Motor: 540 type electric ●Power source: Tamiya Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C System or a 2 channel REC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice

139 AMG MERCEDES-BENZ C-CLASS DTM D2
AMGメルセデス・ベンツCクラスDTM D2

In vying for the 1994 German Touring Car Championships, Mercedes-Benz introduced a new C-Class racing machine. State of the art racing technology from the Mercedes-Benz company is covered up with a production car look-alike Mercedes body shell. Its powerful V6 cylinder, 24 valve engine is said to produce an awesome 400 plus horsepower. Tamiya's 1/10 scale, ready to assemble electric powered R/C model of the Mercedes-Benz DTM racer uses shaft-driven full-time 4WD mechanics. Matched with its four wheel independent double wishbone suspension system, it provides superb maneuverability and stability during high speed running. Front and rear sealed gearboxes house precision differential gearing, while its vacuum formed polycarbonate body shell faithfully captures the aggressive silhouette of the full-sized racer.

(Model specifications) ●Scale: 1/10th. ●Overall length: 445mm. ●Overall width: 186mm. ●Overall height: 133mm. ●Wheelbase: 260mm. ●Tread: Front and rear 153mm. ●Weight fully equipped: Approximately 1,590gms. ●Tire width/diameter: Front and rear 27/62mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

1/10th SCALE (58139) 7.2Vレーシングパック各種

TA 02 CHASSIS

145 ProMarkt-Zakspeed AMG MERCEDES C-CLASS DTM
プロマルクト ザクスピード AMG メルセデス Cクラス DTM

Mercedes C-Class racer to compete in the 1994 German Touring Car Championships. Sponsored by ProMarkt and decorated in a brilliant yellow livery, the Zakspeed Mercedes displayed its first class performance throughout the season. Tamiya's model of this ProMarkt-Zakspeed Mercedes uses track proven components all around, just like its full-sized prototype. The bathtub frame of engineering plastic is light and sturdy. The motor power is efficiently transmitted to all four wheels via shaft-driven 4WD system. The four wheel independent double wishbone suspension system is damped by four large capacity oil-filled shock absorbers, while the highly detailed polycarbonate body shell covers the racing mechanics.

(Model specifications) ●Scale: 1/10th. ●Overall length: 445mm. ●Overall width: 186mm. ●Overall height: 133mm. ●Wheelbase: 260mm. ●Tread: Front and rear 153mm. ●Weight fully equipped: Approximately 1,590gms. ●Tire width/diameter: Front and rear 27/62mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

1/10th SCALE (58145) 7.2Vレーシングパック各種

TA 02 CHASSIS

★Specifications are subject to change without notice.

125 MICHELIN PILOT FORD ESCORT RS
ミシュランパイロット エスコートRS

Since its debut on the rally scene, Ford's Escort RS Cosworth has displayed outstanding performance in this tough sport. The major tire manufacturer, Michelin, sponsored the Ford Escort during the 1993 British national rally events. Decorated with the popular "Bibendum" Tire Man logo, the Michelin Ford Escort attracted many motorsports fans. Tamiya's R/C model of this Escort provides both exciting performance and scale-like appearance. The sophisticated shaft-driven full time 4WD system and its four wheel independent double wishbone suspension system are used for stable running through the rough sports. Lightweight one-piece molded wheels are matched with the high grip Rally block tires. Highly realistic body shell is vacuum formed of polycarbonate.

(Model specifications) ●Scale: 1/10th. ●Overall length: 425mm. ●Overall width: 190mm. ●Overall height: 152mm. ●Wheelbase: 260mm. ●Tread: Front and rear 153mm. ●Weight fully equipped: Approximately 1,690gms. ●Tire width/diameter: Front and rear 27/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type, with honeycomb pattern rib molding inside. ●Suspension: Four wheel independent double wishbone system. ● Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Speed control: 3 step forward and reverse. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

1/10th SCALE (58125) 7.2Vレーシングパック各種

TA 01 CHASSIS

129 CASTROL CELICA ('93 MONTE-CARLO RALLY WINNER)
カストロールセリカ('93モンテカルロラリー優勝車)

Toyota further enhanced their sophisticated Celica GT-FOUR RC, in order to vie for the 1993 World Rally Championships. Regarded as one of the most potent rally cars of the season, the Celica won seven events out of twelve, monopolizing both the constructor's and driver's titles. Tamiya's electric powered R/C model of the Castrol Celica GT-FOUR uses shaft-driven full time 4WD mechanics, just like the full-sized winner. Engineering plastic molded bathtub type chassis/frame is light and extremely durable. Four wheel independent double wishbone suspension is equipped with oil-filled shock units at all corners, providing track hugging performance. Vacuum formed polycarbonate body shell faithfully reproduces the aggressive silhouette of the full-sized prototype. Colorful and authentic stickers add to the final touch.

(Model specifications) ●Scale: 1/10th. ●Overall length: 450mm. ●Overall width: 187mm. ●Overall height: 137mm. ●Wheelbase: 260mm. ●Tread: Front and rear 156mm. ●Weight fully equipped: Approximately 1,590gms. ●Tire width/diameter: Front and rear 27/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

1/10th SCALE (58129) 7.2Vレーシングパック各種

TA 02 CHASSIS

★Specifications are subject to change without notice.

137 BLITZ TOYOTA SUPRA Gr.N
ブリッツトヨタスープラGr.N

Incorporating Toyota's latest automotive technology and elegance, the 3rd generation Supra made its debut in February 1993. The top of the line Supra uses a 3 liter, DOHC twin-turbocharged straight six cylinder powerplant producing 320hp. With this potent machine, the "Blitz" racing team competed in the '93 Japanese Touring Car Championship Group N events. Tamiya's model of the Blitz Toyota Supra provides both attractive good looks and exciting performance. It uses a highly sophisticated shaft driven full-time 4WD mechanics. Front and rear sealed gearboxes incorporate precision differential gearing. The four wheel independent, double wishbone suspension system is damped by oil-filled shock units all around. The highly detailed body shell is vacuum formed of transparent polycarbonate (Lexan).

(Model specifications) ●Scale: 1/10th. ●Overall length: 457mm. ●Overall width: 186mm. ●Overall height: 132mm. ●Wheelbase: 260mm. ●Tread: Front and rear 153mm. ●Weight fully equipped: Approximately 1,530gms. ●Tire width/diameter: Front and rear 27/62mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1/8.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a 2FC radio. (Battery and radio unit are available separately)

1/10th SCALE (58137) 7.2Vレーシングパック各種

TA 02 CHASSIS

99 SKYLINE GT-R NISMO
スカイラインGT-Rニスモ

The Nissan firm's Skyline GT-R is equipped with a 2.6 liter, 6 cylinder DOHC, twin-turbocharged powerplant which produces an awesome 280 horsepower. It uses a sophisticated four-wheel drive and four-wheel steering system. The race-tuned version of the GT-R has shown outstanding performance, not only in Japan, but also at the touring car endurance races held worldwide. Now this highly sophisticated road-going racer is available from Tamiya as an electric powered R/C model. Tamiya's Skyline GT-R uses shaft driven 4WD mechanics, just like the full-sized vehicle. Front and rear sealed gearboxes incorporate precision differential gearing. The four-wheel independent, double wishbone suspension system is damped by compact oil-damper units all around. The highly detailed body shell is vacuum formed of light and sturdy polycarbonate (Lexan).

(Model Specifications) ● Scale: 1/10th. ● Overall length: 452mm. ● Overall width: 184mm. ● Overall height: 135mm. ● Wheelbase: 260mm. ● Tread: Front and rear 153mm. ● Weight fully equipped: Approximately 1,580gms. ● Tire width/diameter: Front and rear 27/62mm. ● Polycarbonate (Lexan) body. ● Frame: Impact resistant resin bathtub type, with honeycomb pattern rib moldings inside. ● Suspension: Four wheel independent double wishbone system. ● Equipped with four oil shock units. ● Gear ratio: 1/8.59. ● Motor: 540 type. ● Power source: Ni-Cd 7.2V Racing Pack. ● Radio control unit: Requires a Tamiya R/C System; FC radio; or regular 2 ch. R/C equipment plus a Tamiya Battery Eliminator (Battery and radio unit are available separately).

1/10th SCALE (58099) 7.2Vレーシングパック各種

TA 01 CHASSIS

★Specifications are subject to change without notice.

165 NISMO Clarion GT-R LM '95 LE MANS CONTENDER
ニスモ クラリオンGT-R LM '95 ル・マン出場車

The excitement of the renowned Le Mans 24 hour endurance race can be had with Tamiya's R/C scale model of the NISMO Clarion GT-R LM, a 1995 Le Mans contender. Tamiya's model of this car is fully equipped with race proven components, like the shaft-driven full time 4WD mechanics, double wishbone suspension and oil filled dampers. Front and rear sealed gearboxes house precision differential gears for smooth cornering performance. Wide, low profile, semi-pneumatic racing slicks ensure optimum grip. High quality metal plated wheels enhance the car's overall good looks.

(Model specifications) ●Scale: 1/10th. ●Overall length: 468mm. ●Overall width: 200mm. ●Overall height: 135mm. ●Wheelbase: 256mm. ●Tread: Front 173mm, rear 169mm. ●Weight fully equipped: Approximately 1,570gms. ●Tire width/diameter: Front 27/65mm, rear 33/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58165) 7.2Vレーシングパック各種

TA02W CHASSIS

144 NISSAN 300ZX IMSA GTS
ニッサン300ZX IMSA GTS

In 1994, Nissan's 300ZX GTS racing machine recorded victories in the Daytona 24-hour race and the Sebring 12-hour endurance competition. It also finished 5th in the prestigious Le Mans 24-hour event. Nissan's competitive racing components were wrapped up in a production car look alike body shell for these events. Tamiya's radio control model of the 300ZX GTS uses a sophisticated, full-time, shaft driven 4WD system. Front and rear gearboxes house precision differential gearing, and the 4 wheel independent double wishbone suspension system ensures track hugging performance. Fat, semi-pneumatic rubber-like racing slicks and a realistic polycarbonate body shell provide race car looks. Colorful and authentic stickers for the perfect finish are included.

(Model specifications) ●Scale: 1/10th. ●Overall length: 455mm. ●Overall width: 210mm. ●Overall height: 116mm. ●Wheelbase: 258mm. ●Tread: Front 173mm, rear 169mm. ●Weight fully equipped: Approximately 1,570gms. ●Tire width/diameter: Front 27/62mm, rear 33/62mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58144) 7.2Vレーシングパック各種

TA02W CHASSIS

★Specifications are subject to change without notice

158 FIAT ABARTH 1000 TCR BERLINA CORSA
フィアット アバルト 1000TCR ベルリーナ コルサ

The compact Fiat 600 was beefed up by the Italian "Tuning Magician" Carlo Abarth to compete in the European touring races. With its 948cc powerplant yielding a 100 plus horsepower, this petite powerhouse swept the racing scene of its day. Tamiya has reproduced this little dynamite package in a 1/10 scale high performance R/C model. A powerful 540 type electric motor is mounted amidship, and drives the rear wheels. Rear sealed gearbox houses precision differential gearing. Four wheel double wishbone suspension is damped by coil spring mono-shock units front and rear. The highly detailed vacuum formed body shell is made from light and tough polycarbonate. Separately molded plastic parts such as the opened rear hood and realistic engine components, add to its overall realism.

(Model Specifications) ●Scale: 1/10 ●Overall length: 374mm ●Overall width: 168mm ●Overall height: 130mm ●Wheelbase: 230mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,320g ●Tire width/diameter: Front & rear 25/55mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 15.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

1/10th SCALE (58158) 7.2Vレーシングパック各種

M-02 CHASSIS

149 ROVER MINI COOPER
ローバー ミニクーパー

Originally created by Sir Alec Isigonis in 1959, and tuned by John Cooper, the "Mini" has established worldwide fame on both the commercial and racing scene. Tamiya has reproduced this automotive legend as a highly realistic and high performing 1/10 scale R/C model. The powerful electric motor is mounted at the front and drives the front wheels, just like a full-sized Mini. Front sealed gearbox houses a precision differential gear. Four wheel independent double wishbone suspension system is damped by coil spring mono-shock units front and rear. The detailed body shell is vacuum formed of light and tough polycarbonate. Separately molded body parts, such as the plated front grille and bumpers, enhance total realism of the model.

(Model Specifications) ●Scale: 1/10 ●Overall length: 318mm ●Overall width: 160mm ●Overall height: 140mm ●Wheelbase: 210mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,270g ●Tire width/diameter: Front & rear 25/55mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 15.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

1/10th SCALE (58149) 7.2Vレーシングパック各種

M-01 CHASSIS

★Specifications are subject to change without notice.

155 LOCTITE NISSAN SKYLINE GT-R N1
ロックタイト ニッサン スカイライン GT-R N1

Nissan's race-ready Skyline GT-R underwent a complete model change in January 1995, and was immediately entered into the Japanese N1 endurance competition. The powerful 2.6 liter turbocharged engine and state of the art 4WD mechanics have been further sophisticated to take endurance abuse. Tamiya's model of the Loctite Skyline GT-R racer uses a shaft-driven four wheel drive system, just like the full size racer. Four wheel independent double wishbone suspension is damped by four oil-filled shock units, providing road-hugging performance. Semi-pneumatic synthetic rubber slick tires are matched to stylish one-piece molded wheels. Vacuum formed transparent polycarbonate (Lexan) body realistically replicates the sleek and aggressive styling of the GT-R race car.

(Model specifications) ●Scale: 1/10th. ●Overall length: 464mm. ●Overall width: 184mm. ●Overall height: 135mm. ●Wheelbase: 260mm. ●Tread: Front and rear 157mm. ●Weight fully equipped: Approximately 1,500gms. ●Tire width/diameter: Front and rear 27/62mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1/8.99. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58155) 7.2Vレーシングパック各種

TA 02 CHASSIS

142 FERRARI 412T1
フェラーリ412T1

The sleek body styling of the Ferrari 412T1 was designed by John Bernard, and was one of the most eye-catching Formula One machines on the 1994 racing scene. With talented drivers G. Berger and J. Alesi at the wheel, the 412T1 was a potent force throughout the long 16 race season. Tamiya's electric powered R/C model of this stylish machine includes an FRP semi-double deck frame/chassis and a suspension system of independent coil springs at the front and a triple pad friction damper at the rear. The rear drive train is mounted on a separate FRP suspension plate. The polycarbonate body shell is light and almost indestructible, and the ABS plastic rear wing has a functional stabilizer for variable downforce settings.

(Model Specifications) ●Scale: 1/10 ●Overall length: 388mm ●Overall width: 200mm ●Overall height: 100mm ●Wheelbase: 260mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: Approx. 1,110g ●Tire width/diameter: Front 30/60mm, rear 40/64mm ●Body: Polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.70 ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

1/10th SCALE (58142) 7.2Vレーシングパック各種

F103 CHASSIS

★Specifications are subject to change without notice

130 SAUBER C12
ザウバー C12

The Sauber Racing Team is known throughout the motorsports world for its achievements during Sports-Prototype races. In 1993 the team made its Formula-One racing debut using their C12 racing machine. With technical support from Mercedes-Benz, the Sauber C12 pleased motor racing fans with its aggressive performance. Tamiya's R/C model of the Sauber C12 will provide the same excitement as its full-sized counterpart. The frame/chassis is a simple and efficient, FRP semi-double deck unit. Independent coil springs are used at front, while the rear drive train is mounted on a separate FRP suspension plate, and equipped with a triple pad friction damper. Precision ball type differential gearing provides smooth cornering, plus protects gears from excessive shock. Transparent polycarbonate body shell is light and almost indestructible.

(Model Specifications) ●Scale: 1/10 ●Overall length: 382mm ●Overall width: 200mm ●Overall height: 98.5mm ●Wheelbase: 260mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: Approx. 1,115g ●Tire width/diameter: Front 30/60mm, rear 40/64mm ●Body: Polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.70 ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

1/10th SCALE (58130) 7.2Vレーシングパック各種 **F103 CHASSIS**

126 LOTUS 107B FORD
ロータス107Bフォード

Team Lotus, of British racing fame, introduced their Type 107B racer to vie for the 1993 Formula-One Grand Prix Championships. It was powered by a reliable Ford V-8 cylinder engine, and equipped with many innovative features such as a computerized active suspension system. Tamiya proudly releases a 1/10 scale R/C model of this impressive machine, commemorating Tamiya's sponsorship of Team Lotus during the 1993 racing season. Tamiya's model of the 107B racer is packed with track proven components such as FRP semi double deck frame, precision ball differential, high grip sponge slick tires, etc. The rear drive train is mounted on a separate FRP T-bar suspension plate, and a triple pad friction damper is used for optimum track hugging performance.

(Model Specifications) ●Scale: 1/10 ●Overall length: 386mm ●Overall width: 200mm ●Overall height: 98mm ●Wheelbase: 260mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: Approx. 1,113g ●Tire width/diameter: Front 30/60mm, rear 40/64mm ●Body: Polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.70 ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

1/10th SCALE (58126) 7.2Vレーシングパック各種 **F103 CHASSIS**

★Specifications are subject to change without notice.

134 NEWMAN HAAS K MART TEXACO LOLA T93/00 FORD
ニューマン・ハースKマートテキサコローラT93/00フォード

When Formula One champion Nigel Mansell entered the 1993 Indy Car World Series, he instantly became the center of attention throughout the motorsports world. The Newman/Haas racing team furnished him with their superbly designed ground-effect racing machine, the Lola T93/00. During his first year in Indy racing, rookie Mansell clinched the title by winning 5 races during the season. Tamiya's R/C model of this 1993 Indy championship machine provides both the excitement and scale like appearance of the prototype. The chassis/frame is simple and efficient semi-double deck unit of FRP. The rear drive train is mounted on a separate FRP T-shaped suspension plate and damped by a triple disk friction damper. Detailed body shell is vacuum formed of transparent polycarbonate and the colorful authentic decal stickers add to the final touch.

(Model Specifications) ●Scale: 1/10 ●Overall length: 471mm ●Overall width: 200mm ●Overall height: 94mm ●Wheelbase: 280mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: Approx. 1,160g ●Tire width/diameter: Front 30/63mm, rear 40/64mm ●Body: Polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.90 ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

1/10th SCALE (58134) 7.2Vレーシングパック各種 **F103L CHASSIS**

148 RAHAL-HOGAN MOTOROLA LOLA T94/00 HONDA
レイホール・ホーガン モトローラ ローラ T94/00 ホンダ

The famous Rahal/Hogan racing team competed in the 1994 Indy Car World Series using a powerful Honda engine. Tamiya, using their modeling expertise has reproduced this sleek racing machine as a 1/10 scale radio controlled replica. The model uses a simple, but tough, FRP semi double deck frame. The rear drive train is mounted on a separate, FRP suspension plate and damped by a sophisticated triple pad friction damper. A precision ball type differential is used for smooth cornering. The car's long wheelbase ensures excellent straight running ability. The large front and rear wings produce an effective downforce during high speed racing for stability. Fat, sponge racing slicks provide positive grip.

(Model Specifications) ●Scale: 1/10 ●Overall length: 475mm ●Overall width: 200mm ●Overall height: 96mm ●Wheelbase: 280mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: Approx. 1,180g ●Tire width/diameter: Front 30/63mm, rear 40/64mm ●Body: Polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.90 ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

1/10th SCALE (58148) 7.2Vレーシングパック各種 **F103L CHASSIS**

★Specifications are subject to change without notice

132 MITSUBISHI PAJERO METALTOP WIDE
三菱パジェロ・メタルトップワイド

The Mitsubishi Pajero is famous for many achievements accomplished by its prototype racers in internationally famous rallies. In the commercial stable of Pajero, the Metaltop Wide is very popular among outdoorsmen with its performance, comfort and styling. Tamiya has faithfully reproduced both looks and mechanics of the full-sized vehicle in an electric powered 1/10 scale R/C model. Motor is mounted in forward midship format, and universal joint propeller shafts transmit power to all four wheels. Front double wishbone and rear four-link rigid axle suspension system was chosen for rough terrain running, just like the full-sized vehicle. Semi-pneumatic all-terrain tires are exactly reproduced down to tread pattern. Highly detailed body shell is injection molded of tough ABS resin.

(Model Specifications) ●Scale: 1/10th ●Overall length: 445mm ●Overall width: 195mm ●Overall height: 192mm ●Wheelbase: 242mm ●Tread: Front and rear 160mm ●Weight fully equipped: Approx. 2,150g ●Tire width/diameter: 33/88mm front and rear ●Body: Injection molded of ABS resin ●Frame: ABS resin bathtub type ●Suspension: Front double wishbone, rear 4-link rigid axle ●Equipped with four coil over oil-filled shock units ●540 type electric motor included ●Gear ratio: 1:14.67 ●3 step forward and reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C system or a 2 channel REC radio (battery and radio unit available separately).

1/10th SCALE (58132) 7.2Vレーシングパック各種

141 JEEP WRANGLER
ジープ・ラングラー

Chrysler Corporation's Jeep Vehicle stable is regarded as one of the most celebrated lines in the heavy-duty 4WD class. The Jeep Wrangler successfully blends a traditional silhouette and state of the art automotive technology tastefully into one package. The Wrangler Hard-Top Limited uses a 4 liter in-line six cylinder powerplant capable of 180 horsepower. Tamiya has faithfully reproduced both the looks and mechanics of the full-sized vehicle into an electric powered R/C model. The electric motor is mounted in a forward midship format, and the universal joint propeller shafts transmit power to all four wheels. Suspension uses a front double wishbone and rear four-link rigid axle system. Semi-pneumatic all terrain tires are realistically reproduced down to the tread pattern. The highly detailed body shell is injection molded of tough ABS resin for absolute realism.

(Model Specifications) ●Scale: 1/10th ●Overall length: 438mm ●Overall width: 195mm ●Overall height: 203mm ●Wheelbase: 240mm ●Tread: Front and rear 160mm ●Weight fully equipped: Approx. 2,150g ●Tire width/diameter: 30/90mm front and rear ●Body: Injection molded of ABS resin ●Frame: ABS resin bathtub type ●Suspension: Front double wishbone, rear 4-link rigid axle ●Equipped with four coil over oil-filled shock units ●540 type electric motor included ●Gear ratio: 1:14.67 ●3 step forward and reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C system or a 2 channel REC radio (battery and radio unit available separately).

1/10th SCALE (58141) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

152 ISUZU mu
いすゞミュー

With its stylish silhouette and excellent performance, the Isuzu "Mu" recreational vehicle is popular among outdoors buffs in Japan. Tamiya's electric powered R/C model of the Mu faithfully replicates both the looks and mechanics of the full-sized vehicle. The electric motor is mounted in a forward midship format, and the universal joint propeller shafts transmit power to all four wheels. The front and rear ends are equipped with precision differential gears. Suspension uses a front double wishbone and rear four-link rigid axle system. A lowered ride height adds to the sporty looks. Semi-pneumatic, low profile tires are matched to the brilliant metal-plated wheels. The highly detailed body shell is injection molded of tough ABS resin for absolute realism.

(Model Specifications) ●Scale: 1/10th ●Overall length: 462mm ●Overall width: 201mm ●Overall height: 169mm ●Wheelbase: 242mm ●Tread: Front and rear 165mm ●Weight fully equipped: Approx. 2,200g ●Tire width/diameter: 36/74mm front and rear ●Body: Injection molded of ABS resin ●Frame: ABS resin bathtub type ●Suspension: Front double wishbone, rear 4-link rigid axle ●Equipped with four coil over oil-filled shock units ●540 type electric motor included ●Gear ratio: 1:14.67 ●3 step forward and reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C system or a 2 channel BEC radio (battery and radio unit available separately).

1/10th SCALE (58152) 7.2Vレーシングパック各種

82 MADCAP
マッドキャップ

Controlling a lightweight 2WD off road racer at will, gliding over rough terrain, and showing off its agile performance... If you are looking for a car with this kind of performance, Tamiya's R/C Madcap is the one. The chassis is a light and sturdy bathtub type, which can take real abuse. Four wheel independent double wishbone suspension system is damped by large, long throw coil spring shocks all around. Even a precision ball type differential is incorporated in the sealed gear box. Try the Madcap, and experience the true excitement of radio controlled racing.

(Model Specifications) ● Scale: 1/10th. ● Overall length: 409mm. ● Overall width: 250mm. ● Overall height: 150mm. ● Wheelbase: 275mm. ● Tread: Front 205mm, rear 212mm. ● Minimum ground clearance: 25mm. ● Weight fully equipped: Approximately 1,550grms. ● Tire width/diameter: Front 26/78mm, rear 40/87mm. ● Body and wing: Polycarbonate (Lexan). ● Frame: Injection molded bathtub type of engineering plastic. ● Suspension: Four wheel independent double wishbone system. ● Equipped with four long-throw coil spring shocks. ● Motor: 540 type. ● Gear ratio: 1/8.33 ● Speed control: 3 step forward/reverse ● Power source: Ni-Cd 7.2V Racing Pack Battery. ● Radio control unit: Requires Tamiya R/C System, BEC radio or regular 2 channel radio equipment plus a Tamiya Battery eliminator (battery and radio unit are available separately).

1/10th SCALE (58082) 7.2Vレーシングパック各種

★Specifications are subject to change without notice

163 ROVER MINI COOPER '94 MONTE-CARLO
ローバーミニクーパー'94モンテカルロ

30 years after its first victory in the Monte Carlo Rally, a Mini Cooper once again ran the event in 1994. Its cockpit was occupied by Timo Makinen and Paul Easter, just the same as 30 years ago. The comeback of the "Mini of Monte" pleased every motor sports fan in the world. Tamiya has faithfully reproduced this cute rally car in a 1/10 scale R/C format. Powerful 540 type electric motor is mounted in front and drives the front wheels. Monocoque type frame/chassis is light in weight and very sturdy. Quality metal plated spoke wheels are matched to the semi pneumatic synthetic rubber tires with a realistic tread pattern. Vacuum formed transparent polycarbonate (Lexan) body shell perfectly captures the famous styling of the Mini.

(Model Specifications) ●Scale: 1/10 ●Overall length: 322mm ●Overall width: 160mm ●Overall height: 140mm ●Wheelbase: 210mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,290g ●Tire width/diameter: Front & rear 25/55mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 15.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

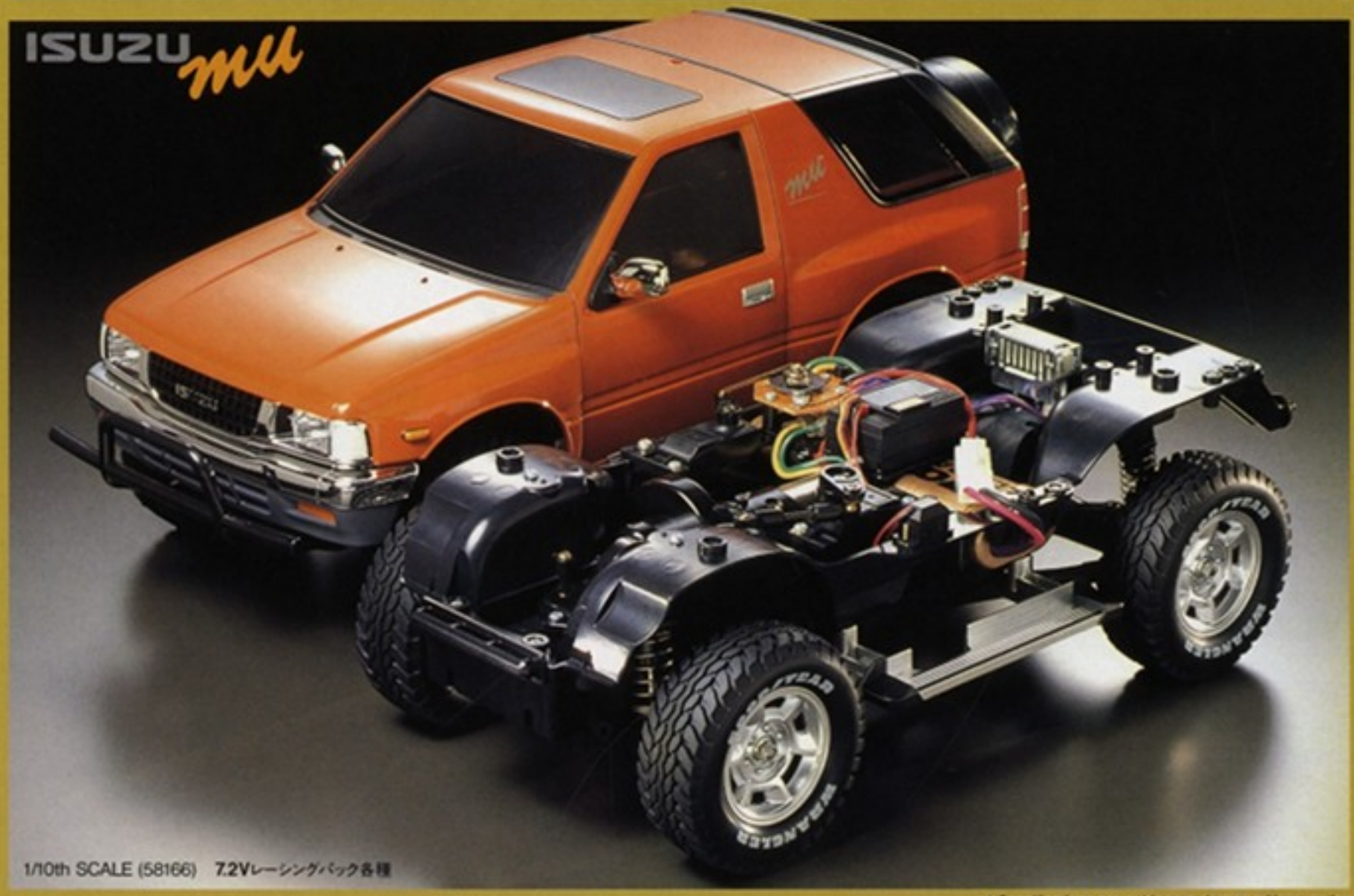
1/10th SCALE (58163) 7.2Vレーシングパック各種

M-01 CHASSIS

166 ISUZU Mu TYPE X
いすゞミュー TYPE X

Tamiya's radio control model of the Isuzu Mu Type X car, combines true to scale appearance with exciting all-terrain action. A sophisticated shaft-driven 4WD system is used just like the full-sized Mu. A center propeller shaft uses a universal joint for efficient power transfer. The powerful 540 type electric motor is mounted in a forward midship format for effective power to all wheels. Front double wishbone and rear 4-link suspension system provides excellent road hugging performance. Large, 88mm diameter all terrain tires are matched to lightweight one-piece wheels. Injection molded body shell is accurate down to the smallest detail for absolute realism.

(Model Specifications) ●Scale: 1/10th ●Overall length: 462mm ●Overall width: 195mm ●Overall height: 182mm ●Wheelbase: 282mm ●Tread: Front and rear 165mm ●Weight fully equipped: Approx. 2,150g ●Tire width/diameter: 33/88mm front and rear ●Body: Injection molded of ABS resin ●Frame: ABS resin bathtub type ●Suspension: Front double wishbone, rear 4-link rigid axle ●Equipped with four coil over oil-filled shock units ●540 type electric motor included ●Gear ratio: 1:14.67 ●3 step forward and reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C system or a 2 channel BEC radio (battery and radio unit available separately).



1/10th SCALE (58166) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

656 TYRRELL YAMAHA 023 BODY PARTS SET

ティレルヤマハ023・ボディパーツセット

The sleek styling of the Tyrrell Yamaha 023 Formula-One racer, as raced during the 1995 season, is realistically reproduced in vacuum formed transparent polycarbonate (Lexan). This body shell is extremely light and almost indestructible. Front and rear wings are molded in tough nylon resin.

(Model Specifications) ●Scale: 1/10 ●Overall length: 405mm ●Overall height: 100mm (when installed on chassis) ●Body: vacuum formed transparent polycarbonate (Lexan) ●Separately molded driver's helmet, front & rear wings ●Colorful and authentic stickers included.

RD F-1 SPOKE WHEEL SET (50442)
●Use in combination with the Tyrrell Yamaha 023 Body Parts Set.

679 LIGIER JS41 MUGEN HONDA BODY PARTS SET

リジェJS41無限ホンダ・ボディパーツセット

This realistic body shell is for use on Tamiya's 1/10 scale, electric powered R/C Formula-One car chassis. Set includes a vacuum formed transparent body plus front & rear wings made from tough nylon resin. Authentic stickers included.

(Model Specifications) ●Scale: 1/10 ●Overall length: 410mm ●Overall height: 99mm (when installed on chassis) ●Body: vacuum formed transparent polycarbonate (Lexan) ●Separately molded driver's helmet, front & rear wings ●Colorful and authentic stickers included.

FORMULA MESH WHEEL SET (50545)
●Use in combination with the Ligier Mugen Honda JS41 Body Parts Set.

659 BENETTON RENAULT B195 BODY PARTS SET

ベネトンルノーB195・ボディパーツセット

With its outstanding performance and distinctive "shark nose" design, the Benetton B195 racer was the car to be watched during the 1995 Formula-One championships. Tamiya has captured its sleek silhouette in a 1/10 scale vacuum formed polycarbonate body shell. Set includes separately molded front & rear wings.

(Model Specifications) ●Scale: 1/10 ●Overall length: 410mm ●Overall height: 99mm (when installed on chassis) ●Body: vacuum formed transparent polycarbonate (Lexan) ●Separately molded driver's helmet, front & rear wings ●Colorful and authentic stickers included.

FORMULA MESH WHEEL SET, WHITE (50669)
●Use in combination with the Benetton Renault B195 Body Parts Set.

722 FERRARI F310 BODY PARTS SET

フェラーリF310・ボディパーツセット

The unique styling of the Ferrari F310, as raced during the 1996 season, is now replicated in an exact 1/10 scale with the latest technology by Tamiya. Set includes a vacuum formed transparent body plus front & rear wings made from tough nylon resin. Authentic stickers included.

(Model Specifications) ●Scale: 1/10 ●Overall length: 403mm ●Overall height: 95mm (when installed on chassis) ●Body: vacuum formed transparent polycarbonate (Lexan) ●Separately molded driver's helmet, front & rear wings ●Colorful and authentic stickers included.

FORMULA MESH WHEEL SET (50545)
●Use in combination with the Ferrari F310 Body Parts Set.

175 HONDA S800 RACING
ホンダS800レーシング

Unveiled to the public in 1965, Honda's S800 was one of the earliest examples of the lightweight 2-seater sports cars in the Japanese automotive history. Weighing in at 710kg and powered by a precision DOHC engine yielding 70 horsepower, this compact motor car was very active in the Japanese racing events during the late 60's and early 70's. Tamiya has realistically reproduced both its nimble performance and sleek looks in an electric powered, 1/10 scale R/C car format. The model utilizes midship mounted motor and rear wheel drive configuration. Four wheel independent double wishbone suspension system is equipped with a horizontally mounted mono-shock coil spring damper unit at each end. Special compound Super Grip tires are used at the rear, ensuring positive traction. Transparent polycarbonate body shell realistically replicates the low and sleek silhouette of the full sized S800. Racing stickers included.

(Model Specifications) ●Scale: 1/10 ●Overall length: 360mm ●Overall width: 168mm ●Overall height: 121mm ●Wheelbase: 210mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,320g ●Tire width/diameter: Front & rear 25/59mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 15.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

176 REPSOL FORD ESCORT RS COSWORTH
レプソルフォードエスコートRSコスワース

First debuting in the 1993 season, the Ford Escort Cosworth RS has remained a top-ranked rally racing car. During the 1996 World Rally Championships, an awesome combination of the Escort with the highly skilled rally driver Carlos Sainz was the center of attention throughout the season. Tamiya has added this outstanding rally car in their 1/10 scale electric powered radio control car stable. Tamiya's model of the Repsol Ford Escort uses competition proven shaft-drive 4WD system, just like the full sized machine. Four wheel independent double wishbone suspension system is damped by large capacity oil filled shock absorbers at all corners. Semi-pneumatic Rally Block tires provide positive grip, and the stylish 8-spoke wheels enhance its overall good looks. Vacuum formed polycarbonate body shell is lightweight and almost indestructible. Colorful stickers are included for the realistic finish.

(Model Specifications) ●Scale: 1/10 ●Overall length: 425mm ●Overall width: 193mm ●Overall height: 152mm ●Wheelbase: 260mm ●Tread: Front & rear 156mm ●Weight fully equipped: approx. 1,650g ●Tire width/diameter: Front & rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●540 type electric motor ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

★Specifications are subject to change without notice.

172 TAISAN STARCARD PORSCHE 911 GT2
タイサンスターカード ポルシェ911 GT2

Porsche's 911 series has a long tradition and high esteem in the sports car category. The GT2 911 in the Porsche stable is a race-ready version with traditional 911 styling that is aerodynamically functional, yet retains the unmistakable identity of the series. Tamiya's R/C model depicts the Porsche 911 as raced during the '95 Japanese GT Car Championships. The model combines realistic looks and exciting performance in a high quality R/C kit. Track proven components, such as shaft driven 4WD mechanics and four wheel independent double wishbone suspension, ensure its competitive potential. The vacuum formed polycarbonate body shell faithfully duplicates the aggressive looks of the 911.

(Model specifications) ●Scale: 1/10th. ●Overall length: 442mm. ●Overall width: 202mm. ●Overall height: 137mm. ●Wheelbase: 236mm. ●Tread: Front 162mm, rear 168mm. ●Weight fully equipped: Approximately 1,570gms. ●Tire width/diameter: Front 27/65mm, rear 33/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:8.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

171 BMW 318i STW
BMW 318i STW

The elegant BMW 318i four-door sedan was turned into a highly competitive racing machine, and entered in the 1995 German Super Touring Car Championships. The car monopolized the constructors and drivers titles for the season, displaying its tremendous potential. Tamiya's R/C model of this successful BMW 318i uses shaft driven full time 4WD mechanics, plus sealed front and rear gearboxes that house precision differentials for smooth cornering. The four wheel independent double wishbone suspension uses upper I and lower H arms made from tough engineering plastic. The polycarbonate body is light in weight and almost indestructible.

(Model specifications) ●Scale: 1/10th. ●Overall length: 447mm. ●Overall width: 186mm. ●Overall height: 137mm. ●Wheelbase: 260mm. ●Tread: Front and rear 157mm. ●Weight fully equipped: Approximately 1,545gms. ●Tire width/diameter: Front and rear 27/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:8.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice.

182 Audi A4 STW
アウディ A4 STW

The famous German automobile manufacturer Audi's A4 showed impressive performance at touring car races all around the world during the 1996 season. The Audi A4 is equipped with a 2 liter, in-line 4 cylinder DOHC power plant, which produces an impressive 300 horsepower. Unlike the other competitors, it uses a sophisticated four-wheel drive system, which brought outstanding results especially at races in rain. Tamiya's model of the Audi A4 also uses a four wheel drive system just like its full sized counterpart. Powerful 540 type electric motor is mounted on the front for the optimized weight distribution, and the power is efficiently transmitted to the front and rear wheels via a drive belt. Suspension is a four wheel independent double wishbone type, damped by four oil-filled shock absorbers.

(Model Specifications) ●Scale: 1/10 ●Overall length: 454mm ●Overall width: 186mm ●Overall height: 142mm ●Wheelbase: 257mm ●Tread: Front and rear 157mm ●Weight fully equipped: approx. 1,612g ●Tire width/diameter: Front and rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 18.51 ●Motor: 540 type electric ●Power source: Tamiya Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C System or a 2 channel BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58182) 7.2Vレーシングパック各種

183 VOLVO 850 BTCC
ボルボ 850 BTCC

Volvo of Sweden, renowned for safety and comfort, showed a different side of their personality with their racing entry in the 1994 British Touring Car Championships (BTCC). Following the regulation changes for the 1995 BTCC, Volvo entered their 850 saloon car for the season. In 1996 this Volvo 850 Saloon showed its outstanding performance after further development, and made their drivers, R. Rydell and T. Harvey, regular visitors to the victory podium throughout the season. Tamiya's 1/10th scale radio control model of the Volvo 850 BTCC provides the fun and excitement of driving a high performance R/C car. It uses a front motor, front wheel drive format just like the full-sized counterpart. Bathtub type frame/chassis is injection molded of light and tough engineering plastic. Front and rear double wishbone suspension system is damped by oil-filled shock units at all corners.

