



GRINDER, TYPE 27 INSTRUCTION MANUAL
115 mm - 125 mm (4 ½ in - 5 in)
12,000 RPM

Important Safety Information

Please read, understand and follow all safety information contained in these instructions prior to the use of this tool. Retain these instructions for future reference.

Intended Use

These pneumatic tools are intended for use in industrial locations, and used only by skilled, trained professionals in accordance with the instructions in this manual. These pneumatic tools are designed to be used with the appropriate size Type 27 Wheel for grinding metals. They should only be used for such grinding applications and within their marked capacity and ratings. Only accessories specifically recommended by 3M should be used with these tools. Use in any other manner or with other accessories could lead to unsafe operating conditions.

Do not operate tool in water or in an excessively wet application.
 Do not use grinding wheels that have a Max RPM less than the marked RPM rating on the tool.

| Summary of device labels containing safety information | |
|--|---|
| Marking | Description |
| | WARNING: READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING TOOL. |
| | WARNING: ALWAYS WEAR APPROVED EYE PROTECTION |
| | WARNING: ALWAYS WEAR APPROVED HEARING PROTECTION |
| | Direction of Rotation |
| Prolonged vibration may cause injury | Vibration Safety Note |
| 12,000 r/min. | Maximum Rotational Speed |
| 90 PSIG / 6.2 BAR MAX | Maximum Air Pressure |
| Use accessories rated at tool speed or higher | Accessories Speed Warning Note |
| Use appropriate guard | Guard Safety Warning Note |

Explanation of Signal Word Consequences

- WARNING:** Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury and/or property damage.
- CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage.

| | |
|--|--|
| <p>Read the Safety Data Sheets (SDS) before using any materials.</p> <p>Contact the suppliers of the workpiece materials and abrasive materials for copies of the SDS if one is not readily available.</p> | <p>WARNING!</p> <p>Exposure to <u>DUST</u> generated from workpiece and/or abrasive materials can result in lung damage and/or other physical injury.</p> <p>Use dust capture or local exhaust as stated in the SDS. Wear government-approved respiratory protection and eye and skin protection.</p> <p>Failure to follow this warning can result in serious lung damage and/or physical injury.</p> |
|--|--|



⚠ WARNING

To reduce the risks associated with impact from abrasive product or tool breakup, sharp edges, hazardous pressure, rupture, vibration and noise:

- Read, understand and follow the safety information contained in these instructions prior to the use of this tool. Retain these instructions for future reference.
- Only personnel who are properly trained should be allowed to service this tool.
- Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.
- Operators and other personnel must always wear protection for eyes, ears, and respiratory protection when in the work area or while operating this product. Follow your employer's safety policy for PPE's and/or ANSI Z87.1 or local/national standards for eyewear and other personal protective equipment requirements.
- Wear leather apron or other protective apparel, taking into consideration the type of work being done.
- Never exceed marked maximum input pressure (90psi / .62Mpa / 6.2Bars).
- Proper eye protection must be worn at all times.
- Tool is not to be operated in the presence of bystanders.
- If you notice any abnormal noise or vibration when operating the product, immediately discontinue its use and inspect for worn or damaged abrasive product or accessories. Correct or replace the suspect component. If abnormal noise or vibration still exists, return the tool to 3M for repair or replacement. Refer to warranty instructions.
- Never operate this tool without all guards or safety features in place and in proper working order.
- Prior to use, ensure guard is oriented to protect the operator from flying fragments and is properly secured.
- Make sure the tool is disconnected from its air source before servicing, inspecting, maintaining, cleaning, and before changing abrasive product.
- Only use wheel retainers (flanges) and wheel arbors supplied by 3M.
- Never use this tool with Type 1 wheels or cut-off wheels.
- Prior to use, or if dropped or jammed, inspect wheel retainers and wheel arbors and abrasive product for possible chips, cracks or other damage, and insure the abrasive product is correctly secured. If damaged, or if safety labels cannot be read, replace with new abrasive product, wheel retainers, wheel arbors, and/or labels available from 3M.
- Never use a damaged grinder until it has been repaired.
- Never over-ride or disable the safety features of the start-stop control such that it is in the on position.
- Use only with mounting hardware recommended by 3M; check with 3M for mounting hardware requirements.
- If the tool is jammed, shut off the tool and ease it free. Ensure the abrasive product is correctly secured.
- Never allow this tool to be used by children or other untrained people.
- Do not leave an unattended tool connected to air source.

To reduce the risks associated with skin abrasion, burns, cutting & severing, impact or entrapment:

- Never install grinding wheels in a grinder tool which is unguarded.
- Keep hands, hair, and clothing away from the cutting part of the tool.
- Wear suitable protective gloves while operating tool.
- Do not touch the rotating parts during operation for any reason.
- Do not force tool or use excessive force when using tool.

