Clarke®

air

3/8”REVERSIBLE AIR DRILL

MODEL NO: CAT219

PART NO: 3110473

OPERATING & MAINTENANCE INSTRUCTIONS

UK CA | CE

ORIGINAL INSTRUCTIONS

GC0922 - Rev 1

INTRODUCTION

Thank you for purchasing this CLARKE Reversible Air Drill.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

SPECIFICATIONS

MODEL NO	CAT 219
Min. Hose Size (ID)	3/8" (10 mm)
Chuck Size	1.5 - 10 mm (max 3/8")
Operating Air Pressure	90 psi (6.2 bar)
Air Consumption	5.5 cfm
Max No-load Speed	1400 rpm
Air Inlet Size	1/4"BSP
Sound Pressure Level (LpA dB)	86 dB(A)
Sound Power Level (LwA dB)	97 dB(A)
Vibration Levels	1.818 m/s^2
Dimensions (L x W x H)	215 x 40 x 95 mm
Weight	1.16 kg

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not affect your statutory rights.

GENERAL SAFETY RULES

CAUTION: FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY.

WORK ENVIRONMENT

1. Keep the work area clean and tidy.
2. Dress appropriately - **DO NOT** wear loose clothing or jewellery. Tie long hair out of the way.
3. Keep children and visitors away - **DO NOT** let children handle the drill.
4. **DO NOT** operate the drill where there are flammable liquids or gases.
5. Keep the air supply hose away from heat, oil and sharp edges.
6. **DO NOT** fit the drill to any stand or clamping device that may damage it.

PRODUCT USE

1. Stay alert and use common sense - **DO NOT** operate the drill when you are tired or under the influence of alcohol, drugs or medication.
2. **ALWAYS** wear eye protectors when using the drill - eye protectors must provide protection from flying particles from the front and the side.
3. **ALWAYS** wear ear protectors when using the drill.
4. **DO NOT** overreach - keep proper footing and balance at all times.
5. **NEVER** use any type of bottled gas as a source of power for the drill.
6. **DO NOT** connect the air supply hose with your finger on the trigger of the drill.
7. **DO NOT** exceed the maximum pressure for the drill 90 psi / 6.2 bar.
8. Check hoses for leaks or worn condition before use and ensure that all connections are secure.
9. **DO NOT** use the drill for any other purpose than that described in this manual.
10. **DO NOT** carry out any alterations or modifications to the drill.
11. **ALWAYS** disconnect from the air supply when:
    - Performing any maintenance
    - The drill is not in use.

- The drill will be left unattended.
- Moving to another work area.
- Passing the drill to another person.

12. **NEVER** use the drill if it is defective or operating abnormally.
13. The drill should be serviced at regular intervals by qualified service personnel.
14. **AVOID** damaging the drill for example by applying excessive force.
15. **ALWAYS** maintain the drill with care. Keep it clean for the best and safest performance.
16. Quick change couplings should not be located at the drill. They add weight and could fail due to vibration.
17. **DO NOT** force or misuse the drill. It will do a better and safer job at the rate for which it was designed.
18. This drill vibrates with use. Vibration may be harmful to your hands or arms. Stop using the drill. if discomfort, a tingling feeling or pain occurs. Seek medical advice before resuming use.

DRILL SAFETY PRECAUTIONS

1. **ALWAYS** make sure the work surface is free from nails and other foreign objects.
2. **After changing bits and accessories or making adjustments, make sure the chuck is securely tightened and that the chuck key has been removed.**
3. **ALWAYS** check bits for damage before each use. Damaged bits or other accessories can break during use and cause serious injury.
4. **NEVER** use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can snap during use. Dull bits require more force possibly causing the bit to break.
5. Use of a dust collection system reduces dust-related hazards.
6. Maintain a firm grip on the tool and position your body and arms to allow you to resist kickback forces. Kickback will propel the tool in the direction opposite to the tool's movement at the time of snagging.
7. Use metal and voltage detectors to locate hidden electric. water or gas lines. Avoid touching live components or conductors.
8. Before drilling, check that there is sufficient clearance for the drill bit under the workpiece.
9. If you are interrupted when operating the drill, switch off the tool before looking up.

