

Upper Arlington Civic Association's 4th of July Celebration
FLOAT BUILDER'S MANUAL

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Introduction

Bruce Frank first wrote this manual in the early '80s. Bruce is not only a past Parade Chairman, but also directed the building of entries that won prestigious "Best of Parade" trophies in 1983 and 1984.

Bruce put together this "how-to" guide to help others take the plunge into float building with as much knowledge as possible. Once you understand the basics, you can let your imagination run wild. And the basics aren't that difficult.

With very few exceptions, there are not hard and fast rules for float building. Those that are given are exclusively for the safety of all parade participants and your neighbors along the route.

Getting Started

“The longest journey begins with just a single step.” You’ve heard that before and it’s certainly true in building a July 4th float. The best first step is to get a steering group organized.

There are several ways to get the core of a committee together. First, you may already know two or three neighbors who would love to get involved. Make a few calls and see if they are interested.

Another approach is to send a neighborhood flyer. Run off a few copies suggesting that the neighborhood become part of the parade and schedule an introductory informational meeting. Announce the date, time and place in a flyer. You are certain to get a response. At this point, you only need about six to 12 people as the core of your group. You’ll need more when the construction begins. But don’t let a small initial turnout discourage you.

At the meeting, the first task is to get your neighbors excited. You may even want to invite a representative from the parade committee to stop by. They will be a great asset in explaining the process and getting everyone excited about the float building process.

This is a time when you need to line up your neighborhood team. The success of your team will depend on the commitment and dependability of those you have working with you. You can organize the committee in any way you think will work, but these are some responsibilities you need to have covered:

- **Float Chairperson**
- **Treasurer**
- **Theme and concept**
- **Structural design**
- **Decorating**

You may not need a different person for each responsibility, or you may want to create other work areas. That is up to you. This is nothing more than a guide. Take advantage of your neighbors’ talents and interests.

Creating Your Float

Now that you have a solid organization, it's time to get down to the real fun of deciding what you are going to build.

First, conduct a brainstorming session. Kick around the theme and have everyone share his or her own ideas. Remember, no ideas are thrown out here. That's the concept of brainstorming. Everyone will feed off the thoughts of everyone else. Before you know it, a great idea will begin to emerge.

Be sure that your float concept is consistent with the parade's theme. The category "appropriateness to theme" is a major category in judging, as is "creativity." Try to design a float concept that will be uniquely yours. Look for variations on shapes, materials, special effects and anything else that will make your float stand out from the rest of the float entries.

Fundraising

Now it's time to raise the money to pay for your float. It may come from several different sources - the Upper Arlington Civic Association funds and your own neighbors.

The UACA will reimburse up to \$500 to each neighborhood building a float and \$150 to each qualifying service organization building a float. Receipts need to be submitted in order to receive your reimbursement money.

The balance required for your float expenses needs to come from your neighborhood. Prepare a simple flyer describing what you are planning to do and have your block leaders go door-to-door for donations. Generally, you can expect \$5 to \$10 per household. It's important for the block leaders to be positive and aggressive. The parade is a great Arlington tradition and neighborhood participation is the backbone of the parade.

After you have your funds collected, select a treasurer. You may or may not choose to have a separate bank account: just keep good records of income and each expense.

Construction

Before you begin, you need to identify a place where you can actually build your float. Obviously, a neighbor with an open garage and a large driveway is a natural choice. You can expect the float building to take anywhere from 2-4 weeks. Be certain you have good outside access to electricity.

You are also going to need a variety of tools: a table or circular saw, saber saw, handsaw, hammers, staple guns, and a well-stocked tool box with screwdrivers, pliers, utility knife, etc., and a long tape measure and carpenter's square.

Other tools certainly will be needed if you're going to add animation or special effects to your float.

Also, plan for protection from the weather, especially in the later stages of construction. Once you get into the decorating phase, you will need a few large sheets of plastic that can be carefully placed over your float and fastened securely. Before that, you probably will be able to pull the float back into the garage each night for protection.

Floats can be built on a variety of beds: hay wagons, semi-trailers or any number of vehicles.

Hay wagons

Hay wagons do make great float beds. They are sturdy, the right size and adapt easily to most float building designs you might create. The wagons are 14, 16 or 18 feet long. All lengths are 7 feet wide and 3 feet high.

