



## DIE GRINDER INSTRUCTIONS MANUAL

**18,000 MAX RPM 1/4 in Collet 0.33 HP, 18,000 MAX RPM 1/4 in Collet 0.33 HP - Extended**  
**25,000 MAX RPM 1/4 in Collet 0.33 HP, 25,000 MAX RPM 1/4 in Collet 0.33 HP - Extended**

### 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 a disc pad and abrasive disc or other shaft mounted abrasive product for modifying metals, wood, stone, plastics and other materials. It should only be used for such 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.

Tools shall be inspected periodically to verify that ratings, markings, and labels are legible. Contact 3M Company to obtain replacement labels.

### Summary of device labels containing safety information

| Marking                                     | Description                                      |
|---|--|
|   | △ WARNING: Refer to Instruction Manual           |
|   | △ WARNING: Wear eye protection                   |
|   | △ WARNING: Wear hearing protection               |
|   | △ WARNING: AVOID PROLONGED EXPOSURE TO VIBRATION |
|   | Direction of Rotation                            |
| 90 PSIG / 6.2 BAR MAX                       | Maximum Pneumatic Inlet Pressure                 |
| 18,000 r/min., 25,000 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.

|   |   |
|---|---|
| <p>Read the Material Safety Data Sheets (MSDS) before using any materials.</p> <p>Contact the suppliers of the workpiece materials and abrasive materials for copies of the MSDS if one is not readily available.</p> | <p><b>△ WARNING!</b></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 MSDS. 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 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 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 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, inspect abrasive product and accessories for possible damage. If damaged, replace with new abrasive product and accessories 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.
- Always ensure that shaft diameters match internal diameters of the collet inserts.
- Maximum operating speed of abrasive products or accessories must be reduced whenever the exposed length of shaft (overhang) is longer than corresponding 3M approved products.
- Always ensure that a minimum of 10mm shaft gripping length is observed.
- Never install and use router bits or cutting-off wheels in a die grinder tool (which is unguarded).
- Use only with abrasive products not requiring guards according to local, state and federal regulations.
- Never allow this tool to be used by children or other untrained people.
- Do not leave an unattended tool connected to air source.
- Air under pressure can cause severe injury.
- Never direct air at yourself or anyone else.

### 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.
- Hold the tool with a light but safe grip, knowing that the grip must be sufficient to counter reaction forces but that a tight grip will increase the amount of vibration transferred to the operator.

### 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.
- Ensure the muffler material is in place.
- Dampen work pieces to reduce noise and prevent ringing.

### 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.
- Direct exhaust so as to minimize disturbance of existing dust in a dust-filled environment.

### 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 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.

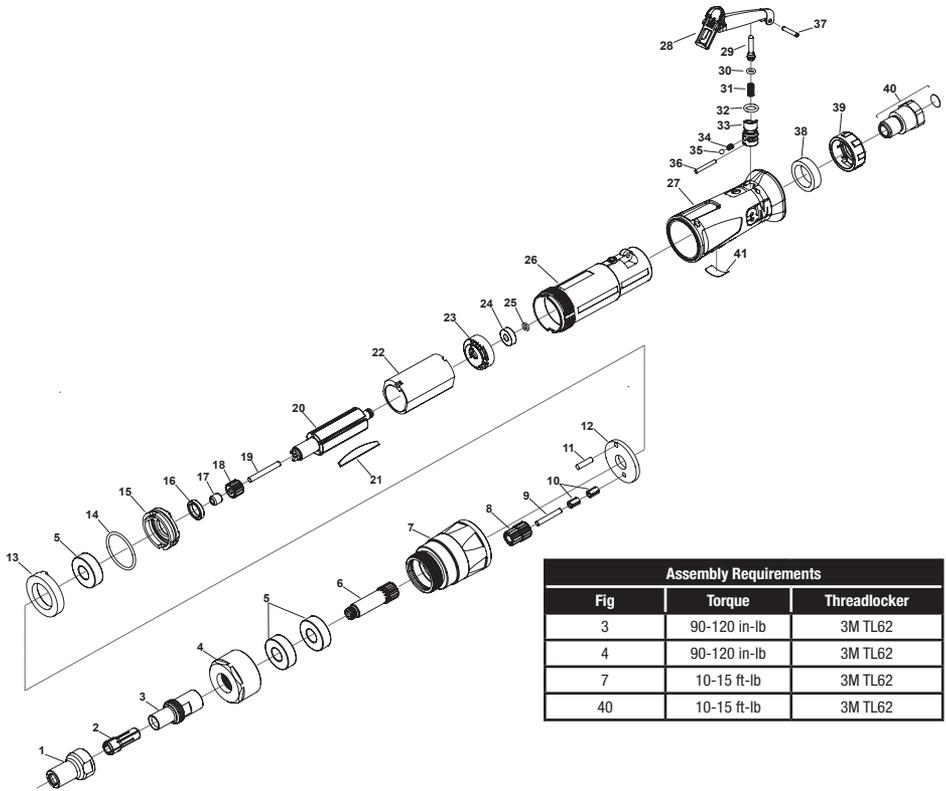
### To reduce the risk associated with whipping or hazardous pressure-rupture:

- 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.
- Whenever universal twist couplings (claw couplings) are used, lock-pins shall be installed and whip check safety cables shall be used to safeguard against possible hose-to-tool and hose-to-hose connection failure.

### 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 LIST FOR PN 28627, 18,000 MAX RPM, 0.33 HP DIE GRINDER (Series C)**

