

MAKER WORKS



Member Handbook



December 2014

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Welcome!

Tom, Dale, and the entire staff of Maker Works are delighted you are here!

We like to say we offer four things at Maker Works: **cool tools, the space to use them, support, and community**. By this point you've seen the tools and the space. If you've taken a class, you've experienced a taste of the instruction and other support our staff provides. But if you haven't spent much time here yet, we hope you're in for a pleasant surprise--there's a wonderful community of makers here at all skill levels. If you're like us, we think you'll find it exciting and energizing to be around such inventive, creative people, with interests, skills, and knowledge in such a wide variety of subjects.

Another thing we like to say is that there's nothing virtual about what we do here. While it's true that many projects begin with a digital model, at the end of the day our members are leaving with real pieces of furniture, robots, electronic prototypes, bike frames, and thousands of other objects that they make or repaired. We think there's a lot to be said for everyone to include Making in their life, whatever skill level they're currently at.

Safety is obviously a big concern at a shop like this, and we really appreciate everything you do to contribute to that safety. Using the SOPs, using protective equipment, dressing right, and even taking our checkout classes. We don't get to keep doing this work if people aren't safe. So thanks in advance!

In case you're wondering, Make Works is a for-profit business with three bottom lines: people, planet, and profit. We're happy to share our business mission, history, vision, or other details--please ask. You'll find a copy of our guiding principles later on in this handbook, which will give you an idea of how we want to run this makerspace. Again, welcome!

Tom Root & Dale Grover

How It Works

Think of Maker Works as a workshop run like a health club. You buy a membership for a day, month, or year, learn to operate the equipment (i.e., “checkout classes”), and then make things. There's no hourly charge for using the machines--come in as much as you like (though we do need to make sure we share the tools). There is a separate charge for each checkout class.

We provide the tools, the space, the instruction, and a community of makers; you make the thing.

In this handbook we'll describe the policies and procedures we use to make this happen. The most important elements are:

- safety--we want and need all our members to be safe
- sharing--equitable access for all our members
- sustainable--we want to continue doing this for a long time.

Hours

Our current hours are:

Monday - Thursday	1 PM - 9 PM
Friday	9 AM - 6 PM
Saturday - Sunday	10 AM - 4 PM

Please check our website (www.maker-works.com) for holiday hours.

Contact Us

email: membership@maker-works.com

phone: 734-222-4911

Address: Maker Works
3765 Plaza Drive
Ann Arbor, MI 48108

Principles of Safety

Your Own Safety

Attention Give the work and the tool your undivided attention. One and only one person should operate a machine and must attend it while running. Operate machinery with a clear mind, never while fatigued or under the influence of drugs or alcohol.

Attire Wear ANSI Z87 safety glasses or goggles and closed foot wear at all times in **Wood** and **Metal**. Wear hearing and breathing protection as appropriate to the work environment. Do not operate rotating machinery while wearing long sleeves, gloves, loose jewelry, loose long hair, neckties, hoodie strings or anything else which may be caught and draw you into the machine.

Ask for Help if you are not familiar with a machine or operation. Handling long, large, or heavy materials. Seek first aid immediately for any injury. Ask for help anytime you feel unsure about the safety of what you are about to do.

The Safety of those Around You

Safe Materials Do not bring toxic, flammable explosive, or radioactive materials. Do not bring materials which may become dangerous when machined or heated (e.g., closed pressure vessels).

Startling Allow others to give their work their undivided attention. Do not tap people on the shoulder. Move into others' line of sight before attempting to attract their attention. Stay clear of areas where others may move unexpectedly without checking for your presence. Give warning before making sudden loud noises.

Sharp Tools Dull tools require excessive force, can pose a fire hazard and have a higher likelihood of ejecting material from the work area.

The Safety and Health of the Tools

SOPs

Consult machine manuals for additional information.

Check and Report Inspect machinery before using to ensure it is in proper working order. Consult staff if unsure about anything. Immediately report if something breaks.

Authorization Use only tools you have been authorized to use through Maker Works checkout procedure.

Be polite and professional in all interactions at Maker Works, particularly when giving or receiving feedback about safety.

Materials

First, there are materials that are not allowed in Maker Works at all because of general safety. Any explosive, toxic, or otherwise harmful materials are not allowed. Likewise, items that are dangerous in construction, for example an un-certified tank under pressure, are not allowed.

As you might imagine, it is tricky running a shop like this with a wide range of ages and abilities and dealing with the liabilities. We regret that for the moment we do not allow weapons, or significant pieces of weapons, in the shop. Please consult a staff member if you have any questions.

Second, each machine may have a list of materials that are acceptable or not. For example, galvanized steel cannot be cut on the plasma cutter because of the toxic fumes, and we cannot cut PVC plastic on the laser because of the caustic fumes. These limitations are discussed in the checkout class for each tool, but please also feel free to ask a staff member if you have a question. Please see our Finishing SOP for details, but the short story on painting and staining is that we don't have a dust-free place for finishing, and any finishing you want to do must be water-based (not oil base). We don't have a paint booth to support other finishes.

Metal should be cut in the metal shop—we normally do not allow cutting metal (including aluminum) in the wood shop. Generally, plastics are welcome in both the wood and metal shops. Please ask if you have a question about acceptable materials—we're trying to keep people safe, machinery safe, and provide a nice shared work environment. Sometimes that means limiting the type of work much more than would be the case for a home shop.

Membership

- Membership is required to do work at Maker Works
- Many tools require a checkout class
- Membership is not required to take a checkout class

Standard membership is our normal type of membership.

Members have access to any tool they are checked out on during our regular business hours. Tools can be reserved for up to 2 hours at a time per day (but used longer if no one is waiting to use them). Staff is on hand to answer questions and provide other member services.

