OPITEC

# 109.830

# Racing car with motor

**Necessary tools:**

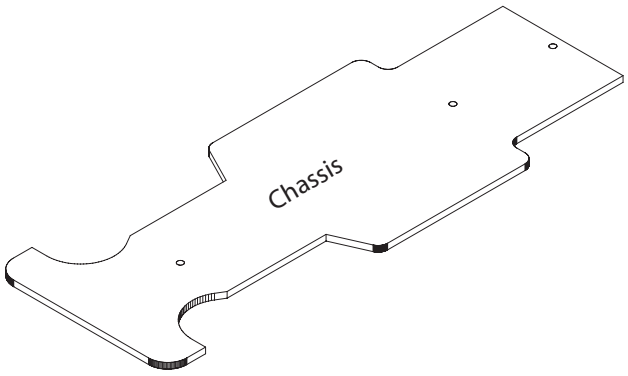
Pencil, ruler
Fretsaw
Hacksaw
Sandpaper
File
Machine vices
Drill dia 3mm
Wood glue
Screwdriver
Brushes, paints
Clamps

**Please Note**

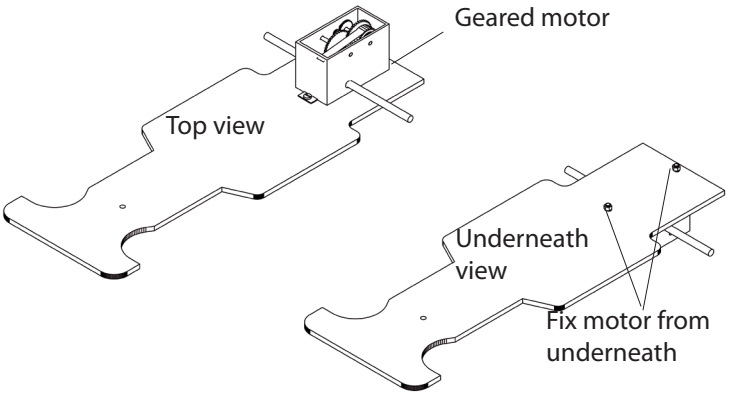
The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technolo- gy.These projects should only be undertaken and te- sted with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Dan- ger of suffocation!

| **PARTS LIST** | | | | |
|---|---|---|---|---|
| | | | **Description** | |
| Plywood | 1 | 250x100x5 | Base | 1 |
| Plywood | 1 | 300x210x4 | Vehicle parts | 2 |
| Spring motor | 1 | | Drive | 3 |
| Wood strip | 1 | 75x15x15 | Front axle | 4 |
| Formula 1 wheels | 4 | ø 42 | Wheels | 5 |
| Welding rod | 1 | 200x4 | Front axle | 6 |
| Screws | 3 | 2,9x16 | Fixing front axle | 7 |
| Machine screw | 2 | 3x10 | Motor fixings | 8 |
| Lock nuts | 2 | M3 | Motor fixing | 9 |
| Washers | 2 | 3,2/7 | Fixing front axle | 10 |
| Nail clips | 2 | 3-7 | Bearing front axle | 11 |

# INSTRUCTIONS

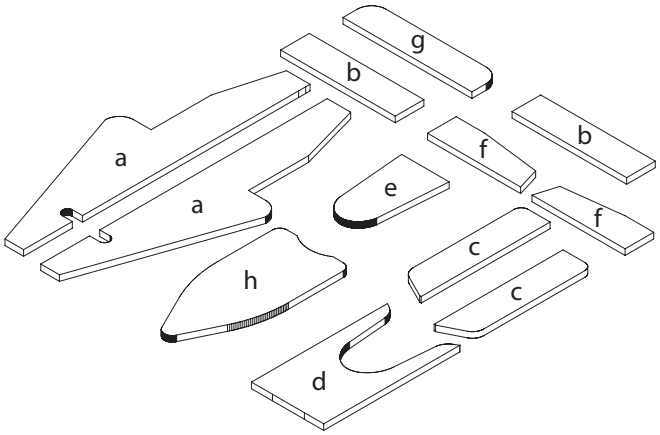



1.Mark out the shape and drilling points on the plywood (1) chassis ( See plans on page 5 )
Drill the 3 mm diameter holes.
Cut out the shapes with a Fretsaw or machine from the plywood sheet (1).
Sand the edges