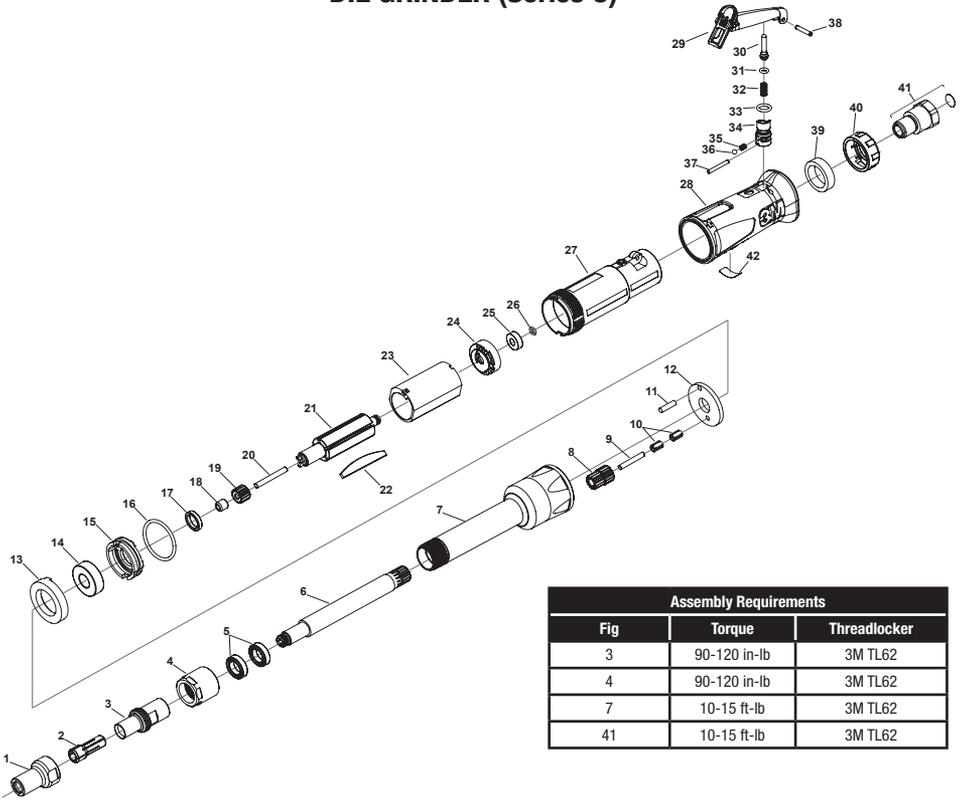


| Assembly Requirements |              |              |
|-----------------------|--------------|--------------|
| Fig                   | Torque       | Threadlocker |
| 3                     | 90-120 in-lb | 3M TL62      |
| 4                     | 90-120 in-lb | 3M TL62      |
| 7                     | 10-15 ft-lb  | 3M TL62      |
| 40                    | 10-15 ft-lb  | 3M TL62      |

| Fig. | 3M PN | Description                           |
|------|-------|---------------------------------------|
| 1    | 55754 | Collet Nut                            |
| 2    | 55752 | Collet (1/4")                         |
|      | 55772 | Collet (1/8")                         |
|      | 28819 | Collet (3/32") - available separately |
|      | 87161 | Collet (3 mm) - available separately  |
|      | 87162 | Collet (6 mm) - available separately  |
| 3    | 55753 | Collet Body                           |
| 4    | 28813 | Bearing Retainer                      |
| 5    | 06611 | Bearing (3)                           |
| 6    | 55766 | Output Shaft                          |
| 7    | 55765 | Gear Case                             |
| 8    | 55764 | Cluster Gear                          |
| 9    | 55763 | Pin (M3 x M20)                        |
| 10   | 55758 | Roller Cage Bearing, M3 x M5 x M7 (2) |
| 11   | 30370 | Pin (1/8 x 1/2 )                      |
| 12   | 55761 | Spacer Plate                          |
| 13   | 55769 | Head Spacer                           |
| 14   | 87131 | O-Ring                                |
| 15   | 87124 | Front Endplate                        |
| 16   | 06624 | Front Endplate Spacer                 |
| 17   | 30366 | Needle Bearing                        |
| 18   | 55760 | Drive Pinion                          |
| 19   | 87158 | Pin (1/8 x 1)                         |
| 20   | 55767 | Rotor                                 |
| 21   | 87136 | Vane Set (0.3 HP)                     |
| 22   | 87160 | Cylinder                              |
| 23   | 30414 | Rear Endplate                         |

| Fig. | 3M PN     | Description   |
|------|-----------|---|
| 24   | 06612     | Ball Bearing  |
| 25   | 30403     | O-Ring  |
| 26   | 30409     | Housing   |
| 27   | 87120     | 3M™ Jacket (0.3 HP)                                   |
| 28   | 28841     | 3M™ Lever Assembly (0.3 HP)                           |
| 29   | 30406     | Valve Pin   |
| 30   | 30405     | O-Ring  |
| 31   | 06614     | Spring  |
| 32   | 30401     | O-Ring  |
| 33   | 30407     | Regulator   |
| 34   | 06613     | Spring  |
| 35   | 06622     | Steel Ball  |
| 36   | 30394     | Regulator Pin   |
| 37   | 30395     | Pin   |
| 38   | 30410     | Muffler Material                                      |
| 39   | 30382     | Exhaust Deflector                                     |
| 40   | 30398     | Inlet Bushing   |
| 41   | 87126     | Safety Sticker  |
|      | Not Shown | Wrench, 7/16 x 11/16, (2)                             |
|      | Not Shown | 3M™ Air Tool Lubricant, 1 oz - available separately   |
|      | Not Shown | 3M™ Air Tool Lubricant, 4 oz - available separately   |
|      | Not Shown | 3M™ Air Tool Lubricant, Quart - available separately  |
|      | Not Shown | 3M™ Air Tool Lubricant, Gallon - available separately |

**PARTS LIST FOR PN 28628, 18,000 MAX RPM, 0.33 HP EXTENDED DIE GRINDER (Series C)**

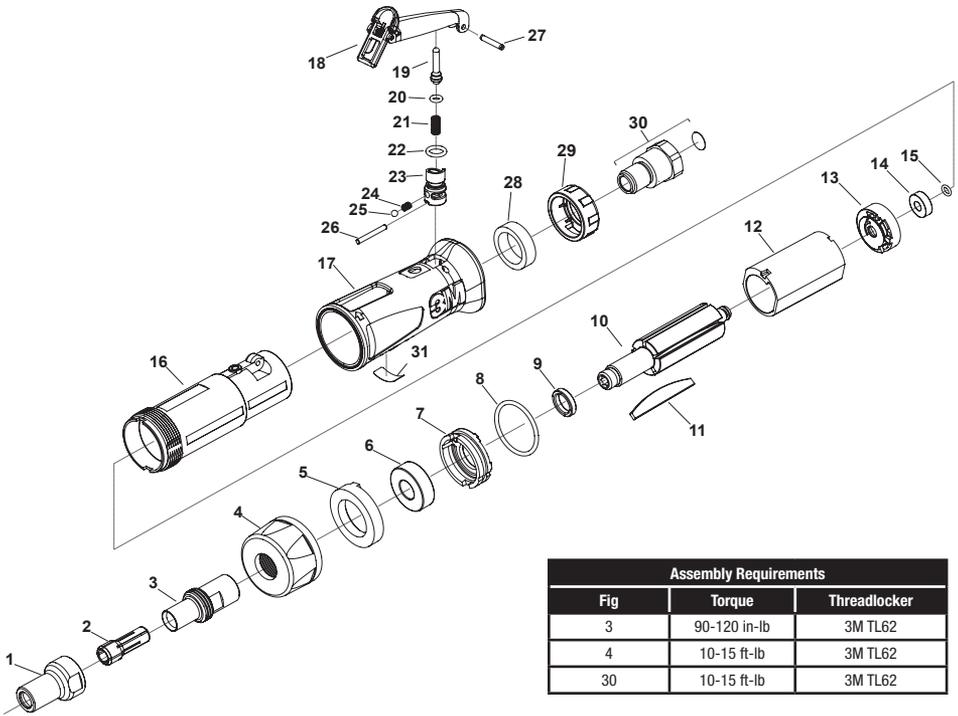


| Assembly Requirements |              |              |
|-----------------------|--------------|--------------|
| Fig                   | Torque       | Threadlocker |
| 3                     | 90-120 in-lb | 3M TL62      |
| 4                     | 90-120 in-lb | 3M TL62      |
| 7                     | 10-15 ft-lb  | 3M TL62      |
| 41                    | 10-15 ft-lb  | 3M TL62      |