(Model Specifications) ●Scale: 1/10 ●Overall length: 456mm ●Overall width: 184mm ●Overall height: 137mm ●Wheelbase: 258mm ●Tread: Front & rear 157mm ●Weight fully equipped: approx. 1,492g ●Tire width/diameter: Front & rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●540 type electric motor ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

1/10th SCALE (58183) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

180 EUNOS ROADSTER
ユーノスロードスター

Since its debut in 1989, Mazda's Eunos Roadster has been leading the market of light-weight roadsters all over the world. Having a minor model change in 1993, the Eunos Roadster was equipped with a 1.8 liter engine, which has 200cc larger capacity and 20 more horsepower than the previous one. With its superb maneuverability and sophisticated body styling, the Eunos Roadster is enjoying excellent reputation among public. Tamiya has faithfully reproduced this popular roadster in a 1/10 scale R/C format. The chassis is a monocoque made from tough ABS resin, and four wheel independent double wishbone suspension system is damped by horizontally mounted coil spring mono-shock unit, both front and rear. Realistic semi-pneumatic synthetic rubber tires have different compounds at the front and rear for the optimized grip balance. Detailed body shell is made of lightweight, but tough polycarbonate.

(Model Specifications) ●Scale: 1/10 ●Overall length: 390mm ●Overall width: 168mm ●Overall height: 118mm ●Wheelbase: 225mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,350g ●Tire width/diameter: Front & rear 25/59mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 1:5.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

187 ALFAROMEO GIULIA SPRINT GTA
アルファロメオ ジュリア スプリント GTA

It was back in 1965 when Alfa Romeo of Italy released their Giulia Sprint GTA. They developed this car as a base car to vie the European Touring Car Championships. Since its debut in 1966 for the series, it showed outstanding performance on the track and became a regular on the winners' podium. "A" of GTA stands "Alleggerita" (lightened in Italian) and actually it was 205kg lighter than normal GT. Tamiya now reproduces this historic racer in an exact 1/10 scale radio control car. Monocoque type frame/chassis is light in weight and very sturdy. A powerful 540 type electric motor is mounted amidships, and drives the rear wheels. Rear sealed gearbox houses precision differential gearing. Four wheel double wishbone suspension is damped by coil spring mono-shock units for the front and rear. Vacuum formed transparent polycarbonate (Lexan) body shell perfectly captures the compact and aggressive styling of the original car.

(Model Specifications) ●Scale: 1/10 ●Overall length: 385mm ●Overall width: 168mm ●Overall height: 131mm ●Wheelbase: 225mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,342g ●Tire width/diameter: Front & rear 25/59mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 1:5.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

★Specifications are subject to change without notice.

179 WILLIAMS RENAULT FW18
ウイリアムズ ルノー FW18

In the 1996 Formula 1 Championships, the famous Williams racing team entered their FW18. Driven by talented pilots, Damon Hill and Jacques Villeneuve, the FW18 won the dominant 12 victories out of 16 races during the season, bringing not only the constructor's championship to the team but also the driver's title to Hill. Tamiya's R/C model of the Williams-Renault FW18 will provide the same excitement as its full-sized counterpart. The model uses a simple, but tough, FRP semi double deck frame. The rear drive train is mounted on a separate, FRP suspension plate and damped by a sophisticated triple pad friction damper. A precision ball type differential is used for smooth cornering, plus protects gears from excessive shock. Detailed body shell is vacuum formed of transparent polycarbonate and the colorful authentic stickers add the final touch.

(Model Specifications) ●Scale: 1/10 ●Overall length: 410mm ●Overall width: 200mm ●Overall height: 100mm ●Wheelbase: 260mm ●Tread: Front 170mm, rear 160mm ●Weight fully equipped: approx. 1,110g ●Tire width/diameter: Front 30/60mm, rear 40/64mm ●Body: polycarbonate ●Frame: FRP double deck type ●Suspension: Front independent coil spring damped, rear triple pad friction damper with a coil spring shock ●Ball type differential gearing ●540 type electric motor ●Gear ratio: 1:5.7 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or other 2 chan. R/C unit with electronic speed control (speed control not in kit). Battery and radio unit available separately.

184 FIGHTER BUGGY RX
ファイターバギーRX

This is an ideal machine for those who are just getting into the exciting radio control buggy world. Economical price, ease of assembly and sturdy construction are important features in a beginner's machine. The Fighter Buggy RX fulfills this need. Bathtub type chassis-frame is combined with an impact-resistant styrene body to form a strong monocoque assembly. Front suspension system is a swing axle type while the rear uses a rolling rigid type, both damped by long throw coil springs. Tune up parts, such as ball bearings, competition motors, oil filled damper units etc. are available to provide even higher performance.

(Model Specifications) ●Scale: 1/10 ●Overall length: 390mm ●Overall width: 236mm ●Overall height: 138mm ●Wheelbase: 254mm ●Tread: Front 205mm, rear 196mm ●Weight fully equipped: approx. 1,455g ●Tire width/diameter: Front 23/81mm, rear 40/78mm ●Body: Impact resistant styrene resin body ●Frame: Impact resistant resin bathtub type ●Front swing arm, rear rolling rigid suspension with heavy duty coil shocks ●540 type electric motor ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

★Specifications are subject to change without notice.

185 KURE NISMO GT-R
KURE ニスモ GT-R

The NISMO GT-R, developed from Nissan's Skyline, has been one of the principal contenders in the Japanese GT Car Championships (JGTC) since its inauguration in 1993. Packed into the GT-R look alike body shell was Nissan's latest racing technology. Its 2,568cc in-line six cylinder engine, with twin turbochargers produces an awesome 450 horsepower. During the 1996 season, painted in a distinctive, overall black color scheme, the KURE NISMO GT-R fully displayed its outstanding performance to the Japanese motorsports fans throughout the season. Now this highly sophisticated GT car is available from Tamiya as an electric powered R/C model. It uses belt driven 4WD mechanics. Front and rear sealed gear boxes incorporate precision differential gearing. The highly detailed body shell is vacuum formed of light and sturdy polycarbonate (Lexan).

(Model Specifications) ●Scale: 1/10 ●Overall length: 463mm ●Overall width: 189mm ●Overall height: 135mm ●Wheelbase: 257mm ●Tread: Front 157mm, rear 162mm ●Weight fully equipped: approx. 1,655g ●Tire width/diameter: Front and rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:8.51 ●Motor: 540 type electric ●Power source: Tamiya Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C System or a 2 channel BEC radio. (Battery and radio unit are available separately)

186 PIAA ACCORD VTEC
ピア アコード VTEC

In vying for the title of Japanese Touring Car Championships (JTCC), Honda entered their Accord for the 1996 season. Honda's latest racing technologies were fully packed in this low and sleek racer. The front transversely mounted, 4-cylinder 2 liter powerplant was tuned to yield 300 plus horsepower. The Accords were entered from three different racing teams for the 1996 season, and among them, the PIAA Accord in a two-toned black & white color scheme showed impressive racing performance at the track. Tamiya has faithfully reproduced this striking racer as a 1/10 scale electric powered radio control car. The powerful electric motor is mounted on front and drives front wheels, just like the full-sized counterpart. Its low and sleek styling is completely replicated by vacuum formed body of light and sturdy polycarbonate (lexan).

(Model Specifications) ●Scale: 1/10 ●Overall length: 451mm ●Overall width: 185mm ●Overall height: 138mm ●Wheelbase: 258mm ●Tread: Front & rear 157mm ●Weight fully equipped: approx. 1,480g ●Tire width/diameter: Front & rear 27/65mm ●Body: polycarbonate ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●540 type electric motor ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

★Specifications are subject to change without notice

170 CASTROL TOYOTA TOM'S SUPRA GT
カストロール・トヨタ・トムス スープラ GT

The race-tuned Supra that competed in the 1995 Japanese GT car championships is now available as a highly realistic and high performing R/C model kit. Tamiya's model of Castrol Supra GT uses sophisticated shaft-driven full time 4WD mechanics. Front and rear sealed gearboxes house precision differential gears for smooth cornering performance. Four wheel independent double wishbone suspension is damped by oil filled dampers at all corners. Wide, low profile, semi-pneumatic racing slicks are matched with stylish one-piece molded wheels. Includes a highly detailed polycarbonate body shell and authentic stickers.

(Model specifications) ●Scale: 1/10th. ●Overall length: 458mm. ●Overall width: 200mm. ●Overall height: 124mm. ●Wheelbase: 256mm. ●Tread: Front 173mm, rear 169mm. ●Weight fully equipped: Approximately 1,570gms. ●Tire width/diameter: Front 27/65mm, rear 33/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58170) 7.2Vレーシングパック各種

TA02W CHASSIS

169 FORD SVT MUSTANG COBRA A
フォード SVT マスタング コブラ R

Prepared by Ford's Special Vehicle Team (SVT), the Mustang Cobra R is a street legal race car available to a few drivers for competition use. Tamiya's R/C model of this muscle machine uses a sophisticated shaft-driven 4WD system. Motor power is efficiently transmitted to all four wheels providing utmost traction. Four wheel independent double wishbone suspension is damped by large capacity oil-filled damper units all around, providing excellent stability and maneuverability. Vacuum formed polycarbonate body realistically duplicates the wild looks of this American thoroughbred in 1/10 scale.

(Model specifications) ●Scale: 1/10th. ●Overall length: 456mm. ●Overall width: 184mm. ●Overall height: 135mm. ●Wheelbase: 260mm. ●Tread: Front and rear 157mm. ●Weight fully equipped: Approximately 1,545gms. ●Tire width/diameter: Front and rear 27/65mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 18.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a BEC radio. (Battery and radio unit are available separately)

1/10th SCALE (58169) 7.2Vレーシングパック各種

TA02 CHASSIS

★Specifications are subject to change without notice.

168 ALPINE A110
アルピーヌ A110

The Alpine A110 swept over the European rally scene during the early 1970's. This famous French rally car is reproduced by Tamiya as a highly realistic electric powered R/C model. Tamiya's version of the Alpine A110 uses the rear wheel drive mechanics for excellent traction. Its four wheel independent double wishbone suspension system ensures excellent road holding. Semi-pneumatic tires with realistic tread pattern enhances its overall authenticity. The low and sleek body styling is perfectly reproduced in 1/10th scale by vacuum forming in lightweight and tough polycarbonate (Lexan). The model represents the Alpine A110 that won the 1971 Monte-Carlo Rally.

(Model Specifications) ●Scale: 1/10 ●Overall length: 395mm ●Overall width: 168mm ●Overall height: 118mm ●Wheelbase: 210mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,350g ●Tire width/diameter: Front & rear 25/59mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 1:5.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

1/10th SCALE (58168) 7.2Vレーシングパック各種

M-02 CHASSIS

173 VOLKSWAGEN BEETLE
フォルクスワーゲン ビートル

Originally designed in 1938, the Volkswagen "Beetle" is undoubtedly the world's most produced passenger vehicle ever. Even today, more than half a century later, they are still a pleasant sight to see. Tamiya has reproduced this nimble street bug as an electric powered R/C model. It uses rear wheel drive mechanics, just like the full sized Beetle and its powerful 540 type electric motor is mounted amidship, for ideal weight distribution for rear wheel traction. Four wheel double wishbone suspension system is damped by a horizontally mounted coil spring mono-chock unit, both front and rear. The vacuum formed polycarbonate body shell perfectly replicates the 1967 production Beetle in 1/10 scale.

(Model Specifications) ●Scale: 1/10 ●Overall length: 397mm ●Overall width: 163mm ●Overall height: 145mm ●Wheelbase: 240mm ●Tread: Front & rear 134mm ●Weight fully equipped: approx. 1,360g ●Tire width/diameter: Front & rear 25/59mm ●Body: polycarbonate ●Frame: ABS resin monocoque type ●Suspension: Four wheel independent double wishbone system ●Front and rear coil spring damped mono-shock units ●540 type electric motor ●Gear ratio: 1:5.48 ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a BEC radio (battery and R/C unit are available separately).

1/10th SCALE (58173) 7.2Vレーシングパック各種

M-02L CHASSIS

★Specifications are subject to change without notice.

162 VOLKSWAGEN Golf VR6
フォルクスワーゲンゴルフVR 6

One of the world's best selling cars, the Volkswagen Golf, underwent a complete model change in 1993. The VR6 uses a 2.8 liter V6 cylinder engine which gives this 2-box car very sporty performance. Tamiya's model of the Volkswagen Golf VR6 uses a front mounted motor and front wheel driving mechanics that provide crisp handling response. Precision ball type differential is housed in the front sealed gearbox for smooth cornering. Bathtub type frame/chassis is light in weight and extremely sturdy. Vacuum formed poly-carbonate (Lexan) body shell realistically captures the pleasing and sophisticated 2-box styling of the full sized Golf in 1/10 scale.

(Model specifications) ●Scale: 1/10 ●Overall length: 407mm ●Overall width: 185mm ●Overall height: 142mm ●Wheelbase: 245mm ●Tread: Front and rear 157mm ●Weight fully equipped: Approximately 1,400grms ●Tire width/diameter: Front and rear 27/66mm ●Polycarbonate (Lexan) body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system ●Equipped with four oil-filled shock units ●Gear ratio: 1:7.21 ●Motor: 540 type. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires Tamiya R/C system or a 2 channel REC radio. (Battery and radio unit are available separately)

164 TOYOTA CELICA GT-FOUR
トヨタ セリカ GT-FOUR

The GT-FOUR is the top of the line of Toyota's Celica specialty car line, and prepared for rugged rally use. Its 2 liter turbocharged engine produces 255hp and this tremendous power is transmitted to all four wheels via a sophisticated full-time 4WD system. Tamiya's model of the Celica GT-FOUR uses a four wheel drive system just like its full sized counterpart. Suspension is a four wheel independent double wishbone type, damped by four oil filled shock absorbers. Semi-pneumatic tires and stylish spoke wheels add to its sporty looks. The aggressive styling of the full sized Celica, with its four irregular shaped head lamps is perfectly duplicated in a vacuum formed polycarbonate body shell.

(Model specifications) ●Scale: 1/10th. ●Overall length: 451mm. ●Overall width: 186mm. ●Overall height: 134mm. ●Wheelbase: 260mm. ●Tread: Front and rear 157mm. ●Weight fully equipped: Approximately 1,500grms. ●Tire width/diameter: Front and rear 27/66mm. ●Polycarbonate (Lexan) body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:8.59. ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

★Specifications are subject to change without notice.

167 TOYOTA TOM'S EXIV JTCC
トヨタ・トムス エクシヴ JTCC

Toyota brachte seinen Exiv in die Japanische Tourenwagenmeisterschaft (JTCC) 1995 ein. Sein vorne quer eingebauter 1998 ccm Motor war auf mehr als 290 PS getunet. Tamiya's Modell des Toyota TOM's Exiv verwendet einen Frontmotor und Vorderradantrieb genau wie sein originalgroßes Gegenstück. Der wannenförmige Hauptrahmen ist aus stabilem technischen Plastik gespritzt und ermöglicht für Wartungsarbeiten eine gute Zuglänglichkeit zu den bewegten Teilen. Die Einzelradaufhängung aller vier Räder an Doppelquerlenkern besitzt Schraubenfeder-Öldruckdämpfer. Die niedrige und glatte Silhouette des Original-Exiv wird von einer vakuumgezogenen Polykarbonat-(Lexan)-Karosserie naturgetreu wiedergegeben.

(Technische Beschreibung) ●Maßstab: 1:10 ●Gesamtlänge: 456mm ●Gesamtbreite: 186mm ●Gesamthöhe: 130mm ●Radstand: 258mm ●Spur: vorne und hinten 157mm ●Gewicht fahrbereit: ca. 1,480g ●Reifen Breite/Durchmesser: vorne und hinten 27/65mm ●Karosserie: Polykarbonat (Lexan) ●Rahmen: Wannenrahmen aus stoßfestem Kunststoff ●Aufhängung: Einzelradaufhängung aller vier Räder an Doppelquerlenkern ●Ausgerüstet mit vier Öldruck-Dämpfern ●Getriebeübersetzung: 1:7.21 ●Motor: Typ 540 ●Stromquelle: TAMIYA Ni-Cd 7.2V Racing-Pack ●Funkfernsteuerung: erfordert eine TAMIYA RC-Anlage oder andere 2-Kanal-REC-Steuerung (Akku und Fernsteuerung sind getrennt erhältlich).

178 HONDA CR-V
ホンダCR V

Honda's CR-V recreational vehicle made its debut in December 1995, and has got immediate attentions from Japanese automobile fans. Its powerful 2 liter 4 cylinder engine and four wheel drive system allows it to run through rough terrain, while its comfortable interior and sophisticated styling are more than enough for town use. Tamiya has faithfully replicated the excellent performance and eye-catching looks of the Honda CR-V in a 1/10 scale electric powered R/C format. The powerful 540 type electric motor is mounted forward amidships. A universal jointed center propeller shaft is used for efficient transmission of the motor power. Suspension uses front double wishbone and rear 4-link system for road hugging performance. Large capacity coil over oil-filled damper units are equipped at all corners. Semi pneumatic tires are reproduced down to its exact tread pattern, providing positive grip and absolute realism.

(Model Specifications) ●Scale: 1/10 ●Overall length: 475mm ●Overall width: 195mm ●Overall height: 185mm ●Wheelbase: 267mm ●Tread: Front & rear 160mm ●Weight fully equipped: approx. 2,200g ●Tire width/diameter: Front & rear 29/78mm ●Body: Injection molded of ABS resin ●Frame: ABS resin bathtub type ●Suspension: Front double wishbone, rear 4-link rigid axle ●540 type electric motor ●Gear ratio: 1:14.67 ●3 step forward and reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or a REC radio (battery and R/C unit are available separately).

★Specifications are subject to change without notice

87 MANTA RAY
マンタレイ

With its simple construction and superb potential, the Manta Ray is created to meet the requirements of R/C enthusiasts at all levels and ages. Sturdy bathtub type chassis of impact resistant resin has honeycomb pattern ribs inside, providing an amazing rigidity to the entire chassis construction. Front and rear sealed gear boxes incorporate precision differential gears for smooth cornering. Four wheel independent, double wishbone suspension system uses the monocoque type lower arms, for weight savings without sacrificing strength. Large capacity coil over oil-filled shock units are equipped at all corners. The sleek and dynamic body styling takes after manta ray devilfish that propels itself through the ocean deep and leaps high above the waves.

(Model Specifications) ● Scale: 1/10th. ● Overall length: 390mm. ● Overall width: 250mm. ● Overall height: 150mm. ● Wheelbase: 269mm. ● Tread: Front and rear 207mm. ● Minimum ground clearance: 25mm. ● Weight fully equipped: Approximately 1,620gms. ● Tire width/diameter: Front and rear 40/84mm. ● Polycarbonate body and rear wing. ● Frame: Impact resistant resin bathtub type, with honeycomb pattern rib moldings inside. ● Suspension: Four wheel independent double wishbone system with monocoque type lower arms. ● Equipped with four oil shock units. ● Gear ratio: 18.59 ● Motor: 540 type. ● Power source: NiCd 7.2V Racing Pack. ● Radio control unit: Requires Tamiya R/C System, BEC radio; or regular 2 ch. R/C equipment plus a Tamiya Battery Eliminator (Battery and radio unit are available separately).

1/10th SCALE (58087) 7.2Vレーシングパック各種

107 TOP-FORCE EVOLUTION
トップフォース・エボリューション

Tamiya's successful off-road buggy Top-Force has been further hopped up, and now offered as the "Top-Force Evolution" To survive the severe conditions of high-level competition, Tamiya reexamined and refined every component, to create this truly formidable off-road racer. Double-deck chassis/frame uses carbon graphite components, for maximum rigidity and weight savings. Titanium screws and aluminum nuts are utilized for further weight reduction. Front and rear gearboxes house ball type differential gearing. Diff housings and pressure plates are made of lightweight aluminum alloy. Steering tie-rods use a stainless steel turn-buckle shaft, enabling quick toe-angle adjustments without removal of the tie rods from the uprights. The car comes fully equipped with sealed ball bearings.

(Model specifications) ● Scale: 1/10th. ● Overall length: 400mm. ● Overall width: 249mm. ● Overall height: 190mm. ● Weight ready to run: approximately 1,590 grams. ● Shaft-driven full-time 4WD. ● Carbon graphite double deck frame. ● Tire width/diameter: front 32/80mm, rear 41/80mm. ● Polycarbonate body & rear wing. ● Four wheel independent double wishbone suspension with four oil-filled damper units. ● Gear ratio: 1:11.27. ● Fully equipped with sealed ball bearings. ● Motor: Use of a high performance, race oriented motor, like Technigold or Dynatech, is recommended. ● Power source: Tamiya NiCd 7.2V Racing Pack battery. ● Radio unit: Requires Tamiya R/C System or a 2 chan. R/C unit plus an amplifier boosted electronic speed control (Motor, battery and R/C unit available separately).

1/10th SCALE (58107) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

123 DYNA BLASTER
ダイナブラスター

Armed with state of the art racing components, the Dyna Blaster has brought new standards to the R/C stadium racing world. The rigid bathtub type frame/chassis is injection molded of tough ABS resin, and four wheel independent, long stroke double wishbone suspension system provides superb track hugging performance. Large capacity, coil over oil-filled shock absorbers are used at all corners for gliding over rough terrain. An anti-roll stabilizer is used on the front for added stability. A highly sophisticated, Multi Disc Clutch system efficiently transmits the available motor power to the wheels. With the Dyna Blaster, R/C truck stadium racing is at its peak.

(Model Specifications) ●Scale: 1/10 ●Overall length: 432mm ●Overall width: 310mm ●Overall height: 167mm ●Wheelbase: 280 - 288mm (variable) ●Tread: Front 255mm, rear 260mm ●Weight fully equipped: Approx. 1,830g ●Tire width/diameter: Front 45/99mm, rear 53/98mm ●Body: Polycarbonate ●Frame: ABS resin bathtub type ●Suspension: Front and rear independent double wishbone type with four coil over oil-filled damper units ●Precision Multi-Disk Clutch mechanism ●Gear ratio: 1:10.96 ●Motor: Tamiya Acto-Power 2WD Off-Roader Motor recommended (available separately) ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C System or other 2 chan., R/C unit with amplifier boosted electronic speed control (speed control not in kit). Battery, motor and radio unit are available separately.

1/10th SCALE (58123) 7.2Vレーシングパック各種

106 STADIUM BLITZER
スタジアム・ブリッツァー

The excitement seen in full-size Stadium-Truck racing can now be enjoyed with Tamiya's Stadium Blitzer. Tamiya, with their radio control experience, lets you get into this popular racing event with unmatched ease for true R/C excitement. The lightweight, but sturdy ABS resin bathtub type frame/chassis allows easy access to mechanics for maintenance chores. Front and rear independent suspension has monocoque type lower arms which are both light in weight and sturdy. The suspension is damped by heavy duty oil-filled shocks at all corners, for the smoothest ride obtainable. The large front tires have triple-rib and pin spikes, for straight running stability, while the rear tires use a combination of pin spikes and X-patterned shape, for earth kicking traction.

(Model specifications) ● Scale: 1/10th. ● Overall length: 410mm. ● Overall width: 296mm. ● Overall height: 165mm. ● Wheelbase: 260mm. ● Tread: Front 248mm, rear 242mm. ● Minimum ground clearance: 33mm. ● Weight fully equipped: Approximately 1,760gms. ● Tire width/diameter: Front 45/98mm, rear 52/99mm. ● Vacuum formed transparent polycarbonate (Lexan) body. ● Frame: Impact resistant resin bathtub type. ● Suspension: Four wheel independent double wishbone system with monocoque type lower arms. ● Equipped with four coil over oil-filled shock units. ● Gear ratio: 1:10.00. ● Motor: 540 type. ● 3 Step forward/reverse speed control. ● Power source: Ni-Cd 7.2V Racing Pack. ● Radio control unit: Requires Tamiya R/C system: BEC radio or regular 2ch. R/C equipment plus a Tamiya Battery Eliminator (Battery and radio are available separately).

1/10th SCALE (58106) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

122 BLITZER BEETLE
ブリッツァービートル

The ever popular Volkswagen Beetle is customized and rides on oversized tires...Tamiya's "Blitzer Beetle" is an eye-catcher at any R/C meeting, with both its looks and performance. The rear sealed gearbox incorporates precision differential gearing plus a powerful 540 type electric motor. Four wheel independent double wishbone suspension system is equipped with large capacity oil-filled damper units at all corners. Frame/chassis is the light and tough, injection molded bathtub type, allowing easy access to the R/C components. Injection molded styrene body shell realistically duplicates the characteristic Beetle styling in a customized format. Colorful and eye-catching stickers enhance its overall looks.

(Model specifications) ●Scale: 1/10 ●Overall length: 394mm ●Overall width: 296mm ●Overall height: 180mm ●Wheelbase: 260mm ●Tread: Front 248mm, rear 242mm ●Minimum ground clearance: 33mm ●Weight fully equipped: Approximately 1,880gms ●Tire width/diameter: Front 45/98mm, rear 52/99mm ●Injection molded styrene body ●Frame: Impact resistant resin bathtub type ●Suspension: Four wheel independent double wishbone system with monocoque type lower arms ●Equipped with four coil over oil-filled shock units ●Gear ratio: 1:10.00 ●Motor: 540 type electric ●3-step forward/reverse speed control ●Power source: Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires Tamiya R/C system or a BEC radio (Battery and radio are available separately).

1/10th SCALE (58122) 7.2Vレーシングパック各種

160 DIRT THRASHER
ダートスラッシャー

This is an economically priced and high performing, R/C 4WD off-road buggy model. Its simple construction and easy maintenance is ideal for novice modelers, yet it has an excellent potential which will please even experienced racers. Its sophisticated shaft driven 4WD system efficiently transmits the available motor power to all four wheels. Front and rear sealed gearboxes keep out sand and debris, preventing abnormal wear to the gears. Four wheel independent double wishbone suspension is damped by four large capacity oil filled shock units, providing road hugging performance during rough terrain running. Polycarbonate body shell and rear wing are vacuum formed of lightweight and tough, transparent polycarbonate (Lexan).

(Model Specifications) ● Scale: 1/10th. ● Overall length: 392mm. ● Overall width: 250mm. ● Overall height: 151mm. ● Wheelbase: 270mm. ● Tread: Front and rear 207mm. ● Minimum ground clearance: 25mm. ● Weight fully equipped: Approximately 1,630gms. ● Tire width/diameter: Front and rear 40/84mm. ● Polycarbonate body and rear wing. ● Frame: Impact resistant resin bathtub type, with honeycomb pattern rib moldings inside. ● Suspension: four wheel independent double wishbone system with monocoque type lower arms ● Equipped with four oil shock units. ● Gear ratio: 1:8.59 ● Motor: 540 type. ● Power source: Ni-Cd 7.2V Racing Pack. ● Radio control unit: Requires Tamiya R/C System, BEC radio or regular 2 ch. R/C equipment plus a Tamiya Battery Eliminator (Battery and radio unit are available separately).

1/10th SCALE (58160) 7.2Vレーシングパック各種

★Specifications are subject to change without notice.

154 M1025 HUMMER
M1025 ハマー

Entering military service in 1983, the American Motors Hummer is synonymous with the power and mobility of today's U.S. Armed Forces. Officially designated the HMMWV (High Mobility, Multi-purpose, Wheeled Vehicle), its amazing versatility allows it to perform a wide range of tasks, from basic troop carrier to a heavily armed TOW missile transport. Tamiya's R/C model of the Hummer uses a proven shaft-driven full time 4WD system. Bathtub type frame/chassis is molded of tough engineering plastic. Four wheel double wishbone suspension is combined with four large capacity oil-filled shock units, providing earth hugging performance during rough terrain running. The true-to-scale body shell is injection molded of high-impact resin and mounted on large diameter semi-pneumatic lug pattern tires.

(Model specifications) ●Scale: 1/12th. ●Overall length: 396mm. ●Overall width: 205mm. ●Overall height: 162mm. ●Wheelbase: 280mm. ●Tread: Front and rear 172mm. ●Weight fully equipped: Approximately 1,880gms. ●Tire width/diameter: Front and rear 33/90mm. ●Injection molded ABS resin body. ●Frame: Impact resistant resin bathtub type. ●Suspension: Four wheel independent double wishbone system. ●Equipped with four oil-filled shock units. ●Gear ratio: 1:11.27 ●Motor: 540 type electric. ●Power source: Ni-Cd 7.2V Racing Pack. ●Radio control unit: Requires a Tamiya R/C system or a REC radio. (Battery and radio unit are available separately)

1/12th SCALE (58154) 7.2Vレーシングパック各種

70 MIDNIGHT PUMPKIN
ミッドナイトパンプキン

Turning an elegant classic into a beast...Yes, with custom trucking the dream is easily achieved. The kit contains that all-time-favorite '53 Ford F-100 pick-up truck fitted out with giant oversized tires for stomping performance at the track. Chassis is a light and sturdy ABS resin box type. Sealed gearbox includes competition differential. Front suspension is an independent swing axle type while the rear uses a rolling, rigid axle type suspension. Detailed impact resistant injection molded body.

(Model Specifications) ● Scale: 1/12 ● Overall length: 385mm ● Overall width: 290mm ● Overall height: 280mm ● Wheelbase: 207mm ● Tread: Front 212mm, rear 216mm ● Minimum ground clearance: 38mm ● Weight fully equipped: Approx. 2,050g ● Tire width/diameter: 71/115mm front and rear ● Body: High impact styrene ● Suspension: Front swing axle, rear rolling rigid ● Differential installed in sealed gearbox ● Motor: 540 type ● Gear ratio: 1:14.7 ● Speed control: 3 step forward and reverse ● Power source: Tamiya Ni-Cd 7.2V Racing Pack ● Control unit: Requires Tamiya R/C System; REC radio; or regular 2 chan. radio equipment with Tamiya Battery Eliminator. Battery and R/C unit available separately.

1/12th SCALE (58070)
7.2Vレーシングパック各種

★Specifications are subject to change without notice

65 CLOD BUSTER
クラッドバスター

The ultimate in an all-terrain crusher, using mammoth size tires and a custom paint job will attract admirers both young and old. They just can't resist the action and excitement these customized pick-up trucks offer. The Clod Buster rides on mammoth 165mm semi pneumatic rubber like tires, damped by eight long stroke coil shocks, and is powered by two 540 type motors. It uses four-wheel-drive and four-wheel-steering, with the power, mechanics, and excellent ground clearance taking this 480mm vehicle over most any obstacle in its path.

(Model Specifications) ● Scale: 1/10 ● Overall length: 480mm ● Overall width: 380mm ● Overall height: 340mm ● Tread: Front/rear 270mm ● Tire diameter/width: 165/110mm ● Minimum ground clearance: 55mm ● Weight fully equipped: Approx. 4,350gms ● Body: High impact styrene ● Frame: Bathtub type ● Suspension: Front and rear trailing arm type with coil spring damped shocks ● Sealed gearboxes with differentials ● Motor: 540 type x 2 ● Gear ratio: 1:30.1 ● Speed control: 3 step forward/reverse ● Power source: Tamiya Ni-Cd 7.2V Racing Pack ● Radio control unit: 2 channel 2 servo proportional unit (Battery and R/C unit available separately).

89 BULLHEAD
ブルヘッド

Riding high on 165mm diameter earth-kicking tires, the Bullhead extends the "state-of-the-art" in radio controlled monster vehicles. Tamiya engineers have faithfully reproduced the massive semi-rig body styling that is seen moving majestically down the Highways of the entire North American continent. The Bullhead is damped by eight long stroke coil shocks, and is powered by two powerful electric motors. It uses a highly sophisticated four-wheel-drive and four-wheel-steering for the utmost maneuverability. With the awesome power, mechanics, and excellent ground clearance, this giant can tackle most any obstacle in its path.

(Model Specifications) ● Scale: 1/10th. ● Overall length: 436mm. ● Overall width: 380mm. ● Overall height: 370mm. ● Tread: Front/rear 270mm. ● Tire diameter/width: 165/110mm ● Minimum ground clearance: 55mm. ● Weight fully equipped: Approx. 4,450gms. ● Body: High impact styrene. ● Frame: Bathtub type. ● Suspension: Front and rear trailing arm type with coil spring damped shocks ● Sealed gearboxes with differentials. ● Motor: 540 type x 2. ● Gear ratio: 1:30.1 ● Speed control: 3 step forward/reverse ● Power source: Tamiya Ni-Cd 7.2V Racing Pack. ● Radio unit: 2 channel 2 servo digital proportional unit (battery and R/C unit are not included).

★Specifications are subject to change without notice.

TRACTOR TRUCK KING HAULER
トレーラーヘッド キングハウラー

Giant eighteen-wheel trailer trucks, known as "Rigs", are seen rolling along the highways of continents worldwide. Now this massive and powerful vehicle is offered as an electric powered R/C model by Tamiya. The King Hauler demonstrates state of the art model construction and exciting R/C action. It features a rear double-axle drive using propeller shafts and a servo-shifted 3-speed transmission. Powerful 540 type electric motor is mounted above the front axle. Heavy-duty ladder frame/chassis uses channeled aluminum side members and plastic cross members. Suspension system incorporates functional leaf-springs and coil spring dampers. Highly detailed, injection molded styrene body reproduces a classic American long nosed tractor truck. The trailer 5th wheel allows the modeler to hitch-up the separately available semi-trailer.

(Model Specifications) ●Scale: 1/14 ●Overall length: 600mm ●Overall width: 183mm ●Overall height: 259mm ●Wheelbase: 447mm ●Tread: Front 156mm, rear 138mm ●Weight fully equipped: 3,250g ●Tire width/diameter: 22/83mm front and rear ●Body: Injection molded styrene ●Frame: Aluminum ladder type ●Suspension: Front and rear rigid axle with metal leaf springs ●Rear double axle houses precision differential gearing ●Servo controlled 3-speed transmission. ●Gear ratio: 1:10.66, 1:17.76, 1:32.49 ●540 type electric motor. ●Power source: Tamiya 7.2V Racing Pack battery ●Radio control unit: A four channel R/C unit with an electronic speed control is suggested (battery and R/C unit available separately).

4 TRACTOR TRUCK GLOBE LINER
トレーラーヘッド グロープライナー

The modern, flat nosed cab-over type tractor trucks are widely used for inter-city transport worldwide. Tamiya has captured the attractive appearance and exciting action of these trucks in its 1/14th scale electric powered "Globe Liner" R/C truck model. The rear double axle drive uses rigid propeller shafts for smooth performance. A servo-shifted three speed transmission uses six constant mesh gears for effortless shifting. A powerful 540 type electric motor is mounted above the front axle. The heavy duty ladder type frame uses channeled aluminum side members with sturdy plastic cross beams. The suspension system uses functional leaf springs and coil spring dampers. A highly detailed, injected molded styrene body is decorated with many metal and plated accessories, just like the full-sized truck. The 5th wheel allows modelers to hitch up a separately available semi-trailer.

(Model Specifications) ●Scale: 1/14 ●Overall length: 500mm ●Overall width: 183mm ●Overall height: 263mm ●Wheelbase: 350mm ●Tread: Front 156mm, rear 138mm ●Weight fully equipped: 3,090g ●Tire width/diameter: 22/83mm front and rear ●Body: Injection molded styrene ●Frame: Aluminum ladder type ●Suspension: Front and rear rigid axle with metal leaf springs ●Rear double axle houses precision differential gearing ●Servo controlled 3-speed transmission. ●Gear ratio: 1:10.66, 1:17.76, 1:32.49 ●540 type electric motor. ●Power source: Tamiya 7.2V Racing Pack battery ●Radio control unit: A four channel R/C unit with an electronic speed control is suggested (battery and R/C unit available separately).

★Specifications are subject to change without notice.

2 SEMI-TRAILER FOR TAMIYA R/C TRACTOR TRUCK

トレーラートラック用パネルバン・セミトレーラー

Tamiya offers a Semi-Trailer model that can be hitched-up to the 1/14 scale R/C tractor truck. The box type trailer uses hard-anodized aluminum panels for the utmost durability and absolute realism. Rear gate doors are openable as seen on full-sized trailers.

(Model Specifications) ●Scale: 1/14 ●Overall length: 886mm ●Overall width: 186mm ●Overall height: 296mm ●Weight: 5,360g ●Aluminum panels and frame. ●Rigid axle suspension with metal leaf springs. ●Operable rear doors. ●Can be connected to the separately sold tractor truck.

3 TANK-TRAILER FOR TAMIYA R/C TRACTOR TRUCK

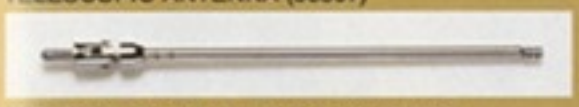
トレーラートラック用タンク・セミトレーラー

Tamiya offers a Tank Semi-Trailer model kit that can be hooked up to their 1/14 scale R/C tractor truck. The tank is made from polished stainless steel, for a brilliant finish. Colorful and authentic sponsor stickers add to the total realism of the model.

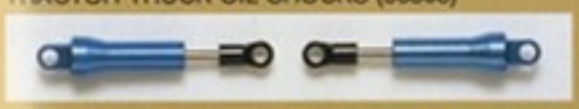
(Model Specifications) ●Scale: 1/14 ●Overall length: 814mm ●Overall width: 186mm ●Overall height: 277mm ●Weight: 4,400g ●Stainless steel tank. ●Rigid axle suspension with metal leaf springs. ●Can be connected to the separately sold tractor truck.

R/C TRACTOR TRUCKS OPTIONAL PARTS

TELESCOPIC ANTENNA (56507)



TRACTOR TRUCK OIL SHOCKS (56503)

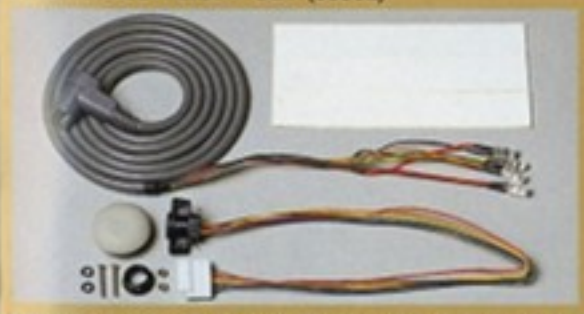


ANIMAL GUARD (56506)

ROOF SPOILER (56504)

MOTORIZED SUPPORT LEGS (56505)

SEMI-TRAILER LIGHT SET (56502)



TRACTOR TRUCK ELECTRICAL UNIT SET (56501)

1/14th SCALE (56302)

★Tank sticker may vary country to country.

5 MERCEDES-BENZ 1838 LS
トレーラーヘッド メルセデス ベンツ1838LS

Mercedes-Benz of Germany is well-known for their highly reliable trucks, in addition to their prestigious passenger cars. The 1838LS tractor truck combines a massive aerodynamic silhouette with a powerful 380 horsepower, 12,763cc V8 cylinder turbo diesel engine. Tamiya's R/C model of the 1838LS truck realistically captures both the looks and performance of the full-sized truck. The modern cab-over type body styling is faithfully reproduced using injection molding. The cab can be tilted, and a servo shifted 3-speed transmission is mounted underneath. The model's power is derived from a 540 type electric motor, transmitted via a center propeller shaft to the rear wheels. The rear single axle drive uses precision differential gearing plus dual wheels and tires.

(Model Specifications) ●Scale: 1/14 ●Overall length: 443mm ●Overall width: 235mm ●Overall height: 288mm ●Wheelbase: 272mm ●Tread: Front 156mm, rear 138mm ●Weight fully equipped: approx. 2,720g ●Tire width/diameter: 22/83mm front and rear ●Body: injection molded styrene ●Frame: Aluminum ladder type ●Suspension: Front and rear rigid axle with metal leaf springs ●Rear axle houses precision differential gearing ●Servo controlled 3-speed transmission ●Gear ratio: 1:10.66, 1:17.76, 1:32.49 ●540 type electric motor ●Power source: Tamiya 7.2V Ni-Cd Racing pack battery ●Radio control unit: A four channel R/C unit with an electronic speed control is suggested (battery & R/C unit available separately)

7 Mercedes-Benz 1850L
メルセデスベンツ1850Lパネルバントラック

Mercedes-Benz of Germany is an accomplished truck manufacturing company as well as in luxury automobiles. Their 1850L delivery truck is regarded as a new trend setter with its aerodynamically sophisticated appearance and extremely reliable mechanics. This 18t heavy vehicle is propelled by a 14,618cc displacement, V-8 cylinder diesel turbo engine capable of producing 500 horsepower. Tamiya's model of the Mercedes-Benz 1850L is an unmatched scale replica reproducing the looks and performance of the full sized truck. A powerful 540 type electric motor is mounted underneath the realistically rendered cab, and the servo-shifted 3-speed transmission allows an efficient use of the available motor power. The rear cargo container uses aluminum side panels for the utmost authenticity, and the rear gates are operable.

