



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

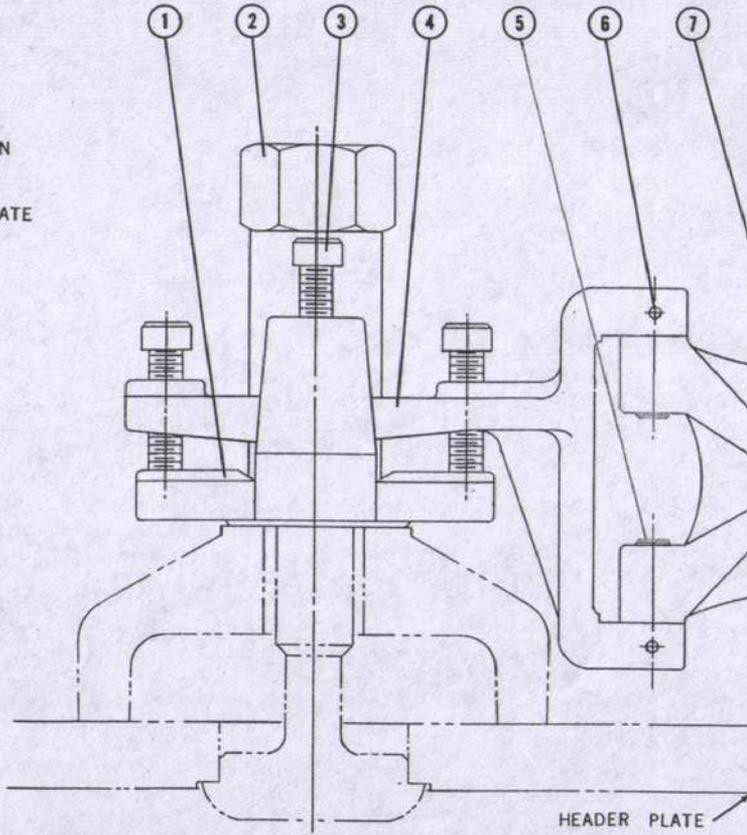
1. To avoid damage to the grinding wheel, temporarily remove Motor Assembly (No. 1041-0088) from Slide Assembly (Key 8). Unscrew Cap Screw (Key 26) with washer.
2. Attach mounting assembly (No. 1041-3067) to the handhole plate stud with Mounting Nut (key 2) in the general direction of the seat to be 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

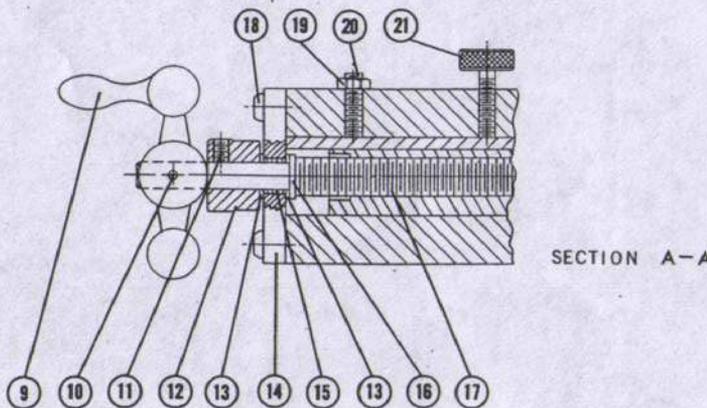
| <u>DESCRIPTION</u> | <u>QTY.</u> | <u>CAT. NO.</u> |
|----------------------------------|-------------|-----------------|
| TOOL BOX | 1 | 24939-0000 |
| HANDHOLE SEAT GRINDER ASS'Y | 1 | 1041-1600 |
| MOTOR ASSEMBLY WITH CLAMP | 1 | 1041-0088 |
| MOUNTING ASSEMBLY | 1 | 1041-3067 |
| HOSE WHIP (8' 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

