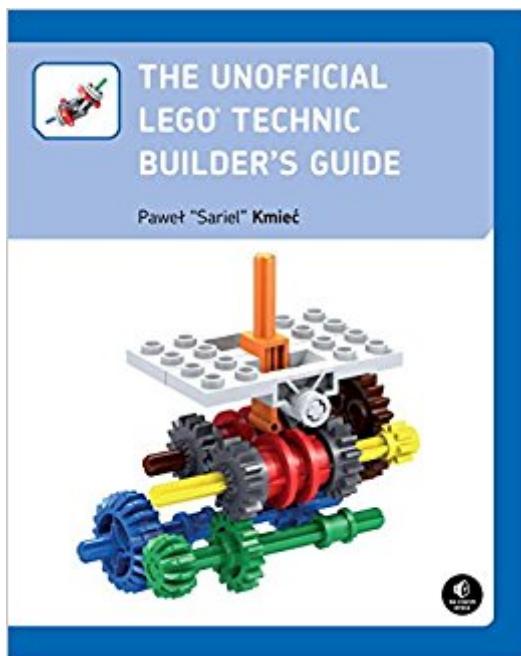


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# The Unofficial LEGO Technic Builder's Guide



## Synopsis

The LEGO® Technic system opens a new realm of building possibilities. Using motors, gears, pneumatics, pulleys, linkages, and more, you can design LEGO models that really move. The Unofficial LEGO Technic Builder's Guide is filled with building tips for creating strong yet elegant machines and mechanisms with the Technic system. Author Paweł "Sairel" Kmiec will teach you the foundations of LEGO Technic building, from simple machines to advanced mechanics, even explaining how to create realistic to-scale models. Sairel, a world-renowned LEGO Technic expert, offers unique insight into mechanical principles like torque, power translation, and gear ratios, all using Technic bricks. You'll learn how to: Create sturdy connections that can withstand serious stress Re-create specialized LEGO pieces like casings and u-joints, and build solutions like Schmidt and Oldham couplings, when no standard piece will do Build custom differentials, suspensions, transmissions, and steering systems Pick the right motor for the job and transform its properties to suit your needs Combine studfull and studless building styles for a stunning look Create remote-controlled vehicles, lighting systems, motorized compressors, and pneumatic engines This beautifully illustrated, full-color book will inspire you with ideas for building amazing machines like tanks with suspended treads, supercars, cranes, bulldozers, and much more. Your Technic adventure starts now!

## Book Information

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Age Range: 9 and up

Grade Level: 5 and up

## Customer Reviews

The Unofficial LEGO Technic Builder's Guide (A) A power pulley system is perfect for lifting heavy loads. (B) The travel of this rack-and-pinion steering system is minimized by articulated tie rods. (C) The scissors lift combines the concepts used in the Sarrus and Scott-Russell linkages for seriously impressive range.

"Sariel is a legend in the LEGO world...His machines are fantastic."â "Gizmodo"This book boggles the mind! Even if you're an accomplished builder, some of the techniques that Sariel shares are sure to expand your repertoire."â "Wired

I pre-ordered this book for my son and I have to say it has caused me to write one of my first ever reviews. It really is an incredible guide to building with Lego. lots of full color diagrams, complete build instructions for many complex components that you can integrate into your designs. Linkages, mounts, gearing systems, the works. Discusses differences between stud and studless construction. Has some good simple explanations about speed/power/torque. Obviously it will be basic if you are a mechanical engineer, but if you have a middle or high school student this will give them a solid background into the physics as well as the design challenges along with some really great cookbook examples of components that will make their models great.

This book isn't geared for young kids, but then again neither are the mid-sized to large Lego Technic sets. I am an AFOL (adult fan of Lego) but am also relatively new to this hobby. This book is very good at helping me to understand the engineering concepts that are used in this style of Lego so that I can build my own marvel and I would highly recommend it to passionate Lego teen or adult who isn't simply into Lego, but also has a growing interest in them S.T.E.M. related concepts that make Lego Technic such durable sets with marvelous functions that recreate real world vehicles and other things we love.If you've built a Lego Technic set and suddenly find pneumatics, car suspensions and steering, electronics, motors and real world construction equipment suddenly a new fascination this is the book for you.

Excellent for anyone wanting some pretty technical engineering info as it applies to Lego creations. Deep enough that I (with a math, physics, engineering background) have to read it slowly and have to stop occasionally to reset my brain. Almost a textbook. Strictly a grown-up (or extremely mature, motivated teen) book. I have 6 of the popular Lego-type books. This one is, by far, my favorite for

learning how Lego mechanical designs work. But definitely not for the faint of heart.

A great course in mechanics. I mean it. You may never look at your car the same way, I'm having great fun designing toys to drive my cats insane(r). I wish it plans for a catapult (no not to pitch the cats) to toss 1/2 super balls. Something that would store a bunch of these balls and shoot them across the room would be nice. Give it to children and let them get Newtonian physics out of the way young. That way they can start quantum stuff earlier.

Wow. I have been playing with Legos for years, and getting more and more advanced in my builds, But this book for me was the missing link. I have a science background, and this book slowed me to translate that knowledge into Lego. He starts out covering the basic physics involved (very well I might add). And then goes into how it affects things and what you need to consider. He has a wonderful breakdown of all the major technic parts, but I will warn you, after reading it, you're going to start looking for and filling in some of your missing bricks. I find myself keep picking this book up and re-reading it. I wish that the author would get bitten by the Lego GBC (Great Ball Contraption) bug and write a book like this one about those mechanisms.

The reader will gain advanced knowledge of Lego and Mechanics. Paweł's knowledge of Technic Lego parts and their uses is expert level. His Lego designs (MOCs) are as impressive as any I've seen. However, his knowledge of mechanics is questionable at times. Nevertheless, this is the best twenty-one dollars you can spend to help anyone, young or old, learn and build mechanical assemblies. He provides numerous examples of mechanical systems. He leads the reader, beginning with basic levels of understanding to advanced levels, concerning Lego "units", building strategies, gear systems, pulleys, linkages, steering systems, transmissions, and more. The reader will come away with both knowledge and proper vocabulary for both Lego bricks and Mechanical sub-assemblies. The book is well illustrated and printed using top quality paper and inks. I've deducted one star for information that is simply wrong, such as the differential pulley system.

After getting the book from the library on and off, I ultimately realized that this book is a keeper and ended up buying it. It is an excellent resource for all lego pieces technic. I have been corrected more than once by my 10 year old on the topic of different machines since he loves to explore the book. On one recent occasion where we were trying to replicate a MOC we saw on Youtube (which had limited instructions), my ten year old was able to quickly identify that the motor was a servo

motor thanks to the details he had seen in this book. Definitely a must buy if you or your kids are into Lego technics

If you want to build a Technic crane (for example), what parts do you use? How do they work? This book will thoroughly answer those questions, but it is wordy!! Think of this book as a "college course book" -- lots of detailed explanation (with good supporting photos). It is NOT something you'll just flip through to glean ideas & get basic concepts (like the Lego Technic Idea books or the Lego Education kits). The author starts you off with basic engineering concepts (such as torque & power) and Lego terminology / part names. Then, the book breaks down Technic building into sections: studless vs. studfull building, gears, axles, motors, etc. When you're done with this book, you should have a very good understanding of Technic building. I give it (4) stars for the detailed explanation -- though, I have not verified the content for accuracy/correctness. What I'd love to see: at the end of each chapter, a simple model you could build to demonstrate the basic principles. Reader should be an older teen & up (15+). If you are a parent looking to help your child understand engineering principles using Legos, I'd go for the Lego Education books (those are great!).

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