To reduce the risks associated with vibration:

- If any physical hand/wrist discomfort is experienced, work should be stopped promptly to seek medical attention. Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

To reduce the risks associated with loud noise:

- Always wear hearing protection while operating this tool. Follow your employer's safety policy or local/national standards for personal protective equipment requirements

To reduce the risks associated with fire or explosion:

- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. The abrasives are able to create sparks when working material, resulting in the ignition of the flammable dust or fumes.
- Refer to MSDS of material being worked as to potential for creating fire or explosion hazard.

To reduce the risks associated with hazardous dust ingestion or eye/skin exposure:

- Use appropriate respiratory and skin protection, or local exhaust as stated in the MSDS of the material being worked on.

To reduce the risks associated with hazardous voltage:

- Do not allow this tool to come into contact with electrical power sources as the tool is not insulated against electrical shock.

⚠ CAUTION

To reduce the risks associated with whipping or hazardous pressure/rupture:

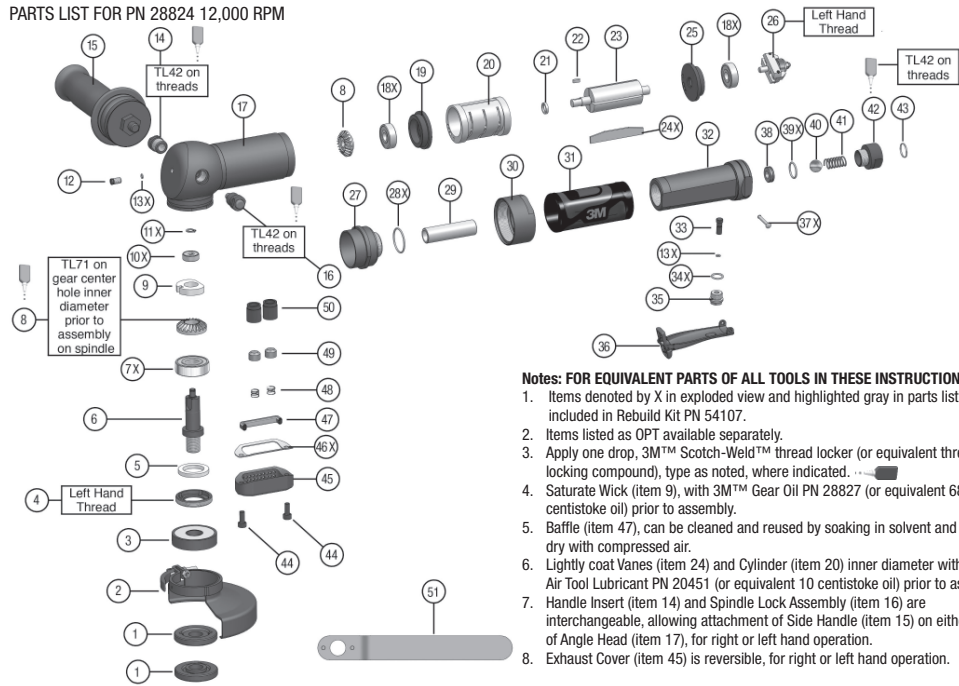
- Ensure supply hose is oil resistant and is properly rated for required working pressure.
- Do not use tools with loose or damaged air hoses or fittings.
- Be aware that incorrectly installed hoses and fittings might unexpectedly come loose at any time and create a whipping/impact hazard.

To reduce the risks associated with flying off of accessory parts:

- Use care in attaching abrasive product and mounting hardware; following the instructions to ensure that they are securely attached to the tool before use.
- Never point this product in the direction of yourself or another person, or start tool unintentionally.
- Never over-tighten accessory fasteners.