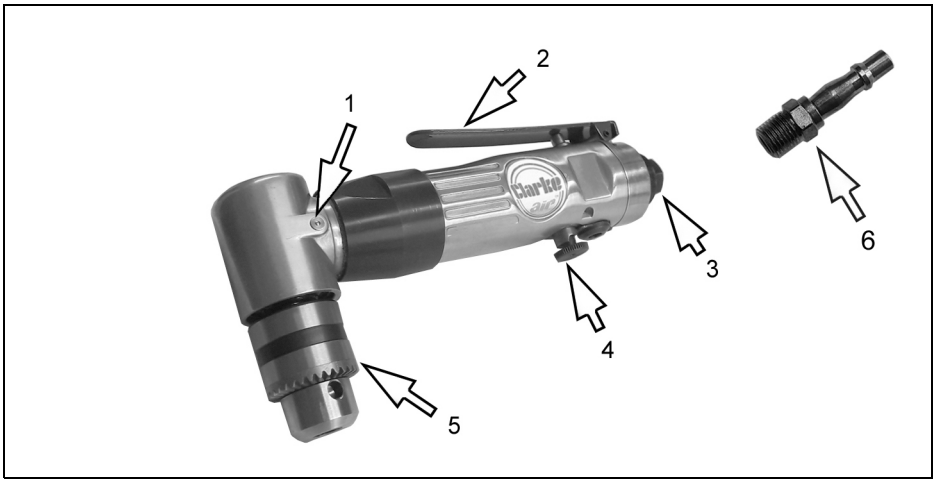
TRANSPORT

1. **NEVER** carry the drill by the air supply hose.
2. **NEVER** carry the drill with your finger on the trigger.

STORAGE

1. When not in use the drill must be disconnected from the air supply and stored in a dry place out of the reach of children (preferably in a locked cabinet).
2. **AVOID** storing the drill in environments where the temperature is below 0°C

PRODUCT OVERVIEW



NO	DESCRIPTION	NO	DESCRIPTION
1	Grease nipple	4	Forward/reverse control
2	Trigger	5	Chuck
3	1/4" BSP female air inlet	6	Airline connector

CONTENTS

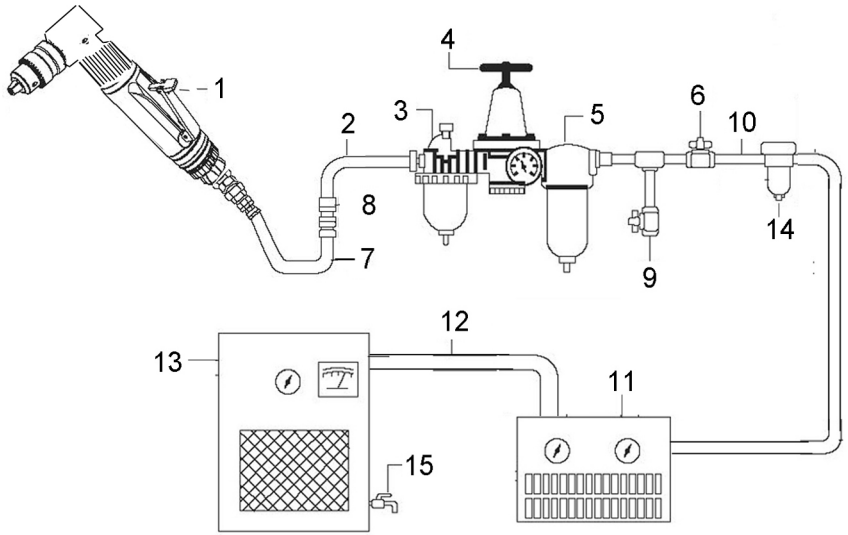
- 1 x 3/8" Reversible air drill
- 1 x Chuck Key
- 1 x Air inlet screw-in connector

THE COMPRESSED AIR SUPPLY

AIR SUPPLY REQUIREMENTS

WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF COMPRESSORS AND COMPRESSED AIR SUPPLY.

