

Grindmaster 115 and 250 Series Coffee Grinders

Operation and Instruction Manual

for

Models 115A, 115AB, 250, 250A, 250AB, 250-3A,
250RH-2 & 250RH-3

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Model 250



Model 250RH-2



Model 115

*Prior authorization must be obtained from
Grindmaster Corporation for all warranty claims.*



GRINDMASTER™
CORPORATION

Grindmaster Corporation™

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Installation Instructions

For Models 115A, 115AB, 250, 250A, 250AB, & 250-3A:

1. Please read this manual before operating the grinder.
2. Carefully remove grinder from carton.
3. Place grinder in position on shelf, counter or flat surface.
4. Plug grinder into 120V, 15A, grounded, electrical outlet. Do not use an extension cord.
5. Grind a small amount of whole bean coffee following operating instructions as described in this manual.
6. If there is any problem, consult the *Troubleshooting Guide* in this manual and also on the back of your grinder.
7. If you still cannot correct a problem, call Grindmaster Corporation's Technical Service Department for help, (502) 425-4776 or (800) 695-4500 (USA & Canada only) 8 AM - 6 PM EST.

For Models 250RH-2 & 250RH-3:

1. Please read this manual before operating the grinder.
2. Remove the flat cardboard insert. Remove the cardboard insert on top of the grinder. Next, remove the small box next to the grinder (hopper enclosed). Next, remove corner supports and then remove the grinder. Lastly, remove the second hopper.
3. Place grinder in position on shelf, counter or flat surface.
4. Plug grinder into 120V, 15A, grounded, electrical outlet. Do not use an extension cord.
5. Fill hoppers with whole bean coffee and place on grinder. Make sure the base of each hopper is seated in its designated area (see Figure A). See "Removal and Reinstallation of Hopper Assembly" section on page 6 for detailed instructions.
6. Grind a small amount of whole bean coffee following operating instructions as described in this manual.
7. If there is any problem, consult the *Troubleshooting Guide* in this manual and also on the back of your grinder.
8. If you still cannot correct a problem, call Grindmaster Corporation's Technical Service Department for help: (502) 425-4776 or (800) 695-4500 (USA & Canada only) 8 AM - 6 PM EST.

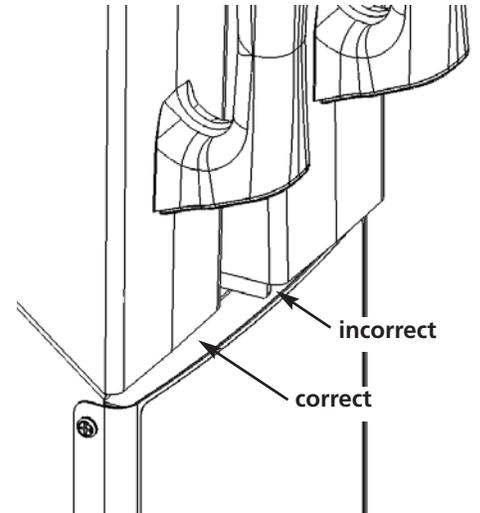


Figure A

Instructions

Your new coffee grinder is easy to operate and maintain. Before you place it in service, please have all personnel familiarize themselves with these instructions; then keep this manual in a convenient place for ready reference.

Set-up Procedures

1. You, the user, must determine the quantity of coffee you want to dispense as various types of coffee and brewing equipment require different quantities to obtain a quality cup of fresh ground, fresh brewed coffee.

Note: Because of the inherent properties of some decaffeinated coffee, it may be necessary to dispense a slightly greater amount to achieve the desired level of flavor extraction as in regular coffee. This should be evaluated based on the coffee you use as well as the brewing equipment used.

2. Adjust the timer inside the grinder if necessary, to dispense the desired weight of ground coffee (see Timer Adjustment Section on page 3). All grinders are factory set to deliver approximately 2 ounces of ground coffee. This weight is approximate, as the density of all coffee beans is not the same. The only way to ensure the desired portion is being dispensed is to weigh the coffee after it has been ground.
3. The grind texture can be adjusted, if necessary, to a finer or coarser grind (see "Grind Adjustment" section on page 5). The grind is factory set to deliver a standard autodrip grind.

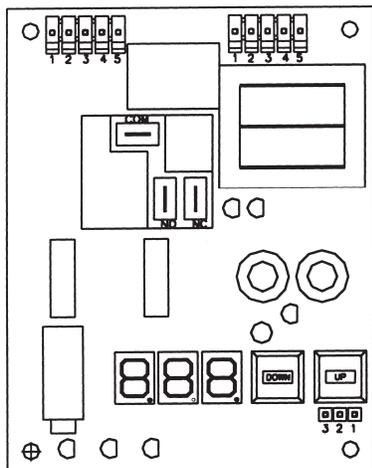
How to Operate

1. Fill the hopper with the appropriate amount of whole bean coffee.
250RH Models: Place full hoppers on machine making sure the base of each hopper is seated in designated area. (Refer to Figure A)
2. Place the brew basket with coffee filter on rails (or basket arms).
3. Choose the type of coffee you wish to grind by pressing the rocker selection switch.
4. Push the start button on the front of the grinder.
5. When grinder stops, remove the brew basket.

Timer Adjustment

The timer is preset at the factory, but should adjustments be required, follow the instructions below to set the grind times.

Note: The grinder power must remain ON for timer adjustments.



AMOUNT DESIRED (OZ.)	TIME SETTING (SECONDS)	AMOUNT DESIRED (OZ.)	TIME SETTING (SECONDS)
0.5	1.0-1.3	6	13.0-15.8
1.0	2.1-2.6	7	15.2-18.4
1.5	3.2-3.9	8	17.4-21.1
2.0	4.3-5.3	9	19.5-23.7
2.5	5.4-6.6	10	21.7-26.3
3.0	6.5-7.9	12	26.1-31.6
3.5	7.5-9.2	14	30.5-36.9
4.0	8.6-10.5	16	34.8-42.1
5.0	10.8-13.2	18	39.2-45.0

Digital Grinder Timer Adjustments (All Models)

1. To access timer, remove the timer cover by removing the mounting screws and pulling the cover away from the casing.
2. To light up the display on the board and check the time setting, depress either one of the two square buttons located next to the display one time.
3. To change the displayed setting, press and hold either the left or right square button until the desired setting is reached. The left button lowers the displayed value; the right button increases the displayed value. The time values are set in seconds and tenths of a second.
4. Refer to chart above for approximate timer settings.

Note: For accuracy you must weigh the coffee and make appropriate adjustments.

5. In order to store this desired value you must press the grinder start switch once.

Note: If start switch is not pushed, the last value stored will be used when you return to grinding mode.

6. Once the timer is adjusted, reinstall the timer cover.

Grind Selector™

For Models 115AB and 250AB:

Models equipped with a Grind Selector™ are designated with a “B” at the end of the model number (Model 115AB & 250AB). If your grinder is equipped with a Grind Selector™, refer to the following information:

The Grind Selector™ allows you to set the grinder to coarse or fine on any of the 250AB four grind selections: regular small, regular large, decaf small, or decaf large.

The following are some recommended use conditions:

Coarser Settings

Larger portions - 8 oz or more
(urns)
Decaffeinated coffee

Regular Settings

Smaller portions - 7 oz. or less
(bottle brewers or airpots)
Regular coffee

The fine grind setting on this grinder has been pre-set at the factory to deliver coffee ground to normal drip specifications. Should you wish to make an adjustment please follow these steps:

To Adjust the Fine Grind

For Models 115AB and 250AB:

Tools Required: Adjustable Wrench, Phillips Screw Driver, Large Blade Screwdriver

1. Unplug grinder.
2. Remove upper front plate.
3. Loosen the fine grind adjusting screw lock nut (see Figure B).
4. Hold solenoid shut while turning adjusting screw clockwise to make the grind finer, counter-clockwise to make the grind coarser (see Figure B). We recommend that you do not turn the adjusting screw more than two notches on the scale before testing the new grind setting.

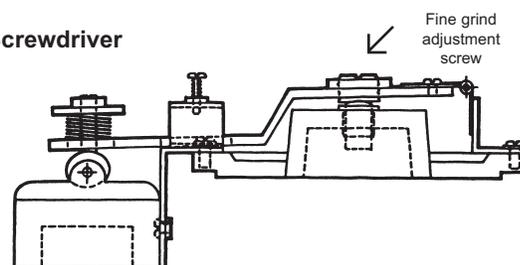


Figure B: Fine Grind Adjustment

NOTE: Be sure that when adjusting the grind that you do not adjust too fine, causing the burrs to touch each other (a sound of metal scraping metal). This could cause damage to the burrs or motor.

5. After the adjustment has been made, tighten adjusting screw lock nut. Do not allow the fine grind adjusting screw to expose more than three threads on the outer side of the arm or it could loosen during operation.
6. Assemble front plate to front of the grinder.

To Adjust the Coarse Grind

For Models 115AB and 250AB:

Tools Required: Adjustable Wrench, Phillips Screw Driver, Large Blade Screwdriver

1. Unplug grinder.
2. Remove upper front plate.
3. Loosen the fine grind adjusting screw lock nut (see Figure C).
4. Pull the solenoid plunger toward you until it contacts the coarse grind adjusting screw (see Figure C). Then turn the adjusting screw clockwise to make the grind finer, counter-clockwise to make the grind coarser. We do not recommend that you turn the adjusting screw more than one and a half turns before testing the new grind setting.

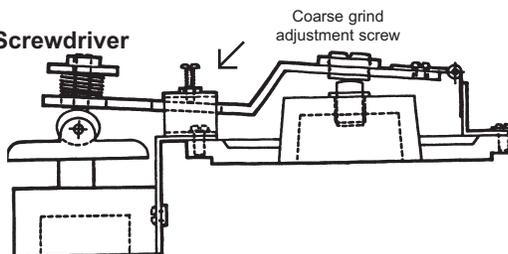


Figure C: Coarse Grind Adjustment

5. After the adjustment has been made, tighten the adjusting screw lock nut.
6. Assemble front plate to front of grinder.

Coffee Grind Profile

Before shipment, this grinder has been tested with coffee and has been accurately adjusted to deliver a standard autodrip grind.