Parts Page

PARTS LIST FOR PN 28824 12,000 RPM



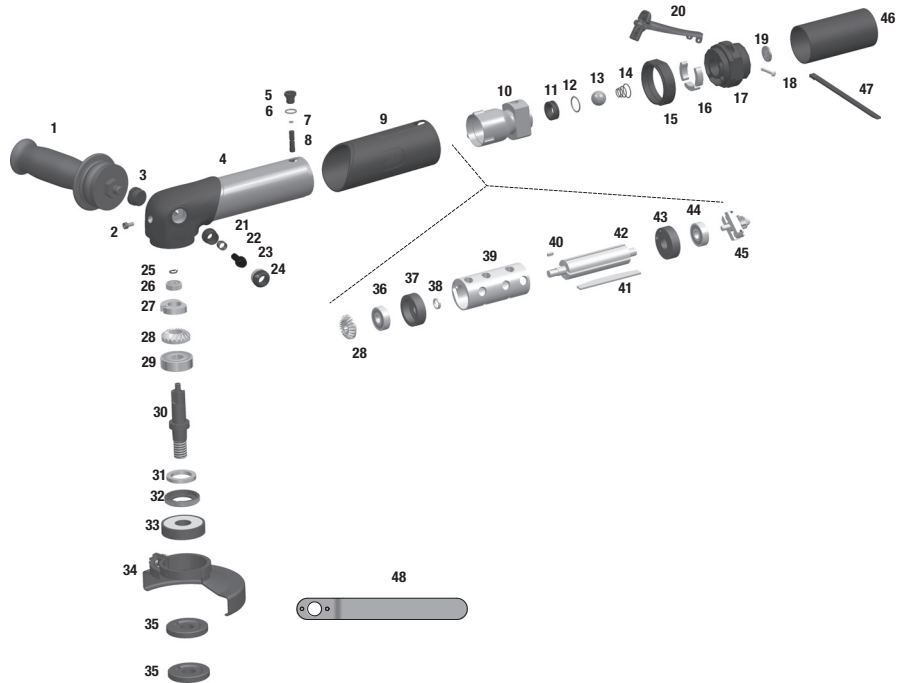
Notes: FOR EQUIVALENT PARTS OF ALL TOOLS IN THESE INSTRUCTIONS:

1. Items denoted by X in exploded view and highlighted gray in parts list are included in Rebuild Kit PN 54107.
2. Items listed as OPT available separately.
3. Apply one drop, 3M™ Scotch-Weld™ thread locker (or equivalent thread locking compound), type as noted, where indicated.
4. Saturate Wick (item 9), with 3M™ Gear Oil PN 28827 (or equivalent 68 centistoke oil) prior to assembly.
5. Baffle (item 47), can be cleaned and reused by soaking in solvent and blowing dry with compressed air.
6. Lightly coat Vanes (item 24) and Cylinder (item 20) inner diameter with 3M™ Air Tool Lubricant PN 20451 (or equivalent 10 centistoke oil) prior to assembly.
7. Handle Insert (item 14) and Spindle Lock Assembly (item 16) are interchangeable, allowing attachment of Side Handle (item 15) on either side of Angle Head (item 17), for right or left hand operation.
8. Exhaust Cover (item 45) is reversible, for right or left hand operation.

| Fig. | 3M PN | Description | Qty | Fig. | 3M PN | Description | Qty |
|------|-------|---------------------------------|-----|------|-------|---|-----|
| 1 | 54069 | Flange Nut, 5/8-11 | 2 | 29 | 54072 | Air Inlet Tube | 1 |
| 1 | 54068 | Flange Nut, M14-2 | 2 | 30 | 54073 | Lock Ring | 1 |
| 2 | 54062 | Guard Assembly, Standard 4 1/2" | 1 | 31 | 54074 | Cover, Rear Handle Housing | 1 |
| 2 | 54063 | Guard Assembly, Jumbo 4 1/2" | OPT | 32 | 54075 | Housing, Rear Handle | 1 |
| 2 | 54065 | Guard Assembly, Standard 5" | OPT | 33 | 54080 | Valve Stem, Throttle | 1 |
| 2 | 54066 | Guard Assembly, Jumbo 5" | OPT | 34 | 54082 | O Ring, 11 mm x 1.6 mm | 1 |
| 3 | 54061 | Autobalancer | 1 | 35 | 54083 | Insert, Throttle | 1 |
| 4 | 54059 | Retaining Ring 38 mm x 6 mm | 1 | 36 | 06642 | Safety Lever Assembly | 1 |
| 5 | 54058 | Felt Ring 32 mm x 4 mm | 1 | 37 | 54079 | Pin, Safety Lever | 1 |
| 6 | 54057 | Spindle 5/8-11 | 1 | 38 | 54076 | Throttle Insert | 1 |
| 6 | 54056 | Spindle M14-2 | 1 | 39 | 54103 | O Ring, 20.5 mm x 2 mm | 1 |
| 7 | 54055 | Bearing, Main Spindle | 1 | 40 | 54077 | Ball, Air Inlet | 1 |
| 8 | 54054 | Gear Set | 1 | 41 | 54078 | Spring, Air Inlet | 1 |
| 9 | 54060 | Wick, Gear Oil | 1 | 42 | 54102 | Bushing, Air Inlet | 1 |
| 10 | 54053 | Bearing, Top Spindle | 1 | 43 | 54101 | Filter, Air Inlet | 1 |
| 11 | 54052 | Circlip | 1 | 44 | 54099 | Screw, Exhaust M5 x 6 mm | 2 |
| 12 | 54051 | Oiler Screw | 1 | 45 | 54088 | Cover, Exhaust | 1 |
| 13 | 54081 | O Ring 5.6 mm x 1 mm | 2 | 46 | 54098 | Gasket, Exhaust | 1 |
| 14 | 54049 | Handle Insert | 1 | 47 | 54087 | Baffle, Exhaust | 1 |
| 15 | 54048 | Side Handle, 2.5" x 6", M10-1.5 | 1 | 48 | 54086 | Spring, Exhaust | 2 |
| 16 | 54070 | Spindle Lock Assembly | 1 | 49 | 54085 | Piston, Exhaust | 2 |
| 17 | 54050 | Angle Head Housing | 1 | 50 | 54084 | Housing, Exhaust | 2 |
| 18 | 54089 | Bearing, Motor | 2 | 51 | 54105 | Wrench, Spanner, 4 mm x 30 mm B. C. | 1 |
| 19 | 54090 | Housing, Front Motor Bearing | 1 | -- | 54107 | Rebuild Kit | OPT |
| 20 | 54091 | Cylinder, Motor | 1 | -- | 54106 | Tool Kit, Rebuild | OPT |
| 21 | 54092 | Spacer, Rotor | 1 | -- | 28828 | 3M™ Air Tool Lubricant, 1 oz | OPT |
| 22 | 54104 | Key, Square 3 mm x 3 mm x 8 mm | 1 | -- | 20451 | 3M™ Air Tool Lubricant, 4 oz | OPT |
| 23 | 54094 | Rotor | 1 | -- | 20466 | 3M™ Air Tool and Compressor Lubricant, Quart | OPT |
| 24 | 54093 | Rotor Vane Set of 4 | 1 | -- | 20467 | 3M™ Air Tool and Compressor Lubricant, Gallon | OPT |
| 25 | 54095 | Housing, Rear Motor Bearing | 1 | -- | 28827 | 3M™ Gear Oil, 4 oz | OPT |
| 26 | 54097 | Governor 12K RPM | 1 | | | | |
| 26 | 54096 | Governor 8K RPM | 1 | | | | |
| 27 | 54071 | Connector, Angle Head | 1 | | | | |
| 28 | 54100 | O Ring, 44 mm x 2 mm | 1 | | | | |

