
Guide to 3D Printing and the Law-New Media Rights



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Remember that scene from “The Fifth Element” when Leeloo is reconstituted using her DNA as a blueprint? Did you ever want your own Replicator from Star Trek? Within the last few years, hype about 3D printing has steadily grown and the stuff of Sci-Fi dreams is closer to becoming a reality. 3D printing has already allowed surgeons to partially [reconstruct a person’s face](#) and even [print food!](#) We’re not quite all the way to having our own personal Replicator, but rapid advances in 3D printing are bringing us closer every day.

These rapid advances in technology also raise interesting new legal questions. For example:

- Does the creator of a 3D-printable file always own the file?
- What can or can’t be done with a 3D-printable file that is owned by someone else?
- When an object is printed, who owns it?

The goal of this guide is to answer these types of questions as well as introduce you to 3D printing. In the spirit of keeping our answers short and straightforward, we have separated general intellectual property concepts and definitions into their own sections at the end of this guide so readers that want to learn more about any of the legal concepts in this guide can. If you are less familiar with copyright, trademark and patent law you might want to start by reading the sections specifically on these laws first before jumping into the rest of the guide.

Disclaimer: This guide is NOT a substitute for legal advice. A guide like this only serves to provide basic orientation and introduction to the topics discussed.

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3D printing 101

What is 3D printing?

Before we get too far into the law surrounding 3D printing, it's helpful to know what 3D printing actually is. In many ways, a 3D printer is just like the printer you have at home: it uses a computer file as a blueprint; it uses ink; and it prints in layers to build up a final product. However, unlike your printer at home, it can print three-dimensional objects and use a wide variety of substances and materials for "ink." What sets 3D printing apart from regular manufacturing is that 3D printing uses a layering process to create the object, as opposed to filing down a block of material.

Admittedly, this is a very cursory introduction to how 3D printing works. For some online sources explaining the mechanics of 3D printing, check out "How 3-D Printing Works" and "How 3D Printers Work". If you're in the San Diego area and are really interested in some hands-on time with a 3D printer, check out [FABLAB San Diego](#) for opportunities to learn about 3D printing by doing.

How are 3D-printable files created?

Before we talk about who owns a 3D-printable file, it's helpful to know how exactly 3D printed files are created. Currently, there are two ways to create a 3D-printable file. One way is to use a 3D scanner, and scan an existing object to create a 3D-printable file, much like you would with a 2D scanner. Another way is to create a 3D-printable file on the computer, creating a Computer-Aided Design file ("CAD"). CAD files are 3D drawings typically used as a 'blueprint' by architects, engineers, and designers. Currently there are two popular formats for 3D-printable files: CAD and STL. CAD files are easily created, read, and edited by 3D drawing software. STL files have limited editing features, but can be easily read by the 3D printer.

Laws that relate to 3D Printing

There are three overarching types of intellectual property that relate to 3D printing: copyright, patent, and trademark.

Copyright law protects original creative expression such as sculptures, books, movies. But the bar for creative expression is pretty low, even things like a child's drawing or the design of a website qualify for copyright protection. Copyright protection is also automatic from the moment of creation; meaning just because something isn't registered with the copyright office doesn't mean it is not subject to copyright protection. A more detailed explanation of copyright law can be found near the end of the guide.

Patent law protects leaps of invention such as new medicines, technologies and sometimes even software. Patent protection is not automatic and involves an expensive and time intensive registration process. A more detailed explanation patent law can be found near the end of the guide.

Trademark law is a little bit different than copyright or patent law. Instead of protecting creativity or an idea, trademark law is designed to protect consumers. Trademark law provides the right to use a particular name, slogan, or logo in connection with goods or services, and is focused on ensuring consumers can identify the source of a good or service. A more detailed explanation Trademark law can be found near the end of the guide.

Legal issues that arise from creating a 3D file by scanning an object

If someone scans an existing object that they didn't create, do they get a copyright in the file?

No, not from just scanning it. Copyright protection is not granted for copies of creative works made by someone other than the original works copyright owner, even if those copies took time and skill to produce. Copyright law only protects original creative works. This is also true for 2D scanning in the real world. If a person scans a page of a book that doesn't mean they own the copyright to that page of text.

The same is true for objects that have patented and trademarked elements. Scanning the patented or trademarked objects does not grant the person doing the scanning a patent or trademark rights in the file.

