



1041-1601

## HANDHOLE SEAT GRINDER



### OPERATING INSTRUCTIONS & SERVICE MANUAL

Rev: A, 9/17/2007

TO REDUCE THE RISK OF INJURY AND EQUIPMENT DAMAGE  
USER MUST READ AND UNDERSTAND OPERATOR'S MANUAL.

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# SAFETY INSTRUCTIONS



## WARNING!

### **READ AND UNDERSTAND ALL INSTRUCTIONS**

Failure to follow all instructions listed below, may result in accident, fire and/or personal injury.

### **SAVE THESE INSTRUCTIONS**

1. Do not allow corrosive gases or foreign material to enter the unit. Moisture, oil-based contaminants, or other liquids must be filtered out.
2. Eye protection is always required when running motor.
3. Hearing protection is recommended when in close proximity to all operating air motors.
4. Dust mask, non-skid safety shoes, hard hat, gloves and other personal safety equipment must be used.
5. Stay alert, watch what you are doing, and use common sense when operating a power tool.
6. Dress properly. Do not wear loose clothing or jewelry.
7. Keep your work area clean and well lit.
8. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
9. Disconnect the tool from the air supply before installing, making any adjustment, changing accessories, servicing or storing tool.

## GUIDELINES

The Wilson Pneumatic Handhole Seat Grinder will restore to a smooth, flat surface the gasket seat of any size or shape of handhole. Corroded, pitted, dented, scratched, fluid-abraded seats can be returned to perfect sealing condition with this tool. The Wilson grinder is a precision tool, ruggedly built for long usefulness under rough working conditions.

The grinder assembly is mounted by attachment to the handhole plate stud of a nearby handhole. Then the assembly is leveled by adjusting the leveling screws with the motor assembly attached so that the grinding wheel is in the handhole. The motor is positioned up or down as required for the grinding wheel to take the desired cut from the existing seat. Then the motor is turned on and moved about the hole while the guide roller bears against the side of the handhole and the new seat is ground.

Removal of one screw permits taking the motor and wheel out of the handhole for examination of the seat. (An accessory inspection mirror is furnished to facilitate this.) The wheel can then be replaced in the hole without disturbing the setting.

The rugged bracket which supports the powerful grinder motor moves in dovetail ways to insure precise alignment and is clamped to prevent any deviation from the height setting made by turning the adjusting handle.

Alternate mounting locations are provided for attaching the motor clamp to the dovetail slide when the handhole is in a header of 1-1/2" to 2-1/2" thickness.

The grinder can reach 12-5/8 inches from the mounting stud to the far side of the handhole with a 2" dia. wheel attached. If a greater reach is needed, an accessory 5" long extension can be inserted between the motor clamp and slide bracket. Still greater reaches can be accommodated by the use of an extension mounting bar.

Various seat widths can be ground by selecting the proper combinations of guide rollers and wheel diameters. For extra large handholes, an additional extension link attached, will accommodate for the increased contour to be ground.

A cup brush may substitute for the grinding wheel if grinding is not needed and cleaning of the seat will suffice. The motor can be used for free-hand wire brushing by unbolting the clamp from the slide. Wear eye protection.

## HOSES

Attach hose whip supplied with Filter Lubricator No. 8596 to air motor.

## LUBRICATION

Air motors are lubricated with oil laden operating air. Use S.A.E. No. 10 oil or "Wilsolube" Pneumatic Motor Oil No. 9047 in the Wilson Filter-Lubricator No. 8596. Check that a fine mist of oil is always present in exhaust air. Keep hinges, dovetail, guide roller and screw threads coated with light oil.

## EQUIPMENT SELECTION

1. Measure handhole seat width. Select and attach guide roller to motor. See chart on last page. Note that Roller Retainer (Key 30) has a left-hand thread, Be sure both blotters are between Flanges (Key 28 & 29) when mounting grinding wheel.
2. Mount grinder on plate stud of one handhole while grinding the seat of another. The long Mounting Nut (Key 2) has a 1"-8 thread. For a handhole stud with a 7/8"-9 thread, use Adapter No. 1041-0035. For a 3/4"-10 thread, use No. 1041-0036.

