COMMERCIAL ELECTRIC
PLANETARY MIXERS
Installation and Operating Manual



EMP-10



EMP-20



EMP-30

Model	Description	Voltage	Power	Amps	Plug Type	Overall Unit Dimensions			Ship Weight
						Width	Depth	Height	
EMP-10	10.5 qt (10 L)	120 V ~ 50/60 Hz	750 W 1 HP	7 A	NEMA 5-15P	15.13 in (383 mm)	18 in (456 mm)	24.13 in (612 mm)	99 lb (45 kg)
EMP-20	21.1 qt (20 L)	120 V ~ 50/60 Hz	1100 W 1.5H P	10 A	NEMA 5-15P	19.88 in (505 mm)	21.69 in (550 mm)	29.75 in (735 mm)	189 lb (86 kg)
EMP-30	31.7 qt (30 L)	120 V ~ 50/60 Hz	1500 W 2 HP	14 A	NEMA 5-15P	23.81 in (605 mm)	24.5 in (620 mm)	44.81 in (1138 mm)	345 lb (157 kg)

BEFORE OPERATING ANY EQUIPMENT, READ AND FAMILIARIZE YOURSELF WITH THESE USE AND SAFETY INSTRUCTIONS

Congratulations on your purchase of this SPECTRUM commercial equipment. When used as intended, and with proper care and maintenance, you are sure to experience years of reliable operation from this equipment. To ensure best results, it is important that you read and follow the instructions in this manual carefully. ***It is important to keep these instructions in a safe place for future reference.***

Form No. EMP-10-20-30 Manual - R02-1126

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INTRODUCTION

Congratulations on the purchase of your SPECTRUM™ Commercial Equipment. Please take time to carefully read through this manual to ensure the machine is operated and maintained properly, to ensure the best possible performance from the product for many years.

SPECTRUM will not accept liability for the following if:

- The instructions in this manual have not been followed correctly
- Non-authorized personnel have tampered with the machine
- Non-original spare parts are used
- The machine has not been handled and cleaned correctly
- There is any use damage to the unit

Immediately Inspect for Shipping Damage

All containers should be examined for damage before and during unloading. The freight carrier has assumed responsibility for its safe transit and delivery. If equipment is received damaged, either apparent or concealed, a claim must be made with the delivering carrier.

- Apparent damage or loss must be noted on the freight bill at the time of delivery. It must then be signed by the carrier representative (driver). If this is not done, the carrier may refuse the claim. The carrier can supply the necessary forms.
- If concealed damage or loss is not apparent until after equipment is uncrated, a request for inspection must be made to the carrier within 15 days. The carrier should arrange an inspection. Be certain to keep all contents and packaging material.

IMPORTANT FOR FUTURE REFERENCE

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY, OR DEATH. READ THE INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

CAUTION: THESE MODELS ARE DESIGNED, BUILT, AND SOLD FOR COMMERCIAL USE ONLY. IF THESE MODELS ARE POSITIONED SO THE GENERAL PUBLIC CAN USE THE EQUIPMENT, MAKE SURE THAT CAUTION SIGNS, WARNINGS, AND OPERATING INSTRUCTIONS ARE CLEARLY POSTED NEAR EACH UNIT SO THAT ANYONE USING THE EQUIPMENT WILL USE IT CORRECTLY AND NOT INJURE THEMSELVES OR HARM THE EQUIPMENT.

WARNING: A FACTORY AUTHORIZED SERVICE PROVIDER SHOULD HANDLE ALL MAINTENANCE AND REPAIR. BEFORE DOING ANY MAINTENANCE OR REPAIR, CONTACT WINCO ON WWW.WINCOUS.COM.

Package Contents

All units come with an Operating Instruction Manual and the following:

- SPECTRUM™ Commercial Planetary Mixer
- Mixing Bowl
- Flat Beater
- Spiral Dough Hook
- Whisk (Wire Whip)

SPECTRUM prides itself on quality and service, ensuring that at the time of packing, all products are supplied fully functional and free of damage. Should you find any damage as a result of freight, please contact your SPECTRUM dealer immediately.

Unpacking the Equipment

DISPOSE OF ALL PACKAGING MATERIALS IN AN ENVIRONMENTALLY RESPONSIBLE MANNER.

1. Remove all packing materials and tape, as well as any protective plastic and cardboard, from the unit
2. Clean any glue residue left over from the plastic or tape
3. Place the unit in the desired position and height

Installation and start-up must be performed by a qualified installer who has thoroughly read, understands and follows these instructions.

Please keep this manual in a safe place for future use!

NOTE

Please remember that this manual and the warning labels do not replace the need to be alert, to properly train and supervise operators, and to use common sense when using this equipment.

SAFETY INSTRUCTIONS

Before installing and operating this equipment be sure everyone involved in its operation are fully trained and aware of all precautions.

Accidents and problems can result from a failure to follow fundamental safety precautions.

- A WINCO® Approved Recommended Qualified Service Technician should carry out repairs if necessary. Do not remove any components or service panels on this product
- Before cleaning, switch off power and disconnect power cord from the outlet
- If the power cord is damaged, it must be replaced by a WINCO® Approved Recommended Qualified Service Technician in order to avoid a hazard

These instructions should be followed at all times. Failure to follow these instructions could result in injury to yourself and others.

TO REDUCE RISK OF INJURY OR DAMAGE TO THE UNIT:

1. Read this manual thoroughly before installation and operation. DO NOT proceed with installation and operation if you have any questions or do not understand anything in this manual. Contact your representative or the manufacturer first.



⚠ WARNING ⚠

Fire Hazard

Correct installation precautions, procedures and regulations must be followed. Operation and safety training is necessary for all users of this equipment.

The equipment must be installed by qualified personnel only. Correct installation precautions, procedures and regulations must be followed in order to reduce the risk of fire. Hood and fire suppression systems must be maintained per manufacturer's guidelines. Only qualified and trained personnel are to use this equipment.

2. Remove the SPECTRUM™ Commercial Planetary Mixer from the packaging. Be certain that all protective plastics and residues are thoroughly cleaned from its surface.
3. Place the Planetary Mixer on a firm level surface. Install rubber feet or bolt mixer to counter or stand. Local standards and regulations should be consulted in order to abide by standards set in relation to positioning, spacing, and ventilation. SPECTRUM recommends that you allow no less than 4 in for a ventilation gap around the perimeter of this unit. Common sense should be used when choosing position and operation of this product.

