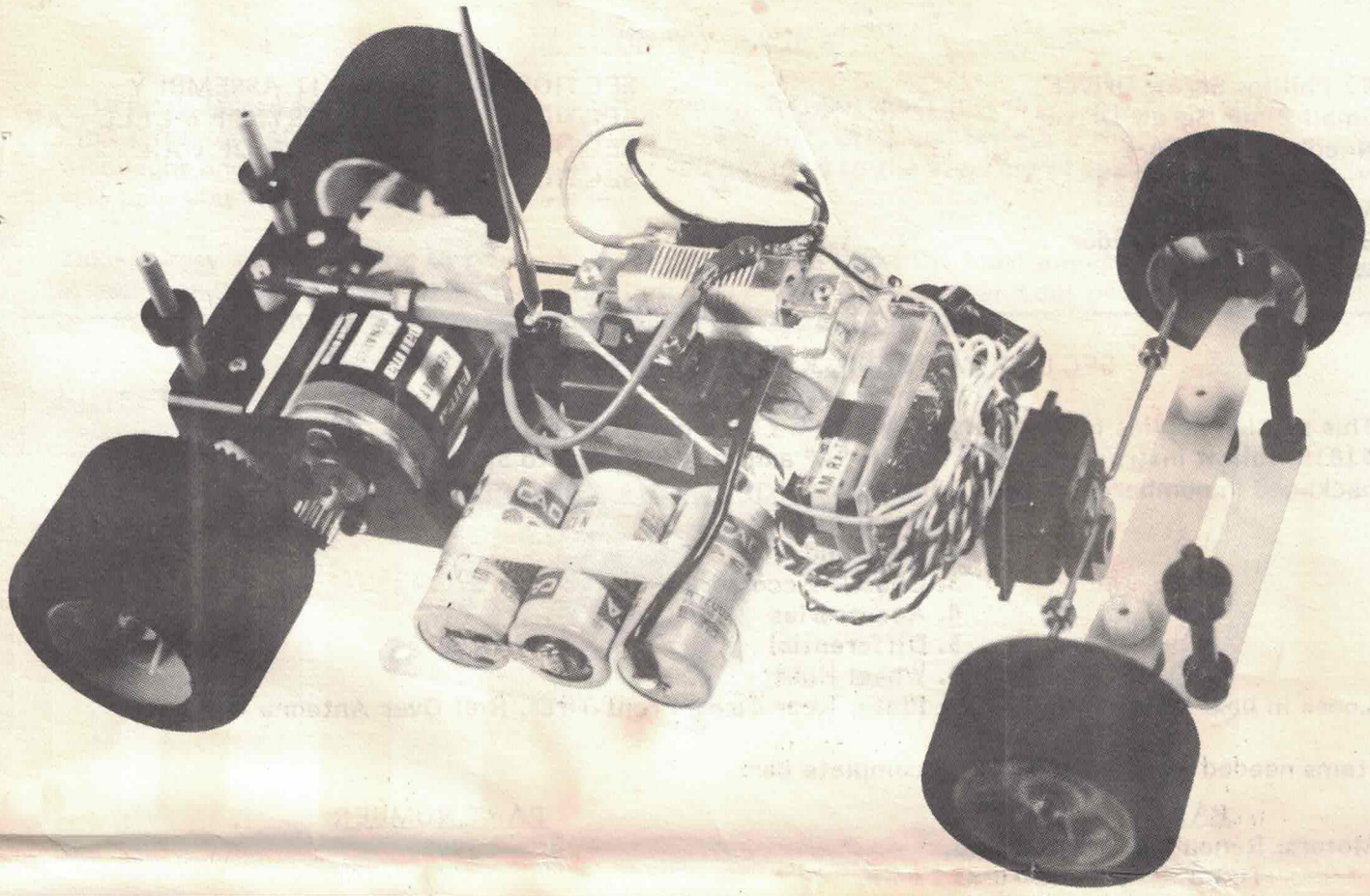
