

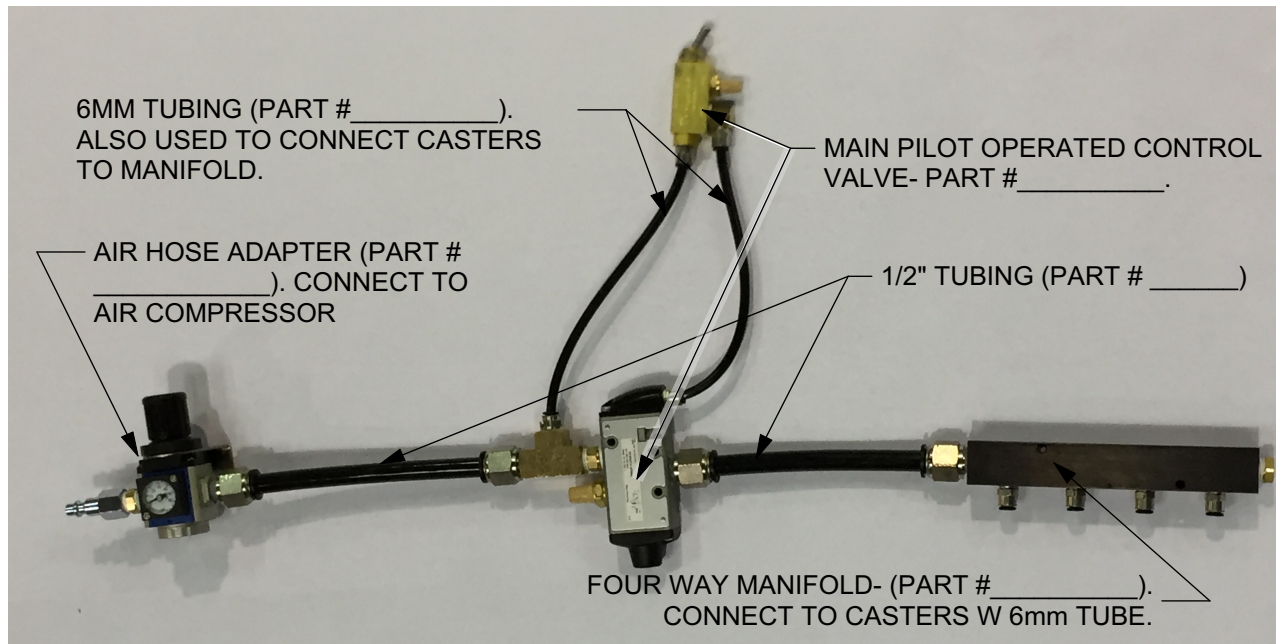


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PNEUMATIC CASTER AIR DISTRIBUTION SYSTEM INSTRUCTIONS AND NOTES

SYSTEM COMPONENTS SHOWING PROPER ORIENTATION AND CONNECTION:



5 GAL. AIR TANK. (PART # _____)-
ALTERNATE TO AIR HOSE ADAPTER.



FLOW CONTROL AND EXHAUST VALVE
ASSEMBLY- PART # _____. ONE
RECOMMENDED AT EACH CASTER

General Notes:

It is extremely important that all valves and components be installed in the orientation shown in these instructions. Reversing valves will cause them to not operate properly.

All fittings use PTC (push to connect) fittings to connect to either 6mm or 1/2" OD tubing. Tubing must be cut square and cleanly, which can be accomplished with a sharp matte knife. To connect fittings, firmly push the tubing into the fittings. To remove it, push in on the collar at the end of the fitting while pulling the tube out of the fitting.



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AIR SUPPLY OPTION #1 PORTABLE 5 GA. AIR TANK (PART # _____)

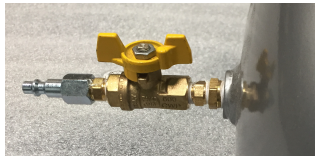


Notes:

A portable air tank concealed on the wagon is a great way to make the wagon completely self contained, with the simplicity of connecting the tank to an external air compressor to refill it.

