Hand-Held Scarifiers

Needleguns

Walk-Behind Scarifiers

Impact Tools

Sanders

Specialty Tools

Industrial Vacuums

Medium Sander

Electric, 4" & 4.5"

Mfg After June 2016
w/ "*WP 15-125 Quick*" motor

*Configurations**

Part	Description	DC[1]	BUP[2]	ASAC[3]	Accessories/Remarks
Sander Configurations: Comes *with* BUP setup for abrasives indicated.					
150.120	4" Sander	none	none	none	
150.320	4" Sander	B	RL	CA, CD	
150.329	4" Sander	R	RL	CA, CD	
150.327	4" Sanding System	B	RL	CA, CD	Carry case & assorted CA & CD
150.326	4" Sanding System	R	RL	CA, CD	Carry case & assorted CA & CD
150.220	4.5" Sander	R	HL	CD	
150.229	4.5" Sander	R	CN	CA	
150.227	4.5" Sanding System	R	HL	CD	Carry case & assorted CD
Diamond Grinder Configurations: Comes *without* BUP setup for Desco diamond cup wheel					
200.3214	4" Bullgrinder	B	none	DC	
200.3215	4" Bullgrinder	R	none	DC	

Abbreviations

[1]**DC** – *Dust Collector*	[2]**BUP** – *Backup Pad*	[3]**ASAC** – *Abrasives Supported as Configured*
B – Bullnose **R** – Round	**RL** – ROLOC **CN** – Center Nut **HL** – Hook & Loop	**CA** – Coated Abrasive **CD** – Conditioning Disc **DC** – Diamond Cup

**Notes*:

a. All configurations use the new **1.6" deep shroud**. As a result, all depth setup data is new.
b. See ***Chapter 5. Abrasive Depth within Dust Collector*** for depth setup information.

DESCO Mfg. Co., Inc.
23031 Arroyo Vista ● Rancho Santa Margarita, CA 92688
949.858.7400 ● 949.858.9141 fax ● 800.337.2648 toll free
www.descomfg.com ● info@descomfg.com

Contents

1. Introduction

The Desco Medium Sander (4" and 4.5") is a quality power tool available with highly effective dust collection. The tool is lightweight and affords the user maximum ease and efficiency in a variety of applications. The tool is double insulated to provide an extra measure of safety from the hazard of electrical shock. As with any product of a quality manufacture, service life largely depends on correct handling. These instructions are prepared to help you obtain maximum safety and performance at all times.

Main Applications

- De-slagging welds
- Stripping paint
- Cleaning castings
- Removing rust & corrosion

Technical Specifications

Power	110v, 1,200w
Weight:	
Bare	5.0lbs (Motor only, no shroud or backup pad)
Dust Free	6.75lbs (Motor and shroud, no backup pad)
Speed, no load	11,000rpm

Important Safety Information

Read and understand all of the safety precautions, warnings and operating instructions in the instruction manual before operating or maintaining this power tool.

Most accidents that result from power tool operation and maintenance are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing a potentially hazardous situation before it occurs, and by observing appropriate safety procedures

Basic safety precautions are outlined in the Safety section of this instruction manual and in the section which contain the operation and maintenance instructions.

Hazards that must be avoided to prevent bodily injury or machine damage are identified by warnings on the power tool and in this instruction manual.

2. Basic Safety Rules

WARNING **Read and understand all instructions**
Failure to follow all instructions listed below may result in electrical shock, fire and/or serious personal injury.

Work Area

1. **Keep work area clean and well lit**. Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres**, such as in the presence of flammable liquids, gasses, or dust. Power tools create sparks which may ignite dust or fumes.
3. **Keep bystanders away** while operating a power tool.

Electrical Safety

1. **Double insulated, polarized plug**. If the plug does not fit, reverse it. If it still does not fit, contact an electrician to install a polarized outlet. Do not change the plug to accommodate the outlet.
2. **Avoid body contact with grounded surfaces** such as pipes, radiators, or structural members. There is an increased risk of electrical shock when your body is grounded.
3. **Keep tool dry**. Do not expose tool to water or wet conditions. Water entering the tool will increase the risk of electrical shock.
4. **Do not abuse the power cord.** Never use the cord to carry the tool or pull the plug from a receptacle. Replace damaged cords immediately.
5. **When operating a power tool outside, use an outdoor extension cord** marked “W-A” or “W”.

