

# Mini Ackerman Smart Car Chassis Installation Manual

INSTALLATION MANUAL FOR MINI ACKERMAN SMART CAR CHASSIS

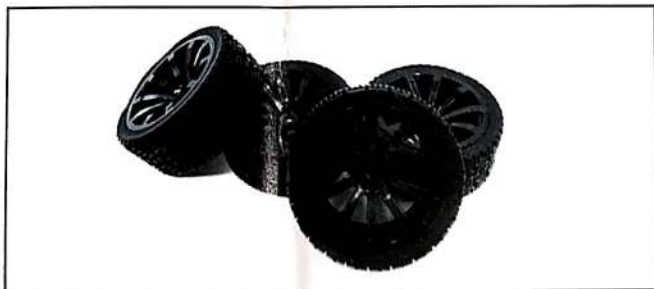
## Machinery Parts

 <p>M3*4 Phillips round head screw ×13</p>	 <p>M3*6 Phillips round head screw ×6</p>	 <p>M3*8 Phillips round head screws (black)×30</p>	 <p>M3*10 Phillips round head screw ×8</p>
 <p>M3*22 Phillips countersunk head screw ×1</p>	 <p>M4*6 cross round head screw X6</p>	 <p>M3 nut (black)×17</p>	 <p>M3 lock nut ×1</p>
 <p>M4*1*9 gasket X4</p>	 <p>M3*4*6 single-pass copper pillar ×1</p>	 <p>M3*24 double-pass copper pillar X4</p>	 <p>M3*50 double-pass aluminum column X4</p>

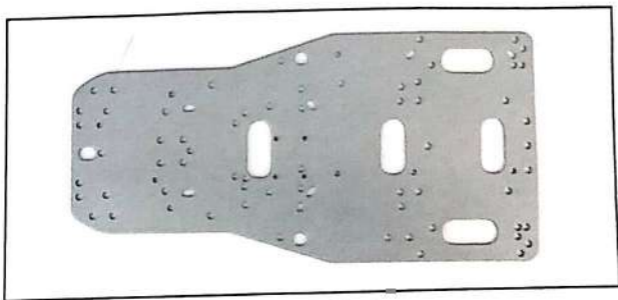
Transmission Parts

 <p>Servo x1</p>	 <p>Multifunctional bracket for steering gear x1</p>	 <p>Steering wheel x1</p>	 <p>Servo rocker arm x1</p>
 <p>Steering claw pressure plate x1</p>	 <p>Steering horn assembly x2</p>	 <p>Motor bracket x2</p>	 <p>12V30F MG513 motor x2</p>
 <p>Short ball head tie rod x1</p>	 <p>Long ball head tie rod x1</p>	 <p>Hexagonal coupling x2</p>	