## OPERATION

### RECOMMENDED OPERATING AIR PRESSURE 90 PSI

1. To avoid damage to the grinding wheel, temporarily remove Motor Assembly (No. 1041-0088) from Slide Assembly (Key 8). Unscrew Cap Screw (Key 26) with washer.
2. Attach mounting assembly (No. 1041-3067) to the handhole plate stud with Mounting Nut (key 2) in the general direction of the seat to be ground.
3. Place motor assembly in the handhole and bolt its clamp with cap screw and washer to Slide Bracket (key 23).
4. Position grinding wheel by turning Handle (key 9). Lock assembly against movement. Alternately set the (4) Leveling Screws (key3) and the slide height to position the grinding wheel squarely to the existing handhole seat.
5. For a light cut, turn on motor and adjust slide handle. Move motor until guide roller touches handhole side. Then, with the roller in contact with hole wall, move the motor around hole. Graduations on micrometer thimble are in thousands of an inch.
6. Avoid a rapid breakdown of the grinding wheel face, by taking a series of light cuts.
7. Unbolt motor to examine seat surface with inspection mirror (No. 1041-0030).

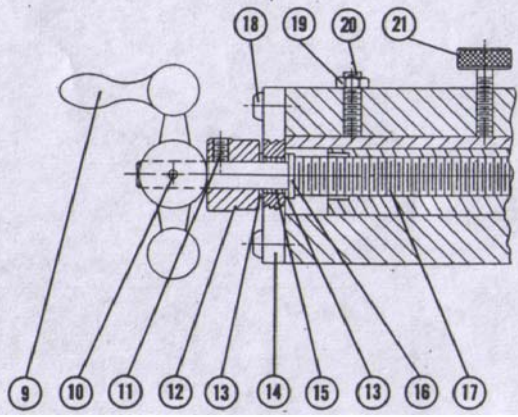
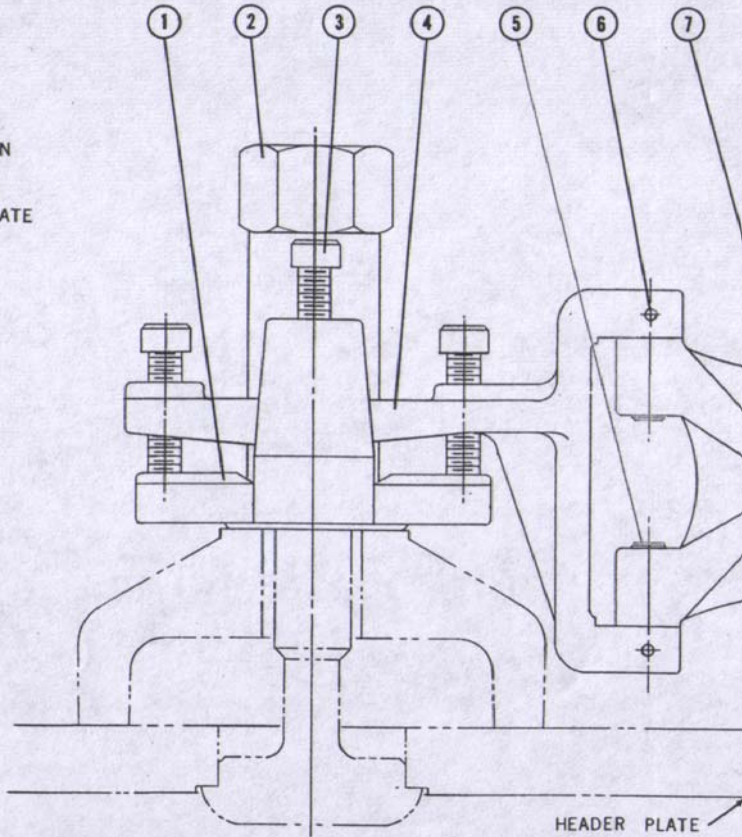
**KIT LIST**

