Fluid Management®

MILLER

GyroMixer

Operation & Instruction Manual

Part No: 4708000
Rev. H
10.30.09

Fluid Management

Every effort has been made to ensure that the information in this guide is accurate. Fluid Management is not responsible for printing or clerical errors.

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SAFETY INFORMATION

MIXER WARNING LABELS

You should become familiar with important warning labels which are affixed to the mixer, as well as the symbols which appear throughout this manual. These warnings have been included to help you safely perform your job.

Please read all warning labels that are on the mixer. Keep them clean so they are easy to read. If the warning labels become damaged or unreadable, new labels can be purchased from Fluid Management. See the parts list in the back of the manual for ordering information.

SAFETY NOTICE INFORMATION

The two main safety notices used in this manual are **Warning** and **Caution**. Notices in this manual will look like the example below.

Warning Notice

WARNING **ELECTRICAL HAZARD**

Do not operate the mixer with the door open.
Disconnect power before servicing.

A **Warning** notice tells you about a hazard that could cause serious injury to you or extensive damage to the mixer. This information is placed at the beginning of the manual to emphasize the importance of safety to your well being.

When you see a **Warning** notice in this manual, read it carefully. Before continuing with the operation of the mixer, take all necessary precautions to avoid potential injury.

Caution Notice

CAUTION **ELECTRICAL HAZARD**

All electrical components must be kept dry.
Never place containers of liquid on or near the control box.

A **Caution** notice tells you about a danger that could cause injury to you or minor damage to the mixer. When you see a **Caution** notice in this manual, read it carefully and be sure you understand it before continuing.

Information Notice

Note: If the cabinet vibrates, loosen the locking nuts on the right front leveling foot and slightly adjust the length.

An **Information** notice gives details that will assist you in efficiently using the mixer. When you see an **Information** notice in this manual, know that it is there to save you time and energy.

WARNINGS AND CAUTIONS

WARNINGS

- The paint mixer must be properly grounded to protect the operator from possible electrical shock. Only use a 3-prong receptacle.
- Do not operate the mixer if the power cord has been cut or damaged. Keep the cord away from open flame or heat exposure.
- Properly level the paint mixer. Improper leveling may cause severe damage to the machine during the mixing operation.
- Always shut off the POWER lever and unplug the mixer from the AC power outlet before servicing the paint mixer.
- Keep hands away from moving parts.
- NON-EXPLOSION MODEL
  - Do not use the paint mixer near flammable liquids.
  - Do not mix flammable liquids containing gasoline or toxic materials.
  - Do not clean the mixer with flammable solvents.

CAUTIONS

- Always check to be sure that the containers are tightly sealed.
- Overloading can damage the paint mixer. The maximum capacity is a 125 pound solid load.
- Make sure the bail shield is properly positioned before operating the mixer.
- The mixer's sliding door must be closed to operate the mixer.
- Most containers one gallon or larger have bails. All such containers must have the bail properly secured to prevent possible damage to the equipment. As an option to using the bail shield, an elastic cord can be used to achieve this purpose.

INTRODUCTION

PRODUCT DESCRIPTION

The Miller GyroMixer is a versatile, automatic paint mixer designed for safety, reliability and ease of use. Its features are as follows:

- *Improved mixing.* Gyroscopic mixing at a 2:1 ratio thoroughly blends the toughest colorants.
- *Robust design.* Handles up to 125 pound (56.7 kg.) solid load.
- *Easy to service.* Most service and repair procedures can be performed by opening the door, removing the back panel or the top cover.
- *Simple to move and operate.* Casters on the bottom of the mixer allow it to be moved into operating position.
- *Safe to operate*. The mixer offers improved safety features.
- *Universal can sizes.* Handles the requirements of paint manufacturers around the world.
- *Easy to load.* A roller in the front of the table assists in loading the container. A groove in the table keeps the container centered and in the proper position.

SPECIFICATIONS

Height	39.5" (100.3 cm)
Width	32" (83.8 cm)
Depth	28" (71.0 cm) with removable shelf 26” (66.0 cm) without shelf
Shipping Weight	400 lb (181 kg)

CONTAINER DIMENSIONS

Accepts can heights from 3.5” (with bail shield removed) to 16”

ELECTRICAL SUPPLY

Explosion-Proof Model

28708	200-240 V	60 Hz	5.5-4.6 Amps
28709	100-120 V	60 Hz	12-10.1 Amps

Standard Models

28988, 28989	110 V	60 Hz	11.0-9.4 Amps
30099	220 V	60 Hz	5.5-4.8 Amps
28987	220 V	50 Hz	6.5-5.7 Amps

Motor

1 HP, 1425/1725 RPM, 50/60 Hz

EQUIPMENT MAINTENANCE LOG

RECORD MODEL NUMBER HERE: _____

RECORD SERIAL NUMBER HERE: _____

SERVICE DATE	DESCRIPTION & PARTS REPLACED (STATE IF UNDER WARRANTY)	SERVICED BY

SPARE PARTS ORDER

Fluid Management Parts Order Form

Photocopy and use this form to

Mail or fax orders to:

Fluid Management ***A unit of*** **IDEX** | **Phone: 1(800) 462-2466**
1023 Wheeling Road | **Fax: 1(847) 537-5530**
Wheeling, IL 60090 |
|

Sold To: **Ship To:**

_____ _____
_____ _____
_____ _____
_____ _____

Purchase Order Number_____

Ship Via: _____ ❒**Collect** ❒**Prepaid**

❒**Taxable** ❒**Tax Exempt** **(Fax copy of exemption certificate.)**

QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		

Comments: _____
_____
_____

_____ _____
Signature Date:

UNPACKING DIRECTIONS

INSPECT FOR DAMAGE

Inspect the shipping carton for damages. If any damage is found, notify the carrier at once and arrange for an inspection in order to claim recovery.

Note: Claims for damage must be made by the consignee (you). The carrier assumes full responsibility upon acceptance of shipment and will not entertain any claims by the consignor (Fluid Management).

REMOVE MIXER FROM SKID

1. Place the carton in the area where the mixer will be located.
2. Remove the strapping and the cardboard carton stapled to the skid.
3. Open the sliding door.
4. Remove the two bolts holding mixer to the skid.
5. Slide the mixer back until half of the unit is off of the skid.
6. Carefully tilt the mixer back until its lower rear edge touches the floor and the skid is free.

   Important: Keep the weight of the mixer on its lower rear edge.
7. Pull the skid out from under the front of the unit.
8. Carefully tilt the mixer forward until all four casters are on the floor.

UNPACK THE MIXER

Caution Do not operate the mixer until the shipping inserts are removed.

1. Open the mixer's sliding door
2. Remove the two (2) shipping inserts positioned in the base of the mixer.

   Note: The inserts are wedged against the sides of the mixer.
3. Record the serial number and model number in the space provided on page 5. (See the identification label located on the side of the mixer. It is important data when ordering parts or servicing the mixer.)

SETTING UP THE MIXER

INSTALLATION

The following instructions are for both the standard and explosion-proof models. Refer to the boxes for special information on explosion-proof installations.

1. Move the mixer to its permanent location.
2. Refer to the Electrical Supply section of this manual for power requirements.
3. Locate the mixer as close as possible to a properly grounded outlet.
4. Leave ample room around the paint mixer to facilitate safe operation and routine maintenance.

Explosion-Proof Installation

- Installation to be completed by a registered master electrician following local codes and regulations.
- Loosen the screws in order to remove the back cover.
- Referring to the wiring diagram in the Service Section of this manual, connect the power supply to the explosion-proof box.

The timer, shipped with the mixer, is located within the explosion-proof box. It is preset for 1-1/2 minutes, but may be adjusted up to 3 minutes by qualified service personnel.

ELECTRICAL CONNECTION

Caution

The unit must be plugged into a dedicated electrical line with no other equipment using the same circuit. DO NOT use an adapter or extension cord with this product.

WARNING

Improper use of the grounding plug can result in a risk of electric shock.

Grounding

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electrical shock by providing an escape for the electric current. This product is equipped with a cord that has a grounding wire and an appropriate grounding plug. The plug must be inserted into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING Check with a qualified electrician or service person if grounding instructions are not completely understood or if in doubt as to whether product is properly grounded.

WARNING Improper installation of the grounding plug can result in a risk of electric shock. If repair or replacement of the cord or plug is necessary, do not connect the grounding wire to either flat blade terminal.

The insulation wire with green or green and yellow stripes on the outer surface is the grounding wire. Check with a qualified electrician if the grounding instructions are not completely understood, or if in doubt about whether the product is properly grounded. DO NOT modify the plug provided. If it will not fit into the outlet, have the proper outlet installed by a qualified electrician.

This product is designed for use in 100 to 240 Volt operation. The power requirements of your unit will be outlined on the nameplate.

The non explosion-proof model is for use on a nominal 120-volt circuit and has a grounding plug that looks like the plug illustrated in the figure below. Make sure that the product is connected to an outlet having the same configuration as the plug. No adapter should be used with this product.

Note: If product has a nameplate for nominal 220-volt circuit, make sure the proper grounded outlet is used.

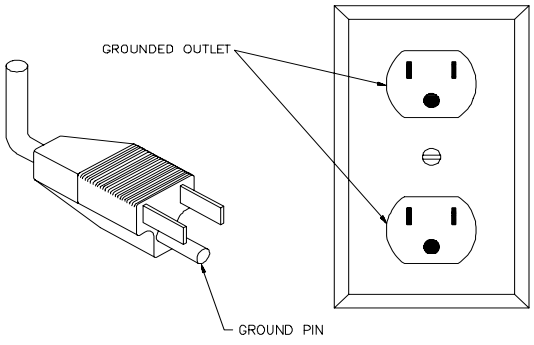


Figure 1. Grounding Methods

Caution

Under no circumstances should you modify the plug if it does not fit the outlet. Check with a qualified electrician or serviceman if you are not sure how to ground this unit.

Supply Current

The table "Minimum Wire Gauge" (below) shows the recommended wire size for home run lengths. NOTE: The smaller the gauge number, the heavier the wire.The following chart is the wire gauge size required for the distance from the circuit box to the grounded receptacle (for up to 15 amperes at 115V, 60 Hz). Smaller gauge wire than shown on the table could result in a voltage drop that can effect the operation of your unit.

Distance (feet)	25	50	100	150	20	250	300	400	500
Gauge Size 220V	14	14	12	10	10	8	8	6	6
Gauge Size 115V	14	12	8	6	6	4	4	2	2

Table 1. Minimum Wire Gauge

Extension Cords

Extension cords for 220 VAC models are not recommended. If an extension cord is to be used, it should not be combined with others. Use only a 3-wire extension cord that has a 3-pole grounding plug. Power should be provided by a 3-pole receptacle that will accept the plug on the product. Make sure that your extension cord is in good condition. It must have # 14 AWG conductors up to 25 feet long. An extension cord no longer than 50 feet is permissible provided it has conductors of at least # 12 AWG. It must be heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

LEVELING

The customer must level the mixer. Although the unit is shipped on casters for ease of positioning the mixer, all 4 feet must be extended firmly to the floor. Variations on the floor will necessitate adjusting the leveling feet to ensure proper operation and to minimize vibration.

CAUTION Improper leveling may cause severe vibration while the mixer is operating.

1. Roll the unit into its intended location.

2. Lower the four (4) leveling feet to the ground. Each of the four leveling feet can be adjusted independently. Using the front of the mixer as a position guide, turn the foot in a clockwise direction to lengthen, or in a counter-clockwise direction to shorten.

   IMPORTANT: The feet should carry the load; not the casters. Check the stability of the mixer on the floor by making sure that the mixer is resting on all four feet, not on its casters. All casters must rotate freely.

3. Verify that the mixer is level by gripping its sides and gently attempting to rock the machine. It should not move.

4. Lock the leveling feet into place by tightening the upper locknuts to the mixer bottom with a 3/4" wrench.

   Note: Should additional leveling be necessary, loosen the upper locknuts and repeat steps 2 - 3.

OPERATIONAL TEST

1. Verify that the power is connected to the mixer.
2. Open the mixer's sliding door.
3. Slide a container into the groove on the table.

   Note: Rotate the clamp handle counter clockwise first to open the clamp arms.
4. Rotate the bail shield over the container bail. Remove the shield for containers smaller than one gallon.

   Note: Failure to properly position the bail shield on containers larger than one gallon may damage the mixer.
5. With both hands, turn the knobs on the crank handle clockwise until snug. Continue turning until the crank handle suddenly slips.
6. Close the sliding door.
7. Set the timer. (Not required for Explosion-Proof model)

   Note: Make sure that the emergency stop switch is in the "on" (pulled out) position. This can be done by turning the knob counter clockwise.
8. Move the power lever to the ON position. The unit should cycle automatically with minimum vibration. If vibration of the cabinet occurs, immediately depress the emergency stop switch.

   Note: Vibrations may occur because the unit is not properly leveled. Try rocking the unit to make sure that all four feet are solidly contacting the floor. Readjust the feet if necessary. After the feet have been adjusted, reset the emergency stop switch and continue.
9. When the test is complete, move the power lever to the OFF position.
10. Open the sliding door.
11. Rotate the mechanism to an upright locking position.
12. Use the knob marked "open" to turn the crank handle in the direction of the arrow until the container is free. If necessary rotate the bail shield away from the bail and remove the container.