Parts Page

PARTS LIST FOR PN 88566 12,000 RPM



| Fig. | 3M PN | Description | Qty | Fig. | 3M PN | Description | Qty |
|------|-------|---------------------------------|-----|-------|------------------------------|-------------------------------------|-----|
| 1 | 54048 | 54048 Antivibration Side Handle | 1 | 26 | 54053 | Bearing | 1 |
| 2 | 88773 | Oiler Screw | 1 | 27 | 54060 | Wick, Oil Grease | 1 |
| 3 | 88774 | Side Handle Insert | 1 | 28 | 54054 | Gear Set | 1 |
| 4 | 88775 | 88775 Angle Head (Grinder) | 1 | 29 | 54055 | Bearing, Main Spindle | 1 |
| 4 | 88776 | Angle Head (Housing) | 1 | 30 | 54057 | Spindle 5/8-11 | 1 |
| 5 | 88777 | Plug Screw | 1 | 31 | 54058 | Felt Ring 32 mm x 4 mm | 1 |
| 6 | 88778 | 8 O Ring Plug Screw | 1 | 32 | 54059 | Retaining Ring 38 mm x 6 mm | 1 |
| 7 | 88779 | O Ring Valve Stem | 1 | 33 | 54061 | Autobalancer | 1 |
| 8 | 88780 | Valve Stem | 1 | 34 | 54062 | Guard Assembly (4.5") Grinder | 1 |
| 9 | 88781 | Moulded Sleeve | 1 | 54063 | Guard Assembly, Jumbo 4 1/2" | OPT | |
| 10 | 88782 | Governor/Throttle Housing | 1 | 54065 | Guard Assembly, Standard 5" | OPT | |
| 11 | 88783 | Throttle Insert | 1 | 54066 | Guard Assembly, Jumbo 5" | OPT | |
| 12 | 88784 | O Ring Throttle Seat | 1 | 35 | 54069 | Flange Nut, 5/8-11 | 2 |
| 13 | 88785 | Throttle Ball | 1 | 36 | 54089 | Bearing Motor Front | 1 |
| 14 | 88786 | Throttle Spring | 1 | 37 | 88796 | Front Bearing Housing | 1 |
| 15 | 88787 | Lock Ring | 1 | 38 | 54092 | Spacer, Rotor | 1 |
| 16 | 88788 | Baffle Material | 3 | 39 | 88797 | Cylinder | 1 |
| 17 | 88789 | Throttle Hose Connector | 1 | 40 | 54104 | Key, Square 3 mm x 3 mm x 8 mm | 1 |
| 18 | 54079 | Lever Pin | 1 | 41 | 88798 | Vane | 4 |
| 19 | 88790 | Filter, Air Inlet | 1 | 42 | 88799 | Rotor | 1 |
| 20 | 88791 | Lever | 1 | 43 | 88800 | Rear Bearing Housing | 1 |
| 21 | 88792 | Lock Pin Sleeve | 1 | 44 | 88801 | Rear Bearing | 1 |
| 22 | 88793 | Lock Pin Spring | 1 | 45 | 88802 | Governor | 1 |
| 23 | 88794 | Lock Pin | 1 | 46 | 88803 | Exhaust Overhose | OPT |
| 24 | 88795 | Lock Pin Housing | 1 | 47 | NA | Overhose Zip Tie Strap | OPT |
| 25 | 54052 | Circlip | 1 | 48 | 54105 | Wrench, Spanner, 4 mm x 30 mm B. C. | 1 |