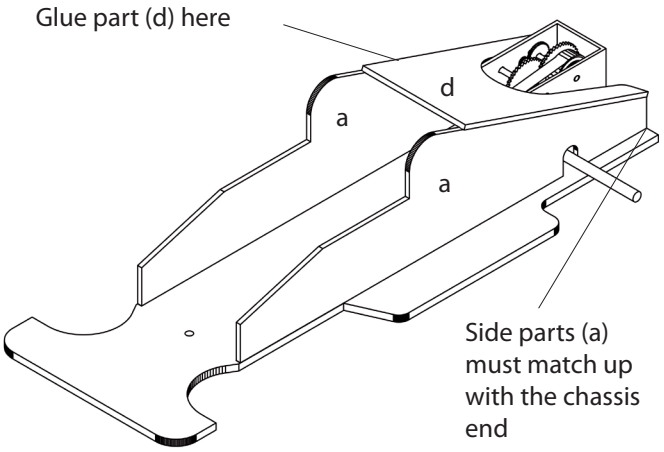



2. Set the motor and gearbox (3) over the holes as shown and fix it in place using the machine screws (7).
Secure from underneath with the lock nuts (9)

Note:
Note the direction in which the motor is mounted!




3. Mark out the sides of the car using the patterns (on page 7) on the plywood sheet (2).Use a Fretsaw
Clean up the edges with a block and sandpaper.

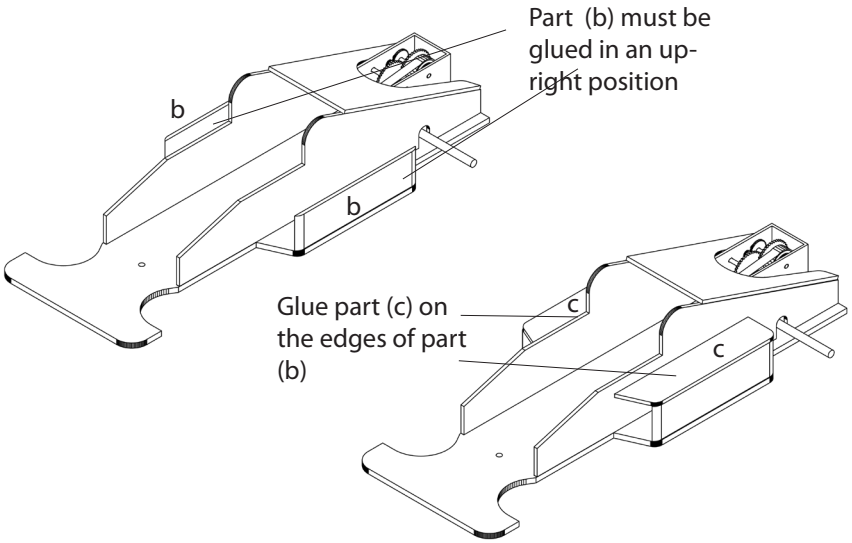



<cs:Bold>4. Glue the sides of the bodywork (a) on the chassis so that they lineup correctly
Glue the body part (d) to the sides (a) as shown. Leave it to dry
thoroughly

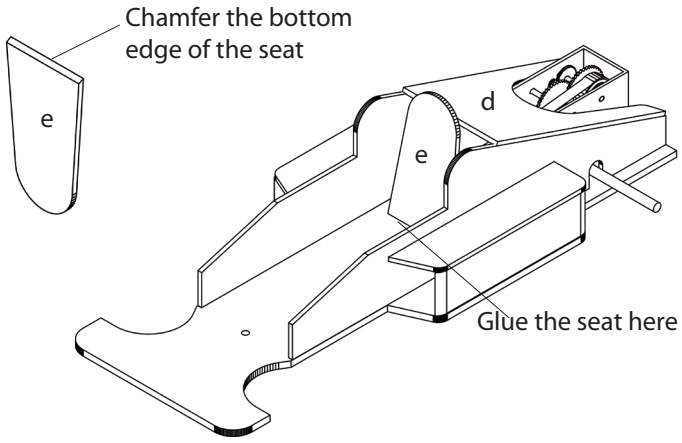
5. Glue the body parts (b) in place as shown

