TINY LEGO WONDERS

BUILD 40 SURPRISINGLY REALISTIC MINI-MODELS!





MATTIA ZAMBONI















TINY LEGO® WONDERS

TINY LEGO® WONDERS

BUILD 40 SURPRISINGLY REALISTIC MINI-MODELS!





Tiny LEGO* Wonders. Copyright © 2016 by Mattia Zamboni.

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system, without the prior written permission of the copyright owner and the publisher.

Printed in China First Printing

ISBN-10: 1-59327-735-0 ISBN-13: 978-1-59327-735-2

Publisher: William Pollock Production Editor: Riley Hoffman Cover Design: Beth Middleworth

Illustrations and Building Instructions: Mattia Zamboni

Developmental Editor: Tyler Ortman

Test Builders: Christian Benito, Eli Slater, and Kyle Witter

Proofreader: Laurel Chun

Chapter scenes created by Ngoc Truong (The Aircraft Carrier), Matteo Russolillo (3, 2, 1, Liftoff! and The Moon Army), and Alexander Bugiel (all others)

Map image courtesy of Graphics Factory CC (http://www.vectorworldmap.com/)

For information on distribution, translations, or bulk sales, please contact No Starch Press, Inc. directly:

No Starch Press, Inc.

245 8th Street, San Francisco, CA 94103 phone: 415.863.9900; info@nostarch.com

www.nostarch.com

Library of Congress Cataloging-in-Publication Data:

Names: Zamboni, Mattia.

Title: Tiny LEGO wonders : build 40 surprisingly realistic mini-models! / by

Mattia Zamboni.

Description: San Francisco: No Starch Press, [2016]

Identifiers: LCCN 2016004825 (print) | LCCN 2016008301 (ebook) | ISBN 9781593277352 | ISBN 1593277350 | ISBN 9781593277680 (epub) | ISBN

9781593277697 (mobi)

Subjects: LCSH: Motor vehicles--Models. | LEGO toys.

Classification: LCC TL237 .Z36 2016 (print) | LCC TL237 (ebook) | DDC

629.04022/8--dc 3

LC record available at http://lccn.loc.gov/2016004825

No Starch Press and the No Starch Press logo are registered trademarks of No Starch Press, Inc. Other product and company names mentioned herein may be the trademarks of their respective owners. Rather than use a trademark symbol with every occurrence of a trademarked name, we are using the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

LEGO®, MINDSTORMS®, the brick and knob configurations, and the minifigure are trademarks of the LEGO Group, which does not sponsor, authorize, or endorse this book.

The information in this book is distributed on an "As Is" basis, without warranty. While every precaution has been taken in the preparation of this work, neither the author nor No Starch Press, Inc. shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in it.

Production Date: 4/20/2016

Plant & Location: Printed by Everbest Printing (Guangzhou, China), Co. Ltd

Job / Batch #: 66414-0 / 803148

ACKNOWLEDGMENTS

This book is the result of teamwork: several people contributed with great passion, and I would like to heartily thank them all.

I need to start with the biggest contributor to this book, Alexander Bugiel. His dedication has been outstanding. He's shared both his amazing models and the breathtaking dioramas that he designed exclusively for this book. Another big thank you to Matteo Russolillo, who not only shared his models but also translated my ideas for the 3, 2, 1, Liftoff! and Moon Army dioramas into wonderful creations.

I would also like to thank Robert Heim for the cool models he designed for this book—and for his friendship. Thanks to George Panteleon, Liam Bates, Thomas Lockwood, zizy, Peer Kreuger, and Jarek Książczyk for kindly providing their models for this book; and thanks to Ngoc Truong for sharing his amazing aircraft carrier.

Thanks also go to Denis Trofimov, from the MAXScript community, for delivering a fundamental piece of code for my CG scripts; Damien Roux, for very kindly sharing some of his highly detailed CAD bricks; Trevor Sandy, from the LDraw community, for modifying the building instructions software according to my suggestions; Rolf Osterthun, for his help around the LDraw library and its format conversion; Robert Landsdale, for his enthusiasm in supporting his unbeatable conversion software at Okino; Patrick Rota, for improving the productivity of my tool chain with his Python scripts; and Nelson Painco, for sharing his CG expertise and for being the perfect mentor every time I faced major challenges, with this book and my previous books.

I would like to thank the fabulous No Starch Press team for their great cooperation, for believing in my idea, and for giving me so much autonomy.

Thank you to my parents for all their enthusiasm and hard work sorting bricks from huge BrickLink orders, and to Leonardo, my son, for his valuable feedback on the models and building instructions. Thanks to Luna and Giordano, my two younger kids, for giving me strength with their smiles.

Finally, none of this would have been possible without the best wife I could ever wish for, Fabiola, who actively supported me in this new project, allowing me once more to follow my passion.

Thank you all!



CONTENTS

ABOUT THIS BOOK	1	THE RACE TRACK	102
		McLaren F1	
THE TRAIN STATION	2	Ferrari F1	
Swiss Locomotive		Safety Car	112
InterCity Express			
TGV Bullet Train		THE HARBOR	116
Touring Coach		Bulk Carrier	118
		Freighter	124
THE AIDDODT	20	Cruise Ship	
THE AIRPORT	28	Wooden Ships	136
Airbus A380			
Airbus Super Transporter		THE AIRCRAFT CARRIER	140
Supermarine Spitfire		Black Hawk	
Rescue Chopper	44	F-15 Eagle	
		V-22 Osprey	
FIRE!	48	- =	
Fire Engine		2 2 1 LIETAEEL	154
Police Car		3, 2, 1, LIFTOFF!	_
Bucket Truck	58	Space Shuttle	
		Crawler-Transporter	160
THE CONSTRUCTION SITE	62		
Double Dump Truck		THE MOON ARMY	170
Flatbed Hauler		Armored Car	
Excavator		Rocket Launcher Truck	
Cement Mixer		Military Flatbed	180
		Tactical Vehicle	
THE CAD DEALED	90	Armored Personnel Carrier	
THE CAR DEALER	80	Mini Jeeps	192
Sports Car			
Fastback		CONTRIBUTORS	196
Lowrider			
Muscle Car		ADOUT THE AUTHOR	400
Family Car	98	ABOUT THE AUTHOR	199



ABOUT THIS BOOK

Bigger isn't always better . . .

This book aims to collect the finest tiny, but detailed, LEGO models created by some of the best model designers worldwide. Most of them are reproductions of vehicles that exist in real life—but even at this small scale, they are instantly recognizable.

Building in small scale can be very challenging and sometimes, in order to get the perfect shape, compromises need to be made. However, this book presents models that are fun to play with and even have working features!

This book, by providing step-by-step instructions for all the models, will help you to discover the tricks of building in small scale while still including lots of detail. Get ready to unleash your creativity and to start building armies of . . . Tiny LEGO Wonders!

For resources and bonus material, visit the book's website at www.nostarch.com/tinylegowonders.

WHAT YOU NEED

Besides LEGO bricks, the only two things you need in order to use this book are enthusiasm and ingenuity.

You probably won't have all the bricks for every model, but that's perfectly normal. Just be creative—build the model in a different color or try another workaround!

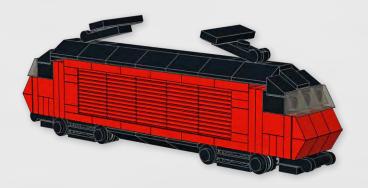
If you need to buy individual bricks, you have several options:

- » The official LEGO website (http://shop.lego.com/en-US/ Pick-A-Brick-ByTheme)
- » BrickLink (www.bricklink.com), a comprehensive international marketplace for buying new and used bricks
- » Brick Owl (www.brickowl.com), a website that sells single bricks
- » eBay or your favorite auction site

