



SCARIFIERS

Hand-held & Walk-behind



NEEDLE SCALERS

Hand-held & Extended Reach



GRINDERS/SANDERS

Hand-held & Extended Reach



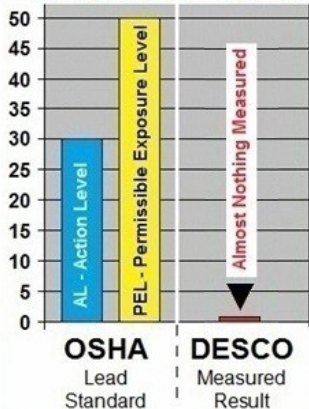
INDUSTRIAL VACUUMS

Hazmat & Radiological



OSHA Compliant*

(Micrograms per Cubic Meter)



*Industrial Hygiene report results for tools tested.



Model 20 Needlegun

Pneumatic



130.034



130.062



130.120

Configurations

Part	Description
130.034	Needlegun, Model 20, w/ <i>Flat</i> style dust shroud
130.062	Needlegun, Model 20, w/ <i>Inside Corner</i> style dust shroud
130.120	Needlegun, Model 20, without dust shroud

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

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General Information

Introduction

This publication describes the Desco Model 20 Needlegun cylindrical style needle scaler. The compact design of the Model 20 allows greater access to confined spaces. Topics covered in this manual include operator safety, proper operation, maintenance procedures and troubleshooting. These instructions are prepared to help you obtain maximum performance and maintain the tool for maximum service life.

Purpose and Function

The machine is a light weight, portable, pneumatic powered tool designed for cleaning hard surfaces of unwanted coatings or contamination. The principal of operation is to strike a surface with a set of tightly clustered needles at a high rate of speed. The needles are steel rods which perform as chisels to chip or abrade away unwanted material.

Capabilities

Needleguns excel at cleaning obstacles where other tools are not effective. For example, irregular shapes, corners, indentations or bolt heads are situations where the needlegun does a superior cleaning job.

Performance is enhanced by two design characteristics of the needlegun:

- a) **Accessibility** – Needleguns reach into confined spaces where other tools can not and,
- b) **Contour conformance** – Needles conform to the surface being cleaned, making them ideal for stepping in-over-and-around irregularities.



Figure 1.3 – Needles conforming to surface irregularities.

Main Applications

- De-slugging welds
- Shot-peen profile (Capable of achieving SSPC SP-11 with 2mm needles)
- Stripping paint
- Cleaning castings
- Cleaning angles & corners
- Removing rust & corrosion
- Removing non-skid

Technical Specifications

Operating air pressure	85 psi
Average air consumption	7.1 cfm
Strokes per minute	4,000 SPM
Stroke length	7/8"
Needle Size (Number)	
Standard w/gun	3mm x 7" (12)
Optional	2mm x 7" (29)
Overall length	9- 1/2"
Weight	5.3lbs.
Air inlet	1/4" NPT
Hose size	3/8" I.D. minimum

Consumables and Accessories

Part	Description
Replacement Needles	
130.024	Needle, 7" x 3mm, flat point (standard)
9130.024	Needle, 7" x 3mm, flat point (1000/pack)
130.026	Needle, 7" x 3mm, chisel point
9130.026	Needle, 7" x 3mm, chisel point (1000/pack)
130.023	Needle, 7" x 2mm, flat point (2mm needle holder required)
9130.023	Needle, 7" x 2mm, flat point (1000/pack)
Accessories and Replacement Parts	
500.008	Whip assembly (lubricator/filter/evaporator)
500.062	Replacement filter for whip assembly
130.036	Dust collector, Model 20, flat style
130.038	Dust collector, Model 20, inside corner style
130.046	Needle holder, Model 20, for 3mm needles
130.047	Needle holder, Model 20, for 2mm needles



Cautions for Use



PLEASE READ AND FOLLOW ALL WARNINGS



Read Operating Instructions

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

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.

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.

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.

90 PSIG Maximum



This tool is designed to operate at an air pressure of 85 pounds per square inch gauge pressure (85PSIG) maximum, at the tool. Use of higher air pressure can, and may cause injury. Also, the use of higher air pressure places the internal components under loads and stresses they were not designed for, causing premature tool failure. The air supply should be clean and dry, preferably lubricated. For best results, drain the moisture from your compressor daily.