OPERATIONS

Before operating the paint mixer, carefully read the Warnings and Cautions in the Safety section and on the mixer, then follow these steps:

OPERATING THE MIXER

1. Open the mixer's sliding door.
2. Slide a container into the groove on the table. Rotate the clamp handle counter clockwise to open the clamp arms.
3. Position the bail shield over the container bail by rotating the upper plate. The bail shield must be removed for containers smaller than 7-1/4" high.

   Note: In situations involving frequent mixing of large and small (less then 1-gallon) containers, a special elastic cord is supplied to fasten the bail to the can.

CAUTION

Failure to properly position the bail shield on containers larger than one gallon may damage the mixer. It is normal for the bail to move freely behind the shield.

4. With both hands, turn the knobs on the crank handle clockwise until snug. Continue turning until the crank handle suddenly slips.
5. Close the sliding door.
6. Set the timer. (Not required for Explosion-Proof model)
7. Make sure that the emergency stop switch is in the "on" position (pulled out). This can be done by turning the knob counter clockwise.

EXPLOSION-PROOF MODEL

- The timer is set to 1-1/2 minutes at the factory before shipment.
- See the Service Section of this manual or consult an authorized Service Center to adjust the timer.

8. Move the POWER lever to the ON position.

WARNING A safety interlock system prevents the operator from opening the sliding door while the mixer is running. Do not attempt to open the door while the mixer is running.

- For an emergency stop in mid-cycle, push the EMERGENCY STOP button.
- If vibrations occur, turn off the machine and refer to the leveling section of this manual.

9. When the mixer has completed its cycle, move the power lever to the OFF position.

10. Open the sliding door.

11. Rotate the mechanism to an upright locking position.

12. Use the knob marked "open" to turn the crank handle in the direction of the arrow until the container is free. If necessary rotate the bail shield away from the bail and remove the container.

MIX TIMES

Material	Quantities	Approx. Mix Times *
Latex Paint	5 gal, 15L, 20L	15 - 30 seconds
Latex Paint	1 gal, 5L or less	30 - 60 seconds
Gum-Based Paint	20L	1 - 1.5 minutes
Stucco**	5 gal, 15L, 20L	1.5 - 2 minutes

* Actual mixing times may vary depending upon material viscosity, container size, head space, and colorant.

** When mixing stucco or other textured coatings, tip the container upside-down, then upright again before adding colorant.

MAINTENANCE

The Miller GyroMixer is designed for simple maintenance. For example, the motor contains sealed bearings which require no lubrication.

To ensure safe, dependable operation of the paint mixer, follow the maintenance schedule detailed below.

WARNING Always unplug the power cord when performing maintenance procedures**.**

DAILY
Immediately clean up spills with mild soap and water. A 3/4” drain pipe is located under the front shelf to aid in cleanup.
• Thoroughly remove soap film with clean, lukewarm water.
• DO NOT clean this mixer with flammable solvents.

WEEKLY
• Inspect electrical cord for damage or wear.
• Clean/scape debris from sliding door track to maintain smooth operation.

MONTHLY
• Clean debris from guide rods for the upper and lower moving arms.
• Lubricate the guide rods and lead screws with graphite grease or medium weight oil. NO grease or oil should touch the belts or pulleys.

SEMI-ANNUALLY
• Test the secondary drive V-belt tension. Adjust, if necessary, to proper tension (approximately 7 lbs to deflect the belt 1/4”).
• Check the secondary drive V-belt for wear or damage. Replace if necessary.
• Remove the rear access panel. Test the primary drive poly V-belt tension. Adjust, if necessary to proper tension (approximately 4-5 lbs to deflect the belt 3/8”).
• Check the primary drive poly V-belt for wear or damage. Replace, if necessary.
• Check clamping force. - Load a container into the mixer - Fully clamp the container into position. - Attempt to move the container. - If the container moves, adjusts the clamping force by tightening the nut on the handle. Refer to the Service section for further instructions.
• Spray silicone in the door tracks for smooth operation.
• Inspect the door lock linkage for tightness. Refer to the Service section.

TROUBLESHOOTING

Using the chart below, locate the problem in the first column, then select the probable cause to check and action to take from the next two columns. The problems are arranged from the simplest to the most complex.

Where appropriate, refer to the Service section to correct the problem.

PROBLEM	POSSIBLE CAUSE	ACTION
Mixer does not start.	POWER lever is in OFF position.	• Move POWER level to ON position.
	Power supply cord is unplugged or damaged.	• Plug in cord. • Replace damaged cord.
	Extension cord unplugged or inoperative.	• Inspect extension cord. Connect or replace if damaged.
	Door is open and the safety switch has prevented operation.	• Close door.
	Emergency stop button is pushed.	• Turn to disengage E-stop button
	Power lever not fully engaging switch.	• Adjust the power level switch. Replace, if necessary.
	E-stop button is inoperative.	• Check E-stop button. Replace, if necessary
	Door lock linkage needs adjusting.	• Adjust door lock linkage.
	Power relay not operating.	• Press the test switch underneath the power relay to close the points. • Check for loose wire connections. • Check voltage. • Replace power relay, if defective.
Timer knob is turned on, the power level is in ON position, the E-stop button is disengaged, but mixer does not operate.	Electrical supply voltage not present.	• Check electrical supply voltage at the wall breaker. Correct if necessary.
	Thermal overload protection engaged due to excessive heat in motor.	• Turn off mixer and allow to cool overnight. The next day test run the mixer for 60 seconds. If the symptom persists, replace the motor.

PROBLEM	POSSIBLE CAUSE	ACTION
Mixer operates, but does not mix.	Belts loose or defective.	• Check the poly V-belt and the V-belt. Replace if necessary.
	Improper timer setting.	• Extend mixing setting. Smaller containers and heavier viscosities require extended mixing times.
Mixer operates, but is noisy.	Container not securely clamped in.	• Check container. Reposition and clamp securely if necessary.
	Bail is not retained.	• Retail bail.
	Belt has fallen off.	• Check belt. Reposition if necessary.
	Binding occurring when rotating clamping assembly.	• Replace flange bearing in clamping assembly.
Mixer operates, but vibrates excessively or “walks”.	Mixer is not level.	• Verify if mixer is level. Level if necessary.
	Container is not centered.	• Center the pail on the table and reclamp into position.
Mixer operates and timer cycles completely, but does not mix thoroughly.	Improper timer setting.	• Extend mixing setting. Smaller containers and heavier viscosities require extended mixing times.
	Incorrect drive belt tension.	• Inspect and adjust drive belt tension if necessary.
	Secondary belt broken.	• Check secondary belt and replace if necessary.
Motor runs erratically.	Frayed or loose motor wire.	• Tighten loose wire or replace damage wire.
	Thermal overload relay defective.	• Replace motor.
	Motor bearings bad.	• Replace motor.
	Primary belt has fallen off.	• Check primary drive belt. Reposition or replace, if necessary.

PROBLEM	POSSIBLE CAUSE	ACTION
Mixer will not shut off.	Damaged timer relay.	• Replace timer relay.
	Faulty connection to the potentiometer.	• Tighten connection to potentiometer.
	Damaged potentiometer.	• Replace potentiometer.
Mixer hums, but will not run.	Insufficient current.	• Verify mixer is correctly installed to a dedicated line.
	Something caught in mixer.	• Check for obstructions.
	Defective bearing in pulleys four arms or main drive.	• Check each bearing for roughness. Replace if necessary.
	Defective motor.	• Replace motor.
Mixer squeaks at startup, but still runs.	Belts loose.	• Check V-belt and poly-V belt tension. Tighten if necessary.

SERVICE

GENERAL INFORMATION

If you do not feel confident about disassembling the paint mixer or replacing a part, DO NOT ATTEMPT THE PROCEDURE. Should problems or questions arise, contact Customer Service at Fluid Management.

Carefully read all of the instructions before you begin. For component identification and location, refer to the Parts Section of this manual.

WARNING **ELECTRICAL HAZARD**

Always shut off the POWER switch and unplug the mixer before servicing.

CAUTION Wear safety glasses to prevent possible injury.

Recommended Spare Parts

Belts:	Primary: 16-rub poly-V belt	Part Number 18444
	Secondary: V-belt,	Part Number 18396
Bail Retainer	Part Number 20810	
Rubber Pad	Part Number 18351	

Special Tools

Belt tensioning gauge

Voltage meter

REMOVING THE SHEET METAL COVERS

1. Unplug the mixer.
2. Loosen the six (6) screws on the rear access panel and lift the panel up and off of the screws. Set aside the panel.
3. Remove the top cover by removing the two (2) screws which are located under-neath the right and left back corners of the mixer cover. Save the screws in a cup or jar.
4. Open the sliding door.
5. Remove the two (2) screws underneath the right and left front corners of the mixer cover.
6. Perform service.
7. Replace top cover, then rear access panel.
8. Restore power to the mixer.

REPLACING/SERVICING THE SECONDARY DRIVE V-BELT

1. Unplug the unit.
2. Close the sliding door approximately 4" to disengage the anti-rotation pin.
3. Turn the rotating assembly until upside down.
4. Inspect the secondary drive V-belt for worn or frayed areas.
   - If the belt is in good condition, continue to set the belt tension to approximately 1/4" deflection, as described in steps 8-9.
   - If the belt needs to be replaced continue to step 5.
5. Using a 1-1/8" open-end wrench, loosen the nuts holding the secondary idler bracket in place.
6. Move the bracket forward until it is loose enough to remove the old belt.

   Note: It is easier to remove the belt from the bottom first.
7. Beginning at the bottom, place the new V-belt into position around the stationary pulley, up and around the two (2) idler pulleys and finally around the secondary pulley in the front.

8. Evenly move the secondary idler bracket to set the belt tension.

   Note: Belt tension should be set so that a seven (7) pound force will deflect the belt 1/4".

9. Tighten the nuts holding the secondary idler bracket in place.

10. Restore power to the unit.

REPLACING/SERVICING THE PRIMARY DRIVE POLY V-BELT

1. Unplug the unit.

2. Remove the rear access panel by loosening the screws and lifting the panel off the screws.

3. Inspect the primary drive poly V-belt for worn or frayed areas.

   - If the belt is in good condition, continue to set the belt tension in step 7.
   - If the belt is frayed or damaged, continue to step 4.

4. Using a 9/16" wrench, loosen the two screws holding the idler bracket.

5. Loosen the idler adjustment screw behind the idler pulley in order to release the tension enough to remove the old belt.

6. Place the new belt in position over the motor drive pulley, then over the idler pulley, and finally around the driven pulley.

   Note: The belt must be fully engaged in all the grooves of both the driven pulley and the motor drive pulley. Rotate the motor drive pulley by hand to ensure that the belt is riding on all the grooves.

7. Tighten the screw behind the idler pulley to set the belt tension. The poly V-belt requires a 4-5 pound force to deflect the belt 3/8".

   Note: The poly V-belt will feel looser than a standard V-belt.

8. Tighten the two screws holding the idler bracket.

9. Test run the mixer for 60 seconds. Check the belt tension and adjust if necessary.

10. Replace the rear access panel.
11. Restore power.

ADJUSTING THE CLAMPING FORCE IN THE CLAMP HANDLE

1. Unplug the unit.
2. Load container into mixer.
3. Clamp the container.
4. Test the clamping force by pushing the container with two hands. If the container moves, the clamping force must be adjusted as follows:
   - Remove the black plastic plug from the center of the clamp handle.
   - Using a needle-nose pliers, remove the cotter pin.
   - Tighten the locknut by turning it clockwise one or two revolutions.
   - Recheck the clamping force. If the container still moves when clamped, tighten the nut until the pail does not move when clamped.
5. When the clamping force is correct, place the cotter pin that was removed in step 4 back into the mechanism.
6. Place the plastic plug back into the center of the crank handle.
7. Restore power to the mixer.

ADJUSTING THE DOOR LOCK LINKAGE AND START SWITCH

1. Disconnect the power.
2. Remove rear access panel.
3. Remove the top cover by removing the screws holding it in place.
4. Loosen the two (2) screws between the door lock linkage brackets.
5. Loosen the two (2) screws in the start switch mounting bracket. (Only for explosion-proof models.)
6. Turn the power lever to the ON position.
7. With the door locking bracket in a fully upright position against the rubber stop, retighten the two (2) adjustment screws between the door lock linkage brackets.

CAUTION: To avoid breakage, do not over actuate the power lever.

8. After tightening the screws in step 7 and with the power lever still in the ON position, slide the start switch bracket toward the front of the mixer until fully depressed by the roller. Tighten the screws while the switch is in this position.
9. Replace the top cover and rear access panel. Tighten the screws.
10. Restore the power.

REPLACING THE ROLLER

1. Unplug the mixer.
2. Open the sliding door.
3. Remove the screw on each end of the roller bracket. Use a needle-nose pliers to hold the plastic bushing while removing the Phillips screw.
4. Remove and discard the old roller.
5. Place the plastic bushings in the ends of the new roller.
6. Place the roller on the roller bracket.
7. Using the needle-nose pliers to keep the plastic bushing from rotating, tighten the screws on the roller bracket.
8. Close the sliding door.
9. Restore power to the mixer.

