

[Novatek 139 2007 VSE 2b Vacuum Shrouded Air Needle Scaler](#)  
[Novatek 139 2107 VSE 2b Pg Vacuum Shrouded Air Needle Scaler](#)  
[Novatek 139 3107 VSE 3b Pg Vacuum Shrouded Air Needle Scaler](#)  
[Novatek 139 2000 VSE 2b Vacuum Shrouded Air Needle Scaler Kit](#)  
[Novatek 139 2100 VSE 2b Pg Vacuum Shrouded Air Needle Scaler Kit](#)  
[Novatek 139 3100 VSE 3b Pg Vacuum Shrouded Air Needle Scaler Kit](#)

**139.2107 - 2B/PG Tool**  
**139.3107 - 3B/PG Tool**  
**139.2100 - 2B/PG Kit**  
**139.3100 - 2B/PG Kit**

# Vacuum Shrouded Needle Scalers

## OPERATIONS AND MAINTENANCE



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**Specifications subject to changes without notice!**

# OPERATION AND MAINTENANCE MANUAL FOR VACUUM SHROUDED NEEDLE SCALERS

## NOTICE

FOR PROFESSIONAL USE ONLY



## WARNING



**IMPORTANT SAFETY INFORMATION ENCLOSED.  
READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS PRODUCT.**

**IT IS YOUR RESPONSIBILITY TO MAKE THIS SAFETY INFORMATION  
AVAILABLE TO OTHERS THAT WILL OPERATE THIS PRODUCT.**

**FAILURE TO OBSERVE THE FOLLOWING WARNING COULD RESULT IN INJURY.**



### PLACING TOOL IN SERVICE

- Always install, operate, inspect and maintain this product in accordance with all applicable standards and regulations (local, state, country, federal, etc.).
- Compressed air models always use clean, dry air at 90 psi (6.2bar/620kPa) maximum air pressure at the inlet. Higher pressure may result in hazardous situations including excessive speed, rupture, or incorrect output torque or force.
- Electric models must always utilize proper gauge, and rated electrical cords with correct connections.
- Be sure all hoses and fittings are the correctly sized and secured.
- Ensure an accessible emergency shut off has been installed in the air or electrical supply line. Make others aware of its location.
- Do not use damaged, frayed, or deteriorated air hoses and fittings.
- Always use proper gauge electrical cords with correct connections. (When applicable.)
- Electric models must not use damaged, frayed, or deteriorated electrical cords and connections.
- Keep clear of whipping air hoses. Shut off the compressed air before approaching a whipping hose.
- Always turn off and disconnect the tool from its power supply before installing, removing or adjusting any accessory, or before performing any maintenance on the tool.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel. Use only recommended lubricants.
- Keep work area clean, uncluttered, ventilated and illuminated.
- Keep all electrical connections clear of water or other liquids. (When applicable.)
- Do not operate the machine while flammable or volatile liquids such as gasoline, diesel or jet fuel are present. Failure to do so can result in explosion. (When applicable.)
- Do not remove any labels. Replace any damaged label.

### USING THE TOOL

- Always wear protection when operating or performing maintenance on this tool.
- Always wear hearing protection when operating this tool.
- Always use Personal Protective Equipment appropriate to the tool used and material worked. This may include dust mask or other breathing apparatus, safety glasses, ear plugs, gloves, apron, safety shoes, hard hat and other equipment,
- Prevent exposure and breathing of harmful dust and particles created by power tool use:
  - Some dust created by power sanding, sawing, and grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
    - Lead from lead based paints,
    - Crystalline silica from bricks and cement and other masonry products, and
    - Arsenic and chromium from chemically treated lumber
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
- Keep others a safe distance from your work area, or ensure they use appropriate Personal Protective Equipment.
- This tool is not designed for working in explosive environments, including those caused by fumes and dust, or near flammable materials.

