



Custodial Operations **Green Cleaning** **Technical Training** **Manual**

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GREEN CLEANING

Green Cleaning is the strategy of designing entire custodial operations based upon an assessment of spaces, products and work practices to maximize cleanliness both in terms of dirt and germs, while at the same time reducing consumption of natural resources and unnecessary hazardous cleaning chemical exposures to students, staff and visitors.

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Glossary of Terms & Acronyms

BBVs-	Viruses some people carry in their blood which may cause severe disease (i.e. hepatitis, MRSA, HIV, etc.)
Cleaning -	removal of unwanted soil or contaminant
CRI -	Carpet and Rug Institute
DbA -	Unit used to measure intensity of sound; decibel level
Disinfectant -	any chemical agent used chiefly on hard surfaces to destroy or inhibit the growth of harmful organisms; classified as pesticides by E.P.A.
Disinfecting –	total elimination of most pathogenic organisms from an object
EPA-	Environmental Protection Agency
EPCP -	Environmentally Preferred Cleaning Plan; describes method by which a facility is cleaned effectively while protecting human health and the environment
EPP -	Environmentally Preferred Purchasing
GS -	Green Seal
HVAC -	Heat, Ventilation, and Air Conditioning
Infectious Agent -	germs (microbes); common types include bacteria, viruses and fungi
IPHEC -	Illinois Public Higher Education Cooperative
IPM -	Integrated Pest Management
MSDS-	Material Safety Data Sheet
OSHA -	Occupational Safety and Health Administration
pH Scale –	scale measures how acidic or base (alkaline) a solution is. The range of pH scale is from 0 to 14 from very acidic to very alkaline.



PPE -	Personal Protective Equipment
Sanitizer -	a substance or preparation for killing germs; designed for use especially on food processing equipment & eating areas (i.e. dining halls, cafeteria tables, breakrooms, etc.)
SOP -	Standard Operating Procedure
Sanitizing -	removal of 99% of targeted microbes from an object
Vulnerable Populations -	Persons in facility acutely at risk (i.e. pregnant women, asthmatics, etc.)

Standard Operating Procedures (SOPs)

This section covers the methods you should use and materials you will need for daily cleaning of an auditorium, classroom, restroom, hallway, stairwell, lobby, offices, and entryways.

Auditoriums

Equipment and Materials

- Vacuum
- Hand Duster
- Sponge
- Liners
- Dust Mop
- Dry Mop for Floor Tile
- Wet Mop for Spills

Chemicals

- All Purpose Cleaner
- Carpet Spot Remover/Upholstery Cleaner
- Chewing Gum Remover

How to Clean an Auditorium

Debris or Trash

- 1) Pick up all trash, empty the trash barrel, and replace the liner if necessary.
- 2) Empty the pencil sharpener contents into trash barrel.
- 3) Recycle Can

Dusting

- 1) Use the vacuum to remove all dust from the stage.
- 2) Use hand duster to remove spider webs and dust from corners, walls and desk tops.

Washing Walls and Removing Scum

Remove all dirt, smudges, and graffiti from all walls and desktops.

- a) Wet the sponge and wring it out.
- b) Apply the scum remover or all purpose cleaner to the wall or desktop.
- c) Wipe off desktop or walls to remove all writing, scum, or smudges.

Vacuuming/Dry Mopping

- 1) Vacuum carpet with the upright or back pack vacuum cleaner. To remove spots apply carpet spot remover. For further instructions see page (27).
- 2) Use the chewing gum remover to remove chewing gum from the carpet.
- 3) Use dry mop on all tile floors.
- 4) Mop with approved floor cleaner.
- 5) Sanitize hand rails and arm rests.

Inspect Area

NOTES:

- * **Report all damage or things that need repair to your immediate supervisor.**
- * **Check all lights and report all lights that are out.**
- * **Turn off lights when you are finished.**
- * **Most auditoriums have cloth seating which often get stains or gum on them, use same cleaning methods as used on carpets.**

Classrooms

Equipment and Materials

- Vacuum
- 35 quart Bucket and Wringer
- Sponge
- Dust Mop
- Green Wet Mop
- Counter Brush/Dust Pan/Broom
- Duster
- Trash Liners
- Chalkboard Pad/Erasers
- Whiteboard Pad/Erasers
- Cart/Trash Container
- Razor Blade Scraper
- Putty Knife

Chemicals

- Neutral pH Cleaner
- Chewing Gum Remover
- Carpet Spot Remover
- All Purpose Cleaner
- Whiteboard Cleaner

How to Clean a Classroom

Chalkboard / Whiteboard

Erase daily and remove all marks (per Teacher/school expectations).
For further instructions see page (28).

Debris and Trash

- 1) Pick up all debris and put it into the cart trash barrel
- 2) Empty the pencil sharpener contents into the trash barrel.
- 3) Dump the trash in the barrel and replace the liner if necessary.
- 4) Never reach into the trash liner to remove garbage.

Washing Walls and Removing Scum

- 1) Clean all desk tops, remove all writing using the all purpose cleaner.
- 2) Check all walls for smudges and marks. For further instructions see page (47).

Dusting

- 1) Dust all surfaces - such as the window sills, door corners, etc
Note: Special care should be given around all electronic devices.
- 2) Dust mop the hard surface floors and vacuum the carpets
- 3) Close and lock any open windows.

Floor Care

- 1) Mop the hard surface floor using the edge of the mop to take up scuff marks or mop them.
- 2) Rinse out the mop and bucket when you are finished.
NOTE: DO NOT ATTACH A GREEN SCOURING PAD TO THE MOP BECAUSE THIS WILL REMOVE THE FLOOR'S FINISH.

Dispensers

- 1) Fill
- 2) Sanitize

Sanitizing – Seasonally Required

Mist frequently touched hard surfaces with Sanitizer.

Inspect Area

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.
- * Check all lights and report all lights that are out.
- * Turn off lights when you are finished.
- * Tennis balls can be used to remove scuffmarks by attaching the ball to the end of a wooden handle.

Offices

Equipment and Materials

- Vacuum
- Dust Mop
- Wet Mop
- 35 Quart Bucket and Wringer
- Duster
- Counter Brush/Dust Pan
- Trash Liners
- Sponges
- Cart/Trash Container

Chemicals

- All Purpose Cleaner
- Furniture Polish
- Neutral pH Cleaner
- Whiteboard Cleaner

How to Clean an Office

NOTE: For SECURITY reasons only clean one office at a time.

NOTE: Knock on all office doors before entering.

Debris and Trash

- 1) Dump all trash into the cart trash barrel. Trash is considered anything in the garbage can. If there is a question as to whether something outside the waste container should be discarded, **do not** throw it away. Contact your supervisor immediately.
- 2) Dust the desktop, only if the desk is cleared (nothing on the desktop).
- 3) Empty pencil sharpener contents into the cart trash barrel.
- 4) Never reach into the trash bag to remove garbage.

Removing Scum

Clean walls and doors, using the all-purpose cleaner.

Dusting

Dust the door and all ledges, vents and furniture, but do not move anything.

Note: Special care should be given around all electronic devices.

Vacuuming

- 1) Use the vacuum on carpeted floors.
- 2) Mop the floor using a wet mop if necessary.
- 3) Raise the desk chair and clean under the mat periodically.

Sanitizing – Seasonally Required

Mist frequently touched hard surfaces with Sanitizer.

