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www.Eberbachlabtools.com

EL680.Q QUENCHERS Hand Motion Shaker
Variable Speed with Timer and Tachometer
100-600 +/-2 opm, 115 V, 50/60 Hz

USE AND CARE FOR CATALOG NUMBER:

EL680.Q Digital Variable Speed Reciprocating Shaker -
115V - 50/60 Hz



CAUTION!

**UNPLUG THE POWER CORD BEFORE DOING ANY
MAINTENANCE ON THIS MACHINE.**

FAILURE TO DO SO MAY CAUSE INJURY

**!!THE USER OF THIS DEVICE IS RESPONSIBLE FOR OBTAINING THE
PROPER PERSONAL PROTECTIVE EQUIPMENT DEPENDING ON THE
MATERIAL BEING PROCESSED!!**

**IF THE EQUIPMENT IS USED IN A MANNER NOT SPECIFIED BY THE
MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT
MAY BE IMPAIRED.**

**SERVICE ON THE UNIT SHOULD BE PERFORMED BY QUALIFIED /
TRAINED PERSONELL ONLY.**

INITIAL PREPARATION:

Place shaker on a level table or bench.

NOTE: This unit should be operated by trained personnel.

With the power switch on the front panel in the off position (0), plug the line cord into a 115 Volt, 50/60 Hz source. Turn shaker on by moving switch to the On position (1).

NOTE: Speed adjustments should be made only when the shaker is operating. Use slowest speed necessary to produce required shaking action.

NOTE: This unit emits less that 70.0 dB(A).

CAUTION: Extra effort may be needed when lifting machine due to suction adhesion with table and rubber feet.

IN AN EMERGENCY TURN OFF UNIT OR UNPLUG AC CORD

USE AND CARE FOR CATALOG NUMBER:

EL680.Q Wrist Action Shaker

Variable Speed with Timer and Tachometer

100-600 +/-2 opm, 115V- 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) If you have any doubts or inquiries, please contact your supplier or ***Eberbach Corporation*** technical service.
- 5) Do not use the apparatus with liquids which can give off vapors capable of making explosive mixtures.

PACKING LIST

The standard equipment consists of the following components:

<u>Description</u>	<u>Qty</u>
Wrist Action Shaker	1
Arms	2
Clamps	8
Power Cord	1
Allen Wrench 3/16	1
Allen Wrench 3/32	1
Use and Care Manual	1

EQUIPMENT DESCRIPTION

Wrist Action Shaker: Electronic regulation between 100 and 600 oscillations per minute. Oscillation amplitude is 9mm. Easily detachable arms equipped with 8 clamps for attaching and processing up to 8 samples at one time.

TECHNICAL FEATURES

Voltage supply 115V, 50/60 Hz

Height	18 in
Length	14 in
Width	36 in
Maximum Capacity	4 kg (8.8 lbs)
Oscillations per minute	100-600 +/-2
Power Consumption	0.7 Amps

INSTALLATION

- 1) Place the apparatus on a flat, horizontal, level surface with enough stability to resist its own vibrations.
- 2) Fit the arms with clamps to the shaker side shaft so that the screws tighten against the flat surface of the shaft.