If the creator of an object scans the object they create, would they also own the copyright on the file?

Maybe. It really depends on whether the object they created contains protectable creative expression (protected) or simply functional and useful (not protected).

For objects that contain creative expression (sculptures, artistic engravings, action figures etc) the scan is a copy of the work. One of the rights granted to copyright holders is the exclusive right to copy the work. Although it's unclear whether this scan would be separately copyrightable is an open question. On one hand scans of copyrighted works that incorporate pictures, written description or stories within the file may be separately copyrightable derivative works (that is a work based on another work). But that copyright would only cover the new additions to the work beyond the scan. However, if the file really is just a scan it's unlikely to qualify as a derivative work because it really is only a copy of the work.

If a creator scans a useful object like a simple chair, then even if they created the chair they still wouldn't have a copyright in the file because they are scanning and creating a copy of something that isn't subject to copyright. In addition the file itself wouldn't be subject to copyright because it is nothing more than a list of instructions for creating a useful object.

If the object is subject to a patent or trademark, merely scanning the object and creating a file will not create any additional ownership right beyond the pre-existing patent or trademark and copyright, if applicable.

When might scanning an object infringe another persons copyright, patent or trademark?

Copyright: If the entire object to be scanned is copyrighted, then scanning the object and creating a file without permission is a violation of the object creator's copyright. For example, scanning a sculpture currently protected by copyright law and creating a CAD file based on that would violate the sculptor's rights under copyright law, which allows them the exclusive right to make copies of their sculpture. Keep in mind that some sculptures may be in the public domain, especially sculptures created before 1923. This helpful [table](#) can also be used to help figure out if a sculpture is in the public domain.

If only some of the object to be scanned is copyrightable and the rest is useful, then scanning and creating a file based on the creative and non-useful part of the object without permission violates the object creator's copyright. However, if you only scan the purely useful parts of the object and create a file based on your scan, there is no copyright infringement. For example, let's assume the object is a standard bed frame with a headboard in the shape of a roaring lion. Scanning the frame would not infringe the copyright owners copyright because the frame is useful and not subject to copyright law at all. However, scanning the decorative roaring lion part of the headboard would be copyright infringement because the roaring lion can be separated from the bed frame and stand alone as its own piece of art.

Patent: If the entire object to be scanned is patented simply scanning the object and making a CAD file without permission wouldn't violate the patent. However, sharing that file or using it to print the patented object would.

If only some of the object is patented, again scanning the patented piece(s) would not by itself be considered patent infringement. However, sharing that file or using it to print the patented object would.

Keep in mind that there are “combination patents” which are made up of several unpatented pieces, but when put together create a patented combination. If you’re interested in scanning useful objects that may be patented, it might be a good idea to talk to a patent attorney.

Trademark: Because trademark law is intended to protect the public from confusion about product origin, trademark law simply doesn’t come into play when items are scanned for purely personal use. A further step – distribution to the public – is required for violation of the trademark. See “3D printing trademark basics.”

Legal issues that arise from creating a 3D file using only a computer program

Do rights exist in a CAD or STL file made using a computer program?

Copyright: Maybe. Copyright protects a work if it is an original creation that is fixed in some tangible form. Computer files are considered tangible under copyright law, so that's one requirement checked off. But what counts as an original creation?

- Creating a file of a nail, and only the nail would not create a copyrightable work because nails are useful, unoriginal, and not copyrightable.
- Designing an object in a CAD file that is entirely original (remember, it doesn't necessarily have to be unique just original to you) would create a copyrightable work.
- Designing a file that contains an original object design, plus some separate unoriginal design, then only the parts of the file with the original design would be subject to copyright. However unlike a scanned file, a CAD file would likely be a derivative work, that is something based on a creative work that puts that creative work into a new format (for example a movie based on video game). The rest of the file would not be subject to copyright. For example, if someone designed a CAD file containing an artistic bust of themselves, plus a run-of-the-mill box for it to sit upon. They own the file to the extent it relates to the bust, but they do not own the part of the file that relates to the box design.

Patent: Simply creating a file of a patented object would not be an infringement of the underlying patent. However, sharing that file or using it print out the patented object would. Keep in mind; this does not exclude the creator from having a copyright in the file.

