

	Part no.	Description	Notes	Price	Total Price
Rotation Stage					1031.9
	PRO1	High Precision Rotation Mount		\$341.45	
	PRO1A	Solid Adapter Plate for PRO1		\$30.21	
	PM4	Large Adjustable Clamping Arm		\$23.64	
Breadboard					
	MSB1218	12" x 18" x 3/8" Mini-Series Aluminum Breadboard, 8-32 and 1/4" High Density Taps	For mounting both laser and target in addition to rotation stage, M4 and M6 Taps	\$345.25	
Laser					
	CPS650F	Focus Adjustable Laser Diode Module, 650 nm, 4.5 mW, 5.0 x 2.4 mm Elliptical Beam, Ø11 housing	Red Laser, Adjustable focus, Elliptical Beam: 2.4 mm in one direction	\$107.16	
Laser Mounting Pieces and Plug			To replace \$211 Thorlabs set	Set Price:	\$178.63
	LDS5	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 120 V		\$89.57	
	TR3	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=3"	Standard Series, but I think it works on the mini breadboard	\$5.42	
	TR2	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=2"	Extra post in a smaller size to make sure the laser may be positioned at the right height	\$5.19	
	TR1	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=1"	Extra post in a smaller size to make sure the laser may be positioned at the right height	\$4.74	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
	AD11BA	Ø1/2" Unthreaded Adapter for Ø11 mm Cylindrical Components	Replacement for Kinetic Mount	\$20.38	
	KM05	Kinematic Mirror Mount for Ø1/2" Optics, 8-32 Taps	Replacement for Kinetic Mount	\$39.00	
Target				Set Price:	\$38.40
	EDU-VS1	Post-Mountable White Polystyrene Viewing Screen	This would probably be better for the computer program	\$19.33	
	TR1	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=2"		\$4.74	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
	BHM1	6" Magnetic Beam Height Measurement Tool		\$22.06	\$22.06
Camera Stand			This is a camera arm to hold it horizontally over the set up. It might be a bit too big, but it would probably hold the camera better than a makeshift rig.	Set Price:	\$52.26
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 196B-2 143BKT 2-Section Single Articulated Arm with Camera Bracket (Black)		\$23.24	
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 035RL Super Clamp with 2908 Standard Stud - Replaces 2900 - Black		\$29.02	

	Part no.	Description	Notes	Price	Total Price
Rotation Stage					615.22
	MSRPO1	Ø1.40" Manual Mini-Series Rotation Stage		\$75.39	
	PRO1A	Solid Adapter Plate for PRO1	Could possibly be replaced with a piece of wood or plastic - just need a surface for the Aerogel to rest on	\$30.21	
	PM3	Small Adjustable Clamping Arm		\$19.33	
Breadboard					
	MSB12	12" x 12" x 3/8" Mini-Series Aluminum Breadboard, 8-32 and 1/4" High Density Taps	For mounting either the laser or the target (or maybe both) in addition to the rotation stage, M4 and M6 Taps	\$221.00	
Laser					
	CPS650F	Focus Adjustable Laser Diode Module, 650 nm, 4.5 mW, 5.0 x 2.4 mm Elliptical Beam, Ø11 housing	Red Laser, Adjustable, 2.4 mm in one direction	\$107.16	
Laser Mounting Pieces and Plug			To replace \$211 set	Set Price:	\$178.63
	LDS5	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 120 V		\$89.57	
	TR3	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=3"	Standard Series, but I think it works on the mini breadboard	\$5.42	
	TR2	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=2"	Extra post in a smaller size to make sure the laser may be positioned at the right height	\$5.19	
	TR1	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=1"	Extra post in a smaller size to make sure the laser may be positioned at the right height - The Rotation Stage Specs don't give the height	\$4.74	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
	AD11BA	Ø1/2" Unthreaded Adapter for Ø11 mm Cylindrical Components	Replacement for Kinetic Mount	\$20.38	
	KM05	Kinematic Mirror Mount for Ø1/2" Optics, 8-32 Taps	Replacement for Kinetic Mount	\$39.00	
Target				Set Price:	\$38.40
	EDU-VS1	Post-Mountable White Polystyrene Viewing Screen	This actually would probably be better for the computer program - This set comes out to about the same price as the magnetic screen	\$19.33	
	TR1	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4"-20 Tap, L=2"		\$4.74	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
Camera Stand				Set Price:	\$52.26
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 196B-2 143BKT 2-Section Single Articulated Arm with Camera Bracket (Black)	This is a camera arm to hold it horizontally over the set up. It might be a bit too big, but it would probably hold the camera better than another makeshift rig.	\$23.24	
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 035RL Super Clamp with 2908 Standard Stud - Replaces 2900 - Black		\$29.02	