- Electrically powered tools are not insulated against electric shock.
  - Be aware of buried, hidden or other hazards in your work environment. Do not contact or damage cords, conduits, pipes, or hoses that may contain electrical wires, explosive gases or harmful liquids.
  - Keep hands, loose clothing, long hair and jewelry away from working end of tool.
  - Power tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advices before resuming use.
  - Keep body stance balanced and firm. Do not overreach when operating this tool. Anticipate and be alert for sudden changes in motion, reaction torques, or forces during startup and operation.
  - Tool and/or accessories may briefly continue their motion after throttle is released,
  - To avoid accidental starting – ensure tool in “off” position before applying air pressure or connecting to electricity. Avoid throttle when carrying, and release throttle with loss of air or electricity.
  - Ensure work pieces are secure. Use clamps or vises to hold work piece whenever possible.
  - Do not carry or drag the tool by the hose or power cord.
  - Do not use power tools when tired, or under the influence of medication, drugs, or alcohol.
  - Never us a damaged or malfunctioning tool or accessory,
  - Do not modify the tool, safety devices, or accessories.
  - Do not use this tool for purposed other than those recommended.
  - Use accessories recommended by Novatek Corp.
  - Never operate a tool with an accessory unless it is properly installed and the tool is held firmly against the work,
  - Always use a retainer, when furnished, in addition to proper barriers to protect persons in surrounding or lower areas from possible ejected accessories.
  - When wearing gloves and operating models with inside trigger, always be sure that the gloves will not prevent the trigger from being released.
  - Wear safety shoes, hard hat, safety goggles, gloves, dust mask and any other appropriate protective clothing while operating the tool.
  - Do no indulge in horseplay. Distraction can cause accidents.
  - Keep hands and fingers away from the throttle lever until it is time to operate the tool.
  - Never rest the tool on your foot.
  - Never point the tool at anyone.
  - Compressed air is dangerous. Never point an air hose at yourself or others.
  - Never blow clothes free of dust with compressed air.
  - Be sure all hose connections are tight. A loose hose not only leaks but can come completely off the tool and while whipping under pressure, can injure the operator and other in the area. Attach safety cables to all hosed to prevent injury in case a hose is accidentally broken.
  - Never disconnect a pressurized air hose. Always turn off the air supply and bleed the tool before disconnecting a hose.
  - When applicable, the operator must keep limbs and body clear of the chisel. If a chisel breaks, the tool with the broken chisel projecting from the tool will suddenly surge forward.
  - Do not ride the tool with one leg over the handle. Injury can result if the chisel breaks while riding the tool.
  - Know what is underneath the material being worked. Be alert for hidden water, gas, sewer, telephone or electric lines.
  - Use only proper cleaning solvents to clean parts. Use only cleaning solvents which meet current safety and health standards. Use cleaning solvents in a well ventilated area.
  - Do not flush the tool or clean any parts with diesel fuel. Diesel fuel residue will ignite in the tool when the tool is operated, causing damage to internal parts. When using models with outside triggers or throttle levers, take care when setting the tool down to prevent accidental operation.
  - Do not operate the tool with broken or damaged parts.
  - Never start the tool when it is lying on the ground.
  - This tool is not designed for working in explosive atmospheres.
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## SECTION I

### GENERAL

This operation and maintenance manual is furnished with each "AAT" Shrouded Needle Scaler Tool/Kit. It outlines the general operation and maintenance items critical to insure satisfactory, safe and long life of the Shrouded Needle Scaler and Accessories. This manual also includes service layouts and parts list for all configurations (A-E) of the "AAT" Shrouded Needle Scaler Tools and Kits.

### **READ ALL INSTRUCTIONS AND DATA IN THIS OPERATION AND MAINTENANCE MANUAL PRIOR TO OPERATION OF THIS EQUIPMENT.**

These instructions are for your protection and convenience. Please read them carefully since failure to follow the precautions could result in injury. Whenever using electric powered equipment, basic safety precautions should be followed.

If after reading this manual anything seems unclear, contact a **NOVATEK** authorized distributor or **NOVATEK** directly.

## SECTION II

### PRIOR TO USE

1. Ensure that sufficient length of 3/8" diameter hose is available and compatible with the tool's 1/4" NPT air inlet.
2. Tighten all hose connection fittings and blow out the air hose to insure that all debris is purged from the supply line.
3. Put a few drops of lubricant in the air inlet of the tool on a daily basis prior to start up and shut down. (See recommended air tool lubricants)
4. Inspect the tool's external parts, fittings and needle wear.

**CAUTION: Do not inspect the tool without first disconnecting the air supply!**

### IN USE

1. The tool must be supplied with clean, dry air for satisfactory service. A suitable filter is recommended.
2. Maintain cuff and needle contact with the working surface with sufficient force to keep the tool from bouncing. Excessive force will not improve tool production. Experience will soon indicate the proper force and "feel" for maximum cleaning efficiency.
3. Use the tool on a firm surface without running over edges for maximum needle life.
4. Maintain specified air supply operating pressure for maximum tool efficiency. Refer to specification chart for correct pressure requirements.
5. Always use a complete set of needles of the same length and end configuration to maximize the working capacity of the tool.