Product Configuration/Specifications:

| Model Number | Rotation Speed (r/min) | Spindle Size | Guard Size mm (in) | Product Net Wt kg (lb.) | Air Consumption l/min. (CFM) | Power kW (HP) | *Noise Level dBA Pressure (Power) | **Vibration Level m/s ² (ft/s ²) | **Uncertainty K m/s ² (ft/s ²) |
|--------------|------------------------|--------------|---------------------|-------------------------|------------------------------|---------------|-----------------------------------|---|---|
| 28824 | 12,000 | 5/8-11 | 115 - 125 (4.5 - 5) | 2.4 (5.29) | 1132.7 (40.0) | 1.12 (1.5) | 83.9 (92.2) | 3.79 (12.4) | 1.25 (4.1) |
| 65655 | 12,000 | M14 | 125 (5) | 2.45 (5.40) | 1132.7 (40.0) | 1.12 (1.5) | 83.9 (92.2) | 3.79 (12.4) | 1.25 (4.1) |
| 88566 | 12,000 | 5/8-11 | 115 - 125 (4.5 - 5) | 2.23 (4.9) | 1132 (40.0) | 1.12 (1.5) | 89 (97) | 5.51 (18.1) | 1.82 (5.97) |

* Declared noise levels; measurements carried out in accordance with standard EN ISO 15744.

** Declared vibration levels in accordance with EN ISO 20643 and EN ISO 28927-1.

IMPORTANT NOTE: The noise and vibration values stated in the table are from laboratory testing in conformity with stated codes and standards and are not sufficient risk evaluation for all exposure scenarios. The actual exposure values and amount of risk or harm experienced to an individual is unique to each situation and depends upon the surrounding environment, the way in which the individual works, the particular material being worked, work station design, as well as upon the exposure time and the physical condition of the user. 3M cannot be held responsible for the consequences of using declared values instead of actual exposure values for any individual risk assessment.

Operating / Maintenance Instructions

PRIOR TO THE OPERATION

The tool is intended to be operated as a hand held tool. It is always recommended that while using the tool, operators stand on a solid floor, in a secure position with a firm grip and footing. Be aware that the tool can develop a torque reaction. See the section "SAFETY PRECAUTIONS".

Use a clean lubricated air supply that will give a measured air pressure at the tool of 6.2 bar (90 psig) when the tool is running with the lever fully depressed. It is recommended to use an approved 12.7 mm (1/2 in) x 8 m (25 ft) maximum length airline for tools 28824 and 65655 or an approved 9.5 mm (3/8 in) x 8 m (25 ft) maximum length airline for tool 88566. Connect the tool to the air supply as shown in Figure A. Do not connect the tool to the airline system without an easily accessible air shut off valve. It is strongly recommended that an air filter, regulator and lubricator (FRL) be used as shown in Figure A as this will supply clean, lubricated air at the correct pressure to the tool. In any case appropriate air pressure regulators shall be used at all times while operating this tool where the supply pressure exceeds the marked maximum of the tool. Details of such equipment can be obtained from your tool distributor. Adjust air line lubricator equipment such that two drops of 3M™ Air Tool Lubricant PN 20451 (or equivalent 10 centistoke oil) per minute are provided through the hose to the air inlet of the tool. If excessive oil is noted in the exhaust air, reduce the drip rate of the air line lubricator equipment accordingly. If such equipment is not used, the tool should be manually lubricated. To manually lubricate the tool, disconnect the airline and put two to three drops of 3M™ Air Tool Lubricant PN 20451 (or equivalent 10 centistoke oil) into the air inlet of the tool. Reconnect tool to the air supply and run tool slowly for a few seconds to allow air to circulate the oil. If the tool is used frequently, lubricate it on a daily basis or lubricate it if the tool starts to slow or lose power. It is recommended that the air pressure at the tool be 6.2 bar (90 psig) while the tool is running so the maximum RPM is not exceeded. The tool can be run at lower pressures but should never be run higher than 6.2 bar (90 psig). If run at lower pressure the performance of the tool is reduced.