A typical air line layout is shown above. If an automatic in-line filter/regulator is used, it will keep the tool in good condition, but should be regularly checked and topped up with oil. SAE 10 oil should be used, and the lubricator adjusted to approx 2 drops per minute.



AIR SYSTEM LAYOUT:

1. Air Tool
2. Air Hose 3/8" (I.D.)
3. Oiler
4. Pressure Regulator
5. Filter
6. Shut Off Valve
7. Whip Hose
8. Coupler Body And Connector
9. Drain Valve
10. 1/2" Or Larger Pipe And Fitting
11. Air Dryer
12. 1" Or Larger Pipe And Fitting
13. Air Compressor
14. Auto Drain
15. Drain Valve

Use only clean, dry, regulated compressed air as a power source.

Air compressors used with the tool must comply with the appropriate UK/EU Safety Directives.

A build-up of moisture or oil in the air compressor will accelerate wear and corrosion in the tool. ensure any moisture is drained from the compressor daily and the inlet filter is kept clean.

If an unusually long air hose (over 8 metres), is required, the line pressure or the hose inside diameter may need to be increased.

The air hose must be rated at least 150% of the maximum operating pressure of the tool.

The minimum hose diameter should be 3/8"(10mm) ID and fittings should have the same internal dimensions.

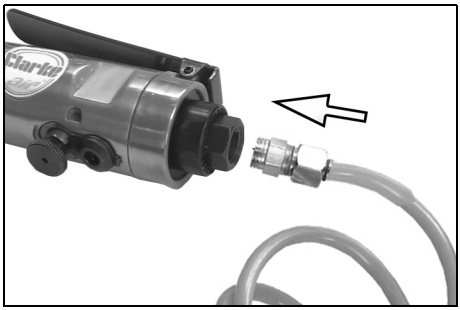
Never exceed the maximum operating pressure for the tool. It is recommended that air pressure to this tool does not exceed 90 psi at the tool when running. Higher pressures and unclean air will shorten the life of the tool due to faster wear and is a possible safety hazard.

BEFORE USE

WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF AIR COMPRESSORS AND COMPRESSED AIR SUPPLY.

NOTE: Ensure the compressor is turned off.

1. If required, connect an in-line mini oiler to the tool.
   - A mini oiler helps to prolong the life of the air tool. Remove the oil fill screw from the side of the mini oiler and fill with Air-line Oil available from your CLARKE dealer. Replace the screw before using the tool.



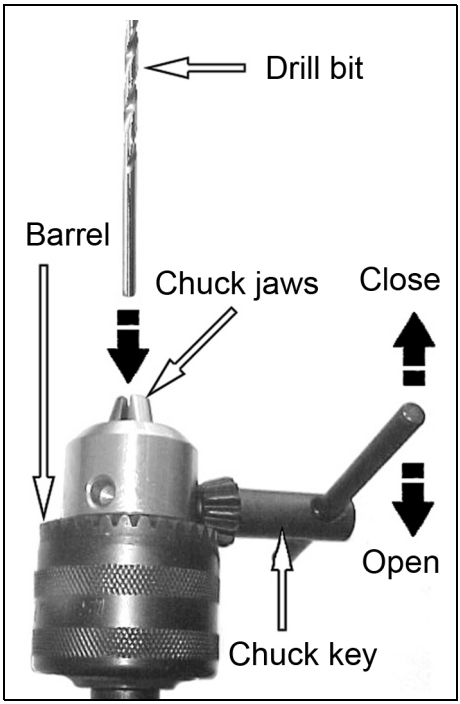
2. If a mini-oiler is not being used, run a few drops of oil through the tool before use. It can be entered through the inlet strainer or via the hose at the nearest connection to the air supply.
3. Remove the travel plug from the air inlet and connect a suitable hose as shown.

4. Connect the other end of the hose to the compressor.
5. Turn on the air supply at low pressure and check for air leaks. Rectify any found before proceeding.
6. Your air tool is now ready for use.
   - You can fit a whip hose with a quick fit coupling if required (available from your dealer).

