STANDARD OPERATING PROCEDURE

Mixer, Planetary Food

Model: SM-402-NA
Manufacturer: Doyon Incorporated
Location: Wet Processing Pilot Plant, 1091 Food Sciences Building
Publication Date: 03/26/2014
Description and Uses
The Doyon Planetary Dough Mixer, Model SM-402-NA, consists of a static bowl and an agitator, which moves rapidly around the bowl to mix food contents. The mixer can be used to stir, whip and blend foods and/or dough. This 40-quart (10-gallon) mixer has a finish dough capacity of 13.5 Kg (30 lbs). The mixer has a net shipping weight of 239 Kg (525 lbs). The unit comes with three types of agitator attachments and a slicer attachment.

Power Specifications
Motor: Doyon Model SM-402-NA
Horsepower/Wattage: 1.5 HP/1.2 Kw
Voltage/Amperage: 220V/14-18A (requires 240VAC/20A circuit)
Frequency: 60 Hz

Potential Hazards and Safety Precautions

Electric Shock/High Voltage (240-VAC)
• Make certain to use the correct electrical outlet that is specifically designed to fit the electrical cord plug.
• Make sure the area around the outlet, floor and your hands are completely dry when plugging or unplugging the electrical cord to/from the outlet.
• Make sure to turn off the machine and unplug the power when changing the agitator attachments, adding the slicer attachment, and/or cleaning or servicing the mixer.

Mechanical Pinch Points/Possible Entanglement of Extremities, Hair, Jewelry or Clothing
• Do not operate the mixer if the bowl and safety guard are not properly in place.
• Avoid contact with any moving parts. Do not insert hands, fingers or other body parts into the bowl or beyond the safety guard while the mixer is running.
• Make sure to secure long hair and any loose clothing or jewelry before operating the mixer.
• Do not use any tool to assist in the mixing while the mixer is running, as serious injury may result.
• Nothing, except the material for which the mixer is intended to blend, should ever be placed into the bowl while the mixer is running.

Sharp, Rotating Cutting Blades/Abrasions, Cuts, or Severed Body Parts
• Do not insert hands, fingers or other body parts into the bowl or beyond the safety guard when using the slicer attachment.
• Use of the slicer attachment requires specific training and supervision by the pilot plant manager.
**Flying Debris/Potential Eye Damage**

- Do not operate the mixer without wearing all required personal protective equipment, including safety glasses or goggles.

**Hot Substances/Possible Burns**

- Be sure to wear heat-resistant gloves when mixing hot foods or substances.
- Never mix flammable or volatile chemicals, materials, or substances using this machine.

**Required Personal Protective Equipment**

- Long Pants
- Lab Coat with Tight-fitting Sleeves
- No Loose Fitting Clothing
- Hair Net (Tie Back Long Hair)
- Safety Glasses or Goggles
- Rubber or Heat-resistant Gloves
- Water-resistant Boots
- No Open-toed or Open-heeled Shoes

**Training**

**Required Training**

*Denotes courses offered online

- Machine & Site-Specific Training
- Fire Safety & Extinguisher Training*
- Laboratory Safety: Core Concepts*

**Recommended Training for Frequent Users**

- Electrical Safety & Lock-out/Tag-out
- Laboratory Safety: Spill Procedures
Operation

1. Be sure to acquire all required training before operating the Planetary Food/Dough Mixer. Operation requires site-specific training from the pilot plant manager on this machine.

2. Thoroughly read “Instructions” Manual (located in the pilot plant office, 1955 Food Sciences Building) before operating the Planetary Food/Dough Mill. Please refer to this manual prior to operation.

3. Be sure to wear all required personal protective equipment previously listed.

4. During operation, report any problems to the pilot plant manager. Listen for any abnormal sounds or vibration.

5. Before starting, be sure that the mixer power cord is unplugged.

6. Put the bowl in place on the mixer.

7. Lower the bowl and insert the ingredients to be mixed.

8. Select and install the proper agitator attachment (hook, whisk or beater) depending on desired effect. Note: The slicer attachment requires additional training and supervision by the pilot plant manager. Never change attachments unless the mixer is OFF and unplugged.

9. Raise the bowl to the highest position and close the safety guard. Note: Never run the mixer without the bowl and safety guard in place.

10. Set the agitation speed to position 1 (first gear).

11. Safely plug the mixer power cord into the correct outlet. Note: Make sure the area around the outlet, floor and your hands are completely dry when plugging or unplugging the electrical cord to/from the outlet.

12. Pull out the red STOP button located on the top right side of the mixer.

13. Set the proper speed for your mixture. It is best to start in first gear (set gear to position 1) to test for proper mixing before moving to a higher gear. Note: Use only first gear when mixing high load mixtures such as bread or pizza dough.

14. After selecting first gear, press the green START button (located just to the left of the STOP button) to begin mixing. Note: Never place your hand in the bowl when the mixer is running. Always press the STOP button and safely unplug the electrical cord before placing any body part into the bowl or beyond the safety guard.

15. If, after testing the mixture, it is determined that a higher gear is more suitable, press the STOP button before changing gears. Note: Never change gears (speed) while the mixer is running.

16. Once mixing is complete, press the STOP button.

17. Safely unplug the power cord.

18. Open the safety guard and lower the bowl.

19. Remove the agitator attachment and the bowl from the mixer.

20. Scrape all mixed contents from the agitator attachment and bowl into a collection vessel for further processing.

Clean-up Procedures

1. Be sure to safely unplug the mixer from the electrical outlet prior to cleaning.
2. Wash the bowl and agitator attachments with water and detergent. Rinse with water and allow bowl and attachments to dry on paper towels or in a drying cart. For proper drainage of rinse water and more efficient drying, the bowl should be dried upside down.
3. Clean the external surfaces of the mixer with a damp cloth or paper towel. **Note: Use a small amount of water and detergent if necessary, but never immerse the mixer in water.**
4. Undergo a check-out inspection with the pilot plant manager.

Machine Care and Maintenance

- The Planetary Food/Dough Mixer must be properly cleaned and inspected after each use.
- All inspections are performed by the pilot plant manager.
- The bowl lift should be lubricated once per month using a food-grade vegetable grease.
- Motor bearings and transmission gears require little attention and are packed with special grease from the factory that should last for years. Should the grease need replacement, refer to the “Instructions” manual. Only the pilot plant manager or a trained service technician should service these parts.

Accessories

Slicer attachment for cutting meat or vegetables.
Three agitator attachments (hook, whisk, beater) for stirring, whipping and blending foods or doughs.