Then add the body parts (c) and glue them in place ,holding them with modelling clamps

Glue the body part (c) on to part (b) as shown. The longer edge is against the side parts (a) ( hold in place with modelling clamps whilst the glue is drying )

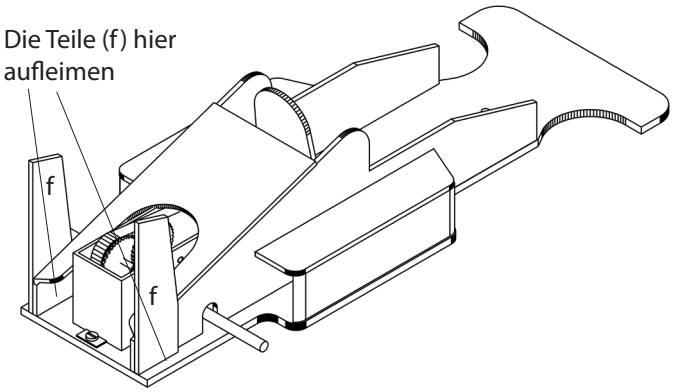


# INSTUCTIONS

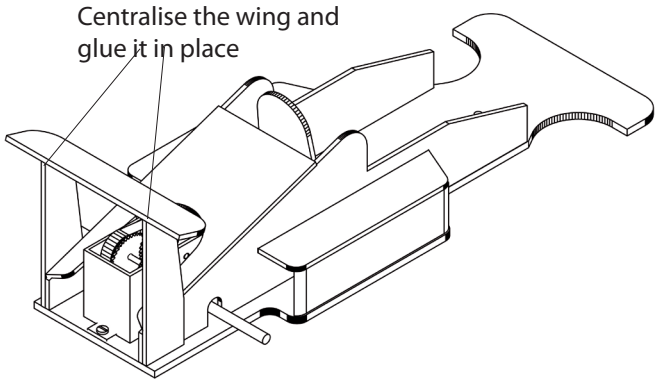



6. The chamfered edge ofthe seat (e) should be about 30 degrees.

   Glue the seat in place between te sides (a) and the chassis (d)




7. Glue the uprights (f) for the wing in place as shown .

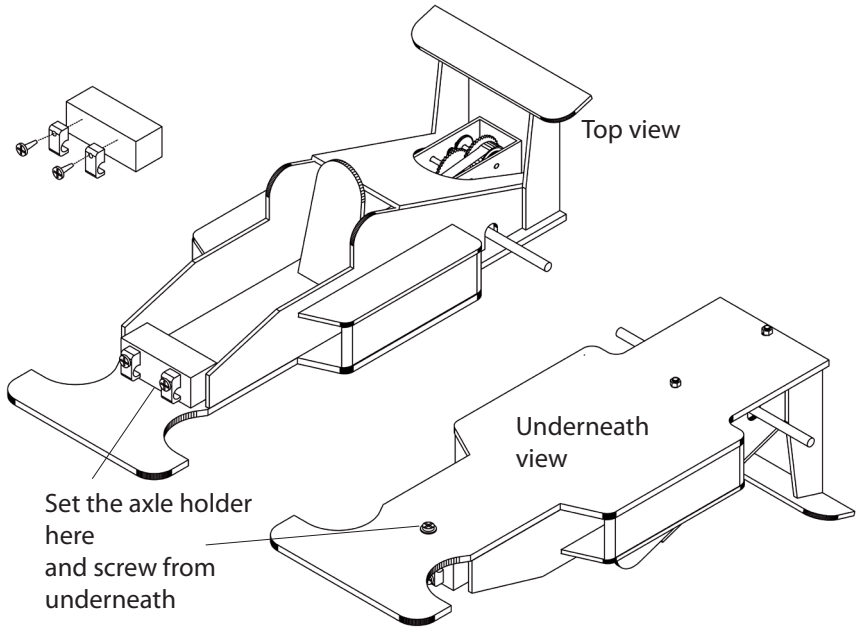



8. Glue the wing (g) on the uprights as shown.

9. Saw the wood strip (4) to 35mm abläng-gen. Sandthe saw cut. Drill the hole . ø 2mm as shown on the pattern ( Page 5) for the axle holders (11) use the screws (7) to fix them on the wood strip.