	Part no.	Description	Notes	Price	Total Price
Rotation Stage					289.51
	MSRPO1	Ø1.40" Manual Mini-Series Rotation Stage		\$75.39	
Laser and Plug					
	CPS635R	Collimated Laser Diode Module, 635 nm, 1.2 mW, Ø2.9 mm Round Beam, Ø11 mm housing	Round Red Laser, only slightly less expensive than the elliptical laser, 2.9 mm diameter, probably might as well get the elliptical laser	\$94.55	
	LDS5	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 120 V		\$89.57	
Camera, Stage and laser Mounts					
		Maybe about \$30 worth of Hardware store supplies - flat peice of wood to bolt stuff down on, Something to use as a camera mount, bolts etc.		\$30	

	Part no.	Description	Notes	Price	Total Price
		Green Laser pointer with <.3 cm diameter <a href="https://burninglas">https://burninglas</a>	Something Like this could also be found on Amazon probably if this site doesn't seem good	\$14	64
		Maybe \$50 worth of stuff from the hardware store	To fix up current rotating table + something to hold camera, current screen and laser in place	\$50	

	Part no.	Description	Notes	Price	Total Price
Rotation Stage					1528.28
	PRO1	High Precision Rotation Mount		\$341.45	
	PRO1A	Solid Adapter Plate for PRO1		\$30.21	
	PM4	Large Adjustable Clamping Arm		\$23.64	
Breadboard					
	MSB1218	12" x 18" x 3/8" Mini-Series Aluminum Breadboard, 8-32 and 1/4" High Density Taps	For mounting both laser and target in addition to rotation stage, M4 and M6 Taps	\$345.25	
Laser and Mount					
	CPS450	Collimated Laser Diode Module, 450 nm, 4.5 mW, 3.2 x 1.0 Elliptical Beam, Ø11 mm housing	Blue laser, best diameter	\$227.98	
	CPS11K	Ø11 mm Laser Diode Module Mounting Unit, 120V	Includes stand and adjustable, kinetic mount peices for laser, and power cord	\$211	
Target					
	TPSM2/M	Magnetic Laser Safety Screen, 300 mm x 75 mm, Metric Engraving		\$38.87	
	BHM1	6" Magnetic Beam Height Measurement Tool		\$22.06	
Camera Mounting		ThorLabs + Surface Camera Rig	A set up using peices from thor labs would have more stability than a regular camera stand. I would have to also get a peice of wood to hold the camera over the top. I think its not worth the extra price. I also don't see a good option to make a cage for the camera, just a rail system, which seems like overkill.	Set Price:	\$287.65
	XE25L09	9" Long Conctruction Rail		\$15.76	
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	XE25L09	9" Long Conctruction Rail		\$15.76	
	XE25-CUSTRAIL	4" Long Construction Rail - "Customized Rail from 2.5-7.9"	They had an option for a custom length, if it's more expensive, we can get the 9" Rail	\$15.76	
	XE25-CUSTRAIL	4" Long Construction Rail - "Customized Rail from 2.5-7.9"		\$15.76	
	XE25W3	Quick Corner Cube for 25 mm Rails		\$5.18	
	XE25W3	Quick Corner Cube for 25 mm Rails		\$5.18	
	XE25W3	Quick Corner Cube for 25 mm Rails		\$5.18	
	XE25W3	Quick Corner Cube for 25 mm Rails		\$5.18	
	SH25LP38	1/4"-20 Low Profile Channel Screws (100 Screws/Box)	These are supposed to make it easier to get the corner cubes in place, I'm also hoping they'll allow me to attach the wood on top	\$24.37	
	XE25A90	Right Angle Bracket for 25 mm Rails	These may not be necessary really, they are just supposed to make it more stable	\$28.37	
	XE25A90	Right Angle Bracket for 25 mm Rails		\$28.37	
	XE25A90	Right Angle Bracket for 25 mm Rails		\$28.37	
	XE25A90	Right Angle Bracket for 25 mm Rails		\$28.37	
		Small Plywood Sheet		\$3	