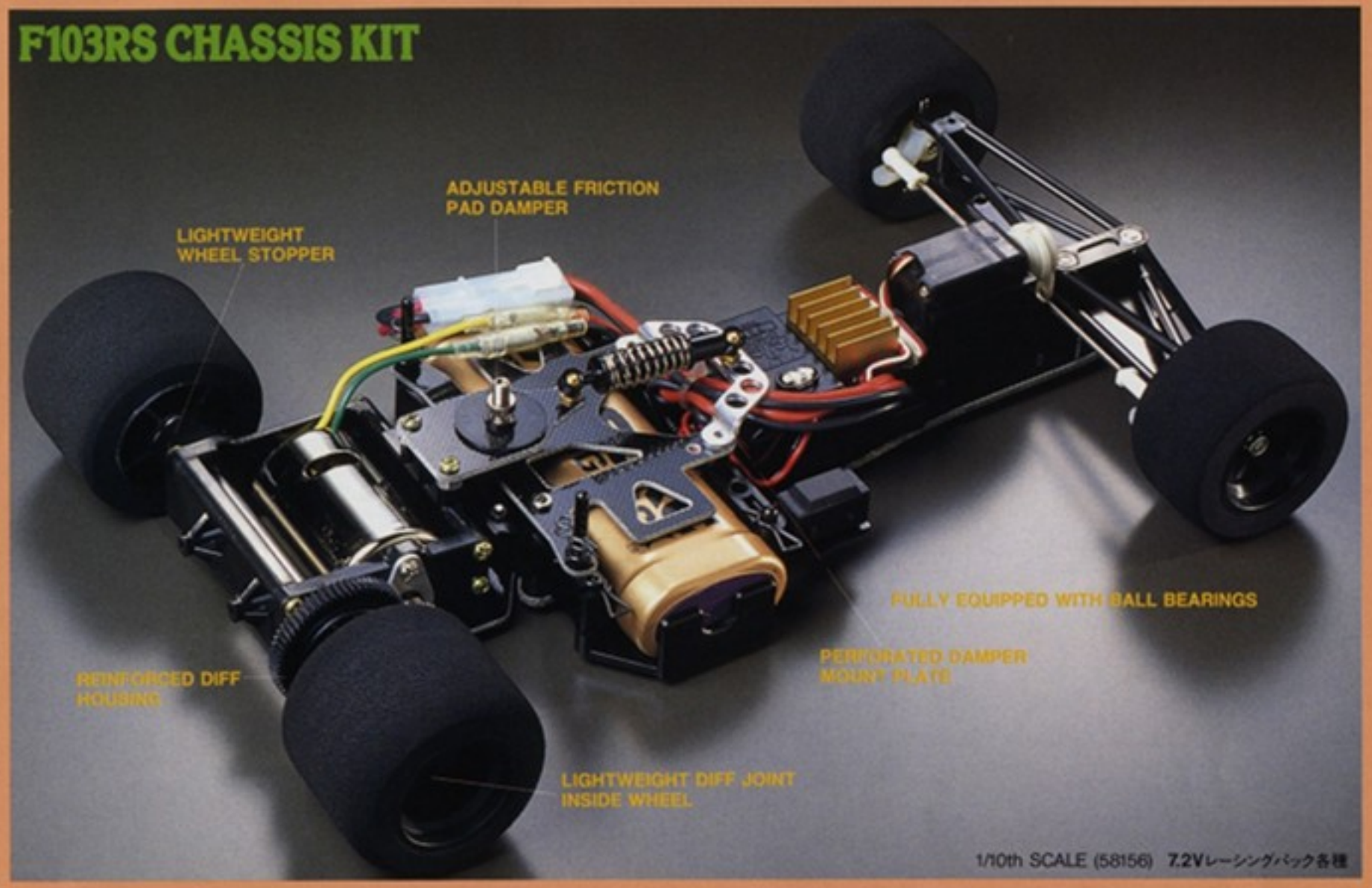
(Model Specifications) ●Scale: 1/14 ●Overall length: 568mm ●Overall width: 235mm ●Overall height: 275mm ●Wheelbase: 360mm ●Tread: Front 156mm, rear 138mm ●Weight fully equipped: approximately 4,460 grams ●Tire width/diameter: 22mm/83mm front and rear ●Body: injection molded styrene ●Frame: Aluminum ladder type ●Aluminum frames and side plates for the rear cargo container ●Suspension: Front and rear rigid axle with metal leaf springs ●Rear axle houses precision differential gearing ●Servo controlled 3-speed transmission ●Gear ratio: 1:10.66, 1:17.76, 1:32.49 ●540 type electric motor included ●Power source: Tamiya 7.2V Ni-Cd Racing Pack battery ●Radio control unit: A four channel R/C unit with an electronic speed control is suggested (battery & R/C unit available separately)

★Specifications are subject to change without notice.

156 F103RS CHASSIS KIT
F103RS シャーシキット

For Formula One racing enthusiasts, Tamiya has prepared a 1/10 scale R/C chassis only kit that incorporates only high performance components. The kit is loaded with precision sealed ball bearings all around, for the utmost in running efficiency. Rear adjustable friction pad damping system uses a perforated aluminum damper mounting plate for added rigidity and weight savings. Rear end incorporates a ball type differential gearing for smooth cornering. Semi-double deck frame uses upper and lower FRP plates for a light and extremely rigid chassis. Fat sponge slicks provide positive grip at the track. Select your favorite body from Tamiya's wide selection of 1/10 scale polycarbonate F-1 body parts sets.

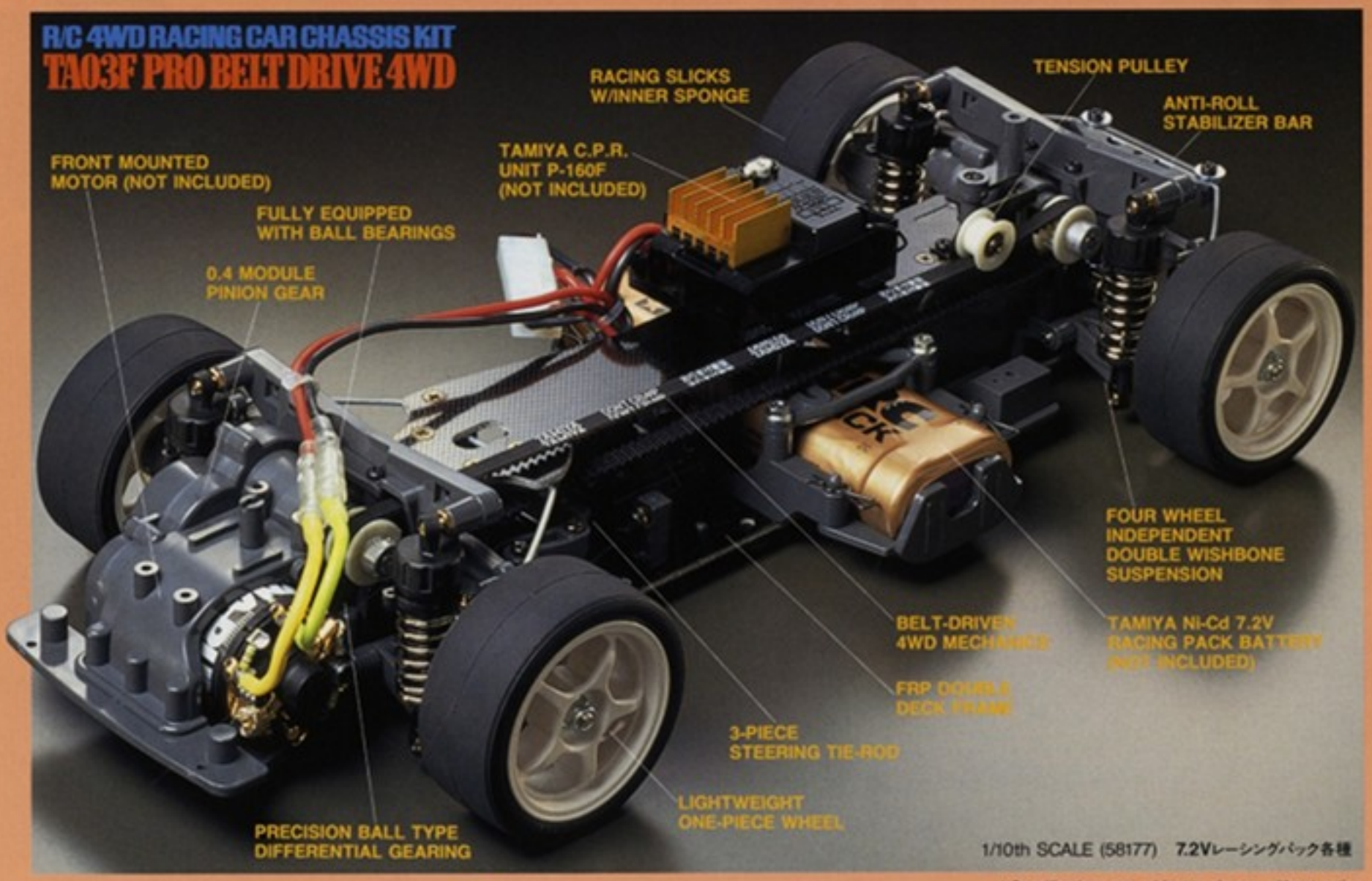
(Model specifications) ●Scale: 1/10 ●Wheelbase: 260mm ●Tread: Front 170mm, rear 160mm ●Tire width/diameter: Front 30/60mm, rear 40/64mm ●Frame: FRP semi-double deck type ●Suspension: Front independent coil spring damped, rear adjustable friction pad damper with a coil spring shock unit ●Ball type differential gearing ●Motor: 540 type electric ●Gear ratio: 1:3.7 ●Body shell and front & rear wings are not included in kit. ●Power source: Tamiya Ni-Cd 7.2V Racing Pack ●Radio control unit: Requires a Tamiya R/C system or other 2 channel R/C unit with electronic speed control (Speed control not included in kit). Battery and R/C unit are available separately.



177 TA03F PRO BELT DRIVE 4WD RACING CAR CHASSIS KIT
TA03F・PROベルトドライブ4WD

Tamiya has entered a new dimension in R/C racing with their TA03 belt-driven 4WD car chassis kit. Tamiya's radio control expertise has been fully packaged in this state of the art racing weapon. The FRP double deck chassis/frame is light in weight while providing an extremely rigid construction. Its low center of gravity, front mounted motor configuration and full time 4WD system give it very stable running characteristics. Front and rear anti-roll stabilizer bars further enhance its stability during cornering. Motor power is efficiently transmitted to wheels via a fiber glass reinforced, synthetic rubber drive belt. The car is fully equipped with ball bearings, and precision ball type differential gears are housed at the front and rear sealed gearboxes. Electric motor and body shell are available separately.

(Model Specifications) ●Scale: 1/10 ●Wheelbase: 257mm ●Tread: Front and rear 156mm ●Tire width/diameter: Front and rear 27/56mm ●Frame: FRP double deck ●Suspension: Four wheel independent double wishbone system with front and rear anti-roll stabilizers ●Damped with four coil over oil-filled shock absorbers ●Front and rear sealed gearboxes with precision ball type differential gearing ●Fully equipped with ball bearings ●Gear ratio: 1:7.34 ●Motor: Use of Tamiya Dyna-Run Touring Special Motor is recommended ●Power source: Tamiya Ni-Cd 7.2V Racing Pack battery ●Radio control unit: Requires a Tamiya R/C System or a 2 channel BEC radio with an electronic speed control (Electric motor, battery, R/C unit and body shell not in kit)



★Specifications are subject to change without notice.

6 TGX PORSCHE 911 GT1
TGX ポルシェ911 GT-1

Since its debut back in 1964, the Porsche 911 stable has established an unparalleled esteem, both on streets and in competition. The "GT1" is a race ready version developed for the famous Le Mans 24 hours endurance race. For the 1996 Le Mans 24 hours race, two GT1's made its debut and earned considerable 2nd and 3rd places. Tamiya's R/C model of the Porsche 911 GT1 comes equipped with track-proven components all around, providing the true excitement of R/C racing. The main chassis plate is made of highly durable, 2.5mm thick duralumin with reinforcing center beam. The power of Tamiya FS-15LT glow engine is transmitted to all four wheels via center drive shaft. The four wheel independent double wishbone suspension is damped by oil-filled shock units at all corners.

(Model Specifications) ●Scale 1/8 ●Overall length 552mm ●Overall width: 240mm ●Overall height: 139mm ●Wheel base: 300mm ●Tread: Front 190mm, rear 200mm ●Weight fully equipped: approx. 2,270g ●Tire width/diameter: Front and rear 36/74mm ●2.5mm thick duralumin chassis plate ●Shaft-driven full-time 4WD ●Four-wheel independent double wishbone suspension with four oil-filled dampers ●Includes Tamiya FS-15LT glow engine ●Body: Polycarbonate ●Gear ratio: 1:8.1 ●Requires a Tamiya Adspec G301 or other 2-channel 2-servo R/C unit (available separately)
●This is a scale model using an internal combustion engine, suitable for modelers aged 14 and above. This is not a toy.

5 TGX KURE NISMO GT-R
TGX KURE ニスモGT-R

The NISMO GT-R has been one of the principal contenders in the Japanese GT Car Championships (JGTC) since its inauguration in 1993. Packed into the GT-R look alike body shell was Nissan's latest racing technology. During the 1996 season, painted in a distinctive overall black color scheme, the KURE NISMO GT-R fully displayed its outstanding performance to the Japanese motorsports fans throughout the season. Tamiya reproduces this massive racer in an exact 1/8 scale. With a displacement of about 2.5cc, the high performance FS-15LT glow engine is equipped with an easy-to-start recoil starting system. Four wheel independent double wishbone suspension is equipped with oil filled shock units at all corners for superb stability during high speed running.

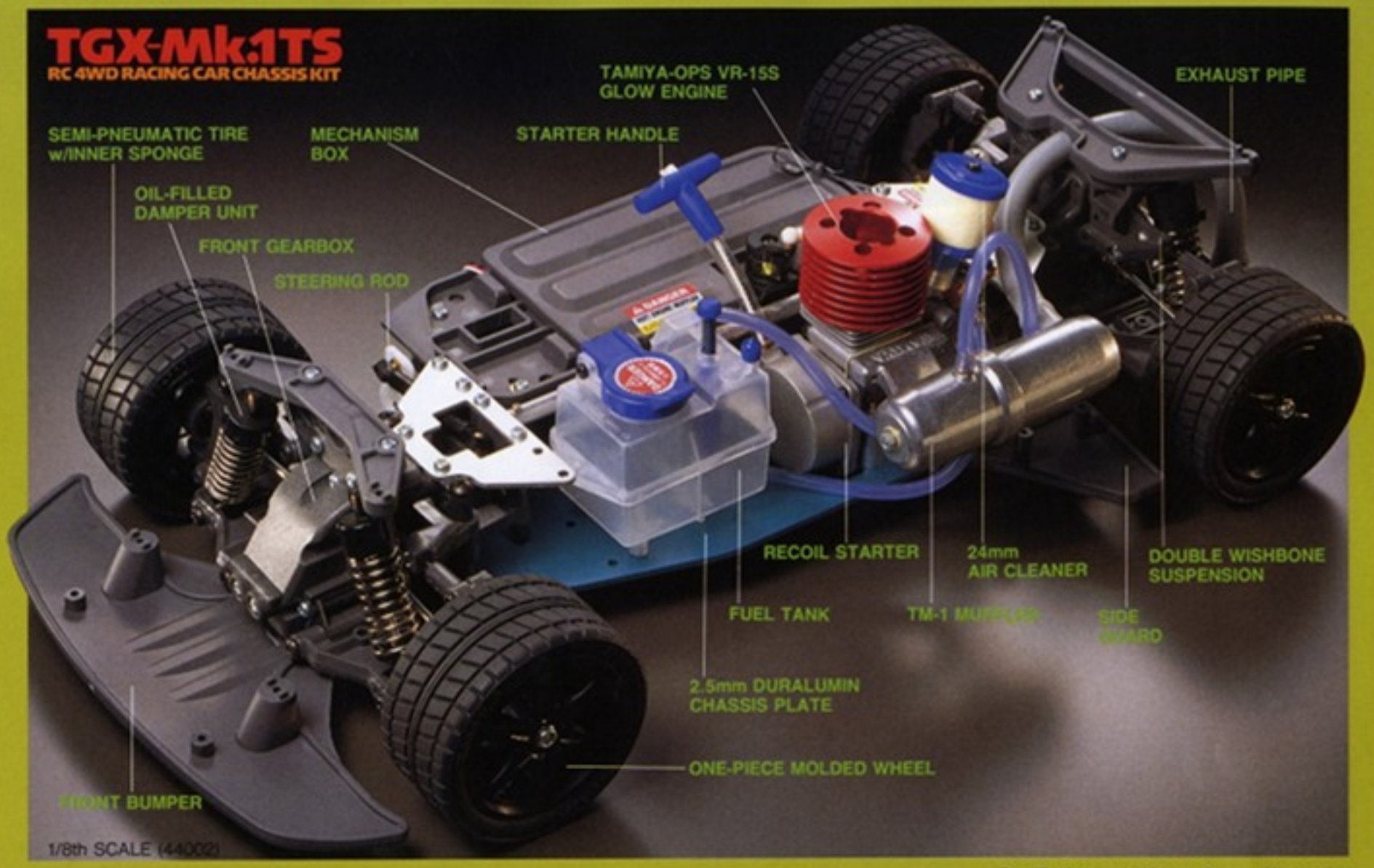
(Model Specifications) ●Scale 1/8 ●Overall length 542mm ●Overall width: 228mm ●Overall height: 153mm ●Wheel base: 300mm ●Tread: Front and rear 190mm ●Weight fully equipped: approx. 2,250g ●Tire width/diameter: Front and rear 36/74mm ●2.5mm thick duralumin chassis plate ●Shaft-driven full-time 4WD ●Four-wheel independent double wishbone suspension with four oil-filled dampers ●Includes Tamiya FS-15LT glow engine ●Body: Polycarbonate ●Gear ratio: 1:8.1 ●Requires a Tamiya Adspec G301 or other 2-channel 2-servo R/C unit (available separately)
●This is a scale model using an internal combustion engine, suitable for modelers aged 14 and above. This is not a toy.

★Specifications are subject to change without notice

2 1/8 TGX Mk.1 TS
1/8 TGX Mk.1TS(タミヤOPS・VR-15Sエンジン付き)

Tamiya's TGX Mk.1 TS provides glow engine radio control excitement in a simple way. Each component is designed and engineered using Tamiya's latest modeling expertise. The main chassis plate is made of highly durable, 2.5mm thick duralumin. The VR-15S 15 size engine was developed by the world's leading model engine manufacturer, OPS of Italy. The power derived from this high-revving engine is transmitted to all four wheels via the sophisticated shaft driven 4WD mechanics. The four wheel independent double wishbone suspension is damped by oil-filled shock units at all corners. A line of realistic polycarbonate body shells in 1/8th scale are produced for this chassis kit (available separately).

(Model Specifications) ● Scale: 1/8 ● Chassis length: 450mm ● Chassis width: 226mm ● Wheelbase: 300mm ● Tread: Front and rear 190mm ● Weight fully equipped: Approx. 2,350g (including body) ● Tire width/diameter: Front and rear 36/74mm ● 2.5mm thick duralumin chassis plate ● Shaft-driven full-time 4WD ● Four-wheel independent double wishbone suspension with four oil-filled dampers ● Includes Tamiya-OPS VR-15S glow engine ● Requires a Tamiya Adspec G301 or other 2-channel 2-servo R/C unit (available separately)
● Body shells are available separately (not included in the chassis kit).
● This is a scale model using an internal combustion engine, suitable for modelers aged 14 and above. This is not a toy.



★Specifications are subject to change without notice.

560 TABAC-ORIGINAL SONAX AMG MERCEDES C-CLASS BODY PARTS SET
タバック-オリジナルソナックス AMGメルセデス・ボディパーツセット

The aggressive silhouette of the Mercedes DTM racer, as seen during the 1994 German Touring Car Championship season, is realistically reproduced in 1/8 scale. The vacuum formed transparent polycarbonate (Lexan) body shell is light in weight and almost indestructible. Easy to apply decal stickers are included for the final touch.

(Model Specifications) ● Scale: 1/8 ● Overall length: 536mm ● Overall width: 236mm ● Overall height: 159mm (when installed on chassis) ● Vacuum formed transparent polycarbonate body shell ● Separately molded rear spoiler, side mirrors and windshield wiper ● Authentic stickers and window masking seals included.

AMG MERCEDES C-CLASS DTM DISH WHEELS (50564)

● Use in combination with the Mercedes C-Class DTM Body Parts Set.

561 ALFA ROMEO 155 V6 TI BODY PARTS SET
アルファロメオ 155 V 6 TI・ボディパーツセット

This highly detailed polycarbonate body shell is developed for the 1/8 glow-engined R/C TGX Mk.1 chassis kit. The set comes complete with a vacuum formed body shell, separately molded rear spoiler and side mirrors, authentic decal stickers and window masking seals.

(Model Specifications) ● Scale: 1/8 ● Overall length: 556mm ● Overall width: 237mm ● Overall height: 161mm (when installed on chassis) ● Vacuum formed transparent polycarbonate body shell ● Separately molded rear spoiler, side mirrors ● Authentic stickers and window masking seals included.

ALFA ROMEO 155 V6 TI WHEELS (50565)

● Use in combination with the Alfa Romeo 155 V6 TI Body Parts Set.

562 OPEL CALIBRA V6 DTM BODY PARTS SET

オペル・カリブラ V 6 DTM・
ボディパーツセット

The aerodynamically sculptured, sleek coupe styling of the Opel Calibra DTM racer is realistically reproduced in this vacuum formed body shell. The transparent polycarbonate (Lexan) body can be easily painted using Tamiya's line of quality polycarbonate paints. Separately molded rear spoiler and door mirrors add to the realism.

(Model Specifications) ● Scale: 1/8 ● Overall length: 534mm ● Overall width: 231mm ● Overall height: 152mm (when installed on chassis) ● Vacuum formed transparent polycarbonate body shell ● Separately molded rear spoiler, side mirrors ● Authentic stickers and window masking seals included.

OPEL CALIBRA V6 DTM WHEELS (1 PAIR) (50566)

● Use in combination with the Opel Calibra V6 DTM Body Parts Set.

666 CASTROL TOYOTA TOM'S SUPRA GT BODY PARTS SET

カストロール トヨタ トムス スープラGT
ボディパーツセット

Toyota extensively modified their Supra specialty car and entered it in the '95 Japanese GT Car Championships. Its engine and chassis components were thoroughly race tuned to vie for the title. A huge rear spoiler and blistered fenders gave it that massive look. Tamiya's body kit of this impressive racer is for the TGX glow engined R/C chassis. Reproduced in 1/8 scale, the body shell is vacuum formed of light and tough, transparent polycarbonate (Lexan).

(Model Specifications) ● Scale: 1/8 ● Overall length: 538mm ● Overall width: 230mm ● Overall height: 144mm (when installed on chassis) ● Vacuum formed transparent polycarbonate body shell ● Separately molded rear spoiler, side mirrors ● Authentic stickers and window masking seals included.

NISMO Clarion GT-R LM WHEELS (1 PAIR) (50664)

●Use in combination with the NISMO GT-R LM Body Parts Set. Also compatible with the Castrol Supra body.

665 NISMO Clarion GT-R LM '95 LE MANS CONTENDER BODY PARTS SET

ニスモ クラリオンGT-R LM
'95ル・マン出場車 スペアボディセット

In 1995, Nissan and their racing division NISMO ran in the renowned Le Mans 24 Hour Race, using a specially prepared GT-R endurance racer. Although the GT-R racer retained some resemblance to street version GT-R, it was loaded with genuine racing components to withstand the endurance abuse. Tamiya has reproduced the aggressive styling of the GT-R LM in a 1/8 scale polycarbonate body shell.

(Model Specifications) ● Scale: 1/8 ● Overall length: 540mm ● Overall width: 230mm ● Overall height: 155mm (when installed on chassis) ● Vacuum formed transparent polycarbonate body shell ● Separately molded rear spoiler, side mirrors and windshield wiper ● Authentic stickers and window masking seals included.

NISMO Clarion GT-R LM WHEELS (1 PAIR) (50664)

●Use in combination with the NISMO GT-R LM Body Parts Set. Also compatible with the Castrol Supra body.

713 CALSONIC SKYLINE GT-R BODY PARTS SET

カルソニックスカイラインGT-R
スペアボディセット

1995 Japanese GT Car Championship winner, Calsonic Skyline GT-R, is realistically reproduced in 1/8 scale for the glow-engined R/C TGX Mk. 1 chassis kit. The set includes a vacuum formed transparent body plus separately molded rear spoiler and side mirrors. Authentic stickers included.

(Model Specifications) ●Scale: 1/8 ●Overall length: 542mm ●Overall width: 228mm ●Overall height: 153mm (when installed on chassis) ●Vacuum formed transparent polycarbonate body shell ●Separately molded rear spoiler, side mirrors ●Authentic stickers and window masking seals included.

OPEL CALIBRA V6 DTM WHEELS (1 PAIR) (50566)

●Use in combination with the Opel Calibra V6 DTM Body Parts Set. Also compatible with the Calsonic Skyline GT-R Body Parts Set.

R/C Electric Motor Glider

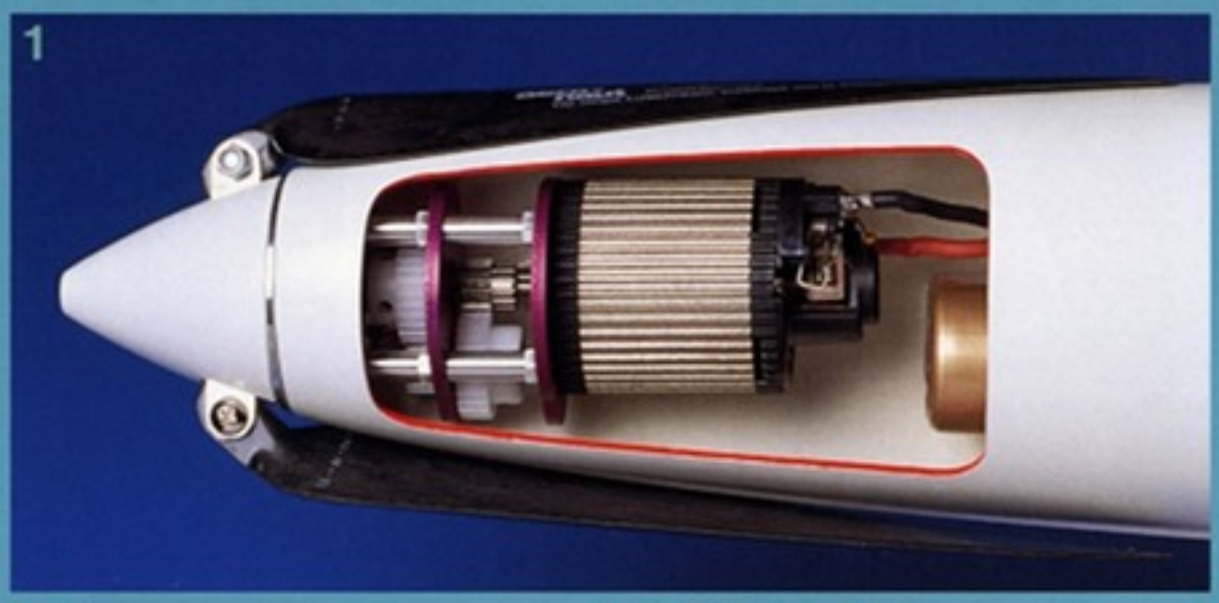
PEAK SPIRIT RU

(56401)

PEAK SPIRIT RU
ピークスピリット RU

Ascending towards the blue skies, propelled with a powerful electric motor, to soar freely in the upper reaches of the air... The Peak Spirit R/C motor glider will excite your passions for flight, with its sophisticated construction and performance. The light and tough ABS resin fuselage is blow molded in one piece, for ease of construction and utmost durability. Factory assembled wings are detachable for easy transportation. Cable controlled rudder and elevator ensure nimble maneuverability. The folding propeller uses high quality carbon blades, developed by Aero-Naut of Germany. A servo controlled air brake is extremely effective during spot landings. A powerful Dynatech 02H electric motor is included.

(Model Specifications) ●Fuselage length: 1,030mm ●Wingspan: 1,990mm ●Weight fully equipped: approx. 1,350 - 1,500g ●Wing area: 35.63dm² ●One-piece blow molded ABS resin fuselage ●Factory assembled, detachable wings ●Folding propeller uses carbon blades ●Dynatech 02H electric motor included ●Reduction gear unit is fully equipped with ball bearings ●Cable controlled rudder and elevator ●Power source: Tamiya Ni-Cd 7.2V Racing Pack SCRC battery ●R/C unit: Requires a Tamiya Adspec R601 FM or other 4 channel 3 servo radio plus an electronic speed control (battery and R/C unit available separately)



1 4:1 ratio reduction gear unit and powerful Dynatech 02H motor

2 Folding propeller uses carbon blades manufactured by Aero-Naut of Germany

3 Servo operated air brake on the fuselage

4 Cable linkage for crisp control of the rudder and elevator

5 T-shaped tail with 5.2dm² of horizontal stabilizer area

★Cut-away for photo purpose.

ADSPEC R601·FM

ADSPEC R601 FM RADIO CONTROL SYSTEM (45018)

1·2 YAMAHA ROUND THE WORLD
ヤマハ・ラウンド・ザ・ワールド

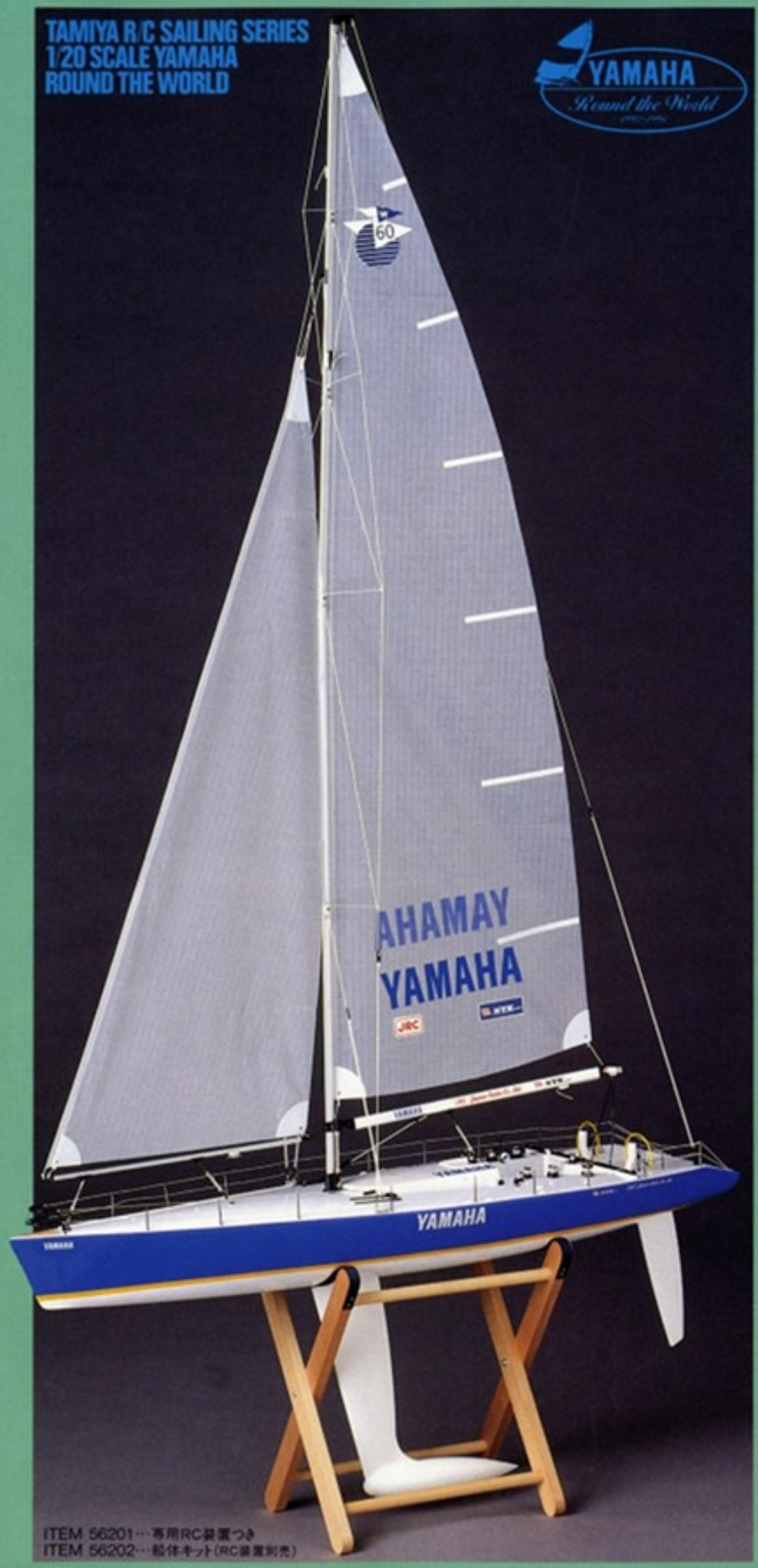
Grueling, is what defined the Whitbread "Round the World" yacht race. More than 8 months and 32,000 nautical miles of open sea sailing, it is considered one of the toughest sporting challenges a man can undertake. Yamaha, using their state of the art racing yacht, participated in the 1993-94 event. Now the excitement of sailing can be enjoyed with Tamiya's R/C model of the Yamaha Round the World yacht. Superb scale effects are achieved through use of hi-tech materials and engineering just as seen on the full-sized vessels. The hull is blow molded in one piece, and pre-painted in white and blue two-tone scheme. Main and jib sails are of the same Spincloth material used on the full-sized prototype. Reinforced aluminum is used for mast and booms. This elegant and realistic R/C sailboat was designed for "conversing with the wind"

(Model Specifications) ●Scale: 1/20. ●Length: 985mm ●Beam: 264mm ●Height: 1814mm. ●Laden weight: 3.5kg ●Keel weight: 2kg. ●One-piece molded and painted ABS hull. ●Aluminum main mast, main/jib booms. ●Spincloth sails. ●Detachable mast, keel and rudder. ●Metal bow pulpit and all stanchions. ●Wooden work/display stand included.

3 YACHT CREW SET (ASSEMBLED & PAINTED)
ヨットクルーセット(完成塗装ずみ)

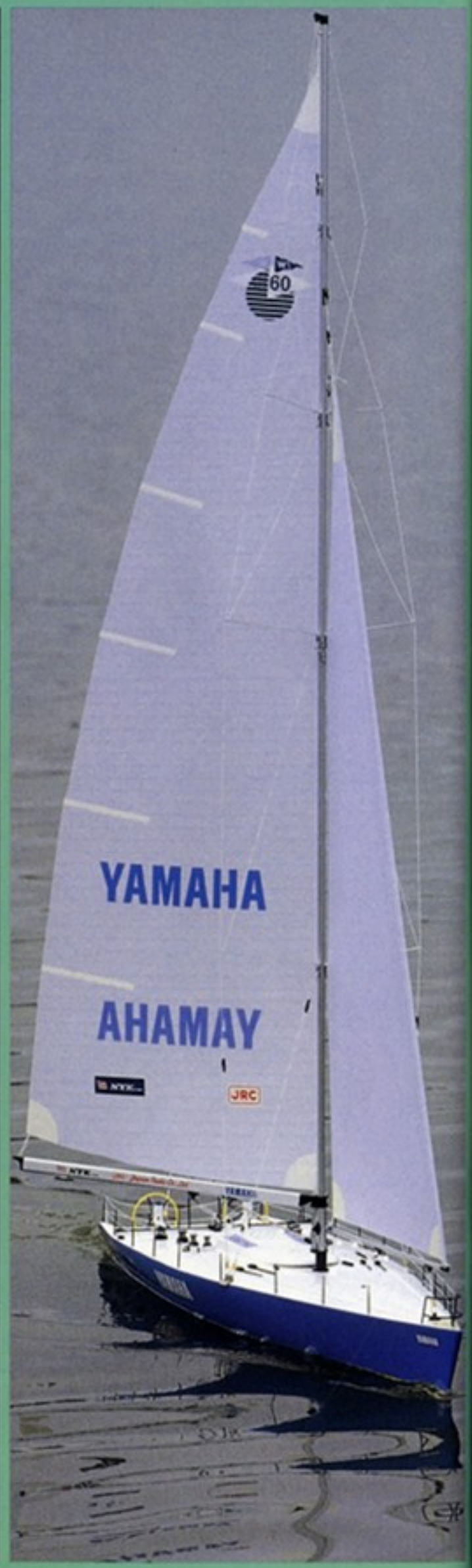
Tamiya offers a separately available Yamaha Yacht Crew Set that will further enhance the finish of the "Round the World" yacht model. Set includes five crew figures which are factory assembled and painted.

ITEM 56203



ITEM 56201…専用RC装置つき
ITEM 56202…船体キット(RC装置別売)

★56201 is not available in some countries.



4 YAMAHA 40EX
ヤマハ 40EX

Marine water sports are becoming increasing popular these days, and sailing is one of the most graceful subjects among them. Yamaha provides a wide range of sailboats, and their top-of-the-line 40EX cruiser yacht is highly acclaimed by many expert sailors. Tamiya's model of the Yamaha 40EX reproduces its elegant styling and performance in a 1/20 scale R/C replica. The hull is a one-piece, blow molded unit of tough ABS plastic for ease in assembly and water-tightness. The main and jib sails are made from tough featherweight Spincloth material as used on the full-size counterpart. Mast and booms are made from aluminum, for lightness and strength. Highly realistic deck components enhance the final finish. The model can be controlled by a standard 2-channel 2-servo radio equipment with stick type transmitter (not included).

(Model Specifications) ●Scale: 1/20 ●Overall length: 600mm ●Overall width: 194mm ●Overall height: 1,110mm ●Mast height: 810mm ●Sail area: approx. 16dm² ●Keel weight: 750g ●One-piece blow molded ABS plastic hull ●Spincloth sails ●Aluminum mast and booms ●Detachable mast, keel and rudder for ease in transportation. ●Comes with a wooden work/display stand. ●Requires a standard 2-channel 2-servo R/C equipment with stick type transmitter. ●A total of 12 UM3 (AA) size batteries are required for transmitter and receiver power source (R/C equipment and batteries are not included in kit).

〈船体内部に組み込まれたRCメカ〉

★Cut-away for photo purpose.

★Specifications are subject to change without notice.

3 ALT STREAM
アルトストリーム

Catching, riding and making the best use of the natural current of air is what the R/C glider sport is all about. Tamiya's "Alt Stream" R/C glider incorporates highly sophisticated design and construction, to make your flight dream come true. In order to obtain excellent maneuverability during thermal soaring and slope soaring, the Alt Stream is controlled by its rudder, elevator and ailerons. These vital components are connected to the servos via cables, enabling crisp response to the transmitter inputs without play or delay. The lightweight and tough ABS resin fuselage is blow molded in one piece, for ease in construction and utmost durability. Factory assembled wings are detachable for easy transport. The ailerons can be used as spoilers, when combined with a 6-channel R/C system with mixing functions.

(Model Specifications) ●Fuselage length: 1,030mm ●Wingspan: 2,000mm ●Weight fully equipped: aprox. 1,100 - 1,200g ●Wing area: 35.6dm² ●One-piece blow molded ABS resin fuselage ●Factory assembled, detachable wings ●Cable controlled ailerons, rudder and elevator ●R/C unit: Requires a Tamiya Adspec R601 FM with an additional servo, extension cable and receiver battery box, or other 4 channel 4 servo radio (R/C unit available separately)

6 FLATBED SEMI-TRAILER FOR TAMIYA 1/14 TRACTOR TRUCK
フラットベッド・セミトレーラー

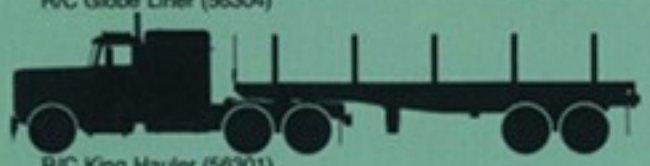
This highly realistic 1/14 scale flatbed semi-trailer model is for use in combination with Tamiya's 1/14 R/C tractor trucks. A high degree of fidelity is achieved by using authentic components such as aluminum chassis/frame, wood-floored platform etc.

(Model Specifications) ●Scale: 1:14 ●Overall length: 711mm ●Overall width: 193mm ●Overall height: 211mm ●Weight: 2,480g ●Aluminum frame and wooden cargo floor ●Rigid axle suspension with metal leaf springs ●Can be connected to the separately sold tractor truck

FOR CARS

R/C Mercedes-Benz 1838LS (56305)

R/C Globe Liner (56304)



R/C King Hauler (56301)

★Specifications are subject to change without notice

OFF ROAD DRIVING CARE

Even though you own an off-road vehicle, you must select your driving areas with care to keep your vehicle in good condition. Inconsiderate driving will cause trouble and possible damage to your car.

