

US Sander LLC

Operator's Manual



UFO

Universal Floor Oscillator

Route 20
Esperance, NY 12066
(518)-875-6124
FAX (518)-875-9942

US Sander U. S. WARRANTY

This US Sander Industrial/Commercial Product is warranted to be free from defects in materials and workmanship under normal use and service for a period of one year from the date of purchase, when operated and maintained in accordance with US Sander Maintenance and Operations Instructions.

This warranty is extended only to the original purchaser for use of the product. It does not cover normal wear parts such as electrical cable, V-belt, or backing pad.

If difficulty develops with the product, you should:

- (a). Return the complete tool, freight prepaid, to US Sander, Route 20, Esperance, NY, 12066 or an authorized repair center. Only repair center locations are authorized to make repairs to the product under this warranty.
- (b). If inspection shows the trouble is caused by defective workmanship or material, US Sander will repair the product and / or replace any defective parts without charge within a reasonable time after receipt of the product.

This warranty does not apply where:

- repairs have been made or attempted by others
- repairs are required because of normal wear and tear
- the tool has been abused, misused or improperly maintained
- alterations have been made to the tool

US Sander's liability under this warranty is limited to repair of the product and/or replacement of parts and is given to purchaser in lieu of all other remedies, including INCIDENTAL AND CONSEQUENTIAL DAMAGES.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SPECIFIED HEREIN. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. NO WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY, SHALL BE IMPLIED.

READ THIS BOOK



This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your US Sander machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If you cannot read English, have this manual explained fully before attempting to operate this machine.



All directions given in this book are as seen from the operator's position at the rear of the machine.

For new books write to: US Sander, P. O. Box 335, Esperance, NY 12066 or download from our website: www.ussander.com

OPERATOR SAFETY INSTRUCTIONS

WARNING

AVERTISSEMENT

ADVERTENCIA



D A N G E R
means:

Severe bodily injury or death can occur to you or other personnel if the **DANGER** statements found on this machine or in this Owner's Manual are ignored or are not adhered to. Read and observe all **DANGER** statements found in this Owner's Manual and on your machine.



W A R N I N G
means:

Injury can occur to you or to other personnel if the **WARNING** statements found on your machine or in this Owner's Manual are ignored or are not adhered to. Read and observe all **WARNING** statements found in this Owner's Manual and on your machine.



C A U T I O N
means:

Damage can occur to the machine or to other property if the **CAUTION** statements found on your machine or in this Owner's Manual are ignored or are not adhered to. Read and observe all **CAUTION** statements found in this Owner's Manual and on your machine.

DANGER:

Failure to read the Owner's Manual prior to operating or attempting any service or maintenance procedure to your US Sander machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. **If you cannot read English, have this manual explained fully before attempting to operate this machine.**

DANGER:

Sanding/finishing wood floors can create an environment that can be explosive. The following safety procedures must be adhered to.

DANGER:

Cigarette lighters, pilot lights and any other source of ignition can create an explosion when active during a sanding session. All sources of ignition should be extinguished or removed entirely if possible from the work area.

DANGER:

Work areas that are poorly ventilated can create an explosive environment when certain combustible materials are in the atmosphere, i.e., solvents, thinners, alcohol, fuels, certain finishes, wood dust and other combustible materials. Floor sanding machines can cause flammable material and vapors to burn. Read the manufacturer's label on all chemicals used to determine combustibility. Keep the work area well ventilated.

DANGER:

Spontaneous combustion or an explosion can occur when working with sanding dust. The sanding dust can ignite and cause injury or damage. Sanding dust should be disposed of properly. Always empty the sanding dust into a metal container that is located outside of any building(s).

DANGER:

Hitting a nail while sanding can cause sparks and create an explosion or fire. Always use a hammer and punch to countersink all nails before sanding floors.

DANGER:

Operating a machine that is not completely or fully assembled could result in injury or property damage. Do not operate this machine until it is completely assembled. Keep all fasteners tight. Keep adjustments according to machine specifications.

DANGER:

Do not operate with guards removed. Serious injury may occur.

DANGER:

Electrocution could occur if the machine is used on a power circuit that repeatedly trips or is undersized. Have a licensed electrician check the fuse, circuit breaker or power supply.

DANGER:

Electrocution could occur if maintenance and repairs are performed on a unit that is not properly disconnected from the power source. Disconnect the power supply before attempting any maintenance or service.