The Grinding Burrs are made of an extremely hard and wear resistant alloy. From time to time, grind adjustments (see instructions below) may be necessary as the burrs wear. If the grind runs coarser than expected after normal adjustment and the grind time has increased, the burrs may have excess wear and should be replaced. The burrs are warranted for 3 years or 30,000 pounds of coffee. See your warranty for details. New burrs should always be installed as a pair, never one or the other, as they are accurately ground and lapped in pairs. Old burrs cannot be resharpened.

Grind Adjustment

For Models 115A, 250, 250A, 250RH-2, 250RH-3

Tools Required: Phillips and Large Blade Screwdrivers, Pliers

In order to adjust the grind follow these steps: (see Figure D)

1. Remove Upper Front Plate by removing the four screws in the corners.
2. Loosen Adjusting Screw Lock Nut by turning counter clockwise.
3. Turn slotted Adjusting Screw clockwise to make grind finer or counter-clockwise to make grind coarser. Generally a 1/8 to 1/4 turn will provide the desired adjustment.

Note: Use dial on grinder cap as reference. Do not turn more than one notch before testing new Grind Adjustment.

4. After adjustment has been made, tighten Adjusting Screw Lock Nut.
5. To visually inspect grind adjustment, test grind a small portion of coffee and re-adjust if necessary.

Note: Adjusting the grind may alter the portion of coffee dispensed. After grind adjustment, weigh portion and adjust, if necessary (see "How to Adjust the Portion").

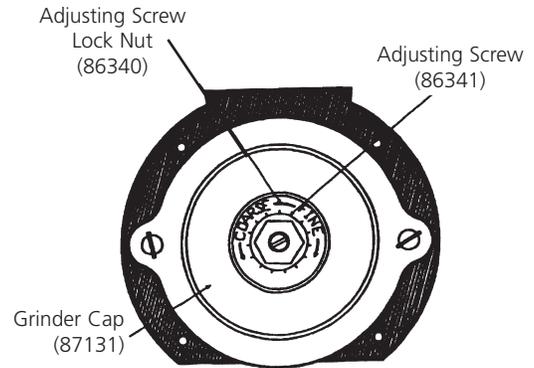


Figure D: Grind Adjustment

Current

It is absolutely essential that full voltage and amperage always be available as it takes full power to grind coffee. NEVER connect to an overloaded line or a two or three way plug, otherwise serious damage to the motor may result.

Do not use an extension cord.

Protection

This grinder is equipped with both a circuit breaker and a shear disc to protect motor and burrs if a foreign object, such as a nail or rock, gets into the coffee.

Circuit Breaker

This grinder is equipped with a circuit breaker to protect the motor from overloading. When the circuit breaker operates, the reset button will pop out approximately 1/4" which cuts off the power to the grinder. The reset button is located above the power cord on the back of the grinder. To reset the circuit breaker, push the reset button in. You will hear a click as it resets. If the grinder does not operate after resetting the circuit breaker, there may be an obstruction in the grinding mechanism that is stalling the motor. In this case, the Grinder Head should be cleaned out as described in the **Shear Disc Replacement** section of this manual.

Lubrication

All bearings have been oiled for life. No further oiling is necessary.

Cleaning Instructions

The outside of the machine can be cleaned with a damp cloth or common household polishing wax. Grinding parts should be cleaned with a stiff brush or dry cloth. **Do Not Use Water.** See “Shear Disc Replacement” for instructions on assembling and disassembling of grinder parts. Before reassembling, wipe motor shaft with 2 or 3 drops of common household lubricating oil in the area of feedworm engagement to make assembly easier.

For Models 250RH-2, 250RH-3:

Regular usage of the coffee hoppers will cause oils to accumulate on the inner surface, requiring occasional cleaning.

1. Remove hopper from grinder and empty all beans.
2. Use a soft, damp cloth with a small amount of liquid soap and clean hopper. Use a clean, damp cloth to remove the soap residue. Do not immerse or fill hopper with water.
3. Allow hopper to completely air dry before refilling with beans.
4. Once the hopper is dry, refill with whole bean coffee, cover and replace on grinder.

Shipping Bracket Removal

NOTE: Shipping bracket must be removed prior to removal of upper hopper assembly.

Models 250, 250A and 250AB are equipped with shipping bracket. Remove bracket prior to installation. (see Figure E)

Tools Required: 1 Phillips screwdriver.

1. Using the Phillips screwdriver, remove the screws and the bracket located at the back of the grinder.
2. Do not discard the screws and bracket. The bracket should be re-installed on the grinder prior to transporting or shipping.

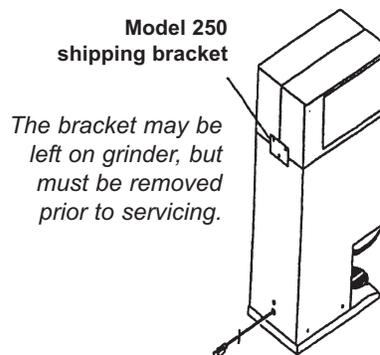


Figure E: Shipping Bracket Removal

Removal and Reinstallation of Hopper Assembly

For Models 250, 250A, 250AB, 250-3A:

1. Remove Upper Front Plate by removing the four screws in the corners (**Shipping bracket must be removed prior to removal of upper hopper assembly. See instructions and diagram above.**)
2. Lift Upper Hopper Assembly while rotating the Assembly slightly upward (see Figure F).
3. Pull the Assembly forward, toward front of unit and out.
4. To reinstall hopper, ensure the Drive Pins are in vertical position. (see Figure G)
5. Ensure that Drive Links are in horizontal position.
6. Insert the rear slots of the Upper Hopper Assembly into the rear tabs of the motor bracket.
7. Rotate assembly downward.
8. Reassemble Upper Front Plate.
9. Put the (4) screws back into Upper Front Plate and tighten.

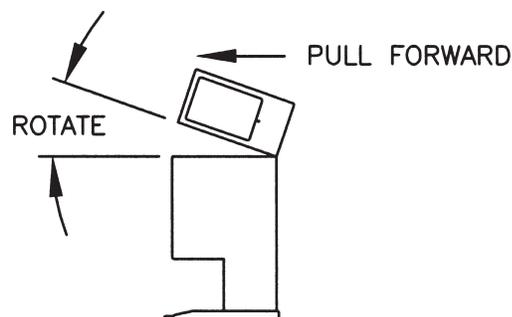


Figure F: Upper Hopper Assembly Removal and Reinstallation

For Models 250RH-2, 250RH-3:

1. To remove hoppers, grasp hopper by handle and lift up approximately 1/4" and pull hopper back and out of grinder. The bottom bean shut off valve will close automatically, preventing spillage of beans.
2. Once hopper is removed, it can be refilled or cleaned if necessary.
3. To reinstall hopper, grab by handle and set bottom back of hopper on left or right side of grinder, making sure that the drive link is properly oriented (see Figure G).
4. Push hopper all the way back until it settles in it's designated space (see Figure A).

NOTE: Hopper must be in place in order for that side of the grinder to operate.

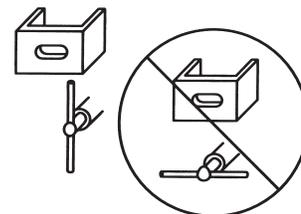


Figure G: Positioning of the Drive Pins and Drive Links

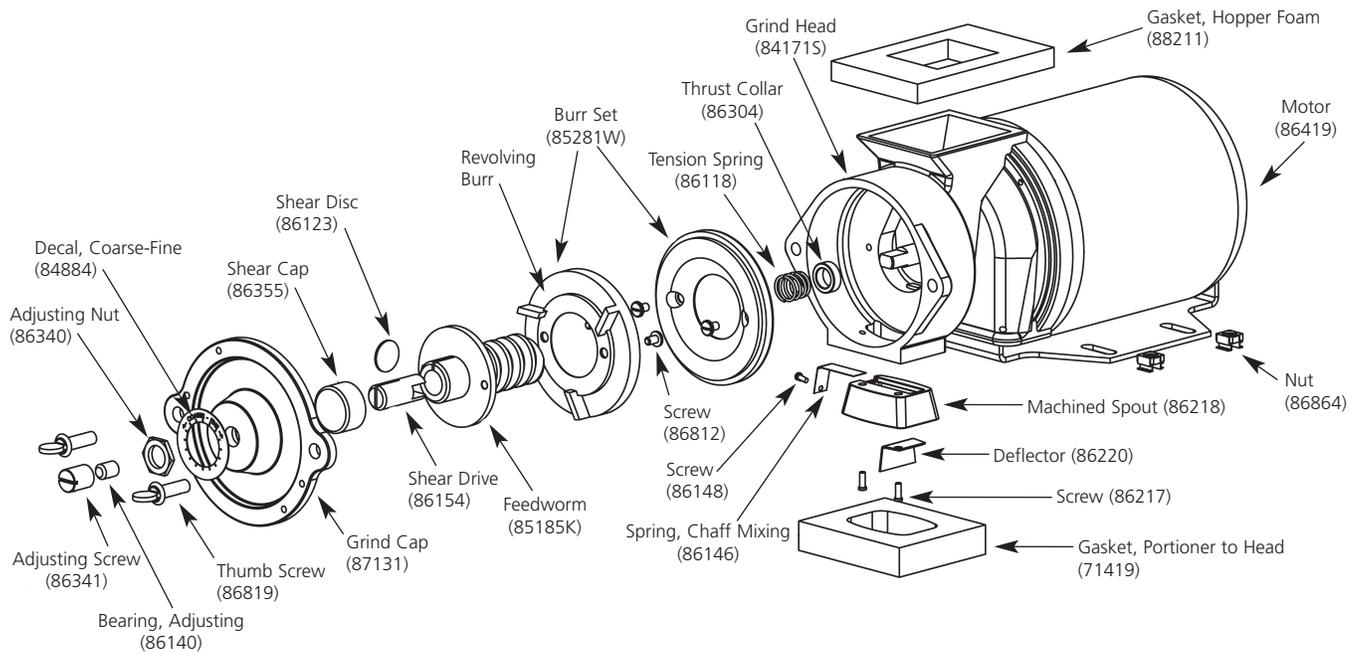


Figure H: Motor Assembly

Shear Disc Replacement

If the motor should run and no coffee is dispensed, the shear disc release may have operated. Should this occur, perform the following operations in the sequence given (see Figure H).