Personal Safety

1. **Stay alert**, watch what you are doing and use common sense when operating a power tool. Do not operate tool when tired or substance impaired.
2. **Dress properly.** Do not wear loose clothing or jewelry. Contain long hair. Keep hair, clothing, and hands away from moving parts.
3. **Use safety equipment**. Always wear eye protection. Other precautions may be required depending on the situation. These include: ear protection (ear plugs), vibration protection (gloves), steel toe shoes and hard hats.
4. **Avoid accidental starting**. Be sure the switch is off before plugging in.
5. **Do not overreach**. Keep proper footing and balance at all times.

Tool Use and Care

1. **Secure the work.** Use clamps or other securing method to firmly hold work to a stable platform. Do not attempt to hold work in one hand and operate the tool with the other hand.
2. **Do not force tool.** Apply light hold down pressure and let the tool do the work. Use the correct tool for your application.
3. **Do not use tool if switch is broken**. Any tool that can not be controlled with the switch is dangerous and must be repaired.
4. **Do not tape trigger closed** to fashion a trigger lock. If you drop or otherwise loose control of the tool, it will continue to run and may cause dangerous unintended results.
5. **Disconnect plug from power source before making adjustments** or changing accessories. Failure to unplug may result in injury if the tool were to accidentally start while adjusting.
6. **Store tools out of reach of untrained persons.** Tools are dangerous in the hands of untrained users.
7. **Maintain tools with care**. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
8. **Check for misaligned or binding of moving parts**, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

3. Operation

Prior to Operation

1) **Power Source** – Ensure that the power source conforms to the requirements specified in this document.
2) **Power Switch** – Ensure that the switch is in the OFF position prior to connecting to a power source.
3) **Extension Cord** – When the work area is far away from the power source, use an extension cord of adequate rated capacity. The extension cord should be kept as short as practical.
4) **Check the Receptacle** – If the receptacle only loosely accepts the plug, the receptacle must be repaired. If such a faulty receptacle is used, it may cause overheating, resulting in a serious hazard.
5) **Check your work environment** – Ensure the following before operation:
   - No flammable gas or liquid at worksite.
   - Work piece secured to prevent unwanted movement
   - Area cleared of children or unauthorized personnel.
6) **Observe abrasive speed rating** – Use only abrasives rated to run at 11,000 rpm or greater.

Grinder Operation

1) **Hold the grinder firmly with both hands**. One hand on the tool body handle and the other on the side handle.
2) **Switch Operation**
   Switch On: The switch is equipped with a double safety lock-off lever to prevent the tool from accidentally starting. As a result, two steps are necessary to start the tool:
   1) push backward on the lock-off button to release then,
   2) pull the power lever switch.
   Switch Off: Release the power lever to turn off.

3) **Use light grinding pressure** – There is no need to press hard when grinding. Usually the grinder's own weight is sufficient to allow the required light contact with the surface to be grinded. Let the tool do the work.

WARNING: Do not press the grinder forcibly against the surface to be ground. Heavy pressure can result in wheel breakage and serious injury. It can also damage the surface being ground or damage the grinder's motor.

4) **Use proper grinding angle and motion:**
   - Grind only with the wheel's edge by lifting the grinder 15° to 30° as shown below.
   - Move the grinder in the proper direction. When using a new abrasive wheel in direction A, the wheel edge may cut into the work piece. In this case, grind in direction B. Once the wheel edge is worn, the work piece can be ground in both directions.