OPERATION

INSERTING/REMOVING THE DRILL BIT

1. Open the chuck jaws by inserting the chuck key in one of the holes in the chuck and turning it as shown.
2. Make sure that the head of the chuck key is located on the barrel of the chuck.
3. Turn the chuck key until the chuck jaws are open sufficiently to take the drill bit.
4. Place the drill shank into the jaws of the chuck.
5. Close the chuck jaws and tighten to grip the drill bit by turning the chuck key as shown.
6. Make sure that the chuck jaws are fully closed and that the drill bit is held firmly.
7. Your air drill is now ready for use.



OPERATING THE AIR DRILL

WARNING: MAKE SURE THAT THE CHUCK KEY HAS BEEN REMOVED BEFORE USING THE DRILL.

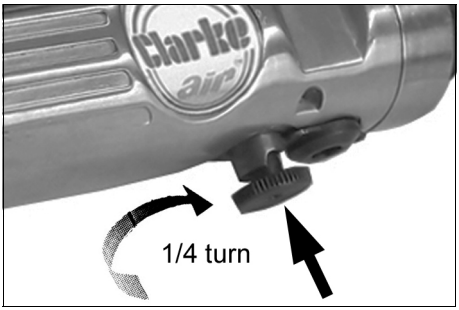
1. Squeeze the trigger to start the drill.
   - Lightly position the bit on the workpiece & gently squeeze the trigger.

- Once the drill is cutting and up to speed, apply a steady pressure to drill into the workpiece.

2. Release the trigger to stop.
3. Always ensure the drill has stopped before putting it down.

SETTING FORWARD/REVERSE

1. Ensure the drill is stationary before selecting forward or reverse.
2. Set the drill to Forward (drilling) mode by pressing the button in and turning a quarter of a turn.
3. Revere this action or Reverse operation.



SAFE DRILLING WITH THE AIR DRILL

CAUTION: IMMEDIATELY RELEASE THE TRIGGER IF THE DRILL BIT BECOMES STUCK OR JAMMED, THE TOOL'S TORQUE CAN TWIST YOUR ARM AND CAUSE AN INJURY. THE TOOL MAY TWIST OUT OF YOUR GRIP AND CAUSE AN INJURY TO YOURSELF OR A BYSTANDER.

1. Verify the drill's rotation before starting the drill.
2. A loose or mismatched bit may be ejected by the tool, causing an injury to the user or a bystander. It may also fail to penetrate the material as the point may move around under pressure, damaging the workpiece.
   - Ensure the bit shank size matches the tool's chuck.
   - Tighten the chuck so the shank is tightly held with no room to move.
3. Always hold the tool firmly when switching on. The reaction to the motor's torque may cause the tool to twist as it accelerates to full speed.
4. DO NOT use drill as a router or try to elongate or enlarge holes by twisting the drill. Drill bits can break and can cause injury.
5. DO NOT apply side pressure on the bit unless it is designed for such a purpose. The bit may bind or break.
6. NEVER attempt to change the rotation direction while the tool is running. Be sure the switch is OFF and the motor has completely stopped before changing the rotation direction.

DISCONNECTING THE AIR SUPPLY

DO NOT disconnect the air supply hose until the compressor has been shut down and the compressed air released.

1. Refer to the compressor instruction manual for the procedure to shut down and release the compressed air.
2. Once the pressure has been released, disconnect the air supply hose from the air drill.
3. Store the tool safely in its box in a dry, secure environment.

TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Tool runs at normal speed but slows down under any load.	1. Excessive pressure on drill. 2. Motor parts worn. 3. Worn or sticking mechanism due to lack of lubricant.	1. Reduce the force applied to the drill. 2. Return to your CLARKE dealer for repair. 3. Drip air tool lubricating oil into air inlet. Allow oil to soak moving parts before using.
Tool runs slowly. Air flows weakly from exhaust.	1. Motor parts jammed with gum/dirt. 2. Regulator in closed position. 3. General airflow blocked by dirt.	1. Examine inlet air filter for cleanliness. 2. Adjust regulator to open position. 3. Operate tool in short bursts.
Tool will not run. Air flows freely from exhaust.	1. Motor vanes stuck due to buildup of foreign material.	1. Disconnect air supply and rotate tool assembly manually. 2. Try operating tool in short bursts. 3. Tap motor housing gently with a rubber mallet. 4. Drip a few drops of air tool oil into air inlet to soak moving parts.
Tool will not shut off.	1. Throttle O-rings damaged or ill-fitting in seat.	1. Return to your CLARKE dealer for repair.

