



## Die Grinder INSTRUCTIONS MANUAL

8,000 MAX RPM 1/4 in (6 mm) Collet 1 HP, 12,000 MAX RPM 1/4 in (6 mm) Collet 1 HP, 18,000 MAX RPM 1/4 in (6 mm) Collet 1 HP, 20,000 MAX RPM 1/4 in (6 mm) Collet 1 HP, 4,000 MAX RPM 1/4 in (6 mm) Collet 0.5 HP, 18,000, MAX RPM 1/4 in (6 mm) Collet 0.5 HP, Extended 18,000 MAX RPM 1/4 in (6 mm) Collet 0.5 HP

### 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
	<b>WARNING:</b> READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING TOOL.
	<b>WARNING:</b> ALWAYS WEAR APPROVED EYE PROTECTION
	<b>WARNING:</b> ALWAYS WEAR APPROVED HEARING PROTECTION
	<b>WARNING:</b> AVOID PROLONGED EXPOSURE TO VIBRATION
	Direction of Rotation
Prolonged vibration may cause injury	Vibration Safety Note
4,000 r/min, 8,000 r/min, 12,000 r/min, 18,000 r/min, 20,000 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

### 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 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.

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

### **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 20237 & 25126, 20,000 MAX RPM  
and 20238 & 25127, 18,000 MAX RPM DIE GRINDERS (Series A)**

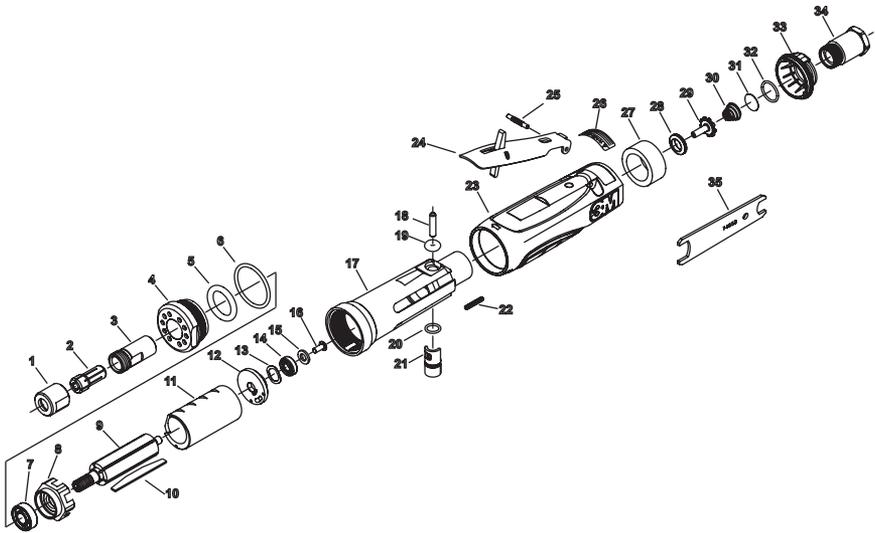


Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	16	06568	Screw #8-32 x 3/8 in But Hd Cap
2	06545	Collet (3/8 in)	17	06638	Housing
2	06546	Collet (8 mm)	18	06558	Torr Pin, 3/16 in x 7/8 in
2	06573	Collet (1/8 in)	19	06543	O-Ring
2	06574	Collet (3/16 in)	20	06511	O-Ring
2	06575	Collet (1/4 in)	21	06556	Regulator
2	06576	Collet (3 mm)	22	06501	Screw, 6-32 x 3/4 in Set Soc Hex
2	06577	Collet (6 mm)	23	06598	Housing Cover
3	06571	Collet Body	24	06642	Lever
4	06565	Retainer	25	06559	Groove Pin, 1/8 in x 7/8 in Type E
5	06579	O-Ring 7/8 in x 1/4 in x 3/16 in	26	06566	Warning Label
6	06609	O-Ring	27	06557	Muffler
7	06510	Ball Bearing 3/8 in x 7/8 in x 9/32 in	28	06552	Throttle Valve Seat
8	06639	Front End Plate	29	06553	Throttle Valve
9	06561	Rotor	30	06554	Taper Spring
10	06643	Vane, Set of 5	31	06555	Screen
11	06601	Cylinder (20,000 RPM)	32	06608	O-Ring, 1/16 in x 5/8 in x 3/4 in
11	06564	Cylinder (18,000 RPM)	33	06604	Rotatable Exhaust Deflector
12	06560	Rear End Plate	34	06605	Inlet Bushing
13	06527	Wave Washer .440 in x .618 in x .008 in	35	06569	9/16 in x 3/4 in Wrench (2)
14	06508	Ball Bearing			
15	06567	Washer .251 in x .468 in x .063 in			