CAUTION!!! IMPORTANT FOR YOUR SAFTEY

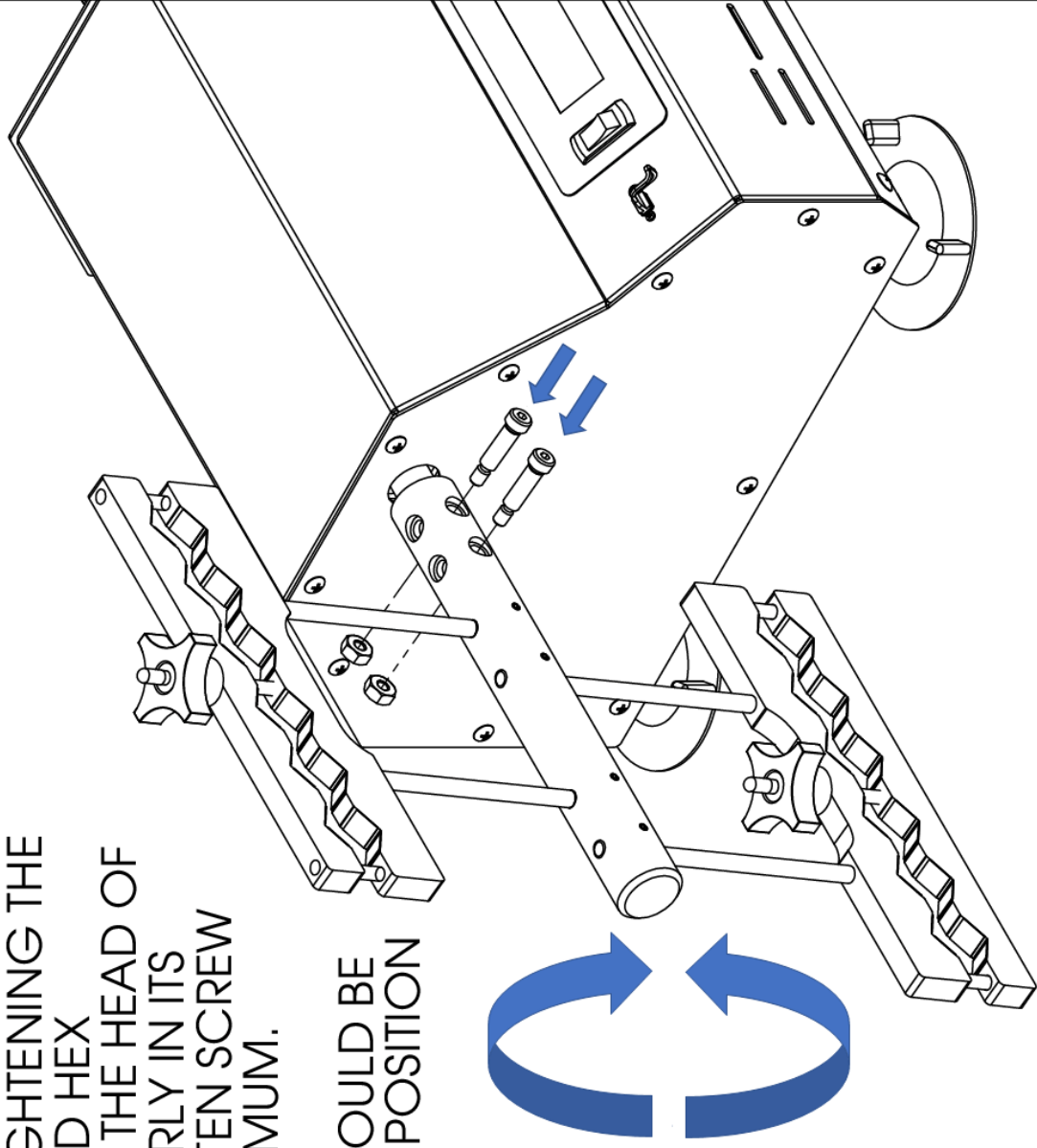
Be sure that the voltage supply is the same as the one indicated on the serial tag.

Do not shake products capable of making an explosive mixture.

Do not use the apparatus if it is not grounded properly.