DANGER:

This tool has not been waterproofed; so do not use water on work piece surface or operate in water.

DANGER:

Use of this machine with a damaged power cord could result in an electrical shock. Do not use the machine if the power cord is damaged. Do not use the electrical cord to move the machine. 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.

DANGER:

Electrocution or injury could occur if the power cord is run over or damaged by the sander. Keep the cord free from under the machine to avoid contact with the sandpaper. Always lift the power cord over the machine.

DANGER:

Moving parts of this machine can cause serious injury and/or damage. Keep hands, feet, and loose clothing away from all moving parts of the sander. Disconnect machine from the power source before changing the abrasive or performing any maintenance. **Do not operate unless all covers and guards are in place.** Never leave machine unattended while motor is running or connected to power source.

- WARNING:** Failure to read and observe all safety statements found on your machine or in this Owner's Manual can result in serious injury or damage. Read and observe all safety statements. Make sure that all labels, decals, warnings, cautions, and instructions are fastened to the machine. Get new labels from your authorized US Sander distributor.
- WARNING:** Sanding dust can be airborne and can be breathed in while operating a sander. Always wear a dust mask while operating sanding equipment. Some dust created by power sanding and other construction activities contains chemicals known (to the state of California) 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
 - 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.
- WARNING:** Injury to the eyes and/or body can occur if protective clothing and/or equipment is not worn while sanding. Always wear safety goggles, protective clothing, and a dust mask while performing any sanding operation.
- WARNING:** Bodily injury could occur if power is applied to the machine with the power switch already in the "ON" position. Always check to assure that the power switch is in the "OFF" position before applying power to the power cable.
- WARNING:** Any alterations or modifications of this machine could result in damage to the machine or injury to the operator or other bystanders. Alterations or modifications not authorized by the manufacturer voids any and all warranties and liabilities.
- WARNING:** Accessories must be rated at least 30% more than the speed recommended on the tool warning label. Wheels and other accessories running over the rated speed can fly apart and cause injury
- WARNING:** Check the backing pad carefully for cracks, damage, or deformity before operation. Replace cracked damaged or deformed pad immediately. Damaged rotating parts can fly off and cause injury to you or other persons.
- WARNING:** Servicing of this unit must always be referred to an authorized US Sander distributor.
- WARNING:** Be aware that the wheel continues to rotate for several seconds after the tool is switched off.
- WARNING:** **Do not leave tool running. Operate the tool only when hand-held**
- WARNING:** **Keep hands away from rotating parts. Use the grips provided. Hold the tool firmly.**
- CAUTION:** Use of this machine to climb on could result in injury or damage. Do not use this machine as a step or furniture.
- CAUTION:** Serious damage to the floor can occur if the machine is left running in one spot while the sanding disc is in contact with the floor. To avoid damage to the floor, do not dwell for too long. Always sand with a constant motion and pressure.
- CAUTION:** Do not rest machine on sanding disc. To do so may cause a flat spot and reduce the quality of performance. Tip machine back or rest on side when not in use.
- CAUTION:** Do not sand metal surfaces. Watch out for flying sparks. Hold the tool so any sparks or debris will fly away from you and other persons or flammable materials.
- CAUTION:** Damage could occur to the machine if not properly kept in a dry building for storage. Store the machine in a dry building.

Modifying Buffers for the UFO

The UFO is an attachment that connects to a 175 RPM buffer via the standard attachment clutch.

YOU MUST USE ONLY A 175 RPM BUFFER RATED AT A MINIMUM OF 1 1/2 HP on a 20 amp circuit!

HIGHER RPM BUFFERS WILL VOID WARRANTY! BUFFERS WITH LESS HORSE POWER MAY FAIL!

If you purchased your buffer with the UFO, or bought a UFO ready buffer, you can skip this section.

In order for the orbital action to occur, the housing of the UFO CANNOT TURN! It is prevented from turning by the dust collection pipe that is connected to the UFO and must extend through a hole that must be drilled in the buffer housing. The hole should be oversized to allow for clearance which will make it easy to install and remove the UFO from the buffer. A 2" bi-metal hole saw will work to drill the buffer housing.

Note on some buffers it will be necessary to remove the dust collection shroud on the bottom or drill through it.