Trademark: The only way a creator of a 3D-printable file will have rights in the file under trademark law is if the creator already has a trademark that happens to be included in the file. This does not exclude the creator from having a patent or copyright in the file.

For more information on the legalities of using trademarks in 3D printed works legally you can check out our "3D Printing trademark basics."

If you are including a trademark you don't own and don't have permission to use, and are going to share it with the public, you probably want to check with an attorney about whether or not your use of the trademark is permitted. This is the type of issue New Media Rights may be able to assist with, so please use our [contact form](#) if you'd like to request assistance.

So if a CAD or STL file is protected by copyright law... what exactly does that mean?

Copyright law protects the creator's right to copy, modify, distribute, publicly display, publicly perform, and create derivatives of the original work. Copyright infringement occurs when a person copies, modifies, distributes, publicly displays, publicly performs, or create derivatives of the original work without permission. Below we explain what each of these rights is and what infringement of those rights might look like in the 3D printing space. That said, there are some ways to legally reuse another's copyrighted work , including using works in fair use, [which you can read more about on our 3D printing copyright basics page](#).

Also as a general note, these descriptions only address files that are copyrightable. Files of useful objects, as explained above, are for the most part not subject to copyright so they will not be discussed in this section.

Copying: Making a copy of a 3D-printable file you don't have the copyright to violates the creator's copyright. However, copying useful elements of those same files would not violate copyright law.

Let's use the standard bed frame with an artistic headboard example again. A person could copy the entire CAD file if given permission to do so by the copyright owner (i.e. the person who created the headboard). This would not violate copyright law. Please note that because of the way computers work, "cutting and pasting" is actually considered making a copy.

Distributing: Distribution of a copyrighted file occurs when it transmitting it to a third party (i.e. emailing a file to someone or sharing it via a thumb drive.) This type of digital distribution by its very nature also results in making a copy of the file.⁷ Thus sharing a copyright protected CAD file via a thumb drive with a friend, without permission from the files owner would be considered copyright infringement.

Modifying / Creating Derivatives: Making a modification to an original copyrighted file creates a derivative work. Thus modifying a copyrighted CAD file without permission would be considered copyright infringement in many cases.

However, not all modifications result in a derivative work. Copying and modifying the uncopyrightable useful elements from the original file would not create a derivative work. Let's use the file of a standard bed frame with an artistic headboard again. You could copy the standard bed frame into your own file, but alter the dimensions to lengthen the bed frame to fit a taller person. This new file does rely on the original file, but it is not a derivative because the bed frame design is not copyrightable on its own.

Publicly Displaying: In theory, a CAD file could be publicly displayed. There is no set number of people that need to be exposed to the file for it to count as "public"; though it certainly needs to be displayed to more than one person and beyond a group of friends and family. For example, let's say there was an art exhibit that consisted of nothing more than several big screens showing CAD files of creative designs with no additional commentary. This would be a public display of a CAD file. Without getting permission from the copyright holder of the files creator, this art exhibit would be considered copyright infringement.

If someone prints a 3D-printable file (assuming they didn't create the CAD file), do they own any the rights in the printed object?

It depends. Simply printing a 3D-printable file adds nothing to the file or object, thus 3D printing an object won't create any new rights under copyright, patent or trademark law.

That said there are some limitations on what a person can do with the object. A few helpful tips to remember:

- If the file wasn't purchased outright and only a license to use the file was purchased (much like a song on iTunes) the terms of the contract will govern.

- If the file was under a creative commons or other open license. Then the terms of the creative commons license or other open license will govern. The key thing to watch out for here is if the file was licensed under a creative commons non-commercial license. If this is the case, selling items printed using the file is not allowed.
- If the item being printed is a functional object, like a spoon, without any creative elements the person printing the object would own the object. With the caveat that if the file infringed another person's patent, you might own your copy but that copy would violate the patent owner's patent.

3D Printing and repairing products

Some companies have already expressed concern that 3D printing will allow consumers to repair so much of the product with at-home printed pieces, that the consumer is actually replacing the whole product for free. Unfortunately, the difference between making major repairs and reproducing the product is not clear-cut.

Patent: It is easy to imagine buying a product, scanning all its individual unpatented parts, and then using a 3D printer to print out any parts needed to repair a product at home. Not only would this be convenient for the consumer, but it would also prolong the life of the product. Keep in mind though, that what is and what isn't patented isn't intuitive. Some parts that you might assume are not subject to patent protection may actually be patented.