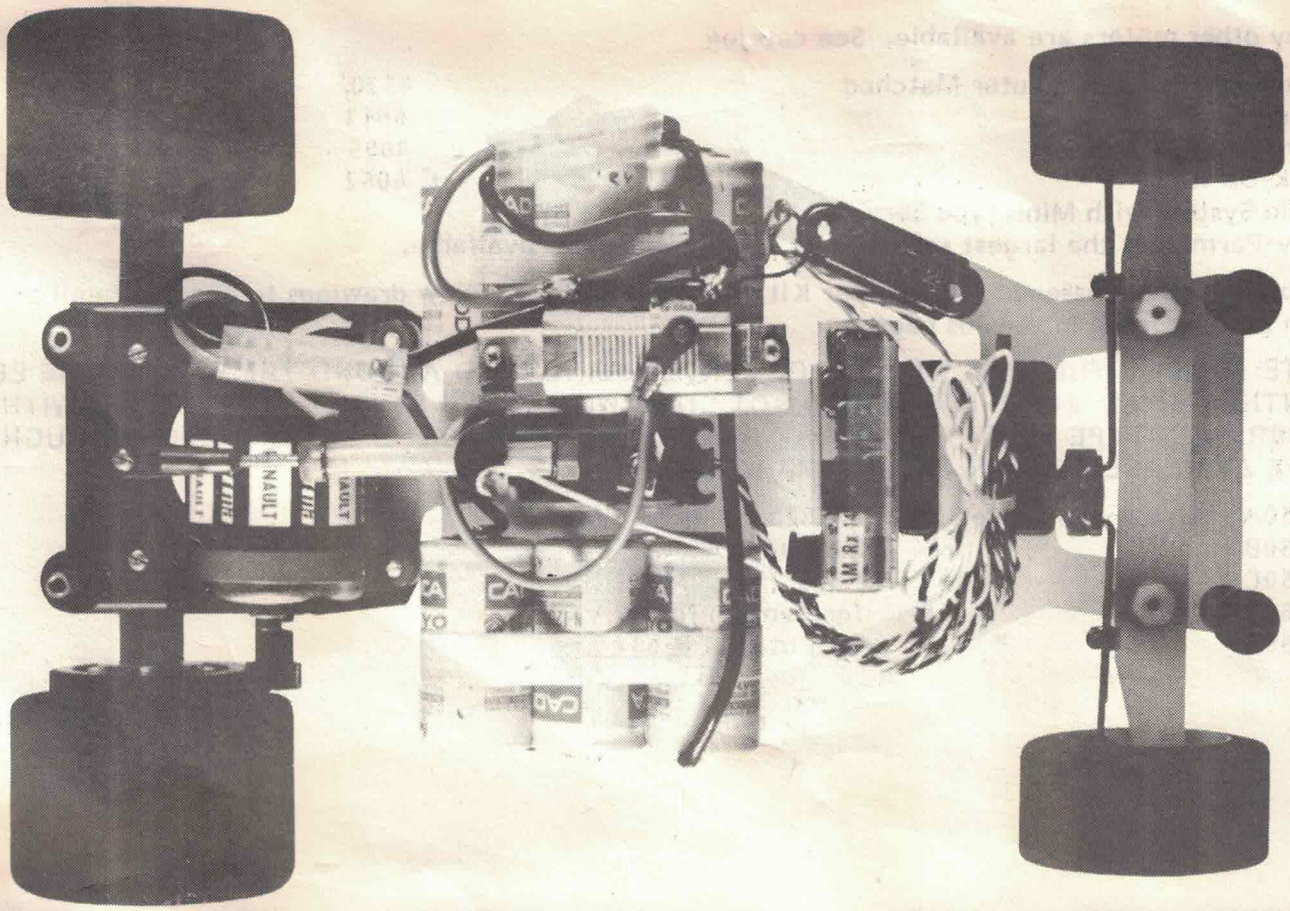
PARMA EURO PANTHER





