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Meyer Zephyr

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS



Wm. W. Meyer & Sons, Inc.

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SECTION I SAFETY PRECAUTIONS

ATTENTION! TO THE OWNER AND THE INSTALLATION, OPERATION AND MAINTENANCE PERSONNEL

The safety of the operator and those people that may come into contact with the equipment is of great importance to Wm. W. Meyer & Sons, Inc. (“Meyer”). The decals, shields, guards and other protective features designed, furnished or recommended for this machine are there for your protection. BEFORE attempting to install, operate or perform maintenance on this Equipment READ carefully and UNDERSTAND all safety instructions contained in this set of Instructions in addition to all applicable government safety/health laws and regulations and generally recognized industry standards. The operation and maintenance of this equipment should be restricted to only those personnel trained in its use. Consult the Factory for the availability of manuals in other languages.

Installation, Operation and Maintenance personnel should READ carefully and UNDERSTAND the sections of this *Instruction Manual* relevant to the work they are performing. The various precautions and recommendations detailed within this manual are not necessarily all inclusive. These instructions are intended to provide general safety and operational guidance relating to typical uses with which Meyer is familiar. Additional information may be provided that pertains to your specific piece of equipment upon request.

SAFETY FIRST!



DANGER

Indicates the presence of a hazardous situation that, if not avoided, **WILL** result in death or serious injury.



WARNING

Indicates the presence of a hazardous situation that, if not avoided, **COULD** result in death or serious injury.



CAUTION

Indicates the presence of a hazardous situation that, if not avoided, **COULD** result in minor or moderate injury.

NOTICE

Indicates information that is important, but is not related to a particular hazard.

1-1 GENERAL SAFETY INFORMATION

- Equipment is to be operated by trained qualified personnel only.
- Always read and follow the operating and safety procedures.
- Do not operate without all guards and safety equipment installed in the proper location and in working order.
- Do not disable any safety features. They are there for your protection.
- Always wear protective clothing/equipment including, but not limited to, eye and hearing protection.
- Always use qualified personnel when repairing or maintaining the equipment.
- Do not leave the equipment unattended while it is running.
- Do not wear loose clothing or jewelry when operating this equipment. Long hair should be confined by a hat or a hair net.
- Do not operate under the influence of alcohol or drugs.
- If a malfunction should occur, turn the machine off immediately and correct the problem, before restarting the machine.

FOLLOW THESE SAFETY INSTRUCTIONS.

1-2 VACUUM SAFETY

- Limit the operation only to those personnel trained in the proper use and operation of the vacuum.
- Never operate the machine without proper ventilation.
- Do not vacuum hazardous, toxic or combustible material.
- Do not vacuum hot material (over 100°F) or use it to pick up flammable liquids or gases.
- Do not use the vacuum in any areas where flammable or poisonous vapors may be present.
- Do not pick up anything that is burning or smoldering.
- Keep all clothing and your body away from the rotating equipment.
- Obey all safety labels and instructions affixed to the vacuum.
- Never run the vacuum engine faster than the factory settings.
- Do not stand close to or near the inlet, inlet hose or discharge while the unit is starting, running, or shutting down.

If there are any questions as to the safe operation of this equipment, please do not hesitate to contact us at 1-800-963-4458.

1-3 SAFETY LABELING

The following safety labels shown are affixed on the equipment. **Do Not** use the machine if any labels are missing, damaged, or have fallen off.

	! WARNING
	<p>Moving parts can crush and cut. Never operate with guard removed. Follow machine safety shutdown instructions before service or maintenance.</p> <p>420Z-280</p>

	! DANGER
	<p>Engines produce carbon monoxide which is an odorless deadly poison. DO NOT OPERATE in an enclosed area.</p> <p>420Z-234</p>

	! DANGER
	<p>Turn OFF & remove key from ignition before servicing or maintaining equipment. Rotating fan blades inside can crush or cut. Read and understand all instructions before operating, maintaining or servicing this machine.</p> <p>420Z-209</p>

	! WARNING
	<p>Hot surface. Do NOT touch.</p> <p>420Z-233</p>

	! WARNING	 Scan code for instruction manual
	<p>To reduce the risk of serious injury or death: Equipment must be operated, serviced and maintained by trained personnel. Read and understand all instructions before operating, maintaining or servicing this machine.</p> <p>420Z-235</p>	