For many years, most Arlington floats have been built on hay wagons. Despite the fact that hay wagons are wonderful float foundations; they do have some built-in limitations.

The grander your float ideas, the more limiting you may find the hay wagon to be. They always have the appearance of being "hay wagon high." Secondly, if you want to build a very long float, you will find them difficult to adapt. Your option is to obtain a second type of farm wagon that has a telescoping center pipe. These are still available from farm implement suppliers. However, you will have to locate these and negotiate price yourself.

We encourage you to call Roy Hoffman at Hoffman Farm, 800 Rome-Hilliard Rd. You can reach him at 878-5161 to reserve your wagon as soon as possible. Then you can plan around the exact measurements of the wagon you have reserved. Be sure to confirm the date you will be able to pick up your wagon (usually about a week in advance). You can certainly begin some of the pre-fabrication before that time, but the major construction will be done once the wagon arrives.

All staples must be removed from your hay wagon before you return it to Hoffman Farm.

Basic framework

After you have your wagon, the first step is to build the basic framework. You have to decide how elaborate your float frame must be based on its use. For example, you will need more floor strength if you plan to have riders on the float. Floats with large structures on the wagon will also need extra strength.

Many floats will require that you build a frame over the existing wagon. Other designs simply use the wagon bed as is and add the superstructure needed for your design.

If you are going to build a new floor over the wagon, use 2x6s or 2x8s on edge for the outer framework then run 2x4s between them side to side. In general, place these stringers no more than 16" apart for strength, if you are going to actually stand on the floor. The edges of the wagons are protected with steel bands, so you'll have to plan your frame to fasten solidly to the wagon bed. You can toenail the frame to the wagon bed.

Take note of any areas that seem to need extra support and add any braces you think are necessary. You can probably use 1x2s or something lighter for this purpose. This part of the float should be very solid.

If you will have neighbors riding on the float, you'll now want to lay a floor of inexpensive sheathing plywood over your frame - 1/2" should be thick enough. The plywood will also add strength and stability to the frame.

Now you will begin to construct the part of your float that is more for show. At this point, you'll definitely start working with lighter lumber in areas that won't be supporting much weight. This superstructure will generally be used to support chicken wire, cardboard or other light decorating items. Keep in mind that the maximum float height is 13'6". Width is restricted to 8'. There is no set limit on length.

Depending on your design, you may now add a framework around the side of the wagon to flare out and down. This can help to hide the fact that you are building on a hay wagon. This can be built from 2x2s and 1x2s. Be certain that you allow for free movement of the wagon tongue and wheels. The front wheels move quite a bit when you turn, so be particularly careful.

Now is the time to add lattice strips to the floor. These are easily "ripped" from cheap 2x4s. For bending around curves, they can be made more flexible by soaking them in water prior to installation.

Now is a good time to hook up the float and give it a short test run. This is when you want to be certain that everything is in ship shape - not the morning of the parade! You'll be surprised at how much the float can wobble and you may want to add some additional bracing to lessen this. You'll also want to note if you will have to pull your float over a curb to get it in the street. If that's the case, set aside several boards to use for ramps the morning of the parade.

Decorating

Now that the main float structure is complete, you will start the decorating process.

Safety Considerations

Each year the Upper Arlington Fire Prevention office reminds you of the following float requirements:

Parade Floats: All decorative materials utilized on parade floats shall be flame resistant in accordance with the field test in NFPA 701 listed in rule 1301:7-7-35 of the Administrative Code.

In assembling your floats it is required that you use flame-resistant tissues, paste, paper, cloth, etc. due to the fire hazards involved. Flame-resistant materials can be purchased at area stores. If you are unable to find an item that is flame-resistant, the following solution can be mixed and used: 1 ¼ lbs. Boric acid + 9 oz Borax + 3 gallons water. Commercial solutions may also be available and used. Test any solution on a small sample of material to be treated as they may cause colors to run.

The NFPA test mentioned is to take a 1-½ inch wide by 4 inch long piece of material to be tested. Suspend the sample. Hold an ordinary wooden kitchen match to the bottom center of the strip with the bottom edge ½ inch above the match head (not the flame). After 12 seconds, the match is removed. To pass, the flame must not have spread over the entire sample, and any flame should go out within 2 seconds. Any drips off the sample should quit burning once they reach the floor.

