



POLISHER/SANDER INSTRUCTION MANUAL  
5-7 in (127-178 mm)  
3 500 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




This pneumatic tool is intended for use in industrial locations, and used only by skilled, trained professionals in accordance with the instructions in this manual. This pneumatic tool is designed to be used with appropriate abrasive for sanding metals, wood, stone, plastics and other materials. It should only be used for such sanding applications and within its marked capacity and ratings. Only accessories specifically recommended by 3M should be used with this tool. 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 abrasive products that have a Max RPM less than the RPM rating marked on the tool.

Summary of device labels containing safety information	
Marking	Description
	▲WARNING: Refer to Instruction Manual
	▲WARNING: Wear eye protection
	▲WARNING: Wear hearing protection
	Direction of Rotation
90 PSIG / 6.2 BAR MAX	Maximum Pneumatic Inlet Pressure
3,500 r/min.	Maximum Rotational Speed
Use accessories rated at tool RPM or higher	Accessories Safety Note
Prolonged vibration may cause injury	Vibration Safety 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.

Read the Material Safety Data Sheets (MSDS) before using any materials.



Contact the suppliers of the workpiece materials and abrasive materials for copies of the MSDS if one is not readily available.

**▲WARNING!**

Exposure to DUST generated from workpiece and/or abrasive materials can result in lung damage and/or other physical injury.

Use dust capture or local exhaust as stated in the MSDS. Wear government-approved respiratory protection and eye and skin protection.

Failure to follow this warning can result in serious lung damage and/or physical injury.





## ⚠ 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 tool 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 shall not 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 components. 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.
  - Never over-ride or disable the safety features of the start-stop control such that it is in the on position.
  - Make sure the tool is disconnected from its air source before servicing, inspecting, maintaining, cleaning, and before changing abrasive product.
  - Prior to use, or if dropped or jammed, inspect mounting hardware, tool arbor 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, mounting hardware, tool arbor, and/or labels available from 3M.
  - Only use accessories supplied or recommended by 3M.
  - Use only with mounting hardware recommended by 3M; check with 3M for mounting hardware requirements.
  - 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 risk associated with skin abrasion, burns, cuts, or entrapment:**

- Keep hands, hair, and clothing away from the rotating 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 risk of all hazards 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 protection for eyes, ears, and respiratory protection 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.
- 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 risk 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 risk 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 risk 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 risk 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 risk associated with fly off of abrasive product or 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 or free-spinning.
- 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 28773 5-7" SANDER/POLISHER