#2 Phillips Screw Driver
Small Blade Screw Driver
Needle Nose Pliers
X-Acto Knife
Metal File
Soldering Iron & Solder
Wire Cutters

SECTION "A" BASIC KIT ASSEMBLY
SECTION "B" FINAL ASSY. OF 6 CELL CAR
SECTION "C" OPERATION OF CAR
SECTION "D" RACING TIPS

SECTION "A" BASIC KIT ASSEMBLY

This section applies to assembly of #1805 & #1810 Euro Panther basic kits. If building kit #1815, follow instructions in SECTION "A" and then continue to SECTION "B". Parts are packaged in numbered bags as follows:

1. Front End
2. Rear End
3. Chassis Accessories
4. Accessories
5. Differential
6. Wheel Hubs

Loose in box: Chassis Plate, Flex Plate, Rear Tires, Front Tires, Roll Over Antenna Wire

Items needed to make #1810 into complete car:

PART	PART NUMBER
Motors: Renault 35 Turns 23 Ga.	3005
Turbo Renault 35 Turns 23 Ga.	3006
Porsche 30 Turns 22 Ga.	3010

Many other motors are available. See catalog

Batteries: Sanyo Computer Matched	4520
Pinion Gear	6013
Parma Connectors	4055
Hook-Up Wire	4052

Radio System with Mini-Type Servos
Body-Parma has the largest selection of 1/12 scale bodies available.

Before beginning assembly of Panther Kit, study the exploded view drawings to become familiar with all the pieces in various bags.

NOTE: DUE TO THE WIDE VARIETY OF SERVOS BEING USED AROUND THE WORLD, THE EURO PANTHER KITS, #1805 & #1810 DO NOT COME WITH SERVO SAVERS. #1815 COMES WITH A KIMBROUGH TYPE TO FIT THE NOVAK NESA-1. WE RECOMMEND USING THE KIMBROUGH TYPE AVAILABLE UNDER THE PARMA LABEL.

#5050A - Kimbrough Servo Saver, S7, S23, 56 or 4.5MM
#5050B - " " " Bantam or 4.3MM
#5050C - " " " for S-20 or 4MM
#5050D - " " " for Bantam NES-1A
#5050E - " " " for Futaba FP-S32

1. FRONT END ASSEMBLY - Bag #1 - Start by taking king pins out of bag. These must be polished. This can be done by using 600 grit sandpaper and then fine crocus cloth or steel wool. Lightly chuck king pin in drill or dremel on the threaded end of pin. Polish entire length of pin. Check for smooth operation of steering blocks on pins, polish until this is achieved. Thread king pin into aluminum king pin mount. Notice how threads are recessed in aluminum. This is to give king pin more support. Make certain pin bottoms out in aluminum mount. Insert into outside holes of fiberglass cross bar. Fit should be snug , push in as far as possible. The 4-40 hex nut can be installed and mount pulled in the rest of the way by tightening nut. Using small square make sure king pins are at 90 °angle on two planes. If king pins are not at 90° angle handling may be affected. If king pins are not at 90° angle, shim up appropriate side with tin foil or very thin shim stock. Seal nut using lock tight or paint.

Next install steering block, again checking for smooth action. Put a light coating of grease or oil on king pin. Note: Front of crossbar is straight edge. Install steering block, then spring, 1/8" flat washer and E-Clip. Front end will have final set up later.

Take the 1/2" dia. nylon stand offs making sure all flashing is removed. Attach to chassis using 6-32 x 3/4 flat head screw. Cut 3° castor wedge from three of wedges supplied. Then cut in center of the two holes, which in turn will give you two 3° wedges one thick one thin.

Place the thin ones on top of the front end stand offs with angle facing towards rear of car. Next place cross bar on to stand offs . As mentioned before, front of cross bar is with straight edge. Tighten into place using 6-32 nylon lock nuts.

2. REAR POD ASSEMBLY - Take parts in bag #2. Slip wing tubes thru fiberglass pod top plate, then slip tubes into appropriate holes of rear pod, chamfered end first. Push tubes down until they bottom on pod and cross plate is resting on top of pod. Start 5-40 Flat Head Screws into wing tubes. Apply a drop of oil on threads and tighten into tube. Secure cross plate to rear pod using two #2 self-tap screws. Carefully work into pod until tight.

Dampener mount can now be attached as shown in exploded view. 2-56 screw thru ball link then small nylon stand off thru cross plate secure with hex nut and lock tight.

