SECTION 6-1
SANITATION SCHEDULE

**DANGER:** Electrical shock possible. Disconnect and lockout power before cleaning. See SECTION 1-3, Zero Energy State Procedures.

**DANGER:** Running or coasting mixing arm can cause serious injury or death. Never reach hand or arm inside bowl without disconnecting and locking out power.

**WARNING:** Make sure all covers, guards, and other parts that are removed for cleaning are reattached and secured before running the mixer.

**WARNING:** Soaps with high pH valves can cause damage to the inside bowl surface over a period of time. Use mild soap to clean the mixer.

Your Peerless mixer has been designed and built for easy cleaning. We recommend the following cleaning schedule and instructions to avoid unsanitary conditions and to add to the life of your mixer.

Sometimes personal experience dictates a sanitation schedule different from our recommendation. However, it is important that you develop and enforce a thorough, periodic cleaning program that covers your mixer’s sanitation needs.

Follow all safety and sanitation guidelines when working on the mixer. Before starting to clean your mixer, always disconnect and lock out electrical power. See Section 1-3, Zero Energy State Procedures.

We strongly recommend thorough cleaning of your new mixer before you mix the first batch.
### SANITATION SCHEDULE TABLE 6-1-1

**DANGER:** Avoid personal injury or death. Disconnect and lockout power before cleaning. See **SECTION 1-3, Zero Energy State Procedures.**

<table>
<thead>
<tr>
<th>SUGGESTED AREA</th>
<th>PROCEDURE</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agitator Shaft Seals</td>
<td>Disassemble, clean with warm, soapy water. Pack with food-grade lubricant.</td>
<td>Daily</td>
</tr>
<tr>
<td>Canopy Scrapers</td>
<td>Remove dough build-up with warm, soapy water or scrape with plastic scraper.</td>
<td>Weekly</td>
</tr>
<tr>
<td>Drive Motor</td>
<td>Clean fan cover. Dry clean housing with brush.</td>
<td>Monthly</td>
</tr>
<tr>
<td>Flour Dust Vent/Cage Sock</td>
<td>Remove excess flour, dough.</td>
<td>Weekly</td>
</tr>
<tr>
<td>Flour Gate</td>
<td>Remove flour and dough with soapy water.</td>
<td>Weekly</td>
</tr>
<tr>
<td>Front/Rear Bowl Seals</td>
<td>Remove dough build-up.</td>
<td>Weekly</td>
</tr>
<tr>
<td>Inside Bowl</td>
<td>Clean with hose and plastic scraper or machine-wash.</td>
<td>Daily (each down day)</td>
</tr>
<tr>
<td>Mixer End Columns</td>
<td>Wipe out flour dust or oil.</td>
<td>Monthly</td>
</tr>
<tr>
<td>Mixer Outside</td>
<td>Clean with warm, soapy water.</td>
<td>Daily (each down day)</td>
</tr>
<tr>
<td>Safety Ingredient Door</td>
<td>Clean frame, underside of door.</td>
<td>Daily (each down day)</td>
</tr>
</tbody>
</table>

### 6-1-1 DAILY CLEANING DETAIL

We recommend daily cleaning of the following areas of your Peerless mixer. If your mixer operates on a 24-hour schedule, and daily cleaning is not possible, we recommend cleaning during every scheduled non-production or down time. Clean by washing down with water or by scraping and wiping surfaces. We also recommend daily cleaning of any other surfaces that come into direct contact with dough.
SECTION 6-1


WARNING: When spraying the mixer or mixer components with water or compressed air, always wear eye protection to prevent objects from entering the eyes.

DAILY CLEANING:

NOTE: Failure to clean agitator shaft seals can cause damage to the agitator shaft.

Agitator Shaft Seals
√ Disassemble and clean with warm, soapy water. See SECTION 6-2.
√ Pack seals with Petrol Gel, solid shortening, or equivalent food-grade lubricant.