The buffer will need to have a steel drive coupling between the motor and gearbox. The Ceno buffers come with this already installed. On other buffers it will be necessary to change the plastic coupling to a steel one. If you purchased the UFO without a buffer, a new drive coupler was included with it. You will need to take the top cover off your motor and remove the 4 motor screws. Next, lift the motor off the buffer housing. Remove the rotor from the buffer. Remove the 6 screws from the gearbox and pull it off the buffer. The drive coupling is in the top of the gearbox.

Most buffers have a 10-1 gearbox. We recommend replacing this with an 11-1 gearbox (Part # BM13). This will reduce the speed and provide more power. The Ceno buffers come standard with an 11-1 gearbox.

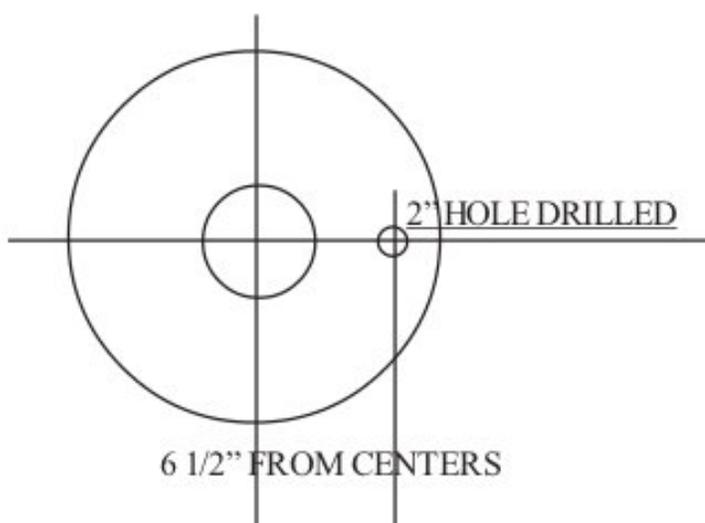
Install the gearbox with the steel coupling. Use a screwdriver or allen key through the bolt hole to align the screw holes. Tighten up the gearbox screws. When installing the rotor, you may have to rotate it several turns to get the coupling to line up. Make sure the rotor goes all the way into the bearing.

Reinstall the motor. On most buffers, there is a spring washer on top of the upper bearing. Use grease to hold this inside the top cover. Install the motor screws and top cover.

Make sure the motor turns over before plugging it in.

Before starting to sand run the buffer so the pad does not touch the floor. This allows the UFO to lock on the drive clutch seating it with the buffer. ALWAYS do this before using/running the unit. This will prevent gearbox damage and coupling breakage.

Drilling the Hole in the Buffer



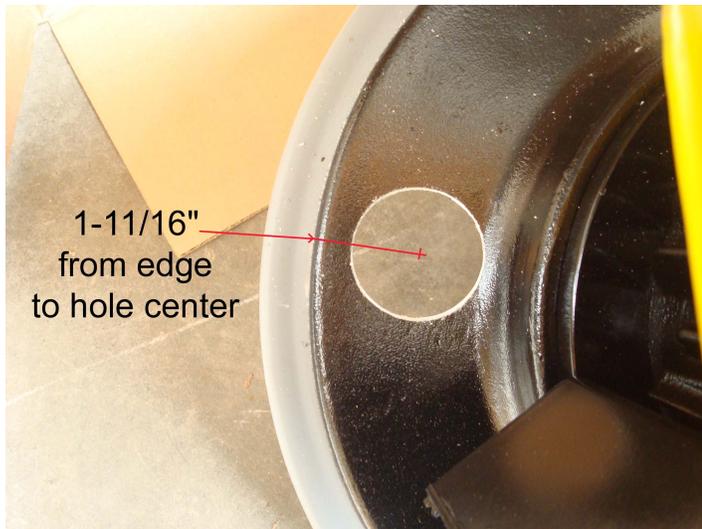
The hole in most buffers is drilled 6-1/2" from the center of the gearbox to the center of the hole. Due to the angled pipe on the UFO, some taller buffers may need the hole farther out.

See the next page for hole locations on some of the more common buffers.

Modifying Buffers for the UFO

Ceno & Pacific Buffers

To modify the Ceno buffer for a UFO, drill a pilot hole 1-11/16 from the edge of the housing. Use a 2-1/8 holesaw to drill out the aluminum. If it is a dust collection buffer, drill a pilot hole 1/8" in from the first, through the plastic baffle. From the bottom side, cut the baffle out with a 2-1/2" hole saw.



