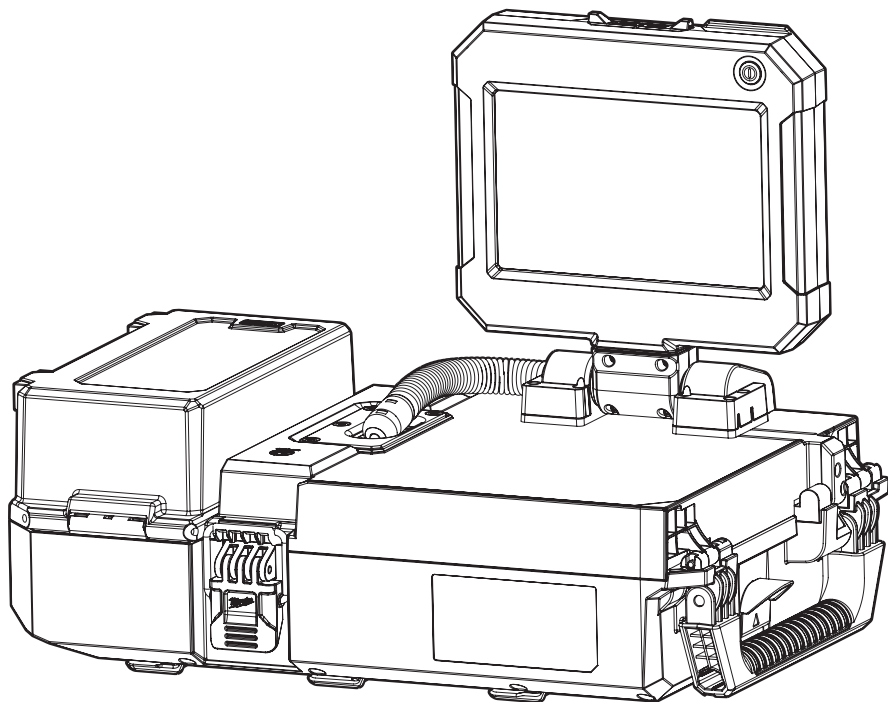




OPERATOR'S MANUAL



Cat. No.
M12 POPIC

M12™ PACKOUT™ PIPELINE INSPECTION CAMERA

WARNING

 To reduce the risk of injury, user must read and understand operator's 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 residual current device (RCD) protected supply. Use of a RCD 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 energising 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 jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery 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 behaviour 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 130°C (265°F) 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.

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 authorised service providers.

SPECIFIC SAFETY RULES FOR INSPECTION CAMERA

- This Inspection camera is not intended for medical use or personal inspection.
- Do not store the tool in an area of high heat or humidity. Do not expose the tool to extended high heat from the sun (such as on a vehicle dashboard.) Damage to the product or the battery pack can result.
- For indoor use.
- Use latex or rubber gloves, goggles, face shields, protective clothing, and respirator when chemicals, bacteria or other toxic or infectious substances are suspected to be in a drain line. Drains may contain chemicals, bacteria and other substances that may cause burns, be toxic or infectious or may result in other serious personal injury.
- Practice good hygiene. Do not eat or smoke while handling or operating the tool. After handling or operating equipment, use hot, soapy water to wash hands and other body parts exposed to drain contents. This will help reduce the risk of health hazards due to exposure to toxic or infectious material.
- Always check the work area before beginning a job. Do not allow cable to contact electrical, chemical, or moving hazards.
- Do not use the cable to clear clogs or move obstructions. This is not a drain cleaner.
- Inspect cable for wear and damage before use. Do not twist, kink or over bend cables. Replace a worn or damaged cable before use.

- To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them.

⚠WARNING To reduce the risk of injury, when working in dusty situations, wear appropriate respiratory protection or use a suitable dust extraction solution.

- 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 replacement.

⚠WARNING 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.

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE USE

ADDITIONAL BATTERY SAFETY RULES

⚠WARNING To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach-containing products, etc., can cause a short circuit.

