



So you want to be a
SMILEMAKER?

An Instruction Manual



June 2016 4th Edition

This manual should contain all the necessary information that you and your group need to become official Toys For God's Kids SMILEMAKERS. However, please don't hesitate to contact me should you have any questions. We're delighted you chose to be part of our organization. Thank you.

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Materials and Where They Are!

Scrap wood is used for making the car bodies and wheels. We use nominal 2" lumber or 1 & 1/8 " thick scraps from basswood shutters for the bodies. Our preferred wood is pine or basswood, but fir and other construction wood will do. Also, clear redwood, or cedar will make beautiful cars.

The wheels are made from hardwood with tight grain patterns. Commonly available hardwoods such as cherry, birch, oak, maple, mahogany, walnut and hickory make excellent wheels.

NOTE: Do not use pressure treated lumber as it contains chemicals that may be toxic.

Our best source for soft, clear pine is stair making companies. You will also find wood at fence and deck companies, lumber yards, home improvement centers, and wood recycling plants. No piece is too small. For example, a stair riser cutout will make up to six cars, so be diligent.

Basswood is excellent for scroll saw work. Companies that make plantation shutters use basswood and have lots of scraps. Even pieces 3 to 4 inches long can make several cars. We also use basswood for our CNC machines.

Hardwood scraps are found at cabinet shops, millwork companies, and, again, stair companies. While you should probably take everything that is offered from their scrap bin, pieces less than 8" long are difficult to work with. However, you may have to burn some of the unusable pieces in your stove or put them in your dumpster rather than pick and choose, as we do not want to appear ungrateful.

TIP: Take a few toys as gifts, along with a brochure, whenever you ask for favors. Once you explain why the wood is needed, and offer the toys to the shopowner, things go more smoothly. Always keep in mind that you are intruding on their ability to make money so do not be a nuisance. Also, inform them they are first on the list if they should want toys for any project or mission they support.

We use 1/4" birch dowels for axles. See "supplies page".

What Tools are Needed

NOTE: Commercial grade tools are preferable, especially if you plan to make a lot of toys. We can provide you with the names of those tools that will give the best value. Otherwise, check pawn shops, used tool places, and neighborhood garage sales for routers, sanders, and other commonly used equipment. You probably have a neighbor that hasn't used his table saw for many years and would be willing to part with it cheaply. Once people understand what you're doing, they want to help.

Here's what power tools your group may need:

1. Table Saw. To rip wood to proper width.
2. Cutoff Saw. To cut wood to length.
3. Band Saw. To cut car bodies and slice wheels.
4. Scroll Saw. To cut car bodies.
5. Oscillating Drum Sander. To sand car profiles.
6. Belt Sander. To sand wheel stock and car sides and bottoms.
7. Router. To round over the edges of cars, car windows, and wheels.
8. Drill Press. To cut wheels and drill axle and window holes.
9. Dust Collection Equipment as appropriate for your shop.

Note: a small shop can make good quality cars with just a scroll saw, drill press, and router.

Making Car Bodies

As noted earlier, we use 2" nominal wood for the cars which is ripped into two sizes:

- A. 1-1/8" wide x 1-1/2" high for scroll saw cars.
- B. 1-1/2" wide x 2" high for band saw cars.

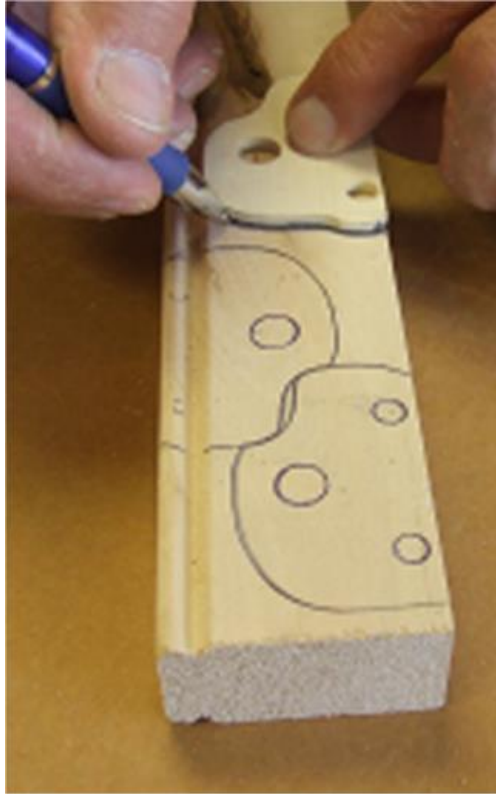
Note: Basswood scraps generally come in 1 1/8 " widths so are all ready for tracing

Our cars are small and medium sized. They are kept small for two reasons: they use less wood, and they ship more efficiently. For ease of handling, you will find that wood strips are best kept to a length of 30" or less, for cutting bodies; but probably no more than 20" for wheels. Once the wood is ripped, there are 12 steps for constructing cars.



