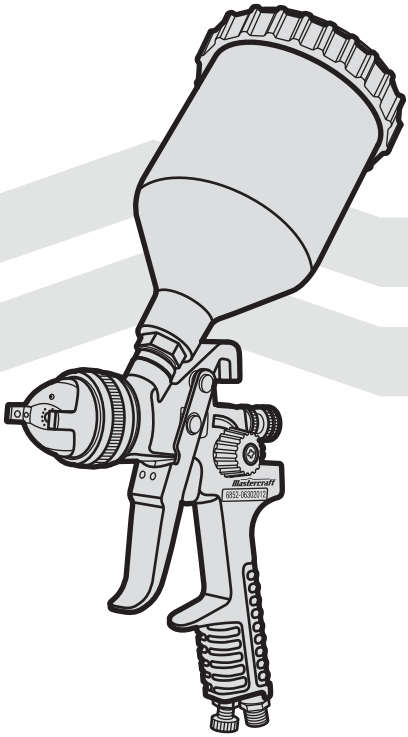
Mastercraft™



INSTRUCTION MANUAL

AIR-POWERED GRAVITY-FEED SPRAY GUN

058-9312-8

TABLE OF CONTENTS

2

TECHNICAL SPECIFICATIONS

FLUID DELIVERY	**Gravity**
FLUID NOZZLE SIZE	**1.4 mm**
AIR HOSE SIZE	**3/8"** *(9.5 mm)*
PAINT VISCOSITY	**Water–based paint**
FINISH QUALITY	**Best**
AVERAGE AIR CONSUMPTION	**9.5 SCFM @ 40 PSI**
AIR INLET	**1/4"** *(6.4 mm)* **18 NPT**
PAINT CAPACITY	**0.6 L**
OPERATING PRESSURE	**29–50 psi** *(2.0–3.5 bar)*
WEIGHT	**2 lb** *(0.9 kg)*

SCFM: Standard Cubic Feet per Minute (the volumetric flow rate of air corrected to standardized conditions of temperature and pressure).

NPT: Nominal Pipe Thread.

Environmental Responsibilities

Please recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

This manual contains information that relates to PROTECTING PERSONAL SAFETY and PREVENTING EQUIPMENT PROBLEMS. It is very important to read this manual carefully and understand it thoroughly before using the product. The symbols listed below are used to indicate this information.

DANGER!
Potential hazard that will result in serious injury or loss of life.

WARNING!
Potential hazard that could result in serious injury or loss of life.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

Note- The word “Note” is used to inform the reader of something he/she needs to know about the tool.

PERSONAL SAFETY

These precautions are intended for the personal safety of the user and others working with the user. Please take time to read and understand them.

SAFETY GUIDELINES

Note: Carefully read and understand all the instructions in this manual before using the Gravity-feed Spray Gun. Ensure that the operator of the tool has read and understood these instructions.

DANGER!

Potential hazard that will result in serious injury or loss of life.

- **Keep children away** from the work area. Do not allow children to handle power tools.
- **Do not point the tool towards yourself or other people, even when the tool has stopped**. Keep hands, feet, and all other parts of the body clear from work area.
- **Never use homogenate hydrocarbon solvent**, which can chemically react with aluminium and zinc parts and which is not chemically compatible with aluminium and zinc parts.

- **Risk of electric shock:** Do not expose a compressor to rain. Store it indoors. Disconnect the compressor from the power source before servicing. Compressor must be grounded. Do not use grounding adaptors.

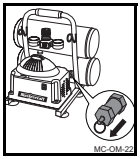
- **Risk of personal injury:** Do not direct compressed air from the air hose towards the user or other persons.

- **Risk for breathing:** Never directly inhale the air produced by the compressor. Use the spray gun in a well ventilated area.

- **Risk of burns:** The pump and the manifold generate high temperatures. In order to avoid burns or other injuries, do not touch the pump, the manifold, or the transfer tube while the compressor is running. Allow the parts to cool down before handling or servicing. Keep children away from the compressor at all times.

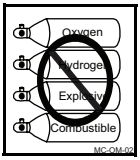
- **Risk of bursting:** Do not adjust the pressure switch or safety valve for any reason. They have been preset at the factory for this compressor's maximum pressure. Tampering with the pressure switch or the safety valve may cause personal injury or property damage.

- **Risk of bursting:** Make sure the regulator is adjusted so that the compressor outlet pressure is set lower than the maximum operating pressure of the tool. Before starting the compressor, pull the ring on the safety valve to make sure the valve moves freely. Drain water from tank after each use. Do not weld or repair tank. Relieve all pressure in the hose before removing or attaching accessories.



- **Do not use this tool in the presence of flammable liquids or gases:** Sparks that are created during use may ignite gases. Please use the tool in a well-ventilated area only and avoid any ignition sources such as smoking and open flames.

- **Do not use oxygen or any other combustible or bottled gas** to power air-powered tools. Failure to observe this warning can cause explosion and serious personal injury or death. Use only compressed air to power air-powered tools. Use a minimum of 25' (7.6 m) of hose to connect the tool to the compressor. Failure to comply will result in serious injury or loss of life.

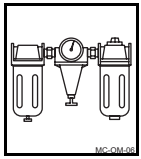


SAFETY GUIDELINES

WARNING!
Potential hazard that could result in serious injury or loss of life.

- **Do not allow unskilled or untrained individuals to operate** the Gravity-feed Spray Gun.
- **Use components recommended by manufacturers:** Never modify the tool for other applications. Use only parts, nozzles, and accessories with specifications as mentioned in this manual *(see section "Technical specifications")*.
- **Inspect the tool components and attachments before operation** and ensure that they are assembled properly and are not damaged. Failure to comply could lead to serious injury or loss of life.
- **Locate the compressor in a well-ventilated area** for cooling, at a minimum of 12" (31 cm) away from the nearest wall.
- **Protect the air hose and the power cord from damage and puncture. Inspect them for weak or worn spots every week**, and replace them if necessary.
- **Always wear hearing protection** when using the air compressor. Failure to do so may result in hearing loss.
- **Do not carry the compressor while it is running**.
- **Do not operate the compressor if it is not in a stable position**.
- **Do not operate the compressor on a rooftop or in elevated position** that could allow the unit to fall or be tipped over.
- **Always replace a damaged gauge** before operating the unit again.

- **Use compressed air at regulated pressure**: Always use clean, dry, and compressed air at the regulated pressure. Do not exceed the maximum operating pressure of 80 PSI. Failure to comply could lead to serious injury or loss of life.



CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- **Keep proper footing at all times in order to ensure correct balance.**
- Do not use a tool that is leaking air, that has missing or damaged parts, or that requires repairs. **Verify that all screws are securely tightened.**
- For optimal safety and tool performance, **inspect the tool daily** in order to ensure free movement of the trigger, safety mechanisms, and springs.
- **Ensure proper tool operation before painting.** Before painting, inspect to ensure free movement of the trigger and nozzle.
- **Check the tightness of screws before operating the tool.** Before operating the tool, make sure all the screws and caps are securely tightened to prevent leakage.
- **Keep the work area clean.** A cluttered or dirty workbench may lead to an accident. Floors should be kept clear.
- **Handling and storage of oil:** Use with adequate ventilation. Avoid contact of oil with eyes, skin, and clothing. Avoid breathing spray or mist. Store in a tightly closed container in a cool, dry, well-ventilated area free from incompatible substances.
- **Do not use the tool near or below freezing temperatures**, as doing so may cause tool failure.
- **Do not store the tool in a freezing environment** to prevent ice formation on the operating valves of the tool, which may cause tool failure.

- **Disconnect the spray gun from the air supply hose and turn off the compressor** before performing any maintenance, when the tool is not in use, when it is being handed to another person, and when it is left unattended. It is recommended to use a ball valve in the gun to air supply, for emergency stoppage and to prevent unintended operation.

8

SAFETY GUIDELINES

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

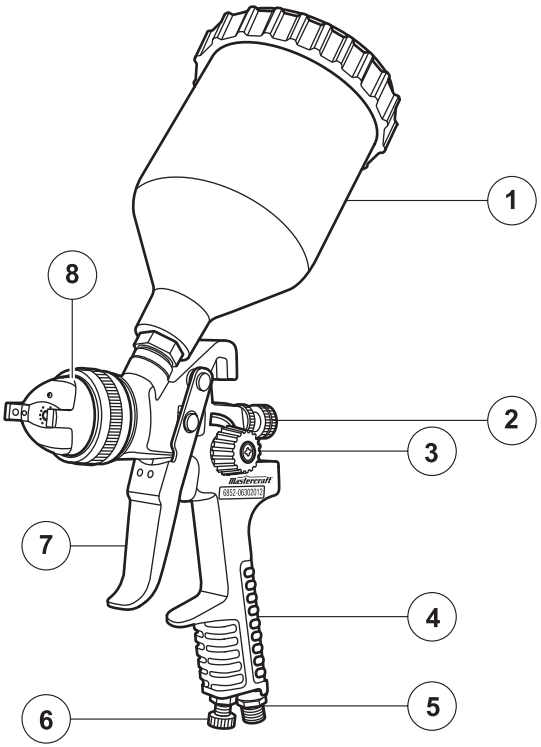
- **Use safety respirator:** Toxic vapours produced by spraying certain materials can cause serious damage to health. Always wear safety gloves and a respirator to prevent hazards caused by inhaling toxic vapour or contact of solvent and paint with eyes or skin. Failure to comply may result in moderate injury.

- **Use safety goggles and ear protection:**
  Wear safety glasses with side shields when operating the tool/compressor and verify that others in the work area are also wearing safety glasses. Safety glasses must conform to American National Standards Institute (ANSI Z87.1) requirements and must provide protection from flying particles from the front and the sides.

  Air-powered tools are loud and the sound can cause hearing damage. Always wear ear protection to help prevent hearing damage and loss. Failure to comply may result in moderate injury.

Note: Recycle the unwanted materials rather than disposing them as waste. Sort tools, hoses, and packaging into separate categories and take them to the local recycling centre or dispose them in an environmentally safe way.

KEY PARTS DIAGRAM



MC-589312-01

No.	Description	No.	Description
1	Plastic canister	5	Air inlet plug
2	Paint adjusting knob	6	Air adjusting knob
3	Pattern adjusting knob	7	Trigger
4	Gun body	8	Air cap nozzle and needle

General use

This Mastercraft® Air-powered Gravity-feed Spray Gun is an HVLP or high-volume low-pressure sprayer. This tool applies paint with less force, reducing the bounce of the material from the surface to be painted. It features a stainless steel needle and nozzle to accommodate a variety of coatings. The spray gun is capable of forming very large patterns.

Compatible compressors and air tool

GUIDELINES FOR PROPER USE AND OPERATION

Be sure to use the proper air compressor with Mastercraft® air-powered tools. The compressor should be able to supply a minimal air delivery of 5.1 SCFM @ 40PSI to ensure it can run continuously with the Mastercraft Air-powered Gravity-feed Spray Gun. Using tools or combinations of tools that together or separately require more than the air compressor can deliver will reduce performance and could void the compressor or tool guarantee/warranty.

Air Compressor Size and Power	1 1/2–2 HP	2 1/2–3 HP	3 HP and more
5–6 Gallons	Light-duty and intermittent use	Light-duty and intermittent use	Light-duty and intermittent use
8–11 Gallons	Light-duty and intermittent use	Medium-duty and intermittent use	Medium-duty and intermittent use
15 Gallons and more	Medium-duty and intermittent use	Heavy-duty and continuous use	Heavy-duty and continuous use

Storage

- Rotate the paint adjusting knob in a counter-clockwise direction and open the knob when the gun is not in use. This will reduce spring tension on the needle fluid tip.
- Clean the Air-powered Gravity-feed Spray Gun thoroughly and slightly lubricate it, after the and before storage.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Incomplete or improper cleaning could cause function failures and a degradation of the tool. Failure to comply may result in moderate injury or damage to equipment.

Before assembly and preparation

WARNING!
Potential hazard that could result in serious injury or loss of life.

- Do not exceed the maximum pressure for the Air-powered Gravity-feed Spray Gun or any other parts in the compressor system. Failure to comply could lead to serious injury or loss of life.
- Never aim or spray at yourself or anybody else as this could cause serious injury. Failure to comply could lead to serious injury or loss of life.

- After unpacking the tool, inspect it carefully and check thoroughly for any damage that may have occurred during transit. Ensure the tightness of fittings, bolts, etc., before performing service operation.

Paint filling

- Mixing and thinning of paint should be performed in accordance with the paint manufacturer's instructions. Most materials readily spray if thinning is properly performed.

Note: Always thin the paint with care.

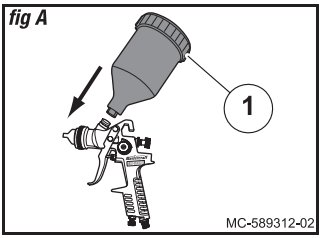
CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

- Do not exceed the thinning recommendations of the paint manufacturer. Failure to comply may result in moderate injury or damage to equipment.

1. Attach the empty canister (1) to the spray gun by lining up the threads then holding the gun stationary and twisting the canister clockwise until snug *(fig A)*.