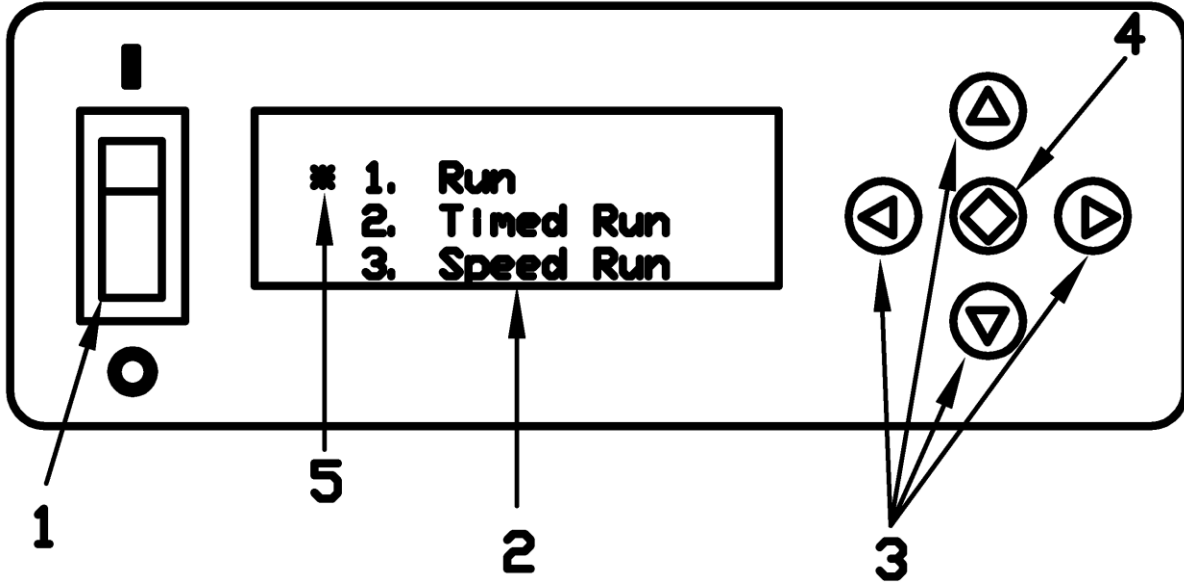
INITIAL SETUP REQUIRES ATTACHING THE TWO HORIZONTAL ARMS TO THE SHAKER POWER UNIT. TO DO SO GRASP EACH ARM WITH YOUR HAND AND GENTLY TWIST BACK AND FORTH WHILE TIGHTENING THE SCREWS WITH THE PROVIDED HEX WRENCH. THIS WILL ALLOW THE HEAD OF THE SCREW TO SEAT PROPERLY IN ITS COUNTERSUNK HOLE. TIGHTEN SCREW TO 125LBIN (14NM) AT MINIMUM.

NOTE: SHAKER TOOLING SHOULD BE INSTALLED IN THE VERTICAL POSITION



EL680.Q

FRONT PANEL DISPLAY



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

Operation: Press the **Power Switch** down into the ON position. The **LCD** should light up and show the main menu. There are three different run modes to choose from. Select a run mode by moving the **Cursor** (using the **D-PAD**) and press the **Enter Button**.

Run Mode: The shaker will begin the run mode at its lowest speed. The speed shown in parenthesis (xxxx) is the set speed controlled by the user. The speed listed to the right is the tachometer read out or the actual speed of the shaker in real time. The speed can be increased/decreased by pressing and holding the up/down arrows on the **D-PAD**. The longer the button is held down the faster the speed will increase/decrease. Once engaged the timer will begin counting all the way up to 999 hours before the timer overflows back to zero. To pause the shaker move the **Cursor** to the PAUSE item by pressing the left arrow on the **D-PAD** and press the **Enter Button**. The clock will pause at its current time and the shaker will gradually come to a complete stop. The clock and shaker can be resumed at its current time and speed by selecting RESUME and pressing the Enter Button. To go back to the main menu move the **Cursor** to the EXIT item by pressing the right arrow on the **D-PAD** and then press the **Enter Button**.

