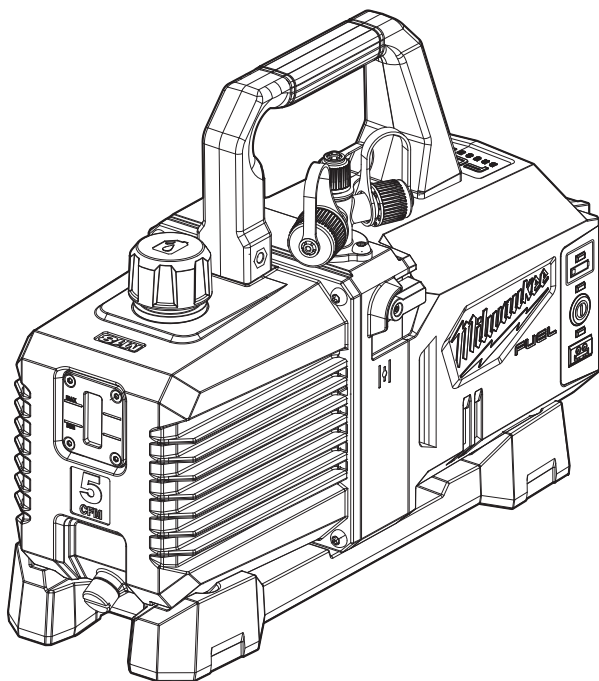




OPERATOR'S MANUAL
MANUEL de L'UTILISATEUR
MANUAL del OPERADOR



Cat. No. / No de Cat.
2941-20

M18 FUEL™ 5 CFM VACUUM PUMP
POMPE À DÉPRESSION DE 142 L/MIN (5 CFM) M18 FUEL™
BOMBA DE VACÍO DE 142 L/MIN (5 CFM) M18 FUEL™



WARNING To reduce the risk of injury, user must read and understand operator's manual.

AVERTISSEMENT Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le manuel.

ADVERTENCIA Para reducir el riesgo de lesiones, el usuario debe leer y entender el manual.

GENERAL POWER TOOL SAFETY WARNINGS

⚠WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

WORK AREA SAFETY

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

- **Power tool plugs must match the outlet.** Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord.** Never use the cord for carrying, pulling or unplugging the power tool. **Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.

PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- **Prevent unintentional starting.** Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
 - **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
 - **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
 - **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
 - **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
 - **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
 - **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
 - **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
- ### BATTERY TOOL USE AND CARE
- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
 - **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.

- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Do not use a battery pack or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 265°F (130°C) may cause explosion.
- Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.
- The MILWAUKEE M18 FUEL™ 5 CFM Vacuum Pump is suitable for use with systems that utilize A2L refrigerants provided proper precautions have been followed. This includes ensuring all refrigerant has been removed when servicing or evacuating a system that contains A2L refrigerants. Due to the mildly flammable nature of A2L refrigerants, it is important to ensure users receive proper technical training prior to handling these refrigerants. Special licensing or certification may be required before handling flammable refrigerants. Always follow local, state and/or federal regulations or guidelines when working on systems containing refrigerants.
- Always use common sense and be cautious when using tools. It is not possible to anticipate every situation that could result in a dangerous outcome. Do not use this tool if you do not understand these operating instructions or you feel the work is beyond your capability; contact Milwaukee Tool or a trained professional for additional information or training.
- Maintain labels and nameplates. These carry important information. If unreadable or missing, contact a MILWAUKEE service facility for a free replacement.

- SERVICE

 - Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.
 - Never service damaged battery packs. Service of battery packs should only be performed by the manufacturer or authorized service providers.

- SPECIFIC SAFETY RULES FOR VACUUM PUMPS

 - AWARNING** This pump generates a deep vacuum that can be harmful to human tissue. Do not expose any part of the human body to the vacuum.
 - AWARNING** Do not use this pump to remove refrigerant from a system. Use a recovery machine and filter to remove refrigerant and particles from the system BEFORE using this pump to evacuate the system. Some refrigerants are flammable.
 - AWARNING** Do not remove battery pack during use or in the presence of refrigerant. Sparks could ignite refrigerant.
 - Add oil before initial use. Do not operate pump without oil.
 - Use oil specifically refined for deep vacuum pumps.
 - Avoid contact on skin and clothing with oil.
 - After evacuation, drain oil immediately while pump is warm. Dispose of used oil properly.

- AWARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - lead from lead-based paint
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.
 Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SPECIFICATIONS	
Cat. No.	2941-20
Volts.	18 DC
Battery Type	M18™
Charger Type	M18™
Flow Rate	5 CFM
Ultimate Vacuum	25 Microns
Intake Ports	1/2", 3/8", 1/4"
Oil Capacity	18.6 oz
Weight (Tool-Only)	19 lbs
Recommended Ambient	
Operating Temperature.....	
32°F to 122°F	

SYMBOLLOGY



Volts



Direct Current



Low Battery



Power Button/LED



Manifold Mode On/Off



Valve Open



Oil Fill

CFM

Cubic Feet per Minute

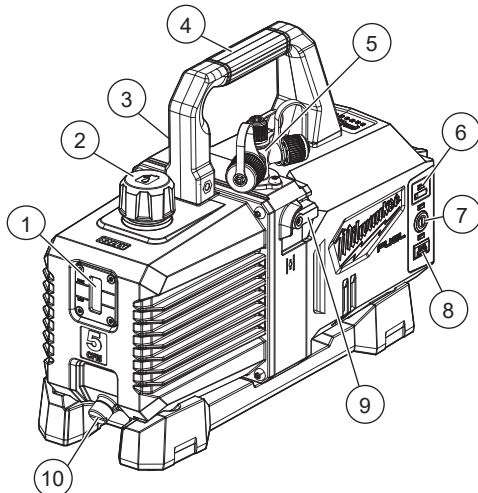


Read Operator's Manual



UL Listing for Canada and U.S.

FUNCTIONAL DESCRIPTION



- | | |
|----------------------|--------------------------|
| 1. Oil level window | 6. Low battery indicator |
| 2. Oil fill cap | 7. Power button/LED |
| 3. Gas ballast valve | 8. Manifold mode button |
| 4. Carry handle | 9. Isolation valve |
| 5. Intake fittings | 10. Oil drain |

ASSEMBLY

⚠ WARNING Recharge only with the charger specified for the battery. For specific charging instructions, read the operator's manual supplied with your charger and battery.

Removing/Inserting the Battery

To **remove** the battery, push in the release buttons and pull the battery pack away from the tool.

⚠ WARNING Always remove the battery pack any time the tool is not in use.

To **insert** the battery, slide the pack into the body of the tool. Make sure it latches securely into place.

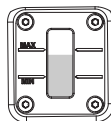
⚠ WARNING Only use accessories specifically recommended for this tool. Others may be hazardous.

Adding Oil

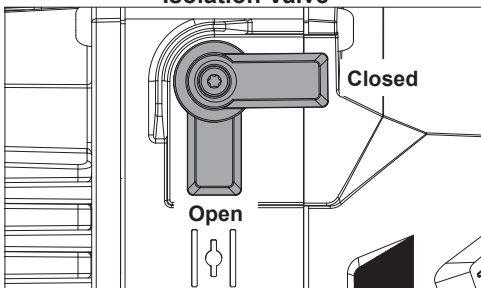
⚠ WARNING Add oil before initial use. Do not operate pump without oil.

Only use oil specifically refined for deep vacuum pumps.

1. Twist open the oil fill cap.
2. Slowly add oil into the oil reservoir until level is between the MIN and MAX markings.
3. Replace oil fill cap.
4. Monitor oil level during use.



Isolation Valve



Manifold Mode

When using a manifold, turn on Manifold mode for best performance.

Low Battery Mode

When battery capacity reaches 5 minutes of runtime remaining, the pump will enter low battery mode. The low battery LED will light and a buzzer will sound. The pump will reduce in speed to conserve runtime and maintain vacuum. Replace battery.

Thermal Overload

If the power button LED begins blinking, the tool has entered thermal overload protection and cannot be restarted until the pump has cooled down.

