

# FOREDOM®

## Buffing and Polishing Guide

### 1. Safety Recommendations

**Always wear** safety glasses to prevent eye injury caused by flying debris or injury from a piece that is thrown back by the wheel.

**Do not** wear loose clothing which might get caught in the equipment.

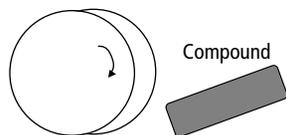
**Always wear** a respirator and work in a well-ventilated area to avoid inhaling dust into your lungs. *Foredom's new Filter Hood helps remove hazardous dust – see listing inside.*

**Always** hold your work firmly. Gloves are a practical way to hold items that become hot. Small pieces should be held with a hand vise or wedge clamp.

**Bufs 3" and larger are for use on tapered spindles at 5,000 RPM Max Speed.**

**Use 1" and 2" bufes with an A-M78 mandrel at 20,000 RPM Max Speed.**

Fig. 1

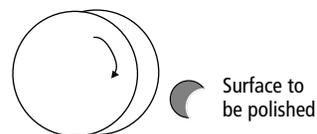


### 2. Applying Foredom compounds to buffing wheels on lathes

**A.** While the wheel is revolving toward you, pass a bar of compound lightly across the face of the wheel, slightly below the motor spindle (See Fig. 1), until the face of the wheel is lightly coated. Always apply the compound to the wheel and never to the article itself.

**B.** Spread the compound evenly by holding a clean piece of flat metal against the wheel face. When the compound is evenly distributed, the wheel is ready for buffing or polishing. Apply additional compound as needed with a wiping motion.

Fig. 2



**C.** Experiment with different compounds on scrap pieces to determine which compound gives the desired effect.

### 3. Applying Foredom compound to bufes mounted on mandrels (flex shaft handpieces)

**A.** Pass the bob or wheel lightly over the bar of compound. Be careful not to overload.

**B.** Spread the compound over the surface of the bob or wheel by lightly rubbing it on a piece of clean, flat metal, until the compound is evenly distributed.

**C.** Reapply in the same manner, when needed.

### 4. Applying compounds to previously used wheels

It is best to use a separate wheel for each type of compound to avoid contamination and scratches. When absolutely necessary, used wheels should be cleaned by holding a file edge or the edge of a hack saw blade against the revolving wheel. **Only coarser compounds** than the one used previously should be applied to the used wheel. **Never** use a final polishing or coloring compound on a wheel or buff that has been previously used for coarse cutting or buffing.

### 5. Buffing and Polishing

**A.** Make sure the wheel is revolving toward you from top to bottom. Grasp your workpiece firmly, remembering that metal will become hot during buffing or polishing operations. Small articles can be held with hand vises or wedge clamps, and chains can be wrapped around a piece of wood. Keep the upper edge of the workpiece away from the wheel to avoid having it torn from your hands.

**B.** Press the workpiece firmly against the revolving wheel, slightly below the center. (The compound will stick to the article if you are pressing too lightly; and the wheel will slow down if you are pressing too firmly. See Fig. 2.)

### Buffing and Polishing continued

**C.** Keep the workpiece in constant motion, turning it quickly. This will help avoid buffing or scratch marks. As a rule of thumb, 80%–90% of the operation will be spent on buffing (usually with Tripoli), and 10%–20% will be spent on the final polishing operation usually with platinum white or red rouge.

### 6. Cleaning

Always clean the residue of a compound off the workpiece before switching to another compound. Generally, a hot water solution with a few drops of ammonia works well. An ultrasonic cleaner can also speed up the cleaning operation. Dry thoroughly.

### 7. Terms and Definitions

**Burnishing** – A metal surface is brightened with a highly polished tool. Often used to remove deep scratches or to add contour, such as a beveled edge.

**Buffing (Coarse)** – “Cutting down” with a coarse compound, such as Emery, to remove surface blemishes. A thin layer of metal (scratch deep) is actually removed. Requires surface speed. Prepares surface for polishing.