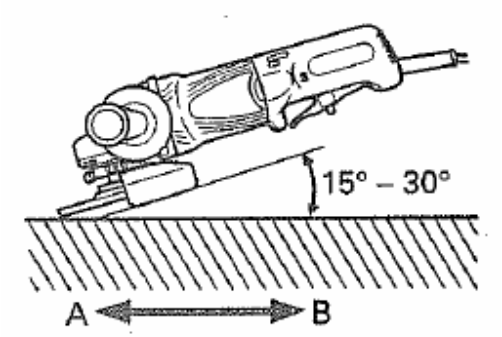


Fig. 4

4. Changing Abrasives

Changing abrasives is a simple procedure as described below. However, when you change abrasive type, additional setup is often required. For example, if you change from coated abrasives to conditioning discs, you will also need to change the backup pad and shaft extension. For more information on this topic, see *Backup Pad and Shaft Extension Usage* later in this document.

1) Disconnect tool from power source.
2) Lock spindle by pressing spindle locking button and turning backup pad with hand until spindle locks.

3) Hold tool upside down. While pressing the spindle lock, use supplied wrench to remove center nut.

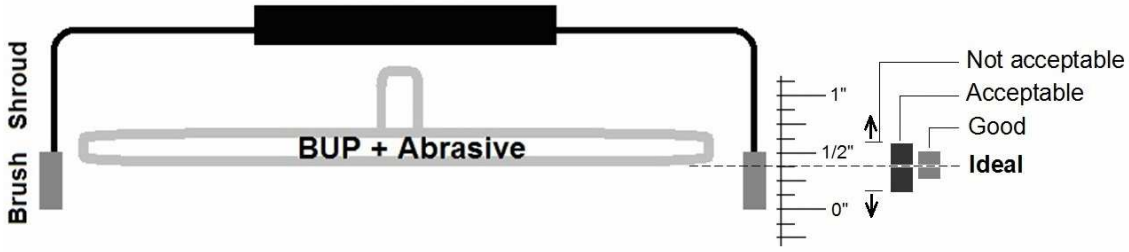
4) Change abrasive. Then reverse process to re-install the center nut.

5. Abrasive Depth within Dust Collector

When your tool was purchased new, the abrasive depth was setup to accommodate specific abrasives. To see what abrasives your tool accommodates, use the part number you ordered to lookup your setup in the configuration table on the title page of this manual. Use of other abrasives or backup pads may required you to adjust the abrasive depth.

Effective dust containment relies on: 1) the tool operator holding the dust shroud in contact with the work surface at all times, 2) adequate vacuum airflow at the dust shroud vacuum port to evacuate dust and, 3) the abrasive being at the proper height within the dust shroud. The ideal abrasive height is about 3/8". However, this dimension is subjective and a range of heights provide good to acceptable containment as indicated in Figure 5.1 below.

Abrasive Depth – Acceptable Values



Depth	Rating
3/8"	Ideal
5/16" – 7/16"	Good
3/16" – 9/16"	Acceptable
<3/16" or > 9/16"	Not Acceptable

Figure 5.1 – Abrasive Depth

NOTE: If your abrasive depth is not within the acceptable range as identified in Figure 5.1, contact your Desco representative for assistance.

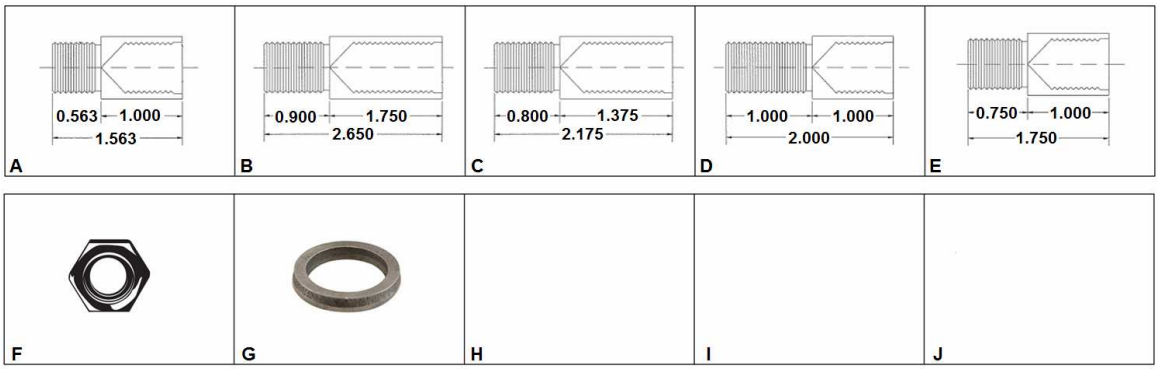
Abrasive Depth – Adjusting to Accommodate Variable Thickness