RUN TIME	00: 00: 00
RPM	(100) 100
* PAUSE	EXIT

RUN MENU

Timed Run Mode: The timed run mode features a count down 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 and will need to input the run time in hours, minutes, seconds and select the speed for the run. The left/right arrows on the **D-PAD** can be used to move the cursor between hours, minutes or seconds and the up and down arrows can be used to set the time. The longest run time allowed is 999:59:59. Once the time is set move the **Cursor** down by pressing the right arrow on the **D-PAD** until the **Cursor** is next to the RPM line item. The speed can be set using the up and down arrows on the **D-PAD**. Now that the data is set navigate the **Cursor** to the START line item using the left/right arrows on the **D-PAD** and press the **Enter Button**.

```
TIMED RUN SETUP
RUN TIME HR: MN: SC
* RPM          100
START          EXIT
TIMED RUN SETUP MENU
```


After selecting START the shaker will begin at the selected speed and the timer will begin counting down. The speed can be adjusted in real time using the up/down arrows on the **D-PAD**. The speed shown in parenthesis is the target speed controlled by the user and the speed listed to the right is the actual speed as read by the tachometer. The shaker and countdown timer can be paused and resumed. Move the **Cursor** to the line item PAUSE by pressing the left arrow on the **D-PAD** and then press the **Enter Button**. Exiting the Timed Run Menu will bring the user back to the Timed Run Setup Menu.

```

RUN TIME  999: 59: 59
RPM      (< 100)      100
* PAUSE                                     EXIT

```

TIMED RUN MENU

Speed Run Mode: The speed run allows the user to program in a set run speed. Once engaged the timer will begin counting all the way up to 999 hours before the timer overflows back to zero. Select the speed run mode from the main menu and press the **Enter Button**. The user will be prompted with the speed run setup menu. Set the desired speed using the up/down arrows on the **D-PAD**. The left/right arrows can be used to move the **Cursor** between START and EXIT. EXIT will take the user back to the main menu. Keep the **Cursor** next to the START line item and press the **Enter Button**.

```

SPEED RUN SETUP

RPM                               100
* START                            EXIT

```

SPEED RUN SETUP MENU

The user will now be taken to the speed run menu. The shaker will begin at the speed selected in the setup menu. The speed run menu behaves in the same way as the run menu with one exception. Pressing EXIT will not take the user back to the main menu instead pressing EXIT will take the user back to the speed run setup menu.

```

RUN TIME 00: 00: 00
RPM      ( 100)   100
*PAUSE                                EXIT

```

SPEED RUN MENU

Restoring the Factory Settings:

During the course of operation the machine may need to be reset to its factory settings. To do so the user must press and hold the green **Enter Button**. Next the user must turn the **Power Switch** on, while continuing to hold the **Enter Button**. After a few seconds the user will be presented with the utilities menu.

```
* 1. Presets Rev_XX
   2. Tests      Menu
   3. Custom    Menu
   4. Exit
```

UTILITIES MENU

Navigate the **Cursor** to the top line item marked "1. Presets Rev_XX" and press the **Enter Button**. The user will now be presented with the presets menu.

```
PRESETS
* Model: EL680Q
  Motor: Bodine
  Save                               Exit
```

PRESETS MENU

The **Cursor** should be next to the line item “Model : xxxx” use the up/down arrow buttons, on the **D-PAD**, to select EL680Q. The models are listed numerically with the smallest numbers at the bottom and the largest numbers at the top. If the line reads “Model: Empty” then press and hold the down arrow button to get back into the model numbers. Once the user has selected the correct model number, press the right arrow button on the **D-PAD**. Use the up arrow button on the **D-PAD** to change the motor setting to “Bodine.” Navigate the **Cursor** down to the save line item by pressing the right arrow button on the **D-PAD**. Press the **Enter Button** to save the preset settings. The user will now be back at the utilities menu. Navigate the **Cursor** down to the last line item “4. Exit” and press the **Enter Button**. The machine has now been reset to its factory settings.

Note: There may be instances when the memory can become corrupt even though the presets menu appears to be correct. The problem can result in false speed values during run operation. If the user navigates to the preset menu and the settings match the picture shown above, navigate the **Cursor** down to save and press the **Enter Button** anyways. This will ensure that the maximum and minimum speed values are correct.