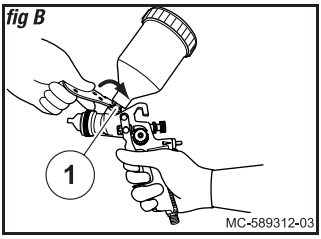
Note: Do not tighten the canister too much by hand, as doing so may break the plastic canister.

fig A



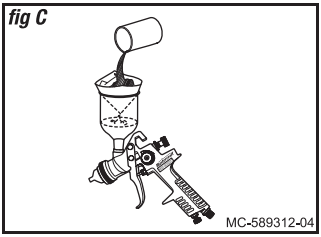
2. Use the wrench provided and tighten the nut (1) securely to ensure paint does not leak *(fig B)*.

fig B



3. Pour paint through a strainer, cheese cloth or paint strainer to remove any foreign substances from the paint *(fig C)*.
4. Fill the canister three quarters full with paint.
5. Plug in compressor, turn it on set the pressure regulator to 40PSI, attach one end of the air hose to the compressor and the other end of the air hose to the spray gun. The spray gun is now ready for use.
6. After connecting the spray gun to the air supply, ensure the fluid cap, canister, and air hose are tightly connected to the Air-powered Gravity-feed Spray Gun.

fig C



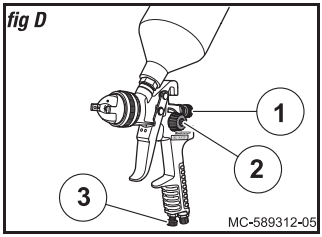
7. Use a piece of cardboard or other scrap material as a target for trial spraying and adjust for desired spray pattern.

8. Test the consistency of the paint by making a few strokes on a cardboard target. If the stroke appears to be very thick, add a small amount of thinner.

Adjustments

The Gravity-feed Spray Gun has a pattern adjusting knob (1), a paint adjusting knob (2), and an air adjusting knob (3) that are used to obtain the desired pattern, to control the output volume of paint, and to obtain fine atomization, respectively *(fig D)*.

fig D



PATTERN ADJUSTMENT

Rotate the pattern adjusting knob in a clockwise direction to form a circular spray pattern and rotate the knob in a counter-clockwise direction to form an elliptical spray pattern.

PAINT ADJUSTMENT

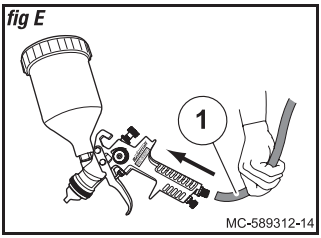
Rotate the paint adjusting knob clockwise to reduce the output volume of paint and rotate the knob in a counter-clockwise direction to increase the output volume of paint.

AIR VOLUME ADJUSTMENT

Rotate the air adjusting knob clockwise to reduce the output volume of air and rotate the knob in a counter-clockwise direction to increase the output volume of air.

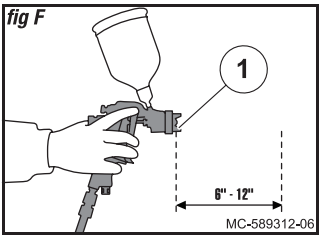
Operation

1. Plug in compressor, turn it on, set the pressure regulator to 40 PSI, attach one end of the air hose to the compressor and the other end of the air hose (1) to the air tool *(fig E)*.

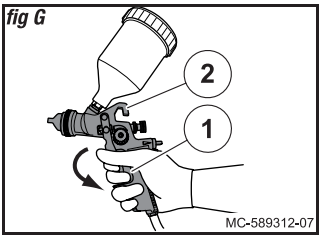


2. Hold the gun (1) so that the nozzle is approximately 6" to 12" from the work surface, perpendicular to the spraying area *(fig F)*.

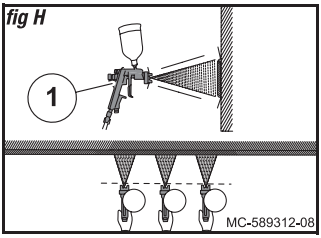
Note: Do some practice sprays to check and adjust the spray pattern and gun set up, using a spare surface (scrap piece of metal).



3. Squeeze the trigger (1) of the spray gun (2). Start moving the gun before pressing the trigger and release the trigger before stopping the gun movement at the end of each stroke. This procedure will blend each stroke with the next without overlap or unevenness *(fig G)*.



4. Move the gun (1) at a constant pace in a back and forth parallel direction, maintaining a uniform distance from the surface to be painted *(fig H)*.
5. Repeat the strokes until a uniform coating is formed.

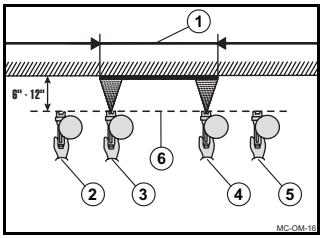


Note: Use a piece of cardboard as a shield to capture the loss of spray paint at the ends of the workpiece to protect other surfaces from being painted.

- The speed of the stroke, the distance from the work surface, and the setting of the paint adjusting knob vary the amount of paint being applied.

DO'S

Always move the gun in a parallel direction.

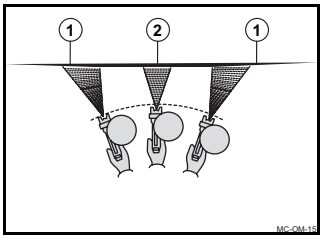


1. Uniform coating region
2. Stroke starting position
3. Trigger pressing position
4. Trigger releasing position
5. Stroke stopping position
6. Gun movement path

DON'TS

Do not press the trigger with the gun at an inclined or angled position.

Do not stop the sprayer movement in between strokes, as this will cause a build-up of paint and result in runs.



1. Improper/thin coating region
2. Uniform/thick coating region

Note: Two proper and uniform thin coats of paint, rather than one thick layer, will yield better results and reduce the chance of runs.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

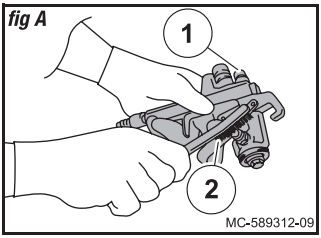
- Do not fan the gun while painting. This will cause a build-up of paint in the centre of the stroke and an insufficient coating at the ends. Failure to comply may result in moderate injury or damage to equipment.

Care of spray gun

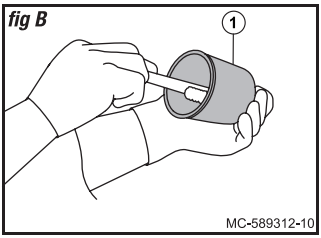
The spray gun should be cleaned at every use. The paint remaining inside the gun thickens and may damage the inner components and mechanism of the gun.

Washing procedure

1. Cover the air cap with a cloth and pull the trigger. The air that is blown out of the paint nozzle tip enters the paint passage and cleans the inside of the gun.
2. Discard the paint remaining in the canister and add some thinner for washing and to blow out the gun.
3. Clean the inside and outside of the spray gun (1) with a brush (2) *(fig A)*.



4. Clean the inside of the paint canister (1) *(fig B)*.



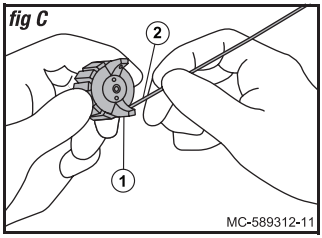
5. Remove and clean the inside and outside of the air cap with a brush soaked in cleaning solvent.

MAINTENANCE

Note: Wash the air cap (1) carefully without causing any damage to its air hole as this would affect the spraying pattern. Never use a steel wire or wire brush for cleaning. If the air hole is clogged, clean it using a wooden toothpick (2) *(fig C)*.

Note: When it is hard to get rid of the stuck paint, wash it after soaking it in lacquer thinner.

fig C



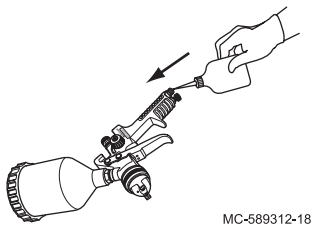
CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Ensure that the needle is removed before disassembling the nozzle, to avoid damage to the nozzle closure housing. Failure to comply may result in moderate injury or damage to equipment.

MAINTENANCE REQUIRED	DESCRIPTION	TOOLS OR MATERIALS REQUIRED	MAXIMUM SERVICE INTERVAL		
			Each Use or every 2 Hrs	Monthly	As Needed
General inspection – free movement	Trigger, spring, safety mechanism	None	X		
In-depth inspection	Worn or broken parts			X	X
Replace worn or broken parts					X
Lubrication	See below	Pneumatic tool oil	X		

- Lubrication: If the Gravity-feed Spray Gun and compressor are not equipped with an in-line lubrication system, place up to 6 drops of pneumatic tool oil into the air inlet before each work day or after every 2 hours of continuous use, depending on the characteristics of the workpiece used.



MC-589312-18

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Incomplete cleaning could cause function failures and a degradation of the tool. Failure to comply may result in moderate injury or damage to equipment.

- Remove the remaining paint by pouring it into another container.
- Disassemble the Air-powered Gravity-feed Spray Gun. Ensure that the needle is removed before disassembling the nozzle to avoid damage to the housing of the nozzle closure.
- Clean all the paint passages, nozzle, and other components using a brush soaked in cleaning solvent.
- Reassemble the spray gun and spray a small quantity of solvent to remove any residues in the paint passages.

WARNING!

Potential hazard that could result in serious injury or loss of life.

- Do not use metal or other objects that could damage the holes in nozzle and cap.
- Never immerse the spray gun completely in solvent.
- Do not use components or parts that are not recommended. Failure to comply could lead to serious injury or loss of life.

Troubleshooting

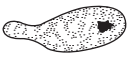
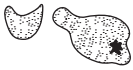
The following chart lists common issues and solutions. Please read it carefully and follow all instructions closely.

WARNING!
Potential hazard that could result in serious injury or loss of life.

- If any of the following symptoms appear while the tool is in use, turn it off and disconnect it from the air supply immediately. Failure to heed this warning could result in serious personal injury.

- Disconnect electrical plug and air supply from the tool before making any adjustments.
- Repairs must be performed by a qualified service technician only.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Fluttering or spitting  MC-OM-08	1. Paint level is too low. 2. Container is tipped too far. 3. Fluid inlet connection is loose. 4. Fluid tip/seat is loosened or damaged. 5. Fluid needle packing nut is dry or loose. 6. Air vent is clogged.	1. Add paint inside the container. 2. Hold the container in upright position. 3. Tighten the fluid connection. 4. Adjust or replace the fluid tip/seat. 5. Lubricate and/or tighten the nut. 6. Clear the vent hole.
Arc-shaped pattern  MC-OM-09	1. Fluid nozzle is worn or loose. 2. Paint has built up on air cap.	1. Tighten or replace fluid nozzle. 2. Remove obstructions from holes, but don't use metal objects to clean it.

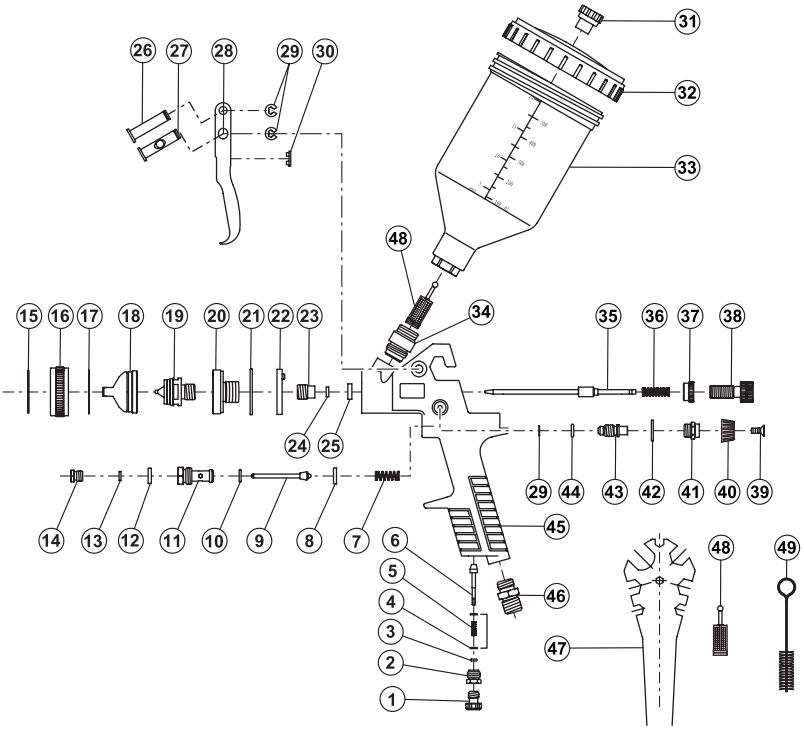
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Pattern is not spread uniformly  MC-OM-10	1. Paint has built up on air cap. 2. Fluid nozzle is dirty or worn.	1. Clean or replace air cap. 2. Clean or replace fluid nozzle.
Centre of pattern is too narrow MC-OM-11	1. Paint is too thin or insufficient quantity. 2. Atomization air pressure is too high.	1. Regulate paint viscosity. 2. Reduce air pressure.
Width of spray pattern is too narrow  MC-OM-12	1. Paint is too thick. 2. Atomization air pressure is too low.	1. Regulate paint viscosity. 2. Increase air pressure.
Air leakage from air cap when trigger is not pressed	1. Air valve stem is stuck. 2. Air valve or seat is contaminated. 3. Air valve or seat is worn or damaged. 4. Air valve spring is broken. 5. Valve stem is bent.	1. Lubricate the air valve stem. 2. Clean the air valve or seat. 3. Replace the air valve or seat. 4. Replace the air valve spring. 5. Replace the valve stem.
Fluid leakage from packing nut	1. Packing nut is loose. 2. Packing nut is worn or dry.	1. Tighten, but do not restrict the needle movement. 2. Replace or lubricate (non-silicone oil).
Excessive overspray	1. Atomization pressure is too high. 2. Work surface is too far. 3. Improper stroking (arcing, gun motion are too fast).	1. Reduce the air pressure. 2. Adjust to proper distance. 3. Move at moderate pace, parallel to work surface.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
No spray	1. No pressure in gun. 2. Fluid control is not properly opened. 3. Fluid is too thick or heavy.	1. Check air lines. 2. Open the fluid control. 3. Thin the fluid or change to pressure feed system.