1 - Trace the patterns. Nest cars where possible to save wood and cutting time.

Note: A full set of toy car patterns can be found in the Toy Car Patterns manual.

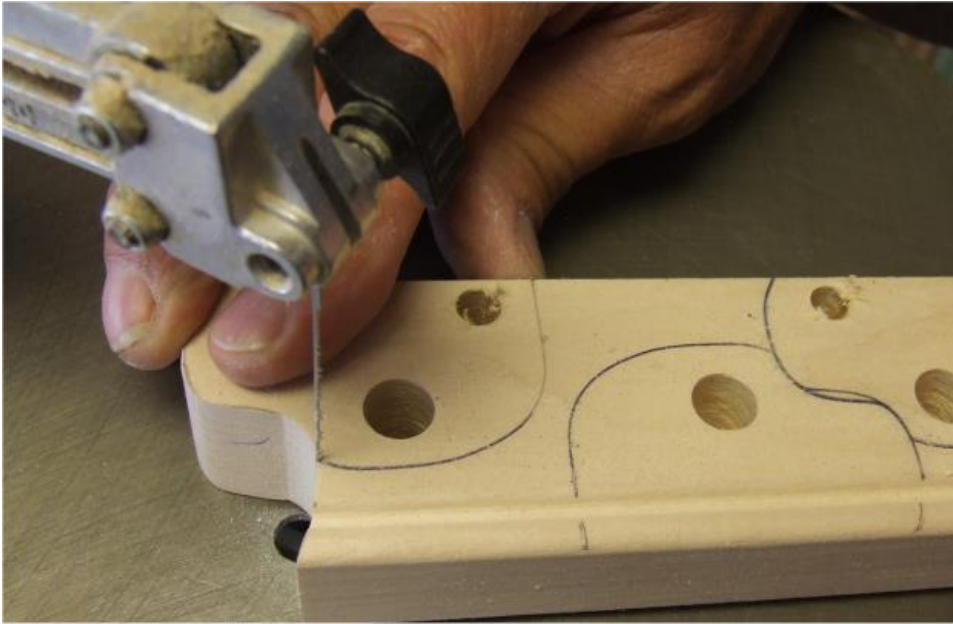


2. Drill axle holes with a $19/64$ " or $5/16$ th" brad point. Leave no more than $1/16$ th from the bottom of the car to provide maximum clearance as many of these toys will be used on unimproved roads.



Note: You can drill window holes at this stage or after the car is cut out. The process will be illustrated later.

3. Cut out the car with the appropriate type of saw.



4. Sand the profile with an oscillating drum sander. Press lightly against the drum to avoid leaving ruts. Note: this step should not be necessary if a scroll saw was used properly for cutting out car.

5. Drill window holes with the appropriate spade bit. Our windows range from 3/8th" to 5/8th", depending on the car. To avoid breakout, set the drill so just the tip of the blade goes through one side. Then, turn the car over, line up the hole, and finish drilling.



6. Belt sand the bottom and sides of the car until smooth. Again, basswood scraps are generally smooth on 4 sides (S4S) rendering this step unnecessary.

7. Rout the car edges and window holes. Use a 1/8" radius, roundover, bit with a small bearing. (Note: the bearing must fit inside your smallest windows.)



8. Brand the "USA" license plate where it normally appears on a car. (Note: You will see that it is best to leave a 1/4" flat or semi-flat spot on the back of each car for the USA.)



9. Attach the wheels. After glue has dried, belt sand the outside of the wheels till smooth. Then, hold the wheels at a bias to the belt sander to create a “shoulder” on the wheels. Or, better yet, you can use the router setup to create a rounded shoulder on the outside of the wheel. (More on mounting wheels later.)