| Fig. | 3M PN | Description                           |
|------|-------|---------------------------------------|
| 1    | 55754 | Collet Nut                            |
| 2    | 55752 | Collet (1/4")                         |
|      | 55772 | Collet (1/8")                         |
|      | 28819 | Collet (3/32") - available separately |
|      | 87161 | Collet (3 mm) - available separately  |
|      | 87162 | Collet (6 mm) - available separately  |
| 3    | 55753 | Collet Body                           |
| 4    | 55757 | Bearing Retainer                      |
| 5    | 55755 | Bearing (2)                           |
| 6    | 55789 | Output Shaft                          |
| 7    | 55759 | Extension Housing                     |
| 8    | 55764 | Cluster Gear                          |
| 9    | 55763 | Pin (M3 x M20)                        |
| 10   | 55758 | Roller Cage Bearing, M3 x M5 x M7 (2) |
| 11   | 30370 | Pin (1/8 x 1/2)                       |
| 12   | 55761 | Spacer Plate                          |
| 13   | 55769 | Head Spacer                           |
| 14   | 06611 | Bearing                               |
| 15   | 87124 | Front Endplate                        |
| 16   | 87131 | O-Ring                                |
| 17   | 06624 | Front Endplate Spacer                 |
| 18   | 30366 | Needle Bearing                        |
| 19   | 55760 | Drive Pinion                          |
| 20   | 87158 | Pin (1/8 x 1)                         |
| 21   | 55767 | Rotor                                 |
| 22   | 87136 | Vane Set (0.3 HP)                     |
| 23   | 87160 | Cylinder                              |

| Fig.      | 3M PN | Description   |
|-----------|-------|---|
| 24        | 30414 | Rear Endplate   |
| 25        | 06612 | Ball Bearing  |
| 26        | 30403 | O-Ring  |
| 27        | 30409 | Housing   |
| 28        | 87120 | 3M™ Jacket (0.3 HP)                                   |
| 29        | 28841 | 3M™ Lever Assembly (0.3 HP)                           |
| 30        | 30406 | Valve Pin   |
| 31        | 30405 | O-Ring  |
| 32        | 06614 | Spring  |
| 33        | 30401 | O-Ring  |
| 34        | 30407 | Regulator   |
| 35        | 06613 | Spring  |
| 36        | 06622 | Steel Ball  |
| 37        | 30394 | Regulator Pin   |
| 38        | 30395 | Pin   |
| 39        | 30410 | Muffler Material                                      |
| 40        | 30382 | Exhaust Deflector                                     |
| 41        | 30398 | Inlet Bushing   |
| 42        | 87126 | Safety Sticker  |
| Not Shown | 06586 | Wrench, 7/16 x 11/16, (2)                             |
| Not Shown | 28828 | 3M™ Air Tool Lubricant, 1 oz - available separately   |
| Not Shown | 20451 | 3M™ Air Tool Lubricant, 4 oz - available separately   |
| Not Shown | 20466 | 3M™ Air Tool Lubricant, Quart - available separately  |
| Not Shown | 20467 | 3M™ Air Tool Lubricant, Gallon - available separately |

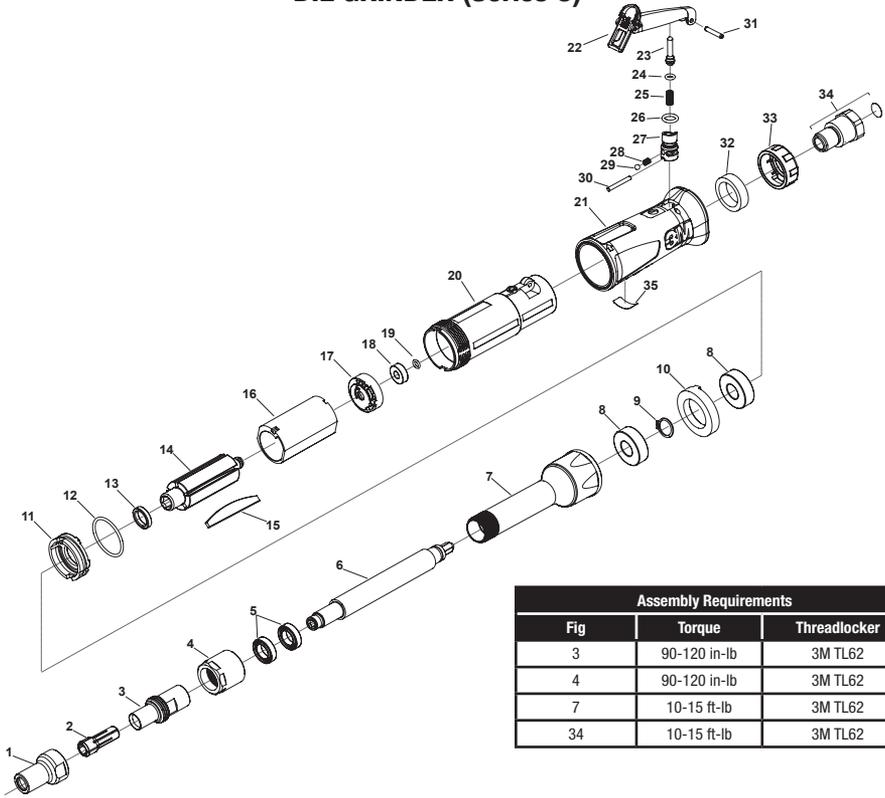
**PARTS LIST FOR PN 28629, 25,000 MAX RPM, 0.33 HP DIE GRINDER (Series C)**



| Assembly Requirements |              |              |
|-----------------------|--------------|--------------|
| Fig                   | Torque       | Threadlocker |
| 3                     | 90-120 in-lb | 3M TL62      |
| 4                     | 10-15 ft-lb  | 3M TL62      |
| 30                    | 10-15 ft-lb  | 3M TL62      |