**PARTS LIST FOR PN 20239 & 25128, 12,000 MAX RPM  
and 20240 & 25129, 8,000 MAX RPM DIE GRINDERS (Series A)**

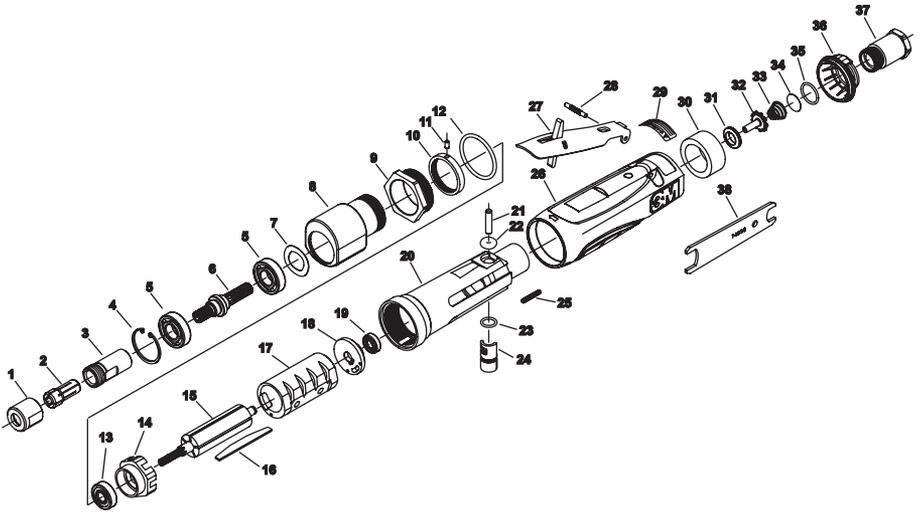
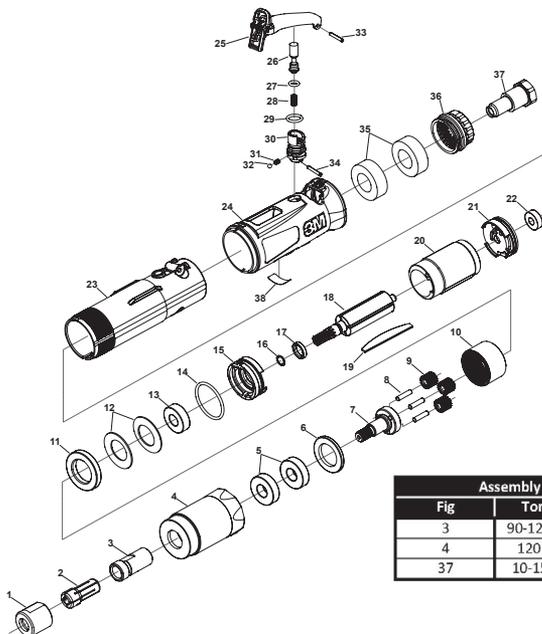


Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	16	06643	Vane, Set of 5
2	06545	Collet (3/8 in)	17	06602	Cylinder (12,000 RPM)
2	06546	Collet (8 mm)	17	06600	Cylinder (8,000 RPM)
2	06573	Collet (1/8 in)	18	06560	Rear End Plate
2	06574	Collet (3/16 in)	19	06508	Ball Bearing
2	06575	Collet (1/4 in)	20	06638	Housing
2	06576	Collet (3 mm)	21	06558	Torr Pin, 3/16 in x 7/8 in
2	06577	Collet (6 mm)	22	06543	O-Ring
3	06571	Collet Body	23	06511	O-Ring
4	06518	Retaining Ring	24	06556	Regulator
5	06507	Ball Bearing	25	06501	Screw, 6-32 x 3/4 in Set Soc Hex
6	06587	12,000 RPM Grinder Output Shaft	26	06598	Housing Cover
6	06592	8,000 RPM Grinder Output Shaft	27	06642	Lever
7	06521	Wave Washer	28	06559	Groove Pin, 1/8 in x 7/8 in Type E
8	06588	12,000 RPM Grinder Gear Box	29	06566	Warning Label
8	06593	8,000 RPM Grinder Gear Box	30	06557	Muffler
9	06653	Angle Head Clamp Nut	31	06552	Throttle Valve Seat
10	06655	Lock Ring	32	06553	Throttle Valve
11	06520	Pin, 1/8 in x 1/4 in	33	06554	Taper Spring
12	06609	O-Ring	34	06555	Screen
13	06506	Ball Bearing 3/8 in x 7/8 in x 9/32 in	35	06608	O-Ring, 1/16 in x 5/8 in x 3/4 in
14	06603	Front End Plate	36	06604	Rotatable Exhaust Deflector
15	06640	Rotor	37	06605	Inlet Bushing
			38	06569	9/16 in x 3/4 in Wrench (2)

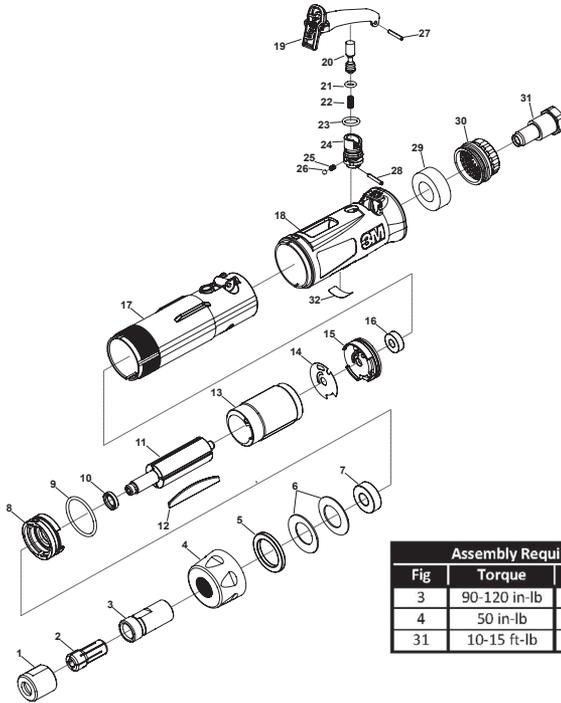
**PARTS LIST FOR PN 28332 & 28347, 4,000 MAX RPM DIE GRINDERS (Series C)**



Assembly Requirements		
Fig	Torque	Threadlocker
3	90-120 in-lb	3MTL62
4	120 in-lb	3MTL62
37	10-15 ft-lb	3MTL62

Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	19	87137	Vane (0.5 HP)
2	06573	Collet (1/8") - available separately	20	06631	Cylinder
	06575	Collet (1/4") - std w/28332	21	06630	Rear End Plate
	06574	Collet (3/16") - available separately	22	06612	Ball Bearing
	06545	Collet (3/8") - available separately	23	87123	Housing
	06576	Collet (3 mm) - available separately	24	87121	3M™ Jacket (0.5 HP)
	06577	Collet (6 mm) - std w/28347	25	28842	Lever Assembly (0.5 HP)
	06546	Collet (8 mm) - available separately	26	06626	Valve Stem
3	06571	Collet Body	27	30400	O-Ring
4	87163	Gear Case	28	06614	Spring
5	30389	Ball Bearing (2)	29	06620	O-Ring
6	30397	Spring Steel Washer	30	06627	Air Regulator
7	30378	Gear Carrier	31	06613	Spring
8	30393	Pin (3)	32	06622	Steel Ball
9	30408	Planet Gear (3)	33	87132	Roll Pin (3/32 x 1)
10	30425	Ring Gear	34	06616	Pin
11	30423	Pilot	35	06632	Muffler Material (2 required)
12	30392	Spring Washer (2)	36	06628	Exhaust Deflector
13	06611	Ball Bearing	37	06618	Inlet Bushing
14	06621	O-Ring	38	87126	Safety Sticker
15	06629	Front End Plate	Not Shown	06569	Wrench, 9/16 x 3/4, (2)
16	30402	O-Ring	Not Shown	28828	3M™ Air Tool Lubricant, 1 oz - available separately
17	30418	Spacer	Not Shown	20451	3M™ Air Tool Lubricant, 4 oz - available separately
18	30424	Rotor	Not Shown	20466	3M™ Air Tool Lubricant, Quart - available separately
			Not Shown	20467	3M™ Air Tool Lubricant, Gallon - available separately

