SECTION II
APPENDICES

APPENDIX A
APPLICATOR RECOMMENDATIONS

	Oil Modified Urethane	Water Borne Urethane	Moisture Cure Urethane	Conversion Varnish	Stains	Shellac Sealer	Varnish Sealer	Lacquer Sealer	Wax	Varnish	Bleach
100% Lambswool	X	X	X	X	X	X	X	X	X	X	
Synthetic Lambswool	X	X			X		X		X	X	
Synthetic Pad	X	X		X							
Rags					X				X		X
Brush	X	X	X	X	X	X	X	X	X		
Roller	X	X		X	X						

APPENDIX B
FINISH CHART

FINISH PROPERTIES

PRODUCT	Respiratory Protection	Number of Coats	Drying Time	Color	Sheen	Odor	Flammability
Oil-modified Urethane	Required	2-3	Slow	Amber	Satin to Gloss	Moderate	Combustible
Water-borne Urethane	Required	2-4	Fast	Clear to Amber	Satin to Gloss	Mild	Non-combustible
Moisture-Cured Urethane	Required	2-3	Slow to Fast (depends on humidity)	Clear to Dark Amber	Satin to Gloss	Strong	Combustible to Flammable
Conversion Varnish	Required	2-3	Fast	Clear to Slight Amber	Satin to Gloss	Very Strong	Combustible
Wax	Optional	1-3	Fast	Slight Amber	Wax Luster	Mild	Combustible

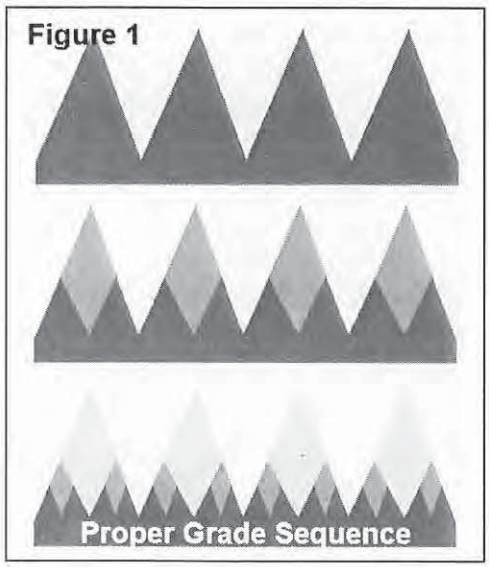
APPENDIX C
ABRASIVE GUIDE

Paper	Grit		Use
Open Coat	4-1/2	12	Remove
	4-0	16	Old
	3-1/2	20	Coatings
	3-0	24	
Coarse	2-1/2	30	Fast Cutting of
	2-0	36	Uneven Floors
	1-1/2	40	
Medium	1	50	1st Sanding - New
	1/2	60	2nd Sanding - Old
Fine	1/0	80	Final Sanding
	2/0	100	New or Old
Extra Fine	3/0	120	For Very
	4/0	150	Fine Finish
Use the finest grit paper that will flatten the floor. **Do Not Over-Sand**			

APPENDIX D
GRADE SANDING SEQUENCE

Below is a graphic representation of what happens when a wood floor is sanded. As seen in Figure 1, each subsequent cut with a finer grade of abrasive removes the scratch marks left by the previous cut. Therefore, it is recommended that no more than one grade of abrasive be skipped in each sanding sequence. Figure 2 shows what happens when more than one grade is skipped.

A typical sanding sequence might be Grade 36, followed by Grade 50, followed by Grade 80. (See Appendix C for a listing of abrasive grades.)



Proper Grade Sequence: (Figure 1)

First cut: The initial sanding of the wood floor should be with a coarse-grade abrasive. Use the finest grit abrasive possible to flatten the floor.

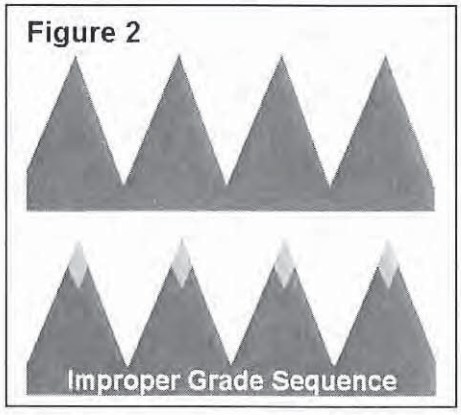
Second cut: Use a medium-grade abrasive, skipping no more than one grade from the abrasive used in the first cut. The second cut abrasive removes the deep scratches created by the first cut.