Inspect Area

NOTES:

- * **Report all damage or things that need repair to your immediate supervisor.**
- * **As you leave the office, make sure that the door is locked and secure.**
- * **Check all lights and report all lights that are out.**
- * **Turn off all lights when you are finished.**

Hallways and Entryways

Equipment and Materials

- 35 quart Bucket and Wringer
- General Purpose Mop
- Dust Mop
- Duster
- Upright Vacuum/Canister
- Sponge
- Putty Knife
- Razor Blade Scraper
- Paper Towels
- Broom
- Dust Pan
- * Snow Shovel (seasonal)
- * Ice Melt (seasonal)
- Wet Floor Signs
- Auto Scrubber
- Gloves

Chemicals

- Neutral pH Cleaner
- Glass Cleaner
- All Purpose Cleaner
- Cleansers
- Chewing Gum Remover
- Cleaner/EPA Registered Disinfectant

How to Clean a Hallway

Debris and Trash

- 1) Pick up all debris/trash and empty into the cart trash barrel.
- 2) Empty all trash containers and replace the liners if necessary.
- 3) Never reach into the trash bag to remove garbage.

Dusting

- 1) Dust the door and all ledges, picture frames and vents when necessary.
- 2) Use the 48 inch or 60 inch dust mop to dust the halls.
- 3) Run dust mop under all runners.

Removing Scum and Chewing Gum

- 1) Then scrape the gum up using razor blade scraper or a putty knife.
- 2) Clean all hand plates and kick plates using the all purpose cleaner.

Drinking Fountain

Clean and disinfect all drinking fountains, sparingly apply cleanser when necessary. Maintain proper dwell time of 10 minutes for all disinfecting operations. For further instructions see page (29).

Vacuuming

Vacuum runners.

Mopping

- 1) When mopping halls edge first then mop the area. When using standard mop system mop in a figure eight motion.
- 2) Use green pad on mop for scuffs.
- 3) In winter use neutralizer for salt.

Glass Cleaning

Clean all glass surfaces using a spray bottle and glass cleaner. For further instructions see page (32).

Mats

Clean Weekly

Inspect Area

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.
- * Check all lights and EXIT signs, report to Head Custodian.
- * Turn off all lights when you are finished if area is cleaned at night.
- * Tennis Balls can be used to remove scuffmarks.
- * Only approved doorstops can be used at the bottom of the door to prop doors open.

How to Clean an Outside Entryway

Debris and Trash

- 1) Keep all outside entryways free of debris (trash).
- 2) Use the push-broom or the straight broom to remove all dirt and trash from in front of all entryways.

Inspect Area

NOTES:

- * *Replace EXIT lights as needed and report all ceiling lights that are out to Head Custodian.*
- * *Report all damage or things that need repair to your Head Custodian.*

Restrooms and Showers

Equipment and Materials

- 35 Quart Restroom Bucket and Wringer
- Broom
- Duster
- Toilet Paper
- Paper Towels
- Sanitary Bags
- Toilet Brush/Johnny Mop
- Restroom Mop
- Trash Liner
- Plunger
- Dust Mop
- Sponges
- Hand Soap
- Cart/Trash Container
- One cut out gallon container marked "toilets"
- Doodle Bug
- Scrub Pad
- Spray Gun/Hose – Kaivac Unit

Note: bucket/wringer, broom, duster, mops and plunger should be clearly identified for "restroom use only".

PERSONAL PROTECTION EQUIPMENT (PPE)

- Rubber Gloves
- Safety Glasses

Chemicals

- Cleanser
- Scum Remover/EPA Registered Disinfectant
- Glass Cleaner
- Hard Water Stain Remover
- Mildew Cleaner

How to Clean a Restroom

- NOTES:**
- Restrooms must be done daily.
 - Always perform restroom cleaning utilizing appropriate personal protection equipment (PPE) (i.e. rubber gloves and safety glasses)
 - Always use chemical proportion system to dilute chemical concentrates.
 - Maintain proper dwell time of 10 minutes for all disinfecting operations
 - Knock on all restroom doors before you enter.
 - Organize all equipment and supplies before and after daily use.
 - Follow all policies regarding restroom cleaning.

Blocking the Restroom's Door Entrance

Block door, by positioning cart in the doors pathway, or use the "WET FLOOR" sign.

NOTE: Perform restroom cleaning and disinfecting from high to low, toward the doorway, with dry cleaning tasks (i.e. dusting, trash collection, refilling of paper, etc.) performed prior to wet cleaning operations.

Dusting

- 1) Dust all vents and ledges with a straight broom or a duster.
- 2) Sweep the floor using a straight broom or a dust mop.

Refilling Dispensers

- 1) Refill all toilet paper dispensers and sanitary bag dispensers if it is needed.
- 2) Refill all paper towel dispensers.
- 3) Refill all soap dispensers.
- 4) Refill sanitary product dispensers.

Removing Writing on Walls

Check for and remove all graffiti using the scum remover/disinfectant.

Debris and Trash

Empty all trash and replace liners.
Never reach into the trash bag to remove garbage.

Glass Cleaning

Clean glass surfaces using spray bottle and glass cleaner. For further instructions see page (32).

Cleaning/Disinfecting Sinks, Toilets & Urinals

- 1) Clean/disinfect all sinks and pipes under the sink, urinals, toilets, toilet seats, toilet paper dispensers, paper towel dispensers, door plates and handles, all spots on walls and stalls using disinfectant cleaner being sure proper dwell time (10 minutes) for all disinfecting operations is maintained.
- 2) Always flush the urinals and toilets before you clean them.
- 3) Always wipe the toilet seat or leave up to dry.
- 4) If stool is stopped up use plunger to un-stop it; if unable to un-stop report to immediate supervisor.
- 5) Wipe all horizontal surfaces and chrome on sinks, stool, urinals, and stainless steel with a paper towel to prevent spotting and corrosion.
- 6) Use Johnny mop to lower water level and clean hard water stains using hard water stain remover.
- 7) Kaivac should be used 1 time per month.

Mopping

- 1) Mop floor carefully and if possible leave the doors open.
- 2) Use the "WET FLOOR" sign.
- 3) Fill all drain traps on a routine basis (weekly) to help eliminate unpleasant odor.
- 4) Clean air exchange vent grates on monthly basis
- 5) Rinse out mop and bucket when all of the restrooms have been completed.

Inspect Area

NOTES:

- * *Report all damage or things that need repair to your immediate supervisor.*
- * *Check all lights and report all lights that are out.*
- * *Turn off lights when you are finished if area is cleaned at night or if applicable.*

How to Clean a Shower

- NOTES:
- Always perform shower room cleaning utilizing appropriate personal protection equipment (PPE) (i.e. rubber gloves and safety glasses)
 - Always use chemical proportion system to dilute chemical concentrates
 - Maintain proper dwell time of 10 minutes for all disinfecting operations.
 - Organize all equipment and supplies before and after daily use.
 - Knock on all restroom doors before you enter.
 - Organize all equipment and supplies before and after daily use.
 - Follow all policies regarding restroom cleaning.

Dusting and Wiping

- 1) Dust all vents using a duster or a straight broom and wipe with a sponge if necessary.
- 2) Wipe all shower curtains and replace as needed.
- 3) Use a sponge to wipe down the sitting bench.

Removing items left in the shower

Remove all hair, empty shampoo bottles, and pieces of soap from all of the shower drains.

NOTE: After cleaning/disinfecting make sure to close the curtains, this will help air dry them faster.