Tools Required: Phillips Head Screwdriver and Pliers

1. Unplug machine.
2. Remove the Upper Front Plate of the grinder to provide access to the grinder mechanism.
3. Remove the Grind Cap by taking out the 2 Thumb Screws.
4. Pull out the Revolving Burr and Feedworm Assembly. Clean out the Grinder Head, removing all coffee particles from inside of the Grinder Head and the Grinder Cap so that it can be reset properly.
5. Check that no obstruction has been caught on the surface of the teeth of either burr.
6. Remove the Shear Cap and broken pieces of the Shear Disc. You are now ready to reassemble the grinder mechanism.
7. Slide the Burr and Feedworm Assembly back onto the Motor Shaft making certain that the tongue of the shaft engages the slot in the Shear Drive.
8. Insert a new Shear Disc by aligning the slot in the Shear Drive with the slot in the hub of the Feedworm.
9. Reassemble the Shear Cap and Grinder Cap. Make certain the Grinder Cap is screwed on tight and is sealed properly against the head, not angled or mis-aligned. Otherwise a proper grind cannot be obtained.
10. Reassemble the Upper Front Plate. Your grinder is now ready to grind.

Troubleshooting Guide

The following procedures must be performed by a qualified service technician.

CAUTION: Unplug the machine before cleaning or servicing the unit.

Problem	Possible Cause	Solution
Grinder will not start when START button is pushed	<ul style="list-style-type: none"> • Plug not in outlet properly • No power to outlet • Circuit breaker has tripped 	<ul style="list-style-type: none"> • Install plug in outlet • Check outlet with lamp or radio to verify outlet has power. • Reset circuit breaker by pushing in reset button until you hear a click
Grinder runs or hums but no coffee is dispensed	<ul style="list-style-type: none"> • Shear disc is broken • Obstruction in opening to grinding chamber • Auger has stalled (Models 250, 250A 250RH-2 & 250RH-3 only). • 250RH Models: Hoppers not properly in place 	<ul style="list-style-type: none"> • Replace shear disc. See “Shear Disc Replacement” section or instructions on inside of upper front plate. • Remove hopper and clear obstructions. • Clean auger • Make sure hoppers are seated in their allocated area
Excessive amount of chaff flying about	<ul style="list-style-type: none"> • Defective chaff mixer spring • Static electricity 	<ul style="list-style-type: none"> • If bent, broken, or missing, replace spring. • If stuck open with coffee, clean coffee to free spring • Tighten all nuts, bolts, and screws and verify outlet is grounded.
Quantity of coffee dispensed each throw is not the same	<ul style="list-style-type: none"> • Auger stalls (Models 250, 250A, 250RH-2, and 250RH-3 only) • Timer delay is not working or running long enough • Defective timer 	<ul style="list-style-type: none"> • Refer to problem as listed below in this Troubleshooting Guide. • See “Timer Adjustment” section • Check the length of time the grinder runs • If time varies more than plus or minus 1%, replace timer.
Knobs do not operate smoothly	<ul style="list-style-type: none"> • Coffee beans or bean dust may have clogged carrier 	<ul style="list-style-type: none"> • With machine unplugged, clean carrier
Auger does not turn	<ul style="list-style-type: none"> • Coffee beans or bean dust may have jammed auger • 250RH Models: Hopper not properly seated 	<ul style="list-style-type: none"> • With machine unplugged, clean auger opening • Make sure hopper is seated in its designated area (see Figure A)
Auger will not operate	<ul style="list-style-type: none"> • Motor or link is binding • Auger motor has burned out • Wiring harness to motor is loose • 250RH Models: Hopper not properly seated 	<ul style="list-style-type: none"> • Check all alignment of link and motor. Check tightness of motor mounting screws. • Replace motor • With machine unplugged, check to see if wires are connected to motor • Make sure hopper is seated in its designated area (see Figure A)
Circuit breaker continuously trips	<ul style="list-style-type: none"> • Insufficient current due to use of extension cord • Insufficient current due to overloaded line • Grind setting needs adjustment 	<ul style="list-style-type: none"> • Plug unit directly into outlet. Do not use extension cord. • Designate single line for grinder. Do not use multi-outlet box. • Adjust grind to coarser setting (see “Grind Adjustment” section)

continued on next page

Troubleshooting Guide for Grind Selector™ Mechanism (Models 115AB and 250AB)

The following procedures must be performed by a qualified service technician.

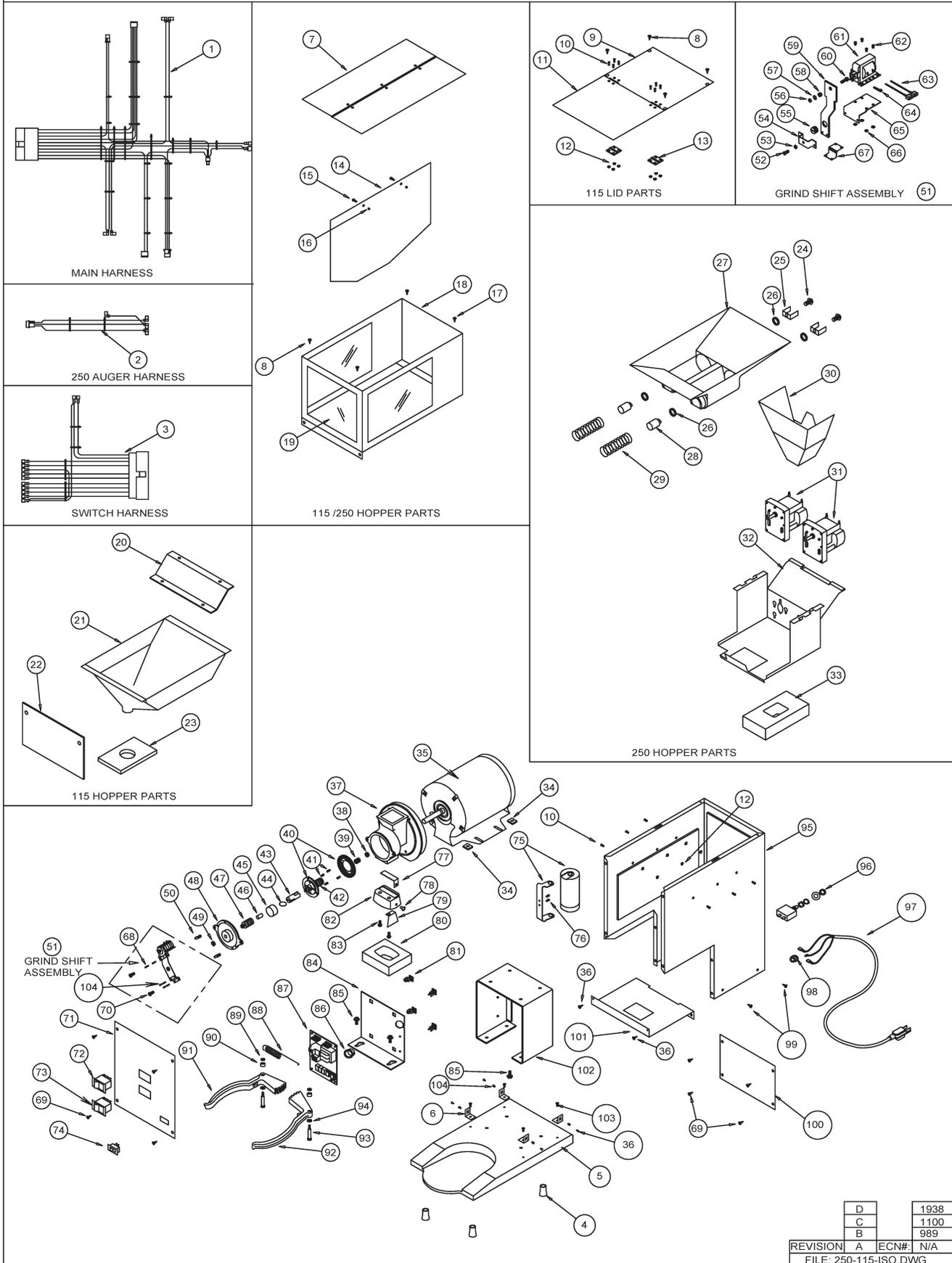
Problem	Possible Cause	Solution
Loud grating noise	<ul style="list-style-type: none"> Burrs are touching each other on fine grind setting 	<ul style="list-style-type: none"> Readjust fine grind setting, see “To Adjust Fine Grind” section
Rumbling noise	<ul style="list-style-type: none"> Thrust bearing rotating inside flange bearing 	<ul style="list-style-type: none"> Replace thrust bearing and shear cap
Chattering or buzzing noise	<ul style="list-style-type: none"> Solenoid may have failed to seat or close fully (Models 115AB & 250AB only) 	<ul style="list-style-type: none"> Check alignment of solenoid and shift arm Also check the tightness of the solenoid mounting screws
Loud vibration noise during grinding when Grind Selector™ is not activated	<ul style="list-style-type: none"> Cotter pin in the thumb screw linkage may be vibrating 	<ul style="list-style-type: none"> Attempt to spread flanges of cotter pin or replace cotter pin
Grind Selector™ fails to activate	<ul style="list-style-type: none"> Wiring harness loose Solenoid has burned out (Models 115AB & 250AB only) 	<ul style="list-style-type: none"> WITH MACHINE UNPLUGGED, check wiring harness connections to see if they are secure on the timer terminals Replace solenoid

If you still need help, call our Service Department at (502) 425-4776 or (800) 695-4500 (USA & Canada only) (Monday through Friday 8am-6pm EST) or an authorized service center in your area. Please have the model and serial number ready so that accurate information can be given.

Prior authorization must be obtained from Grindmaster Corporation’s Technical Services Department for all warranty claims.

