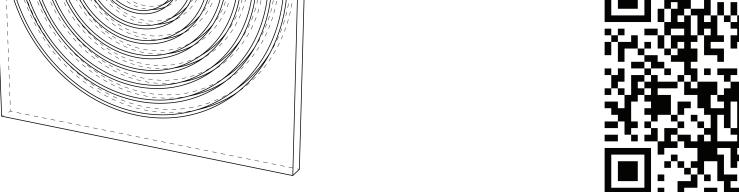
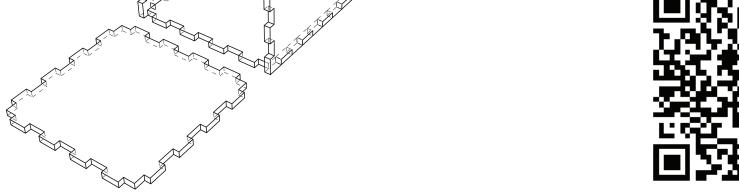
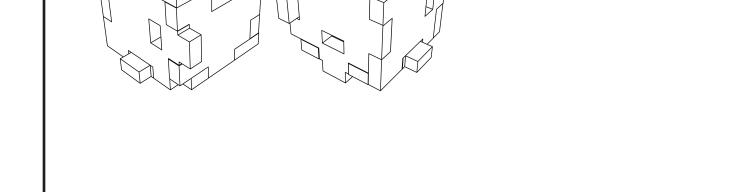
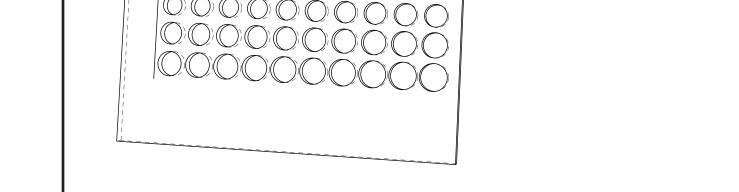
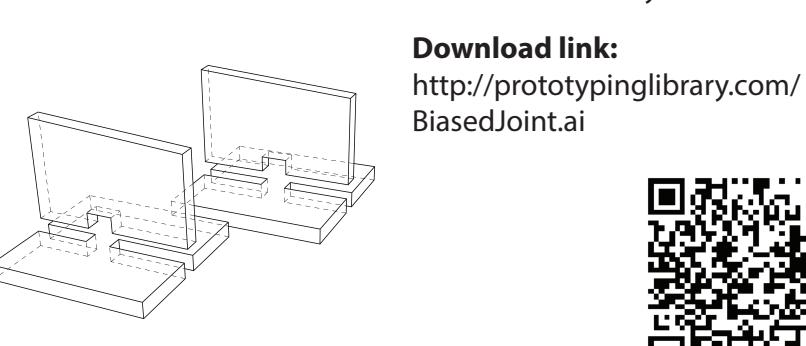
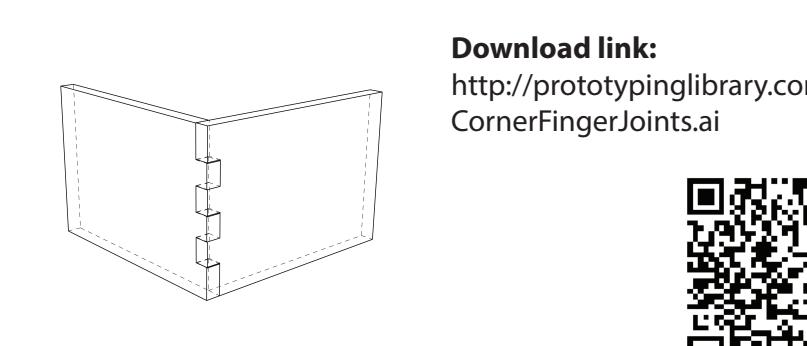
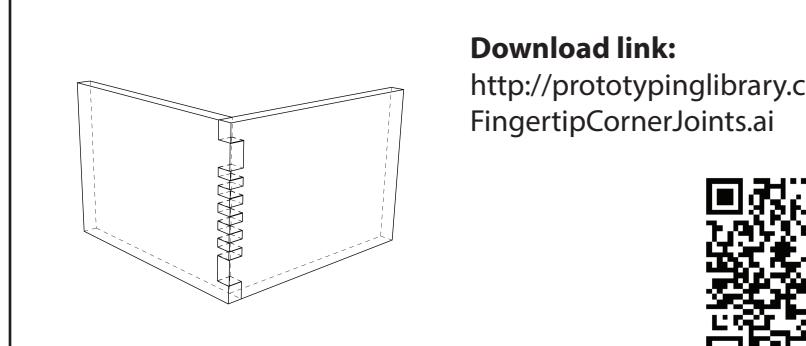
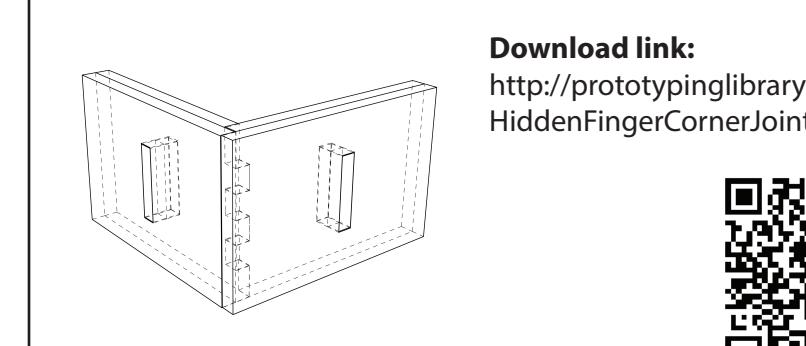
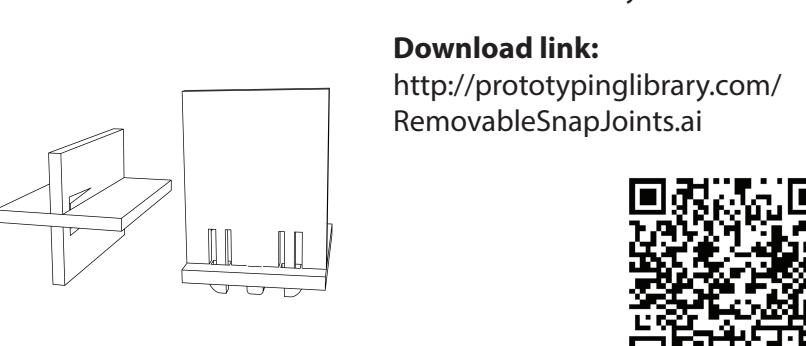
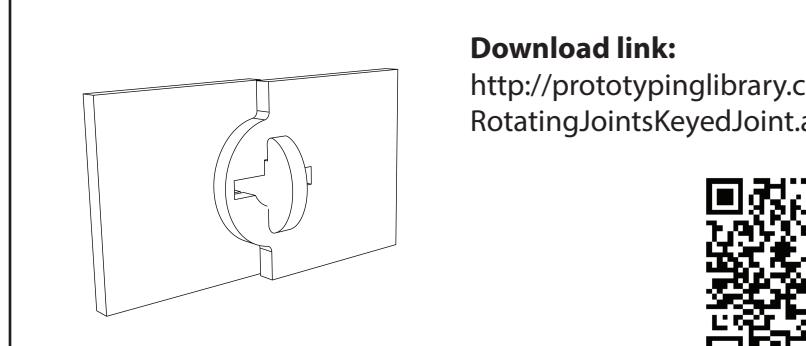
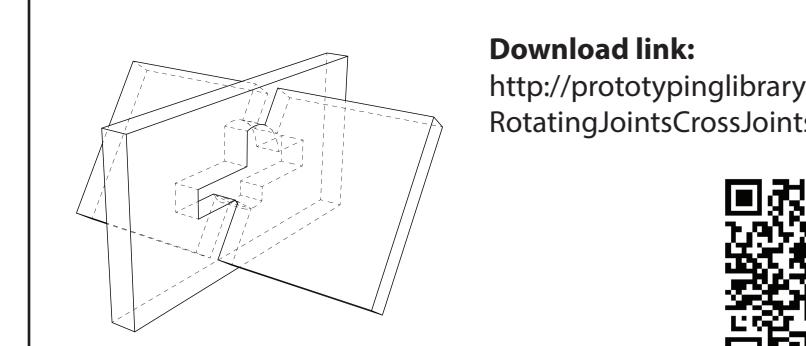
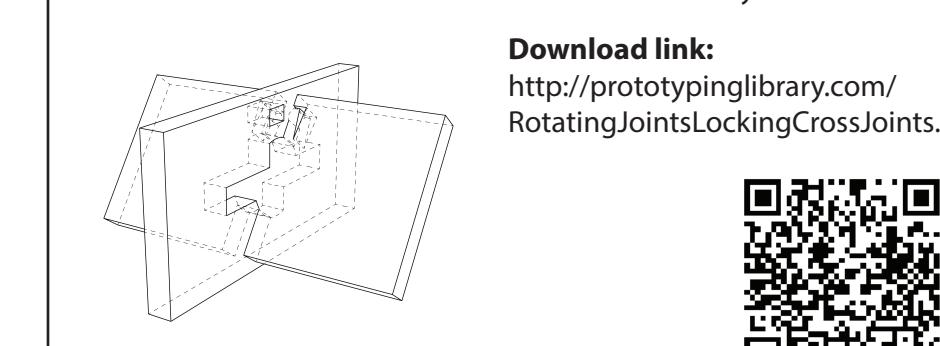
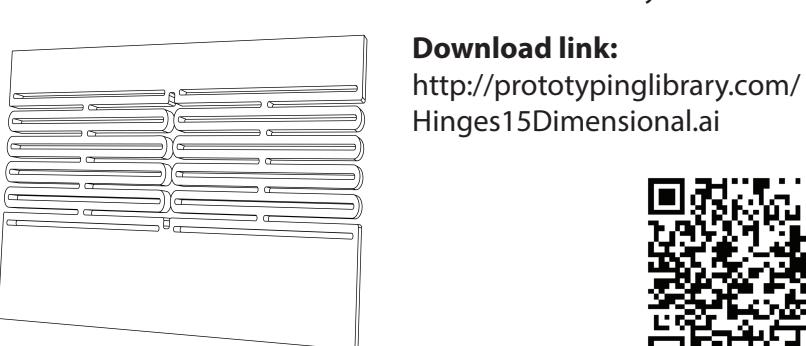


Power vs. Speed Gauge	Vector Cutting	Raster Etching	Box Making	Tolerance Fitting Gauge	Hole Gauge	Material Width Gauge
<p>Description: The laser cutter has 3 settings to vary: Power, Speed and Points per inch. These parts show what happens when you vary the power vs speed.</p> <p>Source: Inspired by Milwaukee Maker Space's Gradient Reference</p> <p>Download link: http://prototypinglibrary.com/PowersvSpeedGauge.ai</p> 	<p>Description: The laser cutter has two modes of operation. The first is to vector cut (pierce) the material. These parts identify the power and speed required to pierce specific materials.</p> <p>Source: Adapted from f-labo's sample book template</p> <p>Download link: http://prototypinglibrary.com/VectorCutting.ai</p> 	<p>Description: The 2nd operation of a laser cutter is to etch areas into a material. These examples highlight some ideas for your projects.</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/RasterEtching.ai</p> 	<p>Description: A common use for a laser cutter is to make snap-fit boxes and enclosures. Tools like Boxmaker (boxmaker.rahulbotics.com/) accelerate the creation of these parts for your design projects.</p> <p>Source: Created using Boxmaker</p>  <p>Download link: http://prototypinglibrary.com/BoxMaking.ai</p>	<p>Description: The strength of a finger joint is dependent upon the tolerance fit between the joints. This tool helps to determine the optimal dimensions.