Removing Scum

- 1) Scrub all the showers stalls from bottom to top (partitions, fixtures, walls and floors) using the scum remover/disinfectant, a scrub pad or a doodle bug. **Maintain proper dwell time of 10 minutes for all disinfecting operations.**
- 2) Use Kaivac 1 time per month.

Mopping

Mop the floors daily and all drain traps on a routine basis (weekly) to help eliminate unpleasant odor.

Inspect Area

- NOTES:
- * Check all lights and report all lights that are out.
 - * Report all damage or things that need repair to your immediate supervisor.

SPECIALIZED AREAS

SOPS

This section will cover in specific detail how you should perform the jobs listed below.

Specialized Jobs: Gymnasium Floors & Utility Rooms.

Gymnasiums

Equipment and Materials

35 Quart Bucket and Wringer

Duster

Microfiber Dust Mop

Sponge

Automatic Scrubber

White Pads

2 Gallon bucket

Mop

Chemicals

Wood floor cleaner

All Purpose Cleaner

How to Clean a Gymnasium

Debris and Trash

Pick up all large debris.

Dusting

Dust doors inside and out and fixtures with a hand duster.

Dust floor with microfiber dust mop.

Automatic Scrubbing Machine

Dust Mop floor before using the Automatic Scrubber.

For instructions on how to use the automatic machine see page (47).

Mopping

Use a wet mop to pick up excess water on the floor.

NOTE: Excessive water may enter through the ends of the wood and cause swelling and warping.

Wall and Spot Cleaning

Remove smudges and marks from the walls as needed. For further instructions on how to spot clean see page (39).

Bleachers

Clean/sweep on and under before putting away.

Inspect Area

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.
- * Check all lights including exit signs and report all lights that are out.
- * Turn off all lights when you are finished if area is cleaned at night.

Utility Rooms

Equipment and Materials

- Broom
- Dust Pan
- Duster
- Sponge
- Liners
- 35 quart Bucket and Wringer
- Mop
- 2 gallon Bucket
- Plunger
- Trash Can

Chemicals

- Neutral pH Cleaner

How to Clean a Utility Room

Dusting

- 1) Dust all vents and fixtures.
- 2) Sweep or use the dust mop to clean the floor.

Debris and Trash

Dispose of all garbage.

Removing Scum, Marks and Smudges

Use all purpose cleaner to remove marks and smudges on the walls.

Counter Top

Wipe off the counter top.

NOTE: Do-not remove any student property.

Wet Mopping

Mop the floor daily. For instructions on how to wet mop see page (40).

Inspect Area

NOTES:

- * *Report all damage or things that need repair to your immediate supervisor.*
- * *Check all lights and report all lights that are out.*
- * *Turn off all lights when you are finished if area is cleaned at night.*

CLEANING PROCEDURES
SPECIFIC INSTRUCTIONS

Carpet Care

Routine Carpet Maintenance

Vacuum Daily: heavy traffic areas, including entrances, corridors, break areas, congested areas, main passageways and primary work or office areas.

Vacuum every other day (or as determined by frequency of use): light traffic areas including conference rooms, administrative offices, auditorium and other areas or spaces with limited or periodic use.

Equip vacuums with proper filter bag. Replace bag when half-full. Inspect the exhaust filter on a routine basis.

Periodic Floor Maintenance

Use extraction occasionally. Extraction cleans deep down into the carpet's surface. Perform carpet extraction utilizing equipment that ensures that carpet will dry in less than 24 hours. For further instructions see page (44).

Notes:

- Schedule carpet extraction to coincide with a period of minimum building occupancy
- Prior to the commencement of non-routine carpet cleaning operations, reasonable notice to be provided to building occupants.
- Always vacuum and edge first

Carpet and Upholstery Spot and Stain Remover

Carpet Spot & Stain Remover

Equipment and Materials

White Cloth
Putty Knife
Vacuum Cleaner
Scrub Brush
Carpet Spotter Extraction Machine

Chemicals

Carpet Spot & Stain Remover

Instructions

- 1) If area is wet, use a dry white cloth, working from outer edge of spots to the center of stain. Repeat until stain is removed.
- 2) If the area is dry, carefully scrape the area with a putty knife to loosen the soil. Vacuum any loosened soil. Apply carpet spot and stain remover to stain. Agitate in a circular motion using a scrub brush and blot. Repeat until stain is removed.

NOTE: Before applying carpet spot and stain remover check for color fastness.

NOTE: Use of a heavy-duty stain remover requires using the extraction method.

Upholstery Spot & Stain Remover

Equipment and Materials

White Cloth
Spotter Machine

Instructions:

- 1) If the area is wet, use a dry white cloth, working from outer most edge of spots to the center of stain. Repeat until stain is removed.
- 2) If the area is dry, apply upholstery spot and stain remover to stain. Agitate in a circular motion using a scrub brush and blot. Repeat until stain is removed.

NOTE: Before applying upholstery cleaner, check for color fastness.

Inspect Area

NOTE: Report all damage or things that need repair to your immediate supervisor.

Chalkboard Cleaning

NOTE: In classrooms, remove all marks unless labeled "save".

NOTE: Do not erase chalkboards in office areas. Clean only if board is erased completely.

- 1) Erase, remove all marks (per building requirements).
- 2) Remove excess dust with chalkboard pad.
- 3) A slight amount of dust should remain to protect the board.
- 4) Clean chalk tray – and replace dirty erasers with clean ones daily.
- 5) An eraser can be cleaned by using a canister vacuum or an eraser-cleaning machine.
- 6) Boards should be erased and clean; erasers should be free of chalk dust.

Whiteboard Cleaning

- 1) Erase to remove all marks (per building requirements).
- 2) Spray board with cleaner and wipe with towels.
- 3) Clean tray and replace erasers.
- 4) To clean whiteboard erasers:
 - a) Fill a bucket with water and add neutral cleaner.
 - b) Agitate the felt side of eraser until cleaned.
 - c) Let dry.

Drinking Fountain Cleaning

NOTE: Maintain proper dwell time of 10 minutes for all disinfecting operations

- 1) Must be done daily (high priority).
- 2) Use disinfectant. **Always use chemical proportion system to dilute chemical concentrates.** Use cleanser sparingly if necessary.
- 3) Rinse.
- 4) Wipe Dry.
- 5) Fountains should be clean and sanitary, there should be no calcium deposits; vents, pipes and sides should be clean.

Dust Mops

Clean Dust Mop Instructions:

- 1) Use a clean dust mop.
- 2) Dust Mop Types
 - a) Static Plus dust mop heads provides dust retention without the use of dust mop treatment (fits standard frames all sizes).
 - b) Micro fiber flat mop setup provides increased dust retention (98%) without the use of dust mop treatment.
- 3) Store mop in closet with handle pointed down - mop up.

NOTE: Static Plus and Micro Fiber dust mops rely on static energy to attract and retain dust particles while dust mopping

Hand Dusters

Cotton Duster

- 1) Spray with furniture polish as needed (over trash drum).
- 2) When dirty, put with dirty mops to be washed.

Lambswool Duster

- 1) No treatment necessary.
- 2) Clean by twisting duster between hands over trash barrel.

High Speed Floor Machine

Equipment and Materials

Mop
Bucket
Dust Mop
Dust Mask
Burnishing Pad - For further instructions see page (50)

Chemicals

Restorer

High Speed Floor Machine

Perform restoration on an as-needed basis to maintain the appearance and integrity of the floor finish.

