5900 Schooner Street – Belleville, MI 48111 – USA
TEL (800) 422-2558 – FAX (734) 665-9099
www.Eberbachlabtools.com

E5850.00 SHAKER POWER UNIT

Digital Bench Top Reciprocal Shaker
20-240 excursions/min 115 V, 50/60 HZ

USE AND CARE FOR CATALOG NUMBER:
E5850.00 SHAKER POWER UNIT

Variable Speed – Reciprocating with Timer and Tachometer
20-240 excursions, 115 V, 50/60 HZ

GENERAL INFORMATION

1) Handle this unit with care. Unpack and check that the contents coincide with the packing-list. If any part is damaged or missing, please advise the distributor immediately.

2) Do not install or use this equipment without first reading this manual.

3) This manual should always be attached to the equipment and made available to all users.

4) NEVER TOUCH THE RECIPRICATING PORTION OF THE SHAKER WHILE THE UNIT IS RUNNING!!

5) If you have any doubts or inquiries, please contact your supplier or ***Eberbach Corporation*** technical service.

OPERATION

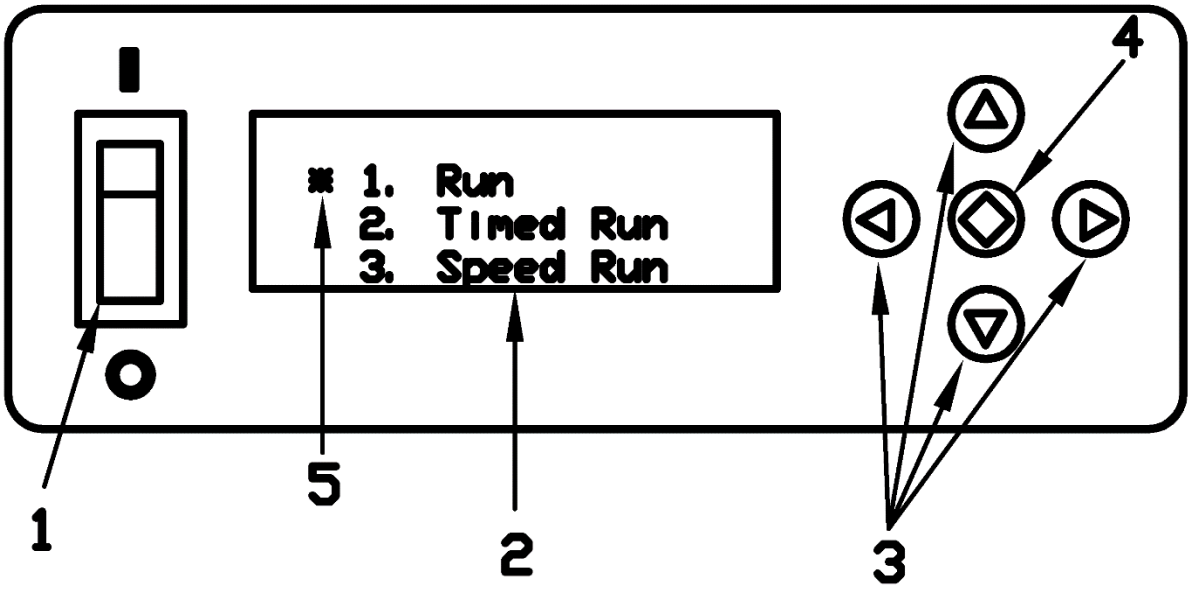
The ***Eberbach*** bench top reciprocating shaker (catalog # E5850.00) features:

(1) A continuously variable speed range, adjustable between 20 and 240 osc/min with stock stroke length set to 1.0”.

(2) A digital tachometer and programmable digital timer for simple and accurate use.

