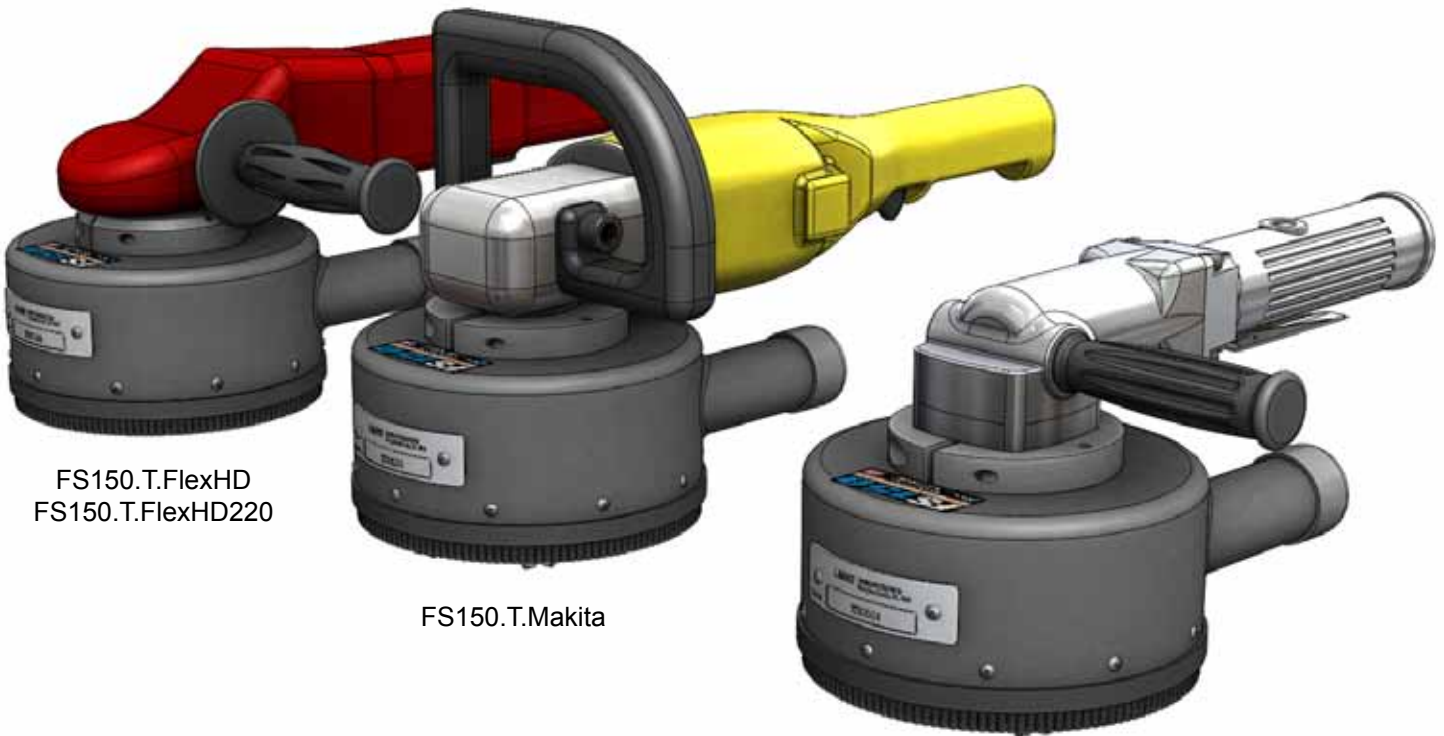


FS150

Hand-held portable scarifiers

Parts & User Manual



FS150.T.FlexHD
FS150.T.FlexHD220

FS150.T.Makita

FS150.T.PN



1-800-653-9311

www.SmithMfg.com

Phone: 954-941-9744 • Fax: 954-545-0348

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INTRODUCTION

Congratulations on purchasing the FS150™ from SMITH Mfg. Company.

The SMITH brand FS150 is a fast, rugged and lightweight portable hand-held scarifier designed for high performance edging or removing in hard to reach locations by hand or in the upright caddy that removes faster than conventional diamond discs.

