



The B9Creator™

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Kit Inventory and Part Identification

Reference Guide

Version 1.1, May 2013



The B9Creator Kit - Double boxed for extra protection during shipping

Open the inner box to inventory the various individual items and sub-kits



Start with the individual items

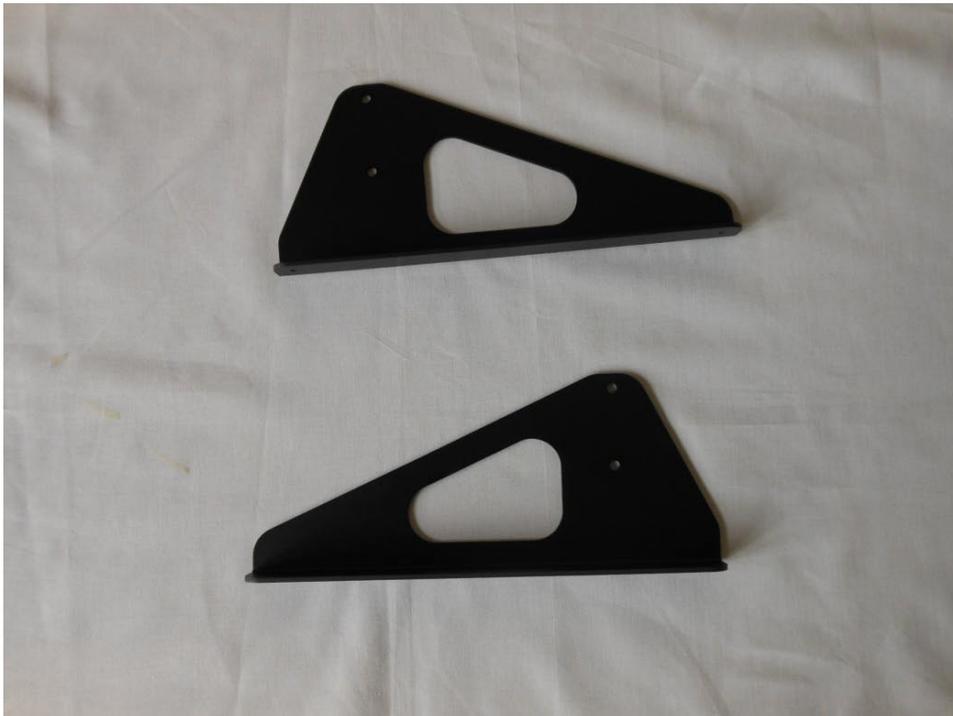
Lower Side Supports, SS-01 (Black Aluminum, 2 each, identical)



Upper Right & Left Side Supports, SS-02R SS-02L (Black Aluminum, left side has two additional cutouts)



Foot Support Structures, SS-03L(upper in image) SS-03R(lower in image) (Black Aluminum)



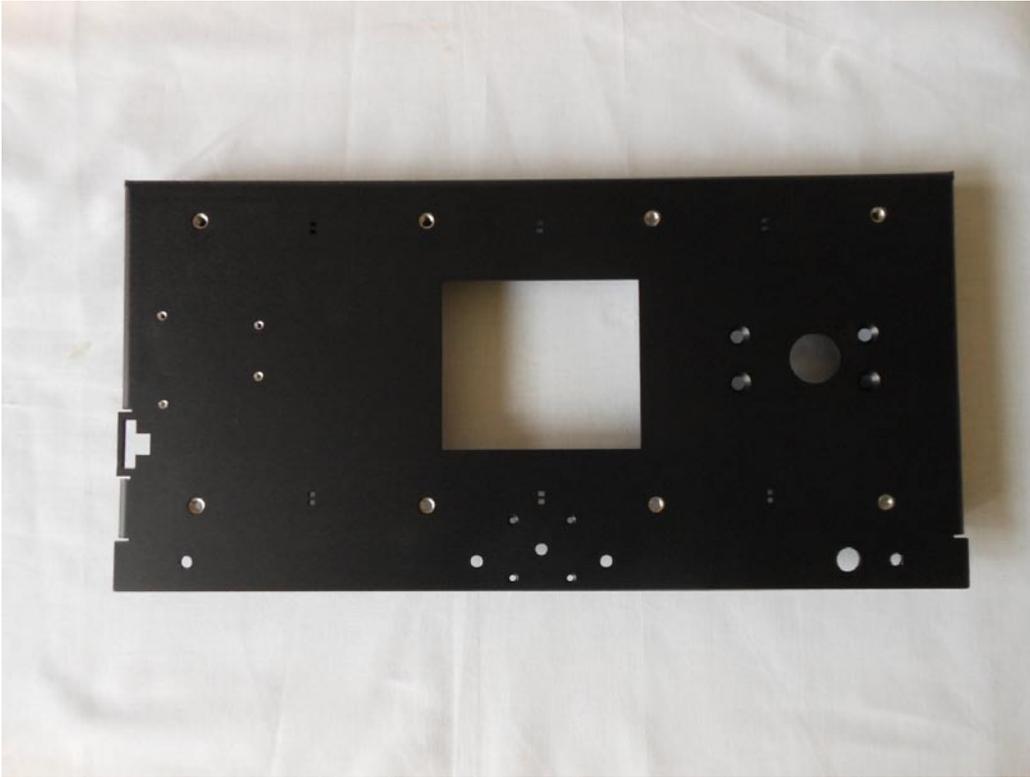
Projector Support Structure, PS-01 (Black Aluminum)



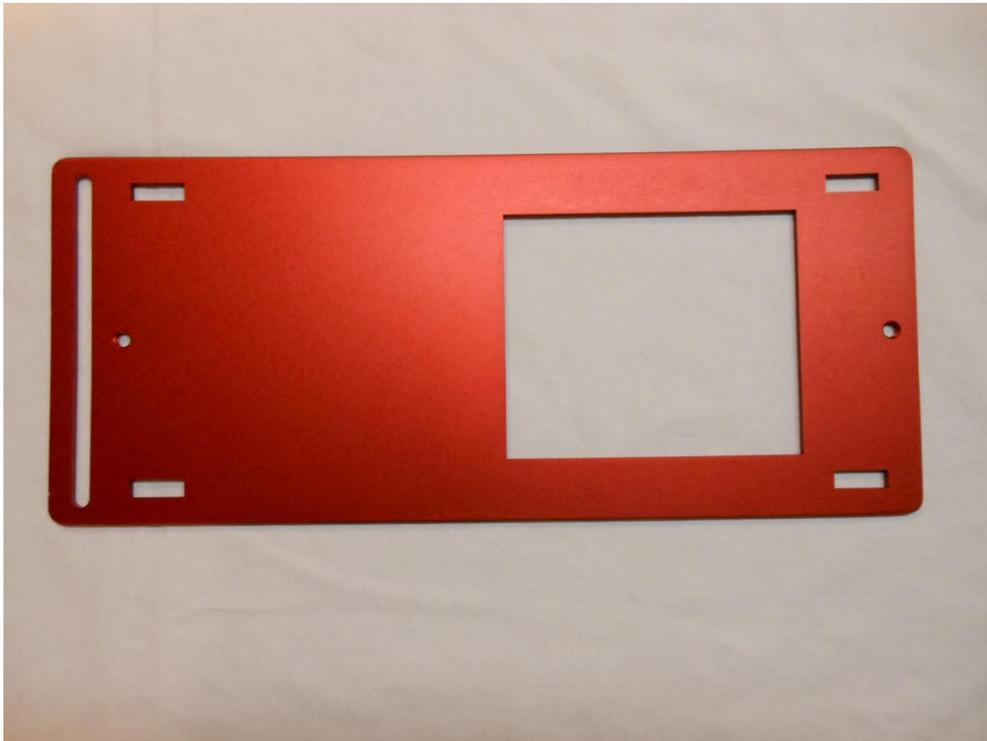
Projector Adaptor, PS-02A (Red Aluminum)