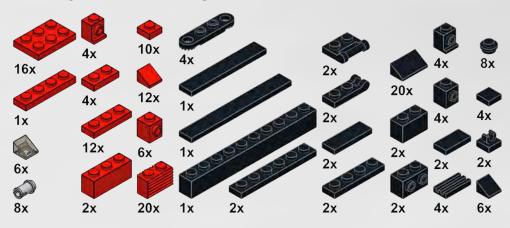








BILL OF MATERIALS

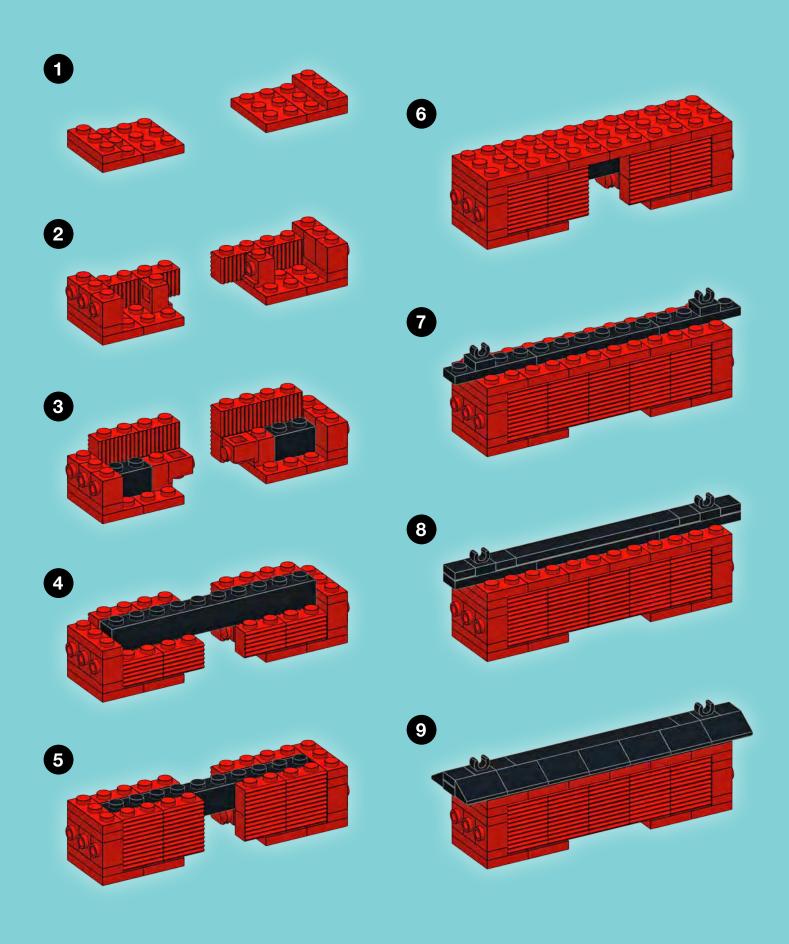


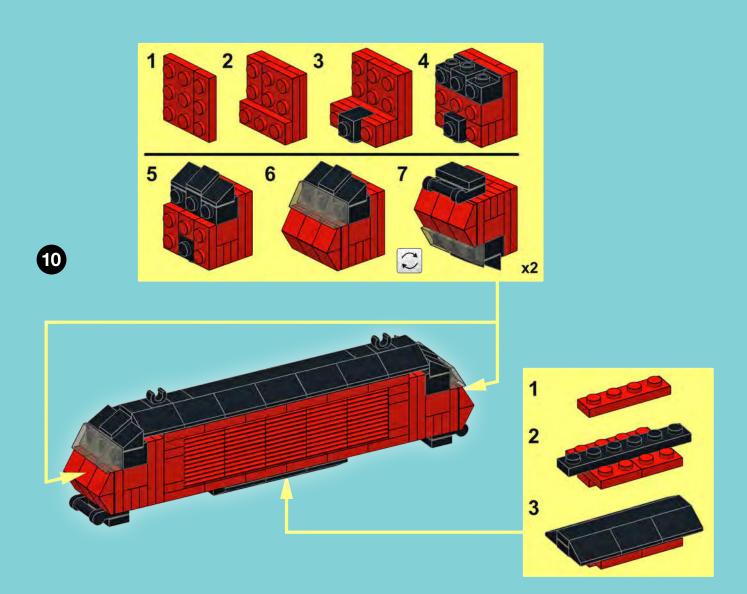
DIFFICULTY LEVEL: MEDIUM

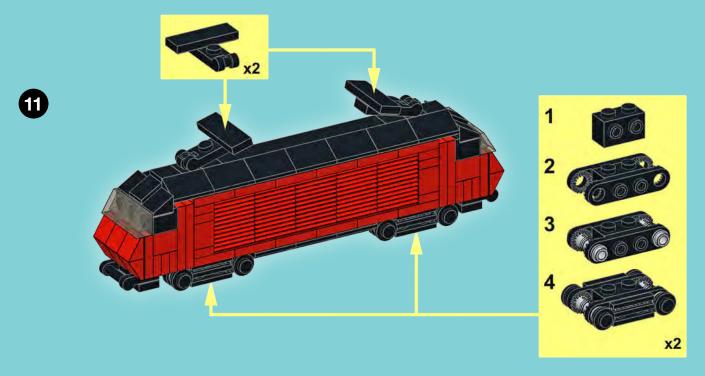
SWISS LOCOMOTIVE

Mattia Zamboni







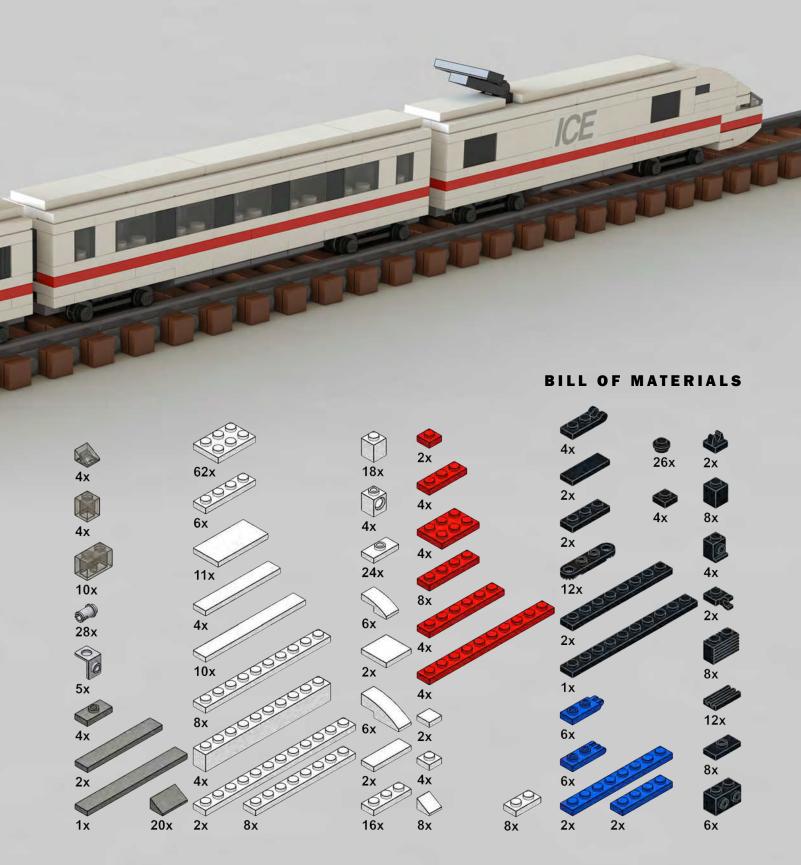


INTERCITY EXPRESS

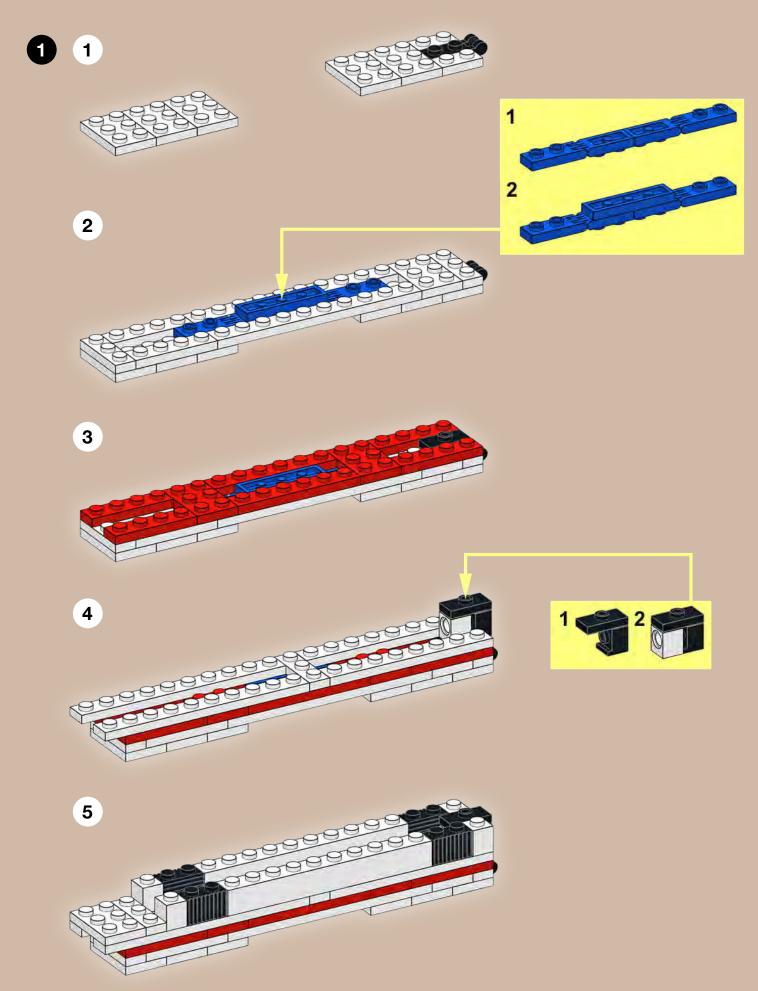
Mattia Zamboni

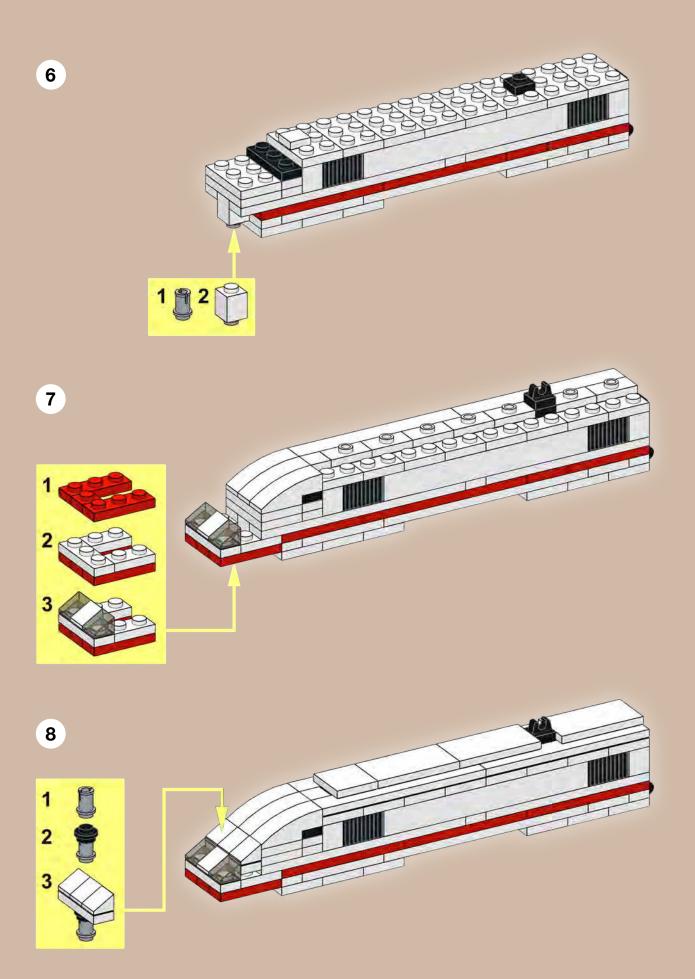


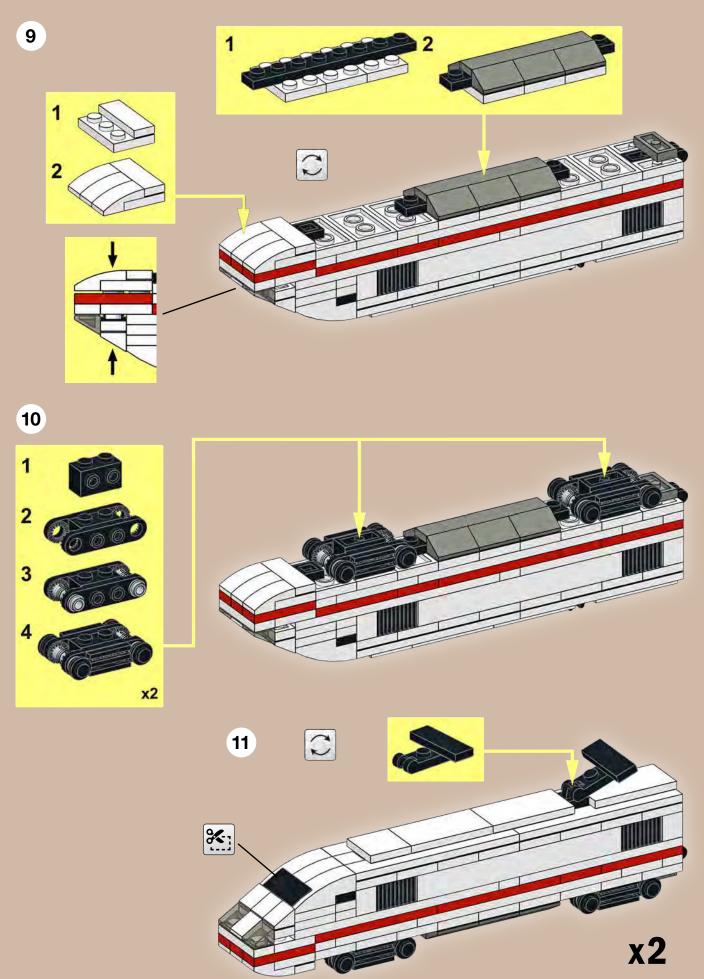


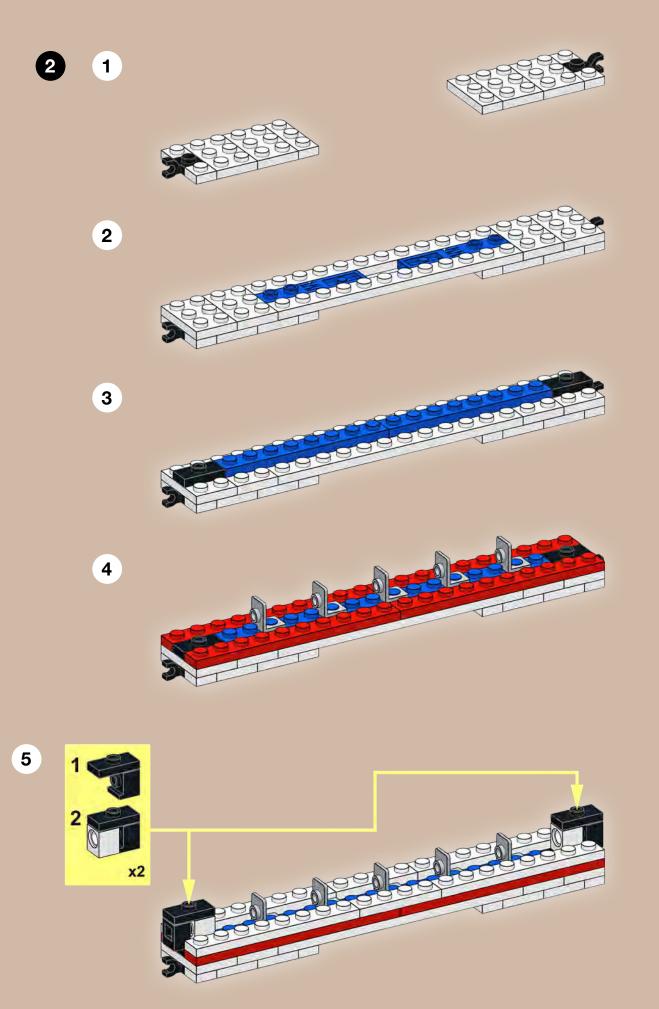


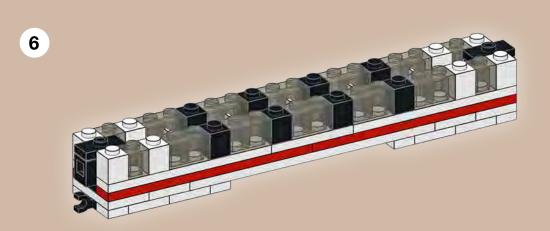
DIFFICULTY LEVEL: MEDIUM

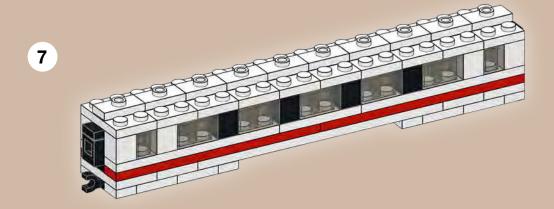


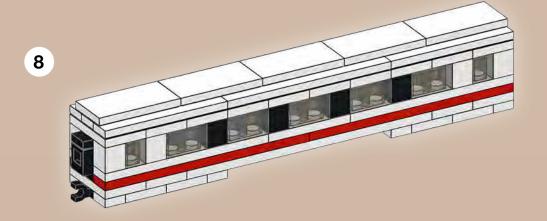


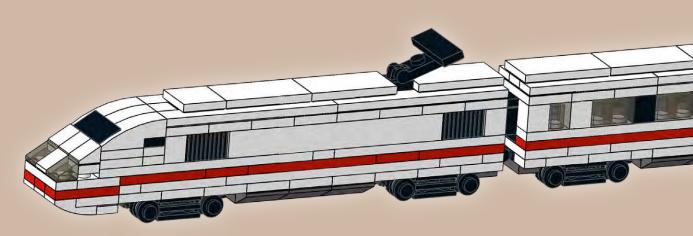


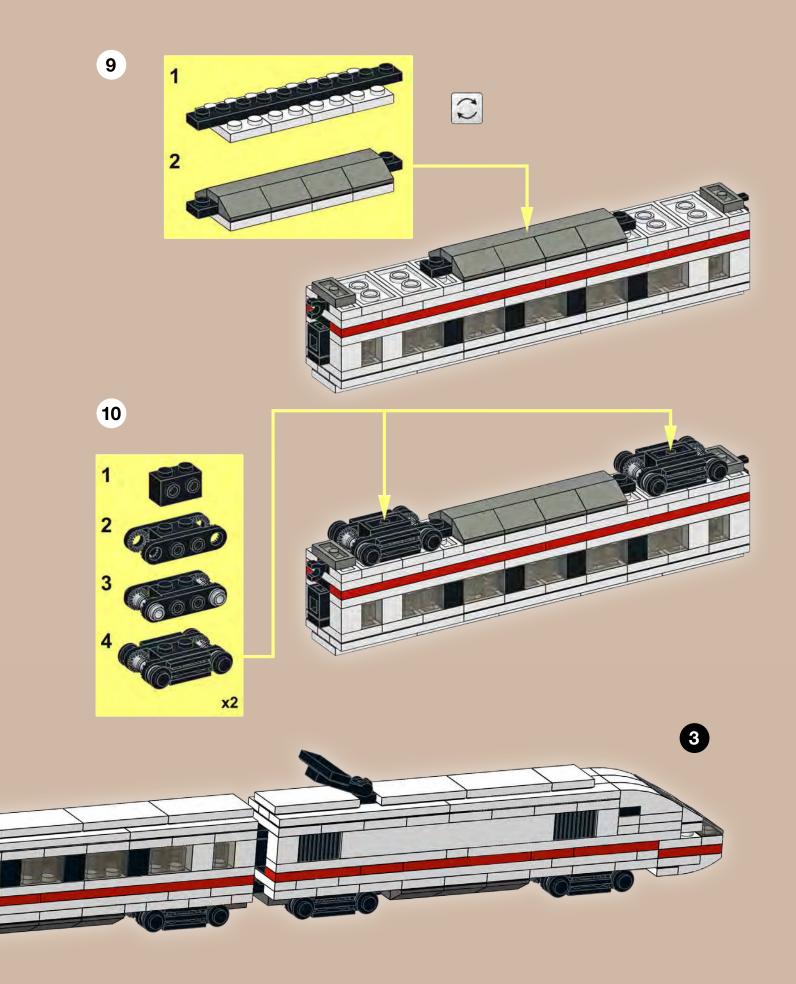












TGV BULLET TRAIN

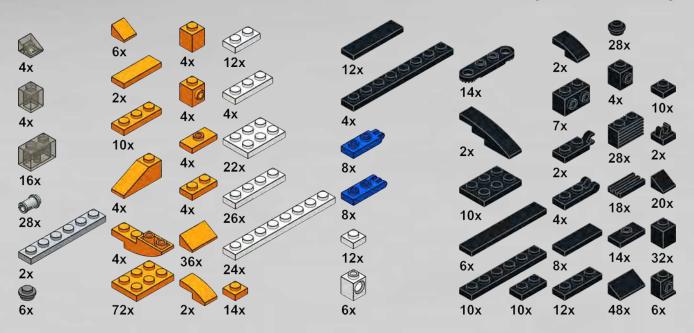
Mattia Zamboni



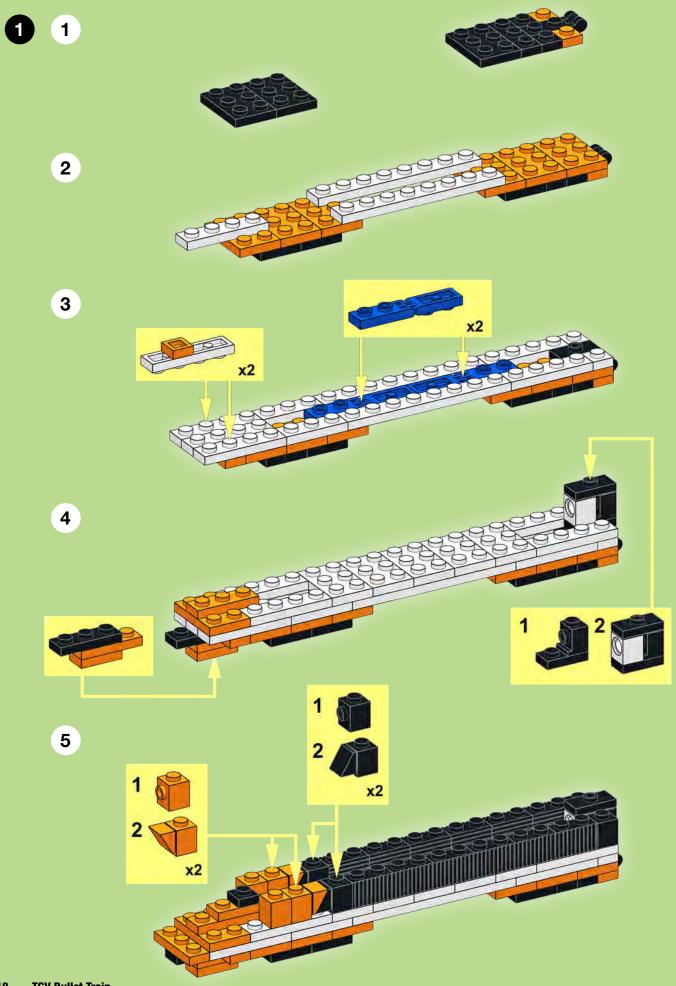


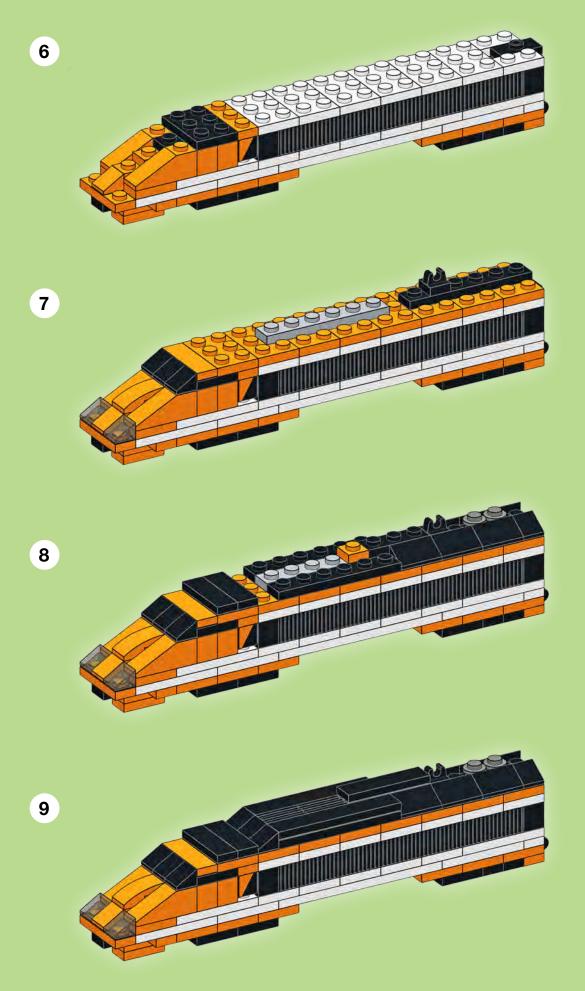


BILL OF MATERIALS

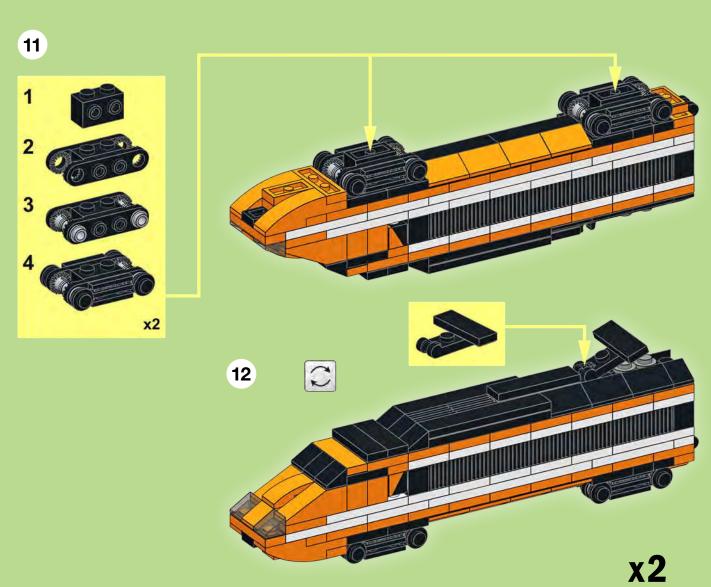


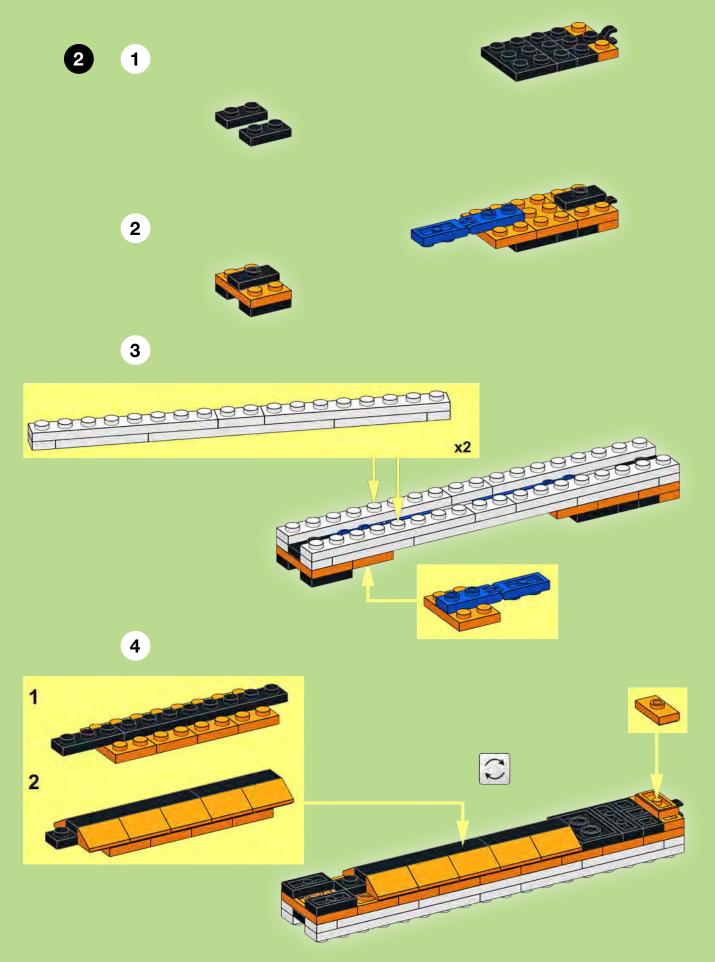
DIFFICULTY LEVEL: MEDIUM

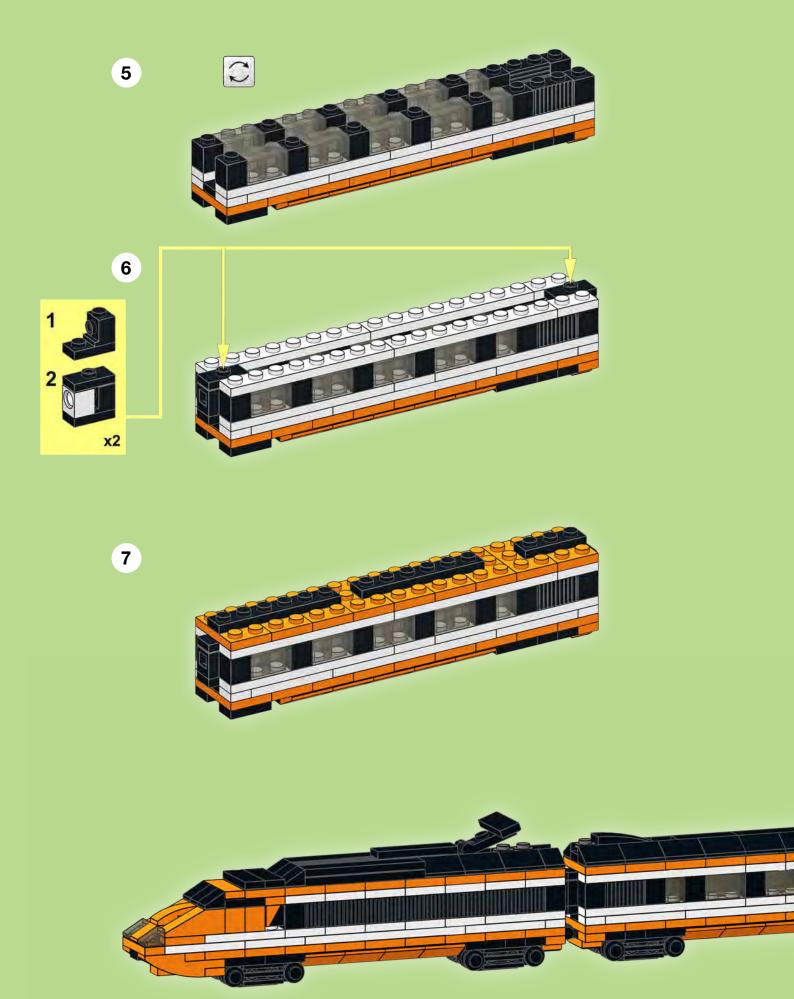


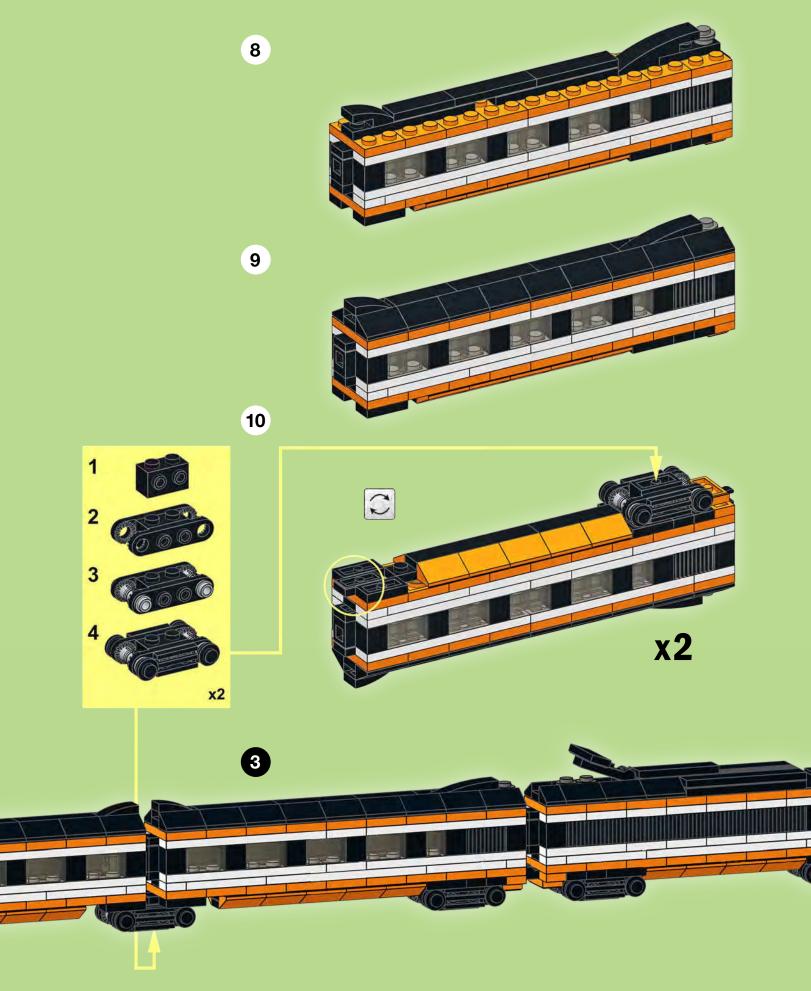


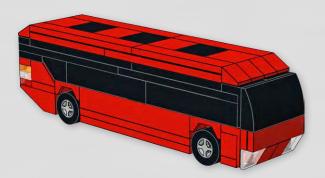




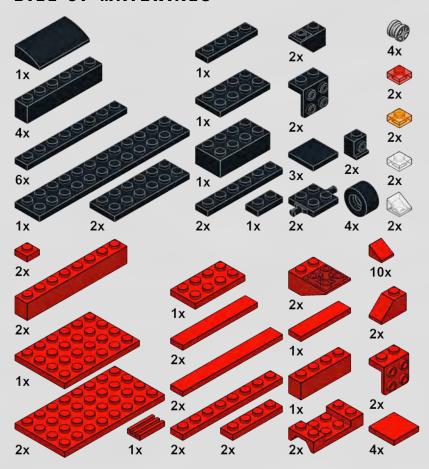








BILL OF MATERIALS

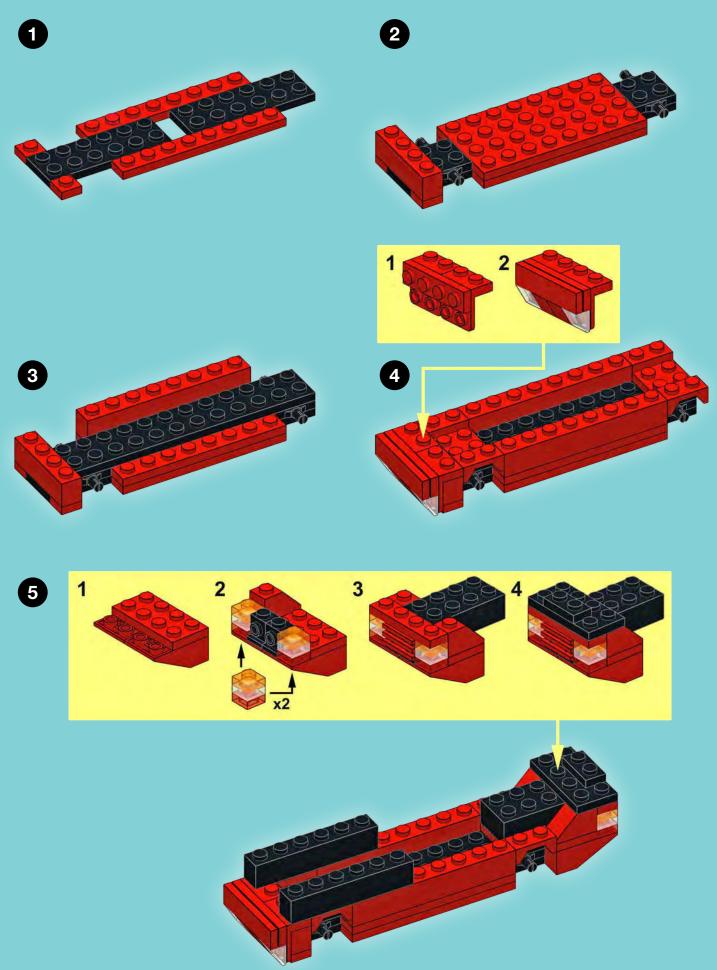


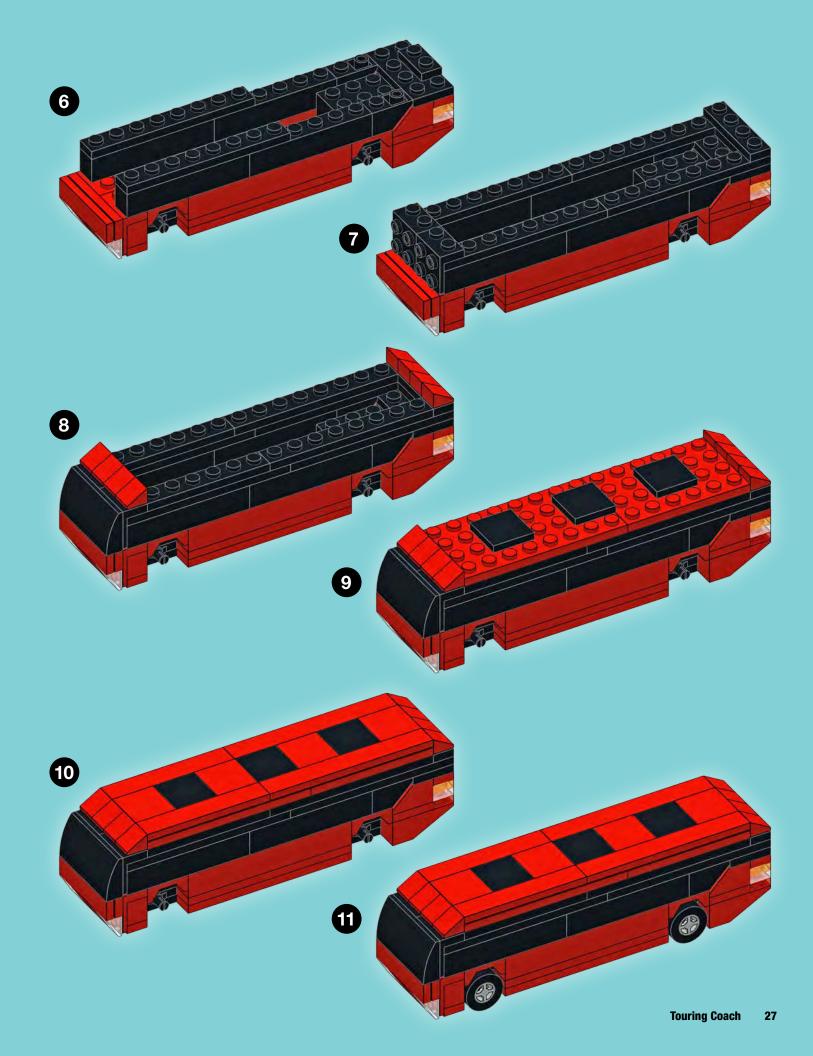
DIFFICULTY LEVEL: EASY

TOURING COACH

Liam Bates

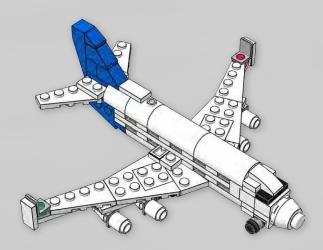


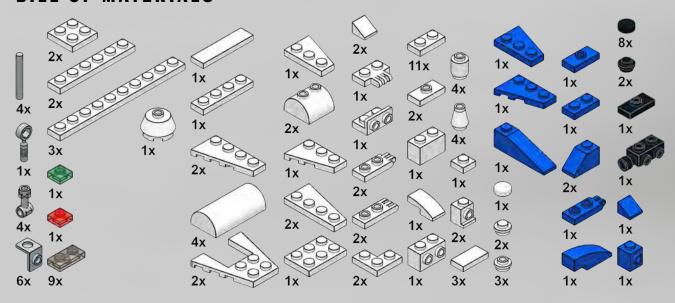










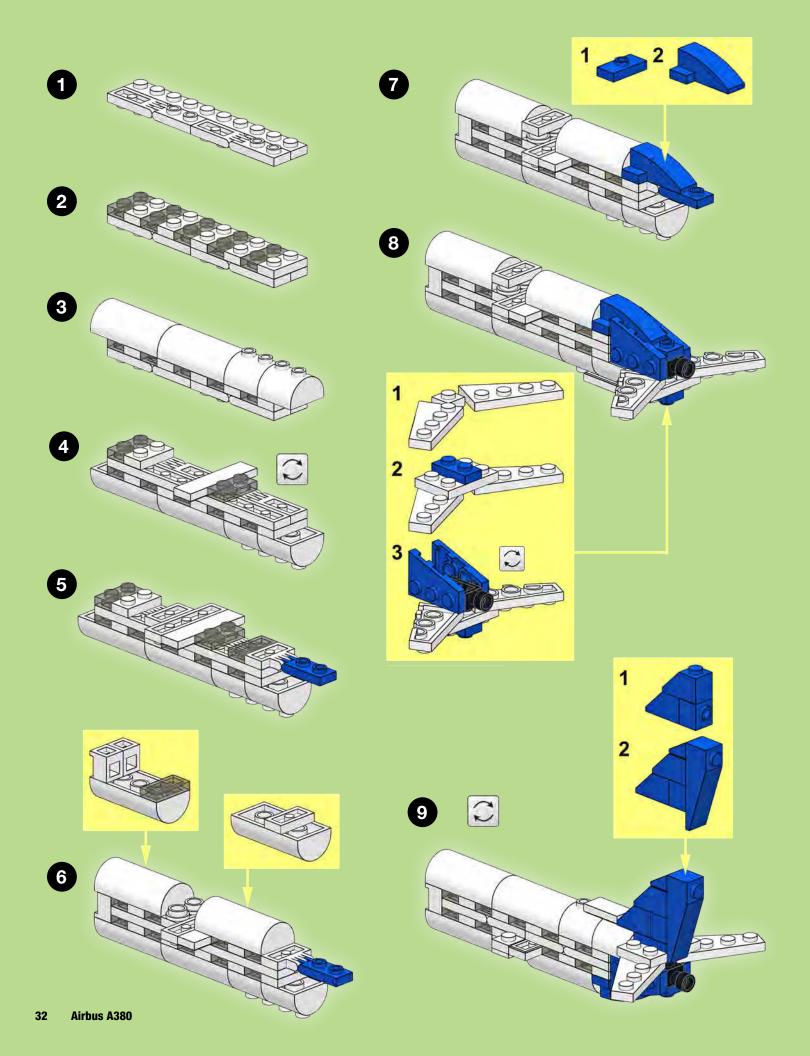


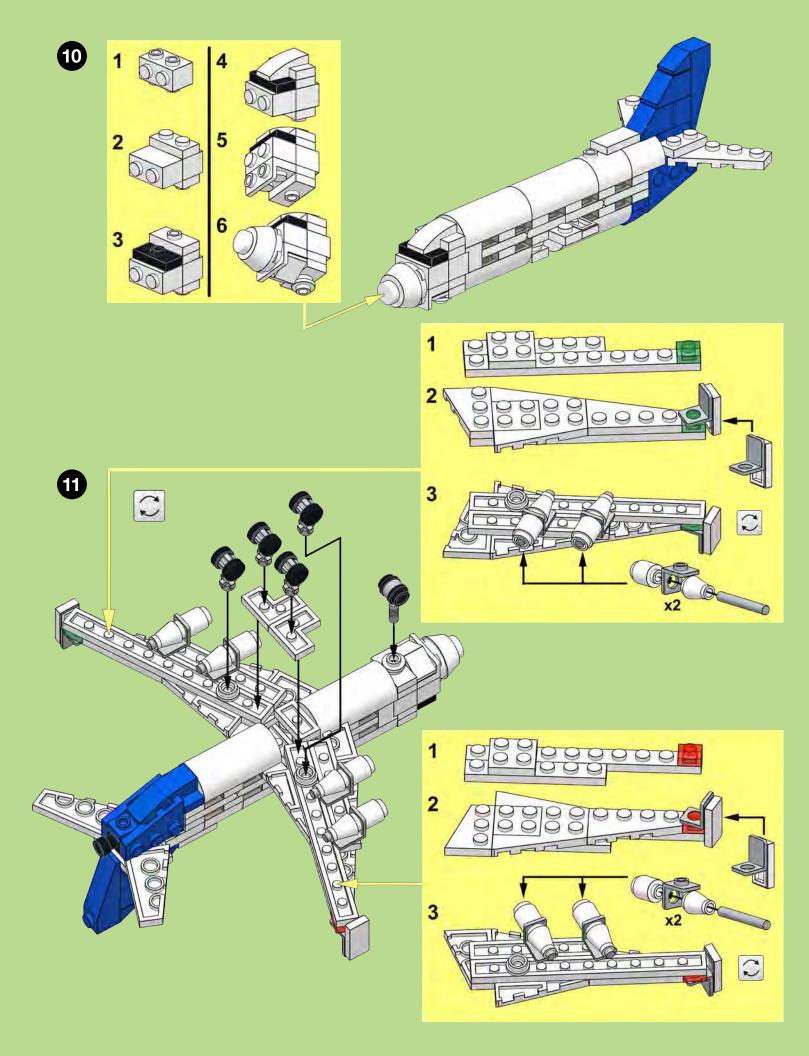
DIFFICULTY LEVEL: HARD

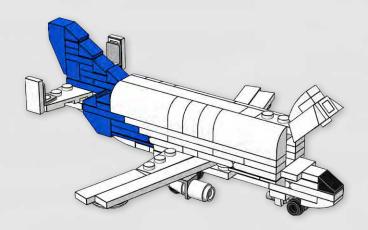
AIRBUS A380

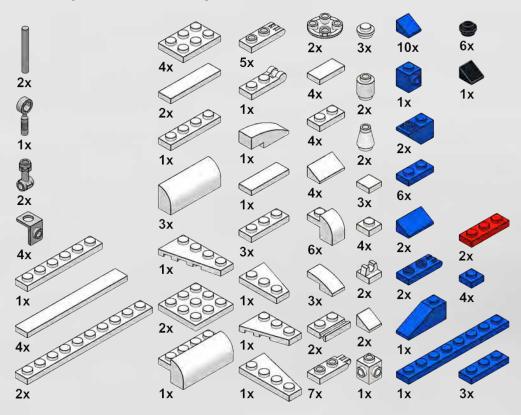
Alexander Bugiel









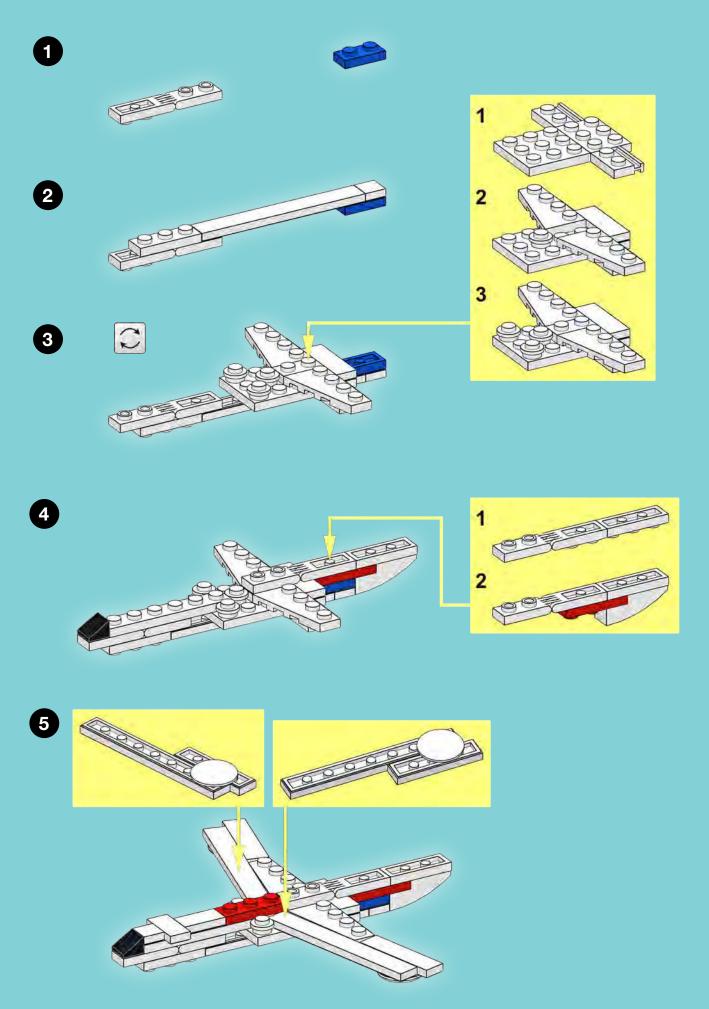


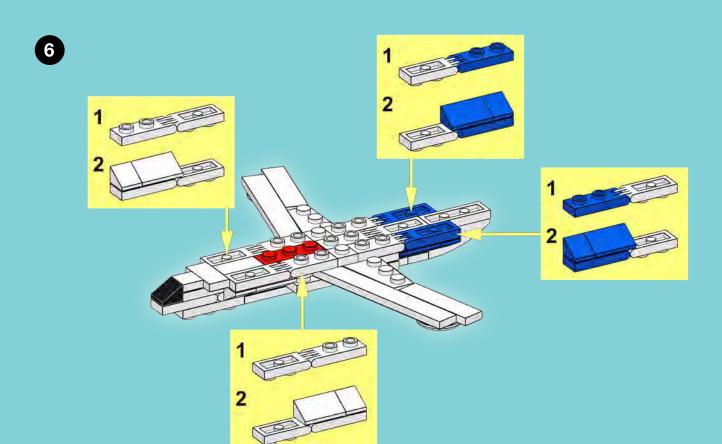