| Fig. | 3M PN | Description                           | Fig.      | 3M PN | Description   |
|------|-------|---------------------------------------|-----------|-------|---|
| 1    | 55754 | Collet Nut                            | 18        | 28841 | 3M™ Lever Assembly (0.3 HP)                           |
| 2    | 55752 | Collet (1/4")                         | 19        | 30406 | Valve Pin   |
|      | 55772 | Collet (1/8")                         | 20        | 30405 | O-Ring  |
|      | 28819 | Collet (3/32") - available separately | 21        | 06614 | Spring  |
|      | 87161 | Collet (3 mm) - available separately  | 22        | 30401 | O-Ring  |
|      | 87162 | Collet (6 mm) - available separately  | 23        | 30407 | Regulator   |
| 3    | 55753 | Collet Body                           | 24        | 06613 | Spring  |
| 4    | 87127 | Clamp Nut                             | 25        | 06622 | Steel Ball  |
| 5    | 55769 | Head Spacer                           | 26        | 30394 | Regulator Pin   |
| 6    | 06611 | Bearing                               | 27        | 30395 | Pin   |
| 7    | 87124 | Front Endplate                        | 28        | 30410 | Muffler Material                                      |
| 8    | 87131 | O-Ring                                | 29        | 30382 | Exhaust Deflector                                     |
| 9    | 06624 | Front Endplate Spacer                 | 30        | 30398 | Inlet Bushing   |
| 10   | 30417 | Rotor                                 | 31        | 87126 | Safety Sticker  |
| 11   | 87136 | Vane Set (0.3 HP)                     | Not Shown | 06586 | Wrench, 7/16 x 11/16, (2)                             |
| 12   | 87160 | Cylinder                              | Not Shown | 28828 | 3M™ Air Tool Lubricant, 1 oz - available separately   |
| 13   | 30414 | Rear Endplate                         | Not Shown | 20451 | 3M™ Air Tool Lubricant, 4 oz - available separately   |
| 14   | 06612 | Ball Bearing                          | Not Shown | 20466 | 3M™ Air Tool Lubricant, Quart - available separately  |
| 15   | 30403 | O-Ring                                | Not Shown | 20467 | 3M™ Air Tool Lubricant, Gallon - available separately |
| 16   | 30409 | Housing                               |           |       |   |
| 17   | 87120 | 3M™ Jacket (0.3 HP)                   |           |       |   |

# PARTS LIST FOR PN 28630, 25,000 MAX RPM, 0.33 HP EXTENDED DIE GRINDER (Series C)

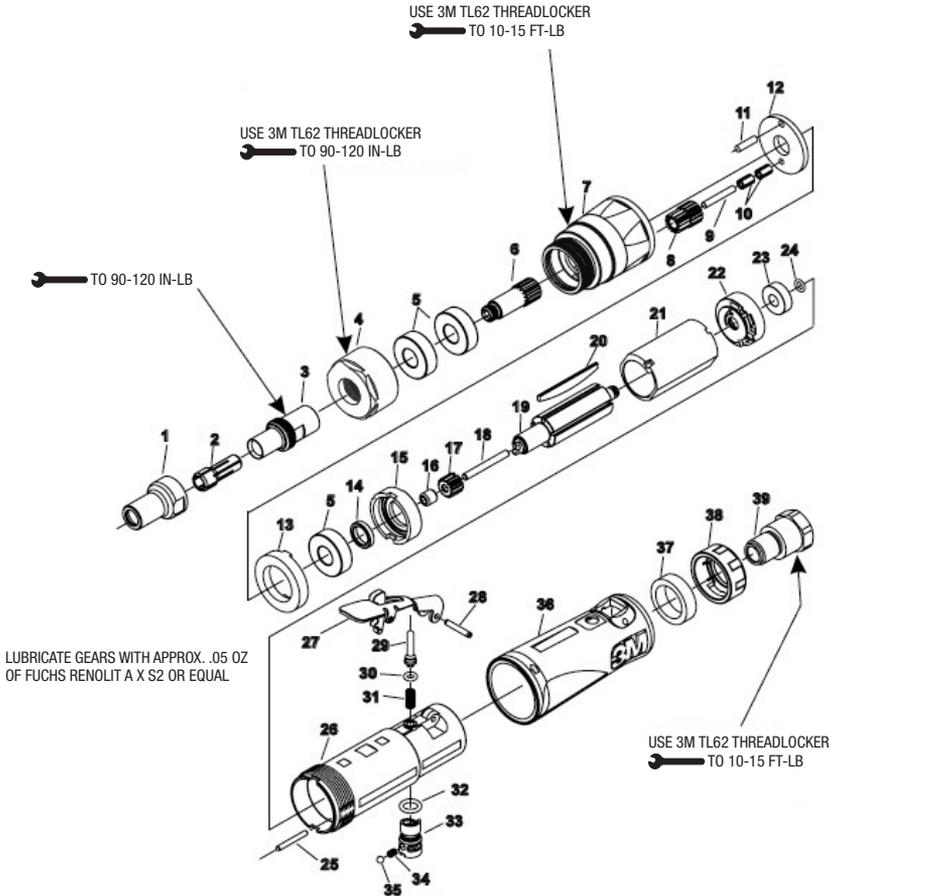


| Assembly Requirements |              |              |
|-----------------------|--------------|--------------|
| Fig                   | Torque       | Threadlocker |
| 3                     | 90-120 in-lb | 3M TL62      |
| 4                     | 90-120 in-lb | 3M TL62      |
| 7                     | 10-15 ft-lb  | 3M TL62      |
| 34                    | 10-15 ft-lb  | 3M TL62      |

| Fig. | 3M PN | Description                           |
|------|-------|---------------------------------------|
| 1    | 55754 | Collet Nut                            |
| 2    | 55752 | Collet (1/4")                         |
|      | 55772 | Collet (1/8")                         |
|      | 28819 | Collet (3/32") - available separately |
|      | 87161 | Collet (3 mm) - available separately  |
|      | 87162 | Collet (6 mm) - available separately  |
| 3    | 55753 | Collet Body                           |
| 4    | 55757 | Bearing Retainer                      |
| 5    | 55755 | Bearing (2)                           |
| 6    | 30421 | Extension Shaft                       |
| 7    | 87159 | Extension Housing                     |
| 8    | 06611 | Bearing                               |
| 9    | 55768 | Snap Ring                             |
| 10   | 55769 | Head Spacer                           |
| 11   | 87124 | Front Endplate                        |
| 12   | 87121 | O-Ring                                |
| 13   | 06624 | Front Endplate Spacer                 |
| 14   | 55770 | Rotor                                 |
| 15   | 87136 | Vane Set (0.3 HP)                     |
| 16   | 87160 | Cylinder                              |
| 17   | 30414 | Rear Endplate                         |
| 18   | 06612 | Ball Bearing                          |
| 19   | 30403 | O-Ring                                |
| 20   | 30409 | Housing                               |