! WARNING			
 Hearing protection required	 Eye protection required	 Breathing protection required	 Protective clothing required
420Z-204			

! WARNING

<p>Moving parts can crush and cut. Never operate with guard removed. Follow machine safety shutdown instructions before service or maintenance.</p> <p>420Z-279</p>

	! WARNING
	<p>Strong suction. Stay clear of inlet when operating. Clothing, hair, body parts, and other objects may be pulled into inlet.</p> <p>430Z-232</p>

	 WARNING
	<p>Open all doors on the truck body/trailer and wait 10 minutes before starting engine.</p> <p>This ventilates fuel vapors and reduces the risk of fire and explosions.</p> <p>DO NOT start engine if fuel vapors are present.</p>
	420Z-258

MACHINE SAFETY SHUTDOWN INSTRUCTIONS
<p>Before service, maintenance, or reaching into the machine for any reason follow these steps to ensure the machine cannot be started.</p> <ol style="list-style-type: none"> 1. Follow the Machine Shutdown Instructions. 2. Disconnect the fuel tank and close the vent on the tank. 3. Disconnect the negative battery terminal and secure it using the lockout box. 4. Follow your employer's Lockout/Tagout procedures.
420Z-259

MACHINE START UP INSTRUCTIONS
<ol style="list-style-type: none"> 1. Read and understand the Operation and Maintenance manuals for Zephyr, engine and compressor (if so equipped). 2. Doors to the truck/trailer must be open and no fuel vapor present. 3. Attach the hose to the inlet of the Zephyr using the clamp provided. 4. Attach additional hose lengths as needed using connectors and clamps. 5. Cut the correct size hole in the ductwork, attach the duct collar and attach the hose to the collar. 6. Attach the fuel line and open the vent on the fuel tank. Ensure that the fuel line will not come in contact with anything that could damage it. 7. Start the engine according to the Engine Manufacturer's Operating Manual. The engine speed is factory set at 3300-3500 RPM. 8. Your Zephyr is now ready for use.
420Z-273

MACHINE SHUTDOWN INSTRUCTIONS
<ol style="list-style-type: none"> 1. Move the throttle to the slow position. Run the machine for approximately 5 minutes. 2. Turn the engine off and remove the key. 3. Disconnect the hose.
420Z-274

	 WARNING
	<p>Stay clear of outlet and surrounding area when operating.</p> <p>Pressurized gas and material leaving outlet can cause severe injury or death if personnel are struck.</p> <p>Rotating fan blades inside can crush or cut.</p>
	420Z-281

Replacement label kits are available at no charge from Wm. W. Meyer & Sons, Inc. 1-800-963-4458. A Safety Supplement Data sheet is included with this manual. Keep this supplement with the machine for quick reference.



SECTION II APPLICATION - INTENDED USE OF EQUIPMENT

The Meyer **ZEPHYR** is designed to safely and easily clean heating and cooling ducts. We recommend the owner/operator contact and become a member of the **NATIONAL AIR DUCT CLEANERS ASSOCIATION**.

1120 Route 73, Suite 200
Mt. Laurel, NJ 08054
Toll Free: 855-GO-NADCA
Phone: (856) 380-6810
Fax: (856) 439-0525
Email: info@nadca.com

Contact them if you have any questions concerning the proper approved mechanical cleaning methods.

Your ZEPHYR is usually sold as a package with a compressor and the proper duct cleaning accessories to do an effective job. If your ZEPHYR was not purchased as a system then you must have the following item to start cleaning ducts.

- Hose inlet adapter
- 8" or 10" hose
- When using more than one length of hose then you must use a hose connector
- 8" or 10" duct collar (depending on the hose size)
- Air Compressor
- Duct Ball System
- Manual or Rotary Brushes
- Sheet Metal Screws
- Hole Saws
- Patches

If you do not have the cleaning accessories listed above call **Wm. W. Meyer and Sons** for assistance 800-963-4458.

NOTICE This equipment must be used only for the purpose for which it was intended. Any other use could cause bodily injury to the operator, costly damage to the equipment and void the warranty.



