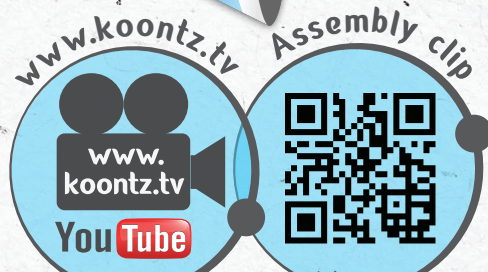
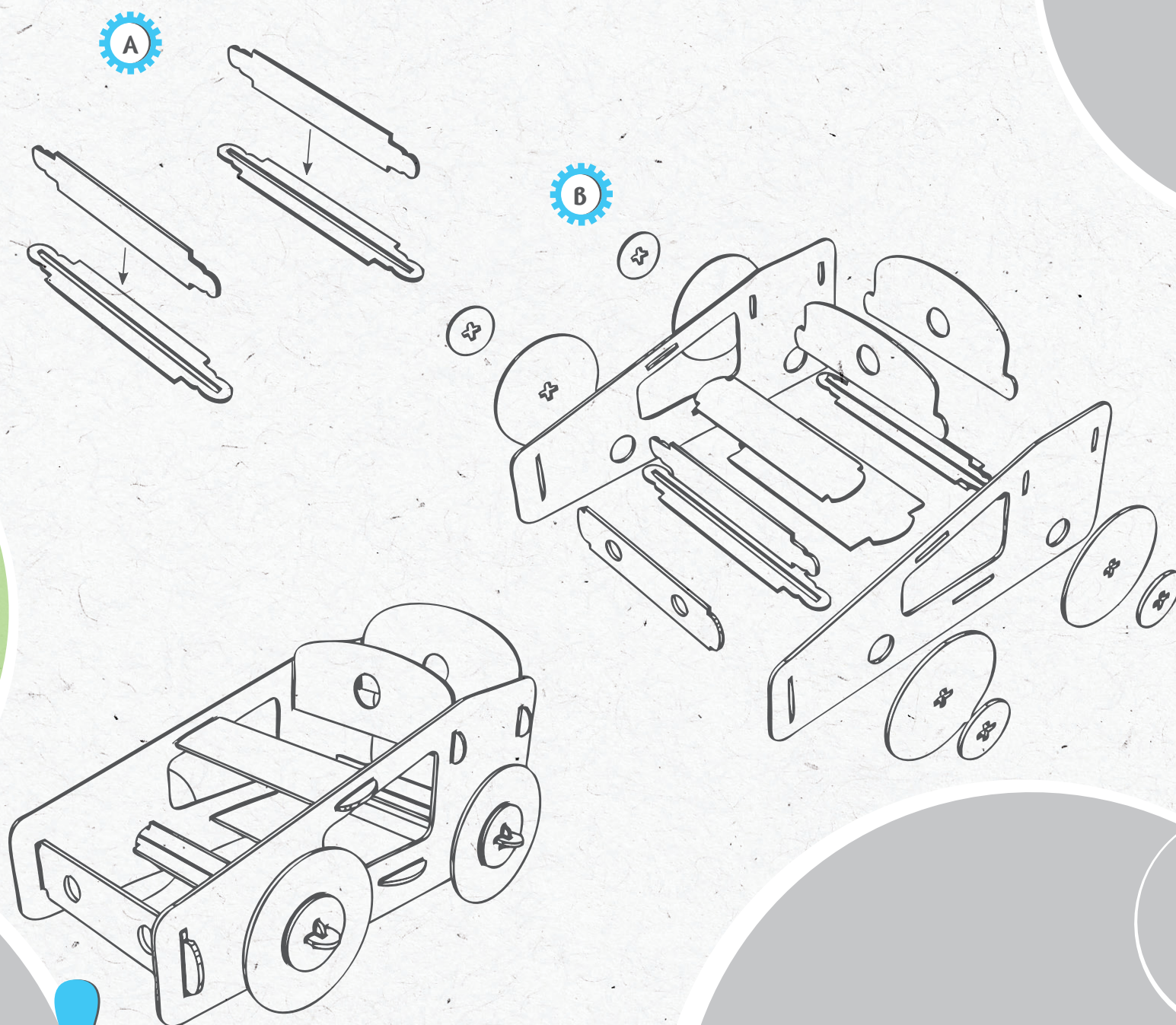


# The Jet Car

Have you ever flown in an airplane? The first time on a plane can be very exciting! Here you are, sitting in a large, heavy metal plane. You might be wondering how this huge thing will be able to take off and fly! And then, a loud noise comes out of the engine, the plane starts gathering speed, and then all of a sudden, it's up in the air! The ground falls further and further away, the houses and streets look like toys, and the plane flies up into the clouds. The plane's powerful jet engine is what makes this "miracle" happen. Let's explore this jet force!