Third cut: Use a finer-grit abrasive, again skipping no more than one grade from the abrasive used in the second cut. The third cut removes the scratches created by the second cut, leaving shallower scratches that should result in a surface that appears smooth.

Improper Grade Sequence: (Figure 2)

This is what happens when more than one grade of abrasive is skipped in the sanding sequence.

The first cut uses a coarse-grade abrasive, which creates deep scratches. If the second cut skips more than one grit from the abrasive used in the first cut, the abrasive used in the second cut will not effectively remove the scratches created by the first cut, removing only the peaks left by the first cut. The deeper scratch marks will remain, resulting in a rough surface.



APPENDIX E
INTERCOAT ABRASION

Intercoat abrasion ensures proper adhesion between coats of finish by creating a "profile" or "tooth" known as a mechanical bond. By removing raised grain and irregularities in prior coats, it also assists in achieving a smooth, even appearance after the final coat has dried. Fresh coats of finish may chemically bond without intercoat abrasion. Always follow the finish manufacturer's recommendation.

- Use multiple angles for a visual inspection of imperfections such as debris, lap marks, drips or swirl marks. Remember, strong light highlights imperfections.
- Hand inspect to determine the extent of the problem. Then use a scraper and/or sandpaper to remove imperfections, and finish by hand rubbing with an abrasive pad.
- Sweep and vacuum. It is essential to start with an absolutely clean floor.
- Using the finish manufacturer's recommended abrasive, hand abrade all edges or corners where the buffer will not reach.
- Clean the floor thoroughly as before.
- Load the buffer with a steel wool pad, screen or abrasive pad with self-adhering sandpaper strips, as recommended by the manufacturer.
- Abrade the floor by running a buffer with the grain, or for parquet in the long direction of the room, overlapping passes by ½ the buffer width. Run the buffer smoothly to avoid leaving swirl marks.
- Vacuum and tack with a clean cloth, wet with a solvent compatible with the finish system.

Tacking Solvent Chart	
Water-borne urethane	water
Oil-modified urethane	mineral spirits
Moisture-cured urethane	xylene or water
Conversion varnish	denatured alcohol or water

- Apply the next coat of the finish system as directed by the finish manufacturer.

APPENDIX F
SANDING SAFETY

NOTE: When sanding a previously finished floor, ascertain whether the floor finish contains lead. Floor finishes applied before 1978 may contain lead. Test kits are available to determine the presence of lead in floor finishes and other architectural coatings. Abide by local, state and federal guidelines for handling and disposal of lead-based products. For more information, visit the U.S. Environmental Protection Agency website at www.epa.gov/lead.

Part I - Spontaneous Combustion

One of the most important safety issues to consider in the sanding process is spontaneous combustion, which can occur with sanding dust. Combustion caused by wood dust is a potentially serious problem. There are several ways in which it can occur. The first and least common is the wood dust starting on fire in the dust-collection bag when a new floor is being sanded. The heat created from the friction of the machine and sandpaper on the floor can increase to the point that the sawdust begins to smolder inside the bag. Wood dust must reach a temperature of 400 degrees Fahrenheit for it to ignite. Combustion happens much more frequently, however, when an old floor is being sanded. The old finishes that are on the floor become ground into a fine powder. Again, the heat created by the friction can cause spontaneous ignition.

Although it is not technically spontaneous combustion, a problem also occurs when small sparks fly into the dust-collection bag. These sparks, which are often caused by abrasives striking nails, can cause a fire to begin smoldering, not visible until minutes or hours later. For this reason, all nails should be set prior to sanding. This will also help prevent damage to the machine.

Sanding dust should be disposed of safely. Keep an eye on the dust-collection bags on all equipment. Empty the bags often in a proper container. Also, empty dust collection bags before transporting the machine or leaving the job site — even if you're just leaving for a short time.