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 what the shaker is running at. The tachometer reading will not necessarily match the target speed at all times, but is guaranteed to be within +/- 5 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: Do not rotate machine by hand as doing so may corrupt the digital memory and require a factory reset.

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

Maintenance

CLEANING:

Before removing the casing, disconnect the apparatus from the mains.

The manipulation of the internal electronic circuits of the apparatus unauthorized personnel can cause irreparable damage to the apparatus.

When cleaning the plastic, use alcohol with a cotton cloth. When cleaning the painted metal case, use warm soap and H₂O solution.

FUSE REPLACEMENT:

The motor fuse is a 1.25A (1.25"x0.25") Time Delay Fuse. The line fuses are 3A (5x20mm) Time Delay Fuse. 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 necessary.

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

BELT INSPECTION AND REPLACEMENT:

Inspect belt periodically and replace if broken or if the cords are exposed or frayed. Small outer fabric breaks are not harmful.

Removal of the drive belt may require the adjustment or removal of the motor and/or the large drive pulley. Installation of a new belt is as follows:

1. Unplug unit to avoid shock and/or electrical component damage.
2. Remove the left side panel to expose the motor and other components.
3. Take note or mark the location of the motor along the adjustable slots in base plate.
4. Loosen the socket ("allen") screws that fasten the motor to the base plate.
5. Slide the motor towards the large pulley to allow the belt to slacken.
6. Remove belt and install new belt with identical number of teeth.
7. Adjust tension on belt. **Note:** cogged style belt does not need excessive tension.

MOTOR:

In the case of a high duty cycle, brushes should be inspected and/or replaced at determined intervals (12-24 months). Brushes can be removed by carefully following the steps outlined below:

1. Remove the left side panel. Once disassembled you can perform the maintenance to the brushes.
2. Unscrew the black plastic brush holders located on each side of the motor. Be careful not to lose the inside spring when unscrewing brush holders.
3. Inspect brushes and clean or replace as necessary. Replace brushes if worn to less than 1/8".