MAINTENANCE

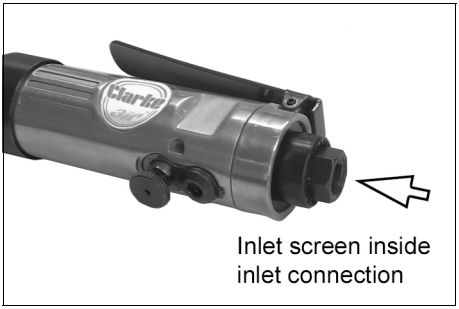
WARNING: MAKE SURE THAT THE DRILL IS DISCONNECTED FROM THE AIR SUPPLY BEFORE STARTING ANY CLEANING OR MAINTENANCE PROCEDURES.

DAILY

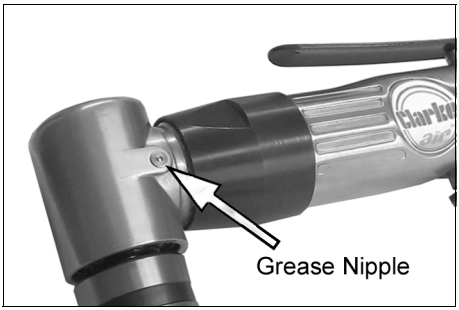
1. Before use, drain water from the compressor air tank and air line.
2. Pour a few drops of airline oil into the tool air inlet. This should be carried out regardless of whether or not an in-line mini oiler is used. If an in-line mini oiler is not used, this procedure should be repeated after every two to three hours of use.

WEEKLY

1. Check the air inlet screen filter for blockage and clean if necessary.



2. Applying grease to the head assembly is recommended to prolong the life of the tool. Press your grease gun nozzle against the grease nipple on the side of the drill to inject a shot of grease. Run the tool for a few moments to distribute the grease internally.



CLEANING

1. Keep the body of the tool clean and free from debris.
2. Grit or gum deposits in the tool may also reduce efficiency. This condition can be corrected by cleaning the air strainer and flushing out the tool with gum solvent oil, or failing this, the tool should be disassembled, thoroughly

cleaned, dried and reassembled.

3. After extensive use, remove the inlet screen filter and flush out the mechanism with gum solvent oil or an equal mixture of SAE No10 oil and paraffin. Allow to dry before use.
5. If the tool runs erratically or becomes inefficient, and the air supply is of good quality, it may be necessary to dismantle the air motor and replace worn or damaged parts. You may prefer to take the drill to your CLARKE dealer if internal maintenance is required.

This air tool has been designed to give long and trouble free service. If, however, having followed the instructions in this booklet carefully (refer to page 10 - Troubleshooting), you encounter problems, take the unit to your local CLARKE dealer.

PERFORMANCE

Please note that factors other than the tool may effect its operation and efficiency such as reduced compressor output, excessive drain on the airline moisture or restrictions in the air-line, or the use of connectors of improper size or poor condition which will reduce air supply.

STORAGE

If the tool is to be stored, or is idle for longer than 24 hours, run a few drops of air line oil into the air inlet, and run the tool for 5 seconds in order to lubricate the internal parts.

When not in use, disconnect from air supply, clean & store in a safe, dry place.

ACCESSORIES

A wide range of accessories is available including filter/regulators, lubricators, high-pressure hoses (5 to 50 metres) etc.

Contact your CLARKE dealer for further information or CLARKE International Service Department on 01992 565333.