Selecting Hoses

For best performance, use vacuum rated hoses directly connected to the pump that are as short and of the widest diameter possible. Inspect hoses before operation and replace if worn. When using a manifold, a 4-port manifold is recommended.

OPERATION

WARNING To reduce the risk of injury, always wear proper eye protection marked to comply with ANSI Z87.1.

Priming

NOTICE The pump is shipped without oil and must be primed for initial use.

To ready the pump for first time use, either:

- Add oil and run the pump for 30 minutes. Change the oil (or let the oil cool down before beginning work).
- Add oil and wait 1 hour before beginning work.

General Operation

1. Check oil level.
2. Insert battery pack.
3. Open the gas ballast valve.
4. Make hose connections to the pump either directly or using a manifold.
5. Open one intake port and close the isolation valve, close gas ballast valve, and turn pump on.
6. Make vacuum connections and slowly open isolation valve.
7. Slowly open the gas ballast valve at the beginning of the evacuation process.
8. After pump settles down from initial volume of air, close ballast valve and continue evacuating.
9. When finished, close the isolation valve and fully open the gas ballast valve.
10. Operate the pump for 2-3 more seconds, then turn off the pump and close the gas ballast valve.
11. Remove hose connections and cap the intake fittings.

Troubleshooting

Problem	Cause	Correction
Pump won't start and power button LED is blinking white	Pump is outside temperature range (32° to 122°F) and the temperature protection mode is engaged	Bring pump into temperature range
	Air leak in system or setup	Inspect for leaks
Pump won't start and power button LED is off	Tool has been damaged	Contact a MILWAUKEE service facility
	Oil level is filled past max	Remove oil
	The internal check valve is sealed	Remove the fitting caps, open the isolation valve, and turn the pump on to atmosphere
	Pump is cold	Bring pump into temperature range
	The tool has been damaged	Contact a MILWAUKEE service facility

Pump won't pull a deep vacuum	Contaminated oil	Change oil
	Oil level too low	Add oil
	Air leak in system or setup	Prime system
	Pump inlet fittings missing or not tightened	Tighten or replace fittings
Pump shuts down and then low battery indicator is flashing red, with audible beep	Missing or damaged seals or o-rings	Contact a MILWAUKEE service facility
	Gas ballast valve is open	Close gas ballast valve
Pump sounds slower	Low battery	Replace battery
Pump has stopped during an evacuation and Power button LED is blinking white	Manifold mode is engaged	Normal operation
	Cold temperatures are causing the pump to warm up	Continue to warm up tool according to directions
	The tool is entering low battery mode to allow the most time for alerts	Change/replace battery pack
	Tool is damaged	Contact a MILWAUKEE service facility
	Gas ballast is open and pump has run for more than 20 minutes	Close gas ballast, wait for power button LED to stop blinking

MAINTENANCE

⚠WARNING To reduce the risk of injury, always unplug the charger and remove the battery pack from the charger or tool before performing any maintenance. Never disassemble the battery pack, charger, or tool, except as provided in these instructions. Contact a MILWAUKEE service facility for all other repairs.

Changing Oil

After each use, while pump is warm and oil is thinner, place pump on level surface and open oil drain. Oil can be forced from the pump by opening one intake and partially blocking the exhaust with a cloth then running the pump. DO NOT operate the pump for more than 20 seconds using this method. Dispose of used oil properly.

Flushing Oil

If the oil is severely contaminated, flushing may be required. With the oil drain open, slowly add oil into the reservoir while pump is running until contamination is removed. Dispose of flushed oil properly.

Maintaining Tool

Keep your tool, battery pack and charger in good repair by adopting a regular maintenance program. Inspect your tool for issues such as undue noise, misalignment or binding of moving parts, breakage of parts, or any other condition that may affect the tool operation. Return the tool, battery pack, and charger to a MILWAUKEE service facility for repair. After six months to one year, depending on use, return the tool, battery pack and charger to a MILWAUKEE service facility for inspection.

If the tool does not start or operate at full power with a fully charged battery pack, clean the contacts on the battery pack. If the tool still does not work properly, return the tool, charger and battery pack, to a MILWAUKEE service facility for repairs.