| Recommended Airline Size | | | Recommended Maximum Hose Length | | Air Pressure | | |
|--------------------------|---------|--------|---------------------------------|---------|---------------------|---------|------------------|
| Model 28824 | 12.7 mm | 1/2 in | 8 meters | 25 feet | Maximum Working | 6.2 bar | Pressure 90 psig |
| Model 65655 | 12.7 mm | 1/2 in | | | Recommended Minimum | NA | NA |
| Model 88566 | 9.5 mm | 3/8 in | | | | | |

Proper gear set lubrication is critical to maximizing tool life and performance. To lubricate the gear set inside the tool angle head, remove Oiler Screw (item 12) from Angle Head (item 17) and add five to ten drops of 3M™ Gear Oil PN 28827 (or equivalent 68 centistoke oil) to Wick (item 9) every eight hours of tool operation. If excessive oil is noted on the Spindle (item 6) during operation, reduce the number of drops provided accordingly.

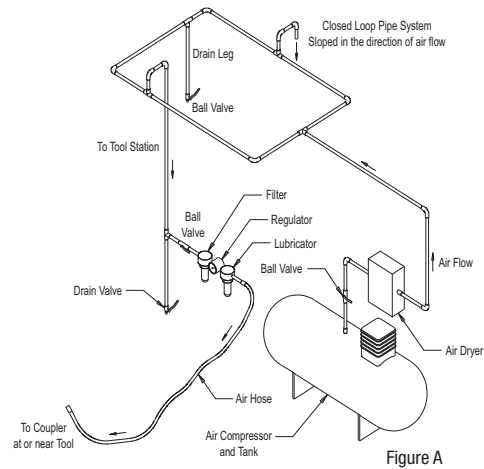
Safety Precautions

1. Read all instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
2. The tool RPM should be checked on a regular basis (at shift change).
3. Make sure the tool is disconnected from the air supply. Select a suitable abrasive grinding wheel and secure it to the mounting shaft using the wheel retainer and wheel arbor supplied with the tool. Be careful to center the grinding wheel on the wheel retainer and/or arbor before tightening the wheel retainer nut. Do not over tighten the wheel retainer or you will crack the wheel.
4. Always wear required safety equipment when using this tool.
5. Always remove the air supply to the tool before fitting, adjusting or removing the abrasive grinding wheel.
6. Always adopt a firm footing and grip and be aware of torque reaction developed by the tool.
7. Use only 3M approved spare parts.
8. Always ensure the material being worked is firmly fixed to avoid movement.
9. Check hose and fittings regularly for wear. Do not carry the tool by its hose; always be careful to prevent the tool from being started when carrying the tool with the air supply connected.
10. Dust can be highly combustible. Keep working area clean.
11. If tool is serviced or rebuilt check to ensure that the maximum tool RPM is not exceeded and that there is no excessive tool vibration.
12. Do not exceed maximum recommended air pressure. Use safety equipment as recommended.
13. Prior to installing any abrasive grinding wheel, always check that its marked maximum operating speed is equal or higher than the rated speed of this tool.
14. The tool is not electrically insulated. Do not use where there is a possibility of contact with live electricity, gas pipes, and/or water pipes.
15. Take care to avoid entanglement with the moving parts of the tool with clothing, ties, hair, cleaning rags or loose hanging objects. If entangled, stop air supply immediately to avoid contact with moving tool parts.
16. Keep hands clear of the spinning grinding wheel during use.
17. If the tool appears to malfunction, remove from use immediately and arrange for service and repair.
18. Do not allow the tool to free spin without taking precautions to protect any persons or objects from the rupture of the abrasive grinding wheel.
19. Immediately release the start handle in the event of any disruption of pressure; do not attempt to re-start until the disruption has been corrected.
20. When tool is not in use, store in a clean, dry environment free of debris and in a manner that ensures that the grinding wheel is not damaged.
21. Fixture workpiece such that the grinding cut slot is kept at a constant or increasing width during the operation.
22. Operate tool in a well lit work area.
23. Recycle or dispose of tool according to Local, State, and Federal regulations.
24. Whenever performing maintenance procedures, use care to avoid exposure to any hazardous substances deposited on the tool as a result of work processes. Also, refer to warnings related to dust exposure.

3M™ Type 27 Grinding Wheels and Accessories

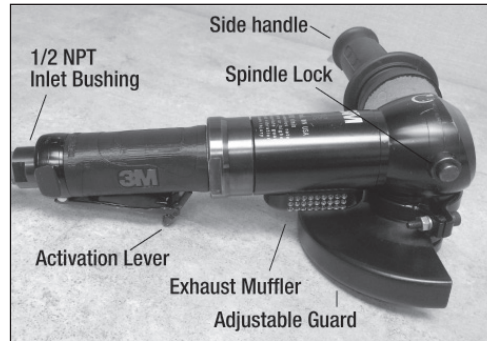
3M Type 27 Grinding Wheels and Accessories are designed specifically for use on the 3M Type 27 Grinders.