## How to Build Your Jet Car



### Did you know?

In 1997, the jet-propelled car, ThrustSSC (Super Sonic Car), set the World Land Speed Record driving at a speed of 1,228 km/h (768 mph). It was the first car to officially break the sound barrier.



Your jet car is ready to go!

### Did you know?

Two inventors are considered to have co-invented the jet engine during the 1930's. Each worked separately and knew nothing about the other's work — Dr. Hans von Ohain from Germany, and Sir Frank Whittle from Britain. During World War 2, they served on opposite sides.



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## How to Operate Your Jet Car

- 1 Inflate the balloon and pinch the mouth of the balloon so that the air doesn't escape. Let go of the mouth and watch as the car bolts forward!

### What is the secret of jet power?

- 2 If you stand facing a wall and push it with your hands, you'll feel your body getting "pushed" back with the same force. This demonstrates Newton's Third Law of Motion, that for every action there is an equal and opposite reaction. This reactive force is called thrust.
- 3 Your jet car and the powerful jet engine of a plane work according to this very principle. They shoot out a strong gust of air toward the back end of the vehicle, which propels the vehicle forward.

## Did you know?

While jet engines are most commonly used for flying planes, cruise missiles, and in jet boats, they are also used in high-speed racing cars.

## It's Playtime!

### Jet Car Rally

How far can your jet car travel?

Can you change the car's speed?

Check the surface on which the car travels. Does it travel better on a hard or soft surface? A hard smooth surface will make the car go faster.

Build a small ramp for your car. Can the car make it up the ramp? You can use a large book that you place on an incline or on a smooth table.

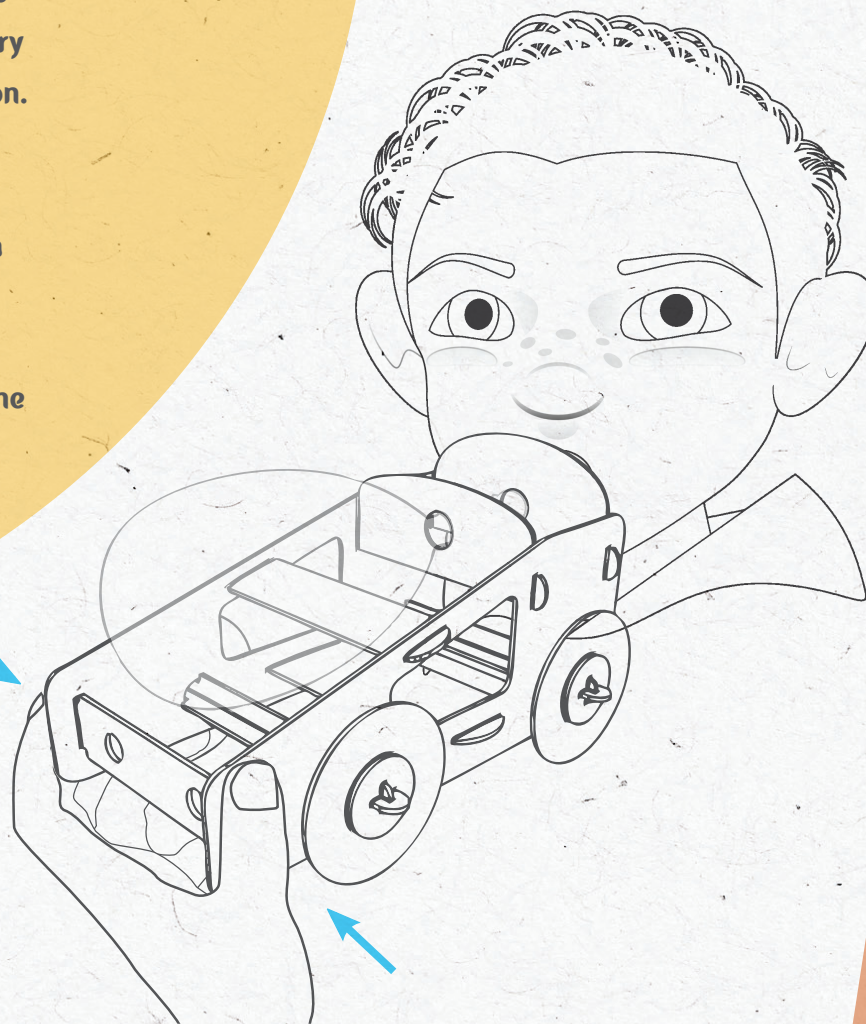
### Crash Test Dummies

Place a small paper ball or tiny action figurine inside the car. What happened to it during the drive?

Improvise a seat belt (using sellotape, a rubber band, etc.) around the "passenger" and see what happens to it during the drive.

## Did you know?

The first car that was invented in the late 18th century had three wheels, a steam engine, and moved at an average speed of 4 km/h!



### Car Race

Compete with your friends and family to see who can go further... and faster!