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

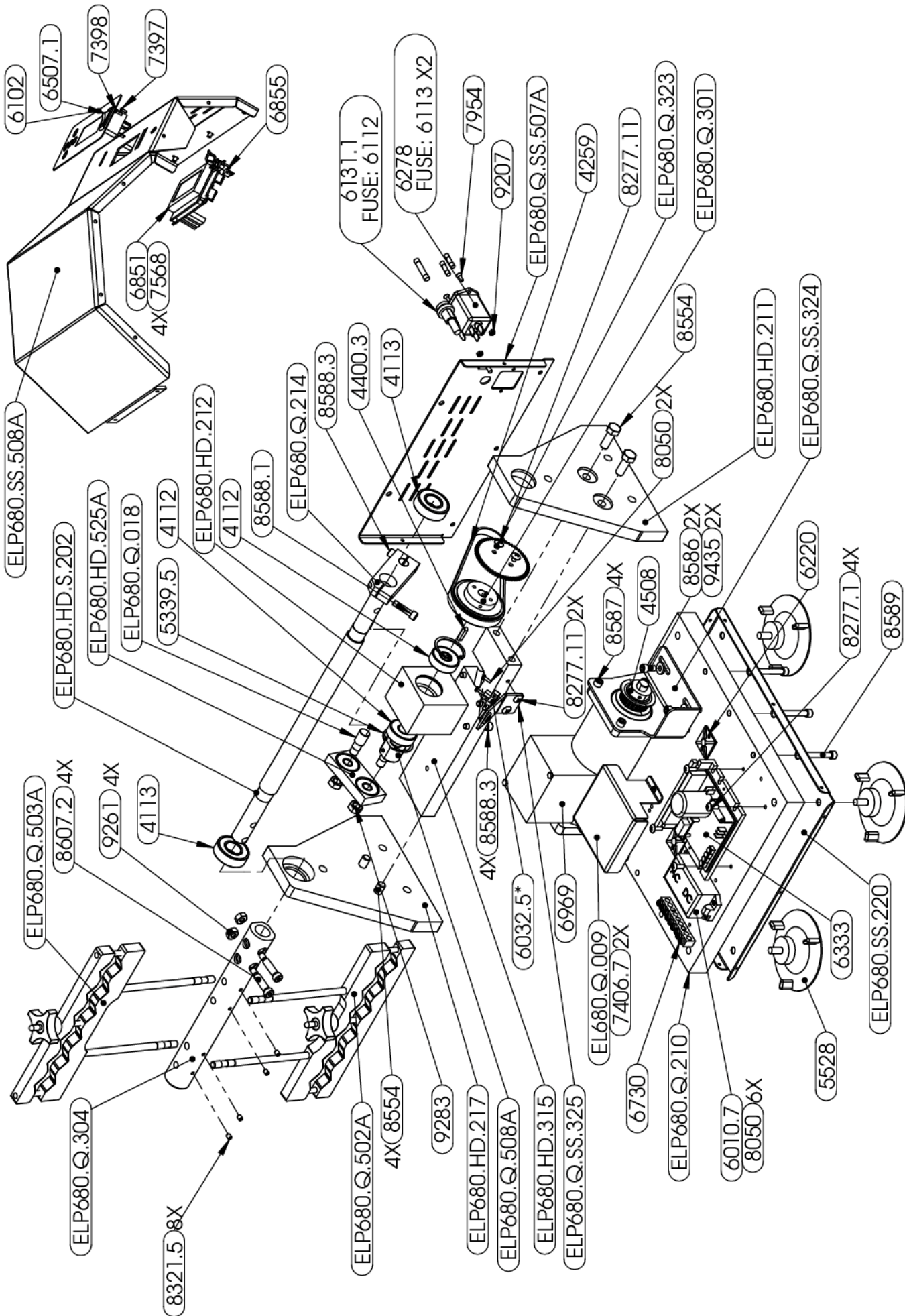
ELP680.Q REPLACEMENT PARTS LIST

PartNo	DESCRIPTION	QTY.
4112	BEARING	2
4113	BEARING	2
4259	16" TIMING BELT	1
4400.3	4MM X 20MM KEY	1
4508	TIMING PULLEY, 22 TEETH	1
5339.5	INTRENAL SNAP RING FOR 1-3/8" BORE	2
5528	3.75" SUCTION CUP W/ 5/16-18 THREADED POST	4
5535.5	RUBBER GROMMET	1
5631	3/32 STANDARD ALLEN WRENCH	1
5645	5/16 STANDARD ALLEN WRENCH	1
6010.7	30W POWER SUPPLY	1
6063.2	CABLE TIE	3
6102	OVERLAY	1
6112	FUSE, 1.25AMP TIME DELAY	1
6113	FUSE, TIME DELAY 3A	2
6131.1	FUSE HOLDER	1
6217	FEMALE QUICK DISCONNECT	1
6220	CABLE TIE HOLDER WITH ADHESIVE BACKED	3
6267.2	CONNECTOR	1
6278	AC INLET	1
6333	MOTOR CONTROLLER	1
6507.1	ROCKER SWITCH	1
6730	7 TERMINAL GROUNDING BLOCK	1
6851	DISPLAY BOARD	1
6855	USB BOARD	1
6969	MOTOR, 1/8HP	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
7406.7	#6-32 X 3/16" S/S PAN HD. MACHINE SCREW	2
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	6
8277.1	#8-32 X 1/2" S/S TRUST HD. SCREW	4