Note: For further repair information, please call 1-800-689-9928.

EXPLODED VIEW



MC-589312-12

PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
1	Air adjusting screw	1	26	Trigger pin I	1
2	Air adjusting knob	1	27	Trigger pin II	1
3	O-ring 2.5 X 2.1	1	28	Trigger	1
4	Washer	1	29	Snap retainer	3
5	Air inlet spring	1	30	Trigger washer	1
6	Air inlet valve	1	31	Ventilator head	1
7	Switch spring	1	32	Canister cover	1
8	Air valve body	1	33	Canister	1
9	Switch knob	1	34	Fluid inlet plug	1
10	O-ring 8.5 X 1.2	1	35	Fluid adjusting needle	1
11	Switch seat	1	36	Fluid needle spring	1
12	Foam washer	1	37	Joint	1
13	Washer	1	38	Fluid adjusting knob	1
14	Direction screw	1	39	Bolt	1
15	Spring	1	40	Pattern adjusting screw	1
16	Round nut	1	41	Pattern adjusting knob	1
17	Fluid cap washer	1	42	Copper washer	1
18	Atomizer	1	43	Pattern adjusting screw	1
19	Fluid nozzle	1	44	O-ring 6 X 2	1
20	Fluid nozzle joint	1	45	Gun Body	1
21	Washer	1	46	Air inlet plug	1
22	Joint washer	1	47	Hex wrench	1
23	Direction screw	1	48	Filter	2
24	O-ring 3.2 X 1.9	1	49	Brush	1
25	Washer	1			

If any parts are missing or damaged, or if you have any questions, please call 1-800-689-9928

Mastercraft® limited warranty

This Mastercraft® product is guaranteed for a period of 3 years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with **proof of purchase** within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labor relating thereto.

These warranties are subject to the following conditions and limitations:

a. A bill of sale verifying the purchase and purchase date must be provided.

b. This warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect, or lack of proper installation, operation, or maintenance (as outlined in the applicable instruction manual or operating instructions), or which is being used for industrial, professional, commercial, or rental purposes.

c. This warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.

d. This warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups, or adjustments.

e. This warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer).

f. This warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing).

g. This warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons.

h. This warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discoloring by heat, or abrasives and chemical cleaners.

i. This warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

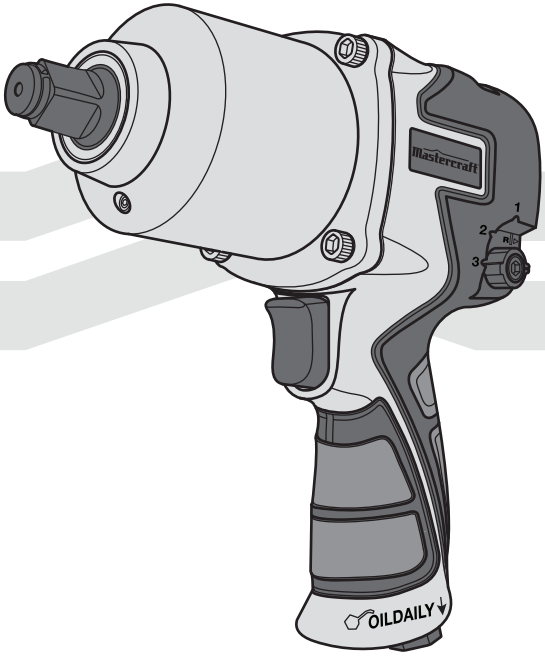
Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential, or exemplary damages arising in connection with the sale, use, or inability to use this product.

Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim, or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

Mastercraft™



INSTRUCTION MANUAL

AIR-POWERED IMPACT WRENCH

058-9327-4

TABLE OF CONTENTS

3

TECHNICAL SPECIFICATIONS

SQUARE DRIVE	1/2" *(13 mm)*
SPEED (NO LOAD)	7000 RPM
MAXIMUM TORQUE	420 ft-lb
CFM REQUIREMENT	3.7 @ 90 PSI
WORKING PRESSURE	90 PSI *(6.3 bar)*
AIR INLET	1/4" *(6.4 mm)* -18 NPT
AIR HOSE REQUIRED	3/8" *(9.5 mm)*
WEIGHT	5 lb 8 oz *(2.5 kg)*

SCFM: Standard Cubic Feet per Minute (the volumetric flow rate of air corrected to standardized conditions of temperature and pressure).

NPT: National Pipe Thread.

Environmental Responsibilities

Please recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

This manual contains information that relates to PROTECTING PERSONAL SAFETY and PREVENTING EQUIPMENT PROBLEMS. It is very important to read this manual carefully and understand it thoroughly before using the product. The symbols listed below are used to indicate this information.

DANGER!
Potential hazard that will result in serious injury or loss of life.

WARNING!
Potential hazard that could result in serious injury or loss of life.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

Note- The word “Note” is used to inform the reader of something he/she needs to know about the tool.

PERSONAL SAFETY

These precautions are intended for the personal safety of the user and others working with the user. Please take time to read and understand them.

SAFETY GUIDELINES

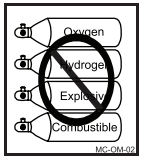
Note: Carefully read and understand all the instructions in this manual before using the tool. Ensure that the operator has read and understood these instructions.

DANGER!

Potential hazard that will result in serious injury or loss of life.

- **Keep children away** from the work area. Do not allow children to handle power tools.
- **Keep air hose away from heat, oil, and sharp edges**. Check air hose for wear before each use and ensure that all connections are proper.
- **Always ensure that the workpiece is firmly secured** leaving both hands free to control the tool.
- **Always ensure that the tool has stopped before putting it down after use**, in the interest of safety and to prevent possible damage to the tool/user.
- **Keep proper footing at all times in order to ensure correct balance.**

- **Do not use oxygen or any other combustible or bottled gas** to power air-powered tools. Failure to observe this warning can cause explosion and serious personal injury or death. Use only the compressed air to power air-powered tools. Use a minimum of 25' (7.6 m) of hose to connect the tool to the compressor. Failure to comply will result in serious injury or loss of life.



- **Risk of electric shock:** Do not expose a compressor to rain. Store it indoors. Disconnect the compressor from the power source before servicing. Compressor must be grounded. Do not use grounding adaptors.

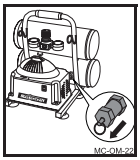
- **Risk of personal injury:** Do not direct compressed air from the air hose toward the user or other personnel.

- **Risk of inhallation:** Never directly inhale the air produced by the compressor.

- **Risk of bursting:** Do not adjust the pressure switch or safety valve for any reason. They have been preset at the factory for this compressor's maximum pressure. Tampering with the pressure switch or the safety valve may cause personal injury or property damage.

- **Risk of burns:** The pump and the manifold generate high temperatures. In order to avoid burns or other injuries, do not touch the pump, the manifold, or the transfer tube while the compressor is running. Allow the parts to cool down before handling or servicing. Keep children away from the compressor at all times.

- **Risk of bursting:** Make sure the regulator is adjusted so that the compressor outlet pressure is set lower than the maximum operating pressure of the tool. Before starting the compressor, pull the ring on the safety valve to make sure the valve moves freely. Drain water from tank after each use. Do not weld or repair tank. Relieve all pressure in the hose before removing or attaching accessories.



SAFETY GUIDELINES

WARNING!
Potential hazard that could result in serious injury or loss of life.

- **Do not allow inexperienced or untrained individuals to operate** the Air-powered Impact Wrench.
- **Always ensure that the accessories such as impact sockets are specially designed for use with the tool**. Also ensure they are secured and correctly fastened before connecting the tool to the air supply.
- Do not use the Air-powered Impact Wrench for any task other than that it is designed to perform.
- Do not use the Air-powered Impact Wrench uncless you have been instructed how to do so.
- **Locate the compressor in a well-ventilated area** for cooling, at a minimum of 12" (31 cm) away from the nearest wall.
- **Protect the air hose and the power cord from damage and puncture. Inspect them for weak or worn spots every week**, and replace them if necessary.
- **Always wear hearing protection** when using the air compressor. Failure to do so may result in hearing loss.
- **Do not carry the compressor while it is running.**
- **Do not operate the compressor if it is not in a stable position.**
- **Do not operate the compressor on a rooftop or in an elevated position** that could allow the unit to fall or be tipped over.
- **Always replace a damaged gauge** before operating the unit again.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

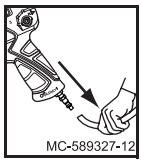
- **Always ensure that the tool has stopped before connecting the tool to the air supply.**
- **Do not wear watches, rings, bracelets, or loose clothing** when using any air tool.
- **Do not overload the tool**. Allow the tool to operate at its optimum speed for maximum efficiency.
- Do not use a tool that is leaking air, with missing or damaged parts, or that requires repairs. **Verify that all screws are securely tightened.**
- For optimal safety and tool performance, **inspect the tool daily** in order to ensure free movement of the trigger, safety mechanisms, and springs.
- **Always keep your air tool clean and lubricated**. Daily lubrication is essential to avoid internal corrosion and possible failures.
- Ensure the floor is not slippery and wear non-slip shoes. Floors should be kept clean and clear.
- Always follow all workshop safety rules, regulations, and conditions when using the Air-powered Impact Wrench.
- **Carry the tool by the handle only,** keeping the fingers away from the trigger. Do not carry the tool by the hose, magazine, or any other parts.
- **Do not use the tool near or below the freezing condition**, as doing so may cause tool failure.
- **Do not store the tool in freezing temperatures** to prevent ice formation on the operating valves of the tool, as doing so may cause tool failure.
- **Handling and storage of oil:** Use with adequate ventilation. Avoid contact of oil with eyes, skin, and clothing. Avoid breathing spray or mist. Store in a tightly closed container in a cool, dry, well-ventilated area free from incompatible substances.

SAFETY GUIDELINES

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- **Disconnect the tool from the air supply and turn off the compressor** before performing any maintenance, or changing accessories, when the tool is not in use, when it is being handed to another person, and when it is left unattended. Failure to comply may result in moderate injury or damage to equipment.

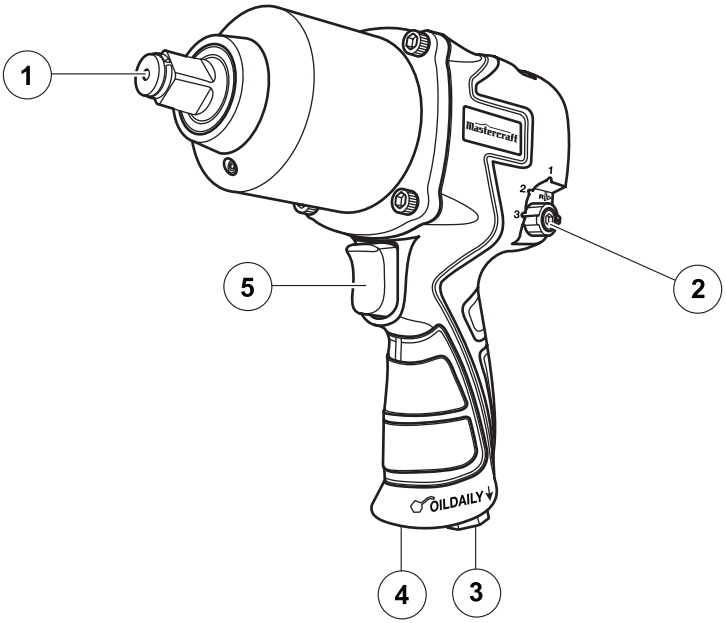


- **Use safety goggles and ear protection:**
  Wear safety glasses with side shields when operating the tool/compressor and verify that others in the work area are also wearing safety glass. Safety glasses must conform to American National Standards Institute (ANSI Z87.1) requirements and must provide protection from flying particles from the front and the sides.

  Air-powered tools are loud and the sound can cause hearing damage. Always wear ear protection to help prevent hearing damage and loss. Failure to comply may result in moderate injury.

Note: Recycle unwanted materials rather than disposing of them as waste. Sort the tools, hoses, and package in specific categories and take to the local recycling centre, or dispose of them in an environmentally safe way.

KEY PARTS DIAGRAM



MC-589327-01

No.	Description	No.	Description
1	1/2” Square drive head	4	Air deflector
2	Speed control knob	5	Trigger
3	Air inlet plug		

Compatible compressor and air tool

GUIDELINES FOR PROPER USE AND OPERATION

Always ensure that a suitable air compressor is used with your Mastercraft® Air-powered Impact Wrench. The compressor should be able to supply a minimal air delivery of 7 SCFM @ 90 PSI to ensure the compressor can run continuously with the Mastercraft Air-powered Impact Wrench. Using a tool or combinations of tools that together or separately require more than compressor capacity will reduce performance and could void the guarantee/warranty of compressor or tool.