Idle Running

Idle operation will shorten the life of the tool and needles and should be avoided.

Installation

The Desco Model 20 Needle Scaler is designed to operate with 90 PSIG. Lower pressure (below 90 PSIG) will reduce performance of the tool while higher air pressure (over 90 PSIG) raises the performance of the tool beyond its rated capacity and could cause serious damage to tool and operator.

Always use clean dry air. Excessive moisture and dirt will greatly reduce the life of any air tool. We recommend the installation of an in-line filter-regulator-lubricator as close to the tool as possible.

A 3/8" air hose is required up to a length of 8 ft. If more length is required, a 1/2" air hose should be connected to the 3/8" hose to ensure the tool has the necessary air supply. Be sure all hoses and fitting are the correct size and tightly secured.

Installing Replacement Needles

Before the tool is connected to the air supply, clear the air hose of accumulated dust and moisture. Before removing a tool for service or changing accessories, make sure the air line is shutoff and drained of air. This will prevent the tool from operating if the throttle is accidentally engaged.

1. Push in the front assembly (Ref. No. 1) and twist to the open slot, then pull needle assembly (Ref. Nos. 1-4) out of housing (Ref. No. 8).
2. Remove old needles (Ref. No. 4) from holder (Ref. No. 3) and replace with new needles, making sure the needle heads fit into the countersunk holes in needle holder.
3. Slide needles through spring (Ref. No. 2) and front nosepiece (Ref. No. 1). Check that driver (Ref. No. 5), pusher (Ref. No. 6), and piston ring (Ref. No. 7) are placed inside housing correctly.
4. Lubricate entire needle assembly with a light coating of oil. Reassemble by sliding assembly into the housing, line up slot, then depress and twist to lock in place.
5. Lubricate tool through inlet with 2-3 drops of air tool oil and run in a protected area to check operation.



Caution - Never operate scaler without the needles installed and pressed against the work surface. Doing so may result in personal injury or damage to the tool.



Warning - This tool may produce flying objects. Always wear eye protection during operation.

Operation

After properly setting up the tool, air lines, air supply and work area, the scaler is ready to use. Tool operators should take time to familiarize themselves with the feel and operation of this design for better results.

Scaling efficiency depends on the force applied to the scaler. For efficient material removal on most applications, applying a light hold down pressure will give the best results. Do not bear down. More force does not equal more productivity.

Lubricate tool regularly and properly. Always wear safety equipment during operation. Check condition of tool and needles before each use. Avoid free air operation of this tool, always apply tool to work before pressing throttle. This tool is designed to use (12) 1/8" (3mm) X 7" needles, or (58) 2mm X 7" needles. Needles must have correct needle holder for each configuration. Please refer to parts list for part numbers.

Lubrication

1. An automatic in-line filter-regulator-lubricator is recommended to increase tool life and keeps the tool operating properly. The in-line lubricator should be regularly checked and filled with Mobil air tool oil or equivalent. Proper adjustment of the in-line lubricator is performed by placing a sheet of paper next to the tool exhaust ports and holding the throttle open approximately 30 seconds. (The lubricator is properly set when a light stain of oil collects on the paper). Excessive amounts of oil should be avoided as it will decrease tool performance.
2. In the event that it becomes necessary to store the tool for an extended period of time (overnight, weekend, etc.), it should receive a generous amount of lubrication at that time. The tool should be run for approximately 3 seconds to ensure oil has been evenly distributed throughout the tool. The tool should be stored in a clean and dry environment.
3. Recommended lubricants - Use Mobil DTE Lite Air Tool Oil or other high grade turbine oil containing moisture absorbents, rust inhibitors, metal wetting agents and an EP (extreme pressure) additive.

Storage

Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, residual moisture on the inside can cause rusting. Before storing, and after operation, oil the tool at the air inlet with spindle oil and run it for a short time.

Ordering Service Parts

For further operation and handling information, or for replacement of parts and components, contact the sales representative from whom you purchased the tool, or the service division of our company.