## SECTION III

### SELECTION OF NEEDLES

1. The kit contains the assembled needle scaler loaded with 3mm chisel tip needles. Additional 3mm chisel tip needles and 2mm flat tip needles are supplied in the kits. The necessary conversion parts (needle holder and needles) to convert to a 2mm flat tip configuration are also included in the kits.
2. Additional needles are available in the 3mm pointed tip steel and 3mm flat tip beryllium copper spark resistant configuration.
3. The selection of the proper needle configurations is left to the user in accordance to the surface treatment required.

## **SELECTION OF CUFFS**

1. Three cuff configurations are contained in the kit to support the “angle adjustable” (AAT) compatibility of the tool.
2. The flat cuff is most efficiently utilized on surfaces generally flat or with small variations of contour or in hard to reach places. The corner cuff is most effective on inside corners or hard to reach crevices. The outside edge cuff is designed to work on outside corners and protruding surfaces (3B/PG only).
3. Operator experience will develop skills in the operation of the tool with proper selection of needle configuration and cuff selection to produce efficient removal of hazardous materials and desired surface for refinishing.
4. Contact **NOVATEK** or your local TVS distributor to discuss specific problems you may encounter in tool selection for coating removal and surface preparation.

## **SECTION IV**

### **SAFETY**

1. Safe and efficient cleaning and surface preparation can only be achieved when the proper safe practices and safety equipment are utilized.
2. Eye protection must always be used by both the operator and others who are in the immediate area. The use of eye protection during de-scaling operations is a mandatory requirement of OSHA. Casual eye wear is **NOT** a substitute for industrial safety eye protection.
3. The tool should be operated using both hands to firmly position the cuff and needles against the work surface to be cleaned.
4. Always use the vacuum system when operating the tool to insure that all hazardous debris is picked up for proper disposal.
5. If the tool produces unusual sounds or vibrated excessively, shut down the tool and then inspect the tool after first disconnecting the air supply. Resolve the problem prior to resuming normal production use.
6. Due to fire hazards, do not use gasoline or volatile thinners to flush or clean the tool.
7. Maintenance and repair records should be kept on all needle scalers. Frequency and nature of repair may reveal unsafe operating conditions.
8. Never allow the tool to be run continuously by “taping the throttle lever open.” This operating condition is very unsafe and violates OSHA regulations.
9. Do not operate the tool without front cuffs. Results will be unsatisfactory removal of contamination and containment of hazardous waste.

### **LUBRICATION**

1. Oil the tool daily by inputting a few drops into the air inlet fitting. Do not allow oil to enter the air supply hose. Whenever possible use clean oil from a sealed container.
2. Use only lubricants specifically designed for air tool lubrication and marked “for air or pneumatic tool use.” Lubricants meeting 150 VG 22 grade or equivalent are recommended.
3. When tools are used in colder climates for prolonged periods under freezing conditions the air tool lubricant suggested for use is an anti-freeze type similar to KILFROST™.

## SECTION V

### PARTS LIST - A

#### **3B/PG SHROUDED PISTOL GRIP NEEDLE SCALER (Part No: 139.3107)**

<u>REF #</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	615.3021	VALVE CAP
2	809.0139	"O" RING - VALVE CAP (10pack)
3	712.3022	VALVE SPRING
4	618.3022	VALVE STEM
5	809.0089	"O" RING - VALVE SEAT (10pack)
6	616.3521	VALVE BODY
6A	423.3521	VALVE BODY ASSEMBLY (COMPRISES ITEMS 1-8 INCLUSIVE)
7	716.3021	THROTTLE LEVER
8	813.0108	ROLL PIN
9	612.3001	PISTON
10	613.3138	CYLINDER - <b>AAT ONLY</b>
11	809.0289	"O" RING - CYLINDER/SMALL (10pack)
12	809.0299	"O" RING - CYLINDER/LARGE (10pack)
14	425.3138	COVER ASSEMBLY
18	717.3101	RUBBER HANDLE GRIP
24	610.3011	ANVIL
25	601.3013	NEEDLE HOLDER 3mm
25A	301.3012	NEEDLE HOLDER 2mm
26	445.2010	NEEDLES 2mm (100pack)
	445.2015	NEEDLES 2mm (250pack)
	445.3120	NEEDLES 3mm (100pack)
	445.3125	NEEDLES 3mm (250pack)
27	712.3001	SPRING - COMPRESSION
28	416.3138	INTERMEDIATE TUBE - 8TPI
29	418.3039	FRONT TUBE WITH VACUUM TAKE OFF
30	806.0830	CAP HEAD SCREW (10pack)
31	731.4101	INTERNAL CORNER - FRONT CUFF
32	731.4102	EXTERNAL EDGE - FRONT CUFF
33	731.4103	FLAT SURFACE - FRONT CUFF