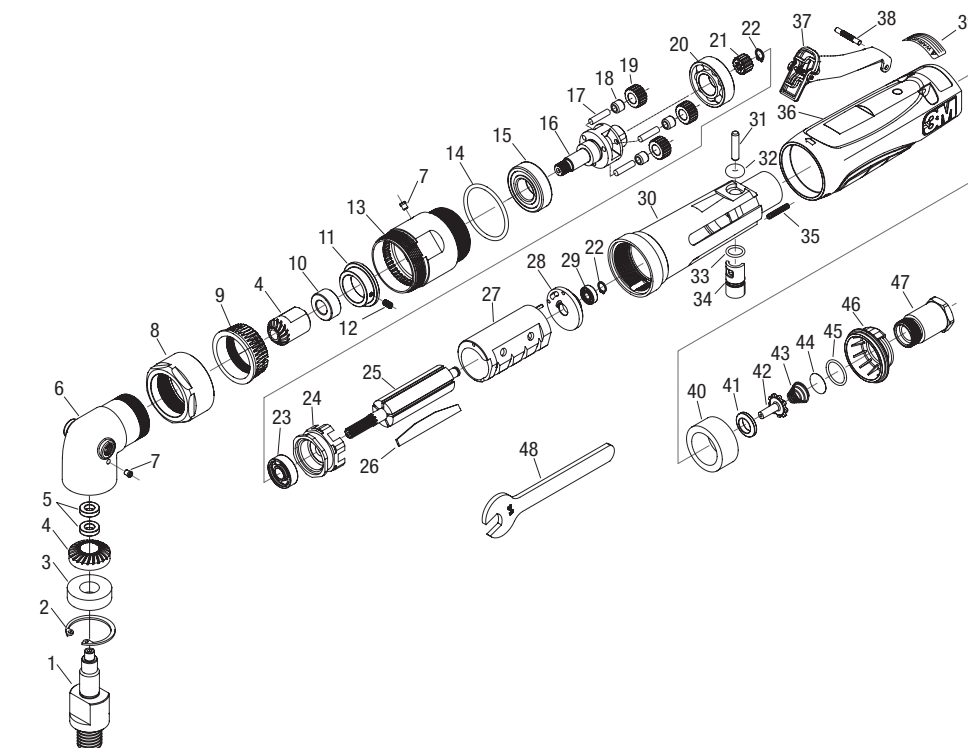


Fig.	3M PN	Description			
1	28778	Output Spindle	28	06560	Rear End Plate
2	55088	Retaining Ring	29	06508	Ball Bearing
3	55078	Ball Bearing	30	06638	3M 1HP Housing
4	66769	Spiral Bevel Gear Set	31	06558	Pin Torrington 3/16 x 7/8
5	55114	Ball Bearing (2)*	32	06543	O-Ring
6	55111	Angle Head (Includes Figure 7)	33	06511	O-Ring 1/16 x 3/8 x 1/2
7	06523	Grease Fitting (2)*	34	06556	Regulator
8	66770	Clamp Nut	35	06501	Set Screw, 6-32 x 3/4 Socket Hex
9	66771	Short Sleeve	36	06598	Housing Cover
10	66772	Spacer	37	06642	Lever Assembly
11	66773	Spacer	38	06559	Knurl Pin
12	66774	Set Screw 6-32 x 1/4	39	06566	Warning Label
13	66775	Angle Gear Case Assembly (Includes Figure 7)	40	06557	Muffler
14	06609	O-Ring	41	06552	Throttle Valve Seat
15	66776	Ball Bearing	42	06553	Throttle Valve
16	66777	Gear Carrier	43	06554	Taper Spring
17	30370	Pin (3)*	44	06555	Screen
18	30366	Needle Bearing (3)*	45	06608	O-Ring 1/16 x 5/8x 3/4
19	30431	Planetary Gear (3)*	46	06604	Rotatable Exhaust Deflector
20	30390	Ball Bearing	47	06605	Inlet Bushing, 1/4 NPT
21	30432	Sun Gear	48	06524	Wrench
22	30369	External Retaining Ring (2)*			
23	06506	Ball Bearing			
24	30433	Front End Plate			
25	06640	Rotor			
26	06643	Vane, Set of 5			
27	06563	Cylinder, Non-Rev			



## Product Configuration / Specifications

Model Number	Speed RPM	Net Wt. kg. (lb.)	Length mm (in.)	Height mm (in.)	*Noise Level dBA Pressure (Power)	**Vibration Level m/s <sup>2</sup> (ft/s <sup>2</sup> )	**Uncertainty K m/s <sup>2</sup>
28773	3,500	1.48 (3.26)	254 (10)	95.23 (3.75)	83.1 (94.7)	1.77 (5.81)	0.78

† 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.

\* 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 sander can develop a torque reaction. See the section in "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 10 mm (3/8 in) x 8 m (25 ft) maximum length airline. Connect the tool to the air supply as shown in Figure 1. 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 1 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 for your tool distributor. If such equipment is not used, the tool should be manually lubricated. To manually lubricate the tool, disconnect the airline and put 2 to 3 drops of suitable pneumatic motor lubricating oil such as 3M™ Air Tool Lubricant PN 20451, Fuji Kosan FK-20 or Mobil ALMO 525 into the hose end (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 - Minimum		Recommended Maximum Hose Length		Air Pressure		
10 mm	3/8 in	8 meters	25 feet	Maximum Working Pressure	6.2 bar	90 psig
				Recommended Minimum	N/A	N/A

Lubricate the angle head every 6-8 working hours with premium grease with the following properties:

- High and low temperature performance
- Shear stable
- Anti-wear protection
- Low viscosity base fluid for high speed application
- Very low coefficient of friction

Fuchs Renolit AX S2 or equal is recommended. Grease gun and grease available from your grease supplier