Best for touch-ups, edging, removing in hard to reach areas, walls, ceilings, under tables. Add FS150.C caddy for upright removal. Used by Concrete Resurfacing Contractors, Striping Contractors, DIYers

Exclusive features of this machine:

- It's versatile, offering a variety of cutters with a 4 or 6 shaft cutter set-up with extra set of shaft holes.
- It's lightweight
- It's reversible, with an adjustable housing and handle to power through high spots, low spots and in very tight areas.

You will obtain years of satisfying service when your machine is properly used and maintained. Please read completely this guide and parts list manual to assure your REMOVAL SUCCESS. If you have any questions about the operation of your machine or would like to order replacement parts, please contact your SMITH Dealer directly, or call SMITH at 1-800-653-9311 or (954) 941-9744 for the name of your local dealer.

REQUIRED SAFETY EQUIPMENT



**When using this tool the following safety equipment MUST be worn!
DO NOT USE THE MACHINE
WITHOUT SAFETY EQUIPMENT**



SAFETY GLASSES



SAFETY GLOVES



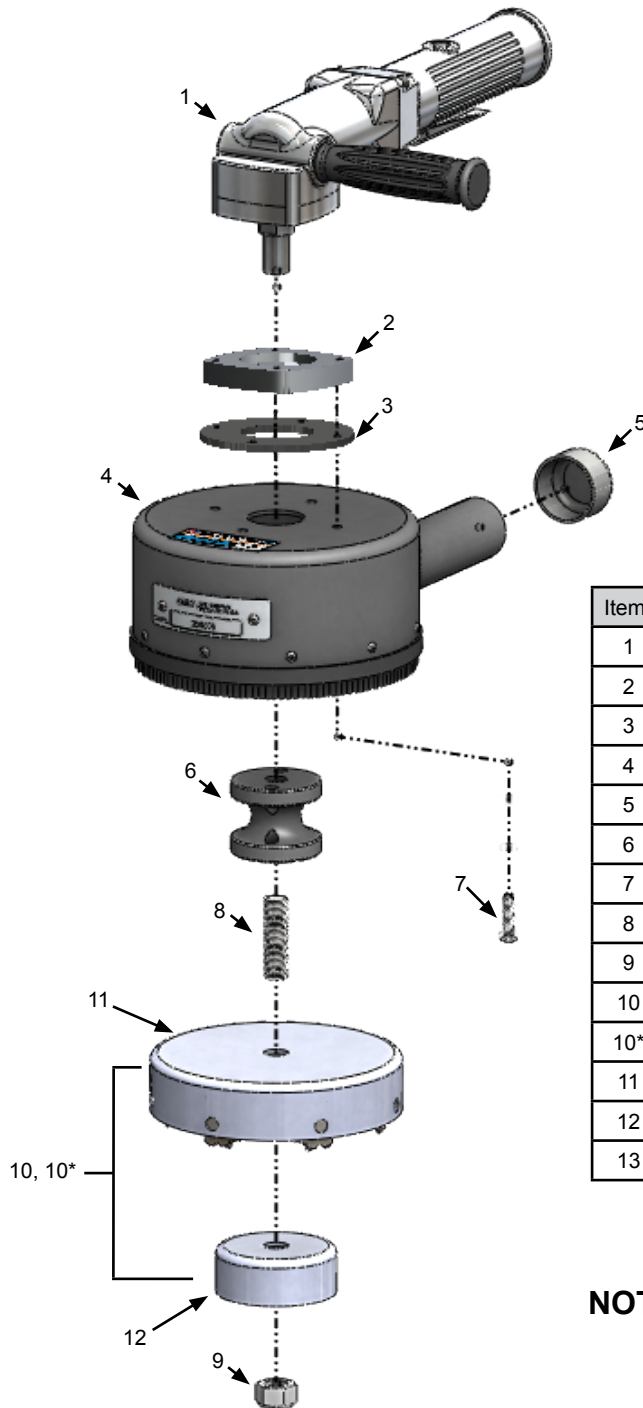
SAFETY MASK

SAFETY GUIDELINES -PNEUMATIC-

- Read all instructions before using the tool. All operators must be fully trained in its use and aware of these safety rules.
- DO NOT exceed the maximum working pressure of 100 psi
- Use ONLY compressed air at the recommended conditions
- If the tool appears to malfunction, remove from use immediately and arrange for service and repair
- If the tool is used with a balancer or other supporting device ensure that it is fixed securely
- Always keep hands away from the working attachment fitted to the tool
- The tool IS NOT electrically insulated. NEVER use tool if there is any chance of it coming into contact with live electricity
- When using the tool always adopt a firm footing and/or position and grip the tool firmly to be able to counteract any forces that may be generated while using the tool
- Use only the correct spare parts. Do not improvise or make temporary parts
- Do not lock, tape, wire etc the ON/OFF valve in the run position. The trigger/lever must always be free to return to the off position when it is released
- Always shut off the air supply to the tool and depress the trigger/lever to exhaust air from the feed hose before fitting, adjusting or removing the working attachment
- Check hose and fittings regularly for wear, replace if necessary
- Always use a suitable vacuum cleaner or dust extraction unit