⚠ CAUTION ⚠

Do not position or operate near combustible materials/flammable objects.



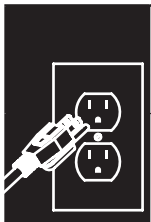
⚠ WARNING ⚠

Electrical Shock Hazard

Keep water and other liquids from entering the inside of the unit. Liquid inside the unit could cause an electrical shock.

Do not spray water or cleaning products. Liquid could contact the electrical components and cause a short circuit or an electrical shock. Do not use unit if power cord is damaged or has been modified.

4. The installation of the unit must conform to the NATIONAL ELECTRIC CODE, ALL LOCAL ELECTRIC CODES AND ORDINANCES, AND ALL THE LOCAL ELECTRICAL COMPANY RULES AND REGULATIONS. Additionally, we recommend a 4 in spacing surrounding the unit in order to provide adequate ventilation.
5. Proper connections and power supply are essential for efficient performance. Supply the appropriate power and connect to source; the Planetary Mixer is now ready to turn on and operate. (For power supply please see technical specification on page 1).
6. The units are wired to be used with a 110 V, NEMA 5-15R receptacle on a dedicated circuit.



PROPER GROUNDING

USE A GROUNDED OUTLET

DO NOT ADD AN ADAPTOR TO THE PLUG

This machine is provided with a three-pronged grounding plug. The outlet to which this plug is connected must be properly grounded. If the receptacle is not the proper grounding type, contact an electrician. DO NOT, under any circumstances, cut or remove the third ground prong from the power cord or use any adapter plug.

INSTALLATION

TO AVOID SERIOUS PERSONAL INJURY:

- ALWAYS install equipment in work area with adequate light and space
- ONLY operate mixer on a solid, LEVEL, non-skid surface that is nonflammable
- DO NOT bypass, alter, or modify this equipment from its original factory condition. Any unauthorized changes may create safety hazards and will void the warranty
- DO NOT operate mixer without all warnings attached
- NEVER attempt to lift mixer alone

1. THOROUGHLY INSPECT YOUR MIXER BEFORE PROCEEDING.
   Make sure all parts have been provided (bowl, beater, whip, and dough hook) and are in good repair.
   - DO NOT PROCEED FURTHER
   - Report any defects to your dealer or Winco
2. Read the electrical information found on the data plate located at the rear of the machine. The incoming power must match the rating on the data plate.
3. Read and fully understand this manual before installing or operating the equipment. If any instructions are unclear or you have questions, do not proceed. Contact your dealer, representative, or Winco for assistance before continuing.
4. Remove the crate from the skid by removing the fasteners on all four sides using a screwdriver.
5. The unit is bolted to the pallet. Remove the bolts on the underside of the pallet using a wrench. Once loosened these bolts can be unscrewed by hand.
6. When selecting a location for the mixer, consider the following requirements:
   - Ensure the floor or countertop is level and capable of supporting the equipment
   - Provide convenient access for routine maintenance and service
   - Allow adequate clearance for operating controls and for installing or removing agitators, bowls, and attachments
   - Leave sufficient workspace for adding ingredients during mixing operations
   - Keep the rear ventilation outlet unobstructed to maintain proper airflow
7. Install the rubber feet. Use proper lifting and tilting techniques with at least two people.
8. Before operating the mixer, thoroughly clean all applicable surfaces. Refer to the Cleaning Instructions section of this manual for detailed procedures.
   - Note: Lubricants are used in the manufacturing process. Excess grease or oils may be present on metal components, including the bowl guard, speed control, bowl clamps, bowl lift lever, and attachment hub thumbscrew. Grease may also be found on the planetary shaft, with small amounts occasionally present in the bowl.

INSTALLATION

Connecting to Power

This equipment is equipped with a three-prong grounding plug and must be connected to a properly grounded receptacle. If a suitable grounded outlet is not available, consult a qualified electrician. NEVER remove, cut, or disable the grounding prong. DO NOT USE adapter plugs or extension cords. Insufficient power supply may damage the mixer and could create a fire hazard.