See 3M ASD Accessories to Optimize Performance catalog 61-5002-8098-9 and Engineered Metalworking Solutions catalog 61-5002-8097-1 for additional accessories.



Description of Functions and Setting & Testing

PN 28824



PN 88566



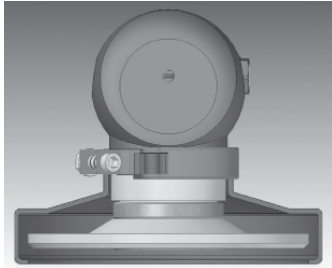
SETTING & TESTING TOOL SPEED:

1. Ensure the Activation Lever is not depressed.
2. Connect the compressed air line.
3. Press the Activation Lever slowly and increase force until tool is at full speed.
4. Use a Rotary Tachometer to check the speed.
5. Check speed regularly.

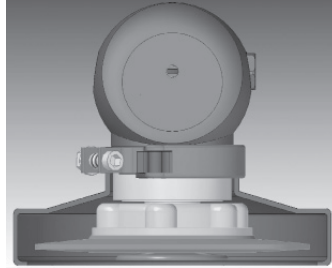
Type 27 Wheel Mounting Hardware and Usage

Type 27 Grinding Wheels are also known as Depressed Center Grinding Wheels. They have a dish shaped center to allow the lower mounting hardware or flange to be recessed into the wheel. This allows the wheel to be used in a nearly flat orientation when needed.

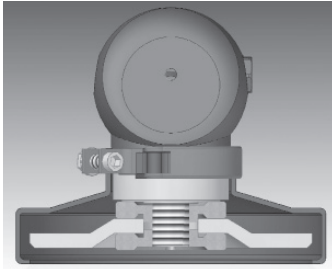
Refer to ANSI B7.1-2000 Safety Requirements for Use, Care and Protection of Abrasive Wheels and ISO/EN 12413 Safety Requirements for Bonded Abrasive Products for proper abrasive wheel applications.



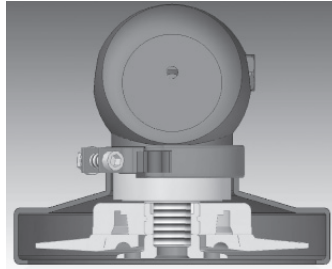
1/4" Grinding Wheel Type 27 4 1/2" Std. Guard
PN 54062



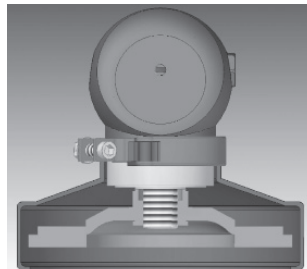
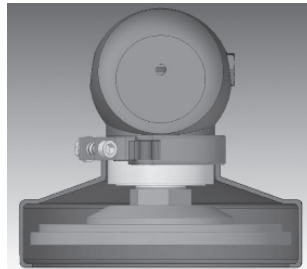
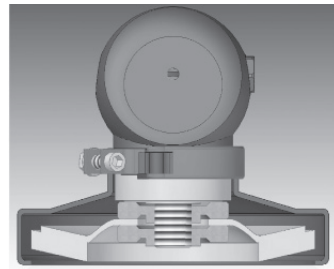
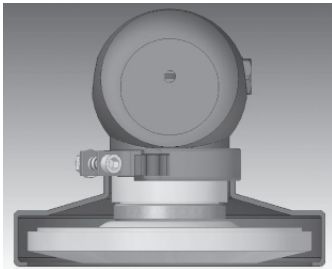
Fibre disc mounted with Low Profile Disc Pad Hub PN 28476, Disc Pad Face Plate PN 28443, and Disc Retainer Nut PN 02618 4 1/2" Std. Guard
PN 54062



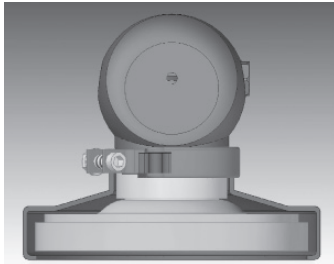
Flap Wheel Type 27 4 1/2" Std. Guard
PN 54062



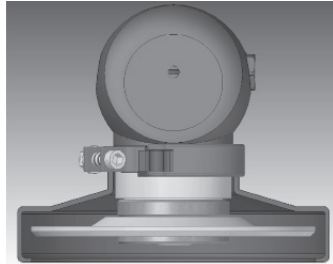
Quick Change Flap Wheel 4 1/2" Jumbo Guard
PN 54065