INSTALLING THE UPPER TABLE PAD

1. Unplug the electrical cord.
2. Raise the sliding door.
3. Turn the rotating assembly upside down.
4. Use a scraper to loosen the pad around the edges.
5. Pull off the old pad.

6. Using mineral spirits or similar non-flammable liquid, remove the old adhesive residue left on the table.
7. Remove the adhesive paper on the back of the new pad.
8. Carefully aligning the new pad, attach the pad to the upper table. Apply pressure from the center outward and over the entire surface of the pad until it is secure.
9. Close the sliding door.
10. Restore power to the mixer.

REPLACING THE SLIDING DOOR

1. Unplug the mixer.
2. Remove the rear access panel.
3. Remove the top cover.

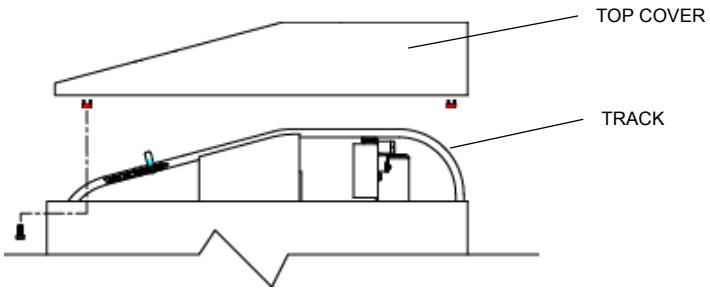


Figure 2. Door Covers

4. Remove the two (2) screws and door stop from the right track. (Figure 3, as viewed from back.)

5. Close the sliding door.

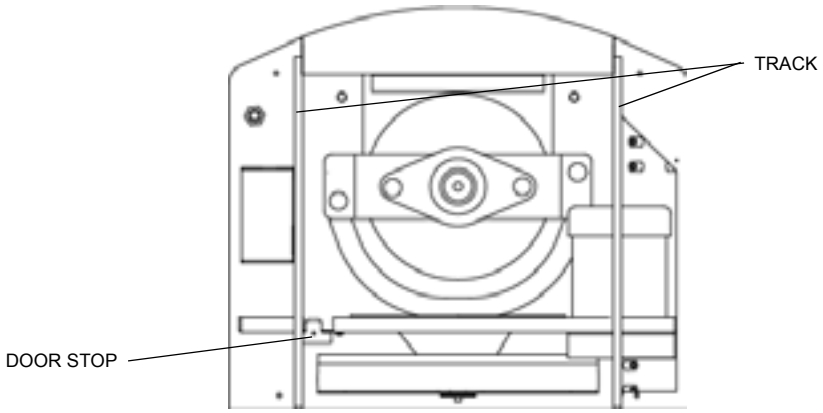


Figure 3. Door Stop

6. Working at the back of the mixer, gently slide the door out of the two notches in the top of the right and left side door tracks (see Figure 3). Set door aside.
7. Clean the door tracks.
8. Place the new door on a clean, flat surface.
9. Vertically apply masking tape to the slats in order to keep the slats in line.
10. Feed the replacement sliding door into the two notches on the top right and left side door tracks.
11. Gently glide the door all the way down.
12. Remove the masking tape.
13. Test the operation of the door by opening and closing. Make adjustments, as necessary.
14. Mount the door stop back onto the right track with the two (2) screws.
15. Reassemble the top cover and rear access panel.
16. Restore power to the mixer.

REMOVING THE MOTOR

1. Unplug the electrical cord.
2. Remove the rear access panel and top cover by removing the screws.
3. Loosen, but do not remove, the idler pulley.
4. Remove the belt from the motor pulley.
5. Loosen the screw holding the conduit box cover in place.
6. Remove the conduit box cover in order to disconnect the following three wires:
   - Brown (L1) and blue (L2) wires which are secured with wire nuts.
   - Ground wire held with in place with a green screw.
7. Inside the conduit box, remove the nut securing the tubing connector to the conduit box and separate the connector from the conduit box.
8. Holding the motor securely, remove the four (4) screws holding the motor to the motor mounting bracket. Save the screws. Discard the motor.
9. For reassembly purposes, measure the position of the motor drive pulley before removing it from the driveshaft: measure from the face of the motor to the edge of the pulley.

   Note: The key should be flush with the shaft.
10. Loosen the motor drive pulley set screw and remove the pulley. Save the circular push-on retaining ring for reassembly.
11. Set the pulley aside for later use.
12. Discard the old motor.

REASSEMBLING THE MOTOR

1. Remove the key taped to the side of the new motor.
2. Slide the motor drive pulley onto the shaft and into the same position measured during removal in Step 9, REMOVING THE MOTOR.
3. Place the key inside the keyway in the motor drive pulley and tighten the set screw. The key should be seated in the driveshaft keyway. It should be positioned in the same way as on the old motor (as noted in Step 9, REMOVING THE MOTOR).
4. Push the circular retaining ring into the motor pulley.
5. Viewing the shaft end of the motor, confirm that the rotation of the motor is CW (clockwise). Refer to the diagram on the side of the motor for a detailed wiring diagram.
6. Lift the motor, with the wires pointing downward, into position and fasten to the motor mounting bracket with the four (4) screws.
7. Before completely tightening the screws, manually turn the rotating mechanism one full revolution to verify that the motor does not interfere with the rotating mechanism.

   Note: If there is interference, move the motor slightly to correct the problem before tightening the screws.

8. Connect L1, L2, and ground wires to the motor. Refer to the diagram on the side of the motor to verify the motor wiring for clockwise rotation as viewed from the shaft end.
9. Reassemble the tubing connector nut onto the conduit box.
10. Close the motor cover plate with the screw.

11. Perform a motor test:
    - Plug in the mixer.
    - Turn on the motor and confirm that the rotation of the motor is clockwise, as viewed from the shaft end.
    - If not, refer to the wiring diagram on the side of the motor and correct the rotation setting.

    Note: If the diagram does not specify, the default is as viewed from the lead end where the power wires are located.

    - Unplug the mixer.
12. Replace the belt on the motor pulley and set the belt tension.

    Note: The tension on the poly V-belt will fell looser than a standard V-belt.

13. Plug in the mixer.
14. Test run the mixer for 60 seconds to check the belt tension.

    Note: If necessary, unplug the mixer and adjust the tension. This is also the time to adjust the motor drive pulley, if required.

15. Reassemble the top cover and the rear access panel.
16. Plug in the mixer.

ELECTRICAL

REPLACING THE TIMER

1. Unplug the mixer.
2. Remove the rear access panel and the electrical cover plate.
3. Locate the timer module.
4. From the back of the mixer, perform the following steps:
   - Make a wiring diagram or label the wires.
   - Disconnect all wire connections at the timer.
   - The timer is secured to a screw on the back panel with one (1) nut. Use a socket wrench to remove the nut.
   - Place the new timer on the screw and hand tighten the nut. Do not over tighten.
   - Reattach the new timer to the connecting wires according to your diagram or labels.
5. Verify that all connections fit tightly. Repair any loose connections by crimping or replacing the loose ones.
6. Reinstall the electrical cover plate and rear access panel.
7. Plug in the electrical cord and verify that the mixer operates properly. Make adjustments, if necessary.

REPLACING THE POWER RELAY

1. Unplug the mixer.
2. Remove the rear access panel and the electrical cover plate.
3. Locate the power relay.
4. From the back of the mixer, perform the following steps:
   - Make a wiring diagram or label the wires.
   - Disconnect all six (6) wire connections at the power relay.
   - The power relay is secured to two (2) screws on the back panel with two (2) nuts. Use a socket wrench to remove the nuts.
   - Place the new power relay on the screws and hand tighten the nuts. Do not over tighten.
   - Reattach the six (6) connecting wires according to your diagram or labels.

5. Verify that all connections fit tightly. Repair any loose connections by crimping or replacing the loose ones.

6. Reinstall the electrical cover plate and the rear access panel.

7. Plug in the electrical cord and verify that the mixer operates properly. Make adjustments, if necessary.

ELECTRICAL DRAWINGS

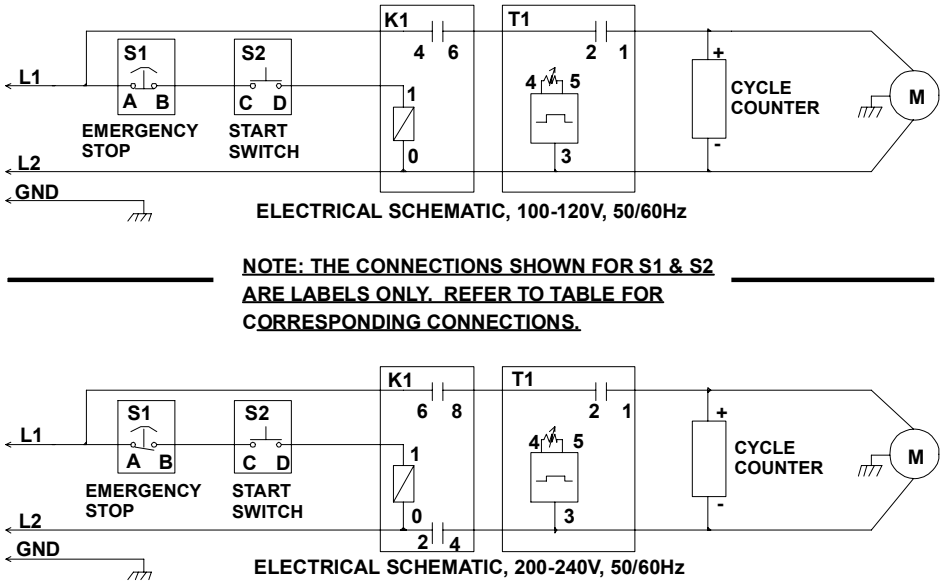


Figure 4. Electrical Schematic

Switch	Terminal	Standard	Intn'l X-Proof	US X-Proof	X-Proof
S1	A	21	1	N.C.	---
S1	B	22	2	N.C.	---
S2	C	13	3	N.O.	---
S2	D	14	4	N.O.	---
S1	A	21	---	---	N.C.
S1	B	22	---	---	N.C.
S2	C	13	---	---	N.O.
S2	D	14	---	---	N.O.

Table 2. Electrical Schematic

PARTS

This section is designed to assist you in performing service functions and identifying parts. All repairs must be performed by qualified service personnel.

TERMS

Unless prior arrangements have been made, parts will be shipped UPS. All prices are F.O.B. Wheeling, Illinois, and are subject to change without notice.In all correspondence or phone orders for parts, please state model number and serial number of the equipment.

RETURNS

No parts are to be returned without prior authorization. A Returned Goods Authorization number is required.

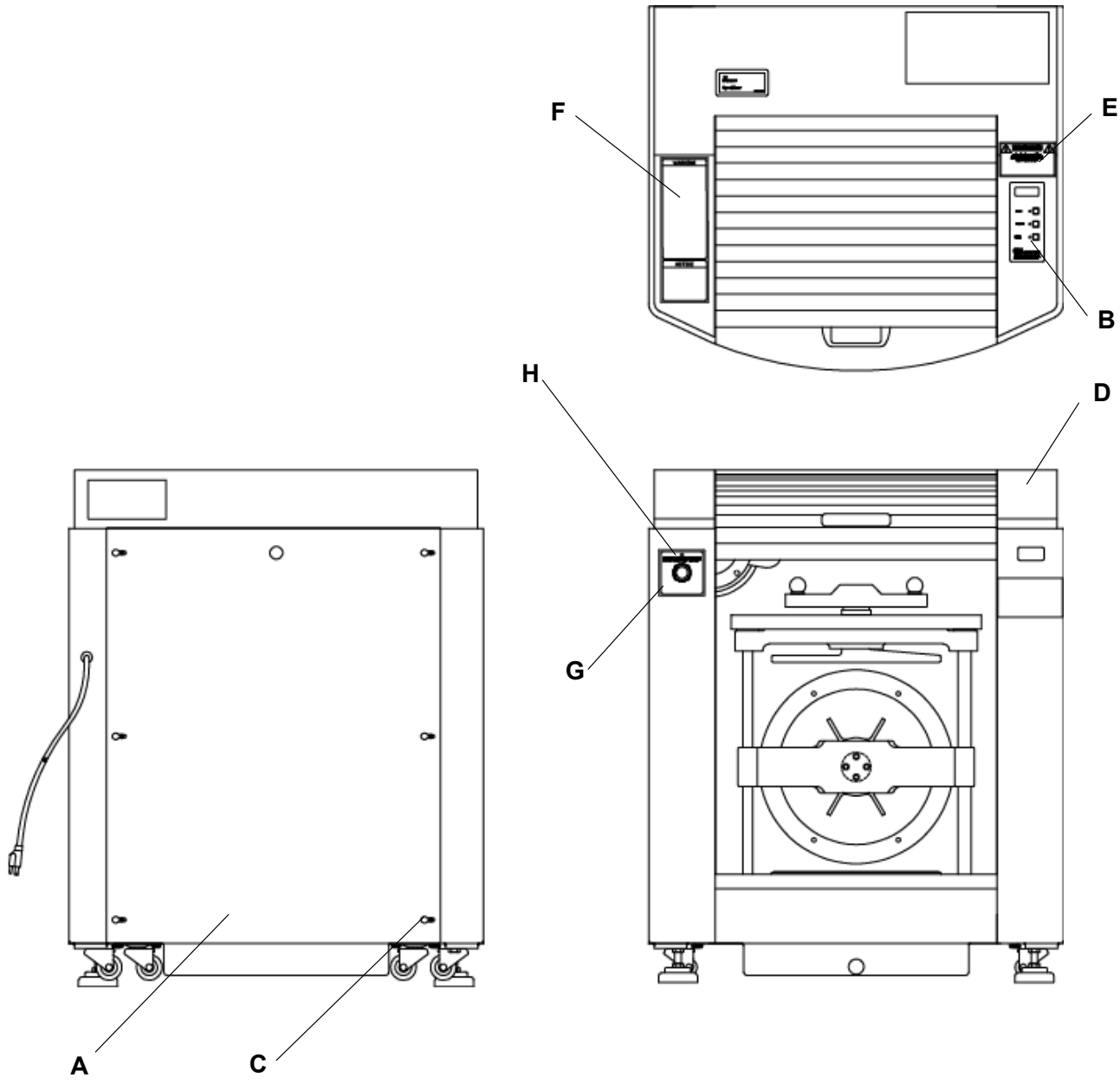
WARRANTY SERVICE

Defective parts are replaced under warranty for a period of two years. Labor on major components is covered for a period of one year. The procedure is as follows:

- Call the Customer Service department at 1(800) 462-2466. Have the serial number and model number ready.
- If the problem can be handled over the phone, an RGA(Return Goods Authorization) number will be assigned.You must return defective parts to avoid billing.