The tank outlet should be connected with 1/2" tubing to inlet of the main control valve and the pressure on the regulator set to 35-40 PSI (once the tank is filled). **Note that connecting casters to a working pressure significantly above this level can damage the casters and potentially cause injury by rupturing the bladder.**

To fill the tank, connect it to an air compressor ideally supplying 150 PSI, which is the maximum pressure the tank can be filled to without tripping the pressure relief valve. Turn the fill valve to the open position until the tank pressure gauge equals the supply pressure. Close the valve and disconnect the hose.



Fill Valve Open



Fill Valve Closed

The main gage on the top of the tank shows the total tank pressure (amount of air available) in the tank.

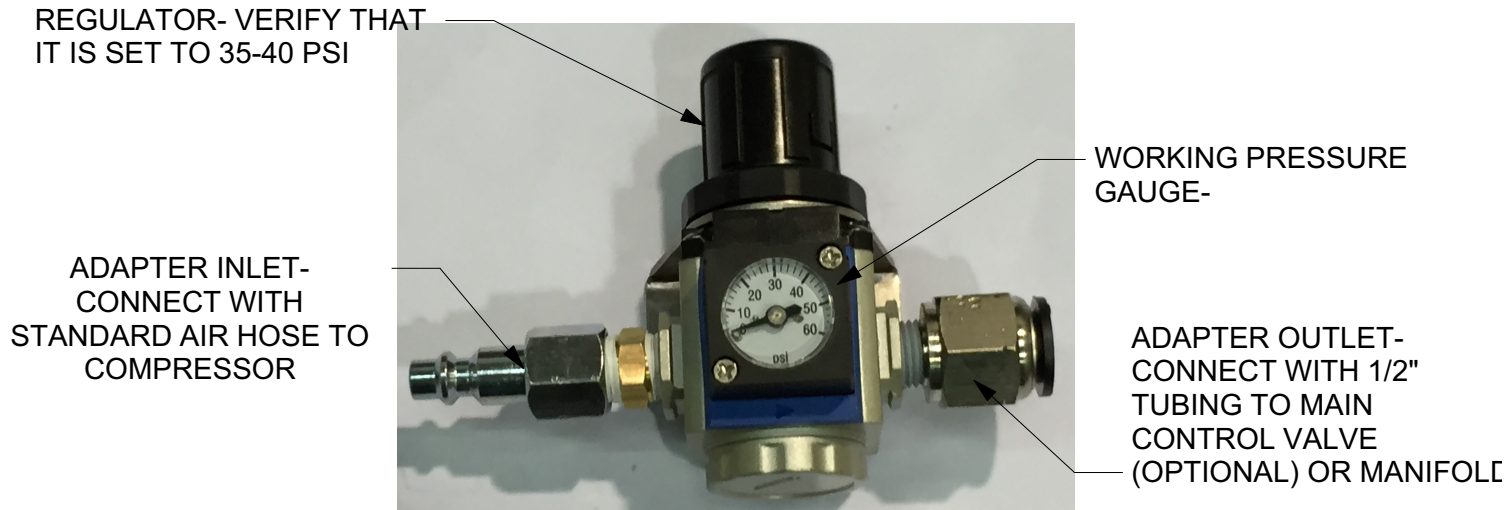
The tank should be drained of moisture from condensation on a regular basis, using the drain cock located on the bottom of the tank.



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AIR SUPPLY OPTION #2 AIR HOSE ADAPTER (PART #_____)



Notes:

The air hose adapter assembly provides an easy way to connect your caster system to an external air compressor or tank in situations where a hose supplying air to the wagon is acceptable.