Perform restoration only if sufficient floor finish exists on the floor surface to protect the underlying flooring from being degraded during the restoration process.

NOTES:-Dust masks may be necessary if you are using a machine without dust collection system.

- Make sure the pad is raised off the floor until the maximum R.P.M. is reached.

- 1) Cover smoke detectors or call F/A out of service.
- 2) Dust floor with static guard or microfiber dust mop.
- 3) Mop or auto scrub floor using neutral pH cleaner.
Note: Always use chemical proportion system to dilute chemical concentrates
- 4) Let floor dry.
- 5) Mop using restorer (dilution rate: 1:3).
- 6) Let floor dry.
- 7) Adjust handle before starting machine.
- 8) On each pass slightly overlap. This may create a light amount of dust, but it should decrease after 2 or 3 buffings.
- 9) Use a dry dust mop to remove dust and residue.

NOTE: Before putting the machine away, wipe it with a damp cloth and rinse pad thoroughly.

Glass Cleaning

Equipment and Materials

Lambswool or Window brush
2 Squeegees
Paper Towels
2 Gallon Bucket or Mop Bucket
Razor Blade Scraper
Spray Bottle of Glass Cleaner

Chemicals

Glass Cleaner

How to Clean Glass

- 1) Fill bucket with water and glass cleaner.
Note: Always use chemical proportion system to dilute chemical concentrates.
- 2) Snap lambswool to squeegee.
- 3) Dip into solution, squeeze out the excess solution and wash window.
Note:: Be careful not to get solution on waxed floors or on carpet.
- 4) Squeegee window and dry edges with a paper towel.
Note: Also wipe ledges and door kick plates.
- 5.) Door glass should be done daily.
- 6.) Rinse lambswool and bucket with water.
- 7.) Store equipment in closet.

SPRAY BOTTLE APPLICATION

*NOTES: - Spray bottle should be marked stating contained solution.
- Spray solution on glass and wipe with a paper towel.*

SPECIAL INSTRUCTIONS

- 1) Except for building schedules or no smoking signs, pull off any papers taped to glass, for example: advertisements.
- 2) Remove tape or glue by spraying window solution on area and removing with a razor blade scraper.
- 3) Turn in items in need of repair to your immediate supervisor, for example: broken glass, window seals, door hinges, door closers.
- 4) **Do not** use razor blade on sunscreen or treated windows.
- 5) Glass should be clean with no streaks or fingerprints.

Hard Scrubbing/Stripping and Refinishing Floors

Equipment and Materials

- 4 Mop Buckets
- 3 Wringers
- 1 Used Mop for applying Stripping Solution
- 2 New White Mop for rinsing
- 1 Mop for applying the Finish
- Razor Blade Scraper
- Doodle Bug
- Plastic Liner
- Scrubber
- Black Pad
- Putty Knife
- Pick Up Machine
- Wet Floor Sign

Chemicals

- Floor Cleaner/Stripper
- Finish
- Floor Neutralizer

Personal Protection Equipment (PPE)

- Stripping Boots

Solution

- 1) Stripping Solutions (#1 mop bucket, no wringer)
 - a) Rinse-free Stripper and water. Mixture (per Manufacturer's recommendations).
- 2) Rinse water (#2 bucket and wringer)
 - a) First rinse, add packet of neutralizer to 4 to 6 gallons of water.
 - b) Additional rinses use straight tap water.
- 3) Finish (#3 bucket and wringer).

How to Hard Scrub a Floor

NOTES:

- Ventilate the area, to the outside if possible, both during and after hard scrub and refinishing operations
- Schedule floor hard scrub and refinishing to coincide with a period of minimum occupancy.
- Prior to the commencement of non-routine floor maintenance operations, reasonable notice to be provided to building occupants.
- Roll up and remove matting
- Place wet floor signs.
- When hard scrubbing large floors, do in sections so the solution won't dry on the floor before you have time to pick it up. When hard scrubbing a room remember to start at furthest point from doorway and continue working towards doorway.

Hard Scrubbing the Floor

- 1) Dust floor with static guard or microfiber dust mop.
- 2) Always use chemical proportion system to dilute chemical concentrates.
- 3) Clean the edges of the floor with the doodle bug and pad.
- 4) Use razor blade scraper if there is a build up of finish along the edges and to remove gum.
- 5) Hard Scrub the floor with a scrubbing machine and an appropriate pad.
- 6) Do edges first.
- 7) When scrubbing edges with the machine, work the machine to the left.
NOTE: This throws the solution away from the walls.
- 8) Scrub the rest of the floor from right to left in a circular motion.
- 9) When finished scrubbing a section, lay the scrubber down on floor. (Off the pad.)
- 10) Pick up the solution with the pick up machine.
NOTE: If any doors are in the area, open the doors to pick up any excess solution.
- 11) Rinse the floor with water, including baseboards, edges and under doors.
NOTE: If scrubbing a large room or hall in sections, one rinse is sufficient until the floor is finished.
- 12) When the floor is finished, rinse once more with clear water. Make sure floor is clear of all residue.
- 13) When the floor is dry, apply finish. For further instructions see page (36).

Inspect Area

NOTE:

- * Report all damage or things that need repair to your immediate supervisor.

How to Strip a Floor

NOTES:

- Ventilate the area, to the outside if possible, both during and after stripping and refinishing operations
- Schedule floor stripping and refinishing to coincide with a period of minimum occupancy.
- Prior to the commencement of non-routine floor maintenance operations, reasonable notice to be provided to building occupants.
- Remove free standing objects. Vacuum then roll up and remove matting
- Prep area by placing wet floor signs, caution tape and other blockades around area to be stripped
- When stripping large floors, do in sections so the solution won't dry on the floor before you have time to pick it up. When stripping a room remember to start at furthest point from doorway and continue working towards doorway.

Stripping the Floor

- 1) Dust floor with static guard or microfiber dust mop.
- 2) Mix stripping solution per Manufacturer's recommendation. Apply stripping solution to the floor. Allow for proper dwell time (per Manufacturer's recommendations). Do not allow stripping solution to dry on floor.
- 3) Clean the edges of the floor with doodlebug and pad.
- 4) Use razor blade scraper if there is a build up of finish along the edges and to remove gum.
- 5) Strip the floor with a scrubbing machine and appropriate pad.
- 6) Do edges first.
- 7) When stripping edges with the machine, work the machine to the left.
NOTE: This throws the solution away from the walls.
- 8) Strip the rest of the floor from right to left in a circular motion.
- 9) When finished stripping a section, lay the scrubber down on the floor (Off the pad).
- 10) Pick up the solution with the pick up machine.
NOTE: If any doors are in the area, open the doors to pick up any excess solution.
- 11) Rinse the floor with neutralizer and water, including baseboards, edges and under doors.
NOTE: If stripping a large room or hall in sections, once rinse is sufficient until the floor is finished.
- 12) When the floor is finished, rinse two or three times with clear water. Make sure floor is clear of all residue.
- 13) When the floor is dry, apply finish. For further information see page (36).

Inspect Area

NOTE:

**Report all damage or things that need repair to your immediate supervisor.*

How to Apply Floor Finish

NOTES:

- Ventilate the area, to the outside if possible, both during and after stripping and refinishing operations
- Schedule floor stripping and refinishing to coincide with a period of minimum occupancy.
- Prior to the commencement of non-routine floor maintenance operations, reasonable notice to be provided to building occupants.
- Place wet floor signs.

