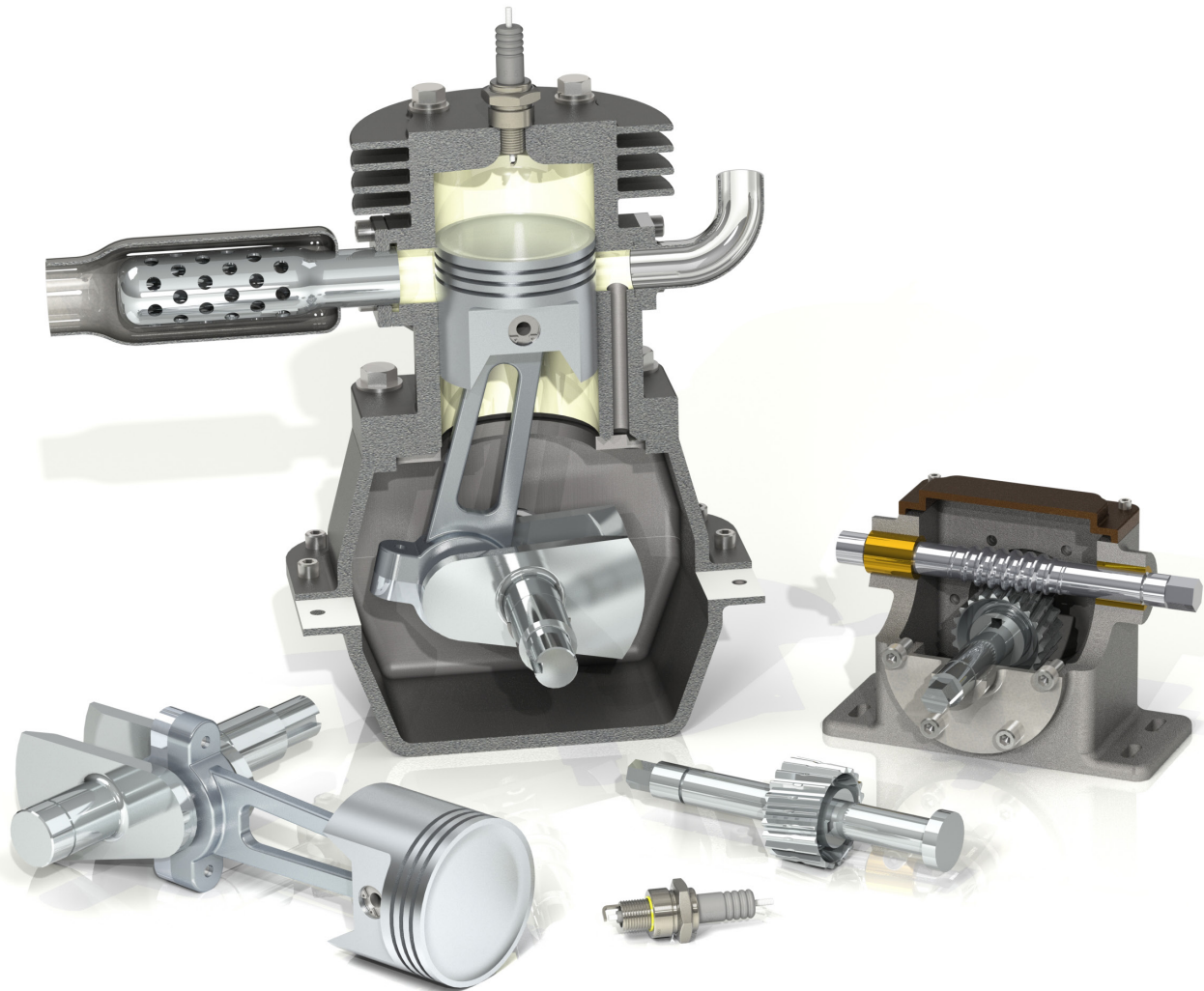


# Beginner's Guide to SOLIDWORKS® 2018 Level I

Parts, Assemblies, Drawings, PhotoView 360  
and SimulationXpress



Alejandro Reyes MSME, CSWE, CSWI

Visit the following websites to learn more about this book:



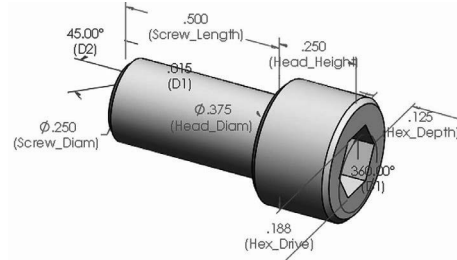
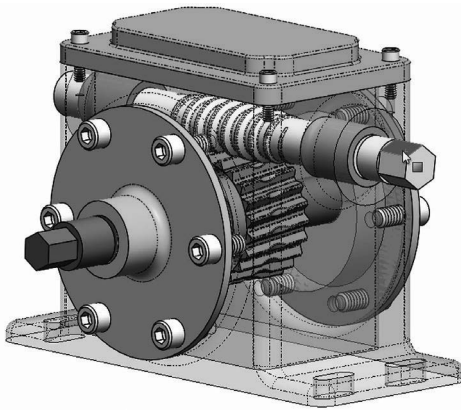
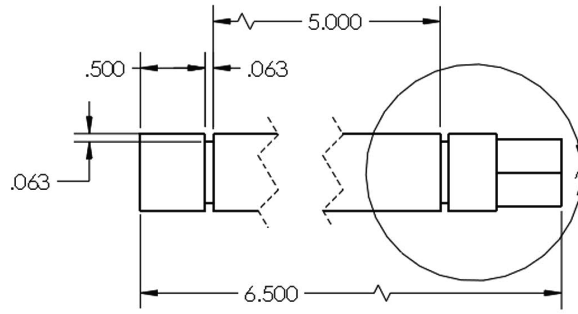
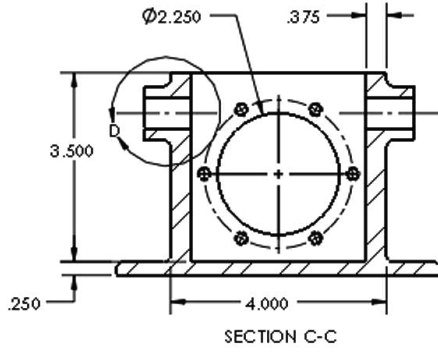
[amazon.com](https://www.amazon.com)

[Google books](https://books.google.com)

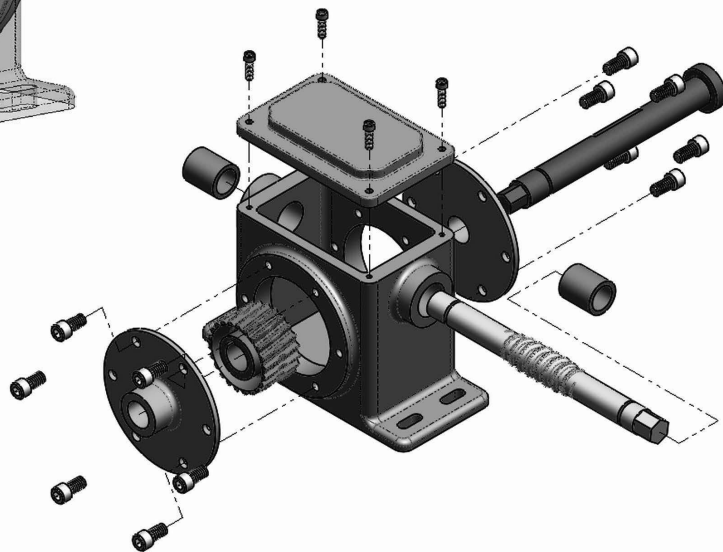
[BARNES & NOBLE](https://www.barnesandnoble.com)