Models 115A, 115AB, 250, 250A, 250AB & 250-3A Exploded Views

(refer to pages 11-14)



D	1938
C	1100
B	989
REVISION	A
ECN#	N/A
FILE	250-115-ISO.DWG

Exploded View Parts List - 115V

Models 115A, 115AB, 250, 250A, 250AB & 250-3A

Item No.	Description	115A	115AB	250	250A	250AB	250-3A
1	HARNESS, 115/250 A & AB	86037	86037	86037	86037	86037	86037
2	HARNESS, 250 SERIES DIGITAL AUGER			86125	86125	86125	86125
3	HARNESS, DIGITAL SWITCH	86122	86122	86121	86117	86117	86117
4	FOOT, RUBBER 100/250	86034	86034	86034	86034	86034	86034
5	BASE	86309	86309	86309	86309	86309	86309
6	BRACKET, TINNEMAN ANGLE	86863	86863	86863	86863	86863	86863
7	250 LID ASSEMBLY			89103	89103	89103	89103
8	SCREW, #8 X 3/8 PH PN SMS T/B 410 SS	89113	89113				
9	LID, BACK SS	86013	86013				
10	SCREW, 6-32 X 1/4 PH PN HD	86801	86801				
11	LID, FRONT SS	86014	86014				
12	NUT, 6-32 ACORN LOCK	86848	86848				
13	HINGE, PLATED	86316	86316				
14	PARTITION, HOPPER			86041	86041	86041	86041
15	SCREW, 8-32 1/2 SL BD HD NYLON			86087	86087	86087	86087
16	NUT, 8-32 NYLON LOCK			86086	86086	86086	86086
17	SCREW, #8 X 3/8 PH PN SMS T/B 410 SS	89114	89114				
18	HOPPER	86010K	86010K	86010K	86010K	86010K	86010K
19	WINDOW, HOPPER	86102	86102	83152	83152	83152	83152
20	HOPPER, SUPPORT	86008	86008				
21	HOPPER	86192	86192				
22	FRONT HOPPER SUPPORT	86196K	86196K				
23	GASKET, HOPPER	86228	86228				
24	SCREW, 8-32 X 3/8" HEX PEM			83182	83182	83182	83182
25	LINK, DRIVE			83368	83368	83368	83368
26	WASHER, NYLON			83141-01	83141-01	83141-01	83141-01
27	HOPPER, AUGER W/ SPOUT			83150	83150	83150	83150
28	ADAPTER, DRIVE			80019	80019	80019	80019
29	SPRING, AUGER			86046	86046	86046	86046
30	FUNNEL, AUGER			83134	83134	83134	83134
31	MOTOR, AUGER 115V			86050	86050	86050	86050
32	BRACKET, MOTOR			86042-01	86042-01	86042-01	86042-01
33	GASKET, HOPPER			83081	83081	83081	83081
34	NUT, TINNEMAN 1/4 - 20	86864	86864	86864	86864	86864	86864
35	MOTOR, 1/2HP 115V	86419K	86419K	86419K	86419K	86419K	86419K
36	SCREW, 8-32 X 3/8 PH TR HD M/S 410 SS	82097	82097	82097	82097	82097	82097
37	HEAD, GRIND	84171S	84171S	84171S	84171S	84171S	84171S
38	COLLAR, THRUST	86304	86304	86304	86304	86304	86304
39	SPRING, TENSION	86118	86118	86118	86118	86118	86118
40	BURR (SET)	85281WK	85281WK	85281WK	85281WK	85281WK	85281WK
41	SCREW, #10-32 X 5/16	86812	86812	86812	86812	86812	86812
42	FEEDWORM	85185T	85185T	85185T	85185T	85185T	85185T
43	DRIVE, SHEAR	86154	86154	86154	86154	86154	86154
44	SHEAR DISC	86123	86123	86123	86123	86123	86123
45	COVER, SHEAR	86355	86355	86355	86355	86355	86355
46	BEARING, ADJUSTING	86140	86140	86140	86140	86140	86140
47	GRIND, ADJUST PIN	86341	86341	86341	86341	86110	86341
48	GRIND, CAP	87131	86112	87131	87131	86112	87131
49	NUT, 5/8-18 BRASS ADJUST SCREW	86340		86340	86340		86340
50	SCREW, 5/16-18 X 1 THUMB T/S ZINC	86819		86819	86819		86819
51	GRIND SHIFT ASSEMBLY		89003			89003	
52	SCREW, 8-32 X 5/8 PH TR M/S ZINC		86899			86899	
53	NUT, 8-32 KEPS ZINC PLATED		86810			86810	
54	BRACKET, COARSE STOP		86115			86115	
55	SCREW, GRIND ADJUST 5/8-18 X 3/8		86111			86111	

Exploded View Parts List - 115V (cont.)

Models 115A, 115AB, 250, 250A, 250AB & 250-3A

Item No.	Description	115A	115AB	250	250A	250AB	250-3A
56	NUT, 1/4-20 X 7/16 HEX JAM ZINC PLATED		86892			86892	
57	WASHER, FLAT 1/4 - ZINC PLATED		86824			86824	
58	SPRING, TENSION		86118			86118	
59	SHIFT, ARM		86114			86114	
60	SCREW, 1/4-20 X 3/4 THUMB ZINC		86089			86089	
61	SOLENOID, GRIND SHIFT 120V 60HZ		86073-01			86073-01	
62	SCREW, #8 X 1/4 PH TR HD SMS T/B 410 SS		89116			89116	
63	HARNESS, SOLENOID		86048			86048	
64	PIN, COTTER 3/32 X 1 ZINC PLATED		86853			86853	
65	BRACKET, SOLENOID MTG		86116			86116	
66	NUT, 8-32 KEPS ZINC PLATED		86810			86810	
67	ASSEMBLY, GRIND SHIFT HINGE A225-28-1		86107			86107	
68	SCREW, 8-32 X 3/8 SL BD HD M/S ZINC		86807			86807	
69	SCREW, #8 X 1/4 PH TR HD SMS T/B 410 SS	89116	89116	89116	89116	89116	89116
70	SCREW, 5/16-18 X 1 SL FIL HD M/S		86887			86887	
71	PLATE, FRONT	86007	86007	86007	86006	86006	86006
72	SWITCH, DECAF / REGULAR ROCKER			86075	86075	86075	86075
73	SWITCH, PORTION ROCKER	86075	86075		86075	86075	83231
74	SWITCH, ROCKER START	83339	83339	83339	83339	83339	83339
75	CAPACITOR, 115V W/ BRACKET	86144	86144	86144	86144	86144	86144
76	SCREW, 8-32 X 1/2	86808	86808	86808	86808	86808	86808
77	SPRING, CHAFF MIXER	86146	86146	86146	86146	86146	86146
77	SPRING, W/ CHAFF SUPPRESSION	86235	86235	86235	86235	86235	86235
78	SCREW, 4-40 X 1/4 PH PN HD ZINC	86148	86148	86148	86148	86148	86148
79	DEFLECTOR	86220	86220	86220	86220	86220	86220
80	GASKET, HOPPER FUNNEL	83105	83105	83105	83105	83105	83105
81	STANDOFF, REVERSE EDGEMOUNT	61266	61266	61266	61266	61266	61266
82	SPOUT	86218	86218	86218	86218	86218	86218
83	SCREW, 8-32 X 3/8 PH RD HD	86217	86217	86217	86217	86217	86217
84	BRACKET, CONTROL BOARD	86038	86038	86038	86038	86038	86038
85	BOLT, 1/4-20 HX HD	86872	86872	86872	86872	86872	86872
86	BUSHING, HEYCO OPEN / CLOSED	86039	86039	86039	86039	86039	86039
87	DIGITAL, TIMER	86138	86138	86138	86138	86138	86138
88	SPRING, BASKET ARM	86508	86508	86508	86508	86508	86508
89	NUT, WHIZLOCK 1/4-20	87049	87049	87049	87049	87049	87049
90	SPACER	87026	87026	87026	87026	87026	87026
91	ARM, BASKET LEFT	71014	71014	71014	71014	71014	71014
92	ARM, BASKET RIGHT	71013	71013	71013	71013	71013	71013
93	SCREW, 5/16 X 1 HEX SOC SHLDR	87024	87024	87024	87024	87024	87024
94	SPACER	87025	87025	87025	87025	87025	87025
95	CASING	86011K	86011K	86012K	86012K	86012K	86012K
96	CIRCUIT BREAKER, 10A	86618	86618	86618	86618	86618	86618
97	POWER CORD, 115VAC	86222	86222	86222	86222	86222	
98	STRAIN RELIEF	86071	86071	86071	86071	86071	
99	SCREW, #10 X 1/2 PH TR HD T/AB 410 SS	86859	86859	86859	86859	86859	
100	PLATE, LOWER FRONT	86003	86003	86003	86003	86003	
101	PLATE, SAFETY SHIELD	87032K	87032K	87032K	87032K	87032K	87032K
102	MOTOR MOUNT ASSEMBLY	86995	86995	86995	86995	86995	
103	SCREW, 10-32 X 5/16 SL BD HD M/S ZINC	86812	86812	86812	86812	86812	