Original Instructions

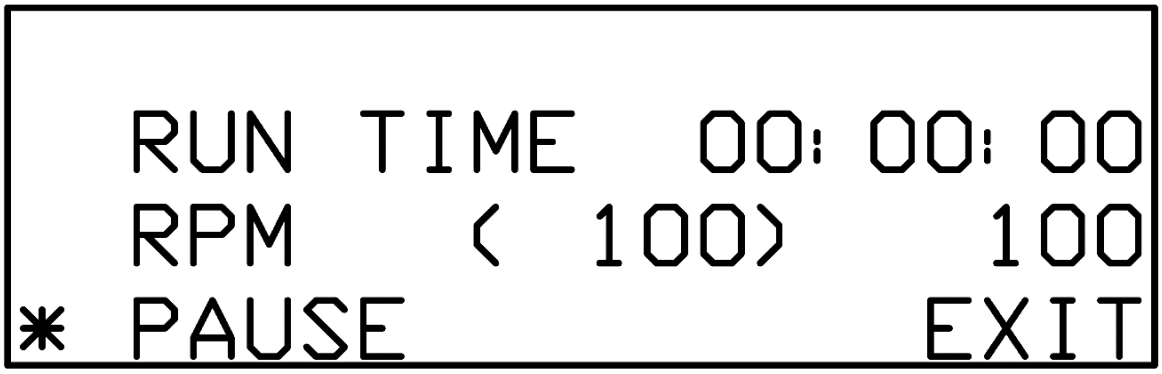
FRONT PANEL DISPLAY



1) Power Switch
2) Liquid Crystal Display (LCD)
3) Directional Pad (D-Pad)
4) Enter Button
5) Cursor

Mode Selection:

1. Toggle the Power Switch into the ON position.
    a. The LCD should light up and show the main menu.
    b. There are three different run modes to choose from.
2. Select a run mode by moving the Cursor (using the D-PAD)
3. press the Enter Button on desired run mode.
4. See instructions on the different run modes.



RUN MENU

Run Mode:

Setup/ Run:

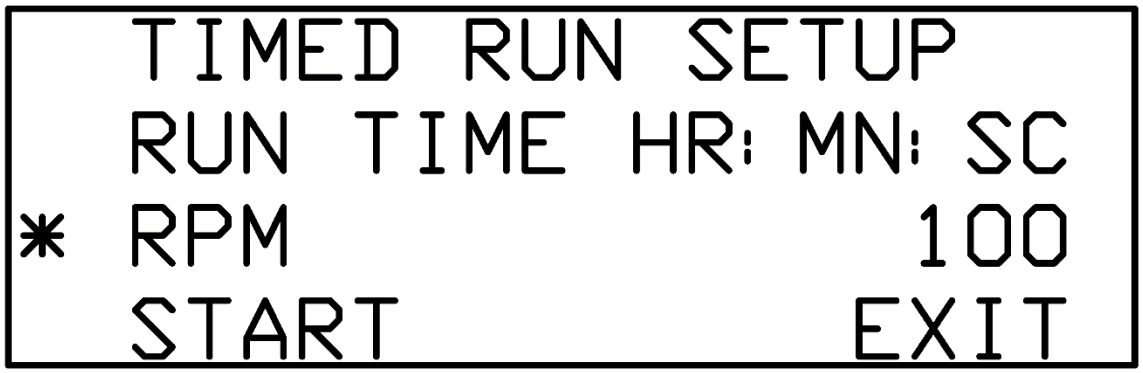
1. Move cursor to “RPM” on screen using left and right buttons on the D-pad.
2. Press up or down on the D-pad to increase/decrease RPM.
    a. The shaker will begin run mode at its lowest speed.
    b. Speed can be adjusted While shaker is running.
3. Move cursor to “start” on the display.
4. Press the enter button to start the run.
    a. Timer will begin to count up from 00:00:00 and will overflow back to 00:00:00 when the timer hits 999:59:59.

Pause Cycle:

5. move the cursor to “PAUSE.” using left and right buttons on the D-pad.
1. Press the enter button to pause the Cycle.
    a. The clock will pause at its current time and the shaker will gradually come to a complete stop.
    b. The clock and shaker can be resumed at its current time and speed by selecting RESUME and pressing the Enter Button.