**CLARKE Airline Oil (part no. 3050825) is available from your CLARKE dealer.

UK CA

Clarke® INTERNATIONAL

Hemnall Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following statuary requirement(s):

Supply of Machinery (Safety) Regulations 2008

The following standards have been applied to the product(s):

EN ISO 11148-3:2012

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

The UKCA mark was first applied in: 2022

Product Description:	3/8" Angled Reversible Air Drill
Model number(s):	CAT219
Serial / batch Number:	N/A
Date of Issue:	30/03/2022

Signed:

J.A. Clarke
Director

CE

Clarke® INTERNATIONAL

Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2006/42/EC Machinery Directive

The following standards have been applied to the product(s):

EN ISO 1148-3:2012

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2022

Product Description:	3/8" Angled Reversible Air Drill
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Serial / batch Number:	N/A
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Signed:

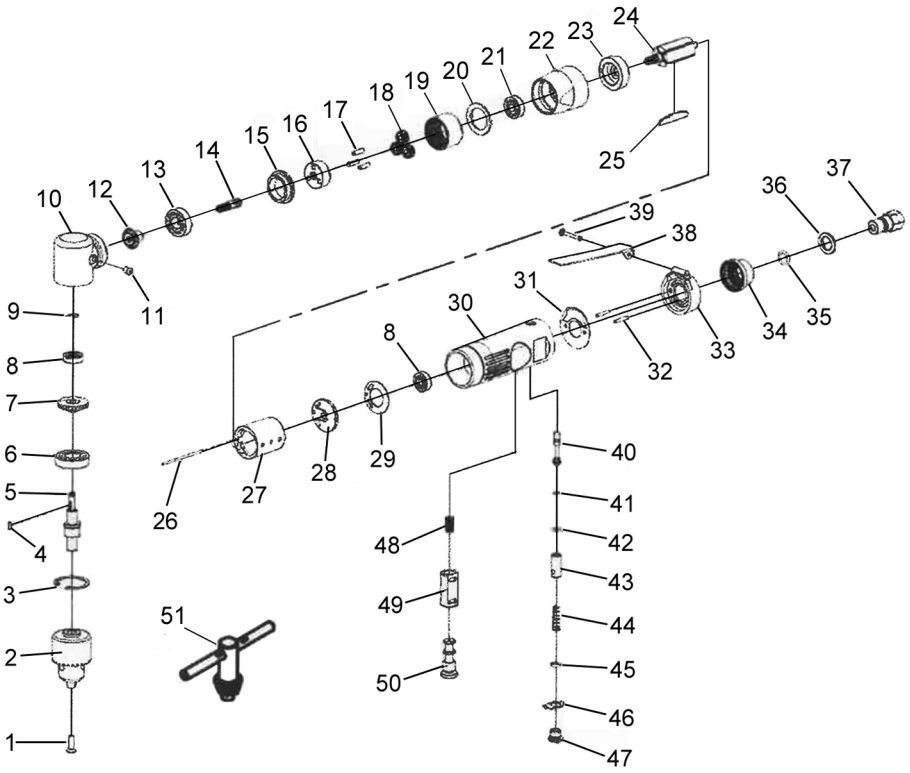
J.A. Clarke
Director

COMPONENT PARTS

NO	ITEM
1	Screw
2	Chuck Assembly
3	Circlip
4	Woodruffe Key
5	Drive Shaft
6	Bearing
7	Bevel Gear
8	Bearing
9	Circlip
10	Angled Head
11	Grease Nipple
12	Bevel Gear
13	Bearing
14	Gear Shift
15	Locating Ring
16	Planetary Cage
17	Pin
18	Planetary Gear
19	Gear Ring
20	V-Gasket
21	Bearing
22	Sleeve Connecting Nut
23	Front Cylinder Head
24	Rotor
25	Rotor Blade

NO	ITEM
26	Pin
27	Cylinder
28	Rear Cylinder Head
29	Sealing Gasket
30	Main Housing
31	Sealing Gasket
32	Pin
33	Sealing Cover
34	Muffler
35	O-ring
36	Gasket
37	Air Inlet
38	Trigger
39	Bolt
40	Valve Stem
41	O-ring
42	O-ring
43	Valve Bush
44	Spring
45	O-ring
46	Locating Tab
47	Sealing Screw
48	Spring
49	Reverse Regulator Sleeve
50	Reverse Control Knob
51	Chuck Key

COMPONENT PARTS



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