**Coloring** – Bringing out the natural color and luster of precious metals. Usually accomplished with softer or finer compounds (ie. Platinum White or Red Rouge).

**Compound** – The material applied to the wheel or bob for the desired finished effect – ranging from coarse Emery cake with grit, to ultra-smooth rouges with no grit.

**Cutting Down** – The initial stage of buffing, using an abrasive compound to remove a layer of metal (scratch deep).

**Polishing** – Adds color and luster to the final stage of finishing. Usually accomplished with the smoother compounds. Requires a slower wheel speed than buffing.

**Surface Speed** – The surface speed per minute (SFPM) is the speed of the buffing wheel as it revolves. The size of the wheel has a direct relationship to the surface speed.

### Formula for calculating SFPM:

SFPM = 1/4 of the diameter of the wheel (in inches) x RPM of motor

**For example:** A Foredom BL Bench Lathe with a 4" diameter muslin wheel at the maximum speed of 7,000 RPM.

1/4 of the diameter of the wheel = 1 inch.

1 inch x 7,000 RPM = 7,000 SFPM (Ideal for buffing.)

### 8. Choosing the right wheel or bob for your needs

Bufs vary in size, hardness, material composition, and shape. Selecting the appropriate one for each buffing or polishing operation may require some experimentation. Solid felt bufes and bobs can be used for all types of buffing and polishing operations with gritty or smooth compounds. They come in various shapes and hardnesses from medium to rock hard. Small shapes, such as cones, balls, square edge wheels or knife edge wheels are used for hard-to-reach areas inside grooves or rings.

Loosely-stitched soft cotton bufes are for delicate work on precious metals, and for polishing. Closely-stitched hard or stiff cotton wheels and rock hard felt bufes are used for cutting down and coarse buffing operations on hard metals. Foredom's complete selection of 4" and smaller diameter bufes and compounds is shown in this guide.

After selecting the buff and compound that seems appropriate for the work, it is a good idea to experiment on a piece of scrap metal to determine what finish will result at various speeds.

## Suggested Compounds and Wheel Speeds for Buffing and Polishing

Type of Material	Iron, Steel Hard Metals		Brass, Copper Soft Metals		Gold, Silver Plated, Solid		Brass Plate Copper Plate		Plastic	
	cut	color	cut	color	cut	color	cut	color	cut	color
Operation	cut	color	cut	color	cut	color	cut	color	cut	color
FOREDOM Compound	Emery Platinum White		Tripoli Platinum White		Do NOT Cut	Platinum White	Do NOT Cut	Platinum Blue	Tripoli Platinum White	

## Foredom® Buffing and Polishing Compounds

**Emery A-4001 (Black)** – Contains coarse emery grit. Excellent for removing surface imperfections such as scratches, scale, rust, corrosion or burrs. Used for very fast cutting of iron, steel and other hard metals. Not for gold, silver or plated items.

**Tripoli A-4002 (Brown)** – The most popular general compound for cutting down and buffing base metals. Gives a smooth, finished look with a moderate luster to brass plating, copper, aluminum, pewter, gold, plastic and painted surfaces. Also ideal for preliminary coloring operations.

**White Diamond Rouge A-4003** – A fast cutting compound that produces a high gloss finish and will not discolor. Excellent on plastics and hard metals like platinum, white gold, stainless steel, chrome and nickel. Not for plated items.

**Red Rouge A-4004** – An excellent compound for a final coloring and a high polish for precious metals like gold, silver, silver plate, pewter or nickel. Not for burnished surfaces.

**Platinum Blue A-4007** – For pre-polishing and cutting down of platinum and other metals.

**Platinum White A-4006** – For final polishing to produce a deep luster on platinum, other metals, and acrylics (8000 grit).

**Carnauba A-4008** – The hardest natural wax available. Non-tacky and highly regarded for its tough and wear resistant qualities. It is especially good for producing a high luster on wood and painted surfaces.