Main Menu:

1. Move the Cursor to “EXIT”
2. Press the Enter Button.
    a. This will take the operator back to the “run mode selection screen.”



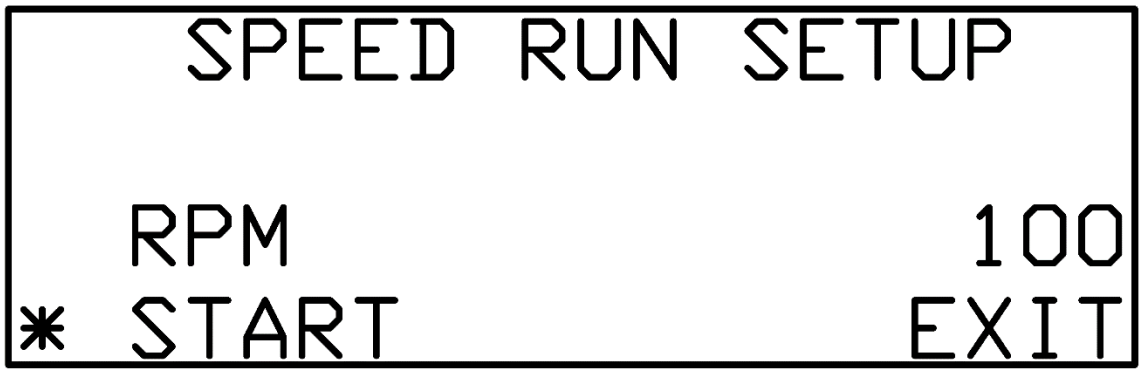
TIMED RUN SETUP MENU

Timed Run Mode:

The timed run mode features a countdown timer that automatically shuts the shaker off when the time runs out. When selected, the user will be taken to the Timed Run Setup Menu.

Setup/Run:

1. Move cursor to “Timed Run.”
2. Press the enter button.
3. Use left and right buttons to navigate between hours, minutes, and second.
    a. Time is displayed in HH:MN:SC
    b. longest run time allowed is 999:59:59
4. Input desired time using the up and down buttons on the D-pad.
5. Press the enter button to stop inputting the time desired.
6. Move cursor to “RPM” on screen using left and right buttons on the D-pad.
7. Press up or down on the D-pad to increase/decrease RPM.
    a. The shaker will begin run mode at its lowest speed.
    b. Speed can be adjusted While shaker is running
8. Move cursor to “start” on the display.
9. Press the enter button to start the run.
    a. Timer will begin to count down from the set time.
    b. Shaker will stop once time hits 00:00:00



SPEED RUN SETUP MENU

Speed Run Mode:

The speed run allows the user to program in a set run speed. The user will be prompted with the speed run setup menu.

Setup/ Run:

1. Move cursor to “RPM” on screen using left and right buttons on the D-pad.
2. Press up or down on the D-pad to increase/decrease RPM.
    a. The shaker will begin run mode at its lowest speed.
    b. Speed can be adjusted While shaker is running.
3. Move cursor to “start” on the display.
4. Press the enter button to start the run.
    a. Timer will begin to count up from 00:00:00 and will overflow back to 00:00:00 when the timer hits 999:59:59.

Note: Pressing EXIT will take the user back to the speed run setup menu.

Error: Over Speed and No Tachometer

There are two basic Error conditions that will display during your Run. If the Tachometer value exceeds your Maximum Speed setting by over 10 RPM the main relay will be turned off. The Over Speed Error message will be flashed across the top line.

If the Tachometer should fail your machine will shut down for safety reasons. This can also be caused by a stalled motor or unplugged Tachometer cable. The No Tachometer Error message will be flashed across the top line. It is possible to run the machine without a Tachometer although the accuracy of the speed may vary. When prompted with the error select “Yes” to run the Machine in Open Loop mode. Although this is not recommended for Safety Reasons.