⚠WARNING To reduce the risk of personal injury and damage, never immerse your tool, battery pack or charger in liquid or allow a liquid to flow inside them.

Cleaning

Clean dust and debris from any vents. Keep tool clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean, since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

Storage

Store pump with oil reservoir filled. Do not fully drain pump unless oil will be replaced immediately with new oil.

Repairs

For repairs, return the tool, battery pack and charger to the nearest authorized service center.

ACCESSORIES

⚠WARNING Use only recommended accessories. Others may be hazardous.

For a complete listing of accessories, go online to www.milwaukeekeetool.com or contact a distributor.

SERVICE - UNITED STATES

1-800-SAWDUST (1.800.729.3878)

Monday-Friday, 7:00 AM - 6:30 PM CST

or visit www.milwaukeekeetool.com

Contact Corporate After Sales Service Technical Support with technical, service/repair, or warranty questions.

Email: metproductsupport@milwaukeekeetool.com

Become a Heavy Duty Club Member at www.milwaukeekeetool.com to receive important notifications regarding your tool purchases.

SERVICE - CANADA

Milwaukee Tool (Canada) Ltd

1.877.948.2360

Monday-Friday, 7:00 AM - 4:30 PM CST

or visit www.milwaukeekeetool.ca

LIMITED WARRANTY USA & CANADA

This MILWAUKEE power tool* is warranted to the original purchaser from an authorized MILWAUKEE distributor only to be free from defects in material and workmanship. Subject to certain exceptions, MILWAUKEE will repair or replace any part on this power tool which, after examination, is determined by MILWAUKEE to be defective in material or workmanship for a period of two (2) years after the date of purchase unless otherwise noted. Return of the power tool to a MILWAUKEE factory Service Center location or MILWAUKEE Authorized Service Station, freight prepaid and insured, is required. A copy of the proof of purchase should be included with the return product. This warranty does not apply to damage that MILWAUKEE determines to be from repairs made or attempted by anyone other than MILWAUKEE authorized personnel, misuse, alterations, abuse, normal wear and tear, lack of maintenance, or accidents.

Normal Wear: Many power tools need periodic parts replacement and service to achieve best performance. This warranty does not cover repair when normal use has exhausted the life of a part including, but not limited to, chucks, brushes, cords, saw shoes, blade clamps, o-rings, seals, bumpers, driver blades, pistons, strikers, lifters, and bumper cover washers.

*This warranty does not cover battery packs or all power tools. Refer to the separate and distinct warranties available for those products.

The warranty period for the LED in the LED Work Light (49-24-0171) and the LED Upgrade Bulb (49-81-0090) is the lifetime of the product subject to the limitations above. If during normal use the LED or LED Upgrade Bulb fails, the part will be replaced free of charge.

Warranty Registration is not necessary to obtain the applicable warranty on a MILWAUKEE power tool product. The manufacturing date of the product will be used to determine the warranty period if no proof of purchase is provided at the time warranty service is requested.

ACCEPTANCE OF THE EXCLUSIVE REPAIR AND REPLACEMENT REMEDIES DESCRIBED HEREIN IS A CONDITION OF THE CONTRACT FOR THE PURCHASE OF EVERY MILWAUKEE PRODUCT. IF YOU DO NOT AGREE TO THIS CONDITION, YOU SHOULD NOT PURCHASE THE PRODUCT. IN NO EVENT SHALL MILWAUKEE BE LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES, WRITTEN OR ORAL. TO THE EXTENT PERMITTED BY LAW, MILWAUKEE DISCLAIMS ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE; TO THE EXTENT SUCH DISCLAIMER IS NOT PERMITTED BY LAW, SUCH IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THE APPLICABLE EXPRESS WARRANTY AS DESCRIBED ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

This warranty applies to product sold in the U.S.A. and Canada only. Please consult the "Service Center Search" in the Parts & Service section of MILWAUKEE's website www.milwaukeekeetool.com or call 1.800.SAWDUST (1.800.729.3878) to locate your nearest service facility for warranty and non-warranty service on a MILWAUKEE power tool.