All-hours membership is an upgraded membership and includes access to Maker Works 24/7. All-hours membership carries considerable responsibilities, since our staff is not on hand, and requires members have had 3 months of membership and taken at least 2 checkout classes. All-hours membership is offered only month-to-month, and there are a limited number of these available. All-hours memberships auto-renew until you ask us in writing to stop. See later in this handbook for an all-hours membership application and Section 4 of the membership agreement that spells out the additional responsibilities.

Pricing and policies are subject to change. Please check with us for current information.

	Standard Membership	All-Hours Membership
Price	Day: \$35 Month: \$90 Punch Card: \$250 for 10 day passes Year: \$900***	Month: \$200**
Discounts	Veteran/Student: \$45/month, \$450/year Additional family: \$45/month, \$450/year Business: \$80/month (2 or more), \$800/year (2 or more) Licensee: \$45/month, \$450/year	No discount
Access	Regular business hours (i.e., when staffed)	Any time Keys and alarm codes issued
Guests	Yes, if not using tools (must sign liability waiver)	During regular business hours, yes, if not using tools (must sign liability waiver). No guests outside regular hours. (Licensees may have guests, but not around tools.)
Reservations	2 hours per machine* per day	During regular hours: 2 hours per machine* per day Plus after hours: 2

	Standard Membership	All-Hours Membership
		hours per machine* per day
Production use	Only with staff approval	Only with staff approval
Prerequisites	None (Minors require parent/guardian signature)	3 months of membership 2 checkout classes 18 or older
Responsibilities	Adherence to SOPs and shop rules	Adherence to SOPs and shop rules May need to execute entire closing SOP when leaving Additional responsibilities as outlined in all-hours agreement

*The lasers count as a single machine--that is, you can't schedule more than 2 hours between the two lasers per day.

**All-hours membership is currently automatically renewed until cancelled. Once an all-hours membership is dropped, beginning again is subject to the same conditions as a new applicant.

***Yearly membership is billed quarterly.

Family covers additional people at the same address as a regular, veteran, or (head of household) student.

Business discounts are for two or more members of a business.

Please ask about discounts for corporations offering membership as a benefit for employees, and for schools.

Upgrading Memberships

You can upgrade from day to month or month to year with full credit for what you have already paid; the longer period will start at the start of the earliest period credited. For example, if Bruce bought a day membership on the May 15th, then another on the 17th, he could upgrade to a month by paying the difference: \$90 - \$70 = \$20. His month membership would then be said to have started on May 15th and would run until June 14th.

The Job Board

If you prefer, you can earn your membership by doing jobs on our job board (or other work that we need done--teaching, building things around the shop, etc.). Accumulating 10 hours of work equals 1 month membership at the regular rate. The hours can be used for classes or membership. Talk to any staff member for details.

Kids at Maker Works

Kids 12 and under can use the common room, electronics lab, craft suite, and conference while they are directly supervised by an adult. Responsible kids may operate tools with adult supervision and if they have taken the checkout class. If your 10-year-old is able to, we want them cutting things out on the laser! Properly-equipped and monitored kids under 13 may make brief visits to the wood or metal shop with staff consent.

Kids between the ages of 13 and 15 can additionally be in and use the wood and metal shops while they are directly supervised by an adult (and are checked out on the tools). The adult must be checked out on the tool to supervise.

Anyone 16 or older is free to use the shop on their own. Parent or guardian must sign for kids under 18.

We're sorry, but we don't have the staff to monitor children while parents are working elsewhere in the shop.

Tools

How to Use the Tools at Maker Works

Checkout Classes

A checkout class is required before operating any tools that pose a danger to the user or nearby people, or where the tool could easily be damaged by misuse. This checkout class will cover safety and the basic operation of the tool, and is priced in addition to membership.

You do not need to be a member to take a checkout class at Maker Works. In fact, it's a great way to learn more about a tool, to see if it will work for your project.

Once you take a checkout class, you can retake the checkout class again for free should you want a refresher. (Re-taking a class for free only applies to checkout classes, not skill development or other classes.)



Sign up for checkout classes using the “Class Sign Up” button at the top of the Maker Works web site. This will take you to an online calendar where you can pick the classes that fit your schedule.

Not finding a time that works? You can schedule a custom class to fit your schedule. Custom classes cost more per person for 1 or 2 people, but can run for the regular price if you have 3 people for the class. Just ask at the front desk (or email us) for details. We're often asked if it is possible to “test out” of checkout classes. While we have no doubt that many members may be experienced using a particular type of tool, Maker Works does have some practices that are unique to this shop and this environment. Working in a professional shop or in your own private shop is very different than working in a shop with others of varying experience. And we want each member to feel assured that the other people working around them are also operating tools safely. Checkout classes also keep our insurance company happy--and that lets us keep offering this shop.

Standard Operating Procedures (SOPs)

SOPs are how we run Maker Works--from how we operate the tools to how we process membership transactions or lock up at the end of the day. SOPs are recipes, and they're the key to continuously improving how we do things. Checkout classes will follow the SOP for that tool (and the instructor will in turn be following an SOP for how to teach that class), and the SOP will always be near the tool for you to use whenever you operate that tool. There's no need to memorize how to run the tool--in fact, we'd prefer you always refer to the SOP.

Aren't SOPs constraining? When you first use an SOP, it may feel like that. But in fact, SOPs let us devote our creative energy to those aspects of the project where creativity is appropriate. As we sometimes say, the place to be creative is what you cut out on the CNC router--but for safe and reliable operation, there's really only one way to install the router bit.

We are also always hoping to improve our SOPs, so look for a form in the front of the white SOP folder "How Can We Improve this SOP?" We appreciate the feedback.

Getting Help with Tools

We've tried to capture the safety and basic operation for each tool in that tool's SOPs. But, if after using the SOP, you're not sure how to do something or think there's something wrong, please ask any staff. We'll try to find someone with the knowledge to help. (See the section on Consulting, later in this handbook.)