8277.11	#10-32 X 1/4" S/S TRUST HD. SCREW	4
8285	#8-32 X 1/4" S/S TRUST HD. SCREW	28
8321.5	#10-32 X 1/4" SET SCREW	8
8554	3/8"-16 X 1" HEX HEAD SCREW	4
8586	1/4"-20 X 1/2" SOCKET HD. SCREW	2
8587	1/4"-20 X 5/8" SOCKET HD. SCREW	4
8588.1	1/4"-20 X 1" SOCKET HD. SCREW	1
8588.3	1/4"-20 X 1-1/4" SOCKET HD. SCREW	5
8589	1/4"-20 X 1-1/2" SOCKET HD. SCREW	6
8607.2	1/4"-20 X 5/16", 1" SOCKET SHOULDER SCREW	4
9207	#5-40 NYLON-INSERT HEX LOCKNUT	2
9235	#8-32 S/S MACHINE SCREW NUT	2
9261	1/4"-20 GRADE 5 EXTRA-WIDE HEX NUT	4
9283	3/8"-24 GRADE 5 HEX NUT	2
9435	#12 SAE WASHER	2
9950	BLUE LOCTITE 242	1
EL680.Q.009	MOTOR CONTROLLER SPLASHGUARD	1
ELP680.HD.211	RIGHT SIDE COLUMN	1
ELP680.HD.212	PULLEY BLOCK	1
ELP680.HD.217	LEFT SIDE COLUMNS	1
ELP680.HD.315	CROSS STRAP	1
ELP680.HD.525A	CRANK BLOCK BEARING ASSEMBLY	1
ELP680.HD.S.202	BAR ARM	1
ELP680.Q.018	CONNECTING PIN	1
ELP680.Q.210	BASE WEIGHT	1
ELP680.Q.214	DRIVE CLAMP	1
ELP680.Q.301	DRIVEN SPROCKET	1
ELP680.Q.303	RIGHT SHAFT EXTENSION	1
ELP680.Q.304	LEFT SHAFT EXTENSION	1
ELP680.Q.323	60 TOOTH TACH WHEEL	1
ELP680.Q.502A	LOWER CLAMP ASSEMBLY	2
ELP680.Q.503A	UPPER CLAMP ASSEMBLY	2
ELP680.Q.508A	ECCENTRIC SHAFT ASSEMBLY	1
ELP680.Q.652A	WIRING HARNESS	1
ELP680.Q.SS.324	MOTOR BRACKET	1

ELP680.Q.SS.325	TACH BRACKET	1
ELP680.Q.SS.507A	REAR PANEL ASSEMBLY	1
ELP680.SS.220	BASE PLATE	1
ELP680.SS.223	SIDE PANEL	2
ELP680.SS.508A	CASE ASSEMBLY	1