Exploded View Parts List - 230V

Models 115A, 115AB, 250, 250A, 250AB & 250-3A

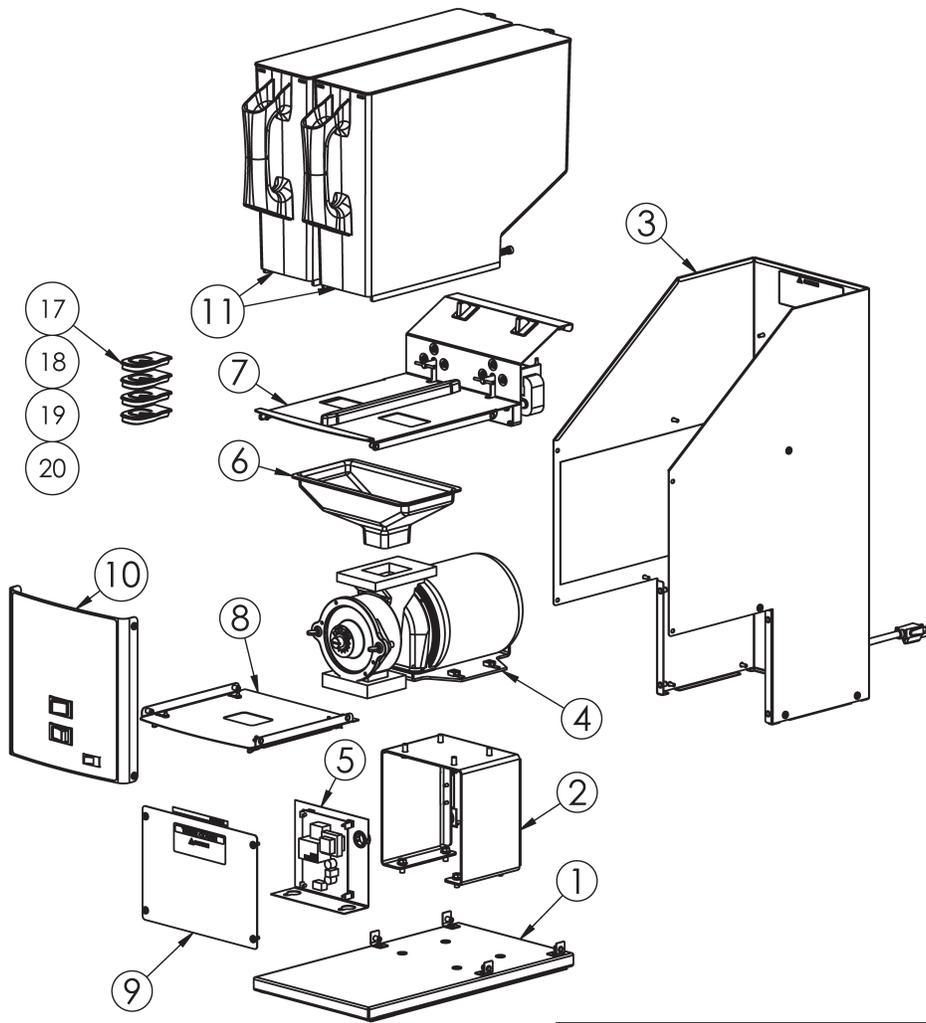
Item No.	Description	115A	115AB	250	250A	250AB	250-3A
1	HARNES, 115/250 A & AB	86037	86037	86037	86037	86037	86037
2	HARNES, 250 SERIES DIGITAL AUGER			86125	86125	86125	86125
3	HARNES, DIGITAL SWITCH	86122	86122	86121	86117	86117	86117
4	FOOT, RUBBER 100/250	86034	86034	86034	86034	86034	86034
5	BASE	86309	86309	86309	86309	86309	86309
6	ANGLE BRACKET, GRINDER BASE	88862	88862	88862	88862	88862	88862
7	250 LID ASSEMBLY			89103	89103	89103	89103
8	SCREW, #8 X 3/8 PH PN SMS T/B 410 SS	89113	89113				
9	LID, BACK SS	86013	86013				
10	SCREW, 6-32 X 1/4 PH PN HD	86801	86801	86801	86801	86801	86801
11	LID, FRONT SS	86014	86014				
12	NUT, 6-32 ACORN LOCK	86848	86848	86848	86848	86848	86848
13	HINGE, PLATED	86316	86316				
14	PARTITION, HOPPER			86041	86041	86041	86041
15	SCREW, 8-32 1/2 SL BD HD NYLON			86087	86087	86087	86087
16	NUT, 8-32 NYLON LOCK			86086	86086	86086	86086
17	SCREW, #8 X 3/8 PH PN SMS T/B 410 SS	89114	89114				
18	HOPPER	86010K	86010K	86010K	86010K	86010K	86010K
19	WINDOW, HOPPER	86102	86102	83152	83152	83152	83152
20	HOPPER, SUPPORT	86008	86008				
21	HOPPER	86192	86192				
22	FRONT HOPPER SUPPORT	86196K	86196K				
23	GASKET, HOPPER	71419	71419				
24	SCREW, 8-32 X 3/8" HEX PEM			83143	83143	83143	83143
25	LINK, DRIVE			83368	83368	83368	83368
26	WASHER, NYLON			83141-01	83141-01	83141-01	83141-01
27	HOPPER, AUGER W/ SPOUT			83150	83150	83150	83150
28	ADAPTER, DRIVE			80019	80019	80019	80019
29	SPRING, AUGER			86046	86046	86046	86046
30	FUNNEL, AUGER			83134	83134	83134	83134
31	MOTOR, AUGER 230V			86000	86000	86000	86000
32	BRACKET, MOTOR			86042-01	86042-01	86042-01	86042-01
33	GASKET, HOPPER			83081	83081	83081	83081
34	NUT, TINNEMAN 1/4 - 20	86864	86864	86864	86864	86864	86864
35	MOTOR, 1/2HP 230V 50 HZ	86421	86421	86421	86421	86421	86421
36	SCREW, 8-32 X 3/8 PH TR HD M/S 410 SS	82097	82097	82097	82097	82097	82097
37	HEAD, GRIND	84171S	84171S	84171S	84171S	84171S	84171S
38	COLLAR, THRUST	86304	86304	86304	86304	86304	86304
39	SPRING, TENSION	86118	86118	86118	86118	86118	86118
40	BURR (SET)	85281W	85281W	85281W	85281W	85281W	85281W
41	SCREW, #10-32 X 5/16	86812	86812	86812	86812	86812	86812
42	FEEDWORM	85185T	85185T	85185T	85185T	85185T	85185T
43	DRIVE, SHEAR	86154	86154	86154	86154	86154	86154
44	SHEAR DISC	86123	86123	86123	86123	86123	86123
45	COVER, SHEAR	86355	86355	86355	86355	86355	86355
46	BEARING, ADJUSTING	86140		86140	86140		86140
47	GRIND, ADJUST PIN	86341	86110	86341	86341	86110	86341
48	GRIND, CAP	87131	86112	87131	87131	86112	87131
49	NUT, 5/8-18 BRASS ADJUST SCREW	86340	86340	86340	86340	86340	86340
50	SCREW, 5/16-18 X 1 THUMB T/S ZINC	86819	86819	86819	86819	86819	86819
51	GRIND SHIFT ASSEMBLY 230VAC		89005			89005	
52	SCREW, 8-32 X 5/8 PH TR M/S ZINC		61305			61305	
53	NUT, 8-32 KEPS ZINC PLATED		86810			86810	
54	BRACKET, COARSE STOP		86115			86115	
55	SCREW, GRIND ADJUST 5/8-18 X 3/8		86111			86111	

Exploded View Parts List - 230V (cont.)

Models 115A, 115AB, 250, 250A, 250AB & 250-3A

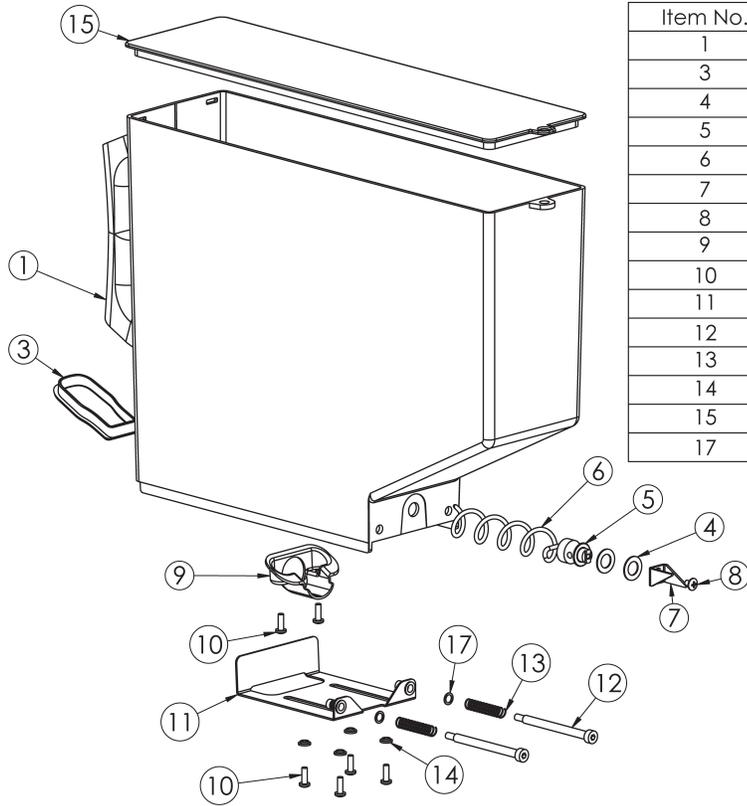
Item No.	Description	115A	115AB	250	250A	250AB	250-3A
56	NUT, 1/4-20 X 7/16 HEX JAM ZINC PLATED		86892			86892	
57	WASHER, FLAT 1/4 - ZINC PLATED		86824			86824	
58	SPRING, TENSION		86118			86118	
59	SHIFT, ARM		86114			86114	
60	SCREW, 1/4-20 X 3/4 THUMB ZINC		86089			86089	
61	SOLENOID, GRIND SHIFT 230V 50HZ		86534-02K			86534-02K	
62	SCREW, #8 X 1/4 PH TR HD SMS T/B 410 SS	89116	89116	89116	89116	89116	89116
63	HARNESS, SOLENOID		86048			86048	
64	PIN, COTTER 3/32 X 1 ZINC PLATED	86853	86853	86853	86853	86853	86853
65	BRACKET, SOLENOID MTG		86116			86116	
66	NUT, 8-32 KEPS ZINC PLATED		86810			86810	
67	ASSEMBLY, GRIND SHIFT HINGE A225-28-1		86107			86107	
68	SCREW, 8-32 X 1/2 PH TR ZINC		86809			86809	
69	SCREW, #8 X 1/4 PH TR HD SMS T/B 410 SS	89116	89116	89116	89116	89116	89116
70	SCREW, 5/16-18 X 1 SL FIL HD M/S		86819			86819	
71	PLATE, FRONT	86007	86007	86007	86006	86006	86006
72	SWITCH, DECAF / REGULAR ROCKER			86075	86075	86075	86075
73	SWITCH, PORTION ROCKER	86075	86075		86075	86075	83231
74	SWITCH, ROCKER START	70445	70445	70445	70445	70445	70445
75	CAPACITOR, 230V W/ BRACKET	86179	86179	86179	86179	86179	86179
76	SCREW, 8-32 X 1/2	86808	86808	86808	86808	86808	86808
77A	SPRING	86141	86141	86141	86141	86141	86141
77	SPRING, CHAFF MIXER	86146	86146	86146	86146	86146	86146
77	SPRING, W/ CHAFF SUPPRESSION	86235	86235	86235	86235	86235	86235
78	SCREW, 4-40 X 1/4 PH PN HD ZINC	86148	86148	86148	86148	86148	86148
79	DEFLECTOR	86220	86220	86220	86220	86220	86220
80	GASKET, PROPORTIONER TO HEAD	71419	71419	71419	71419	71419	71419
81	STANDOFF, REVERSE EDGEMOUNT	61266	61266	61266	61266	61266	61266
82	SPOUT	86218	86218	86218	86218	86218	86218
83	SCREW, 8-32 X 3/8 PH RD HD	86217	86217	86217	86217	86217	86217
84	BRACKET, CONTROL BOARD	86038	86038	86038	86038	86038	86038
85	BOLT, 1/4-20 HX HD	86872	86872	86872	86872	86872	86872
86	BUSHING, HEYCO OPEN / CLOSED	86039	86039	86039	86039	86039	86039
87	DIGITAL, TIMER	86139	86139	86139	86139	86139	86139
88	SPRING, BASKET ARM	86508	86508	86508	86508	86508	86508
89	NUT, WHIZLOCK 1/4-20	87049	87049	87049	87049	87049	87049
90	SPACER	87026	87026	87026	87026	87026	87026
91	ARM, BASKET LEFT	71014	71014	71014	71014	71014	71014
92	ARM, BASKET RIGHT	71013	71013	71013	71013	71013	71013
93	SCREW, 5/16 X 1 HEX SOC SHLDR	87024	87024	87024	87024	87024	87024
94	SPACER	87025	87025	87025	87025	87025	87025
95	CASING	86011K	86011K	86012K	86012K	86012K	86012K
96	CIRCUIT BREAKER, 5A	83107	83107	83107	83107	83107	83107
97	POWER CORD, 1.5MM CE	61453	61453	61453	61453	61453	61453
98	STRAIN RELIEF	86071	86071	86071	86071	86071	86071
99	SCREW, 8-32 X 3/8 PH T/H 410SS	82097	82097	82097	82097	82097	82097
100	PLATE, LOWER FRONT	86003	86003	86003	86003	86003	86003
101	PLATE, SAFETY SHIELD	87032K	87032K	87032K	87032K	87032K	87032K
102	MOTOR MOUNT ASSEMBLY	86995	86995	86995	86995	86995	86995
103	SCREW, 10-32 X 5/16 SL BD HD M/S ZINC	86812	86812	86812	86812	86812	86812
104	WASHER, LCK #8 INT ZNC PLTD	86822	86822	86822	86822	86822	86822

