



**Hand-Held Scarifiers**



**Needleguns**



**Walk-Behind Scarifiers**



**Impact Tools**



**Sanders**



**Specialty Tools**



**Industrial Vacuums**



# SP 90

## Weld Cleaning Machine



### SP90 Configurations

Part	Description
151.060	SP90, w/1" Bristle hub and depth adjustment wheel
151.0602	SP90, w/2" Bristle hub and depth adjustment wheel

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## CHAPTER 1 – General Information

### 1.1 Introduction

This publication describes the Desco SP90 Weld Grinding Machine. Topics covered in this manual include operator safety, proper operation, maintenance procedures and troubleshooting.

### 1.2 Product Description

The Desco SP90 machine is ergonomically designed to accommodate operator “walk behind” operation. The “T-handle” consists of a finger deadman switch for power shut off. The unit comes with an 8ft cord with a 3 prong, grounded male plug. The hub incorporates a single laminated abrasive hub made from Radial Bristle Discs, designed for surface preparation of horizontal and 90 degree weld beads. The SP90 can utilize assorted abrasives as listed in section 1.4 *Consumables*. The guard can be adjusted 360 degrees. The Desco SP90 motor has a swivel coupling that can adjust from a 0 to 90 degree angle. The machine is designed with a front height adjustment wheel, to allow for proper hold down pressure of the abrasive and prevent premature wear of the bristle hub. All steel and aluminum components are powder coated, plated or anodized to minimize corrosion from marine environment.

### 1.3 Specifications

Motor:	2.2 HP, UL listed
Amperage:	15
RPM:	6,000
Volts:	110
Spindle Thread:	5/8" X 11
Cord:	8ft, 14-3 gage, 3 prong, grounded plug
Weight:	32 lbs
Hub:	Quick Change
Abrasive:	7 inch 50 Grit Radial Bristle

### 1.4 Consumables

Part	Description
820.021	Bristle reload, 1", 50 grit
820.0208	Bristle reload, 1", 80 grit
820.0212	Bristle reload, 2", 50 grit
820.02082	Bristle reload, 2", 80 grit

## CHAPTER 2 – Safety Precautions



### **WARNING Read and understand all instructions**

Failure to follow all instructions listed below may result in damage to the tool and/or serious personal injury.

### ***2.1 Read Operating Instructions***

Always become familiar with all the instructions and warnings before operating any power tool.

### ***2.2 Always Wear Approved Eye Protection***



Impact resistant eye protection should meet or exceed the standards as set forth in the United States ANSI Z87.1, Occupational and Educational Eye and Face Protection. Look for the marking Z87.1 on your eye protection to insure that it is an approved style. For further information, ANSI Z87.1, Occupational and Educational Eye and Face Protection, is available from the American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036.

### ***2.3 Hearing Protection is Recommended***



Hearing protection should be used when the noise level exposure equals or exceeds an 8 hour time-weighted average sound level of 85dBA. Process noise, reflective surfaces, other tools being operated nearby, all add to the noise level present in your work area. If you are unable to determine your noise level exposure, we recommend the use of hearing protection.

### ***2.4 Avoid Prolonged Exposure to Vibration***



Pneumatic tools can vibrate during use. Prolonged exposure to vibration or very repetitive hand and arm movements, can cause injury. Stop using any tool if discomfort, tingling feeling or pain occurs. You should consult your physician before resuming use of the tool.

### ***2.5 Power Required***



This tool is designed to operate at on electricity delivered at 115 volts. The motor is double insulated for safety and does not require grounding for operator safety.

## CHAPTER 3 – Operating Instructions

### 3.1 Pre-Operation

1. Never use this machine for anything other than its intended purpose.
2. Never change bristle hub when tool is plugged into a power source.
3. Always wear personal protective equipment.
4. To avoid electrical shock, do not use machine in areas where moisture is present and observe basic electrical safety precautions.