# Table of Contents

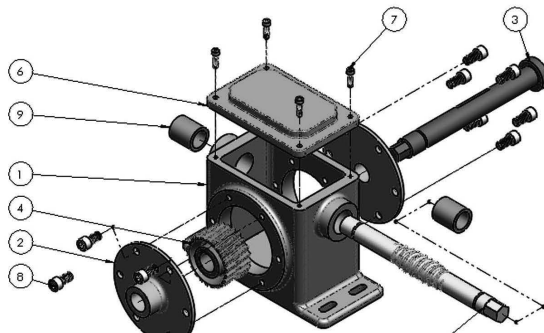
<b>Introduction.....</b>	<b>1</b>
<b>The SOLIDWORKS Interface.....</b>	<b>3</b>
<b>Part Modeling.....</b>	<b>13</b>
The Housing .....	15
The Side Cover.....	103
The Top Cover.....	123
The Offset Shaft.....	155
Auxiliary Geometry:.....	177
The Worm Gear .....	191
The Worm Gear Shaft.....	217
<b>Special Features: Sweep, Loft and Wrap.....</b>	<b>231</b>
Sweep: Cup and Springs .....	233
The Cup.....	235
Simple Spring .....	247
Variable Pitch Spring .....	253
Thread Feature .....	257
Sweep: Bottle.....	263
Loft: Bottle .....	279
Wrap Feature.....	291
Worm Gear Shaft Complete.....	307
Worm Gear Complete.....	313



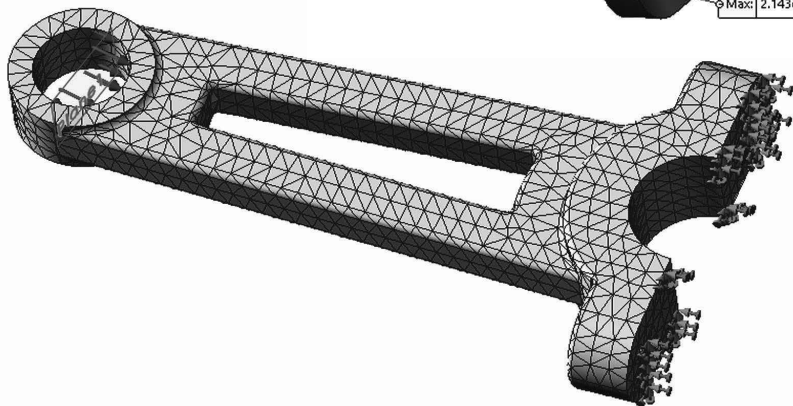
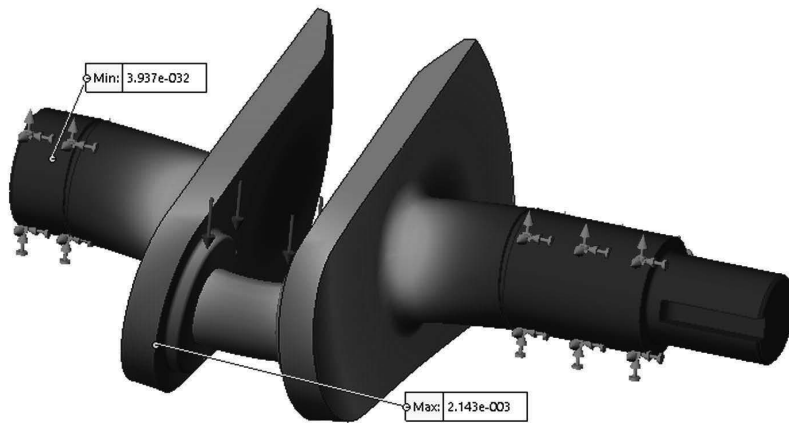
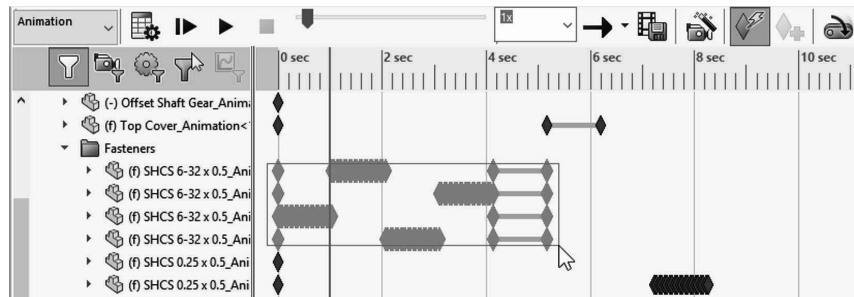
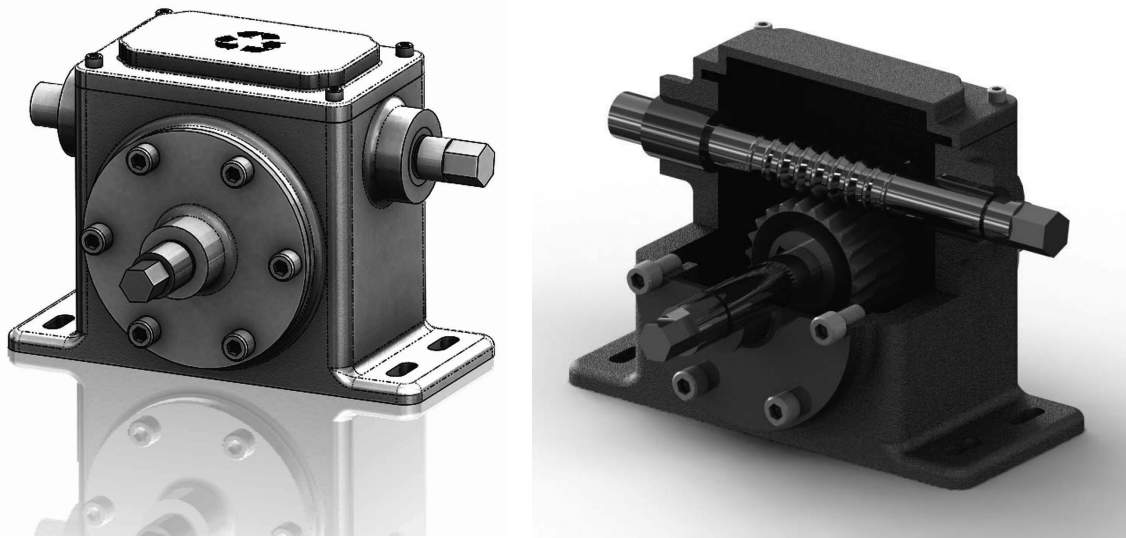
- ANSI Inch
- > Bearings
- ✓ Bolts and Screws
  - Countersunk Head
  - Hex Head
  - Lag Screws
  - Machine Screws
  - Machine Screws (Countersunk)
  - Miniature Screws
  - Miscellaneous
  - Round Head Bolts