NON-WARRANTY SERVICE

- Call the Customer Service department at 1(800) 462-2466. Have the model number ready.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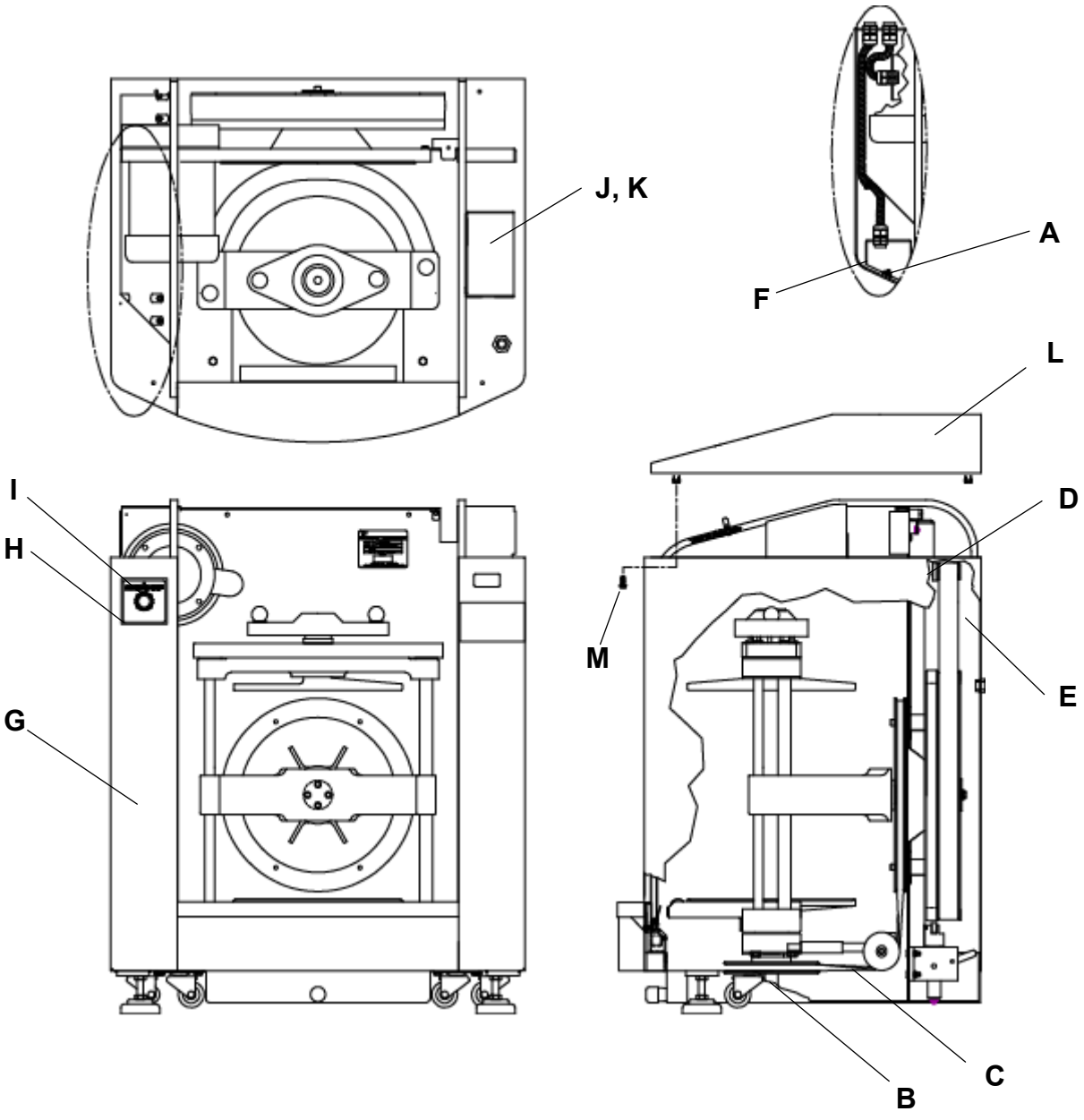
	PART NO	DESCRIPTION	NO REQ
A	18307	BACK PANEL	1
B	F29082-01	DIGITIAL TIMER PANEL	1
C	20811	SCREW, PAN HEAD WITH EXTERNAL LOCK WASHER (10-24 X 1/2", PHILLIPS) BACK PANEL MOUNTING SCREW	6
D	29546	STANDARD COVER ASSEMBLY	4
E	4980024	DECAL, CONTROL PANEL STANDARD GYROMIXER	1
F	4980025	DECAL, WARNING/NOTICE STANDARD GYROMIXER	1
G	4980029	DECAL, EMERGENCY STOP SWITCH STANDARD GYROMIXER	1
H	28232	ON/OFF EMERGENCY STOP KIT	1
H	26050	EMERGENCY STOP - SWITCH ONLY	1
H	26052	EMERGENCY STOP - SWITCH MECHANISM ONLY	1
	19337	TIMER KNOB (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	1
	1980026	DECAL, WARNING / NOTICE (NOT SHOWN) EXPLOSION-PROOF GYROMIXER ONLY	
	4980067	DECAL, CONTROL PANEL (NOT SHOWN) EXPLOSION-PROOF GYROMIXER ONLY	1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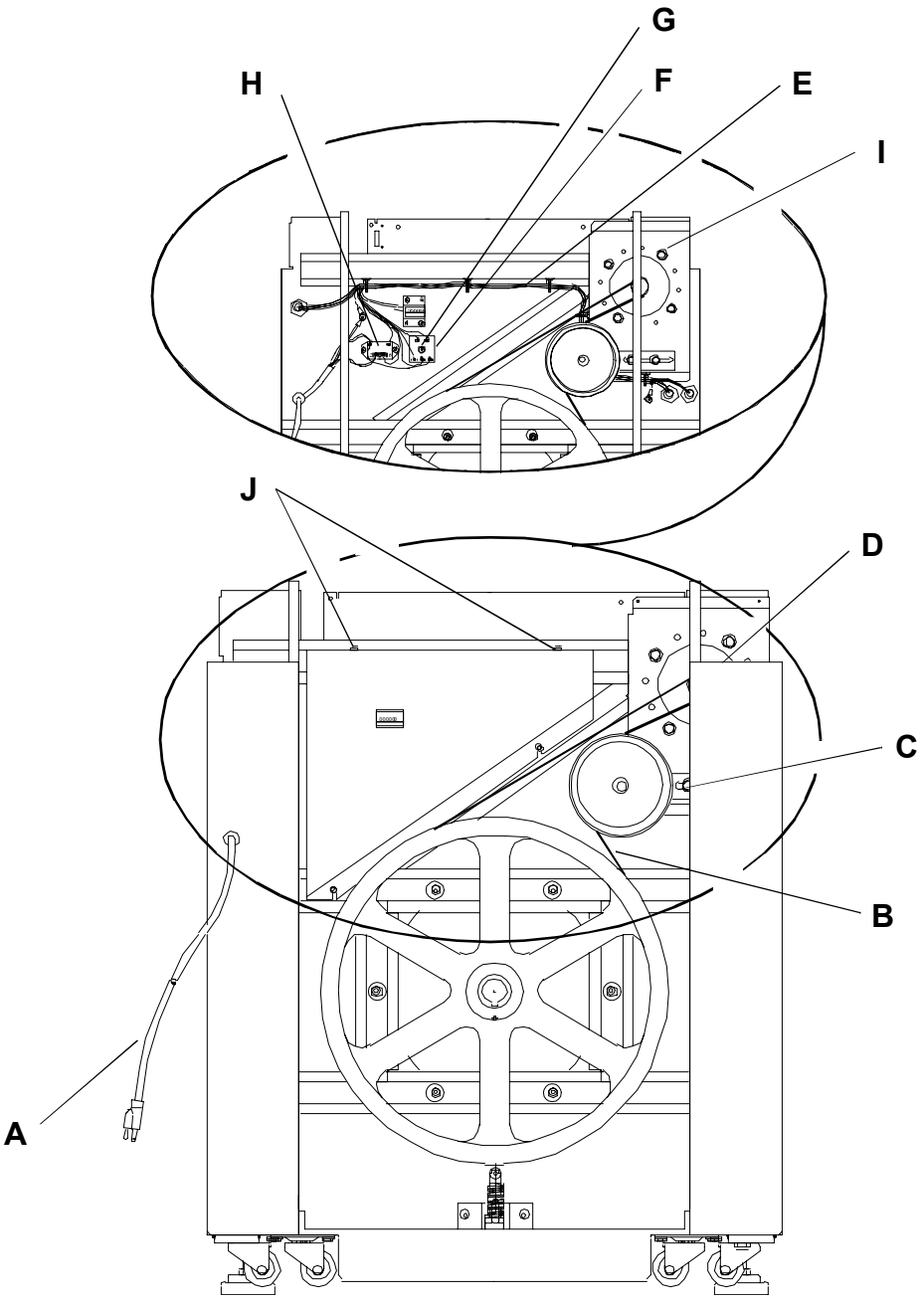
	PART NO	DESCRIPTION	NO REQ
A	F0113	STAINLESS STEEL THREADED STANDARD SCREW	1
B	18334	SHAFT, HEX, SOUPLER, 11” HEXX4.66LG	1
C	18396	SECONDARY DRIVE V-BELT	1
D	18442	POLY-V MOTOR PULLEY STANDARD GYROMIXER	1
E	18444	MAIN DRIVE POLY-V BELT, 820 J 16	1
F	18450	EMERGENCY STOP SWITCH COVER	1
G	18490	CABINET, STANDARD MACHINE	1
H	4980029	DECAL, E-STOP, STANDARD GYROMIXER	1
I	28232	ON/OFF EMERGENCY STOP KIT	1
J	5108219	BULB HOLDER AND START SWITCH MECHANISM STANDARD GYROMIXER	1
K	5108330	START PUSH BUTTON, GREEN STANDARD GYROMIXER	1
L	21516	STANDARD COVER ASSEMBLY	1
M	F0103408	SCREW, HEX, 1/4-20X1/2, FLANGE	1
	19345	POTENTOMETER, 1.5 MEGOHM (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	4
	F0116A406	SCREW, SET, 1/4-20X3/8, SOCKET CAP (NOT SHOWN)	1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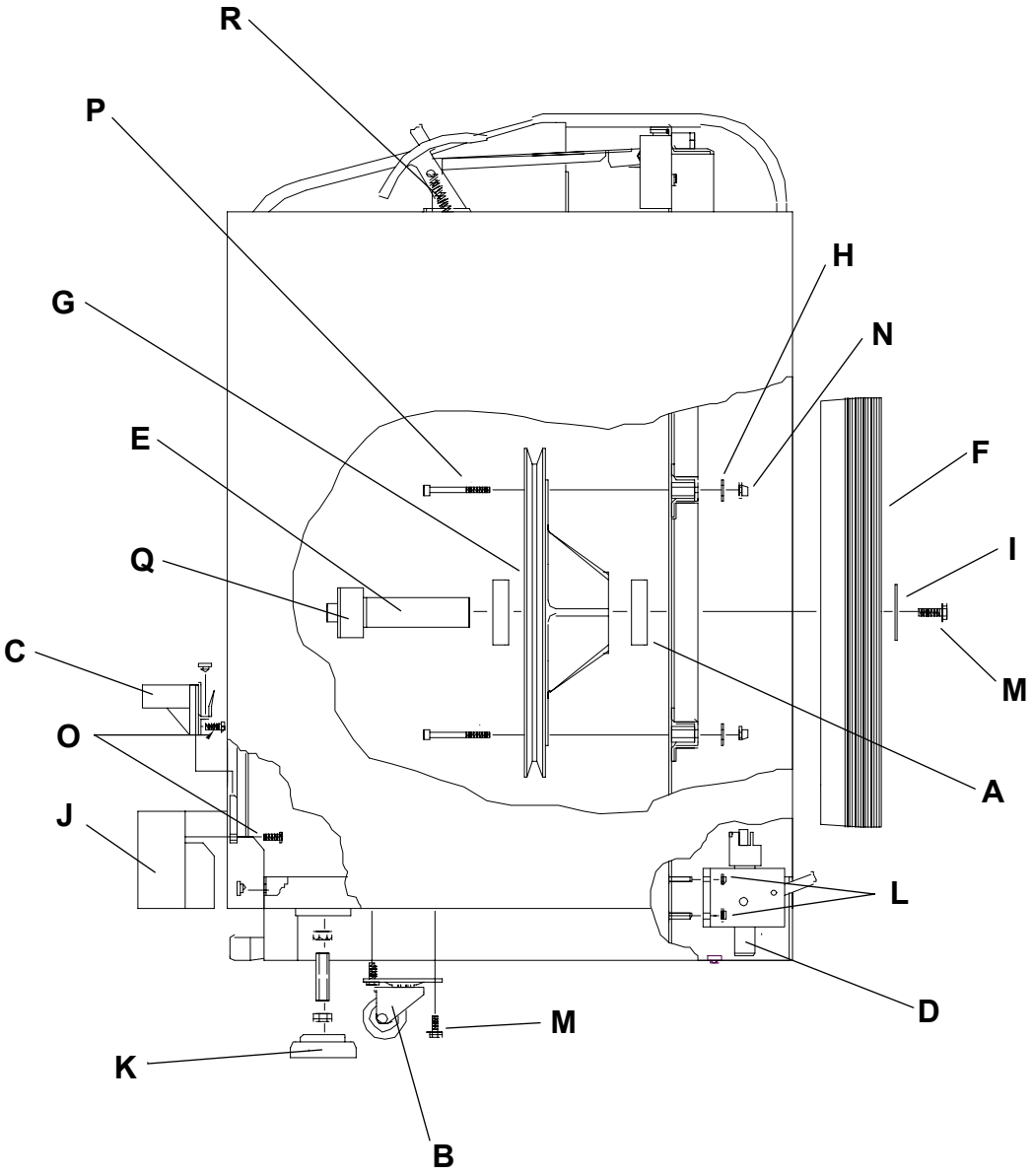
	PART NO	DESCRIPTION	NO REQ
A	18370	INCOMING CORD, 12 FEET; STANDARD GYROMIXER	1
B	18444	MAIN DRIVE POLY-V BELT, 820 J	1
C	118487	IDLER ADJUSTMENT BRACKET	1
D	26458	MOTOR (1 HP, 100-200V/200-240V, 50/60 HZ - 1425/1725 RPM) STANDARD GYROMIXER	1
D	20824	MOTOR (1 HP, 115/230VAC, 60 HZ - 1425/1725 RPM) EXPLOSION PROOF GYROMIXER ONLY	1
E	119348	CABINET WIRING HARNESS STANDARD 100-120V GYROMIXER	1
F	32563	SOLID STATE INTERVAL TIMER 100-120V STANDARD GYROMIXER	1
F	32564	SOLID STATE INTERVAL TIMER 220-230V EXPLOSION PROOF GYROMIXER ONLY	1
G	4000096	NUT, HEX (1/4-20, WITH NYLON PATCH) ANTI-ROTATION ASSEMBLY AND TIMER MOUNTING SCREW AVAILABLE ONLY IN PACKAGE OF TWELVE - PART NO. S4000438	5
H	5608204	LOW VOLTAGE POWER RELAY STANDARD AND EXPLOSION PROOF GYROMIXER NOTE: THE LOW VOLTAGE POWER RELAY IS USED ON 100-120VOLT EXPLOSION PROOF GYROMIXERS AND MUST BE INSTALLED IN AN EXPLOSION PROOF BOX.	1