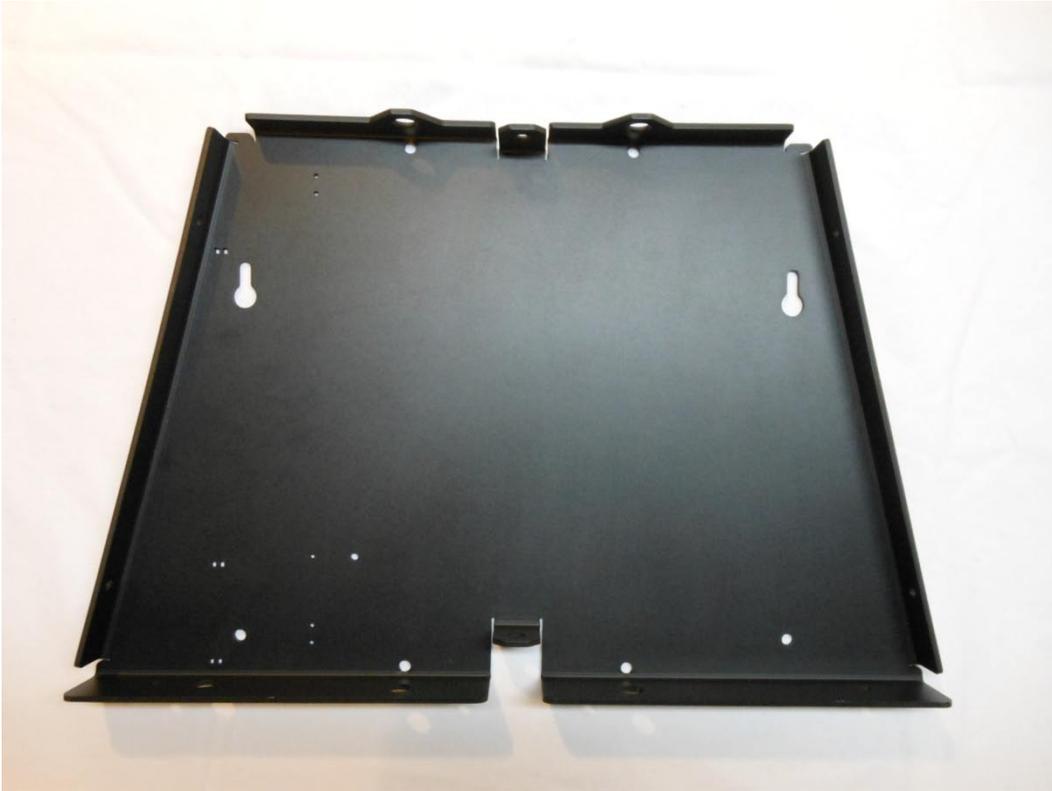
X Axis Base Plate, XA-01A (Black Aluminum)



X Axis Slide Table, XA-08 (Red Aluminum)



Z Axis Back Plate, ZA-01 (Black Aluminum)



Hatch, HA-01 (Black Aluminum)



Resin VAT, VAT-01 (Clear Acrylic with PDMS floor coating)



Front Window, WD-01 (Amber Acrylic - Remove protective paper prior to assembly)



Side Windows, WD-02L WD-02R (2 each Amber Acrylic, Identical)



Top Window, WD-03 (Amber Acrylic)



Modified Projector, Power Cord, VGA cord, case & accessories.
(Note, projector will work with all international power cords but only US style cord is provided in kit)

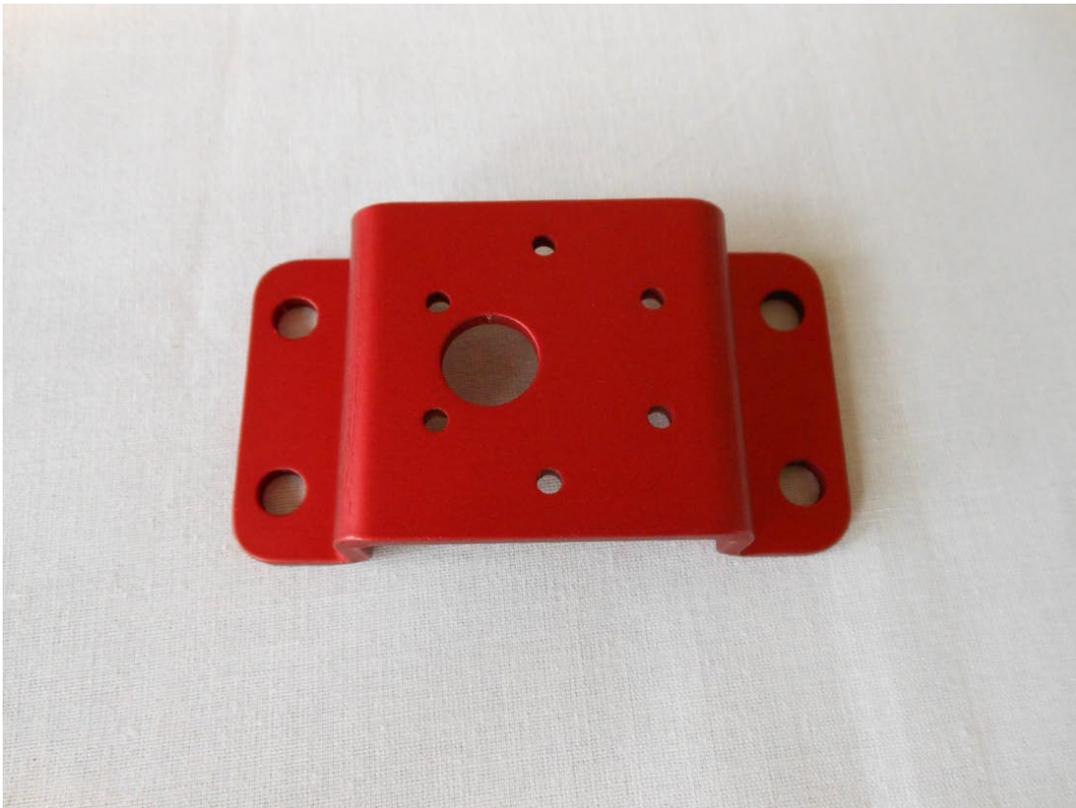


This concludes the individual kit parts. Next we will examine the contents of the sub-kits.

The Miscellaneous Small Parts Bag



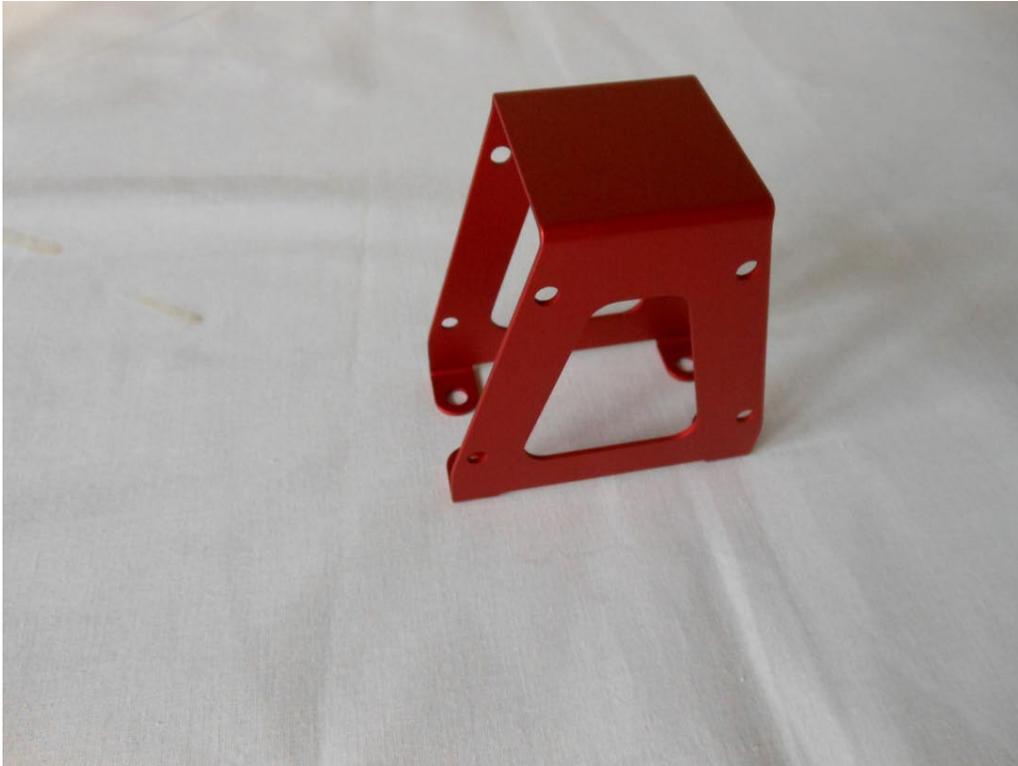
Motor Mount, XA-02 (Red Aluminum)