Abrasives discs and the backup pads which secure them vary in thickness. As a result, the depth within the dust shroud varies and this affects dust containment. To deal with these variables a system of shaft extensions and spacers are available to adjust the abrasive depth as shown in the Figure 5.2 below.

Abrasive	Backup Pad	Depth Setup Required (Assemble in Sequence Listed)	Depth
4.0" Coated abrasive	4" ROLOC	Spacer + Shaft-C	7/16"
4.0" Conditioning disc	4" ROLOC	Spacer + Shaft-C	3/8"
4.0" BPH (810.426)	4" ROLOC	Shaft-E	3/8"
4.0" Diamond cup	n/a	Shaft-B	3/8"
4.5" Coated abrasive	4.5" Center Nut	Spacer + Jam Nut + Shaft-B	1/2"
4.5" RIP disc	4.5" Center Nut	Jam Nut + Shaft-B	7/16"
4.5" Conditioning disc	4.5" H&L	Shaft-B	3/8"
4.5" BPH, Desco (810.951)	n/a	Jam Nut + Shaft-B	5/16"
4.5" BPH, purple	4.5" Center Nut	Spacer + Shaft-B	3/8"
4.5" Bristle cup	n/a	Shaft-B	7/16"

Figure 5.2 – Abrasive Depth Setup Requirements

Abrasive Depth – Components to Adjust



Ref	Part	Description
A	500.237	Shaft extension, size A, 5/8-11 x 1.563
B	500.800	Shaft extension, size B, 5/8-11 x 2.650
C	500.230	Shaft extension, size C, 5/8-11 x 2.175
D	500.221	Shaft extension, size D, 5/8-11 x 2.000
E	500.235	Shaft extension, size E, 5/8-11 x 1.750
F	500.002	Jam nut
G	500.810	Spacer

Figure 5.3 – Abrasive Depth Adjustment Components

6. Consumables

Abrasives

4.0" Diameter

ROLOC Attaching

Coated Abrasives

Part	Description
815.424	4" Coated abrasive, 24 grit
815.436	4" Coated abrasive, 36 grit
815.460	4" Coated abrasive, 60 grit
815.480	4" Coated abrasive, 80 grit
820.004	Backup Pad for above

4" – ROLOC Attaching

Conditioning Discs

Part	Description
810.422	4" Cond. disc, Very Fine
810.423	4" Cond. disc, Medium (maroon)
810.424	4" Cond. disc, Coarse (brown)
810.425	4" Cond. disc, Sp. coarse (d. brn)
810.426	4" Clean-N-Strip (BPH) disc (black)
820.004	Backup Pad for above

4.5" Diameter

Center Nut Attaching

Coated Abrasives

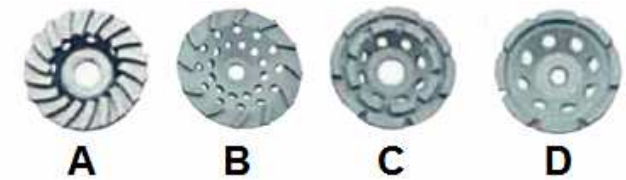
Part	Description
200.019	4.5" Desco RIP disc, 16 grit
815.9424	4.5" Coated abrasive, 24 grit
815.9436	4.5" Coated abrasive, 36 grit
815.9450	4.5" Coated abrasive, 50 grit
815.9480	4.5" Coated abrasive, 80 grit
200.425	Backup Pad for Above

4.5" – Hook & Loop Attaching

Conditioning Discs

Part	Description
810.911	4.5" Cond. disc, Very Fine.
810.912	4.5" Cond. disc, Medium (maroon)
810.914	4.5" Cond. disc, Coarse (brown)
810.915	4.5" Cond. disc, Sp. coarse (d. bn)
820.006	Backup Pad for Above
810.951	BPH, Desco no BUP required