<u>DESCRIPTION</u>	<u>QTY.</u>	<u>CAT. NO.</u>
TOOL BOX	1	24939-0000
HANDHOLE SEAT GRINDER ASS'Y	1	1041-1600
MOTOR ASSEMBLY WITH CLAMP	1	1041-0088
MOUNTING ASSEMBLY	1	1041-3067
HOSE WHIP (8' LONG - 3/8 I.D.)	1	50371-0000
EXTENSION ARM ASSEMBLY	1	104 1-0093
CUP BRUSH, 2" DIA.	1	8340-0000
GRINDING WHEEL, 2" (COARSE GRIT)	1	1041-0029
GRINDING WHEEL, 2" (FINE GRIT)	1	1041-1029
GUIDE ROLLER (1-5/8" DIA.)	1	1041-0025
GUIDE ROLLER (1-9/16" DIA.)	1	1041-0026
GUIDE ROLLER (1-1/2" DIA.)	1	1041-0027
GUIDE ROLLER (1-7/16" DIA.)	1	1041-0028
NP ADAPTER (1"-8M X 7/8-9F)	1	1041-0035
NP ADAPTER (1"-8M X 3/4-10F)	1	1041-0036
5/16" HEX. KEY	1	52147-0000
3/16" HEX. KEY	1	51254-0000
5/64" HEX. KEY	1	52142-0000
WRENCH, 9/16" X 7/16"	1	1041-0072
WHEEL DRESSING STONE	1	1041-0066
INSPECTION MIRROR	1	1041-0030
FILTER-LUBRICATOR ASSEMBLY	1	8596-0000
AIR LINE FILTER	1	8911-0000
HEX. NIPPLE - BRASS	1	9360-0000
AIR LINE LUBRICATOR	1	3611-0000