General use

This Mastercraft® Air-powered Impact Wrench features a twin-hammer mechanism for higher torque, a torque regulator with three adjustable positions, and variable speed adjustment. This impact wrench is designed for removing and installing bolts and nuts, e.g. automotive lug nuts on tires, and for general assembly work.

Air Compressor Size & Power	2 HP	2 1/2 HP	3+ HP
5 - 6 Gallons	Light duty and intermittent use	Light duty and intermittent use	Medium duty and intermittent use
8 - 11 Gallons	Light duty and intermittent use	Medium duty and intermittent use	Heavy duty and continuous use
15+ Gallons	Medium duty and intermittent use	Heavy duty and continuous use	Heavy duty and continuous use

Read this Instruction Manual carefully before using the tool.

- Read and follow all the safety instructions at the beginning of this manual. Inspect the Air-powered Impact Wrench prior to each use in order to:
  - Ensure that the proper power source is being used.
  - Verify that the tool is in proper working order.

DANGER!

Potential hazard that could result in serious injury or loss of life.

- Keep hands, feet, and all other parts of the body away from the tool's work area while connecting the tool to the air supply. Failure to comply will result in serious injury or loss of life.

WARNING!

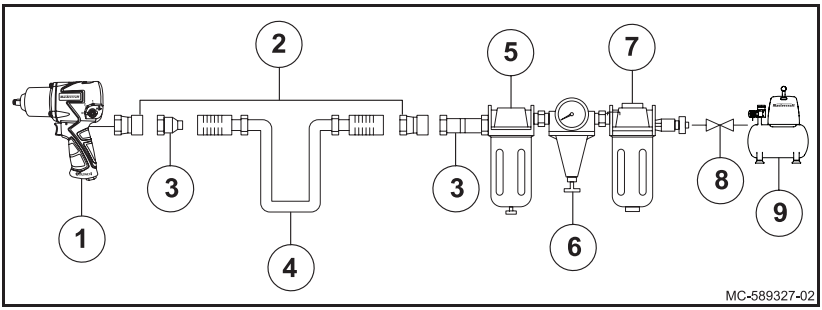
Potential hazard that could result in serious injury or loss of life.

- Do not use if the tool is not in proper working order.
- Do not use oxygen or any other combustible or bottled gas to power this tool.
- Do not use this tool in the presence of any flammable liquids or gases.
- Keep hoses away from heat, oil, and sharp edges. Check hose for wear and ensure that all connections are proper. Failure to comply could result in serious injury or loss of life.

- Always use impact sockets specifically designed for this Air-powered Impact Wrench.
- Ensure that the trigger is not pressed before connecting the tool to the air supply.
- Drain the compressor tank daily. Water in the air supply line will damage the impact wrench.
- Clean the air inlet and the filter weekly.
- Increase the line pressure to compensate for unusually long air hoses. The hose diameter (I.D) should be 3/8".

Air system

- Always use clean, dry, regulated, compressed air at pressure between 5.2 and 6.3 bar (75 and 90 PSI).
- Do not exceed the maximum and minimum pressures. Operating the tool at the wrong pressure (too low or too high) will cause excessive noise, rapid wear, or personal injury.
- It is recommended that a filter-regulator-lubricator be located and be used as close to the tool as possible.



No.	Description	No.	Description
1	Mastercraft® Air-powered Impact Wrench	6	Regulator (0 to 8.5 bar)
2	Quick connector	7	Filter
3	Quick coupler	8	Cut-off valve
4	Air hose	9	Air compressor
5	Lubricator		

- If a filter-regulator-lubricator is not installed, place up to 6 drops of pneumatic tool oil into the air inlet plug before each use.
- If a filter-regulator-lubricator is installed, keep the air filter clean. A dirty filter will reduce the air pressure to the tool, which leads to power reduction, less efficiency, and poor performance of the tool.
- For optimal performance, install a quick connector to the tool and a quick coupler on the hose, if applicable.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Verify that all connections in the air supply system are sealed in order to prevent air leakage. Failure to comply will result in moderate injury or damage to equipment.

WARNING!

Potential hazard that will result in serious injury or loss of life.

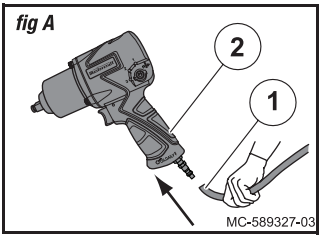
- Carefully read all instructions in this manual and understand them thoroughly before using the Air-powered Impact Wrench. Failure to comply will lead to serious injury or loss of life.

Note: Use only the impact sockets that are specifically designed for use with this Air-powered Impact Wrench.

1. Verify that the air supply is clean before operating the Air-powered Impact Wrench.

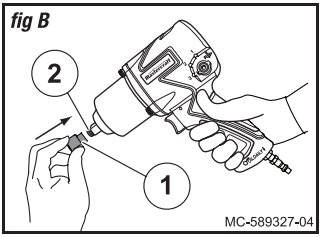
2. Plug in compressor, turn it on set the pressure regulator to 90 PSI, attach one end of the air hose to the compressor and the other end of the air hose (1) to the Air-powered Impact Wrench (2). Use plumber's tape to prevent air leak *(fig A)*.

fig A



3. Place and lock the socket (1) over the square drive (2) of the Air-powered Impact Wrench *(fig B)*.

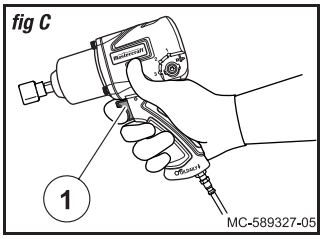
fig B



OPERATING INSTRUCTIONS

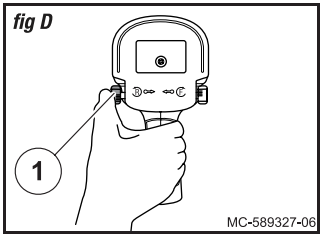
4. Place the socket over a nut to be removed or installed and press the trigger (1) at the top of the handle to operate the tool *(fig C)*.

fig C



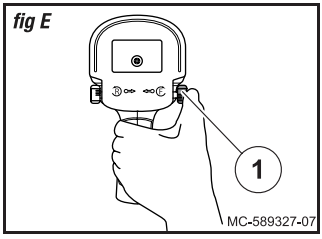
5. For reverse (R) rotation, press the speed control knob (1) on the left side of the tool *(fig D)*.

fig D

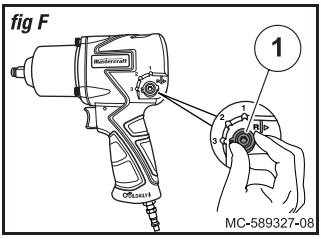


6. For forward (F) rotation, press the speed control knob (1) on the right side of the tool *(fig E)*.

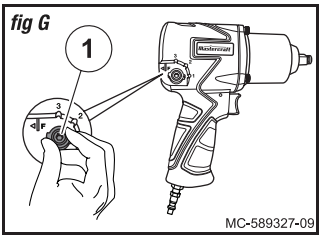
fig E



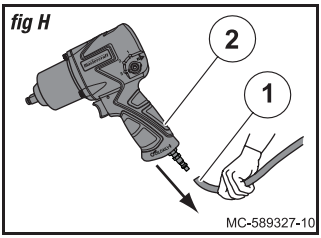
7. Rotate the speed control knob (1) on the left side of the tool during reverse rotation to control the speed of the air flow as required *(fig F)*.



8. Rotate the speed control knob (1) on the right side of the tool during forward rotation to control the speed of the air flow as required *(fig G)*.



9. After using the tool, disconnect the air hose (1) from the tool (2) *(fig H)*.



WARNING!

Potential hazard that will result in serious injury or loss of life.

- Keep children away from the tools and work areas.
- Do not apply additional force to the Air-powered Impact Wrench to remove the nut. Failure to comply will result in serious injury or loss of life.

Maintenance

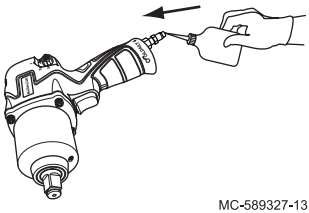
WARNING!

Potential hazard that will result in serious injury or loss of life.

- Disconnect the Air-powered Impact Wrench from the air supply before changing accessories, servicing, or performing maintenance.
- Replace or repair damaged parts or accessories before using the Air-powered Impact Wrench.
- Use only recommended and properly rated replacement parts. Failure to comply will lead to serious injury or loss of life.

MAINTENANCE REQUIRED	DESCRIPTION	TOOLS OR MATERIALS REQUIRED	MAXIMUM SERVICE INTERVAL		
			Each use or every 2 hrs.	Monthly	As Needed
General inspection - free movement	Trigger, spring, safety mechanism	None	X		
In-depth inspection	Worn or broken parts			X	X
Replace worn or broken parts					X
Lubrication	See below	Pneumatic tool oil	X		

- **Lubrication**: If the Air-powered Impact Wrench and the compressor are not equipped with an in-line lubrication system, place up to 6 drops of pneumatic tool oil into the air inlet before each work day or after every 2 hours of continuous use, depending on the characteristics of the workpiece.



MC-589327-13

- Air-operated tools must be inspected periodically and worn or broken parts must be replaced in order to keep tools operating safely and efficiently.
- Inspect and replace worn or damaged O-rings, seals, etc. Tighten all screws and caps frequently in order to help prevent personal injury.
- Inspect the trigger, spring, and safety mechanism for free movement on a regular basis in order to ensure that the safety system is fully functional. Verify that no parts are loose or missing.
- Disconnect the tool from the air supply when the tool is not in use.
- Repairs must be performed by a qualified service technician only.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

- Never use damaged parts.
- Do not use an excessively worn tool. Failure to comply may result in moderate injury or damage to equipment.

Note: When temperatures are below freezing, keep tools as warm as possible using any safe, convenient method.

- Loss of power or erratic action may be due to the following:
  - Excessive drain on the air line, moisture or restriction in the air supply line, or incorrect size or type of hose connectors. To remedy check the air supply and follow instructions.
  - Grit or gum deposits in the Air-powered Impact Wrench may also reduce its performance. If your model has an air strainer (located in the area of the air inlet), remove the strainer and clean it.

Storage

- Apply ample amount of lubrication before storing the tool for longer periods.
- Run the tool for approximately 30 seconds after lubricating, in order to ensure that the lubrication is uniformly distributed throughout the tool.
- Store the tool in a clean, dry, and child-proof environment, when the tool is not in use.

Troubleshooting

The following chart lists common issues and solutions. Please read it carefully and follow all instructions closely.

WARNING!

Potential hazard that could result in serious injury or loss of life.

- If any of the following symptoms appear while the tool is in use, turn it off and disconnect it from the air supply immediately. Failure to heed this warning will result in serious personal injury.
- Disconnect the tool from the air supply before making any adjustments.
- Repairs must be performed by an authorized service center only.

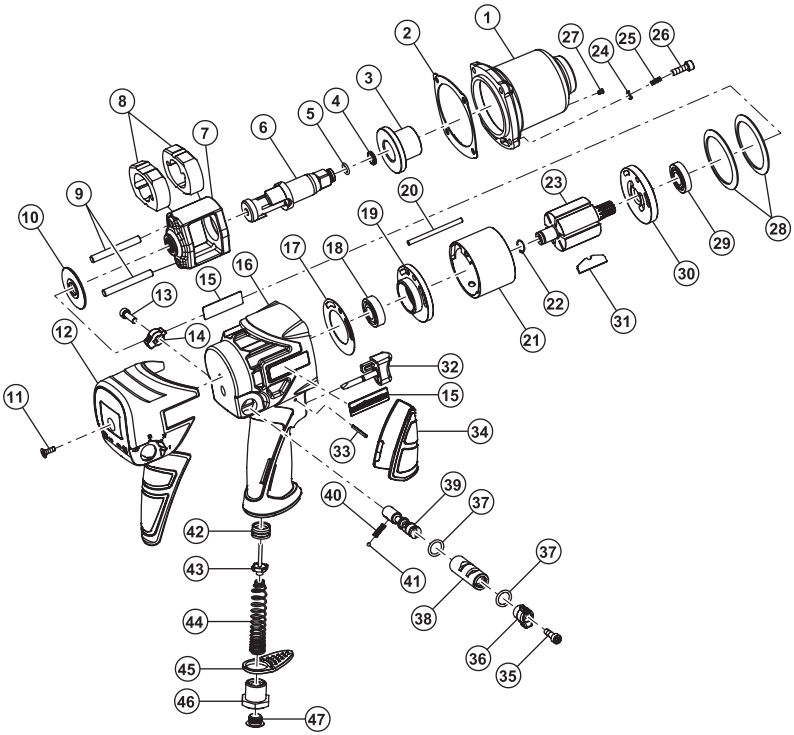
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool runs at normal speed but loses power under load.	1. Motor parts are worn or damaged. 2. Cam clutch is worn or stuck due to lack of lubricant.	1. Lubricate clutch housing. 2. Check for excess clutch oil. Clutch cases should only be half filled, as overfilling can cause drag on high speed clutch parts. A typical oiled/lubricated wrench requires ½ ounce of oil. **Grease lubrication:** Heat is generated due to insufficient grease in the chamber. Severe operating conditions may require frequent lubrication. **If the problem persists, send it for servicing or return it back to the store.**
Tool runs at low speed. Air flows slightly from exhaust.	1. Dirt particles are jammed in motor. 2. Power regulator is in closed position. 3. Air flow is blocked by dirt.	1. Check if there is blockage in the air inlet and the filter. 2. Pour pneumatic tool oil into the air inlet as per instructions. 3. Operate the tool by reversing the rotation in back and forth directions in short duration (*wherever applicable).* Repeat the above steps as needed.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool stops working. Air flows freely from exhaust.	One or more motor vanes got stuck due to material build up.	1. Pour pneumatic tool oil into the air inlet. 2. Operate the tool by reversing the rotation in back and forth directions in short duration *(wherever applicable)*. 3. Tap motor housing gently with plastic mallet. 4. Disconnect the air supply and operate the motor by manually rotating the drive shank *(wherever applicable)*. **If the problem persists, send it for servicing or return it back to the store.**
Tool does not shut off.	Throttle valve O-rings are dislodged from seat inlet valve.	Replace O-rings. **If the problem persists, send it for servicing or return it back to the store.**

Note: For further repair information, please call 1-800-689-9928.