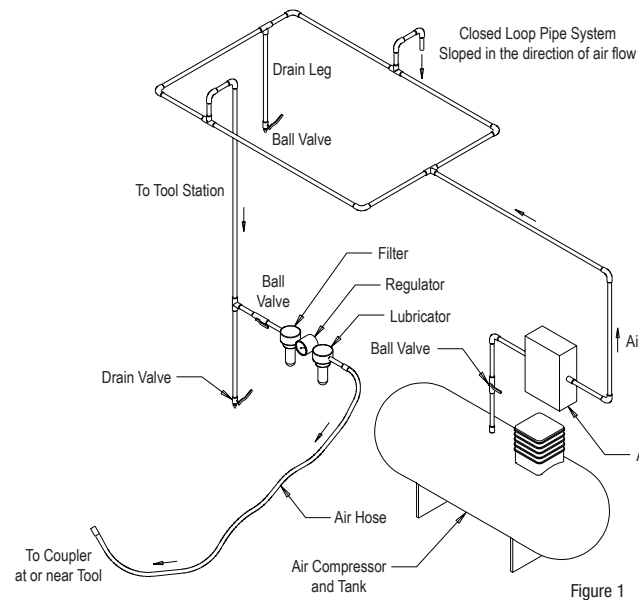


Figure 1

## 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 to ensure proper operating speed.
3. Make sure the tool is disconnected from the air supply. Attach the 3M™ Abrasive to the sander adaptor using the wrenches supplied with the tool.
4. Always wear required safety equipment when using this tool.
5. When sanding always start the tool just prior to contacting the work piece. Stop air flow to the tool as it is removed from the work piece.
6. Always remove the air supply to the sander before fitting, adjusting or removing the abrasive.
7. Always adopt a firm footing and grip and be aware of torque reaction developed by the sander.
8. Use only 3M approved spare parts.
9. Always ensure the material being worked is firmly fixed to avoid movement.
10. 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.
11. Dust can be highly combustible. Keep working area clean.
12. 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.
13. Do not exceed maximum recommended air pressure. Use safety equipment as recommended.
14. Prior to installing any sanding or polishing accessory, always check that its marked maximum operating speed is equal or higher than the rated speed of this tool.
15. 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.
16. This tool is not protected against hazards inherent in grinding and cutting operations, and no such cutting products should ever be attached.
17. 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.
18. Keep hands clear of the spinning abrasive during use.
19. If the tool appears to malfunction, remove from use immediately and arrange for service and repair.
20. Immediately release the start handle in the event of any disruption of pressure; do not attempt to restart until the disruption has been corrected.
21. Do not allow the tool to free spin without taking precautions to protect any persons or objects from the loss of the abrasive or pad ruptures.
22. When tool is not in use, store in a clean dry environment free of debris.
23. Operate tool in a well lit work area.
24. Recycle or dispose of tool according to Local, State, and Federal regulations.
25. 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.



**Warranty, Limited Remedy, and Disclaimer:** Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

**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.

**CE**

**EC Declaration of Conformity**

**Manufacturers Name:** 3M, Abrasive Systems Division  
**Manufacturers Address:** 3M Center, Building 223-6N-02  
St Paul, MN USA 55144

**Does hereby declare under our sole responsibility that the machinery described below complies with those applicable essential health and safety requirements of the Machinery Directive 2006/42/EC; together with all amendments to date.**

**Descriptions:** 3M™ Sander / Polisher, 3,500 RPM, 1 HP, 5/8-11 Threaded Ext. Shaft, MOS 3500


**Model Numbers:** 28773

**Serial Number Range:** DT00011A0001 - DT103651A9999, where last 4 digits represent the sequential unit manufactured on the date specified in the first 5 numeric characters

**The following standards have either been referred to, or complied with, in full or in part as relevant:**

EN ISO 12100:2010	Safety of machinery. General principles for design. Risk assessment and risk reduction
EN ISO 11148-8:2011	Hand-held non-electric power tools – Safety Requirements – Part 8: Sanders and polishers
EN ISO 28927-3:2009	Hand-held portable power tools. Test methods for evaluation of vibration emission. Part 3: Polishers and rotary, orbital and random orbital sanders
EN ISO 15744:2008	Hand-held non-electric power tools. Noise measurement code. Engineering method (grade 2)

**Full Name of responsible person.** John A. Miller      **Position:** Technical Director

**Signature:**       **Date:** 22 Nov 2013  
St. Paul, Minnesota, USA

**Full Name and address of individual responsible to compile technical file within the Community:**  
Mr. Claus Geiger - Marketing Operations, Abrasive Systems Div., 3M Deutschland GmbH, Carl-Schurz-Strasse 1, D-41453 Neuss, Germany

**Abrasive Systems Division**  
3M Center  
St. Paul, MN 55144-1000  
[www.3M.com/abrasives](http://www.3M.com/abrasives)

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