Compound	Weight	Part No.
Emery	6.5 oz. bar	A-4001
Emery	19 oz. bar	A-5001
Tripoli	4.5 oz. bar	A-4002
Tripoli	14 oz. bar	A-5002
White Diamond Rouge	5.5 oz. bar	A-4003
White Diamond Rouge	17 oz. bar	A-5003
Red Rouge	5.75 oz. bar	A-4004
Red Rouge	17 oz. bar	A-5004
Red Rouge	1 oz. tube	A-40041
4 Bar kit (one ea. of Emery, Tripoli, White Diamond Rouge, Red Rouge)	22.25 oz.	AK4000
Platinum Blue	5 oz. bar	A-4007
Platinum Blue	1 oz. tube	A-40071
Platinum White	5.75 oz. bar	A-4006
Platinum White	1 oz. tube	A-40061
Carnauba	2 oz. bar	A-4008



Individual bars and Kit of 4 bars



## Cotton Polishing Buffs

### Fine Weave (80 x 80) Finex Muslin Buffs

These buffs hold compounds well but the tighter weave results in longer life. The center pin holes are reinforced with shellac (S) for a tight fit on tapered mandrels and greater durability. Combed edges do not require break in or combing to hold compound. The fine weave and stitching make them durable and especially suitable for polishing with rouge.

Dia.	Ply	Rows of Stitching	Center Hole	Part No.
1"	40	1	S	A-CBF1
2"	40	1	S	A-CBF2
3"	40	3	S	A-CBF3
4"	40	3	S	A-CBF4

### Coarse Weave (60 x 60) White Muslin Buffs



These have a more open weave to hold more compound. Used as a general purpose buff with cutting and polishing compounds.

Combed edges do not need breaking-in or combing to hold compound. Center pin holes are reinforced with shellac (S).

Dia.	Ply	Rows of Stitching	Center Hole	Part No.
1"	40	1	S	A-CBC1
2"	40	1	S	A-CBC2
3"	40	3	S	A-CBC3
4"	40	3	S	A-CBC4
6"	50	4	S*	A-CBC65
7"	50	4	S*	A-CBC75

\* Extra thickness eliminates need for leather reinforcements.

### Razor Edge Yellow Treated Buffs (Soft)

Chemically treated (86 x 80 weave) muslin provides added stiffness and longer life. The additional stitching and leather and shellac (L/S) centers keep wheel stiff while in use. Used for cutting and polishing in grooves, crevices, and inside curves.

Dia.	Ply*	Center Hole	Part No.
4"	28	L/S	A-CYR4

### Loose White Muslin Buffs

These buffs have only one row of stitching around the arbor hole which is reinforced with leather and shellac (L/S). Made of Finex (80 x 80 weave) muslin with combed edges. The open layers provide a softer polishing action and conform to contours and curves. Use with rouge for coloring or final polishing operations.

Dia.	Ply	Part No.
3"	35	A-LCB35
3"	40	A-LCB3
4"	40	A-LCB4

### Yellow Treated Cotton Buffs



Made with chemically treated extra fine (86 x 80) weave fabric, these buffs are stiffer than untreated ones.

They will cut faster and last 2 to 3 times longer than white muslin buffs. Combed edges hold compounds without break in or combing. Center pin holes are reinforced with shellac (S).

Dia.	Ply	Rows of Stitching	Center Hole	Part No.
4"	30	3	S	A-CBY43
4"	40	3	S	A-CBY4
5"	40	3	L/S	A-CBY5
6"	40	4	L/S	A-CBY6
6"	50	4	S	A-CBY65-S

### Flannel (Canton) Buffs



These cotton buffs are made with thicker, softer fabric. Excellent for final polishing with rouge on precious metals (especially good on high karat gold and silver). Center pin holes are reinforced with shellac (S) for a tight fit on tapered mandrels.

Dia.	Ply	Rows of Stitching	Center Hole	Part No.
3"	30	2	S	A-CFB3

### Square Edge Solid Felt Buffs



Made from tightly compressed, top quality wool felt in medium and hard density, these are used for polishing and lapping flat surfaces. They hold an edge for working in angles and corners, and have pin hole centers for use on tapered mandrels. Use with all compounds for cutting or polishing.