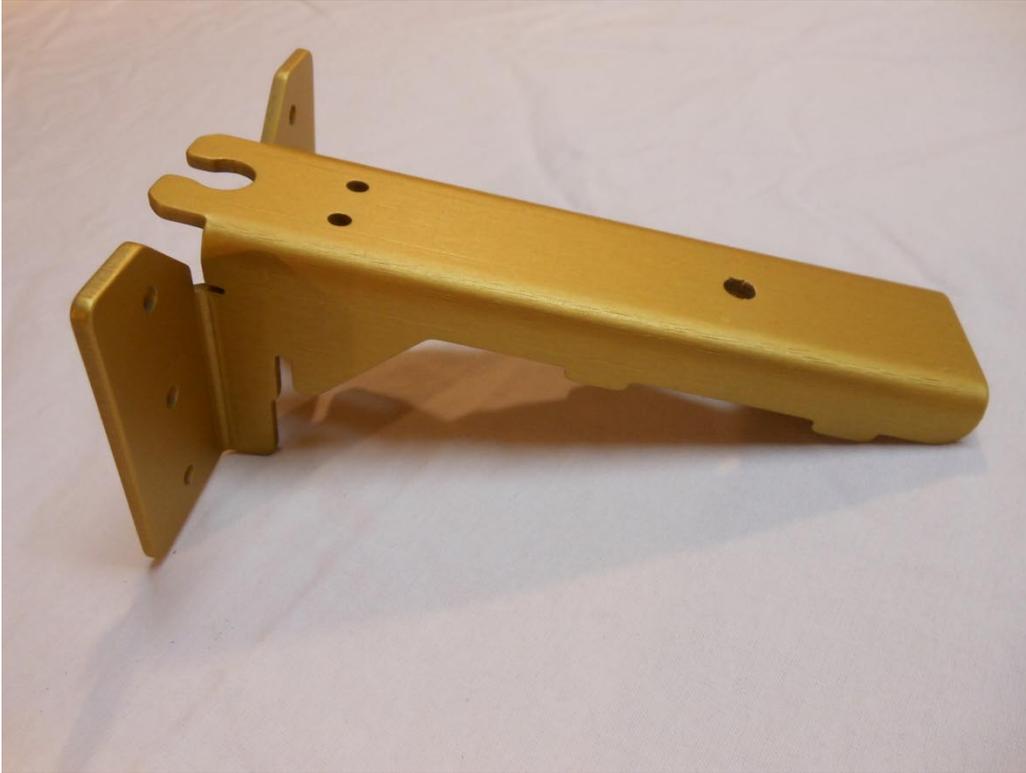
Motor Arm, XA-07 (Gold Aluminum)



Motor Shield, XA-09 (Red Aluminum)



Z Axis Slide, ZA-02 (Gold Aluminum)



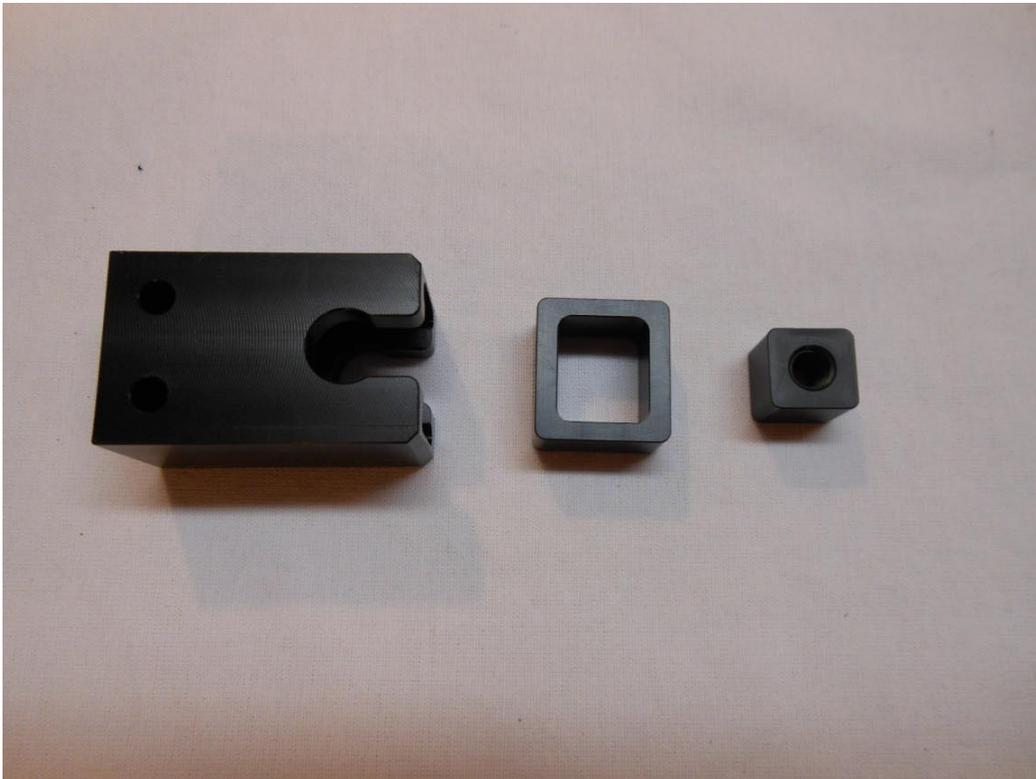
Z Axis Slide Bracket, ZA-03 (4 each, Gold Aluminum)



Z Arm Stabilizer, ZA-07 (Gold Aluminum)



Z Drive: Mount ZD-01, Frame ZD-02 & Nut ZD-03, (Black Delrin)



Build Table Mount, ZA-04A (Black Aluminum)



Build Table, ZA-05A (Red Aluminum)