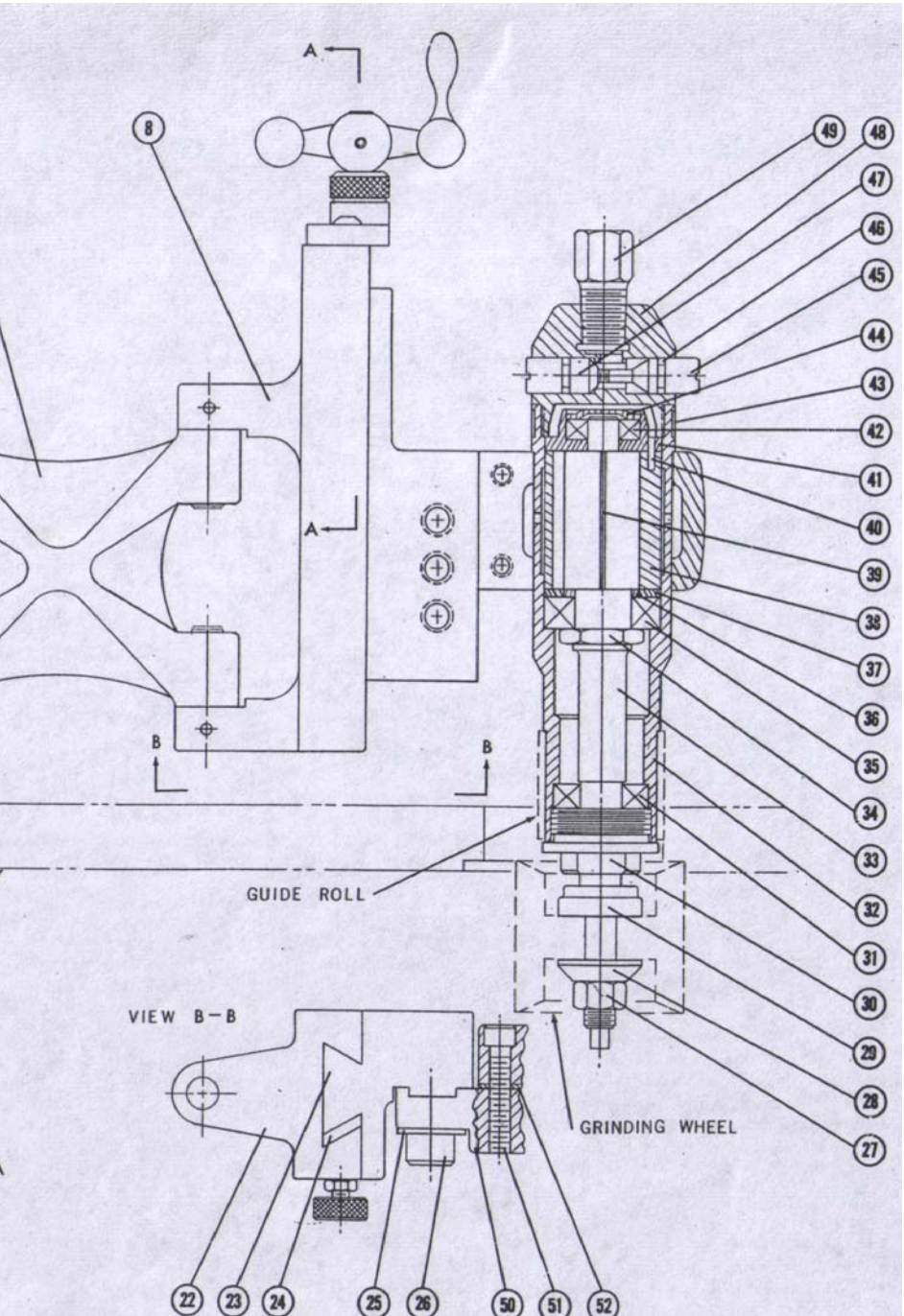
# PARTS LIST

SM 121 - A

EQUIPMENT SHOWN  
MOUNTED ON  
TYPICAL ARCH BAR  
AND HANDHOLE PLATE



SECTION A-A

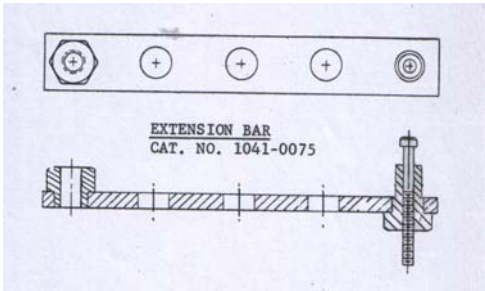


# PARTS LIST

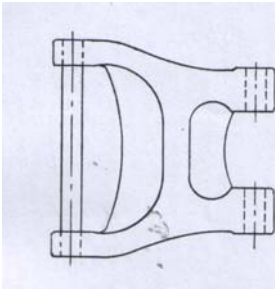
Key	Description	Part No.	Key	Description	Part No.
	Handhole Seat Grinder	1041-1600		Motor & Clamp Assembly	1041-0088
	Mounting Assembly	1041-3067		Motor & Throttle Housing	1041-1900
1	Leveling Plate	1041-0003	27	Hex Nut	50455
2	Mounting Nut	1041-0002	28	Front Flange	50807
3	Cap Screw	1041-0063	29	Rear Flange	1041-0022
4	Leveling Bracket	1041-0004	30	Retainer	1041-0021
5	Link Pin (4)	1041-0006	31	Ball Bearing	24525
6	Roll Pin (4)	28056	32	Motor Housing	1041-0020
7	Link	1041-0005	33	Spindle—4 slots	1041-0023
8	Slide Assembly	1041-3059	34	Front Bearing Nut	50812
9	Handle	1041-3051	35	Ball Bearing	50827
10	Roll Pin	28062	36	Front Spacer	50810
11	Set screw	40015	37	Front Plate	50809
12	Micrometer Dial	1041-3052	38	Cylinder	50816
13	Washer	1041-0055	39	Rotor Blades (set of 4)	50817-0004
	Index Plate Assembly	1041-3049	40	Pin	52496
14	Index Plate	1041-3149	41	Rear Plate	52978-0014
15	Bearing Sleeve	1041-3057	42	Ball Bearing	24520
16	Washer	1041-3102	43	Nameplate	52152
17	Lead Screw	1041-3150	44	Rear Plate Plug	53071
18	Button Head Screw (2)	1041-3039		Throttle Assembly	1041-0069
19	Hex Nut (2)	1041-3141	45	Push Button 'ON'	50895
20	Front Flange (2)	1041-3041	46	O-Ring	7830
21	Rear Flange (2)	1041-3241	47	Push Button 'OFF'	50893
22	Dovetail Body	1041-3038	48	Throttle Housing	1041-0096
23	Slide Bracket	1041-3046	49	Bushing with Screen	53629
24	Gib	1041-3040		Motor Clamp Assembly	1041-0087
25	Washer	30574	50	Motor Clamp	1041-0086
26	Cap Screw	24004	51	Cap Screw	1006-0010
			52	Gasket	1041-0060



## ACCESSORIES



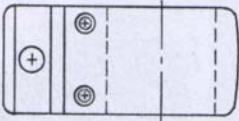
This can be useful for extra long reach or to avoid obstructions. The nut, at one end, is to be screwed onto a handhole plate stud. The grinder mounting assembly is then attached to the bar screw which may be placed in any of the four 3-3/8" spaced holes. (13-1/2" max.) A screw within the bar screw provides support for added rigidity.