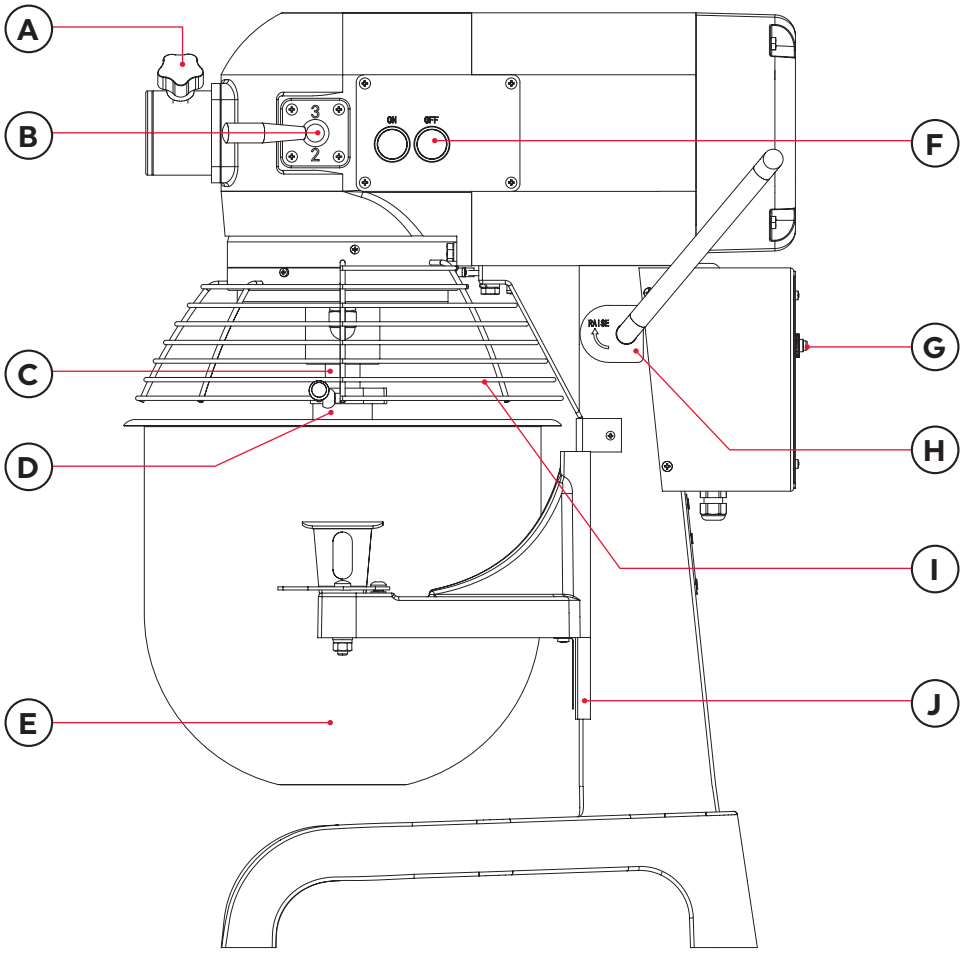
Caution

Mixer must STOP BEFORE changing speeds. Gears and other parts can be damaged. This action WILL void the warranty.

To change the speed while in the process of mixing:

1. Press the red STOP button
2. Wait for the agitator to come to a complete stop
3. Adjust the speed via the speed control lever
4. Press the green START button to restart the mixer

MIXER PARTS



A. Attachment Retaining Knob (20 & 30 qt only)
B. Speed Control
C. Planetary Shaft
D. Mixing Agitator Attachment
E. Bowl
F. On/Off Switches
G. Reset Switch
H. Bowl Lift Lever
I. Bowl Safety Guard
J. Bowl Slides

OPERATION

INSTALLATION OF MIXER AGITATOR ATTACHMENT:

1. Place the stirring shaft in Mixer and rotate in clockwise direction.

STARTING & CHANGING SPEED:

1. Pull the gear speed control handle to position 1 before starting, push the ON power switch.
2. Changing Speed: To change speed, push the OFF power switch first, and then pull the speed control handle to the new position (2 or 3).

⚠ WARNING

Never change speeds while mixer is running. Failure to do so will damage the gears or other parts and WILL void the warranty.

Gear Speed	Product Type
1 (Low)	Heavy: mixing pizza, bread, donut doughs, etc.
2 (Medium)	Medium: 2nd stage mixing for donut doughs, etc.
3 (High)	Light: whipping cream, egg whites, meringue

3. Shutting down: When the operation is complete, push the OFF power switch first, then pull the gear change hand lever to position 1.
4. Rotate the bowl lift hand lever to the lowest point
5. Rotate bowl guard to the left until fully open

ADDING MIXING INGREDIENTS:

⚠ WARNING

Overloading or not following the capacity chart will damage the mixer and void the warranty. Refer to Capacity Chart section.

1. Add the appropriate mixing ingredients into the bowl.
2. Rotate bowl lift lever up until bowl lock into position.
3. Rotate bowl guard to the right until it locks into position.

ROTATION SPEED PARAMETERS:

Model	Speed of Stirring Shaft (r/min)		
	1 (low)	2 (medium)	3 (high)
EMP-10	108	195	355
EMP-20 w/hub	108	195	355
EMP-30 w/hub	91	166	282

Accessories and Functions

- Whisk (Wire Whip): Used for stirring of liquid material, such as cream and egg. Recommended speed: mid or high speed.
- Flat Beater: Stirring of paste, powder and fragmental material, such as stuffing and cake dough. Recommended speed: start with low speed, end with mid speed.
- Spiral Dough Hook: Stirring of sticky material, such as dough. Recommended speed: low speed.

⚠ WARNING

If the equipment fails to function, please make sure that it is serviced by professional person or please turn to special service point.

Mixer will NOT START unless:

- ***Unit is plugged into power supply***
- ***Bowl is secure in up position***
- ***Bowl safety guard is closed***

NOTES

Please remember that this manual and the warning labels do not replace the need to be alert, to properly train and supervise operators, and to use common sense when using this equipment.

Don't put your hands into the stirring barrel during operation. Power supply should be disconnected before the mixer attachment is going to be installed.

Don't operate the mixer beyond the time limit to prevent reduction of its service life.

Mixer Capacity Chart

The following maximum capacities are intended as a guideline only. Varying factors such as the type of flour, water temperature, and other conditions may require batch to be reduced.

PLANETARY MIXERS					
Product	Agitator	Speed	EMP-10	EMP-20	EMP-30
Pizza Dough - Thin (40% AR)	Dough Hook	1st only	5 lb (2.3 kg)	9 lb (4.0 kg)	16 lb (7.3 kg)
Pizza Dough - Medium (50% AR)	Dough Hook	1st only	5 lb (2.3 kg)	10 lb (4.5 kg)	25 lb (11.3 kg)
Pizza Dough - Thick (60% AR)	Dough Hook	1st only	10 lb (4.5 kg)	20 lb (9.0 kg)	40 lb (18.1 kg)
Heavy Bread Dough (55% AR)	Dough Hook	1st only	7.5 lb (3.4 kg)	15 lb (6.8 kg)	30 lb (13.6 kg)
Bread & Roll Dough (60% AR)	Dough Hook	1st only	12.5 lb (5.7 kg)	25 lb (11.3 kg)	45 lb (20.4 kg)
Raised Donut Dough (65% AR)	Dough Hook	1st and 2nd	4.5 lb (2.0 kg)	9 lb (4.0 kg)	15 lb (6.8 kg)
Pasta - Basic	Dough Hook	All Speeds	3 lb (1.3 kg)	5 lb (2.3 kg)	8 lb (3.6 kg)
Pie Dough	Flat Beater	All Speeds	10 lb (4.5 kg)	18 lb (8.1 kg)	27 lb (12.3 kg)
Cake	Flat Beater	All Speeds	10 lb (4.5 kg)	20 lb (9.0 kg)	30 lb (13.6 kg)
Mashed Potatoes	Flat Beater	All Speeds	8 lb (3.6 kg)	16 lb (7.3 kg)	24 lb (10.9 kg)
Waffle or Pancake Batter	Flat Beater	All Speeds	5 qt (4.7 L)	8 qt (7.5 L)	12 qt (11.4 L)
Whipped Cream	Wire Whip	All Speeds	2 qt (1.9 L)	4 qt (3.8 L)	6 qt (5.7 L)
Egg Whites	Wire Whip	All Speeds	1 pts (.47 L)	1 qt (.95 L)	1.5 qt (1.4 L)
Meringue (Qty of Water)	Wire Whip	All Speeds	.75 pt (.35 L)	1.5 pt (.75 L)	1 qt (.95 L)