I	F0103616	SCREW, HEX SERRATED FLANGE (3/8-16 X 1") TWO IDLER ADJUSTMENT BRACKET MOUNTING SCREW AND FOUR MOTOR MOUNTING SCREWS	6
J	F01191008	SCREW, HEX SERRATED FLANGE; NO. 10 X 1/2”, WITH NYLON PATCH ELECTRICAL COVER MOUNTING SCREW	4
	20446	ELECTRICAL COVER (NOT SHOWN)	1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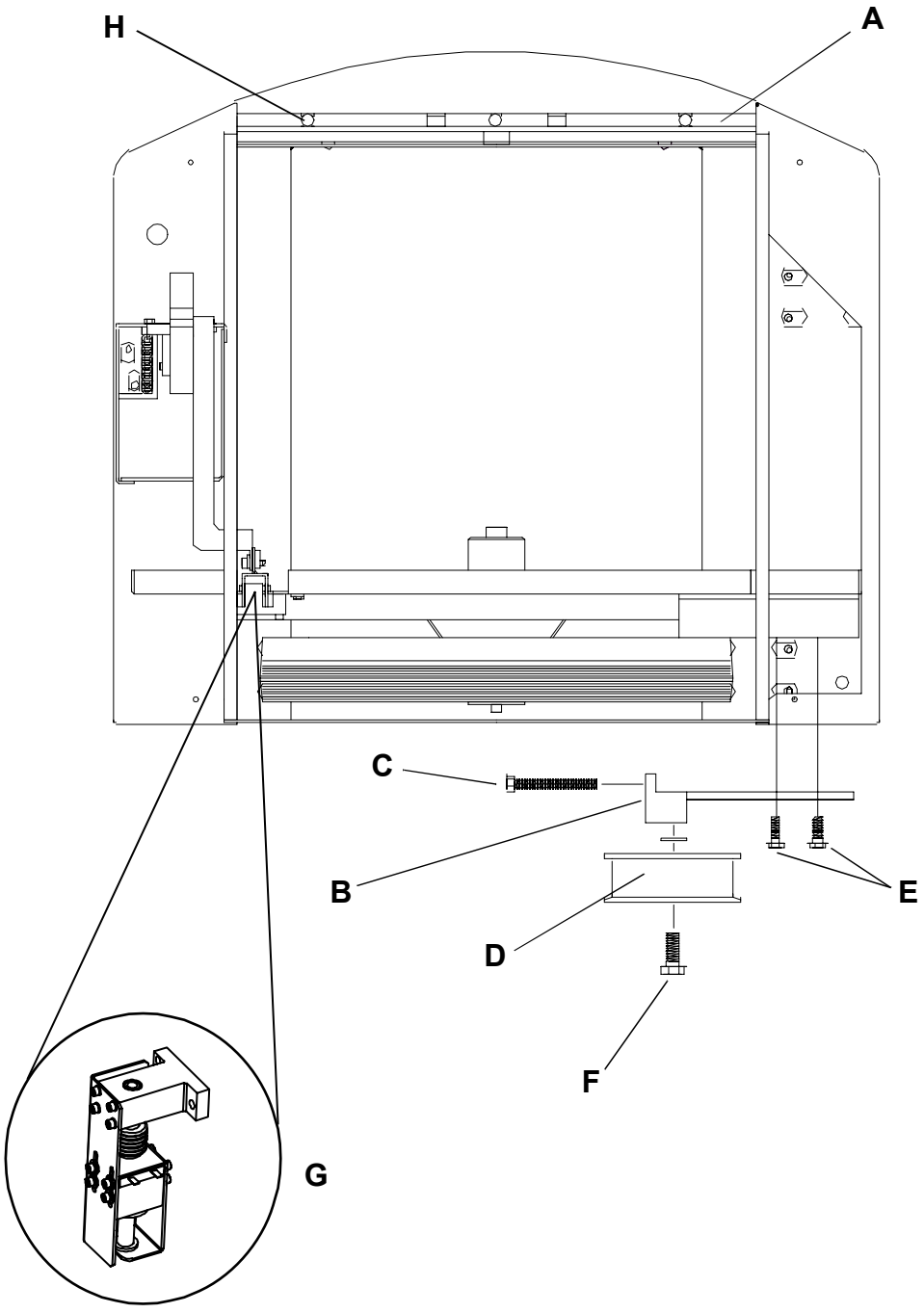
	PART NO	DESCRIPTION	NO REQ
A	17268	SEALED BEARING (35MM ID)	2
B	18354	SWIVEL CASTER	4
C	18387	STAINLESS STEEL FRONT SHELF	1
D	18400	ANTI-ROTATION ASSEMBLY	1
E	18441	PRIMARY AXIS SHAFT	1
F	18443	MAIN DRIVE POLY-V PULLEY (19” DIAMETER)	1
G	18452	STATIONARY PULLEY	1
H	16077	WASHER (3/8” ID X 1" OD) (FOR STATIONARY PULLEY MOUNTING SCREWS)	6
I	17279	MAIN DRIVE PULLEY WASHER	1
J	18480	FRONT PANEL	1
K	21515	LEVELING FOOT ASSEMBLY	4
L	4000096	NUT, HEX (1/4-20, WITH NYLON PATCH) ANTI-ROTATION ASSEMBLY AND TIMER MOUNTING SCREW AVAILABLE ONLY IN PACKAGE OF TWELVE - PART NO. S4000438	4
M	4000370	SCREW, HEX HEAD CAP (5/16-18 X 3/4”, WITH NYLON PATCH) ONE - MAIN DRIVE POLY-V PULLEY MOUNTING SCREW AND SIXTEEN SWIVEL CASTER MOUNTING SCREWS	17
N	4000126	NUT, HEX (5/16-18, WITH NYLON PATCH) FOR STATIONARY PULLEY MOUNTING SCREWS AVAILABLE ONLY IN PACKAGE OF TWELVE - PART NO. S4000441	6
O	F0100A4P12	SCREW, BUTTON HEAD CAP (1/4-20 X 3/4”, SOCKET, WITH NYLON PATCH) FRONT PANEL AND SHELF MOUNTING SCREWS	1
P	F0106A5B44	SCREW, SOCKET HEAD CAP (5/16-18 X 2-3/4”) STATIONARY PULLEY MOUNTING SCREWS	6
Q	F0104A6B14	SCREW (3-8-16 x .875) BLACK OXIDE WITH PATCH	1
R	18305	START SWITCH SPRING MOUNTING BRACKET EXPLOSION PROOF GYROMIXER ONLY	1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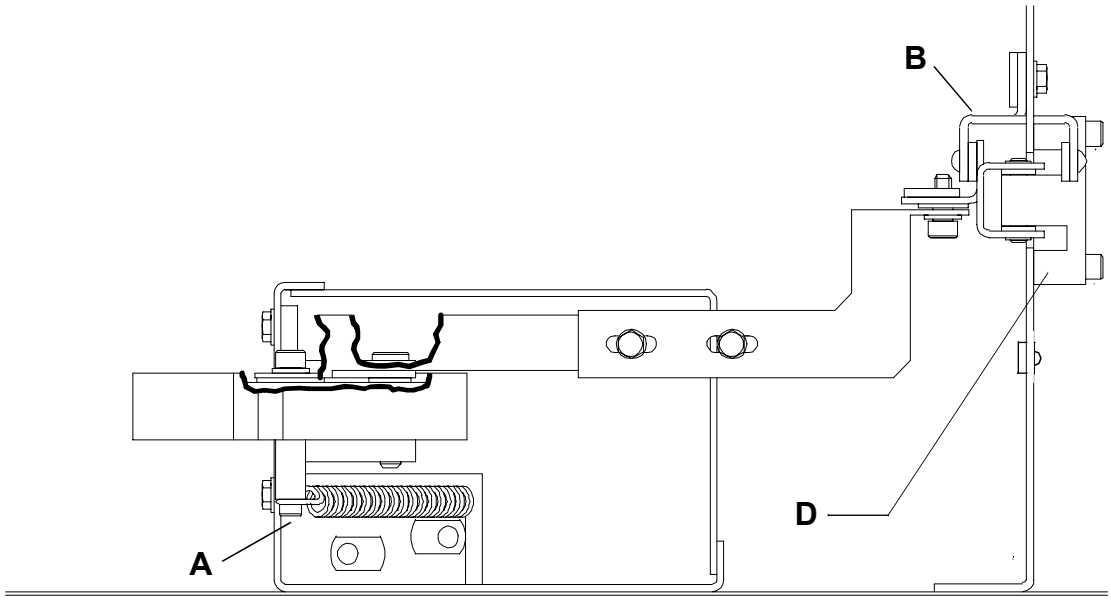
	PART NO	DESCRIPTION	NO REQ
A	28533	SLATTED FRONT DOOR ASSEMBLY	1
B	18487	IDLER ADJUSTMENT BRACKET	1
C	19437	SCREW, HEX HEAD (3/8-16 X 3-1/2”) IDLER ADJUSTMENT BRACKET MOUNTING SCREW	1
D	20459	MAIN DRIVE IDLER PULLEY1	1
E	F0103616	SCREW, HEX SERRATED FLANGE (3/8-16 X 1") TWO - IDLER ADJUSTMENT BRACKET MOUNTING SCREW AND FOUR - MOTOR MOUNTING SCREWS	6
F	F0103824	SCREW, HEX SERRATED FLANGE (1/2-13 X 1-1/2”) MAIN IDLER PULLEY MOUNTING SCREW	1
G	29536	SOLENOID ASSEMBLY, 120VAC, 60 HZ	1
H	26065	INTERLOCK SWITCH ASSEMBLY	1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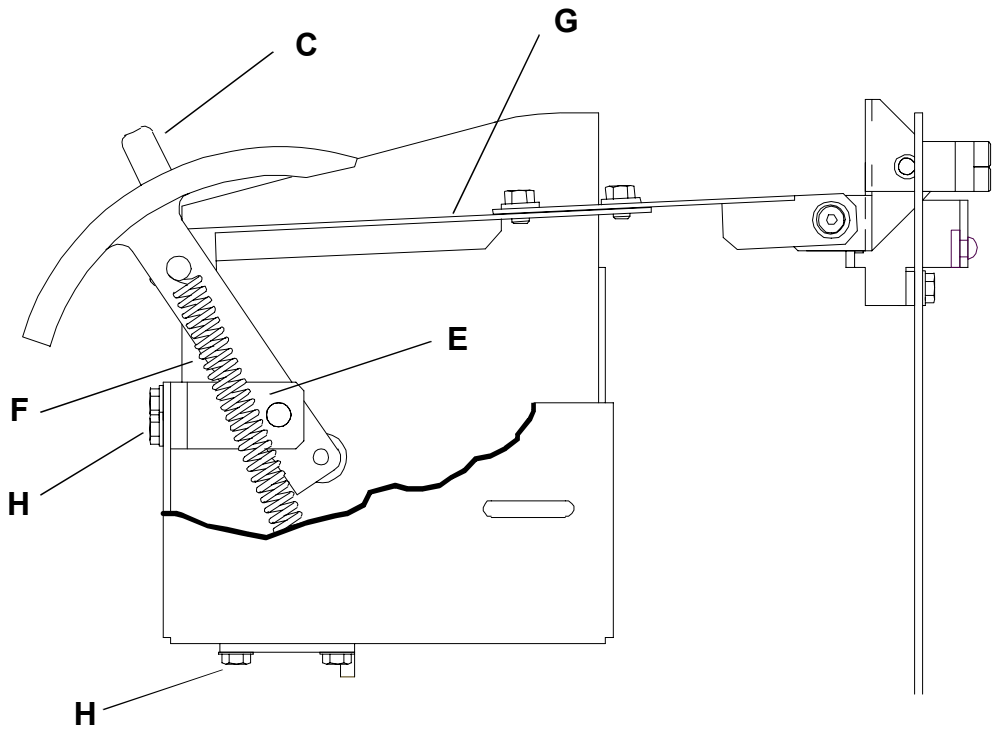
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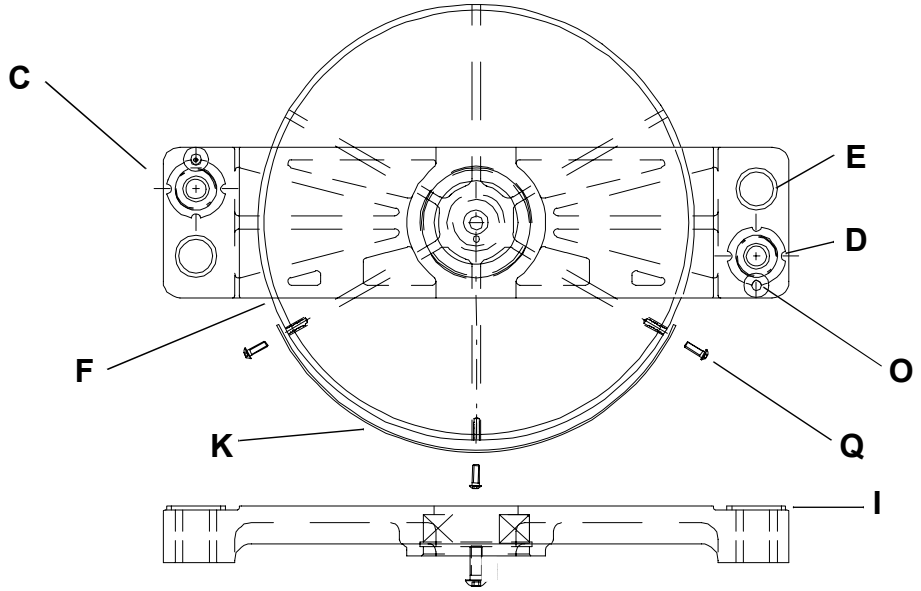
	PART NO	DESCRIPTION	NO REQ
A	18306	START SWITCH SPRING PIN	1
B	18325	DOOR LOCKING BRACKET	1
C	21518	START SWITCH HANDLE ASSEMBLY	1
D	18365	DOOR LOCK MOUNTING BLOCK	11
E	18393	START HANDLE MOUNTING BLOCK	1
F	20445	START HANDLE SPRING	1
G	20813	DOOR LOCKING LINKAGE	1
H	F0103408	SCREW HH (1/4-20X1/5 LG, LOCKING, SERRATED)	4