Applying the Floor Finish

NOTES:

- *When applying the floor finish along the doors, open them. (Do not apply the floor finish to the bottom of the door.)*
- *A plastic liner can be used in the finish bucket.*

- 1) Apply first coat as close the wall as possible without touching the wall or baseboard.
- 2) Apply four to six thin coats staying one to two inches away from edges, corners and baseboards. **REASON: Eliminates wax build up along corners, edges and baseboards.**
- 3) Lay mop on the floor and walk moving parallel to the wall to make a border.
- 4) Apply finish to the floor using a figure eight motion. Attention to maintaining uniform thickness.
- 5) Watch your finish line carefully to avoid streaking.
- 6) Or use waxing machine.

Drying

Allow sufficient time to dry to between coats.

NOTE: This depends on humidity, thickness of coats and temperature. Average time between coats is 30 minutes.

When finishing operation is complete and floor is dry unroll and place back matting.

Inspect Area

NOTE:

**Report all damage or things that need repair to your immediate supervisor.*

How to Clean up after Hard Scrubbing or Stripping Floor

- 1) Rinse mop buckets, wringers and mops with water.
- 2) If you have any finish build up in bucket, Rinse-free Stripper and a putty knife work well for cleaning it out.
- 3) Rinse doodle bug and pad with water.
- 4) Wipe off scrubber with scum remover and water.
- 5) Dump solution out of the machine and rinse the container.
- 6) Clean the inside of the lid (basket area) if there is build-up, use scum remover and water with a scrub pad.
- 7) Rinse out hoses and wand with water.
- 8) Wipe the outside of the machine.
- 9) Store lid propped open so the inside can dry.
- 10) If finishing again the next day, finish can be stored in the mop bucket by tying a plastic liner over the bucket.

Inspect Area

NOTE: Report all damage or things that need repair to your immediate supervisor.

Vacuum Care and Maintenance

- 1) Check cord for exposed wires.
- 2) Plug must have ground prong.
- 3) When through with vacuum, wrap cord loosely.
- 4) Replace bag when half-full.
- 5) Remove bottom plate.
- 6) Remove brush and belt.
- 7) Clean brush (hair, string), replace belt if needed.
- 8) Put back in with low side of belt in groove and brush in line with groove.
- 9) Put bottom plate back on.
- 10) Any repairs needed – tag equipment “out of service” and report to immediate supervisor.

Vacuum Cleaner Maintenance

- 1) Replace the bag when bag is half-full.
- 2) Turn the vacuum over and remove the plate which covers the belt.
- 3) Check the belt for cracks and cuts.
NOTE: If the belt has any irregularities, replace it. Make sure the low side of the belt is in the groove and that the brush is in line with the groove.
- 4) While vacuum is turned over, look at the brushes on the beater bar.
NOTE: If brushes are less than ¼ of an inch long, notify your immediate supervisor that it needs to be replaced.
- 5) Check your cord end to see if it has a ground prong on it. If it does, the plug will have three prongs and will prevent an electrical shock. Check cord for exposed wires.
NOTE: Notify your immediate supervisor of any repairs needed.
- 6) **Do not** wind the cord around the hooks. Hand wrap and hang from the top hook.
This saves wear and tear on the cord.
- 7) Keep the machine in good operating condition.

Inspect Equipment

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.
- * Never plug any equipment into an outlet where a computer is also plugged in, it can damage the outlet or the computer.

Wall Washing

Equipment and Materials

2 gallon Bucket or Mop Bucket
Sponge
Scrub Pad or Sponge Mop
Measuring Cup
Razor Blade Scraper

Chemicals

All Purpose Cleaner

How to Wash a Wall

- 1) Fill bucket with water and scum remover or all purpose cleaner.
NOTE: Always use chemical proportion system to dilute chemical concentrates.
- 2) When washing walls, start at bottom and work your way up.
- 3) Sponge mop can be used instead of sponge when washing a large area.

Spot Cleaning

On small areas, spot cleaning should be done daily. It is a way to remove graffiti, hand prints, smudge marks, and gum deposits without completely cleaning a wall.

When spot washing walls, use the sponge or spray bottle to remove marks from the wall.

Wipe or spray area with all purpose cleaner or scum remover.

Do not allow the solution to run down the wall and streak.

NOTE:

**Caution should be used not to damage the painted surface.*

Wet Mopping and Solutions

- 1) Use Manufacturer's recommendations for dilution of all purpose neutral pH cleaner/gallon of water.

NOTE: Always use chemical proportion system to dilute chemical concentrates.

- 2) Never use any other mixtures on halls or classrooms.

- 3) Three different mops:

- a) Restrooms
- b) Kitchen
- c) General Purpose (classrooms, halls)

- 4) Use figure eight to mop the floors. Edge first and then mop the area in a figure eight motion. Use the edge of the mop to remove all scuff marks.

NOTE: attach the green scouring pad to the mop because it will remove the finish.

- 5) Change water often to avoid streaks.

- 6) Rinse out mop and bucket when through.

Measurement & Dilution Chart

Important: To ensure proper performance of the product, follow the mixing instructions on the label and use the mixing chart below.

Mixing Ratio Formulas

1 TO 4	32 OZ. (1 QT.) PER GALLON
1 TO 8	16 OZ. (1 PT.) PER GALLON
1 TO 10	13 OZ. PER GALLON
1 TO 12	11 OZ. PER GALLON
1 TO 16	8 OZ. PER GALLON
1 TO 20	6 OZ. PER GALLON
1 TO 26	5 OZ. PER GALLON
1 TO 30	4 OZ. PER GALLON
1 TO 40	3 OZ. PER GALLON
1 TO 64	2 OZ. PER GALLON
1 TO 128	1 OZ. PER GALLON
1 TO 200	2/3 OZ. PER GALLON
1 TO 256	1/2 OZ. PER GALLON

LIQUID MEASURES:

1 CUP	=	8 OUNCES
1 PINT	=	16 OUNCES
1 QUART	=	32 OUNCES
1 LITER	=	1.0567 QUARTS
1 GALLON	=	128 OUNCES
1 GALLON	=	3.7853 LITERS

EQUIPMENT OPERATION, CARE & MAINTENANCE

**This section will cover how to use different types of floor
Cleaning machines and how to keep them in operating
order.**

How to Use a Vacuum Cleaner

How to Use

- 1) Check cord for splits or exposed wires.
- 2) Check plug to see if there is a ground prong.
- 3) Check the inside of the machine for a bag; replace when half-full.
- 4) Plug into an outlet.
- 5) The machine is ready to use.

How to Clean

- 1) Disconnect the plug from the outlet by pulling from plug. Wind cord from vac to end.
- 2) Check the bag; empty when half-full.
- 3) Use a dust cloth to wipe the machine off.

Inspect Equipment

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.

Inspect Equipment

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.

Carpet/Self Contained Extractor Instruction

Equipment and Material

Carpet Rinser/Extractor

Chemicals

Carpet Extractor Shampoo

Defoamer

How to Use Extractor to Scrub and Clean Carpets

- 1) Vacuum carpets thoroughly to remove excess soil.
- 2) Fill solution supply tank with warm water, add a low foaming carpet cleaner additive if necessary.
- 3) Plug extractor power cord into a properly grounded outlet.
- 4) Set the pick-up shoe adjustment on the Power Liquidator so that the unit just pulls itself gently backwards.