Inside Bowl
√ We recommend washing with a hose and plastic scraper for inside-bowl cleaning. See SECTION 6-5, Inside Bowl.
√ If machine-wash method is used, fill bowl to agitator shaft with soap and water (and optional sanitizing agent). Run for 30 minutes in low speed. See SECTION 6-5, Inside Bowl.
√ If washing inside bowl with a high-pressure hose, use only water. We do not recommend washing inside bowl with a high-pressure hose if very hot water and/or powerful sanitizing chemicals are used. See SECTION 6-5, Inside Bowl.
√ We do not recommend steam cleaning inside bowl.

Mixer Outside
√ Clean with warm, soapy water.

WARNING: To avoid personal injury and damage to the mixer bowl. Be sure refrigeration system is turned OFF before cleaning inside bowl.
## 6-1-2 WEEKLY CLEANING DETAIL

We recommend the following areas of your Peerless mixer be cleaned thoroughly once a week.

### NOTE:
Do NOT spray the operator control panel or any electrical covers or conduits directly with water or other liquids.

### DANGER:
Electrical shock possible. Disconnect and lockout power before cleaning. See **SECTION 1-3, Zero Energy State Procedures**.

### WEEKLY CLEANING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canopy Scrapers (Optional)</td>
<td>Check for dough build-up. Clean with warm, soapy water or scrape off dough with plastic scraper.</td>
</tr>
<tr>
<td>Flour Dust Vent Cage/Sock</td>
<td>Remove sock from cage. Remove excess flour from sock. If using compressed air to blow sock clean, wear safety glasses for eye protection. See <strong>SECTION 6-4, Flour Dust Vent Cage/Sock</strong>.</td>
</tr>
<tr>
<td></td>
<td>√ Clean cage to remove flour and dough.</td>
</tr>
<tr>
<td>Flour Gate</td>
<td>Disassemble and clean with warm, soapy water to remove flour dust and dough. See <strong>FIGURE 6-3-1, Flour Gate Assembly</strong>.</td>
</tr>
<tr>
<td>Front/Rear Bowl Seals</td>
<td>Check for dough build-up. Remove; scrape clean.</td>
</tr>
<tr>
<td>Safety Ingredient Door</td>
<td>Check for dough/gluten build-up on underside of door. Wipe out any materials present.</td>
</tr>
<tr>
<td></td>
<td>√ Clean flour and dough from frame.</td>
</tr>
</tbody>
</table>

### WARNING:
Avoid personal injury. Be sure pneumatic system is turned OFF and locked out before cleaning flour gates or safety ingredient doors. See **SECTION 1-3, Zero Energy State Procedures**.
6-1-3 MONTHLY CLEANING DETAIL

We recommend the following areas of your Peerless mixer be cleaned once a month.

**DANGER:** Avoid personal injury or death. Disconnect and lockout power before cleaning. See SECTION 1-3, Zero Energy State Procedures.

**MONTHLY CLEANING:**

- **Drive Motor**
  - √ Remove and clean drive-motor fan cover.
  -  
  - √ Dry clean drive-motor housing with a brush. Be sure ribs (veins) are free of flour, dough, and other debris.
  - √ Clean cage to remove flour and dough.

- **Mixer End Columns**
  - √ Clean by wiping out any flour dust or oil that may be present. Do **NOT** wash inside end doors with water.
AGITATOR SHAFT SEAL CLEANING

The agitator shaft seals on your Peerless mixer are designed for quick and easy cleaning. Peerless recommends the agitator shaft seals be cleaned daily or during every scheduled non-production, or down time. We realize personal experience may dictate a cleaning schedule different from our recommendation; however, shaft seals should be cleaned at least once or twice a week to prevent damage to the seals and/or agitator shaft. Follow all safety guidelines and OSHA rules when cleaning the mixer.

We recommend the following procedure for cleaning agitator shaft seals.

TO CLEAN AGITATOR SHAFT SEALS:
1. Disconnect and lockout electrical power to mixer. See SECTION 1-3, Zero Energy State Procedures.
2. Remove wing nuts that hold shaft seal assembly to bowl ends. See FIGURE 6-2-1.
3. Slide shaft seal assembly away from bowl end. Remove o-ring from shaft seal assembly. See FIGURE 6-2-2.