YOUR PNEUMATIC FS150™ HAND HELD SCARIFIER ASSEMBLY (FS150.T.PN)

Please take time to familiarize yourself with the FS150™'s controls, as well as some of the features of your new machine



Item:	P/N	Qty	Description
1	FS050.P	1	Pneumatic Grinder
2	FS150.006	1	Collar for Pneumatic Grinder
3	FS150.005	1	Pneumatic Cover Washer
4	FS150.000.T	1	FS150 Housing Assembly
5	FS150.004	1	Vacuum Cap
6	FS150.830.3160A	1	Adapter Mount
7	FSHCS.M5-0.8x40mm	4	M5-0.8x40 mm Flat Head Screw
8	FS150.840.1450	1	Threaded Stud
9	NHN.M14-2.0	1	Nylock Hex Nut
10	FS150.475.A	1	Blank Drum (Housing, Retainer & Pins)
10*	Varies	1	Assembled drum (see pg. 9)
11	FS150.475.3150A	1	Blank Drum Main Housing
12	FS150.675.3151	1	Drum Pin Retainer
13	FS150.675.3155	7	Pin (Shaft) for FS150 (See Page 10)

NOTE: Item 4 includes item numbers 5-9

NOTE: Item 10 includes item numbers 11,12 and 13

RECOMMENDATIONS

- Recommended working pressure:
6.3 bar / 90 psi
- Maximum working pressure:
7.0 bar / 100 psi
- Recommended hose bore:
10 mm / 3/8"
- Recommended hose length:
10 m / 30 ft.

USING THE FS150

AIR SUPPLY:

- Use clean lubricated air supply that will give a measured air pressure at the tool of **6.3 bar / 90 psi** when the tool is running with the trigger/lever depressed.
- Use the recommended hose size and length.
- Do not connect the tool to the air line system without incorporating an easy to reach an operate air shut off valve.
- The air supply should be lubricated. It is strongly recommended that an air filter, regulator, lubricator (FRL) is used as this will supply clean, lubricated air at the correct pressure for the tool.
- Details of such equipment can be obtained from your supplier/dealer. If such equipment is not used, the tool should be lubricated by shutting off the air supply to the tool and depressurizing the line by pressing the trigger on the tool.
- Disconnect the air line and pour into intake bushing a teaspoon (5 mL) of a suitable pneumatic motor lubricating oil preferably incorporating a rust inhibitor.
- Reconnect the tool to an air supply and run slowly for a few seconds to allow air to circulate the oil.
- If tool is used frequently lubricate on a daily basis and also if tool starts to lose power.

WORK STATIONS:

The tool should only be used as a hand operated tool. It is recommended that the tool is used when standing on a solid floor. It can be used in other positions but before any such use the operator must be in a secure position having a firm grip and footing and be aware of safety rules to be obeyed when using the grinder.