SECTION III RECEIVING, UNCRATING AND INSTALLATION

3-1 RECEIVING YOUR VACUUM

Immediately check the condition of your new vacuum as received. The machine was shipped in perfect condition and should arrive the same way. Ownership of the goods was transferred to the carrier as soon as it left our dock. If there are any visible problems, mark them on the Bill Of Lading that the carrier has and call his office immediately, before the driver leaves your premises. Meyer cannot file a claim on your behalf; however, please let us know by phone and writing about any problems so that we can assist you with immediate replacement parts or information.

3-2 UNCRATING YOUR VACUUM

Carefully remove all of the packing materials and check the parts against the Packing List. Your vacuum was test-run and shipped with all fluids at the proper levels. Check them now and top off as required.

3-3 INSTALLATION

 **WARNING** This machine **MUST** be grounded before operation. Operating without proper grounding could lead to an accumulation of static electric charge which could ignite fuel vapors present in the area.

Using a forklift or other means place the vacuum in the truck body/trailer. The box must have at least one 48" side door for proper engine ventilation. Consult the factory for the proper location. Position the vacuum in the center of the truck body and drill an 1/8" dia. pilot hole through the center of each mounting foot hole. If there is any interference with the structural members of the underside of the truck body or other parts, shift the vacuum to clear these obstructions. Then drill out the holes to the proper size and bolt the unit in place. Drill a 1/4" dia. hole next to the engine mount on the passenger side. Feed the green ground wire through the hole and attach it to the truck chassis.

 **WARNING** The engine exhaust must be piped away from and outside the truck box/trailer. The exhaust piping will be hot and must be guarded to avoid burns. Ensure that nothing can come in contact with the piping that may catch fire.



SECTION IV START-UP & OPERATION

 **WARNING** Fuel for this machine is highly flammable and explosive. Do not overfill the fuel tank. Allow room for expansion of the fuel. Fill the tank away from the engine and avoid spills. The fuel tank must be in contact with the ground before and during filling. Do not let the fuel line come in contact with the exhaust system. Failure to follow these precautions could lead to a

fire and serious injury or death.

 **DANGER** POISONOUS GAS HAZARD. Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy, or weak while using this product, shut it off and get to fresh air immediately. Seek medical attention immediately. You may have carbon monoxide poisoning.

 **WARNING** The surfaces of the engine and exhaust can be extremely hot. Do not touch, allow to cool before servicing.

 **WARNING** The vacuum has a strong suction at the inlet. At all times keep hands, clothing, etc., away from the inlet of your vacuum.

 **WARNING** Pressurized air and material leaving the discharge can cause serious injury or death if personnel are struck. Do not rely on the filter bags to stop all material that may enter the vacuum system. Stay clear of outlet and surrounding area while operating. Never operate without filter bags attached and in good repair.

MACHINE START UP INSTRUCTIONS

 **WARNING** The doors to the truck/trailer must be open so that the operator and the machine have adequate ventilation. If there is a fuel odor, wait 10 minutes to allow the fuel vapor to dissipate before proceeding.

1. Read and understand the Operation and Maintenance manuals for the Zephyr, engine and compressor (if so equipped).
2. Doors to the truck/trailer must be open and no fuel vapor present.
3. Attach the hose to the inlet of the **ZEPHYR** using the clamp provided.
4. Attach additional hose lengths as needed using hose connectors and clamps.
5. Cut the correct size hole in the ductwork, attach the duct collar and attach the hose to the collar.
6. Attach the fuel line and open the vent on the fuel tank. Ensure that the fuel line will not come in contact with anything that could damage it.
7. Start the engine according to the Engine Manufacturer's Operating Manual. The engine speed is factory set at 3300-3500 RPM.
8. Your **ZEPHYR** is now ready for use.

REMEMBER SAFETY FIRST!!!!!!

The throttle on the engine should be moved to "Slow" when the vacuum is not in use. Do not stand close to or near the inlet, inlet hose or discharge while the unit is starting, running, or shutting down. At all times, protect yourself. There is always the possibility of material or foreign objects passing through the equipment. Keep children and pets away from the machine while it is running.



SECTION V SHUT DOWN



WARNING

Do not remove the inlet hose until the vacuum has come to a complete stop. Failure to do so will expose the operator and others to a powerful suction that could cause injury.