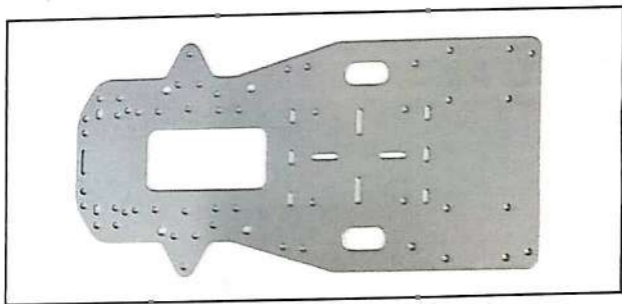
wheel



## All metal panels



All-metal top plate x 1



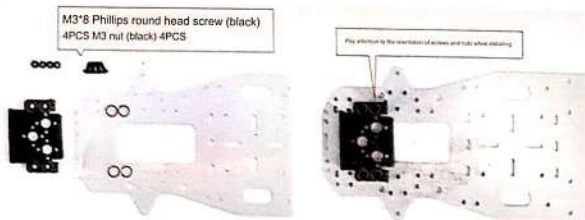
Full metal bottom plate x 1

# Mini Ackerman smart car chassis installation steps

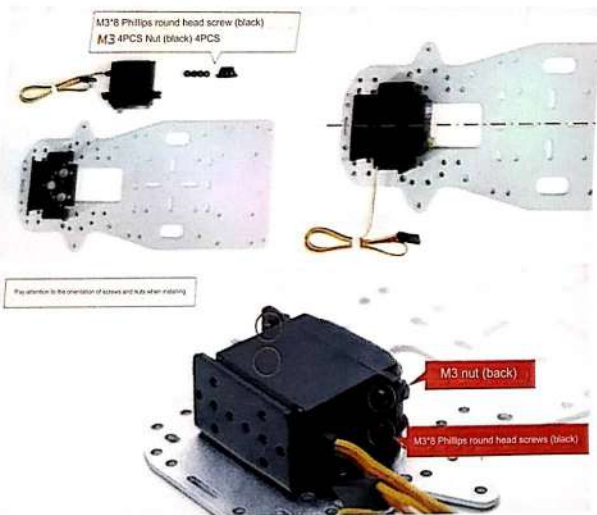
01

Install the steering gear part

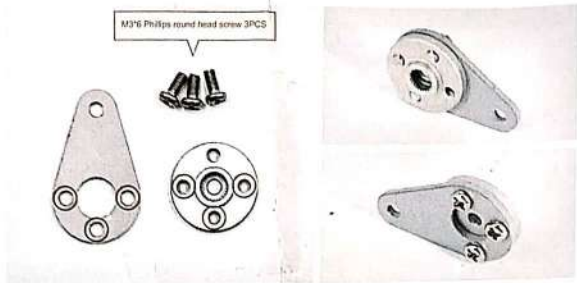
Use 4 M3\*8 cross round head screws (black) and 4 M3 nuts (black) to install the multi-function bracket of the servo on the hole shown in the red circle on the all-metal base plate.



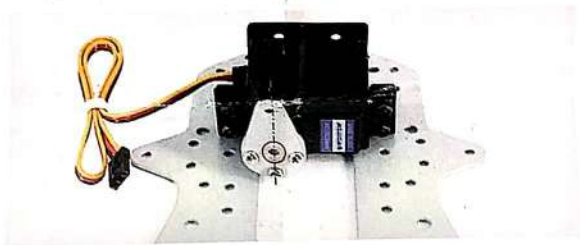
Use 4 M3\*8 cross round head screws (black) and 4 M3 nuts (black) to fix the servo to the corresponding holes of the servo multi-function bracket.



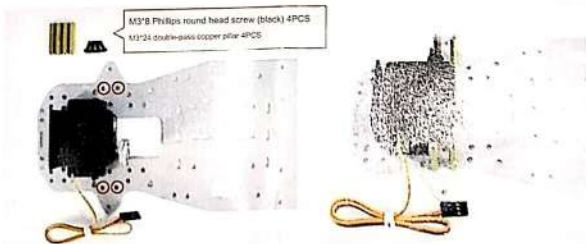
Use 3 M3\*6 cross round head screws to assemble the steering wheel and servo rocker arm together.



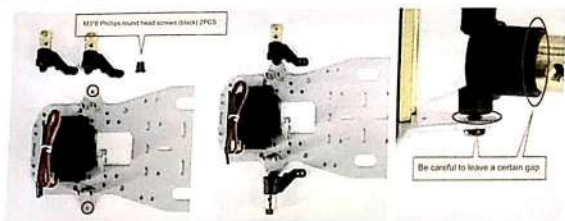
Install the assembled steering wheel on the steering gear, and use M3\*4 cross round head screws to install 4 in the hole position shown in the red circle of the steering gear. Note: When installing, try to keep the servo rocker arm vertically upward, so that when the servo is at zero point, the servo rocker arm is upward.



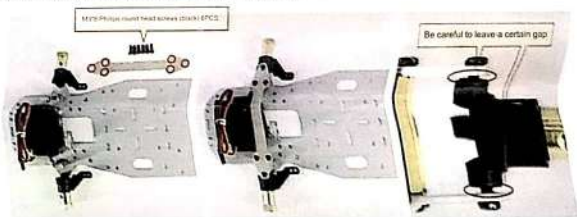
Use 4 M3\*8 cross round head screws (black) to fix the 4 M3\*24 two-way copper pillars to the holes shown in the red circle on the all-metal base plate.