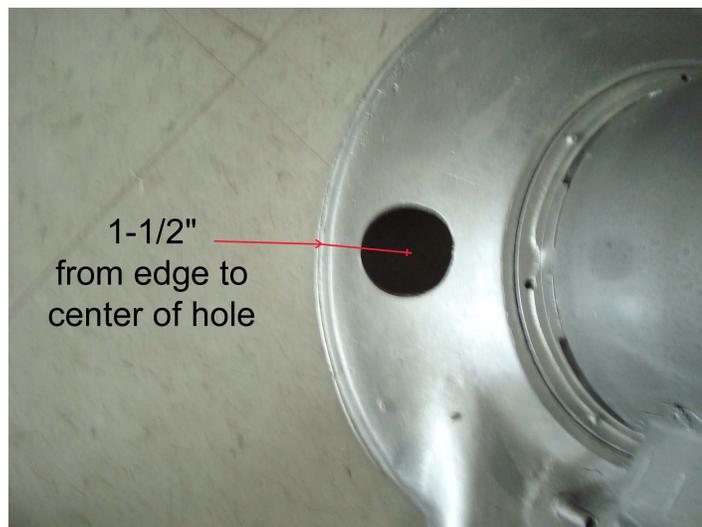
Ceno Pro & Mercury Buffers

To modify the Ceno Pro buffer for a UFO, drill a pilot hole 1-3/4 from the edge of the housing. Use a 2-1/8 holesaw to drill out the aluminum.



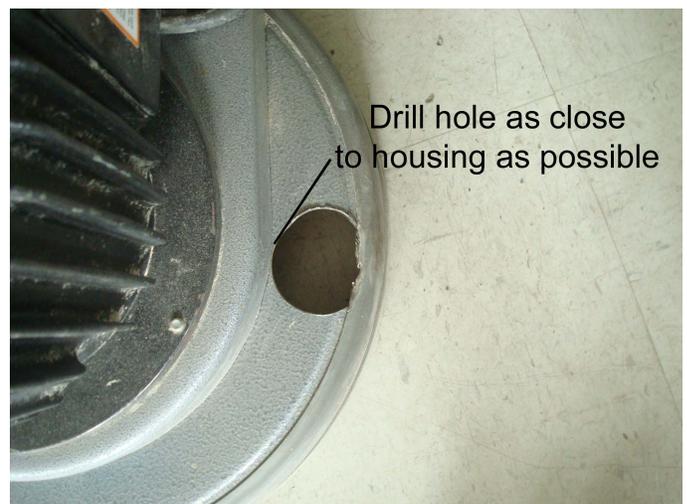
Mastercraft 17" Buffer

To modify the mastercraft, drill the 2-1/8" hole 1-1/2" in. Change the gearbox to a 11-1 instead of a 10-1. Drill out and tap the mounting bolt holes 12-24 in the new gearbox. Bolt it on with 12-24 × 1¼ socket head cap screws.



Sander 1600 Buffer

To modify the Sander 1600, drill a 2" hole as close to the housing as possible. Change the gearbox to a 11-1 instead of a 10-1. Drill out and tap the mounting bolt holes 12-24 in the new gearbox. Bolt it on with 12-24 × 1 socket head cap screws.



Getting Started

The UFO is an attachment that connects to a 1 1/2 horsepower 175 RPM buffer via the standard attachment clutch. HIGHER RPM BUFFERS WILL VOID WARRANTY! BUFFERS WITH LESS HORSE POWER MAY FAIL!

In order for the orbital action to occur, the housing of the UFO CANNOT TURN! It is prevented from turning by the **dust collection pipe** that is connected to the UFO and must extend through a hole that must be drilled in the buffer housing bell. Please see the section entitled “Modifying Buffers for a UFO”. A test bracket (part # UF61) can be used temporarily to test if a buffer has enough power to run the UFO.

Be sure the skirt is installed and tightened around the UFO housing. Even if you are not using dust collection, the skirt helps reduce airborne dust.

The dust pipe and dust screen must be installed before use. The dust pipe acts as both an anchor bracket and for dust collection. The screen also must be installed to prevent debris from falling out of a vacuum hose into the UFO and jamming the gears. We are not responsible for any damage that occurs due to damage from debris.