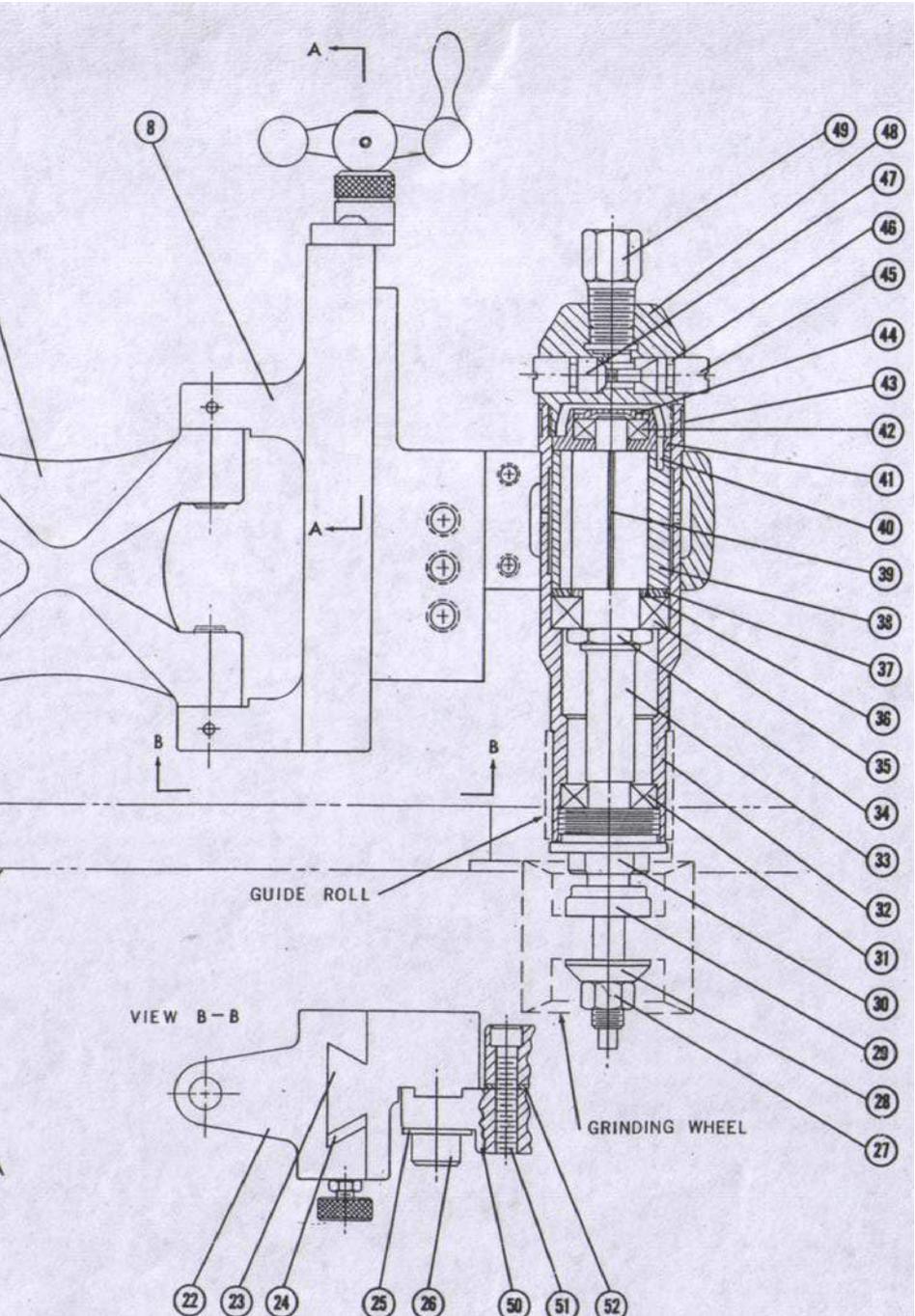
SM 121 - A

EQUIPMENT SHOWN
MOUNTED ON
TYPICAL ARCH BAR
AND HANDHOLE PLATE

HEADER PLATE



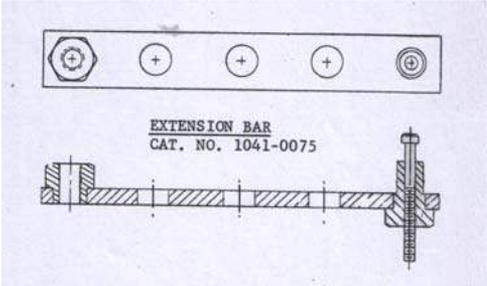
SECTION A-A



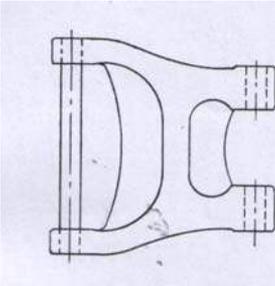
PARTS LIST

| 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



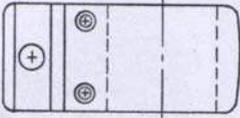
This can be useful for extra long reach or to avoid obstructions. The nut, at one end, is to be screwed onto a handhole plate stud. The grinder mounting assembly is then attached to the bar screw which may be placed in any of the four 3-3/8" spaced holes. (13-1/2" max.) A screw within the bar screw provides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



EXTENSION LINK 1041-0065

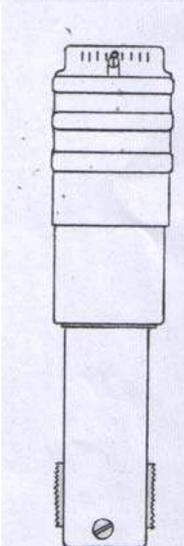
For extra large handhole, an additional extension link attached will accommodate for the increased contour to be ground.

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) |
| 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

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

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