### EXTENSION LINK 1041-0065

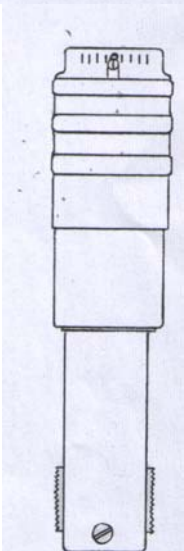
For extra large handhole, an additional extension link attached will accommodate for the increased contour to be ground.

Simply attach extension link between link (key 7) and dovetail body (key 22). For a flawless re-assembly leave link pins (key 5) in their prior location.



### INDICATOR CLAMP 1041-0087

Additional convenience can be secured by using a separate Indicator Clamp Assembly., so that the motor does not have to be moved in and out of the motor clamp.



### ALIGNMENT INDICATOR 1043

This device greatly facilitates set-up. It is mounted in place of the motor. The serrations shown are on a blade which is brought into contact with the wall of the handhole. A pointer attached to the blade indicates the alignment of the mounting with respect to the hole. If the equipment is leveled to align with the hole wall, the subsequent grinding cut will be square with the hole.

# MAINTENANCE

## **Rotor Blades**

Replace if broken or worn 1/16" below slot top.

## **Rotor Spindle**

A dropped tool may have a bent spindle. Check for straightness and replace if necessary.

## **Cylinder and Rear End Plate**

Replace if surface is gouged or pitted from rust or moisture.

## **Ball Bearing**

Clean dirty ball bearings in kerosene and flush with clean light oil (SAE10). All ball bearings should turn smoothly and freely with no noticeable looseness.

## **Air Screen**

Clean air screen in Bushing (key 49) by reverse flushing.

## **Caution Rust**

Before storing tool, put a good amount of oil into motor.

## **Disassembly**

1. Unscrew Motor Housing (key 32) from Throttle Housing (key 48).
2. Push out Rotor Assembly (key 33) to 44).
3. Pull Rear Plate Assembly (key40 to 44) off rotor, freeing cylinder and blades. Disassemble above only for parts replacement.

## **Reassembly**

Follow above steps in reverse.

# SELECTION CHART FOR GUIDE ROLLER AND WHEEL

Seat Width		Grinding Wheel			Guide Roll	
		Dia. (in)	Coarse Grit	Fine Grit		
Inch	MM		Cat. No	Cat No.	Dia.(in)	Cat. No.
3/16	4.8	2	1041-0029	1041-1029	1-5/8	1041-0025
7/32	5.6				1-9/16	1041-0026
1/4	6.4				1-1/2	1041-0027
9/32	7.1				1-7/16	1041-0028
5/16	7.9	2-1/4	1041-0081	1041-1081	1-5/8	1041-0025
11/32	8.7				1-9/16	1041-0026
3/8	9.5				1-1/2	1041-0027
13/32	10.3				1-7/16	1041-0028
7/16	11.1	2-1/2	1041-0082	1041-1082	1-5/8	1041-0025
15/32	11.9				1-9/16	1041-0026
1/2	12.7				1-1/2	1041-0027
17/32	13.5				1-7/16	1041-0028
9/16	14.3	2-3/4	1041-0083	1041-1083	1-5/8	1041-0025
19/32	15.1				1-9/16	1041-0026
5/8	15.9				1-1/2	1041-0027
21/32	16.7				1-7/16	1041-0028

**Caution:** Be sure that the wheel being used with the grinder complies with the requirements established in the American Standard Safety Code for “The use, Care and Protection of Abrasive Wheels” A.S.A. B7.1-1964

# SPECIFICATIONS

<b>Model no.</b>	<b>1041-1601</b>
<b>Free Speed (RPM)</b>	12000
<b>Air Pressure psi</b>	90
<b>Air Inlet</b>	1/4" NPT
<b>Hose</b>	3/8" I.D. Minimum
<b>Air Flow @Free Speed</b>	22 CFM
<b>Spindle</b>	3/8"-24 UNF-2

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