We're happy to help you as much as we can, but we do have limits in our knowledge and time. Please ask if we can help, and subject to our regular duties, knowledge, and experience, we'll try our best. But we may need to refer you to other resources. And keep in mind that Maker Works provides access to tools, while our members provide the design skills make the actual items.

Tooling

Many of the tools at Maker Works use tooling that wears out, often called consumables. Drill bits, router bits, end mills, saw blades, etc. What you'll find is that we try to keep some basic tooling available for most of the tools, but we have a wide variety of

experience and projects among our members. We can't supply tooling for every possible project, and can't guarantee that the person who just used a tool didn't wear it down or accidentally abuse it. If you need high precision or are working with costly material, you'll be well-served by bringing in your own tooling. We're happy to tell you where we buy tooling and what types.

Supplies (Fasteners, Glue, etc.)

We try to keep general purpose glues in stock (e.g., wood glue), but we may not have the ideal glue for your project, so like other materials, you may want to bring it with you.

Members should bring their own fasteners (nails, screws, etc.), though there are random amounts in the tool crib for non-critical needs.

With Rare Exception, No Cost for Tool Use

There are just a few tools where we charge for use.

Large format printer: See the poster for the current cost per square foot of full-color printing.

Embroidery machine: We recover the cost of thread by charging for the bottom bobbins. (But please see staff if you'd like to supply your own thread.)

3D printer: If you want to use our plastic filament (ABS), we stock a few different colors. Print your project, then bring the plastic you printed up to the front desk and we'll weigh it. (Ask for current price per gram.) You can also supply your own compatible filament at no cost.

Tool Reservations



Some machines are just popular, but there are other machines where having a reservation also makes sense, like the CNC router where it takes a while to set up a job.

Our online tool reservation calendar lets you reserve time days in advance. A reservation takes the time pressure off, and lets other members know the machine will be in use. We do ask that members not reserve the same machine (or type of machine) more than once a day so that everyone has a chance on the machines.

If you have used up your 2 hours on a machine, you may make

additional 30 minute reservations no more than 5 minutes before the start of the next available slot. This is intended to provide equitable access to the machines.

After-hours members may reserve 2 hours per machine per day during after-hours in addition to up to 2 hours during normal hours. If you need a longer reservation, or consistent blocks of time on a machine, please consult with our staff.

No-Show Policy

Some of our tools are very popular and it is frustrating for everyone when someone makes a reservation and forgets to cancel it. If we do not hear from someone within 20 minutes of the start of their reservation, we'll cancel the reservation. (Please call us if you are running late! We just don't want the tools to be idle when other members really want to be on them.)

Problems with Tools

Please immediately report problems with tools! We'll try to fix them as quick as we can. Sometimes this will require parts or extensive repairs--if a tool is out of service, we will try to note this on our website. You may also call us to verify a tool's availability.

Broken Tools and Tooling

Everyone here has broken tools and tooling. It's not a problem. Let us know and we'll try to get it up and running.

Production Use of Tools

In order to provide equitable access to the tools for all members, and to make sure tools are used within their capacity, any production must be cleared with staff beforehand. Ask our staff. Depending on the amount of time and the wear and tear on the machine or tooling, we may not be able to accommodate it and still offer the availability of tools to everyone.

Yours, Ours, and Other People's Tools

Please mark your own tools. Many tools look the same. Our tools are typically marked with a white dot, and over time will be marked with an "address" that says where the tool lives.

Other members may bring in their tools, too--please be careful not to use other member's tools or supplies without their permission.

List of Tools

* indicates a machine that can be reserved

Wood Shop

Delta 17" Drill Press

Delta DJ-20 8" Jointer w/helical insert head

Delta RC-51 7-1/2HP 20" Planer

Makita 10" Compound Miter Saw

Max 20" Disc Sander

Milwaukee 8-1/4" Panel Saw

Powermatic Model 87 2HP 20" Bandsaw

SawStop 3 HP 10" Professional Cabinet Saw

ShopBot 48"x96" CNC Router *

SuperMax 25" Thickness Sander

Craft (Fabric & Plastic Fabrication)

18" x 24" Vacuum Former

32" Acrylic Strip Heater

Amaya Bravo 16-needle Embroidery Machine *

Bernina Activa Sewing Machine

Bernina Bernette Sewing Machine

Brother Innov-is Sewing Machine

Emco 8" x 10" Vacuum Former

Epilog Helix 50W Lasers (24" x 18", 24" x 12") *

HP 800PS 42" Wide-Format Color Printer

Juki 5-Thread Serger *

MakerBot Replicator 2X 2-head 3D Printer (ABS) *

Roland GX-24 24" Vinyl Cutter *

Metal Shop

Bridgeport 2J 2HP Vertical Milling Machine *

Baileigh 36" 16-gauge Magnetic Brake

Clausing-Colchester 8000-Series 13" x 25" Engine Lathe *

CNC Plasma Cutter, 48" x 48", 1/2" Capacity *

Di-Acro #1 6" 16-gauge Notcher

Ellis 1800 Horizontal Miter Band Saw

Grob NS-18 18" Vertical Bandsaw

Hardinge DSM/DV-59 9" Precision Lathe *

Miller LMSW-52T Resistance Spot Welder

Miller Syncrowave 180SD TIG Welder *

Millermatic 211 MIG Welder *

Pexto 37" 16-gauge Jump Shear

Scotchman Porta-Fab 45-Ton Ironworker

Tormach PCNC 1100 CNC Vertical Mill *

Electronics Lab

Aoyue 852A Hot Air Rework Station

Hakko 808 Desoldering Tool

IBC Boardmaker 2222 22" x 22" PCB Engraver *

Metcal PS2E/MX-RM3E Soldering Stations

Saleae Logic16 16-Channel 100 MHz Logic Analyzer

Tektronix TDS2002C 2-Channel 70 MHz Digital Oscilloscope

Tektronix PS280 60V/2A 30V/4A DC Power Supply

Software

SolidWorks, 3D CAD *

Corel Draw, Vector Graphics

GNU Image Manipulation Program, Vector Graphics

Inkscape, Vector Graphics

MeshCAM Pro, 3D CAM

SheetCam, 2-1/2D CAM

PartWorks, 2D CAM

PartWorks 3D, 3D CAM

Space

Using Workbenches, Tables

Clear tables and work benches help us all with our making. When you are done for the day, please clear tools, materials, and projects from work surfaces.