DIFFICULTY LEVEL: HARD

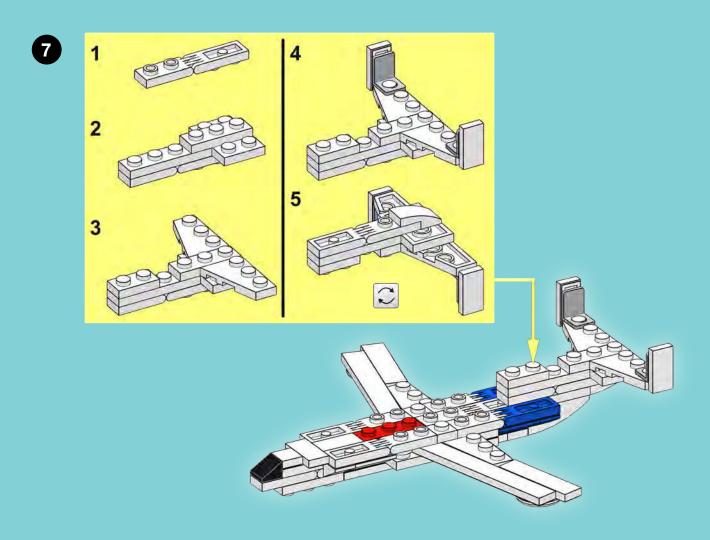
AIRBUS SUPER TRANSPORTER

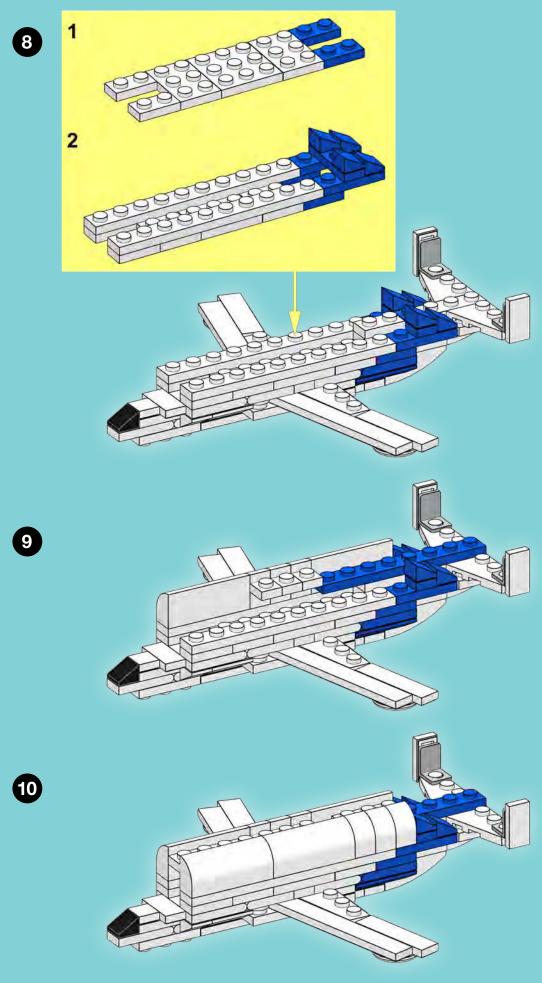
Alexander Bugiel



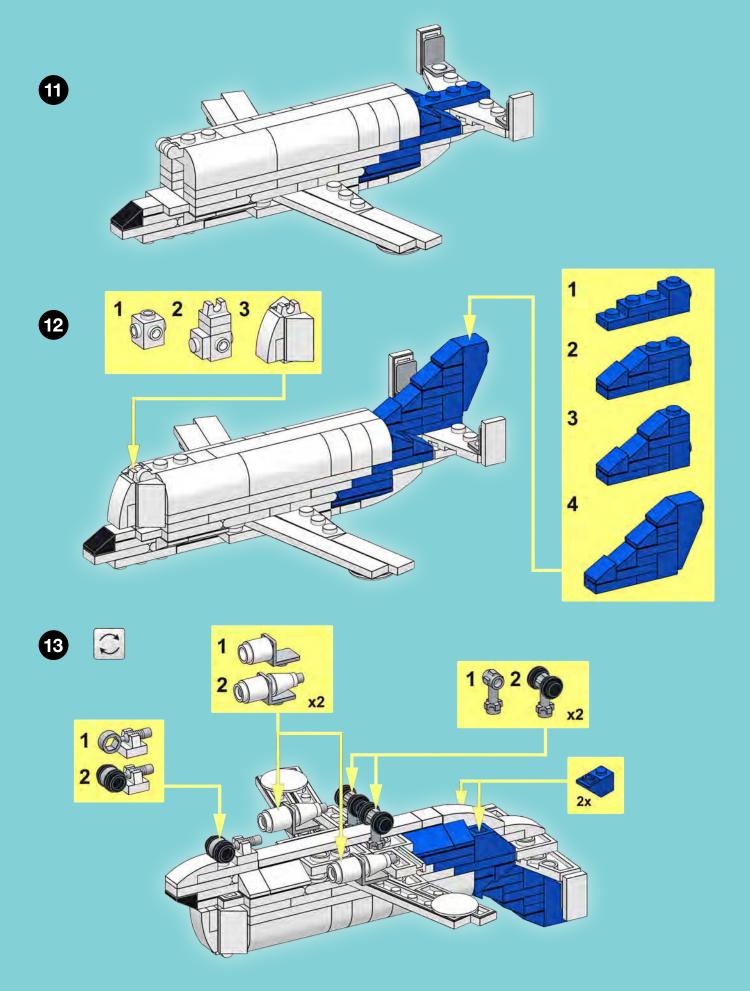


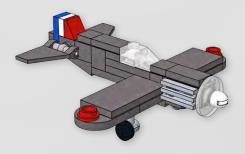


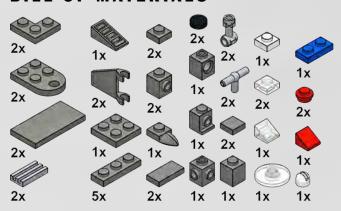




38



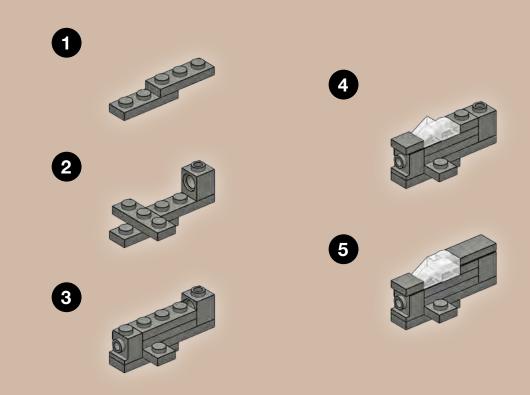


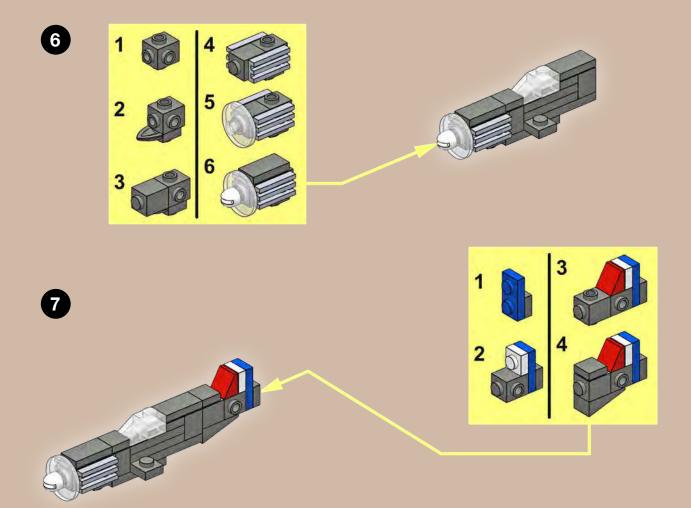


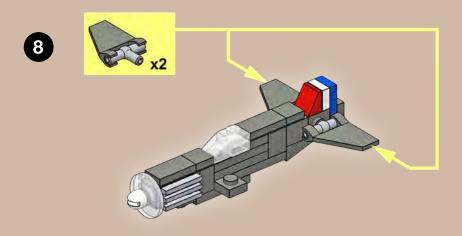
SUPERMARINE SPITFIRE

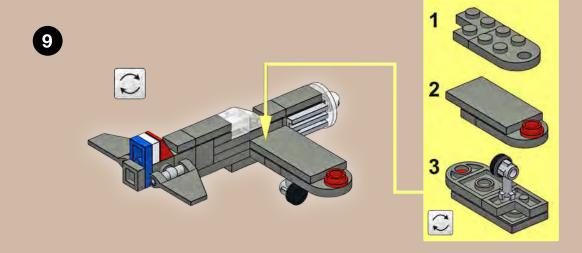
Thomas Lockwood

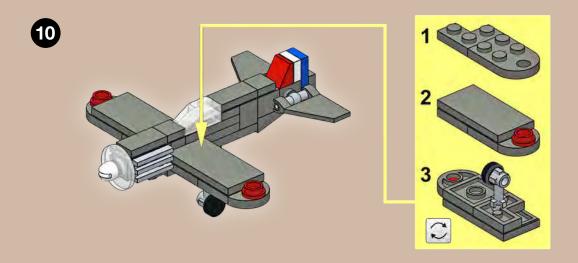


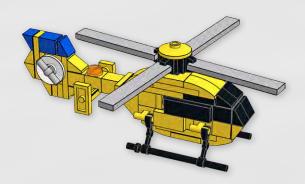


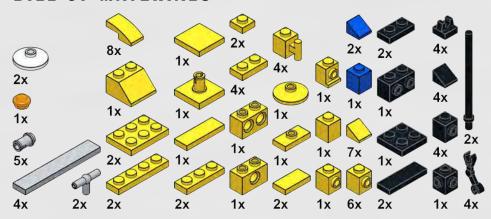








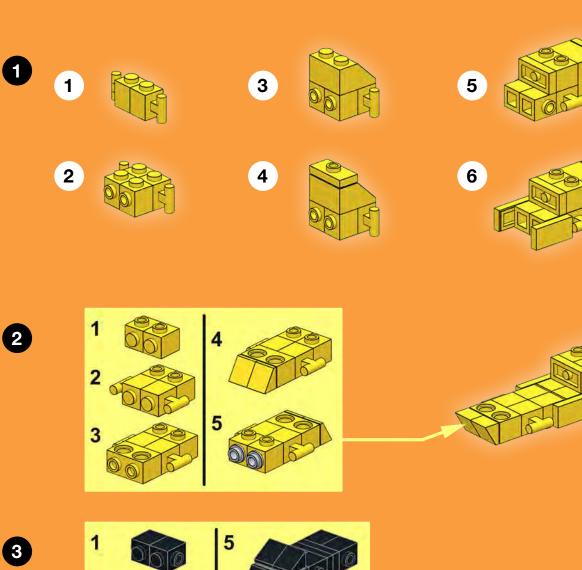


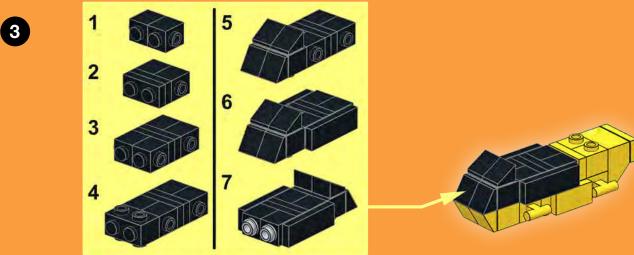


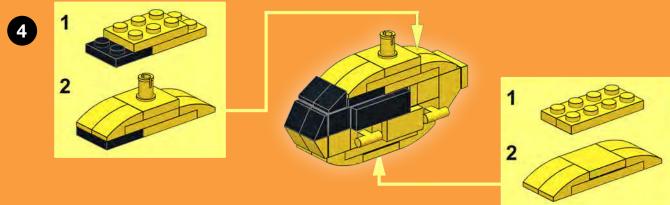
RESCUE CHOPPER

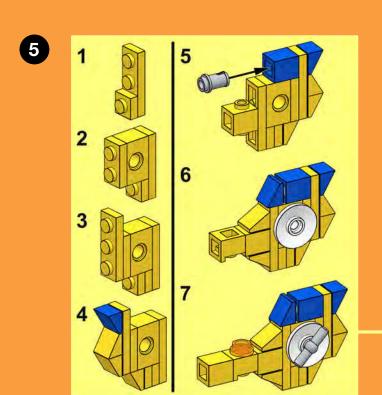
Mattia Zamboni

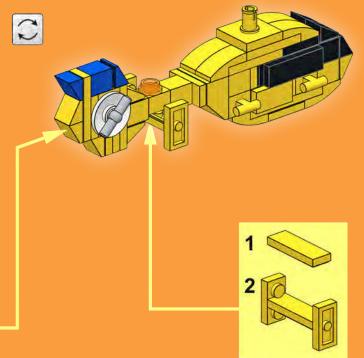


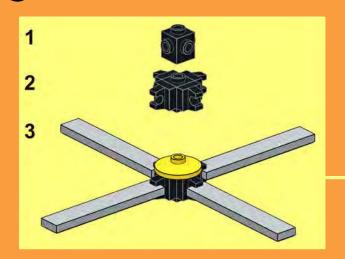


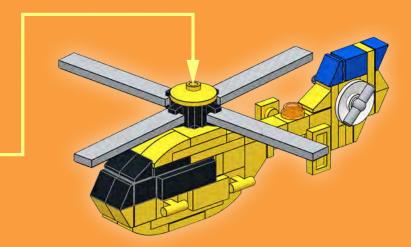






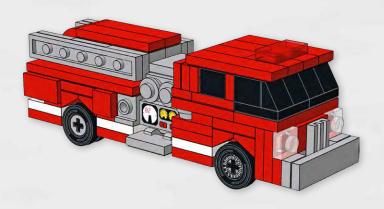


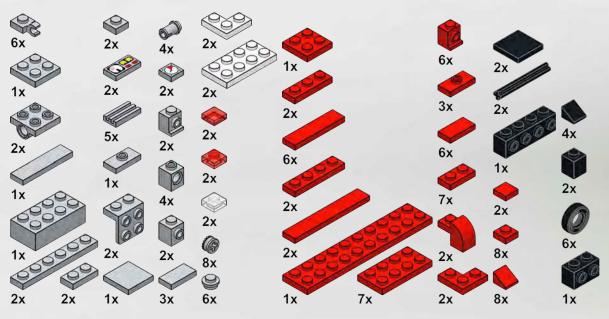








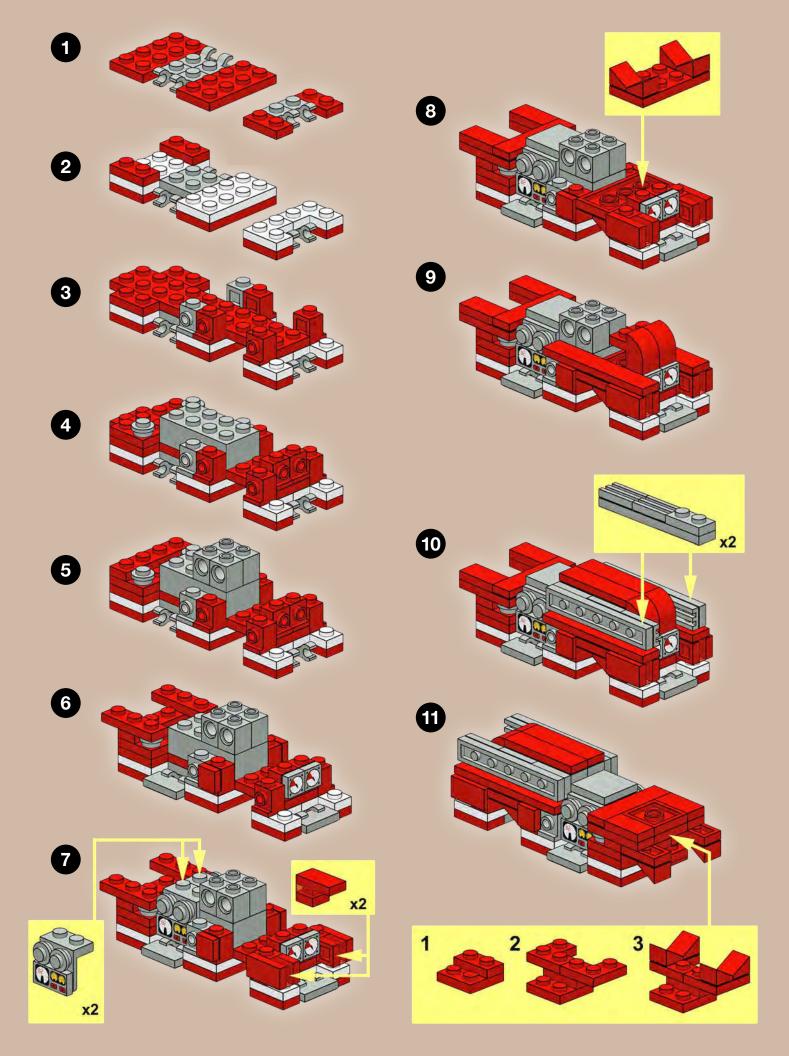


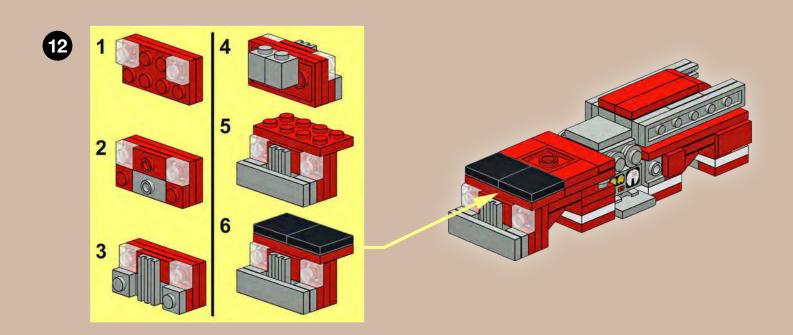


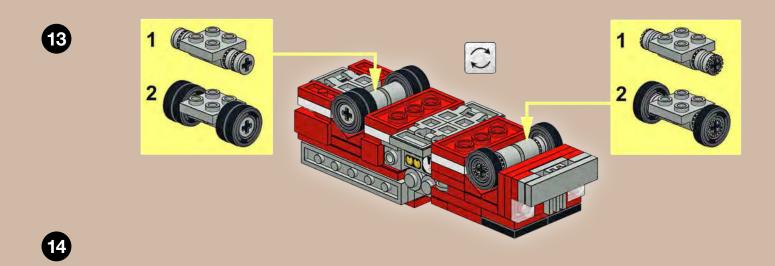
FIRE ENGINE

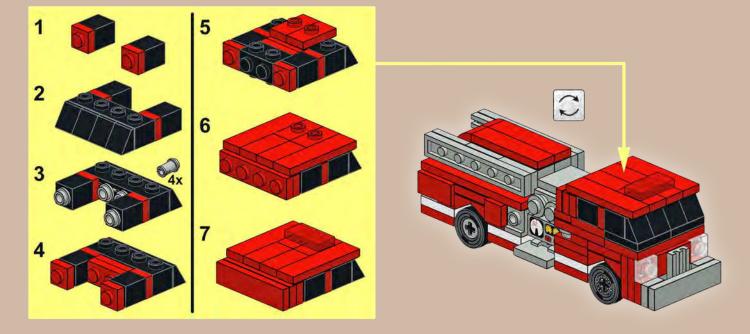
Jarek Książczyk

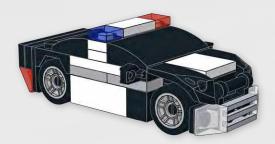


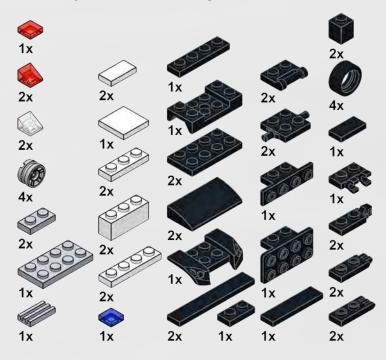






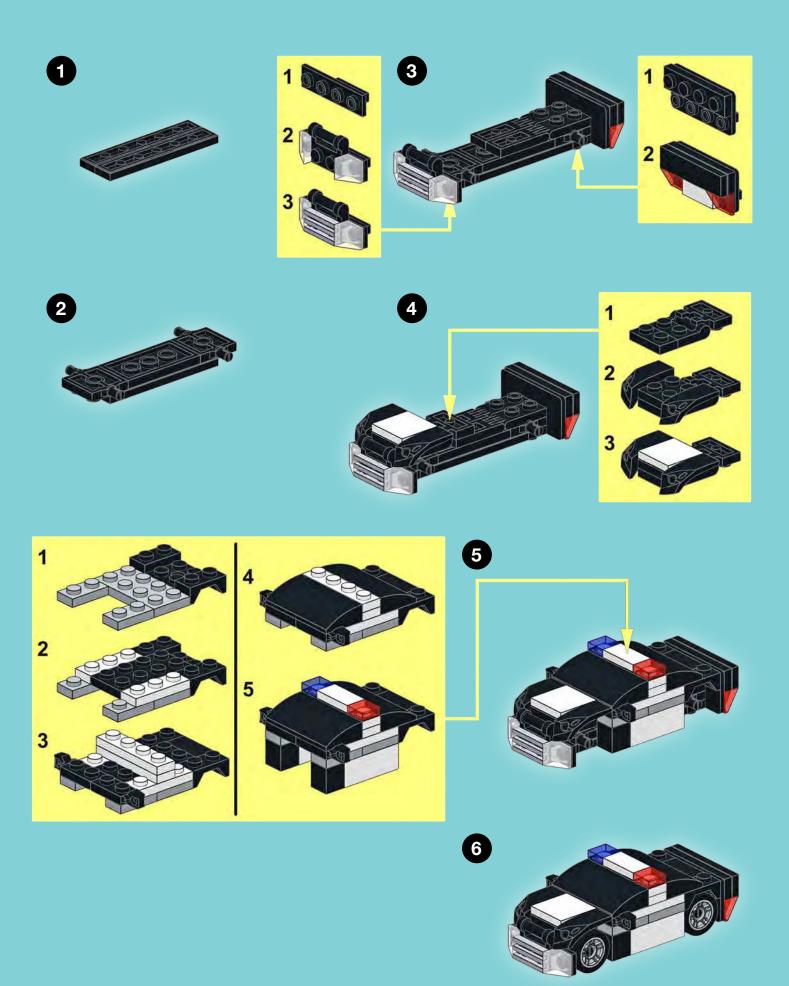




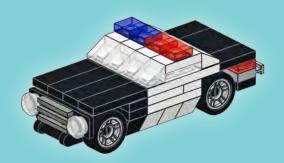


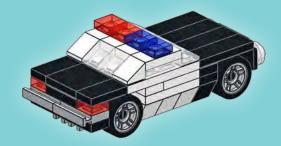
POLICE CAR Alexander Bugiel



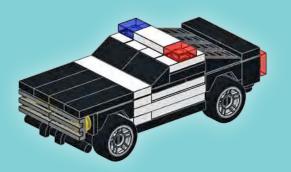


VARIATIONS



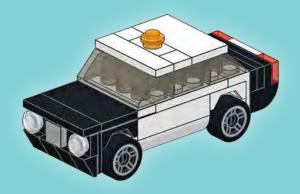


Classic (see page 84)



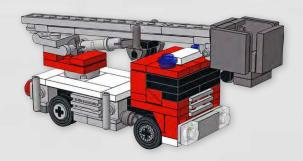


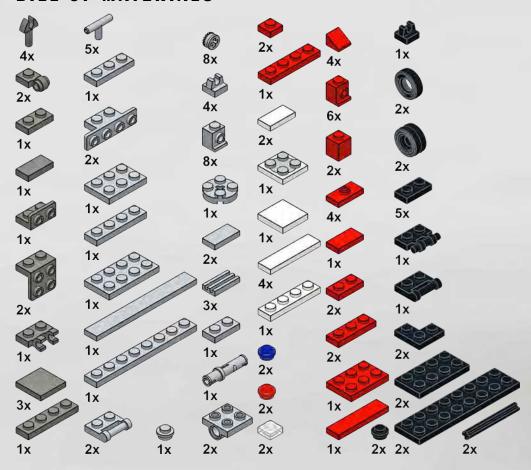
Sporty (see page 96)





Oldie (see page 100)