Models 250RH-2 and 250RH-3 Exploded View



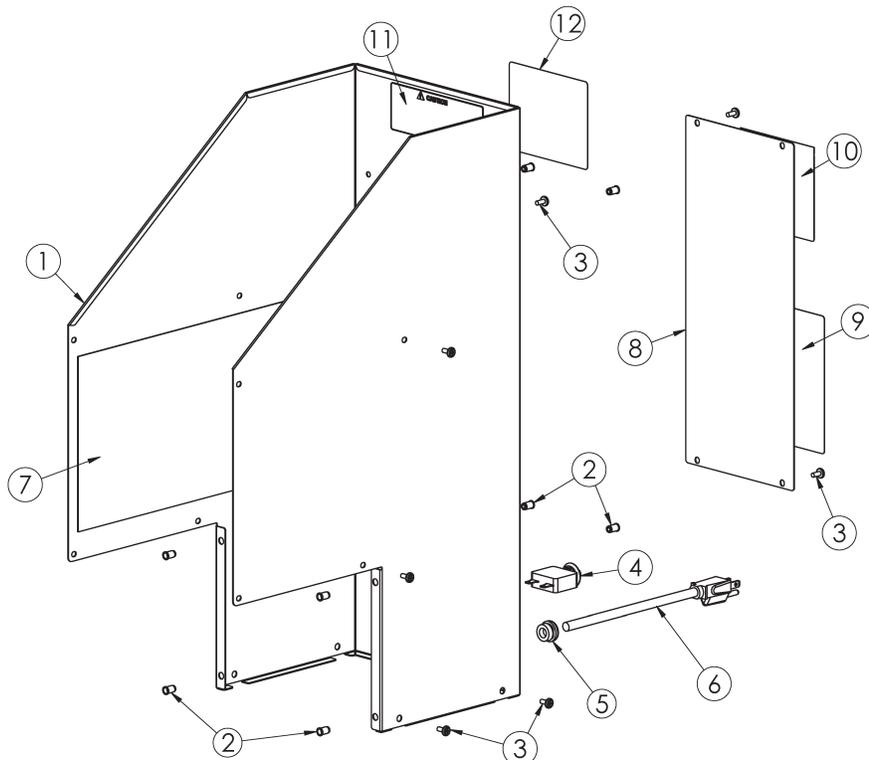
ITEM NO.	Title	PART NUMBER
1	Assembly, Base	82281
2	Assembly, Motor Mount, 120V	82294
3	Assembly, RH Casing	82295
4	Assembly, Motor, 120V~60Hz	82284
5	Assembly, Digital Timer	82299
6	Funnel, RH Grinder	86257
7	Assembly, Auger Motor Mount	82292
8	Assembly, Plate, Safety Shield	82296
9	Assembly, Lower Front Plate	82298
10	Assembly, Front Plate, 250RH-2	82297
10	Assembly, Front Plate, 250RH-3	82320
11	Assembly, Removable Hopper	82290
12	Harness, 115/250 A & AB Series Digital	86037
13	Harness, 250AB Digital Switch	86117
14	Harness, 250 Series Digital Auger	86125
15	Harness, Hopper Switch Jumper	82307
16	Instruction Manual, 250RH-2 / 250RH-3	82318
17	Cap, Handle Top, Natural	86262
18	Cap, Handle Top, Orange	86253
19	Cap, Handle Top, Black	86254
20	Cap, Handle Top, Green	86256

Models 250RH-2 and 250RH-3 Removable Hopper Exploded View



Item No.	Title	Part No.
1	Hopper, Removable	86251
3	Cap, Handle Top, Natural	86262
4	Washer, Nylon 75 X .443 x .032 thk	83141-01
5	Adapter, Drive	82282
6	Spring, Auger Drive	86046
7	Link, Drive	82267
8	Screw, 8-32x1/4 PH TR Zinc	83143
9	Auger Spout	82289
10	Screw, #8 x 1/2", PH PN, Thd Frm	82287
11	Assy, Slide Plate	82285
12	Shoulder Bolt, 1/4"x2.75"L, #10-24	82286
13	Spring, Slide Plate	86261
14	Spacer, #8, Nylon	82288
15	Lid, RH Hopper	86252
17	1/4" SS Washer	82344

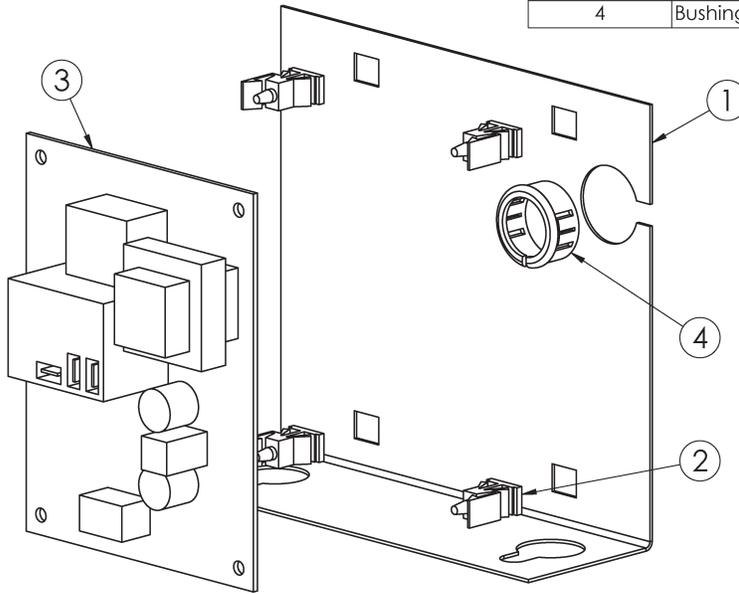
Models 250RH-2 and 250RH-3 Casing Assembly Exploded View



Item No.	Title	Part No.
1	Casing, 250RH	82275
2	Rivnut, 8-32 AKS4-832-80	82096
3	Scrw, 8-32 x 3/8 PH T/H S.S.	82097
4	Circuit Breaker, 10 Amp	86618
5	Strain Relief, Heyco, #1200-01	86071
6	POWER CORD, 115 VAC	86222
7	Sound Deadener, 7" x 15"	86312
8	Plate, Wiring Access	82308
9	Decal, Change Shear Disc	82317
10	Decal, Trouble Shooting	82316
11	Decal, Reinstall Hopper to Casing	82311
12	Decal, Warnings, RH Grinder	82319

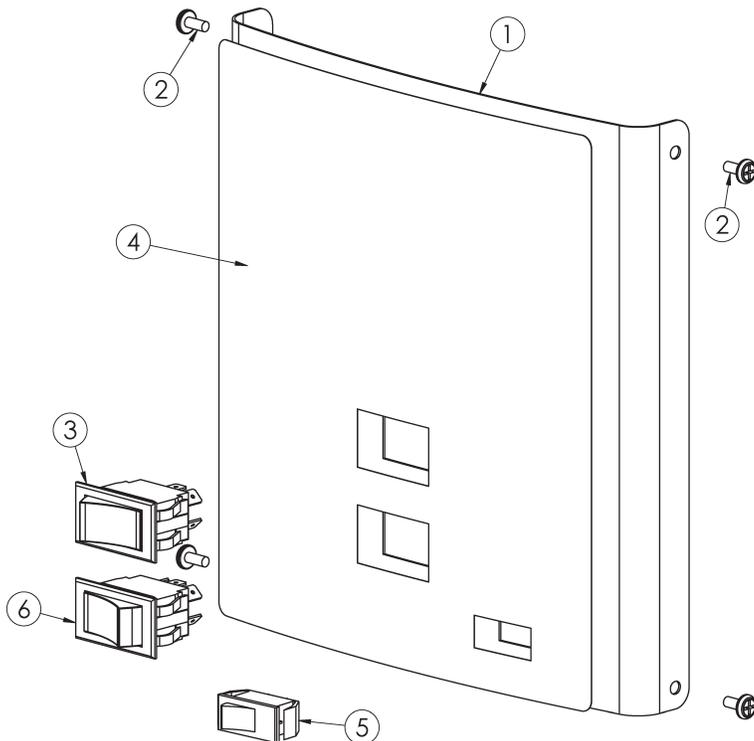
Models 250RH-2 and 250RH-3 Digital Timer Assembly Exploded View