Dia.	Thick	Hardness	Part No.
2"	3/8"	Medium	A-SE4M

### Small Diameter Buffs



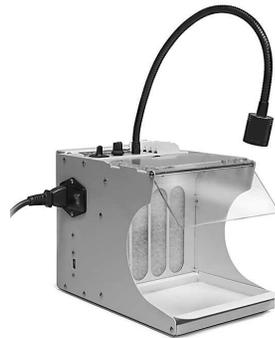
These smaller diameter buffs can be mounted on mandrels for use in Foredom Handpieces. The CBF1 can be used with the M16. The other buffs are suitable with M1, M6, M7, M13, and M15 mandrels. Muslin buffs are made from fine (80 x 80) weave muslin for use with all types of compounds and have shellac (S) reinforced center holes. Felt buffs are made from wool felt.

### Cotton Buffs

Dia.	Thick	Ply	Rows of Stitching	Part No.
1"	3/16"	16	2	A-CB2
1"	3/8"	40	2	A-CBF1
1/2"	3/16"	16	3	A-CB12

### Square Edge Felt Buffs

Dia.	Thick	Hardness	Part No.
1/2"	1/8"	Medium	A-SE1M
1/2"	1/8"	Hard	A-SE1H
5/8"	3/16"	Medium	A-FB4
3/4"	1/8"	Medium	A-SE2M
3/4"	1/8"	Hard	A-SE2H
3/4"	1/4"	Medium	A-FB3
1"	1/8"	Medium	A-SE3M
1"	1/8"	Hard	A-SE3H



**NEW  
MAFH25  
Filter Hood**

- Strong suction removes hazardous dust and filters precious metal for reclaiming
- Variable speed motor for 110 or 220 volt
- Heavy gauge steel construction
- CE compliant.
- Removable metal tray, gooseneck mounted bright, LED light, polycarbonate shield.
- Comes with three filters – easy to change and ship to a refiner.
- One Year Warranty



## Scotch-Brite™ Radial Bristle Discs

These discs are popular among jewelers and dental technicians because their thin flexible bristles get into hard to reach areas. Use for cleaning metal surfaces, fire scale and oxide removal, finishing, blending, texturing, pre-polishing and polishing, Scotchbrite Radial Bristle Discs generate little or no dust, last far longer than rubber

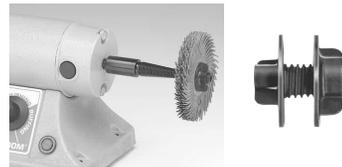
wheels, regular brushes, and buffs, and do not produce the heat associated with rubber wheels. They work well on gold, silver, platinum, brass, copper, titanium, stainless steel, plastic, acrylic, and wood. **No compounds, rouges or pastes are required. Bristles contain abrasives.**

### For 2" discs

30,000 RPM Max Operating Speed  
Recommended Speed for most applications is 5,000–18,000 RPM

### For 3" discs

20,000 RPM Max Operating Speed  
Recommended Speed for most applications is 5,000–18,000 RPM



(shown above) for right side of lathe  
**3/8" Tapered Spindle Adapter A-4561**

For left side of lathe use:  
**3/8" Tapered Spindle Adapter A-4562**

Also for right side of lathe:  
**A-CHA-5 Collet Holder**  
with 1/4" shank screw mandrels:  
**A-M31 or A-M31**



Collet Holder P/N:  
A-CHA5

Grit	Color	Part No. per 6-Pack	
		2" Discs	3" Discs
80	yellow	A-4542-6	A-4552-6
120	white	A-4543-6	A-4553-6
220	red	A-4544-6	A-4554-6
400	blue	A-4545-6	A-4555-6
pumice	pink	A-4546-6	A-4556-6
6 micron	peach	A-4547-6	A-4557-6
1 micron	lt. green	A-4548-6	A-4558-6



A-M30 and A-M31  
Mandrels



Mandrel with  
ScotchBrite discs

All listed buffing and polishing accessories are made in the USA.

## FOREDOM®

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