If you are glueing up a wood project and cannot transfer it to the floor until the glue is set, label the project with your name, date, and the time when the project can be moved and to where you want it moved.

If you are glueing up a metal project, you might want to look into our welding classes.

Storage

Small amounts of materials can be stored at Maker Works while you are actively working on it. They must be clearly labeled with your name, contact information, and date. See a staff member for a storage location. For items you would like to store for more than two weeks, please ask about paid storage options.

Shipments

Maker Works can accept packages via UPS, FedEx, etc. Please let us know ahead of time so we know it is for a member, and not a misdelivery for another company in the park. We can also work with you to accept larger shipments (e.g., pallets of wood). Please note that only trained staff can operate the forklift.

Reserving the Conference Room

Please ask a staff member to help reserve the conference room. It is generally available for member use for private or public meetings. Non-profit events typically are not charged. Please see our **Conference Room Use** policy for details.

Kitchen

We have a kitchenette and a fridge. Please clean up after yourselves--label fridge food, do not leave food in fridge longer than 3 days, and please do not leave your dishes in the sink.

Food and Drink

A water cooler is located in the common room. Soft drinks and snacks are available next to the retail area--payment is via the honor box on top of the mini-fridge.

Please don't take open food or drink into the wood and metal shop (closed containers are fine), and use caution with any food or drink in the shop, especially around computers and delicate equipment.

Floors

Use caution around machinery that can produce sawdust or where oil or water may be on the floor (e.g., near the plasma cutter table). Please notify staff if there's a spill or other slipping or tripping hazard.

Consulting and Other Help

One of our staff's most important jobs is answering any questions you may have. We try to keep enough staff on hand so that we can assist all our members. But we've had many requests to offer "one-on-one" consulting with our staff during regular hours, for times you need a block of a staff member's time. Subject to their availability, you can arrange a block of time that is just you and the staff member. No rush, time that is reserved just for you. Ask at the front desk for the current rate. But please, unless you expect to need a lot more than 15 minutes, there's no need to even think about this consulting product. We're here to help, and we'll try our best.

Finding People to do Work

If you're looking for someone to do some work for you, we do have a bulletin board with positions offered and wanted. We also might know of a member who might meet your needs--we can make the introduction and let you work it out. We'd of course love to teach you how to do it yourself, but we know sometimes that isn't possible.

Our staff are often busy people, but are sometimes open to working on projects outside their staff hours. You're welcome to discuss a separate arrangement with them.

Local Groups

Don't forget local interest groups, including

- GO-Tech: A monthly "geek show-and-tell" where local Makers show off their latest creations. Second Tuesday of the month, 7 PM, at Maker Works.
- Michigan Robotics Club: Robot builders of all levels meet the fourth Wednesday of most months (check their website) at 7 PM at Maker Works; a kids robotics meeting happens an hour earlier.
- South East Michigan CNC (SEMICNC): CNC builders and enthusiasts discuss CNC machining the first Wednesday of each month, 7 PM at Maker Works.

(The above meetings are free and open to anyone.)

Interested in having your group meet in the conference room at Maker Works? Contact a staff member to discuss the possibilities.

Opportunities

Other Classes

In addition to checkout classes, Maker Works offers Skill Development and “Make & Take” classes. Skill Development classes are not required for operating a tool, but are designed to increase your skills. Examples include welding, software, and electronics classes like Arduino. Tool-oriented skill development classes may require having taken the associated checkout class. “Make & Take” classes emphasize making a particular thing--for example, a Halloween costume.

Sign up for all our classes on the online class calendar (linked on front page of website).

Tours

We are delighted to give tours of the shop any time we're open. If you have a larger group, or a tour outside of normal hours would work better, please talk with a staff member. There is no charge for tours.

Events

We can host events at Maker Works such as company team building, Brownies/Cub Scouts, birthday parties--any event where Making can play a part. Ask for more details!

Fix-It Fridays

The third Friday of each month is Fix-It Friday! Members and staff are on hand to try to fix things that otherwise would be thrown out. No guarantees--think of this as a last ditch option. Fix-It Friday runs from 4-6 PM.

Licensing Space

Maker Works has a limited number of offices, suites, and other space for individuals and small businesses to license. Licensed

space comes with the ability to purchase up to a specific number of discounted all-hours memberships for people involved in the business; additional all-hours memberships are subject to availability. Regular memberships for people involved in the licensing business are available at a discounted rate with no limit on number.

Licensees must hold all-hours memberships in order to use Maker Works tools and space after hours, but all-hours membership is not required if no such use will be made. Licensees may not sublicense the space--everyone using the space must have a common primary business relationship.

Teaching at Maker Works

Education is very important to us. If you have a class you're interested in teaching, we'd like to hear about it. We have a process to aid in the development of the class.

Working at Maker Works

Ask a staff member for an application. We are especially looking for people with great people skills and a real interest in Making.

Starting a Makerspace

We give tours and are happy to share information about starting a makerspace in other places. We even periodically run a Makerspace Operations Bootcamp covering the processes we use to run Maker Works. Let us know if you'd like more information.

Miscellaneous Policies

Please ask if your question isn't addressed.

Finishing

We do not have a clean area for applying finishes at the moment, but if you can live with the potential dust and other complications, here is our policy on using finishes at Maker Works.

Allowed:

Water-based paints and finishes, such as latex paint and primers, acrylic paint and primers, water-based urethane, water-based lacquer.

See staff about:

Epoxy, resin (any type), any other material not otherwise listed.