4. Unsnap and remove stainless band clamp. See FIGURE 6-2-3.
5. Pull apart plastic split inserts to expose split seals. See **FIGURE 6-2-4**.
6. Remove spring insert from split seals. *It is best to NOT unhook the spring.* Use a finger to slide the spring out of the lip of the seal. Let the spring stay on the shaft. See **FIGURE 6-2-5**.
7. Inspect seals. Replace if hard and brittle, or show excessive wear.

8. Clean seals and seal housing by washing with warm water.

9. Lubricate split seals and seal inserts with petrol gel, white petroleum jelly, or shortening to help seal and prolong the life of the seals. See **FIGURE 6-2-6**.
10. Reinstall split seals on shaft making sure groove openings face mixer bowl. Guide seal spring into grooves. Grease seals and fill grooves with petrol gel, white petroleum jelly, or shortening. See FIGURE 6-2-7.
11. Reinstall split inserts over split seals on shaft. See FIGURE 6-2-8.
12. Place band clamp over split insert and snap shut. See FIGURE 6-2-9.
13. Install a bead of petrol gel in o-ring groove on lip of split insert. See FIGURE 6-2-10.
14. Install rubber o-ring in groove on lip of split insert. See **FIGURE 6-2-11**.
15. Slide split seal assembly over stud mounting holes. Be sure seal splits between housing halves are horizontal when bowl is in full-up position. See FIGURE 6-2-12.

NOTE: In some applications, studs and wing nuts are welded together. Insert studs through shaft seal assembly and into bowl ends. Secure by tightening wing nuts.
16. Install flat washers and wing nuts on studs. Tighten wing nuts. See **FIGURE 6-2-13**.
This section covers the cleaning, adjustment, and installation of shaft seals. Peerless recommends the agitator shaft seals be cleaned weekly or on a schedule that conforms to local sanitation guidelines. We realize personal experience may dictate a cleaning schedule different from our recommendation; however, shaft seals should be cleaned at least once or twice a week to prevent damage to the seals. Follow safety guidelines and OSHA rules when cleaning the mixer.

**INSTALLATION**

1. Disconnect and lockout electrical power to mixer.
2. Install O-Ring
   a) Split O-Ring in half
   b) Glue together around agitator shaft with Cyanoacrylate (Super Glue)
3. Install two halves of Inner Housing Wall so that the step faces the mounting plate.
4. Place O-ring over Inner Housing Wall.
5. Slide inner housing wall into bottom mounting plate and onto threaded studs.

**NOTE:** O-ring should be slightly stretched over inner diameter of O-ring groove.
6. Install the two halves of the inner rotor cup, using bolts and pins supplied for alignment.

   **NOTE:** Rotor cups are identical and interchangeable.

7. Install the elastomer boot. Be sure to use RTV on the boot to ensure a complete seal.
8. Install the two halves of a second rotor cup, using bolts and pins supplied for alignment.

9. Sandwich all pieces together, be sure to align the notches in the inner and outer rotor cup with the steps in the elastomer boot, apply temporary assembly lubricant.
10. Install two halves of the outer seal housing. Secure together using bolts and pins for alignment.

11. Place outer seal housing on the four (4) threaded rods attached to the bottom mounting plate, secure with hand knobs.
12. Install air connection.

The seal is purged with 3 to 5 PSI (above tank pressure) of air to cool the rotating faces, to provide pressure to keep the faces together, and it creates a higher positive pressure in the seal cavity which acts as an air barrier to keep material from leaking.
CLEANING

1. Disconnect and lockout electrical power to mixer. See **SECTION 1-3**, Zero Energy State Procedures.
2. Disassemble in reverse order to disassembly level required for cleaning.
3. Use a mild detergent with a sponge or water hose/nozzle when cleaning shaft seal components.
SECTION 6-3

FLOUR GATE CLEANING

DANGER: Severe personal injury or death may result from improper contact with flour gate slide. Turn off air supply, bleed off air pressure, and lockout before cleaning. See SECTION 1-3, Zero Energy State.