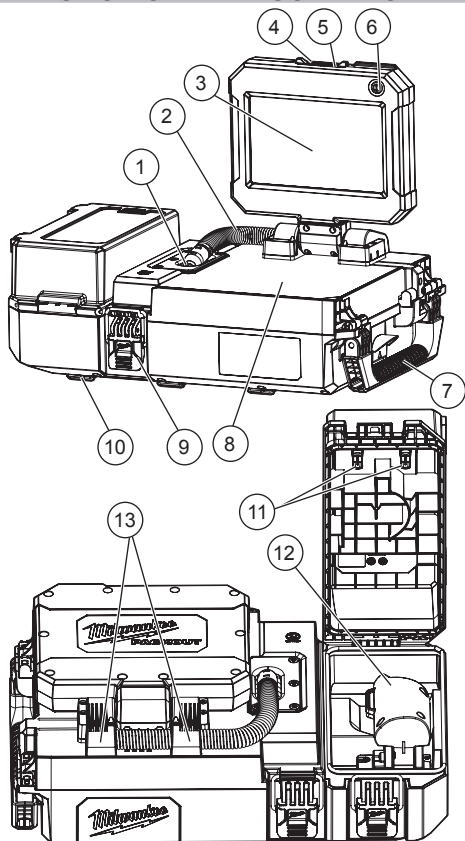
⚠WARNING Do not charge non-rechargeable batteries.

- Do not disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
- Do not leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
- Do not expose the battery to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

SPECIFICATIONS

Cat. No.....	M12 POPIC
Volts.....	12 V DC
Battery Type.....	M12™
Charger Type.....	M12™
USB Output.....	5V DC / 1A
Cable Length.....	23 m (75')
Memory Card.....	Micro SD
Display Resolution.....	1280 x 720
Camera Head Diameter.....	18.5 mm
Drop Rating.....	1 m (3')
Operating Altitude.....	up to 2000 m
Maximum Relative Humidity (RH).....	80%
	for up to 31° C
Decreasing Linearly Relative Humidity (RH)....	50%
	at 40° C
Recommended Ambient	
Camera Temperature.....	-20°C to 40°C
Storage Temperature.....	-30°C to 70°C
Operating Temperature.....	-20°C to 40°C

FUNCTIONAL DESCRIPTION



- Feed tube
- Camera spring
- LCD screen
- USB-A slot
- Memory card slot
- Power button
- Handle
- Drum compartment
- Latches
- Rubber feet (replaceable)
- Skid storage clips
- Battery bay
- Camera spring storage

SYMBOLGY



Volts



Direct Current



Wear eye protection.



Read Operator's Manual



Do not stare at the operating light source.



Do not allow battery to contact corrosive or conductive fluid.



Risk of Electric Shock



Regulatory Compliance mark (RCM). This product meets applicable regulatory requirements.



Do not dispose of electric tools together with household waste material. Electric tools and electronic equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

ASSEMBLY

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

Inserting/Removing the Battery

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

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

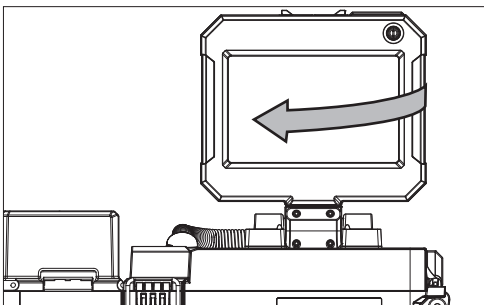
To remove the battery, push in the release buttons and pull the battery pack away from the tool.

WARNING Only use accessories specifically recommended for this tool.

Others may be hazardous.

Rotating Screen

To rotate the screen for ease of use, grasp the LCD housing and turn clockwise.



Battery Level

The level of battery is displayed in the upper right corner of the LCD screen. See "Inserting/Removing the Battery" section.

Low Battery

The low battery indicator will flash in the upper right corner. Once the battery dies, the low battery indicator will appear in the center of the screen, and the tool will shut off. See "Inserting/Removing the Battery" section.