1. Move the throttle to the slow position. Run the machine for approximately 5 minutes.
2. Turn the engine off and remove the key.
3. Disconnect the hose.

Machine Safety Shutdown Instructions:

1. Follow the machine shutdown instructions.
2. Disconnect the fuel tank and close the vent on the tank.
3. Disconnect the negative battery terminal and secure it using the lockout box.
4. Follow your employer's Lockout/Tagout procedures.



SECTION VI MAINTENANCE



WARNING

Before performing any service or maintenance ensure that the machine cannot be started. Follow the Machine Safety Shutdown Instructions before service or maintenance. Failure to do so could lead to serious injury or death.

For engine service or maintenance see the engine Operator's Manual.

For compressor service or maintenance see the compressor Operator's Manual.

Your Zephyr vacuum is designed to be used with minimal maintenance for all its components.

DESCRIPTION	FREQUENCY
INSPECT DRIVE(S)	EACH SHIFT
CHECK GUARDS	EACH SHIFT
DRIVE ALIGNMENT & TENSION	20 HOURS
CHECK ENGINE EXHAUST PIPE	EACH SHIFT
CHECK ALL DRIVE SET SCREWS	20 HOURS
BEARINGS LUBRICATION	20 HOURS

BATTERY: The battery provided with your equipment is of the lead acid type. The battery cables should be checked daily for corrosion and tightness.

DRIVE BELTS: The drive belts will need to be replaced when there are visible signs of cracking or excessive wear. The replacement interval will depend on the number of hours the machine has been operated and how well the alignment and tension has been maintained. Contact Wm. W. Meyer & Sons, Inc. for replacement belts. 888-463-3908

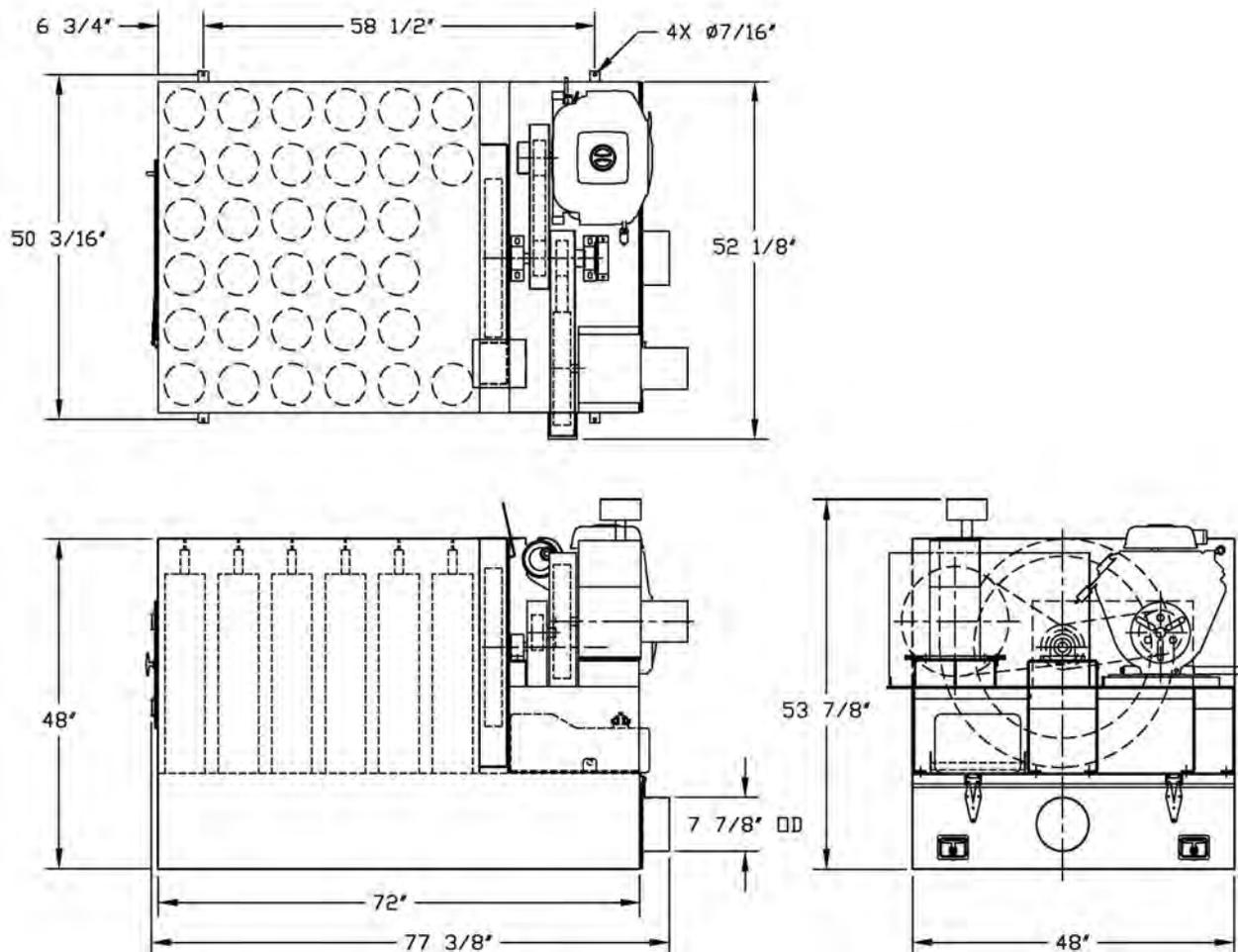
FAN HOUSING AND WHEEL: During the normal use of your vacuum, no maintenance is required on the fan wheel or housing.