Item No.	Title	Part No.
1	Bracket, Control Board	86038
2	STANDOFF, RVRS EDGEMOUNT	61266
3	Timer, Digital	86138
4	Bushing, Heyco Open/Closed	86039

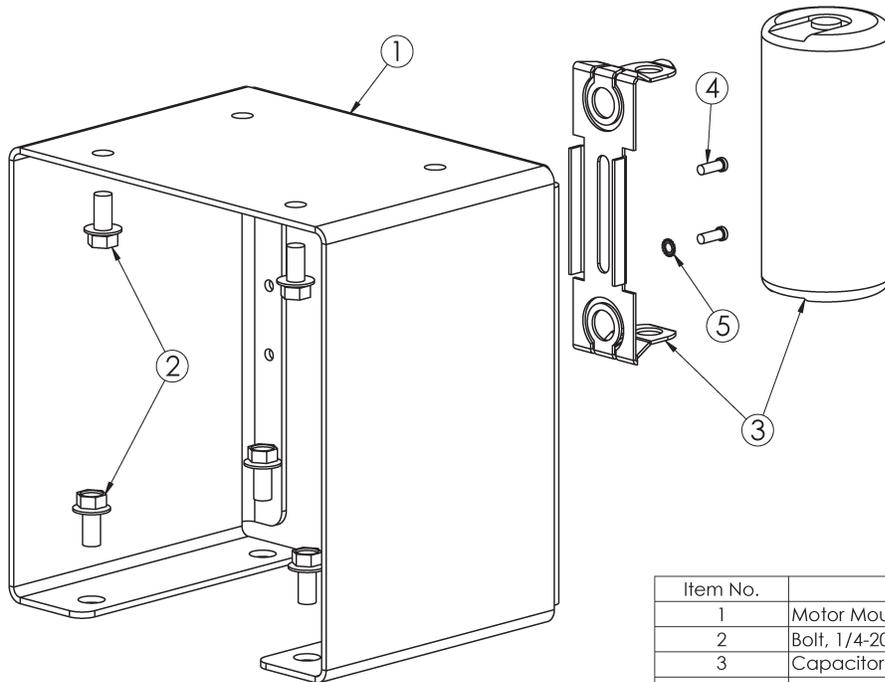


Models 250RH-2 and 250RH-3 Front Plate Assembly Exploded View

Item No.	Title	250RH-2	250RH-3
1	Plate, Front	82270	82270
2	Scrw, 8-32 x 3/8 PH T/H S.S.	82097	82097
3	Rocker Switch, Hopper	86075	86075
4	Decal, Front Plate	82306	82312
5	Switch,Rocker,N/O,White	70445	70445
6	Rocker Switch, Batch Size	86075	83231

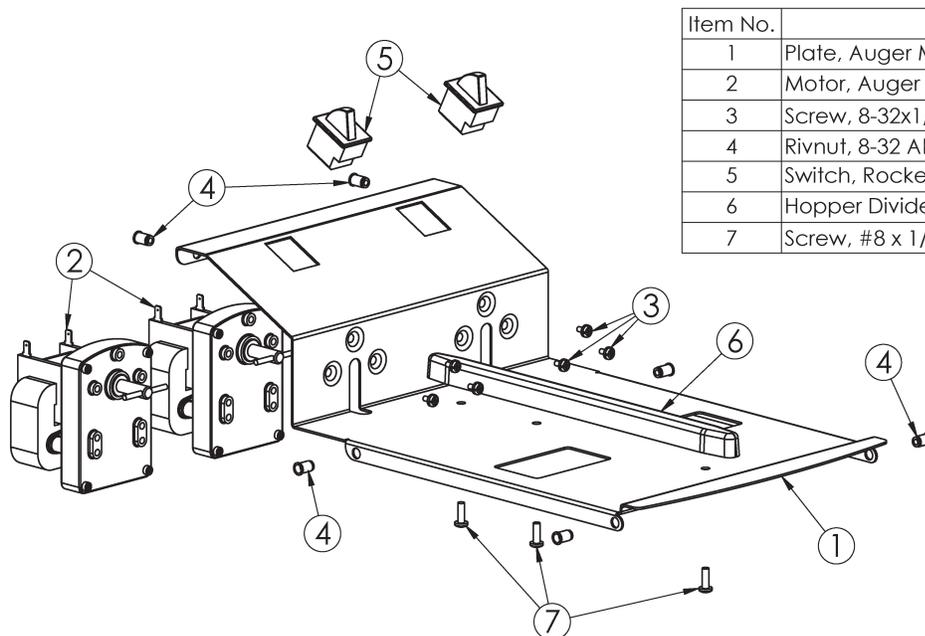


Models 250RH-2 and 250RH-3 Motor Mount Assembly (120V) Exploded View



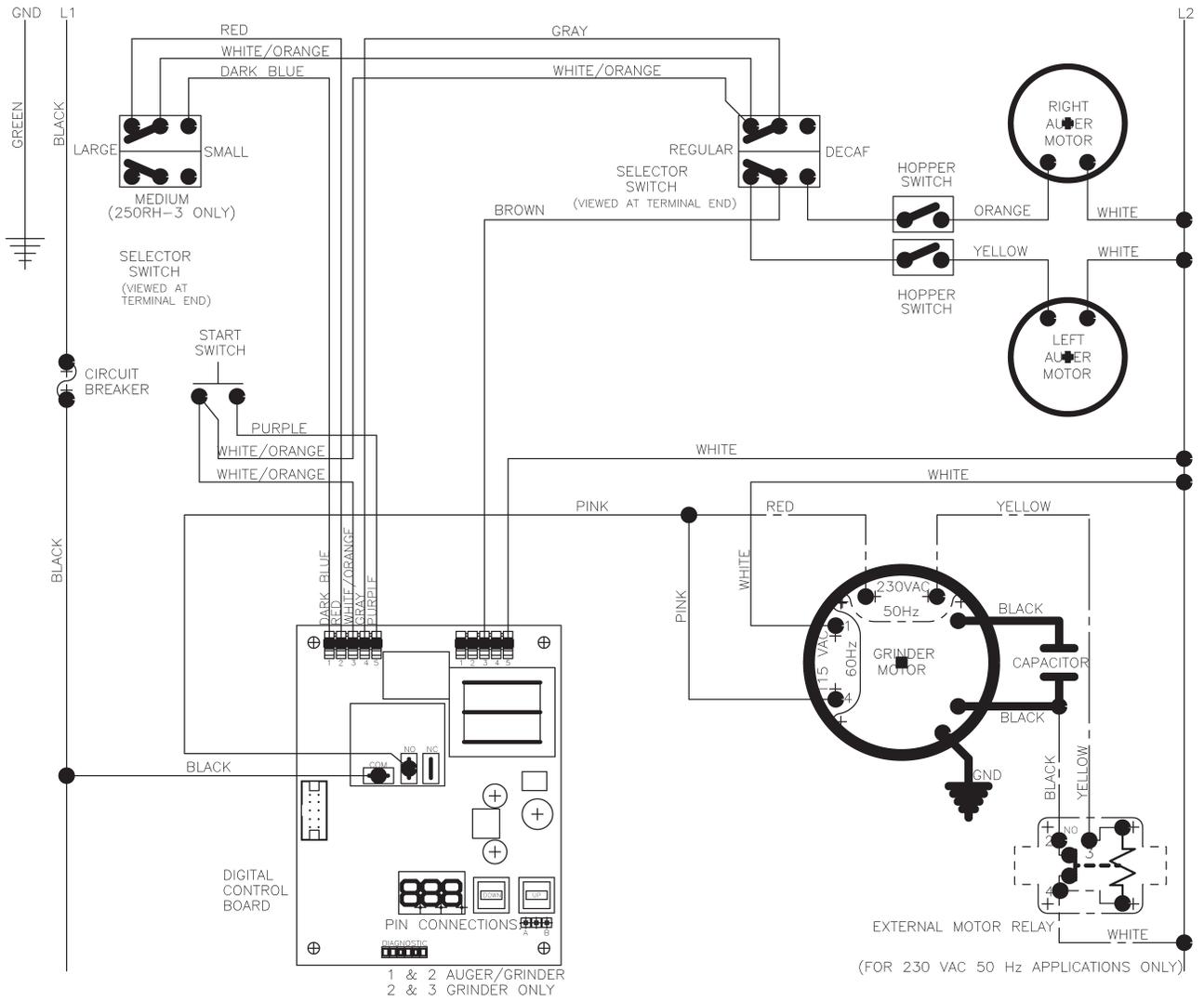
Item No.	Title	Part No.
1	Motor Mount	82269
2	Bolt, 1/4-20 x 5/8, Hx. Hd.	86872
3	Capacitor, 120V w/ Bracket	86144
4	Scrw, 8-32 x 1/2 Ph. Ov. Znc.	86808
5	Washer, Lck#12 EXT-ZNC PLTD	86861