The adapter outlet should be connected with 1/2" tubing to the main control valve. The output pressure should arrive preset with the regulator set at 35-40 PSI, but this should be verified once the adapter is connected to the air supply. **Note that connecting casters to a working pressure significantly above this level can damage the casters and potentially cause injury by rupturing the bladder.**

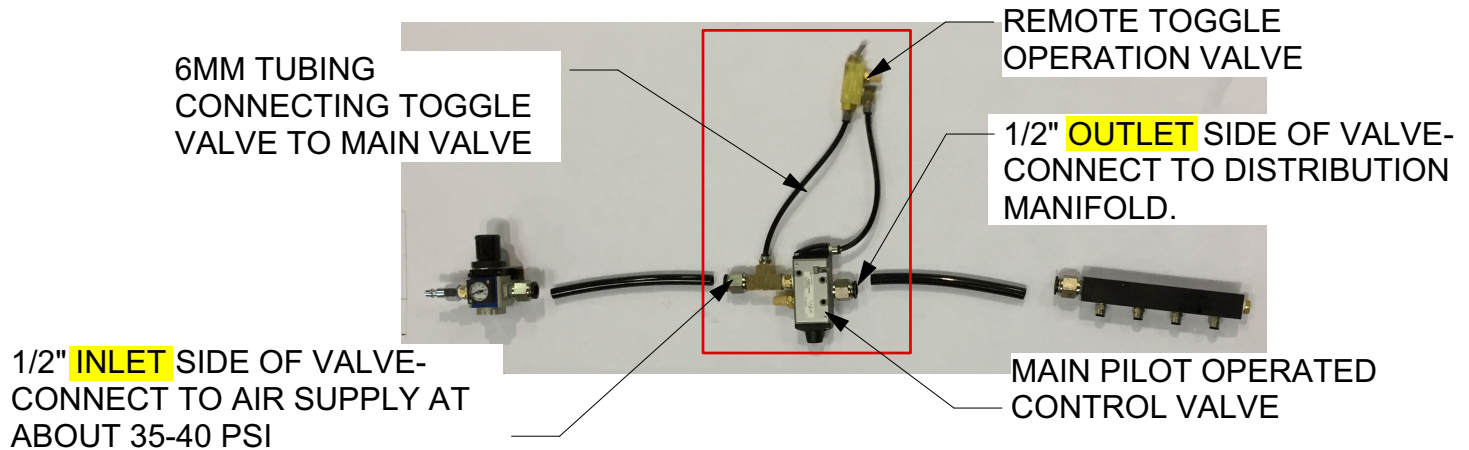
The adapter inlet is connected to an air hose from your compressor.

Note that when using the Air Hose Adapter, the Main Control Valve is optional. If you eliminate it from the system, the casters will inflate/raise when an air hose is connected to the system and deflate/lower when the air hose is removed. If you include the Main Control Valve, then once the air supply is connected to the adapter, the control valve will control raising and lowering of the casters as described in that section of the instructions.



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MAIN PILOT OPERATED CONTROL VALVE ASSEMBLY (PART # _____)

Notes:

Note that the Main Pilot Operated Control Valve is shipped with the remote toggle control valve pre-assembled with short lengths of 6mm tubing in the proper orientation for correct operation. These tubes will likely have to be replaced with longer lengths of 6mm tubing (not included) to allow the main valve to be located in a central location on the wagon, while the remote toggle valve can be mounted in a convenient location for controlling the casters. It is important that it be reinstalled in the same orientation when this is done or the valve won't operate properly.