NOTE: If set too low the unit will move backwards too quickly and affect the rinse and recovery efficiency of the unit.

Inspect Equipment

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.

Daily Maintenance of Carpet Extractor And Spotter Instruction

After Each Use

- 1) Clean the machine and power cord with a damp cloth.
- 2) Empty and flush the recovery tank, use the hose to remove any sludge.
- 3) Empty the supply tank.
- 4) Store the machine with the tools removed.
- 5) Open the top of the powerhead slightly to allow air circulation inside the tank.

Inspect Equipment

NOTES:

- * Report all damage or things that need repair to your immediate supervisor.

Weekly Maintenance of Carpet Rinse Extractor

- 1) Open solution tank drain valve and flush tank clean with water.
- 2) Clean float and powerhead with a damp cloth.
- 3) Clean and check gasket around powerhead for damage.

NOTE: Powerhead should seat firmly on the machine for proper operation.

Inspect Equipment

NOTE:

- * Report all damage or things that need repair to your immediate supervisor.

Floor Scrubbing Machine

How to Use the Floor Scrubbing Machine

- 1) Check plug for exposed wires and for a ground prong.
- 2) Roll up wheels if necessary.
- 3) Adjust handle to where the machine is comfortable to you.
Usually let handle rest on your hipbone.
- 4) Make sure that the drive plate and pad are secure.

CAUTION: The machine will turn on when you squeeze the handles.

NOTE: Use the proper pad and brush for the floor you are scrubbing.

How to Clean a Floor Scrubbing Machine

- 1) Unplug the cord from the outlet.
- 2) Lower the wheels.
- 3) Adjust the handle to the upright position.
- 4) Remove the brush and pad and rinse with warm water.

NOTE: Always remove the brush and keep the machine tilted when you're not using it. The only time that the weight of the machine should be on the brush is when it is in use.

- 5) Hang the brush up.
- 6) Wipe the cord, neatly wrap it and place it on the cord hangers after each use.

Inspect Equipment

*NOTES: * Report all damage or things that need repair to your immediate supervisor.*

Automatic Scrubbing Machine

Equipment and Materials

Chemical Dispensing Equipment
Pads

Chemicals

Floor Cleaners

How to Operate an Automatic Machine

- 1) Disconnect the battery from the charger.
- 2) Fill the solution tank with water.
- 3) Add: appropriate cleaner. ***Always use chemical proportion system to dilute chemical concentrates.***
- 4) Turn on the machine.
- 5) Raise pad indicator.
- 6) Mount designated pads. (Pads will only turn when they are on the floor)
- 7) Set the pad pressure: Use the correct pad.
- 8) Set the pad speed.
- 9) Lower squeegee and pads - Turn handles to go forward.
- 10) Set the solution indicator.

NOTE: The machine will stop after the handles are released.

How to Clean the Automatic Machine

- 1) Drain the recovery tank and solution from the tank. Leave top off for ventilation.
- 2) Rinse out the recovery tank. Leave top off for ventilation.
- 3) Rinse the pads.
- 4) Wipe the machine.
- 5) Reconnect the machine to the battery charger.

Inspect Equipment

*NOTES: * Report all damage or things that need repair to your immediate supervisor.*

3M Low Speed (175 RPM) Pad Guide



Stripping Pad

3M High Productivity Pad 7300
stripping

Quickly and thoroughly removes old finish, dirt and buildup. Unique, open web construction -

solutions flows through pad to rinse out dirt and reduce loading for increased pad-to-floor contact

3M Black Stripper Pad 7200

Industry standard. Maintains consistent performance.

Scrub Pad

3M Blue Cleaner Pad 5300

For heavy-duty scrubbing prior to recoating. Removes dirt, spills and scuffs, leaving a clean surface ready for recoating.

Clean Pad

3M Red Buffer Pad 5100

For light scrubbing. Cleans without dulling floor finish.

3M Topline Pre-Burnish Pad 5000

For light scrubbing of floors prior to burnishing. Best choice for use on automatic scrubber followed by ultra-high burnishing.

3M White Super Polish Pad 4100

For ultra-light scrubbing.

High Speed Burnishing Machine

How to Operate an Electric Burnishing Machine

- 1) Check plug for exposed wires and for a ground prong.
- 2) Mount designated pad(s). Set the pad pressure: Use the correct pad. For further instructions see page
Make sure pad and pad driver are safely secured.
- 3) Turn on the machine.
- 4) On each pass slightly overlap.

NOTES: -Do not allow machine to remain stationary while in operation
 -Dust masks may be necessary if you are using a machine without dust collection system.
 - Make sure the pad is raised off the floor until the maximum R.P.M. is reached.

How to Clean the Automatic Machine

- 1) Wipe the machine.
- 2) Roll up cord.

Inspect Equipment

NOTES: * Report all damage or things that need repair to your immediate supervisor.

How to Operate a Battery Powered Burnishing Machine

- 1) Disconnect the battery from the charger.
- 2) Mount designated pad(s). Set the pad pressure: Use the correct pad. For further instructions see page
Make sure pad and pad driver are safely secured.
- 3) Turn on the machine.
- 4) On each pass slightly overlap.

NOTES: -Do not allow machine to remain stationary while in operation
 -Dust masks may be necessary if you are using a machine without dust collection system.
 - Make sure the pad is raised off the floor until the maximum R.P.M. is reached.
NOTE: Do not allow machine to remain stationary while in operation

How to Clean the Automatic Machine

- 1) Wipe the machine.
- 2) Reconnect the machine to the battery charger.

Inspect Equipment

NOTES: * Report all damage or things that need repair to your immediate supervisor.

3M High Speed (1500 RPM & Above) Burnishing Pad Guide



Scuff & Mark Removal

3M Eraser Burnishing Pad 3600

Ideal for harder finishes and heavy-traffic floors. Removes black marks in fewer passes than other pads. Excellent durability and minimal finish removal. Best for black mark removal.

3M Natural Blend Tan Pad 3500

Natural hair and synthetic fiber pad. For use on harder finishes and heavy-traffic floors. Removes marks and scratches while it polishes. Best for scratch and scuff removal.

3M Tan Burnishing Pad 3400

For use on harder finishes and heavy-traffic floors. Produces brilliant “wet-look” gloss. Exceptional durability and life. Best for light scratch and scuff removal.

Best Gloss

3M Eraser Burnishing Pad 3600

Designed with newest technology to deliver optimum floor appearance. Retains excellent gloss and image clarity.

3M Natural Blend White Pad 3300

Natural hair and synthetic fiber pad. Provides excellent results on a wide variety of floor finishes and traffic conditions.

3M Topline Speed Burnishing Pad 3200

Restore gloss to dull floors in a single pass. Optimizes ultra high speed floor care on a wide variety of floor finishes. Works best on floors with good base coat. Works best with the 5000 Topline pre-burnish pad.

Soft Finish

3M Aqua Burnishing Pad

For use on softer finishes. Produces a brilliant gloss. Exceptional durability and life. The problem solver for soft finishes.

Wet/Dry Vacuum

How to Use the Wet/Dry Vacuum

- 1) Twist on hose coupling.
- 2) Be certain the water valve is closed.
- 3) If appropriate, insert filter in the tank.
- 4) Secure top -- check that all clamps are secured.
- 5) Machine is ready for use.