</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/ToleranceFittingGauge.ai</p> 	<p>Description: This tool can be used to measure and set a specific hole size when using the laser cutter for exact hole dimensions.</p> <p>Source: Adapted from Hole Gauge for Laser Cutter</p> <p>Download link: http://prototypinglibrary.com/HoleGauge.ai</p> 	<p>Description: Designing for the laser cutter requires material consideration and an understanding of the minimum achievable feature size for individual materials.</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/MaterialWidthGauge.ai</p> 
Lap Joint	Biased Joint	T-Joints	Corner Finger Joints	Fingertip Corner Joints	Hidden Finger Corner Joint	Three-Dimensional Finger Joint
<p>Description: Laser cutters are useful in the application of joining techniques. Instead of the use of adhesives the laser cutter allows you to precisely make joints by cutting pieces.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/LapJoint.ai</p> 	<p>Description: Designing biased joints can be useful for directing assembly of joints. Biased joint can only be assembled in one direction.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/BiasedJoint.ai</p> 	<p>Description: Depending on your application there are other joints to use: The Finger joint is the same joint used in the boxes. The Fingertip with lateral positioning and the Fingertip with central Positioning are two other joint options that afford various friction fitting.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/TJoints.ai</p> 	<p>Description: The joints in the box are finger joints; most of these joints can also be used as corners in your projects.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/CornerFingerJoints.ai</p> 	<p>Description: This corner joint can be used in situations where high strength is needed but where the object will not be subjected to a torsional force.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/FingertipCornerJoints.ai</p> 	<p>Description: Joints can be aesthetic as well as functional. In this example the finger joint is hidden.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/HiddenFingerCornerJoint.ai</p> 	<p>Description: This Three-Dimensional Joint is used for 3D space structures, requires no adhesives, and consists of only two different geometries.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/CornerJointsThreeDimensionalFing</p> 
