



# GARAGE AIR SYSTEM

Thank you for choosing this fine product from GRIOT'S GARAGE. The GARAGE AIR SYSTEM is intended to deliver compressed air to points all around the garage. You may have seen industrial air systems at work in professional garages and workshops. We offer a fast and easy way of connecting an air system in your garage that provides a considerable advantage over the old metal tubing with solder joint systems. Our new push-in fittings and rigid nylon pipe are ideal for the home user as they can be assembled quickly and easily, eliminating the need for professional installation. Complex air systems like those used by the pros can be assembled in your garage.

## **SYSTEM COMPONENTS**

### **15 mm Rigid Nylon Pipe:**

Can be easily cut to length using a PVC pipe cutter and is capable of withstanding high temperatures and pressures in excess of 350 psi.

### **½" NPT Brass Wingback:**

Used to join the Rigid Nylon Pipe to your air outlet and supply line from your air compressor. Recommend using a ½" to ¼" NPT Male Union for connection to your ¼" Female NPT couplers. The Brass Wingback has provisions for three attaching screws. We recommend securely attaching the Brass Wingback to a wall stud.

### **½" to ¼" NPT Male Union:**

Used to reduce the ½" NPT thread of the Brass Wingback to the ¼" NPT size commonly used on most air couplers and fittings.

### **Equal Elbow:**

Connects directly to the Rigid Nylon Pipe. Used to make 90-degree turns.

### **Equal Tee:**

Connects directly to the Rigid Nylon Pipe. Used as a joint for the main header pipe. 90-degree outlet in the middle of the tee can be used to supply air to your vertical run pipe.

### **Union Connector:**

Connects directly to the Rigid Nylon Pipe. Used as a joint to make straight runs by connecting pieces of the rigid nylon tubing.

### **Pipe Clip:**

Used to secure the rigid nylon tubing using a snap together clamp with provision for a single mounting screw.

### **Pipe Clip Spacer:**

Used to space the Pipe Clip for additional clearance around conduit or wall brackets. Pipe Clip Spacers can be stacked to achieve the desired height.

### **¼" Female NPT Coupler:**

Used to connect the air outlet of the GARAGE AIR SYSTEM to your air hose.

### **¼" Male NPT Fitting:**

Used to connect the 4' Jumper hose to the GARAGE AIR SYSTEM. Also use to connect air tools to the ¼" female NPT coupler.

### **Air Filter/Regulator:**

Used to filter moisture from the GARAGE AIR SYSTEM and regulate air pressure. Our Air Filter/Regulator uses an automatic drain valve located in the bottom of the filter housing that allows moisture to be collected by a small pan or bowl.



#### **4' Jumper Hose:**

Used to connect your air compressor to the GARAGE AIR SYSTEM. May be used to connect an Air Filter/Regulator to the GARAGE AIR SYSTEM. This hose uses 1/4" female NPT threads that will accept a 1/4" Male NPT Fitting.

#### **Shut-Off Valve:**

Used to control the airflow from the air compressor to the GARAGE AIR SYSTEM. The Shut-Off Valve uses a 1/2" Male-Female NPT fitting to connect directly to the 1/2" NPT Brass Wingback or Air Filter/Regulator. Recommend using the 1/2" to 1/4" NPT Male Union for connection to 4' Jumper Hose.