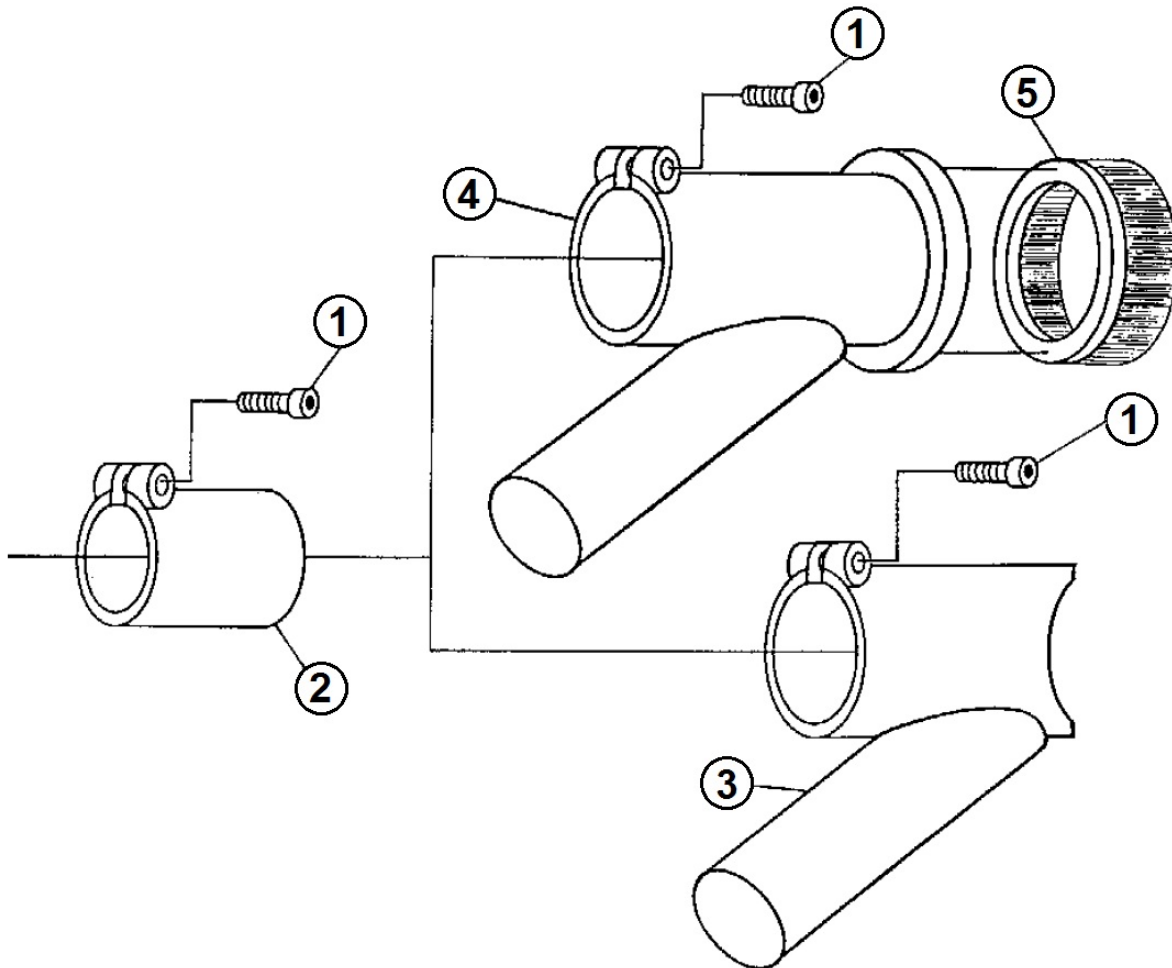


Troubleshooting

Symptom	Probable Cause
Tool Jammed	When the tool jams, the most likely cause is lack of lubrication. To correct, disassemble, clean, inspect, lubricate and reassemble. If the problem persists, please contact your Desco representative.
Needles breaking	Short needle life is often caused by the tool operator bearing down on the tool too hard. Use light hold down pressure only and let the tool do the work. Be sure to dis-assemble and replace broken needles before proceeding.
Slow performance	<p>Slow performance is usually caused by insufficient air or lack of lubrication.</p> <p>For insufficient air,</p> <ul style="list-style-type: none">• first check that your air source is putting out the required 90 psi at 3 cfm• Next check the air supply hose. A ½ inch diameter, 50 foot long hose is recommended. Hoses less than 1/2 inch will restrict air flow. Hose length affects air pressure; the longer the hose, the greater the pressure loss.• Finally, if using a Lubricator, Filter, Evaporator, check to see if the filter is clogged. <p>For lack of lubrication, check to see when the tool was last lubricated. Perform maintenance as necessary.</p>