Always remove dust receptacles from the job site at the end of every day and dispose of them in the proper manner. For that matter, it's a good idea to remove dust receptacles and unplug machines any time you leave the jobsite for any length of time. Refinishing old floors poses additional safety issues.

Six Potential Flare-ups

Friction: Dull sandpaper, overworked paper, improper paper selection
Sparks: Staples, nails, radiator pipes, improper paper tracking
Dust: Never leave in truck, machine or job
Stain rags: Dispose in water bucket or metal safety container
Electric fires: Faulty cords, loose connections, breaker box fires
Liquids/vapors: Lacquer sealers, universal sealers, shellacs, conversion varnish

- **Keep fire extinguishers in the truck and on the job.**
- **Smoking should be prohibited on the jobsite and in the truck.**

Part II – Equipment Operation

Another important safety issue involves the proper operation of the sanding machinery. The following safety guidelines should be adhered to:

A. Proper electrical connections are essential. Refer to local electrical codes and to manufacturers' guidelines for each piece of equipment.

B. Read the warnings and operational instructions that are provided by the manufacturer of each sanding machine.

C. Wear eye, ear and approved respiratory protection devices as required by OSHA.

D. Safe work shoes (with laces tied) are important.

E. Make sure you are always in complete control of all equipment.

F. Use extra caution when wearing a waist belt attached to drum or belt sanders.

G. Keep electrical cords away from machines' moving parts. Also keep cords out from underfoot and off your shoulders, since electrical cords can be the cause of injury. Use the manufacturer's recommended apparatus for proper cord control.

H. Unplug all machines when you are repairing or adjusting them, when changing abrasives, or when leaving the jobsite.

I. Empty sanding bags often in a proper container, especially before transporting the machine or leaving the job site. Remove dust receptacles and unplug machines any time you leave the jobsite for any length of time.

SAFETY NOTE: Make sure all electrical equipment has proper grounding.

APPENDIX G
JOBSITE ENVIRONMENT

Before sanding either a new wood floor or an existing one, make sure the interior environment is at "normal living conditions." Check the moisture content of the wood floor before you begin sanding to ensure that it is within the normal range for that environment. Record the moisture content. You can use that moisture content for comparison later, when you are checking moisture content between coats of water-based finish.

Part I – Preparation and Inspection

Walk the Floor/Make Necessary Repairs

Before sanding, the floor should be swept and inspected carefully. The floor should be properly fastened or adhered to the substrate before sanding begins. Also, protruding nails should be countersunk.

Dust Containment

While dust cannot be completely eliminated from the sanding process, the flooring professional should take steps to minimize the dust. It is especially important in remodeling work, but also necessary on many new-construction jobs, to seal off the area with plastic. In addition, most floor-sanding equipment today is or can be equipped with dust-containment devices.

- If possible, use a fan to exhaust dust from the working area.
- All doorways should be sealed off.
- On some jobs, you may also want to protect the wall coverings and ceilings.
- If light fixtures are covered, fixtures should remain off. Tape switch in the off position if necessary.
- There are a variety of ways to hang plastic to seal off the area. Do not use fastening methods that will damage paint and wall coverings. Tape as much as possible to doorjambs instead of wall paint, and never tape to wall coverings such as wallpaper. Always check in an out-of-sight place that the tape will not cause damage.
- Also, protect other floor coverings from wood dust.
- In the doorways you must pass through, overlap plastic for an extra barrier.
- Be sure to protect HVAC (heating, ventilation and air-conditioning) openings. While you are sanding, you may want to shut off the HVAC system. However, some climates will necessitate that the HVAC system be running while sanding operations are ongoing. In such cases, prefilter materials are available to cover HVAC returns. Check with a local HVAC contractor to determine which prefilter materials are appropriate.
- It is also essential to protect smoke and carbon-monoxide detectors, fire-alarm systems and elevator shafts, but remember to remove the dust protection before you leave the job site.
- Cover the openings of gas fireplaces and turn off the pilot light, as well as any auto-ignition devices associated with the fireplace.