CABINET & ELECTRIC COMPONENTS NOT SHOWN

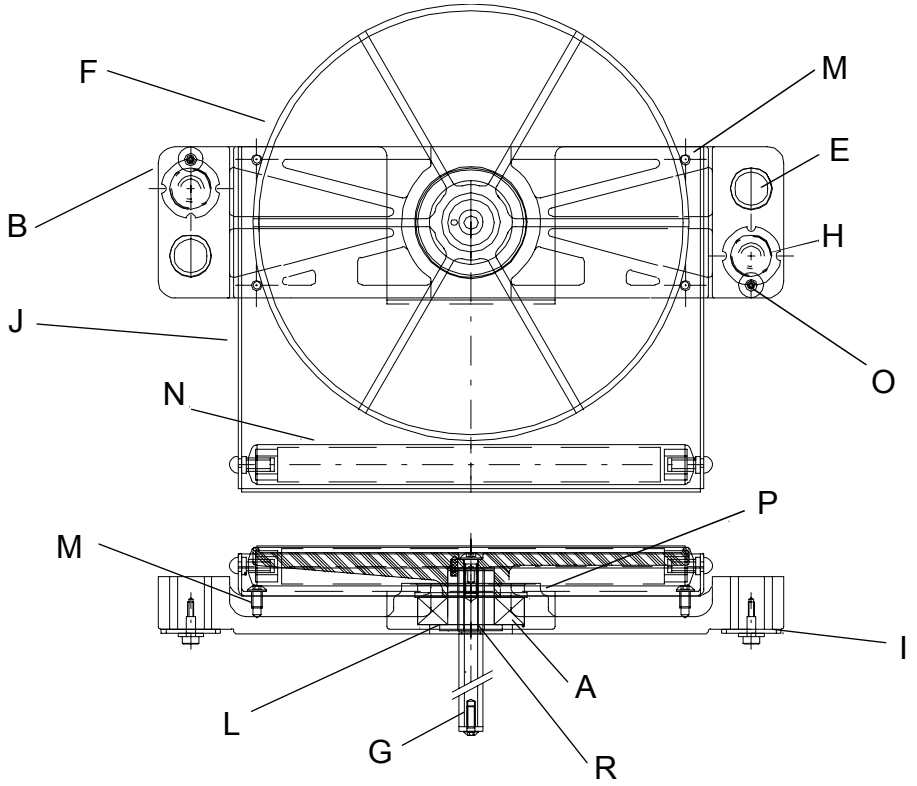
PART NO	DESCRIPTION	NO REQ
18305	START SWITCH SPRING MOUNTING BRACKET PIN	1
18365	DOOR LOCK MOUNTING BRACKET	1
18393	START HANDLE MOUNTING BLOCK	1
19333	TIMER RELAY AND CONTROL MOUNTING BRACKET, EXPLOSION-PROOF	1
19334	TIMER MOUNTING BRACKET EXPLOSION-PROOF GYROMIXER ONLY	1
19340	CABINET ASSEMBLY EXPLOSION-PROOF GYROMIXER ONLY	1
19347	POTENTIOMETER (2.0 MEGOHM) EXPLOSION-PROOF GYROMIXER ONLY	1
19351	SOLID STATE INTERVAL TIMER (EXPLOSION-PROOF 200-240V) NOTE: THE INTERVAL TIMER MUST BE INSTALLED IN AN EXPLOSION-PROOF BOX ON THE EXPLOSION-PROOF MIXER.	1
19354	DOUBLE GANG EXPLOSION-PROOF BOX EXPLOSION-PROOF GYROMIXER ONLY	1
19355	EMERGENCY STOP SWITCH EXPLOSION-PROOF GYROMIXER ONLY	1
19356	MOMENTARY START SWITCH EXPLOSION-PROOF GYROMIXER ONLY	1
20804	CABINET WIRING HARNESS 200-240V EXPLOSION-PROOF GYROMIXER ONLY	1
20806	EXPLOSION-PROOF CONDUIT BOX EXPLOSION-PROOF GYROMIXER ONLY	1
20812	DOOR STOP BRACKET	1
20813	DOOR LOCKING LINKAGE	1
21515	LEVELING FOOT ASSEMBLY	1
21516	COVER ASSEMBLY STANDARD GYROMIXER	1

21517	COVER ASSEMBLY EXPLOSION-PROOF GYROMIXER ONLY	1
21518	START SWITCH HANDLE ASSEMBLY, INCLUDES DOWEL PIN AND ROLLER	1
21519	STATIONARY PULLEY ASSEMBLY, INCLUDES BEARINGS AND PRIMARY AXIS SHAFT	1
21521	DOOR LOCK MOUNTING ASSEMBLY	1
4980026	DECAL, WARNING/NOTICE EXPLOSION-PROOF GYROMIXER ONLY	1
26052	ON/OFF EMERGENCY STOP SWITCH MECHANISM STANDARD GYROMIXER	1
5108219	BULB HOLDER AND START SWITCH MECHANISM STANDARD GYROMIXER	1
5608300	HIGH VOLTAGE POWER RELAY (EXPLOSION-PROOF) NOTE: THE HIGH VOLTAGE POWER RELAY IS USED ON 200-240 VOLT EXPLOSION-PROOF	1
4000370	CREW, HEX HEAD CAP (5/16-18 X 3/4” WITH NYLNO PATCH)(1 MAIN DRIVE POLY-V PULLEY MOUNTING & 16 CASTERS)	1
F0103408	SCREW, HEX SERRATED FLANGE (1/4-20 X 1/2”, WITH NYLON PATCH) (FOUR - COVER ASSEMBLY MOUNTING SCREW AND TWO - DOOR STOP BRACKET)	6