3. CHASSIS ASSEMBLY- Bag #3 - Attach flex plate to pod using 6-32 aluminum screws threaded thru plate and the 6-32 nylon lock nuts.

Rear pod can now be attached to chassis, using 6-32 aluminum screw into stand off with flat side of stand off facing front of car and 6-32 aluminum screw and nut in front hole. Trim off excess screw length at front nut.

Attach dampener support rod as shown. We will set up later.

Front body mounts can now be mounted. Initial height is set by cutting post. Then fine tuning can be done by adjusting large collar with set screw in it. Set screw does not have to be tightened excessively.

Other two large set screw collars go onto rear wing tubes. Set height and tighten . Wing wires will hold rear of body in place. Letting body flex slightly is good for handling.

Next, assemble differential per instructions enclosed in bag. Rear Hub Bag #6 will be needed at this time.

Take differential assembly and install three (1/8" wide spacers found in Bag #4, against the aluminum collar on differential axle. Install oilites into pod. Then slip axle thru. On opposite side, put remaining 1/8" wide spacers, then other wheel hub. Tighten set screw leaving a slight amount of end play in axle assembly.

NOTICE: Rear axle is made of carbon fiber which is a very strong light material. However, axle will wear out if used with oilite bushings. It is highly recommended that oilites be replaced with 1/4 x 3/8 ball bearings. (Parma #7037).

For more set up tips, turn to FINAL ASSEMBLY OF CAR.

SECTION "B" KIT #1815 WIRING & FINAL ASSEMBLY

NOTE: Car will only accept mini-type servos.

Bag #7 - Accessories
#8 - Batteries
#9 - Charge Cord

Loose in box other than pieces in Section "A"
Renault Motor, "V" Wing, Wing Mount Wire, Servo Tape, Bodies

Study exploded view drawing of wiring.

First we will mount throttle servo. Cut mounting ear off of servo case opposite output shaft. Next attach resistor to resistor mount using #2 self tap screws. Align resistor brackets so resistor surface is parallel with mount surface. Attach wiper arm to servo as in exploded view. Next, place servo tape on resistor mount bracket then align with wiper arm and attach to servo. Make sure good contact is made by wiper arm to resistor.

Now throttle servo unit can be attached to chassis. Place several layers of servo tape to bottom of servo until you clear lock nut. Then one layer to side of servo that ear was removed from. Align and carefully attach servo to front of stand off and top of flex plate. You must hit both surfaces at same time to get good alignment. Using nylon straping tape, wrap servo taped servo to stand off . This helps hold in place when racing.

Next install steering servo as shown in exploded view. Servo out put should be located as close as possible to center line of chassis and rods should be running parallel with front cross bar and as close to parallel as possible with top of chassis. This will help eliminate any bump steering.

Note: For more precise steering use Parma's ball end tie rod kit #6585 for added rigidity. Nylon straping tape is also used to secure servo to plate.

Install receiver just behind steering servo as shown . Servo tape into place making sure it does not interfer with throttle resistor mount.

Now motor may be installed . Use 4-40 X 1/4 allen cap bolts. Read section "D" #3 for gear mesh adjusting.

Next step is wiring of car. Tape batteries into chassis plate as shown using nylon strapping tape. Wire as per diagram. Note: On connectors the male plastic piece will get male pins with negative in square hole and positive in round. Clips are easily attached using needle nose pliers to crimp and then lightly solder for better electrical continuity.

4 CELL USEAGE: To convert Euro Panther car to 4 cell, all that is needed to do is jump or remove diode and install 4 cell battery pack.

Press roll over antenna wire into hole in large stand off mount wing as shown in drawing.

See Section "C" for final radio set up and operation of car.

Body painting: Parma bodies are made of superstrong lexan plastic. The best available paint to use is Parma paint which is specifically designed for lexan bodies and is available in many different colors.

SECTION "C" - FINAL RADIO SET-UP & OPERATION OF CAR

Set up your radio system following radio manufacturers instructions. Test charge your cars nicad battery pack following charge cord instruction, except charge for only 5 min. instead of 15 to 20. This will give enough power to set up steering and throttle servos. When doing this, motor should be unplugged.