However, many useful objects do have patent protection. Under patent law, the creator has the exclusive right to reproduce a product. However, the consumer is generally allowed to make repairs to their product but they are not allowed to recreate the patented object. The question remains, "at what point does a single major repair or cumulative repairs equate to reproducing the product?" Unfortunately, the answer for the moment is unclear.

Copyright: If the product were copyrighted, reproducing it would be a copyright violation. However, making repairs to a copy you obtained lawfully is not. Let's say a person purchased an art piece made of various colored sugar cubes that combined to create an image of a man's face. Individually, the sugar cubes are not copyrighted. If a dog eats some, but not all of the sugar cubes, how many could be replaced before the owner has effectively reproduced the artist's work without permission? The answer is unfortunately unclear.

Trademark: So long as consumers are never exposed to a reproduction of a trademark, a trademark can be copied. For example, if a person broke the lid on a standard thermos that has a Starbucks logo on it. They could replace the lid and the whole logo, so long as the lid is kept strictly for personal use.

3D printing copyright basics

Copyright 101

What is copyright?

Copyright is a form of intellectual property that gives the creator of a variety of creative works like paintings, novels, music, and sculptures the right to keep others from copying their work. It also covers digital works like videos, CAD files, and images on websites. Typically, the creator of the work is the owner of the copyright, but that is not always the case. The creator can transfer all or some copyrights to another person. This guide refers to the copyright holder as the “creator.” For more information, check out, [“What is copyright law, who created it, and why do people think we need it?”](#)

What does copyright law protect?

Copyright law protects the creator’s right to copy, distribute, publicly display, publicly perform, and create derivatives of the original work. It protects the creative expression in that work, but not the basic facts or general ideas contained in the work. For more information, check out, [“Now That I Have A Copyright To Something, What Does This Allow Me to Do?”](#)

How do you get copyright protection?

As soon as an original work is “fixed in a tangible medium,” it qualifies for copyright protection. Basically, copyright protects your work as soon as your creative idea is expressed in the physical world. For example, when an author begins writing, everything that was committed to paper (or an electronic file), is protected. “Original” is a very low bar, so as long as there is some minimal level of creativity a work is likely to meet this requirement. See [“What Can Be Copyrighted”](#) and [“What Can’t Be Copyrighted”](#).

To further protect a work, the creator can register the work with the US Copyright Office. For more information on registration, see <http://www.copyright.gov>.

How long does copyright protection last for?

As a society, we want ideas to be free flowing. However, creators should be rewarded for their labor, and allowed the chance to profit from their work. As of 1978, the duration of a copyright is the creator’s life plus 70 years. Prior to 1978, the duration differs upon creation date. For a useful chart on copyright duration, see <http://copyright.cornell.edu/resources/publicdomain.cfm>.

What if a work is both creative and useful?

If a work has both creative and useful elements, then copyright will protect the creative elements of the work, but not the useful elements. This concept is called “severability.” Let’s say you have a bed with an artistic headboard. The rest of the frame is standard and useful. Copyright law would protect the artistic elements of the headboard, but not the rest of the bed frame. One could copy the bed frame, less the headboard, without violating copyright law. In instances where it is

hard to separate the creative elements from the useful elements, a court tends to make the work available to the public instead of granting copyright protection to any part of the work.

Ways to legally reuse another's copyrighted work

Copyright does not provide an infinite and impenetrable barrier of rights. There are three ways to use another's work without violating the copyright owner's copyright: get permission through a license, use something from the public domain, or relying on fair use.

Licensing a copyrighted work directly

One way to use another's work without violating the copyright owner's copyright is to obtain permission directly from the creator to do so. Permission from the creator is 'license' to use his or her work, and usually comes in the form of a written contract you both sign and agree to. However, keep in mind that a license can be limited. The creators of a TV show might give a fan permission to publish written fan fiction, but not to upload the whole TV show to YouTube.

If there is an object or file you would like to scan or use, you could contact the object or file creator and ask them for permission to use their work. The trick here is to ask permission from the right person(s). For example, the creator of a 3D-printable file of a sculpture might not be the actual creator of the sculpture. If the only thing in the file is the sculpture, you should ask permission from the sculptor, not the file creator.