21

EXPLODED VIEW



MC-589327-11

PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
1	Housing cover	1	25	Screw braces M5	4
2	Sealing washer	1	26	Bolt M5 X 20	4
3	Valve sleeve	1	27	Filling cup	1
4	Anvil bushing	1	28	Washer	2
5	O-ring 4.5 X 1.3	1	29	Spring	1
6	Anvil	1	30	Front plate	1
7	Hammer cage	1	31	Rotor blade	6
8	Hammer dog	2	32	Trigger	1
9	Hammer pin	2	33	Pin 2.5 X 25	1
10	Washer	1	34	Handle grip	1
11	Bolt M5 X 12	1	35	Bolt M5 X 16	1
12	Back cover	1	36	Flexfit cap I	1
13	Bolt M5 X 8	1	37	O-ring 10.6 X 1.8	2
14	Flexfit cap II	1	38	Reverse valve	1
15	Trademark	1	39	Regulator	1
16	Housing	1	40	Steel ball	1
17	Sealing ring	1	41	Spring	1
18	Bearing R8	1	42	Block	4
19	Back plate	1	43	Switch pin	4
20	Pin	1	44	Spring	1
21	Cylinder	1	45	Exhaust cover	1
22	Collar 10	1	46	Air inlet plug	1
23	Rotor	1	47	Dust cap	1
24	Collar 5	4			

If any parts are missing or damaged, or if you have any questions, please call 1-800-689-9928.

WARRANTY

Mastercraft® limited warranty

This Mastercraft® product is guaranteed for a period of 3 years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with **proof of purchase** within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labor relating thereto.

These warranties are subject to the following conditions and limitations:

a. A bill of sale verifying the purchase and purchase date must be provided.

b. This warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect, or lack of proper installation, operation, or maintenance (as outlined in the applicable instruction manual or operating instructions), or which is being used for industrial, professional, commercial, or rental purposes.

c. This warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.

d. This warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups, or adjustments.

e. This warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer).

f. This warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing).

g. This warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons.

h. This warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discoloring by heat, or abrasives and chemical cleaners.

i. This warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

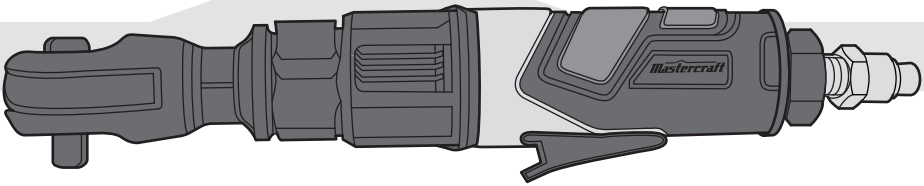
Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential, or exemplary damages arising in connection with the sale, use, or inability to use this product.

Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim, or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

Mastercraft™



INSTRUCTION MANUAL

AIR-POWERED RATCHET

058-9329-0

TABLE OF CONTENTS

3

TECHNICAL SPECIFICATIONS

SQUARE DRIVE	3/8" *(10 mm)*
FREE SPEED	160 RPM
MAXIMUM TORQUE	50 ft-lb *(68 Nm)*
AVERAGE AIR CONSUMPTION	3.1 CFM @ 90 PSI
OPERATING PRESSURE	90 PSI *(6.3 bar)*
AIR INLET SIZE	1/4" *(6.4 mm)* 18 NPT
AIR HOSE	3/8" *(9.5 mm)* ID
WEIGHT	2 lb 10 oz *(1.2 kg)*
A WEIGHTED SOUND PRESSURE LEVEL	92.1 dB *(A)*
SOUND POWER LEVEL	103.1 dB *(A)*
VIBRATION IN THE HANDLE	0.8 m/s^2

SCFM: Standard Cubic Feet per Minute (the volumetric flow rate of air corrected to standardized conditions of temperature and pressure).

NPT: National Pipe Thread.

Environmental Responsibilities

Please recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

This manual contains information that relates to PROTECTING PERSONAL SAFETY and PREVENTING EQUIPMENT PROBLEMS. It is very important to read this manual carefully and understand it thoroughly before using the product. The symbols listed below are used to indicate this information.

DANGER!
Potential hazard that will result in serious injury or loss of life.

WARNING!
Potential hazard that could result in serious injury or loss of life.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

Note- The word “Note” is used to inform the reader of something he/she needs to know about the tool.

PERSONAL SAFETY

These precautions are intended for the personal safety of the user and others working with the user. Please take time to read and understand them.

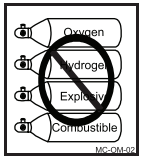
SAFETY GUIDELINES

DANGER!

Potential hazard that will result in serious injury or loss of life.

- **Keep children away** from the work area. Do not allow children to handle power tools.
- **Do not use this tool in the presence of flammable liquids or gases.** Sparks that are created during use may ignite gases.
- **Do not point the tool towards yourself or other people, even when the tool has stopped**. Keep hands, feet, and all other parts of the body clear from work area.
- **Always ensure that the workpiece is firmly secured** leaving both hands free to control the tool.
- **Always ensure that the tool has stopped before putting it down after use**, in the interest of safety and to prevent possible damage to the tool or personal injury.

- **Do not use oxygen or any other combustible or bottled gas** to power air-powered tools. Failure to observe this warning can cause explosion and serious personal injury or death. Use only the compressed air to power air-powered tools. Use a minimum of 25' (7.6 m) of hose to connect the tool to the compressor. Failure to comply will result in serious injury or loss of life.



- **Risk of electric shock:** Do not expose a compressor to rain. Store it indoors. Disconnect the compressor from the power source before servicing. Compressor must be grounded. Do not use grounding adaptors.

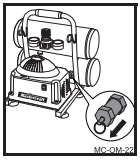
- **Risk of personal injury:** Do not direct compressed air from the air hose towards the user or other personnel.

- **Risk for breathing:** Never directly inhale the air produced by the compressor.

- **Risk of bursting:** Do not adjust the pressure switch or safety valve for any reason. They have been preset at the factory for the compressor's maximum pressure. Tampering with the pressure switch or the safety valve may cause personal injury or property damage.

- **Risk of burns:** The pump and the manifold generate high temperatures. In order to avoid burns or other injuries, do not touch the pump, the manifold, or the transfer tube while the compressor is running. Allow the parts to cool down before handling or servicing. Keep children away from the compressor at all times.

- **Risk of bursting:** Make sure the regulator is adjusted so that the compressor outlet pressure is set lower than the maximum operating pressure of the tool. Before starting the compressor, pull the ring on the safety valve to make sure the valve moves freely. Drain water from tank after each use. Do not weld or repair tank. Relieve all pressure in the hose before removing or attaching accessories.



SAFETY GUIDELINES

WARNING!
Potential hazard that could result in serious injury or loss of life.

- **Do not allow unskilled or untrained individuals to operate** the Air-powered Ratchet or any air-powered tool.
- **Always ensure that accessories such as sockets are specially designed/rated for use with the Air-powered Ratchet**. Also ensure they are secured and correctly fastened before connecting the tool to the air supply.
- **Use only lightweight coil type hoses** to connect the tool to compressor coupling. Do not fit quick change couplings onto the machine as vibration can cause the coupling to fail.
- **Do not use the Air-powered Ratchet for a task that it is not designed to perform.** Do not use the tool without having been instructed by a qualified person.
- **Disconnect the tool from the air supply when it is not in use, and store it in a safe, clean, dry, and childproof location.**
- **Do not carry the Air-powered Ratchet by the air hose.** Failure to comply could result in personal injury.
- **Locate the compressor in a well-ventilated area** for cooling, a minimum of 12" (31 cm) away from the nearest wall.
- **Protect the air hose and the power cord from damage and puncture. Inspect them for weak or worn spots every week**, and replace them if necessary.
- **Always wear hearing protection** when using the air compressor. Failure to do so may result in hearing loss.
- **Do not carry the compressor while it is running.**
- **Do not operate the compressor if it is not in a stable position.**
- **Do not operate the compressor on a rooftop or in an elevated position** that could allow the unit to fall or be tipped over.

CAUTION!

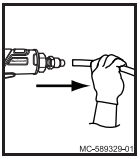
Potential hazard that may result in moderate injury or damage to equipment.

- **Always ensure that the tool has stopped before connecting to air supply.**
- **Do not wear watches, rings, bracelets, or loose clothing** when using any air tool.
- **Maintain proper footing at all times in order to ensure correct balance.**
- **Do not overload the tool**. Allow the tool to operate at its optimum speed for maximum efficiency.
- Do not use a tool that is leaking air, that has missing or damaged parts, or that requires repairs. **Make sure all screws are securely tightened.**
- For optimal safety and tool performance, **inspect the tool daily** in order to ensure free movement of the trigger, safety mechanisms, and springs.
- **Always keep your air tool clean and lubricated**. Daily lubrication is essential to avoid internal corrosion and possible failures.
- **Keep the work area clean**. A cluttered or dirty workbench may lead to an accident. Floors should be kept clear.
- **Use the tool only in a well-ventilated area.**
- **Carry the tool by the handle only,** keeping the finger away from the trigger. Do not carry the tool by the hose, magazine or any other parts.
- **Handling and storage of oil:** Use with adequate ventilation. Avoid contact of oil with eyes, skin, and clothing. Avoid breathing spray or mist. Store in a tightly closed container in a cool, dry, well-ventilated area free from incompatible substances.
- **Do not use the tool near or below the freezing point,** as doing so may cause the tool failure.
- **Do not store the tool in a freezing environment** to prevent ice formation on the operating valves of the tool, which may cause tool failure.

CAUTION!

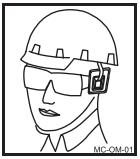
Potential hazard that may result in moderate injury or damage to equipment.

- **Disconnect tool from the air supply and turn off the compressor** before performing any maintenance or changing accessories, when the tool is not in use, when it is being handed to another person, and when it is left unattended. Failure to comply may result in moderate injury or damage to equipment.



- **Use safety goggles and ear protection:**
  Wear safety glasses with side shields when operating the tool/compressor and verify that others in the work area are also wearing safety glasses. Safety glasses must conform to American National Standards Institute (ANSI Z87.1) requirements and must provide protection from flying particles from the front and the sides.

  Air-powered tools are loud and the sound can cause hearing damage. Always wear ear protection to prevent hearing damage and loss. Failure to comply may result in moderate injury.



VIBRATION PRECAUTION!

Potential hazard that could result in serious injury or loss of life.

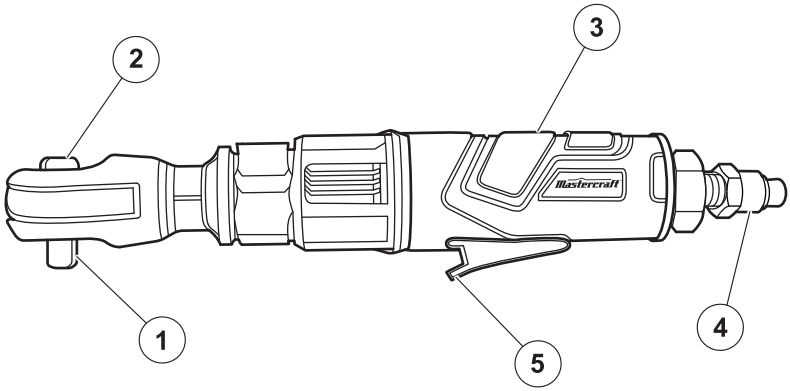
Read and follow the safety instructions before using the vibrating tool to avoid temporary or permanent physical injury, particularly to the hands, arms and shoulders, and to reduce the risk of vibration-related injury.

- Always ensure that a person handling the vibrating tool for extended periods of time is examined by a doctor periodically and is free of medical problems.
- **Do not allow a pregnant woman or person with improper blood circulation to the hand, history of hand injury, nervous system disorder, diabetes, or Raynaud's Disease** to operate the vibrating tool.
- **Seek medical advice immediately for vibration-related symptoms such as tingling, numbness, and white or blue fingers.**
- **Do not smoke while using the vibrating tool** to avoid the risk of vibration-related injury.
- **Use appropriate gloves** to reduce the vibration effects on the hands of the user.
- **Do not perform vibration-related works continuously.**
- **Hold the vibrating tool gently and safely.** Grip the tool lightly and let it perform the work, while keeping control of it.
- **Stop the vibrating tool immediately if abnormal vibration occurs.**

Note: Recycle unwanted materials rather than disposing of them as waste. Sort tools, hoses, and packaging into separate categories and take to the local recycling centre or dispose of in an environmentally safe way.