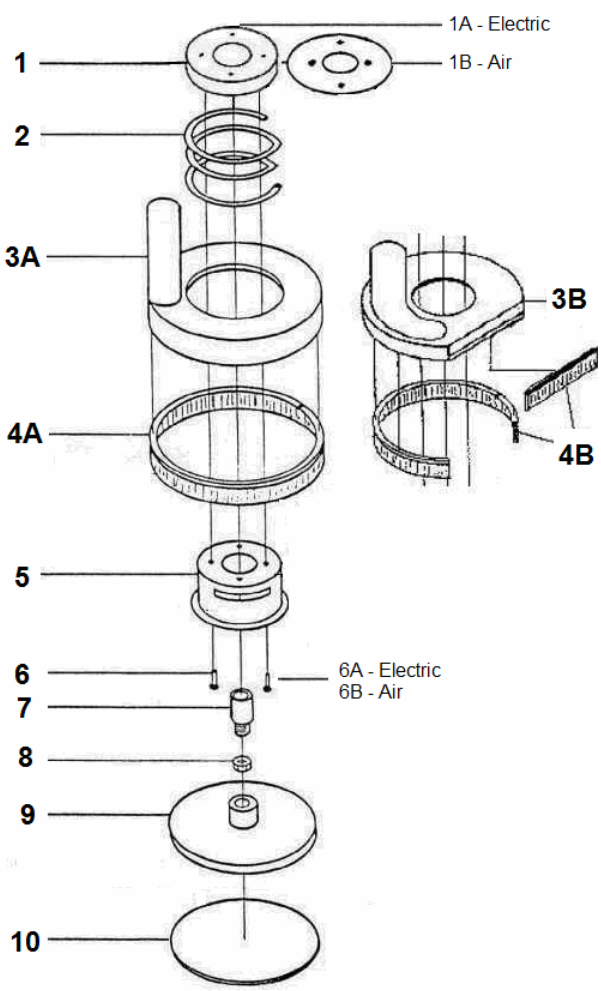
Diamond Cup Wheels



Ref	Part	Description
A	850.014	4" Diamond cup wheel, 18 segment turbo
B	850.001	4" Diamond cup wheel, 9 segment turbo
C	850.002	4" Diamond cup wheel, double row
D	850.008	4" Diamond cup wheel, single row