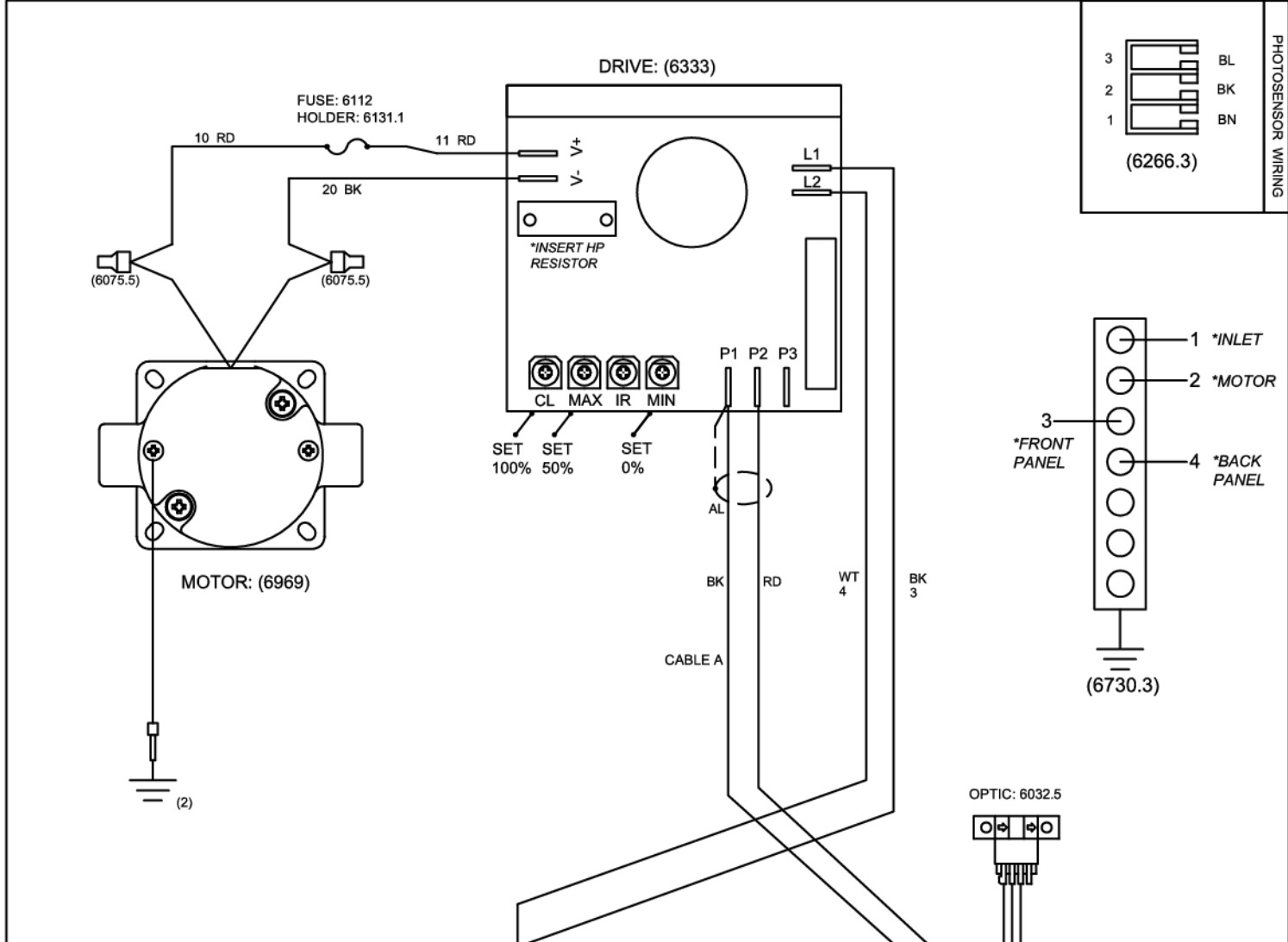
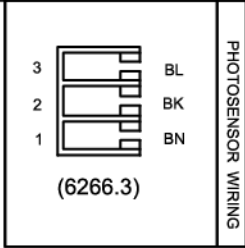
If you have any questions or inquiries concerning installation or ordering of replacement parts please contact your supplier or **Eberbach Corporation** Technical Service @ **1-800-422-2558**.



EBERBACH CORPORATION U.S.A.

DIMENSIONS ARE IN INCHES TOLERANCE UNLESS OTHERWISE SPECIFIED		MATERIAL	
FRACTION	DIGIT	ASSEMBLY	SCALE
1/16	X + 1	1:6	A
ANGLE	XXX + 01	DRW.	DATE
4.5°	XXX + 005	01-02-13	1041b
3RD ANGLE PROJ		APPR	DEPT.
		T.L.	ARGENT

STOCKING		PART NAME	
		HAND MOTION SHAKER	
		EL680.Q	
		REV	
		A-06+	



EBERBACH CORPORATION U.S.A.		PART NAME		ELECTRONIC ASSEMBLY	
ASSEMBLY	-	SCALE	N/A	APPR. BY	DATE
MATERIAL	-	REV'D	1	J.B.	9/8/2020
FINISH	-	REV 3	1	FAB.	ASM.
REVISED		REV 2	1	ASSEMBLY	DATE
		REV 1	1	EL680 Q.005A	