**PARTS LIST FOR PN 28330 & 28345, 18,000 MAX RPM DIE GRINDERS (Series C)**



Assembly Requirements		
Fig	Torque	Threadlocker
3	90-120 in-lb	3M TL62
4	50 in-lb	3M TL62
31	10-15 ft-lb	3M TL62

Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	16	06612	Ball Bearing
2	06573	Collet (1/8") - available separately	17	87123	Housing
	06575	Collet (1/4") - std w/28330	18	87121	3M™ Jacket (0.5 HP)
	06574	Collet (3/16") - available separately	19	28842	Lever Assembly (0.5 HP)
	06545	Collet (3/8") - available separately	20	06626	Valve Stem
	06576	Collet (3 mm) - available separately	21	30400	O-Ring
	06577	Collet (6 mm) - std w/28345	22	06614	Spring
	06546	Collet (8 mm) - available separately	23	06620	O-Ring
3	30371	Collet Body	24	06627	Air Regulator
4	87128	Clamp Nut	25	06613	Spring
5	30419	Disk Spring Spacer	26	06622	Steel Ball
6	30392	Spring Washer (2)	27	87132	Roll Pin (3/32 x 1)
7	06611	Ball Bearing	28	06616	Pin
8	06629	Front End Plate	29	06632	Muffler Material
9	30404	O-Ring	30	06628	Exhaust Deflector
10	30418	Spacer	31	06618	Inlet Bushing
11	06634	Rotor	32	87126	Safety Sticker
12	87137	Vane Set (0.5 HP)	Not Shown	06569	Wrench, 9/16 x 3/4, (2) - available separately
13	06631	Cylinder	Not Shown	28828	3M™ Air Tool Lubricant, 1 oz - available separately
14	30373	Motor Restricting Washer	Not Shown	20451	3M™ Air Tool Lubricant, 4 oz - available separately
15	06630	Rear End Plate	Not Shown	20466	3M™ Air Tool Lubricant, Quart - available separately
			Not Shown	20467	3M™ Air Tool Lubricant, Gallon - available separately

