

# STANLEY®

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## 1/4" Mini Angle DIE GRINDER

78-413

- Molded grip reduces fatigue, vibration and cold
- Free Speed of 20,000 RPM
- 360° directional rear exhaust keeps air away from your face and work area
- Compact size for use in confined areas with greater maneuverability
- Teasing throttle lets you control mini angle die grinder speed
- Suggested applications:  
For grinding, sanding, porting and deburring of metal and other materials

### **WARNING**

 Read and understand this instruction manual and tool labels before installing, operating or servicing this tool. Keep these instructions in a safe accessible place.

 Operators and others in work area must wear ANSI Z87.1 approved safety glasses with side shields.

 Operators and others in work area must wear ear protection.

Always disconnect from air source when oiling or servicing the tool, or when changing attachments.

Use only accessories rated at or above tool rated RPM.

Avoid prolonged use: repetitive motion or exposure to vibration may be harmful to your hands or arms.

Do Not Use oxygen or reactive gases; explosion may occur.

Do Not Exceed air pressure of 90 PSI.

 Oil daily for optimal performance.

**THE STANLEY WORKS**

New Britain, CT 06053 [www.stanleyworks.com](http://www.stanleyworks.com)

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## Proper Use Of Tool

Your new 1/4" Mini Angle Die Grinder is designed for grinding and deburring operations in confined areas. This tool features a rear exhaust to direct air flow away from the work area, a built-in regulator for convenient speed control and a lock-off lever to prevent accidental starts.

## Work Stations

Your Mini Angle Die Grinder should only be used as a hand operated tool. It is always recommended that the tool is used when standing with solid footing. It can be used in other positions but before any such use, the operator must be in a secure position having a firm grip and footing.

## Putting Into Service

### Air Supply

Use a clean lubricated air supply that will give a measured air pressure at the tool of 90 psi/6.2 bar when the tool is running with the throttle fully depressed. Use recommended hose size and length. It is recommended that the tool is connected to the air supply as shown in figure A. Do not connect the tool to the air line system without incorporating an easy to reach and operate air shut off valve. The air supply should be lubricated. It is strongly recommended that an air filter, regulator, lubricator (FRL) is used as shown in figure A as this will supply clean, lubricated air at the correct pressure to the tool. Details of such equipment can be obtained from your supplier. If such equipment is not used then the tool should be lubricated by shutting off the air supply to the tool and then depressurizing the line by pressing the throttle on the tool. Disconnect the air line and pour into the intake bushing a teaspoon (5 ml) of a suitable pneumatic motor lubricating oil, preferably incorporating a rust inhibitor. Reconnect tool to air supply and run tool slowly for a few seconds to allow air to circulate the oil.

Lubricate tool daily if used frequently, or when it starts to slow or lose power.

## Operating Instructions

The Mini Angle Die Grinder is designed for use with mounted stones and burrs with a 1/4" mandrel rated for 25,000 RPM or higher. This tool has a lock-off lever throttle and an internal regulator. To begin operation, grip tool and depress safety lock while engaging throttle. The regulator is located at the base of the tool, near the air inlet. Adjust speed by rotating the numbered dial.

To mount stones and other accessories, use the wrenches supplied with the tool. Always disconnect air supply before changing any accessories. Hold spindle with the 11mm wrench, while using the other 17mm wrench to turn collet nut. Fully insert mandrel into chuck and tighten until secured in collet.

Daily, before use, without accessories, check spindle speed. Tighten spindle attachments securely. The grinder should be gradually applied to the work surface until the stone or burr becomes worn. Always replace excessively worn stones or burrs. Make smooth contact with the work and avoid any bumping action or excessive force.