MAINTENANCE CHECK LIST



Before beginning servicing on any FS150 unit, DISCONNECT FROM AIR SUPPLY SOURCE

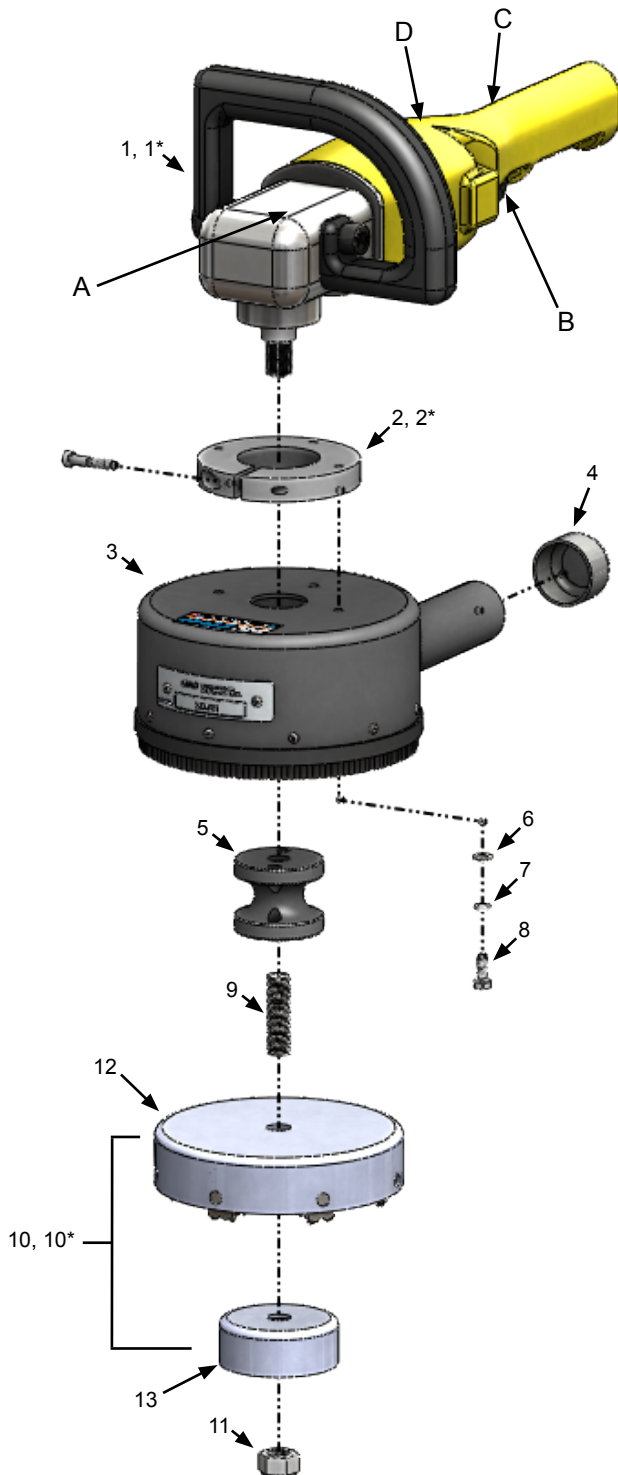
- Check all fasteners and re-tighten, since the machine will vibrate the fasteners loose if they are not secured. Use locktite.
- Clean drum housing regularly to prevent material build up.
- Inspect drum, and shafts for damage and replace as needed.
- Regularly lubricate grinder with a suitable pneumatic motor lubricating oil. Preferably one that incorporates a rust inhibitor.
- Check hose and fittings regularly for wear or leaks, replace if necessary.

SAFETY GUIDELINES -ELECTRIC-

- Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury.
- Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.
- NEVER use tool with wood cutting blades or other saw blades. Such blades when used on a polisher frequently kick and cause loss of control leading to personal injury.
- Hold the tool firmly and keep hands away from rotating parts.
- Make sure the drum assembly is not contacting the work piece before the switch is turned on.
- When working near metal surfaces, watch out for flying sparks. Hold the tool so that sparks fly away from you and other persons or flammable materials.
- Do not leave the tool running. Operate the tool only when hand-held.
- Do not touch the work piece immediately after operation; it may be extremely hot and could burn your skin.
- Check that the work piece is properly supported.
- Pay attention that the wheel continues to rotate after the tool is switched off. Check hose and fittings regularly for wear, replace if necessary
- This tool has not been waterproofed, so do not use water on the work piece surface.
- Ventilate your work area adequately and use a suitable vacuum attached to the housing.
- Use of this tool to sand/grind some products, paints and wood could expose user to dust containing hazardous substances. Use appropriate respiratory protection.