### 3.2 Operation

1. Make sure work area is clear of all excess machinery and the area is free of debris.
2. Make sure that the power cord is safely out of the working area.
3. When steps one and two are completed, the SP90 is ready to operate. Tilt machine back slightly, depress the on/off trigger switch (45) to start and release to stop.
4. When the bristle comes in contact with the surface, rotate the adjustment knob (29) on the adjustment wheel assembly clockwise  $\frac{1}{2}$  **turn to insure proper load on bristle. Note: Too much pressure will cause premature bristle wear and/or fracture.**

## CHAPTER 4 – Maintenance and Adjustment

### 4.1 Maintenance

1. After every 8 hours of running, the motor and all other moving parts should be blown down with compressed air to remove dust and debris.
2. Make sure that all fasteners and hardware are tight prior to any operation of this machine.
3. If in the event that the swivel coupling (19) and (21) becomes jammed or not able to rotate, remove the coupling clamp (10) by removing the coupling clamp screw (11). Slide the swivel coupling apart, clean any dirt or debris from mating surfaces and apply a small amount of grease to the mating surfaces. Carefully slide the motor side coupling (21) into the handle side coupling (19). Be sure that the wires are not trapped between the two couplings. Reinstall the coupling clamp (10) and coupling clamp screw (11), test for free movement, set to desired angle and tighten coupling clamp screw. Do not over tighten.

### 4.2 Zero to 90 Degree Swivel Coupling Adjustment

1. To adjust motor to desired degree increment, loosen but do not remove coupling clamp screw (11), rotate motor (22) to angle of choice and tighten coupling clamp. Do Not Over tighten! Never operate the SP90 with the coupling clamp loose!
2. To operate the machine with the head in the horizontal position, the adjustment wheel assembly (31) should be removed, to insure bristle contact on vertical surfaces.
3. To remove adjustment wheel assembly, remove bolts (24 bottom) and (25 top). (Bolt (24) is the longer of the two.)

### 4.3 Rear Wheel Angle Adjustment

To adjust the angle of the rear wheel mount (14), remove screw (17) and push wheel away from the motor and then reinstall screw (17) in the second hole.

Note: Do not loosen Shoulder Screw (16) for this operation.

### 4.4 “D” Handle Adjustment:

1. To adjust “D” handle (40), loosen bolt(s) (43), adjust to desired position and retighten bolts.
2. To adjust “D” handle clamp (39) and (42), loosen screw(s) (38), adjust to desired position and retighten screws.

## ***4.5 Installation and Removal of Bristle Hub and Reload***

1. To remove bristle reload (4) depress spindle lock button located on the front of the motor (22) remove Jam Nut (1), remove washer (2), remove outside hub (3) from inside hub (5) and replace with new bristle reload (4). Note: Be sure that the holes on the outside hub and the inside hub are positioned over the drive pins in the bristle reload.
2. To install bristle reload (4), position hubs on spindle, install washer (2), install jam nut (1) and snug tight. DO NOT OVER TIGHTEN JAM NUT!

## ***4.6 Guard Assembly adjustment***

1. To adjust the guard assembly (6), loosen but do not remove pinch clamp screw (28), rotate guard to desired position and retighten screw.
2. Before tightening, be sure that the guard assembly (6) is against the flange on the head of the motor (22).