Following radio instructions, set trim on steering wheel and position your throttle and wiper arm for proper movement. With transmitter turned on, turn car receiver on. With car on flat surface, fron wheel alignment may be set by adjusting 1/8" collars on servo tie rods. Check toe-in so slight inward angle is seen on both wheels. Look to see that servo tie rods do not hit or bind on any part. Also check throttle servo wiper arm so when full power is applied, wiper stays on power band. Set throttle trim on radio for desired amount of brakes.

Test run the car in safe, open area if you feelall assembly is correct. Run car slowly away from you leaving steering wheel in its neutral position. If car tends to turn to right, move steering trim adjuster to left to correct. Car should run in straight line with radio wheel in neutral position. Run car until charge is about out.

Give car a full charge following charge cord instructions. Being very careful with batteries in charging. These Sanyo batteries have been computer matched for maximum discharge time. This will give you the ultimate run time if care is taken in charging and discharging.

SECTION "D" PANTHER FEATURE USES AND RACING SET UP TIPS - PAGE 5

1. Toe in: This is the front end setting that is adjusted by the steering tie rods. Set up car so there is a very slight amount of toe in. This will give you very little straight-a-way tire scrub and also keep the car more stable. Increased toe in will give more scrub, but also more steering if needed. Do not go to extremes in amount of toe in used as tires will wear unevenly.

2. Chassis Tweak: Tweak is the uneven distribution of weight on the tires. If the chassis is tweaked, it will tend to turn tighter in the direction of the front tire with the most weight on it. It is very important to have neutral tweak which is equal weight on all 4 tires. A handy item to have for checking tweak is the Parma Tweaker #8070 which is a quick visual aid in checking chassis tweak.

To correct tweak, determine which wheel has the most weight on it. This can be done with the tweaker or by placing car on flat surface and measuring how high one front wheel has to be lifted before other lifts off of surface. The wheel that does not have to be lifted as high is the wheel with the most weight on it and must be raised in relation to chassis. This can be done easily by taking thin plastic washers and cutting a notch out of them. This washer is then placed between chassis and front end stand of side with most weight on it. Adjust as needed until tweak is removed.

3. Gearing and Gear Mesh: Select ratio which is suited to track you are running on. Higher number means lower ratio and lower number means higher ratio. Example: 4:00 to 1 for medium or tight track, 3:83 to 1 for larger track. Also motor and tire size will determine different gearing.

GEAR RATIO CHART

	10	11	12	13	14	15
44	4.40	4.00	3.67	3.38	3.14	2.93
46	4.60	4.18	3.83	3.54	3.29	3.07
48	4.80	4.36	4.00	3.69	3.43	3.20

Setting Gear Mesh: The gear mesh is very important to the car's speed, runtime, and handling. The smoothest mesh with the least amount of backlash should try to be obtained.

4. Resistor: Keep resistor and wiper button surface clean. Use light sanding with 600 paper or crocas cloth. A clear resistor will give you more power and a longer run time.

5. Castor: Is a very important tuning tool in the Euro Panther. General rule here is less castor gives more slow speed steering response. More castor gives less response and more stable high speed running.

6. Spring Rate: Softer spring more front bite, stiffer spring less bite. You must play with these settings from track to track but keep in mind, all factors work together and this is where your fine tuning comes in.

7. Rear Pod Dampener: Initial setting of main dampener rubber is to come into contact with stand off then turn in one or two turns. Rebound dampener tube should have 1/32 - 1/16 play in it. Again, play with this and tune it in to the track.