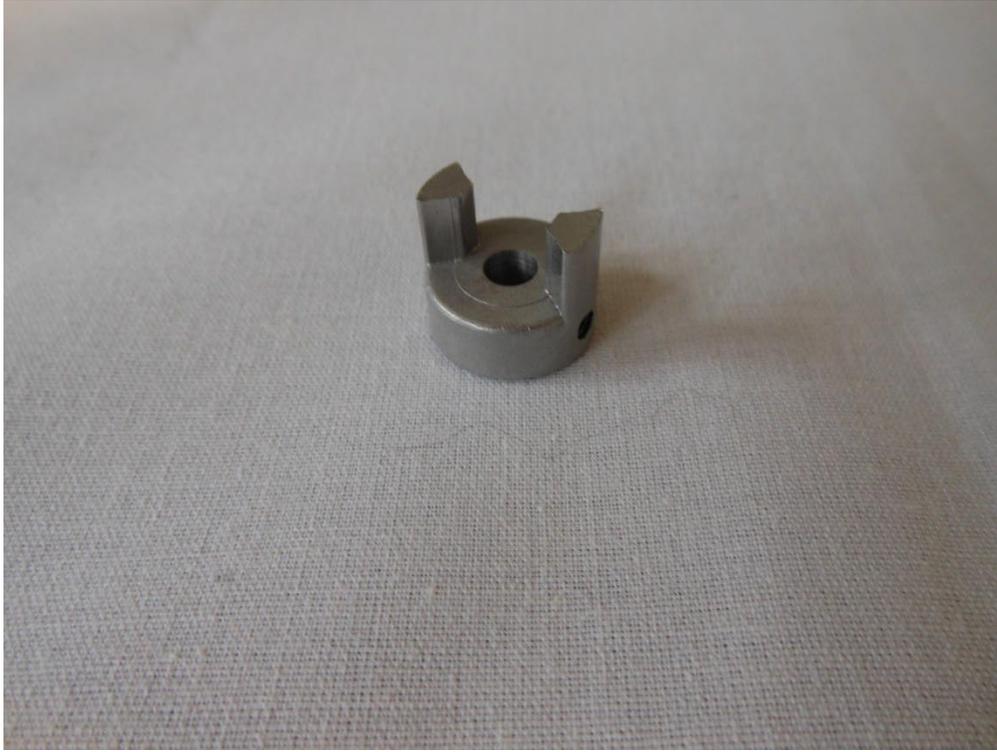
Sensor Strip, ZA-06 (Red Aluminum)



Z Axis Lead Screw, 6350K133-A (11.125" length)



Motor Coupler, 6408K912-A (Center bore Diameter enlarged to 5 mm)



Slide Rails, XA-10 (Black Delrin)

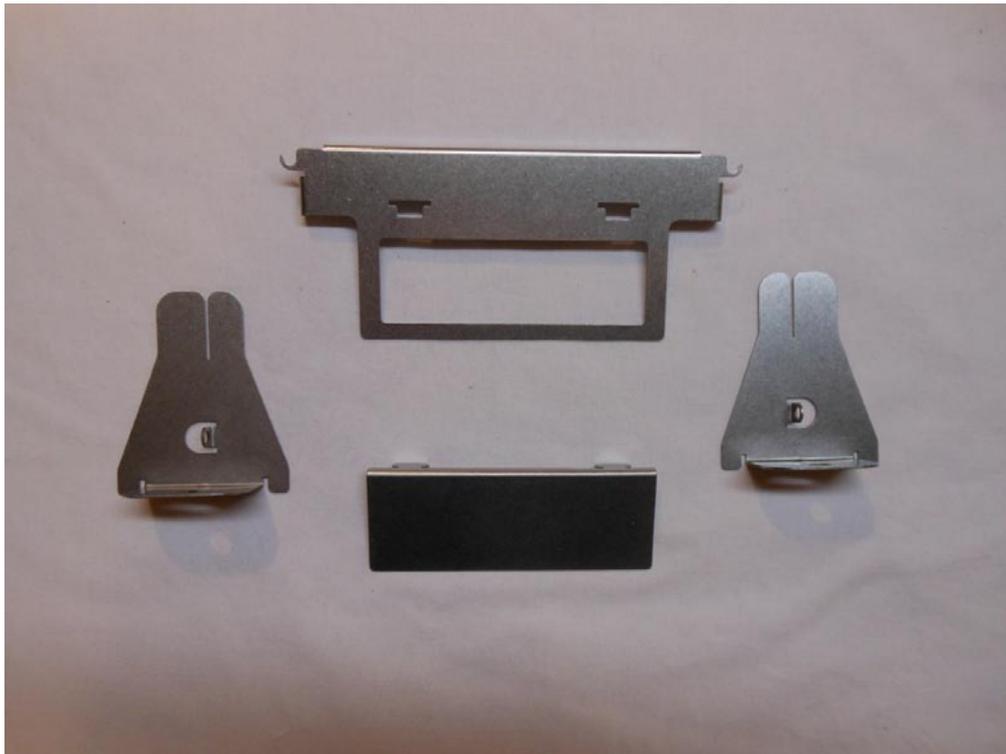


Sensor Mount, XA-06 (Black ABS)



Sweeper Parts

- SW-01-B & SW-01-F Stainless steel, Back (left image) & Front (right image) Supports
- SW-02 Sweeper, Stainless steel
- SW-03 Sweeper Flap, Stainless Steel