DANGER: Do NOT walk on top of the mixer. Surfaces of mixer may be slippery and could cause fall resulting in injury or death.

WARNING: Do NOT reach hand or arm into flour gate opening. Severe personal injury may result.

The flour gate on your Peerless mixer is designed for easy cleaning. Flour dust, dough, and gluten can get into flour gate openings and fittings, causing unsanitary conditions and less efficient operation of your mixer. Therefore, it is important to take the flour gate apart for periodic cleaning and inspection.

Check Chapter 2, Options Checklist, to see which type flour gate has been installed on your mixer.

√ Standard Butterfly-style Valve
√ Optional Pneumatic Slide Gate

Peerless recommends that you keep on hand a spare flour dust vent sock and flour gate-to-hopper flexible connection, or sleeve for rotation purposes. Rotate the flour dust vent sock and customer-supplied sleeve weekly during sanitation. See SECTION 6-4, Flour Dust Vent Cage/Sock.

CLEANING A STANDARD BUTTERFLY-STYLE VALVE
We recommend the following steps for cleaning a standard butterfly-style valve.

1. Disconnect and lockout electrical power to the mixer. See SECTION 1-3, Zero Energy State Procedures.
2. Shut off the mixer’s air supply by turning the mixer’s shut-off valve located behind the end doors, in front of the air supply filter-regulator-coalescer assembly. When the shut-off valve is turned, the air pressure will bleed off.

3. Lock out the air supply to the mixer. See SECTION 1-3, Zero Energy State Procedures.

4. Remove flour sock from between mixer and hopper.

5. Lower bowl and scrape the bottom of the flour gate to clean.

6. Reinstall flour dust vent sock.

**WARNING:** Do **NOT** reach hand or arm inside butterfly valve opening when reconnecting air lines. Valve may move unexpectedly causing personal injury.

**NOTE:** When reinstalling, be sure to replace proximity cables on correct proximity pickups.

**CLEANING AN OPTIONAL PNEUMATIC FLOUR SLIDE GATE**

We recommend the following steps for cleaning an optional pneumatic slide gate.

1. Disconnect and lockout electrical power to the mixer. See SECTION 1-3, Zero Energy State Procedures.

2. Shut off the mixer’s air supply by turning the mixer’s shut-off valve located behind the end doors, in front of the air supply filter-regulator-coalescer assembly. When the shut-off valve is turned, the air pressure will bleed off.

3. Lock out the air supply to the mixer. See SECTION 1-3, Zero Energy State Procedures.

4. Remove the flour sock from between mixer and hopper.

5. Remove the retainer knobs from the top of the flour gate assembly.

6. Lift off the flour flange retainer plate exposing the flour gate assembly.

7. Wipe off the flour gate slide, retainer plate and air cylinder. Wash any plastic parts in cool water. **DO NOT USE HOT WATER.**

8. Reassemble flour gate assembly making sure to tighten the knobs securely.
SECTION 6-4

FLOUR DUST VENT CAGE/SOCK

DANGER: Accidental operation of the mixer while cleaning can cause severe personal injury or death. Disconnect and lockout power before cleaning. See SECTION 1-3, Zero Energy State Procedures.

The flour dust vent sock covers the flour dust vent cage to catch and contain flour dust particles. See FIGURE 6-4-1, Flour Dust Vent Assembly.

Peerless recommends that you keep a spare flour dust vent sock on hand. Remove the vent sock weekly from the flour dust vent cage and replace it with the spare sock. Machine wash the soiled vent sock and have it ready for the next sanitation rotation or in case problems occur with the stock in use. To order optional spare flour dust vent socks, call the Parts Department at Peerless Food Equipment. The phone number is +1-937-492-4158.

We also recommend that you keep a spare flour gate-to-flour hopper flexible connection, or sleeve. Rotate the customer supplied sleeve weekly during scheduled sanitation, the same as with the flour dust vent sock.