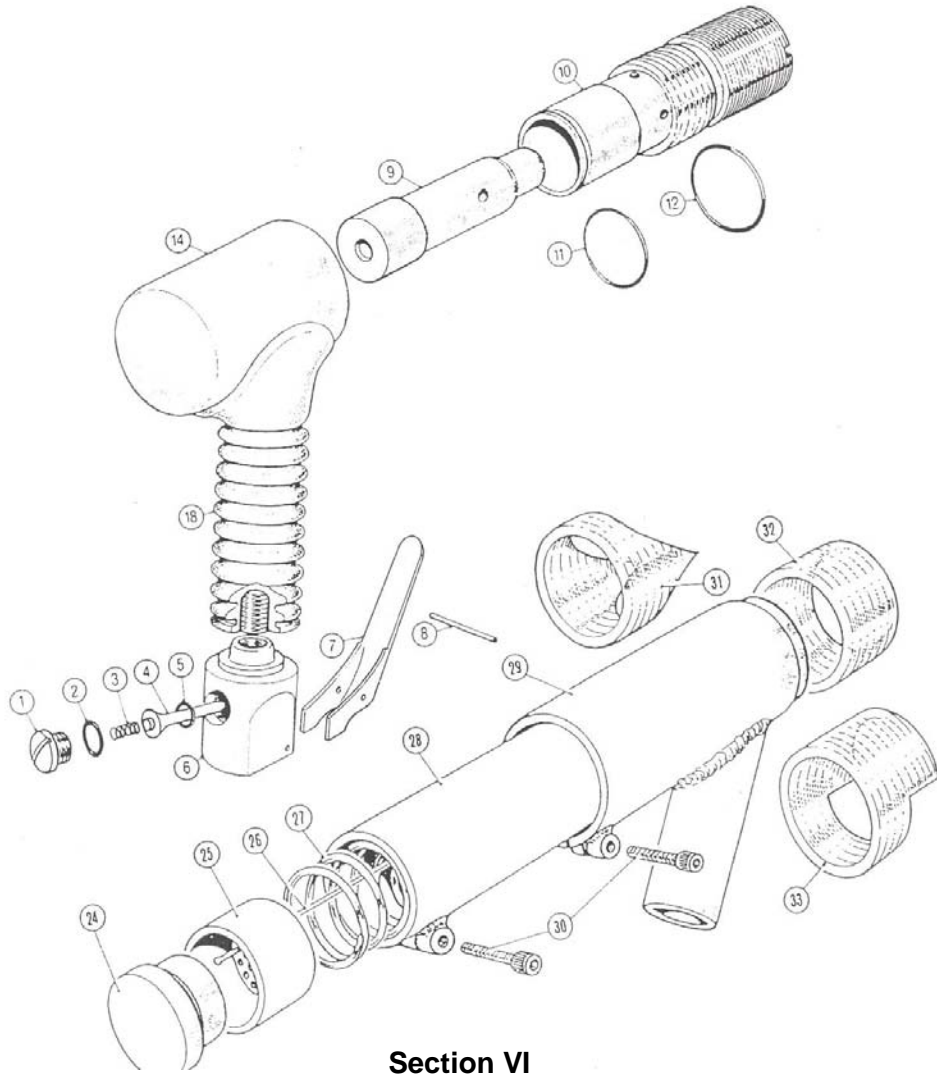
### PARTS LIST - B

#### **2B/PG SHROUDED PISTOL GRIP NEEDLE SCALER (Part No: 139.2199)**

<u>REF #</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	615.3021	VALVE CAP
2	809.0139	"O" RING - VALVE CAP (10pack)
3	712.3022	VALVE SPRING
4	618.3022	VALVE STEM
5	809.0089	"O" RING - VALVE SEAT (10pack)
6	616.3521	VALVE BODY
6A	423.3521	VALVE BODY ASSEMBLY (COMPRISES ITEMS 1-8 INCLUSIVE)
7	716.3021	THROTTLE LEVER
8	813.0108	ROLL PIN
9	612.2001	PISTON
10	613.2101	CYLINDER - <b>AAT ONLY</b>
11	809.0249	"O" RING - CYLINDER/SMALL (10pack)
12	809.0269	"O" RING - CYLINDER/LARGE (10pack)
14	425.2100	COVER ASSEMBLY
18	717.3101	RUBBER HANDLE GRIP
24	610.2091	ANVIL
25	601.2093	NEEDLE HOLDER 3mm
25A	601.2092	NEEDLE HOLDER 2mm
26	445.2010	NEEDLES 2mm (100pack)
	445.2015	NEEDLES 2mm (250pack)
	445.3120	NEEDLES 3mm (100pack)
	445.3125	NEEDLES 3mm (250pack)
27	712.2001	SPRING - COMPRESSION
28	416.2099	INTERMEDIATE TUBE - 8TPI
29	418.2199	FRONT TUBE WITH VACUUM TAKE OFF
30	806.0830	CAP HEAD SCREW (10pack)
31	731.2101	INTERNAL CORNER - FRONT CUFF
32	731.2103	FLAT SURFACE - FRONT CUFF



**SERVICE LAYOUT (A & B)  
 2 & 3B/PG SHROUDED NEEDLE SCALER w/ REFERENCE NUMBERS**



**Section VI**

**SPECIFICATIONS**

	<b>(A)</b>	<b>(B)</b>
<b>CONFIG / MODEL</b>	<b><u>3B/PG</u></b>	<b><u>2B/PG</u></b>
<b>PART #</b>	<b>139.3107</b>	<b>139.2107</b>
PISTON DIA. (IN.)	1.125	.925
PISTON STROKE (IN.)	1.54	1.4
BLOWS (PER-MIN.)	2,200	3000
AIR CONSUMPTION ( @ 90 PSI SCFM)	8	5.5
AIR PRESSURE REQUIRED ( ± 10) PSI	90	90
NOISE LEVEL DB (A)*	92	89
AIR INLET (IN) NPT	¼	¼
AIR SUPPLY HOSE DIA. (IN)	3/8	3/8
VACUUM HOSE, DIA. (IN)	1½	1½
NUMBER OF 3MM NEEDLES	28	19
NUMBER OF 2MM NEEDLES	65	51

\* Under PNEUROP-CAGI test code conditions.