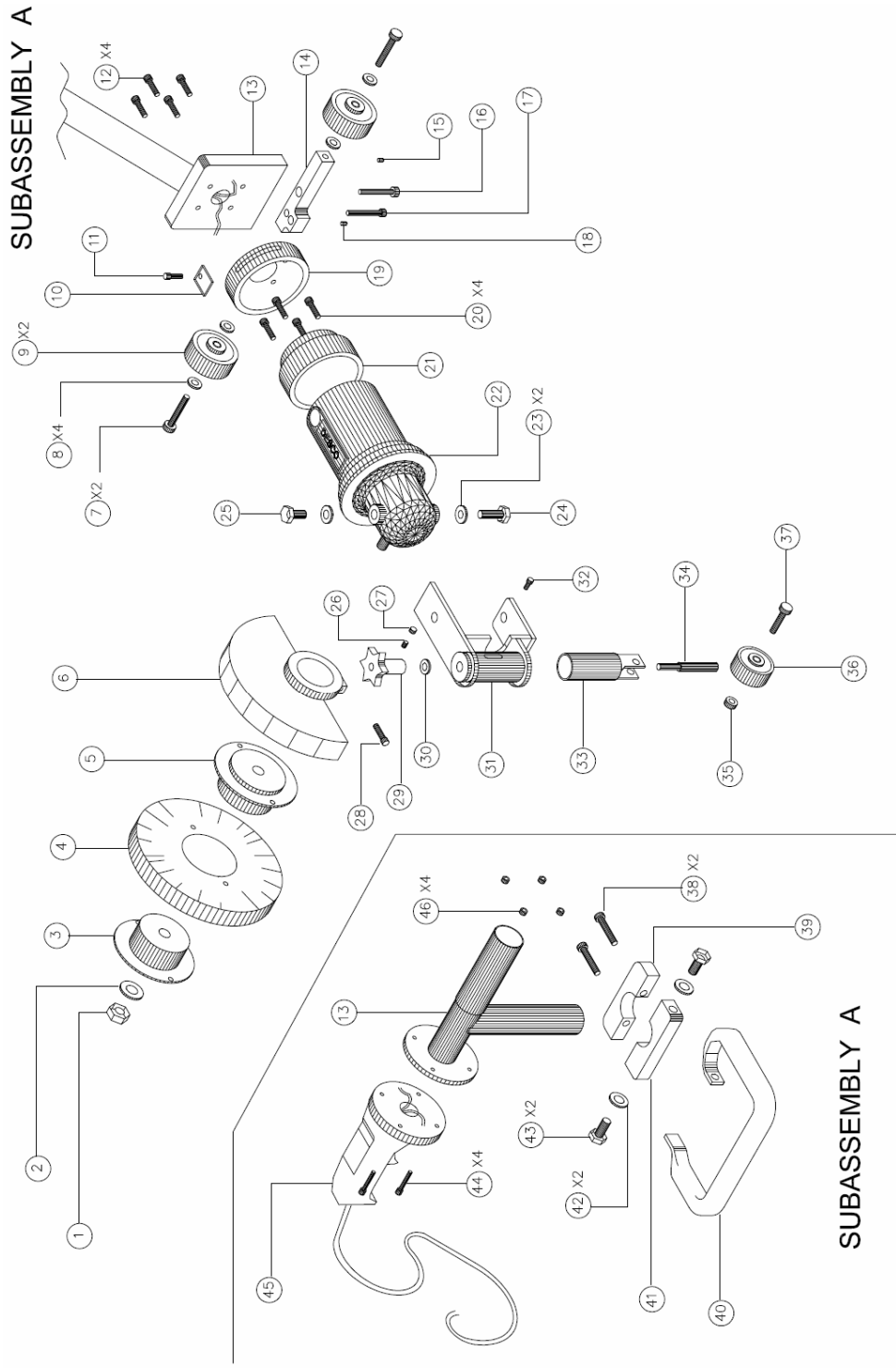
## CHAPTER 5 – Troubleshooting

Malfunction	Probable Cause	Solution
Bristle wears out prematurely.	Too much pressure on bristle.	Adjust height control to exert less pressure on bristle material.