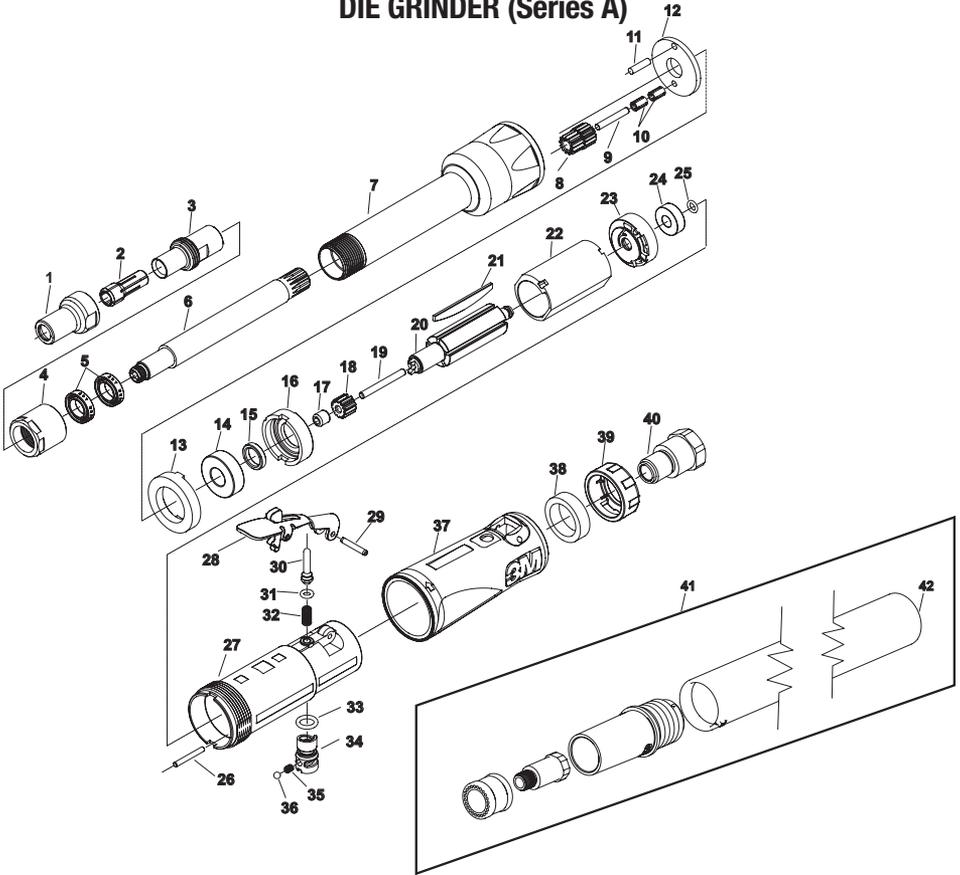
| Fig.      | 3M PN | Description   |
|-----------|-------|---|
| 21        | 87120 | 3M™ Jacket (0.3 HP)                                   |
| 22        | 28841 | 3M™ Lever Assembly (0.3 HP)                           |
| 23        | 30406 | Valve Pin   |
| 24        | 30405 | O-Ring  |
| 25        | 06614 | Spring  |
| 26        | 30401 | O-Ring  |
| 27        | 30407 | Regulator   |
| 28        | 06613 | Spring  |
| 29        | 06622 | Steel Ball  |
| 30        | 30394 | Regulator Pin   |
| 31        | 30395 | Pin   |
| 32        | 30410 | Muffler Material                                      |
| 33        | 30382 | Exhaust Deflector                                     |
| 34        | 30398 | Inlet Bushing   |
| 35        | 87126 | Safety Sticker  |
| Not Shown | 06586 | Wrench, 7/16 x 11/16, (2)                             |
| Not Shown | 28828 | 3M™ Air Tool Lubricant, 1 oz - available separately   |
| Not Shown | 20451 | 3M™ Air Tool Lubricant, 4 oz - available separately   |
| Not Shown | 20466 | 3M™ Air Tool Lubricant, Quart - available separately  |
| Not Shown | 20467 | 3M™ Air Tool Lubricant, Gallon - available separately |