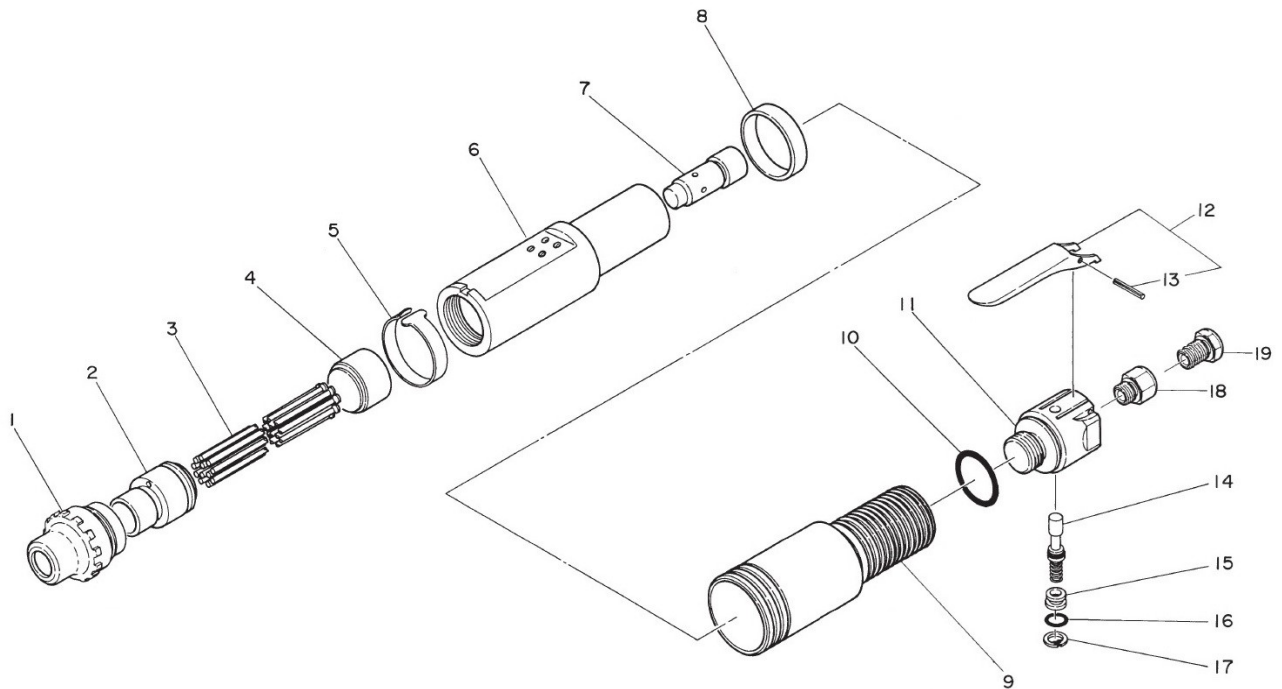
Schematics

Model 20 Dust Collector



Ref	Part	Description
1	750.076	Bolt
2	130.105	Adapter sleeve, Model 20
3	130.038	Shroud, Inside Corner DCOA
4	130.036	Shroud, Flat Brush DCOA
5	500.060	Brush

Model 20 Needlegun



Ref	Part	Description
1	550.668	Lock Ring
2	130.046	Needle Supporter – 3mm
3	130.024	Needles – 3mm X 7"
4	550.670	Throttle Anvil
5	550.671	Safety Band
6	550.672	Cylinder Assy
7	550.673	Piston
8	550.674	Stopper
9	550.675	Cover Assy
10	550.676	O-Ring G-30
11	550.677	Valve Body
12	550.678	Throttle Lever
13	550.679	Spring Pin 3 X 25
14	550.680	Throttle Valve Assy
15	550.681	Spring Seat
16	550.682	O-Ring S-10
17	550.683	Retaining Ring
18	550.059	Reducer M16 X PT3/8
19	500.014	Adapter/Reducer