## NOVATEK CORPORATION LIMITED WARRANTY

The **TOOLS** manufactured by **NOVATEK CORPORATION** are warranted to be free from defects in material and workmanship for a period of **180 DAYS** from the date of purchase from **NOVATEK CORPORATION**. This warranty does not apply to accessories. All electrical components of the tool are also warranted to be free from defects in material and workmanship for a period of **180 DAYS**.

This warranty applies only to **TOOLS** purchased new from **NOVATEK CORPORATION**. This warranty does not apply to any **TOOL** which has been abused, misused, modified or repaired by someone other than **NOVATEK CORPORATION** or its authorized repair center.

If a **TOOL** proves defective in material or workmanship within one year of purchase from **NOVATEK CORPORATION**, it should be returned to **NOVATEK CORPORATION**, transportation pre-paid. The return must be authorized by a **RETURN MERCHANDISE AUTHORIZATION NUMBER (R.M.A. #)** obtained from **NOVATEK CORPORATION** prior to returning the **UNIT**. All packages must show clearly on the outside the return merchandise authorization number. All packages received without any R.M.A. # on the outside will be refused by **NOVATEK CORPORATION** receiving department.

Warranty claims will only be considered upon adequate proof of date of purchase. **NOVATEK CORPORATION** will, at its option, **REPAIR or REPLACE DEFECTIVE PARTS**. Repairs or replacements are warranted as above for the remainder of the original warranty period. The sole liability of **NOVATEK CORPORATION** and the user's exclusive remedy under this warranty is limited to the repair or replacement of the defective product.

THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED AND **NOVATEK CORPORATION** SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OR ANY OTHER EXPENSES OR REPAIR OR REPLACEMENT AS DESCRIBED ABOVE.

All warranty claims should be forwarded to:

**ATTENTION: CLAIM AND SERVICE DEPARTMENT**  
**R.M.A. # \_\_\_\_\_**