NOT allowed:

Oil and solvent-based paints and finishes such as oil paint and primers, most urethane, most lacquer, most pigments and stains, shellac, spray paint or spraying of any kind, bondo.

Our finishing policy is due to several factors:

- We cannot guarantee a dust-free environment or a clean space.
- Oil and solvent-based paints and finishes pose a serious fire and clean air hazard.
- Finishing process makes an excess of contaminated materials (rags, brushes, drop cloth) that can also pose a serious fire and clean air hazard.
- Our insurance currently does not cover the use of these materials in our facility.

There is a finishing SOP binder in the woodshop.

Privacy and Photos

Please ask before taking photos of either a member or their work.

(If it is clearly on display at the front, no permission is needed, but please credit the maker.)

It's fine to ask other members what they're working on, but please realize that sometimes the project may be sensitive and they won't be able to discuss it.

Guests

Guests of a member during normal business hours are welcome, but must sign a liability waiver and cannot operate tools.

(Licensees may have guests after hours, but not around tools.)

Personal Tools

You are welcome to bring in your own tools. Please mark them so they do not get confused with ours. If it is a hand power tool, please check with front desk to see if you need a safety checkout to operate it in our shop.

Suggesting Tools

Please do suggest tools! We do need to be careful selecting new tools because we have limited space and a finite budget, and some tools may appeal to a limited (but discerning!) audience. Let us know what you'd like to see.

“Donating” Tools

We're happy to trade value for tools when they fit into our plans. For example, we have traded membership in exchange for use of someone's tool. We do have limits on space, and a long list of work still to do in the shop, so please forgive us if we are not ready to put time and energy into a particular area. Please talk to us if have questions.

Wi-Fi and Internet

Look for “MakerWorks-Open” and “MakerWorks-Open 5GHz” open Wi-Fi, available for free throughout the building. The lasers, large-format and regular printers are on this network.

About Us

Maker Works is a business with three bottom lines: People, Planet, and Profit. We'd be happy to share our mission, guiding principles, and other aspects of how we run our business--please ask.

Planning for a makerspace began in 2008 by Tom Root, later joined by Dale Grover. We got the keys to the building around the first of 2011 and opened to the public in September 2011.

Maker Works is unrelated to MakerBot, Maker Media, Make Magazine, or Maker Faire. Maker Works is a trademark.

(The following are for your information. We will provide you with separate forms to fill out and sign.)

Membership/Guest Agreement

(Sections 1 and 2 are signed by everyone, including guests and class attendees. Section 3 is signed by members. Section 4 is signed by all-hours members.)

Welcome, and thank you for visiting and/or joining Maker Works. In order to make your Maker Works experience the best possible for you and for all of our Members and Guests, please take your time to read this Membership/Guest Agreement (“Agreement”) in its entirety. There are a number of very important items that you need to understand and to agree to as part of your visit to our new, exciting Maker Works facility.

All Guests and Members are required to complete this Agreement. Our experience has determined that it is better to provide the same Agreement to each individual visiting Maker Works. This reduces misunderstandings of our rules and requirements for all persons in the Maker Works facility. Please read this Agreement in its entirety, initial the bottom of each page and sign where required.

Tom Root, Jr.
President, Maker Works

SECTION 1: PERSONAL INFORMATION

Member Number	
Last Name	
First Name	
Street Address	
Apt or Suite	

City, State, Zip	
Email Address	
Primary Phone	
Secondary Phone	
Emergency Contact #1: Name + Phone	
Emergency Contact #2: Name + Phone	
Date of Birth	

Our Privacy Policy is attached to this Agreement.

By executing this SECTION 1, I acknowledge and agree that:

- Maker Works may send e-mails to the e-mail address noted above.
- Maker Works has the unrestricted use of pictures, video and other media taken of me while at Maker Works for use in marketing activities of Maker Works.
- The information provided in this SECTION 1 is true and correct.

<Signature of Member/Guest>

SECTION 2: RELEASE, INDEMNITY AND ASSUMPTION OF RISK

I understand that the Maker Works facility and the machines, equipment and materials present at the facility are potentially hazardous and may cause property damage, bodily injuries, or even fatal injuries. I also understand that the Maker Works facility and the machines, equipment and materials present at the facility present risks and dangers, including, but not

limited to, risks and dangers posed by:

- Use, misuse, malfunction or defects in machines, equipment and/or materials.
- Lack of training, instruction and/or supervision.
- Lack of warning as to dangerous conditions (natural or man-made).
- The presence of, or exposure to, flammable and/or hazardous substances.
- Arc flashes or burns from welding or other equipment or substances.
- Dust and other airborne particles.
- Human error, negligence and/or careless conduct by me (or others).
- Lack of emergency medical care.

Understanding the risks and dangers, and in consideration of being permitted to become a Member or Guest of Maker Works, I agree to the following:

1. Release. I release and discharge Maker Works, and its owners, managers, employees, agents, contractors and instructors (collectively “Maker Works Representatives”), from any and all liabilities, claims, damages and causes of action whatsoever arising out of any damage, loss or injury that occurs on the Maker Works facility or as a result of any activity at Maker Works, whether such damage, loss or injury results from the negligence of Maker Works or the Maker Works Representatives, or from any other cause whatsoever.

2. Assumption of Risk. I accept and assume any and all risks and dangers of bodily injury, permanent disability, death and/or property damage, even if caused in whole, or in part, by the negligence of Maker Works or the Maker Works Representatives that may occur while I am on the Maker Works facility or engaged in any activity at Maker Works.

3. Indemnification. I agree to indemnify and hold harmless Maker Works and the Maker Works Representatives from any and all liabilities, claims, damages, losses and expenses, including attorneys' fees, which Maker Works or any Maker Works Representatives incur as a result of any claim of bodily injury, death or property damage arising from my presence or activities at Maker Works.