10. Dip the car in Mineral Oil. This sealer will enable the dirt and grime to more easily be cleaned off the toy. Note: Mineral Oil can be obtained at farm supply shops. It is used as a laxative for farm animals and is non-toxic. One gallon will dip approximately 1,000 toys.



11. After the car dries, rubber stamp the logo and email address on the bottom of the car.

TOYS FOR GOD'S KIDS
@aol.com
www.toysforgodskids.com

12. Give the toy to a child. Congratulations. You have become an official Toys for God's Kids SMILEMAKER.



Making Wheels.

Our basic wheel is made with a 1" hole saw, that produces a 7/8" wheel.

There are four steps to making wheels:

1. Rip the hardwood so that it measures approximately 1" wide by 1" thick. Size is not as important as uniformity. You want the entire batch of wheels to have the same axle depth, and be the same material.

2. Use the specially designed hole saw, if one is available, to drill holes along one side. When drilling, ensure the hole touches one edge so sawdust can escape. That prevents heat buildup. Also, drill close to the previous hole to save material. (NOTE: the pilot bit should be set 1/16th inside the hole saw in order to make a wheel with a blind hole. Because of this, the strip must be held firmly when the hole saw first engages the wood.)



3. Place the previously drilled side down, and drill holes along the fresh face of the strip.

Note: Some materials are not wide enough to accept holes on both sides but are still perfectly good to make one side of wheels.



4. Set your bandsaw guide and slice off the wheels on one side and then the other. You will be left with a thin scrap of waste material. (Note: you may want to clamp a thin wood plate on your bandsaw base so the wheel edges do not hangup on the gap around the blade plate.) Hang a bucket to catch the wheels as they are sliced.



Important: much of your scrapwood will be “one by” i.e. $\frac{3}{4}$ ” thick. As noted above, this will make perfectly good wheels but you can only drill wheel holes from one side.

Mounting the Wheels.

Although you can make wheels with the hole all the way through, or, with a “blind” hole, you will discover that the blind hole system holds the wheels on stronger. In either case, the gap between car body and wheel should not exceed 3/32nd. Otherwise, the car appears spindly and looks out of proportion. Wheels should not protrude above the fender or fingers might get pinched. Be sure to dry test the axle length before cutting any quantity of axles as car widths and axle depths can vary with each batch.

Put a drop of glue in each wheel. It is best to brush or touch the glue to the sides of the hole as we need wheels attached firmly. Wheels and cars may shrink or swell, depending on the climate.

Using a press to install the wheels reduces breakage, but most of us use a hammer. The gap can be “eyeballed” or, use a notched, plastic card as a “gap Gauge” to ensure the wheels are not set too tight.

Carelessness while making and mounting wheels could result in axle breakthrough, mis-aligned axles, flat tires, and spindly axles. This is not acceptable. Also, please do not mix types or colors of wood on a car.



Bottom breakout



Large gap



Flat Tire

Out of Alignment

After the wheels are set, they can be sanded. The belt sander can be used at that same time to create a shoulder on the wheel. Just turn the car at a bias to the belt and sand briefly. However, the router setup will give you a more finished look.



GET A GROUP:

Although a number of our smilemakers work independently, most of us do not have all the necessary equipment or the workspace for that. This would be a good time to call on your friends and associates. Tom has a table saw, Dick loves to use the scroll saw, and Harry knows how to scrounge. Some people can only install wheels while others would like to stamp the logo or brand the license plate. Still others may want to count and pack the cars for distribution.

We currently have a group of Veterans and other retirees operating out of the workshop in a retirement center. This is ideal as there are not many activities that bring out the creative spirit like “smilemaking.” Remember, also, that nursing home residents would love to assemble toys if they just had the parts and lots’ of supervision.

A great thing about smilemaking is that there are no quotas, you work when you want, and you are helping others while having fun. Remember our guarantee: **YOU WILL ENJOY MAKING TOYS AS MUCH AS THE KIDS ENJOY RECEIVING THEM!**



SPECIAL TOOLS FOR SMILEMAKER

Once you have qualified to be a “smilemaker” or have created your own group of smilemakers, we will help you acquire the special tools needed. Upon your request, our Quartermaster will send you the tools required by the task or tasks you will perform. As part of a group, you will not likely need all the tools but if working alone, you will probably need all of the following.