**PARTS LIST FOR PN 28627, 18,000 MAX RPM, 0.33 HP DIE GRINDER (Series A)**



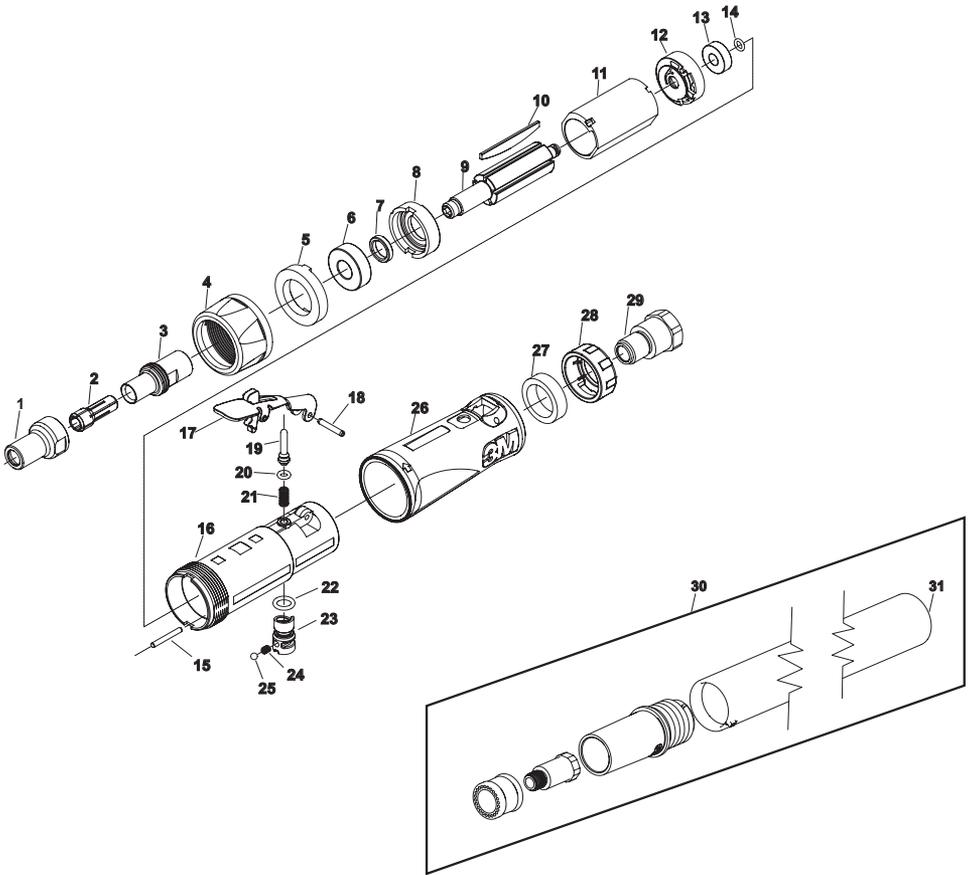
| Fig | 3M PN | Description                          | Fig       | 3M PN | Description                           |
|-----|-------|--------------------------------------|-----------|-------|---------------------------------------|
| 1   | 55754 | Collet Nut                           | 22        | 30414 | Rear End Plate                        |
| 2   | 55752 | Collet (1/4")                        | 23        | 06612 | Ball Bearing                          |
| 2   | 55772 | Collet (1/8")                        | 24        | 30403 | O-Ring                                |
| 3   | 55753 | Collet Body                          | 25        | 30394 | Regulator Pin                         |
| 4   | 28813 | Bearing Retainer                     | 26        | 30409 | Housing                               |
| 5   | 06611 | Ball Bearing (2)                     | 27        | 30412 | Lever Assembly                        |
| 6   | 55766 | Output Shaft                         | 28        | 30395 | Pin                                   |
| 7   | 55765 | Gear Case                            | 29        | 30406 | Valve Stem                            |
| 8   | 55764 | Cluster Gear                         | 30        | 30405 | O-Ring                                |
| 9   | 55763 | Pin M3 x M20                         | 31        | 06614 | Spring                                |
| 10  | 55758 | Roller Cage Bearing M3 x M5 x M7 (2) | 32        | 30401 | O-Ring                                |
| 11  | 30370 | Pin                                  | 33        | 30407 | Regulator                             |
| 12  | 55761 | Spacer Plate                         | 34        | 06613 | Spring                                |
| 13  | 55769 | Head Spacer                          | 35        | 06622 | Ball                                  |
| 14  | 06624 | Front End Plate Spacer               | 36        | 28573 | Cover (gray)                          |
| 15  | 30413 | Front End Plate                      | 37        | 30410 | Muffler                               |
| 16  | 30366 | Needle Bearing                       | 38        | 30382 | Rotatable Exhaust Deflector           |
| 17  | 55760 | Drive Pinion                         | 39        | 30398 | Inlet Bushing                         |
| 18  | 55762 | Pin 1/8 x 1-1/8                      | 40        | 28651 | Overhose Kit (Optional)               |
| 19  | 55767 | Rotor                                | 41        | 28652 | Overhose Replacment Sleeve (Optional) |
| 20  | 55771 | Vane Set of 5                        | not shown | 06586 | Wrench (2)                            |
| 21  | 30415 | Cylinder                             |           |       |                                       |

**PARTS LIST FOR PN 28628, 18,000 MAX RPM, 0.33 HP EXTENDED  
DIE GRINDER (Series A)**



| Fig | 3M PN | Description                          | Fig       | 3M PN | Description                            |
|-----|-------|--------------------------------------|-----------|-------|--|
| 1   | 55754 | Collet Nut                           | 22        | 30415 | Cylinder                               |
| 2   | 55752 | Collet (1/4")                        | 23        | 30414 | Rear End Plate                         |
| 2   | 55772 | Collet (1/8")                        | 24        | 06612 | Ball Bearing                           |
| 3   | 55753 | Collet Body                          | 25        | 30403 | O-Ring                                 |
| 4   | 55757 | Bearing Retainer                     | 26        | 30394 | Regulator Pin                          |
| 5   | 55755 | Ball Bearing (2)                     | 27        | 30409 | Housing                                |
| 6   | 55789 | Output Shaft                         | 28        | 30412 | Lever Assembly                         |
| 7   | 55759 | Housing Extension                    | 29        | 30395 | Pin                                    |
| 8   | 55764 | Cluster Gear                         | 30        | 30406 | Valve Stem                             |
| 9   | 55763 | Pin M3 x M20                         | 31        | 30405 | O-Ring                                 |
| 10  | 55758 | Roller Cage Bearing M3 x M5 x M7 (2) | 32        | 06614 | Spring                                 |
| 11  | 30370 | Pin                                  | 33        | 30401 | O-Ring                                 |
| 12  | 55761 | Spacer Plate                         | 34        | 30407 | Regulator                              |
| 13  | 55769 | Head Spacer                          | 35        | 06613 | Spring                                 |
| 14  | 06611 | Ball Bearing                         | 36        | 06622 | Ball                                   |
| 15  | 06624 | Front End Plate Spacer               | 37        | 28573 | Cover (gray)                           |
| 16  | 30413 | Front End Plate                      | 38        | 30410 | Muffler                                |
| 17  | 30366 | Needle Bearing                       | 39        | 30382 | Rotatable Exhaust Deflector 0.3 HP     |
| 18  | 55760 | Drive Pinion                         | 40        | 30398 | Inlet Bushing                          |
| 19  | 55762 | Pin 1/8 x 1-1/8                      | 41        | 28651 | Overhose Kit (Optional)                |
| 20  | 55767 | Rotor                                | 42        | 28652 | Overhose Replacement Sleeve (Optional) |
| 21  | 55771 | Vane Set of 5                        | not shown | 06586 | Wrench (2)                             |