Removable Snap Joints	Non-Removable Snap Joint	Adjustable Snap Joints	Lengthening Joints	Rotating Joints: Keyed Joint	Rotating Joints: Cross-Joints	Rotating Joints: Locking Cross-Joints
<p>Description: This is a detachable joint where the hooks lock the joint in place but elastically deflect when the joint is separated.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/RemovableSnapJoints.ai</p> 	<p>Description: This is a version of the basic slotted lap joint with a non-removable snap-and-hold feature.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/NonRemovableSnapJoint.ai</p> 	<p>Description: This version of the clip joints can be removable or permanent but hides the basic snap-and-hold feature.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/AdjustableSnapJoints.ai</p> 	<p>Description: Some joints may be used to extend the length of pieces. The first example, the Edge Lap with Snap holds pieces together firmly with two through supports. The is best used in cases where the joint needs stability and strength. The second joint, the Double Lab Hook, is useful to lengthen pieces of wood while allowing for some torsional movement between them.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/LengtheningJoints.ai</p> 	<p>Description: This joint is useful wherever a joint need to be secured against unintentional loosening. The geometry of the joint is designed so that the key stops after a quarter turn.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/RotatingJointsKeyedJoint.ai</p> 	<p>Description: This joint operates like a lap joint but the material fully overlaps itself.</p> <p>Source: Adapted from 50 Digital Wood Joints</p> <p>Download link: http://prototypinglibrary.com/RotatingJointsCrossJoints.ai</p> 	<p>Description: This joint's end position looks like the cross-joints but the method of attachment is a radial interlocking system.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/RotatingJointsLockingCrossJoints.ai</p> 