   Fix the finished axle holder with a screw (7) and a washer (10) as shown in the diagram.
   Note

   The axle holder should not be tightened at this stage It should be kept loose until the axle and wheels are complete



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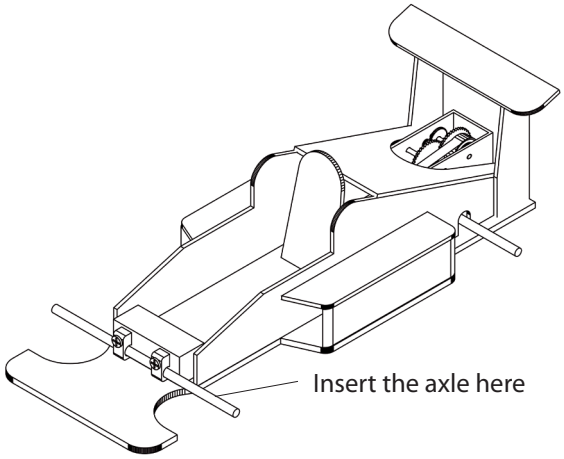
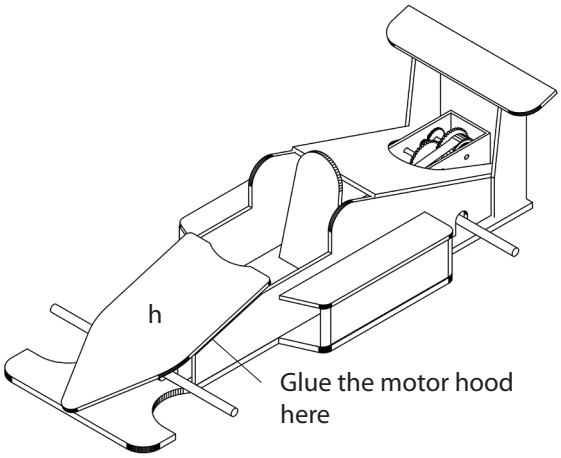
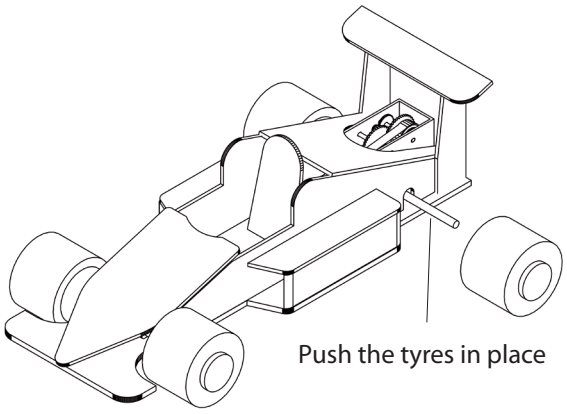



10. Cut the welding rod (6) to 115 mm long. File the ends to remove any burr.
    Insert the metal axle into the axle holder and centralise.




<cs:Bold>11.Glue the motor hood (Part h) to the side parts. The motor hood should not protrude too wide over the front spoiler (2-3mm at the most)