Use 2 M3\*8 cross round head screws (black) to fix the two steering horn assemblies to the holes indicated by the red circles on the all-metal bottom plate. Note: ① Pay attention to the direction of the horn assembly when installing. ② There must be a certain gap between the steering horn assembly and the all-metal bottom plate. ③ In the steering horn assembly, a small gap needs to be left in the matching hexagonal coupling.

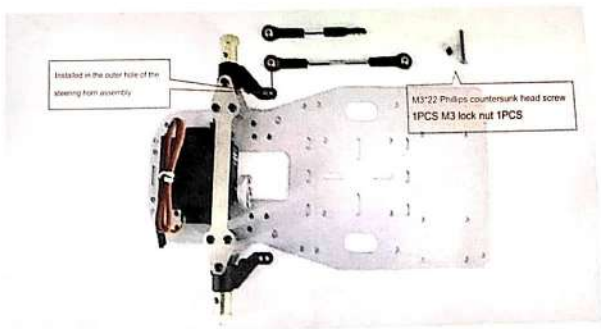


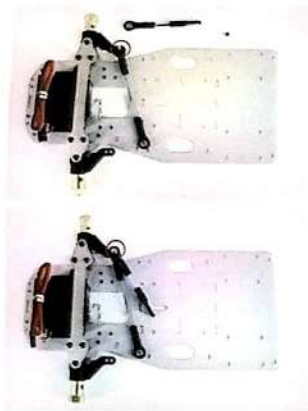
Use 6 M3\*8 cross round head screws (black) to assemble the steering horn pressure plate, M3\*24 two-way copper column and steering horn assembly. Note: There must be a certain gap between the steering horn assembly and the steering horn pressure plate.



① Use M3\*22 cross countersunk head screws to assemble one end of the long ball head tie rod and the right steering horn assembly.

② Install one end of the short ball-head tie rod on the M3\*22 cross countersunk head screw, and tighten it with the M3 lock nut.





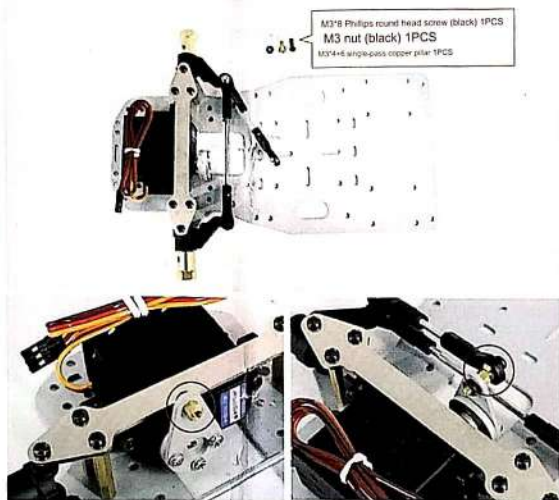
① Use M3\*8 Philips countersunk head screws (black) to assemble the other end of the long ball head to rod and the left steering knuckle assembly.

② Observe and confirm whether the couplings of the two steering knuckle assemblies are in the same horizontal position to ensure that the wheels are straight. Note: If the two couplings are not in the same horizontal plane, you need to remove the M3\*8 cross round head screw (black) on the left and twist the left end of the long ball head to rod, adjust the length to the appropriate position, and then use the M3\*8 cross round head screw (black) to reassemble the left end of the long ball head to rod and the left steering knuckle assembly.

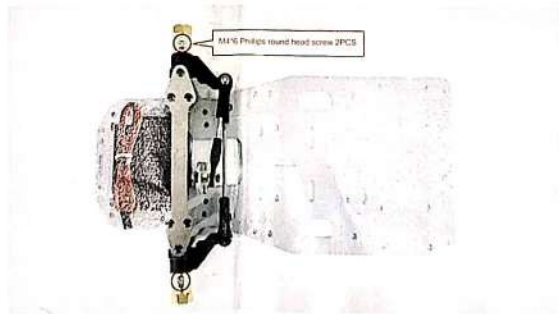


② Use M3\*4-6 single-pass copper pillar and M3 nut (black) to fix it to the corresponding hole of the servo rocker arm.

③ Use M3\*8 cross round head screws (black) to assemble the other end of the short ball head to rod and the copper pillar on the servo rocker arm.