Part No.	Description	Material	Quantity	Weight
1	Housing	Cast P/N 1234-B	1	Cast Alloy Steel 4.40
2	Side Cover	Cast Cover #345	2	AlSi1020 0.36
3	Worm Gear Shaft	Shaft with Hex Drive	1	Chrome Stainless Steel 0.52
4	Worm Gear Complete	Part No. ABC-246B	1	AlSi1020 0.33
5	Offset Shaft Gear	Part No. QCS2345	1	Chrome Stainless Steel 0.49
6	Top Cover	Cast #9876	1	Cast Alloy Steel 0.48
7	HX-SHCS 0.138-32x0.5x0.5-S		4	
8	HX-SHCS 0.25-20x0.5x0.5-S		12	
9	Bushing	Part No. 5384-BC	2	Brass 0.057



<b>Detail Drawing</b> .....	<b>333</b>
Drawing One: The Housing.....	335
Drawing Two: The Side Cover .....	383
Drawing Three: The Top Cover.....	407
Drawing Four: The Offset Shaft .....	427
Drawing Five: The Worm Gear .....	435
Drawing Six: The Worm Gear Shaft.....	453
<b>Assembly Modeling</b> .....	<b>471</b>
The Speed Reducer Assembly .....	473
SmartMates .....	505
Fasteners.....	523
Configurations using Design Tables.....	535
Interference Detection.....	553
Assembly Configurations .....	557
Exploded View .....	581
<b>Assembly and Design Table Drawings</b> .....	<b>609</b>
Assembly Drawing .....	611
Design Table Drawing.....	629



<b><i>Animation and Rendering</i></b> .....	<b>635</b>
PhotoView 360.....	637
Animation.....	659
<b><i>Analysis: SimulationXpress</i></b> .....	<b>689</b>
Background: Why Analysis? .....	691
Engine's Connecting Rod Analysis .....	695
A final word on analysis .....	719
<b><i>Collaboration: eDrawings</i></b> .....	<b>723</b>
<b><i>Final Comments</i></b> .....	<b>727</b>
<b><i>Appendix</i></b> .....	<b>729</b>
Document templates .....	729
<b><i>Index</i></b> .....	<b>735</b>