Upper Stationary Arm Assembly

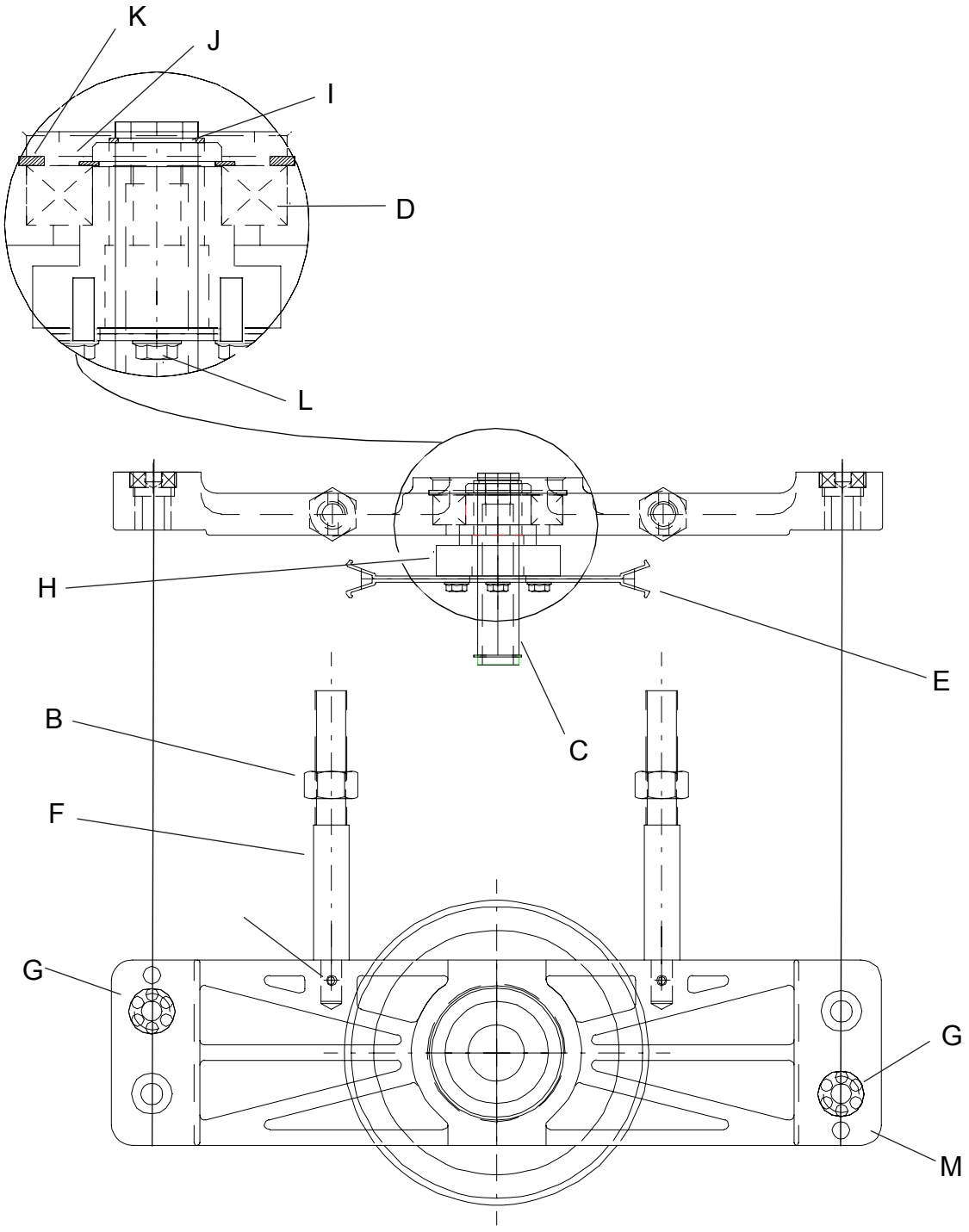


Lower Moving Arm Assembly



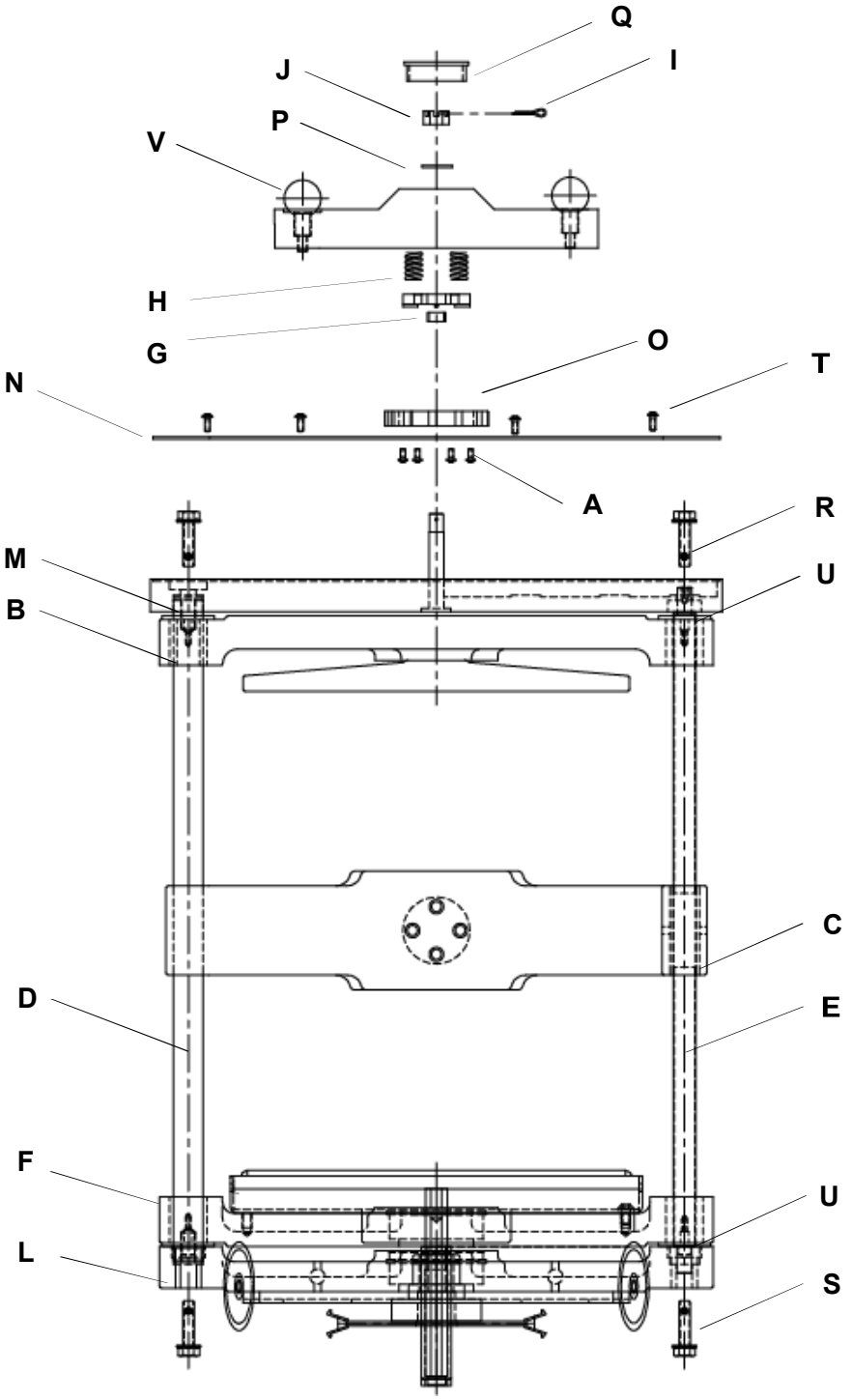
	PART NO	DESCRIPTION	NO REQ
A	17268	BEARING, SEALED (35MM)	2
B	18312	LOWER MOVING ARM	1
C	18313	UPPER ARM TABLE	1
D	18316	UPPER ARM LEAD SCREW BUSHING	2
E	18317	GUIDE ROD BUSHING (1.004 X 1.25 X 1.5)	2
F	18332	LOWER TABLE	1
G	18333	DRIVE SHAFT	1
H	18336	LOWER ARM LEAD SCREW ASSEMBLY	2
	18339	UPPER TABLE PAD (NOT SHOWN)	2
I	18438	WASHER (1/4” ID X 3/4” OD)	4
J	19317	LOWER ARM ROLLER MOUNTING BRACKET	1
K	20814	BAIL SHIELD	1
	21520	UPPER TABLE KIT, INCLUDES UPPER TABLE & UPPER TABLE PAD (NOT SHOWN)	1
	21522	UPPER MOVING ARM, WITH BEARINGS & TABLE HUB (NOT SHOWN)	1
	21523	UPPER TABLE HUB ASSEMBLY (NOT SHOWN)	1
L	21524	LOWER TABLE HUB KIT, INCLUDES DOWEL PINS, HUB AND LOWER TABLE	1
M	4000255	SCREW (5/16-18 X 1/2 SOCKET)	4
N	5103153	PLASTIC ROLLER ASSEMBLY, INCLUDES BEARINGS, TUBE, SHAFT AND SCREWS	1
O	F01050410	SCREW, SHOULDER (1/4” X 5/8” WITH NYLON PATCH)	4
P	F001101	RETAINING RING (80MM INTERNAL)	1
Q	F0100A4B12	SCREW, BUTTON HEAD CAP (10-24 X 5)	3
R	F012703	RETAINING RING, INTERNAL (5/8” CRESCENT)	1

Lower Stationary Arm Assembly



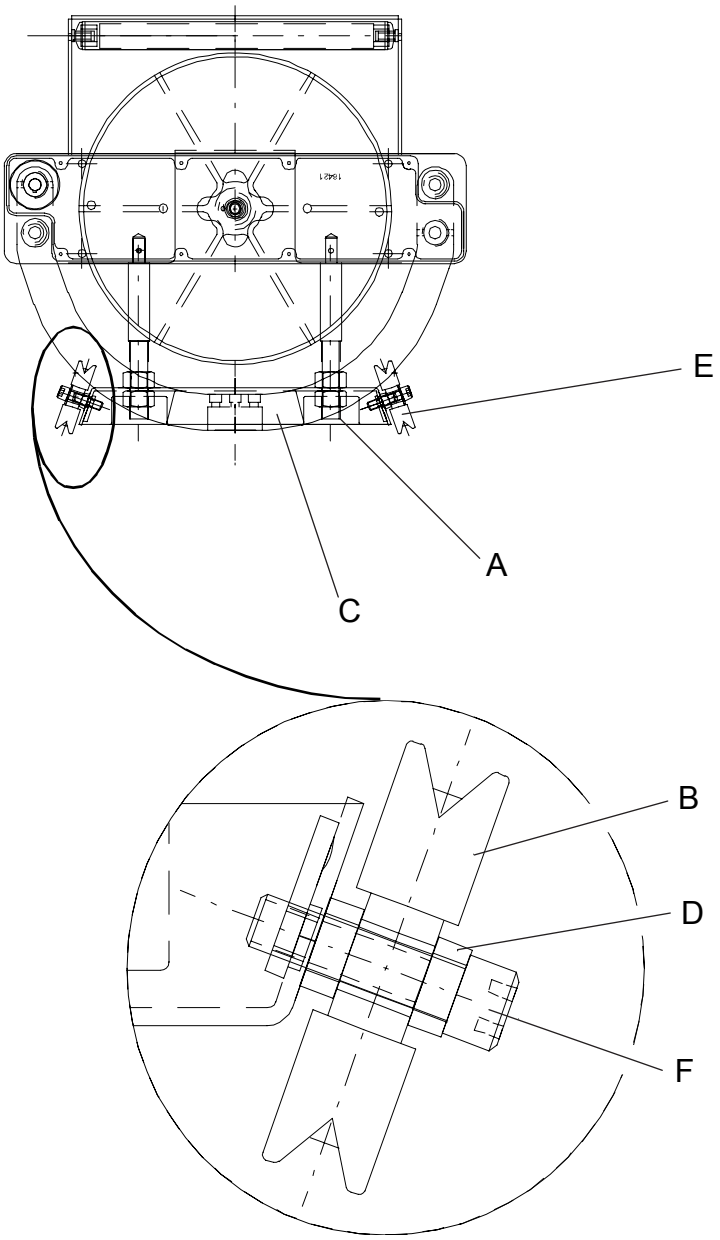
	PART NO	DESCRIPTION	NO REQ
A	01007	ROLL PIN (3/16 X 1” SS)	2
B	03163	NUT (3/4-10 HEX)	2
C	18334	SHAFT COUPLER (1” HEX)	1
D	18392	SEALED BALL GEARING	1
E	18397	SECONDARY PULLEY	1
F	18456	SECONDARY IDLER SHAFT	2
G	20454	BALL BEARING, R8ZZ (5” ID X 1.125 OD)	2
H	21528	PULLEY HUB ASSEMBLY, INCLUDES ROLL PINS, HUB, PULLEY AND LOWER ARM	1
I	F00101	RETAINING RING, EXTERNAL (. 1”)	2
J	F000904	RETAINING RING, EXTERNAL (1.5”)	1
K	F001101	RETAINING RING, INTERNAL (80MM)	1
L	F0100A4B12	SCREW (1/4-20)	1
M	21529	LOWER STATIONARY ARM ASSEMBLY, INCLUDES BEARINGS AND HUB	1
M	18391	LOWER STATIONARY ARM	1