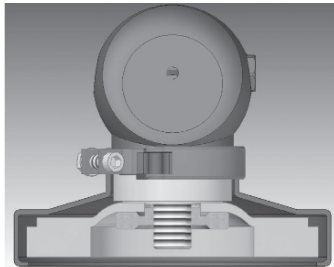
Type 27 Wheel Mounting Hardware and Usage



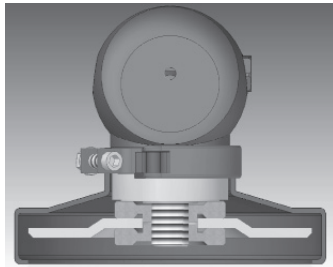
Jumbo Flap Wheel 4 1/2" Std. Guard
PN 54062



1/8" Cut Off Wheel 4 1/2" Std. Guard
Type 27 PN 54062



Quick Change 4 1/2" Jumbo Guard
Jumbo Flap Wheel PN 54065



1/4" Quick Change 4 1/2" Standard Guard
Grinding Wheel Type 27 PN 54062

Product Use: All statements, technical information and recommendations contained in this document are based up on tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the 3M product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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mishandling, lack of reasonable care, or due to any accidental cause. If a tool or any part thereof is defective within this warranty period, your exclusive remedy and 3M's sole obligation will be, at 3M's option, to repair or replace the tool or refund the purchase price.


Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

Submitting a Warranty Claim: Contact your dealer when submitting a warranty claim in accordance with the restrictions listed above. Please note that all warranty claims are subject to manufacturer's approval. Be sure to keep your sales receipt in a safe place. This must be submitted when filing a warranty claim, within 1 year from the date of purchase. For additional assistance call 1-800-362-3550.

Product Repair after Warranty Has Expired: Repair of 3M Abrasive Power tools that are not under warranty is available through 3M or a 3M Authorized Tool Repair Representative. Contact your 3M Abrasive Power Tool Distributor for details, or call 1-800-362-3550.

For 3M Product Information Call:
800-3M HELPS (800-364-3577) toll free
651-737-6501 direct dial

| EU DECLARATION OF CONFORMITY | |
|---|-------|
| <small>Name and address of the manufacturer and, where applicable, his authorized representative:</small> 3M Co., Abrasive Systems Division 3M Center, Building 223-6N-02 St Paul, MN USA 55144 | |
| <small>This declaration of conformity is issued under the sole responsibility of the manufacturer.</small> | |
| <small>Product model/product, type, batch or serial number:</small> Description: 3M™ Type 27 Angle Grinders, 1.5 HP, 12,000, 115 mm - 125 mm (4.5 in. - 5.0 in.) Model Number: 2824, 88566 Serial Number Range: 8000-00 - 81999-99, where the first 2 digits represent the design of the unit, the next 3 digits represent the sequence of manufacture, and the final 2 digits represent the yr of manufacture. | |
| <small>Object of the declaration:</small> Grinder with associated accessories | |
| <small>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</small> Machinery Directive 2006/42/EC | |
| <small>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared. References must be listed with their identification number and version and, where applicable, date of issue.</small> Machinery Directive 2006/42/EC EN ISO 12100:2010 EN ISO 11148-7:2013 EN ISO 28927-1:2009 EN ISO 15744:2009 List stds. and rev. dates List stds. and rev. dates | |
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| <small>Where applicable, the notified body performed:</small> <small>Click to enter, name and number</small> <small>Click to enter, description of intervention</small> | | | | | | | | |
|--|--|----------------|-----------------|------------------|-------|---|--|----------------|
| <small>and issued the certificate:</small> <small>Click to enter, name and certificate number</small> | | | | | | | | |
| <small>Where applicable, description of accessories and components, including software, which allow the radio equipment to operate as intended and covered by the EU declaration of conformity.</small> <small>Click to enter, description</small> | | | | | | | | |
| <small>Signed for and on behalf of:</small> 03-08-2021 St. Paul, Minnesota, USA  Signature Betty Z. Mei Name of Signer Technical Director Title of Signer | | | | | | | | |
| <small>Location of Technical File</small> <table border="1"> <thead> <tr> <th>Document Holder</th> <th>Division/ERC/ERU</th> <th>Phone</th> </tr> </thead> <tbody> <tr> <td>Mr. Ivan Hristov - Hardware Development Engineers, 3M Germany GmbH Carl-Schwarz-Str. 1, 41453 Neuss Germany</td> <td>ASD Global Systems Lab, 3M Central Europe Region</td> <td>+49 2131 14058</td> </tr> </tbody> </table> | | | Document Holder | Division/ERC/ERU | Phone | Mr. Ivan Hristov - Hardware Development Engineers, 3M Germany GmbH Carl-Schwarz-Str. 1, 41453 Neuss Germany | ASD Global Systems Lab, 3M Central Europe Region | +49 2131 14058 |
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