How to Clean the Vacuum

- 1) Remove the top and clean it thoroughly.
- 2) Remove all traces of dirt and debris.
- 3) Clean the cord and wrap it carefully around the motor of the unit after use.
- 4) **Do not** place the motor unit back on the tank until it has air dried.
- 5) The hose should be flushed with clean water after every use and allowed to dry.
- 6) If a cloth filter is used, rinse out and hang it up to dry.

Inspect Equipment

NOTES: *Report all damage or things that need repair to your immediate supervisor.

Kaivac Machine

How to Operate a Kaivac Machine

- 1) Check plug for exposed wires and for a ground fault.
- 2) Fill the solution tank with water.
- 3) Connect: cleaner/disinfectant. ***Always use on-board chemical proportion system to dilute chemical concentrates.***
- 4) Turn on the machine.
- 5) Use blower for high area dusting (including air vents).
- 6) Switch chemical injection system on and pre-spray area to be cleaned utilizing low pressure mode. Switch chemical injection system off just prior to completion of pre-spray operation. When cleaning vertical spray bottom to top to bottom to avoid spotting.
- 7) Manually brush heavily soiled areas as needed.
- 8) Pressure wash and rinse utilizing high pressure mode. When rinsing vertically spray top to bottom to avoid spotting.
- 9) Extract and dry.

How to Clean the Kaivac Machine

- 1) Drain the recovery tank. Leave top off for ventilation.
- 2) Rinse out the recovery tank. Leave top off for ventilation.
- 3) Wipe the spray line and hoses and loop them to machine.
- 4) Wipe the machine.

Propane Burnisher – Safety Instructions

-  **DANGER:** Failure to read the Owner's Manual prior to operating or attempting any service or maintenance procedure to your 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 or your operator(s) cannot read English, have this manual explained fully before attempting to operate this machine.**
-  **DANGER:** Moving parts of this machine can cause serious injury and/or damage. Do not allow contact of clothing, hair, hands, feet, or other body parts with the rotating pad. Keep other people away from the machine while it's in operation.
-  **DANGER:** Injury to the operator or bystanders could occur if the machine's power is on while changing the buffing pad or making machine adjustments. Never try to change the buffing pad or attempt to make machine adjustments while the engine is running.
-  **DANGER:** Cigarette lighters, pilot lights and any other source of ignition can create an explosion if it comes in contact with propane. Propane is a highly flammable fuel. All sources of ignition should be extinguished or removed entirely if possible from the work area. **DO NOT SMOKE** in the vicinity of a propane buffer.
-  **DANGER:** This machine emits carbon monoxide. Asphyxiation could occur if the unit is used in an area with poor or inadequate ventilation. Operate machine in a well ventilated area only. If a headache develops, shut off the machine. Have it checked for carbon monoxide emissions by a qualified shop before using it again.
-  **DANGER:** Dangerous carbon monoxide emissions from this machine are greatly increased due to a dirty combustion air cleaner. Follow the engine's manufacturer's air cleaner service instructions.
-  **DANGER:** Propane is highly flammable. If you smell propane gas, shut off the machine and move it outside. Determine and repair the source of the leak before restarting. **NEVER** vent propane gas inside a building. Disconnect the fuel line from the tank, remove the tank from the machine and then store the propane tank in a secure storage cabinet outside the building. It is **UNLAWFUL** to store a propane bottle inside a building.
-  **WARNING:** Long or continuous exposure to high noise levels may cause permanent hearing loss. Always wear hearing protection while using this machine.
-  **WARNING:** Injury to the eyes and/or body can occur if protective clothing and/or equipment is not worn while using this machine. Always wear safety goggles and safety clothing while using this machine.
-  **WARNING:** Severe burn or injury could occur if you touch the hot muffler or exhaust pipe. Do not touch the hot muffler or exhaust pipe.
-  **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:** To avoid injury or property damage, do not leave the machine where it can be tampered with or started by persons untrained in its operation. You must have training in the operation of this machine before using it. **DO NOT** leave the machine running unattended.
-  **WARNING:** Substantial damage to the floor, the machine, or personnel may result if the machine is operated with the pad off center, damaged or missing. Do not operate the machine if the pad is off center, damaged or missing.
-  **WARNING:** Operating a machine that has loose parts could result in injury or property damage. Do not operate this machine if there are loose parts. Inspect the machine for loose parts frequently. This will promote safe operation and a long life for the machine.
-  **WARNING:** Vibration from machinery may cause numbness or tingling of the fingers in certain people. Smoking, dampness, diet, and heredity may contribute to the symptoms. Wearing warm clothing, gloves, exercising and refraining from smoking can reduce the effects of vibration. If the symptoms still persist, discontinue operation of the machine.

Facts About LP Gas - Propane

As a fuel, Propane gas is unmatched for both safety and dependability. It has been used as a domestic household fuel for over half a century, and for over thirty years as an internal combustion engine fuel. Propane is a highly flammable fuel that is contained under pressure as a liquid. Vaporized gas has a similar explosive force to gasoline and mixtures as low as 2% LP Gas to air may be ignited in a closed environment. Care should be exercised to avoid escaping vapor as it can freeze skin and cause frost bite. Vaporized fuel is heavier than air and will collect in the lowest confined space available.

Facts About Propane Tanks

Propane tanks are constructed according to ASME or Federal DOT #4ET20 pressure safety codes. Including the tank, all valves and fittings are UL Listed. Propane gas is noncorrosive and will not rust the inside of a tank. Should the tank exterior become damaged or rusted, discontinue use. **DO NOT** tamper with tank gauges or safety relief valves. **NEVER** use a tank not intended for use with a propane buffer. **DO NOT** substitute tanks that are used with a barbecue grill, etc. We recommend having propane tanks tested once a year by an authorized National LP Gas Association sanctioned propane dealer.

The fuel tank is supplied directly from the manufacturer and is void of fuel. This tank must be purged at the time of the first fill. Local fuel vendors should be familiar with this operation and will provide this service.

Recommended Purge Procedures

How to purge new LP-Gas Buffer cylinders equipped with the Overfill Prevention Device:

New containers may contain vapor, air, or other contaminants. It is essential that these be removed before filling the container and placing it into service. Air in the container will cause abnormally high pressure, with the result that the pressure relief valve may open. ***Air in the system is also likely to cause lean mixture, making ignition difficult.*** If a cylinder is suspected of being depressurized or open to the atmosphere for a period of time, it must be re-purged as if it were a new container.

To purge a container, the following steps should be taken.

Purging of containers should be performed in an approved area (see NFPA #5 8) using NPGA #13 3.89(a) procedure.

1. Determine if the container pressure is zero. Should the cylinder contain only pressurized air, the air may be vented directly to the atmosphere through the service valve using an adapter and the outage valve.
2. Pressurize the container to approximately 15 psig with LP-gas vapor. ***Never purge with liquid LP-gas!*** To do so will cause the moisture vapor to chill and remain in the cylinder. LP-gas liquid also expands 270 times to vapor making the purge process ineffective. ***Use LP-gas vapor only!***

3. Make the connection to the quick coupler (A purge manifold system is most effective). Fully open the cylinder service valve as well as the outage valve. Vent to a safe atmosphere. A vent stack is recommended.
4. On Overfill Prevention Device cylinders, the purge time is increased as a result of the new valve design. Opening the outage valve will help improve the speed of the purge.
5. Repeat #3 and #4 for a total of **FIVE** purges.
6. Repressurize the container with odorized LP-gas vapor to 15 psig.
7. The container is now ready to be filled with LP-gas.
8. Once filled, check all fittings and tank openings for leaks using an approved leak detector solution.
9. The container is now ready to be placed in service. Add DOT and OSHA labels.