APPENDIX H
SANDING EQUIPMENT AND TOOLS

BASIC AND SPECIALTY EQUIPMENT AND SUPPLIES

The primary tools needed are eye, ear and approved respiratory protection; a drum or belt floor sander; edger sander; buffer; hand scraper; sanding block ;and a variety of abrasives and screen discs ranging in grit from coarse to fine, as well as a vacuum cleaner and broom.

Drum and belt sanders are similar, the difference lying in the way the sandpaper is attached. On a drum sander, a sheet of sandpaper is wrapped around the drum and secured by insertion in a diagonal slot on the drum. A belt sander, as the name suggests, employs a continuous belt of abrasive.

Edgers are hand-held rotary-disc floor-sanding machines used to sand closely around the perimeter of the room, as well as in closets, on stairs and in other small areas.

Harder-to-reach places require the use of hand scrapers and sanding blocks.

The buffer, fitted with fine-grit screen or abrasive discs, is used after the final cut — typically with the drum or belt sander — to blend the field and the edge. A detailed discussion of sanding equipment can be found in the National Wood Flooring Association's Technical Publication No. A300: Tools of the Trade.

DRUM AND BELT SANDERS

The 'big machines" — drum and belt floor sanders — are large, heavy, walk-behind (primarily electric) sanding machines designed for high production. They are usually available in widths of 8, 10 or 12 inches. All have integrated dust-collection systems. They are used for sanding wood over large, open areas, as well as removing old stain or finish.

BUFFERS, OSCILLATING MACHINES AND MULTI-DISC MACHINES

Buffers use circular sanding paper, screens, pads or polishing brushes - sizes vary from around 13 to more than 22 inches in diameter. They are walk-behind machines that abrade in a circular pattern.

Buffers for floor sanding run at low speeds and are used for final sanding, screening, screening between finish coats, and low-speed buffing. Some models are designed for dedicated use as either sanders or polishers - be sure to match the machine with your main application. These machines are available with or without integrated dust-collection systems.

One of the primary uses of these machines is to blend drum or belt sander and edger marks to get rid of the "picture frame" effect around a room Some finish manufacturers also recommend using buffer screens or pads after sealer or finish application to smooth imperfections and to lightly abrade the surface for better adhesion between coats. However, other finish suppliers recommend different methods. As always, rely on the recommendations made by the manufacturer of the finish you are applying.

Buffers can be difficult for beginners to operate. On start-up, they tend to "kick" to one side, usually the left. It's best to practice initially with a polishing pad in the middle of a large room. Start with the handle adjusted to waist height. You will notice that as you raise it, it will move to

the right And as you lower it, it moves to the left. An easy way to remember this is raise-right (R-R) and lower-left (L-L).

There are also oscillating machines, which move in an elliptical pattern. Oscillating machines provide a less aggressive cut than big machines, but with more random abrasion patterns.

Another machine sometimes used in sanding hardwood floors is the multi-disc sander (those with three discs are sometimes called triplanetary sanders). This machine is often used for fine finish sanding and for flattening floors. It has three or more perimeter discs that rotate in one direction around a main disc, which rotates in the opposite direction. Most multi-disc sanders are also equipped with dust-containment systems.

EDGERS

Edgers, or spinners, are small circular sanding machines designed to reach the areas where big machines can't. Several types of edgers are available, most consisting of a seven-inch shrouded disc connected to a motor. Two wheels on the housing hold most of the machine's weight; each is adjustable to vary the depth and angle of cut. The edger pad is set to hold the sandpaper disc at a slight angle to the floor. The offset edger drives a disc offset from the motor, with a belt-and-pulley arrangement. This configuration allows reaching under difficult areas like cabinet toe kicks and radiators. Some companies offer integrated dust collection for edgers, directly connecting a portable vacuum system to the edger to gather dust as it is produced. Some edgers can be set to cut on the left, right or near center of the leading edge of the paper. Follow the manufacturer's recommendations for setting the edger.

DUST COLLECTION

Most standard sanding machines have dust-collection bags attached. This performs two functions: It collects large dust particles and also filters the air that passes through by catching the smaller particles on the inside of the bag. The key to keeping such machines performing optimally is permitting air flow through the system. That means that the bag should not only be emptied often, but cleaned as well.