YOUR ELECTRIC FS150™ HAND HELD SCARIFIER ASSEMBLY FLEX - (FS150.T.FLEXHD) (FS150.T.FLEXHD220) MAKITA - (FS150.T.MAKITA)

Please take time to familiarize yourself with the FS150™'s controls, as well as some of the features of your new machine



There are four controls on the handheld machines
A: Button near head - Locks drive shaft for attaching/detaching drum
B: Trigger button - Turns machine on when held
C: Small button by trigger - Lock trigger into "on" position
D: Dial near trigger - Controls rpm speed of machine (1-slowest; 6-fastest)

Item:	P/N	Qty	Description
1	FS050.FXHD	1	FLEX Grinder
1	FS050.FXHD220	1	FLEX Grinder
1*	FS050.ME	1	Makita Grinder
2	FS150.475.3282.FX	1	Collar for FLEX Grinder
2*	FS150.475.3278	1	Collar for Makita Grinder
3	FS150.000.T	1	FS150 Housing Assembly
4	FS150.004	1	Vacuum Cap
5	FS150.830.3160A	1	Adapter Mount
6	FLW.M6	3	Flat Washer
7	SLW.M6	3	Lock Washer
8	HX-CS.M6-1.0x16mm	3	Hex Head Cap Screw
9	FS150.840.1450	1	Threaded Stud (Flex & Makita)
9*	FS150.840.1460	1	Threaded Stud (Flex 220)
10	FS150.475.A	1	Blank Drum
10*	Varies	1	Assembled Drum (see pg. 9)
11	NHN.M14-2.0	1	Nylock Nut (Flex & Makita)
11*	NHN.625-11	1	Nylock Nut (Flex 220)
12	FS150.475.3150A	1	Blank Drum Main Housing
13	FS150.675.3151	1	Drum Pin Retainer
14	FS150.675.3155	7	Pin (Shaft) for FS150 (See Page 10)

NOTE: Item 3 includes item numbers 4-9, and 11

NOTE: Item 10 includes item numbers 12, 13 and 14

Special Note: For Flex 220 (220V Model), special care must be taken when installing the adapter mount (part # 5 in drawing, P/N FS150.830.3160A). One side is tapped for M14-2.0, and one is tapped for 5/8-11. The threaded rod should be attached first (as it will not fit in the M14 hole). If the M14 tapped output shaft of the Flex 220 is tightened into the 5/8-11 side of the adapter, it will fit - but running the machine will strip the threads and ruin the part.

RECOMMENDATIONS

- **ELECTRICAL SAFETY:** Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.
- When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”. These cords are rated for outdoor use and reduce the risk of electric shock.

USING THE FS150

- **PERSONAL SAFETY:** Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
- Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
- Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.
- Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions. Ordinary eye or sun glasses are NOT eye protection.
- **WORK STATIONS:** Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
- Keep bystanders, children, and visitors away while operating a power tool. Distractions can cause you to lose control.

DRUM OPTIONS

A variety of cutters are available for the FS150 to suit all your removal needs.

SCRAPE-IT

CF0409 - 10 Angled Edge Star, 100% sintered ultra-premium life, tungsten carbide cutter



Available in:

FINE FINISH	7 SHAFTED
Drum assembly:	FS150.0409.F
Rebuild kit:	FS150.0409.F.RK

MEDIUM FINISH	7 SHAFTED
Drum assembly:	FS150.0409.M
Rebuild kit:	FS150.0409.M.RK

CF0410 - 15 Edge Star, 100% sintered ultra-premium life, tungsten carbide cutter



Available in:

FINE FINISH	7 SHAFTED
Drum assembly:	FS150.0410.F
Rebuild kit:	FS150.0410.F.RK

MEDIUM FINISH	7 SHAFTED
Drum assembly:	FS150.0410.M
Rebuild kit:	FS150.0410.M.RK

CF0411 - 15 Edge Star, 100% sintered ultra-premium life, tungsten carbide cutter



Available in:

FINE FINISH	7 SHAFTED
Drum assembly:	FS150.0411.F
Rebuild kit:	FS150.0411.F.RK

MEDIUM FINISH	7 SHAFTED
Drum assembly:	FS150.0411.M
Rebuild kit:	FS150.0411.M.RK

FLAIL-IT

CF1519 - 8 spike extended-tip ultra-premium-life tungsten carbide cutters



Available in:

FINE FINISH	7 SHAFTED
Drum assembly:	FS150.1519.F
Rebuild kit:	FS150.1519.F.RK

MEDIUM FINISH	7 SHAFTED
Drum assembly:	FS150.1519.M
Rebuild kit:	FS150.1519.M.RK

FINISH-IT

HS1043 - 18 Edge Star, heat treated, high quality tool steel cutter



Available in:

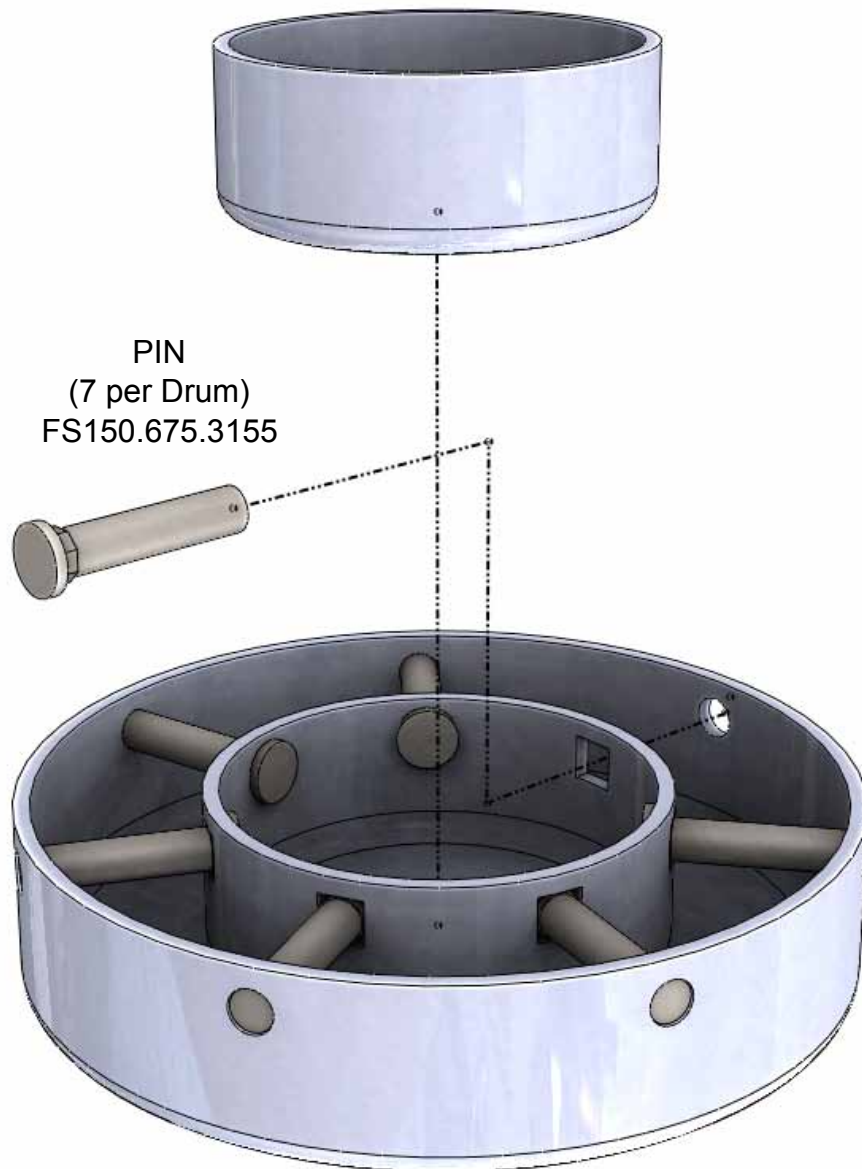
FINE FINISH	7 SHAFTED
Drum assembly:	FS150.1043.F
Rebuild kit:	FS150.1043.F.RK