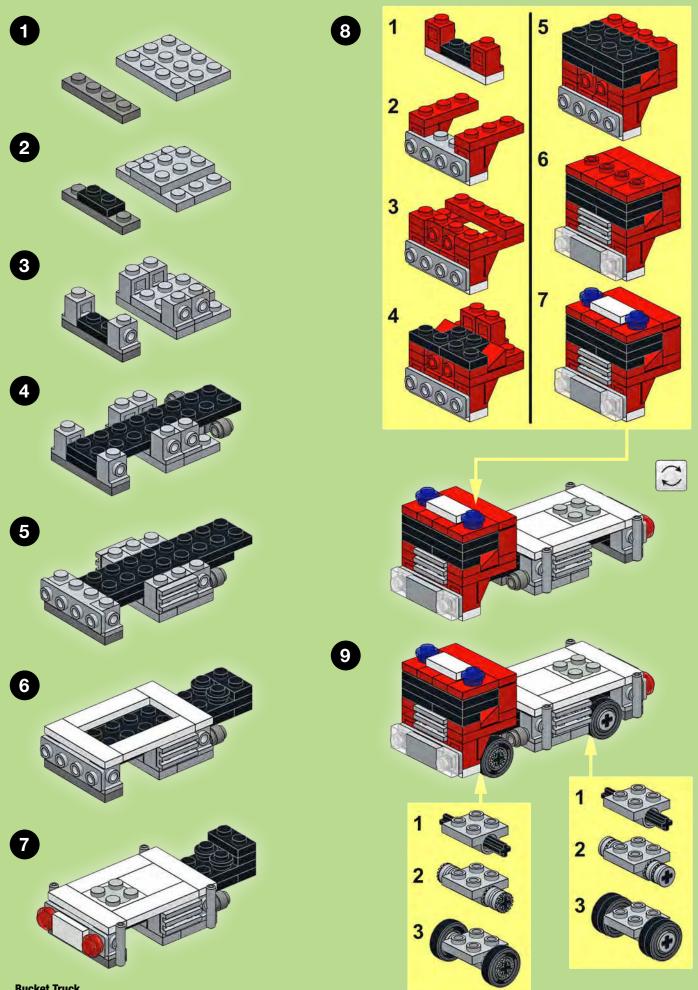


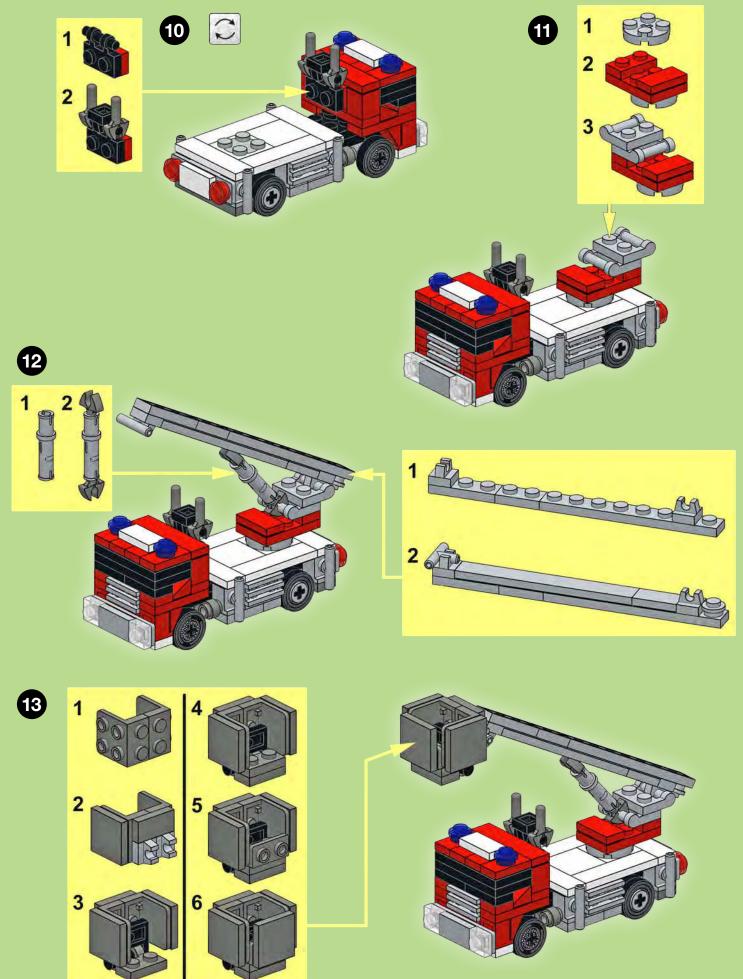


BUCKET TRUCK

Jarek Książczyk

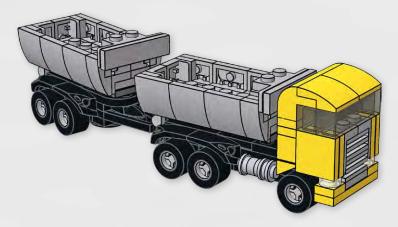


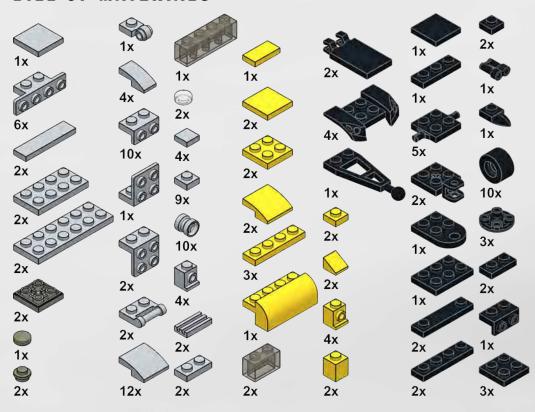








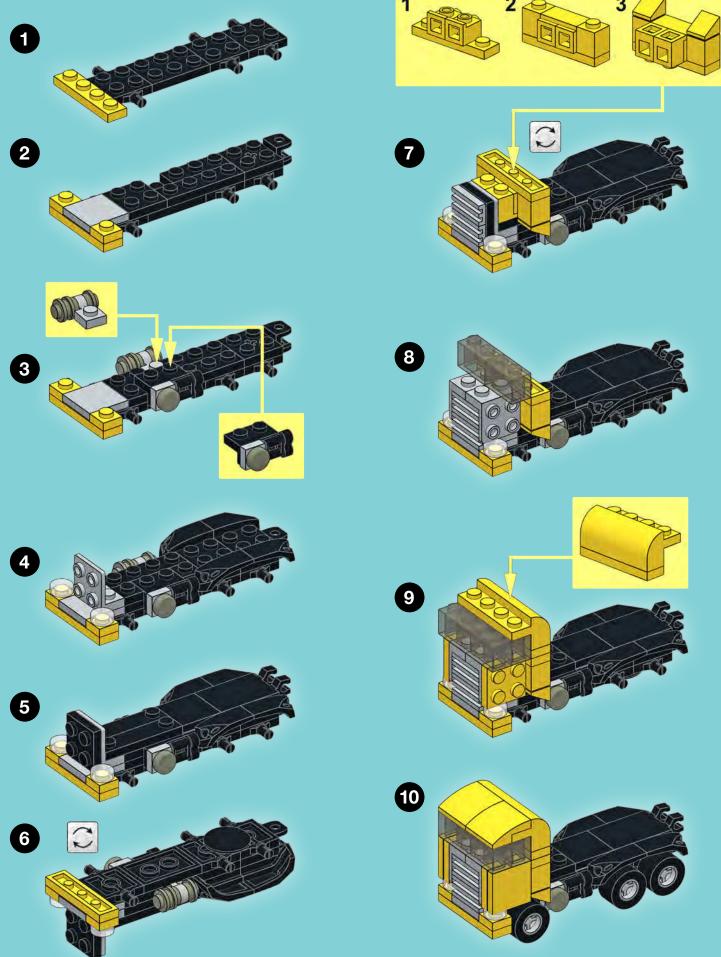


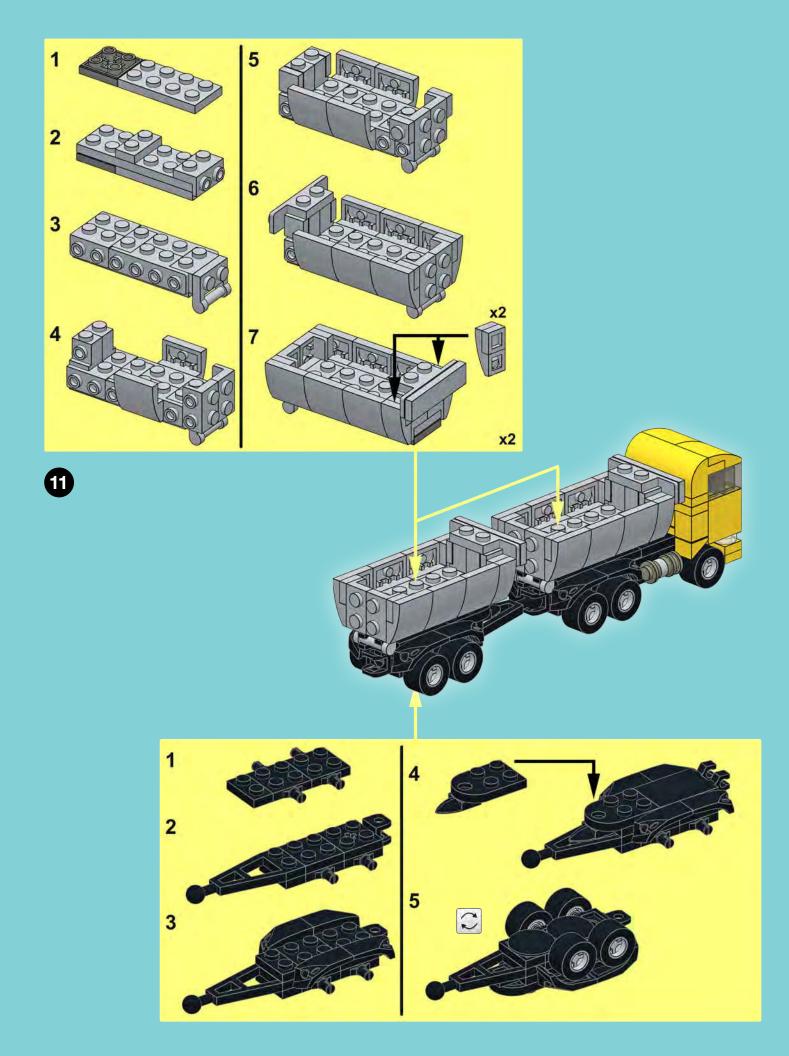


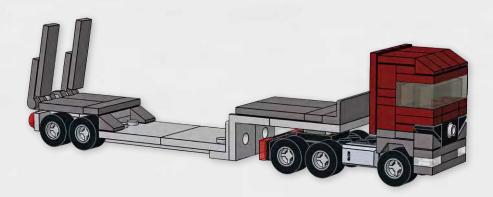
DOUBLE DUMP TRUCK

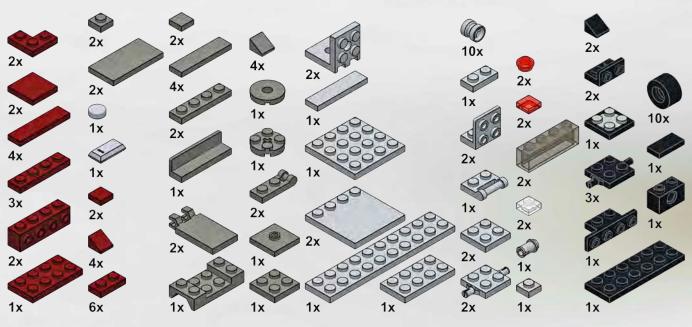
Robert Heim







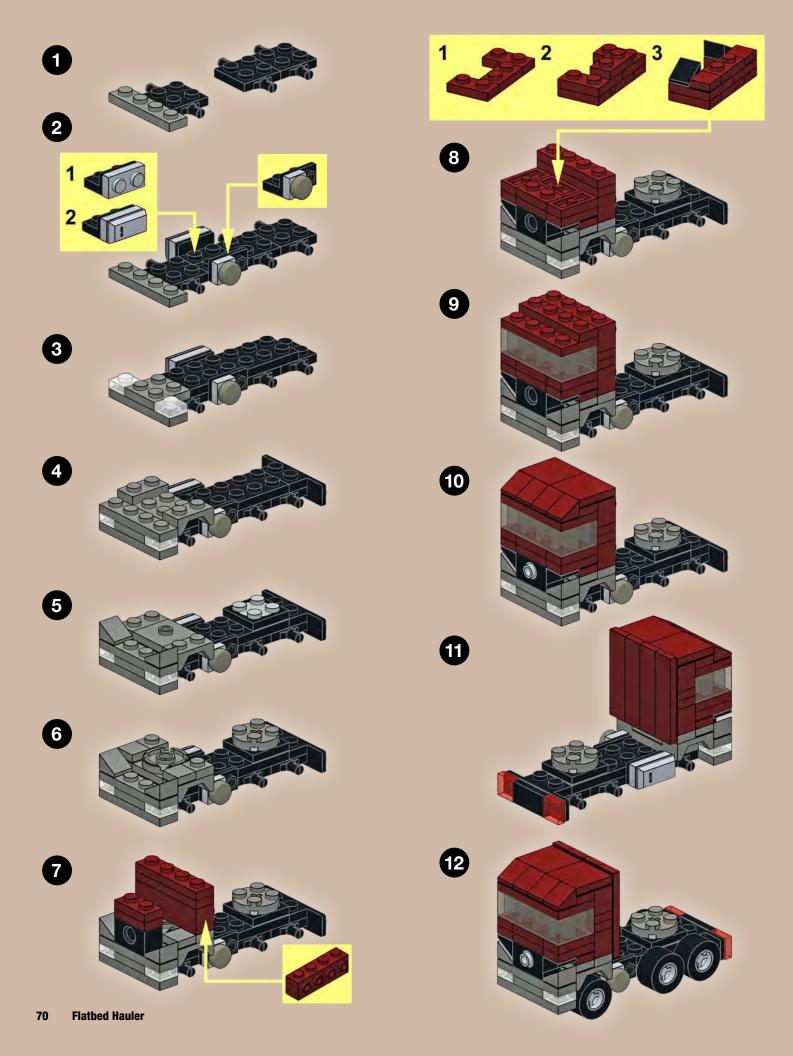


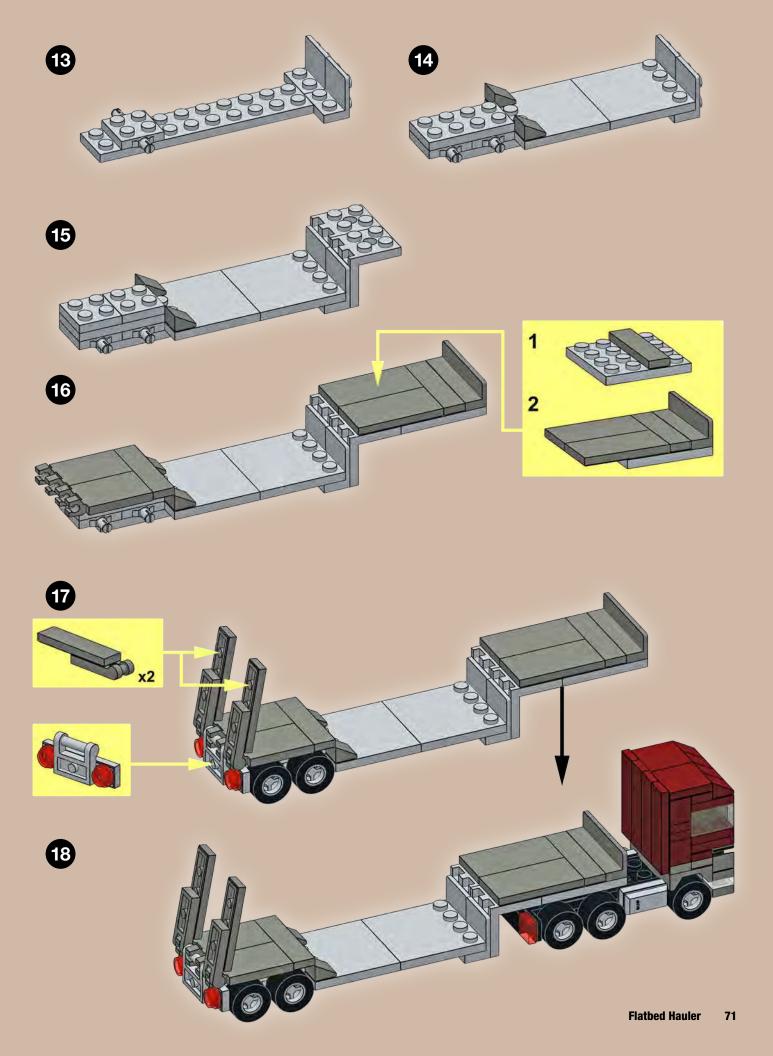


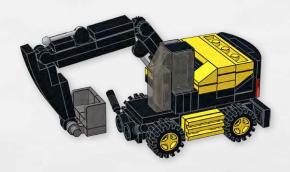
FLATBED HAULER

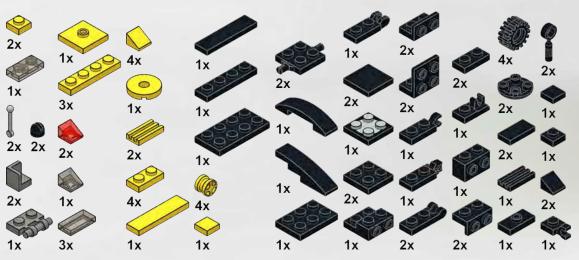
Robert Heim









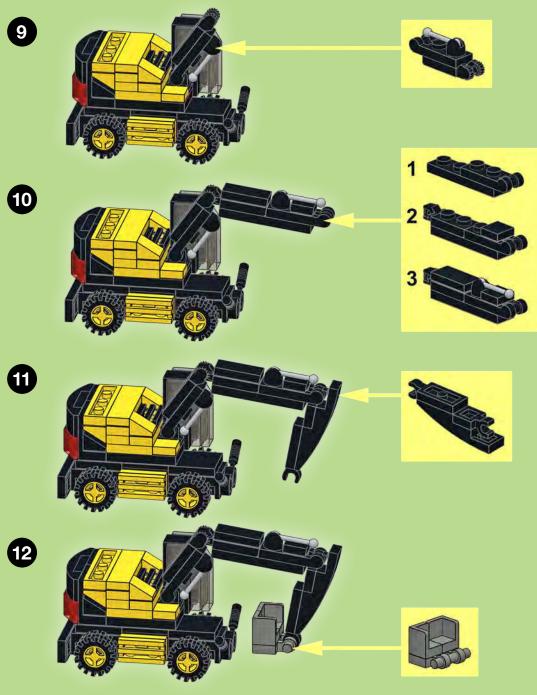


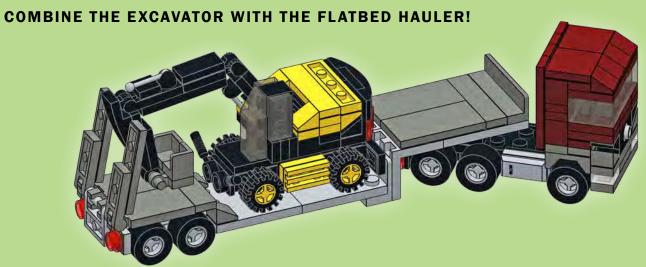
EXCAVATOR

Robert Heim

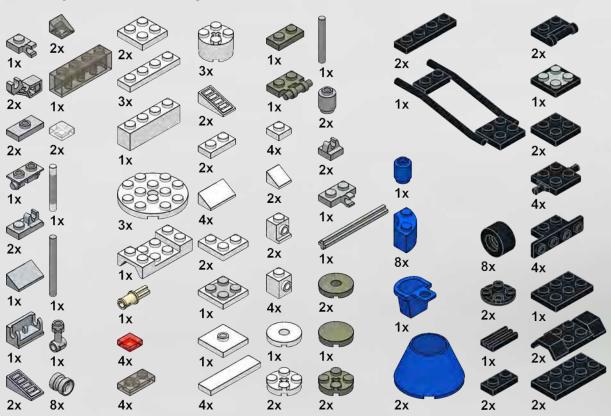










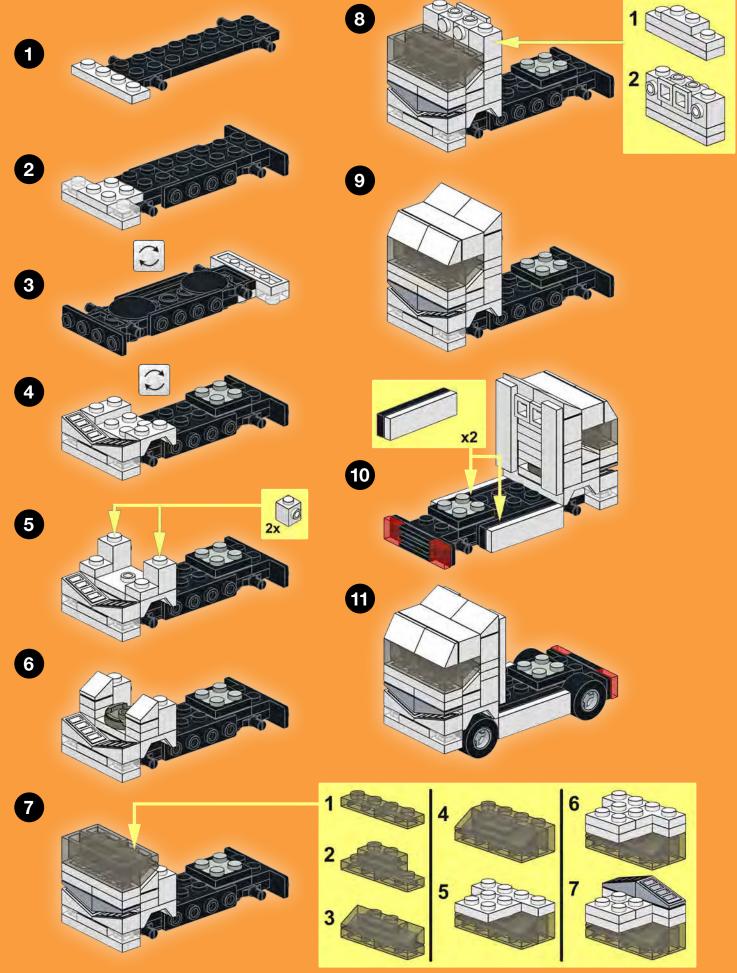


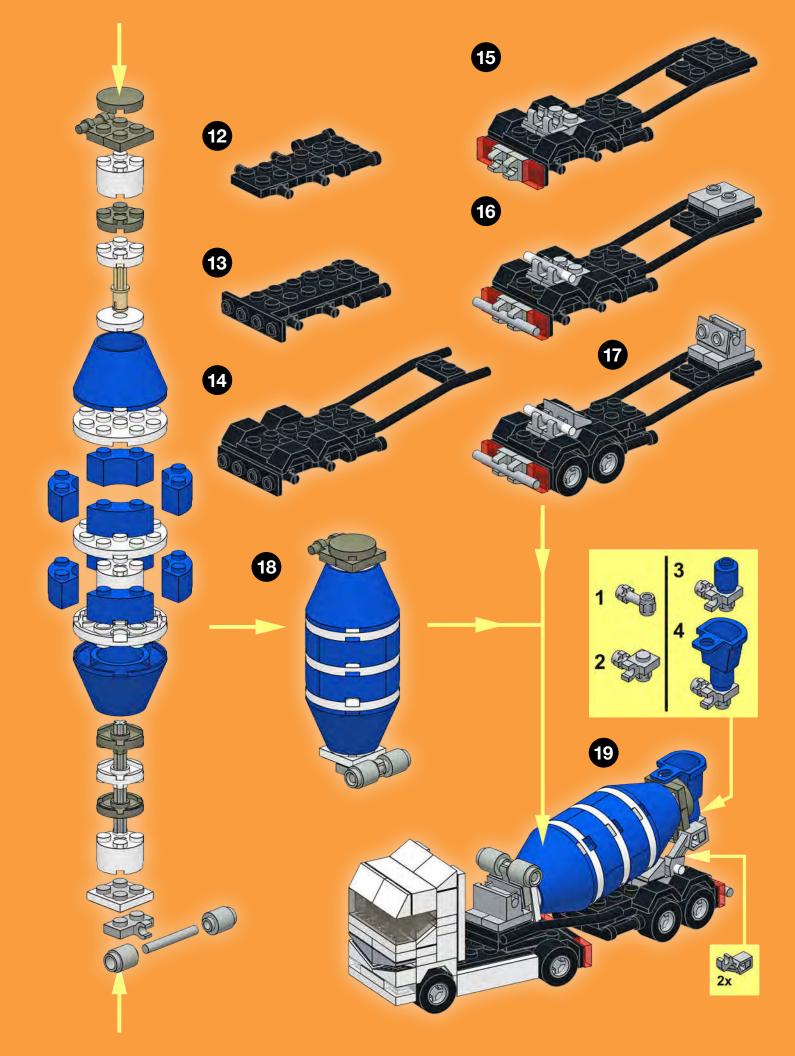
DIFFICULTY LEVEL: MEDIUM

CEMENT MIXER

Robert Heim



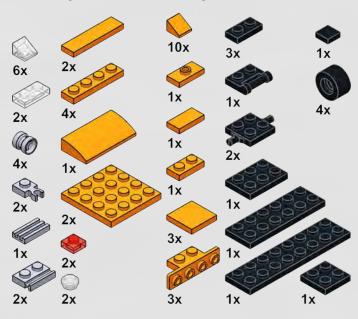






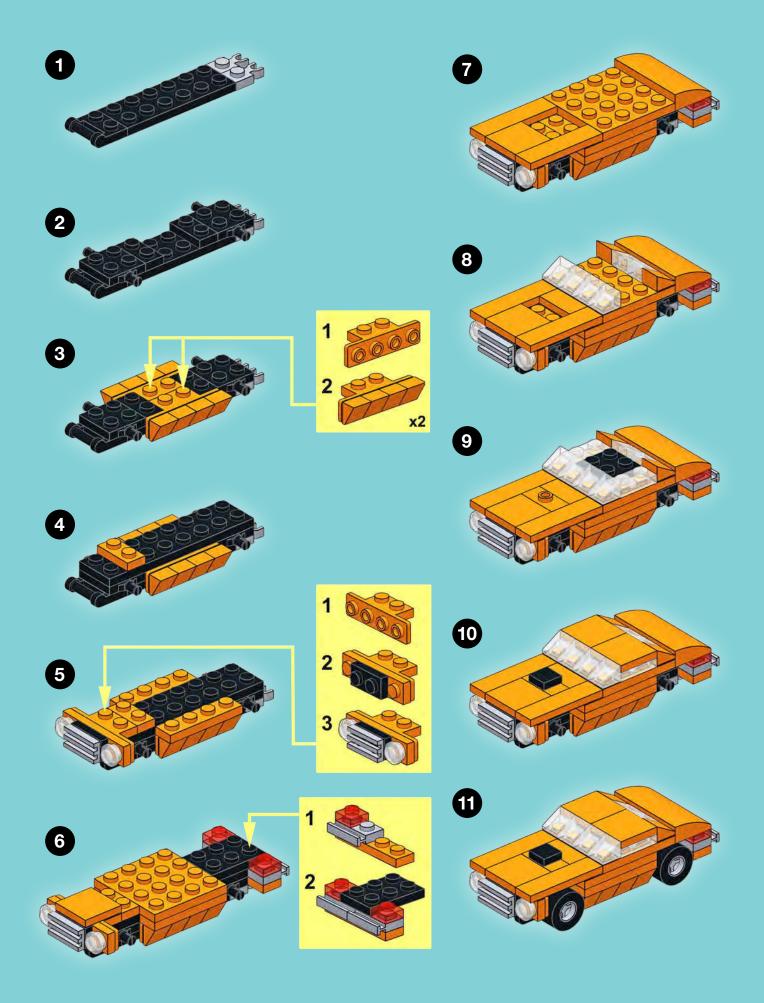






SPORTS CAR Liam Bates





VARIATIONS





Hood Scoop





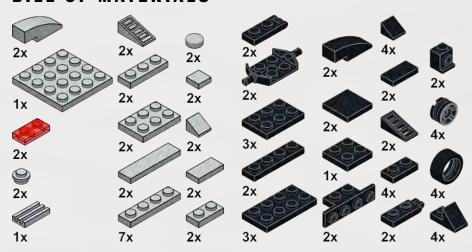
Charger





Rear Window Louvers



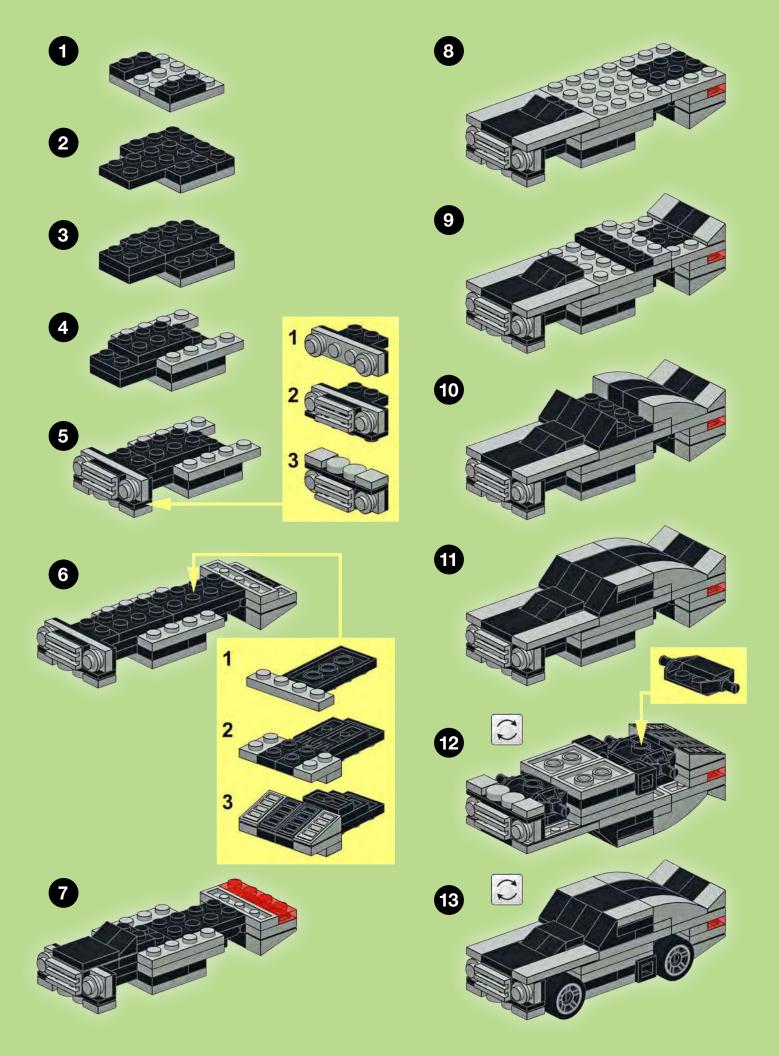


DIFFICULTY LEVEL: MEDIUM

FASTBACK

Liam Bates





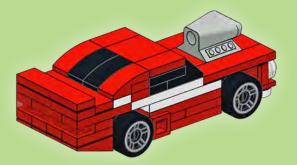
VARIATIONS





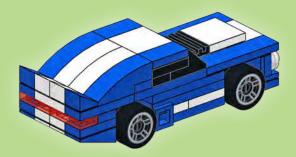
Daily Driver



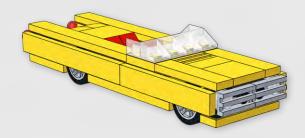


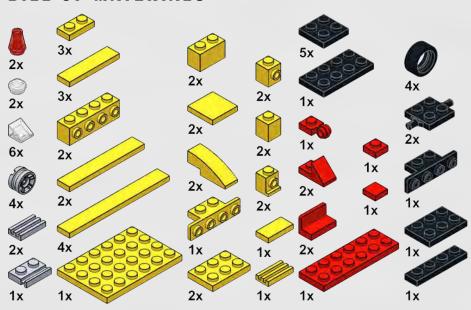
Supercharged





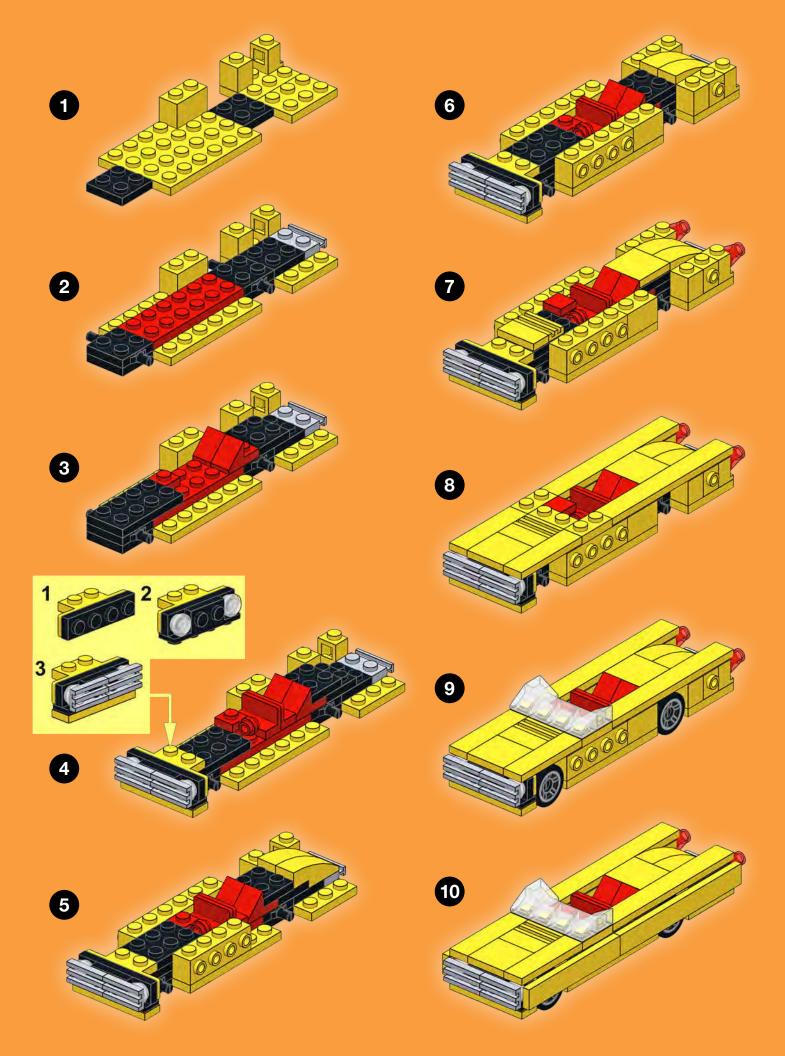
Racing Stripe



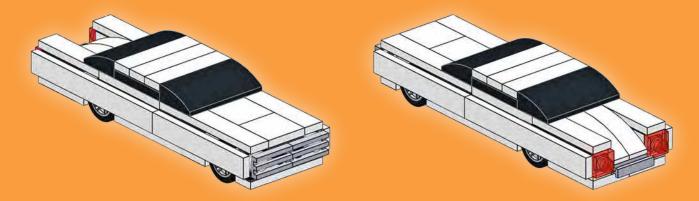


LOWRIDER Liam Bates

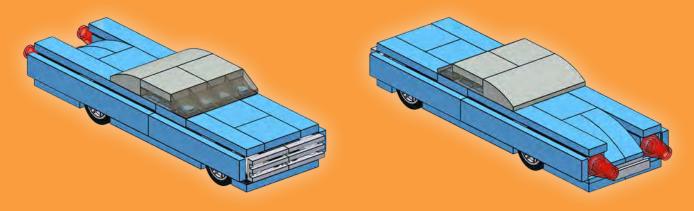




VARIATIONS

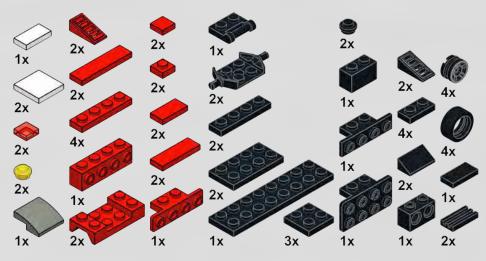


Tuxedo White



Bluebelle



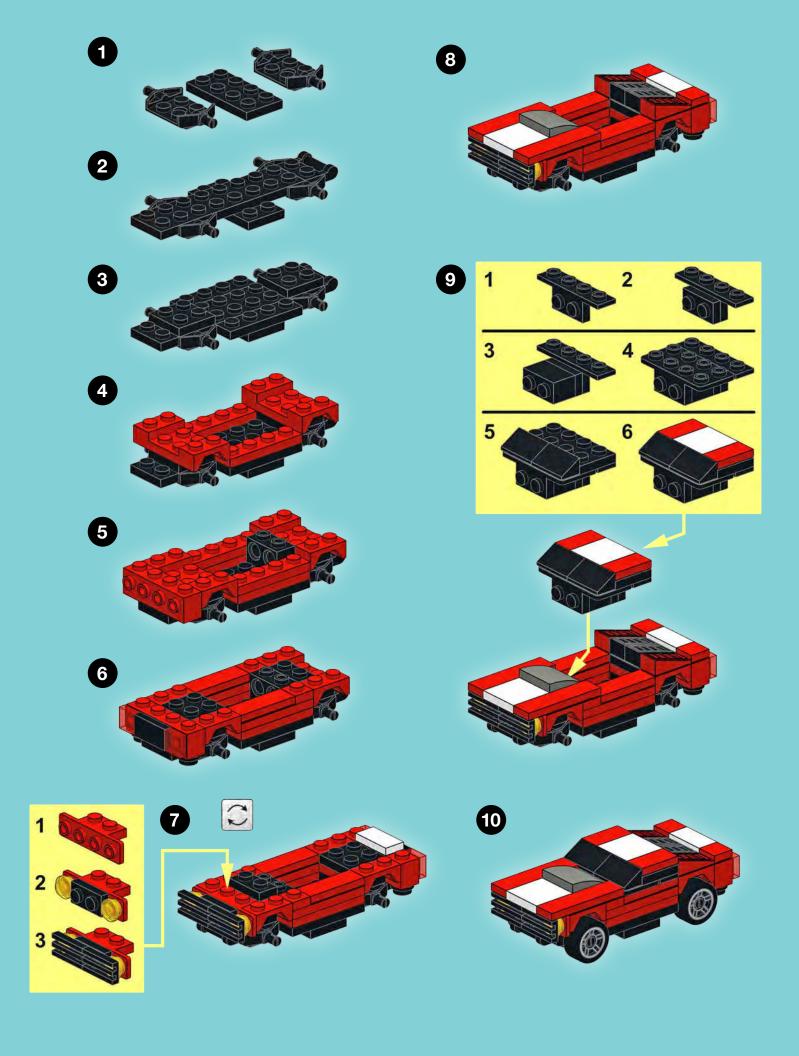


DIFFICULTY LEVEL: MEDIUM

MUSCLE CAR

Mattia Zamboni





VARIATIONS





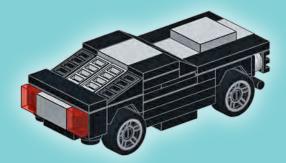
Blue Rounded





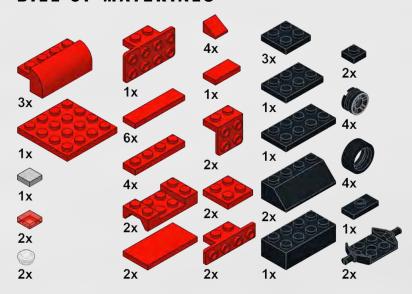
White Classic





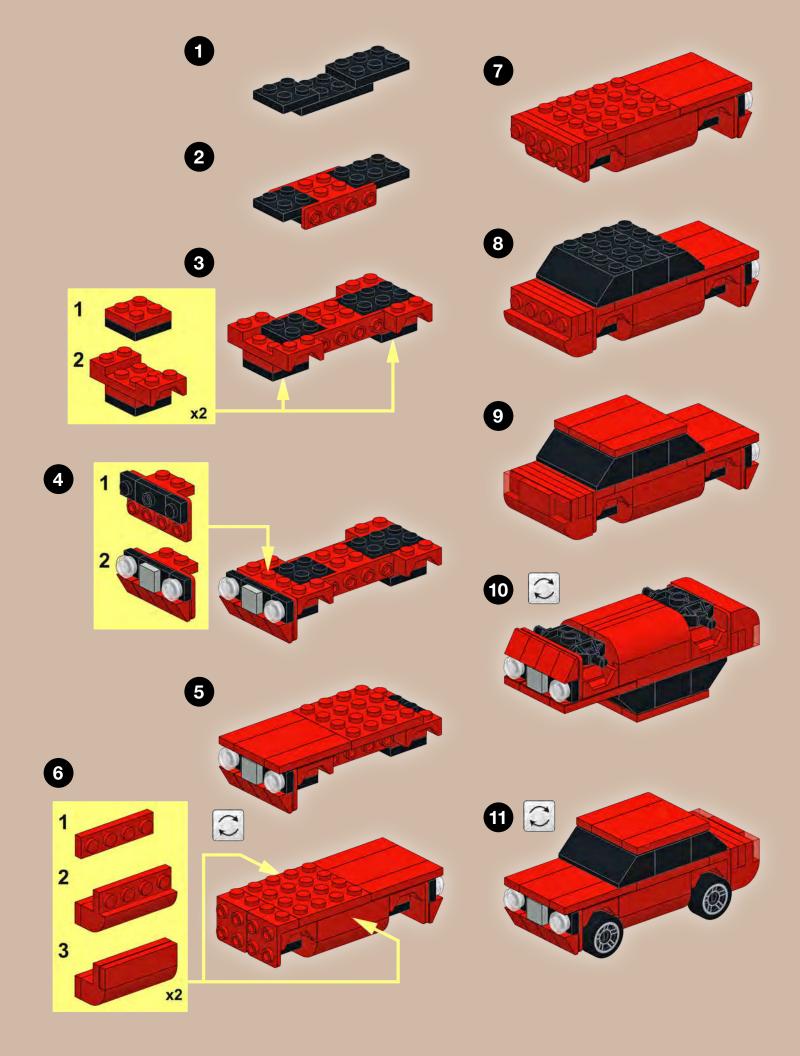