Hinges: One Dimensional	Hinges: 1.5-Dimensional	Hinges: Two Dimensional	Origami Assembly	Sectioned Assembly	Stamp Creation	Snap Joint Box
<p>Description: Living Hinges are flexible hinges created from a usually rigid material. These are useful when used as a large radius hinge, and the line length and density are material dependent.</p> <p>Source: Based on the Snijlab Laser Hinge</p> <p>Download link: http://prototypinglibrary.com/HingesOneDimensional.ai</p> 	<p>Description: This hinge allows for some torsional movement when bending the hinge.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/Hinges15Dimensional.ai</p> 	<p>Description: This two dimensional hinge has two bending directions and is acts like a spring between two rigid elements.</p> <p>Source: Adapted from MSRaynsford's Panel Joinery</p> <p>Download link: http://prototypinglibrary.com/HingesTwoDimensional.ai</p> 	<p>Description: Unfolded patterns can be cut, folded and closed into three-dimensional volumes. These can be used for display or as mold positives.</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/OrigamiAssembly.ai</p> 	<p>Description: Complex three-dimensional objects can be created by stacking laser cut cross-sections of that object.</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/SectionedAssembly.ai</p> 	<p>Description: Needed</p> <p>Source: Original Work</p> <p>Download link: http://prototypinglibrary.com/StampCreation.ai</p> 	<p>Description: This box illustrates the combination of a number of techniques: a Tab assembled box with a reusable clip opening, a top operated by a living hinge and a logo etched onto the top of the box.</p> <p>Source: Adapted from Flex Box Snap Fit - A wooden box with a</p> <p>Download link: http://prototypinglibrary.com/SnapJointBox.ai</p> 