Decorating Techniques

The traditional technique for final decorating is the use of poms.

Poms are simply pre-cut squares of colored tissue paper. They give a very rich and consistent appearance and come in a wide range of colors. They also lend themselves to very elaborate decorating patterns. A single package of poms, used in every other hole in chicken wire, can cover 4 sq. ft. The disadvantage is that they require quite a bit of time to stuff in place. Here are two methods of using poms in float building.

Method 1 - Using Chicken Wire

For this method, you'll need to buy an adequate supply of chicken wire. This wire can be easily cut with tin snips and molded over the wooden superstructure into a wide variety of flexible shapes. You will find that it won't take long to understand how to cut the wire and then join the pieces with other short lengths of wire. Another option is to buy a "hog ringer" at a hardware store. This tool crimps an open ring and clamps the two adjacent pieces of wire together. Fasten the wire to the wooden framework with staples wherever it crosses a brace.

Once the float is covered with wire, lay out your design areas where different colors are to go. You can mark them with spray paint or paintbrushes.

Now you'll need all those neighbors that haven't gotten involved so far. There are two techniques used for stuffing pomps. For large areas of general coverage, you can place a pomp in every other opening. For dense detail, use every hole.

Working with a small area, spray the chicken wire lightly with a spray adhesive. This is available at discount stores, building centers and Yankee Trader. Then take a single pomp, form it quickly into a cone over the tip of your index finger and place it firmly into the wire. You'll catch on to this technique quickly.

Because pomp stuffing is very time consuming, float builders have sometimes devised plans that allow for the chicken wire sections to be distributed to a number of teams. Each team then completes their own area and the sections are joined together on the float. It is definitely more difficult to lie out the wire this way, but it does help to eliminate the last-minute rush.

Method 2 - Using Corrugated Cardboard

This method combines the use of pomps, spray adhesive and corrugated cardboard. You should work within small sections, so that the adhesive remains tacky. As described in the first method, you form a cone over your index finger with a single pomp and simply touch the point to the tacky cardboard. Continue attaching pomps approximately 3 to 4 inches apart for general coverage and closer for detailed work or combinations of colors. When covering large areas, you can reduce pomp use by painting the cardboard to match the pomp color so that no brown cardboard shows through.

The cardboard is usually fastened to the frame with $\frac{1}{2}$ to $\frac{3}{4}$ inch staples. The larger the sheets of cardboard, the better the result will be. Here are tips for installing the cardboard:

- Don't overlap the cardboard. Make certain the edges butt together.
- Cut the board so the edges end on a piece of wood frame for extra stability.
- The cardboard will droop when humid, so add cardboard only a few days before the parade.
- If the cardboard gets wet, take it off and replace it with a dry panel.

Papier-Mache

Papier-mâché is normally used for areas on your float that require great detail in shape, or for contrast against the softer look of pomps or petal paper.

The papier-mache process involves creating a chicken wire frame and then covering it with several layers of newspaper soaked in a mixture of flour and water. Be sure to plan ahead because it takes several days before it will dry enough for you to paint it.

When the papier-mache has dried, it's a good idea to use a primer before your final coat. A gloss or semi-gloss paint will help to make papier-mache more water resistant.

Finishing Touches

There are many products available to help give your float a finished look. These are only a few suggestions.

Festooning - This paper product comes in long rolls and looks much like the Hawaiian lei. It is great to cover seams, flaws, or to blend areas where two colors or surfaces come together. It is especially helpful when using petal paper or applying skirting or fringe to the bottom of your float. Festooning is also available in foil and plastic. You will discover many original uses for this product. You can attach it with 3/8 to 5/8 inch staples.

Fringe and Skirting -- These two products are commonly used to decorate the bottom of floats. Skirting comes in 30-inch lengths while fringe is 15 inches long. Keep the bottom edge approximately 2 inches above the street to prevent it from becoming soiled. Attach skirting and fringe through the narrow band at the top using medium length staples. Complete the installation by overlaying the band with a row of festooning. Skirting is available in plastic only, while fringe is sold in both paper and plastic.