## Using A Mini Angle Die Grinder

- 1) Read all the instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
- 2) Do not exceed the maximum working air pressure of 90 psi/6.2 bar.
- 3) Use personal safety equipment.
- 4) Use only compressed air at the recommended conditions.
- 5) If the tool appears to malfunction, remove from use immediately and arrange for service and repair.
- 6) If the tool is used with a balancer or other support device, ensure that it is fixed securely.
- 7) Always keep hands away from the working attachment fitted to the tool.
- 8) The tool is not electrically insulated. Never use the tool if there is any chance of it coming into contact with live electricity.
- 9) When using the tool, always adopt a firm footing and/or position and grip the tool firmly to counteract any forces or reaction forces that may be generated while using the tool.
- 10) Use only correct spare parts. Do not improvise or make temporary repairs.
- 11) Do not lock, tape, wire, etc. the on/off throttle in the run position. The throttle must always be free to return to the 'off' position when it is released.
- 12) Always shut off the air supply to the tool, and depress the throttle to exhaust air from the feed hose before fitting, adjusting or removing the working attachment.
- 13) Check hose and fittings regularly for wear. Replace if necessary. Do not carry the tool by its hose and ensure the hand is removed from the throttle when carrying the tool with the air supply connected.
- 14) Take care against entanglement of moving parts of the tool with clothing, ties, hair, cleaning rags, etc. This will cause the body to be drawn towards the tool and can be very dangerous.

# Specifications

# Especificaciones

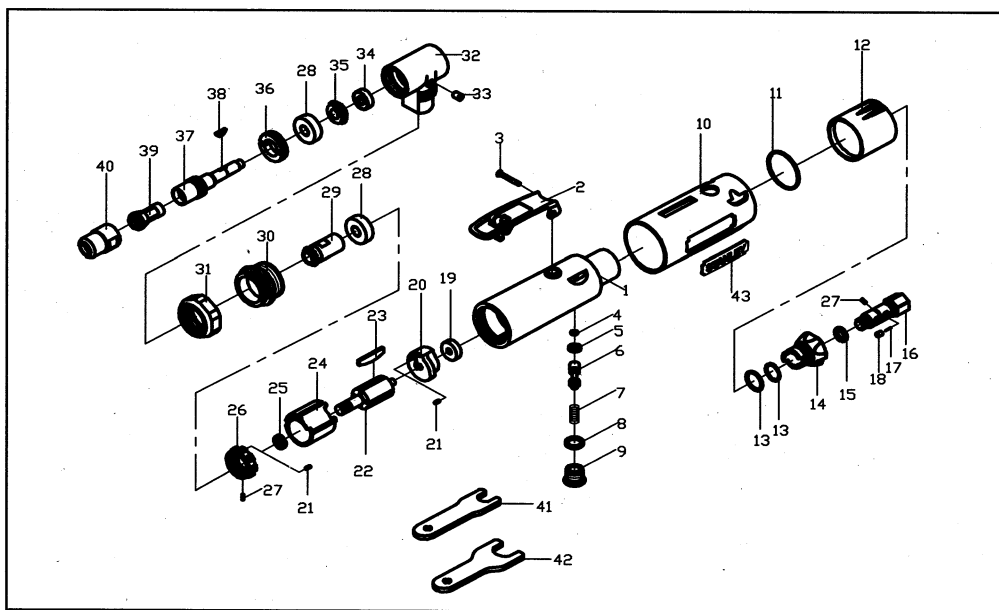
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<b>Average Air Consumption</b>	2.2 CFM (16 SCFM) 100% Usage	<b>Promedio de consumo de aire</b>	2.2 CFM (16 SCFM) Uso al 100%	<b>Consommation moyennée d'air</b>	2,2 pi³/min (16 SCFM) Usage à 100 %
<b>Collet Size</b>	1/4"	<b>Tamaño del portabrocas</b>	1/4 pul.	<b>Taille du mandrin</b>	6,35 mm (1/4 po)
<b>Maximum RPM</b>	20,000	<b>Máximas RPM</b>	20.000	<b>Régime en tr/min maximum</b>	20 000
<b>Exhaust</b>	Rear	<b>Escape</b>	Trasero	<b>Échappement</b>	Arrière
<b>Air Inlet</b>	1/4" NPT (F)	<b>Entrada de aire</b>	Rosca de 1/4 pul. NPT (Hembra)	<b>Entrée d'air</b>	Taraudage de 6,35 mm NPT (F)
<b>Weight</b>	1.3 lbs.	<b>Peso</b>	1,3 lbs.	<b>Poids</b>	1,3 lb
<b>Min. Hose Size</b>	1/4"	<b>Tamaño mínimo de la manguera</b>	1/4 pul.	<b>Taille minimale du tuyau</b>	9,5 mm (3/8 po)
<b>Max. PSI</b>	90	<b>Lbs./pul² (PSI) necesarias</b>	90	<b>Pression requise en lb/po²</b>	90