Note: For best dust collection, the bag should be emptied by the time the dust reaches the line that says "full" - usually about hallway up the bag. If it isn't emptied by then, the dust-collection system will not function properly.

Periodically, the bag should be turned inside-out and vacuumed to help remove the edger sander smaller particles that clog the bags pores. Some manufacturers' bags can be washed.

Several manufacturers have also introduced dust-containment systems. Some have vacuums mounted on top of the machines, others have hoses that attach to vacuums inside or outside the building, and still others can also attach to a vacuum strapped on the operator's back. There are dust-containment systems on the market for buffers, edgers and sanding machines, with some systems allowing the user to hook up two or more machines to a vacuum at once. For older machines, there are also retrofit options.

Regardless of how dust is collected, it must be disposed of safely. Contact local agencies for guidelines and directives on proper disposal.

MAINTENANCE OF EQUIPMENT

Proper maintenance will keep your equipment operating at peak efficiency and keep it operating longer. Perhaps just as important, it will prevent costly down-time when you can least afford it. Keeping sanding machines properly tuned and adjusted also will help their vacuums perform optimally. Pulley belts that are loose will reduce air movement and inhibit dust collection. and can also cause chatter marks. Cleaning the machines out after every job by mechanically

blowing out the motor and fan system with an air hose greatly reduces wear on the machines. Maintenance practices vary among the different kinds of equipment, so follow manufacturers' guidelines. Keep in mind that many repairs should be done by an authorized service center. Repairs performed by an unauthorized center may void your warranty. Knowing the equipment and recommended service intervals will help keep your equipment running for years. There are nine primary areas to focus on: carbon brushes, dust bags, bearings, lubrication, sanding chambers, wheels, belts, pads and drum covers.

CARBON BRUSHES should be replaced after every 500 hours of use. The brushes are the pathways for electric current. Once the brushes are worn, the electric current will find the path of least resistance, causing a short-circuit. Also check the brush spring — it keeps the pressure on the brushes, preventing arcing and premature wear of the armature. The big machines that have carbon brushes have a wear indicator. Inspect the motor brushes once a month and change all the motor brushes at the same time. Brushes must slide freely in the brush holder. Dust accumulated around the brush block must be cleaned out frequently. This prevents the brushes from sticking in an open position and keeps the motor from overheating.

MACHINE LUBRICATION - The machines come fully lubricated. Have the machine lubrication changed every year and inspected every six months. Remember that over-lubrication is as bad as under-lubrication. Ask your service center for the correct amount and the type of lubricants to use.

MACHINE BEARINGS - These are general guidelines for the maintenance of bearings. Follow the specific recommendations of the machine's manufacturer. With edgers, have the armature and pad driver bearings inspected after every 1,500 hours to ensure reliable service. Have the bearing replaced seasonally. Belt sanders need to be inspected according to the following schedule: Guide rollers every 650 hours; idler pulleys every 1,500 hours; dust fan shafts every 2,500 hours; arbor shafts every 5,000 hours; and motor shafts every 5,000 hours. Periodically check the guide rollers for wear. Drum sanders call for the following schedule: idler pulleys every 1,500 hours; fan shafts every 2,500 hours; arbor shafts every 5,000 hours; and motor shafts every 5,000 hours. A good rule is: Always keep an ear tuned to the sound of the machine. Any new or different sound is a sign of a bad bearing or wear in the bearing. If it remains unrepaired, a bad bearing can cause sanding irregularities.

EDGER PADS - Inspect and clean edger pads before each job. An unbalanced or bent edger pad will cause gouging. Worn and improperly dressed edger pads also result in uneven sanding.

SANDING DRUMS - Inspect and clean the sanding drum on split-drum or belt sanders before attaching sandpaper. Dust and debris on the drum will cause chatter marks. Gouged, grooved or badly damaged drum surfaces should be replaced. To prolong the life of a sanding drum, release the tension on the sandpaper or belt after every job, and leave sandpaper on the drum to protect it during transit

SANDING CHAMBERS – Clean the sanding chamber once a week to prevent accumulation of debris, which can interfere with the performance of the dust-control system, the upper roller and contact wheel (drum). Cleaning the dust chamber also keeps the fan balanced, preventing vibrations that can cause chatter and imperfections in the floor.