Some buffers will have trouble starting the UFO. Changing to a slower gearbox will normally fix this problem. We have these gearboxes available (part # BM13).

Putting the UFO on a Buffer



Set your red pad on the brush driver, allowing the UFO to be picked up more comfortably. Eyeball and align the motor gearbox and UFO so they will lineup and slide together.

Next, standing as shown, slide the dust pipe through the dust pipe hole in the buffer.

Make any small adjustment by turning the pad to line up the clutches the rest of the way.

Then pull in (towards you) and up on the UFO to take the resistance off of the clutches and lock the UFO on the buffer by turning the pad quickly counterclockwise until the UFO is completely locked on the buffer.

Next run the buffer with the pad off of the floor, in a horizontal position, for a few seconds to lock the clutch plates in correctly.

Remember: Turn the pad counterclockwise to attach, clockwise to remove from the buffer.



Caution: Never Jump Clutch the UFO on the buffer.

Clutching occurs when you do not lock the UFO onto the buffer, you only lightly set the UFO on the buffer and then run the buffer to lock the UFO on the rest of the way. This can cause damage to the buffers.

Loading the Sandpaper



Place the sandscreen on the floor.

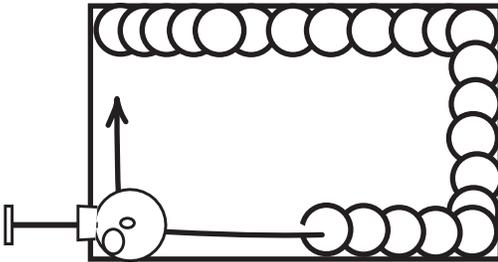
With the buffer handle in the vertical storage position, align the Red pad on the UFO over the screen and tip the buffer up onto the screen.

Sanding

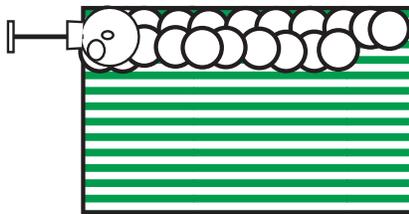


The fastest cutting is on the right back side. If you heel the buffer to make it cut better remember that you must let it run flat to remove any marks left over. Do this only to remove deep spots, otherwise keep flat when sanding.

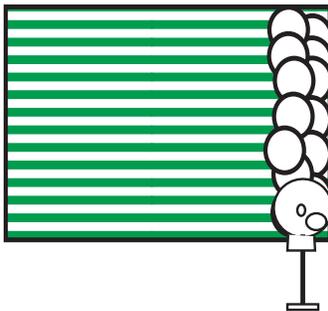
Remember: The UFO lets the buffer handle LIKE A NORMAL BUFFER! YOU DO NOT HAVE TO PUSH AND PULL IT!



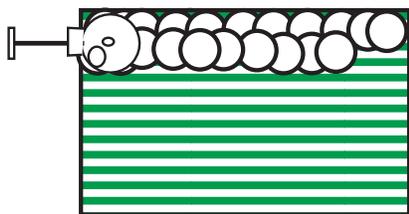
After sanding with a large floor sander, and edging, border the room by walking backwards with the buffer and try to keep the wall on the right side. This increases the cutting action to speed up removal of edger and sanding marks.



Sand with the grain and overlap next pass about 9 in.



Sand across the grain
ALWAYS OVERLAP! START AND STOP IN A DARK OR OBSCURE PLACE ON FLOOR.



Final SAND with the grain.

This technique produces the best results. Use your experience and try your own system. Some contractors sand at a 45° angle. Others sand across and then with the grain for 2 cuts. This example is one method for finishing a floor. You should always end by sanding with the grain.

Start with 100 grit screens. Use coarser or finer to achieve desired results.

Maintenance



Important:

The clutch on the top of the UFO is a slip clutch. It is designed to slip to take up any slack between the gearbox and UFO or dust pipe and buffer housing. Under normal use the clutch will slip from 0 to 1/8 of a turn on startup. If the clutch slips more than this, or slips during normal running, than it will need to be tightened to prevent premature wear.

All clutch surfaces must be kept free of grease and oil. Oil on the clutch surface will cause it to slip, and is not covered by warranty.

Before each use:

Be sure the UFO turns freely. You can do this by setting the UFO on the floor and turning the housing. Make sure there is no oil or grease on the clutch surfaces.