Models 250RH-2 and 250RH-3 Auger Motor Mount Assembly Exploded View

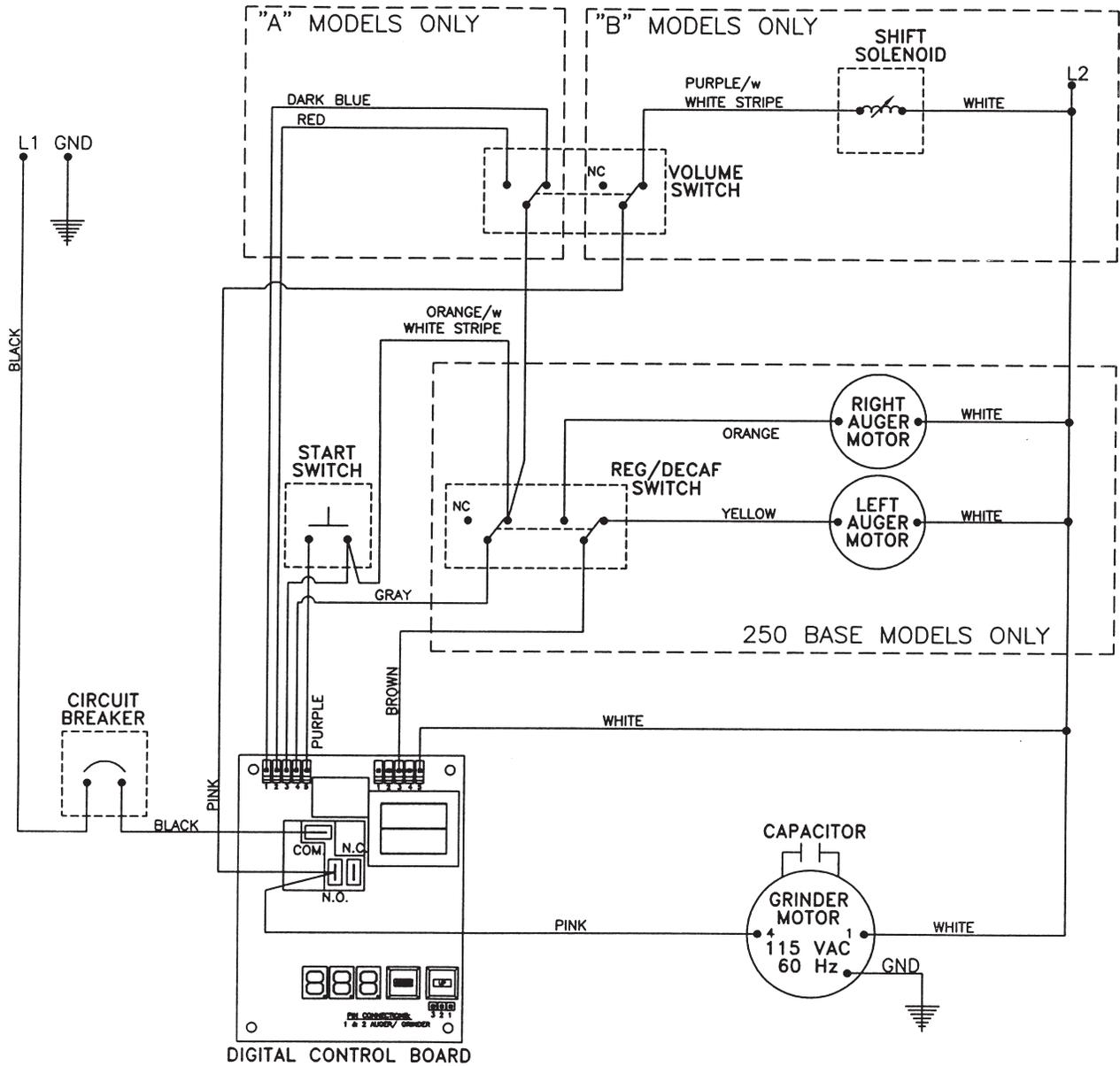


Item No.	Title	Part No.
1	Plate, Auger Motor Mount	86259
2	Motor, Auger	86050
3	Screw, 8-32x1/4, SL RD ZNC	86806
4	Rivnut, 8-32 AKS4-832-80	82096
5	Switch, Rocker, Whipper	1931
6	Hopper Divider	82309
7	Screw, #8 x 1/2", PH PN, Thd Frm	82287

Models 250RH-2 and 250RH-3 Wiring Diagram

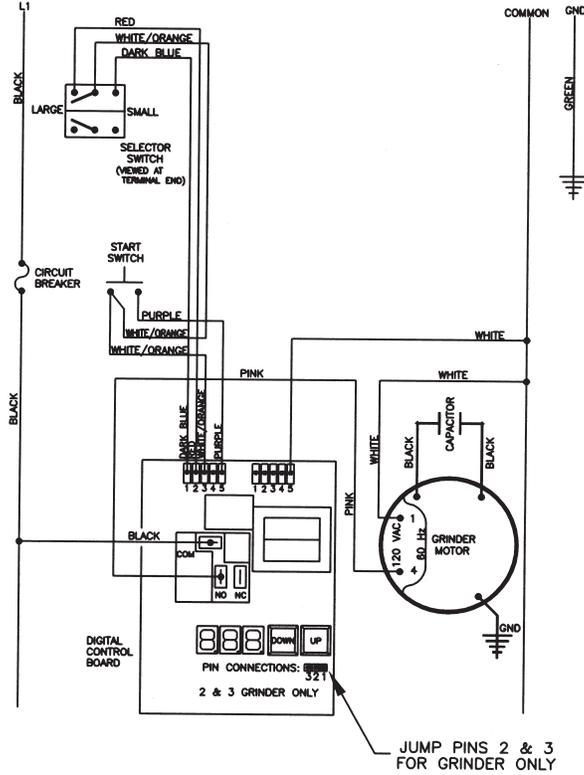


115A, 115AB & 250 Series Wiring Diagram 115V

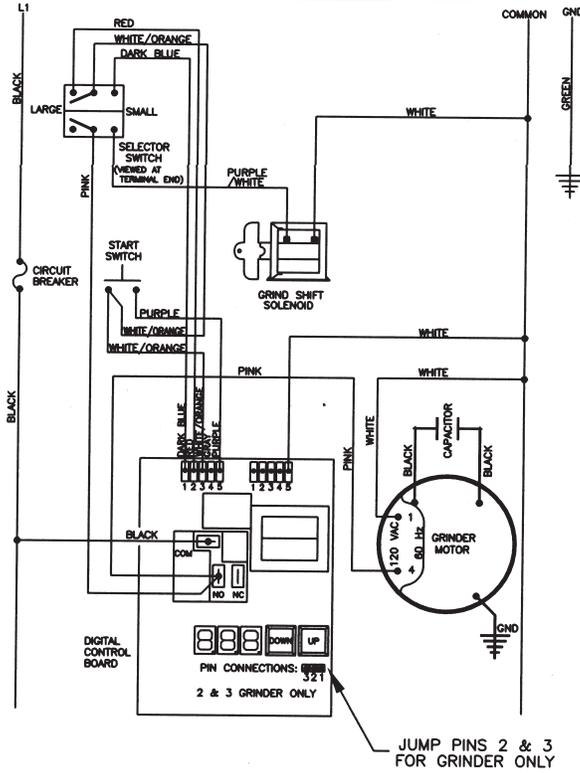


115A & 115AB/120V Wiring Diagram

SCHEMATIC: 115A-120Volt

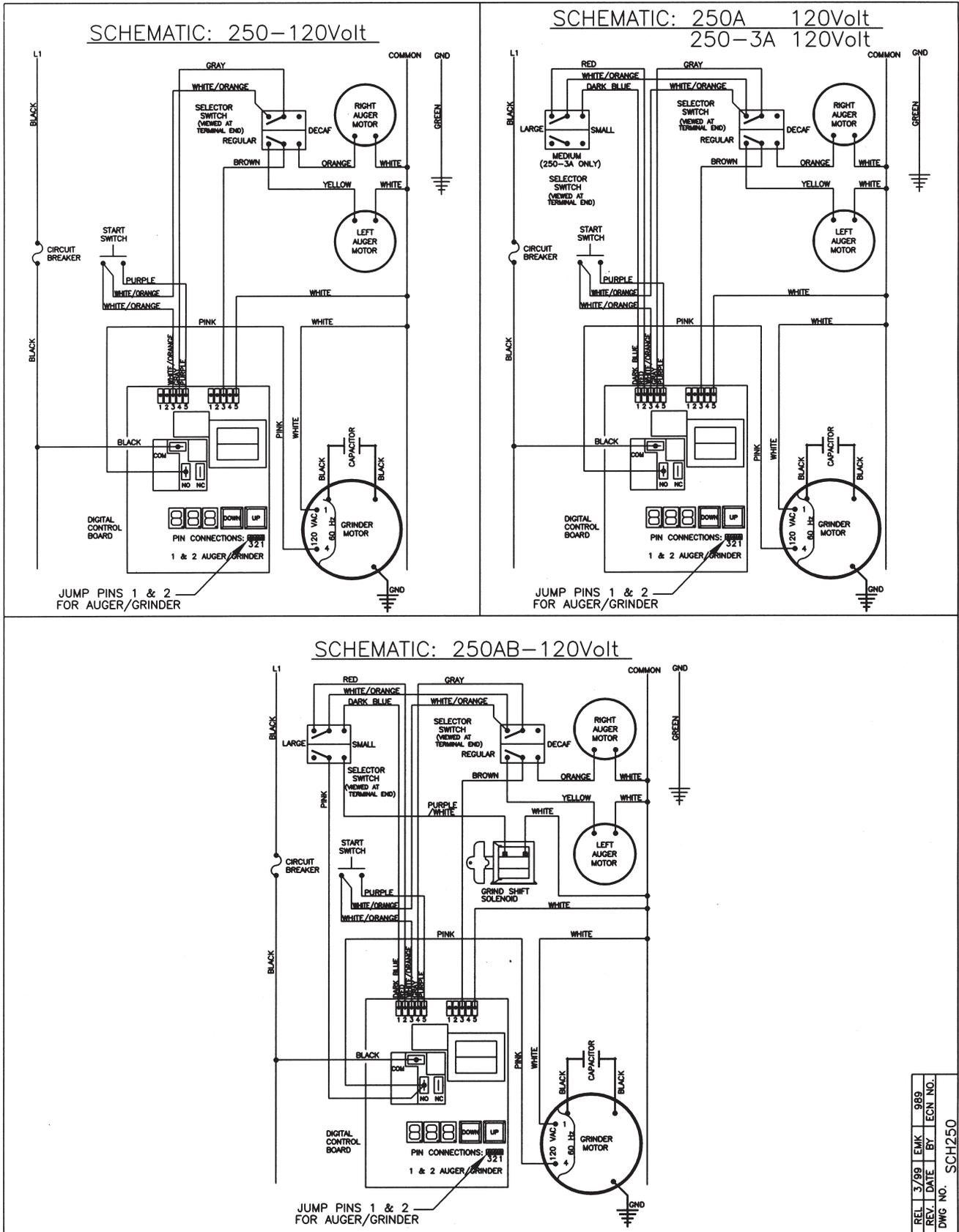


SCHEMATIC: 115AB-120Volt



REL	3/99	EMK	388
LTR	DATE	BT	LECN NO.
DWG NO.			SCH115

115A & 115AB/120V Wiring Diagram





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