

EXPERIMENT MANUAL

# SMART CAR ROBOTICS



 THAMES & KOSMOS

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## >>> KIT CONTENTS

**GOOD TO KNOW!** If you are missing any parts, please contact Thames & Kosmos customer service.

Any materials not included in the kit are indicated in *italic script* under the "You will need" heading.

### The parts in your kit:



#### FREE APP

See page 1 for instructions on downloading the app for controlling and programming the models. If you encounter any problems with the app, email: [apps@thamesandkosmos.com](mailto:apps@thamesandkosmos.com)



### Checklist: Find – Inspect – Check off

✓	No.	Description	Count	Item No.
<input type="radio"/>	1	Bluetooth battery box	1	714 270
<input type="radio"/>	2	Motor with wire	4	714 271
<input type="radio"/>	3	Wheel rim	4	714 272
<input type="radio"/>	4	Tire	4	714 273
<input type="radio"/>	5	Body part 1	4	714 274
<input type="radio"/>	6	Body part 2	2	714 275
<input type="radio"/>	7	Body part 3	2	714 276
<input type="radio"/>	8	Body part 4	2	714 277
<input type="radio"/>	9	Body part 5	4	714 278
<input type="radio"/>	10	Curved frame	2	714 279
<input type="radio"/>	11	3-hole dual rod	9	714 127
<input type="radio"/>	12	Narrow 11-hole rod	2	714 280
<input type="radio"/>	13	Narrow 7-hole rod	2	714 281
<input type="radio"/>	14	3-hole rod	6	714 125
<input type="radio"/>	15	5-hole rod	8	714 179
<input type="radio"/>	16	11-hole rod	6	714 282

✓	No.	Description	Count	Item No.
<input type="radio"/>	17	3-hole dual rod with pin	14	714 283
<input type="radio"/>	18	5-hole dual rod	4	714 126
<input type="radio"/>	19	Square frame	2	714 284
<input type="radio"/>	20	Curved rod	12	714 285
<input type="radio"/>	21	Small gear	8	710 062
<input type="radio"/>	22	Medium gear	6	710 061
<input type="radio"/>	23	Two-to-one converter	12	714 286
<input type="radio"/>	24	Axle	4	713 490
<input type="radio"/>	25	Motor shaft	6	702 801
<input type="radio"/>	26	Axle lock	4	702 813
<input type="radio"/>	27	Long tube	4	714 287
<input type="radio"/>	28	Short tube	8	714 288
<input type="radio"/>	29	Red anchor pin	24	702 527
<input type="radio"/>	30	Blue anchor pin	44	714 129
<input type="radio"/>	31	Die-cut sheet	1	714 289
<input type="radio"/>	32	Button pin	2	714 329
<input type="radio"/>	33	Set of AR code cards	1	714 334
<input type="radio"/>	34	Anchor pin lever	1	702 590
<input type="radio"/>	35	App (downloadable)	1	

#### You will also need:

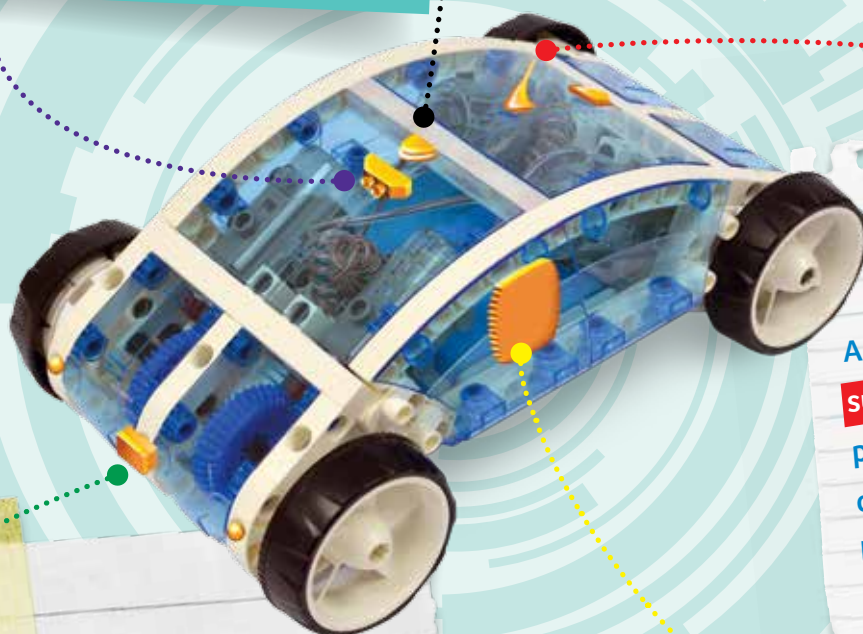
4 AA batteries (1.5-volt, type AA/LR6), tablet/smartphone/iPod touch with camera/Bluetooth low-energy support/Internet connection, app for QR code scanning, stopwatch



Let's take a test drive with one of these futuristic cars:

Let's go! A **3D camera** pointed toward the front detects driving lanes and the traffic ahead. This information is then compared to data from the vehicle-interval radar.