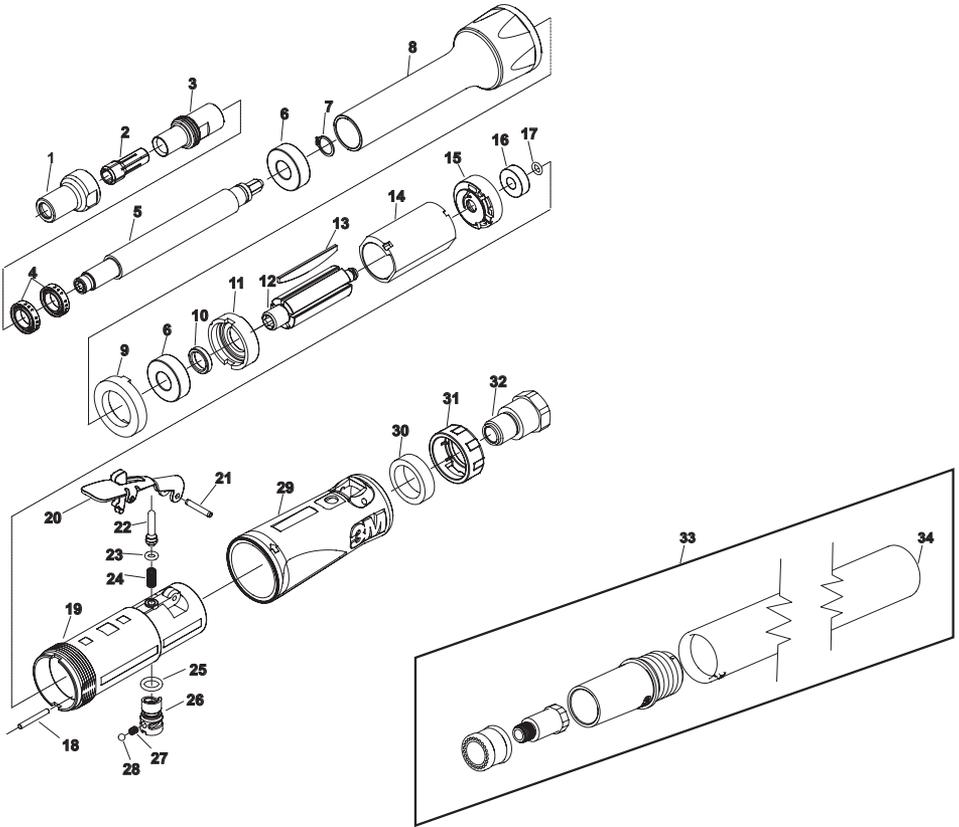
**PARTS LIST FOR PN 28629, 25,000 MAX RPM, 0.33 HP DIE GRINDER (Series A)**



| Fig | 3M PN | Description            |
|-----|-------|------------------------|
| 1   | 55754 | Collet Nut             |
| 2   | 55752 | Collet (1/4")          |
| 2   | 55772 | Collet (1/8")          |
| 3   | 55753 | Collet Body            |
| 4   | 30411 | Clamp Nut              |
| 5   | 55769 | Head Spacer            |
| 6   | 06611 | Ball Bearing           |
| 7   | 06624 | Front End Plate Spacer |
| 8   | 30413 | Front End Plate        |
| 9   | 30417 | Rotor                  |
| 10  | 55771 | Vane Set of 5          |
| 11  | 30415 | Cylinder               |
| 12  | 30414 | Rear End Plate         |
| 13  | 06612 | Ball Bearing           |
| 14  | 30403 | O-Ring                 |
| 15  | 30394 | Regulator Pin          |
| 16  | 30409 | Housing                |

| Fig       | 3M PN | Description                            |
|-----------|-------|--|
| 17        | 30412 | Lever Assembly                         |
| 18        | 30395 | Pin                                    |
| 19        | 30406 | Valve Stem                             |
| 20        | 30405 | O-Ring                                 |
| 21        | 06614 | Spring                                 |
| 22        | 30401 | O-Ring                                 |
| 23        | 30407 | Regulator                              |
| 24        | 06613 | Spring                                 |
| 25        | 06622 | Ball                                   |
| 26        | 28573 | Cover (gray)                           |
| 27        | 30410 | Muffler                                |
| 28        | 30382 | Rotatable Exhaust Deflector            |
| 29        | 30398 | Inlet Bushing                          |
| 30        | 28651 | Overhose Kit (Optional)                |
| 31        | 28652 | Overhose Replacement Sleeve (Optional) |
| not shown | 06586 | Wrench (2)                             |

**PARTS LIST FOR PN 28630, 25,000 MAX RPM, 0.33 HP EXTENDED DIE GRINDER (Series A)**



| Fig | 3M PN | Description            | Fig       | 3M PN | Description                            |
|-----|-------|------------------------|-----------|-------|--|
| 1   | 55753 | Collet Nut             | 18        | 30394 | Regulator Pin                          |
| 2   | 55752 | Collet (1/4")          | 19        | 30409 | Housing                                |
| 2   | 55772 | Collet (1/8")          | 20        | 30412 | Lever Assembly                         |
| 3   | 55752 | Collet Body            | 21        | 30395 | Pin                                    |
| 4   | 55755 | Ball Bearing (2)       | 22        | 30406 | Valve Stem                             |
| 5   | 30421 | Extension Shaft        | 23        | 30405 | O-Ring                                 |
| 6   | 06611 | Ball Bearing (2)       | 24        | 06614 | Spring                                 |
| 7   | 55768 | Snap Ring              | 25        | 30401 | O-Ring                                 |
| 8   | 55756 | Housing Extension      | 26        | 30407 | Regulator                              |
| 9   | 55769 | Head Spacer            | 27        | 06613 | Spring                                 |
| 10  | 06624 | Front End Plate Spacer | 28        | 06622 | Ball                                   |
| 11  | 30413 | Front End Plate        | 29        | 28573 | Cover (gray)                           |
| 12  | 55770 | Rotor                  | 30        | 30410 | Muffler                                |
| 13  | 55771 | Vane Set of 5          | 31        | 30382 | Rotatable Exhaust Deflector            |
| 14  | 30415 | Cylinder               | 32        | 30398 | Inlet Bushing                          |
| 15  | 30414 | Rear End Plate         | 33        | 28651 | Overhose Kit (Optional)                |
| 16  | 06612 | Ball Bearing           | 34        | 28652 | Overhose Replacement Sleeve (Optional) |
| 17  | 30403 | O-Ring                 | not shown | 06586 | Wrench (2)                             |