4. Consent to Medical Treatment. I consent to emergency medical care and transportation in order to obtain treatment in the event of injury to me, as Maker Works may deem appropriate. The release set forth in Paragraph 1 of this Section 2 extends to any liability arising out of or in any way connected with the medical treatment and transportation provided in the event of an emergency.

5. Jurisdiction and Interpretation. I agree that exclusive jurisdiction and venue for any lawsuit arising out of this Agreement shall be the state courts located in Washtenaw County, Michigan. To the extent that any part of this Agreement is found to be invalid, void or illegal under applicable law, then any such part shall be inapplicable, and the remainder of this Agreement shall continue in full force and effect.

6. Minor Children. I agree that my minor children (listed below) may be Guests or Members of Maker Works. My minor children are: _____;

_____;
_____. By my signature below, I reaffirm this Agreement on behalf of my minor children, including, but not limited to, the provisions relating to releases, assumption of risks and indemnification and agree that the terms and provisions of this Agreement shall be binding upon my minor children noted above.

7. Binding Nature. This Section 2 of this Agreement shall be binding upon my personal representatives and heirs, and shall be binding upon my minor children listed above and their personal representatives and heirs.

8. Survival. The terms and provisions set forth in this Section 2 of this Agreement shall survive and continue beyond the termination of my being a Member of Maker Works (as set forth in Section 3 below) or beyond my presence or activities as a Guest at Maker Works.

I understand and agree to the terms and provisions of this SECTION 2.

<signature>

SECTION 3: MEMBERSHIP AND MAKER WORKS RULES

1. DEFINITIONS “Member” is any person that subscribes for access to MAKER WORKS facilities, services, and or classes. “Guest” is any person accessing MAKER WORKS facilities, services, and or classes and who is not a member. “Staff” is any MAKER WORKS owner, manager, employee, agent, contractor, or instructor.
2. MEMBERSHIP AGREEMENT Terms of membership are contained in this section 3 of this agreement. Any verbal or other representation of membership terms made outside this Section 3 of this agreement are null and void and of no force and effect.
3. TERM The terms of this Section 3 of this agreement will remain in force for twelve (12) months from the date noted below. The terms and provisions of the

attached “Membership Transaction Agreement” will further govern your access to the MAKER WORKS facilities and services.

4. **NON-PRODUCTION USE ONLY MAKER WORKS** provides the facilities to the member for the shared use of all members. The facilities are not provided as a place of business or production of commercial goods, except by specific written agreement with MAKER WORKS. Unless otherwise agreed to by MAKER WORKS, the use of the facilities for any purpose other than personal, non-commercial activities is prohibited.
5. **FEES AND CHANGE OF TERMS** The current membership fee is specified on the MAKER WORKS price list posted on the Maker Works website. The membership fee may be changed with thirty (30) days’ notice to the members. Membership fees are due on the day set forth in the “Membership Transaction Agreement”. In addition to changing the membership (as noted above), MAKER WORKS reserves the right to amend any other term or provision of this agreement from time to time, with such amendment becoming effective upon notice to the members.
6. **EQUIPMENT AVAILABILITY** MAKER WORKS will endeavor to make all equipment available on a regular basis. Equipment may be added, removed, or modified at any time. Unavailability of equipment is not grounds for termination of this Section 3 of this agreement. Access to equipment may be limited to allow shared use by other members.
7. **OPERATION OF EQUIPMENT** Failure to operate equipment in the prescribed manner is grounds for suspension of member’s privileges to use specific equipment or all equipment (as determined in MAKER WORKS sole discretion). Suspension of privileges to use equipment is not grounds for termination of this

Section 3 of this agreement. A member may only operate equipment that the member has been authorized to operate by MAKER WORKS staff. Specifically identified equipment will require the successful completion of a safety class prior to operation. A fee (as set forth in MAKER WORKS price list) will be charged for the initial completion of the safety class. No fee will be charged for repeat attendance of the same class. MAKER WORKS reserves the right to change the schedule and content of the safety classes and, with thirty (30) days notice, the fee structure of the safety classes.

8. GUESTS A member may bring not more than two (2) into the MAKER WORKS facility at any one time. Guests will be required to complete and execute Section 1 and Section 2 of this agreement. Guests of the members are subject to all the same rules as regular members; however, guests may not operate equipment (including computers) at any time.
9. DIRECTION OF MAKER WORKS STAFF AND ADHERENCE TO PROCEDURES Members and guests must comply with directions of MAKER WORKS staff and must also adhere to MAKER WORKS general and equipment specific Standard Operating Procedures ("SOP").
10. DAMAGE, CLEANING, AND PERFORMANCE Each Member shall maintain the Maker Works facilities and equipment in accordance with Makers Works rules and SOP. Any damage to Maker Works facilities and/or equipment must be reported to staff immediately. Any Member that damages Maker Works' facilities and/or equipment will be responsible for the cost of such repair if the damage was the result of such member's carelessness and/or failure to follow SOP. Additionally, a Member shall be responsible for the cost of repair if the damage was

the result of the carelessness and/or failure to follow SOP by any guest of a member.

11. **CONSUMABLES AND RAW MATERIALS** Members are responsible for purchase or provision of consumables and raw materials. Maker Works may provide, but does not guarantee to provide, limited and basic tooling for some equipment. In order to maintain equipment service condition and warranties, certain consumables and raw materials must be purchased from Maker Works or to Maker Works' specifications. Staff members will provide that information upon request. Maker Works is not responsible for any aspect of materials and tooling provided by Members, and reserves the right to decline donation of materials and tooling.
12. **HAZARDOUS MATERIALS** Hazardous materials are not allowed into Maker Works' facility without the prior written approval of Maker Works staff. Members must complete a Hazardous Materials Information Sheet ("HMIS") prior to bringing hazardous materials into Maker Works' facility. Members must also furnish a Materials Safety Data Sheet ("MSDS") for hazardous material (available from the material manufacturer). Members must remove all hazardous materials from Maker Works' facility at the end of each day unless Maker Works staff provides specific written approval.
13. **LOCKERS AND CARTS** A limited numbers of lockers and carts are available for rental from Maker Works for an additional charge. A Member shall be responsible for securing all items stored in a locker or cart and Maker Works shall have no liability for any loss or damage that a Member may experience when storing items or materials in any such locker or cart.
14. **VACATING FACILITY** In the event a Member fails to maintain his/her membership in good standing, such Member must vacate the Maker Works facility and

remove all of such Member's materials from the Maker Works facility within 7 days of written notice from Maker Works.