Using open licensed works under Creative Commons and other licenses

Another form of getting permission is relying on an open license. Here you are again relying on permission from the copyright owner, but the good news is that there's no need to negotiate. If a work is openly licensed, it should be clearly labeled that way. When a copyright owner shares their work with the public via Creative Commons license (the most common open content license), they allow anyone to use that work so long as they follow the requirements of that specific license. For example, the creator of a 3D image might be happy to offer the image for free and to have others modify the file, so long as they are attributed for creating the 3D image. The original creator might make the image available via a Creative Commons Attribution license. This requires that anyone who uses or modifies that image must provide attribution to the original creator (i.e. letting people know that they used your work). There are several other conditions you could place on your Creative Commons work such as non-commercial or no derivatives. You can read more about properly using Creative Commons licenses in our guide here.

Public Domain Works

Once the copyright protection on a work expires, the work enters the public domain. When a work is in the public domain, it is free for all to use as they see fit. For example, Michelangelo's David is in the public domain because any copyright protection it had, if any, has expired by now. Alternatively, a creator can actively put the work in the public domain. A word of caution:

Don't believe everything you read online. Just because someone uploads a 3D file of Simba from The Lion King and says it is in the public domain, it doesn't mean it is. Disney certainly wouldn't agree. Only the owner of the copyright can release it into the public domain. Figuring out if something is in the public domain can be tricky.

It might be helpful to check out [this chart](#) to determine whether a copyright term has expired and entered into the public domain.

Fair Use Of A Copyrighted Work

Fair use is a specific way to use a work that does not violate the creator's copyright. Determining whether a use qualifies as 'fair use' is not clean-cut. Generally, a court will look at the 1) purpose and character of the use, 2) nature of the copyrighted work, 3) amount and substantiality of the portion used, and 4) the economic effect the use will have on the original.

"Purpose and character of the use" relates to how you plan to use the specific copyrighted material and your project as a whole. The more transformative your use is, the more likely it qualifies as fair use. The more commercial it is, the less likely it counts as fair use. However, a work can still be fair use even if it is used commercially; it's simply one thing that counts against fair use. For example, let's say a person took a CAD file of a macho male video game character and modified it so it was wearing stereotypically female in game body armor. This use would be transformative since they are using the male video game character to comment on gender in video games. This transformation tends towards fair use. However if they were to start selling the file their fair use argument might be weakened.

"Nature of the copyrighted work" looks at the original work. Is the original a highly creative fictional work, or is it based heavily on fact and reality? The more creative the original is, the more protection it will get. The more fact-based it is, the thinner the protection will be. For example, if someone made a scaled-down version of the pyramids with miniature tourists taking photos, the creator would have very little copyright protection because they are depicting something in the public domain that actually exists. Only if someone made an exact duplicate of the work with tourists in the exact same position and with the exact same appearance, would there be copyright infringement. Compare that to a sculpture of a whale with barnacles in the shape of a city skyline sculpture. This sculpture will be afforded stronger copyright protection because it is a highly creative work.

This factor also looks at whether a work is published or unpublished. Unpublished works receive more protection under copyright than published works. Let's say Marvin created a CAD file but had only shown it to Jane. Jane thought his CAD file design was absurd and wanted to write about it on her blog and include a copy of the entire CAD file. Because the CAD file is unpublished, sharing it especially in whole is much less likely to be fair use.

"Amount and substantiality of portion used" looks at how much of the original was used. The more one takes from the original, the less likely one's work qualifies for fair use. Going back to the whale example above. Copying one barnacle from the whale sculpture is more likely fair use than copying the whole whale. That said context is also important. If copying one barnacle and

transform it as part of an original work of art is more likely to be fair use than just making a verbatim copy of one barnacle.

“Effect on market value” considers how much the copy is a substitute for the original, thus depriving the original creator from revenue. For example, selling a 3D file for an existing Simpsons Lego Minifigure would be less likely to be fair use. After all no one needs to go out and buy that Simpsons Lego Minifigure, because they can just print a copy at home. However, if you made a 3D file for toy people who look just like your specific family members, but have Lego-compatible feet, your fair use defense is stronger. Your toy family is not a substitute for anything the LEGO Group currently makes or from which it would profit.