11

KEY PARTS DIAGRAM



MC-589329-02

No.	Description	No.	Description
1	Square drive	4	Air inlet plug
2	Forward/reverse switch	5	Trigger
3	Handle		

Compatible compressor and air tool

GUIDELINES FOR PROPER USAGE AND OPERATION

Always ensure the use of appropriately matched air tools and compressors. The compressor should be able to supply a minimal air delivery of 3 SCFM @ 90 PSI to ensure it can run continuously with the Mastercraft Air-powered Ratchet. Using a tool or combinations of tools that together or separately require more than compressor capacity will reduce performance and could void the guarantee/warranty of compressor or tool.

General description

The Mastercraft® 3/8" Air-powered Ratchet features a lightweight body made of aluminium, a steel angle head, and ergonomically designed grips for comfort even during extended use. Exhaust is discharged at the front of the tool. The ratchet can be ideally used for automotive applications such as removing or replacing radiators and spark plugs, air conditioning system repairs, and water pump repairs. The ratchet is compact and powerful to turn bolts in confined spaces.

Air Compressor Size & Power	2 HP	2 1/2 HP	3+ HP
5–6 Gallons	Light-duty and intermittent use	Light-duty and intermittent use	Medium-duty and intermittent use
8–11 Gallons	Light-duty and intermittent use	Medium-duty and intermittent use	Heavy-duty and continuous use
15+ Gallons	Medium-duty and intermittent use	Heavy-duty and continuous use	Heavy-duty and continuous use

Air system

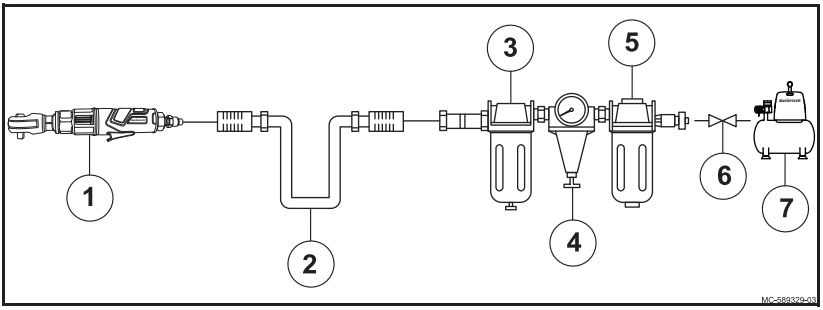
- Always use clean, dry, regulated, compressed air at the recommended pressure and specific flow rate *(see "Technical Specifications" section)*.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

- Use only sockets specifically designed for this Air-powered Ratchet. Failure to comply may result in moderate injury or damage to the equipment.

WARNING!
Potential hazard that could result in serious injury or loss of life.

- Do not exceed the maximum and minimum pressures. The use of the wrong pressure (too high or too low) or the use of unclean air may cause excessive noise and rapid wear, which will shorten the life of the tool.
- Keep hands and other parts of the body away from the work area when connecting the air supply. Failure to comply could lead to serious injury or loss of life.



No.	Description	No.	Description
1	Mastercraft® Air-powered Ratchet	5	Filter
2	Air hose	6	Cut-off valve
3	Lubricator	7	Air compressor
4	Regulator (0 to 8.5 bar)		

- It is recommended that an automatic in-line filter-regulator-lubricator be used and be located as close to the tool as possible.
- If a filter-regulator-lubricator is not installed, place up to 6 drops of pneumatic tool oil directly into the air inlet plug before each use.

- If a filter-regulator-lubricator is installed, keep the air filter clean. A dirty filter will reduce the air pressure to the tool, which will cause a reduction in power, efficiency, and general performance.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Make sure all connections in the air supply system are sealed in order to prevent air from leaking. Failure to comply may result in moderate injury or damage to equipment.

Read this Instruction Manual thoroughly or have the tool operators read thoroughly before using the tool.

- Read all safety rules and precautions *(see "Safety guidelines" section)* at the beginning of this manual.
- Always inspect the air tool prior to each use in order to
  - ensure proper use of power source.
  - determine whether the tool is in proper working order.
- Drain the compressor tank daily. Water in the air supply line will damage the tool.
- Clean air inlet and filter weekly.
- Line pressure should be increased to compensate for unusually long air hoses. The hose diameter should be 3/8" ID. The fittings must have the same inside dimensions.
- Ensure that the trigger is not pressed while connecting the tool to the air supply.
- Ensure the air supply is clean and is maintained at the regulated pressure of 90 PSI and recommended air flow rate *(see section "Technical specifications")*.

WARNING!

Potential hazard that could result in serious injury or loss of life.

- Do not use the tool if it is not in proper working order.
- Do not use oxygen or any other combustible or bottled gas to power this tool.
- Do not use this tool in the presence of any flammable liquids or gases.
- Keep hose away from heat, oil, and sharp edges. Check hose for wear and tear, and ensure that all connections are secure. Failure to comply could lead to serious injury or loss of life.

Preparation before use

1. Attach the air hose to the air inlet plug of the Air-powered Ratchet.

Note: Add a few drops of pneumatic tool oil to the air inlet plug before operation, if the automatic oiler system is not used. Add a few drops more after each hour of continuous use.

2. Set the compressor air pressure to 90 PSI. Do not exceed the recommended air pressure *(see "Technical specifications section)*.
3. Check the air connection for leaks. Now the tool is ready for use.

Note: Turn off the air compressor and disconnect the air hose before you change a socket. After you attach the socket, connect the air hose and turn the air compressor back on.

DANGER!
Potential hazard that will result in serious injury or loss of life.

- Keep children away from the work area. Do not allow children or untrained persons to handle power tools. Failure to comply will result in serious injury or loss of life.

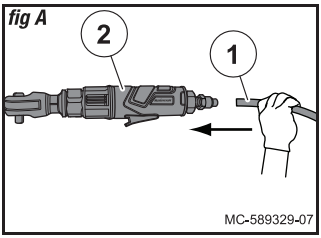
CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

- Use only the sockets that are specifically designed for this Air-powered Ratchet. Failure to comply may result in moderate injury or damage to the tool.

Operation

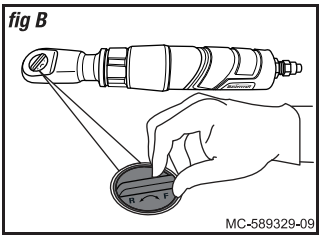
1. Plug in compressor, turn it on, set the pressure regulator to 90 PSI, attach one end of the air hose to the compressor and the other end of the air hose (1) to the tool (2) *(fig A)*.

fig A



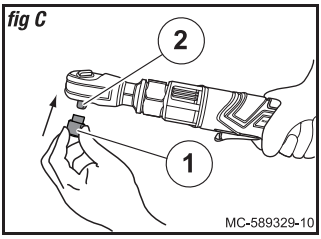
2. Rotate the forward/reverse switch clockwise towards “F” for tightening operation, and counter-clockwise towards “R” for loosening operation *(fig B)*.

fig B



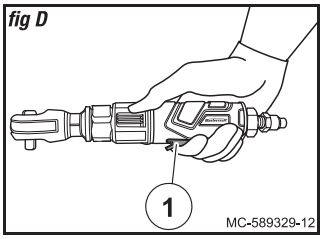
3. Place and lock the socket (1) over the square drive (2) of the tool *(fig C)*.

fig C



4. Place the socket on the nut to be removed or installed, and press the trigger (1) to operate the tool *(fig D)*.

fig D



WARNING!

Potential hazard that could result in serious injury or loss of life.

- Do not allow the tool to free run for extended periods of time as this will shorten its life.
- Ensure the air supply is clean and has a regulated pressure of 90 PSI.
- Do not use additional and excessive force on the tool to remove a nut. Failure to comply could lead to serious injury or loss of life.

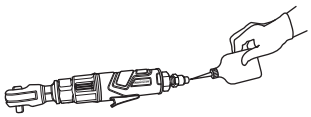
Maintenance

WARNING!
Potential hazard that could result in serious injury or loss of life.

- Disconnect the tool from the air supply before changing accessories, servicing, or performing maintenance.
- Only use the tool after replacing or repairing any damaged parts or accessories.
- Use only recommended and properly rated replacement parts. Non-authorized parts may be dangerous. Failure to comply could lead to serious injury or loss of life.

MAINTENANCE REQUIRED	DESCRIPTION	TOOLS OR MATERIALS REQUIRED	MAXIMUM SERVICE INTERVAL		
			Each use or every 2 hrs	Monthly	As Needed
General inspection–free movement	Trigger, spring, safety mechanism	None	X		
In-depth inspection	Worn or broken parts			X	X
Replace worn or broken parts					X
Lubrication	See below	Pneumatic tool oil	X		

- Lubrication: If the Air-powered Ratchet and the compressor are not equipped with an in-line lubrication system, place up to 6 drops of pneumatic tool oil into the air inlet before each work day or after every 2 hours of continuous use, depending on the characteristics of the workpiece.



MC-589329-13

- Do not use worn or damaged sockets. Inspect the tool periodically, and replace the worn or broken parts in order to ensure that the tools are operating safely and efficiently.
- Disconnect the tool from the air supply when it is not in use.
- Loss of power or erratic action may be due to the following
  - Excessive drain in the air line.
  - Moisture or restriction in the air pipe.
  - Incorrect size or type of hose connector. Check the air supply and follow instructions.

Storage

If it is necessary to store the tool for an extended period of time, apply a generous amount of lubrication before storing. The tool should be allowed to run for approximately 30 seconds after lubricating, in order to ensure that the lubrication is uniformly distributed throughout the tool.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Store the tool in a clean and dry environment. Failure to comply may result in moderate injury or damage to equipment.

Troubleshooting

The following chart lists common issues and solutions. Please read it carefully and follow all instructions closely.

WARNING!
Potential hazard that could result in serious injury or loss of life.

- If any of the following symptoms appear while the tool is in use, turn it off and disconnect it from the air supply immediately. Failure to heed this warning will result in serious personal injury.

- Disconnect the tool and the electrical plug from the air supply before making any adjustments.
- Repairs must be performed by a qualified service technician only.

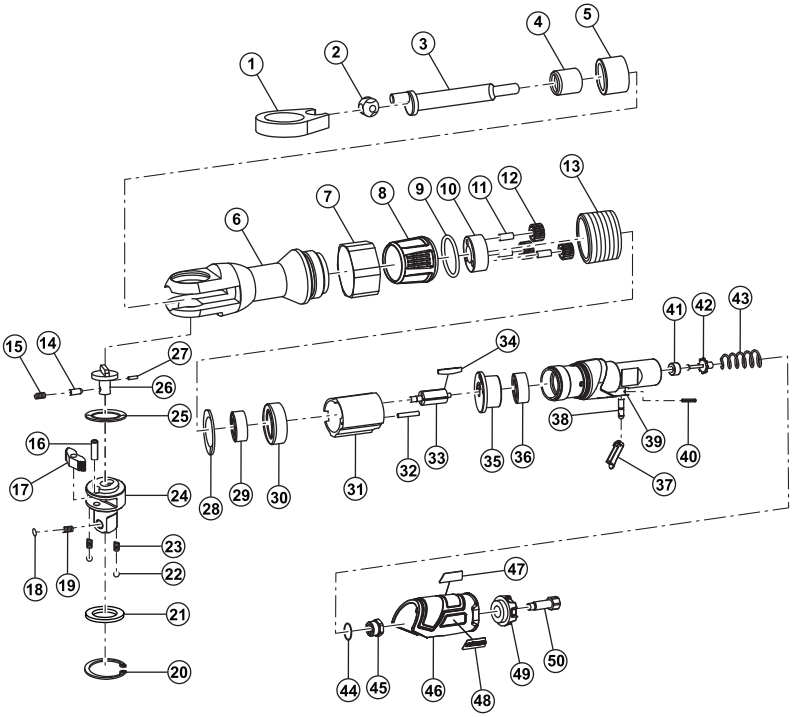
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool runs at normal speed but loses power under load.	1. Motor parts are worn or damaged. 2. Cam clutch is worn or stuck due to lack of lubricant.	1. Lubricate clutch housing. 2. Check for excess clutch oil, overfilling can cause drag on high speed clutch parts. A typical oiled/lubricated wrench requires ½ ounce (1.5 ml) of oil. **Grease lubrication:** Heat is generated due to insufficient grease in the chamber. Severe operating conditions may require frequent lubrication. **If the problem persists, call 1-800-689-9928.**
Tool runs at low speed. Air flows slightly from exhaust.	1. Motor parts are jammed with dirt. 2. Power regulator is in closed position. 3. Air flow is blocked by dirt.	1. Check whether there is blockage in air inlet and filter. 2. Pour pneumatic tool oil into air inlet plug as per instructions. 3. Operate the tool, changing direction of rotation back and forth in short bursts. Repeat the above steps as needed.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool stops working. Air flows freely from exhaust.	One or more motor vanes got stuck due to material build up.	1. Pour pneumatic tool oil into the air inlet plug. 2. Tap motor housing gently with plastic mallet. 3. Operate the tool, changing the direction of rotation back and forth in short bursts *(wherever applicable).* 4. Disconnect the tool from the air supply. Operate motor manually by rotating the drive shaft *(wherever applicable).* **If the problem persists, call 1-800-689-9928.**
Tool does not shut off.	Throttle valve O-rings are dislodged from inlet valve.	Replace O-rings. **If the problem persists, call 1-800-689-9928.**

Note: For further repair information, please call 1-800-689-9928.