## PARTS LIST FOR PN 28331 & 28346, Extended 18,000 MAX RPM DIE GRINDERS (Series C)

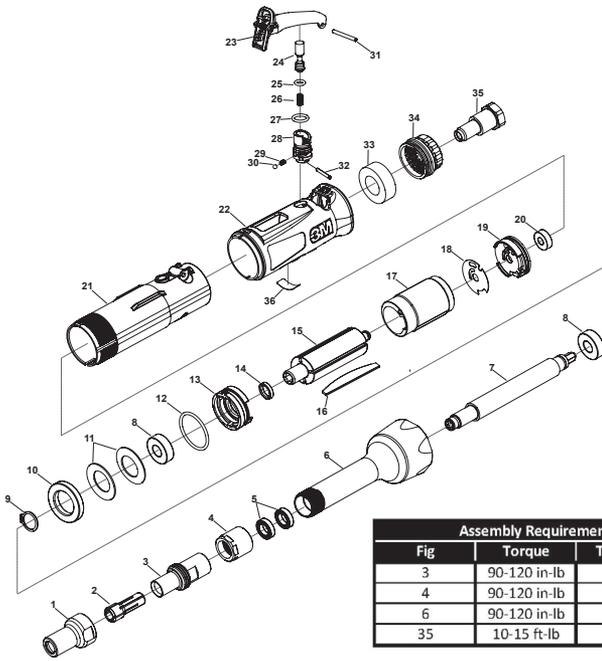


Fig.	3M PN	Description	Fig.	3M PN	Description
1	55754	Collet Nut	20	06612	Ball Bearing
2	55752	Collet (1/4") - std w/28331	21	87123	Housing
	55772	Collet (1/8") - available separately	22	87121	3M™ Jacket (0.5 HP)
	28819	Collet (3/32") - available separately	23	28842	Lever Assembly (0.5 HP)
	87161	Collet (3 mm) - available separately	24	06626	Valve Stem
	87162	Collet (6 mm) - std w/28346	25	30400	O-Ring
3	55753	Collet Body	26	06614	Spring
4	55757	Bearing Retainer	27	06620	O-Ring
5	55755	Ball Bearing (2)	28	06627	Air Regulator
6	87129	Extension Housing	29	06613	Spring
7	30421	Extension Shaft	30	06622	Steel Ball
8	06611	Ball Bearing (2)	31	87132	Roll Pin (3/32 x 1)
9	55768	Snap Ring	32	06616	Pin
10	30423	Pilot	33	06632	Muffler Material
11	30392	Spring Washer (2)	34	06628	Exhaust Deflector
12	30404	O-Ring	35	06618	Inlet Bushing
13	06629	Front End Plate	36	87126	Safety Sticker
14	30418	Spacer	Not Shown	06586	Wrench, 7/16 x 11/16, (2)
15	30422	Rotor	Not Shown	28828	3M™ Air Tool Lubricant, 1 oz - available separately
16	87137	Vane Set (0.5 HP)	Not Shown	20451	3M™ Air Tool Lubricant, 4 oz - available separately
17	06631	Cylinder	Not Shown	20466	3M™ Air Tool Lubricant, Quart - available separately
18	30373	Motor Restricting Washer	Not Shown	20467	3M™ Air Tool Lubricant, Gallon - available separately
19	06630	Rear End Plate			

**PARTS LIST FOR PN 28332 & 28347, 4,000 MAX RPM DIE GRINDERS (Series A)**

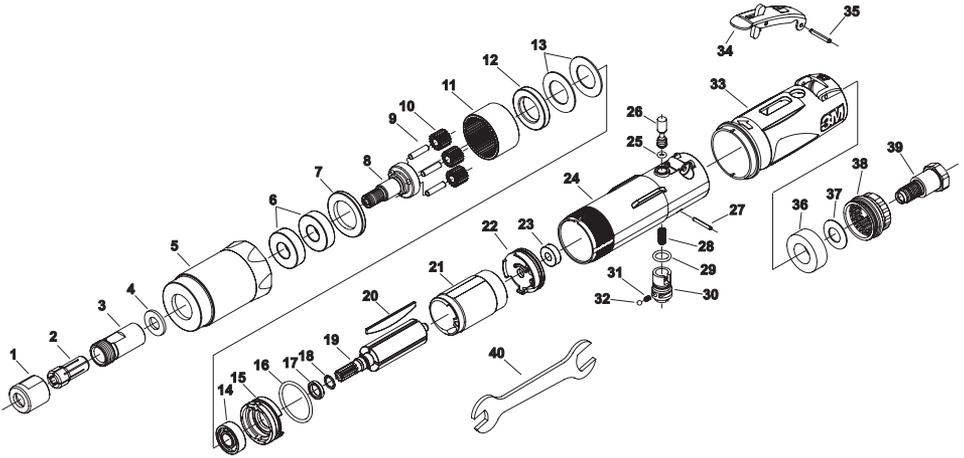


Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	19	30424	Rotor
2	06575	Collet (1/4 in)	20	06647	Vane, Set of 4
2	06573	Collet (1/8 in)	21	06631	Cylinder Liner
2	06574	Collet (3/16 in)	22	06630	Rear End Plate
2	06545	Collet (3/8 in)	23	06612	Ball Bearing
2	06576	Collet (3mm)	24	06625	Housing
2	06577	Collet (6mm)	25	30400	O-Ring
2	06546	Collet (8mm)	26	06626	Trigger Valve Stem
3	06571	Collet Body	27	06616	Pin
4	30397	Spring Steel Washer	28	06614	Compression Spring
5	30374	Clamp Nut	29	06620	O-Ring
6	30389	Ball Bearing (2)	30	06627	Air Regulator
7	30396	Flat Washer	31	06613	Compression Spring
8	30372	Gear Carrier	32	06622	Steel Ball
9	30393	Pin(3)	33	06599	Housing Cover, 0.5 HP (gray)
10	30408	Planet Gear (3)	34	06635	Paddle Assembly
11	30425	Ring Gear	35	06617	Roll Pin
12	30423	Pilot (.75 ID)	36	06632	Muffler Material
13	30392	Spring Washer (2)	37	06615	Disc Spring
14	06611	Ball Bearing	38	06628	Exhaust Deflector
15	06629	Front End Plate	39	06618	Inlet Bushing
16	06621	O-Ring	40	06569	9/16 in x 3/4 in Wrench (2)
17	30418	Front End Plate Spacer			
18	30402	O-Ring			