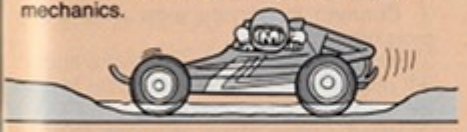
1. UNSUITABLE AND DIFFICULT DRIVING SURFACES

●DRY RIVER BED

A dry river bed where many large rocks are found is perhaps the worst place for driving an off roader. In 1/10 scale, even a stone with a 10cm dia is the same as a 1 meter dia boulder in real life. Driving against these objects is like intentionally destroying your vehicle.

●WATER AND PONDS

You may sometimes run into a puddle or two when running off-road. Radio control unit, motor, speed controller, and batteries are very sensitive to moisture. Avoid running into standing water and heavy rain. A splash of water from the car is enough to damage the mechanics.



●GRASSLAND

Grasslands with tall grass and stems are bad for buggies because the grass can become entangled in the shafts and universal joints, which cause an unnecessary load on the motor which can cause overheating.

●GRAVEL AND DRY SAND

These surfaces offer considerable resistance to your vehicle. There is a burden on the motor and it will use much more current. The vehicle will not move as fast on this type of terrain, and on loose dry sand the tire can become buried and spin, without moving the car.

●ASPHALT AND LAWNS

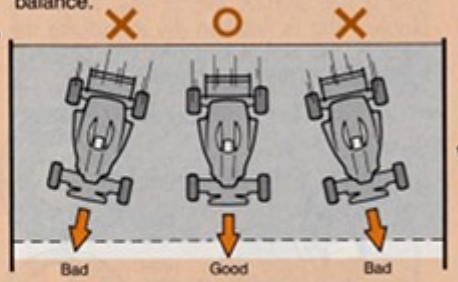
Highspeed cornering on concrete, asphalt or smooth lawns will cause the vehicle to roll. Slow down a little when cornering on these surfaces.

2. JUMPS

Dynamic jumps are a part of off road driving; however, you can damage your car if it is done recklessly. For 1/10 scale cars, a jump height of only 20cm has a scale height of 2 meters. Special attention must be paid to jumping correctly.

●ENTER THE JUMP RAMP STRAIGHT

To obtain a stable attitude when jumping, you must leave the ramp squarely and not at an angle. If this is not done, the car will tend to tumble while in the air and will land off balance.



●TO OBTAIN A GOOD LANDING ATTITUDE

A jump must be done so that the car's rear wheels hit the ground first, in a level or slightly nose high attitude. To do this it is important to apply only enough power to the car when leaving the ramp. Applying too much power tends to raise the nose too much and not enough power allows the nose to drop and land on the front wheels. If power is slightly reduced when entering the ramp, the jump attitude should be OK.

★CONTROLLING THE CAR'S ATTITUDE WHEN IN THE AIR

While in the air, a car's attitude can be altered by adding or reducing power. Adding power will raise the nose, due to the torque reaction of the motor and wheels, while reducing power will lower the nose.

●ACCELERATE WHEN ALL WHEELS ARE ON THE GROUND

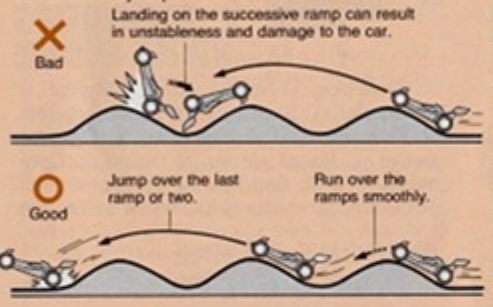
Applying power before the car lands, or when only the rear wheels have touched, will make the car "Wheelie" and be very unstable. Accelerate only when all four wheels are down.

●KEEP JUMPS AS LOW AS POSSIBLE

Although they look great, high jumps are not advantageous during competition because the car cannot accelerate while in the air. It is recommended to keep the jump low and land quickly so time is not lost during the jump.

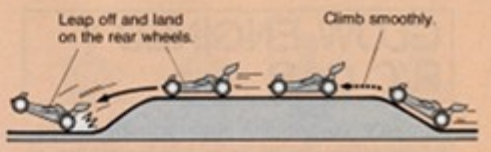
●SUCCESSIVE JUMP RAMPS

Special planning and technique is required when going through successive ramp jumps. If the car jumps from the first ramp normally and lands on the following ramp, the landing will be very unstable. Do not jump the initial ramps, but reduce power and run over the ramps smoothly. Clear only the last ramp or two with a jump.



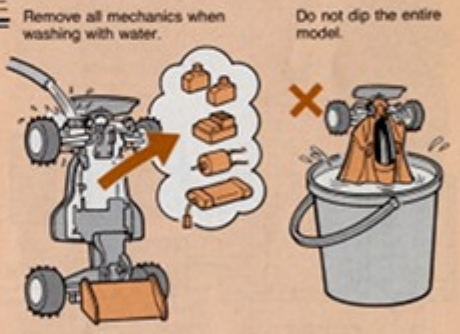
●PASSING ON A PLATEAU OR TABLELAND

Plateaus and tablelands are raised level surfaces between slopes. If the level surface is short enough to jump over, you can use it the same as a ramp jump. If the top surface is fairly long, slightly reduce power and climb smoothly up to the level surface. Add power just before the down slope, leaping off to land on the rear wheels. This prevents the car from "Nose-diving" and becoming unstable.



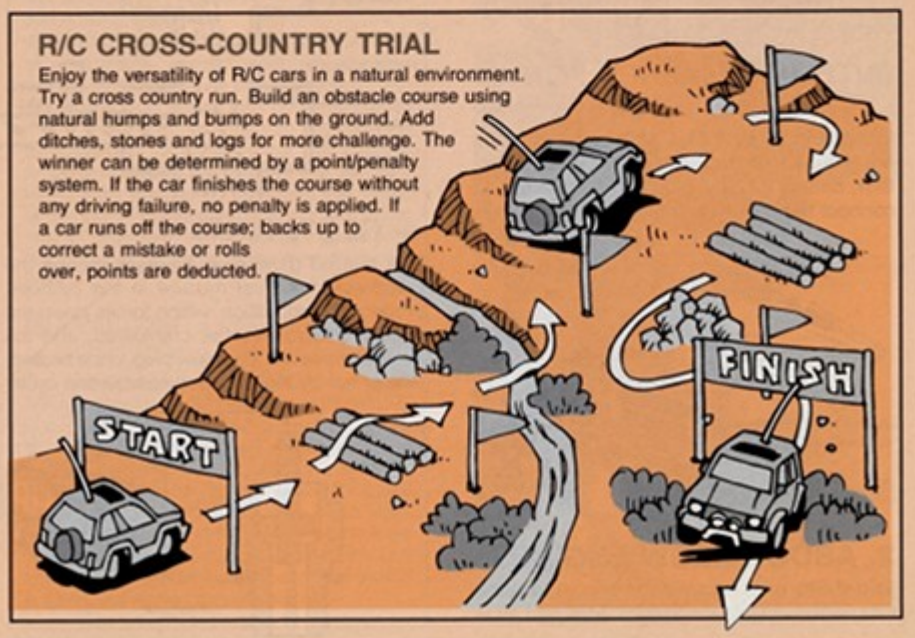
3. MAINTAINING OFF ROAD CARS

Since off road cars and buggies are designed to run mostly on dirt, and often are run on these surfaces, dust is a major problem compared to on-road-going cars. Always completely clean your car after running it. Dust can be easily removed using brushes with stiff bristles. If the car was driven through loose ground or puddle, ending up with mud all over the car wipe off mud from easy-to-reach areas using tissue papers or rag and let the rest of the dirt dry off. When completely dried, mud will come off easily by brushing and chipping off using screwdrivers. For nasty mud clogs remove wheel, suspension, etc. for a thorough clean up. Remove all mechanics such as servos, receiver, speed controller, and motor when washing with water to prevent water getting into the mechanics. After washing, completely wipe off moisture and thoroughly dry to prevent any rust, and reapply oil and grease in gearbox, shafts, bearings, and all moving parts.



R/C CROSS-COUNTRY TRIAL

Enjoy the versatility of R/C cars in a natural environment. Try a cross country run. Build an obstacle course using natural humps and bumps on the ground. Add ditches, stones and logs for more challenge. The winner can be determined by a point/penalty system. If the car finishes the course without any driving failure, no penalty is applied. If a car runs off the course; backs up to correct a mistake or rolls over, points are deducted.



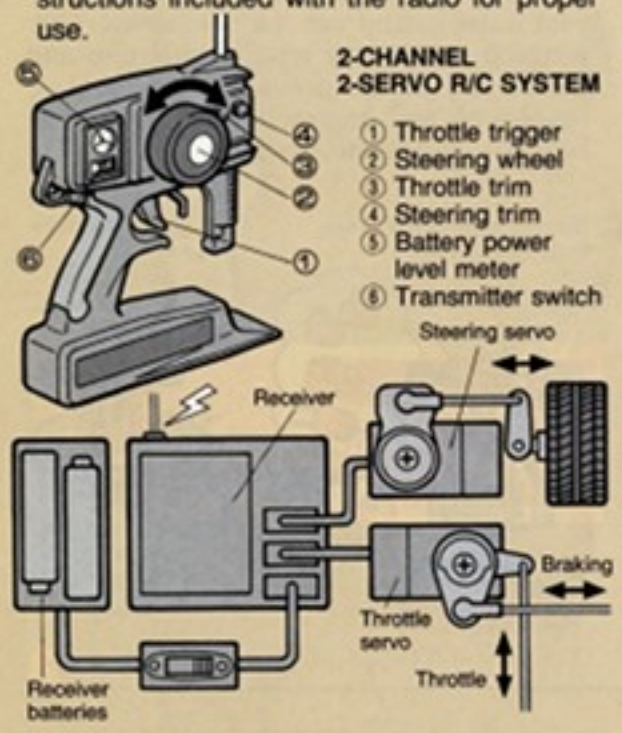
GLOW ENGINED R/C CAR

Tamiya's glow engine powered radio control models allow you to enjoy the fascination of internal combustion powerplant operation at work. Maximum performance is ensured by using high quality, reliable glow engine components. Add these to the superbly designed chassis and suspension, and you have Tamiya's new dimension in R/C glow engine enjoyment.

★NOTE: This is a scale model using an internal combustion engine, and is suitable for modelers 14 years of age and older. It is not a toy.

1. RADIO CONTROL SYSTEMS FOR GLOW ENGINED R/C CARS

A 2-channel 2-servo radio system with a receiver battery case, is standard. One servo controls steering, while the other controls throttle and braking. Refer to the safety instructions included with the radio for proper use.



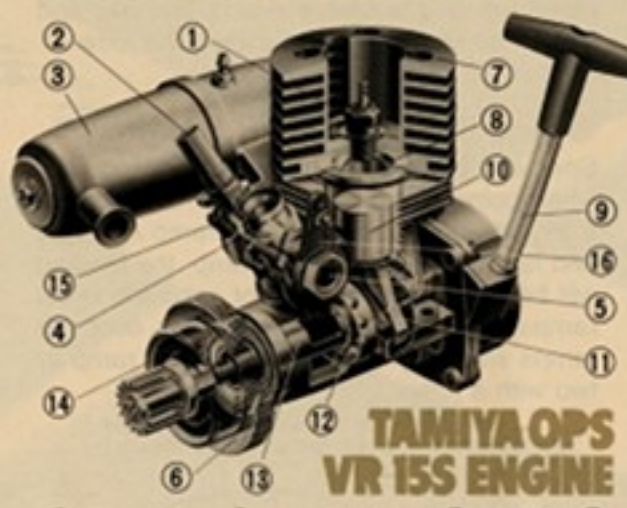
●ITEMS REQUIRED FOR STARTING ENGINE

In addition to glow fuel, several other items are required for starting a glow engine. A fuel filler, battery for glow plug and a cable/clip to connect the battery to the glow plug.

2. ABOUT GLOW ENGINES

Two-stroke glow engines are known for their simple and reliable mechanics. Fuel and air is mixed in carburetor drawn into the cylinder, compressed and ignited by the glow plug. The explosion (combustion) translated into workable power via the crankshaft. The correct ratio of fuel/air mixture is essential to keep the engine running properly.

●GLOW ENGINE COMPONENTS

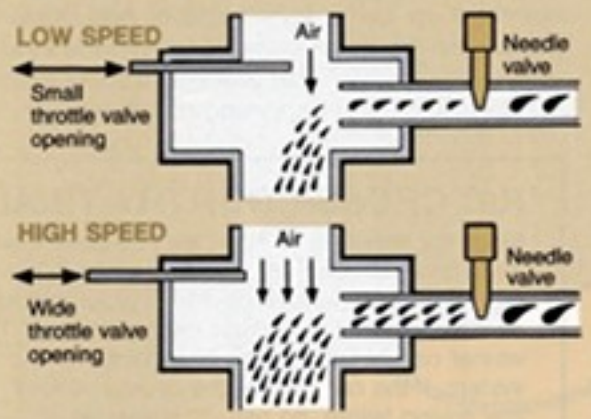


① Glow plug ② Needle valve ③ Muffler ④ Carburetor ⑤ Slow running speed adjuster ⑥ Flywheel ⑦ Cylinder head ⑧ Cylinder sleeve ⑨ Recoil starter ⑩ Piston ⑪ Connecting rod ⑫ Ball bearing ⑬ Crank shaft ⑭ Centrifugal clutch ⑮ Idle screw ⑯ Throttle

●ABOUT ENGINE COMPONENTS

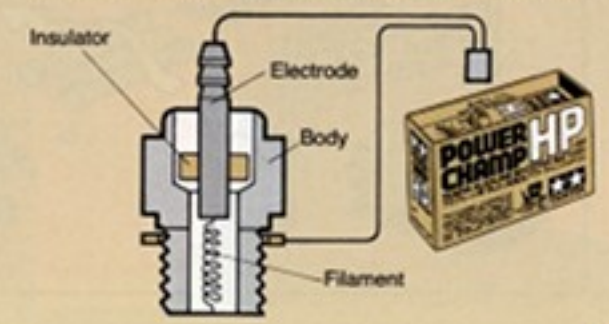
★ CARBURETOR

The carburetor is the engine component that mixes the fuel and air to the proper ratio and atomizes it. The throttle adjusts the amount fuel/air mixture available to the cylinder. An open throttle allows more intake of the mixture, resulting in increased engine RPM and a higher running speed.



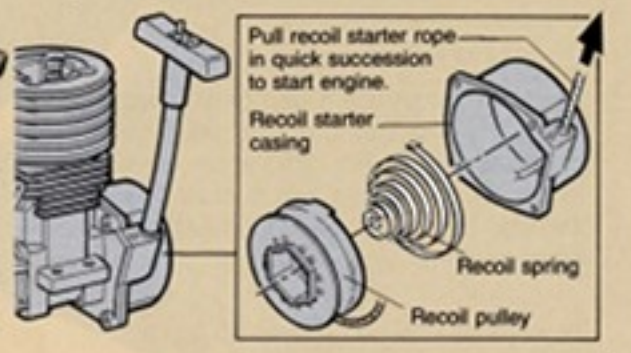
★ GLOW PLUG

The heated glow plug filament ignites the compressed air/fuel mixture in the cylinder, producing combustion, which forces down the piston. This rotates the crankshaft, and the cycle is repeated. The glow plug, once heated, is kept hot by the repeated combustion cycle.



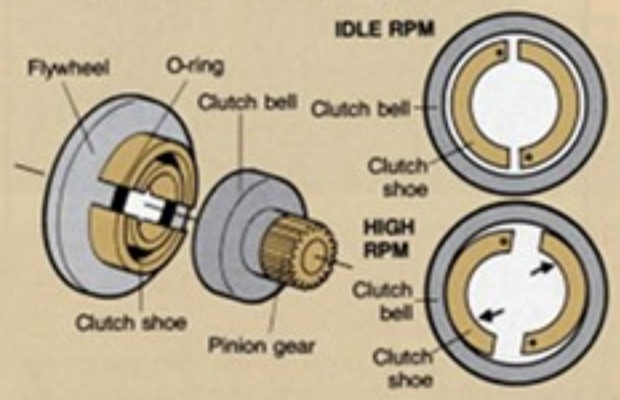
★ RECOIL STARTER

The recoil zip starter is a manual method of starting a glow engine by pulling the rope handle in quick succession, forcing the crankshaft to rapidly rotate. The rope automatically rewinds by the recoil spring in the casing. An electric starter is also offered with some models that use an electric motor for engine start.



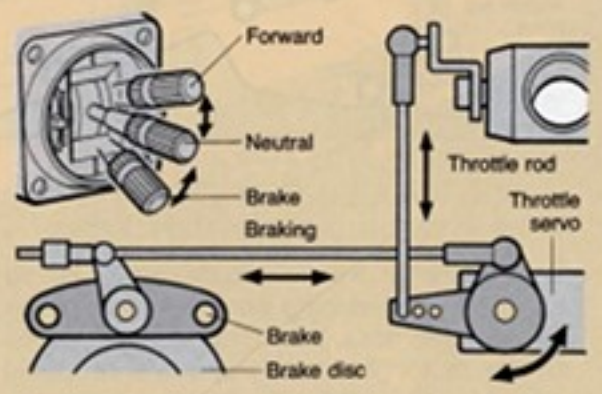
★ CENTRIFUGAL CLUTCH

A centrifugal clutch remains disengaged until the engine reaches a specified RPM. This keeps the car from jumping out when the engine is first started, and at idle. When the proper RPM is reached (by advancing the throttle), the clutch engages and power is transmitted to the transmission.



3. BRAKE UNIT

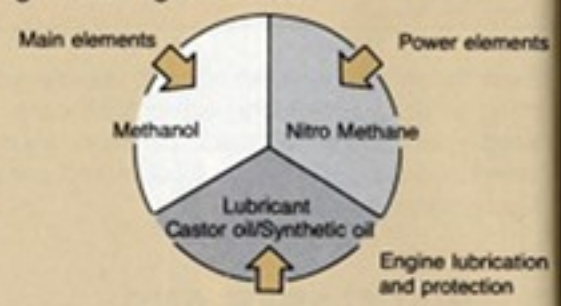
Most full sized automobiles use the disc brake system, and it is also used on R/C glow engined models to reduce speed; however, the model car system is synchronized with throttle servo movement. The brake is activated when engine power is reduced by moving the transmitter control stick back, or the trigger forward.



4. GLOW ENGINE FUEL

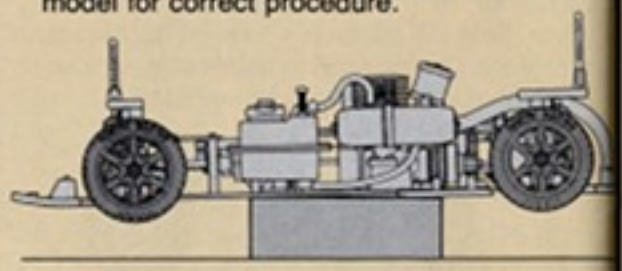
Use only the specified glow engine fuel for your R/C model. Glow fuels contain Methanol and Nitro Methane for combustion, plus lubricant for engine protection.

★A higher ratio of Nitro Methane can produce higher power output, but will result in engine starting difficulties.



5. ENGINE STARTING PROCEDURE

The standard procedure for starting glow engines is described below. Always refer to the instructions included with your engine and/or model for correct procedure.



① Set the car on a box or support so that all wheels are free to rotate.
② Install batteries in transmitter and receiver. Switch on and check servo functions. Make sure the throttle is at idle when the throttle servo is at neutral.
③ Fill fuel tank with glow fuel.
④ Press choke button until fuel reaches the carburetor.
⑤ Connect battery to glow plug using cable/clip.
⑥ Start engine using recoil or electric starter.
★If difficult to start, increase throttle trim on the transmitter 2 or 3 clicks.
⑦ When engine starts, increase RPM to about half throttle with transmitter throttle control, to warm up engine. Go from idle to half throttle two or three times.
⑧ When idle has stabilized, remove glow plug cable/clip and return throttle trim to its original position.

6. STOPPING ENGINE

Engine can be stopped by removing the air cleaner and closing off air intake or blocking exhaust; however, fuel remaining in engine and tank could damage internal components. It is therefore recommended that the engine be run at idle until it runs out of fuel.

7. TUNING TIPS FOR GLOW ENGINED R/C CARS

Adjustment of chassis components, such as suspension etc. are common with electric and glow engine powered R/C cars. Several points unique to glow engined R/C cars are discussed below.

●MAKE THE BEST USE OF ENGINE POWER

A simple, but effective first step in tuning your car is to replace the metal/plastic bushings with precision ball bearings. This reduces loss

of engine power from friction, and provides the most power from the engine.

●IMPROVING RELIABILITY AND ENDURANCE

Overheating is often a problem with glow engines. To reduce this, cut air intake openings in the body shell to help cool the engine. Replace the engine's heat sink with a larger or more efficient one. Sand and/or debris in the fuel can damage internal engine parts. Install a fuel filter to prevent this.

●FOR QUICKER ENGINE RESPONSE

Glow engines produce usable torque after sufficient RPM is reached (ie. low torque at low RPM). By using a lighter weight flywheel, the time required to reach high RPM is shortened. This provides quicker throttle response, improving acceleration. Make sure to adjust the engine's needle valve and idle setting after replacing a flywheel.

●BETTER BRAKING

Just like full sized vehicles, a glow engine R/C car is equipped with a braking system. Brakes are used often during running and wear following prolonged use. Replace worn parts when required. Larger diameter brake disks, or ones of composite material are available for some cars, which provide better braking.

●OBTAINING A HIGHER ENGINE OUTPUT

It is not recommended to modify the engine's cylinder or piston, as this requires a high degree of knowledge, experience and facilities. An easier way to obtain more power is to use a glow fuel of higher specifications. Race oriented fuels include a higher Nitro Methane content and are on the market. However, always refer to your engine's instructions and use its recommended fuel.

●TO AVOID RUNNING OUT OF FUEL

Even though refueling is not difficult, sudden stops due to fuel starvation should be avoided. To aid in this, a fuel level indicator is available from Tamiya for their glow engined R/C cars. A sensor monitors fuel level in the tank, and when low, a light emitting diode glows alerting time to refuel.

8. MAINTENANCE

Glow engined R/C cars get soiled from oil residue after running, due to the lubricants used in the fuel. Daily clean-up and maintenance is essential for optimum performance.

●CLEANING CHASSIS

To remove the oily residue from chassis components, an alcoholic cleaning spray is recommended. Several types are available from hobby shops; however, use only the cleaner developed for model use as other types could attack the plastic and rubber components.

●ENGINE MAINTENANCE

The engine's internal components are exposed to high heat, pressure and exhaust gases during operation. If left uncleaned, the oily grime can cause rust and corrosion inside the engine. Use an oil spray for cleaning. Remove the glow plug and spray directly into the cylinder and carburetor after running.

★Vehicle components such as engine, muffler, exhaust pipe etc. get very hot during use and can cause burns if touched. Allow to cool before cleaning and maintenance.

●CHECKING GLOW PLUG

The glow plug is also subject to high temperatures and pressure. Periodically check and replace when necessary. To check the plug, remove it from the engine and connect it to the battery with the cable/clip. The filament should glow a bright red if good.

●AIR FILTER

A clogged air filter hinders the supply of air to the engine, resulting in lowered performance. Periodically check and replace the air filter element when necessary.

●SAFETY PRECAUTIONS

To avoid serious personal injury and/or property damage, operate all remotely controlled models in a responsible manner as out-lined below. Be aware of your surroundings when operating any R/C model.

●Never run R/C models near people or animals, nor use people or animals as obstacles when operating R/C vehicles.

●Never run R/C models on the street or highway, as it could cause or contribute to serious traffic accidents.

●To avoid injury to persons or animals, and damage to property, never run R/C models in a confined or crowded area.

●Be aware of your surroundings. Avoid running R/C models in environment where noise can cause displeasure.

●Never run R/C models near heat and open flame as it can cause serious accidents.

●Running R/C models into furniture or other inanimate objects will cause damage to the objects and the R/C model.

●Make sure that no one else is using the same frequency as yours in your operating area. Using the same frequency at the same time, whether it is driving, flying, or sailing, can cause loss of control of the R/C models, resulting in serious accidents.

★Use only glow fuel. Never use gasoline or other fuel as it can explode and burn, causing serious personal injury and/or accidents. Read the warning on product prior to use. Improper use of glow fuel could result in serious injury and/or property damage. You are solely responsible for the safe use of the product.

●HEAT, FIRE AND FUEL SAFETY

★Vehicle components such as engine, muffler, etc., get very hot during running and can cause burns if touched.

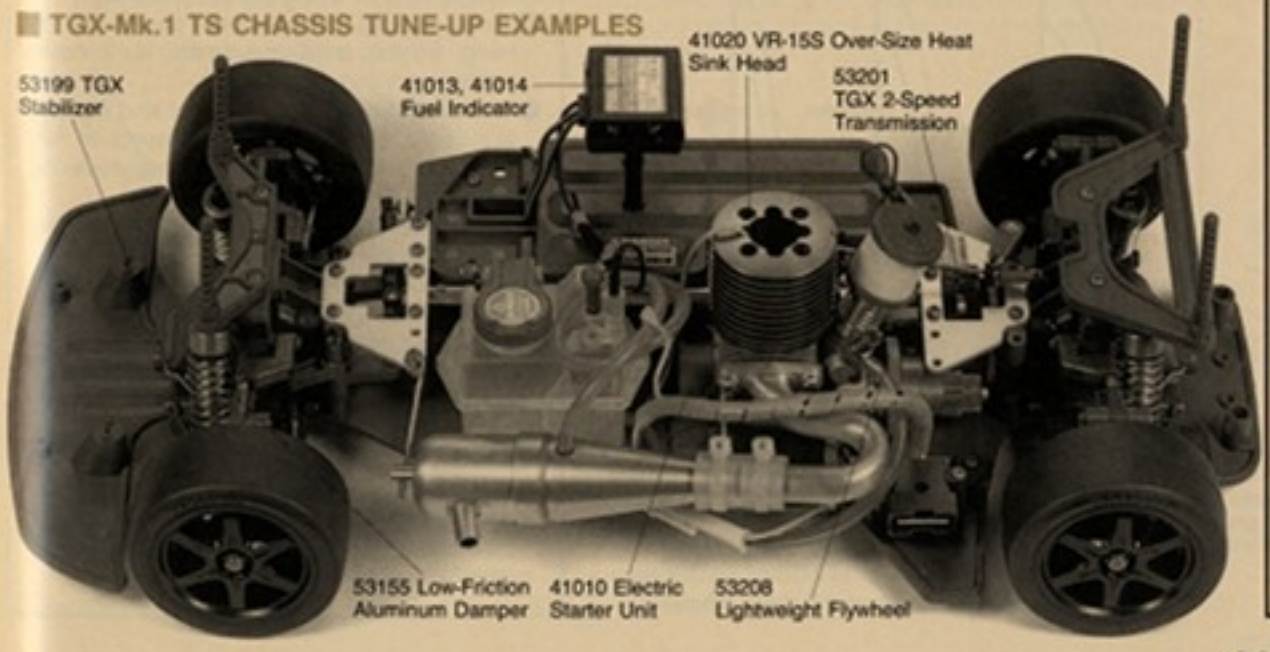
★Do not touch any of the moving parts, such as drive shafts, wheels, gears, etc. as these rotating parts can cause serious injury.

★Use only glow engine fuel. Never use gasoline or other fuels as they can explode and burn, causing serious personal injury and/or property damage. Use fuel only in a well ventilated area. Keep away from heat and flame. Never fuel or prime with battery connected to engine. Glow fuels are poisonous. Avoid contact with eyes and skin. Keep away from children.

●AVOIDING LOSS OF CONTROL

Top speeds of glow engined R/C cars exceed 50km/h and can be very dangerous if control is lost. Tamiya's R/C Fail-Safe Unit (Item No.45017) can help prevent control loss. The central processing unit of this system is programmed to continuously monitor pulse signals from the receiver. When radio interference or noise is detected, or the receiver battery voltage becomes insufficient, the unit automatically returns the servos to their neutral position, preventing loss of control.

■ TGX-Mk.1 TS CHASSIS TUNE-UP EXAMPLES



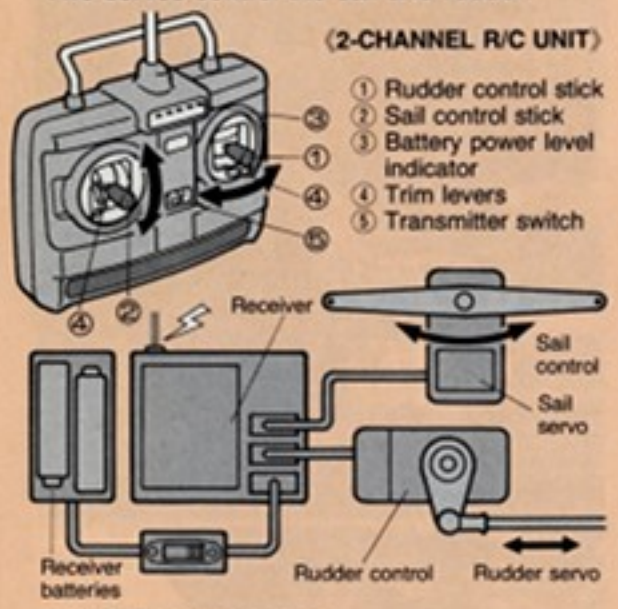
R/C SAILING GUIDE

Radio controlled yacht models can provide the same enjoyment in "conversing with the wind" as their full sized counterparts can do. Using the natural energy of the wind, the model glides over the water, precisely controlled by its rudder and sails. Following are fundamental tips for operating in this elegant R/C sport.

●YAMAHA 40EX COMPONENTS

1. RADIO CONTROL REQUIREMENTS

A 2-channel radio, with a stick controlled transmitter is required for R/C yacht models. Two servos control the sail and rudder.



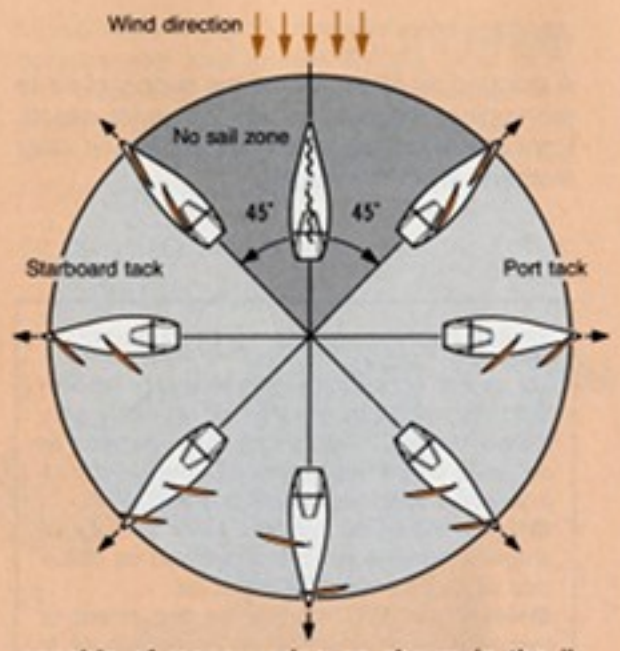
●Rudder control servo:
Steers the vessel in the desired direction.

●Sail control servo:
Controls the travel of the sails, so they effectively catch the wind.

A small yacht model can be controlled by standard sized servos, but a special high torque servo may be required to control the sails on a larger sized model. Consult your hobby dealer to select a suitable R/C system.

2. WIND DIRECTION AND SAIL ZONE

The procedures for R/C sailing are the same as experienced on full-sized yachts. A yacht is



capable of maneuvering as shown in the illustrations. Bear in mind that a yacht cannot sail directly into the wind and there is an approximately 45 degree no-sail zone.

3. CONTROLLING A YACHT MODEL

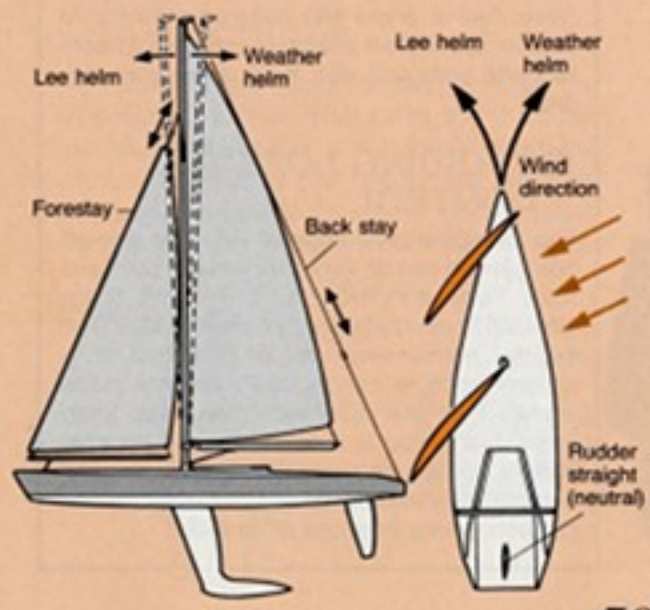
The sailing performance of a yacht is largely influenced by the wind direction in relation to its sailing direction. The wind direction varies each moment. Control of the sail and rudder obtains smooth sailing, always keeping the direction of the prevailing wind in mind.

4. ADJUSTING MAST AND SAIL

The sailing characteristics of a yacht can be altered by adjusting mast angle and sail tensions.

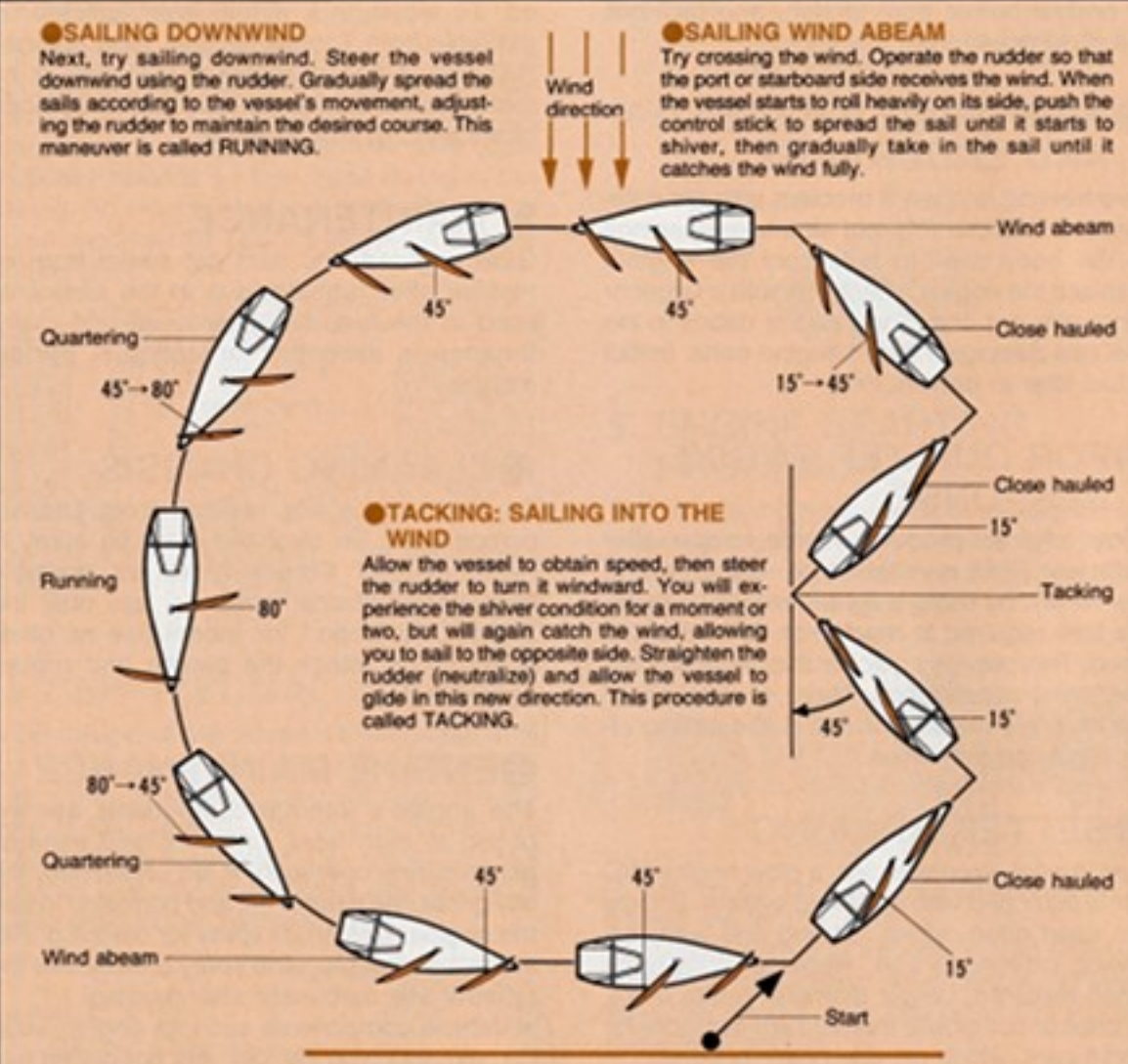
●WEATHER HELM AND LEE HELM

Three basic sailing tendencies are present when the rudder is straight (neutral). When the vessel tends to sail windwards (weather) with the rudder straight, the condition is called a WEATHER HELM. Opposite to this, when the vessel sails downwind (leeward), it is called a LEE HELM. A vessel that sails straight ahead is JUST HELM. Helm conditions can be adjusted by mast inclination. Inclining the mast forward (forestay) provides a lee helm, while inclining it aft (backstay), provides a weather helm.



●SAILING DOWNWIND
Next, try sailing downwind. Steer the vessel downwind using the rudder. Gradually spread the sails according to the vessel's movement, adjusting the rudder to maintain the desired course. This maneuver is called RUNNING.

●SAILING WIND ABEAM
Try crossing the wind. Operate the rudder so that the port or starboard side receives the wind. When the vessel starts to roll heavily on its side, push the control stick to spread the sail until it starts to shiver, then gradually take in the sail until it catches the wind fully.



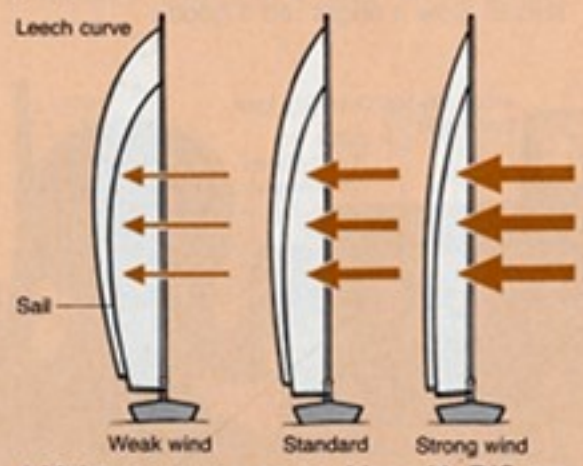
●TACKING: SAILING INTO THE WIND
Allow the vessel to obtain speed, then steer the rudder to turn it windward. You will experience the shiver condition for a moment or two, but will again catch the wind, allowing you to sail to the opposite side. Straighten the rudder (neutralize) and allow the vessel to glide in this new direction. This procedure is called TACKING.

●RUNNING
Steer the vessel so that it sails straight off the wind. Open the sail to catch a fair wind. The jib sail will open opposite the main sail. This is called Running.

●START & CLOSE HAULED
To begin sailing, fully spread the sail and steer the vessel to about 45 degrees to the wind. At first, a sail flutter (called Shiver) is experienced. Gradually take in (close) the sail until it catches the wind, and the vessel starts to glide off. This is a Close Hauled condition.

●ADJUSTING LEECH CURVE (SAIL TENSION)

Proper adjustment of your sails is essential in order to utilize wind power efficiently. During strong winds, the sails should be given extra tension, and less tension during mild winds. Adjust the mainsail by the boom vang, using the adjuster. Extend boom vang rod for weak tension and shorten for more tension. Jib sail curve is adjusted by inclining or declining the sheet adjuster on the jib halyard.



★Moisture can cause troubles with R/C systems and batteries. In particular, contact with salt water can cause almost immediate corroding of precision electronic circuits. Avoid contact with water as much as possible; however, in case the R/C unit and/or batteries accidentally get wet, immediately remove from the model. Drain and wipe off any water. Allow it to air dry in the shade. If salt water gets inside the R/C unit, remove the case and rinse with fresh water. Test the dried unit prior to reinstalling in the model. Send to the dealer/manufacturer for repairs if any malfunction is observed.

SAILING SAFETY PRECAUTIONS

To avoid serious personal injury and/or property damage, operate all remotely controlled models in a responsible manner.