EXPLODED VIEW



MC-589329-06

Mastercraft

PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
1	Ratchet yoke	1	26	Forward/Reverse switch	1
2	Drive bushing	1	27	Pin 2 X 6	1
3	Crank shaft	1	28	Washer	1
4	Bearing shell	1	29	Bearing	1
5	Needle bearing	1	30	Front plate	1
6	Ratchet housing	1	31	Cylinder	1
7	Clamp nut	1	32	Pin 1.5 X 6	1
8	Exhaust cap	1	33	Rotor	1
9	O-ring 37.5 X 2.65	1	34	Rotor blade	4
10	Idler gear seat	1	35	Back plate	1
11	Idler gear pin	3	36	Bearing	1
12	Idler gear	3	37	Trigger	1
13	Thread ring gear	1	38	Trigger pin	1
14	Lock pin	1	39	Housing	1
15	Spring	1	40	Pin 2 X 18	1
16	Pin	1	41	Inlet valve seat	1
17	Ratchet pawl	1	42	Valve bushing	1
18	Steel ball (Dw=4.5)	1	43	Spring	1
19	Spring	1	44	GB 3452.1-92 14.5 X 1.8	1
20	Retainer ring	1	45	Sealing connector	1
21	Washer	1	46	Label	2
22	Steel ball (Dw=4)	2	47	Label	1
23	Spring	2	48	Housing grip	1
24	Square drive	1	49	Back cover	1
25	Washer	1	50	Air inlet plug	1

If any parts are missing or damaged, or if you have any questions, please call 1-800-689-9928.

Mastercraft® limited warranty

This Mastercraft® product is guaranteed for a period of 3 years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of 1 year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with **proof of purchase** within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

These warranties are subject to the following conditions and limitations:

a. A bill of sale verifying the purchase and purchase date must be provided.

b. This warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect, or lack of proper installation, operation, or maintenance (as outlined in the applicable instruction manual or operating instructions), or which is being used for industrial, professional, commercial, or rental purposes.

c. This warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.

d. This warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups, or adjustments.

e. This warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer).

f. This warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing).

g. This warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons.

h. This warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat or abrasives and chemical cleaners.

i. This warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

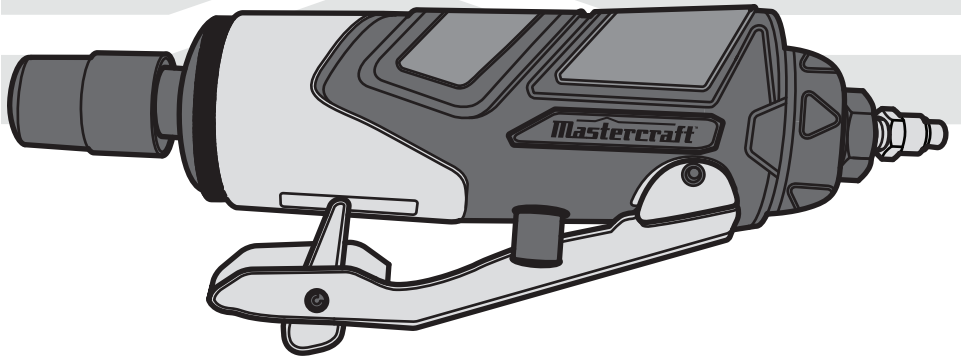
Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential, or exemplary damages arising in connection with the sale, use, or inability to use this product.

Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim, or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

Mastercraft™



INSTRUCTION MANUAL

AIR-POWERED FULL-SIZE DIE GRINDER

058-9332-0

TABLE OF CONTENTS

3

TECHNICAL SPECIFICATIONS

GRINDER CAPACITY	1/4" *(6. 4 mm)*
SPEED (NO LOAD)	25,000 RPM
SCFM REQUIREMENT	3.0 @ 90 PSI
WORKING PRESSURE	90 PSI *(6.3 bar)*
AIR INLET	1/4" *(6.4 mm)* –18 NPT
AIR HOSE REQUIRED	3/8" *(9.52 mm)*
WEIGHT	13 oz *(0.36 kg)*
A WEIGHTED SOUND PRESSURE LEVEL	84.1 dB *(A)*
SOUND POWER LEVEL	95.1 dB *(A)*
VIBRATION IN HANDLE	0.8 m/s^2

SCFM: Standard Cubic Feet per Minute (the volumetric flow rate of a far corrected to standardized conditions of temperature and pressure).

NPT: National Pipe Thread.

Environmental Responsibilities

Please recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

DANGER!
Potential hazard that will result in serious injury or loss of life.

WARNING!
Potential hazard that could result in serious injury or loss of life.

CAUTION!
Potential hazard that may result in moderate injury or damage to equipment.

Note- The word “Note” is used to inform the reader of something he/she needs to know about the tool.

PERSONAL SAFETY

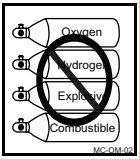
These precautions are intended for the personal safety of the user and others working with the user. Please take time to read and understand them.

DANGER!

Potential hazard that will result in serious injury or loss of life.

- **Keep children away** from the work area. Do not allow children to handle power tools.
- **Do not use a tool that is leaking air**, that has missing or damaged parts, or that requires repairs. **Verify that all screws are securely tightened**.
- **Never attempt to override tool safety features**.
- **Do not allow unskilled or untrained individuals to operate** an Air-powered Full-size Die Grinder or any other air-powered tool.

- **Do not use oxygen or any other combustible or bottled gas** to power air-powered tools. Failure to observe this warning can cause explosion and serious personal injury or death. Use only the compressed air to power air-powered tools. Use a minimum of 25' (7.6 m) of hose to connect the tool to the compressor. Failure to comply will result in serious injury or loss of life.



- **Risk of electric shock:** Do not expose a compressor to rain. Store it indoors. Disconnect the compressor from the power source before servicing. Compressor must be grounded. Do not use grounding adaptors.

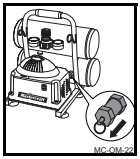
- **Risk of personal injury:** Do not direct compressed air from the air hose toward the user or other personnel.

- **Risk of inhallation:** Never directly inhale the air produced by the compressor.

- **Risk of bursting:** Do not adjust the pressure switch or safety valve for any reason. They have been preset at the factory for this compressor's maximum pressure. Tampering with the pressure switch or the safety valve may cause personal injury or property damage.

- **Risk of burns:** The pump and the manifold generate high temperatures. In order to avoid burns or other injuries, do not touch the pump, the manifold, or the transfer tube while the compressor is running. Allow the parts to cool down before handling or servicing. Keep children away from the compressor at all times.

- **Risk of bursting:** Make sure the regulator is adjusted so that the compressor outlet pressure is set lower than the maximum operating pressure of the tool. Before starting the compressor, pull the ring on the safety valve to make sure the valve moves freely. Drain water from tank after each use. Do not weld or repair tank. Relieve all pressure in the hose before removing or attaching accessories.



SAFETY GUIDELINES

WARNING!
Potential hazard that could result in serious injury or loss of life.

- **Always ensure that the workpiece is firmly secured** leaving both hands free to control the tool.
- **Always keep your air tool clean and lubricated**. Daily lubrication is essential to avoid internal corrosion and possible failure.
- **Do not overload the tool**. Allow the tool to operate at its optimum speed for maximum efficiency. Excessive overload can cause the tool casing to split, and may also lead to excessive wear on moving parts and possible failure.
- **Use only the light weight coil hoses** for connecting the tool to the compressor coupling. Do not fit quick change couplings onto the tool, as the vibration can lead to damage or failure of the coupling.
- **Always ensure that the tool has stopped before connecting it to the air supply**.
- **Verify that grinding accessories that are used with this tool are rated at or above the tool's speed rating** (25,000 RPM). Failure to properly match the accessory to the tool could result in serious personal injury.
- **Always ensure that the accessories are rated/designed for use with the tool**.
- **Ensure that the accessories are correctly and securely fastened** before connecting the tool to the air supply.
- **Locate the compressor in a well-ventilated area** for cooling, at a minimum of 12" (31 cm) away from the nearest wall.
- **Protect the air hose and the power cord from damage and puncture. Inspect them for weak or worn spots every week**, and replace them if necessary.
- **Always wear hearing protection** when using the air compressor. Failure to do so may result in hearing loss.
- **Do not carry the compressor while it is running**.
- **Do not operate the compressor if it is not in a stable position**.
- **Do not operate the compressor on a rooftop or in an elevated position** that could allow the unit to fall or be tipped over.
- **Always replace a damaged gauge** before operating the unit again.

CAUTION!

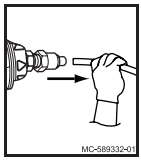
Potential hazard that may result in moderate injury or damage to equipment.

- **Keep proper footing at all times in order to ensure correct balance.**
- **Do not wear watches, rings, bracelets, or loose clothing** when using any air tool.
- For optimal safety and tool performance, **inspect the tool daily** in order to ensure free movement of the trigger, safety mechanisms, and springs.
- **Keep the work area clean**. A cluttered or dirty workbench may lead to an accident. Floors should be kept clear.
- **This tool is not a toy. Use it with caution.**
- **Use the tool in a well-ventilated area.**
- **Verify that the tool has stopped before putting it down after use.**
- **Handling and storage of oil:** Use with adequate ventilation. Avoid contact of oil with eyes, skin and clothing. Avoid breathing spray or mist. Store in a tightly closed container in a cool, dry, well-ventilated area free from incompatible substances.
- **Do not use the tool near or below freezing temperatures,** as doing so may cause tool failure.
- **Do not store the tool in a freezing environment** to prevent ice formation on the operating valves of the tool, as doing may cause tool failure.

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- **Disconnect the tool from the air supply and turn off the compressor** before changing any accessories, performing any maintenance, servicing, when the tool is not in use, when it is being handed to another person, and when it is left unattended. Failure to comply may result in moderate injury or damage to equipment.

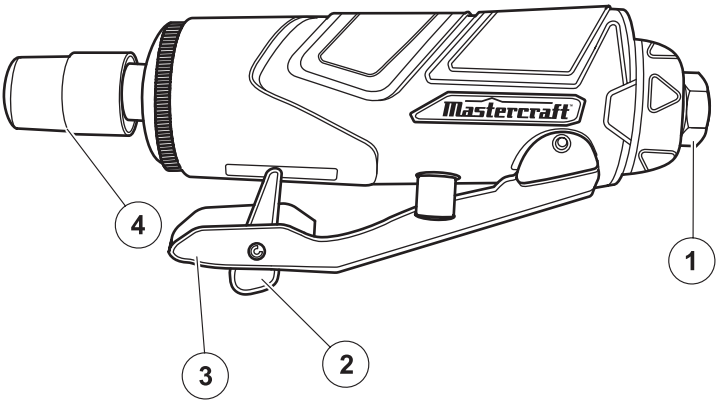


- **Use safety goggles and ear protection:**
  Wear safety glasses with side shields when operating the tool/compressor and verify that others in the work area are also wearing safety glass. Safety glasses must conform to American National Standards Institute (ANSI Z87.1) requirements and must provide protection from flying particles from the front and the sides.

  Air-powered tools are loud and the sound can cause hearing damage. Always wear ear protection to help prevent hearing damage and loss. Failure to comply may result in moderate injury.

Note: Recycle unwanted materials rather than disposing of it as waste. Sort the tools, hoses, and package in specific categories and take them to the local recycling center or dispose of them in an environmentally safe way.

KEY PARTS DIAGRAM



MC-589332-02

No.	Description	No.	Description
1	Air inlet	3	Trigger
2	Lock-off switch	4	Grinding collet/Chuck

General usage description

The Mastercraft® Air-powered Full-size Die Grinder features a durable, lightweight composite housing designed to reduce vibration. The tool has a throttle-lever designed with a lock-off mechanism for added safety. Exhaust is discharged through the rear of the grinder. The tool is ideal for light weld breaking, grinding, porting, polishing applications, and for smoothing sharp edges.

Compatible compressor and air tool

GUIDELINES FOR PROPER USAGE AND OPERATION

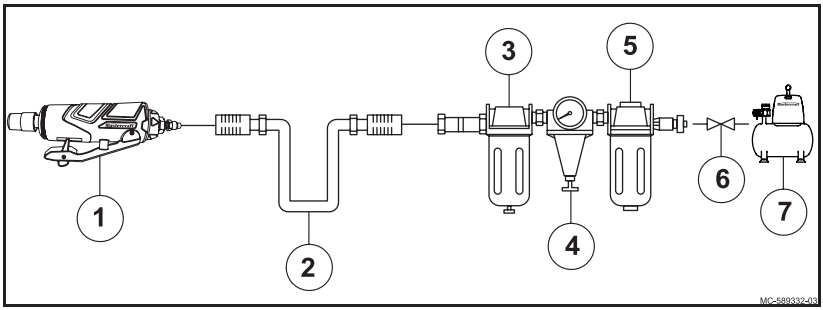
Always ensure the use of appropriately matched air tools and compressors. The compressor should be able to supply a minimal air delivery of 3 SCFM @ 90 PSI to ensure the compressor can run continuously with the Mastercraft Air-powered Full-size Die Grinder. Using tools or a combination of tools that together or separately require air pressure more than that of which the air compressor can deliver will reduce performance and could void the compressor or tool guarantee/warranty.

Air Compressor Size & Power	2 HP	2 1/2 HP	3+ HP
5-6 Gallons	Light duty and intermittent use	Light duty and intermittent use	Medium duty and intermittent use
8-11 Gallons	Light duty and intermittent use	Medium duty and intermittent use	Heavy duty and continuous use
15+ Gallons	Medium duty and intermittent use	Heavy duty and continuous use	Heavy duty and continuous use

Air system

- Always use clean, dry, regulated, compressed air at 4 to 7 bar (60 to 100 PSI).
- Do not exceed the maximum and minimum pressures. Operating the tool at the wrong pressure (too low or too high) will cause excessive noise or rapid wear.