NOTES:

- Mixer capacity depends on the moisture content of the dough.
  When mixing dough, check the Absorption Ratio percentage (AR%)
  Absorption Ratio % (AR%) = Water Weight divided by Flour Weight
- The capacities listed above are based on flour at room temperature and 70°F (21°C) water temperature
- If high gluten flour is used, reduce batch by 10%
- If using chilled flour, water below 70°F (21°C) or ice, reduce batch by 10%
- Do not use 2nd speed with mixtures below 50% AR
- Do not use hub attachments while mixing

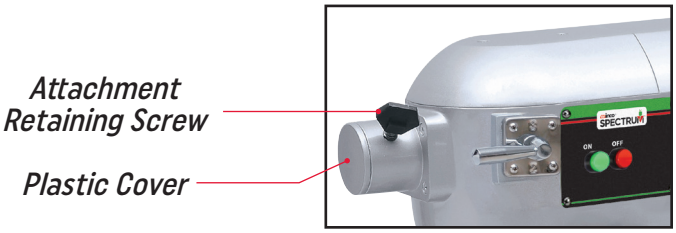
ATTACHMENT HUB #12 (EMP-20 & EMP-30 ONLY)

Using the Attachment Hub

⚠ WARNING

- ***Never place your hands or fingers inside the feed chute while an attachment is in operation***
- ***DO NOT mix ingredients in the bowl while using any hub attachment***
- ***NEVER operate an attachment and the mixing function at the same time***
- ***Ensure the mixer is turned OFF before installing or removing attachments***

Installing and Operating an Attachment



1. Loosen and remove the attachment hub knob
2. Remove the attachment hub cover
3. Apply a food-grade grease or mineral oil to the attachment shaft
4. Insert the attachment shaft into the hub, aligning the attachment pin with the locating hole in the hub
5. Reinstall the thumbscrew and tighten it securely
6. Set the mixer to the appropriate speed using the speed control lever
   Recommended speed while using attachments:
   - Vegetable Slicer: 1 or 2
   - Cheese Shredder/Grater: 1 or 2
   - Meat Grinder: 1 only

   NOTE: THE BOWL MUST BE FULLY RAISED AND THE BOWL GUARD COMPLETELY CLOSED BEFORE OPERATION. THE MIXER WILL NOT START UNLESS BOTH ARE IN THEIR PROPER OPERATING POSITIONS.
7. Set the timer for continuous operation using the untimed operation procedure described earlier in this manual
8. Press the green START button on the control panel to begin operation

⚠ WARNING

Always STOP mixer BEFORE changing speeds! Failure to do so can damage the gears or other parts and WILL void the warranty!

CLEANING, CARE & MAINTENANCE

To maintain the appearance and increase the service life, clean your unit daily. The SPECTRUM™ Commercial Planetary Mixer should be cleaned after each day's operation; however, the unit may require more frequent cleaning, depending on the volume of production.

1. Switch power off and disconnect from the outlet before cleaning
2. Mix/dilute cleaning detergent and sanitizer solution in separate containers per the manufacture's instructions

⚠ WARNING

Do not use a water hose or pressure washer to clean mixer

PART	FREQUENCY	REQUIRED ACTION
Agitators	Clean after each use	Hand-wash using mild soap and water, rinse, dry, and sanitize. NOTE: Aluminum agitators are NOT dishwasher safe
Bowl Guard	Clean after each use	
Bowl Cradle	Daily	
Bowl	Clean after each use	Using a sponge or cloth, mild soap and water, apply pressure to make sure the bowl is clean; rinse, dry, and sanitize. The bowl is dishwasher safe.
Planetary Shaft	Clean after each use	Wipe with clean damp cloth, dry, and sanitize. Apply a light coating of mineral oil to the planetary shaft after cleaning.
Exterior	Daily	Hand-wash using mild soap and water, rinse, dry, and sanitize. DO NOT use a hose or high-pressure nozzle.
Hub Interior	Daily	Wipe with clean damp cloth, dry, and sanitize.

Recommended Maintenance

1. Bowl Slides - Apply a light coating of mineral oil to the bowl slides as needed or when bowl becomes difficult to lift and lower
2. Planetary Shaft - Apply a light coating of mineral oil to the planetary shaft daily. Do not leave agitator connected to shaft, remove for cleaning after every use
3. Gear transmission cavity and shaft bearing are greased at factory. Inspect every 6 months and lubricated as needed

TROUBLESHOOTING

If your SPECTRUM™ Commercial Planetary Mixer does not operate, please check the following before placing a service call:

ISSUE	MIGHT BE CAUSED BY	RECOMMENDED SOLUTION
Mixer does not operate	Bowl guard not in closed position	Rotate guard until fully closed
	Bowl not raised	Raise bowl to highest position
	Power not connected properly	Check all power connections. Plug into a live socket. (Do not use extension cord)
	Building circuit breaker is off	Check breaker box
	Internal overload tripped	For 20 and 30 qt models: Wait 2 minutes before restarting. Press START button to restart the mixer. If unit continues to trip the batch size may be too large for mixer capacity. Reduce batch size or adjust the recipe and re-attempt.
	Gear train is not engaged or jammed	1. TURN MIXER OFF 2. UNPLUG THE MIXER 3. Remove the bowl and open the shield 4. Replace the agitator with the beater paddle (for better manual grip) 5. Manually turn the paddle to help release the gear. 6. If the agitator begins to turn it may mean the gears have been successfully unjammed. Replace the bowl and shield and plug the unit back in. Turn the mixer on its lowest setting to ensure the gears are engaging normally. 7. If unsuccessful, contact a Winco Authorized Service Agent to evaluate
	Control lever not engaged	Switch gear fully into position. (Mixer will not operate if the speed control lever is in between positions)
Mixer stops during mixing cycle	Internal overload tripped	See above
	Overloads	Reduce product load and restart
	The speed of mixing is too high or using wrong agitator	Select correct agitator and speed setting
Safety guard seized (does not move freely)	Contamination of the slide mechanism	Clean the accessible areas of the slide mechanism. Lubricate if necessary. If unsuccessful, contact a Winco Authorized Service Agent to evaluate
Difficulty mounting agitators onto the mixer shaft	Contamination of the shaft area and/or the interior of the agitator	Clean the accessible areas of the shaft and agitator to remove contamination. Use a clean damp cloth. Lubricate with mineral oil or food grade grease.