NOTICE The fan wheel assembly has been balanced at the factory. Noises or vibrations coming from the fan indicate that for some reason the fan wheel has gone out of balance. The fan assembly is rotating at nearly 3600 rpm and if the fan wheel is out of balance, the possibility that the fan wheel will explode in the housing is high. The vacuum **MUST** be shut down immediately.

WARNING Failure to do so could lead to serious injury or death and costly damage to the equipment.

The fan wheels are designed and manufactured specifically for these vacuums. Replacement fan wheels are only available from the manufacturer, do not attempt to substitute. You can contact Wm. W. Meyer & Sons for replacement parts and if you have any questions or concerns at 800-963-4458.

ZEPHYR Dimensions



Parts List			
Quantity	Description	Quantity	Description
1	Gasoline Engine	2	Bearing
2	Fuel Tank	1	Jackshaft
1	12 Volt Battery	2	Engine and Fan Sheave
1	Red Battery Cable	2	Engine and Fan Bushing
1	Black Battery Cable	1	Fan Belt
1	Tachometer	1	Compressor
1	Fan Wheel	1	Air Tank Assembly
33	Filter Bag	1	Compressor Sheave
33	Filter Bag Clamp	1	Compressor Bushing
3	Door Latch	1	Compressor Belt



SECTION VII TROUBLESHOOTING



WARNING Before attempting any inspection or removing any guards, FOLLOW the Safety Shutdown Instructions.

If a problem noise or vibration should occur, stop the equipment immediately!! Contact the factory as soon as possible. Do not operate this equipment until it has thoroughly checked by the factory or factory authorized representative.

If there is no suction from the end of the hose and you can hear the fan wheel running something is most likely blocking the airflow.

1. Follow the Machine Safety Shutdown Instructions.
2. Check for blockages in the hose, inlet connection to the vacuum, and the air discharge.
3. Inspect inside the vacuum box for something blocking the inlet to the fan. If an obstruction is inside the fan housing, check the fan for damage.
4. Clear any and all blockages, close the vacuum box door, reconnect the hose and restart the vacuum.



WARNING DO NOT start or operate this equipment if any guards are removed. DO NOT remove any guards while the equipment is running. Shut down the engine first before attempting to inspect this machine. FOLLOW the Machine Safety Shutdown Instructions. If guards are removed they MUST be reinstalled BEFORE starting the vacuum.

If the fan wheel is not running most likely the drive belts have come off or are loose. Shut the engine down as per step 1 above, remove the belt guards and examine the drive system. Replace or re-mount the belts and align. Reinstall the belt guards and restart the vacuum per the Machine Start Up Instructions. If this does not solve the problem, contact the factory for assistance 800-963-4458.