A **laser** scans the car's surroundings and detects every street sign and traffic signal along with other cars and pedestrians.



A very precise **GPS navigation system** determines the car's position down to just a few centimeters, more precisely than any of today's GPS navigators.

In addition, the car of the future will feature **radar systems** on the front, back, and sides of the car that will prevent the car from running into other vehicles or anything else for that matter.

From all this information, the on-board **computer** will decide what to do: brake or accelerate, make an evasive turn, overtake, or maybe just park.

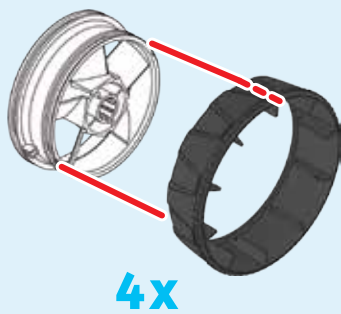
In this way, the robotic car will be able to keep a safe distance from the vehicles in front of it no matter what the situation, and it will always be able to stay safely in its lane. It will even be able to overtake other vehicles and pass them. It will turn on its blinker, accelerate, and leave the slow old truck in its dust. Then, it will safely merge back into the driving lane after completing the passing procedure.

**MOTORCYCLE**

1x	2x	4x	4x	4x	2x
2x	2x	2x	2x	2x	1x
4x	4x	2x	4x	2x	5x
3x	2x	2x	10x	12x	

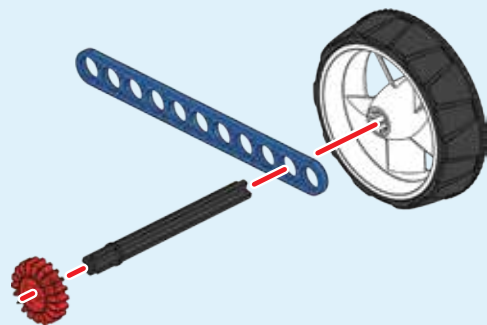


1

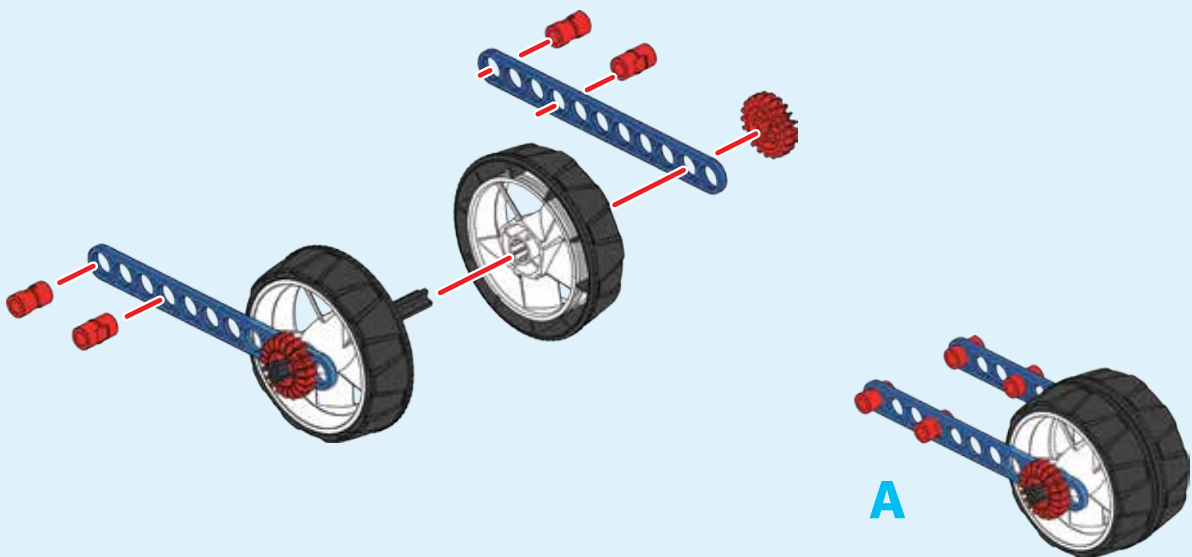


4x

2



3



A

**AIRBOAT**

1 1x	2 2x	3 2x	4 2x	5 4x	6 1x
7 2x	8 2x	9 4x	10 2x	14 2x	15 3x
16 5x	17 8x	19 2x	20 4x	24 2x	
27 3x	28 2x	29 6x	30 28x		