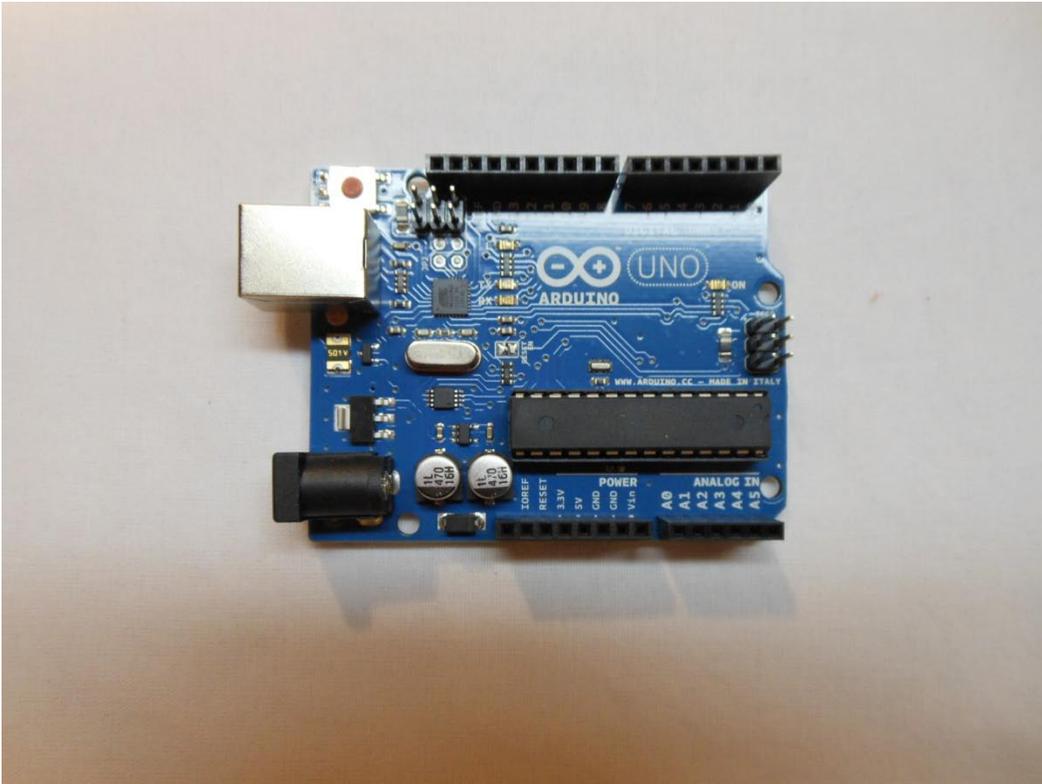
Electrical Kit - Box Contents



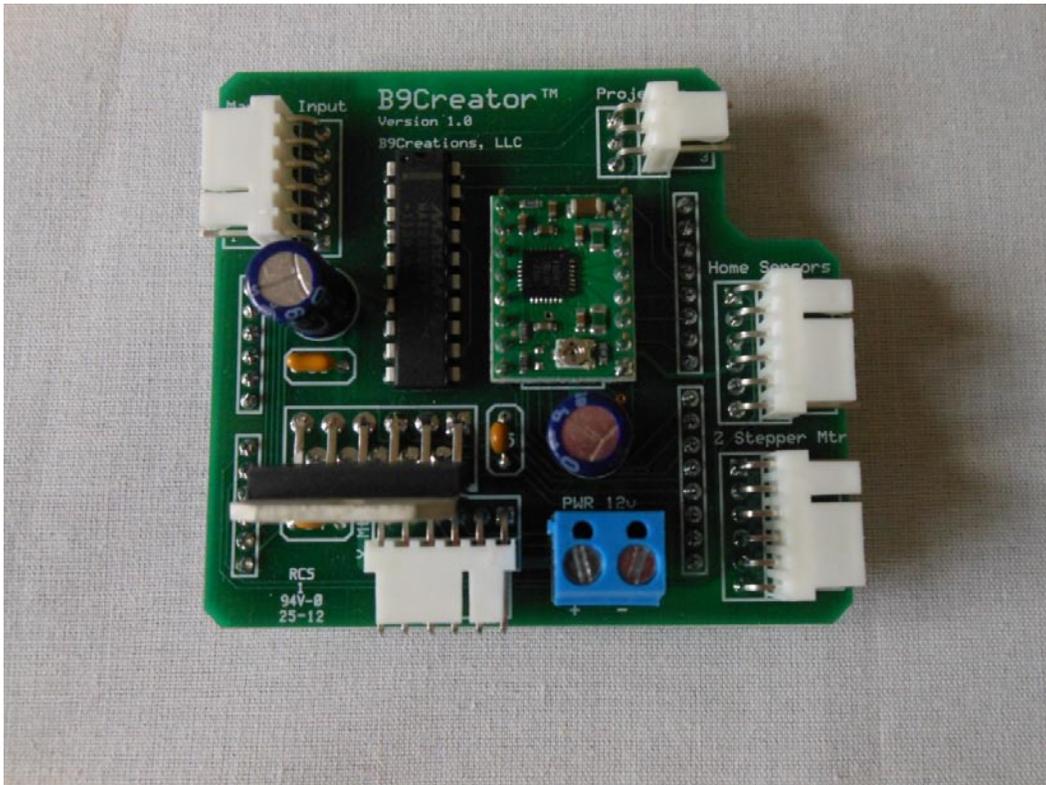
Unboxed Electrical Kit Items



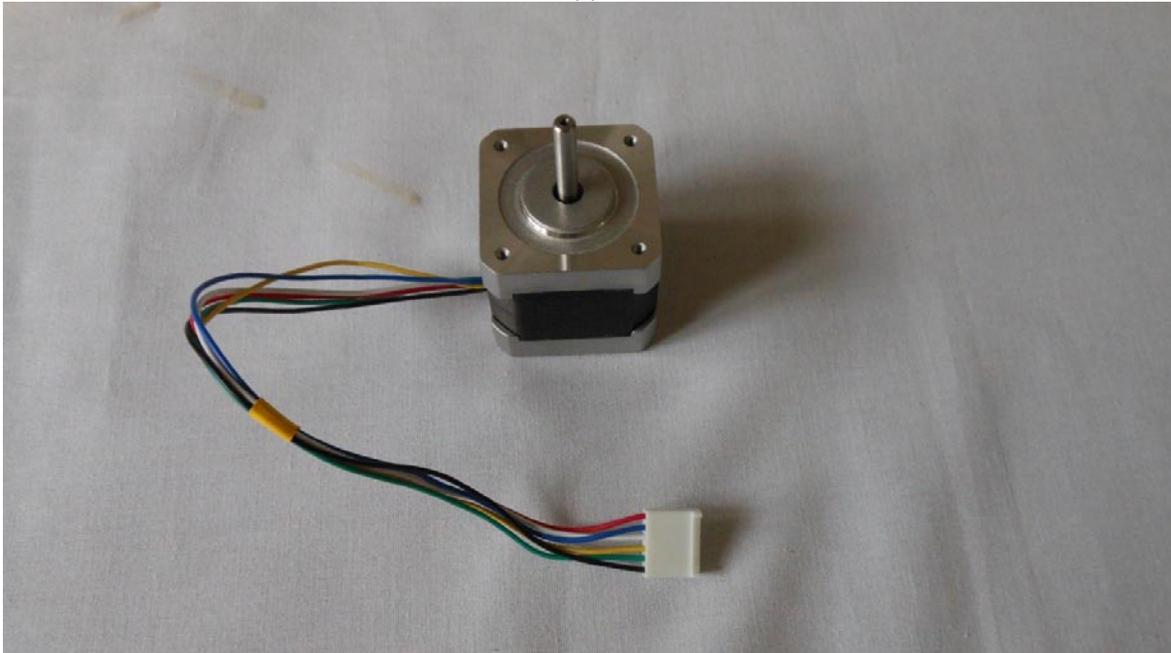
Arduino UNO Microcontroller



B9Creator Arduino Shield



Z Axis Stepper Motor



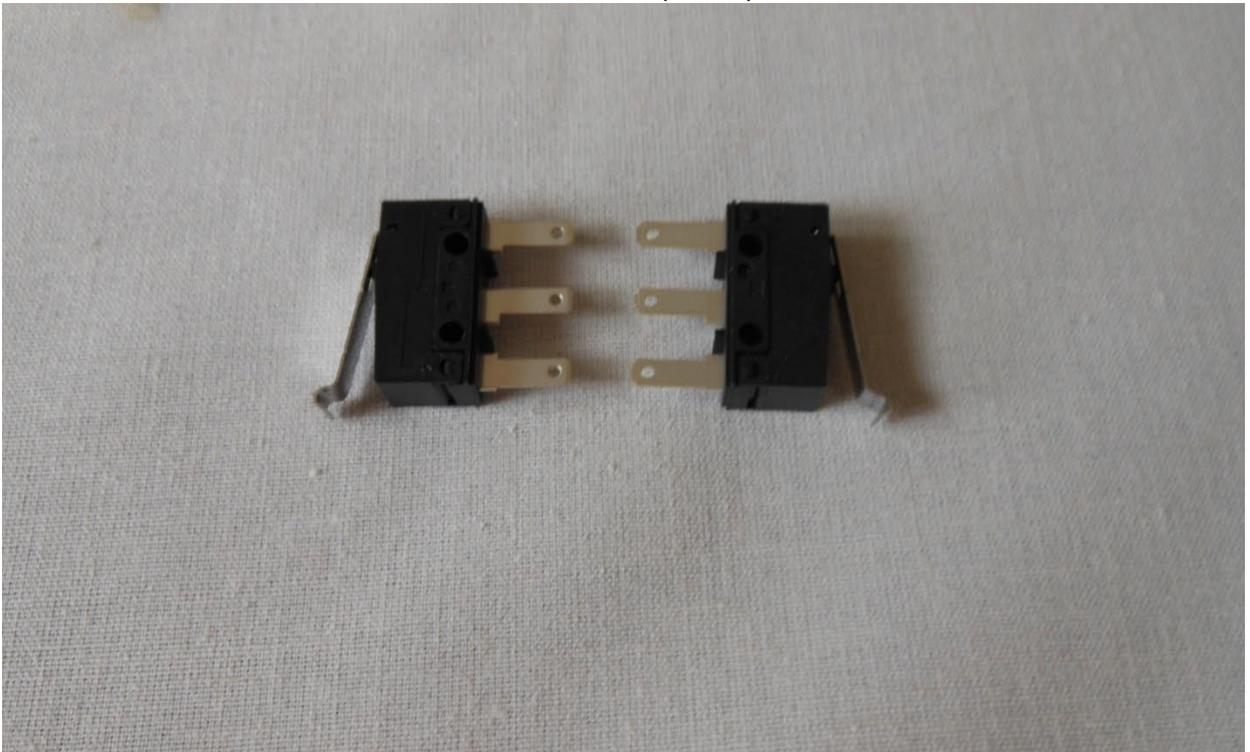
X Axis DC Gear Motor with Encoder



Optical "Home" Sensors (2 each)



Limit Switches (2 each)