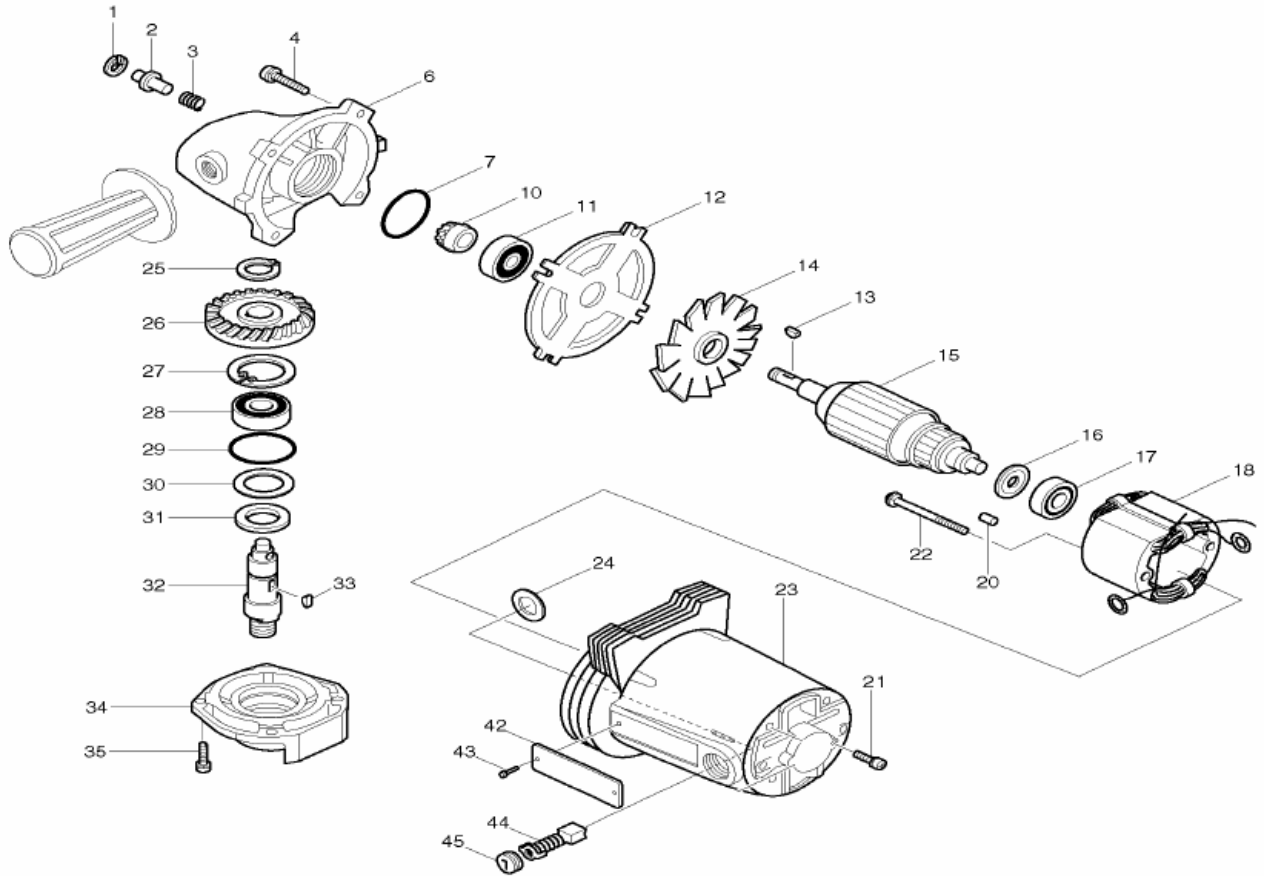
## CHAPTER 6 – Schematics

### 6.1 Tool Body and Major Components Schematic



Ref	Part	Description
1	110.055	Jam Nut-Large 1
2	750.383	5/8 SAE Washer 1
3	151.0645	Outside Hub 1
4	820.021	8" Radial Bristle Reload 1
5	151.0643	Inside Hub 1
6	151.062	Guard Assembly 1
7	750.518	5/16-18 x 2" HH Bolt 2
8	750.116	5/16 Flat Washer 4
9	500.231	Rear Wheel 2
10	151.0613	Coupling Clamp 1
11	750.076	¼ - 20 x 1" SKT HD Screw 1
12	750.081	¼ - 20 x ¾ SKT HD Screw 4
13	151.0649	Handle Assembly 1
14	151.0647	Rear Wheel Mount 1
15	750.135	10-32 x ¼ Set Screw 1
16	750.5162	5/16 x ½ - ¼ - 20 Shoulder Screw 1
17	750.076	¼ - 20 x 1 ¼ SKT HD Screw 1
18	750.135	10-32 x ¼ Set Screw 1
19	151.0611	Handle Side Swivel Coupling 1
20	750.109	¼ - 20 x ¾ SKT HD Screw 4
21	151.0612	Motor Side Swivel Coupling 1
22	110.072	Motor 1
23	750.115	½" Flat Washer SAE 2
24	750.512	M12mm x 30mm Bolt 1
25	750.530	M12mm x 20mm Bolt 1
26	750.133	10-32 x ½" Set Screw 1
27	750.108	10-32 Nyloc Nut 1
28	750.076	¼ - 20 x 1" SKT HD Screw 1
29	151.0633	Adjustment Knob 1
30	750.154	3/8 Wave Washer 1
31	151.0631	Guide Wheel Frame 1
32	750.120	10/32 x ½" Round Head Screw 1
33	151.0632	Fork 1
34	151.0634	Adjustment Screw 1
35	750.382	3/8 - 16 Thin Jam Nut 1
36	110.069	Front Wheel 1
37	750.018	3/8 x 1 1/2" Hex HD Bolt 1
38	750.109	¼ - 20 x 1 ¼ SKT HD Screw 2
39	151.0650	Rear "D" Handle Mount 1
40	200.011	"D" Handle 1
41	151.0652	Forward "D" Handle Mount 1
42	750.115	½" Flat Washer SAE 2
43	750.312	½" - 13 x 1" HH Cap Screw 2