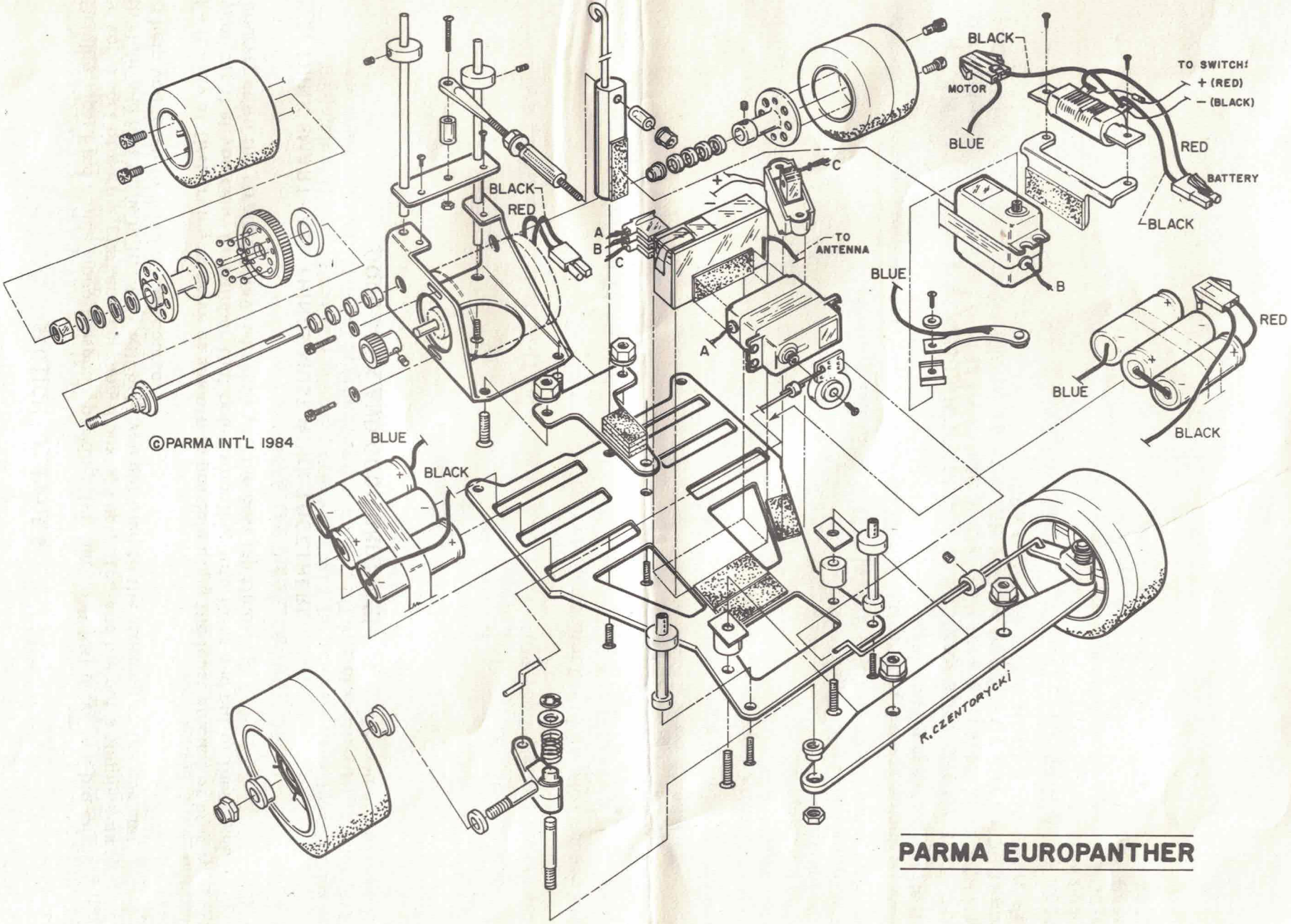
8. Rear Anti Roll Bar : This is an optional item that will allow easy adjustment of rear side roll and is highly recommended to be used.

9. Driving Tips: Find a nice smooth asphalt parking lot, but don't just drive in a big circle. Find some sort of corner markers, cardboard boxes, cups, etc., and lay out a simple course with right and left turns in it. This will help you get used to the steering of the car and also help you learn to drive a race course.

Take it easy at first trying to drive as smooth as possible using the least amount of brakes in your car that you can. Remember that being smoother into turns and out of them and, of course, down the straight away, will give you the best lap times.

NOTE: THINK SMART- ALL THINGS MUST WORK TOGETHER!

GOOD LUCK AND GOOD DRIVING!!!



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