Power Supply with International adapter plugs



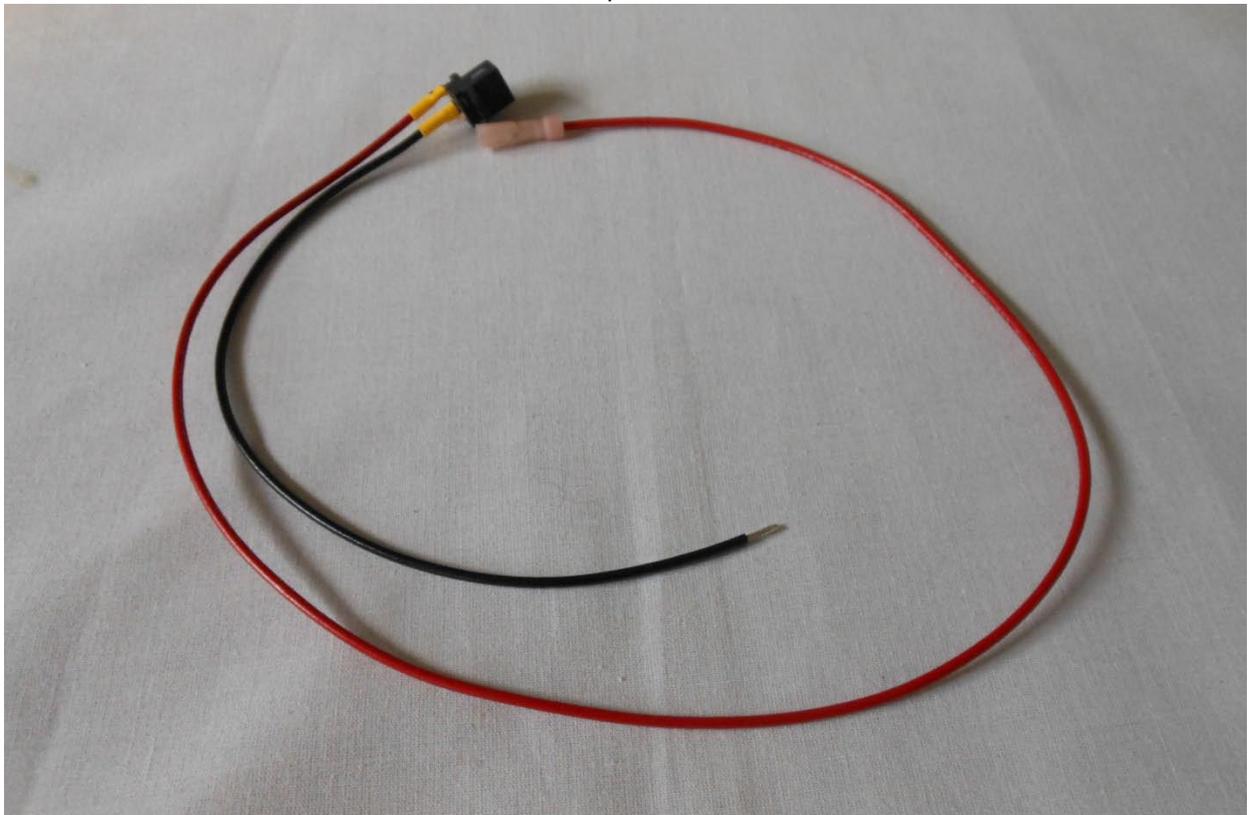
USB Cord



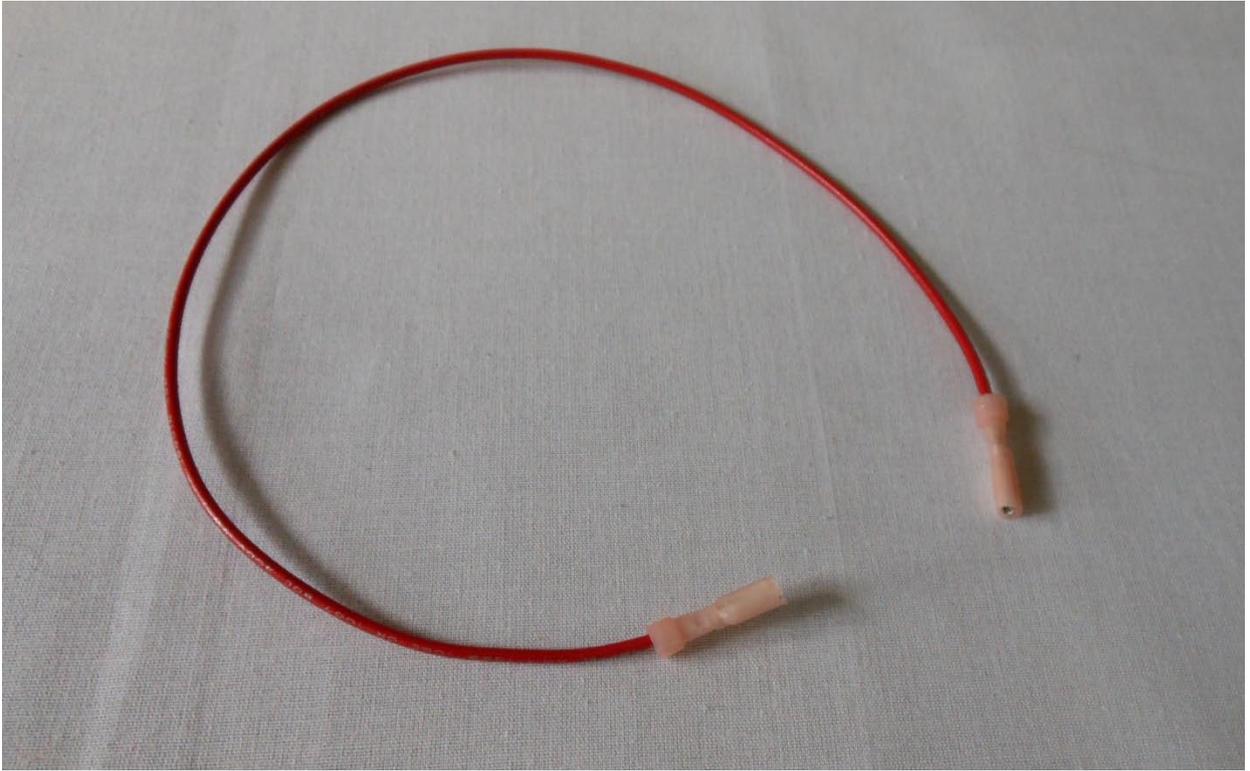
Projector Control Cable



Power Input Cable 1



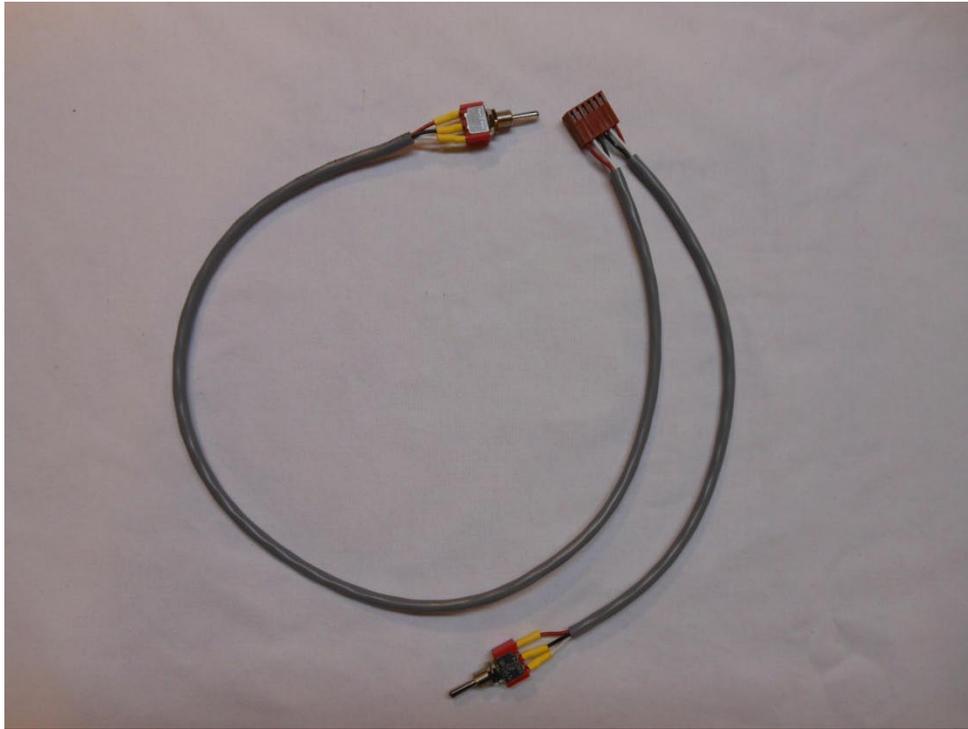
Power Cable 2



Power Cable 3



Manual Control Harness



Home Sensor Harness



Hardware Kit Bags

For ease of assembly, the hardware is divided into five bags which correspond with the major construction steps.