Mighty Black





FAMILY CAR Liam Bates





VARIATIONS





SUV



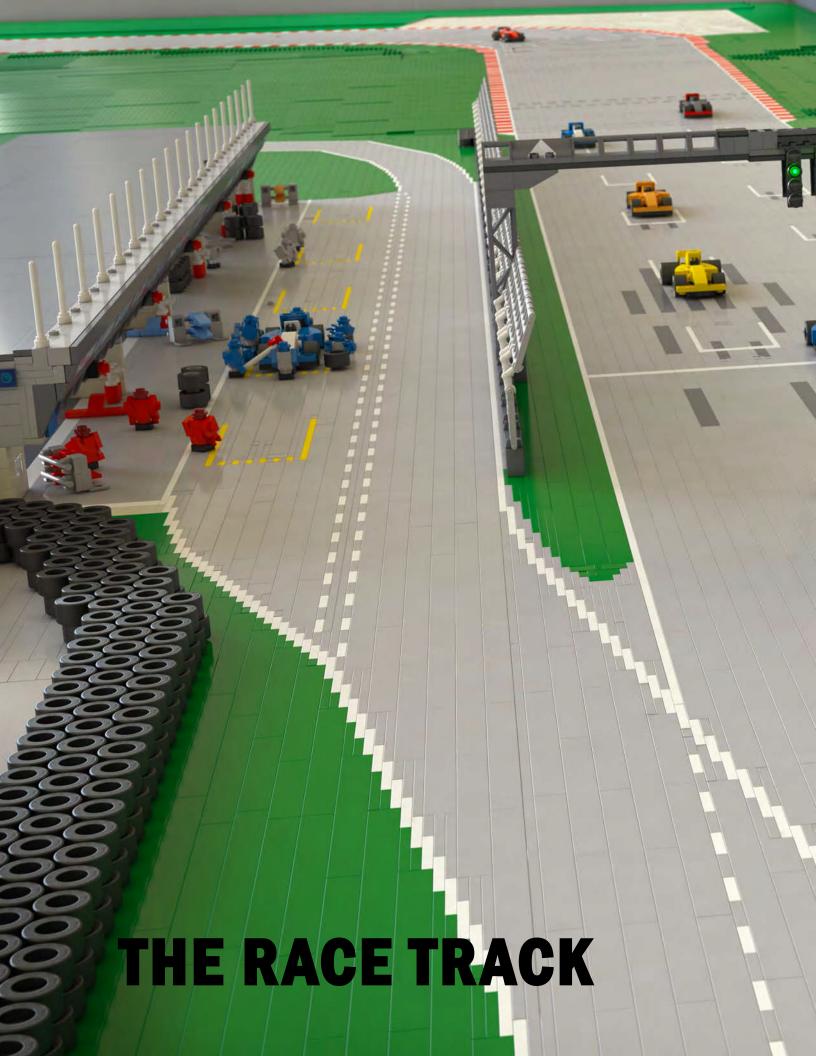


Station Wagon

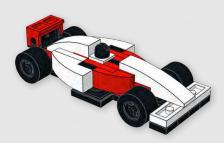


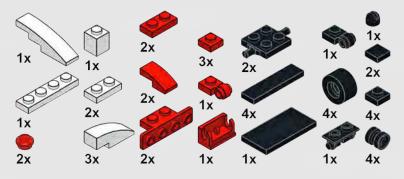


Sporty







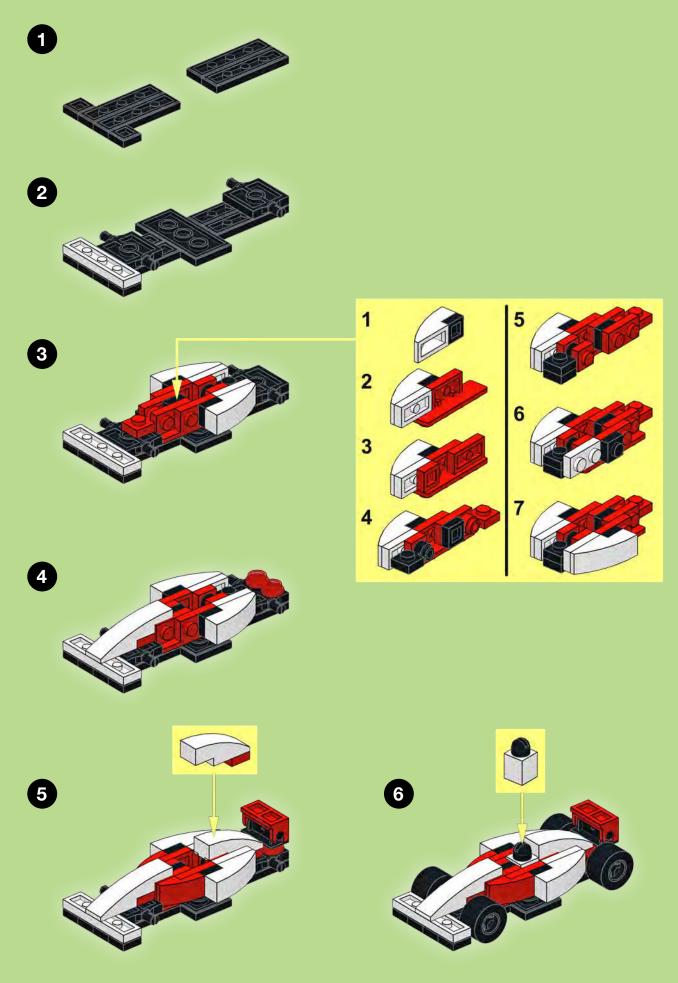


DIFFICULTY LEVEL: MEDIUM

MCLAREN F1

Peer Kreuger



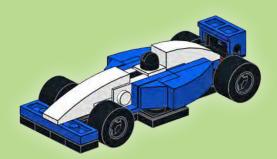


VARIATIONS





Gray Devil



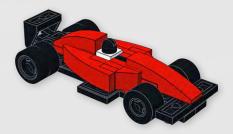


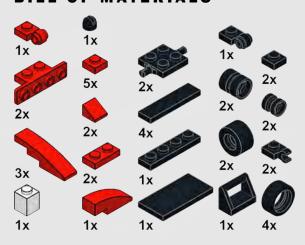
Blue Dream





Orange Fury



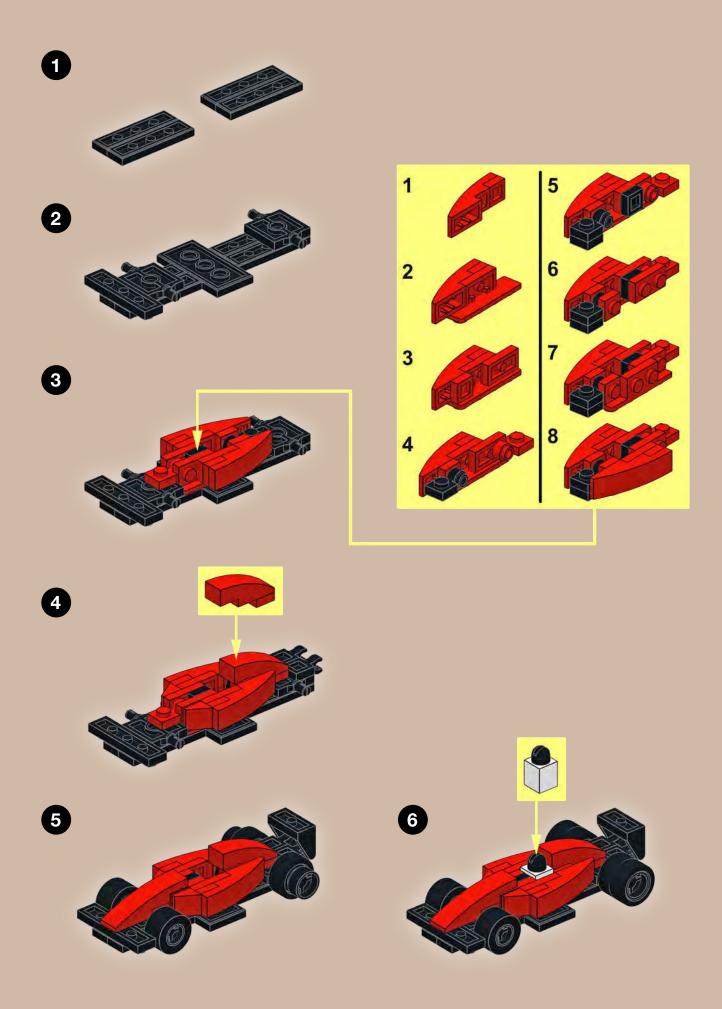


DIFFICULTY LEVEL: MEDIUM

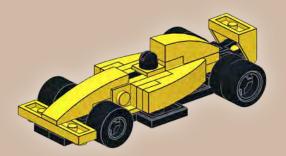
FERRARI F1

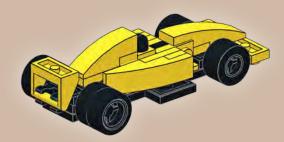
George Panteleon





VARIATIONS





Yellow Lightning





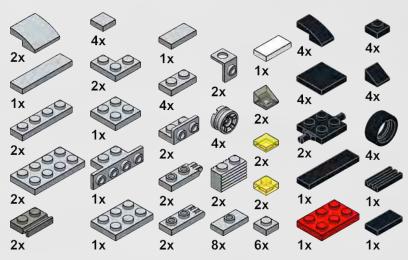
Blue Flash





Black Night



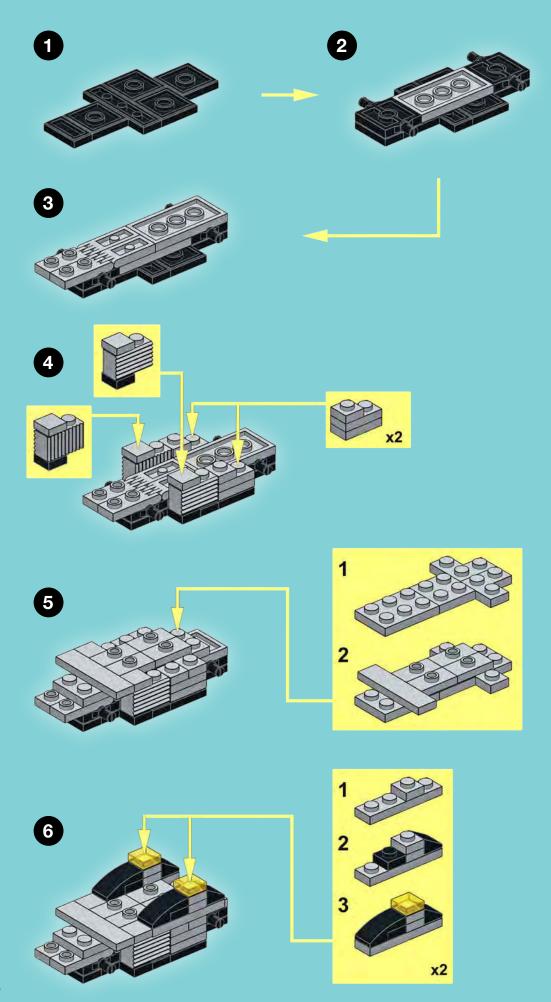


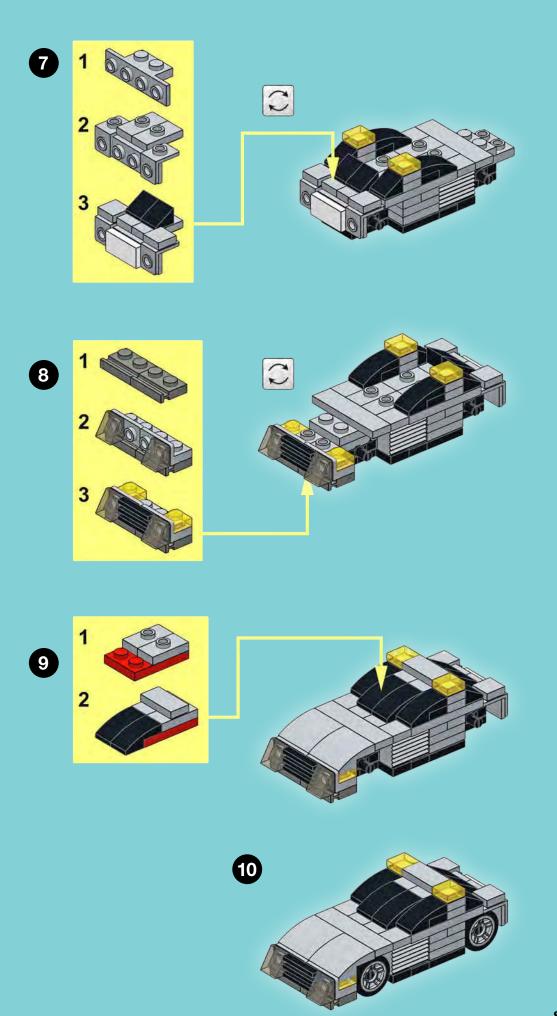
DIFFICULTY LEVEL: MEDIUM

SAFETY CAR

Alexander Bugiel



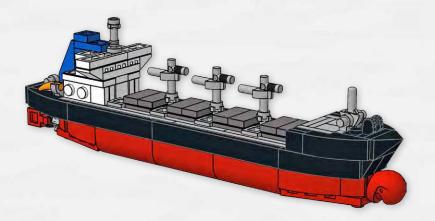


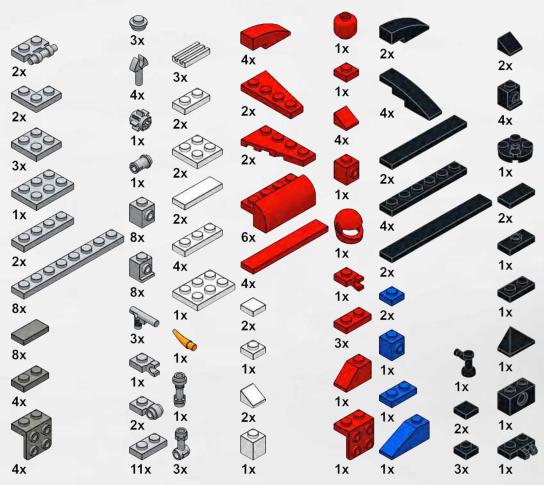






THE HARBOR



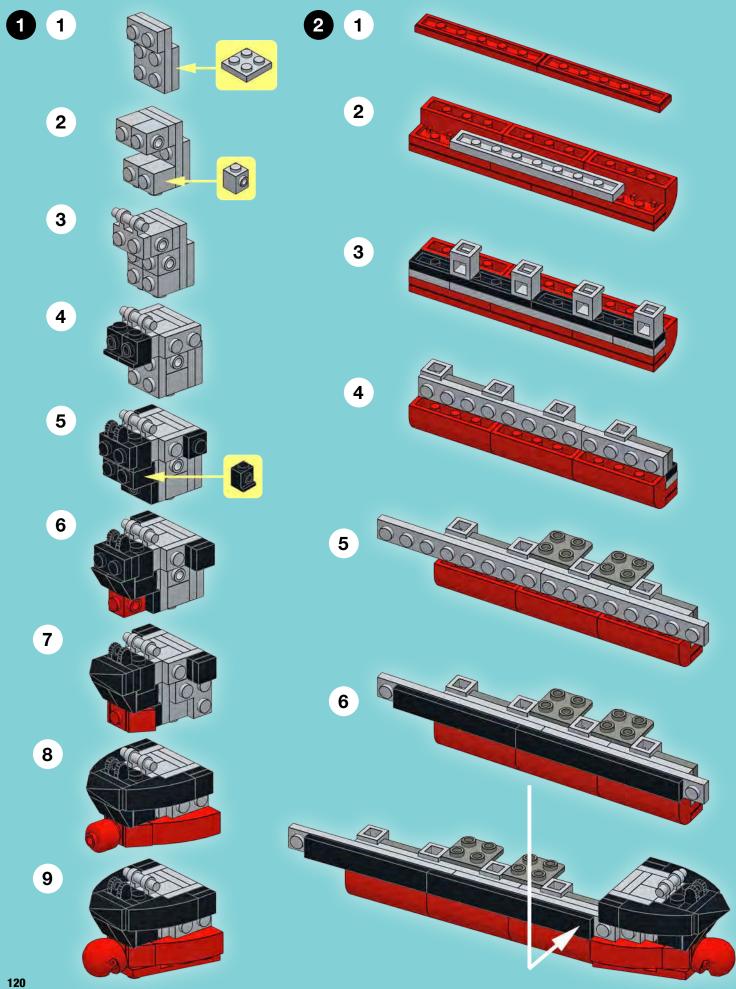


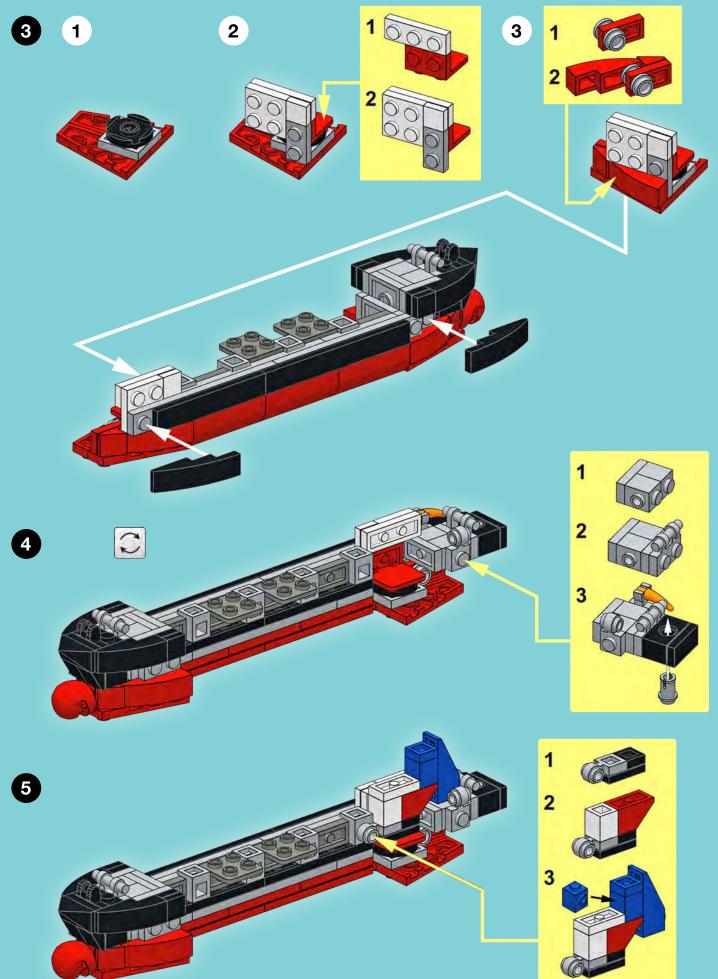
DIFFICULTY LEVEL: HARD

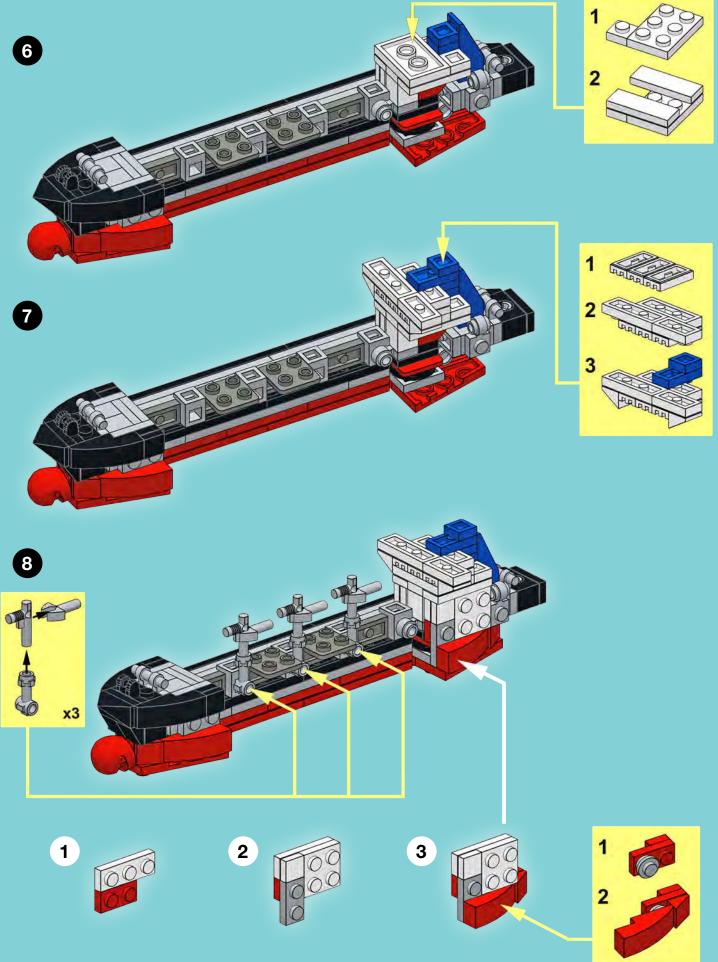
BULK CARRIER

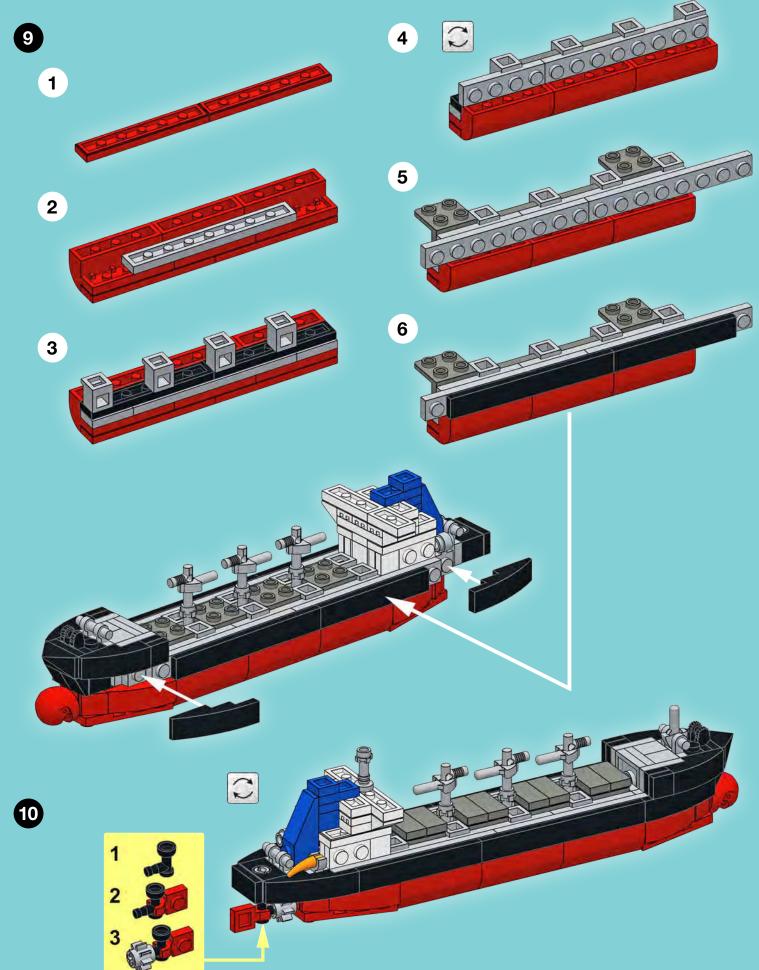
George Panteleon



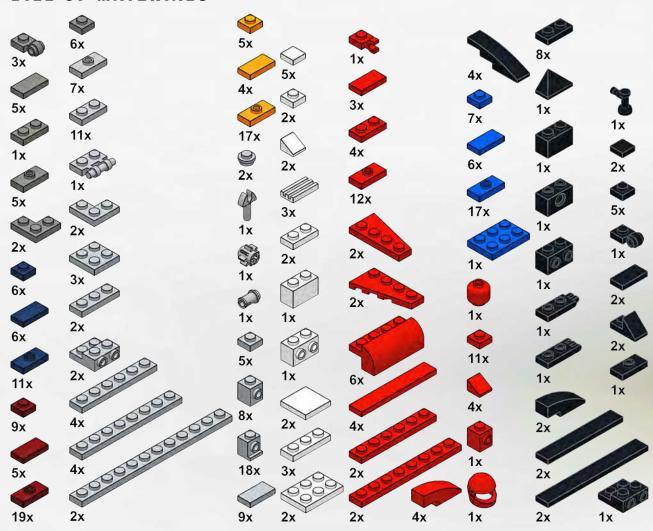










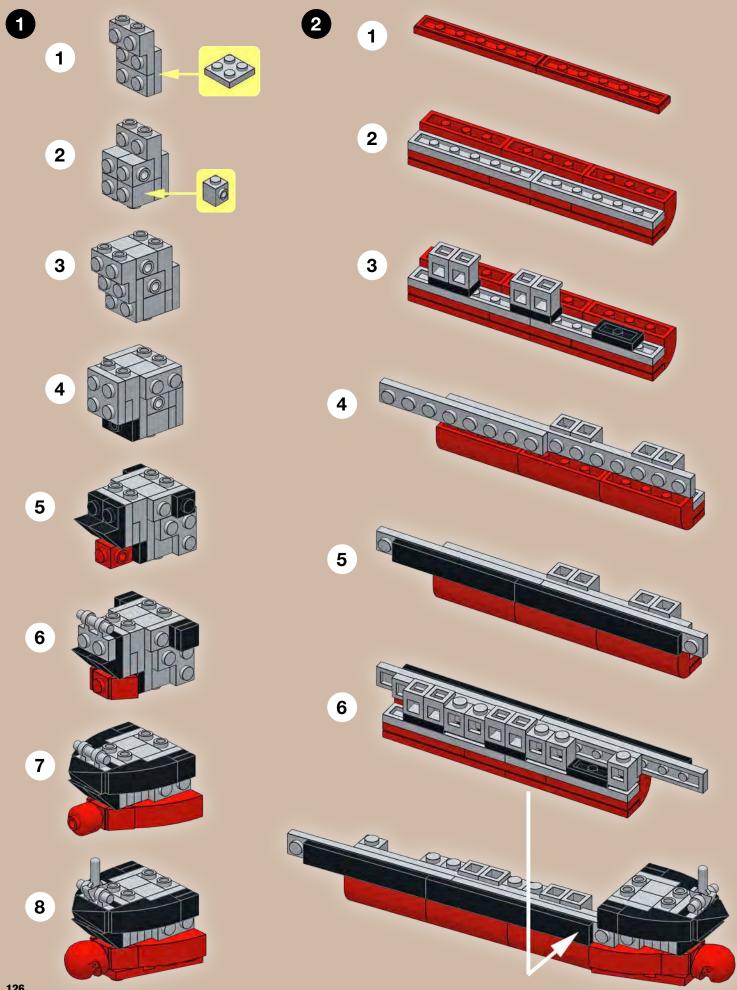


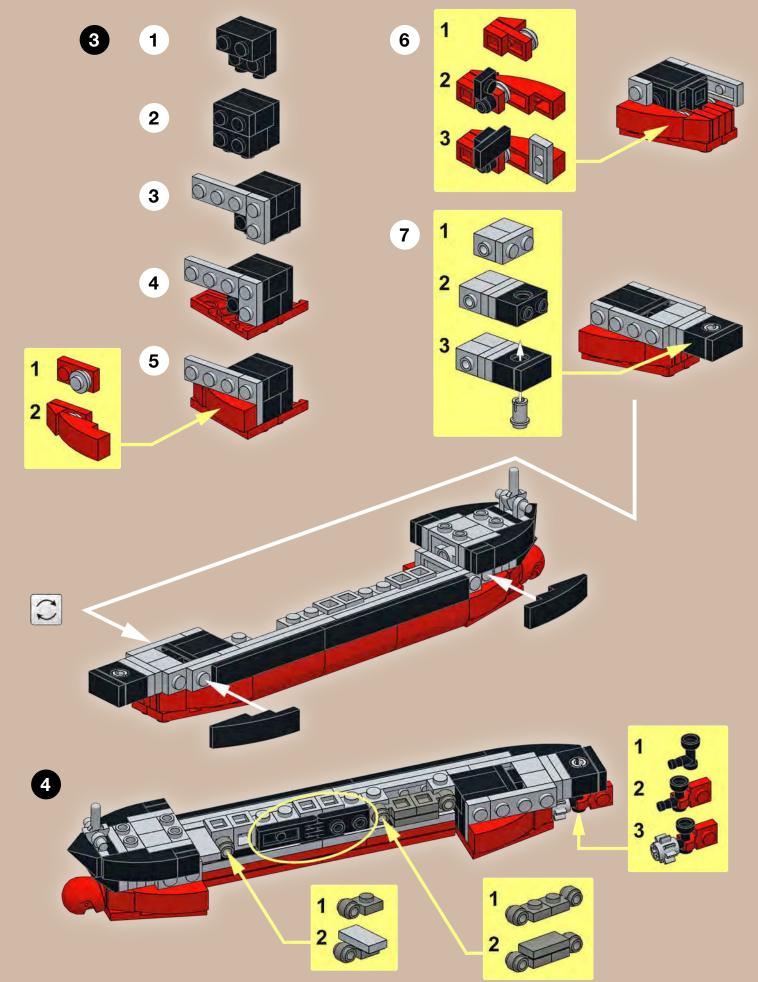
DIFFICULTY LEVEL: HARD

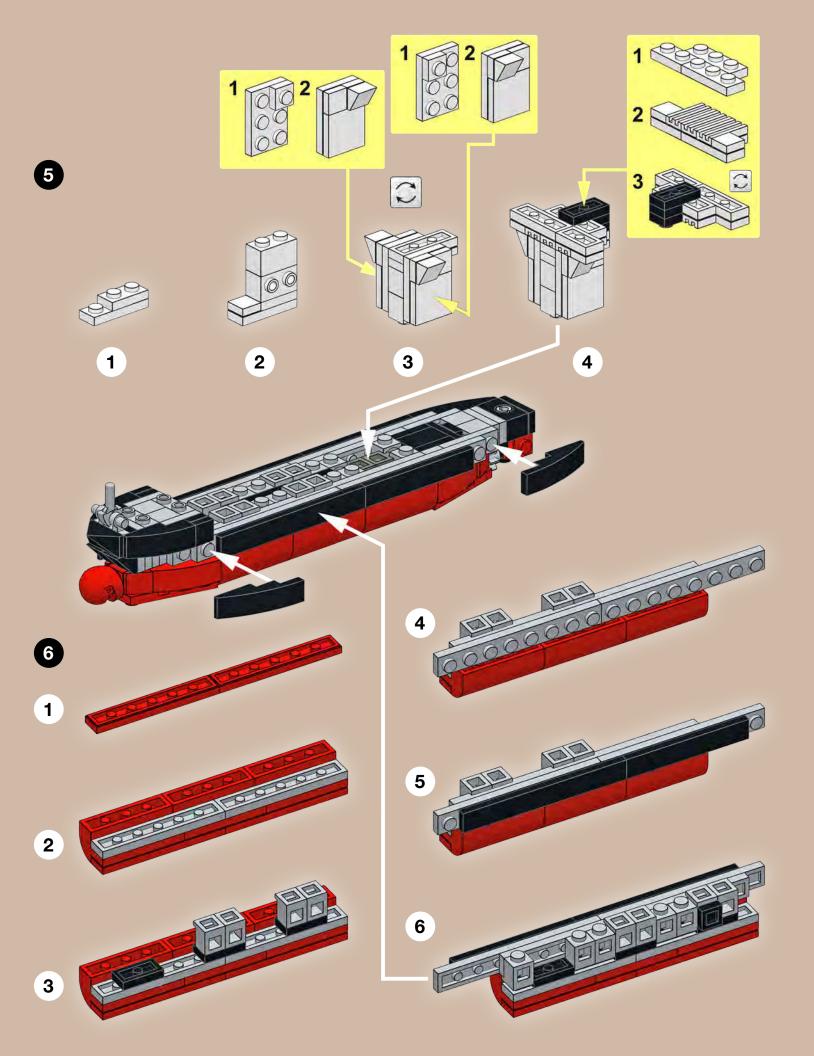
FREIGHTER

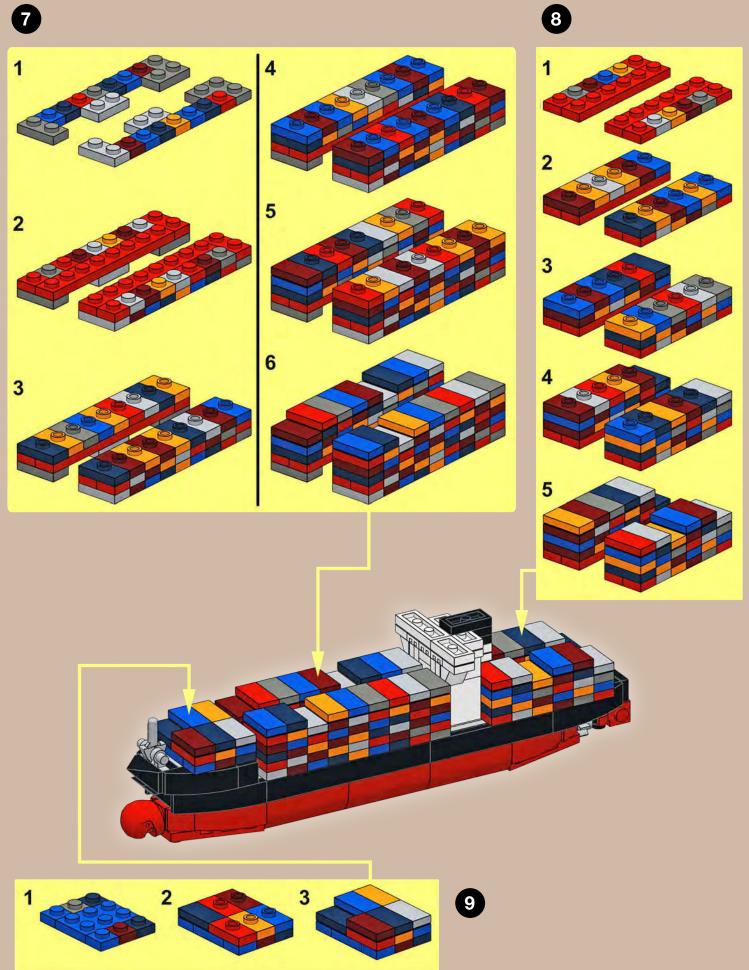
George Panteleon



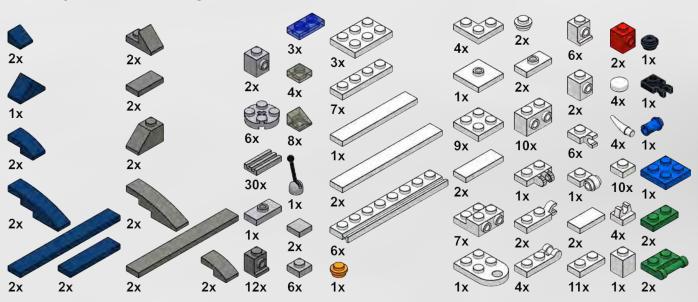










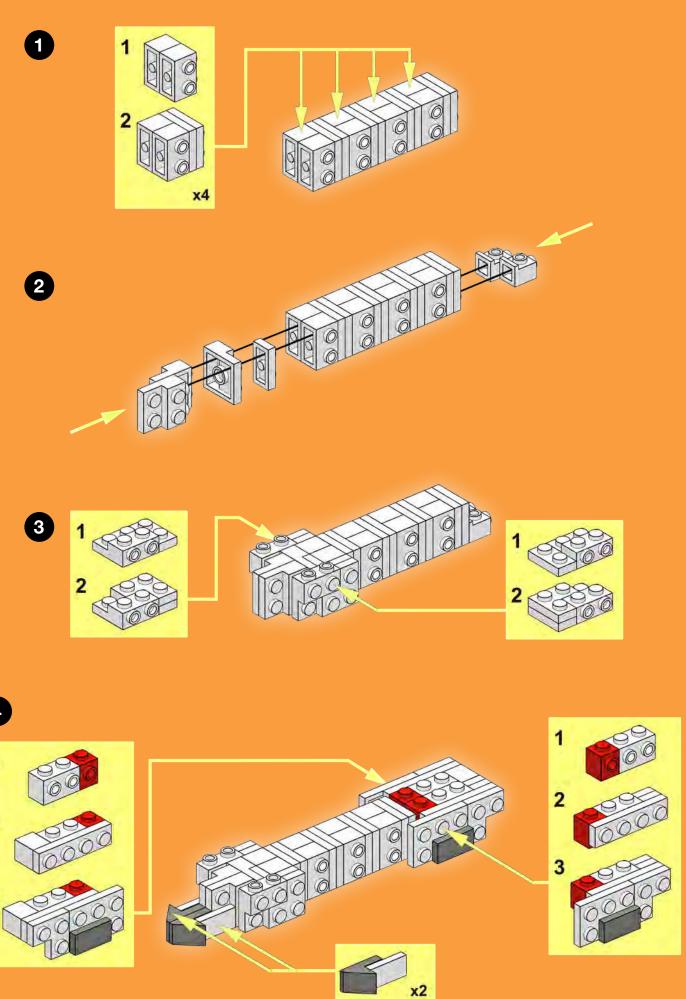


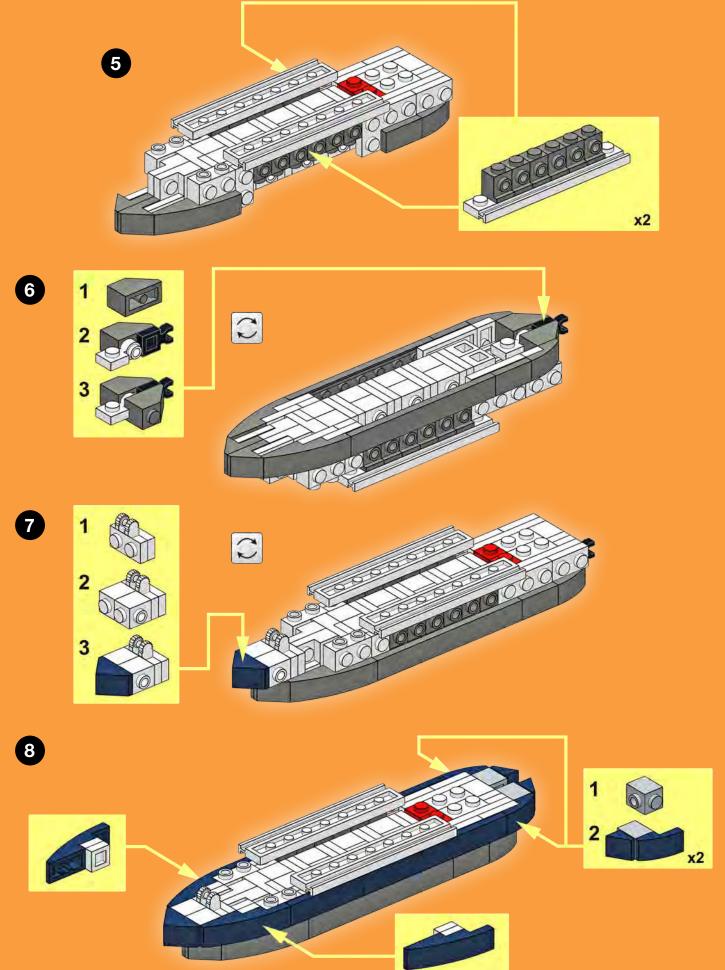
DIFFICULTY LEVEL: HARD

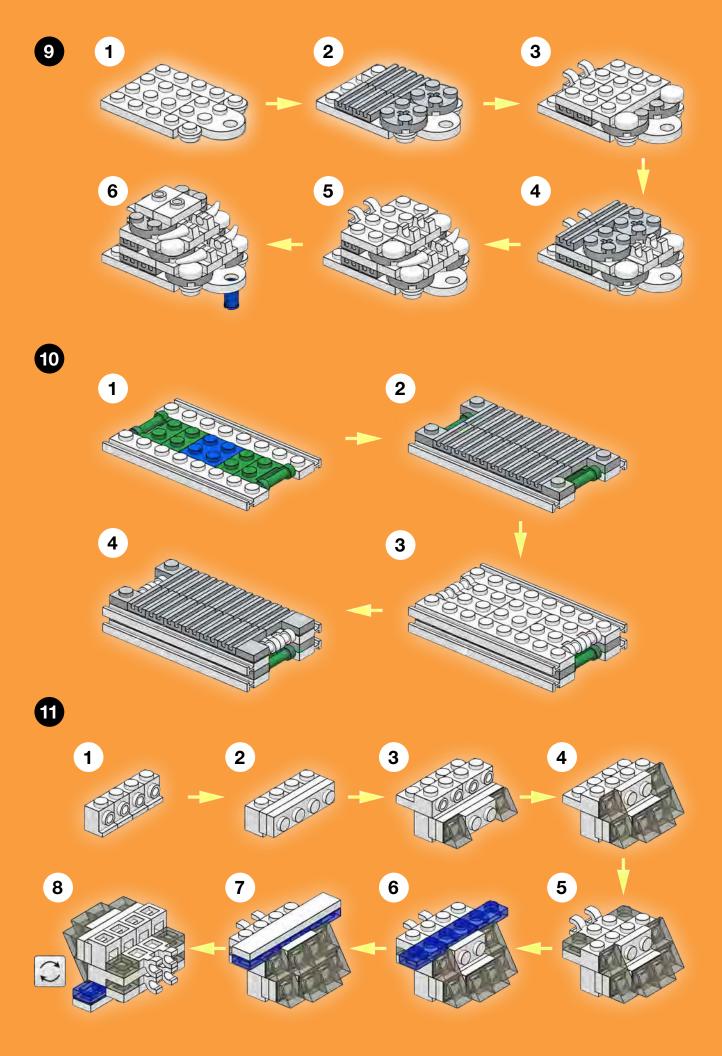
CRUISE SHIP

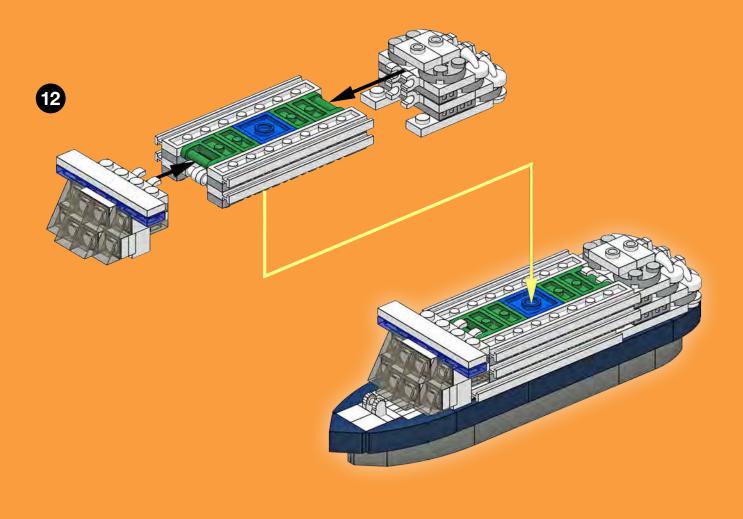
Alexander Bugiel

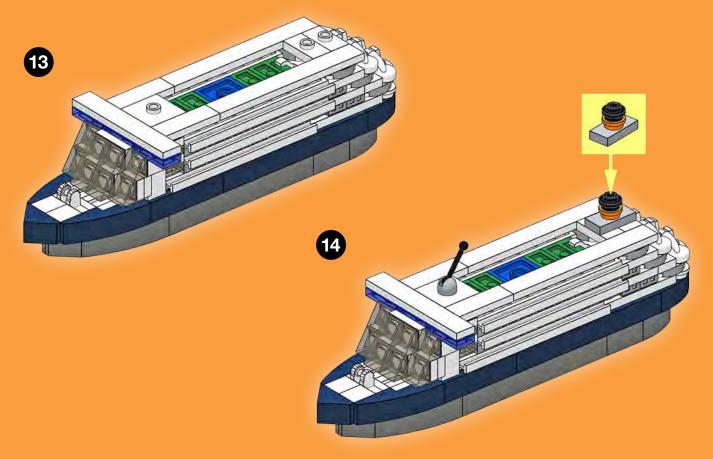


















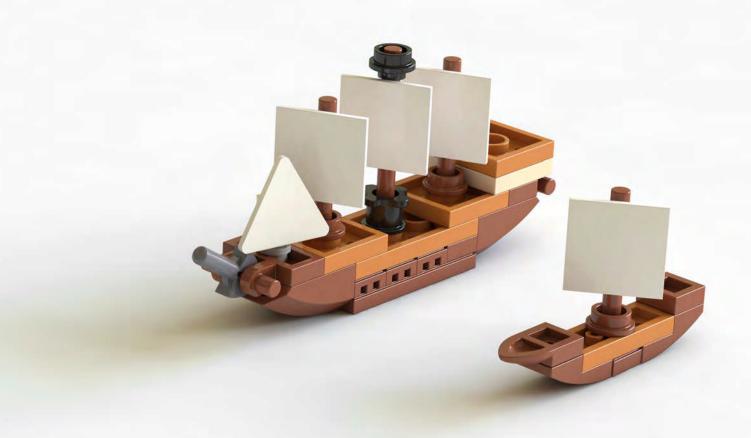
BILL OF MATERIALS