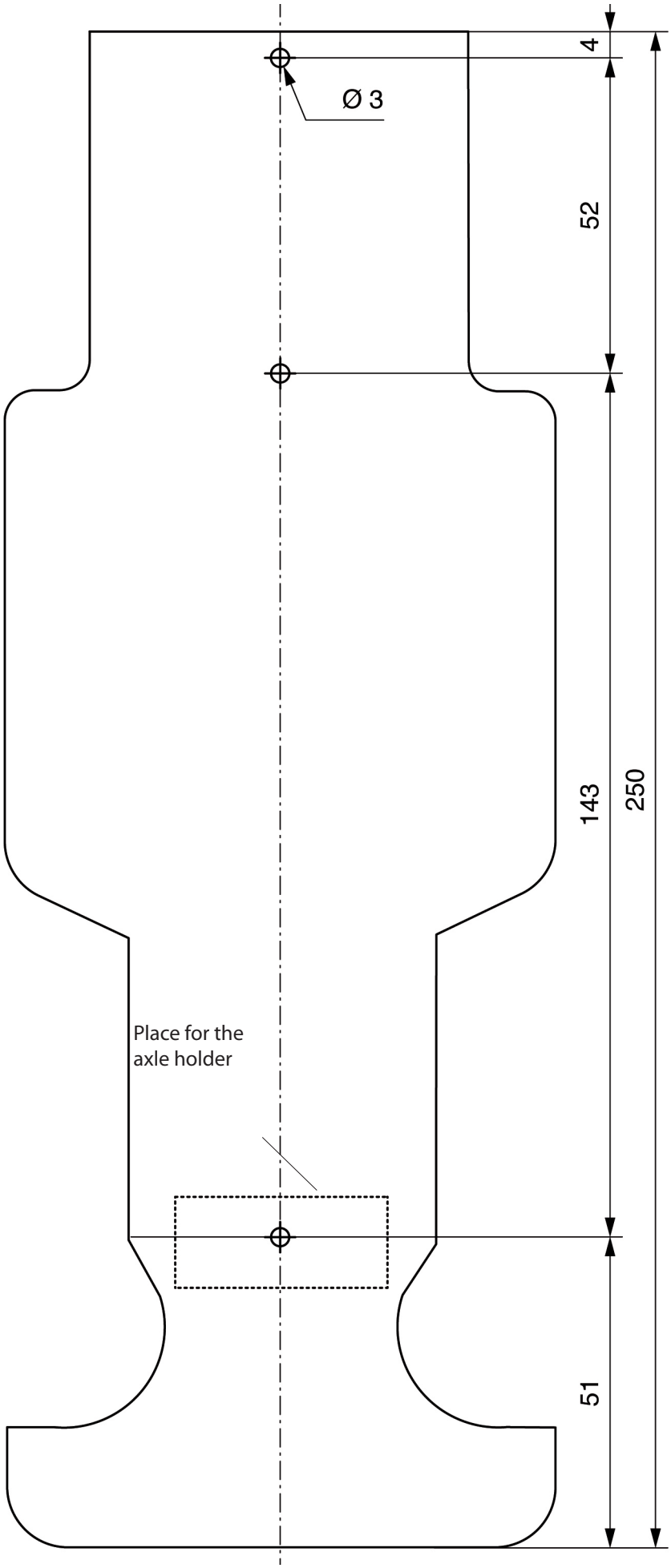

12.Paint the car as you wish with gloss paints. Finally add the wheels (5)


13. Test run
    Set up the front steering so that it will run in a straight line.
    Make a series of test runs. Finally glue the front axle in place.

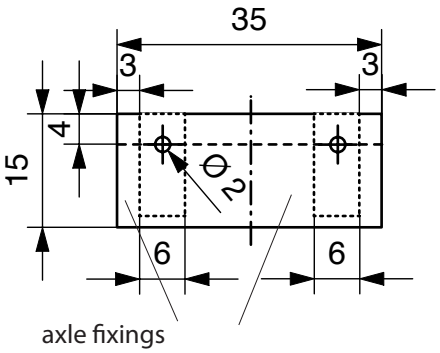
    Have fun racing your car!

# INSTRUCTIONS

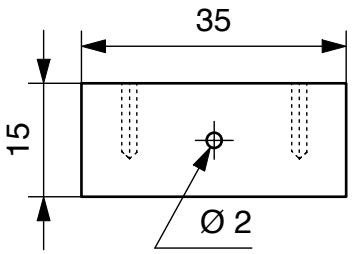
**Plan for the chassis M 1:1**




**Plan for the axle holder M1:1**




axle fixings

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# INSTRUCTIONS

Plans of the bodywork M1:1