1. Projector Support Kit or "PS KIT" - Use this to build the base section of the B9Creator
2. X Axis Kit or "XA KIT" - Use this to build the VAT slide base section
3. Z Axis "A" Kit or "ZA-A KIT" - Use this to build the Z axis riser section
4. Z Axis "B" Kit or "ZA-B KIT" - Use this to assemble the Build Table section
5. Final Assembly or "FA KIT" - Use this to complete the assembly of the B9Creator

Note that hardware sub-kit bags labeled "SAXx" refers to a "Screw Assembly" and typically contains identical screws, washers and nuts to be used together.

McMaster Carr Part Numbers are given for reference, when available. <http://www.mcmaster.com>

PS KIT Contents



TOOLS - The 6 Hex wrenches required during assembly



PS

- 6333K200, Steel Knurled-Rim Knob with Set Screw 1/4" Unthreaded Hole, 1" Diameter
- 6432K12, Zinc-Plated Steel Set Screw Shaft Collar 1/4" Bore, 1/2" Outside Diameter, 9/32" Width
- 95412A566, 18-8 Stainless Steel Fully Threaded Stud 1/4"-20 Thread, 7" Length
- 91145A162, Nylon 6/6 Unthreaded Shldr Spacer W/Flange Long Barrel, 1/4" Screw Size, .125" Length



SA05

- 4 each, 91772A539 18-8 SS Pan Head Phillips Machine Screw 1/4"-20 Thread, 5/8" Length
- 4 each 92141A029 18-8 SS General Purpose Flat Washer 1/4" Screw Size, 5/8" OD, .04"-.06" Thick



SA07

3 each 92000A220 18-8 SS Metric Pan Head Phil Machine Screw M4 Size, 10mm Length, .7mm Pitch



SA16

4 each 9541K1 Rubber Bumper w/ Out Metal Core Recessed, 1/2" Diameter, 6-32 Threaded Stud
4 each 96278A007 Machine Screw Hex Nut W/Tooth Washer 6-32, 5/16" Nut Width, 7/64" Nut Height



XA KIT Contents



XA

15 each 7130K12 Standard Nylon Cable Tie 4" L, 7/8" Bundle Dia, 18# Tensile Strength, White



XA-D

- 1 each 93996A118 Self-Locking Precision Shoulder Screw Slotted, 4-40 Thread
- 2 each 94105A192 Alloy Steel Flat Point Socket Set Screw 8-32 Thread, 3/8" Length
- 1 each 94639A301 Nylon Unthreaded Spacer 1/4" OD, 1/4" Length, #6 Screw Size



SA01

- 4 each 91099A453 18-8 SS Flat Undercut Head Phil Machine Screw 1/4"-20 Thread, 3/4" Length
- 4 each 96278A511 18-8 SS Machine Screw Hex Nut W/Tooth Washer 1/4"-20 Thrd Sz



SA02

6 each 92000A118 18-8 SS Metric Pan Head Phil Machine Screw M3 Size, 8mm Length, .5mm Pitch
6 each 93925A240 Metric 18-8 SS Internal-Tooth Lock Washer M3 Screw Size, 6mm OD, .4mm min Thick



SA03

8 each 92196A543 18-8 Stainless Steel Socket Head Cap Screw 1/4"-20 Thread, 1-1/8" Length
8 each 96659A106 18-8 Stainless Steel Type A SAE Flat Washer 1/4" Screw Size, 5/8" OD, .05"-.08" Thick



SA04

- 4 each 92010A126 Metric 18-8 SS Flat Head Phil Machine Screw M3 Size, 16mm Length, .5mm Pitch
- 4 each 92871A013 Metric 18-8 SS Unthreaded Spacer 6mm OD, 10mm Length, M3 Screw Size



SA19

- 4 each 90730A003 Undersized Machine Screw Hex Nut 2-56 Thread Size, 5/32" Width, 1/16" Height
- 4 each 91771A081 18-8 SS Flat Head Phillips Machine Screw 2-56 Thread, 1/2" Length
- 4 each 94639A703 Nylon Unthreaded Spacer 3/16" OD, 3/16" Length, #2 Screw Size



ZA-A KIT Contents



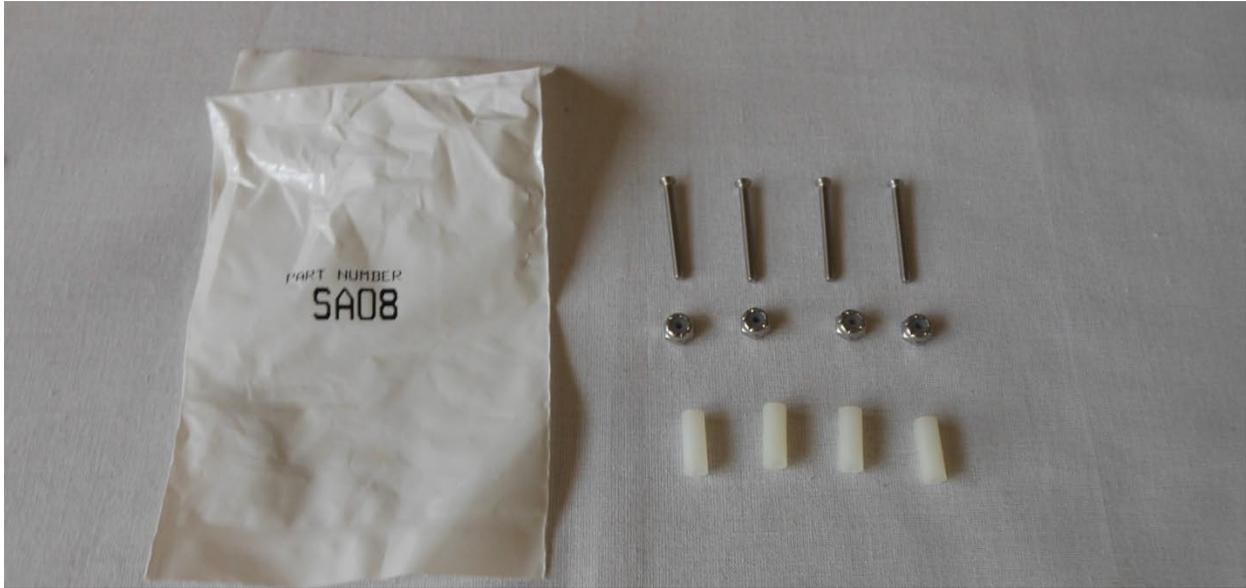
ZA-A

- 2 each 6061K33 Hardened Precision Steel Shaft 1/2" Diameter, 12" Length
- 4 each 9414T110 Black-Oxide Steel Set Screw Shaft Collar 1/2" Bore, 1" Outside Diameter, 7/16" Width
- 4 each 91249A537 Black-Oxide Pan Head Phil Screw 18-8 SS, 1/4"-20 Thread, 1/2" Length
- 2 each 6432K12, Zinc-Plated Steel Set Screw Shaft Collar 1/4" Bore, 1/2" Outside Diameter, 9/32" Width
- 1 each 6408K913 Flexible Spider Shaft Coupling Hub 1/4" Bore, 5/8" OD, without Keyway
- 1 each 6408K61 Buna-N Spider for 5/8" Outside Diameter Flexible Spider Shaft Coupling Hub
- 2 each 57155K336 Mini HI-Precision Ball Bearing , Extended Inner Ring, 1/4" ID, 3/8" OD