### **USEFUL INFORMATION**

Please read and understand these instructions before attempting to assemble your GARAGE AIR SYSTEM. Start by choosing a suitable location for your air compressor. This is where the GARAGE AIR SYSTEM begins. Remember to take in to consideration such factors as counter tops and garage door brackets to keep from hindering the route of the Rigid Nylon Pipe. You will need to place a 1/2" NPT Brass Wingback connector near your air compressor (**see picture 1**). This connector uses a 1/2" Female NPT port along with a special push-in coupling port that incorporates an quick release collet and O-Ring seal used for attaching the Rigid Nylon Pipe. If a Shut-Off Valve and/or Air Filter/Regulator are used, determine the best location for these components near the air compressor (**see picture 2**). It's recommend that the Air Filter/Regulator be mounted below the level of the air outlets. You may attach the shut off valve directly to the Air Filter/Regulator inlet port or to the 1/2" NPT port of the Brass Wingback connector. If you want to connect your air compressor directly to the Brass Wingback connector without using a Shut-Off Valve or Air Filter/Regulator, a 1/2" to 1/4" NPT Male Union is recommended. Always use thread seal tape on NPT fittings to insure a leak free operation. Two or three wraps around the threads should be sufficient. We recommend using our 4' Jumper Hose to complete the connection between your air compressor to the 1/2" to 1/4" NPT Male Union used in the Brass Wingback connector (**see picture 3**). NOTE: You may need to use a 1/4" male NPT fitting to attach the jumper hose to your compressor. Make sure the male NPT fitting profile matches the profile of the coupling on your compressor. If you choose to use our Air Filter/Regulator please note that there is an automatic drain valve located in the bottom of the filter housing surrounded by a soft rubber sleeve. Place the Air Filter/Regulator in a location where moisture can be collected by a small pan or tray.

Next determine the best location for your outlet couplers around the garage. Standard garage work surfaces are 42" tall. If you're installing an outlet coupler near your bench it's best to place the coupler at least six inches above the work surface for easy access (**see picture 4**). Remember that a Brass Wingback connector along with a 1/2" to 1/4" NPT Male Union is needed to connect your air coupler to the Rigid Nylon Pipe. Always use thread seal tape on NPT fittings to insure a leak free operation. The Brass Wingback has provisions for three attaching screws. We recommend securely attaching the Brass Wingback assembly to a wall stud.

Once you have determined the locations for your air inlet and outlet connectors it's time to layout the routing of the Rigid Nylon Pipe. There are two sections of piping that are needed to assemble the GARAGE AIR SYSTEM. One is the main header pipe and the other is the vertical run pipe. You may use the 15mm Rigid Nylon Pipe for both sections (**see picture 5**). The main header pipe is used to deliver compressed air all around the garage. The vertical run pipe is used to deliver air from the main header pipe to the outlet couplings as well as supplying air to the main header pipe from the air compressor. The main header pipe in the system can be placed in a horizontal position six to eight feet above the ground (or near the ceiling) and sloped downward in the direction of the air compressor. A general rule of thumb is 1" of slope per 10 feet of pipe. The reason for the slope is to help direct any condensation to a low point in the compressed air piping system where it can be collected and removed. We recommend using our Air Filter/Regulator to help reduce moisture



Picture 1



Picture 2



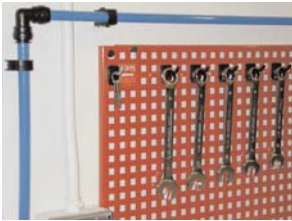
Picture 3



Picture 4



build up in the piping system. Measure the amount of Rigid Nylon Pipe needed to layout the main header pipe. If additional sections of pipe are needed to complete a run you can join the two pieces using a Union Connector. If the pipe needs to make a 90-degree turn an Equal Elbow can be used (see picture 6). Equal Tee fittings are used to connect the main header pipe to the vertical run pipe (see picture 7). You may also use Equal Tee fitting to branch off to another location. To cut the pipe to length we recommend using our GRIOT'S GARAGE Pipe Cutter. This tool makes a good clean cut that will leave a square and burr free edge. Do not use a hacksaw as this may leave burrs that could damage the o-ring seal inside the push-in fittings. Make sure you secure the main header pipe every 16" to 24" using our Pipe Clips. If additional space is needed a Pipe Clip Spacer can be added to stand the header pipe away from the wall (see picture 8). Allow some room for expansion and contraction. To connect the main header pipe to the vertical run pipe we use Equal Elbow fittings and Equal Tee fittings. These fittings use the same special push-in coupling port that incorporates a quick release collet and O-Ring seal that's found on the Brass Wingback connector. These fittings should be installed on the main header pipe directly above the Brass Wingback outlet assembly. Measure the distance between the fitting on the main header pipe and the fitting at the Brass Wingback assembly. This will determine the length of the vertical run pipe. Make sure you factor in the length needed to engage the rubber O-Ring seal inside the fittings (approximately 1-inch from the end of the collet). Secure the vertical run pipe every foot using our Pipe Clip. Allow some room for expansion and contraction. If additional space is needed a Pipe Clip Spacer can be added to stand the vertical run pipe from the wall.