Spray paint -- One of the greatest tools you can use in the pursuit of a true professional look is spray paint. In the hands of a person with some artistic talent, spray paint can be used to add shading, shadowing and highlights and to add color that may not be available in other float building products. Be certain the paint is compatible with the materials on your float. Standard aerosol paints will actually melt plastic and Styrofoam. Special paints are available at craft stores.

Lettering -- Letters are almost always used in some form on floats. You can choose from ready-made lettering, or others that must be made from paper, Styrofoam or wood. Some general considerations for lettering include:

- Contrast between the letter color and the background color.
- Size/viewing distance - make all lettering as large as possible, ask will a parade spectator be able to read it from 20 feet away?
- Font/typeface - keep it simple and legible. Script lettering is rarely used in informational signage for good reason.

Ready-made letters and paper letters are 2-dimensional, but they can be quite effective when used on the proper background.

Styrofoam letters are cut from sheets of building insulating materials that can be inexpensively obtained from many lumber yards and building supply centers. It is available in several thicknesses and produces letters that are 3-dimensional and can be mounted on a wide variety of surfaces. In addition, the Styrofoam is light and very easy to cut. Craft stores carry a number of paints, which are safe for Styrofoam. You can install the letters with drywall ring shaker nails by simply pushing them through the chicken wire or cardboard and into the back of the letters.

Special Effects

Special Effects: Any parade float utilizing special effects which are designed to create smoke, flame, heat or sparking conditions shall be approved prior to utilization.

In your design and presentation, no open flame such as candles, lamps or torches will be allowed. Carbon Dioxide fire extinguishers and/or dry ice are acceptable for smoke effects. **Any other devices should be checked with the Fire Prevention Office.**

Special effects are an area of float building that often separates the top award winners from the rest of the competition. Special effects include almost anything your imagination can conceive that brings excitement, vitality and originality to your entry. Let your imagination run wild.

You may create a special effect that is one-of-a-kind but for the sake of getting your creativity running, we'll review a few general techniques.

Power Sources

Motorized apparatus: All motorized apparatus utilized for parade floats shall be provided with a portable fire extinguisher with a minimum 2-A: 10-B: C rating which shall be readily accessible to the operator.

An extinguisher **MUST** be carried on the float or in the tow vehicle during the parade and someone be assigned that knows how to use it. We also recommend a fire extinguisher be kept nearby during construction.

Many special effects require electrical power. You can decide on the best power source after you complete your plans and have some idea of what type and quality of power you will need.

Many small items may run on a battery, normally a car or golf cart battery. Be sure you use a separate battery from the one being used to run the vehicle pulling your float. July 4th is enough of a strain without asking the towing vehicle to turn double duty.

If you use a powerful sound system or other 110 electrical equipment, you'll need to use a gas-powered electric generator. They are available from many rental stores. Nations Rent (5274 Cemetery Rd in Hilliard, 876-2605) is a option. In the past, a 5,000-watt generator will rent for about \$50 - \$100 per day. Note: These must NOT be installed UNDERNEATH your float. They must be away from flammable materials and in a well-ventilated location. You might put it in the rear of a truck pulling the float or place it in a small garden trailer pulled from the back of the float. Be sure to reserve these units early.

Animation

Animation is one of the best special effects used successfully on floats in the Arlington parade.

In general, there are three common methods used to put motion in float animation.

1. A turntable driven by a motor at the center that creates animation.
2. An “extra” wheel that trails under or behind the float. Then a belt and pulley system transfers that rotation into the movement you need to make your creation run. Bicycle wheels are great for this purpose and the parts you’ll need are usually already available in a neighborhood garage.
3. A motor mounted on the object that is to move. That will allow you to have an object rotate around a turntable, for example.

Other animation may require motion that will have to be worked out for your individual circumstances. Don’t let the extra time you might have to spend working on a solution keep you from using animation. It is a tremendous asset to a float and a great crowd pleaser.

Sound

Sound - either music or sound effects - is another great dimension that you should consider for your float. Best of all, it can be added with little investment in either time or money.

The best source is a portable CD player. Many of these CD players will allow you to program a REPEAT function to replay a selection track again and again. This might be perfect if you are using a straight song and it’s available on CD.