After each use:

Blow dust out of UFO with compressed air.

Note: this unit uses sealed bearings. There is no regular lubrication required.

Troubleshooting

Problem	Possible Cause	Remedy
UFO turns hard	Bad bearings	Replace bearings. (Use only a watertight sealed bearing)
	Main bearing stiff	Clean & relube main bearing
	Dust packed in gear teeth	Clean gear teeth. Do not use oil on gears.
UFO vibrates	Pad lopsided	Use new drive pad.
	Counterweights mis-adjusted	Set counterweights according to picture.
Buffer runs but UFO does not	Clutch slipping	Clean & adjust clutch. Keep clutch clean.
Buffer does not start UFO	Too long power cord	Use no more than 50ft of at least 12 gage cord.
	UFO turns hard	Fix UFO.
	Bad start capacitor on buffer	Replace start capacitor.
	Weak motor on buffer	Try switching to a 11:1 gearbox, then replace motor.

UFO counterweights must be set as shown or UFO will vibrate.



To order parts or for technical support, contact us at:

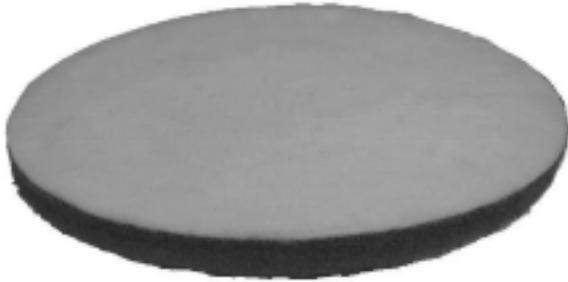
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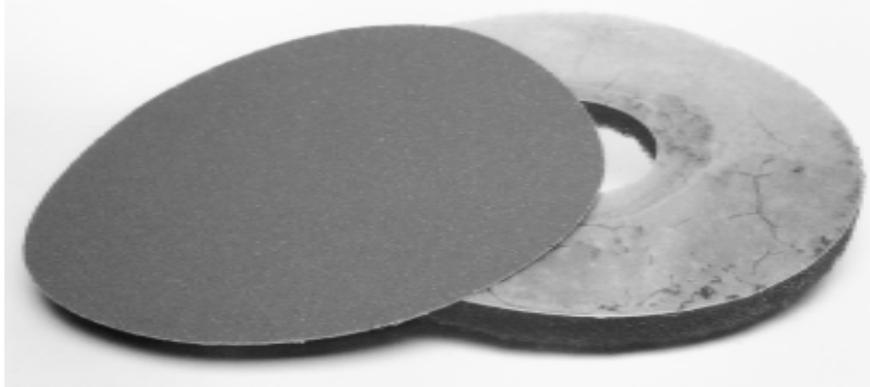
UFO ABRASIVES AND ACCESSORIES

**The Screens Don't Slip PAD!
We bonded a red drive & white antislip pad**



Part #	Size
SUDRW 15	15"
SUDRW 16	16"
SUDRW 17	17"
SUDRW 18	18"
SUDRW 19	19"

SANDS FLAT, CHOPS CHATTER, SCREENS DON'T SLIP



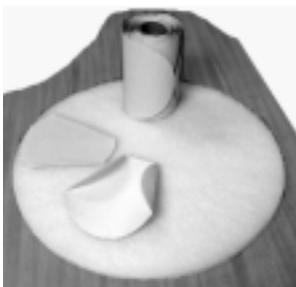
16" PLASTIC BOTTOM

Hard Plate FOR PSA STICKY SAND DISCS

Chatter - You need a flat abrasive surface to cut off the top of the chatter and not the hollow. The best method uses sand paper on a hard surface and that is why we have developed a hard plate adapter for PSA sticky discs.

Blending - Blending edger and sander marks together is easier. Sometimes there is a step created when sanding. This hump can be blended together typically using an 80 grit PSA disc.

NEW UFO SANDING TECHNIQUE



S450WHITE16 PAD -
Roll 6" PSA 80 grit S531-80
100 per roll



Fold the piece
then remove backing



Stick to white pad
USE 3 - 4 - 5
PIECES

**WORKS FOR STAINS AND ANYTIME! NO LOOSE SCREEN GRIT!
ONLY WORKS WITH UFO!! Regular buffers leave scratches!**