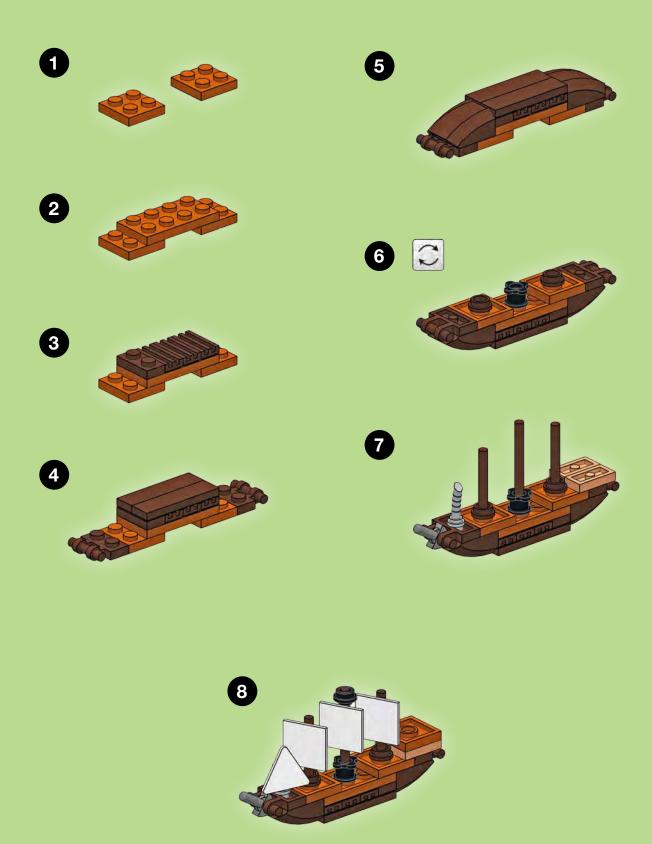


DIFFICULTY LEVEL: EASY

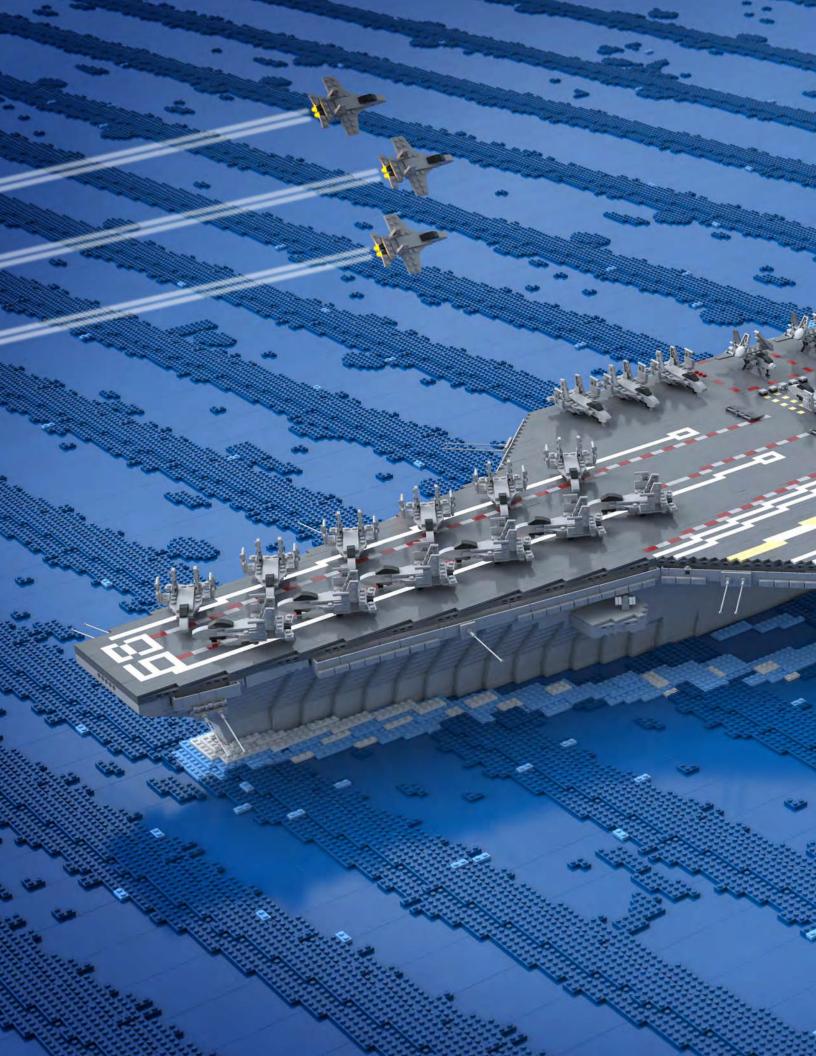
WOODEN SHIPS

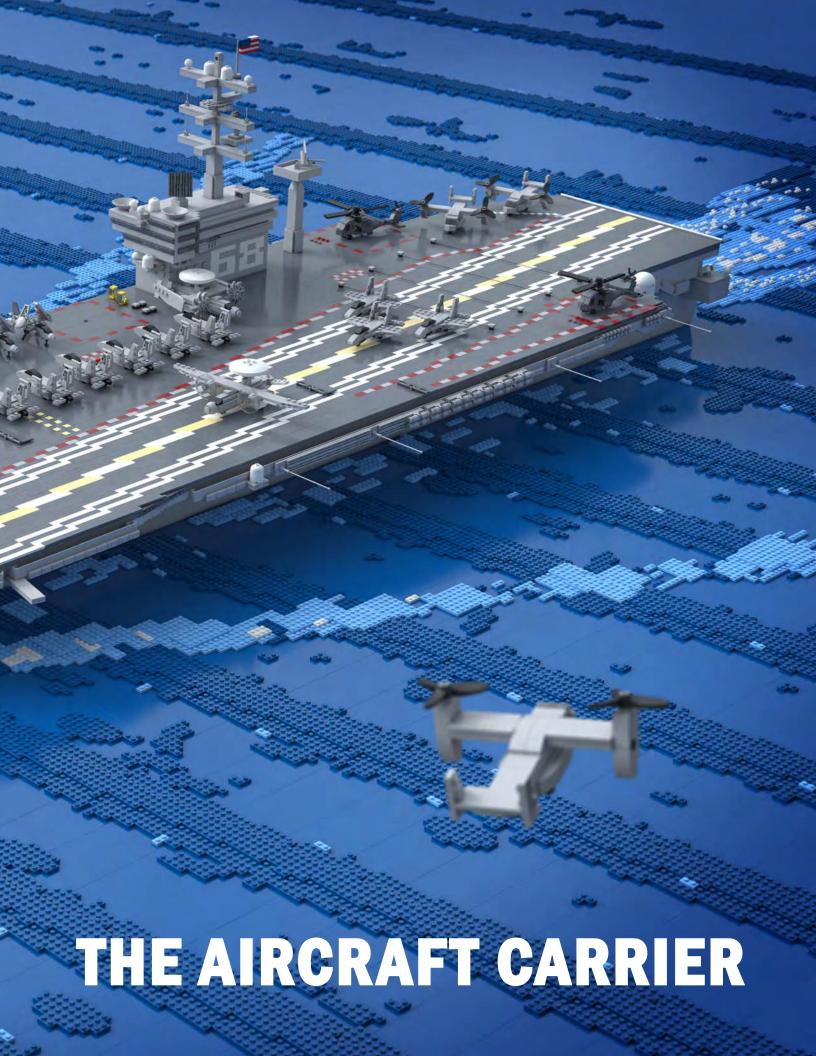
Alexander Bugiel



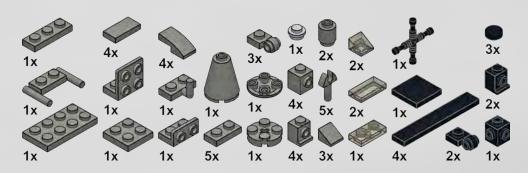








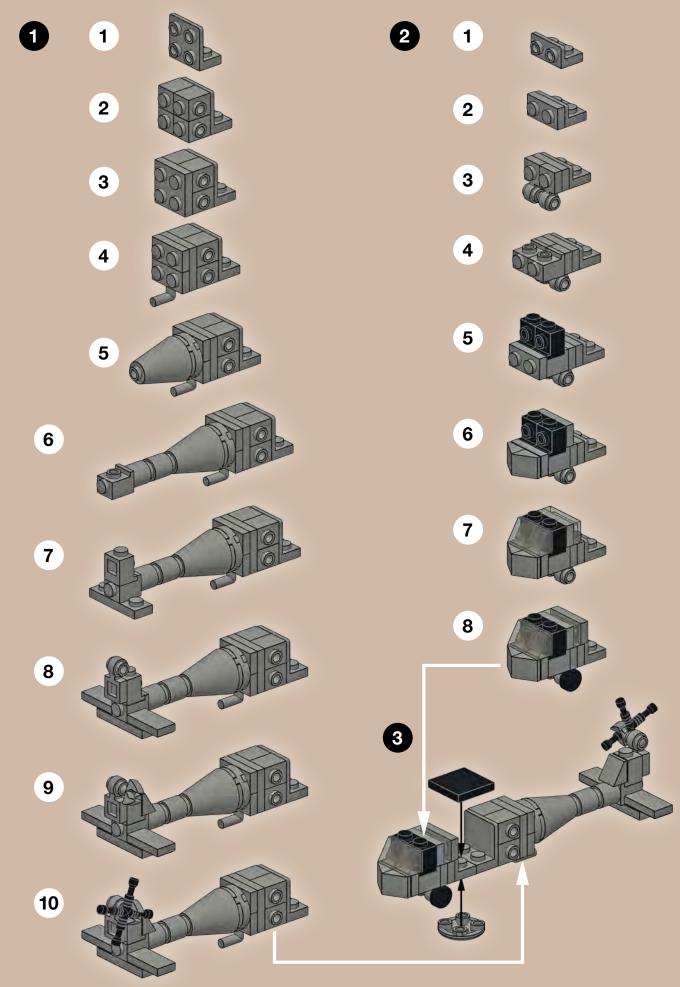


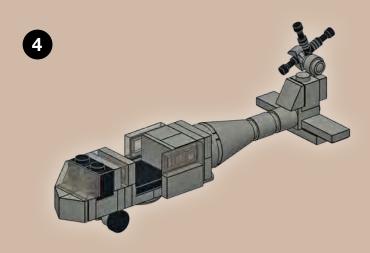


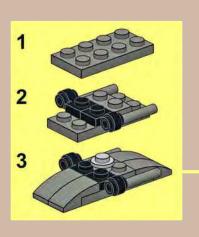
BLACK HAWK

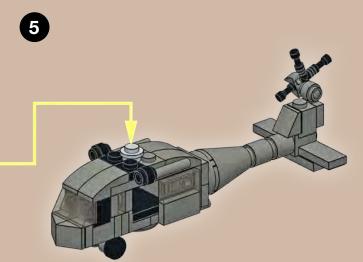
Alexander Bugiel

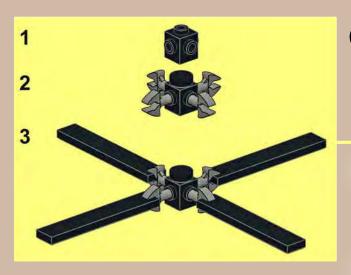




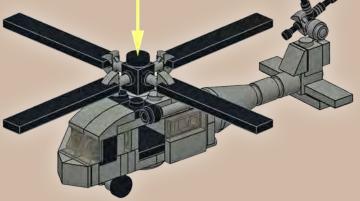


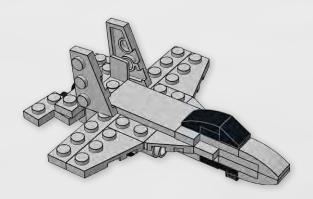


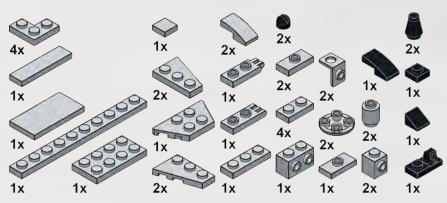






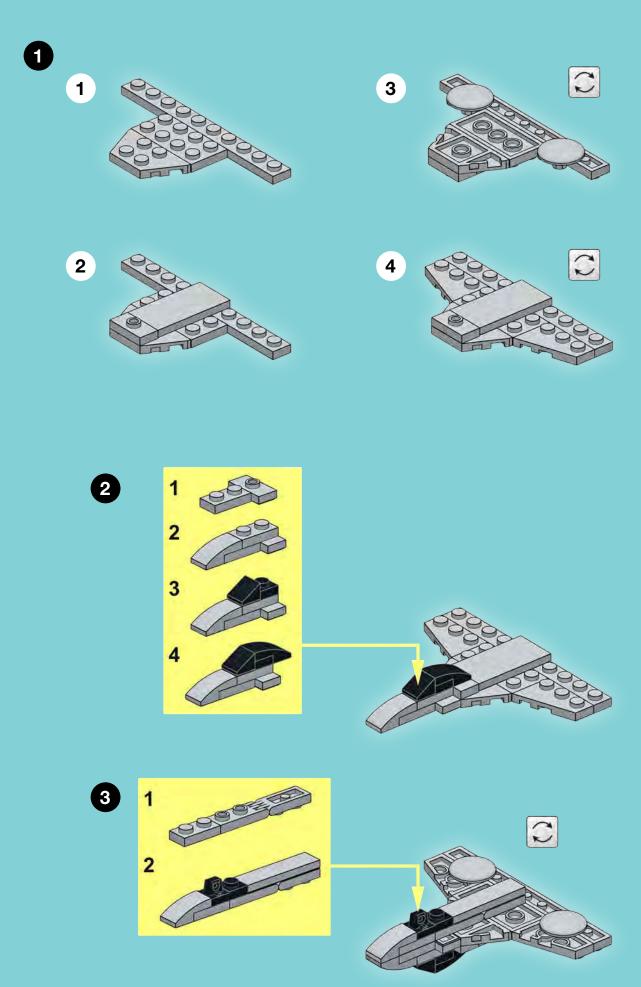


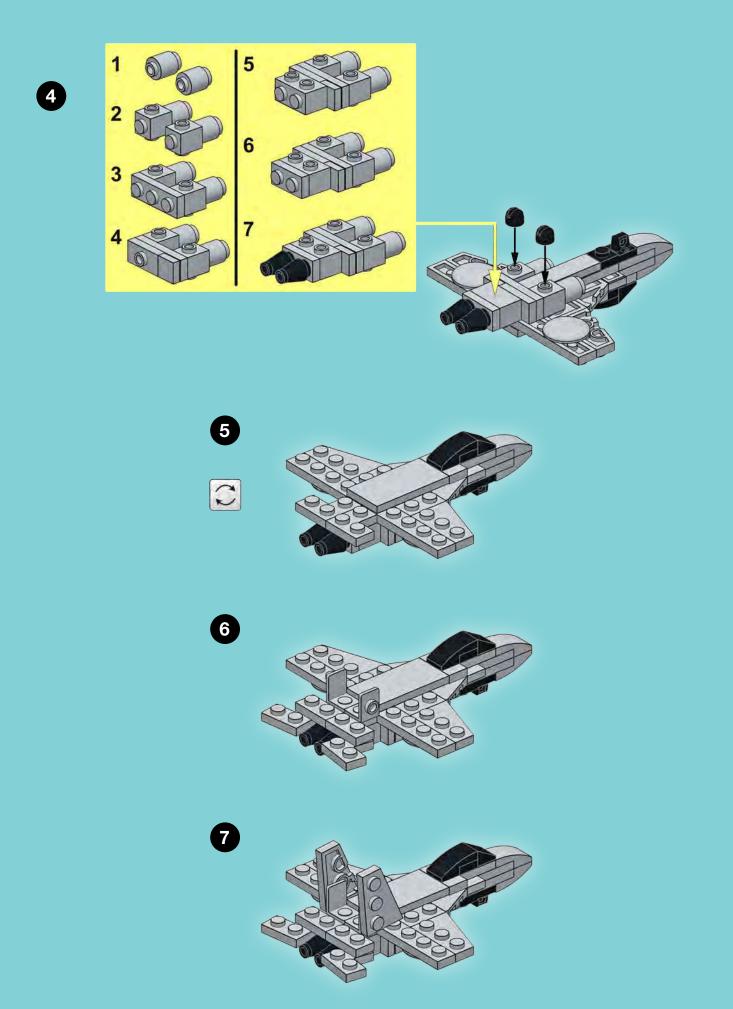


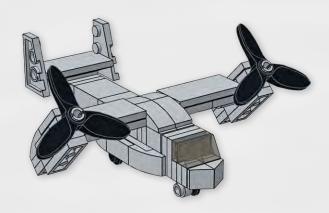


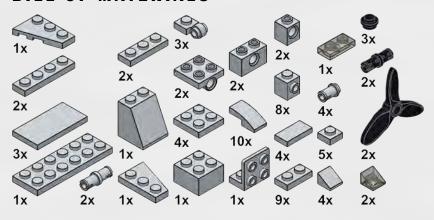
F-15 EAGLE Alexander Bugiel







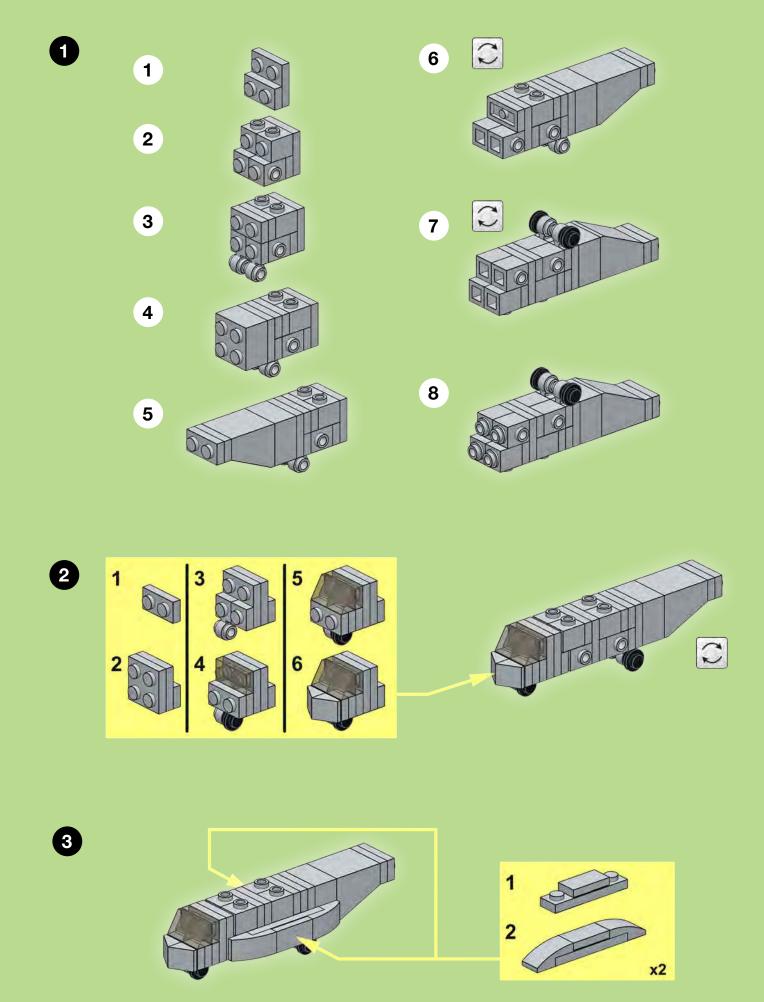




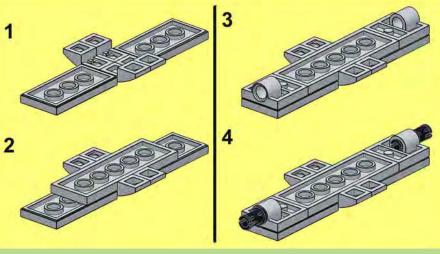
V-22 OSPREY

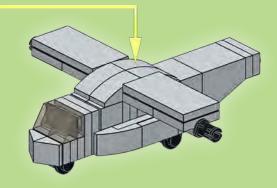
Mattia Zamboni



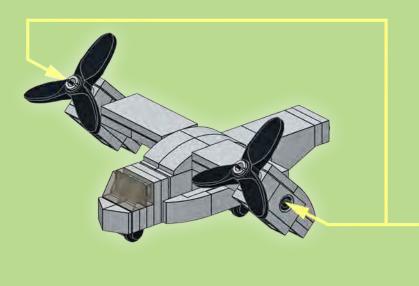


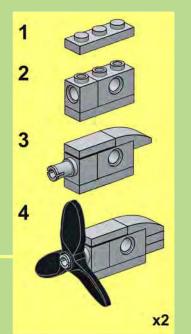


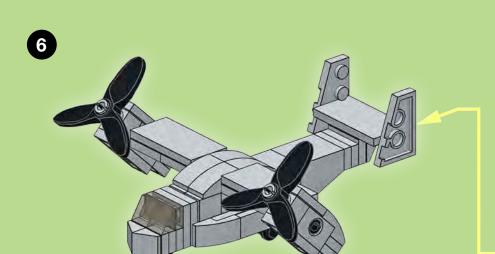


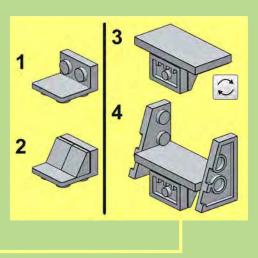




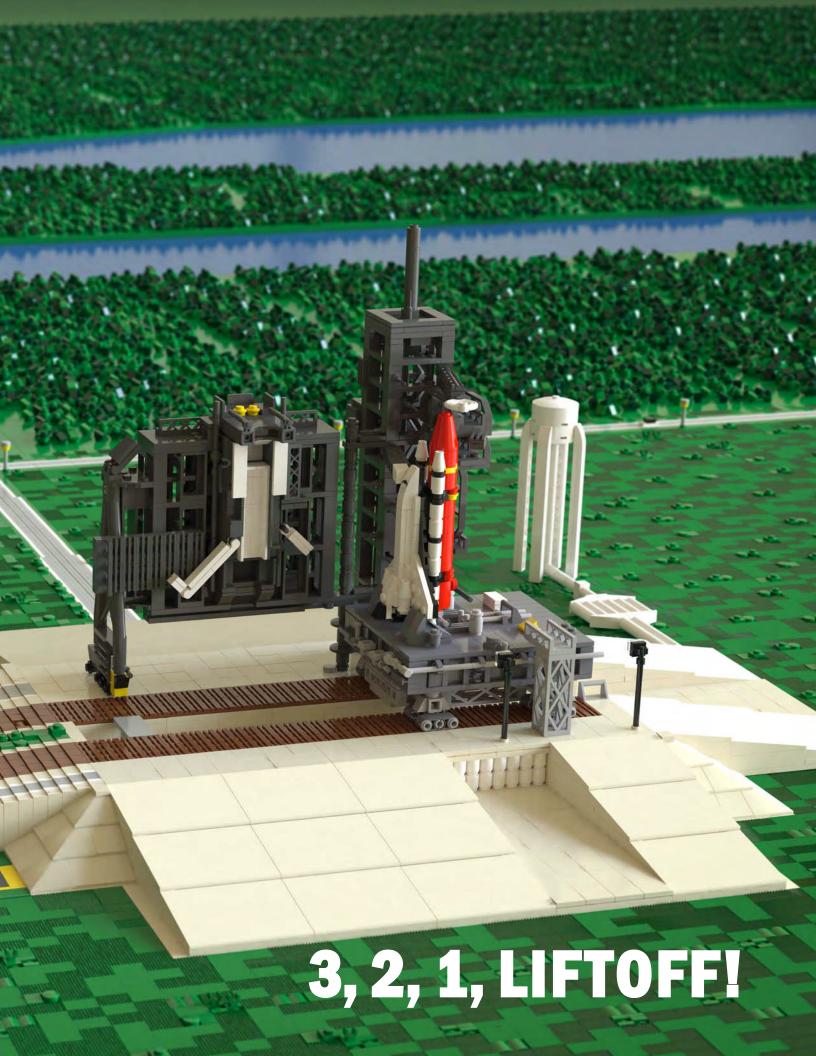


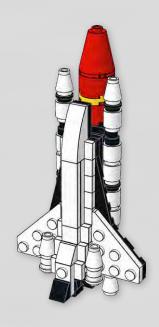


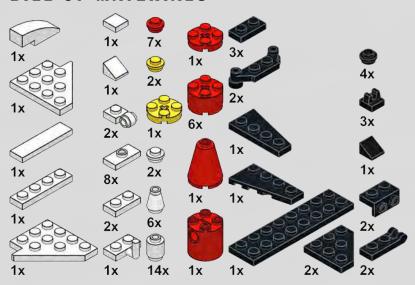








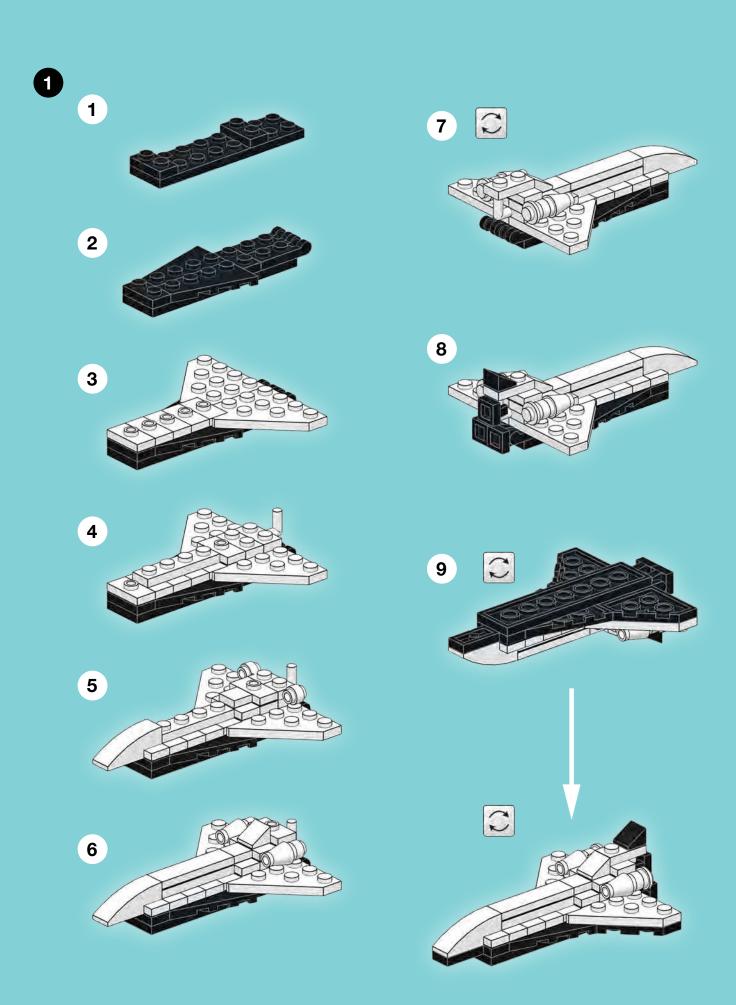


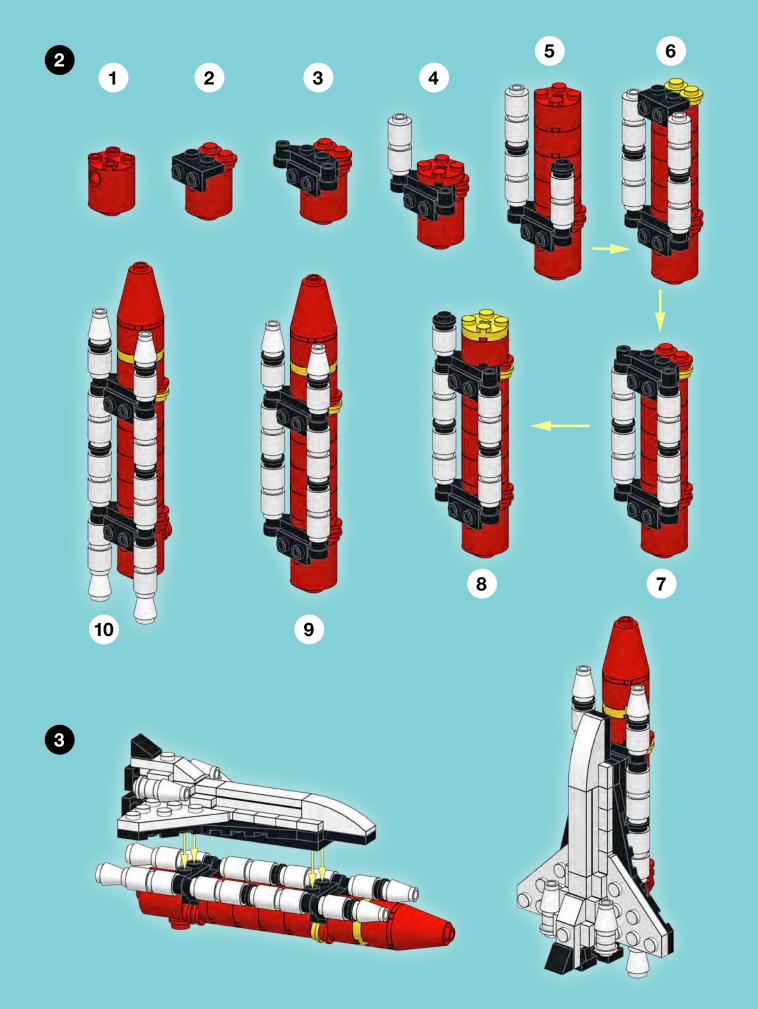


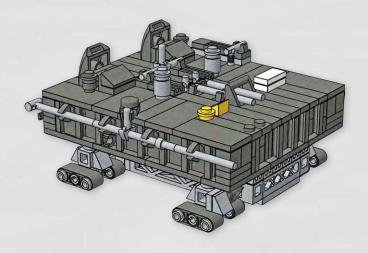
SPACE SHUTTLE

Matteo Russolillo

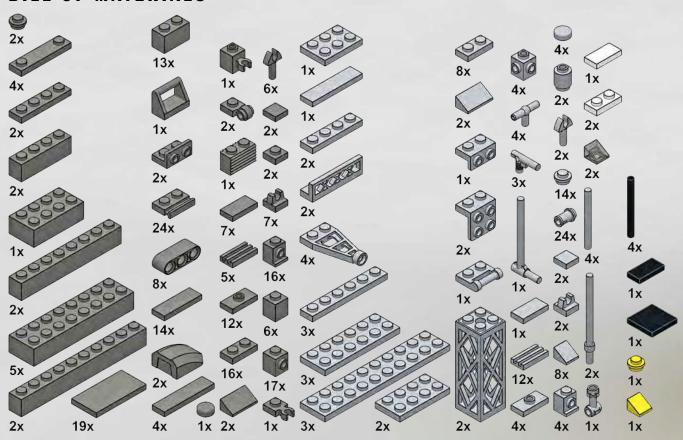








BILL OF MATERIALS

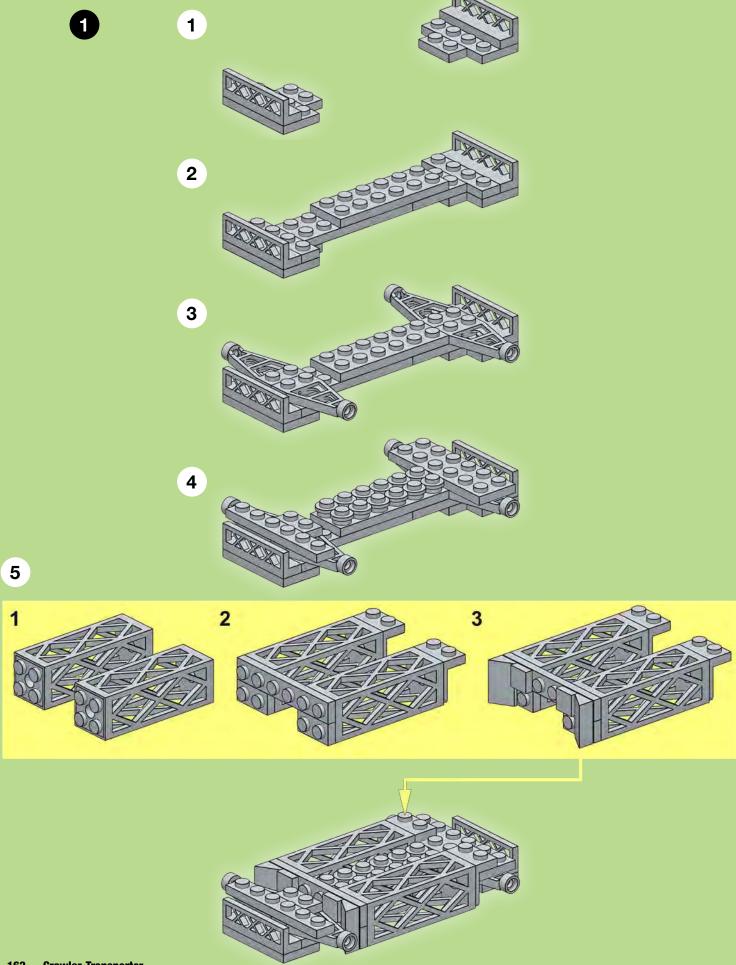


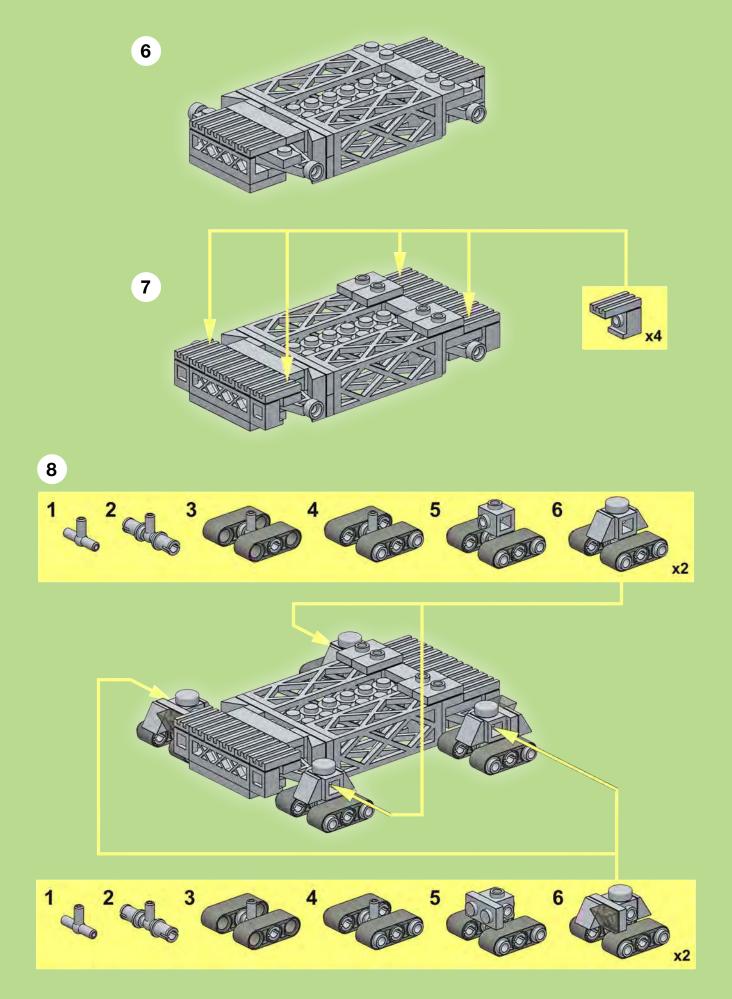
DIFFICULTY LEVEL: HARD

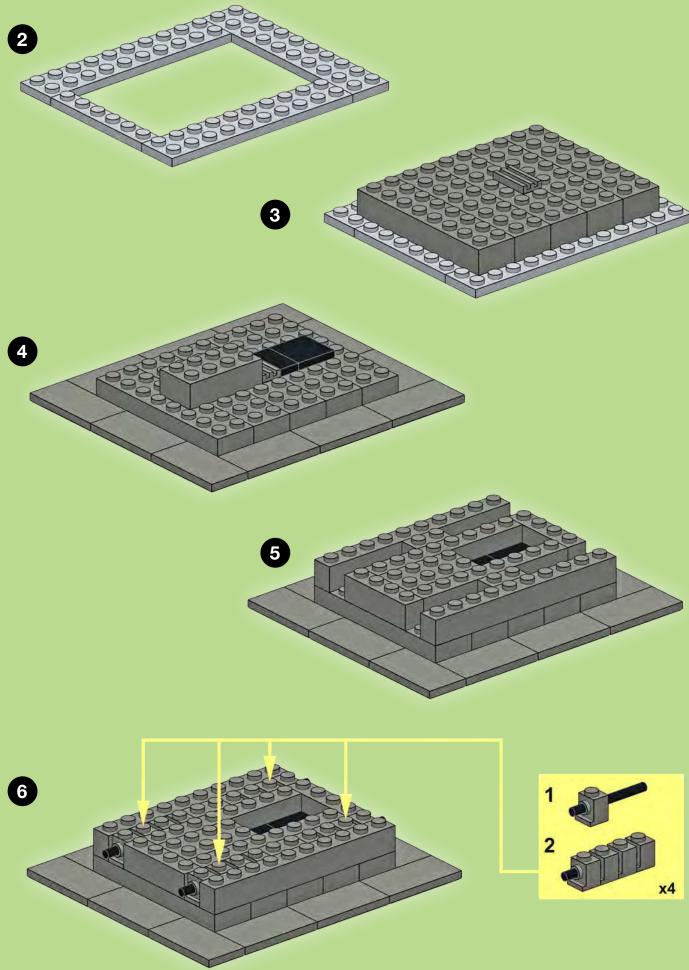
CRAWLER-TRANSPORTER

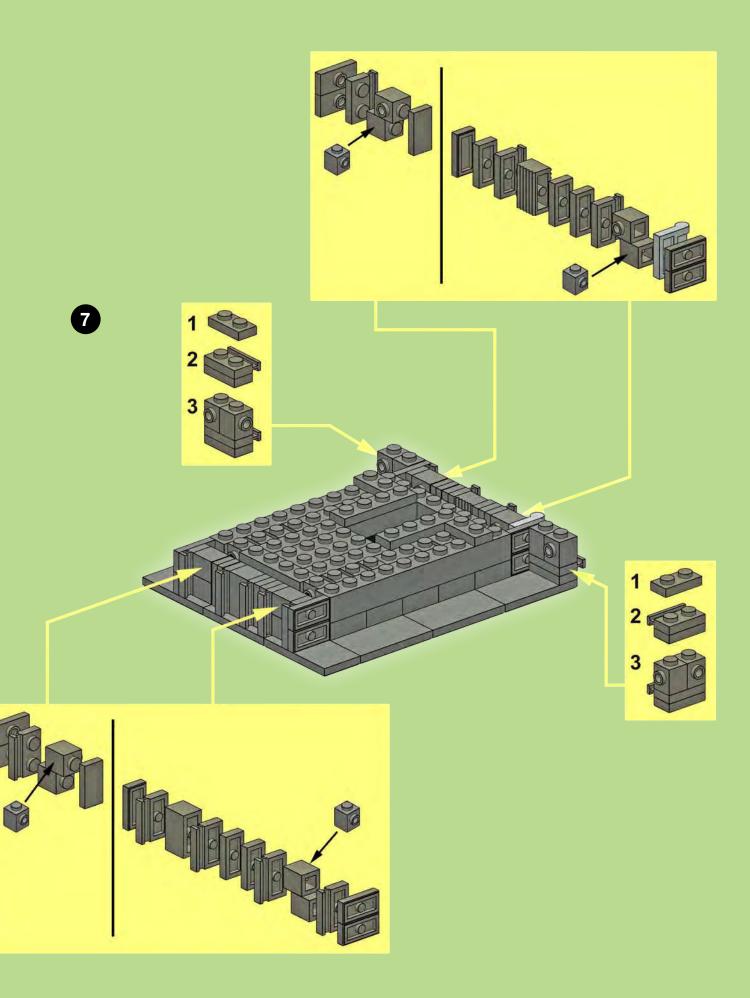
Matteo Russolillo



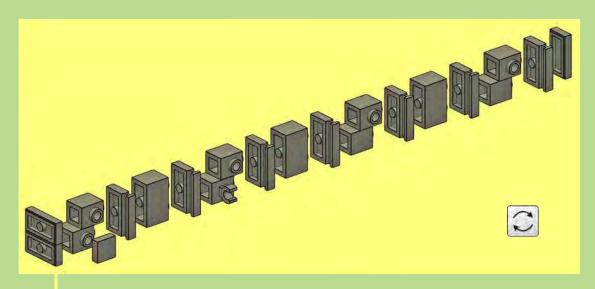


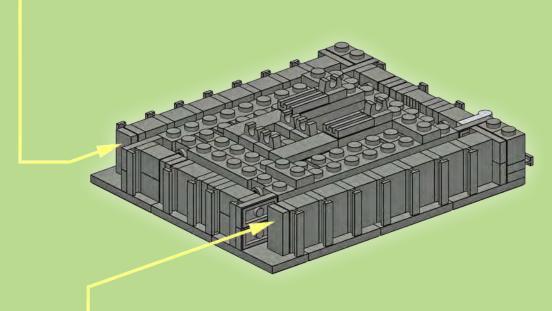


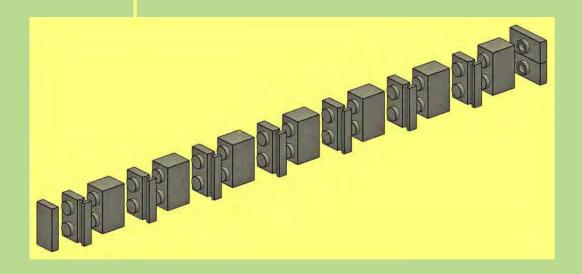


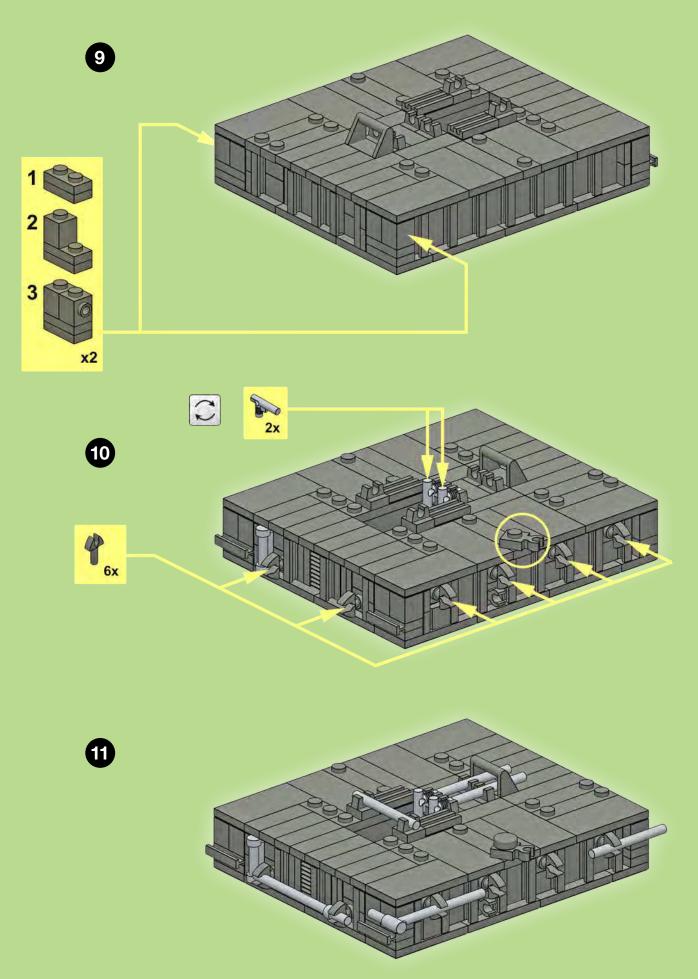


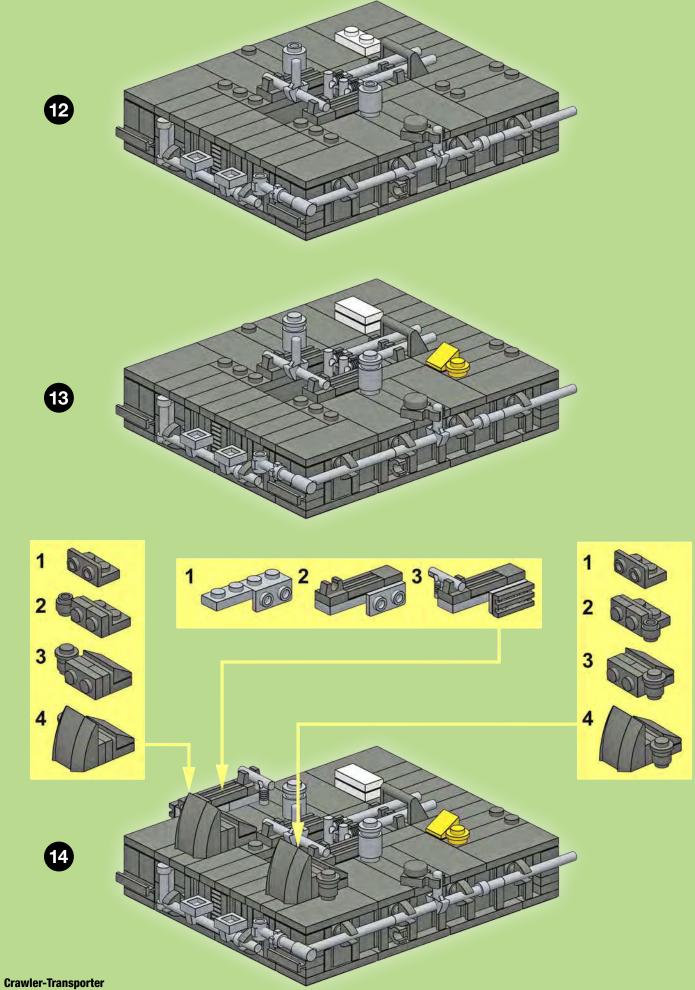


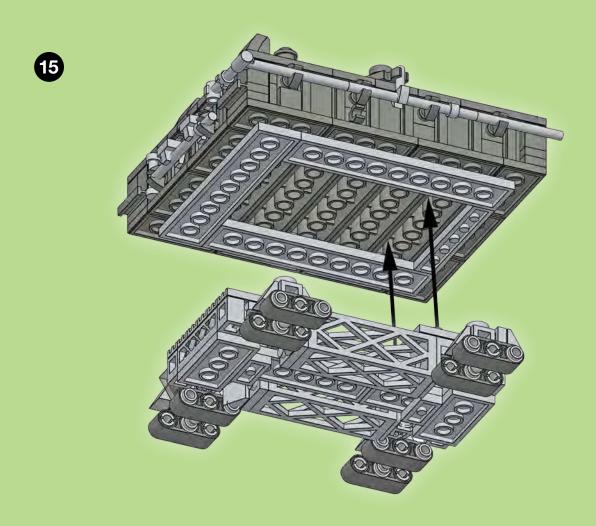