- ●Never sail R/C vessels near people (swimming, fishing, etc.) or animals, as it could cause a serious accident.
- ●To avoid damage to the vessel and prevent accidents, do not sail R/C vessels in fast moving currents or restricted maneuvering areas.
- ●Never sail R/C vessels near full-sized boats as it could cause accidents.
- ●Never sail R/C vessels in harbors, ports or traffic routes used by full-sized ships/boats, as it could contribute to accidents.
- ●Sailing in weak or no wind conditions could result in loss of control of the R/C yacht model.
- ●Avoid sailing in shallow waters, among water plants or in areas which could have underwater obstacles. The keel and rudder of the yacht model may become entangled or caught.

R/C MOTOR GLIDERS

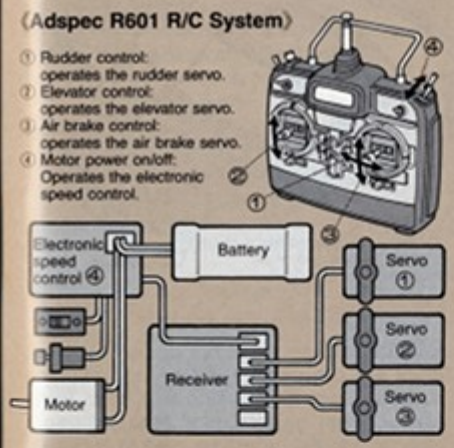
As its name implies, gliders use thermals and air currents for flight, and once airborne can remain aloft for extended periods of time. Experienced glider pilots can perform spectacular aerobatics, loops, rolls etc. by using energy conservation as pertains to flight (ie: converting speed into altitude). Conventional gliders require a launching device (bungee cord or winch tow) or a special location such as a hillside to take off. Electric motor gliders however, can climb to altitude using its own motor.

1 R/C EQUIPMENT

A conventional non-powered R/C glider can be controlled by a 2-channel 2-servo radio and stick type transmitter. For a motor glider, the motor requires on/off switching, therefore 3-channels or more are required. Some models require special R/C equipment to obtain optimum function and performance. The manufacturer's suggested equipment list will be shown on the package or in the instruction manual. Consult your hobby dealer for choices of suitable R/C equipment.

★For Tamiya's Peak Spirit glider a five channel (or more) radio with three micro servos and an electronic speed control is suggested.

〈Adspec R601 R/C System〉



2. MOTOR POWER SOURCE

A Ni-Cd battery pack is most often used for power in electric motor gliders. Battery specifications (capacity, dimensions, weight etc.) greatly effect the performance of a glider. Use only the glider's specified battery for operating the model.

★Tamiya's Peak Spirit requires a Tamiya Ni-Cd 7.2V SCRC battery and a DC Delta-Peak quick charger.

Tamiya Ni-Cd 7.2V SCRC battery

DC Delta-Peak quick charger

3. OPERATION OF THE MOTOR GLIDER

Once you reach the desired altitude, cut the power and the propellers will fold back. The motor glider operation is exactly the same as any conventional glider. Basic soaring techniques are discussed below. One thing you should always avoid is a steep climb without sufficient airspeed. This can stall the glider and could result in a spin and possible crash of the aircraft.

4. THERMAL HUNTING AND SLOPE SOARING

These terms concern ascending air currents. If a glider enters these updraft it can gain altitude without use of motor power, thereby increasing the flight time.

●THERMAL HUNTING

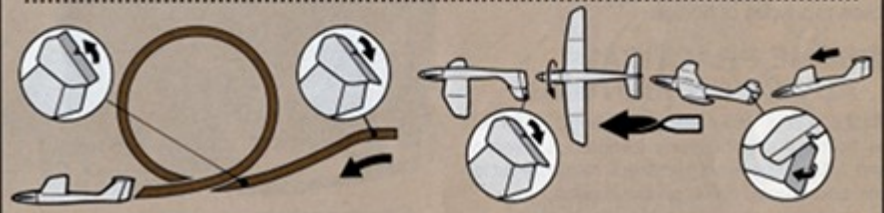
The word "thermal" means a rising current of heated air, caused by the uneven heating of the ground by the sun. Thermals occur over uncovered ground, such as sand and soil. Air over grasslands and water tend to be cooler and generally have descending air patterns. When circling inside a thermal, a glider will gain altitude, so "Thermal Hunting" is the process of finding and making use of these invisible currents by observing a glider's flying attitude.

〈BASIC OPERATION OF A MOTOR GLIDER〉

〈TAKE-OFF AND CLIMB〉
Have an assistant prepare to launch the glider. Start the propeller and launch the glider into the wind with about a 10 degree nose up attitude. Then adjust the elevator for a straight ahead climb and about 20 degrees nose up. When it reaches altitude, stop the motor and the propeller blades will fold back alongside the fuselage, for soaring.

〈TURNS〉
Move the transmitter rudder stick to the desired turn direction. Once a wing has lowered into a turn, slightly add a little up elevator to keep the nose from dropping. To stop the turn, move the rudder in the opposite direction stopping the bank, releasing the elevator control stick to neutral when a wings level attitude is reached.

〈LANDING〉
Make your landing approach downwind, then turn 180 degrees to land directly into the wind, adjusting airspeed using the airbrake. Fully deploy the brake after completing the turn and with the glider in about a 10 degree nose down attitude. Flair (raise the nose) using elevator just prior to touchdown with the fuselage in a level attitude.

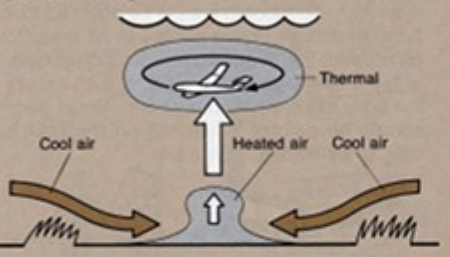


〈LOOP〉
Apply a little down elevator to lower nose attitude and increase airspeed. When sufficient speed is obtained, apply up elevator. The gliders nose will rise and continue up and over into a loop. Keep the elevator back during the loop, releasing it to neutral when loop is completed, returning to straight and level flight.

〈ROLL〉
Apply down elevator to gain airspeed. Bring the nose up and move the rudder fully in the desired roll direction. When the glider is inverted, add down elevator to keep the nose from falling out of the roll. When the roll is almost complete, add opposite rudder, for an instance, to bring the fuselage back to horizontal.

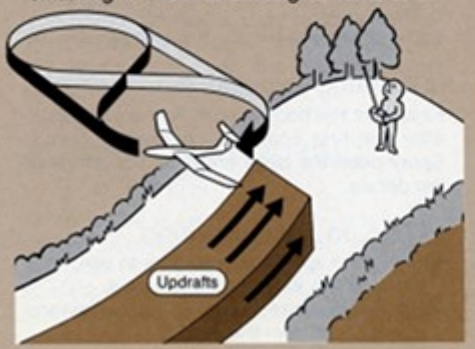
★Aerobatics down or crossing the wind are very demanding. Practice them into the wind.

〈THERMAL〉



●SLOPE SOARING

Winds moving towards an upslope or hillside become natural updrafts. Finding and remaining in these ascending currents of air by doing a figure 8 maneuver, will keep the glider parallel to the hills ridge line, allowing continuous flight.



Turns the model right or left. Moving the transmitter stick to the right turns the model right, and to the left, turns the model left.

Used to reduce the glider's speed during landing etc. Pulling the stick back closes the brake and pushing it deploys the brake.

Controls climb/descent and turning radius of the model. Like a full-sized aircraft, pulling the transmitter elevator stick raises the elevator, increasing the gliders angle of attack. Pushing the stick forward, decreases the angle of attack and lowers the nose.

Propeller thrust is required for take off, and climb. Cut the motor power when soaring altitude is reached.

★RUDDER OR AILERON CONTROL

An aircraft changes its direction by movement of its rudder or aileron, or both. Rudder controlled, or aileron controlled model gliders are named accordingly. A rudder control glider is very suitable for long, stable soaring flights.

SAFETY PRECAUTIONS

Radio controlled aircraft models are subject to radio failure, malfunctions of the R/C system and mechanical problems. Always operate your model in a safe area where personal and/or property damage will not occur even if the model should crash. Follow these rules when flying:

- ●Do not fly near people, buildings or public facilities, or near roads and vehicular traffic.
- ●Do not fly near electric power lines, power stations, antennas or broadcast transmission towers. They are not only obstructive, but can also cause radio interference.
- ●Do not fly in strong winds or rainy weather.
- ●Do not fly alone. Always have an assistant with you.
- ●Double check your R/C equipment prior to any flight.
- ●Use only those frequencies authorized for R/C aircraft.
- ★Warnings about the propeller
  Take great care during assembly and operating the propeller. It rotates at a very high RPM and the blades have sharp edges. When turning on the motor, make sure no one is alongside or in front of the propeller.

PAINTING & DECORATION OF R/C CAR BODIES

A large part of R/C car enjoyment is in their construction and running; however, final finishing and decoration can also provide great pleasure. Decorating and finishing is not only self satisfying, but an essential part of the R/C hobby. A beautifully finished car even seems to go faster, and if it has been modified or customized, it will stand apart from the others.

1. PAINTING BODIES

Painting the body shell is the most important single step in finishing the R/C car model. Two types of bodies are used on R/C vehicles. Injection molded styrene plastic resin or vacuum formed transparent polycarbonate (Lexan) body shells. The usable paints and working procedures are very different between these two types of bodies.

●SOME PRACTICAL ADVICE ON PAINTING

Plastic paints use organic solvents, and can be harmful if improperly handled. Observe and follow the manufacturers rules for safe use and a good finish on the model.

★Ventilate while painting

Allow adequate ventilation in the painting area while working.

★Avoid open flames

Some paints and thinners are inflammable. Never use them near open flame.

★Paint on a clear day with low humidity

High humidity can cause a cloudy finish (blushing) on the painted surface. If possible, paint on a clear day to avoid this problem.

★Spray paint outdoors in a windless area

A spray can delivers a fine mist of paint that coats wide areas evenly. Spray paint outdoors in a shady, windless area. Use a cardboard box, newspapers, etc. to keep paint off the surrounding areas.

●PAINTS AND RELATED ITEMS REQUIRED

★Paints for injection molded bodies

Standard plastic model paints, like enamels, acrylics, and lacquers, can be used in painting injection molded R/C car bodies.

★Paints for polycarbonate bodies

Specially formulated polycarbonate paints are required for painting these transparent body shells. Conventional plastic paints easily peel or chip off, even with the slightest shock to the car body.
Some kits include separately molded plastic parts such as the driver's helmet, spoiler, door mirrors, etc., which are added to the polycarbonate body. These plastic parts must be painted with regular plastic paints and not polycarbonate paint.

★Brushes and other implements

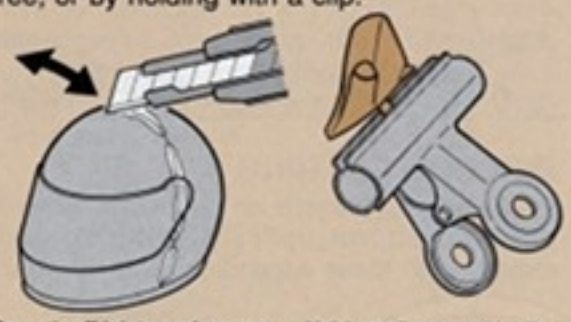
Paint brushes come in several shapes and sizes, such as flat or pointed brushes. In addition, you will need the following when painting: Paint thinner compatible with your paint, empty paint jars or trays, masking tape, scissors, a modeling knife, clips or clothespins, rags and newspapers, etc.

●PAINTING INJECTED MOLDED BODIES

The highly detailed and lifelike bodies are injection molded from styrene plastic resin. They are heavier and are more easily damaged in collisions at the track. Standard plastic paints are used in painting these bodies.

★Preparation

① A subassembly to be painted in one color should be assembled prior to painting. Remove excess cement, fill in and clean up joints and seam lines. Smooth the entire surface using a modeling knife and fine abrasive papers.
② Remove all dust and oil from the parts. Wash them in a mild detergent, and rinse well, allowing to air dry.
Objects to be painted should be secured to a base so that you have access to all areas to be painted. For example, make a loop of tape, with the adhesive on the outside, then secure the body to an empty box or can. Small parts should be painted while still on the plastic tree, or by holding with a clip.



Smooth off joints and seams. Hold small parts with clip.

★Painting procedures

First paint the body overall. Add small details after the first coat has completely cured. Spray paint the large areas and brush paint the details.

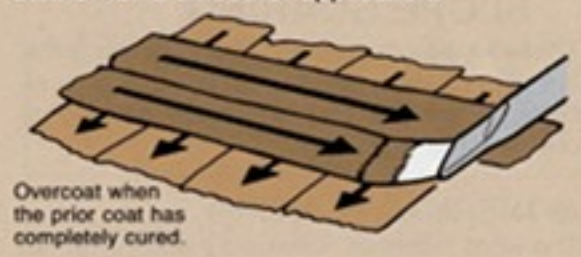
★Tips on spray painting

- Shake the spray can well prior to use. Test spray to see if it is properly mixed.
- Spray in one direction only, from a distance about 30cm from the model.
- Always use a light coat over the entire surface, and allow to dry. Repeat this procedure two or three times for a perfect finish.
- When the distance between the can and model is too close, or too thick of a coat is applied, the paint will run or contain small air bubbles. In these cases, let the paint dry for two or three days, then sand off using abrasive paper. Clean and smooth the surface and respray.

★Tips on brush painting

- Thoroughly stir bottle paints using a metal or grass rod prior to application. Do not shake the bottle, as this causes bubbles.
- Select a suitable brush size according the area to be painted. Use flat brushes for wider areas and pointed brushes for details.
- Move the brush in one direction only. When the coat has fully dried, another coat applied in a different direction can be used for an even finish.

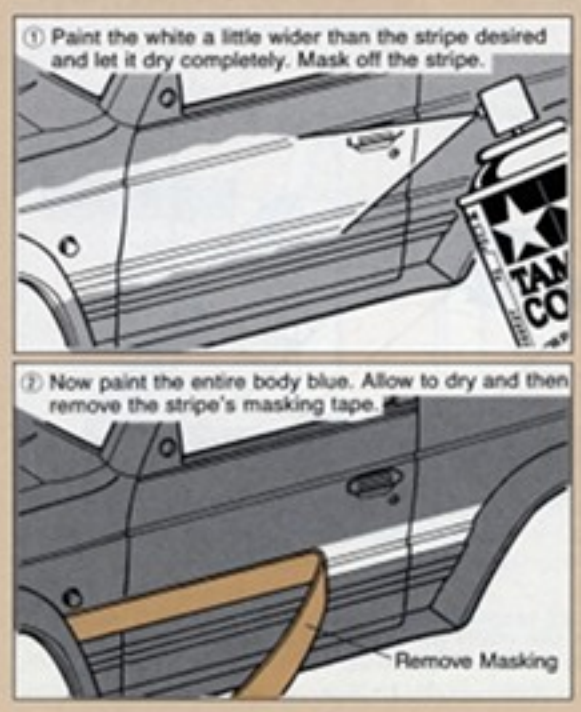
★If a paint is too thick, add the exclusive thinner for a smoother application.



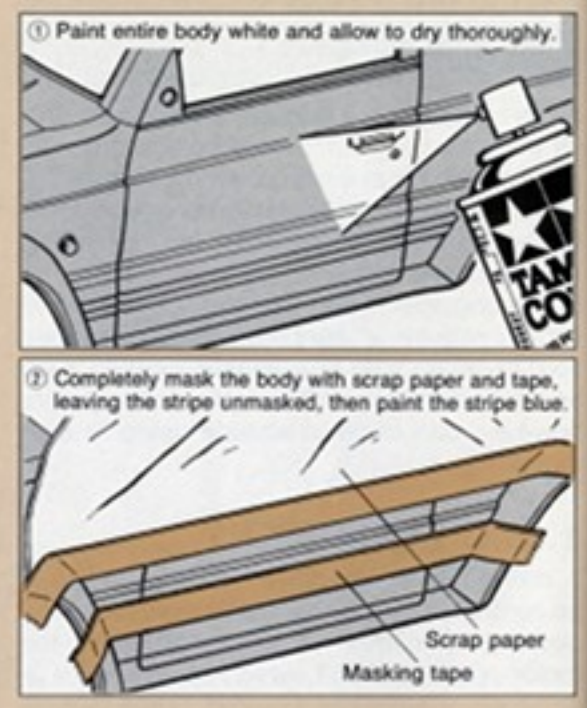
★Masking

When more than one color are to be applied, the use of masking tape is necessary. Use only a high grade, thin paper tape. Remember the golden rule when painting outside surfaces. Paint light colors first, followed by the darker colors.

■ EX.1 White stripe on a blue body

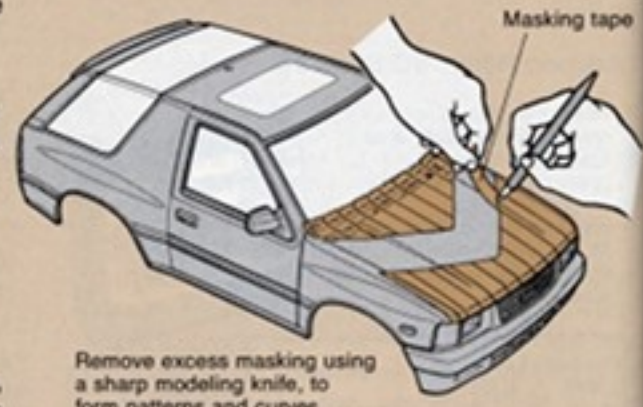


■ EX.2 Blue stripe on a white body



★For curved and irregular borders

If the edge between the two colors is curved or irregular, cover the area with tape and draw the edge line on the tape with a sharp pencil. Using a sharp modeling knife, cut away the tape from where the edges are to meet. Be careful not to cut the body.



★Some tips on masking

When masking tape is not properly applied, paint will run under the tape and mar the surface. Press the masking tape down firmly with a finger nail for good tape adhesion. Special attention must be paid to recessed body panel lines, projections and undulating surfaces, plus edges and corners of a body, if these areas are masked.

★Cautions when overcoating

Experienced modelers and professionals often use different types of paints to obtain better results. When doing this however, you must accept the fact that you cannot use lacquer paints over acrylics or enamels. The

solvents in lacquer will melt and damage coatings of other paints. Painting acrylic and enamel over lacquer paint is not a problem. When overcoating, use several light coats, and only when the previous coat has completely cured. Do not attempt to finish the job with one thick coat. Even if it is the same type of paint, it will probably melt and ruin the under coating.

●PAINTING POLYCARBONATE (LEXAN) BODIES

Light weight and toughness are features of polycarbonate bodies. Painting these body shells requires special polycarbonate paints, and the painting is done from the inside of the body. Therefore, different procedures are required than those for plastic resin bodies.

★Preparation

Some polycarbonate bodies' outer surfaces are covered with a thin vinyl protective coating. Do not remove this coating until just prior to applying the decorative stickers.

① Cut away excess areas using a sharp modeling knife. Scribe one or two strokes along the outline of the body. Bend along the scribed line and the area will snap or tear off. Use only a very sharp knife when scribing, as a blunt knife causes more injuries than you can imagine. For curved or complicated outlines, use curved scissors for plastics.

② Wash the body thoroughly with detergent to remove the oils, then rinse well and allow to air dry. As paints are applied to the inside of the body, concentrate washing mainly on the inside surface.

★Mask off the outside when spray painting

When spray painting a polycarbonate body, overspray will mar the outside surface. To prevent this, the outside body shell must be completely covered. Use scrap newspaper etc. to cover the wide areas, holding in place with masking tape. If the body is already protected with a vinyl coating, outside masking is not necessary.

★Mask off the window areas

Windows of car bodies should remain transparent, so masking is required. Mask from the inside using paper tape. Some kits include masking seals for the car's windows when painting.

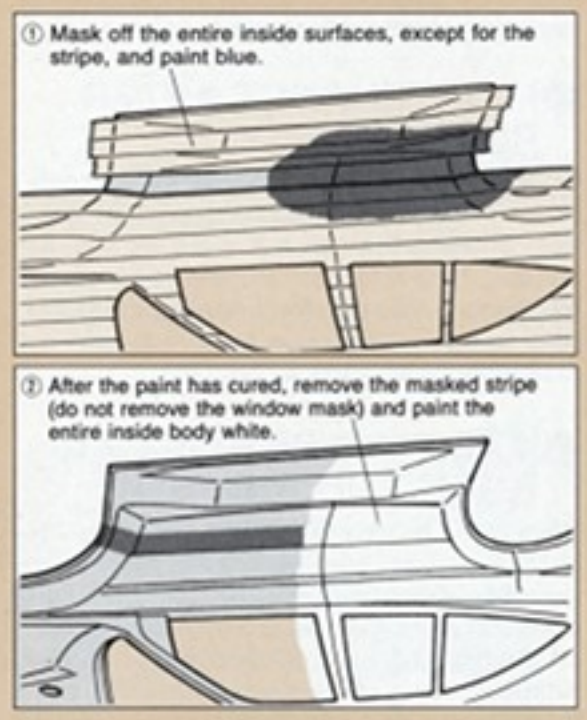
★Paint the details first

As paints are applied from the inside, but viewed from the outside, the first coat will be the outermost color on the finished model. You must be careful when considering the order of painting colors. Color application should start with the details, just the opposite from painting styrene bodies.

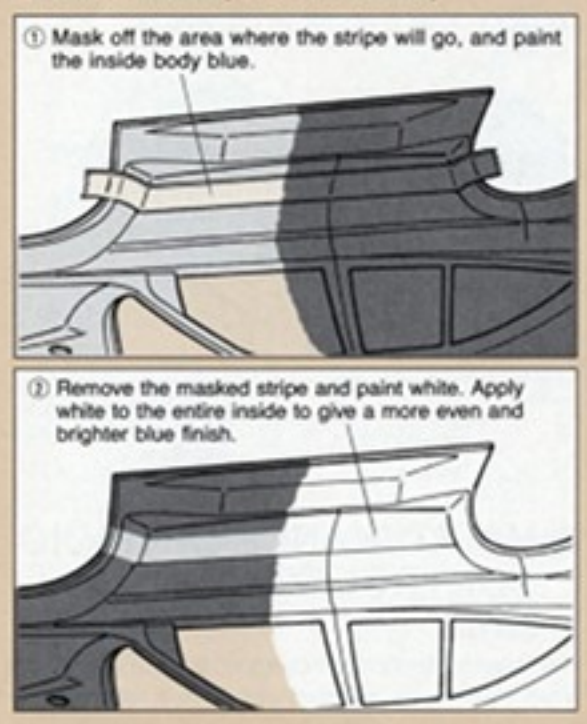
★Paint darker colors first

When more than one color is to be used, apply the darker color first. The masking procedure is also done in reverse.

■ EX.1 Blue stripe on a white body



■ EX.2 White stripe on a blue body



★If a lighter color is applied first, followed by a darker color, the overcoated area of the first color will be darkened when viewed from the outside.

TAMIYA MASKING TAPES

●AIRBRUSH PAINTING

Airbrushing combines the advantages of both brush and spray cans. By utilizing its features, a variety of painting effects can be achieved.

★Paints can be mixed to make custom shades

Airbrushing uses bottle paints, so blending and matching colors to your desires is easy.

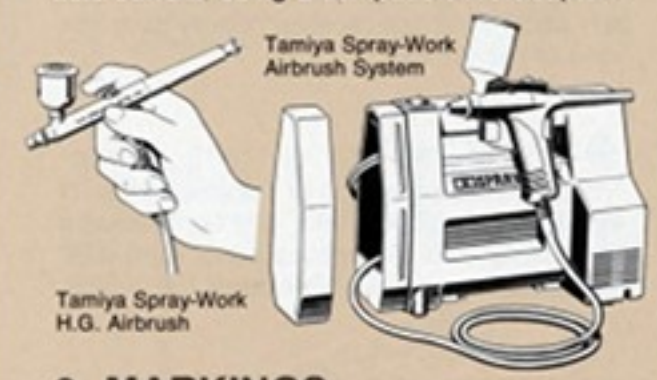
★Fine lines can be done

Airbrush painting is done by spraying misted paint onto the surface, just like spray cans. However, airbrushes can spray lines of about 1-3cm and even down to 1mm in some cases. By using this characteristics, professional effects, such as subtle gradations, camouflage painting, or using it just like a paint brush, is possible.

●NECESSARY ITEMS

An airbrush system consists of the handpiece, compressor and the connecting hose. Propellant cans can be used instead of a compressor, but their duration time is limited, and they must be disposed of when empty. In the long term, a compressor will be more economical than cans.

★Tamiya's "Spray-Work" portable airbrush system uses a Ni-Cd 7.2V battery as its power source. It can also be operated from household current, using a compatible AC adapter.

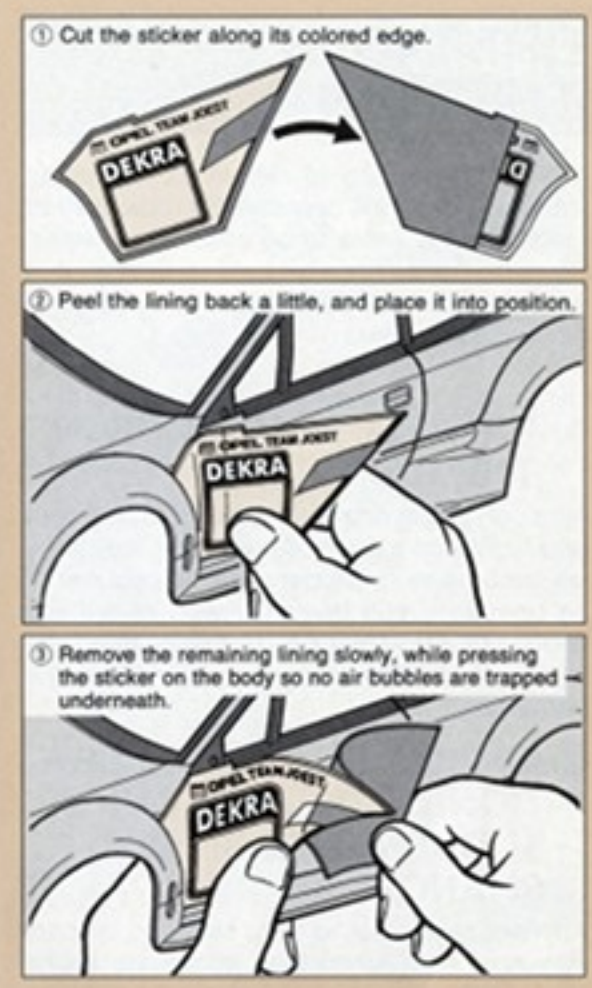


2. MARKINGS

Decal and stickers are another important aspect in finishing car bodies. In addition to kit-supplied stickers, a wide selection of optional stickers is available on the market. One of a kind markings can also be made using self-adhesive sticker sheets.

●TIPS FOR APPLYING STICKERS

Although the application seems easy, wrinkled or out-of-position stickers mar a model's final finish. Completely removing the backing from the sticker prior to application will result in wrinkles or bubbles. Follow these procedures:



3. MORE DETAIL AND CUSTOMIZING

Add details and customize your R/C car, to build the one-off model. It is limited only by your imagination. Add a visor to your drivers helmet using thin transparent sheet styrene. Cut out a photo of your favorite driver from a magazine and glue it in the helmet. Make openings in the front grille, air intakes, etc. and apply plastic mesh from the inside. You can operate your R/C car's headlights and tail lamps by using optional light bulbs and brake lamp units available on the market. However, make sure they have compatible voltage ratings with your battery.

●FUEL-PROTECTIVE TOP COAT

Some polycarbonate paints are damaged with glow engine fuels and exhaust residue. To prevent this, a Fuel-Protective Top-Coat (PC-26) is available from Tamiya. Simply apply over the entire dry painted surface, and it will protect the finish from glow fuels.

DRIVING IN THE RAIN

It is recommended to refrain from running your car in the rain because the radio control mechanism is liable to be affected by water. However, races may be held in drizzle. It is necessary to have some basic knowledge of driving in the rain.

1. DRIVING TECHNIQUE IN THE RAIN

Although a light drizzle may seem to augment grip slightly on a dried off-road track, any track will become more slippery when it gets wet. If an on-road circuit becomes wet, its surface grip will be extremely low. The same thing can happen in off road racing during or following a heavy rain.

●AVOID QUICK ACCELERATION/DECELERATION OR SUDDEN STEERING CHANGES

Any wet race track is very slippery, so cars may spin even when they accelerate at the start. Quick acceleration, quick deceleration and sudden steering are taboo. In cornering, keep the steering angle of the front wheels as little as possible so that the turning radius is large.

●AVOID RUNNING THROUGH WATER/MUD PUDDLES

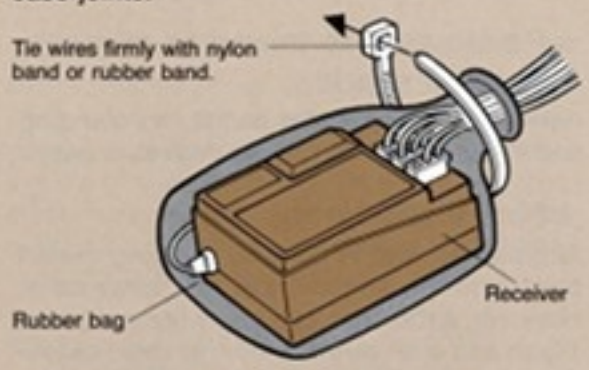
When there are puddles on the racecourse, avoid them even if your car has to make a detour. If you attempt to drive through deep water, the radio control gear may get wet and your car will be slowed by the resistance of water. Furthermore, your car may skid out of control.

2. WATERPROOFING

The radio control mechanism, particularly the receiver and servos, contains precision electric circuits carrying weak electric currents for control. If water enters the mechanism, it may cause a short circuit which often causes damage to an electric circuit and makes it impossible to control the car. If a wet electric circuit is kept electrified, its fine wiring begins to corrode gradually by chemical reaction and may be broken even by a slight shock some time later. Such a circuit may become unrepairable. Therefore, the radio control mechanism must be made waterproof. If the weather forecasts rain on the day of racing, it is necessary to make the radio control mechanism waterproof in advance.

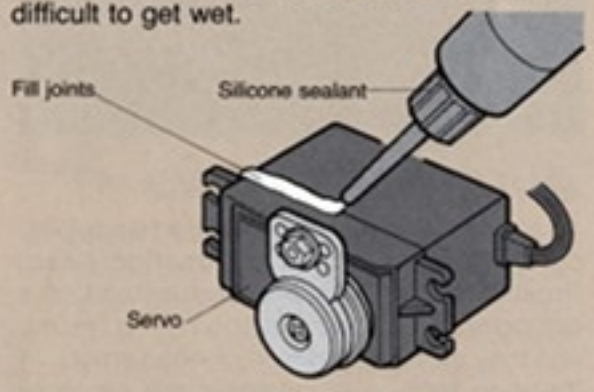
●RECEIVER

The radio control receiver is most subject to be affected by moisture. To waterproof it, wrap in a vinyl or rubber bag, and firmly close the bag with a tie wrap or rubber band. Air inside the bag may be damp, so do not leave the receiver in the bag for long periods, and remove after use. It is advisable to apply silicone sealant or rubber cement to the receiver case joints.



●SERVOS AND SPEED CONTROL

It is difficult to put servos into vinyl bags because they have moving parts. An electronic speed control in a vinyl bag may hinder heat dissipation. However, at least fill the cable holes and case joints with silicone or rubber cement. A mechanical speed control can be covered with a rubber bag. Mount an electronic speed control where it would be more difficult to get wet.



●Ni-Cd BATTERY AND RECEIVER BATTERIES

Batteries are liable to become affected by water. Seal the cable hole on the Ni-Cd battery pack. Wrap the receiver battery case in a vinyl or rubber bag.

●SWITCHES

Move the receiver switch to a position which is less liable to become wet, and apply sealant to its cable joints. An application of Tamiya Oil Spray will also help to waterproof the switch.

3. SETTINGS FOR A WET TRACK

Any wet on-road track is extremely slippery, and a wet off-road track will become muddy during the race. A different gear and suspension setting will be required for a car on a wet surface.

●CHOOSE A HIGHER GEAR RATIO

While running on a wet, muddy off-road track, mud will stick on the tires, suspension and chassis, resulting in additional weight, higher resistance to all rotating parts and a heavier load to the motor. Choose a smaller motor pinion gear than usual. This will provide more power to cope with the additional loads. A higher gear ratio is also preferable for on-road cars by reducing the car's top speed, as it will be more controllable on slippery surfaces.

●PUT PRIORITY ON OBTAINING GRIP

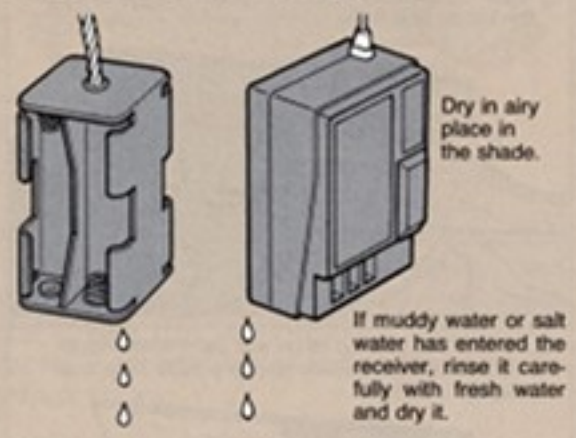
Using high grip tires is the first step in setting up a car for wet surface running. Suspension should be set softer and the wing or spoiler should be adjusted to obtain as much downforce and traction as possible.

●MAINTENANCE AFTER RUNNING

On a rainy day, the car gets very wet and dirty, and it is almost impossible to prevent water from entering the car. If it is left as it is, the chassis, etc., may rust and the radio control mechanism may develop unexpected trouble. After using the car in rain, be sure to carry out maintenance as soon as possible.

●MAINTENANCE OF CAR BODY AND CHASSIS

Wipe water off carefully with a soft cloth. The chassis, in particular, should be taken apart, the axles should be removed and thoroughly dried. Oil anew all moving parts because their oil has probably been washed away by water. Adhesive fixing of the servos, etc., may have been weakened by water. It is recommended to refix them with new adhesive. Tamiya Spray Oil gets under water and protects metal surfaces. Use it on moving parts.



●MAINTENANCE OF RADIO CONTROL MECHANISM, ETC.

Remove all the connectors and wipe off water from the whole mechanism. Then, remove it from the car and dry it in an airy place in the shade. If the receiver is wet inside, remove the casing, wipe off water, and dry in the shade. (The receiver must be handled with care.) If the receiver is wet inside with muddy water or salt water, carefully rinse it with clean water. After it has dried completely carry out a performance test. If it does not work, have it serviced by the manufacturer or his agent. As for the electric motor and speed control switch, it is recommended to apply Oil Spray or similar after carefully wiping off all water. Also dry the battery thoroughly.

★The RC mechanism contains precision electric circuits. Do not attempt to take it apart.

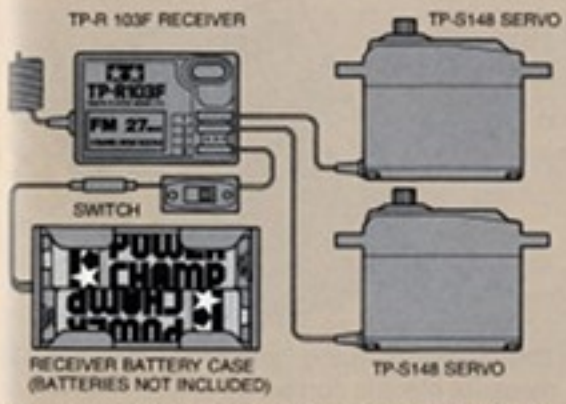
ADSPEC G301 FM 3-CHANNEL RADIO CONTROL SYSTEM

AN IDEAL PARTNER FOR YOUR GLOW ENGINE R/C ENJOYMENT

This radio control system is suitable for use with a glow-engined R/C car model. Using a noise-resistant FM radio, the system is equipped with digital proportional 1st and 2nd channels, plus a 3rd, 3-position auxiliary control. The set consists of a wheel and trigger type transmitter, two servos, receiver and receiver battery case. The receiver can connect up to 3 servos, or two servos & an electronic speed controller (requires an additional Futaba servo or electronic speed control).

THE 3RD, AUXILIARY 3 POSITION SWITCH PROVIDES A BROADER APPLICATION

The system is equipped with a non-proportional 3rd channel. With an optional electronic speed control, the system can control the entire functions (throttle, steering and shifting) of Tamiya's 1/14 R/C tractor truck models.



TP-R 103F RECEIVER SPECIFICATIONS

Receiving frequency	27MHz, 01 12 Bands
Demodulation	FM detection
Power supply	4.8V - 6.0V
Range	Approx. 300m (surface operation)
Dimensions	42.7 x 28.7 x 16mm
Weight	19g

TP-S148 SERVO SPECIFICATIONS

Output torque	3kg-cm
Operating speed	0.22 sec / 60
Dimensions	40.4 x 19.8 x 36mm
Weight	44.4g

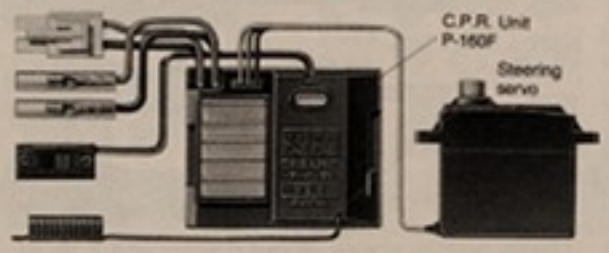
ADSPEC PLUS R/C SYSTEM

ADSPEC...SNUG-FIT TRANSMITTER FOR THE RACING EDGE

Adspec "Advanced Specification" is a radio control unit designed especially for 1/10 - 1/12 scale electric powered R/C models. Tamiya's radio control modeling technology is fed back into this precision instrument for perfect control of your model. The Adspec R/C unit is a partner you can rely on when you're out there on your own. Get the utmost performance from your radio controlled models by use of this highly sophisticated R/C system.

SAVE WEIGHT AND SPACE USING THE C.P.R. UNIT

This Control Processing Receiver (C.P.R.) unit was developed for 1/10 and 1/12 R/C cars, but can be used with boats and aircraft without modification. The compact unit contains a high capacity, amplifier boosted electronic speed control, receiver switch and separate servo. Maximum current capacity: 160A constant, 640A momentary. Size is 60 x 45 x 33mm.



C.P.R. UNIT P-160F SPECIFICATIONS

Range	Appox. 300m (surface operation)
Power supply	7.2V - 8.4V
Current consumption	50mA (with servo connected and at idle)
Maximum current handling capacity	160A constant, 640A momentary
Dimensions	60 x 45 x 33mm
Weight	Approx. 96g

POWER SOURCE

Tamiya Ni-Cd batteries utilize the tab-less system for obtaining the utmost current flow, resulting in swifter, more powerful acceleration and higher total performance. If the battery is handled correctly, it can be recharged more than 500 times. This makes it very economical, even though the initial purchasing price might seem high when compared to dry cell batteries. As a power source for R/C models, Tamiya provides Ni-Cd batteries ranging from the standard 7.2V to the high power 8.4V competition battery.

TAMIYA Ni-Cd BATTERY 7.2V-1400mAh

RACING PACK NP

55054

TAMIYA Ni-Cd 7.2V-1400mAh RACING PACK NP

This is a Ni-Cd rechargeable battery pack suitable for a wide range of applications. It consists of six 1.2V-1400mAh cells that features superb charge and discharge characteristics. It can be safely recharged over 500 times under normal handling and operating conditions, and is extremely economical.

●Nominal capacity (5 hours) — 1400mAh ●Nominal voltage — 7.2V ●Final discharge voltage — 6.0V ●Standard charging current — 140mAh ●Standard charging time — 14 to 16 hours ●Temperature range — Discharge: −30°C to +65°C, charge: +10°C to +40°C, Preservation: −30°C to +45°C ●Dimensions — 134 x 47 x 25mm ●Weight — Approx. 310g

TAMIYA Ni-Cd BATTERY 7.2V-1700mAh

RACING PACK SCRC

55062

TAMIYA Ni-Cd 7.2V-1700mAh RACING PACK SCRC

This Ni-Cd rechargeable battery pack was developed exclusively for use on the electric powered R/C models. It consists of six large capacity 1.2V-1700mAh cells connected in series. Its excellent internal current flow enables a swifter acceleration for your R/C model.