Picture 5



Picture 6



Picture 7



Picture 8

Once the Rigid Nylon Pipe is secure and all the fittings are attached it's time to connect the air compressor and test the system for leaks. If a Shut-Off Valve is used make sure it's in the open position. If an Air Filter/Regulator is used slowly turn the adjustment knob to allow light air pressure into the system (between 30-50 psi). Most air leaks can be traced by listening for a hissing sound coming from the connections. If the leaks are coming from the push-in fittings then check to make sure the Rigid Nylon Pipe is engaging the O-Ring seal inside the fitting. If the leak is coming from an NPT fitting make sure it's properly tightened and sealed. Always use thread seal tape on NPT fittings to insure a leak free operation. If too little tape is used the fitting can leak. If you are unable to hear leaks in the connections you may use a mixture of soap and water to do a visual trace for leaks. Either pour or spray the soapy water onto the connector or fitting. A soap bubble will appear if there is a leak. Once the system checks out to be leak free you're ready to enjoy the benefits of compressed air in your garage.

### **WARNINGS AND CAUTIONS!**

The GARAGE AIR SYSTEM uses many different components to make a complete system. Measure twice and cut once to insure a proper fit. Work slowly and carefully to avoid mistakes. Additional time spent during the initial layout stage will save time repairing problems. Always wear eye protection and use extreme caution when working around compressed air.

### **DISCLAIMER**

GRIOT'S GARAGE is not responsible for any misuse of the GARAGE AIR SYSTEM or it's components for any injury or damage incurred to any person or object related to the GARAGE AIR SYSTEM or it's components.



## ANSWERS TO YOUR QUESTIONS

Should you want to order additional components or for a complete selection of quality GRIOT'S GARAGE products, please write or call us toll-free at 800-345-5789. You can use the Internet at [www.griotsgarage.com](http://www.griotsgarage.com).

Reorder item number 10031 for the ½" NPT Brass Wingback  
Reorder item number 10032 for the Equal Elbow  
Reorder item number 10033 for the Equal Tee  
Reorder item number 10034 for the Union Connector  
Reorder item number 10035 for the Rigid Nylon Pipe  
Reorder item number 10036 for the Wall Mount Pipe Clip  
Reorder item number 10037 for the Wall Mount Pipe Clip Spacer  
Reorder item number 10038 for the Air Filter/Regulator  
Reorder item number 10039 for the ½" to ¼" Male NPT Union  
Reorder item number 10040 for the On/Off Shut-Off Valve  
Reorder item number 10041 for the Regulator Bracket  
Reorder item number 10113 for the ½" Thread Seal Tape  
Reorder item number 10402 for the Pipe Cutter  
Reorder item number 45571B for the 4' Jumper Hose  
Reorder item number 84060A for the ¼" NPT Female Coupler  
Reorder item number 84060B for the ¼" NPT Male Plug

*Have fun in your garage!®*

GRIOT'S GARAGE, Inc.  
3500-A 20th Street E.  
Tacoma, WA 98424

**800-345-5789**

**[www.griotsgarage.com](http://www.griotsgarage.com)**

© 2004 GRIOT'S GARAGE, INC.