Removing/Installing the Springing Camera

To remove the springing camera:

1. **WARNING** Remove battery to avoid starting the tool.
2. Keep battery compartment closed.
3. Use provided wrench to grab onto flats on the spring to unscrew.
4. Make sure the contacts are clean of debris.
5. To **install** the springing camera, attach the new camera and hand tighten with the wrench.

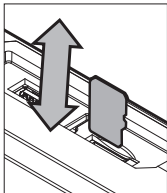
Deploying/Retracting Cable

Push the reel back into the feed tube. The inside holder (located inside the drum compartment) keeps the cable in place. Store the drain spring cable inside the drum compartment or in the storage hold on top of the drum compartment.

Inserting/Removing the Memory Card

The number of photos/videos that can be saved is based on the size of the memory card.

1. Open the protective cover to access the memory card slot.
2. Slide the memory card into the slot, the top of the card should face away from the LCD screen. Press in the card securely. It should click in place.
3. Close the protective cover.
4. To **remove** the memory card, press it in and release. It will pop out.



NOTE: To save photos/videos to the memory card, it must not be "locked" with the write-protection tab in the lower position.

Formatting a New Memory Card

The product has a pre-installed exFAT formatted memory card. If no exFAT memory card is inserted, the icon  with the SD CARD FORMAT ERROR prompt will display and the user will be prompted to format.

To format an exFAT memory card, press the REFORMAT button, then press the YES button.

A FORMATTING SD CARD IN PROGRESS prompt will display during formatting. When the formatting is completed, the icon  with the SD CARD FORMAT SUCCESSFUL prompt will display.

Using the USB-A port

Export pictures or video to a thumb drive. When not in use keep USB-A port cover closed.

OPERATION

WARNING To reduce the risk of injury, always wear proper eye protection marked to comply with AS/NZS 1337.1.

When working in dusty situations, wear appropriate respiratory protection or use a suitable dust extraction solution.

To reduce the risk of explosion, electric shock and property damage, always check the work area before beginning a job. Do not allow cable to contact electrical, chemical, or moving hazards.

Behind walls: Shut off circuit breakers to the entire area.

Inside pipes: Ensure there is no electrical charge to the pipes before beginning inspection.

Do not allow liquid to flow down cable and into tool.

Vehicle use: Turn off the engine and allow to cool before beginning inspection to avoid burns. Do not use in fuel or oil tanks that have not been properly flushed and cleaned.

NOTICE To reduce the risk of damage to the tool, do not use excessive force or "kink" the cable. Do not use in areas where camera and cable will contact gas, corrosive, or oily substances.

Turning On/Off

When the inspection camera is turned on and the camera is pointed at an object, the LCD screen will show the image the lens is pointing at.

To turn on:

1. Press and hold the power button.
2. Release the power button when the screen turns on.

To turn off:

1. Press and hold the power button.
2. Release the power button when the screen turns off.

How to feed/retract the cable into pipes

1. Wear nitro gloves.
2. Open the PACKOUT™ box and feed the springing camera through the feed tube. Latch the drum compartment closed.
3. Adjust the cable to best fit the opening. After checking the workspace for hazards, insert the cable.

NOTE: Cast iron pipe can be rigid or have sharp edges. To avoid abrasions on the cable, place a towel as a buffer between the cable and pipe.

4. Keep hands closer to access point while feeding the cable into the drain pipe. If there is too much cable out it can lead to kinking or bending of the cable.
5. To retract the cable, using a dry rag hold the cable to clean and feed back into the drum compartment.
6. Store the drain spring cable inside the drum compartment or in the storage hold on top of the drum compartment.

Icon Symbology

This tool has a touch screen that displays the icons below. The icons change based off current settings. If a setting is changed, the icon on the screen will be updated.