Note: All run menus will have two speeds listed. The leftmost speed will be displayed inside parenthesis. This is the target speed controlled by the user. The shaker will attempt to match this speed and should do so within ten seconds after making an adjustment. The rightmost speed is the tachometer reading, which shows the user the actual running speed of the shaker. The tachometer reading will not necessarily always match the target speed but is guaranteed to be within +/- 1% RPM.

Note: Reciprocating shakers will display OSC (oscillations) instead of RPM (revolutions per minute).

Note: Use slowest speed necessary to produce required shaking action.

Note: In the event of a surge fault, the display is protected by the 5V power supply. The 5V power supply will go into “hiccup mode” and automatically recover once the surge fault has been removed. The display will go back to the main menu. The run mode will have to be re-selected by the operator.

Note: in the event of a short power interruption, refer to the operating instructions to restart the machine to the desire run mode.

If you have any doubts or inquiries concerning operation, contact your supplier or Eberbach Corporation technical service.

LOADING:

It is impossible to outline the exact limitations for loading a shaker, as resulting shaking action is dependent upon several factors. These are size (height) and shape of the containers, speed, and the amount and type of material being shaken.
Max weight at the **low end** of the speed range (20-40rpm) should not exceed **40 lbs** (18.2 kg).

Max weight at the **high end** of the speed range (220-240rpm) should not exceed **20lbs** (9.1 kg).

Basic considerations should be:

1. Always **center** the load on platform.
2. Use lowest speed consistent with the required shaking action.
3. At higher speeds use less weight on platform.
4. If shaker has tendency to «walk» on bench, then rubber suction cup feet should be secured to bench top by using rubber bonding or contact cement.

Good judgment in the selection of the above mentioned factors will contribute to proper use and extend the life of the shaker.

Fuse Replacement:

The main replacement fuses are 3 Amp Slow Blow (Time Delay) Stock #6113. Replace blown fuses only once. Motor fuse is 0.5Amp Time Delay. Preventative maintenance has set the fuse to blow if the motor is over worked.

The problem is generally in extreme wear of the bearings or an object obstructing the shaking action.

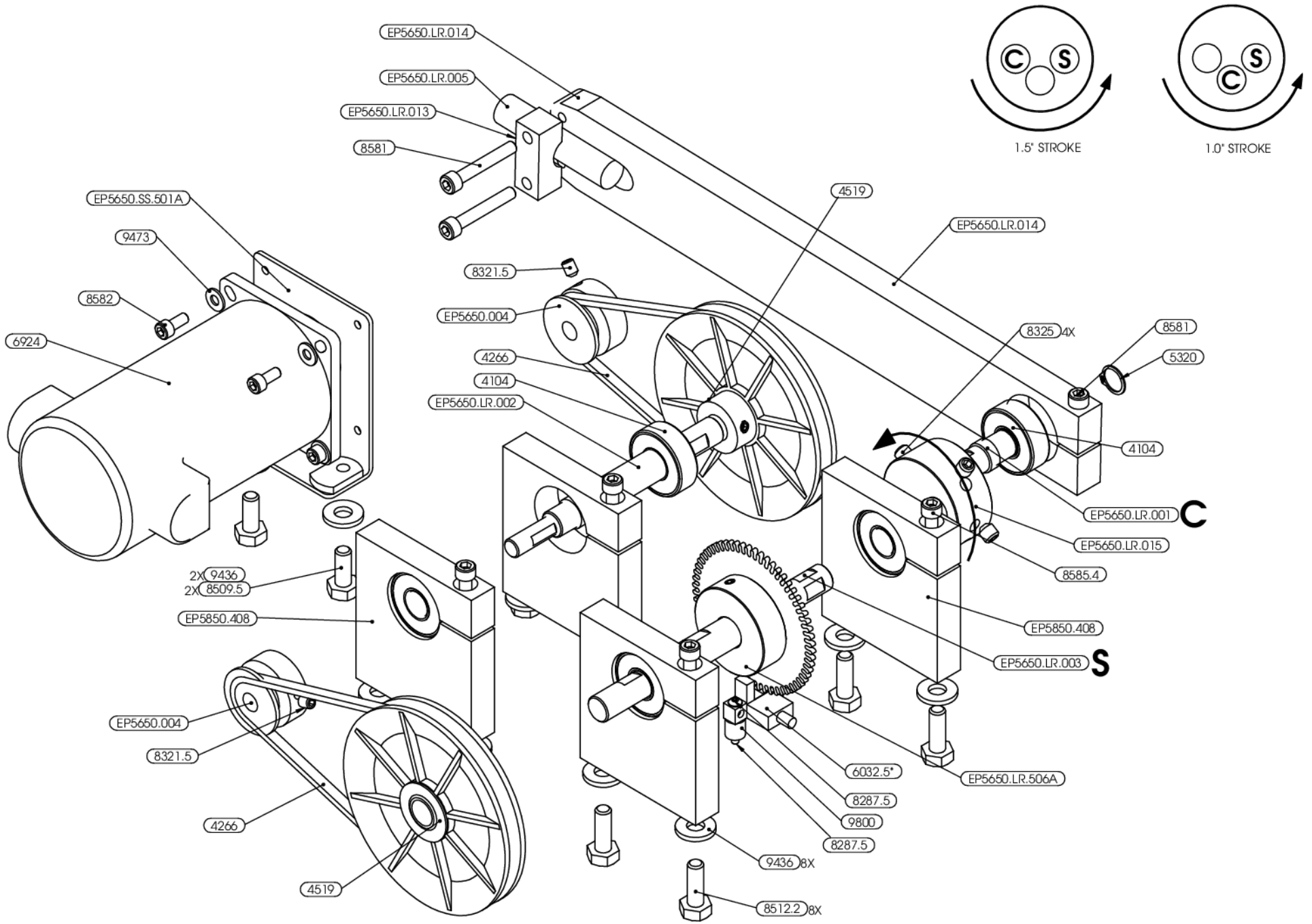
NOTE: If replacement fuse blows almost immediately, repairs may be needed.
Contact your supplier or ***Eberbach Corporation*** technical support with any inquiries concerning operation.