15. ASSIGNMENT Membership to Maker Works is personal to the Member and may not be assigned at any time.
16. USE OF FACILITIES AND COMPLIANCE WITH LAW Maker Works' facility and property shall be used only for lawful purposes. Only property owned by or in the custody of a Member may be brought into and stored in the Maker Works facility. The Maker Works facility and equipment may only be used for activities permitted by Maker Works. Maker Works reserves the right to prohibit (as determined in its sole discretion) certain equipment or materials from being brought into the Maker Works facility and further reserves the right to prohibit (as determined in its sole discretion) certain activities from occurring at the Maker Works facility, including, without limitation, firearms and/or work related to firearms.
17. NON LIABILITY OF MAKER WORKS AND INSURANCE OBLIGATION OF MEMBER Member is responsible for maintaining his/her own personal health, property and liability insurance while in Maker Works' facility. Maker Works is at no time responsible for the acts, omissions and/or property of any Member (whether such property is owned or in the custody of such Member).
18. DEFAULT, ABANDONMENT, REMEDIES, AND LIENS In the event a Member maintains an outstanding balance on Maker Works fees or charges for over 30 days, or has violated any other provision of this Agreement, such Member will be considered in default of this Agreement. Any Member in default of this Agreement consents to Maker Works taking any lawful remedial actions to collect outstanding amounts

owing to Maker Works, including, but not limited to, disposal of such defaulting Members personal property located at Maker Works' facility. Any Member in default of this Agreement will be responsible for all collection costs, including reasonable attorneys fees.

- 19.CONSULTING/ASSISTING The Maker Works staff is available for general consultation or assistance regarding a Member's project and/or the Maker Works' equipment and facilities. For an additional fee (specified on the Maker Works price list) a Member may make arrangements for more extensive consultation and/or assistance with a specific project. Any extended consultation and/or assistance will be provided in a commercially reasonable manner; however, Maker Works shall not have control over, charge of, or responsibility for the design, engineering, methods, techniques, sequences or procedures in connection with a Member's project.

I understand and agree to the terms and conditions of this SECTION 3.

<signature>

Section 4: All-Hours Membership Provisions

1. Existing Provisions All provisions and definitions of previous sections of Maker Works Membership Agreements apply to all-hours membership except as modified below.
2. Additional Definitions "Off-hours" are hours other than the normal business hours staffed by Maker Works, and includes holidays or other times when staff is not officially present. "Access means" are keys, alarm codes, key cards, and/or other means of access to

Maker Works. “Licensee” is a license holder at Maker Works in good standing. “All-hours members” are members in good standing of Maker Works with all-hours membership.

3. **Guests** No guests of all-hours members are permitted in Maker Works during off-hours without written approval by staff. Approved guests must not operate any tools, and must fill out and sign appropriate sections of the Maker Works Membership Agreements. Licensees may have business guests in the common room, conference room, and their office without prior approval.
4. **Reservations** Tool use during regular and off-hours are subject to reservation policies described in the membership handbook. Access to tools during off-hours is subject to prior reservations and, further, is not guaranteed.
5. **Prerequisites** Maker Works may establish requirements for a person to be considered for all-hours membership. Such requirements may include having been a paid member for a specific time, and having passed a specific number of checkout classes. All-hours members must be at least 18 years old.
6. **Availability** All-hours memberships may be limited in number. (Licensees may be offered a specific number of slots not subject to a wait list.) Maker Works makes no representation that all-hours membership will be available at any given time now or in the future, nor that a specific limit will be maintained.
7. **Renewal** All-hours membership may, at Maker Works’ option, be auto-renewed on a month by month basis. If cancelled or lapsed, re-establishment of an all-hours membership will be subject to the same selection mechanisms as an initial application. There will be a 3-day grace period after the end of a lapsed all-hours membership during which time an all-hours

membership can be renewed.

8. Access All-hours members will be provided with access means. These access means may not be shared, and must be carried on their person for an all-hours member (or licensee who is not necessarily an all-hours member) to be in Maker Works during off-hours. Access means must be returned at the end of all-hours membership. Member may not provide entry during off-hours to Maker Works to anyone.
9. Execution of Opening/Closing SOPs Member will be responsible for fully executing the Opening and/or Closing SOPs when the first or last person in Maker Works. As part of the SOP, member will have the responsibility of establishing, when leaving, that anyone left in Maker Works has access means, and of cooperating when asked for their access means. The member is responsible for scheduling an Opening/Closing SOP checkout class with a staff person, which is required before access means will be issued.
10. Hours Maker Works reserves the right to limit access to the facility in whole or part for special events or other activities, advance notice being posted and/or emailed.
11. Absence of Staff An all-hours member acknowledges that the absence of staff may increase the risks associated with being and working in Maker Works. Members are strongly advised against operating dangerous machinery alone. Staff and others that are present during off-hours may not be able to offer service necessary for safe operation of equipment, nor to perform maintenance or repair on equipment, thus limiting the ability of all-hours members to use the equipment.
12. Use of Equipment Member will not make adjustments, repairs, or use the equipment in a

manner other than generally acceptable during normal business hours, except with written authorization from staff. As during normal hours, all-hours members may not use any equipment they are not authorized to use, nor use equipment for production without staff approval. To use hand power tools, whether owned by members or Maker Works, members must take a hand power tool checkout class.