**PARTS LIST FOR PN 28330 & 28345, 18,000 MAX RPM DIE GRINDERS (Series A)**

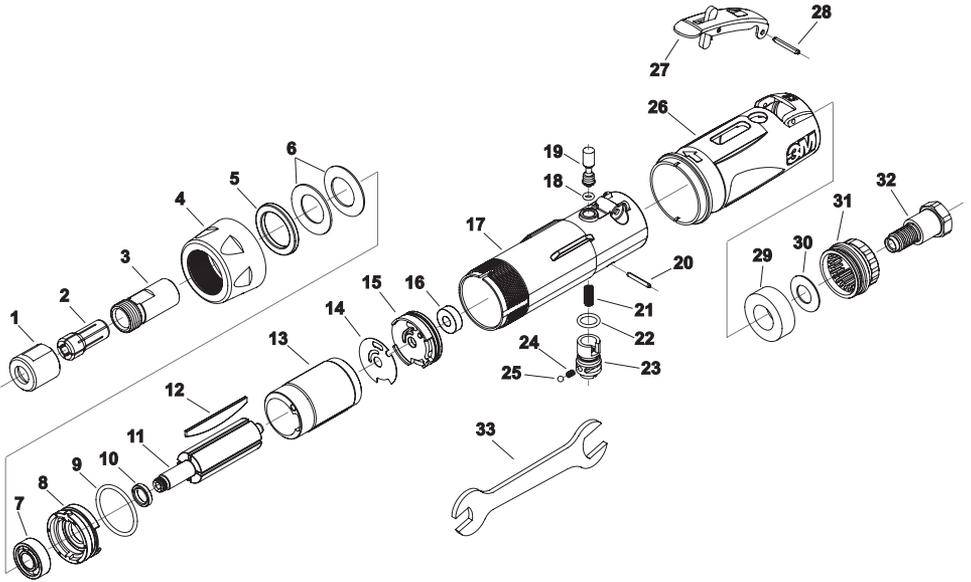


Fig.	3M PN	Description
1	06572	Collet Nut
2	06575	Collet (1/4 in)
2	06573	Collet (1/8 in)
2	06574	Collet (3/16 in)
2	06545	Collet (3/8 in)
2	06576	Collet (3mm)
2	06577	Collet (6mm)
2	06546	Collet (8mm)
3	30371	Collet Body
4	06636	Clamp Nut
5	30419	Disk Spring Spacer
6	30392	Spring Washer (2)
7	06611	Ball Bearing
8	06629	Front End Plate
9	06621	O-Ring
10	30418	Front End Plate Spacer
11	06634	Rotor
12	06647	Vane, Set of 4
13	06631	Cylinder Liner
14	30373	Motor Restricting Washer
15	06630	Rear End Plate

Fig.	3M PN	Description
16	06612	Ball Bearing
17	06625	Housing
18	30400	O-Ring
19	06626	Trigger Valve Stem
20	06616	Pin
21	06614	Compression Spring
22	06620	O-Ring
23	06627	Air Regulator
24	06613	Compression Spring
25	06622	Steel Ball
26	06599	Housing Cover, 0.5 HP (gray)
27	06635	Paddle Assembly
28	06617	Roll Pin
29	06632	Muffler Material
30	06615	Disc Spring
31	06628	Exhaust Deflector
32	06618	Inlet Bushing
33	06569	9/16 in x 3/4 in Wrench (2)