E5850.00 REPLACEMENT PARTS LIST

PartNo	DESCRIPTION	QTY.
4085	LINEAR RAIL	2
4104	BEARING	5
4266	BELT, 2L150	2
4519	PULLEY, #PO-3.5 <MOD-DIAM>7/16" BORE	2
5320	7/16 RETAINING CLIP ZINC PLATED	1
5528	3.75" SUCTION CUP W/ 5/16-18 THREADED POST	4
6010.7	POWER SUPPLY, 5V 30W	1
6063.1	CABLE TIE MOUNT	12
6063.2	CABLE TIE	12
6075.5	18-22 CRIMP WIRENUT	1
6102	OVERLAY	1
6110	FUSE, 0.5AMP TIME DELAY	1
6113	FUSE, TIME DELAY 3A	2
6131.1	FUSE HOLDER	1
6217	CONNECTOR, FEMALE QUICK DISCONNECT	1
6267.2	RING TERMINAL	1
6278	AC INLET	1
6332	BODINE DC MOTOR CONTROLLER MODEL #780	1
6507.1	ROCKER SWITCH	1
6649	CORD AND PLUG	1
6730	7 TERMINAL GROUNDING BLOCK	1
6851	DISPLAY BOARD	1
6855	USB BOARD	1
6924	DC MOTOR 1/17HP	1
7397	#2-56 X 1/4" S/S PAN HD. MACHINE SCREW	1
7398	#2-56 X 5/16" S/S PAN HD. MACHINE SCREW	1
7568	#4-40 X 1/4" S/S PAN HD. MACHINE SCREW	4
7954	#5-40 X 3/8" S/S FLAT HD. SOCKET SCREW	2
8050	#4-40 x 3/8" S/S PAN HD. MACHINE SCREW	4
8277.4	#10-32 X 3/8" S/S TRUST HD. SCREW	2
8285	#8-32 X 1/4" S/S TRUST HD. SCREW	36
8287.5	#4-40 X 3/4" S/S BUTTON SOCKET SCREW	2
8321.5	#10-32 X 1/4" SET SCREW	2
8325	1/4"-20 X 1/4" SET SCREW	4
8509.5	1/4"-20 X 5/8" S/S HEX HEAD SCREW	8
8512.2	1/4"-20 X 3/4" S/S HEX HEAD SCREW	8
8581	#10-32 X 1-1/4" SOCKET HD. SCREW	1
8581	#10-32 X 1.25" SOCKET HD CAP SCREW	2
8582	#8-32 X 3/8" SOCKET HD. SCREW	4
8585.4	#10-32 X 1" SOCKET HD. STEEL SCREW	6
9207.5	#5-40 SS NYLON-INSERT HEX LOCKNUT	2
9235	#8-32 S/S MACHINE SCREW NUT	2
9254	#10-32 S/S MACHINE SCREW NUT	2
9436	1/4" S/S SAE WASHER	16