●Nominal capacity (5 hours) — 1700mAh ●Nominal voltage — 7.2V ●Final discharge voltage — 6.0V ●Standard charging current — 170mAh ●Standard charging time - 14 to 16 hours ●Temperature range — Discharge: −30°C to +65°C, Charge: +10°C to +45°C, Preservation: −30°C to +45°C ●Dimensions — 134 x 47 x 25mm ●Weight — Approx. 360g

TAMIYA Ni-Cd BATTERY 8.4V-1200mAh

GOLD POWER

55025

TAMIYA 8.4V Ni-Cd BATTERY GOLD POWER

This is a high performance battery that produces tremendous power for the serious competitor in the radio control field. Seven large capacity Ni-Cd cells are arranged in a space saving flat format. The battery is equipped with a circuit breaker for safety and can be fully recharged in 14—16 hours using an AC charger.

●Nominal capacity (5 hours) — 1200mAh ●Nominal voltage — 8.4V ●Final discharge voltage — 7.0V ●Standard charging current — 360mA ●Standard charging time — 14~16 hours ●Temperature range — Discharge: −20°C to +60°C, Charge: 0°C to +45°C, Long preservation: −30°C to +35°C ●Dimensions — 160 x 40 x 25mm ●Weight — about 370g

DC DELTA-PEAK QUICK CHARGER

RACING PACK

55061

Ni-Cd 7.2V DC DELTA-PEAK QUICK CHARGER

Tamiya's DC Delta-Peak Quick Charger will safely and rapidly charge Ni-Cd 7.2V Racing Pack Batteries using your automobile 12V battery. The automatic peak detector enables the battery to be fully charged without fear of overcharging. Charger dimensions are 152 x 92 x 45mm. Comes with charging cables and clips.

●Rechargeable batteries — Tamiya Ni-Cd 7.2V Racing Pack batteries ●Power source — 38 Amp 12 Volt DC battery (minimum) ●Charging time — 30 minutes for 1700SCR, 25 minutes for 1400NP. ●Temperature range — 0°C to +40°C ●Charging capacity — Delta-peak detected 100% nominal capacity, plus automatic change to trickle after quick charging. ●Safety system — Over-charge safety timer for quick & trickle charge, Reverse polarity/connection protection, Output short circuit protection, Defective Ni-Cd battery detector system. ●Dimensions — 152 x 90 x 45mm (except fins and cables) ●Weight — Approx. 550g ●Electrical cable length — 1m ●Charging cable length — 20cm

AUTO-DISCHARGER

RACING PACK

55058

7.2V AUTO DISCHARGER

To prolong the life of your 7.2V Ni-Cd Racing Pack Batteries, they should be fully discharged prior to recharging. Tamiya's Auto Discharger will safely accomplish this. Just connect a depleted Ni-Cd battery to start discharging. The indicator lamp will automatically turn-off when it is sufficiently discharged. Average discharge time for a depleted battery is approximately 1 hour.

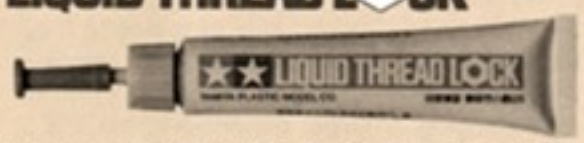
●Usable batteries — Tamiya Ni-Cd 7.2V Racing Pack batteries ●Discharging current — Approx. 0.4A ●Average discharge time — Approx. 1 hour for a depleted battery. ●Temperature range — 0°C to +45°C ●Indicator lamp is lit while discharging, and it automatically turns off when battery is fully discharged. ●Voltage detecting auto-cut circuitry to avoid over-discharging.

MAINTENANCE MATERIALS

TAMIYA SPRAY OIL

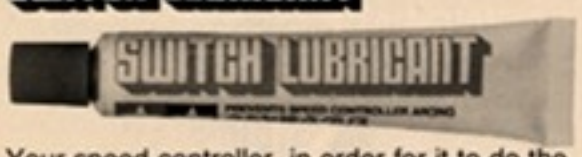
Tamiya Spray Oil is an oil which utilizes a molecular chemical formulated compound, in the U.S.A. which has proved effective as a long lasting lubricant. As it has strong permeability, spraying on bearings, within gear boxes, moving shafts and suspension parts, providing a smoother and less friction operation of all moving parts. It will also displace moisture and ensure longer rust free operation than normal penetrating lubricants. After your cars have been running in the rain or through puddles, spray Tamiya Spray Oil onto the chassis or other metal surfaces. This will penetrate between the water and the metal surface to form a layer which helps to dry up the surface and also protects the metal from rusting.

LIQUID THREAD LOCK



It is essential that this liquid thread lock be applied to all nuts and screws when the model is assembled. This liquid is not a glue, but a securing agent. It will prevent screws from working loose, which will happen if it is not used. It is very effective and easy to use. At any time, screws can be loosened or removed for maintenance or repairs by using about twice the force required when they were originally tightened.

SWITCH LUBRICANT

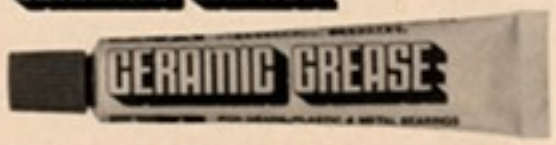


Your speed controller, in order for it to do the job properly, must work smoothly and respond to the slightest movement of the transmitter control. This switch lubricant will provide you with a speed controller that responds correctly each and every time. The lubricant also helps to suppress the arcing that is always present, in any high current flowing switch, and will prolong its life far longer than expected. This switch lubricant is also safe with plastics and the 10g tube is easy to use. Remember, your speed controller is next in importance to your steering, so use the lubricant periodically to ensure proper performance of your R/C car and to prolong its life.

BALL DIFF GREASE

This is the most effective grease available to R/C enthusiasts for their ball type differential gear units. It is specially formulated to prolong component life while maintaining the proper transmission torque. The long nozzle on the tube allows easy application. NOTE: Use only on ball type differential gear units.

CERAMIC GREASE



This grease is formulated using Boron Nitride particles, and is ideal for use on electric powered R/C vehicles. It should be applied to all bearings, shafts and gears. It maintains its viscosity throughout a wide temperature range. Ceramic grease will substantially prolong the life of your R/C vehicle and keep it performing at its best. Each tube contains 10g of lubricant, and the long nozzle makes it easy to apply the proper amount in those hard-to-reach areas.

TAMIYA ENGINE TREATMENT SPRAY

This spray is extremely effective when using on glow engined R/C models. Directly spray into carburetor or plug hole. The specially formulated oil has an excellent lubricating effect and protects engine components from rust and corrosion. It does not attack plastic, so it can also be used for lubricating plastic parts, too.

TAMIYA RC CLEANER SPRAY

This is a handy cleaner spray for use with radio controlled models. Dirt and oily grime can be spray flushed, making maintenance chores easier. Spray comes with extension tubing to allow spraying in tight spots. Wipe clean using cloth or brush for better results.

TAMIYA CRAFT TOOLS

SIDE CUTTER
FOR PLASTIC (74001)

This is a precision side cutter for removing parts from a plastic sprue without damaging the parts. Developed exclusively for plastic modeling, the impact resistant chrome vanadic alloy material was chosen for long life. High quality vinyl covering assures good grip.

LONG NOSE
W/CUTTER (74002)

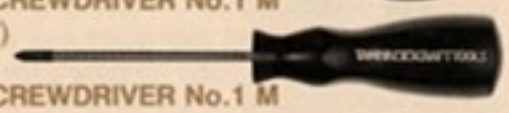
These quality long nose radio type pliers, with cutter, will come in handy during radio control kit construction. They are of high strength steel with a quality finish for long life. The cutter is capable of cutting 2.6mm brass wire or 2.3mm steel wire. High quality vinyl covering assures a positive grip.

CURVED SCISSORS
FOR PLASTIC (74005)

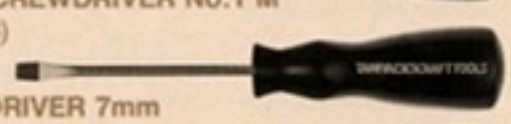
These are quality scissors that will come in handy when trimming polycarbonate bodies of R/C car models. The curved blades enable easy access to polycarbonate body curves, and are made of high quality stainless steel for strength and long life. They can also cut plasticsheet up to 2mm in thickness.

(+) SCREWDRIVER No.2 L
(74006)

(+) SCREWDRIVER No.1 M
(74007)



(−) SCREWDRIVER No.1 M
(74008)



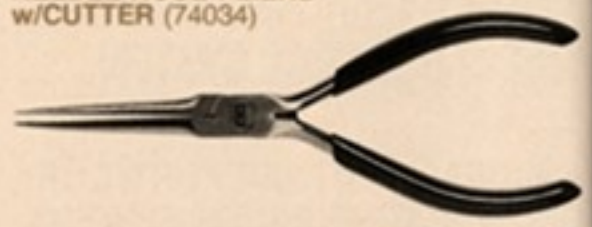
NUT DRIVER 7mm
(74027)

NUT DRIVER 5.5mm
(74028)

GRUB DRIVER 1.5mm
(74029)

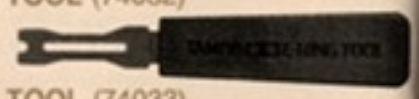
These quality screw- & nut drivers are a must during radio control car model construction. The impact resistant chrome vanadic alloy material was chosen for long life. The originally designed pentagonal grip molding is of acetylcellulose that has excellent durability and assures a firm grip when wanted.

NEEDLE NOSE PLIERS
w/CUTTER (74034)



These quality pliers with their long slender tips come in handy during R/C model construction and other fine craft applications. The pinching surfaces of the tips are finished flat, to avoid marring the object during holding. The cutter is capable of cutting 1.4mm steel wire.

2mm E-RING TOOL (74032)



4mm E-RING TOOL (74033)

These tools are extremely useful during construction and maintenance of R/C models. The unique shape of the specially designed tip makes it easy to connect and remove the tiny E-rings. The tip is tempered for long life, and the handle is covered with plastic for a firm grip.

TAMIYA CRAFT KNIFE (74013)
This is a compact and inexpensive hobby knife, suitable for models and crafts. You can keep the tip sharp by snapping off the worn blade. Blade replacement is simple and quick. Synthetic rubber-like covering assures a good grip.

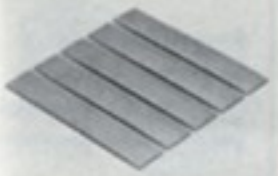
DC SOLDERING IRON
(74022)

The power source for this compact DC soldering iron is a standard Tamiya Ni-Cd 7.2V Racing Pack battery, providing portability and speedy soldering chores. Connect up a charged battery pack, and the tip will be ready for use in approximately two minutes. A must for maintenance at racing sites.

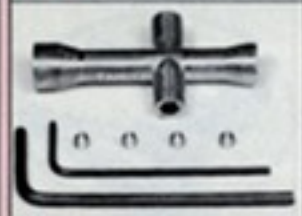
DIGITAL
MULTIMETER
(74021)

This compact, hand held tool allows you to measure electric current up to 250 volts AC or DC, 20 Mega-ohms of resistance, and/or conductivity, by switching the function dial. Comes with a handy pocketsize case. This portable device is useful both in and outside the hobby field. Consists of two test probes, a function dial, plus a digital display window.

50205 DOUBLE SIDED SERVO TAPE SET



50238 TOOL SET



50268 BALL LINK & ADJUSTER ROD SET

50106 7.2V CONNECTOR SET

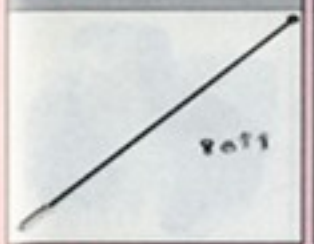
50170 NYLON BAND SET

50171 HEAT RESISTANT DOUBLE SIDED TAPE

50186 SILICONE INSULATED WIRE

50194 RUBBER BAG SET

50195 STEEL ANTENNA



50197 SNAP PIN SET

50204 DIRECTLY CONNECTED SERVO SAVER

50245 SNAP CONNECTOR SET

50253 HORNET SPEED CONTROLLER SET (BEC)

50320 R/C LIGHT BULB SET

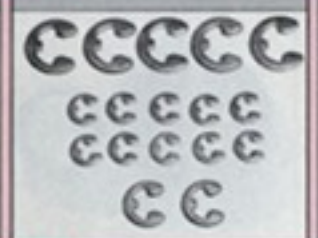
50354 16T, 17T AV PINION GEAR SET

50355 18T, 19T AV PINION GEAR SET

50356 20T, 21T AV PINION GEAR SET

50357 22T, 23T AV PINION GEAR SET

50380 E-RING SET

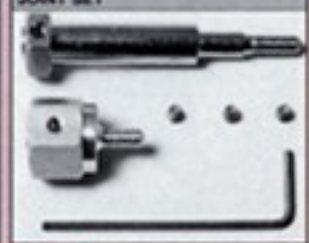


50387 RACING DEVELOPED FRONT ARM SET

50388 RACING DEVELOPED DIFFERENTIAL BALL & PLATE SET

50395 RACING DEVELOPED FRONT UPRIGHT SET (1 PAIR)

50409 RACING DEVELOPED DIFF JOINT SET



50411 FLEX STICKER SHEET (FLUORESCENT RED)

50412 FLEX STICKER SHEET (FLUORESCENT YELLOW)

50471 FOOTWORK FA13 REAR WING SET

50473 HI-TORQUE SERVO SAVER

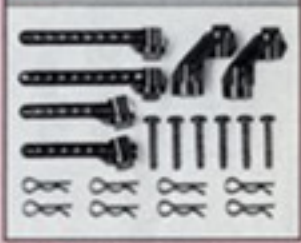
50477 24T, 25T AV PINION GEAR SET

50478 SKYLINE SPARE REAR GEAR CASE

50480 BENETTON FORD B192 BUMPER WING SET

50481 BENETTON FORD B192 REAR WING SET

50482 SKYLINE BODY MOUNT SET



50486 F-1 SPOKE WHEEL STICKER SET

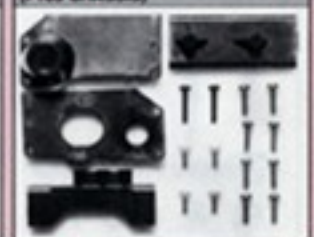
50487 R/C CAR WINDOW MASKING SEAL SET A

50488 R/C CAR WINDOW MASKING SEAL SET B

50493 FWD TOURING CAR SPARE GEAR SET

50503 F-1 FRONT SUSPENSION ARM SET (F103 CHASSIS)

50504 F-1 SPARE GEAR CASE (F103 CHASSIS)



50505 F-1 T-BAR (F103 CHASSIS)

50506 F-1 SPARE GEAR SET

50507 F-1 DIFF JOINT SET (F103 CHASSIS)

50508 F-1 SUPER KING PIN SET

50509 F-1 FRONT SPRING SET

50515 26mm CLUTCH SHOE SET (1 PAIR)

50516 TR-1ST BRAKE DISC & PAD SET

50517 0.8 STEEL PINION GEAR (16T)

50518 0.8 STEEL PINION GEAR (18T)

50519 C.V.A. MINI SHOCK UNIT SET B

50520 C.V.A. SHORT SHOCK UNIT SET B

50529 4WD TOURING & RALLY CAR PLASTIC GEAR SET

50541 4WD TOURING & RALLY CAR FRONT GEAR CASE

50554 4WD & FWD TOURING & RALLY CAR REAR UPRIGHTS (C SPRUE)

50555 4WD-TA02 & FWD TOURING & RALLY CAR FRONT UPRIGHTS

50556 4WD-TA02 TOURING & RALLY CAR REAR SUSPENSION ARMS

50588 2mm E-RING (15 PCS.)

50589 5mm E-RING (5 PCS.)

50590 4mm BALL CONNECTOR (5 PCS.)

50591 5mm BALL COLLAR (5 PCS.)

50592 5mm BALL CONNECTOR (10 PCS.)

50593 4x6mm FLANGED TUBE (5 PCS.)

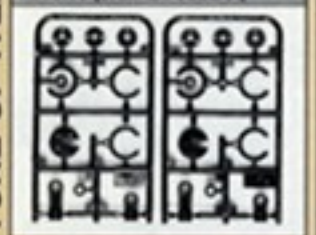
50594 2x10mm SHAFT (10 PCS.)

50595 NYLON BAND w/METAL HOOK (10 PCS.)

50596 5mm ADJUSTER (6 PCS.)

50597 DAMPER O-RING (RED, 10 PCS.)

50598 CVA MINI SHOCK UNIT II
V PARTS (DAMPER COLLAR)



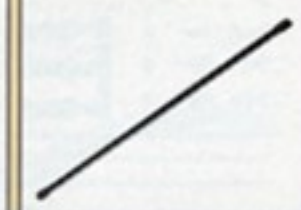
50599 CVA MINI SHOCK UNIT II
W PARTS (DAMPER CYLINDER)

50600 CVA MINI SHOCK UNIT II
OIL SEAL (6 PCS.)

50601 CVA MINI SHOCK UNIT II
PISTON ROD (2 PCS.)

50602 DIFFERENTIAL BEVEL GEAR
SET

50603 TGX PROPELLER SHAFT



50604 TGX WHEEL AXLE (2 PCS.)

50605 SCREW PIN SET
(55mm, 32mm, 22mm)

50606 TGX A PARTS (GEAR CASE)

50607 TGX B PARTS
(F & R SUSPENSION ARMS)

50608 TGX C PARTS
(FRONT UPRIGHT)

50609 TGX D PARTS (BODY MOUNT)

50610 TGX E PARTS
(BUMPER & SIDE GUARD)

50611 TGX MECHANISM BOX

50612 TGX G PARTS
(50T SPUR GEAR & DIFF CASE)

50613 TGX R PARTS (REAR
UPRIGHT & FRONT KNUCKLE ARM)

50614 10mm DIA. SILICONE
EXHAUST PIPE

50615 TGX UPPER PLATE

50616 TGX-Mk.1 CHASSIS PLATE

50617 TGX ENGINE MOUNT (2 PCS.)

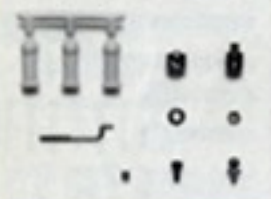
50618 TGX JOINT CUP
(LONG & SHORT)

50619 TGX CLUTCH SHOE SET

50620 16T CLUTCH BELL

50621 TGX SUSPENSION ARM STAY

50622 TGX THROTTLE LINKAGE



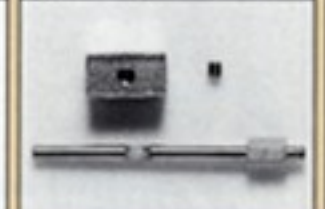
50623 TGX DAMPER SPRING
(2 PCS.)

50624 TGX CENTER BEAM

50625 TGX DRIVE SHAFT (2 PCS.)

50626 TGX PILOT SHAFT
(FOR TAMIYA)

50627 TGX BRAKE CAM & SHAFT
SET



50628 TGX BRAKE PAD (2 PCS.)

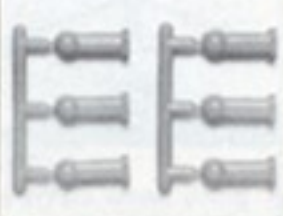
50629 TGX PROPELLER JOINT
(F OR R)

50630 TGX BEVEL PINION & RING
GEAR SET

50631 M-CHASSIS SPARE GEAR
SET

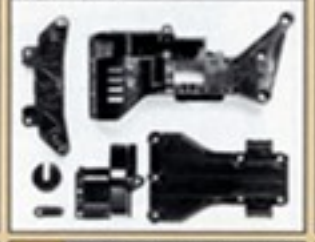
50632 M-CHASSIS DRIVE SHAFT &
CUP SET

50633 4mm ADJUSTER (6 PCS.)

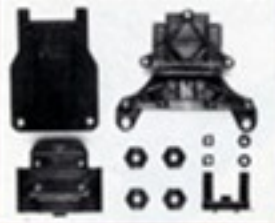


50637 TA02 & FWD TOURING CAR
CHASSIS/FRAME

50638 FWD TOURING CAR A PARTS
(GEAR CASE)



50639 FWD TOURING CAR B PARTS
(REAR SECTION)



50640 FWD TOURING CAR D PARTS
(F & R SUSPENSION ARMS)

50641 FWD TOURING CAR E PARTS
(MECHANISM DECK)

50642 1/10 TOURING CAR
U-SHAPED SHAFT

50643 TA02 & FWD TOURING CAR
DRIVE SHAFT SET

50644 1/10 TOURING CAR D PARTS
(BODY MOUNT)

50645 1/10 TOURING CAR 17mm
THRUST WASHER (4 pcs.)

50646 TA01 TOURING CAR D PARTS
(F & R SUSPENSION ARMS)

50647 4WD TOURING CAR E PARTS
(BUMPER)

50648 TA01 TOURING CAR FRONT
UPRIGHT (RED)

50649 TA02/TA02W TOURING CAR F
PARTS (FRONT SUSPENSION ARM)

50650 4WD TOURING CAR DRIVE
SHAFT SET

50651 M-CHASSIS A PARTS
(CHASSIS)

50652 M-CHASSIS B PARTS
(GEAR CASE)

50653 M-CHASSIS C PARTS
(UPRIGHT)

50654 M-CHASSIS D PARTS
(SUSPENSION ARM)

50655 F103 CHASSIS D PARTS
(BATTERY HOLDER)

50689 1/10 ALPINE A110 E PARTS
(REAR BODY MOUNT & FRONT BUMPER)

50697 M-LONG CHASSIS A PARTS
(CHASSIS/FRAME)

50698 TA03 A PARTS (GEAR CASE)

50699 TA03F B PARTS (REAR GEAR
CASE)

50700 TA03 C PARTS (UPRIGHT)

50701 TA03 D PARTS (SUSPENSION
ARM)

50702 TA03 F PARTS (PULLEY)

50703 TA03 PRO J PARTS
(BATTERY HOLDER)

50704 TA03 PRO L PARTS (GEAR)

50705 TA03 KNUCKLE ARM

50706 TA03 DRIVE BELT

50716 M-MEDIUM CHASSIS A PARTS (CHASSIS/FRAME)

50717 TA03 E PARTS (BUMPER)

50718 TA03 G PARTS (GEAR)

50719 TA03 BUTHTUB CHASSIS

50386 RACING DEVELOPED DISH WHEEL SET (4430F/3645R)

50389 RACING DEVELOPED 4430 FRONT SPONGE TIRE (1 PAIR)

50390 RACING DEVELOPED 3645 REAR SPONGE TIRE (1 PAIR)

50397 RACING DEVELOPED 4428 FRONT SPONGE TIRE SET (1 PAIR)

50398 RACING DEVELOPED 4445 REAR SPONGE TIRE SET (1 PAIR)

50415 RACING DEVELOPED 4432 FRONT SPONGE TIRE SET (1 PAIR)

50419 TOYOTA CELICA GT-FOUR RACING RADIAL TIRE SET

50420 TOYOTA CELICA GT-FOUR WHEEL SET

50441 RACING DEVELOPED 3630 FRONT SPONGE TIRE (1 PAIR)

50442 RACING DEVELOPED F-1 SPOKE WHEEL SET (3630F/3645R)

50454 RACING SLICK TIRE SET (1 PAIR)

50456 MERCEDES-BENZ 190E AMG WHEEL SET (1 PAIR)

50468 BMW M3 MESH WHEEL SET (1 PAIR)

50476 RALLY BLOCK TIRES (1 PAIR)

50545 FORMULA MESH WHEEL SET (3630F/3645R)

50547 WIDE RACING SLICK TIRES w/INNER SPONGE (1 PAIR)

50548 2-PIECE MESH WHEELS (4WD/FWD TOURING & RALLY CAR)

50549 2-PIECE WIDE MESH WHEELS (1 PAIR, 4WD TOURING CAR)

50550 FORD MONDEO WHEELS (1 PAIR)

50563 TGX RACING RADIAL TIRES w/INNER SPONGE (1 PAIR)

50568 M-CHASSIS RADIAL TIRES (1 PAIR)

50636 5-SPOKE ONE-PIECE WHEELS (1 PAIR)

50669 FORMULA MESH WHEEL SET, WHITE (3630F/3645R)

50672 1/10 5-SPOKE TWO-PIECE WHEELS (1 PAIR)

50673 1/10 5-SPOKE TWO-PIECE WHEELS, WIDE (1 PAIR)

50683 M-CHASSIS 60D RADIAL TIRES (1 PAIR)

50684 M-CHASSIS 60D M-GRIP RADIAL TIRES (1 PAIR)

50686 M-CHASSIS 60D INNER SPONGE SET

50319 LUNCH BOX BODY PARTS SET

50392 TOYOTA HI-LUX MONSTER RACER BODY PARTS

50408 1/10 R/C BEAR HAWK BODY PARTS SET

50414 HONDA NSX BODY PARTS SET

50425 FERRARI F40 BODY PARTS SET

50430 CALSONIC SKYLINE GT-R Gr.A BODY PARTS SET

50436 JORDAN 191 BODY PARTS SET

50438 TAISAN SKYLINE GT-R Gr.A BODY PARTS SET

50447 CASTROL RB SKYLINE GT-R Gr.N BODY PARTS SET

50452 BODY PARTS SET LOTUS FORD 102D

50469 FOOTWORK FA13 MUGEN HONDA BODY PARTS SET

50472 TERRA CONQUEROR BODY PARTS SET

50479 BENETTON FORD B192 BODY PARTS SET

50485 TOYOTA CELICA GT-FOUR RC BODY PARTS SET

50514 UNISIA JECS SKYLINE GT-R Gr.A BODY PARTS SET

50551 FORD MONDEO BTCC TOURING CAR BODY PARTS SET

50571 RAHAL-HOGAN MILLER GENUINE DRAFT LOLA T94/00 HONDA BODY PARTS SET

50692 1/10 F-1 BODY PARTS SET HIGH NOSE TYPE

50733 JACCS ACCORD VTEC BODY PARTS SET

HOP-UP OPTIONS

For those seeking more performance at the track, Tamiya's Hop-Up Options provide the serious radio control competitor with race designed components for souped-up power, weight savings, and added durability. Enhance the overall performance and potential of your Tamiya racer using these optional Hop-Up parts to meet your competition requirements.

53001 DYNATECH 01R MOTOR

53008 1150 SEALED BALL BEARING SET (4 PCS.)

53025 TAMIYA SILICONE DAMPER OIL SOFT SET (#200, #300)

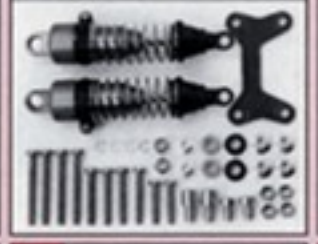
53026 TAMIYA SILICONE DAMPER OIL MEDIUM SET (#400, #500)

53027 TAMIYA SILICONE DAMPER OIL HARD SET (#600, #700)

53029 1150 SEALED BALL BEARING SET (2 PCS.)

53030 850 SEALED BALL BEARING SET (4 PCS.)

53036 HI-CAP DAMPER (MINI)



53037 HI-CAP DAMPER (SHORT)

53042 BALL DIFF GREASE

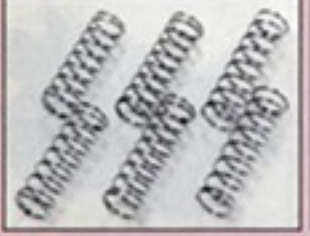
53044 DYNATECH 02H MOTOR

53047 730 SEALED BALL BEARING SET (4 PCS.)

53051 DYNATECH 02H BRUSH SET

53053 MINI HI-CAP DAMPER SPRING SET

53054 SHORT HI-CAP DAMPER SPRING SET



53056 PIN TYPE WHEEL ADAPTER

53062 7010W ROTOR FOR DYNATECH 02H MOTOR

53063 12T, 13T H.P. STEEL PINION GEAR SET

53064 14T, 15T H.P. STEEL PINION GEAR SET

53065 1260 SEALED BALL BEARING SET (2 PCS.)

53066 1280 SEALED BALL BEARING SET (3 PCS.)

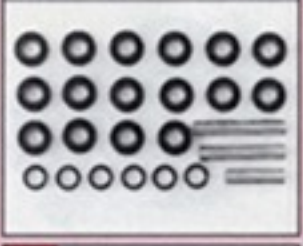
53068 RS-540 SPORT-TUNED MOTOR

53070 MANTA RAY BALL DIFF SET

53071 MANTA RAY TORQUE SPLITTER SET

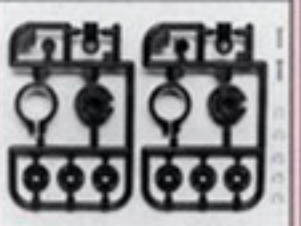
53072 MANTA RAY DIFFERENTIAL BALL & PLATE SET

53073 MANTA RAY BALL BEARING SET



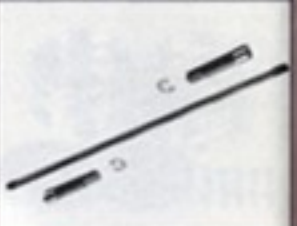
53075 HI-CAP DAMPER (MINI) PLASTIC PARTS SET

53076 HI-CAP DAMPER (SHORT) PLASTIC PARTS SET



53077 HI-CAP DAMPER O-RING SET

53079 MANTA RAY STAINLESS STEEL PROPELLER SHAFT SET



53083 6014 2WD RIB-SPIKE FRONT TIRES (1 PAIR)

53085 6014 2WD FRONT STAR-DISH WHEELS (1 PAIR)

53086 6029 REAR STAR-DISH WHEELS (1 PAIR)

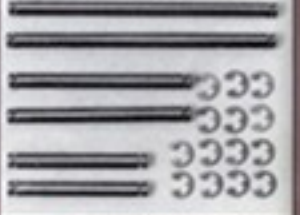
53089 6024 4WD FRONT STAR-DISH WHEELS (1 PAIR)

53090 RACING DEVELOPED TIRE CAP

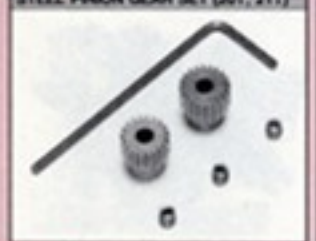
53092 6024 4WD SPIRE SPIKE FRONT TIRES (1 PAIR)

53093 6029 SPIRE SPIKE REAR TIRES (1 PAIR)

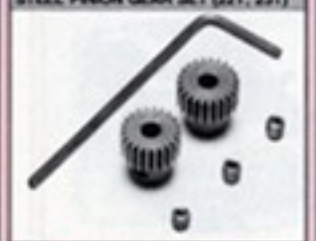
53096 4WD STAINLESS STEEL SUSPENSION SHAFT SET



53101 RACING DEVELOPED 0.4 STEEL PINION GEAR SET (20T, 21T)



53102 RACING DEVELOPED 0.4 STEEL PINION GEAR SET (22T, 23T)



53103 RACING DEVELOPED 0.4 STEEL PINION GEAR SET (24T, 25T)

53104 RACING DEVELOPED 0.4 SPUR GEAR SET (93T, 104T)

53106 RACING DEVELOPED ALUMINUM MOTOR MOUNT

53107 SKYLINE GT-R MESH WHEEL SET

53108 SKYLINE GT-R RACING 5-SPOKE WHEEL SET

53109 TURNBUCKLE SHAFT SET

53110 6mm BALL ADJUSTER SET

53111 DAMPER SPRING SPACER SET

53113 RACING RADIAL/SLICK INNER SPONGE SET

53114 R/C BRAKE LIGHT SET

53115 SKYLINE GT-R UNIVERSAL SHAFT SET

53116 RACING DEVELOPED 6mm CARBON REAR SHAFT

53117 RACING DEVELOPED 0.4 STEEL PINION GEAR SET (26T, 27T)

53119 RACING DEVELOPED SPECIAL KING PIN SET

53120 RACING DEVELOPED F-1 ALUMINUM FRONT BODY MOUNT

53121 SKYLINE LONG FRONT ARM SET

53122 ACTO-POWER OFF-ROADER 2WD MOTOR

53123 ACTO-POWER OFF-ROADER 2WD MOTOR BRUSH SET

53124 3mm TUNGSTEN-CARBIDE DIFF BALL SET

53125 SLEEVED DAMPER (SHORT)

53126 1510 SEALED BALL BEARING SET (2 PCS.)

53127 SKYLINE SPEED-TUNED GEAR SET

53128 F-1 FRONT 3630 HBR MEDIUM SPONGE TIRES (1 PAIR)

53129 F-1 REAR 3645 HBR SOFT SPONGE TIRES (1 PAIR)

53130 NYLON PARTS COLORING SET (BLUE, PINK, YELLOW)

53132 FLUORESCENT COLOR ANTENNA PIPES (4 PCS.)

53134 F-1 FRONT 3630 HBR SOFT SPONGE TIRES (1 PAIR)

53135 F-1 REAR 3645 HBR MEDIUM SPONGE TIRES (1 PAIR)

53136 ONE-PIECE BALL THRUST BEARING

53137 FWD TOURING CAR BALL BEARING SET

53138 INTEGRATED SLICK TIRES HARD (F-1 FRONT 3630, 1 PAIR)

53139 INTEGRATED SLICK TIRES MEDIUM (F-1 REAR 3640, 1 PAIR)

53140 4WD/FWD TOURING & RALLY CAR ALUMINUM SPOKE WHEELS (1 PAIR)

53141 4WD TOURING & RALLY CAR LIGHTWEIGHT KING PINS

53142 4WD TOURING & RALLY CAR ALUMINUM MOTOR MOUNT

53143 4WD RALLY CAR SKID GUARD SET

53144 4WD/FWD TOURING & RALLY CAR BUSHING & BALL CONNECTOR SET

53145 4WD TOURING & RALLY CAR URETHANE BUMPER SET

53147 F-1 CARBON GRAPHITE UPPER DECK PLATE (F103 CHASSIS)

53148 F-1 CARBON GRAPHITE FRICTION PLATES (F103 CHASSIS)

53149 F-1 LOW-FRICTION PADS (F103 CHASSIS)

53150 F-1 TURN-BUCKLE TIE-RODS (F103 CHASSIS)

53151 F-1 DIFFUSER SET

53152 SHORT TYPE HARD PROPELLER SHAFT (TA02 CHASSIS)

53153 ACTO-POWER TOURING SPECIAL MOTOR

53154 ACTO-POWER FORMULA MOTOR

53155 LOW FRICTION ALUMINUM DAMPER SET (1 PAIR)

53156 HARD INNER SPONGE SET (4WD/FWD TOURING & RALLY CAR)

53157 ALUMINUM KING PINS (4WD-TA02/FWD CHASSIS)

53158 FORMULA CAR BALL BEARING SET

53159 4mm ANODIZED ALUMINUM FLANGE LOCK NUTS (BLUE, 5 PCS.)

53160 4mm ANODIZED ALUMINUM FLANGE LOCK NUTS (RED, 5 PCS.)

53161 4mm ANODIZED ALUMINUM FLANGE LOCK NUTS (GOLD, 5 PCS.)

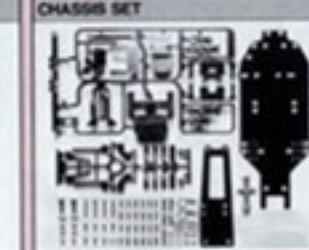
53162 4mm ANODIZED ALUMINUM FLANGE LOCK NUTS (BLACK, 5 PCS.)

53163 ON-ROAD TUNED SPRING SET (4WD/FWD TOURING & RALLY CAR)

53164 4WD TOURING & RALLY CAR HOLLOW CARBON GEAR SHAFT SET

53165 FWD TOURING CAR HOLLOW CARBON GEAR SHAFT SET

53166 4WD-TA02 & FWD CAR FRP CHASSIS SET



53167 4WD TOURING & RALLY CAR BALL BEARING SET (TA02 CHASSIS)

53168 F-1 HARD TYPE CARBON-GRAPHITE CHASSIS PLATE (F103 CHASSIS)

53169 FORMULA CAR FLEX T-BAR SET (F103 CHASSIS)

53170 GLASS TAPE (15mm x 25m)

53171 TR-15T UP-GRADED BRAKE DISC

53172 4WD-TA02 & FWD CAR UNIVERSAL SHAFT SET (1 PAIR)

53173 FORMULA CAR LOW FRICTION ALUMINUM DAMPER

53174 FRICTION DAMPER GREASE (SOFT)

53175 FRICTION DAMPER GREASE (MEDIUM)

53176 FRICTION DAMPER GREASE (HARD)

53177 FWD ALUMINUM MOTOR HEAT SINK

53179 TR-15T ANODIZED CHASSIS PLATE (BLUE)

53180 TR-15T ANODIZED CHASSIS PLATE (RED)

53181 TURNBUCKLE SHAFT SET (50, 60, 65mm)

53182 STADIUM RACER SLICK TIRES w/INNER SPONGE (1 PAIR)

53183 FORMULA CAR ALUMINUM HEAT SINK MOTOR MOUNT

53184 RD TIRE CAP (SOFT)

53185 TAMIYA R/C PARTS BOX

53186 F-1 FRP UPPER CHASSIS SET (F103 CHASSIS)

53187 CROSS COUNTRY 4WD LOW-RIDE CONVERSION KIT

53188 CROSS-COUNTRY 4WD TORQUE SPLITTER UNIT

53189 4WD TOURING & RALLY CAR REAR STABILIZER SET (TA02 CHASSIS)

53190 CORNER MARKERS (5 PCS.)

53191 4WD/FWD TOURING & RALLY CAR TURNBUCKLE TIE-ROD SET

53192 4WD/FWD TOURING & RALLY CAR TURNBUCKLE UPPER ARM SET

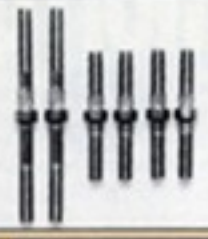
53193 4WD TOURING & RALLY CAR FRP FRONT DAMPER STAY

53194 4WD TOURING & RALLY CAR FRP REAR DAMPER STAY

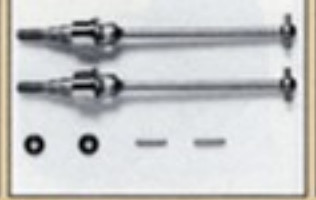
53195 4WD-TA02 & FWD CAR CARBON CHASSIS PLATES

53196 TGX WHEEL AXLE BALL BEARING SET

53197 TGX TURNBUCKLE SHAFT SET



53198 TGX UNIVERSAL SHAFT SET



53199 TGX STABILIZER SET

53200 4WD FRONT ONE-WAY DIFF. UNIT

53201 TGX 2-SPEED TRANSMISSION

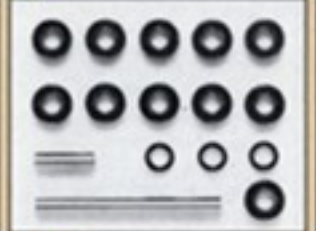
53202 TGX M-GRIP SUPER SLICKS (1 PAIR)

53203 TGX SHAPED TIRE INSERTS (1 PAIR)

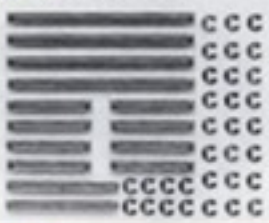
53204 M-CHASSIS INNER SPONGE

53205 M-CHASSIS UNIVERSAL SHAFT SET (1 PAIR)

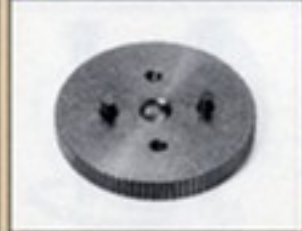
53206 M-CHASSIS BALL BEARING SET



53207 TGX STAINLESS STEEL SUSPENSION SHAFT SET



53208 LIGHTWEIGHT FLYWHEEL



53209 1/10 TOURING & RALLY CAR SHAPED TIRE INSERT (1 PAIR)

53210 TGX 2-SPEED TRANSMISSION PINION GEAR (15/19T)

53211 TGX 2-SPEED TRANSMISSION SPUR GEAR SET

53212 TGX 2-SPEED TRANSMISSION CLUTCH SHOE SET

53213 1/10 SCALE MINI COOPER RACING STICKER SET

53214 SUPER GRIP RADIAL TIRES (1/10 R/C TOURING & RALLY CARS)

53215 M-CHASSIS SLICKS (1 PAIR)

53216 1/10 TOURING & RALLY CAR SHAPED TIRE INSERT, WIDE (1 PAIR)

53217 1/10 TOURING CAR HARD JOINT CUP SET (FOR GEAR DIFF)

53218 1/10 TOURING CAR HARD JOINT CUP SET (FOR BALL DIFF)

53219 1/10 TOURING CAR ALUMINUM PRESSURE PLATE SET

53220 1/10 4WD/FWD TOURING CAR SUPER SLICKS (1 PAIR)

53221 1/10 SCALE R/C MINI COOPER RACING STICKER SET 2

53222 M-CHASSIS SUPER SLICKS (1 PAIR)

53223 M-CHASSIS SHAPED TIRE INSERTS (1 PAIR)

53224 1/10 4WD/FWD TOURING CAR M2 SLICKS (1 PAIR)

53225 TA02W TOURING CAR FRONT UNIVERSAL SHAFT SET

53226 1/10 TOURING CAR ALUMINUM FRONT HUB CARRIER (1 PAIR)

53227 1/10 4WD/FWD TOURING CAR M2 RADIAL TIRES (1 PAIR)

53228 1/10 4WD TOURING CAR SUPER SLICKS, WIDE (1 PAIR)

53229 1/10 ONE-PIECE WIDE MESH WHEELS (1 PAIR)

53230 WIDE INNER SPONGE SET (HARD)

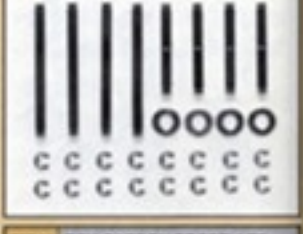
53231 1/10 4WD TOURING CAR SUPER GRIP RADIAL TIRES, WIDE (1 PAIR)

53232 1/10 ONE-PIECE RACING SPOKE WHEELS (1 PAIR)

53233 1/10 ONE-PIECE WIDE RACING SPOKE WHEELS (1 PAIR)

53234 M-CHASSIS 4x65mm ALUMINUM SCREW (5 pcs.)

53235 M-CHASSIS STAINLESS STEEL SUSPENSION SHAFT SET



53236 M-CHASSIS BUSHING SET

53237 M-CHASSIS HOLLOW CARBON GEAR SHAFT SET

53238 M-CHASSIS QUICK-RELEASE BATTERY HOLDER

53239 M-CHASSIS FRONT & REAR STABILIZER SET

53241 M-CHASSIS ALUMINUM MOTOR HEAT SINK

53242 TGX ALUMINUM ENGINE MOUNT

53243 M-CHASSIS UNDERCOWL

53244 TGX CARBON PROPELLER SHAFT

53245 TGX BALL DIFFERENTIAL

53246 M-CHASSIS TURNBUCKLE STEERING ROD SET

53247 FORMULA ADJUSTABLE FRICTION DAMPER POST SET

53248 FORMULA LIGHTWEIGHT DIFF JOINT SET

53249 M-CHASSIS ALUMINUM 4-SPOKE WHEELS (1 PAIR)

53250 TOURING CAR SHAPED TIRE INSERT, SOFT (1 PAIR)

53251 ACTO-TUNED M-SPECIAL MOTOR

53252 TGX REAR ALUMINUM UPRIGHT SET

53253 M-CHASSIS ALUMINUM RACING STEERING SET

53254 M-CHASSIS 60D SUPER GRIP RADIAL TIRES (1 PAIR)

53255 M-CHASSIS 60D INNER SPONGE, HARD (4 PCS.)

53256 M-CHASSIS ALUMINUM 6-SPOKE WHEELS (1 PAIR)

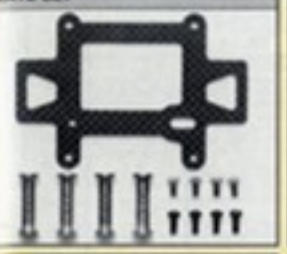
53257 FORMULA HEIGHT ADJUSTABLE GEAR CASE

53258 FORMULA LINK-TYPE FRONT SUSPENSION

53259 FORMULA 3.5mm OFFSET UPRIGHT

53260 TA03 HOLLOW CARBON GEAR SHAFT

53261 TA03 PRO CARBON BATTERY PLATE SET



53262 0.4 STEEL PINION GEARS (28T/29T)

53263 DYNA-RUN SUPER TOURING MOTOR

53264 TGX REINFORCED SUPER SLICKS (1 PAIR)

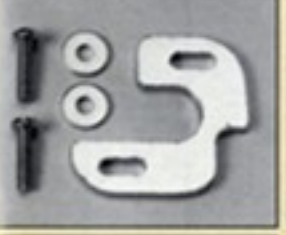
53265 TA03F BALL BEARING SET

53266 TA03 STAINLESS STEEL SUSPENSION SHAFT SET

53267 TA03 BALL DIFFERENTIAL

53268 TA03F URETHANE BUMPER SET

53269 TA03 ALUMINUM MOTOR MOUNT PLATE



53270 1060 BALL BEARINGS (2 PCS.)