Rotary Assembly



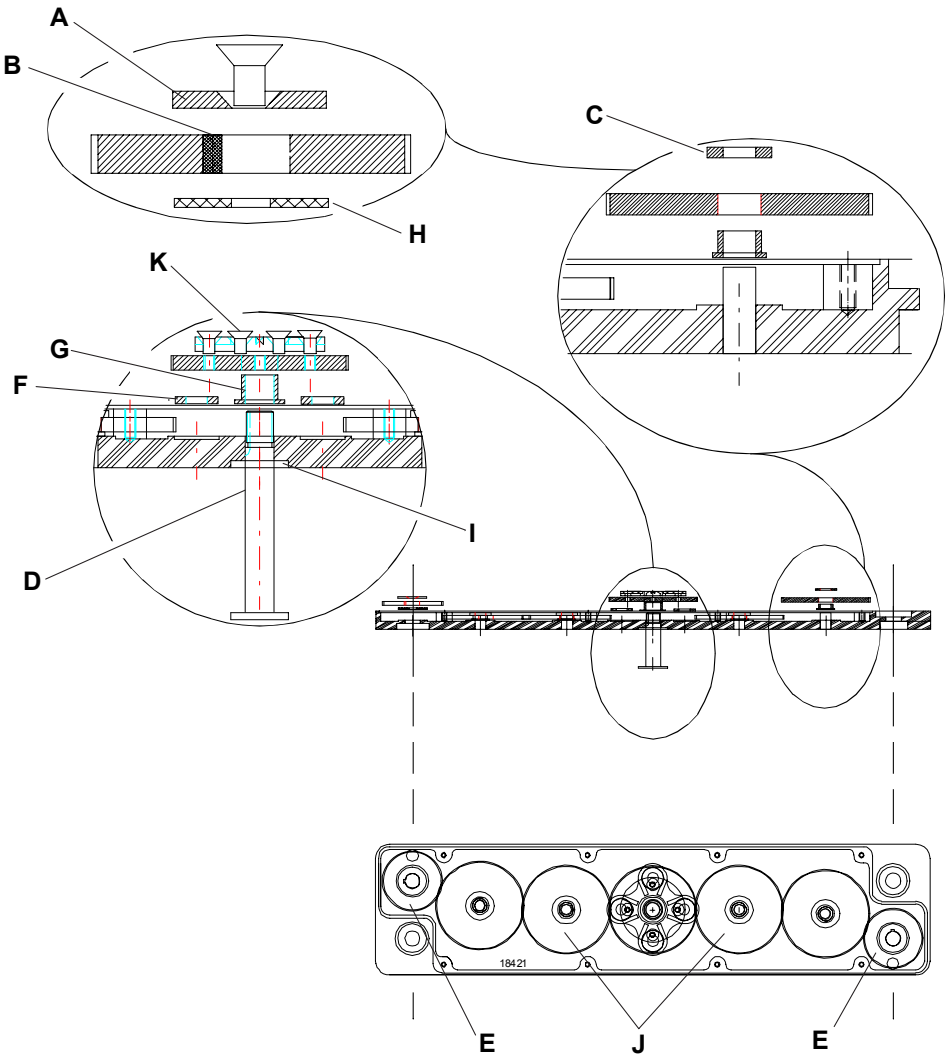
	PART NO	DESCRIPTION	NO REQ
A	01113	SCREW (8-32 X 3/8)	4
B	18310	UPPER MOVING ARM ASSEMBLY, INCLUDES BUSHINGS, SCREWS, MOVING ARM & UPPER TABLE	1
C	18322	YOKE	1
D	18323	ROD GUIDE	2
E	18324	LEAD SCREW	2
F	18330	LOWER MOVING ARM ASSEMBLY (INCLUDES BUSHINGS, SCREWS, LOWER MOVING ARM & TABLE)	1
G	18341	PLANE BUSHING (1/2” X 5/8” OD X 5/16”)	1
H	18342	COMPRESION SPRING (0.6 OD, X 1”)	4
I	22876	PIN	1
J	22875	NUT, SLOTTED	1
K	18340	CLAMP HANDLE ASSEMBLY	1
L	18390	LOWER STATIONARY ARM ASSEMBLY	1
M	18420	UPPER STATIONARY CLAMPING GEAR ARM ASSEMBLY, INCLUDES BEARINGS, BUSHINGS, CLAMPING PRESSURE PLATES, GEAR ARM ASSEMBLY & GEARS	1
N	18422	GEAR ARM COVER	1
	18430	TORSION SPRING (NOT SHOWN)	1
O	25279	RATCHET, CLAMP LOCKING	1
P	18447	THRUST BUSHING (1/2” X 1” OD)	3
Q	18459	PLUG, POLYETHYLENE (2”)	1
	21525	LOWER MOVING ARM ASSEMBLY, INCLUDES BEARINGS AND HUB (NOT SHOWN)	1
	21526	CLAMP HANDLE ASSEMBLY, INCLUDES BUSHINGS AND DOWL PIN (NOT SHOWN)	1
	21527	LOCKING LINKAGE KIT, INCLUDES DOWEL PIN, PAWL SCREWS AND SPRING (NOT SHOWN)	1
R	F0103816	SCREW (1/2-13 X 1”)	2
S	F0103824	SCREW (1/2-13 X 1-1/2”)	2
	F0115A0724	DOWEL PIN (1/2-13 X 1-1/2”) (NOT SHOWN)	2
T	F0100A3B08	SCREW (10-24 X 1/2”)	8
U	F01260812062	SPACER, 1/2” ID X 3/4” OD X 1/8”	6

Secondary Idler Pully Assembly



	PART NO	DESCRIPTION	NO REQ
A	03163	NUT (3/4-10 HEX)	2
B	18453	V-IDLER PULLEY WITH BEARINGS	2
C	18454	SECONDARY IDLER MOUNTING BRACKET118457SECONDARY IDLER BUSHING	1
D	18457	SECONDARY IDLER BUSHING	4
E	18460	IDLER ASSEMBLY, SECONDARY(INCLUDES BUSHINGS, MOUNTING BRACKET, PULLEYS, AND SCREWS)	1
F	4000227	HEX SCREW (3/8-16 X 1.25)	2

Upper Stationary Gear Arm Assembly



	PART NO	DESCRIPTION	NO REQ
A	18301	LEAD SCREW CAP	2
B	18302	KEY, 48 TOOTH GEAR (1/8” X 1/8” X 1/4”)	2
	18311	FEMALE CLAMPING PRESSURE PLATE (NOT SHOWN)	1
C	18319	NYLON SPACER (3/8” X 3/4” X 1/8”)	4
D	18343	CLAMPING HANDLE PIN	1
	18398	BRASS 72 TOOTH GEAR (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	2
E	18399	STEEL 48 TOOTH GEAR	2
F	18427	THRUST BUSHING (3/8” ID X 3/4” OD)	4
	18428	FLANGE BUSHING, 3/8” ID X 1/2” OD 5/16” (NOT SHOWN)	
G	18429	FLANGE BEARING (1/2” ID X 5/18” OD X 1/2”)	1
H	18447	THRUST BUSHING (1/2” ID X 1” OD)	2
	18451	BRASS 48 TOOTH GEAR (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	2
I	20454	RADIAL BALL BEARING (1/2” X 1-1/8:) (NOT SHOWN)	2
	21530	GEAR ARM ASSEMBLY(INCLUDES DOWEL PINS)	1
	21531	UPPER STATIONARY GEAR ARM ASSEMBLY, COMPLETE, INCLUDES BEARINGS, BUSHINGS, CLAMPING PRESSURE PLATES, GEAT ARM ASSEMBLY AND GEARS (NOT SHOWN) STANDARD GYROMIXER	1
	21532	UPPER STATIONARY GEAR ARM ASSEMBLY, COMPLETE, INCLUDES BEARINGS, BUSHINGS, CLAMPING PRESSURE PLATES, GEAT ARM ASSEMBLY AND GEARS (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	1
J	21533	STEEL 72 TOOTH CENTER GEAR WITH TAPPED HOLES, INCLUDES BUSHINGS	1
K	21534	STEEL 72 TOOTH GEAR WITH BUSHING (TWO FOR EXPLOSION-PROOF, FOUR FOR STANDARD)	2 / 4
	21535	MALE CLAMPING PRESSURE PLATE ASSEMBLY, INCLUDES BUSHINGS (NOT SHOWN) STANDARD GYROMIXER	1
	21536	MALE CLAMPING PRESSURE PLATE ASSEMBLY, INCLUDES BUSHINGS (NOT SHOWN) EXPLOSION PROOF GYROMIXER ONLY	1
L	F0024A3B08	SCREW, FLANGE HEAD CAP (10-32 X 1/2” SOCKET WITH NYLON PATCH)	6

FLUID MANAGEMENT PAINT EQUIPMENT LIMITED WARRANTY

WARRANTY COVERAGE

Fluid Management, Inc. ("Fluid Management") warrants all Fluid Management Accutinters, Manual Paint Dispensers, and Paint Mixers and Shakers ("Paint Equipment") to be free of defects in material and workmanship during normal operation, use and service for a period of two years from the date of shipment by Fluid Management.

The first year of the warranty period covers parts and labor. If any Paint Equipment fails during normal operation, use and service during the first year of the warranty period due to a defect in material or workmanship, Fluid Management will repair the defective Paint Equipment and replace any defective parts at no charge to the Customer. The warranty repairs and defective parts replacement will be carried out by Fluid Management or one of its Authorized Service Representatives.

The second year of the warranty period covers parts only. If any Paint Equipment fails during normal operation, use and service during the first year of the warranty period due to a defect in material or workmanship, Fluid Management will provide Customer with a replacement for any defective parts at no charge to the Customer. Customer will be responsible for all labor.

The above warranty and obligations are subject to the **WARRANTY CONDITIONS, EXCLUSIONS AND LIMITATIONS** and the **WARRANTY DISCLAIMERS AND LIABILITY LIMITATIONS** set forth below.

WARRANTY CLAIMS

Warranty claims must be asserted during the warranty period. While Paint Equipment is under warranty, no repair or part replacement should be undertaken without first contacting Fluid Management at 800-462-2466. To expedite the process, the model and serial numbers of the Paint Equipment should be available at the time of the call.

WARRANTY CONDITIONS, EXCLUSIONS AND LIMITATIONS

Fluid Management shall have no liability or obligation under its warranty in connection with any warranty claim asserted or any failure or malfunction occurring after the expiration of the warranty period.

As a condition to any warranty repair or part replacement, Fluid Management shall have the right to first inspect, test and evaluate the Paint Equipment and parts that are claimed to be defective.

Return of Paint Equipment and parts to Fluid Management requires a Return Goods Authorization (RGA) from Fluid Management, and the RGA number must be included with any returned Paint Equipment or part.

Customer shall be required to provide Fluid Management and its Authorized Service Representatives with all information that any of them may request concerning the maintenance, operation, use, service, failure or malfunction of Paint Equipment and parts that are claimed to be defective.

Fluid Management may use reconditioned parts for warranty repairs and parts replacement.

Warranty repairs and part replacement do not extend the warranty period for Paint Equipment and repaired Paint Equipment and replacement parts are warranted only for the remainder of the original warranty period.

Any repair or replacement requested as a warranty repair or replacement that is not covered by Fluid Management's warranty will be billed to Customer as non-warranty repair or replacement on a time and materials basis.

Fluid Management's warranty transfers to the new owner with transfer of ownership Paint Equipment. It is the responsibility of new owner to notify Fluid Management at 1-800-462-2466 of the transfer of ownership of Paint Equipment. Transfer of ownership does not extend the warranty period.

Fluid Management's warranty does not cover, extend or apply to, or include:

- Computer or computer-related equipment such as laptops, monitors and printers and other third-party equipment supplied with Paint Equipment (In the case of computer and computer-related equipment such as laptops, monitors or printer, and other third-party equipment, any warranty is limited to a pass through to Customer of any warranty received from the equipment manufacture, and is subject to whatever terms, conditions and limitations are imposed by the equipment manufacturer)
- Third-party software (In the case of third-party software, any warranty is limited to a pass through to Customer of any warranty received from the software provider and is subject to whatever terms, conditions and limitations are imposed by the software provider)
- Normal wear and tear
- Any Paint Equipment or part that fails or malfunctions due to any computer or computer-related equipment, other peripheral equipment, third-party software or software or equipment provided by Customer or a third party
- Any Paint Equipment or part failure or malfunction that Fluid Management or one of its Authorized Service Representatives determines to have been caused by or attributable to damage

during or after shipment, colorant in the wrong canister, colorant related issues (e.g. beads in colorant, etc.), overfilling of canisters, improper operation or misuse, lack of daily maintenance, power surge, power outage, fire, flood, water leakage, accident, acts of god, casualty, or other similar causes

- Any Paint Equipment or part that Fluid Management or one of its Authorized Service Representatives determines was tampered with, disassembled, repaired, modified or altered by anyone other than Fluid Management or one of its Authorized Service Representatives without the prior written authorization of Fluid Management, used to mix or dispense material that the Paint Equipment was not designed to mix or dispense or otherwise used for a purpose or under conditions that differ from those for which the Paint Equipment was designed, or subjected to abnormal use or service, or has had its serial number removed or altered.
- Field repair, removal, reinstallation or other similar tasks not performed by Fluid Management or one of its Authorized Service Representatives
- Cabinets and structural frames
- Mistints or misfills

WARRANTY DISCLAIMERS AND LIABILITY LIMITATIONS

THE ABOVE WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY MADE BY FLUID MANAGEMENT WITH RESPECT TO EQUIPMENT, COMPONENTS OR PARTS AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH OTHER WARRANTIES ARE EXPRESSLY EXCLUDED.

THE OBLIGATIONS, RIGHTS AND REMEDIES SET FORTH ABOVE ARE THE SOLE AND EXCLUSIVE OBLIGATIONS OF AND SOLE AND EXCLUSIVE RIGHTS AND REMEDIES AGAINST FLUID MANAGEMENT WITH RESPECT TO ANY ALLEGED DEFECT OR DEFICIENCY IN ANY EQUIPMENT, COMPONENTS OR PARTS.

UNDER NO CIRCUMSTANCES SHALL FLUID MANAGEMENT OR ANY OF ITS AUTHORIZED SERVICE REPRESENTATIVES HAVE (I) ANY LIABILITY FOR ANY CLAIM, LOSS, DAMAGE, INJURY, LIABILITY, OBLIGATION, COST OR EXPENSE THAT DIRECTLY OR INDIRECTLY RELATES TO OR ARISES OUT OF THE PERFORMANCE OF ANY SERVICES OR THE USE, FAILURE OR MALFUNCTION OF ANY EQUIPMENT, COMPONENT OR PART OR (II) ANY LIABILITY FOR

INDIRECT, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF SALES, LOSS OF PROFITS, LOSS OF MATERIAL BEING DISPENSED, DOWN TIME, LOSS OF PRODUCTION, LOSS OF CONTRACTS, OR DAMAGE TO REPUTATION OR GOOD WILL, WHETHER OR NOT FLUID MANAGEMENT OR ANY OF ITS AUTHORIZED SERVICE REPRESENTATIVES WAS AWARE OF OR ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IN ANY EVENT, FLUID MANAGEMENT'S TOTAL LIABILITY IN CONNECTION WITH ANY INDIVIDUAL ITEM OF EQUIPMENT SHALL LIMITED TO THE NET PRICE PAID TO FLUID MANAGEMENT FOR SUCH ITEM OF EQUIPMENT.

(Dec. 2008)

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10.30.09

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