TROUBLESHOOTING

If your SPECTRUM™ Commercial Planetary Mixer does not operate, please check the following before placing a service call:

ISSUE	MIGHT BE CAUSED BY	RECOMMENDED SOLUTION
Mixer is noisy, mixing area	Mixer is not installed on level surface	Adjust surface or relocate mixer. Ensure rubber feet are mounted properly.
	The agitator or bowl are deformed	Replace or change agitator or bowl
	Bowl not seated correctly or clamps not in place.	Make sure bowl is seated properly. Ensure bowl clamps are locked properly.
	Agitator not fitted properly	Reattach agitator and ensure proper seating.
	Overload of ingredients in bowl	Reduce ingredients and check batch size. Refer to Mixer Capacity Chart section.
Abnormal noise and/or high temperature from gearbox	Gear train is damaged	Contact a Winco Authorized Service Agent to evaluate
	Insufficient lubrication	
Mixing time takes too long	Batch size too small	Increase batch size or an alternative mixing method
	Incorrect recipe portions or temperatures	Adjust portions and temperatures per recipe instructions
Bowl lift sticking or not operational	Lack of lubrication on bowl slides	Lubricate bowl slides with mineral oil or food quality grease. If still sticking an authorized service agent technician must clean and lubricate the bowl lift mechanism.
One or more speed gears not working	Damaged or broken gear	Contact Winco Technical service to evaluate the device. Gear replacement may be necessary. Mixer should always be stopped before adjusting speed!
Mixer will not mix medium or heavy loads	Incorrect or low voltage	Contact electrician. Low voltage can de-rate unit performance.
Residue leaking from hub	Food contamination on the exterior or interior hub. Build-up of meat and/or vegetable residue	Thoroughly clean the hub exterior (refer to the Cleaning section) To avoid problem, wipe hub and dry after each use. If this does not correct the problem a technician may be required to disassemble the hub and clean the interior. NOTE: Tomatoes and other high-acid foods can contaminate interior parts! DO NOT mix tomatoes in meat grinder.
Agitators touching bottom or sides of bowl	Defective or dented bowl and/or agitator	Remove dents or replace bowl and/or agitator
	Bowl is not seated properly	Review the bowl position and confirm it is seated properly and mounted at the rear and on the arms in a stable position.

TROUBLESHOOTING

If your SPECTRUM™ Commercial Planetary Mixer does not operate, please check the following before placing a service call:

ISSUE	MIGHT BE CAUSED BY	RECOMMENDED SOLUTION
Broken whip wires	Batch size too large for mixer. Adjust recipe.	Reduce batch size. Refer to Mixer Capacity section. Mixture too firm, speed too high. Reduce speed.
	Utensil or other contaminant dropped into bowl while mixing	Stop mixer and remove contaminant. Inspect ingredients for contamination and dispose as necessary.
Broken flat beater	Ingredients too cold or too large (e.g. frozen butter, cream cheese cut in chunks)	Allow ingredients to reach room temperature before mixing. Reduce chunk size.
	Recipe is too stiff for the application	Some mixtures congeal into overly-thick paste that exceed the mixer capacity. Review and consider alternatives.
Broken dough hook	Batch size too large for mixer	Reduce batch size. Refer to Mixer Capacity Chart. Adjust recipe as necessary
	Ingredients too cold or too large	Allow ingredients to reach room temperature before mixing. Reduce chunk size.
	Recipe is too stiff for the application	Some mixtures become overly-firm and exceed the mixer capacity. Reduce speed. If that is ineffective, review and consider alternatives.
Discoloration of mixed product	Bowl has not been thoroughly cleaned	Clean bowl. Refer to Cleaning Instructions section.
	Food chemistry with agitator	The paddle and dough hook agitators are aluminum. Foods high in acid or salt, such as rhubarb, tomatoes, and citrus fruits CAN discolor or react in the presence of aluminum. Evaluate separately and adjust agitator or mixing method accordingly.

SERVICE AND REPAIR

THIS EQUIPMENT MUST ONLY BE SERVICED BY AN AUTHORIZED AGENT.