Symbol	Function
	Power button
	Battery level
	Low battery
	Camera brightness
	Zoom
	Rotate
	Hide/Show slider
	Settings
	Take a photo
	Record video
	No camera connected
	No memory card
	Tool overtemperature
	Battery overtemperature
	Controls location
	Controls auto-hide
	Screen brightness
	Mini-map
	Date & time
	Language
	Info
	Back to settings
	Back to camera

Camera LED Brightness

Once the tool is turned on, press the power button to cycle through the levels of brightness or turn it off. The level of brightness is displayed on the LCD.

Zoom Icon

Press the zoom icon to cycle through the 3 zoom levels. The level of zoom is displayed on the LCD.

Camera View Icon

Press the camera view icon to show the side view. Push the camera view icon again to return the image to the front camera view.

Edit Photo/Video Symbols	Function
	USB
	Micro SD
	Gallery
	Play
	Pause
	Delete
	Close
	Exit gallery
	Filters
	Select
	Select all
	Most recent first
	Most recent last

Save Photo Button

Press the save photo button to save a photo of the current view of the LCD screen.

Record Video Button

Press the record video button to start recording the current view of the LCD screen. Press the record video button again to stop recording.

Taking Photos/Videos

1. Adjust the cable to best fit the opening. After checking the workspace for hazards, insert the cable.
2. Use the zoom button to zoom in or out on the image.
3. Use the camera view icon to change the camera view.
4. Use the power icon to increase/decrease the camera LED brightness.
5. To save a photo, press the save video icon.
6. To record a video, press the record video icon.
NOTE: During a video recording, "rec" displays on the LCD and the time code starts counting up.
7. To end the video, press record video icon.

Gallery Mode

1. Press the gallery icon to enter gallery mode to view photos and videos saved on the memory card.
2. While in gallery mode, use the icons to move through the stored photos/videos.
3. Press the play/pause icon to play a saved video.
4. While a video is playing, press the play/pause icon to pause.
5. To delete a photo/video, press the delete icon then press yes to confirm the deletion.
6. To cancel a deletion, press the cancel icon.
7. To exit gallery mode, press the gallery icon.

No Memory Card Detected

The no camera indicator will display if a camera is not detected. Once a camera is detected this indicator will turn off.

Memory Card Missing

The memory card missing indicator will display if a memory card is not detected in the memory card slot.

No Media Detected

The no media detected indicator will display if there is no media detected on the memory card.

Memory Card Full

The memory card full indicator will display if the memory card is full.

Battery Overtemperature Indicator

If the battery overtemperature indicator comes on, remove the battery and allow the battery to cool.

MAINTENANCE

AWARNING 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 repairs.

Maintaining Tool

Keep the tool, battery pack and charger in good repair by adopting a regular maintenance program. Inspect the 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. Depending on use, periodically have an authorised service facility inspect and maintain the tool, battery, and charger to ensure proper performance.

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.

Replacing PACKOUT™ Rubber Feet

Remove the feet with a flat head screw driver and peel rubber feet off and replace as needed.

Replacing the Feed Tube

Remove the T-15 screws (5 total). Replace with new screws and feed tube. Hand tighten the screws.

AWARNING To reduce the risk of personal injury, electric shock and damage, never immerse your machine in liquid or allow a liquid to flow inside it.

Cleaning

Clean dust and debris from vents. Keep handles 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 petrol, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

ACCESSORIES

AWARNING Use only recommended accessories. Others may be hazardous.

For a complete listing of accessories, go online to milwaukeeetool.com.au / milwaukeeetool.co.nz or contact an authorised distributor.

WARRANTY - AUSTRALIA and NEW ZEALAND

Please refer to Australian and New Zealand warranty supplied with tool. This warranty applies only to product sold by authorised dealers in Australia and New Zealand.

SERVICE - AUSTRALIA and NEW ZEALAND

MILWAUKEE® prides itself in producing a premium quality product that is Nothing But Heavy Duty™. Your satisfaction with our products is very important to us! If you encounter any problems with the operation of this tool, please contact your authorised **MILWAUKEE®** dealer.

For a list of **MILWAUKEE®** dealers, guarantee or service agents please contact **MILWAUKEE®** Customer Service or visit our website.

(Australia Toll Free Telephone Number 1300 645 928)

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