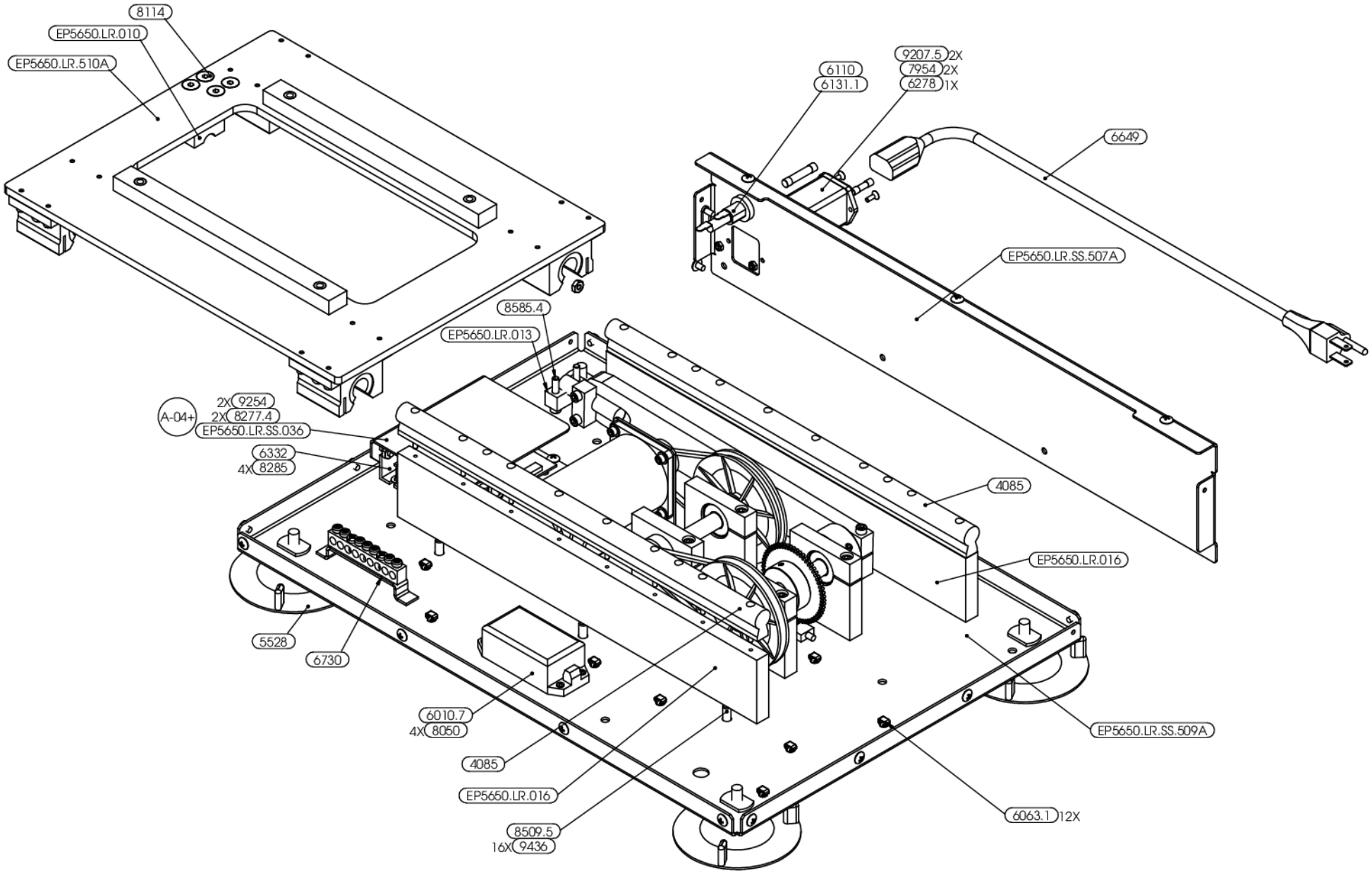
9473	#8 S/S MIL-SPEC WASHER	4
9521	#10 SPLIT LOCK WASHER	4
9800	ROUND SPACER, NYLON	2
EP5650.004	PULLEY INPUT	2
EP5650.652A	WIRE HARNESS	1
EP5650.LR.001	CRANK OSCILLATING SHAFT	1
EP5650.LR.002	SHAFT INTERMEDIATE DRIVE	1
EP5650.LR.003	SHAFT OUTPUT DRIVE	1
EP5650.LR.005	FLEXIBLE PIVOT	1
EP5650.LR.013	CLAMP	2
EP5650.LR.014	CONNECTING ROD	1
EP5650.LR.015	CRANK BODY	1
EP5650.LR.016	SIDE RISER	2
EP5650.LR.506A	TACH WHEEL ASSEMBLY	1
EP5650.LR.510A	TOP SLED ASSEMBLY	1
EP5650.LR.SS.024	LEFT SIDE PANEL	1
EP5650.LR.SS.026	RIGHT SIDE PANEL	1
EP5650.LR.SS.027	TOP PANEL	1
EP5650.LR.SS.036	SPLASH GUARD	1
EP5650.LR.SS.507A	REAR PANEL ASSEMBLY	1
EP5650.LR.SS.508A	FRONT PANEL ASSEMBLY	1
EP5650.LR.SS.509A	BASE ASSEMBLY	1
EP5650.SS.501A	MOTOR MOUNT ASSEMBLY	1
EP5850.408	BEARING MOUNT	4