**PARTS LIST FOR PN 28331 & 28346, Extended 18,000 MAX RPM  
DIE GRINDERS (Series A)**

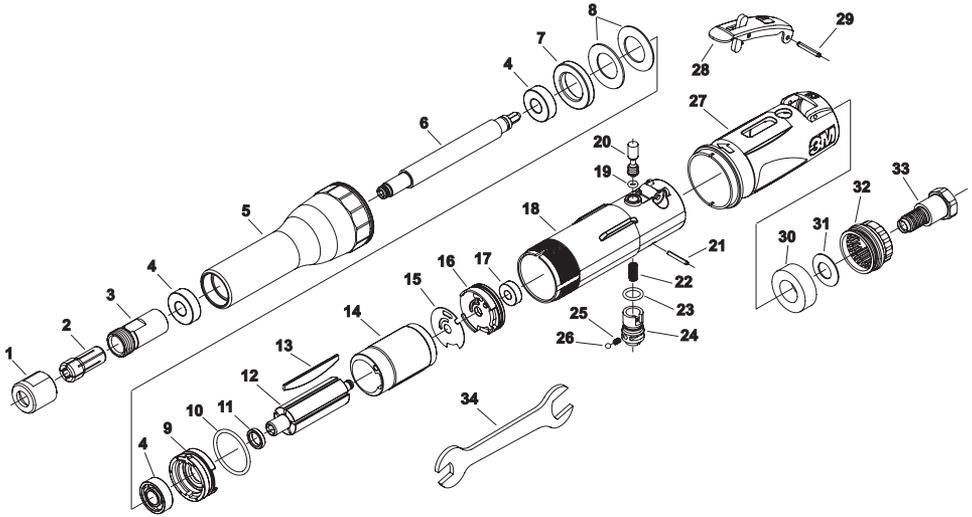


Fig.	3M PN	Description	Fig.	3M PN	Description
1	06572	Collet Nut	16	06630	Rear End Plate
2	06575	Collet (1/4 in)	17	06612	Ball Bearing
2	06573	Collet (1/8 in)	18	06625	Housing
2	06574	Collet (3/16 in)	19	30400	O-Ring
2	06545	Collet (3/8 in)	20	06626	Trigger Valve Stem
2	06576	Collet (3mm)	21	06616	Pin
2	06577	Collet (6mm)	22	06614	Compression Spring
2	06546	Collet (8mm)	23	06620	O-Ring
3	30371	Collet Body	24	06627	Air Regulator
4	06611	Ball Bearing (3)	25	06613	Compression Spring
5	30420	Clamp Nut	26	06622	Steel Ball
6	30421	Extension Shaft	27	06599	Housing Cover, 0.5 HP (gray)
7	30423	Pilot (.75 ID)	28	06635	Paddle Assembly
8	30392	Spring Washer (2)	29	06617	Roll Pin
9	06629	Front End Plate	30	06632	Muffler Material
10	06621	O-Ring	31	06615	Disc Spring
11	30418	Front End Plate Spacer	32	06628	Exhaust Deflector
12	30422	Rotor	33	06618	Inlet Bushing
13	06647	Vane, Set of 4	34	06569	9/16 in x 3/4 in Wrench (2)
14	06631	Cylinder Liner			
15	30373	Motor Restricting Washer			