MEDIUM FINISH	7 SHAFTED
Drum assembly:	FS150.1043.M
Rebuild kit:	FS150.1043.M.RK

DRUM ASSEMBLY FS150.475.A (FOR FULL ASSEMBLY SHOWN BELOW)

PIN RETAINER
FS150.675.3151

PIN
(7 per Drum)
FS150.675.3155



DRUM MAIN BODY
FS150.475.3150A

Limited Equipment Warranty

All statements, technical information and recommendations contained in SMITH's literature are based on tests believed to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of all warranties, expressed or implied. SMITH warrants all equipment or part referenced in this document which is manufactured by SMITH and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser under normal use and maintenance as herein provided. This warranty does not apply to components manufactured by others such as, but not limited to, bearings and engines; such components that may or may not have their own warranties.

With the exception of any special, extended, or limited warranty published by SMITH, SMITH will, for a period of three months (90 days) from the date of sale or up to five hundred (500) hours of use by buyer, whichever shall occur first; repair or replace any part of the equipment determined by SMITH to be defective. This warranty applies only when the equipment or part is installed, operated and maintained in accordance with SMITH's written recommendations.

SMITH's sole obligation for any breach of warranty or breach of contract for defects, deliberate or accidental omissions, shall be limited to repairing, replacing or allowing credit for, at SMITH's option, any part which, under normal and proper use and maintenance, proves defective in material or workmanship within warranty period, provided, however, that notice of any such defect or omission and satisfactory proof thereof is promptly given by buyer to SMITH, and thereafter, such defective part is returned to SMITH with transportation charges prepaid, and SMITH's examination proves such part to have been defective. This warranty does not obligate SMITH to bear any transportation charges or personnel time in connection with the replacement or repair of defective parts. This warranty does not obligate SMITH to bear any expense for travel time or of personnel in connection with any service calls. SMITH will not, in any event, be liable to the user for any consequential damages arising out of this sale for the loss of use, lost profits or revenue, interest, lost goodwill or work stoppage. SMITH shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product or for environmental claims. It being understood that SMITH has no means of controlling the products final use; therefore, it shall be buyer's responsibility to determine suitability of product for intended use and buyer assumes all risks and liabilities whatsoever, in connection therewith. In no event shall SMITH be liable for consequential or special damages. Used products are sold on an "as is" basis, and there is no implied warranty of merchantability or of fitness for a particular purpose, unless made in writing by an officer at SMITH's office.

This warranty does not cover, and SMITH shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-SMITH component parts. Nor shall SMITH be liable for malfunction, damage or wear caused by the incompatibility of SMITH equipment with structures, accessories, equipment or materials not supplied by SMITH, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by SMITH. This warranty does not apply in respect to damages to any product or accessory or attachment thereof caused by overloading or other misuse, neglect or accident, nor does this warranty apply to any product or accessory or attachment thereof, which has been repaired or altered in any way which, in the sole judgment of SMITH, affects the performance, stability or general purpose for which it was manufactured. In the manufacture of buyer's equipment, parts may be omitted or equivalent functioning equipment and components may be substituted for the original specified equipment upon the sole judgment and discretion of SMITH.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized SMITH Reseller for verification of the claimed defect. If the claimed defect is verified, SMITH will repair or replace free of charge any defective parts and return of merchandise back to the customer freight collect. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

SMITH's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

SMITH MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY SMITH.

These items sold, but not manufactured by SMITH (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. SMITH will provide purchaser with reasonable assistance in making any claim for breach of these warranties. In no event will SMITH be liable for indirect, incidental, special or consequential damages resulting from SMITH supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of SMITH, or otherwise.

ADDITIONAL WARRANTY COVERAGE - SMITH does provide extended warranty and wear warranty for products.