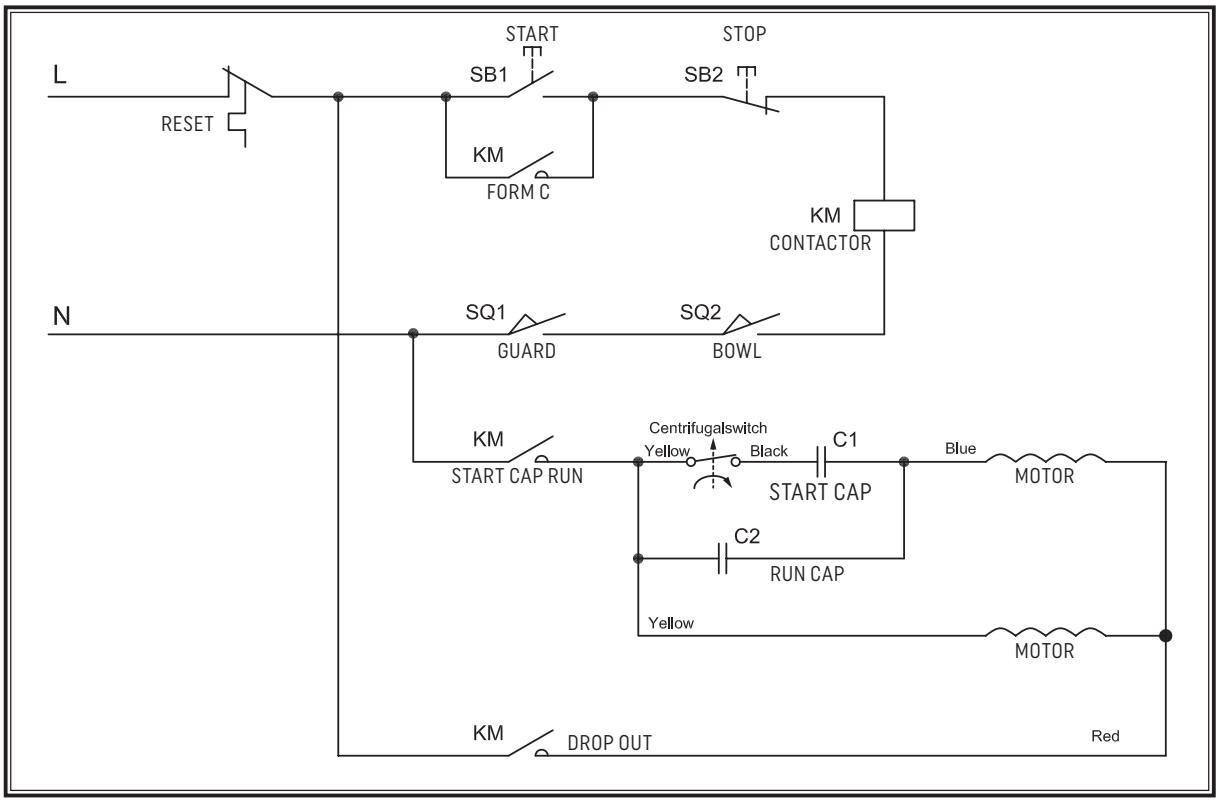
NOTE

Parts protected by the manufacturer or its agent are not to be adjusted by the installer unless the installer is an authorized service agent.

If you have any questions or problems DO NOT send unit to WINCO® without first contacting our customer service department.

See "Limited Warranty" section on www.wincous.com for details.

ELECTRICAL CIRCUIT DIAGRAM

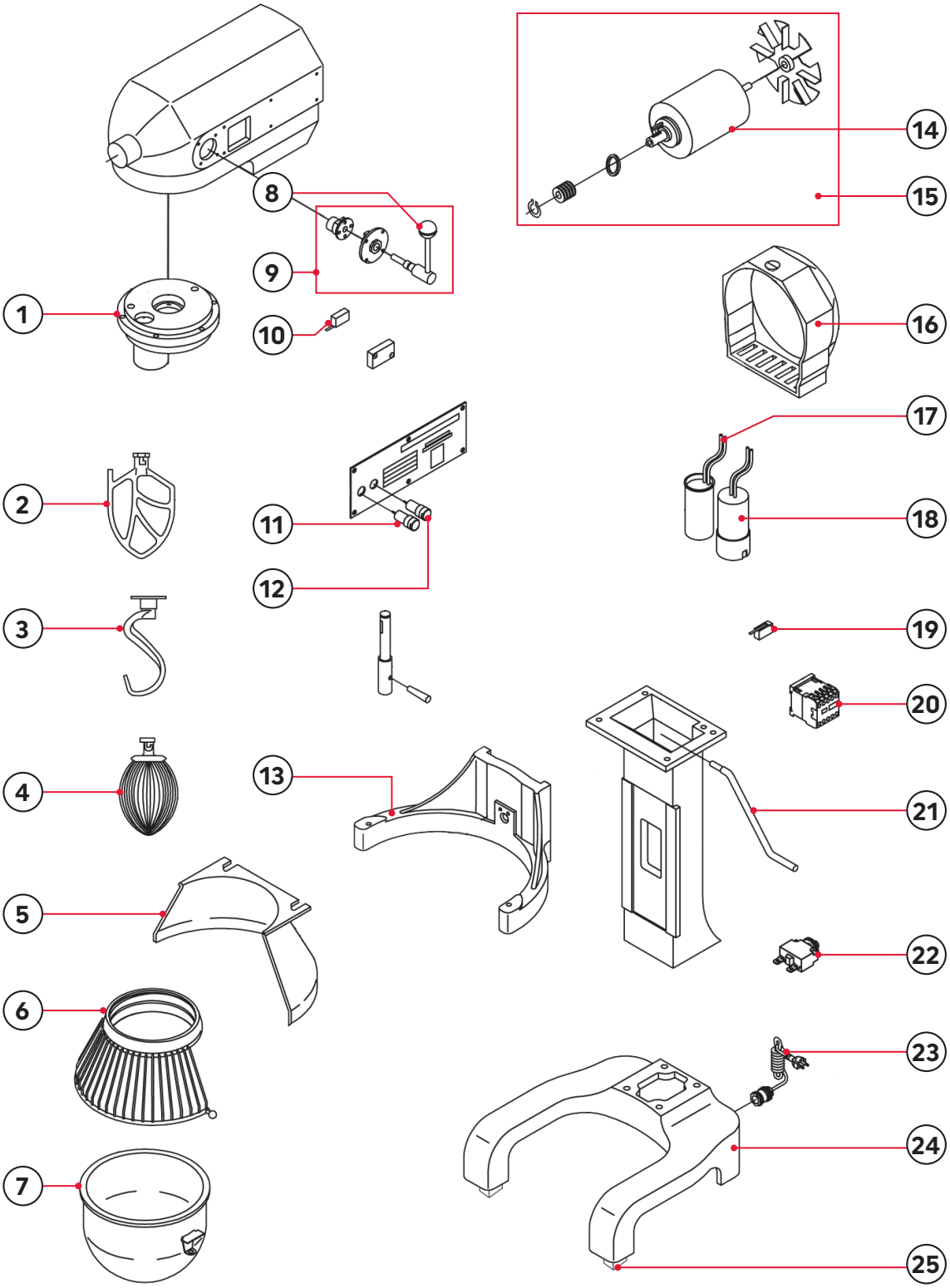


These circuit diagrams have been provided to assist qualified electricians; Only SPECTRUM™ service agents, or qualified electricians should carry out repairs, if repair is required.

Do not remove any components or service panels on this product.

