

TABLE OF CONTENTS

INTRODUCTION 1

About Ulrik	2
LEGO TECHNIC	2
Danish Design	2
About Mike	3
MINDSTORMS Brainstorms	3
Problem Solved!	4
The Unintentional Projectile Launcher	4
The Official Safety Test	5
The Land of Forbidden LEGO	6
Why this Book?	7

HOW TO BUILD GREAT THINGS 9

How We Build at LEGO	10
The Early Stages	10
Back To Earth	11
Durability, Assembly, and Correctness	11
The Hero Model	11
Master Versions	12
Building Steps	12
Great Designs Start with a Simple Idea	13
Pick Your Idea	13
Take Small Steps	13
Keep Your Designs	14
Don't Get Stuck	14
Be Open	14
A Few Words on Safety	14

PROJECT 1: PAPER PLANE LAUNCHER (PPL)..... 17

The Inspiration	18
The Design	18
LEGO Rules Broken	19
Non-LEGO Parts Used	19
5, 4, 3, 2, 1, Liftoff!	20
How it Works	20

PROJECT 2: CANDY COATED CATAPULT (CCC) 43

The Inspiration	44
The Design	44
LEGO Rules Broken	45
Non-LEGO Parts Used	45
How It Works	46
Candy Coated Catapult Tip	49

PROJECT 3: PING-PONG CANNON (PPC)..... 75

The Inspiration	76
The Design	76
LEGO Rules Broken	76
Non-LEGO Parts Used	77
How It Works	78

PROJECT 4: ALL-TERRAIN LEGO (ATL)..... 107

The Inspiration	108
The Design	108
LEGO Rules Broken	108
Non-LEGO Parts Used	109
How It Works	110
All-Terrain Lego Tip	112

**PROJECT 5: HIGH VELOCITY AUTOMATIC
LEGO PLATE DISPENSER (HVALPD) 133**

Overview	134
The Inspiration	134
The Design	134
LEGO Rules Broken	135
How it Works	136
High Velocity Automatic Lego Plate Dispenser Tip	139

APPENDIX A: TIPS AND TRICKS..... 177

18V Motor	178
Hand-Powered Generator	179