WHEELS - Always inspect the wheels before you start any job. Debris on the wheels (grit, finish and stones, for example) can be left on the floor and also may cause chatter, wave and damage to the wood during sanding. When transporting the machine. lift it over stones and rough areas. After each grit or cut, clean the wheels. since grit can build up and cause the machine to

cut unevenly. Keep the weight of the machine off of the wheels during storage and transportation. This prevents flat spots and prolongs the life of the wheels.

DRIVE BELTS - The best way to check drive belts is hands-on: If the belt feels rough, cupped, worn or grooved, it probably needs to be replaced. The most common problem with belts is letting the belts "take a set" or take the shape of the pulleys. During use, the belts become hot. If they are not loosened during a long shut-down (overnight or lunch), they can "take a set." This causes vibration and chatter. Tighten the belts before each use and always loosen the belts overnight or for any long-term idle period. Always use a high-speed belt per the manufacturer's recommendations. Most belts from a hardware store are for general use only, not high-speed. Belt tension is important. If it is too tight, the belt life will be short. If it is too loose, the machine can slip and vibrate. Do a visual check with the machine running for belt shake or vibration. Tighten or loosen the belt until it runs true. Check with your service center for correct belt tension. Read the operator's manual. This is possibly the most important element in preventive maintenance. A poorly maintained machine can be costly.

DUST BAGS should be turned inside out, shaken vigorously, and machine-washed (if recommended by the manufacturer) in cold water to prevent pore blockage and loss of dust control Empty a dust bag when it is half full; never leave a dust bag unattended with dust in it. Sanding dust can ignite and cause injury or damage. Countersink all nails before sanding the floor — hitting a nail or staple while sanding can cause a spark, igniting a dust fire in the bag. Also, dust bags will eventually wear out and should be replaced periodically.

APPENDIX I
TROUBLESHOOTING FINISHES

Although many problems can result with the finish, the source is not necessarily the finish itself. Consult the following list for some of the most common problems and solutions.

Problem: Excessive and early wear
This can be caused by improper floor maintenance that fails to remove grit from the floor, or the introduction of water or strong cleaners. Pet nails and unprotected furniture legs also contribute to the problem. Proper maintenance requires regular dust-mopping with an approved wood-floor cleaner. If recoating is necessary, the owner should pay for it. Educate homeowners that the use of floor protectors on furniture will eliminate excessive and early wear.

Problem: Discoloration
Oil-modified finishes will amber in appearance and will yellow further over time. Wood in direct sunlight will change color and lighten over time. Recoating an oil-modified finish recoated with water-based finish will not stop ambering. Shading the floor can minimize lightening. Wood also changes color through oxidation.

Problem: Stains
Spilled water, pet stains and other liquids, including improper cleaners, can stain finish. Cloudy surface finish can be fixed by lightly rubbing with a proper cleaner and buffing, although some stains require screening and recoating. Some boards may need to be replaced.

Problem: Alligatoring
The finish pulls away from itself, causing ridges in the finish. Causes can include poor wetting of the finish, contamination of the finish, application under cold temperatures, application of a new coat before the previous coat has dried, application of a heavier coat than is recommended, or the use of thinners that cause the finish to dry too quickly. The solution is to screen and recoat after the finish has dried sufficiently. Sometimes a complete resand is required.

Problem: Roughness
The cause is often contamination of the finish during dry time, as well as by failure to screen or abrade between coats of water-borne finish. Moisture can also cause the wood grain to rise. If a moisture problem is evident, this must be corrected before screening and recoating. Sometimes a complete resand is required.

Problem: Uneven gloss levels
Insufficient mixing of finish prior to application. a contaminated finish applicator and uneven sanding or finish thickness are typical culprits. All require screening and recoating.

Problem: Sticky board syndrome
This occurs when excessive tannic acid or pH imbalance in the wood prevents the finish from adhering to the wood or curing properly. This is most common with oil-modified finishes and with white oak. When one board or several boards scattered throughout the floor will not take stain or finish, the most common solution is to repair the floor by replacing the boards and resanding.