A custom soundtrack is a great idea. You can shorten or lengthen songs, add sound effects and even narration if you want. This might make a good job to assign to a person in your neighborhood with a knack for this kind of project.

The second option is to use an endless loop cassette. These are available at Radio Shack as outgoing message tapes. They are very limited in terms of length, so check them out before you plan your soundtrack. The tape operates in a loop and will play over and over. Some machines will not play these because the cassette supply reel does not turn. Also, they work best when they are used in a flat position rather than on edge. We recommend that you purchase and record two tapes, if you want to use endless loop. They can self-destruct without warning, but two tapes should see you through the parade.

Once you have selected your sound source, you'll need to obtain a playback system with amplifier and speakers. Boom boxes are rarely a good solution. Although they may rattle the walls of your children's bedroom, they won't supply the sound power or quality you will need on the parade route.

Instead, consider a stereo amplifier or receiver with several bookshelf-type speakers placed on both sides of the float. Position them behind your chicken wire frame or other surfaces that will allow the sound to penetrate. You will probably need a small generator, which can often be used to power a limited number of lights or other accessories. The difference a quality system will make in your sound is dramatic and will pay off on the Fourth of July.

Lights

Since we mentioned lights above, by all means consider them if they fit into your design. It's important to remember that lights that constantly stay on probably will be hard to see in the morning sun. On the other hand, Christmas tree sets such as "lights-in-motion" or flashing lights, as well as strobe lights, can be seen if they are well placed. They can make great "billboards" around signage and on other features you want to highlight.

Materials

Yankee Trader, 463 N. High St. (across from the Greater Columbus Convention Center) 228-1322 should have the following float building materials. Please note: they NO longer stock poms. See below for information on poms.

Here is a summary of float building materials:

Metallic side skirting	30" x 14'
Shorter metallic fringe	15" x 10'
Shorter paper fringe	15" x 10"
Corobuff (corrugated paper)	4' x 25' solid colors 4' x 25' patterns
Spray adhesive for poms	16 oz can 7 oz can

You can purchase POMPS from the following companies:

1. FBS Industries

www.fbsind.com/FLOATS/poms.htm 1-888-327-3524

2. Blick Art Materials /Sawmill Road

www.DickBlick.com

Customer service#: 1-800-723-2787

Order #: 1-800-828-4548

Odds and Ends

Just a few final thoughts...

1. Have plastic available to cover your float in case of bad weather. The further you get into decorating, the more important it will be to have a good sheet of 6-mil plastic on hand.
2. Once decorating is completed - probably the night before the parade - keep two or three people with it all night. Vandals can strike and ruin your work. A small security detail will eliminate that possibility.
3. Towing vehicles - cars, trucks and vans - should be checked out to be sure you're ready. Tank full? Tires checked? Cooling system in top shape? The parade moves at only 4 or 5 miles per hour for two miles. Overheating can be a problem if you're not prepared.
4. Plan your route to the parade carefully. Be certain you won't have to pass under any low hanging trees or other obstacles. Also, try to travel side streets and go slowly. The wind can really damage a fragile float. If you would like a police escort, call them at 583-5192.
5. Be on time to the staging area!!! The parade is very well organized and we are counting on you to arrive at your assigned time to make the assembly and coordination as smooth as possible. Estimate the travel time you need, and double it!
6. Bring a last minute repair kit. Include extra pumps to replace any that blew away, spray adhesive, staple guns, duct tape, a roll of patching wire, etc. Also, buy a "flat repair in a can." It might keep you in the parade if a flat occurs.
7. If you have a balance in your float account after construction is complete, think about using a portion of the money to buy additional float award plaques for neighbors who worked on the entry. These are available at Village Trophy on West Third Avenue at Northwest Blvd. This small recognition will help keep the parade in your neighbors' minds from year to year. Any other funds should be put away for next year.

Helpful Websites

This is only an introduction to what a great experience float building can be for you and your neighborhood. Good luck and happy Fourth of July!

Here are some websites to visit for more float building ideas:

www.valleydecorating.com

www.1st-paradefloats.com/

www.victorycorps.com/floats.html

www.fbsind.com/FLOATS/Buildafloat.htm

www.paradesetc.com/

www.designwerksutah.com

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