7. Schematics

Dust Collector Schematic

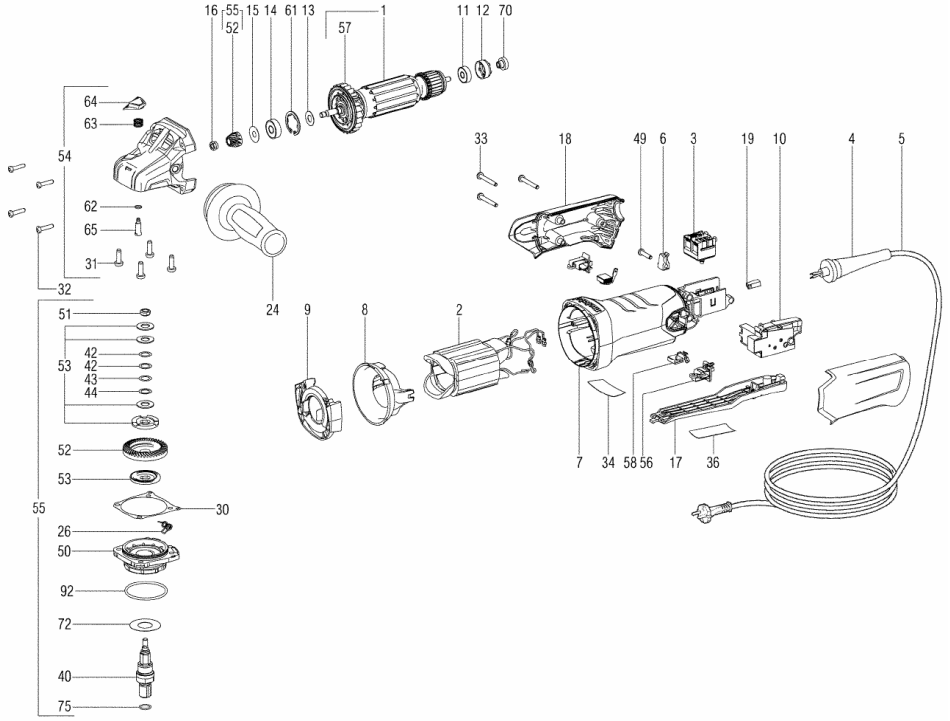


Ref	Part No	Description
1a	150.321.1	Mounting plate, electric
1b	150.009	Mounting plate, air
2	150.011	Spring
3a	150.012	Body, round dust collector
3b	150.005	Body, bullnose dust collector
4a	150.002	Brush, round dust collector
4b	150.001	Brush, bullnose dust collector
5	150.007	Cup adapter
6a	750.073	Bolt, 4 required, electric
6b	750.074	Bolt, 4 required, air
7	500.235	Shaft extension “E”
8	500.002	Jam nut
9	820.004	Roloc backup pad (or other backup pad as required)
10		Abrasive (included for reference)

Grinder Motor Schematic, PN 700.415

WEP 15-125 Quick used on Sanders:

2"	141.2292, 141.2272
3"	141.2293, 141.2273, 140.229, 140.2294
4"	150.327, 150.329
4.5"	150.220, 150.227, 150.229



Ref	Part	Description
1	550.310011020	Armature compl., 120V
2	550.311012270	Field coil w.field coil,120 V
3	550.343410180	Switch 2-pole,4,8x0,8
4	550.344101220	Cable sleeve
5	550.344499690	Cable with UL-CSA-plug
6	550.343362490	Cable clip
7	550.315013710	Motor housing
8	550.339151180	Baffle
9	550.339151200	Baffle
10	550.343083760	Electronic unit,120V / 50/60Hz
11	550.143115170	Ball bearing,6x19x6
12	550.344097870	Rubber bushing
13	550.339133060	Washer,8,05x17x0,4
14	550.143115180	Ball bearing,8x22x7
15	550.339006390	Washer,7,05x19,5x0,2
16	550.341100940	Hexagon nut w.recess
17	550.316053950	Shift lever compl.
18	550.343433920	Motor cap 2 parts black
19	550.343435170	Light guide
21	550.341031290	Clamping flange
23	550.339204500	Wheel guard,D125
24	550.314000970	Anti-vibration handle,M 8
26	550.342022040	Spring clip
30	550.339011970	Gasket
31	550.141121640	Fill. head screw(DIN 7985)
32	550.141116980	Self-tap. fill. h. screw
33	550.141116980	Self-tap. fill. h. screw

Ref	Part	Description
34	550.338060310	Rating plate
36	550.338122090	Warning Label 52x22
40	550.341604440	Spindle shaft 5/8"
41	550.316055450	Clamping nut compl.,5/8"
42	550.141151120	Washer 10,2 X 14,8X 0,2
43	550.141152300	Washer 10,2 X 14,8X 0,1
44	550.141153920	Washer 10,2 X 14,8X 0,5
49	550.141117060	Self-tap. fill. h. screw
50	550.343433280	Flange compl.
51	550.341102460	Nut
52	550.316054980	Bevel gear w.pinion
53	550.316055080	Friction washer set compl.
54	550.316055100	Gear housing compl.
55	550.316054270	Safety clutch w.pinion
56	550.316057050	Brush holder
57	550.316054850	Fan w. dust guard
58	550.316055220	Carbon brush set cut-off
59	550.316055110	Clamping lever compl.
61	550.141156650	Retaining ring
62	550.143193650	O-ring
63	550.342003390	Pressure spring
64	550.343433130	Push button
65	550.341515640	Bolt
70	550.343433060	Tacho disc
72	550.339007800	Washer
75	550.143192150	O-ring
92	550.143195640	O-ring