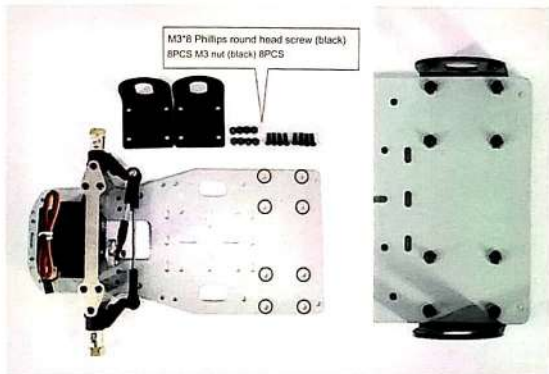


Use 2 M4\*6 cross round head screws to install them on the couplings of the steering horn assembly at both ends, and tighten the screws.

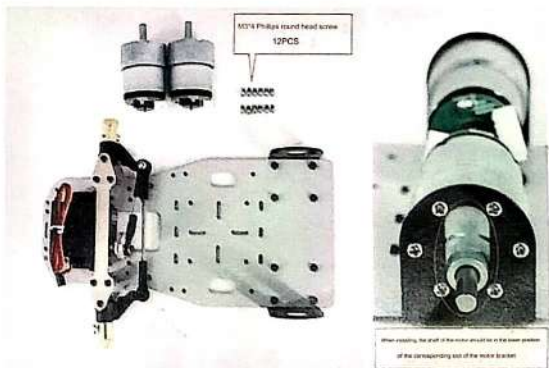




Use 8 M3\*8 cross round head screws and 8 M3 nuts (black) to install the two motor brackets on the holes indicated by the red circles on the all-metal bottom plate.



Use 12 M3\*4 cross round head screws to install two 12V30F MG513 motors on the corresponding holes of the two motor brackets. Note: When installing, the shaft of the motor should be in the lower position of the corresponding slot of the motor bracket.



①Install 2 hexagonal couplings -5mm on the shafts of the 2 motors respectively.

②Use 2 M3\*8 cross round head screws to install on the 2 hexagonal couplings respectively. The screw positions correspond to the plane on the shaft, and tighten the screws.

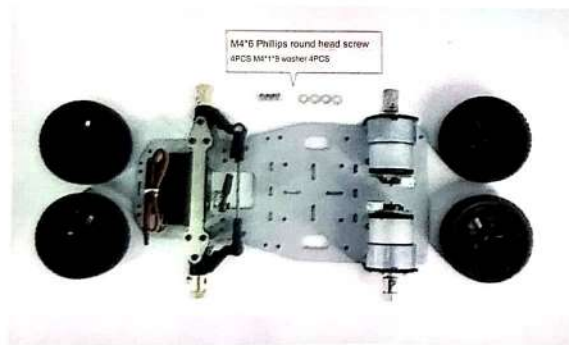


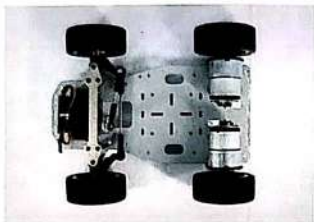
03

### Install wheels

①Install the 4 wheels on the 4 hexagonal couplings respectively.

②Assemble 4 M4\*6 cross round head screws and 4 M4\*1\*9 washers respectively. ③Use the assembled M4\*6 cross round head screws to fix the wheel on the coupling.

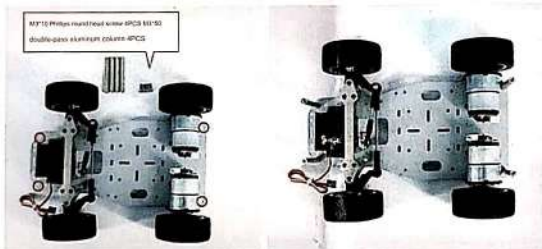




04

Install double-pass aluminum column supporting the all-metal upper plate.

Use 4 M3\*10 cross round head screws to install 4 M3\*50 double-pass aluminum posts on the holes indicated by the red circles on the all-metal base plate.



05

Install the all-metal upper plate.

After installing the above steps, match the all-metal upper plate with the relevant holes, as shown in the red circle in the figure, and then place it on the M3\*50 aluminum column double-pass. Use 4 M3\*10 cross round head screws to fix the all-metal upper plate to the aluminum column.