53271 HIGH RUBBER CONTENT SPONGE TIRES, MEDIUM (F-1 FRONT, 1 PAIR)

53272 DYNA-RUN RACING STOCK MOTOR

53273 FORMULA CAR REAR SUSPENSION BALL MOUNT SET

53274 TA03 ALUMINUM COUNTER SHAFT

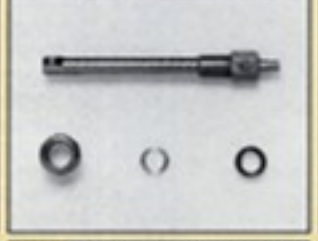
53275 TA03 ALUMINUM MOTOR HEAT SINK

53276 TA03 FLUORESCENT COLOR STABILIZER SET

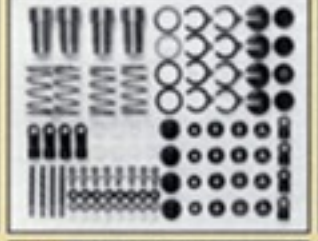
53277 FORMULA CAR HEIGHT-ADJUSTABLE ALUMINUM HEAT SINK MOTOR MOUNT

53278 TA03 ARAMID FIBER REINFORCED DRIVE BELT

53279 TA03 TORQUE SPLITTER UNIT



53280 TA03 SUPER LOW FRICTION DAMPER SET



53281 TGX PROGRESSIVE FORCE SPRING SET

53282 TGX 2-SPEED TRANSMISSION STEEL PINION GEAR (15/19T)

53283 TGX 2-SPEED TRANSMISSION STEEL PINION GEAR (16/20T)

53284 5mm ALUMINUM BALL CONNECTOR (10 PCS.)

53285 TA03 REAR BODY MOUNT SUPPORT PLATE

53286 TA03 ALUMINUM PULLEY (15T)

53287 TA03 CARBON REINFORCING PLATE

53288 TA03 ALUMINUM REAR UPRIGHT (1 PAIR)

53289 TGX HARD ALUMINUM FRONT SUSPENSION ARM SET

53290 TGX HARD ALUMINUM REAR SUSPENSION ARM SET

GLOW ENGINE
PARTS & ACCESSORIES

To keep your glow engined R/C model in the optimum condition, Tamiya provides the line of genuine Glow Engine Parts & Accessories. The fundamental replacement parts, plus optional electric starter unit etc. are available. Periodically check and maintain your model, and always replace any worn parts immediately.
★Tamiya glow engine fuels are not available in some countries.

41001 ENGINE STARTING EQUIPMENT

41002 ENGINE GLOW FUEL "REV-TOP" (REGULAR)

41003 SPARE GLOW PLUG (MEDIUM)

41004 ALKALINE BOOSTER BATTERY "POWER CHAMP HP" 1.5V

41005 FUEL FILTER

41006 SILICONE FUEL PIPE SET

41007 TM-1 MUFFLER GASKET SET

41008 24mm AIR CLEANER FILTER (2 PCS.)

41009 FS-15 OVER-SIZE HEAT SINK HEAD

41010 ELECTRIC STARTER UNIT

41011 TAMIYA-OPS VR-15S GLOW ENGINE (RECOIL STARTER)

41012 ENGINE GLOW FUEL REV-TOP "SUPER 30"

41013 FUEL INDICATOR (FOR TAMIYA, FUTABA, KO)

41014 FUEL INDICATOR (FOR SANWA)

41015 24mm AIR CLEANER

41016 TM-1 MUFFLER

41017 80cc FUEL TANK

41018 THROTTLE SERVO HORN

41019 VR-15S AIR CLEANER ALUMINUM MOUNT

41020 VR-15S OVER-SIZE HEAT SINK HEAT

41021 STARTER ROPE HOLDER

41022 TM-2 RACE TUNED MUFFLER

41023 TM-2 EXHAUST MANIFOLD

41024 ø12/30mm SILICONE JOINT TUBE

41025 VR-15S SLIDE-VALVE CARBURETOR

41026 TM-3 MUFFLER

41027 TM-3 GASKET SET

41028 TM-2 VERTICAL U-SHAPED EXHAUST MANIFOLD

41029 FS-15 AIR CLEANER ALUMINUM MOUNT

SPARE TIRE, WHEEL

ITEM.	
50432	Skyline GT-R Wheel Set
50449	Stadium Blitzer Front Tires (1 Pair)
50450	Stadium Blitzer Rear Tires (1 Pair)
50451	Stadium Blitzer Front Wheels (1 Pair)
50452	Stadium Blitzer Rear Wheels (1 Pair)
50475	Lancia Delta Wheel Set (1 Pair)
50491	Mugen Civic Wheels (1 Pair)
50496	Dyna Blaster Front Wheels (1 Pair)
50497	Dyna Blaster Rear Wheels (1 Pair)
50512	Alfa Romeo 155 Wheels (1 Pair)
50522	Castrol Celica Wheels (1 Pair)
50527	Tom's Levin Wheels (1 Pair)
50532	Lola T93/00 Wheels (1 Pair, 4430F/4445R)
50535	Blitz Toyota Supra Wheels
50539	1/10 AMG Mercedes C-Class DTM Dish Wheels
50557	Castrol Primera Wheels (1 Pair)
50564	1/8 AMG Mercedes C-Class DTM Dish Wheels
50565	1/8 Alfa Romeo 155 Wheels
50566	1/8 Opel Calibra V6 DTM Wheels
50569	Mini Cooper Wheels (1 Pair)
50634	1/10 Scale Opel Calibra Wheels (1 Pair)
50663	1/10 Scale Fiat Abarth Corsa Wheels (1 Pair)
50664	1/8 Nismo Clarion GT-R LM Wheels (1 Pair)
50675	1/10 Scale Celica Spoke Wheels (1 Pair)
50676	Rover Mini Cooper '94 Monte-Carlo Plated Wheels
50685	Alpine A110 Wheels (1 Pair)
50694	Volkswagen Beetle Wheels (1 Pair)
50708	Honda S800 Racing Wheels (1 Pair)
50710	TGX Racing Slicks w/Inner Sponge (1 Pair)
50711	Repsol Ford Escort RS Cosworth Wheels (1 Pair)
50714	Eunos Roadster Wheels (1 Pair)
50724	1/10 Scale PIAA Accord VTEC Wheels (1 Pair)
50726	Alfa Romeo Giulia Sprint GTA Wheels (1 Pair)
50728	Porsche 911 GT-1 Rear Wheels (1 Pair)
50732	10-Spoke One-Piece Wheels (1 Pair)

SPARE BODY SET

ITEM.	
50400	Bullhead Body Parts Set
50448	Stadium Blitzer Body Parts Set
50484	Ford Escort RS Cosworth Body Parts Set
50490	Idemitsu Motion Mugen Civic Body Parts Set
50494	Blitzer Beetle Body Parts Set
50495	Dyna Blaster Body Parts Set
50499	Michelin Pilot Ford Escort Body Parts Set
50500	Lotus 107B Ford Body Parts Set
50510	Castrol Honda Civic VTi Body Parts Set
50511	Alfa Romeo 155 V6 TI Body Parts Set
50521	Castrol Celica Body Parts Set
50523	Sauber C12 Body Parts Set
50526	Tom's Levin Body Parts Set
50528	Mitsubishi Pajero Body Parts Set
50530	Jaccs Civic Body Parts Set
50531	Newman Haas Lola T93/00 Ford Body Parts Set
50536	Blitz Toyota Supra Gr. N Body Parts Set
50540	AMG Mercedes C-Class DTM D2 Body Parts Set
50542	Jeep Wrangler Body Parts Set
50546	Ferrari 412T1 Body Parts Set
50552	Nissan 300ZX IMSA GTS Body Parts Set
50560	1/8 Tabac Sonax Mercedes C-Class Body Parts Set
50561	1/8 Alfa Romeo 155 V6 Ti body Parts Set
50562	1/8 Opel Calibra V6 DTM Body Parts Set
50567	Rover Mini Cooper Body Parts Set
50570	Rahal-Hogan Motorola Lola Body Parts Set
50572	Castrol Nissan Primera JTCC Body Parts Set
50635	1/10 Scale Opel Calibra V6 DTM Body Parts Set
50656	1/10 Scale R/C F-1 Body Parts Set Tyrrell Yamaha 023
50659	1/10 Scale R/C F-1 Body Parts Set Benetton Renault B195
50662	1/10 Scale R/C Loctite Nissan Skyline GT-R N1 Body Parts Set
50665	1/8 Body Parts Set "Nismo Clarion GT-R LM"
50666	1/8 Body Parts Set "Castrol Toyota Tom's Supra GT"
50667	Fiat Abarth 1000 TCR Berlina Corsa Body Parts Set
50668	HKS Opel Vectra JTCC Body Parts Set
50670	Dirt Thrasher Body Parts Set
50671	Rover Mini Cooper '94 Monte-Carlo Body Parts Set
50674	Volkswagen Golf VR-6 Body Parts Set
50677	Toyota Celica GT-Four Body Parts Set
50679	1/10 F-1 Body Parts Set Ligier Mugen Honda JS41
50682	Nismo Clarion GT-R LM '96 le mans Contender Body Parts Set
50687	Toyota Tom's Exiv JTCC Body Parts Set
50688	Alpine A110 Body Parts Set
50690	Ford SVT Mustang Cobra R Body Parts Set
50691	Castrol Toyota Tom's Supra GT body Parts Set
50693	BMW 318i STW Body Parts Set
50695	TAISAN Starcard Porsche 911 GT2 Body Parts Set
50696	Volkswagen Beetle Body Parts Set
50707	KURE NISMO GT-R Body Parts Set
50709	Honda R800 Racing Body Parts Set
50712	Repsol Ford Escort RS Cosworth Body Parts Set
50713	1/8 Calsonic Skyline GT-R Body Parts Set
50715	Eunos Roadster Body Parts Set
50720	Audi A4 STW Body Parts Set
50721	Volvo 850 BTCC Body Parts Set
50722	Ferrari F310 Body Parts Set
50723	1/10 Scale R/C Williams-Renault FW18 Body Parts Set
50725	1/8 Scale R/C Body Parts Set Kure Nismo GT-R
50727	PIAA Accord VTEC Body Parts Set
50729	Porsche 911 GT-1 Body Parts Set
50730	Alfa Romeo Giulia Sprint GTA Body Parts Set
50731	Opel Calibra Cliff Body Parts Set
50733	JACCS Accord Body Parts Set
50734	Martini Alfa Romeo 155 V6 Ti Body Parts Set

SPARE FRONT WING REAR WING

ITEM.	
50501	Lotus 107B Bumper Wing Set
50502	Lotus 107B Rear Wing Set
50524	Sauber C12 Bumper Wing Set
50525	Sauber C12 Rear Wing Set
50533	Lola T93/00 Oval Track Bumper Wing Set
50534	Lola T93/00 Oval Track Rear Wing Set
50543	Ferrari 412T1 Bumper Wing Set
50544	Ferrari 412T1 Rear Wing Set
50558	Lola T94/00 Bumper Wing Set
50559	Lola T94/00 Rear Wing Set
50657	Tyrrell Yamaha 023 Bumper Wing Set
50658	Tyrrell Yamaha 023 Rear Wing Set
50660	Benetton Renault B195 Bumper Wing Set
50661	Benetton Renault B195 Rear Wing Set
50680	Ligier Mugen Honda JS41 Front Wing Set
50681	Ligier Mugen Honda JS41 Rear Wing Set

R/C SPARE PARTS

● For Glow Engine Cars

ITEM.		TR-15T	TGX-Mk.1	
50515	26mm Clutch Shoe Set (1 Pair)	•		
50516	TR-15T Brake Disc & Pad Set	•	**	
50517	0.8 Steel Pinion Gear (16T)	•		
50518	0.8 Steel Pinion Gear (18T)	•		
50560	1/8 Tabac Sonax Mercedes C-Class Body Parts Set		•	
50561	1/8 Alfa Romeo 155 V6 Ti body Parts Set		•	
50562	1/8 Opel Calibra V6 DTM Body Parts Set		•	
50564	1/8 AMG Mercedes C-Class DTM Dish Wheels		•	
50565	1/8 Alfa Romeo 155 Wheels		•	
50566	1/8 Opel Calibra V6 DTM Wheels		•	
50605	Screw Pin Set (55mm, 32mm, 22mm)		•	
50606	TGX A Parts (Gear Case)		•	
50607	TGX B Parts (F & R Suspension Arms)		•	
50608	TGX C Parts (Front Upright)		•	
50609	TGX D Parts (Body Mount)		•	
50610	TGX E Parts (Bumper & Side Guard)		•	
50611	TGX Mechanism Box		•	
50612	TGX G Parts (50T Spur Gear & Diff Case)		•	
50613	TGX R Parts (Rear Upright & Front Knuckle Arm)		•	
50614	10mm Dia. Silicone Exhaust Pipe	•	•	
50615	TGX Upper Plate		•	
50616	TGX-Mk.1 Chassis Plate		•	
50617	TGX Engine Mount (2 pcs.)		•	
50618	TGX Joint Cup (Long & Short)		•	
50619	TGX Clutch Shoe Set	•	•	
50620	16T Clutch Bell		•	
50621	TGX Suspension Arm Stay		•	
50622	TGX Throttle Linkage		•	
50623	TGX Damper Spring (2 pcs.)		•	
50624	TGX Center Beam		•	
50625	TGX Drive Shaft (2 pcs.)		•	
50626	TGX Pilot Shaft (For Tamiya)		•	
50627	TGX Brake Cam & Shaft Set		•	
50628	TGX Brake Pad (2 pcs.)		•	
50629	TGX Propeller Joint (F or R)		•	
50630	TGX Bevel Pinion & Ring Gear Set		•	
50664	1/8 Nismo Clarion GT-R LM Wheels (1 Pair)		•	
50665	1/8 Body Parts Set "Nismo Clarion GT-R LM"		•	
50666	1/8 Body Parts Set "Castrol Toyota Tom's Supra GT"		•	
50710	TGX Racing Slicks w/Inner Sponge (1 Pair)		•	
50713	1/8 Calsonic Skyline GT-R Body Parts Set		•	
50725	KURE NISMO GT-R Body Parts Set		•	
50728	Porsche 911 GT-1 Rear Wheels (1 Pair)		•	
50729	Porsche 911 GT-1 Body Parts Set		•	

※6 Only Disk can be used.

R/C SPARE PARTS

● For Engine & Electric Cars

ITEM.	
50025	Double Sided Servo Tape Set
50038	Tool Set
50068	Ball Link & Adjuster Rod Set
50106	7.2V Connector Set
50170	Nylon Band Set
50171	Heat Resistant Double Sided Tape
50186	Silicone Insulated Wire
50194	Rubber Bag Set
50195	Steel Antenna
50197	Snap Pin Set
50204	Directly Connected Servo Saver
50245	Snap Connector Set
50320	R/C Light Bulb Set
50380	E-Ring Set
50411	Flex Sticker Sheet (Fluorescent Red)
50412	Flex Sticker Sheet (Fluorescent Yellow)
50413	Flex Sticker Sheet (Fluorescent Green)
50473	Hi-Torque Servo Saver
50573	2x8mm Tapping Screw (10 pcs.)
50574	2x8mm Countersunk Tapping Screw (10 pcs.)
50575	2.6x10mm Tapping Screw (5 pcs.)
50576	3mm Grub Screw (10 pcs.)
50577	3x10mm Tapping Screw (10 pcs.)
50578	3x10mm Countersunk Tapping Screw (10 pcs.)
50579	3x10mm Step Screw (5 pcs.)
50580	3x10mm Hex Bolt (10 pcs.)
50581	3x12mm Countersunk Tapping Screw (10 pcs.)
50582	3x14mm Step Tapping Screw (5 pcs.)
50583	3x15mm Tapping Screw (10 pcs.)
50584	3x30mm Cap Screw (2 pcs.)
50585	4x10mm Step Screw (5 pcs.)
50586	3mm Washer (15 pcs.)
50587	3mm Spring Washer (15 pcs.)
50588	2mm E-Ring (15 pcs.)
50589	5mm E-Ring (5 pcs.)
50590	4mm Ball Connector (5 pcs.)
50591	5mm Ball Collar (5 pcs.)
50592	5mm Ball Connector (10 pcs.)
50593	4x6mm Flanged Tube (5 pcs.)
50595	Nylon Band w/Metal Hook (10 pcs.)
50596	5mm Adjuster (6 pcs.)
50597	Damper O-Ring (Red, 10 pcs.)
50633	4mm Adjuster (6 pcs.)

★For daily maintenance and repairs. Select parts referring to the assembly instruction booklet of the kit.

HOP-UP OPTIONS

● For Engine & Electric Cars

ITEM.	
53008	1150 Sealed Ball Bearing Set (4 pcs.)
53011	3x6mm Titanium Round Head Screw (10 pcs.)
53012	3x10mm Titanium Round Head Screw (10 pcs.)
53013	3x15mm Titanium Round Head Screw (10 pcs.)
53014	3x20mm Titanium Round Head Screw (10 pcs.)
53015	3x8mm Titanium Tapping Screw (10 pcs.)
53016	3x12mm Titanium Tapping Screw (10 pcs.)
53017	3x15mm Titanium Tapping Screw (10 pcs.)
53018	3x10mm Titanium Countersunk Tapping Screw (10 pcs.)
53019	3x18mm Titanium Countersunk Head Screw (10 pcs.)
53020	3x8mm Titanium Countersunk Head Screw (10 pcs.)
53021	3mm Aluminum Nut (20 pcs.)
53022	3mm Aluminum Lock Nut (10 pcs.)
53023	4mm Aluminum Nut (20 pcs.)
53024	4mm Aluminum Flange Lock Nut (10 pcs.)
53025	Silicone Damper Oil Soft Set (#200, #300)
53026	Silicone Damper Oil Medium Set (#400, #500)
53027	Silicone Damper Oil Hard Set (#600, #700)
53029	1150 Sealed Ball Bearing Set (2 pcs.)
53030	850 Sealed Ball Bearing Set (4 pcs.)
53042	Ball Diff Grease
53047	730 Sealed Ball Bearing Set (4 pcs.)
53065	1260 Sealed Ball Bearing Set (2 pcs.)
53066	1280 Sealed Ball Bearing Set (3 pcs.)
53095	3x10mm Titanium Tapping Screw (10 pcs.)
53096	3x32mm Titanium Countersunk Head Screw (4 pcs.)
53097	4x42mm Titanium Countersunk Head Screw (4 pcs.)
53110	6mm Ball Adjuster Set
53126	1510 Sealed Ball Bearing Set (2 pcs.)
53130	Nylon Parts Coloring Set (Blue, Pink, Yellow)
53132	Fluorescent Color Antenna Pipes (4 pcs.)
53159	4mm Anodized Aluminum Flange Lock Nuts (Blue)
53160	4mm Anodized Aluminum Flange Lock Nuts (Red)
53161	4mm Anodized Aluminum Flange Lock Nuts (Gold)
53162	4mm Anodized Aluminum Flange Lock Nuts (Black)
53170	Glass Tape (15mm x 25m)
53174	Friction Damper Grease (Soft)
53175	Friction Damper Grease (Medium)
53176	Friction Damper Grease (Hard)
53185	Tamiya R/C Parts Box
53190	Corner Markers (5 pcs.)
53240	3x20mm Titanium Tapping Screw (5 pcs.)
53284	5mm Aluminum Ball Connector (10 pcs.)

★For daily maintenance and repairs. Select parts referring to the assembly instruction booklet of the kit.

R/C SPARE PARTS

● Electric Cars

Chassis Type		Big Tire						2WD Buggy		4WD Buggy				
ITEM.		Midnight Pumpkin	Clod Buster	Bullhead	Stadium Blitzer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo.	Dirt Thrasher	[illegible]	[illegible]
50253	Hornet Speed Controller Set (BEC)	•			•			•						
50319	Lunch Box Body Parts Set	•												
50354	16T, 17T AV Pinion Gear Set								•	•	•	•	[illegible]	•
50355	18T, 19T AV Pinion Gear Set								•	•	•	•		•
50356	20T, 21T AV Pinion Gear Set								•	•	•	•		•
50357	22T, 23T AV Pinion Gear Set								•					[illegible]
50386	Racing Developed Dish Wheel Set (4430F/3645R)													
50387	Racing Developed Front Arm Set												•	
50388	Racing Developed Differential Ball & Plate Set												•	
50389	Racing Developed 4430 Front Sponge Tire (1 Pair)												•	
50390	Racing Developed 3645 Rear Sponge Tire (1 Pair)												[illegible]	
50392	Toyota Hi-Lux Monster Racer Body Parts Set													
50395	Racing Developed Front Upright Set (1 Pair)							•	•				•	
50397	Racing Developed 4428 Front Sponge Tire Set (1 Pair)												•	
50398	Racing Developed 4445 Rear Sponge Tire Set (1 Pair)												•	
50400	Bullhead Body Parts Set		•	•										
50408	Bear Hawk Body Parts Set													
50409	Racing Developed Diff Joint Set												•	
50414	Honda NSX Body Parts Set												•	
50415	Racing Developed 4432 Front Sponge Tire Set (1 Pair)												•	
50419	Toyota Celica GT-FOUR Racing Radial Tire Set													•
50420	Toyota Celica GT-FOUR Wheel Set													•
50425	Ferrari F40 Body Parts Set												•	
50430	Calsonic Skyline GT-R Gr.A Body Parts Set													•
50432	Skyline GT-R Wheel Set													•
50436	Jordan 191 Body Parts Set													
50438	Taisan Skyline GT-R Gr.A Body Parts Set													•
50441	Racing Developed 3630 Front Sponge Tire (1 Pair)													
50442	Racing Developed F-1 Spoke Wheel Set (3630F/3645R)													
50447	Castrol RB Skyline GT-R Gr.N Body Parts Set													•
50448	Stadium Blitzer Body Parts Set				•									
50451	Stadium Blitzer Front Wheels (1 Pair)				•	•								
50454	Racing Slick Tire Set (1 Pair)													•
50456	Mercedes-Benz 190E AMG Wheel Set (1 Pair)													•
50462	1/10 R/C F-1 Body Parts Set "Lotus Ford 102D"													
50468	BMW M3 Mesh Wheel Set (1 Pair)													•
50469	Footwork FA13 Mugen Honda Body Parts Set													
50471	Footwork FA13 Rear Wing Set													
50472	Terra Conqueror Body Parts Set									•		•		
50475	Lancia Delta Wheel Set (1 Pair)													•
50476	Rally Block Tires (1 Pair)													•
50477	24T, 25T AV Pinion Gear Set													[illegible]
50478	Skyline Spare Rear Gear Case													•
50479	Benetton Ford B192 Body Parts Set													
50480	Benetton Ford B192 Bumper Wing Set													

HOP-UP OPTIONS

●For Glow Engine Cars

ITEM	TR-15T	TGX-Mk.1
53171 TR-15T Up-Graded Brake Disc	•	•
53179 TR-15T Anodized Chassis Plate (Blue)	•	
53180 TR-15T Anodized Chassis Plate (Red)	•	
53196 TGX Wheel Axle Ball Bearing Set		•
53197 TGX Turnbuckle Shaft Set		•
53198 TGX Universal Shaft Set		•
53199 TGX Stabilizer Set		•
53201 TGX 2-Speed Transmission		•
53202 TGX M-Grip Super Slicks (1 Pair)		•
53203 TGX Shaped Tire Inserts (1 Pair)		•
53207 TGX Stainless Steel Suspension Shaft Set		•
53208 Lightweight Flywheel	•	•
53210 TGX 2-Speed Transmission Pinion Gear (15T/19T)		[illegible]
53211 TGX 2-Speed Transmission Spur Gear Set		[illegible]
53212 TGX 2-Speed Transmission Clutch Shoe Set		[illegible]
53242 TGX Aluminum Engine Mount		•
53244 TGX Carbon Propeller Shaft		•
53245 TGX Ball Differential		•
53252 TGX Rear Aluminum Upright Set		•
53264 TGX Reinforced Super Slicks (1 Pair)		•
53281 TGX Progressive Force Spring Set		•
53282 TGX 2-Speed Transmission Steel Pinion Gear (15/19T)		•
53283 TGX 2-Speed Transmission Steel Pinion Gear (16/20T)		•
53289 TGX Hard Aluminum Front Suspension Arm Set		•
53290 TGX Hard Aluminum Rear Suspension Arm Set		•

Digit number in diagram indicates item No. of extra parts required. Indicated pinion 16T, 17T etc. shown in diagram can be used.

Refer to the bottom of page 91.													Tractor Truck				Engine	
TA02	TA02SW	TA02W	TA03F	FF	F102	F103 F103RS	F103L	M01	M02·M03M M02L	Cross-Country	Cross-Country Lowdown	M1025 HUMMER	King Hauler	Globe Liner	Benz 1838LS	Benz 1850L	TR-15T	TGX-Mk.1
•	•	•			•	•	•	16T	16T	16T	16T	16T						
•	•	•		16T	•	•	•	16T	16T									
•	•	•		•	•	•	•	20T	20T	20T	20T							
53127	53127	53127		•	•	•	•											
					[illegible]	[illegible]												
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53127	53127	53127		•														
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R/C SPARE PARTS

●Electric Cars

Chassis Type	Big Tire						2WD Buggy		4WD Buggy			Refer to the bottom of page 91.														Tractor Truck			
ITEM	Monster Pumpkin	Clod Buster	Bullhead	Stadium Blitzer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo.	Dirt Thrasher	Sports Car	TA01	TA02	TA02SW	TA02W	TA03F	FF	F102	F103 F103RS	F103L	M01	M02·M03M M02L	Cross-Country	Cross-Country Lowdown	M1025 HUMMER	King Hauler	Globe Liner	Benz 1838LS	Benz 1850L
50481 Benetton Ford B192 Rear Wing Set																			•	•										
50482 Skyline Body Mount Set													•	•	•	•		•												
50484 Ford Escort RS Cosworth Body Parts Set													•	•			•	•												
50485 Toyota Celica GT-FOUR RC Body Parts Set													•	•			•	•												
50486 F-1 Spoke Wheel Sticker Set																			•	•										
50487 R/C Car Window Masking Seal Set A													•																	
50488 R/C Car Window Masking Seal Set B													•																	
50490 Idemitsu Motion Mugen Civic Body Parts Set													•	•			•	•												
50491 Mugen Civic Wheels (1 Pair)													•	•			•	•												
50493 FWD Touring Car Spare Gear Set																		•												
50494 Blitzer Beetle Body Parts Set					•																									
50495 Dyna Blaster Body Parts Set						•																								
50499 Michelin Pilot Ford Escort Body Parts Set													•	•			•	•												
50500 Lotus 107B Ford Body Parts Set																				•										
50501 Lotus 107B Bumper Wing Set																				•										
50502 Lotus 107B Rear Wing Set																			•	•										
50503 F-1 Front Suspension Arm Set (F103 Chassis)																				•	•									
50504 F-1 Spare Gear Case (F103 Chassis)																				•	•									
50505 F-1 T-Bar (F103 Chassis)																				•	•									
50506 F-1 Spare Gear Set																			•	•	•									
50507 F-1 Diff Joint Set (F103 Chassis)																				•	•									
50508 F-1 Super King Pin Set												•							•	•	•									
50509 F-1 Front Spring Set												•							•	•	•									
50510 Castrol Honda Civic VTi Body Parts Set													•	•			•	•												
50511 Alfa Romeo 155 V6 TI Body Parts Set													•	•			•	•												
50512 Alfa Romeo 155 Wheels (1 Pair)													•	•			•	•												
50514 Unisia Jecs Skyline Body Parts Set													•	•			•	•												
50521 Castrol Celica Body Parts Set													•	•			•	•												
50522 Castrol Celica Wheels (1 Pair)													•	•			•	•												
50523 Sauber C12 Body Parts Set																				•										
50524 Sauber C12 Bumper Wing Set																				•										
50525 Sauber C12 Rear Wing Set																			•	•										
50526 Tom's Levin Body Parts Set													•	•			•	•												
50527 Tom's Levin Wheels (1 Pair)													•	•			•	•												
50528 Mitsubishi Pajero Body Parts Set																								•	•					
50529 4WD Touring & Rally Car Plastic Gear Set													•	•	•	•										•				
50530 Jaccs Civic Body Parts Set													•	•			•	•												
50531 Newman Haas Lola T93/00 Ford Body Parts Set																					•									
50532 Lola T93/00 Wheels (1 Pair, 4430F/4445R)																					•									
50533 Lola T93/00 Oval Track Bumper Wing Set																					•									
50534 Lola T93/00 Oval Track Rear Wing Set																					•									
50535 Blitz Toyota Supra Wheels													•	•			•	•												
50536 Blitz Toyota Supra Gr. N Body Parts Set													•	•			•	•												
50539 1/10 AMG Mercedes C-Class DTM Dish Wheels													•	•			•	•												
50540 AMG Mercedes C-Class DTM D2 Body Parts Set													•	•			•	•												
50541 4WD Touring & Rally Car Front Gear Case													•	•	•	•										•				
50542 Jeep Wrangler Body Parts Set																								•	•					
50543 Ferrari 412T1 Bumper Wing Set																				•										
50544 Ferrari 412T1 Rear Wing Set																			•	•										
50545 Formula Mesh Wheel Set (3630F/3645R)																			•	•										
50546 Ferrari 412T1 Body Parts Set																				•										
50547 Wide Racing Slick Tires w/Inner Sponge															•	•														
50548 2-Piece Mesh Wheels (1 Pair)													•	•	•	•	•	•												
50549 2-Piece Wide Mesh Wheels (1 Pair)															•	•														
50550 Ford Mondeo Wheels (1 Pair)													•	•			•	•												
50551 Ford Mondeo BTCC Body Parts Set													•	•			•	•												
50552 Nissan 300ZX IMSA GTS Body Parts Set																•														
50554 Touring & Rally Car Rear Uprights									•	•	•		•	•	•	•		•								•				
50555 Touring & Rally Car Front Uprights														•	•		•	•						•	•					
50556 4WD-TA02 Rear Suspension Arms														•		•														
50557 Castrol Primera Wheels (1 Pair)													•	•			•	•												
50558 Lola T94/00 Bumper Wing Set																					•									
50559 Lola T94/00 Rear Wing Set																					•									
50567 Rover Mini Cooper Body Parts Set																						•	**							
50568 M-Chassis Radial Tires (1 Pair)																						•	•							
50569 Mini Cooper Wheels (1 Pair)																						•	•							
50570 Rahal-Hogan Motorola Lola Body Parts Set																					•									
50571 Rahal-Hogan Miller Genuine Draft Lola Body Parts Set																					•									
50572 Castrol Nissan Primera JTCC Body Parts Set													•	•			•	•												
50631 M-Chassis Spare Gear Set																						•	•							
50632 M-Chassis Drive Shaft & Cup Set																						•	•							
50634 1/10 Scale Opel Calibra Wheels (1 Pair)													•	•			•	•												
50635 1/10 Scale Opel Calibra V6 DTM Body Parts Set													•	•			•	•												
50636 5-Spoke One-Piece Wheels (1 Pair)													•	•			•	•												
50637 TA02 & FWD Touring Car Chassis/Frame														•	•	•		•												
50638 FWD Touring Car A Parts (Gear Case)																		•												
50639 FWD Touring Car B Parts (Rear Section)																		•												
50640 FWD Touring Car D Parts (F & R Suspension Arms)																		•												
50641 FWD Touring Car E Parts (Mechanism Deck)																		•												
50642 1/10 Touring Car U-Shaped Shaft									•	•	•		•	•	•	•		•								•				
50643 TA02 & FWD Touring Car Drive Shaft Set														•	•	•	•	•								•				
50644 1/10 Touring Car D Parts (Body Mount)													•	•	•	•		•												
50645 1/10 Touring Car 17mm Thrust Washer (4 pcs.)										•			•	•	•	•	•	•								•				
50646 TA01 Touring Car D Parts (F & R Suspension Arms)													•		•															
50647 4WD Touring Car E Parts (Bumper)													•	•	•	•														
50648 TA01 Touring Car Front Upright (Red)									•	•	•		•			•										•				
50649 TA02/TA02W Touring Car F Parts (Front Suspension Arm)														•	•	•														
50650 4WD Touring Car Drive Shaft Set													•	•	•	•														
50651 M-Chassis A Parts (Chassis)																						•	**							
50652 M-Chassis B Parts (Gear Case)																						•	•							
50653 M-Chassis C Parts (Upright)																						•	•							
50654 M-Chassis D Parts (Suspension Arm)																						•	•							
50655 F103 Chassis D Parts (Battery Holder)																				•	•									
50656 1/10 Scale R/C F-1 Body Parts Set Tyrrell Yamaha 023																			•	•										
50657 Tyrrell Yamaha 023 Bumper Wing Set																			•	•										

Digit number in diagram indicates item No. of extra parts required. Indicated pinion 16T, 17T etc. shown in diagram can be used.