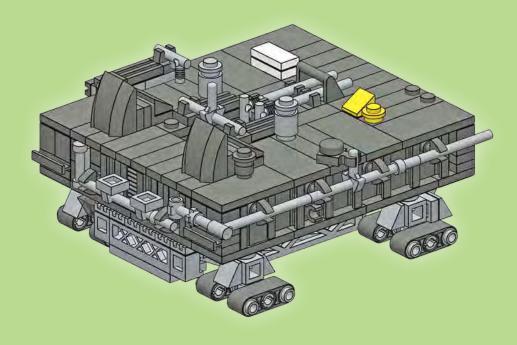


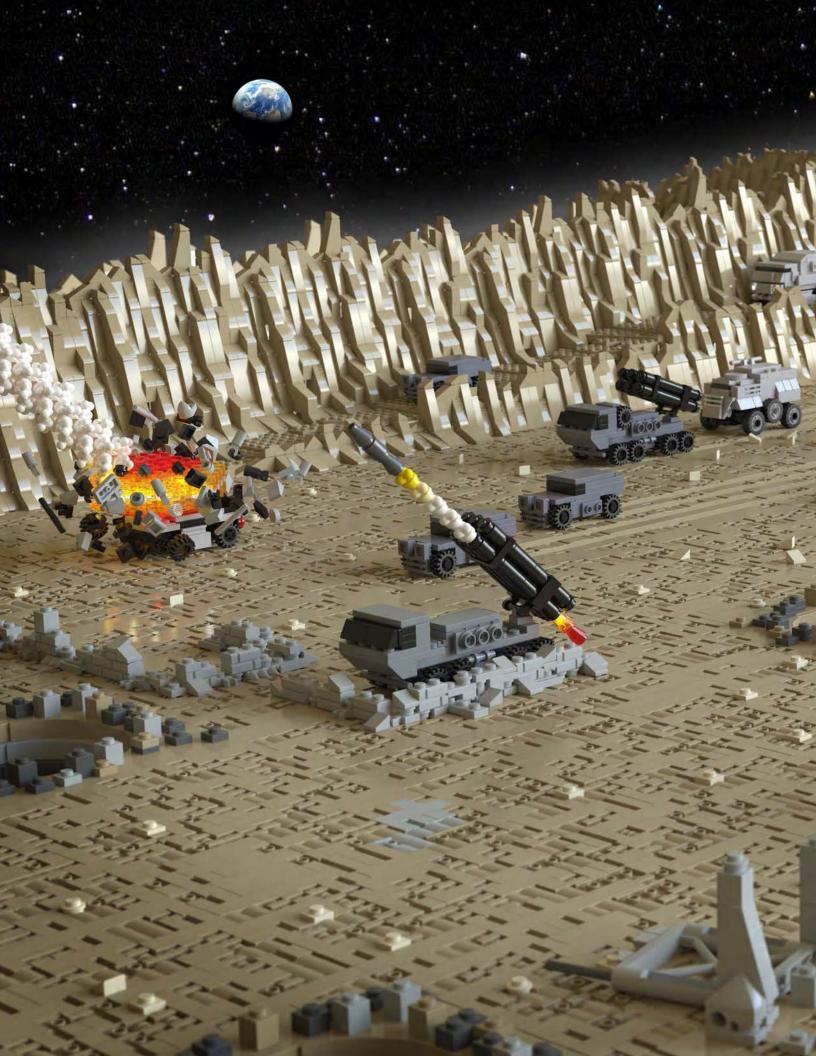




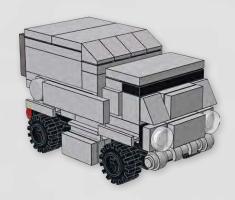


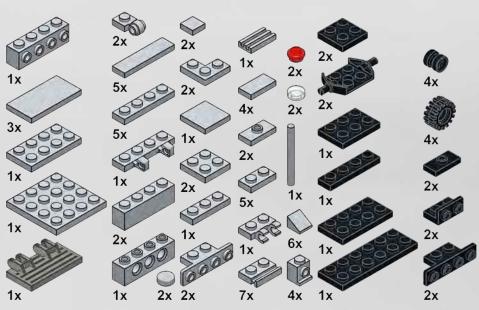








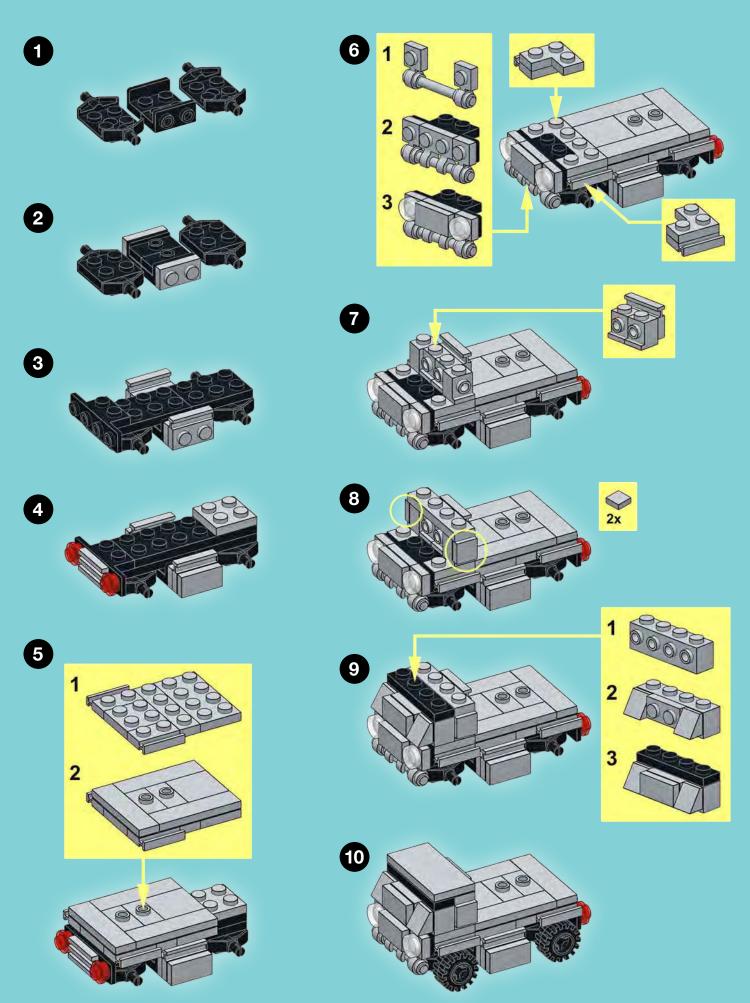


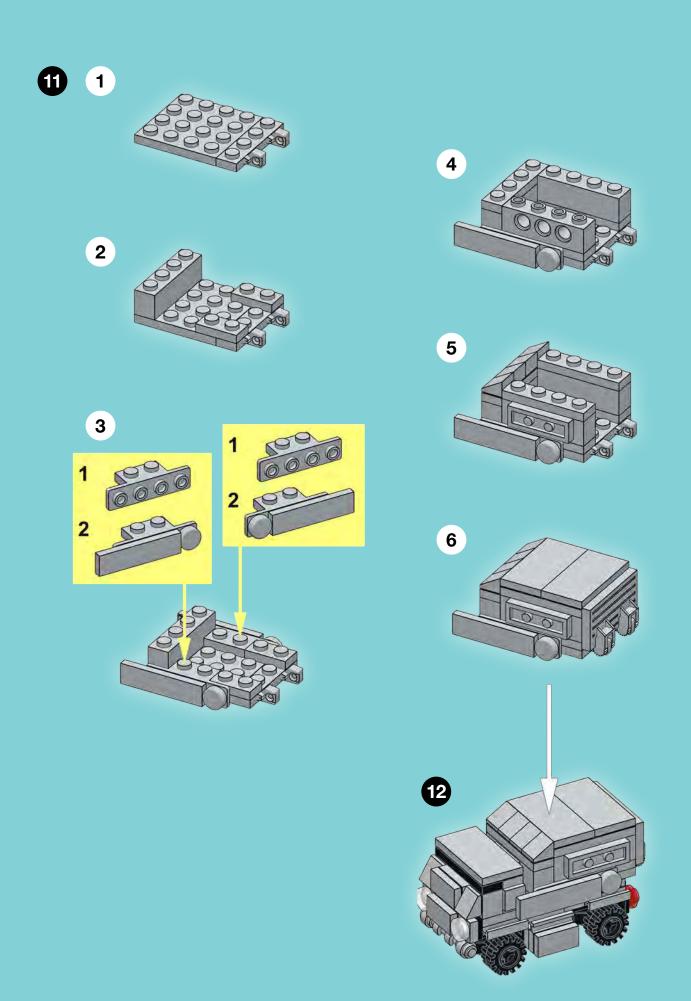


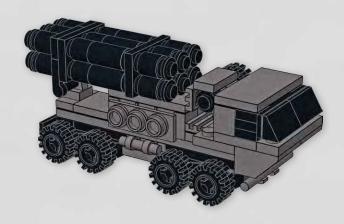
DIFFICULTY LEVEL: EASY

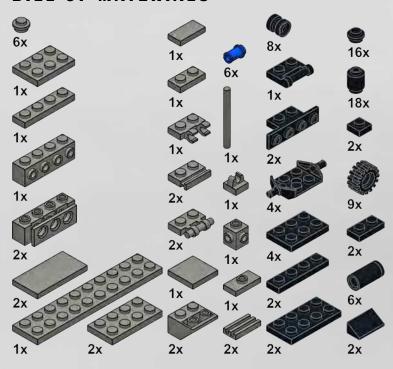
ARMORED CAR







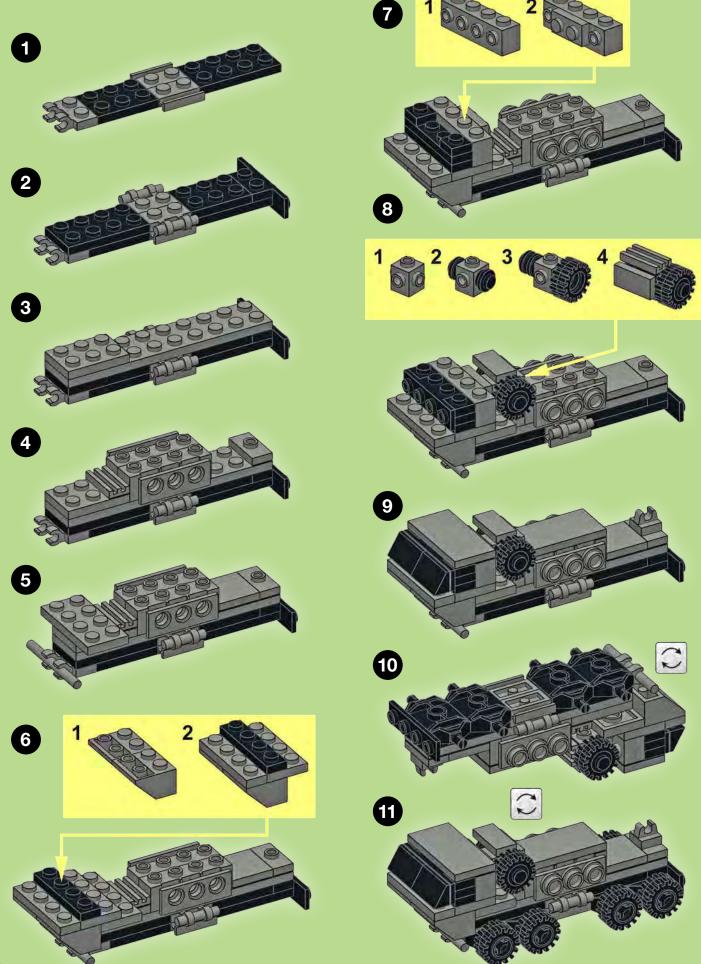


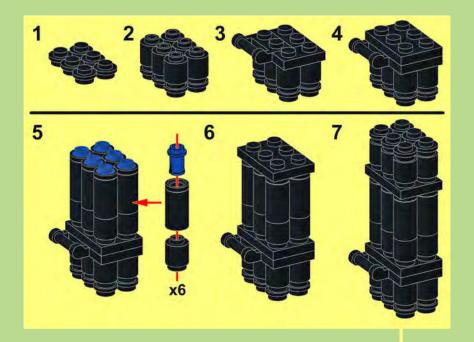


DIFFICULTY LEVEL: EASY

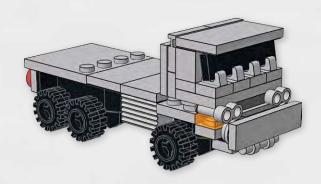
ROCKET LAUNCHER TRUCK

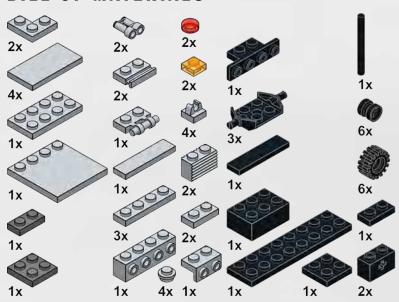








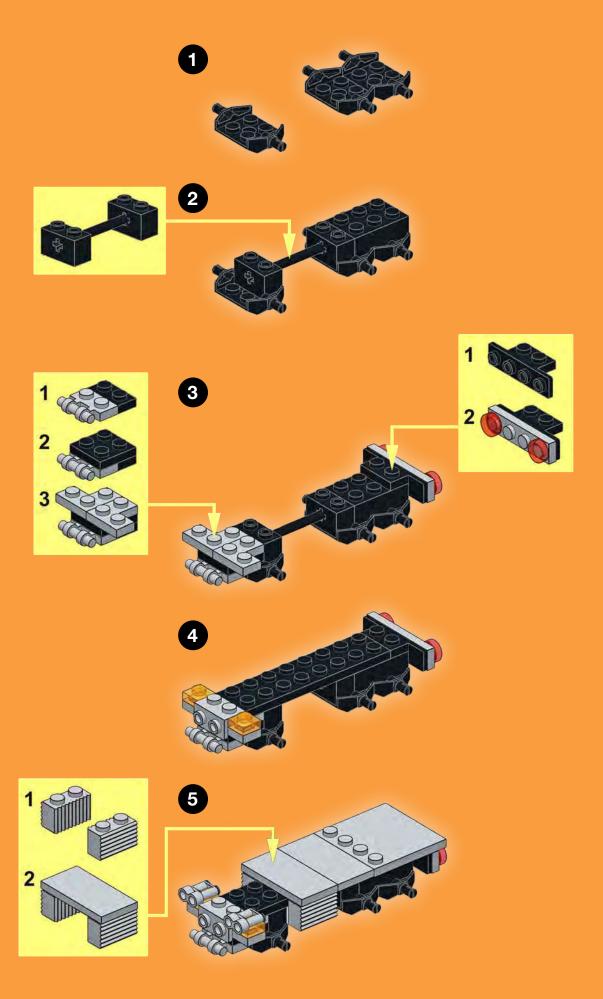


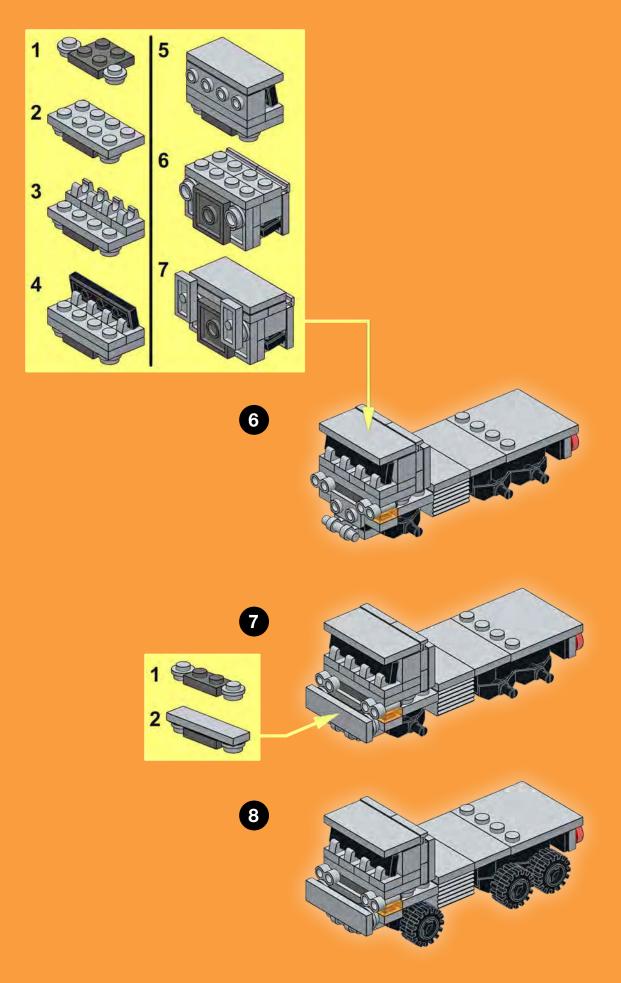


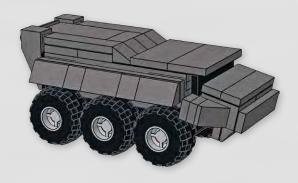
DIFFICULTY LEVEL: EASY

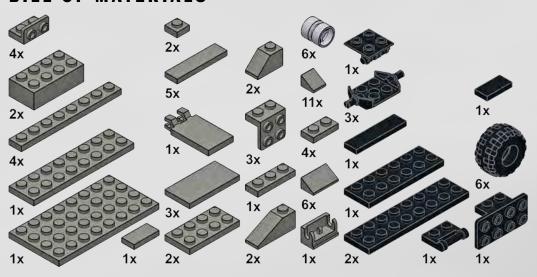
MILITARY FLATBED







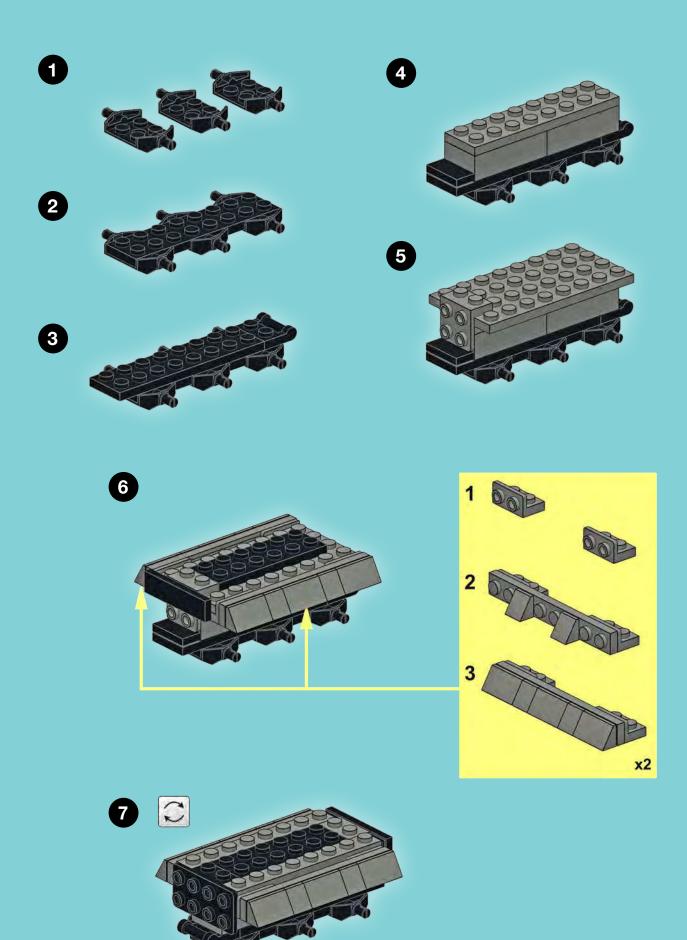


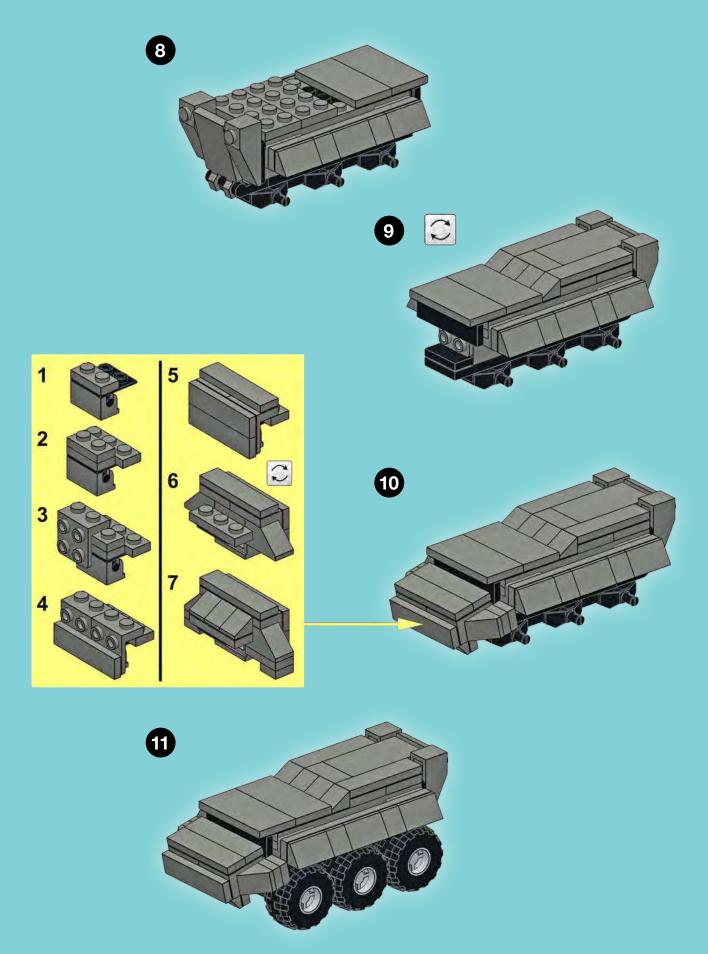


DIFFICULTY LEVEL: MEDIUM

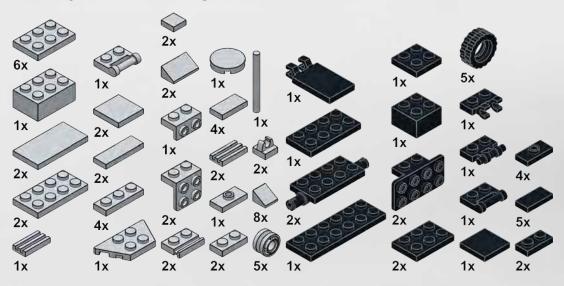
TACTICAL VEHICLE







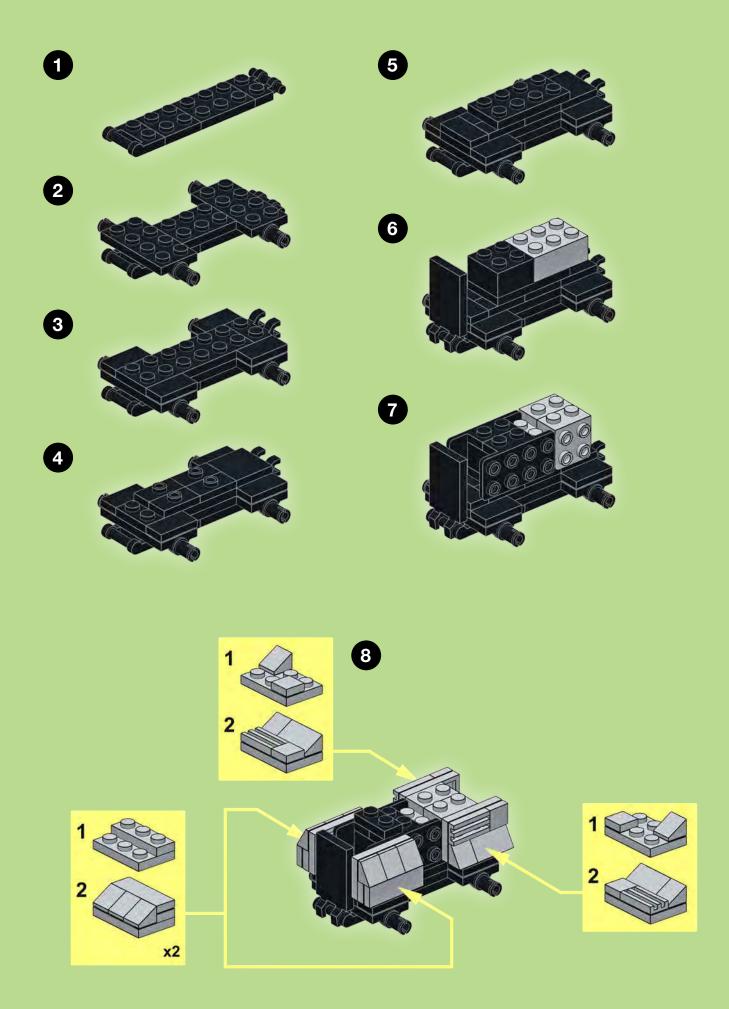


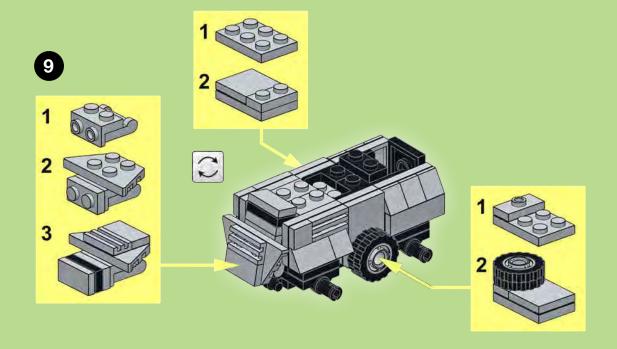


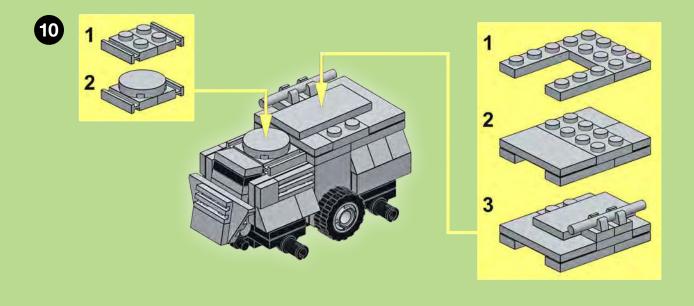
DIFFICULTY LEVEL: EASY

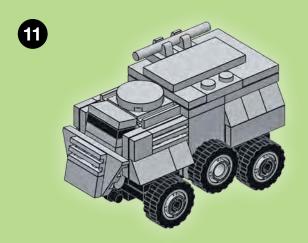
ARMORED PERSONNEL CARRIER



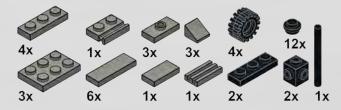






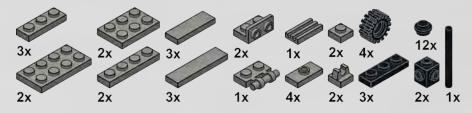






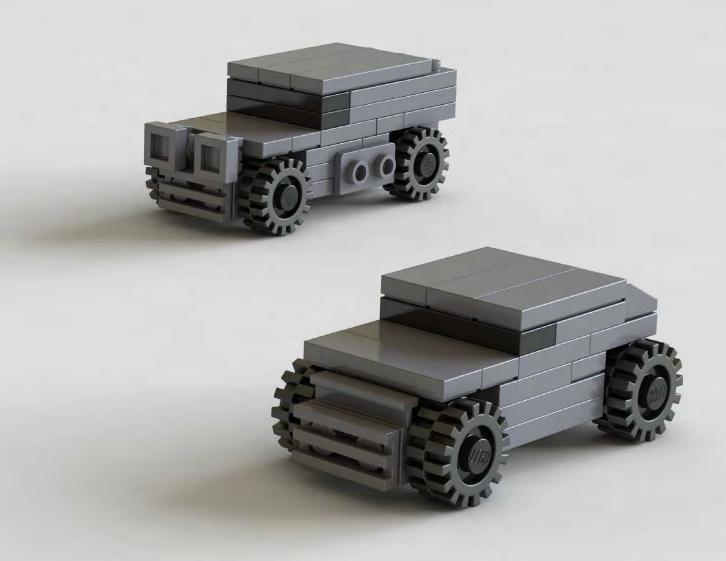


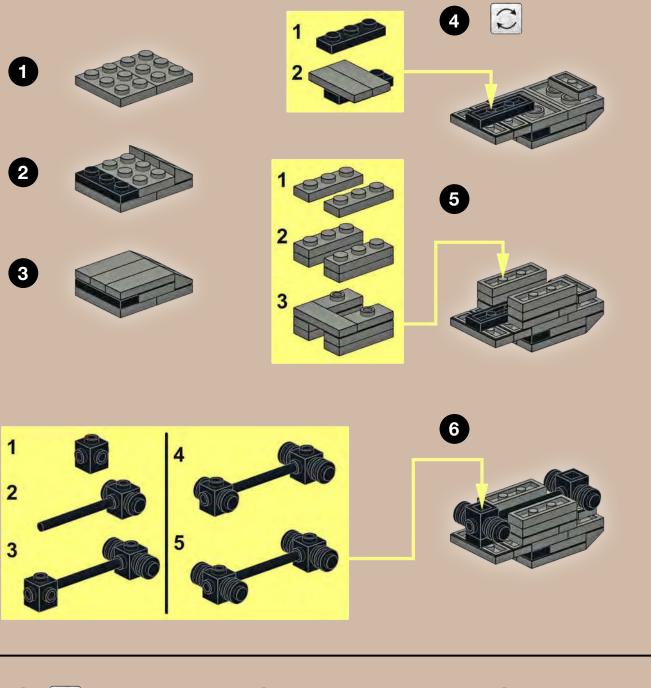
BILL OF MATERIALS



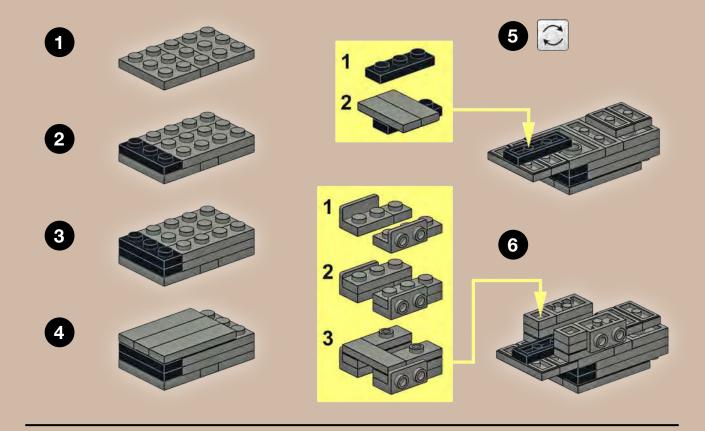
DIFFICULTY LEVEL: MEDIUM

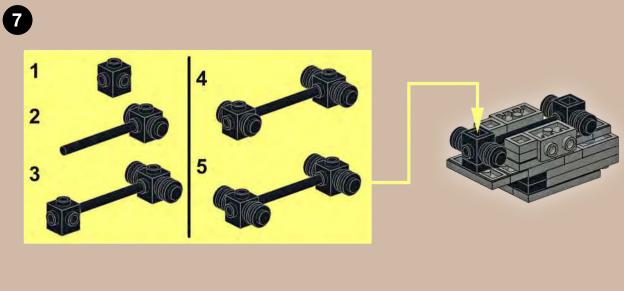
MINI JEEPS

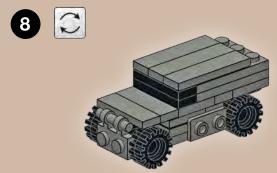


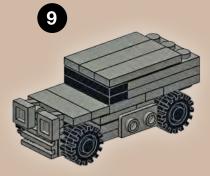


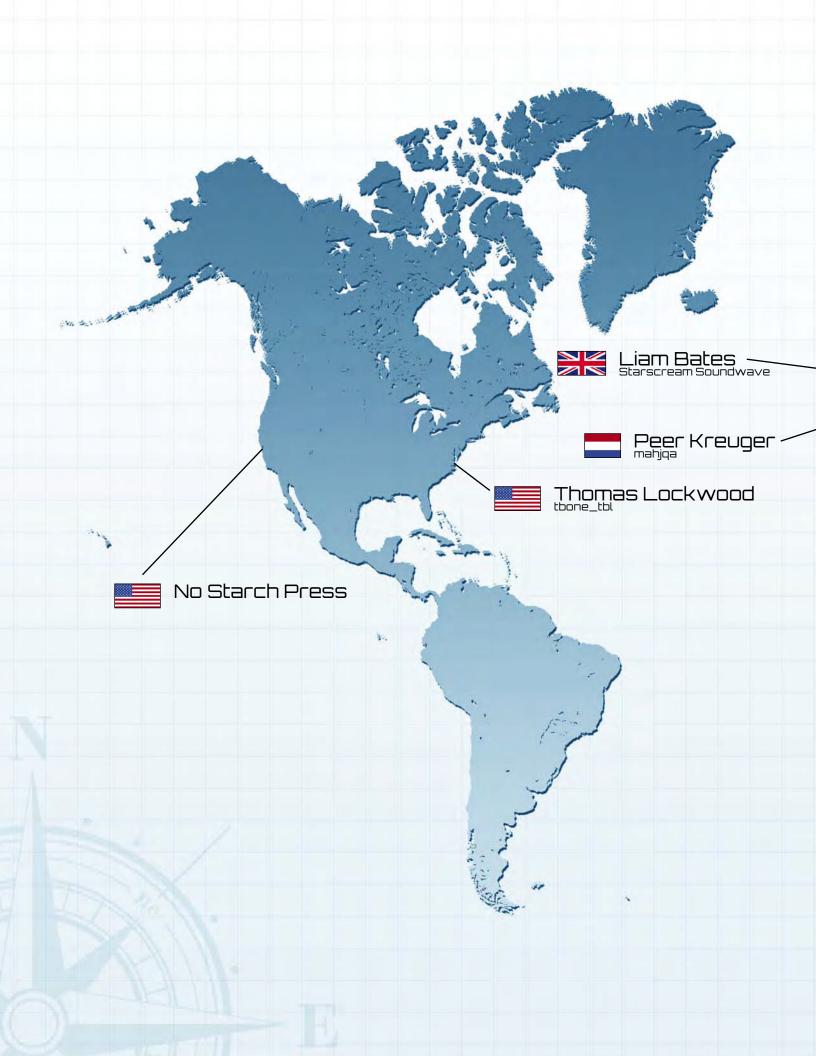














CONTRIBUTORS a worldwide team



ABOUT THE AUTHOR



Mattia Zamboni is a fan of computer graphics, photography, and LEGO. He is the co-author of the *LEGO Build-It Book* series (No Starch Press), has contributed to several other LEGO books, and has been a LEGO Ambassador since 2015. He works as a researcher in the robotics lab at the University of Applied Sciences and Arts of Southern Switzerland, and in his free time, he pursues his passion for 3D computer graphics.