Corrections - typographical or clerical errors contained herein are subject to correction by SMITH.

Assignment - buyer shall not assign or transfer this warranty without SMITH's written consent.

Entire agreement and applicable law - the rights and obligations of SMITH and buyer shall be governed by the laws of the state of Florida, U.S.A. In force on date hereof. The provisions hereof are intended by buyer and SMITH as a final expression of their agreement, and are intended also, as a complete and exclusive statement of all terms apply cable to buyer's order. No waiver, modification, or addition to any of the terms hereof shall be binding on SMITH, unless made in writing by an officer at SMITH's office as stated herein. In the event of conflict between buyer's purchase order and the terms hereof, the latter shall control. If any provisions herein are to any extent invalid or unenforceable, the remainder of the warranty shall not be effected thereby and shall be valid and enforceable to the fullest extent permitted by law.

Legal action - buyer shall be responsible for all costs of collection of outstanding indebtedness, including but not limited to attorney's fees and court costs to seller. Buyer shall reimburse seller for any and all litigation expenses seller incurs as a result of an unsuccessful buyer claim. The jurisdiction and venue of the court for any litigation, state or federal, brought by the buyer and/or seller shall be located in venue determined by seller.

Fair labor standards - seller's products are produced in the United States and in conformity with all applicable provisions of the fair labor standards act of 1938 as amended and any regulations and orders of the United States Department of Labor issued thereunder.

All written and visual data contained in this document reflects the most current product information available at the time of this publication. SMITH reserves the right to make changes at any time without notice.

TO ORDER, contact your SMITH distributor or call 1-800-653-9311 to identify the nearest distributor.

SMITH Manufacturing Co, Inc.
1610 South Dixie Highway
Pompano Beach, FL 33060
www.smithmfg.com





PRE-OPERATION INSPECTION - WARRANTY ACTIVATION PRODUCT REGISTRATION

1610 South Dixie Highway - Pompano Beach, FL 33060 • Ph: 954-941-9744 • Fax: 954-545-0348 • Email: info@smithmfg.com • www.SMITHMFG.com

Thank you for purchasing a SMITH. Please complete this form upon receipt of your equipment and prior to use on the job. A pre-operation inspection is required to activate your warranty. *All sections must be completed.* Should you have any questions, please add them to the comments section below. Fax the completed form to (954) 545-0348.

Organization _____
Name _____ JobTitle _____
Phone _____ Email _____
Address _____
City _____
State _____ Zip _____
SMITH Product **FS150**
Machine Serial # _____
Date of Purchase (MM / DD / YYYY) _____
Purchased from _____

PRE-OPERATION INSPECTION (PLEASE CHECK ALL)

1. No parts or components on the machine appear damaged or lost in shipment. Yes No
2. All bolts and fasteners are in place and tightly secured. Yes No
3. Grease points have been identified for future maintenance requirements and appear lubricated. Yes No
4. Wheels are operational. Yes No
5. Motor has been started and in good working condition. Yes No
6. All Decals appear in place and securely attached. Yes No
7. Equipment runs and tested to assure all components are operating correctly. Yes No
8. Do you have a Wear Parts Kit with an Extra Cutter set in stock? Yes No
9. Did you join Remove Faster News for tech updates, experience sharing and special offers? Yes No

Comments (add any additional or from above answers below)

NOTE: All power equipment is warranted directly from the motor/engine manufacturers direct and not from SMITH Manufacturing. Prior to starting your equipment, please find the name of your engine/motor repair center for warranty and service:

- Honda: <http://engines.honda.com/dealer-locator/>
- Subaru: <http://robinamerica.com/dealerusacan.aspx>
- Leeson: <http://www.leeson.com/leeson/servicecenter.do?invoke=viewServiceCenterLocator>
- US Motors: <http://www.usmotors.com/Contact-Information.aspx>
- Kohler: <http://www.kohlerengines.com/contact/contact.htm>

IMPORTANT: Gas Engine owners: Never tip engine forward which will lock the recoil pull cord until the fuel and oil returns back into their respective fuel chambers and the carburetor is free before it can be started.



SMITH Manufacturing

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