## Product Configuration / Specifications

| Model Number | Maximum Rotational Speed (RPM) | Collet Size in. | Neck Type | Net Wt. kg (lb) | Length 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> (ft/s <sup>2</sup> ) | Series Designation |
|--------------|--------------------------------|-----------------|-----------|-----------------|----------------|-----------------------------------|--|--|--------------------|
| 28627        | 18,000                         | 1/4             | Short     | 0.522 (1.15)    | 184 (7.25)     | 83.5 (95.1)                       | 1.90 (6.23)  | 0.16 (0.52)  | A                  |
| 28628        | 18,000                         | 1/4             | Extended  | 0.690 (1.52)    | 266 (10.5)     | 77.9 (89.5)                       | 1.41 (4.62)  | 0.04 (0.13)  | A                  |
| 28629        | 25,000                         | 1/4             | Short     | 0.405 (0.89)    | 152 (6.0)      | 80.2 (91.8)                       | 1.98 (6.56)  | 0.14 (0.46)  | A                  |
| 28630        | 25,000                         | 1/4             | Extended  | 0.639 (1.40)    | 247 (9.75)     | 79.4 (91.0)                       | 4.51 (14.8)  | 0.12 (0.39)  | A                  |

| Model Number | Maximum Rotational Speed (RPM) | Collet Size in. | Neck Type | Net Wt. kg (lb) | Length 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> (ft/s <sup>2</sup> ) | Series Designation |
|--------------|--------------------------------|-----------------|-----------|-----------------|----------------|-----------------------------------|--|--|--------------------|
| 28627        | 18,000                         | 1/4             | Short     | 0.58 (1.27)     | 192 (7.5)      | 83.1 (94.7)                       | 1.66 (5.45)  | 0.15 (0.49)  | C                  |
| 28628        | 18,000                         | 1/4             | Extended  | 0.69 (1.52)     | 266 (10.5)     | 88.6 (100.2)                      | 1.43 (4.69)  | 0.09 (0.30)  | C                  |
| 28629        | 25,000                         | 1/4             | Short     | 0.43 (0.95)     | 152 (6.0)      | 82.7 (94.3)                       | 2.83 (9.28)  | 0.17 (0.56)  | C                  |
| 28630        | 25,000                         | 1/4             | Extended  | 0.65 (1.43)     | 251 (9.9)      | 85.3 (95.2)                       | 1.61 (5.28)  | 0.12 (0.39)  | C                  |

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

# Declared vibration levels in accordance with ISO 20643 and 28927.

**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 in.

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 (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 - 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     |

## 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. Select a suitable abrasive and secure it to the disc pad or spindle. Be careful to center the abrasive on the disc pad.
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 or disc pad.
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.
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 shaft mounted abrasive or sanding or grinding accessory, 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. This tool is not protected against hazards inherent in cutting operations, and no such cutting products should ever be attached.
16. 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.
17. Keep hands clear of the spinning pad or spindle during use.
18. If the tool appears to malfunction, remove from use immediately and arrange for service and repair.
19. 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.
20. 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.
21. When tool is not in use, store in a clean, dry environment free of debris.
22. Recycle or dispose of tool according to Local, State, and Federal regulations.
23. Operators and maintenance personnel should be able to handle the bulk, weight and power of the tool.
24. For overhead work, wear a safety helmet.
25. Be aware that the tool will continue to run after the release of the start handle.
26. When using die grinder, the operator should adopt a comfortable posture whilst maintaining a secure footing and avoiding awkward or off-balance postures. The operator should change posture during extended tasks; this can help avoid discomfort and fatigue.
27. Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by the tool and also of the trip hazards associated with air lines.
28. Proceed with care in unfamiliar surroundings. There can be hidden hazards such as electricity lines or gas pipes.

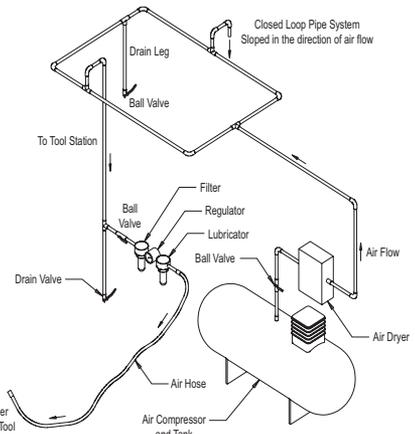


Figure 1

## 3M™ Die Grinder

3M™ Die Grinder accessories are designed for use on 3M Die Grinders. Constructed from premium, industrial-quality materials, their durability and precise construction are the ideal complement to the performance of the 3M Die Grinder. See Product Configuration/Specifications table for the correct replacement pad for a particular model.

See 3M ASD Accessory catalog 61-5002-8098-9 and 61-5002-8097-1 for additional Accessories.

## Removing and remounting shanks and shaft mounted abrasive products into collet chuck

1. Disconnect air line from tool.
2. Remove currently mounted shaft accessory, shank or abrasive product from collet chuck\* by using the two wrenches supplied with the tool. Use the wrench to secure the collet body while turning the collet nut counter clockwise.
3. After the existing product has been removed from the collet, inspect the collet insert to ensure that is free of debris and undamaged.
4. Fully insert the new shaft mounted accessory, shank or abrasive product into the collet.
5. Secure the collet body with the wrench and tighten the collet nut securely. Always use the correct sized collet with the matching shank (use 1/4 in collet insert with 1/4 in shafts or 6 mm collet insert with 6 mm shafts). An inadequately inserted shank could bend or break causing damage to the tool and work piece and possible injury to the operator or bystanders.

Note: During the above steps, ensure that all hardware and abrasive products are mounted concentrically on the supporting accessory.

\*In the drawings on the Parts Pages, Figures 1, 2 and 3 comprise the Collet Chuck.

**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.

**Warranty and Limited Remedy:** 3M warrants this tool against defects in workmanship and materials under normal operating conditions for one (1) year from the date of purchase. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M tool is fit for a particular purpose and suitable for user's application. User must operate the tool in accordance with all applicable operating instructions, safety precautions, and other procedures stated in the operating manual to be entitled to warranty coverage. 3M shall have no obligation to repair or replace any tool or part that fails due to normal wear, inadequate or improper maintenance, inadequate cleaning, non-lubrication, improper operating environment, improper utilities, operator error or misuse, alteration or modification, 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

## 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™ Die Grinders, 18,000 or 25,000 RPM, 0.33 HP, 3/4" Collar

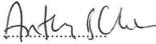
**Model Numbers:** 28627, 28628, 28629, 28630

**Serial Number Range:** DTYDDDS - Z####, where:  
 DT = Manufacturing Location Code  
 Y = Last Digit of Year of Production  
 DDD = Sequential Day of the Year of Production  
 S = The Shift During Which the Product was Produced  
 Z = Series Designation  
 #### = Four Sequential Numbers Starting Over at 0001 when 9999 is Reached

**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 11148-9:2011 | Hand-held non-electric power tools – Safety Requirements – Part 9: Die Grinders                                |
| EN ISO 20643:2008   | Mechanical vibration - Hand-held and hand-guided machinery - Principles for evaluation of vibration emission   |
| EN ISO 28927-4:2010 | Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 4: Straight grinders |
| EN ISO 15744:2008   | Hand-held non-electric power tools. Noise measurement code. Engineering method (grade 2)                       |

**Full Name of responsible person.**  
 Anthony B. Clinch **Position:** Technical Director

**Signature:**  **Date:** 5-29-15  
St. Paul, Minnesota, USA

**Full Name and address of individual responsible to compile technical file within the Community:**  
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