Check out his work at www.brickpassion.com.



RESOURCES

Visit https://www.nostarch.com/tinylegowonders/ for updates, parts lists, errata, and other information.

More no-nonsense books from

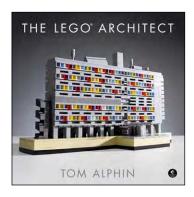


no starch press



THE LEGO® NEIGHBORHOOD BOOK Build Your Own Town!

by Brian Lyles and Jason Lyles September 2014, 204 pp., \$19.95 ISBN 978-1-59327-571-6 full color, flexibound



THE LEGO® ARCHITECT

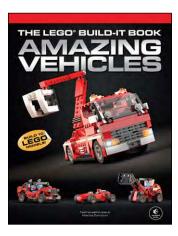
by TOM ALPHIN SEPTEMBER 2015, 192 PP., \$24.95 ISBN 978-1-59327-613-3 full color, hardcover



THE LEGO® MINDSTORMS® EV3 DISCOVERY BOOK

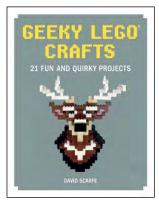
A Beginner's Guide to Building and Programming Robots

by Laurens Valk June 2014, 396 pp., \$34.95 ISBN 978-1-59327-532-7 full color



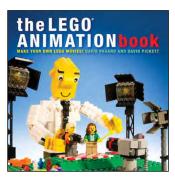
THE LEGO® BUILD-IT BOOK, VOL. 1: AMAZING VEHICLES

by NATHANAËL KUIPERS and MATTIA ZAMBONI JULY 2013, 136 PP., \$19.95 ISBN 978-1-59327-503-7 full color



GEEKY LEGO° CRAFTS 21 Fun and Quirky Projects

by DAVID SCARFE FALL 2016, 128 PP., \$19.95 ISBN 978-1-59327-767-3 full color, hardcover



THE LEGO® ANIMATION BOOK Make Your Own LEGO Movies!

by DAVID PAGANO and DAVID PICKETT FALL 2016, 232 PP., \$19.95 ISBN 978-159327-741-3 full color, flexibound

Visit https://nostarch.com/catalog/lego/ for a full list of titles.

phone: 800.420.7240 or 415.863.9900 | sales@nostarch.com | www.nostarch.com

BUILD A LOT WITH A LITTLE

In this step-by-step guide, you'll learn how to build 40 miniature models of race cars, airplanes, ships, trains, and more. These fun, compact designs will inspire you to get creative with as few as nine LEGO® pieces. Imagine what you can build with just a handful of LEGO bricks—almost anything!

