- A 30 watt branding iron with a “USA” brand. (\$25)
- A 1/8 “ roundover router bit with small 5/16 bearing. (\$20)
- A 1” Hole Saw and arbor. (\$20)
- A rubber stamp with the “Toys for God’s Kids” logo. (\$10)
- A bottle of “Stazon” ink and a stamp pad. (\$20)
- Patterns for various car sizes and shapes.
- A packet of brochures.
- A sampling of finished toys to help you solicit suppliers and recruit smilemakers and distributors.



NOTE: we have indicated our cost of some of the tools in case you want to help defray those expenses. However, reimbursement is not necessary if you stay involved with TFGK.

TOY DISTRIBUTION

Once you have all the kinks out and cars start rolling off the assembly line, you will want to get them to kids in need. Church groups are probably your best bet. They often support missions who will transport toys in their luggage all over the world. Over half of our toys are distributed this way.

You may be surprised to know, too, that Rotary, Kiwanis, and other civic clubs do construction projects around the world. They always have room for a few toys to hand out to the curious kids who hang out at the work sites.

Furthermore, we have discovered that there are relief agencies quietly opening in countries all over the world. We supply thousands of toys annually to places like ‘Orphan Grain Train’ out of Norfolk, NB, ‘Food for the Poor’ in Coconut Creek, FL, ‘Soles for Souls’ in Sheldon, IA, ‘Hope Haven International Ministries’ in Rock Valley, IA, and many other worthwhile charitable agencies. Then, there are the churches and individuals who use our toys for Operation Christmas Child shoeboxes, a part of Franklin Graham’s ‘Samaritan’s Purse’. And not surprising, thousands of our toys go to local agencies. ‘The poor you will have always’.

Finally, and probably most importantly, don’t forget our soldiers serving around the world. We have sent tens of thousands of toys to soldiers in Iraq, Afghanistan, Guam, etc. who use them as handouts for kids who live in the communities where they serve. We can send a box of 350 small toys to a soldier anywhere in the world for about \$30. Remember, each toy has a ‘USA’ license plate, making them little goodwill ambassadors for our country.

So you get the point. We cannot make too many toys. Of course, we can only do so much. Please, do not be overwhelmed. We want you to have as much fun as the kids who receive the toys.

QUALITY RULES

“Perfect is good enough!”

We understand that some pieces of wood will have small knots, and there will be blemishes caused by handling. That’s not a problem. However, please take care to ensure the toys we make are of top quality. They should be good enough for your grandchildren, because, indeed, they are going to somebody’s grandchildren. Furthermore, people go to a lot of effort and expense to get the toys to their destination. Cars with router chips, visible breakouts, saw marks, knotholes, spindly wheels, and un-sanded sides should go to the “bone” pile. We thank you in advance for your cooperation in this regard.

We Are An Official Charity – A 501(c)(3) Organization

Our Fed. Tax I.D. # is 27-3976894. This means you can deduct all expenses you incur in making toys along with the charitable mileage deduction for traveling to pick up supplies, etc. Obviously, anyone who wishes to donate money can also deduct such contributions. Visit our website to learn more about what we do and how to help.

SUPPLIERS AND SUPPLIES

As the operator of a “Smilemaker Shop”, you will need to obtain supplies for your group. The main supplies are quarter inch birch dowels.#499R or 9RG, .049wide scroll saw blades, various sizes of band saw blades and the occasional bottle of wood glue. With regard to band saw blades, we use a 3/16”, .025, 4tpi, skip tooth with a flex back for cutting out car bodies. A wider blade, 3/8 “ to ¾ “ , is used to cut off wheels. For all types of blades, we use:

Frank Pozgai, Pozgai Designs, 19390 SW Murphy, Aloha, OR 97007-4428
(503) 642-3850 or 1 (800) 872-2803

Our birch dowel supplier is:

Clay Smith, Woodworks, Ltd. Ft. Worth, TX
1 (800) 722-0311. Ask for part # Bd-0250. The best price break is 1600 dowels at 14.5 cents ea. There is free shipping with a purchase of \$100.

Always mention “Toys for God’s Kids” whenever you buy anything.

Wood glue and other miscellaneous items can be purchased at hardware stores. You will want to find a tool sharpening service locally and, just maybe, blades and dowels might be cheaper purchased from a friendly local merchant.