Contact your supplier or ***Eberbach Corporation*** technical support with any inquiries concerning replacement parts and installation.



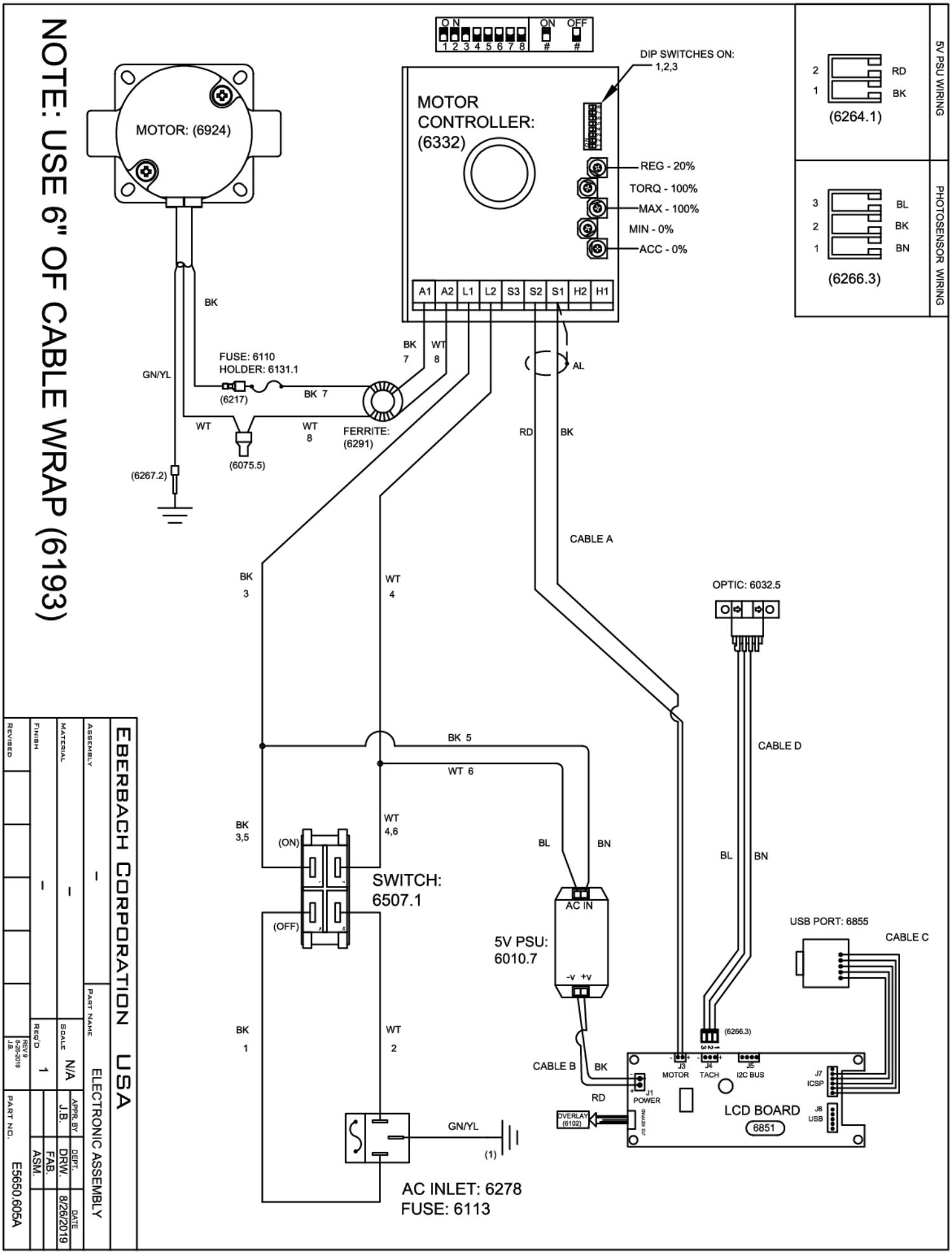
EBERBACH CORPORATION U.S.A.

DIMENSIONS ARE IN INCHES TOLERANCE UNLESS OTHERWISE SPECIFIED		MATERIAL -				STOCK NO.
FRACTION ±1/64	DECIMAL .X ±.1	ASSEMBLY				PART NAME BENCHTOP RECIPROCAL SHAKER
ANGLE ± .5°	.XX ±.01 .XXX ±.005					
3RD ANGLE PROJ		1:2 SCALE A	APPR T.L.	DEPT. DRW.	DATE 02-28-17	42.7lb WEIGHT
						PART NO. E5850.00 REV A-04+



EBERBACH CORPORATION U.S.A.

DIMENSIONS ARE IN INCHES TOLERANCE UNLESS OTHERWISE SPECIFIED		MATERIAL -				STOCK NO.	
FRACTION ±1/64	DECIMAL .X ±.1	ASSEMBLY				PART NAME	BENCHTOP RECIPROCAL SHAKER
ANGLE ± .5°	.XX ±.01 .XXX ±.005	1:4 SCALE A	APPR T.L.	DEPT. DRW.	DATE 02-28-17	42.7lb WEIGHT	PART NO. E5850.00 REV A-04+
3RD ANGLE PROJ							



EBERBACH CORPORATION USA

ASSEMBLY	–
PART NAME	ELECTRONIC ASSEMBLY
MATERIAL	–
SCALE	N/A
FINISH	–
REQ'D	1
REVISED	REV B 8-26-2019 JB
PART NO.	E5650.605A

	APPR. BY	DEPT.	DATE
	J.B.	DRW.	8/26/2019
		FAB.	
		ASM.	