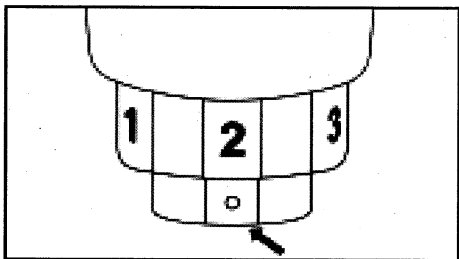


NO	PART NO	DESCRIPTION	Q'TY
1	84401	Housing	1
2	84402	Trigger	1
3	14504	Trigger Pin	1
4	14305	O-Ring	1
5	84408	O-Ring	1
6	84409	Valve Stem	1
7	24307	Spring	1
8	24308	O-Ring	1
9	24309	Nut	1
10	84413	Grip	1
11	84414	O-Ring	1
12	84415	Muffle Cover	1
13	64336	O-Ring	2
14	64337	Air Regulator	1

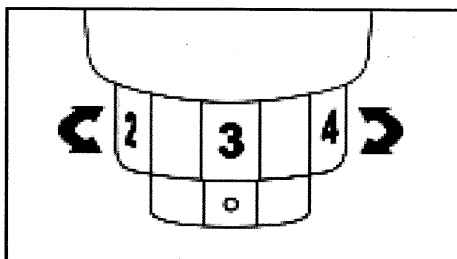
NO	PART NO	DESCRIPTION	Q'TY
15	64338	O-Ring	1
16	64339	Air Inlet	1
17	66026	Spring	1
18	66025	Tip Sleeve	1
19	14315	Bearing	1
20	14316	End Cover	1
21	14524	Pin	2
22	14318	Rotor	1
23	14319	Rotor Blade	4
24	14320	Cylinder	1
25	14322	Rotor Spacer	1
26	14323	Front Cover	1
27	14324	Pin	3
28	14325	Bearing	2

NO	PART NO	DESCRIPTION	Q'TY
29	14326	Angle Gear	1
30	14327	Retainer	1
31	14328	Hex Nut	1
32	14329	Angle Head	1
33	14330	Grease Cap	1
34	14331	Bearing	1
35	14332	Angle Gear	1
36	14333	Lock Nut	1
37	14334	Work Spindle	1
38	14335	Woodruff Key	1
39	14529	Collet	1
40	14337	Collet Nut	1
41	14338	Wrench	1
42	14339	Wrench	1
43	550D50	Label	1

## Air Regulator



Number above silver ball detent indicates air regulator setting.



Turn number dial to lower number for decreased power, or higher number for increased power.

- 15) It is expected that users will adopt safe working practices and observe all relevant legal requirements when installing, using or maintaining the tool.
- 16) Do not install the tool unless an easily accessible and easily operable on/off valve is incorporated in the air supply.
- 17) Take care that the tool exhaust air does not cause a problem or blow on another person.
- 18) Never lay a tool down unless the working attachment has stopped moving.

## Safety Rules For Pneumatic Tools

- 1) Inspect the air hose for cracks or other problems. Replace the hose if worn.
- 2) Never point an air hose at another person.
- 3) Disconnect the tool when not in use, or before performing service or changing accessories.
- 4) Use proper hoses and fittings. Never use quick-change couplings attached to the tool. Instead, add a hose and coupling between the tool and the air supply.

The recommended hook-up is shown in figure A. Pneumatic tools operate on a wide range of air pressures. For maximum efficiency and longer tool life, the pressure of the air supplied to these tools should not exceed the rated PSI at the tool when the tool is running. Using a higher than rated pressure will cause faster wear and drastically shorten the tool's life. A higher air pressure can also cause an unsafe condition.

The inside diameter of the hose should be increased to compensate for unusually long air hoses (over 25 feet). Minimum hose diameter should be 3/8" I.D. and fittings should have the same inside dimensions.

The use of air line lubricators and air line filters is recommended to prevent water in the line that can damage the tool. Drain the air tank daily. Clean the air inlet filter screen on at least a weekly schedule to remove accumulated dirt or other matter that can restrict air flow.

The tool's air inlet used for connecting an air supply has standard 1/4" NPT American thread.

**Figure A**