## Product Configuration / Specifications

Model Number	Collet	Maximum Rotational Speed (RPM)	Product Net Wt kg (lb)	Height mm (in)	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
20237 25126	1/4 in 6 mm	20,000	0.77 (1.69) 0.77 (1.69)	76.2 (3) 76.2 (3)	196 (7.5) 196 (7.5)	83.5 (95.1) 83.5 (95.1)	< 2.5 (< 8.2) < 2.5 (< 8.2)	NA NA	A
20238 25127	1/4 in 6 mm	18,000	0.77 (1.69) 0.77 (1.69)	76.2 (3) 76.2 (3)	196 (7.5) 196 (7.5)	83.5 (95.1) 83.5 (95.1)	< 2.5 (< 8.2) < 2.5 (< 8.2)	NA NA	A
20239 25128	1/4 in 6 mm	12,000	0.93 (2.06) 0.93 (2.06)	81.2 (3.2) 81.2 (3.2)	254 (10) 254 (10)	83.5 (95.1) 83.5 (95.1)	3.62 (11.9) 3.62 (11.9)	1.81 (5.9) 1.81 (5.9)	A
20240 25129	1/4 in 6 mm	8,000	0.93 (2.06) 0.93 (2.06)	81.2 (3.2) 81.2 (3.2)	254 (10) 254 (10)	83.5 (95.1) 83.5 (95.1)	3.62 (11.9) 3.62 (11.9)	1.81 (5.9) 1.81 (5.9)	A
28330 28345	1/4 in 6 mm	18,000	0.512 (1.13) 0.512 (1.13)	69.9 (2.75) 69.9 (2.75)	174.6 (6.875) 174.6 (6.875)	87.0 (98.6) 83.5 (95.1)	1.91 (6.3) 1.91 (6.3)	NA NA	A
28331 28346	1/4 in 6 mm	18,000	0.697 (1.54) 0.697 (1.54)	69.9 (2.75) 69.9 (2.75)	269.9 (10.625) 269.9 (10.625)	87.0 (98.6) 87.0 (98.6)	2.53 (8.3) 2.53 (8.3)	0.295 (0.97) 0.295 (0.97)	A
28332 28347	1/4 in 6 mm	4,000	0.717 (1.58) 0.717 (1.58)	69.9 (2.75) 69.9 (2.75)	200 (8.875) 200 (8.875)	87.0 (98.6) 87.0 (98.6)	5.52 (18.1) 5.52 (18.1)	0.732 (2.4) 0.732 (2.4)	A

Model Number	Collet	Maximum Rotational Speed (RPM)	Product Net Wt kg (lb)	Height mm (in)	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
28330 28345	1/4 in 6 mm	18,000	0.58 (1.27) 0.58 (1.27)	69.9 (2.75) 69.9 (2.75)	178 (7) 178 (7)	89.2 (100.8) 89.2 (100.8)	2.13 (6.99) 2.13 (6.99)	0.19 (0.62) 0.19 (0.62)	C
28331 28346	1/4 in 6 mm	18,000	0.78 (1.72) 0.78 (1.72)	69.9 (2.75) 69.9 (2.75)	274 (10.8) 274 (10.8)	82.9 (94.5) 89.2 (100.8)	2.18 (7.15) 2.18 (7.15)	0.24 (0.79) 0.24 (0.79)	C
28332 28347	1/4 in 6 mm	4,000	0.90 (1.99) 0.90 (1.99)	69.9 (2.75) 69.9 (2.75)	221 (8.7) 221 (8.7)	90.0 (101.6) 89.2 (100.8)	1.43 (4.69) 1.43 (4.69)	0.08 (0.26) 0.08 (0.26)	C

\* Declared noise levels; measurements carried out in accordance with standard EN ISO 15744:2002.

\*\* Declared vibration levels in accordance with EN12096; measurements carried out in accordance with standard EN ISO 8662-13:1997.

# 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 on 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.

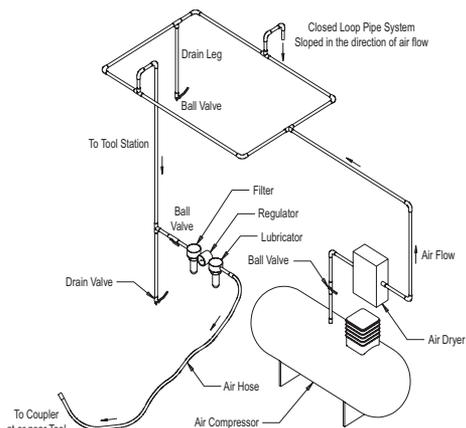


Figure 1

## 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 and seller 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 seller 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, 8,000, 12,000, 18,000 or 20,000 RPM, 1 HP, ¼" or 6 mm Collet  
3M™ Die Grinders, 4,000 or 18,000 RPM, 0.5 HP, ¼" or 6 mm Collet

**Model Numbers:** 20237, 20238, 20239, 20240, 25126, 25127, 25128, 25129, 28330, 28331, 28332, 28345, 28346, and 28347

**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)
EN ISO 8662-13:1997	Hand-held portable power tools – Measurement of vibrations at the handle – Part 13: Die Grinders

**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:**

Mrs. Ashleigh Cox - Marketing Operations, Abrasive Systems Div., 3M United Kingdom, Easthempstead Road, Bracknell, Berkshire, England RG12 1JE