● Electric Cars

R/C SPARE PARTS

Chassis Type	Big Tire						2WD Buggy		4WD Buggy			Refer to the bottom of page 91.														Tractor Truck				Engine	
ITEM	Midnight Pumpkin	Clod Buster	Bullhead	Stadium Blitzer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo.	Dirt Thrasher	G.T.& SPORTS CAR	TA01	TA02	TA02SW	TA02W	TA03F	FF	F102	F103 / F103RS	F103L	M01	M02·M03M / M02L	Cross-Country	Cross-Country Lowdown	M1025 HUMMER	King Hauler	Globe Liner	Benz 1838LS	Benz 1850L	TR-15T	TGX Mk.1
50658 Tyrrell Yamaha 023 Rear Wing Set																			•	•												
50659 1/10 Scale R/C F-1 Body Parts Set Benetton Renault B195																			•	•												
50660 Benetton Renault B195 Bumper Wing Set																			•	•												
50661 Benetton Renault B195 Rear Wing Set																			•	•												
50662 1/10 Scale R/C Loctite Nissan Skyline GT-R N1 Body Parts Set													•	•			•	•														
50663 1/10 Scale Fiat Abarth Corsa Wheels (1 Pair)																						•	•									
50667 Fiat Abarth 1000 TCR Berlina Corsa Body Parts Set																						•	•									
50668 HKS Opel Vectra JTCC Body Parts Set													•	•			•	•														
50669 Formula Mesh Wheel Set, White (3630f/3645r)																			•	•												
50670 Dirt Thrasher Body Parts Set									•		•																					
50671 Rover Mini Cooper '94 Monte-Carlo Body Parts Set																						•	*9									
50672 1/10 5-Spoke Two-Piece Wheels (1 Pair)													•	•	•	•	•	•														
50673 1/10 5-Spoke Two-Piece Wheels, Wide (1 Pair)															•	•																
50674 Volkswagen Golf VR-6 Body Parts Set																		•														
50675 1/10 Scale Celica Spoke Wheels (1 Pair)													•	•			•	•														
50676 Rover Mini Cooper '94 Monte-Carlo Plated Wheels																						•	•									
50677 Toyota Celica GT-Four Body Parts Set													•	•			•	•														
50678 1/10 Toyota Tom's Exiv JTCC Wheels (1 Pair)													•	•			•	•														
50679 1/10 F-1 Body Parts Set Ligier Mugen Honda JS41																			•	•												
50680 Ligier Mugen Honda JS41 Bumper Wing Set																			•	•												
50681 Ligier Mugen Honda JS41 Rear Wing Set																			•	•												
50682 Nismo Clarion GT-R LM '95 le mans Contender Body Parts Set																•																
50683 M-Chassis 60D Radial Tires (1 Pair)																						*7	*7									
50684 M-Chassis 60D M-Grip Radial Tires (1 Pair)																						*7	*7									
50685 Alpine A110 Wheels (1 Pair)																						•	•									
50686 M-Chassis 60D Inner Sponge Set																						•	•									
50687 Toyota Tom's Exiv JTCC Body Parts Set													•	•			•	•														
50688 Alpine A110 Body Parts Set																						—	—									
50689 Alpine A110 E Parts (Rear Body Mount & Front Bumper)																						—	—									
50690 Ford SVT Mustang Cobra R Body Parts Set													•	•			•	•														
50691 Castrol Toyota Tom's Supra GT body Parts Set																•																
50692 F-1 Body Parts Set Type-W																			•	•												
50693 BMW 318i STW Body Parts Set													•	•			•	•														
50694 Volkswagen Beetle Wheels (1 Pair)																						•	•									
50695 TAISAN Starcard Porsche 911 GT2 Body Parts Set															•																	
50696 Volkswagen Beetle Body Parts Set																							*8									
50697 M-Long Chassis A Parts (Chassis/Frame)																							*8									
50698 TA03 A Parts (Gear Case)																	•															
50699 TA03F B Parts (Rear Gear Case)																	•															
50700 TA03 C Parts (Upright)																	•															
50701 TA03 D Parts (Suspension Parts)																	•															
50702 TA03 F Parts (Pulley)																	•															
50703 TA03 PRO J Parts (Battery Holder)																	•															
50704 TA03 PRO L Parts (Gear)																	•															
50705 TA03 Knuckle Arm														•	•		•	•						•	•							
50706 TA03 Drive Belt																	•															
50707 KURE NISMO GT-R Body Parts Set													•	•			•	•														
50708 Honda S800 Racing Wheels (1 Pair)																						•	•									
50709 Honda R800 Racing Body Parts Set																						•	*9									
50711 Repsol Ford Escort RS Cosworth Wheels (1 Pair)													•	•			•	•														
50712 Repsol Ford Escort RS Cosworth Body Parts Set													•	•			•	•														
50714 Eunos Roadster Wheels (1 Pair)																						•	•									
50715 Eunos Roadster Body Parts Set																							*12									
50716 M-Medium Chassis A Parts (Chassis/Frame)																							*12									
50717 TA03 E Parts (Bumper)																	*11															
50718 TA03 G Parts (Gear)																	*11															
50719 TA03 Bathtub Chassis																	*11															
50720 Audi A4 STW Body Parts Set													•	•			•	•														
50721 Volvo 850 BTCC Body Parts Set													•	•			•	•														
50722 Ferrari F310 Body Parts Set																			•	•												
50723 1/10 Scale R/C Williams-Renault FW18 Body Parts Set																			•	•												
50724 1/10 Scale PIAA Accord VTEC Wheels (1 Pair)													•	•			•	•														
50726 1/10 Scale Alfa Romeo Giulia Sprint GTA Wheels (1 Pair)																						•	•									
50727 PIAA Accord VTEC Body Parts Set													•	•			•	•														
50730 Alfa Romeo Giulia Sprint GTA Body Parts Set																							*12									
50731 Opel Calibra Cliff Body Parts Set													•	•			•	•														
50732 10-Spoke One-Piece Wheels (1 Pair)													•	•			•	•														
50733 JACCS Accord Body Parts Set													•	•			•	•														
50734 Martini Alfa Romeo 155 V6 TI Body Parts Set													•	•			•	•														

● For Engine & Electric Cars

R/C SPARE PARTS

Chassis Type	Big Tire						2WD Buggy		4WD Buggy			Refer to the bottom of page 91.														Tractor Truck				Engine	
ITEM	Midnight Pumpkin	Clod Buster	Bullhead	Stadium Blitzer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo.	Dirt Thrasher	G.T.& SPORTS CAR	TA01	TA02	TA02SW	TA02W	TA03F	FF	F102	F103 / F103RS	F103L	M01	M02·M03M / M02L	Cross-Country	Cross-Country Lowdown	M1025 HUMMER	King Hauler	Globe Liner	Benz 1838LS	Benz 1850L	TR-15T	TGX Mk.1
50449 Stadium Blitzer Front Tires (1 Pair)				•	•	•																									•	
50450 Stadium Blitzer Rear Tires (1 Pair)				•	•	•																									•	
50452 Stadium Blitzer Rear Wheels (1 Pair)				•	•	•																									•	
50496 Dyna Blaster Front Wheels (1 Pair)						•																									•	
50497 Dyna Blaster Rear Wheels (1 Pair)						•																									•	
50513 Stadium Racer Tarmac Tires (1 Pair)				•	•	•																									•	
50519 C.V.A. Mini Shock Unit Set II				•	•		•	•				•	•	•	•	•	•	•				•	•			•						•
50520 C.V.A. Short Shock Unit Set II	•			•	•	•	•	•	•	•	•																				•	
50563 TGX Racing Radial Tires w/inner Sponge																																•
50594 2x10mm Shaft (10 pcs.)	•			•	•		•		•	•	•		•	•	•	•	•	•				•	•	•	•	•						•
50598 CVA Mini Shock Unit II V Parts														•	•	•	•	•								•						•
50599 CVA Mini Shock Unit II W Parts														•	•	•	•	•						•	•	•						•
50600 CVA Mini Shock Unit II Oil Seal (6 pcs.)														•	•	•	•	•						•	•	•						•
50601 CVA Mini Shock Unit II Piston Rod (2 pcs.)														•	•	•	•	•								•						•
50602 Differential Bevel Gear Set									•		•		•	•	•	•		•				•	•	•	•	•	•	•	•			•
50603 TGX Propeller Shaft																																•
50604 TGX Wheel Axle (2 pcs.)														•	•		•	•						•	•							•

Digit number in diagram indicates item No. of extra parts required. *7 Not for use with Rover Mini Cooper, Mini Cooper Monte-Carlo and Fiat Abarth bodies. *8 Only for M02L Chassis. *9 Not for M02L/M Chassis. *11 Only for TA03F Chassis. *12 Only for M02M Chassis.

● Electric Cars

HOP-UP OPTIONS

Chassis Type	Big Tire						2WD Buggy		4WD Buggy			
ITEM	Midnight Pumpkin	Clod Buster	Bullhead	Stadium Blitzer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo.	Dirt Thrasher	G.T.& SPORTS CAR	TA01
53001 Dynatech 01R Motor						•		*[illegible]	*[illegible]	•	*[illegible]	*[illegible]	*[illegible]
53044 Dynatech 02H Motor						•		*[illegible]	*[illegible]	•	*[illegible]	*[illegible]	*[illegible]
53051 Dynatech 02H Brush Set						*[illegible]		*[illegible]	*[illegible]	*[illegible]	*[illegible]	*[illegible]	*[illegible]
53062 7010W Rotor for Dynatech 02H Motor						*[illegible]		*[illegible]	*[illegible]	*[illegible]	*[illegible]	*[illegible]	*[illegible]
53063 12T, 13T H.P. Steel Pinion Gear Set								•				•	
53064 14T, 15T H.P. Steel Pinion Gear Set								•				•	
53068 RS-540 Sport-Tuned Motor	•			•	•	•		•	•	•	•	•	•
53070 Manta Ray Ball Diff Set									•	•	•		•
53071 Manta Ray Torque Splitter Set									•	•	•		•
53072 Manta Ray Differential Ball & Plate Set									—	•	—		•
53073 Manta Ray Ball Bearing Set									•	•	•		•
53079 Manta Ray Stainless Steel Propeller Shaft Set									•	•	•		•
53083 6014 2WD Rib-Spike Front Tires (1 Pair)							—	—					
53085 6014 2WD Front Star-Dish Wheels (1 Pair)							—	—					
53086 6029 Rear Star-Dish Wheels (1 Pair)								—	—	•	—		
53089 6024 4WD Front Star-Dish Wheels (1 Pair)									—	•	—		
53090 Racing Developed Tire Cap												•	
53092 6024 4WD Spire Spike Front Tires (1 Pair)									—	•	—		
53093 6029 Spire Spike Rear Tires (1 Pair)								—	—	•	—		
53098 4WD Stainless Steel Suspension Shaft Set									•	•	•		•
53099 Manta Ray F.R.P. Double-Deck Chassis Set									•	•	•		•
53101 Racing Developed 0.4 Steel Pinion Gear Set (20T, 21T)	•											*[illegible]	
53102 Racing Developed 0.4 Steel Pinion Gear Set (22T, 23T)	•											*[illegible]	
53103 Racing Developed 0.4 Steel Pinion Gear Set (24T, 25T)	•											*[illegible]	
53104 Racing Developed 0.4 Spur Gear Set (93T, 104T)												*[illegible]	
53106 Racing Developed Aluminum Motor Mount												•	
53107 Skyline GT-R Mesh Wheel Set													•
53108 Skyline GT-R Racing 5-Spoke Wheel Set													•
53113 Racing Radial/Slick Inner Sponge Set													•
53114 R/C Brake Light Set												•	
53115 Skyline GT-R Universal Shaft Set													•
53116 Racing Developed 6mm Carbon Rear Shaft												•	
53117 Racing Developed 0.4 Steel Pinion Gear Set (26T, 27T)						•						*[illegible]	
53119 Racing Developed Special King Pin Set												•	
53120 Racing Developed Aluminum Front Body Mount													
53121 Skyline Long Front Arm Set													•
53122 Acto-Power Off-Roader 2WD Motor						•		*[illegible]					
53123 Acto-Power Off-Roader 2WD Motor Brush Set						—		—					
53127 Skyline Speed-Tuned Gear Set													•
53128 F-1 Front 3630 HBR Medium Sponge Tires (1 Pair)													
53129 F-1 Rear 3645 HBR Soft Sponge Tires (1 Pair)													
53131 Skyline GT-R Aluminum Mesh Wheels (1 Pair)													•
53134 F-1 Front 3630 HBR Soft Sponge Tires (1 Pair)													
53135 F-1 Rear 3645 HBR Medium Sponge Tires (1 Pair)													
53136 One-Piece Ball Thrust Bearing												•	
53137 FWD Touring Car Ball Bearing Set													
53138 Integrated Slick Tires Hard (F-1 Front 3630)													
53139 Integrated Slick Tires Medium (F-1 Rear 3640)													
53140 Touring & Rally Car Aluminum Spoke Wheels													•
53141 4WD Touring & Rally Car Lightweight King Pins													•
53142 4WD Touring & Rally Car Aluminum Motor Mount									•	•	•		•
53143 4WD Rally Car Skid Guard Set													•
53144 Touring & Rally Car Bushing & Ball Connector Set													•
53145 4WD Touring & Rally Car Urethane Bumper Set													•
53147 F-1 Carbon Graphite Upper Deck Plate (F103 Chassis)													
53148 F-1 Carbon Graphite Friction Plates (F103 Chassis)													
53149 F-1 Low-Friction Pads (F103 Chassis)													
53150 F-1 Turn-Buckle Tie-Rods (F103 Chassis)													
53151 F-1 Diffuser Set													
53152 Short Type Hard Propeller Shaft (TA02 Chassis)													
53153 Acto-Power Touring Special Motor													*[illegible]
53154 Acto-Power Formula Motor													
53156 Hard Inner Sponge Set (4WD/FWD Touring & Rally Car)													•
53158 Formula Car Ball Bearing Set													
53163 On-Road Tuned Spring Set (Touring & Rally Car)													•
53164 4WD Touring/Rally Car Hollow Carbon Gear Shaft Set													•
53165 FWD Touring Car Hollow Carbon Gear Shaft Set													
53166 4WD-TA02 & FWD Car FRP Chassis Set													
53167 4WD Touring & Rally Car Ball Bearing Set													
53168 F-1 Hard Type Carbon-Graphite Chassis Plate													
53169 F-1 Flex T-Bar Set (F103 Chassis)													
53172 4WD-TA02 & FWD Car Universal Shaft Set													
53173 Formula Car Low Friction Aluminum Damper													
53177 FWD Aluminum Motor Heat Sink													
53183 Formula Car Aluminum Heat Sink Motor Mount												•	
53184 RD Tire Cap (Soft)												•	
53186 F-1 FRP Upper Chassis Set													
53187 Cross Country 4WD Low-Ride Conversion Kit													
53188 Cross-Country 4WD Torque Splitter Unit													
53189 Rear Stabilizer Set (TA02 Chassis)													
53191 4WD/FWD Turnbuckle Tie-Rod Set													
53192 4WD/FWD Turnbuckle Upper Arm Set													
53193 4WD Touring & Rally Car FRP Front Damper Stay													•
53194 4WD Touring & Rally Car FRP Rear Damper Stay													•
53195 TA02 & FWD Carbon Chassis Plates													
53204 M-Chassis Inner Sponge													
53205 M-Chassis Universal Shaft Set (1 Pair)													
53206 M-Chassis Ball Bearing Set													
53209 1/10 Touring & Rally Car Shaped Tire Insert													•
53213 1/10 Scale R/C Mini Cooper Racing Sticker Set													
53214 Super Grip Radial Tire (1 Pair)													•
53215 M-Chassis Slicks (1 Pair)													
53216 1/10 Touring & Rally Car Shaped Tire Insert, Wide (1 Pair)													
53217 1/10 Touring Car Hard Joint Cup Set (For Gear Diff)										•			•
53218 1/10 Touring Car Hard Joint Cup Set (For Ball Diff)									•		•		•

HOP-UP OPTIONS

● Electric Cars

Chassis Type	Big Tire						2WD Buggy	4WD Buggy			Refer to the bottom of page 91.															Tractor Truck			Engine	
ITEM.	Midnight Pumpkin	Ohio Bruiser	Bullhead	Stadium Blazer	Blitzer Beetle	Dyna Blaster	Grasshopper II	Madcap	Manta Ray	Top-Force Evo	Dirt Thrasher	0.1 (SPORT) Diff	TA01	TA02	TA02S(W)	TA02W	TA02S(F)	FF	F102	F103	F103RS	F103J	M01	M02M	M02J	Cross-Country	Cross-Country Low/down	M1025 HUMMER	King Hauler	Globe Liner	Benz 1838LS	Benz 1850L	TH-15T	TOXY-Mx 1
53219 1/10 Touring Car Aluminum Pressure Plate Set									●				●	●	●	●	●	●										●						
53220 1/10 4WD/FWD Touring Car Super Slicks (1 Pair)													●	●	●	●	●	●																
53221 1/10 Scale R/C Mini Cooper Racing Sticker Set 2																							●											
53222 M-Chassis Super Slicks (1 Pair)																							●	●										
53223 M-Chassis Shaped Tire Inserts (1 Pair)																							●	●										
53224 1/10 4WD/FWD Touring Car M2 Slicks (1 Pair)													●	●	●	●	●	●																
53225 TA02W Touring Car Front Universal Shaft Set																●												●						
53226 1/10 Touring Car Aluminum Front Hub Carrier (1 Pair)									●	●	●		●	●	●	●		●										●						
53227 1/10 4WD/FWD Touring Car M2 Radial Tires (1 Pair)													●	●	●	●	●	●																
53228 1/10 4WD Touring Car Super Slicks, Wide (1 Pair)															●	●																		
53229 1/10 One-Piece Wide Mesh Wheels (1 Pair)													●	●			●																	
53230 Wide Inner Sponge Set (Hard)															●	●																		
53231 1/10 4WD Touring Car Super Grip Radial Tires, Wide (1 Pair)															●	●																		
53232 1/10 One-Piece Racing Spoke Wheels (1 Pair)													●	●			●	●																
53233 1/10 One-Piece Wide Racing Spoke Wheels (1 Pair)													●	●			●	●																
53234 M-Chassis 4x65mm Aluminum Screw (5 pcs.)																							●	●										
53235 M-Chassis Stainless Steel Suspension Shaft Set																							●	●										
53236 M-Chassis Bushing Set																							●	●										
53237 M-Chassis Hollow Carbon Gear Shaft Set																							●	●										
53238 M-Chassis Quick-Release Battery Holder																	※10						●	●										
53239 M-Chassis Front & Rear Stabilizer Set																							●	●										
53241 M-Chassis Aluminum Motor Heat Sink																							●	●										
53243 M-Chassis Undercowl																							●	※8										
53246 M-Chassis Turnbuckle Steering Rod Set																							●	※8										
53247 Formula Adjustable Friction Damper Post Set																					●	●												
53248 Formula Lightweight Diff Joint Set																					●	●												
53249 M-Chassis Aluminum 4-Spoke Wheels (1 Pair)																							●	●										
53250 Touring Car Shaped Tire Insert, Soft (1 Pair)													●	●	●	●	●	●																
53251 Acto-Tuned M-Special Motor																							※3	※3										
53253 M-Chassis Aluminum Racing Steering Set																							●	●										
53254 M-Chassis 60D Super Grip Radial Tires (1 Pair)																							※7	※7										
53255 M-Chassis 60D Inner Sponge,Hard (4 pcs.)																							※7	※7										
53256 M-Chassis Aluminum 8-Spoke Wheels (1 Pair)																							●	●										
53257 Formula Height Adjustale Gear Case																					●	●												
53258 Formula Link-Type Front Suspension																					●													
53259 Formula 3.5mm Offset Upright																				53259														
53260 TA03 Hollow Carbon Gear Shaft																	●																	
53261 TA03F PRO Carbon Battery Plate Set																	※10																	
53262 0.4 Steel Pinion Gears (28T/29T)																	●		●	●	●													
53263 Dyna-Run Super Touring Motor													※3	※3	※3	※3	●	※3																
53265 TA03F Ball Bearing Set																	●																	
53266 TA03 Stainless Steel Suspension Shaft Set																	●																	
53267 TA03 Ball Differential																	●																	
53268 TA03F Urethane Bumper Set																	●																	
53269 TA03 Aluminum Motor Mount Plate																	●																	
53270 1060 Ball Bearings (2 pcs.)									53270										53270	53270	53270													
53271 High Rubber Content Sponge tires, Medium (F-1 Front, 1 Pair)																				●	●													
53272 Dyna-Run Racing Stock Motor													●	●	●	●	●	●	●	●	●	●												
53273 Formula Car Rear Suspension Ball Mount Set																				●	●	●												
53274 TA03 Aluminum Counter Shaft																	●																	
53275 TA03 Aluminum Motor Heat Sink																	●																	
53276 TA03 Fluorescent Color Stabilizer Set																	●																	
53277 Formula Car Height-Adjustable Aluminum Heat Sink Motor Mount																					●	●												
53278 TA03 Aramid Fiber Reinforced Drive Belt																	●																	
53279 TA03 Torque Splitter Unit																	●																	
53280 TA03 Super Low Friction Damper Set																	●																	
53285 TA03 Rear Body Mount Support Plate																	●																	
53287 TA03 Carbon Reinforcing Plate																	※11																	
53288 TA03 Aluminum Rear Upright (1 Pair)																																		

● For Engine & Electric Cars

53036 Hi-Cap Damper (Mini)			●	●			●					●								●														
53037 Hi-Cap Damper (Short)			●	●	●		●		●	●	●																					●		
53053 Mini Hi-Cap Damper Spring Set			53053	53053			53053																											
53054 Short Hi-Cap Damper Spring Set			53057	53057	●		53057	53057	●	53057																								
53056 Pin Type Wheel Adapter			●	●					●	●	●		●	●	●	●	●	●					●	●				●						●
53075 Hi-Cap Damper (Mini) Plastic Parts Set			53053	53053			53053					53053								53053														
53076 Hi-Cap Damper (Short) Plastic Parts Set			53057	53057	53057		53057	53057	●	53057																								
53077 Hi-Cap Damper O-Ring Set			53053 (P)	53053 (P)	53057		53053 (P)	53057	53057	53057	53057	53053								53053														
53109 Turn Buckle Shaft Set									●																									
53111 Damper Spring Spacer Set									●																									
53124 3mm Tungsten-Carbide Diff Ball Set					●				●	●		●	●	●	●	●	●	●	●	●	●							●				●	
53125 Sleeved Damper (Short)			●	●	●		●	●	●	●																		●				●	
53155 Low Friction Aluminum Damper Set (1 Pair)													●	●	●	●	●	●					●	●				●						●
53157 Aluminum King Pins (4WD-TA02/FWD Chassis)														●	●		●	●					●	●	●	●								●
53181 Turn Buckle Shaft Set (50, 60, 65mm)					●																												●	
53182 Stadium Racer Slick Tires w/inner Sponge			●	●	●																												●	
53200 4WD Front One-Way Diff. Unit													●	●	●	●												●						●

TA01: 58099 Skyline GT-R, 58106 Mercedes 190E, 58112 Ford Escort, 58113 BMW M3, 58117 Lancia Delta, 58119 Celica GT-Four RC, 58125 Michelin Pilot Ford Escort
TA02: 58128 Alfa Romeo 155, 58129 Castrol Celica, 58137 Blitz Supra, 58139 Mercedes C-Class D2, 58145 ProMarkt Mercedes C-Class, 58155 Loctite Nissan Skyline GT-R N1, 58164 Celica GT-Four, 58169 Ford Mustang Cobra R, 58171 BMW 318i STW, 58176 Repsol Ford Escort **TA02W:** 58144 Nissan 300ZX IMSA GTS, 58165 NISMO Clarion GT-R LM, 58170 Castrol Supra GT **TA02SW:** 58172 Taisan Porsche 911 GT2 **TA03F PRO:** 58177 TA03F PRO Chassis Kit **TA03F:** 58182 Audi A4 STW, 58185 KURE Nismo GT-R, 58188 Opel Calibra Clll, 58189 Martini Alfa Romeo 155 V6 TI **FWD:** 58121 Idemitsu Civic, 58127 Castrol Civic, 58131 Tom's Levin, 58133 JACCS Civic, 58138 Renault Clio, 58143 Ford Mondeo, 58147 Castrol Primera, 58159 HKS Opel Vectra JTCC, 58162 Volkswagen Golf VR6, 58167 TOM's Exiv JTCC, 58183 Volvo 850 BTCC, 58186 PIAA Accord VTEC **F102:** 58105 Williams FW14, 58114 Footwork FA13, 58118 Benetton B192 **F103:** 58126 Lotus 107B, 58130 Sauber C12, 58142 Ferrari 412T1, 58179 Williams-Renault FW18 **F103RS:** 58156 F103RS Chassis Kit **F103L:** 58134 Newman Haas Lola, 58148 Rahal Hogan Lola **Gr. C & Sports Car:** 58094 Honda NSX, 58098 Ferrari F40, 58109 Nissan R91CP, 58153 Daytona Thunder **M01:** 58149 Rover Mini Cooper, 58163 Mini Cooper Monte-Carlo **M02:** 58158 Fiat Abarth 1000 TCR, 58168 Alpine A110, 58175 Honda S800 Racing **M02L:** 58173 Volkswagen Beetle **M02M:** 58180 Eunos Roadster, 58187 Alfa Romeo Giulia Sprint GTA **Cross Country:** 58132 Mitsubishi Pajero, 58141 Jeep Wrangler, 58166 Isuzu mu Type X, 58178 Honda CR-V **Cross Country (Low Ride):** 58152 Isuzu mu

※10 Only for TA03F PRO Chassis. ※11 Only for TA03F Chassis.
Digit number in diagram indicates item No. of extra parts required. ※4 Used with 53104. ※7 Not for use with Rover Mini Cooper, Mini Cooper Monte-Carlo and Fiat Abarth bodies. ※9 Not for M02L/M Chassis.

Refer to the bottom of page 91.

Digit number in diagram indicates item No. of extra parts required. ※2 Fully equip the car with ball bearings. ※3 Used when utilizing Dynatech 02H Motor. ※4 Used with 53104. ※5 Used with 53101, 53102, 53103 and 53117.

TAMIYA COLOR ACRYLIC PAINT

Tamiya Acrylic Paints are made from water-soluble acrylic resins and are excellent for either brush or spray painting. These paints can be used on styrol resins, styrofoam, wood, glass, and metal, plus all of the common model plastics. The paint covers well, flows smoothly with no blushing or fading, and can be blended easily. Each bottle contains 23ml, and come in 19 glossy colors, 45 matt colors, 7 transparent colors plus the exclusive thinner and flat base.

BECAUSE THEY ARE WATER-SOLUBLE, BUT PERMANENT WHEN DRY, CLEANUP IS BOTH QUICK AND EASY WITH PLAIN WATER.
Being water-soluble, the paints can be completely removed from brushes and other implements with plain water if done prior to drying. After the paints have cured, they are permanent and water will have no effect on the finished surface. The large, heavy glass bottles are stable and difficult to upset, and the large caps are easy to open and close. With the caps molded in the same color of the paint, it is easy to select the shade or color desired quickly. These colors are ideal for beginners and young children just getting into the hobby, as they are safe and provide an excellent finish.

THINNER IS USEFUL FOR SPRAY PAINTING AND THE FLAT BASE WILL TONE DOWN THE GLOSS.
The thinner is used for removing dried paint from brushes and spraying implements, plus adjusting the viscosity of the paints for effective spray painting. When the paint is too thick, it is difficult to brush it on evenly, so thin it down a little with the thinner. When spray painting mix ten parts of paint with 2 parts of thinner for best results. The flat base is almost indispensable in modeling as a true gloss is not always desired. For a semi-gloss color, mix 10 parts paint with 1 part of flat base, and to achieve a flat color, mix 3 parts of base to 10 parts of paint.

EXCELLENT WHEN TWO OR MORE COLORS ARE REQUIRED FOR SPECIAL EFFECTS.
Overpainting in two or more colors, such as camouflage, is quite easy as the prepainted base color, when dried, is permanent and not effected by the overcoat. Acrylics can be painted over any other type of paint with no problems; however, never overpaint acrylics with lacquers. Prior to masking off the model for painting, be sure that the paint is completely cured before the tape is applied. When spray painting, remember that several light coats are preferable to one heavy coat, and the drying time will be considerably lessened.

★Never use lacquer paints over acrylics.
★Surface to be painted must be dry and dust free.
★Mix paint by gently stirring. Shaking bottle will cause bubbles.

TAMIYA PAINT MARKER

Easy and professional results can be yours with Tamiya's Paint Markers. Use it as you would a marking pen. Enamel paint formulated for the painting of plastics. Even the unskilled painter can now achieve beautiful results on their models. For expert modelers, it is indispensable for detail painting and time saving. Excellent for wood, metal, glass as well as on plastics. Contents: 8 grams.

EXCELLENT FOR FINISHING MODELS OF PLASTIC AND OTHER MEDIUMS.
Shake paint marker well first, then push tip against a firm surface to break seal and start paint flow. Tamiya's Paint Marker ensures you of safe, easy painting without brushes and messy cleanup.

UNIQUE FLAT CUT PEN TIP FOR PAINTING OF BOTH NARROW AND WIDE AREAS
Model painting and detailing with a brush requires a fine technique, learned with years of practice. Tamiya's Paint Marker, with its tough felt tip frees you from the worry of lack of experience and allows you to detail your subject like never before. The flat cut tip is 4mm wide and 1mm thick. Use the narrow edge to paint small areas, stripes or markings. By using the marker like a flat brush you can paint wide areas and expect a beautiful smooth flowing finish because of the enamel paint characteristics. With its unique tip, it is easy to paint projecting parts with no overflow; badges and emblems of cars; motorcycles and figures. Raised surfaces on moulded parts can be highlighted with a light touch of the marker for added realism. Accessories on military models, lights and landing gear detail are now easy to finish realistically. When necessary, the marker tip can be cut to a desired thickness by a knife, for those special applications.

USE IN COMBINATION WITH TAMIYA ACRYLIC PAINTS.
Enamel paints can be applied over acrylics and lacquers, so the Tamiya Paint Marker can be used to detail stripe, lettering and markings without fear of damaging the undersurface. Tamiya Acrylic Paints can also be applied over Tamiya Paint Marker finishes, so using the two in combination will enhance your model finishing techniques and achieve results that will amaze you.

SAME COLOR NAMES, SHADES AND NUMBER AS TAMIYA ACRYLIC PAINTS.
Color names and numbers of the Tamiya Paint Marker match those of Tamiya Acrylic paints, and the color toning between the two is almost perfect. Excellent gloss and matt.

TAMIYA COLOR FOR POLYCARBONATE

These paints have been formulated for use on Polycarbonate (Lexan) R/C car bodies. For brush and spray painting. Each bottle contains 23ml. There are 19 bright colors to beautify transparent polycarbonate body shells of your cars, plus an anti-fuel protective top-coat for use with gas-powered R/C models.

EASY TO USE, SAFE AND WATER-SOLUBLE. THE PAINT IS SHOCK RESISTANT, PERMANENT AND FLEXIBLE.
Tamiya polycarbonate paints are water-soluble and completely safe. They can be removed from brushes and other implements using plain water, if done prior to drying, making clean-up quick and easy. After the paint has cured, it is resistant to oils as well as water. It is extremely durable and long lasting. As these paints were spacially formulated for car bodies, the paint film has good elasticity after curing and is not likely to peel or chip off when the body flexes during collisions. For use with gas-engined R/C models, a fuel-protective top-coat (PC-26) is also available. Simply apply over dry painted surface, and it will protect your paint work from the engine fuel.

EXCELLENT COVERAGE MAKES FOR LIGHT WEIGHT.
It is important when painting polycarbonate bodies to wash them first with a detergent solution to remove all dust and oils. Paint details such as window frames, panel lines etc., first, then the overall body. Since the Tamiya polycarbonate paints are opaque, they have good covering qualities with thin coats, making for a lightweight R/C car body, which is extremely important for competition vehicles.

MIXING OF COLORS AND OVERPAINTING IS EASY.
Painting in two or more colors and complicated patterns is not difficult, and the colors mix easily to match any hue you desire. As the paint is applied from the inside, but viewed from the outside, paint the dark colors first, followed by the lighter shades. When using masking tape, remove the tape prior to the paint completely drying, due to its flexibility and tendency for the paint to peel from the body after being cured. If the paint should want to peel away when removing the tape, run a sharp hobby knife along the tape edge. The tape will then come off cleanly without removing the paint from the surface. When spray painting, thin by adding 4 parts of acrylic thinner to 10 parts of paint. The thinner is also useful for removing cured paint from brushes and unwanted areas.

★The painted surface will remain vulnerable to scratches and marring until cured, even though tack free, for about 24 hours.

1/10 SCALE RADIO CONTROL CARS	
58065	Clod Buster
58082	Madcap
58087	Manta Ray
58089	Bullhead
58099	Nissan Skyline GT-R NISMO
58106	Stadium Blitzer
58107	Top-Force Evolution
58112	Ford Escort RS Cosworth
58117	Lancia Delta HF Integrale
58122	Blitzer Beetle
58123	Dyna Blaster
58129	Castrol Celica ('93 Monte-Carlo Rally Winner)
58131	TOM's Levin
58132	Mitsubishi Pajero Metaltop Wide
58133	Jaccs Civic
58134	Newman Haas K Mart Texaco Lola T93/00 Ford
58137	Blitz Toyota Supra Gr.N
58139	AMG Mercedes C-Class DTM D2
58141	Jeep® Wrangler
58142	Ferrari 412T1
58144	Nissan 300ZX IMSA GTS
58145	ProMarkt AMG Mercedes C-Class DTM
58148	Rahal Hogan Motorola Lola T94/00 Honda
58149	Rover Mini Cooper
58152	Isuzu mu
58155	Loctite Nissan Skyline GT-R N1
58156	F103 RS Chassis Kit
58158	Fiat Abarth 1000 TCR Berlina Corsa
58159	HKS Opel Vectra JTCC
58160	Dirt Thrasher
58162	Volkswagen Golf VR6
58163	Rover Mini Cooper '94 Monte-Carlo
58164	Toyota Celica GT-FOUR
58165	NISMO Clarion GT-R LM
58166	Isuzu mu Type X
58167	Toyota Tom's Exiv JTCC
58168	Alpine A110
58169	Ford SVT Mustang Cobra R
58170	Castrol Toyota Tom's Supra GT
58171	BMW 318i STW
58172	Taisan Starcard Porsche 911 GT2
58173	Volkswagen Beetle
58175	Honda S800
58176	Repsol Ford Escort RS Cosworth
58177	TA03F PRO Chassis Kit
58178	Honda CR-V
58179	Williams-Renault FW18
58180	Eunos Roadster
58181	Stadium Thunder
58182	Audi A4 STW
58183	Volvo 850 BTCC
58184	Fighter Buggy RX
58185	KURE NISMO GT-R
58186	PIAA Accord VTEC
58187	Alfa Romeo Giulia Sprint GTA
58188	Opel Calibra Cliff
58189	Martini Alfa Romeo 155 V6 TI
58190	JACCS Accord Upgraded Special

1/12 SCALE RADIO CONTROL CARS	
58070	Midnight Pumpkin
58154	M1025 Hummer

R/C AVIATION SERIES	
56401	Peak Spirit RU
56403	Alt Stream

1/14 SCALE R/C TRACTOR TRUCKS	
56301	King Hauler
56302	Semi-Trailer
56303	Tank-Trailer
56304	Globe Liner
56305	Mercedes-Benz 1838LS
56306	Flatbed Semi-Trailer for Tamiya Truck
56307	Mercedes-Benz 1850L
R/C TRACTOR TRUCKS OPTIONAL PARTS	
56501	Tractor Truck Electrical Unit Set
56502	Semi-Trailer Light Set
56503	Tractor Truck Oil Shocks (1 Pair)
56504	Roof Spoiler
56505	Motorized Support Legs
56506	Animal Guard
56507	Telescopic Antenna

1/8 SCALE R/C GLOW ENGINE CARS	
44002	TGX-Mk.1 TS
44005	KURE NISMO GT-R
44006	Porsche 911 GT-1

1/8 SCALE GLOW ENGINE R/C BODY PARTS SET	
50560	Tabac-Original Sonax AMG Mercedes C-Class DTM
50561	Alfa Romeo 155 V6 TI
50562	Opel Calibra V6 DTM
50665	NISMO Clarion GT-R LM
50666	Castrol Toyota Tom's Supra GT
50713	Calsonic Skyline GT-R
50725	KURE NISMO GT-R
50729	Porsche 911 GT1

1/20 SCALE R/C SAILING SERIES	
56201	Yamaha Round The World (with R/C Unit)
56202	Yamaha Round The World
56203	Yacht Crew Set (Assembled & Painted)
56204	Yamaha 40EX

TAMIYA R/C SYSTEMS	
45002-45007	Crystal Set RX/TX 1-6 Band
45014	"Adspec Plus" 2 Chan. R/C System
45015	C.P.R. Unit P-160F
45016	Adspec G301 FM 3-Chan. R/C System
45017	Tamiya R/C Fail-Safe Unit
45018	Adspec R601 FM 6-chan. R/C System
45019	R/C Motor Glider Propeller Braking Unit

BATTERIES AND QUICK CHARGERS	
55025	Ni-Cd 8.4V-1200mAh Gold Power
55032	Ni-Cd 7.2V-270mAh Tampack Quick Charger
55054	Ni-Cd 7.2V-1400mAh Racing Pack NP
55058	7.2V Auto Discharger
55061	7.2V Racing Pack DC Delta-Peak Quick Charger
55062	Ni-Cd 7.2V-1700mAh Racing Pack SCRC

CRAFT TOOLS	
74001	Side Cutter for Plastic
74002	Long Nose w/Cutter
74003	Angled Tweezers
74004	Straight Tweezers
74005	Curved Scissors for Plastic
74006	(+) Screwdriver No.2 L
74007	(+) Screwdriver No.1 M
74008	(−) Screwdriver No.1 M
74009	Side Cutter Jr. for Plastic
74010	Pocket Tool Set
74011	Pin Vise
74013	Craft Knife
74014	Twist Drill Set
74015	Plastic Scriber
74016	Basic Tool Set
74017	Paint Stirrer
74018	Mini Razor Saw
74019	Mini Razor Saw Spare Blade Set
74020	Design Knife
74022	DC Soldering Iron
74023	"Builder's 8" Screwdriver Set
74024	Modeling Razor Saw
74025	Scale Ruler (1/12 & 1/24)
74026	Scale Ruler (1/35 & 1/48)
74027	Nut Driver 7mm
74028	Nut Driver 5.5mm
74029	Grub Driver 1.5mm
74030	Precision Caliper
74031	Decal Scissors
74032	2mm E-Ring Tool
74033	4mm E-Ring Tool
74034	Needle Nose w/Side Cutter
74035	Sharp Pointed Side Cutter for Plastic
74036	Basic File Set
74037	Mini 4WD Drill (3mm Dia.)




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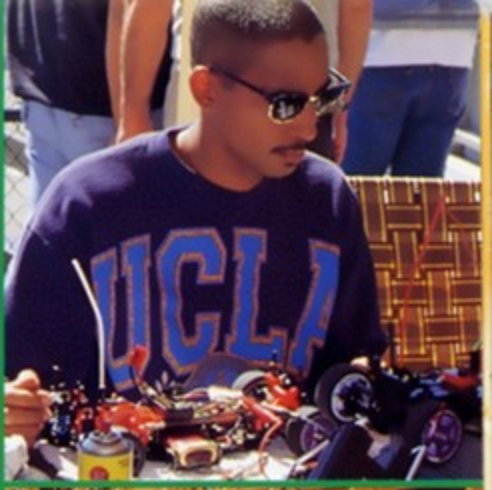
RC CARS

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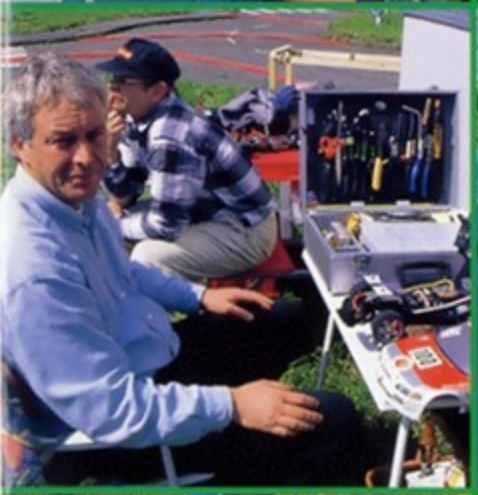

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TAMIYA RADIO CONTROL GUIDE BOOK

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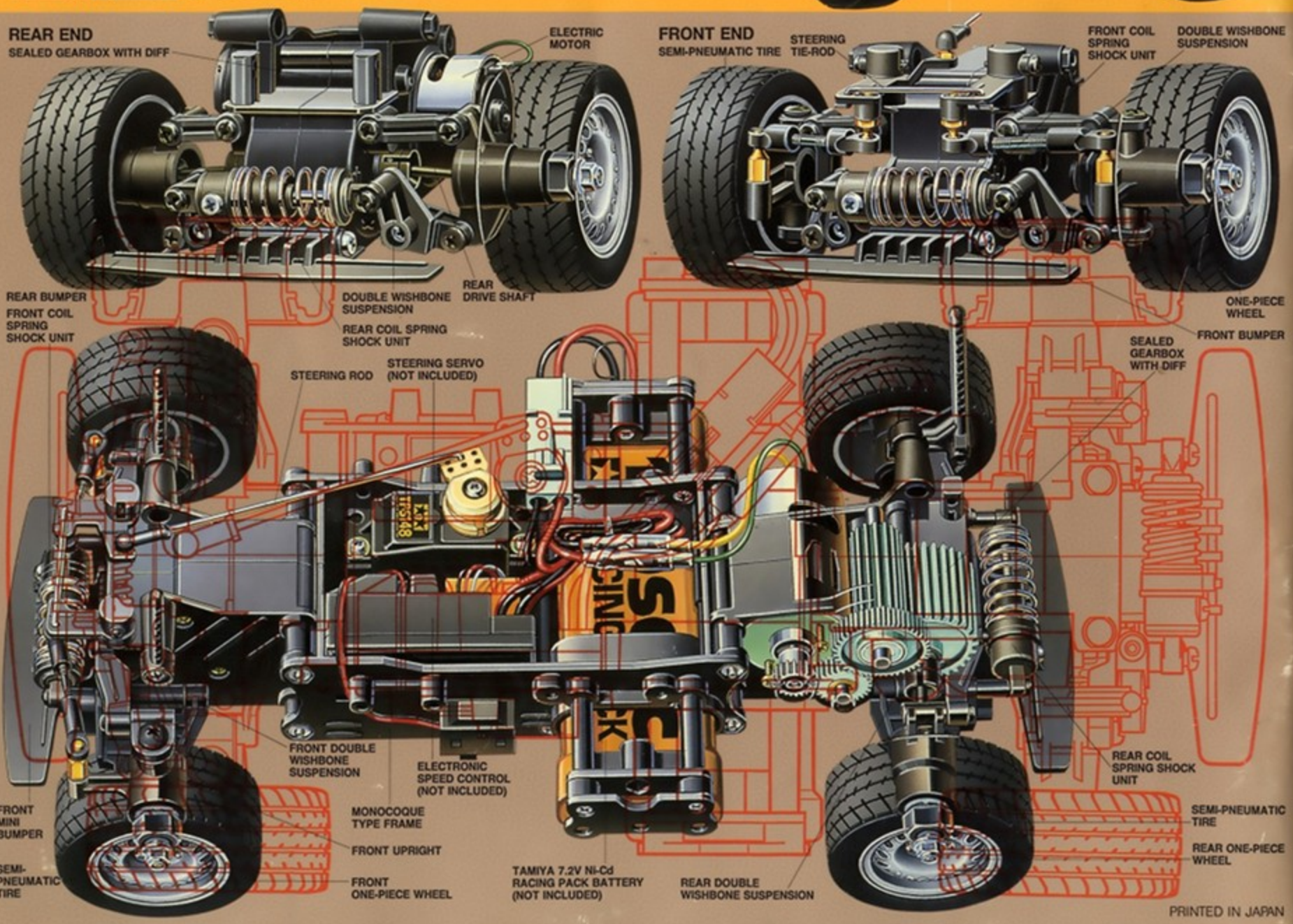

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