3D printing trademark basics

Trademark 101

Trademark law is intended to protect consumers from confusion related to a product’s origin. It protects not only names, logos and emblems, but also more things like characters, color schemes, and shop layouts. Trademark law does not raise as many legal questions as copyright or patent law with 3D printing, as the law is a little more clear-cut here.

Because trademark law is intended to protect consumers more than the trademark holders, merely copying a trademark without potential exposure to a consumer is not a trademark violation. As soon as consumers are exposed, you have a trademark violation. For example, a person could scan an existing Hello Kitty figurine, make modifications so Hello Kitty is positioned differently and then print the new figurine. So long as the new figurine or the CAD file is never exposed to consumers or shared on the Internet, there wouldn’t be a trademark problem with printing it. That said, because Hello Kitty is also a copyrighted character, all of the same rules about reusing a copyrighted work would also apply so although the printed Hello Kitty wouldn’t violate trademark law, it would likely violate copyright law.

Trademark law also protects “trade dress” which is separate from logos and symbols. Trade dress covers an identifying color scheme associated with the product or company. It is a good idea to distinguish your color scheme from another’s trademarked color scheme to protect consumers from any confusion, and to avoid potential infringement.

Ways to legally reuse another’s trademarked work

Trademark law is meant to protect consumer confusion as to the source of a good or service. That said, there are some ways to reuse a trademark legally.

License To Use A Trademark

One way to use another’s trademark is to obtain permission from the trademark holder to do so. Permission from the trademark holder is ‘license’ to use their trademark. For example, Nintendo

might give a person a copy of its 3D file of Mario with permission to print and sell Mario figurines, on the condition that Nintendo gets a percentage of the profits.

Nominative Fair Use Of A Trademark

Nominative use occurs when a trademark is used for its intended purpose: to properly identify the product and its origin. For example, you could include text in your 3D-printable file that says, “my phone case design is compatible with Apple iPhone 5 only.” However, include the Apple logo on your design would not be normative use and would violate trademark law.

Parody Fair Use Of A Trademark

Use of a trademark as parody requires you use the trademark in an obvious joke or commentary. There are no hard-set rules for what does or does not qualify as a parody. For example, a 3D-printable model design of Michelle Obama helping a child flatten the Pillsbury Doughboy with a rolling pin to comment on the First Lady’s battle against childhood obesity would likely be considered a parody. However, a design of the Pillsbury Doughboy just standing there eating a cinnamon roll and holding an American flag would not be a parody.

Descriptive Fair Use Of A Trademark

Descriptive fair use of a trademark occurs when you use a trademark in its literal meaning. For example, including “I came up with this model cat design after being bitten by a wild puma” in the comments of your 3D-printable file will not infringe on Puma the sports merchandise retailer’s trademark.

3D printing patent basics

What is a patent?

A patent is a form of intellectual property that protects leaps of invention that are 1) new, 2) useful, and 3) non-obvious. Leaps of invention that have been protected by patent law have included everything from over the counter medications like acetaminophen, to certain types of software and even Edison’s light bulb. The creator of the invention is often the patent holder, but not always because patent protection is not automatic(as we explain below). The creator can transfer the patent to another person.

What does patent law protect?

Patent law allows the patent holder to control the creation, use, and sale of the invention.

How long does a patent last?

Once the patent has been registered with the US Patent and Trademark Office, the patent will last for 20 years. However, extensions are possible and foreign patents might have different patent terms.

How do you get patent protection?

In order to qualify for patent protection, the creator(or someone they've given their patent rights to) must register the patent with the US Patent and Trademark Office. For more information about how to register a patent, visit <http://www.uspto.gov>.

Can New Media Rights help with my patent application ?

At this time New Media Rights does not have a patent attorney on staff, so we cannot help with individual patent applications. The USPTO has a variety of [law school clinics](#) and [pro bono programs](#) that may be able to help.

Ways to legally reuse another's patented work

The only time you may legally use another's active patent is if you have a license. Permission from the patent holder is a 'license' to use their patent. For example, the patent holder might give you permission to use a 3D-printable file of their patented object to print that object.

Otherwise you have to wait until the patent has expired to freely use it. Because patent terms vary it's always a good idea to make sure the patent you'd like to use has actually expired.

That said patent law does make some exceptions for repairs and research among other things. Many of these patent exceptions are remarkably fact specific so we highly recommend reaching out to a patent attorney if you have questions.