Exploded View

MODEL: EMP-10



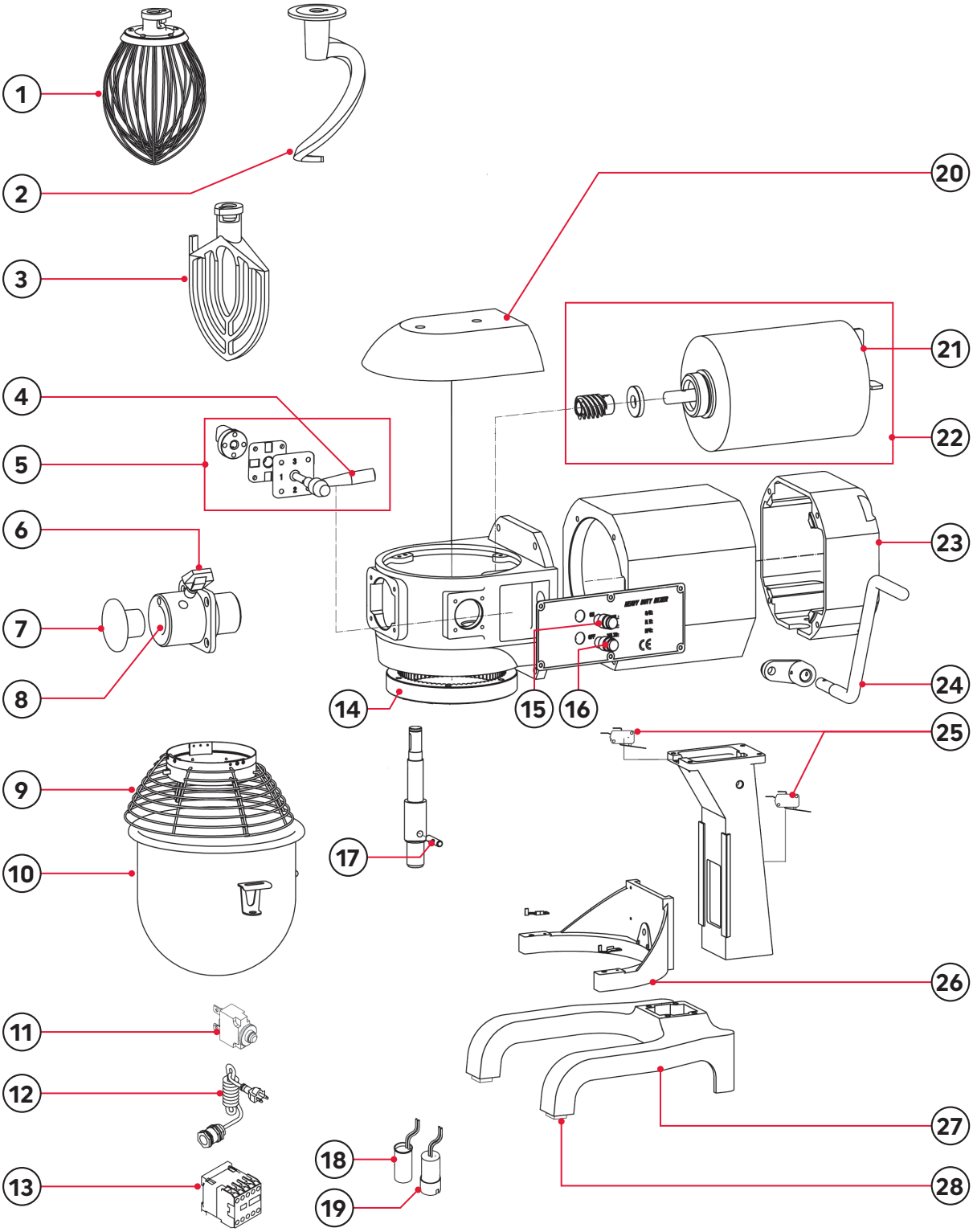
Parts List

MODEL: EMP-10

No.	Description	Part #
1	Planetary Gear Box	EMP-P1
2	Flat Beater	EMP-P2
3	Spiral Dough Hook	EMP-P3
4	Whisk (Wire Whip)	EMP-P4
5	Bowl Rear Guard	EMP-P5
6	Bowl Safety Guard	EMP-P6
7	Mixing Bowl	EMP-P7
8	Speed Shift Handle	EMP-P17
9	Speed Shift Kit	EMP10-PSHIFTKIT
10	Proximity 1 Switch	EMP-P8
11	Green "ON" Button	EMP10-PGRNBUTTN
12	Red "OFF" Button	EMP10-PREDBUTTN
13	Bowl Support	EMP10-PBOWLSPRT
14	Motor	EMP-P15
15	Motor Assembly	EMP20-PMTRASSY
16	Motor Cover	EMP10-MTRCOVER
17	Start Capacitor	EMP-P18
18	Run Capacitor	EMP-P19
19	Proximity 2 Switch	EMP-P20
20	Contact Terminal	EMP-P25
21	Bowl Lift Crank Handle	EMP10-PCRNKHNDL
22	Overload Safety Switch	EMP-P21
23	Power Cord w/ Strain Relief	EMP-PPOWERCORD
24	Mixer Stand	EMP10-PBASE
25	Feet, Qty: 4	EMP-P24