NOTE: It is important to have available a freshly sanitized sleeve and flour dust vent sock for every sanitation cycle.
SECTION 6-5

INSIDE BOWL

**DANGER:** Accidental operation of the mixer while cleaning can cause severe personal injury or death. Disconnect and lockout power before cleaning. See SECTION 1-3, Zero Energy State Procedures.

**WARNING:** If cleaning mixer by high-pressure hose-wash method, always use protective eye wear and rain gear.

We recommend daily cleaning inside the mixer’s bowl. Clean inside the bowl by filling it with warm water and running the agitator in low speed for no more than 30 minutes. Remove water from the bowl by pouring into a trough or by draining through the optional bowl drain valve.

To use the optional bowl drain valve, attach a 2” ID hose to the valve discharge fitting. Loosen the valve hand knob by turning it counterclockwise, Pull the hand knob out to open the valve. Do **NOT** tilt the bowl until the drain hose has been removed.

**WARNING:** During machine-wash, do **NOT** exceed 30 minutes running time, especially in low speed. Motor overheating can occur.

Caustic sanitizer are known to etch stainless steel interiors and seals over time, especially if used in excess of manufacturer’s parts-per-million recommendations. It is important to monitor usages of your specific sanitizing chemical to minimize damage without compromising mixer sanitation requirements.

**WARNING:** During sanitization, **ALWAYS** remove agitator shaft seals, clean and re-lubricate with food grade lubricant. See SECTION 6-2, Agitator Shaft Seal Cleaning.

*We do **NOT** recommend steam cleaning inside the bowl.*
Peerless recommends cleaning the mixer end columns once a month by wiping out excess grease and oil with a dry cloth. Flour dust can be wiped out with a dry cloth or vacuumed out.

**DANGER:** Accidental operation of the mixer while cleaning can cause severe personal injury or death. Disconnect and lockout power before cleaning. See SECTION 1-3, Zero Energy State Procedures.

**WARNING:** Do **NOT** wash inside the end doors with water. Components inside end enclosure are **NOT** corrosion proof.
When cleaning the Tilt Bearing, and any other composite material on your mixer, it is important to be aware of the active chemical ingredient(s) in your cleaning agent. As per the list below, please refrain from using cleaning solutions with active ingredient(s) that are listed as "L" or "U" when cleaning the Tilt Bearing, as these active chemicals can negatively impact the composite bearing material, which may lead to a shorter life expectancy on the part.

### Chemical Resistance

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>20°C 68°F</th>
<th>49°C 120°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid 15/100%</td>
<td>S/U</td>
<td>L/U</td>
</tr>
<tr>
<td>Acetone 15/100%</td>
<td>S/U</td>
<td>L/U</td>
</tr>
<tr>
<td>Alcohol Ethyl 15/100%</td>
<td>S/S</td>
<td>S/S</td>
</tr>
<tr>
<td>Aluminium Sulphate</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Ammonia Liquid</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Ammonia Aqueous</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Ammonium Carbonate</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>Ammonium Nitrate</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Benzene</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>Bleach Liquors</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>Calcium Chloride</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Carbon Tetrachloride</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Chlorine Water</td>
<td>S</td>
<td>L</td>
</tr>
<tr>
<td>Creosote</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Ethylene Glycol</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Fatty Acids</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Maleic Acid</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Naphtha</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Nitric Acid 15/100%</td>
<td>S/U</td>
<td>S/U</td>
</tr>
<tr>
<td>Oxalic Acid</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Phosphoric Acid</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Phthalic Anhydride</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Potassium Hydroxide</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Sodium Carbonate 25/100%</td>
<td>S/L</td>
<td>S/U</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Sodium Nitrate</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Sodium Nitrite</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Sulphuric Acid 50/100%</td>
<td>S/U</td>
<td>S/U</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>U</td>
<td>U</td>
</tr>
</tbody>
</table>

*S= Satisfactory
L = Satisfactory for Limited Service
U = Unsatisfactory

“Satisfactory” means that the material retains 50% or more of its original dry strength after immersion for at least six months.