13. Injuries Member will immediately report any injuries to a staff person or owner.
14. Damage to Equipment Member will immediately report any damage or functional issue to staff, and flag any such equipment to prevent further damage or injury.
15. Cleaning Member will leave the equipment and surroundings in approximately the same condition or better than when they started.
16. Revocation Failure to follow any provision will be grounds to revoke all-hours membership and/or regular membership. Maker Works reserves the right to revoke the all-hours membership of any member for any reason, including those related to being a danger to oneself, a danger to others, inappropriate or unauthorized use of equipment, not cleaning up after oneself, or interfering with the ability of others to reasonably utilize the space.
17. Discontinuation by Maker Works Maker Works reserves the right to discontinue the all-hours membership or to modify the terms at any time with notification to the member. Such notification may be emailed to the address provided below. Prorated membership fees will be returned to the member.
18. Cooperation Member will cooperate with other all-hours member to provide equitable access to equipment and other resources, subject to appropriate use of the tool reservation system.

19.CHANGE OF TERMS MAKER WORKS reserves the right to amend any other term or provision of this agreement from time to time, with such amendment becoming effective upon notice to the members.

I understand and agree to the terms and conditions of this SECTION 4.

<signature>

(Copy below is for your information. We will provide you with a separate form to fill out and sign.)

Maker Works All-Hours Membership Application

All-hours membership is a new level of membership we are offering as an experiment. It is currently priced at \$200/month.

As you can imagine, having people working in the shop without staff present raises concerns around safety for people, safety for equipment, cleanliness of the shop, and so on. For this reason, all-hours membership has the following prerequisites:

- have at least 3 months of paid membership in the past 6 months
- have no safety or operation issues in the past 6 months
- be at least 18 years of age
- have taken at least 2 checkout classes

In addition, there is an additional all-hours membership agreement that spells out the serious responsibilities of all-hours membership over and above regular membership.

You will be provided with a copy of this agreement with this application and should review it. Important points are:

- you must go through the Closing SOP checkout class
- you must fully execute the Closing SOP when required
- use of equipment is subject to the same limits as during regular hours--for example, no production, and limits on reservations
- auto-renews until you give us a written request

There are a limited number of all-hours memberships offered. If more applications are received than there are spots available, new openings will be offered to people in the order they applied. Please respond within 3 business days if notified of an opening to secure your membership. If you decline the offer or do not respond, you will be moved to the end of the queue.

Maker Works reserves the right to not offer an all-hours membership if we do not have enough experience with a member to be confident in their safe operation in the shop without staff present.

Today's Date:

Name:

Number of months (in the last 6 months) you have been a paid member of Maker Works:

Checkout classes you have taken:

Type of work do you intend to do during off-hours:

Tools you intend to use during off-hours:

How long do you expect to want to maintain off-hours membership?

Have you read Section 4 of the Maker Works Membership Agreement covering all-hours membership and are you willing to abide by these conditions?

Guiding Principles

Our guiding principles are how we're going to go about reaching our vision for Maker Works. We've grouped it into our value propositions, our triple bottom line, and our culture.

The Four Value Propositions of Maker Works

Tools: We provide access to tools that in cost, variety, quality, or size are often not available to members.

Space: Our space is safe, organized (5-S'ed), and pleasing to work in.

Support: We provide SOPs, classes, consultants, and staff for members to develop their skills and accomplish their work.

Community: We offer a community of makers providing social, technical, and business relationships.

The Triple Bottom Line

1. People

Welcome: Everyone is welcome here regardless of their background and knowledge.

Service: We provide great service to our members, especially when we instruct, when we give assistance, and when we point them to other resources.

Great Place to Work: We provide a great work experience to our staff and help them in their professional development.

Instructors: We help people learn how to teach effectively.

Larger Community: We are part of our community and actively strengthen allied institutions such as schools and museums.

Accessible: We provide alternative avenues for people to be a part of the space, even if they can't pay.

2. Planet

Environment: We decrease our impact on the environment by reducing our direct consumption and by providing the tools to our members to reduce consumption by making and repairing.

3. Profit

Solid Finances: We create a sustainable, replicable business with solid finances capable of providing for our staff and investors.

Culture

Open: We value openness, and share our finances and other aspects of our business with our staff, members, and the public.

Optimism: We express our optimism in our interactions and in the way we run our business.

Safety: We promote a culture of safety, and look for opportunities to increase the safety of our tools and environment.

Creativity: We actively support our members in attempting to realize their dreams.

SOPs: We use tools like SOPs to increase our efficiency, reduce accidents and errors, and leave more time to engage in interesting, engaging work. We continually seek to improve our SOPs.

Feedback: We actively seek member and non-member feedback and integrate it in our plans.

Strong Relationships: We build strong relationships with local businesses and organizations that are related to our mission.

Entrepreneurialism: We support our members in their development as entrepreneurs, and provide an example of a triple-bottom-line business.

Model: We believe in makerspaces, and seek to provide an example and support other instances.

The Code

The Code is how we'd like our staff and members to behave towards one another.

Everyone is Welcome Here

We don't discriminate. We celebrate a diverse community of makers from all kinds of backgrounds, experience levels, and ages.

We are Positive and Supportive

We make this a great place to work, learn and create.

We Care for Tools and Space

We do our best to do no harm to tools. We return the workspace to a clean and usable state for the next member. We leave the space better than when we found it.

We Care for Each Other

By being safe and by being kind

Tool Checkout Record

For your use in keeping track of checkout classes. We also keep track in your member folder.

Epilog Laser	Date / Instructor
Replicator 2X 3D Printer	
Amaya Embroidery	
PCB Engraver	
3-Saws	
Planer/Jointer/ Drum Sander	
Drill Press	
Horizontal Bandsaw	
Vertical Bandsaw	
ShopBot CNC Router	
Mills	
Metal Lathes	
Welding	
CNC Plasma	
Ironworker	
Grinders	
Wood Power Tools	
Router Table	
Wood Lathe	