- It is recommended that a filter-regulator-lubricator be used and be located as close to the tool as possible.
- If a filter-regulator-lubricator is not installed, place up to 6 drops of pneumatic tool oil into the air inlet plug before each use.
- If a filter-regulator-lubricator is installed, keep the air filter clean. A dirty filter will reduce the air pressure to the tool, which will cause a reduction in power, efficiency, and general performance.



No.	Description	No.	Description
1	Mastercraft® Air-powered Full-size Die Grinder	5	Filter
2	Air hose	6	Cut-off valve
3	Lubricator	7	Air compressor
4	Regulator (0 to 8.5 bar)		

CAUTION!

Potential hazard that may result in moderate injury or damage to equipment.

- Verify that all connections in the air supply system are sealed in order to prevent air from leaking. Failure to comply will result in moderate injury or damage to equipment.

Read this instruction manual thoroughly or have tool operators read thoroughly before using the tool.

- Read all safety guidelines *(see section "Safety guidelines")* at the beginning of this manual.
- Always inspect the air tool prior to each use to
  - ensure proper use of power source.
  - determine whether the tool is in proper working order.
- Only use accessories which are specifically designed for use with this tool *(see section "Technical specifications")*.
- Drain the compressor tank daily. Water in the air supply line will damage the tool.
- Clean the air inlet and the filter weekly.
- Line pressure should be increased to compensate for unusually long air hoses. The hose diameter should be 3/8".

WARNING!
Potential hazard that could result in serious injury or loss of life.

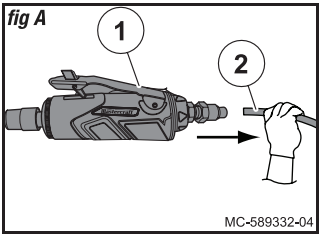
- Do not use the tool if it is not in proper working order.
- Do not use oxygen or any other combustible or bottled gas to power this tool.
- Do not use this tool in the presence of any flammable liquids or gases.
- Keep hose away from heat, oil, and sharp edges. Check hose for wear and tear, and ensure that all connections are secure. Failure to comply could lead to serious injury or loss of life.
- Keep hands and other parts of the body away from the work areas when connecting the air supply. Failure to comply could lead to serious injury or loss of life.

Loading and operation

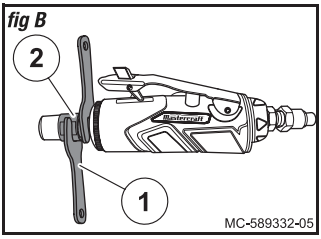
DANGER!
Potential hazard that will result in serious injury or loss of life.

- Carefully read all instructions provided in this manual and understand them thoroughly before using the tool.
- Do not use grinding accessories other than those that are specifically designed for use with the Air-powered Full-size Die Grinder. Failure to comply will result in serious injury or loss of life.

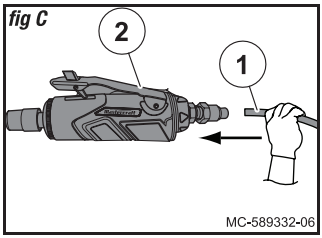
1. Disconnect the tool (1) from the air hose (2) *(fig A)*.



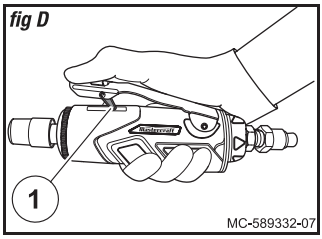
2. Use the two wrenches (1) to loosen the chuck (2). Insert a suitable grinding accessory into the chuck and firmly retighten the chuck to lock the grinding accessory in place using the wrenches *(fig B)*.



3. Plug in compressor, turn it on set the pressure regulator to 90 PSI, attach one end of the air hose to the compressor and the other end of the air hose (1) to the tool (2). Use plumber's tape to avoid air leak *(see section "Technical specifications") (fig C)*.



4. With a firm grip on the tool lightly press the trigger (1) and apply accessory to workpiece, slowly and steadily moving tool until achieving desired finish on the workpiece *(fig D)*.



WARNING!

Potential hazard that could result in serious injury or loss of life.

- Hold the tool firmly with both hands. Always point abrasive material away from you while operating the tool.
- Do not apply additional or excessive force to the tool when grinding.
- Do not allow the tool to run free for an extended period of time. Doing so will shorten the life of the tool.
- Verify that the air supply is clean and air pressure does not exceed 90 PSI (6.3 bar) while operating the tool. If the air pressure is too high or unclean, it will shorten the life of the tool. Failure to comply could result in serious injury or loss of life.

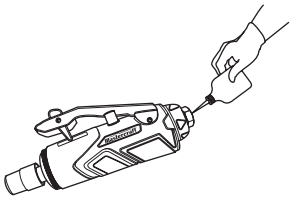
Maintenance

WARNING!
Potential hazard that could result in serious injury or loss of life.

- Disconnect the tool from the air supply before changing accessories, servicing, or performing maintenance.
- Only use the tool after replacing or repairing the damaged parts or accessories.
- Use only recommended and properly rated replacement parts and accessories. Failure to comply will lead to serious injury or loss of life.
- Repairs must be performed by a qualified service technician.

MAINTENANCE REQUIRED	DESCRIPTION	TOOLS OR MATERIALS REQUIRED	MAXIMUM SERVICE INTERVAL		
			Each use or every 2 hrs	Monthly	As Needed
General inspection - free movement	Trigger, spring, safety mechanism	None	X		
In-depth inspection	Worn or broken parts			X	X
Replace worn or broken parts					X
Lubrication	See below	Pneumatic tool oil	X		

- **Lubrication:** If the Air-powered Full-Size Die Grinder and the compressor are not equipped with an in-line lubrication system, place up to 6 drops of pneumatic tool oil into the air inlet before each work day or after every 2 hours of continuous use, depending on the characteristics of workpiece.



MC-589332-10

17

MAINTENANCE

- Air-operated tools must be inspected periodically, and worn or broken parts must be replaced in order to keep tools operating safely and efficiently.
- Inspect and replace worn or damaged O-rings, seals, etc. Tighten all screws and caps frequently in order to help prevent personal injury.
- Loss of power or erratic action may be due to the following
  - Excessive drain in the air line.
  - Moisture or restriction in the air pipe.
  - Incorrect size or type of hose connector. Check the air supply and follow instructions.
  - Grit or gum deposits in the Die Grinder may also reduce performance.
- Inspect the trigger, the spring, and the safety mechanism for free movement on a regular basis in order to ensure that the safety system is fully functional.
- Verify that no part is loose or missing and that no part is stuck or jammed.
- Disconnect the tool from the air supply, clean, and store it in a safe, dry, and childproof location, when tool is not in use.
- When temperatures are below freezing, keep tools as warm as possible using any safe, convenient method.
- Check the air supply for correct size and type of hose connectors. To avoid loss of power or erratic action, ensure that there is no additional drain on the air line and no moisture or restriction in the air pipe.

Storage

- Apply an ample amount of lubrication before storing the tool.
- Run the tool for approximately 30 seconds after lubricating, in order to ensure that the lubrication is uniformly distributed throughout the tool.
- Store the tool in a clean and dry environment.

Troubleshooting

The following chart lists common issues and solutions. Please read it carefully and follow all instructions closely.

WARNING!
Potential hazard that could result in serious injury or loss of life.

- If any of the following symptoms appear while the tool is in use, turn it off and disconnect it from the air supply immediately. Failure to heed this warning will result in serious personal injury.
- Disconnect the tool from the air supply before making any adjustments.
- Repairs must be performed by a qualified service technician only.

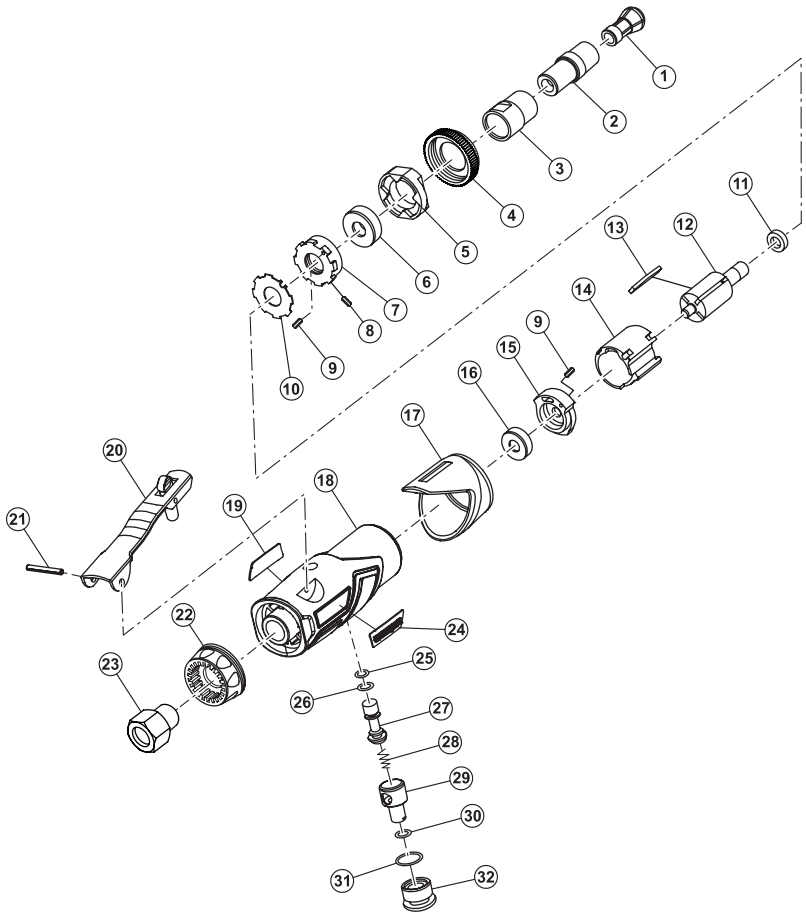
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool runs at normal speed but loses control under load	1. Worn or damaged motor parts. 2. Cam clutch is worn or stuck due to insufficient lubrication.	1. Lubricate clutch housing. 2. Check for excess clutch oil as the clutch requires only fifty percent of oil fill. Overfilling can cause dragging of high speed parts. A typical oiled/lubricated Die Grinder requires 1/2 oz (1.5 mL) of oil. **Grease Lubrication:** Heat usually indicates insufficient amount of grease. Severe operating conditions may require frequent lubrication.
Tool runs slowly and air flows slightly from exhaust	1. Motor parts are jammed. 2. Power regulator is in closed position. 3. Air flow is blocked due to dirt.	1. Check filter and air inlet for blockage. 2. Pour pneumatic tool oil into air inlet as per instructions. 3. Operate the tool in forward and/or reverse rotations within a short duration. Repeat the above steps as per requirements. If this fails, return the tool to the service center.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Tool is not running. Air flows freely from exhaust.	Motor vanes are stuck due to material build up.	1. Pour pneumatic tool oil into air inlet. 2. Operate the tool in forward and/or reverse rotation within a short duration. 3. Tap motor housing gently with plastic mallet. 4. Disconnect the tool from the air supply. Operate the motor manually by rotating drive shank (wherever applicable). 5. If tool remains jammed, return to service center.
Tool does not shut off.	O-rings or throttle valve is dislodged from seat valve.	Replace O-rings or return to service center.

Note: For further repair information, please call 1-800-689-9928.

EXPLODED VIEW



MC-589332-09

PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
1	Chuck	1	17	Front cover	1
2	Chuck seat	1	18	Housing	1
3	Chuck screw	1	19	Label 2	1
4	Front grip	1	20	Trigger	1
5	Retainer ring	1	21	Pin 3 X 24	1
6	Bearing	1	22	Muffle cover	1
7	Front plate	1	23	Air inlet plug	1
8	Pin 1.5 X 4	1	24	Label 1	1
9	Pin 2 X 6	2	25	O-ring 4.8 X 1.6	1
10	Washer	1	26	O-ring 5.6 X 2	1
11	Bushing	1	27	Valve stem	1
12	Rotor	1	28	Valve spring	1
13	Rotor blade	4	29	Adjusting knob	1
14	Cylinder	1	30	O-ring 7 X 2	1
15	Back plate	1	31	O-ring 12 X 3	1
16	Bearing	1	32	Screw cap	1

If any parts are missing or damaged, or if you have any questions, please call 1-800-689-9928.

Mastercraft® limited warranty

This Mastercraft® product is guaranteed for a period of 3 years from the date of original retail purchase against defects in workmanship and materials, except for the following component:

Component A: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with **proof of purchase** within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labor relating thereto.

These warranties are subject to the following conditions and limitations:

a. A bill of sale verifying the purchase and purchase date must be provided.

b. This warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect, or lack of proper installation, operation, or maintenance (as outlined in the applicable instruction manual or operating instructions), or which is being used for industrial, professional, commercial, or rental purposes.

c. This warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.

d. This warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups, or adjustments.

e. This warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer).

f. This warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing).

g. This warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons.

h. This warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discoloring by heat, or abrasives and chemical cleaners.

i. This warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

Additional limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential, or exemplary damages arising in connection with the sale, use, or inability to use this product.

Notice to consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim, or exclude any statutory warranties set forth in any applicable provincial or federal legislation.