	Part no.	Description	Notes	Price	Total Price
Rotation Stage					619.98
	MSRPO1	Ø1.40" Manual Mini-Series Rotation Stage		\$75.39	
	PRO1A	Solid Adapter Plate for PRO1		\$30.21	
	PM4	Large Adjustable Clamping Arm		\$23.64	
Breadboard					
	MSB12	12" x 12" x 3/8" Mini-Series Aluminum Breadboard, 8-32 and 1/4" High Density Taps	For mounting either the laser or the target (or maybe both) in addition to the rotation stage, M4 and M6 Taps	\$221.00	
Laser					
	CPS650F	Focus Adjustable Laser Diode Module, 650 nm, 4.5 mW, 5.0 x 2.4 mm Elliptical Beam, Ø11 housing	Red Laser, Adjustable, 2.4 mm in one direction	\$107.16	
Laser Mounting Pieces and Plug			To replace \$211 set	Set Price:	\$178.63
	LDS5	5 VDC Regulated Power Supply, 2.5 mm Phono Plug, 120 V		\$89.57	
	TR3	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4" -20 Tap, L=3"	Standard Series, but I think it works on the mini breadboard	\$5.42	
	TR2	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4" -20 Tap, L=2"	Extra post in a smaller size to make sure the laser may be positioned at the right height	\$5.19	
	TR1	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4" -20 Tap, L=1"	Extra post in a smaller size to make sure the laser may be positioned at the right height - The Rotation Stage Specs don't give the height	\$4.74	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
	AD11BA	Ø1/2" Unthreaded Adapter for Ø11 mm Cylindrical Components	Replacement for Kinetic Mount	\$20.38	
	KM05	Kinematic Mirror Mount for Ø1/2" Optics, 8-32 Taps	Replacement for Kinetic Mount	\$39.00	
Target				Set Price:	\$38.85
	EDU-VS1	Post-Mountable White Polystyrene Viewing Screen	This actually would probably be better for the computer program - This set comes out to about the same price as the magnetic screen	\$19.33	
	TR2	Ø1/2" Optical Post, SS, 8-32 Setscrew, 1/4" -20 Tap, L=2"	Extra post in a smaller size to make sure the laser may be positioned at the right height	\$5.19	
	PH1	Ø1/2" Post Holder, Spring-Loaded Hex-Locking Thumbscrew, L=1"		\$7.03	
	BA2	Mounting Base, 2" x 3" x 3/8"		\$7.30	
Camera Stand				Set Price:	\$52.26
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 196B-2 143BKT 2-Section Single Articulated Arm with Camera Bracket (Black)	This is a camera arm to hold it horizontally over the set up. It might be a bit too big, but it would probably hold the camera better than another makeshift rig.	\$23.24	
	<a href="https://www.ama">https://www.ama</a>	Manfrotto 035RL Super Clamp with 2908 Standard Stud - Replaces 2900 - Black		\$29.02	

	Part no.	Description	Notes	Price
Breadboard				
	MSB34	3" x 4" x 3/8" Mini-Series Aluminum Breadboard, 8-32 and 1/4" High Density Taps	For mounting the rotation stage only, M4 and M6 Taps	\$34.00
Laser				
	CPS635R	Collimated Laser Diode Module, 635 nm, 1.2 mW, Ø2.9 mm Round Beam, Ø11 mm housing	Round Red Laser	\$94.55
	<a href="https://burninglas">https://burninglas</a>	Green Laser pointer with <.3 cm diameter	Something Like this could also be found on Amazon probably	\$14