Symptoms of a non-purge cylinder:

- ***Relief valve opens due to over pressurized cylinder creating hazardous situation.***
- ***Moisture in the cylinder.***
- ***Buffer operates initially but shuts down when fuel mixture becomes too lean.***

Refilling & Storing Propane Tanks

The NFPA Technical Committee prohibits the storage of such containers in buildings. There are few exceptions to this rule. In other words, propane tanks should **NOT** be stored in buildings used by the public or frequented by anyone passing through or who is working in the building. Full or empty, never leave tanks in small enclosed areas. The tank(s) must be in a secure, tamper-proof storage enclosure that provides safety from accident or vandalism. ***PROPANE TANKS SHOULD ALWAYS BE TRANSPORTED, INSTALLED AND USED IN AN UPRIGHT POSITION.***

OVERFILLING PROPANE TANKS IS HAZARDOUS.

The tank should **NEVER** be completely filled with liquid propane. 80% of the total tank volume is to be considered at **ALL** times as full. **EXPANSION MUST BE ALLOWED FOR.** Propane Buffer tanks are equipped with a fixed liquid level gauge which contacts the liquid level at 80% of container capacity, allowing 20% for expansion. The top part of this device must be unscrewed counterclockwise so that vapor can escape through the small hole it its side, as the tank is refilled. When the escaping vapor starts to give way to liquid, the device must be quickly closed and the propane nozzle turned off.

*****IMPORTANT** The engine and the fuel system on your floor care machine are designed to run on fuel vapor, not fuel liquid. Overfilling the propane tank will result in damaging the lockoff and/or regulator. This will VOID the WARRANTY on these components.***

Propane Burnisher – How to Operate

Preparing The Machine For Use

BEFORE using any type of powered equipment, proper safety dictates you should visually inspect it.

1. Adjust the HANDLE to a comfortable height and tighten the bolts to 30-50- ft/lbs.
2. BONNET FILTER - Make sure the bonnet air filter atop the engine is clean. It should be changed hourly and thoroughly cleaned before reuse.
3. Check the engine OIL LEVEL. Make sure the machine is in a level position.
**KAWASAKI - DO NOT screw the dipstick in to get reading.
4. Fill the tank following the instructions as given under the previous heading: "Refilling And Storing Propane Tanks." In addition, if your buffer came with an "80% Safety Fill Tank" then it should ONLY be filled through the threaded valve with the larger diameter that is covered by a yellow cap to ensure a "Full" level that is safe.
5. PAD AND PAD HOLDER - Inspect the condition of the pad and pad holder. Is there a pad? Is it properly attached? What is its condition? Ensure the pad is clean and has at least a thickness of 1/3 inch. ALWAYS turn off the engine to clean or replace pad.
6. TANK and FUEL LINES - The tank has already been covered but do the fuel lines show any sign of wear and tear, such as cracks or any corrosion? Screw the brass fuel line fitting onto the tank service valve hand tight only. This connection MUST be secure because the service valve has a safety valve inside it which will only open if the brass fuel line fitting is COMPLETELY seated into the service valve.

Starting the Engine

1. Plug in 110 volt starter cord on models so equipped.
2. **KAWASAKI - The KAWASAKI twin cylinder engines are designed to be started in the IDLE throttle position. This creates a vacuum necessary to open the lock-off valve inside the regulator. Actuation of the throttle lever will keep the lock-off valve from opening and the engine from getting fuel so the engine will not start. Proper maintenance will insure easy starting.
3. Open (counterclockwise) the service valve on the propane tank about one and a half turns.
4. Ensure the buffer is tilted back so that the pad is off the floor on all machines without a clutch.
5. Engage starter for a MAXIMUM of 5 to 6 seconds or until the engine fires. Serious starter damage will result if this is exceeded and the warranty may not apply.
6. Operate the engine at half throttle for approximately two minutes for proper warm-up. Then advance to full throttle for best results.

NOTE: If the engine refuses to start, see the Trouble Shooting Guide.

Stopping The Engine

1. Close (clockwise) the service valve on the propane tank.
2. ALWAYS allow the engine to run until it stops from lack of fuel and then turn off the key switch. ** ONLY IN AN EMERGENCY should the "kill switch" be used.
3. Disconnect the fuel line from the tank.
4. REMEMBER, when you are finished with the machine, store the propane tank outside the building, in a safe place away from heat or direct sunlight.

Safety

No matter how slight an injury may be; tell your immediate supervisor promptly. It is your responsibility to promote a safe and healthy working environment. In case you or your co-worker are injured, call your immediate supervisor. If it is very severe DIAL 911 for a rescue squad.

In Case of Fire

Familiarize yourself with the fire alarms and extinguishers.
If you smell smoke, investigate.
If you see a fire, pull the alarm and get out of the building.

Safety First

Always wear PPE including rubber gloves & eye protection when they are recommended.
While mopping, place wet floor signs up when possible.
Always read and follow the instruction on the containers.
Utilize chemical proportioning systems. Never mix chemicals that you are unsure about.
Always use proper lifting techniques.
Always watch for broken or sharp edges on objects.
Keep all electrical cords away from moving machine parts.
Do not fill the trash barrel beyond your own lifting capacity.
Make sure that all equipment is clean and safe to operate.
Never reach into a trash liner to remove garbage.

Ladders

Ladders should be cleaned and carefully inspected before and after every use. Ladders should be carefully stored to prevent damage to them. Use the wooden ladder to minimize injury due to electrical shock.

Electrical Cords

Check cords for any exposed wires.
Check to make sure that all plugs have a ground prong.

NOTE: Do not under any circumstances cut or remove the round grounding prong from the plug or bend the prong to fit a receptacle (electrical outlet). It can cause an electrical shock or overheating.

Things To Remember:

- Cart should be clean, organized and stocked with supplies for use the next day.
- Closet should be neat and clean, sink should be clean and chemicals and equipment should be stored properly, in an orderly, accessible manner.
- Equipment should be clean and safe; it should be in proper working order. If machines are not working properly, it should be tagged “out of service”; notify your supervisor.
- Keep your keys in your possession at all times.
- Identification badge must be visible at all times.
- Safety glasses and gloves must be worn while using chemicals and replacing light bulbs.
- Use chemical dilution control systems at all times. If automated system is not available utilize measuring cup and measure chemicals. Never mix two chemicals together.
- Material Safety Data Sheets (MSDS) are located in the supervisor’s office.
- Please report to your supervisor all injuries, illnesses or other occurrences, regardless of how minor they may seem at the time of the incident.
- Employees are responsible for removing recycling material from their area to the central recycling location. Be sure to recycle all cardboard & plastic product packaging.
- Be visible to your customers doing your routine work.
- Take advantage of the extra time at the end of your shift to work on project work such as spot cleaning walls, carpets, dusting, etc.
- Communicate extra cleaning needs to your foreman promptly, so they can prioritize project work which needs to be done before it becomes a customer complaint.

Be professional and polite in all of your daily interaction with students and staff.

Don’t let attitudes of co-workers pull you down.
You can make a difference. You need to remember
that our schools are good places to work.
Be proud to be a part of them.

Notes

District Custodial Technical Training Manual

I have received the Technical Training Manual.

Printed Name (first, middle initial, last)

Employee Signature

Date

Supervisors Signature

Please send this form (completed) to:
District Office