Exploded View

MODEL: EMP-20



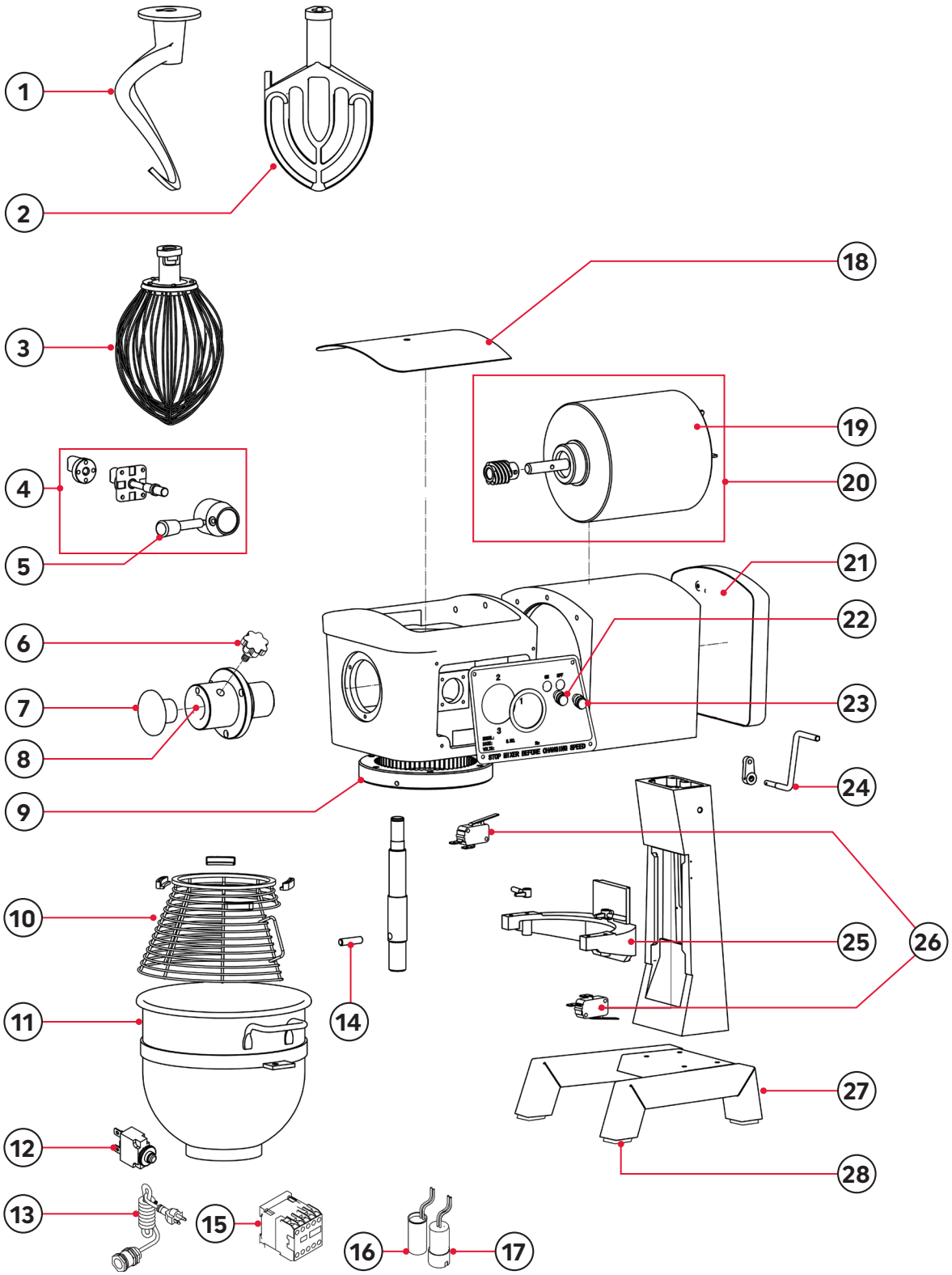
Parts List

MODEL: EMP-20

No.	Description	Part #
1	Whisk (Wire Whip)	EMP-P27
2	Spiral Dough Hook	EMP-P28
3	Flat Beater	EMP-P29
4	Speed Shift Handle	EMP20-PSPDHDLE
5	Speed Shift Kit	EMP20-PSHIFTKIT
6	Hub Retaining Knob	EMP-PHUBKNOB
7	Attachment Hub Cover	EMP-PHUBCOVER
8	Front Hub	EMP20-PFRONTHUB
9	Bowl Safety Guard	EMP-P33
10	Bowl	EMP-P34
11	Overload Safety Switch	EMP-P35
12	Power Cord w/ Strain Relief	EMP-PPOWERCORD
13	Contact Terminal	EMP-P37
14	Orbital Gear	EMP20-PORBTGEAR
15	Red "OFF" Button	EMP20-PREDBUTTN
16	Green "ON" Button	EMP20-PGRNBUTTN
17	Shaft Pin	EMP20-PSHAFTPIN
18	Start Capacitor	EMP-P39
19	Run Capacitor	EMP-P40
20	Gear Case Cover	EMP20-PTOPCOVER
21	Motor	EMP-P44
22	Motor Assembly	EMP20-PMTRASSY
23	Motor Cover	EMP-20-PMTRCOVER
24	Bowl Lift Crank Handle	EMP20-PCRNKHNDL
25	Proximity Switch	EMP-PROXSWITCH
26	Bowl Support	EMP20-PBOWLSPRT
27	Stand Base	EMP20-PBASE
28	Feet, Qty: 4	EMP20-PFEET

Exploded View

MODEL: EMP-30



Parts List

MODEL: EMP-30

No.	Description	Part #
1	Spiral Dough Hook	EMP-P50
2	Flat Beater	EMP-P51
3	Whisk (Wire Whip)	EMP-P52
4	Speed Shift Kit	EMP30-PSHIFTKIT
5	Speed Shift Handle	EMP30-PSPDHDLE
6	Hub Retaining Screw	EMP-PHUBKNOB
7	Attachment Hub Cover	EMP-PHUBCOVER
8	Front Hub	EMP30-PFRONTHUB
9	Orbital Gear	EMP30-PORBTGEAR
10	Bowl Safety Guard	EMP-P57
11	Mixing Bowl	EMP-P58
12	Overload Safety Switch	EMP-P35
13	Power Cord w/ Strain Relief	EMP-PPOWERCORD
14	Shaft Pin	EMP30-PSHAFTPIN
15	Contact Terminal	EMP-P63
16	Start Capacitor	EMP-P64
17	Run Capacitor	EMP-P65
18	Gear Case Cover	EMP30-PTOPCOVER
19	Motor	EMP-P44
20	Motor Assembly	EMP-30PMTRASSY
21	Motor Cover	EMP30-PMTRCOVER
22	Green "ON" Button	EMP20-PGRNBUTTN
23	Red "OFF" Button	EMP30-PREDBUTTN
24	Bowl Lift Crank Handle	EMP30-PCRNKHNDL
25	Bowl Support	EMP30-PBOWLSPRT
26	Proximity Switch	EMP-PPROXSWITCH
27	Stand Base	EMP30-PBASE
28	Feet, Qty: 4	EMP30-PFEET



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