SA08

- 4 each 91771A140 18-8 SS Flat Head Phillips Machine Screw 2-56 Thread, 1" Length
- 4 each 91831A002 Stainless Steel Nylon-Insert Hex Locknut 2-56 Thread Size, 1/4" Width, 9/64" Height
- 4 each 94639A713 Nylon Unthreaded Spacer 3/16" OD, 1/2" Length, #2 Screw Size

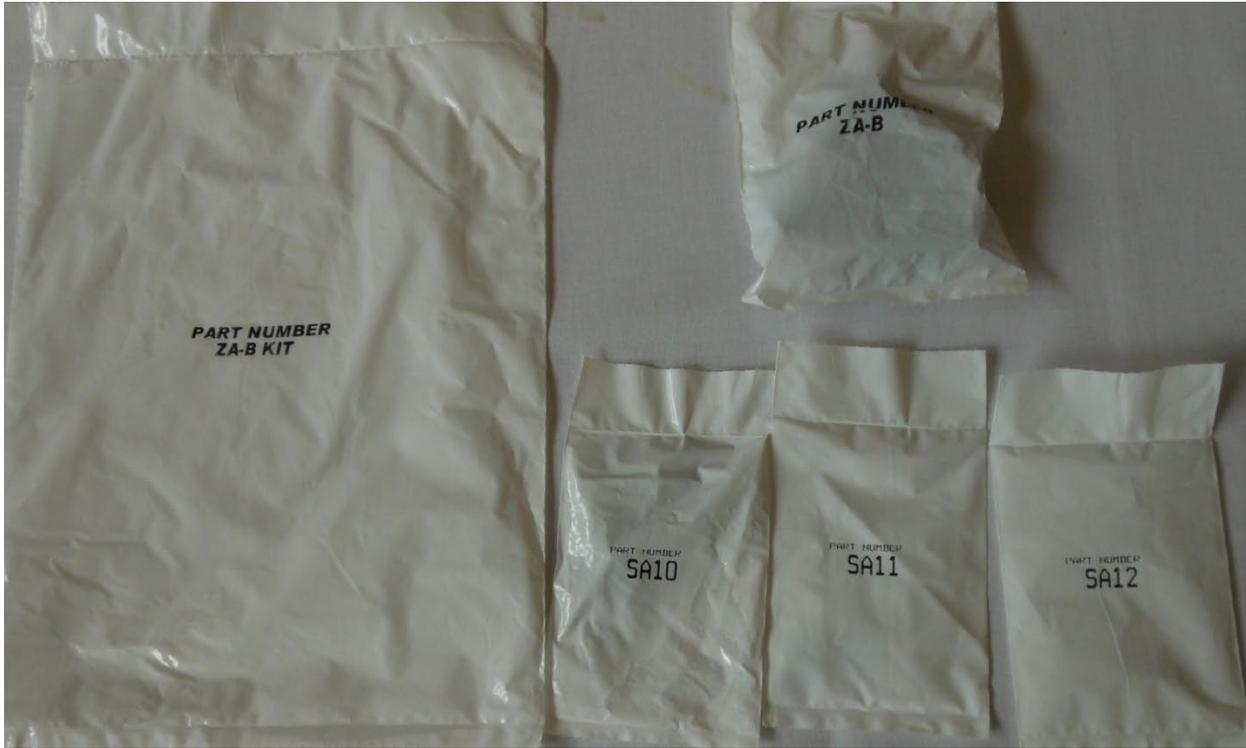


SA09

- 1 each 91771A082 18-8 SS Flat Head Phillips Machine Screw 2-56 Thread, 9/16" Length
- 1 each 91831A002 Stainless Steel Nylon-Insert Hex Locknut 2-56 Thread Size, 1/4" Width, 9/64" Height



ZA-B KIT Contents



ZA-B

4 each 6673K13 Fixed-Alignment Linear Sleeve Bearing Closed, for 1/2" Shaft Dia, 7/8" OD



SA10

8 each 91772A200 18-8 SS Pan Head Phillips Machine Screw 8-32 Thread, 9/16" Length
2 each 91772A211 18-8 SS Pan Head Phillips Machine Screw 8-32 Thread, 1-1/8" Length
10 each 96278A009 18-8 SS Machine Screw Hex Nut W/Tooth Washer 8-32 Thread Size



SA11

4 each 92196A145 18-8 Stainless Steel Socket Head Cap Screw 6-32 Thread, 5/16" Length
4 each 96659A102 Stainless Steel Type A SAE Flat Washer NO. 6 Screw Size, 3/8" OD, .03"-.07" Thick



SA12

2 each 91772A199 18-8 SS Pan Head Phillips Machine Screw 8-32 Thread, 1" Length

2 each 96278A009 18-8 SS Machine Screw Hex Nut W/Tooth Washer 8-32 Thread Sz, 11/32"



FA KIT Contents



FA

- 1 each 12075A120 Type 304 SS Piano Hinge with Holes Polished Exposed Side, .060" Thk, 2" W Open, 1'L
- 6 each 95495K221 Adhesive-Backed Polyurethane Bumper Flat Top, 1/2" Dia, 1/4" H, Black
- 4 each 5759K26 Flexible Magnetic Strip Adhesive Back, 1/32" Thick, 1/2" Width Cut to Length 5.75"
- 2 each 98704A605 Plastic-Head Thumb Screw with Socket Drive 1/4"-20 Thread, 3/8" Length
- 1 each 98704A625 Plastic-Head Thumb Screw with Socket Drive 1/4"-20 Thread, 7/8" Length
- 2 each 8213K7 Adhesive-Backed Foam Bumpers Square Top, 1/2" Square, 1/16" Height, Black
- 2 each 9654K966 Steel Extension Spring 1.0" Length, .125" OD, .016" Wire
- 2 each 90177A210 Zinc-Plated Steel Split Ring 3/8" OD, 5/16" ID
- 2 each 1600T62 Diamond Ring with Blunt End, 15/16" X 9/16" Inside Diameter
- 1 each 8510K11 Abrasion Resistant Rubber Edge Trim 1/32" Opening - cut to 3.5" length



SA14

12 each 91772A146 18-8 SS Pan Head Phillips Machine Screw 6-32 Thread, 3/8" Length
12 each 96278A007 18-8 SS Machine Screw Hex Nut W/Tooth Washer 6-32 Thread Sz



SA15

8 each 91772A539 18-8 SS Pan Head Phillips Machine Screw 1/4"-20 Thread, 5/8" Length
8 each 96278A511 18-8 SS Machine Screw Hex Nut W/Tooth Washer 1/4"-20 Thrd Sz



SA17

10 each 91772A537 18-8 SS Pan Head Phillips Machine Screw 1/4"-20 Thread, 1/2" Length
6 each 96278A511 18-8 SS Machine Screw Hex Nut W/Tooth Washer 1/4"-20 Thrd Sz



SA18

27 each 91770A146 18-8 SS Truss Head Phillips Machine Screw 6-32 Thread, 3/8" Length
27 each 94900A007 Black Nylon 6/6 Hex Nut 6-32 Thread Size, 5/16" Width, 1/8" Height



SA20

1 each 1325A2 Extruded Pull Handle w/ Threaded Hole Round, Steel, Nickel Finish, 3" Ctr-to-Ctr
(Discard the screws included in the Handle package)

2 each 91772A192 18-8 SS Pan Head Phillips Machine Screw 8-32 Thread, 3/8" Length



That's Everything!

Visit www.b9creator.com for the latest Assembly Instructions, software and more!