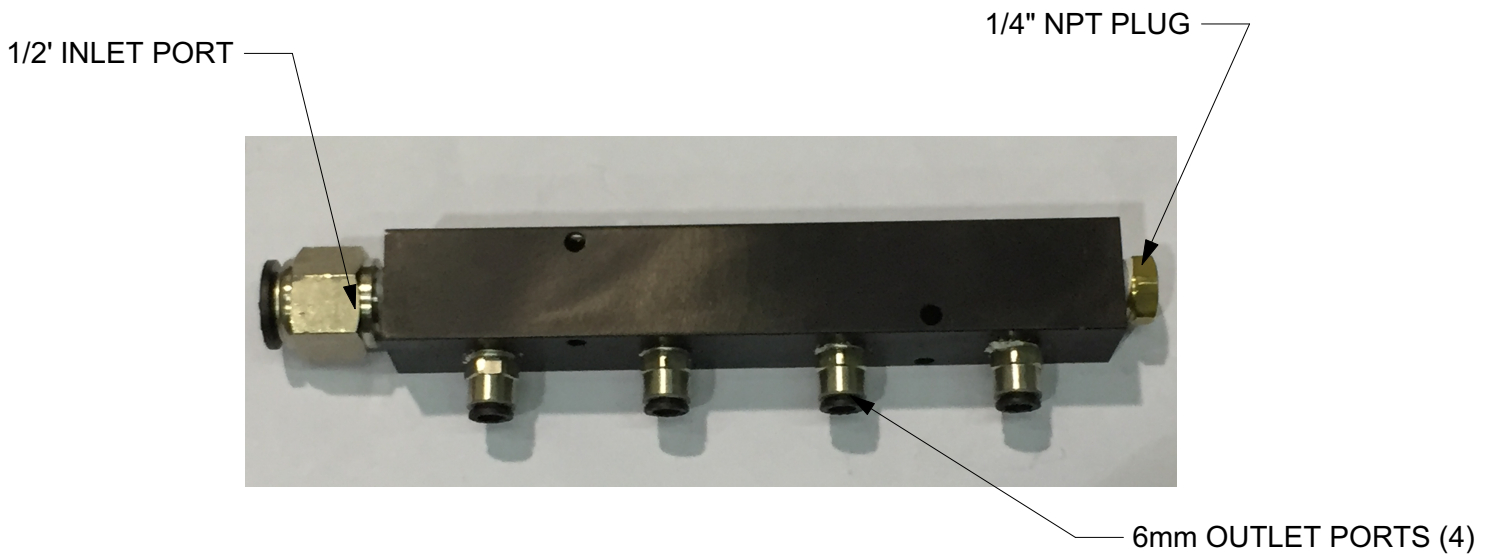
When properly connected, turning the toggle valve in one direction will allow air to flow raising the casters. As long as the valve stays in that position, the casters will remain raised. Turning it in the opposite direction will shut off the air supply and allow the casters to lower.

Troubleshooting: Applying pressure when the valve is reversed can cause it to stick open. If the valve does not shut off the air flow when turned in one direction, disconnect air supply and double check that all hoses are connected to the right ports. Make sure all pressure has been released from the system and try the valve again once everything is connected in the proper configuration.



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FOUR PORT MANIFOLD (PART #_____)

Notes:

The manifold is used to distribute air from the Main Control Valve to the individual casters. Four casters is a typical setup, but any number of casters can be connected by using multiple manifolds and plugs.

The manifold is connected to the Main Control Valve with a piece of 1/2" OD tubing. Each caster is connected to an individual output port with a piece of 6mm OD tubing.

To Connect Multiple Manifolds together:

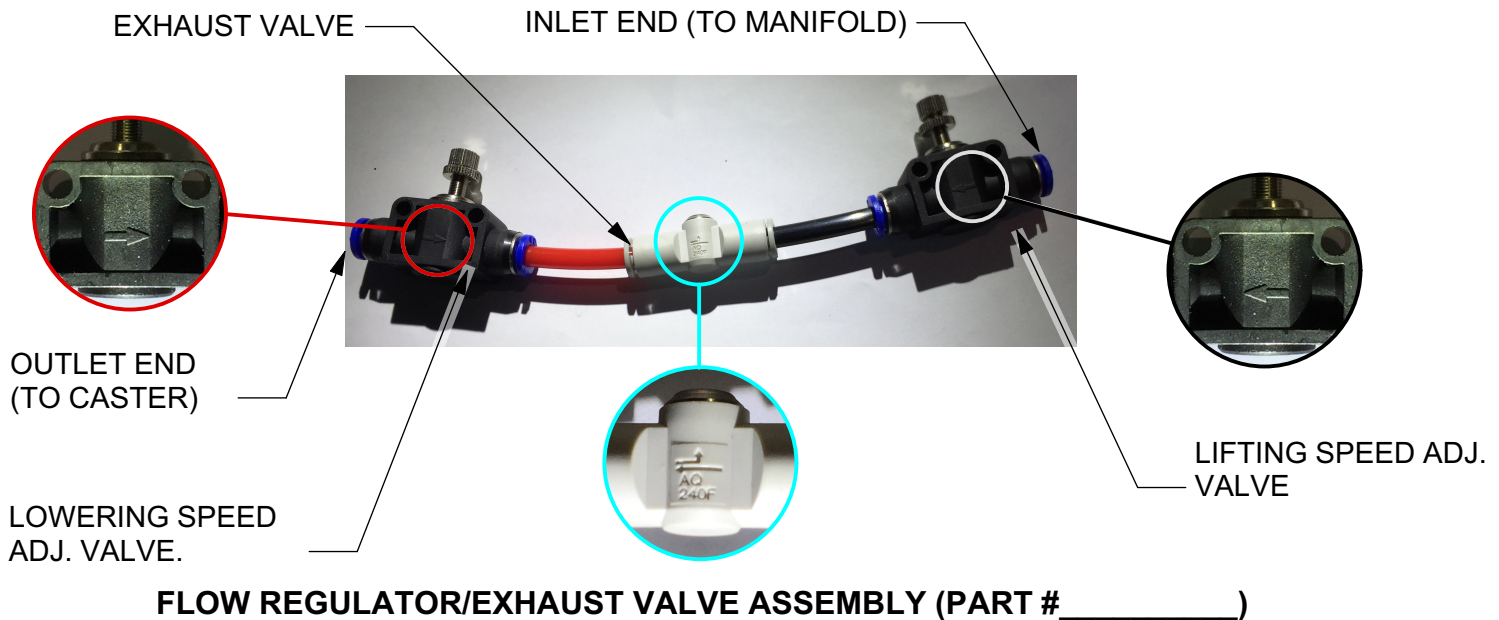
Unscrew the 1/4" NPT plug from the first manifold. Unscrew the 1/2" inlet port fitting from the second manifold. Use the provided 1/4" NPT nipple to connect the two manifolds together. In this manner multiple manifolds can be connected together.

If you need an odd number of ports, any of the 6mm outlet ports can be unscrewed and replaced with one of the provided plugs. Each Manifold includes two plugs.



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Notes:

The Flow Regulator/Exhaust Valve Assembly accomplishes two things. First, it provides an exhaust port near each caster to allow for faster lowering. The weight of the wagon on the caster controls how fast it lowers. The heavier it is, the faster it will lower. If the weight is not evenly distributed or there is a large difference in the length of the 6mm tubes feeding the casters from the manifold, the casters may not all rise and lower at the same speed, resulting in uneven lifting or lowering. The second purpose of this assembly which is to adjust the lifting and lowering speed of each caster to help the wagon raise and lower evenly.

The valve furthest from the caster (black tubing end) controls the lifting speed. Assemblies should be shipped with valve wide open (counter-clockwise). Turning this valve clockwise will reduce the lifting speed of the individual caster. Use these valves to try to equalize the lifting speed of all casters. The locking ring can be used to secure the valves once they are adjusted.

The valve closest to the caster (red tubing end) controls the lowering speed. Turning this valve clockwise will reduce the lowering speed of the individual caster. Use these valves to try to equalize the lowering speed of all casters.

In order to work correctly, one Flow Regulator/Exhaust Valve Assembly must be installed near each caster. The red tubing end should be connected with a short length of 6mm tubing to the caster. The black tubing end should be connected to the manifold with an appropriate length cable.

If the valve assembly becomes disassembled for any reason, when it is reassembled, the arrows on the adjustment valves should face in towards the exhaust valve and the center valve should be oriented as indicated.