44	750.075	10 - 32 x 1" SKT HD Screw 4
45	550.6511283	On/Off Handle (Switch) 1
46	750.108	10 - 32 Lock Nut 4

## 6.2 Motor Schematic & Parts List



Ref	Part No	Description	Qty
1	962062-5	Retaining ring R-12, 3612	1
2	256615-3	Shaft lock pin 6, GA7001L	1
3	231037-8	Comp. spring 7, GA7001L	1
4	911236-5	P.H. Screw M5X22, GA7001L	4
6	156781-5	Gear housing, GA7911	1
7	213506-1	O ring 36, GA7911	1
10	221322-7	Spiral B. gear, GA7001L	1
11	211111-8	Ball bearing 6301LLB, 6300LR	1
12	341706-4	Plate, GA7911	1
13	254038-9	Woodruff key 4, HM1500	1
14	241315-8	Fan 100, GA7911	1
15	518423-3	Armature assy, GA7911	1
16	213051-6	Dust seal 10, 2711	1
17	211068-3	B. Bearing 6200LB, 6820V	1
18	524796-4	Field, GA7911	1
20	263002-9	Rubber pin 4, HR2400	1
21	652014-1	P.H. screw M4X8, 2708	1
22	911290-9	P.H. screw M5X65, GA7911	2
23	153563-6	Motor housing CPL, GA7001L	1
23	156780-7	Motor housing, GA7001L	1

Ref	Part No	Description	Qty
24	681002-1	Ins. washer, 2012	2
25	961057-5	Retaining ring S-17, 2711	1
26	221323-5	Spiral B. gear, GA7001L	1
27	962157-4	Retaining ring R-40, GA7911	1
28	211256-2	B. bearing 6203LLB, GA7001L	1
29	213505-3	O ring 40, GA7001L	1
30	253772-8	F. washer 28, GA7001L	1
31	443036-0	Felt ring, GA7001L	1
32	321355-3	Spindle, GA7911	1
33	254038-9	Woodruff key 4, HM1500	1
34	152228-7	Housing W/O Bearing, GA7911	1
35	911226-8	P.H. screw M5X18, GA7911	4
42	854287-4	Name plate, GA7911	1
43	953106-2	Rivet 0-5, HM1500	2
44	181047-4	Carbon brush set 154,5402A	1
44	194986-9	Carbon brush set CB-154, UC3530A	1
45	643650-4	Brush holder cap, 5007MG	2