Problem: Peeling/Bubbles
Bubbles and blisters in the finish usually mean that the floor was not screened or sufficiently cleaned between coats of finish, or the finish was overworked during application, or that soap or some other contaminant was not removed before coating. It can also be caused by the finish drying too fast as a result of hot spots from sunlight. Problems in the topmost finish coat can be screened and recoated, while cases of delamination require complete sanding and refinishing.

Problem: Orange peel

If the surface of the finish has a texture that resembles an orange peel, the problem may have been caused by rolling a finish that is not designed to be rolled on, which then dries too quickly. When that happens, the texture is "frozen" into place before the finish has a chance to flow out and level. The solution is to screen and recoat. Sometimes a complete resand is required.

Problem: Fisheyes

Called by many others names (crawling, cratering, holes. spots, flow marks), this condition can be caused by contamination in the surface. The new coat "crawls" away from the wet or contaminated areas, giving the appearance of fisheyes when the finish sets. It can also be caused by finish that has not been properly agitated. A disproportionate amount of flow and leveling agents may be put on the floor, causing a fisheyed appearance. The solution is to screen and recoat. Sometimes a complete resand is required.

Problem: Bleed-back

This condition occurs when excess stain seeps from the grain or from the spaces between boards. The most obvious cause is excessive stain application, but high-viscosity or highly pigmented stain may also be the culprit. The solution is to wipe off the excess stain and let it dry thoroughly before applying another coat. If finish has already been applied over bleed-back, a complete resand is required. Trowel filling a floor can help prevent bleed back.

Problem: Application streaks

This condition is usually associated more with water-based finishes, although it may affect other types of finishes as well. It often occurs when an improper spread rate is used, or if the finish is not applied evenly. Excessive air movement and high temperatures can also be responsible for causing the finish to dry too quickly, so that a wet edge of finish is pulled over one that has already dried. The problem can also be caused by applying a satin or semi-gloss finish that has not been stirred properly. The solution is to screen and recoat after the finish has dried sufficiently. Sometimes a complete resand is required.

Problem: Poly beads

Poly beads are droplets of finish that form along strip edges. They can be soft and sticky when first formed, but will become hard. They are generally associated with a slow drying condition and excessive sealer, stain or finish that seep into cracks. When soft, the beads can be smeared, leaving an unsightly appearance that may require screening and recoating. For hardened beads, the solution is to mechanically remove them with a sharp edge and, if necessary, screen and recoat. Do not attempt to screen the hardened beads. Make sure the polybeads are at the end of the cycle before adding more finish. The end of the cycle is two weeks after the last patch of polybeads, or when flooring is completely tight.

Problem: Cratering

Often mistaken for bubbles, this problem resembles craters on the moon. It is generally caused by contamination. The solution is to sand the crater out by hand-sanding and screen, pad and recoat. If the problem is severe enough, the floor may need to be resanded.

APPENDIX J
WOOD FLOORING MAINTENANCE

Educate customers about proper maintenance practices for wood flooring.

- Do not use sheet vinyl or tile floor care products on wood floors. Self-polishing acrylic waxes cause wood to become slippery and appear dull quickly.
- Use throw rugs both inside and outside doorways to help prevent grit, dirt and other debris from being tracked onto your wood floors. This will prevent scratching.
- Do not wet-mop a wood floor. Standing water can dull the finish, damage the wood and leave a discoloring residue.
- Wipe up spills immediately with a slightly dampened towel.
- Do not over-wax a wood floor. If the floor dulls, try buffing instead. Avoid wax buildup under furniture and other light traffic areas by applying wax in these spots every other waxing session.
- Put soft plastic or fabric-faced glides under the legs of furniture to prevent scuffing and scratching.
- Avoid walking on your wood floors with cleats, sports shoes and high heels. A 125-pound woman walking in high heels has an impact of 2,000 pounds per square inch. An exposed heel nail can exert up to 8,000 pounds per square inch. This kind of impact can dent any floor surface.
- When moving heavy furniture, do not slide it on wood flooring. It is best to pick up the furniture completely to protect the wood flooring.
- For wood flooring in the kitchen, place an area rug in front of the kitchen sink.
- Use a humidifier throughout the winter months to keep wood movement and shrinkage to a minimum.