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www.Eberbachlabtools.com

E6013.00 SHAKER POWER UNIT

60-280 osc/min, 115V, 50/60Hz

USE AND CARE FOR CATALOG NUMBER:

- E6013.00 Variable Power Unit, 60 - 280 osc/min.

OPERATION:

Because an oscillating mechanism such as a shaker tends to “walk”, caution must be exercised when installing it for use.

Shaking apparatus must be placed on rigid bench or table, or directly on the floor. Suction type rubber feet are provided; therefore, the surface must be free of cracks or voids and must be clean, especially free of dust, oil or wax.

Assuming the bench, table or floor surface is clean and smooth, the shaker will carry 7lbs without creeping or walking. With a greater load of more than 7lbs it is recommended an adhesive be used to cement the suction feet to the mounting surface. Although it is not essential, it is recommended all models of this shaking apparatus be cemented to the mounting surface as a precaution against “walking”, in the event of an overload. At no time should the load exceed 40lbs.

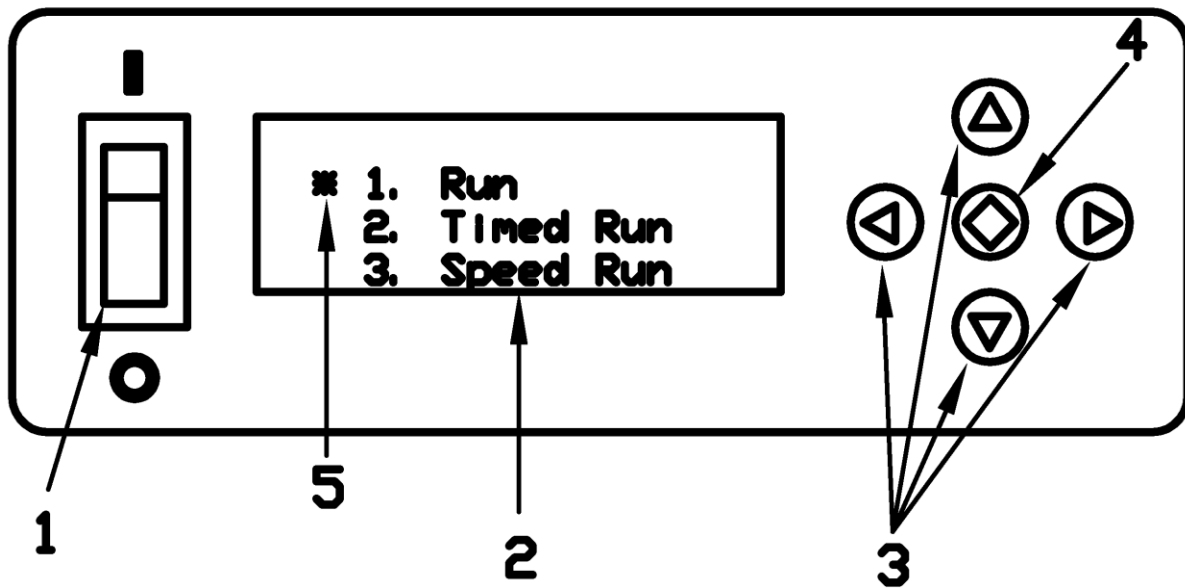
If it is necessary to cement the shaker to mounting surface, we suggest the use of a rubber bonding cement that can be purchased from your local hardware store or automotive parts supplier. Apply a thin coat to the rubber feet, allow time to become tacky, then set the shaker in place and press down firmly. Allow to dry to manufacturers specifications.

To move the shaker after it has been cemented to a surface, it is necessary to free the feet with a sharp knife or razor blade to keep from injuring the thin rubber edges.

For optimum operation of this shaking apparatus and for long trouble-free life, it is recommended that a minimum load be placed in the shaker when used.

OILING AND ALL MAINTENANCE CAN BE PERFORMED BY REMOVING EITHER THE FRONT OR REAR HOUSING PANEL.

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**.

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SPEED RUN SETUP
RPM                               100
* START                            EXIT

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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.

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

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SPEED RUN MENU

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 actually running at. The tachometer reading will not necessarily match the target speed at all times, 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: 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.

BELT INSPECTION:

Inspect belt at each oiling period and replace if actually broken or if the cords are exposed and frayed. Small outer fabric breaks are not harmful.

BELT REPLACEMENT AND ADJUSTMENT:

To replace belt, loosen motor screws and remove belt, then install new belt. Tighten the motor screws but do not tighten belt to the point where the bearings will be overloaded. When belt is tight, the operator should be able to press lightly on the middle of the belt and cause it to bow in an amount equal to the width of the belt.

LUBRICATION:

See exploded view of shaker power unit for points of lubrication. Use a good grade of SAE #30 oil.

Lubrication when shaker is used in continuous duty applications of 100 hours or more:

- A. Oil crank bearing through hole in center of bearing bracket every 3 months.
- B. Oil the 8 bearings located at the top and bottom of each of the 4 rocker arms every 3 months. Place oil on the shaft next to the bearing.
- C. Oil the connecting rod bearings every 3 months. Place oil on the shaft next to the bearing at the upper end and at the crank end of the connecting rod.

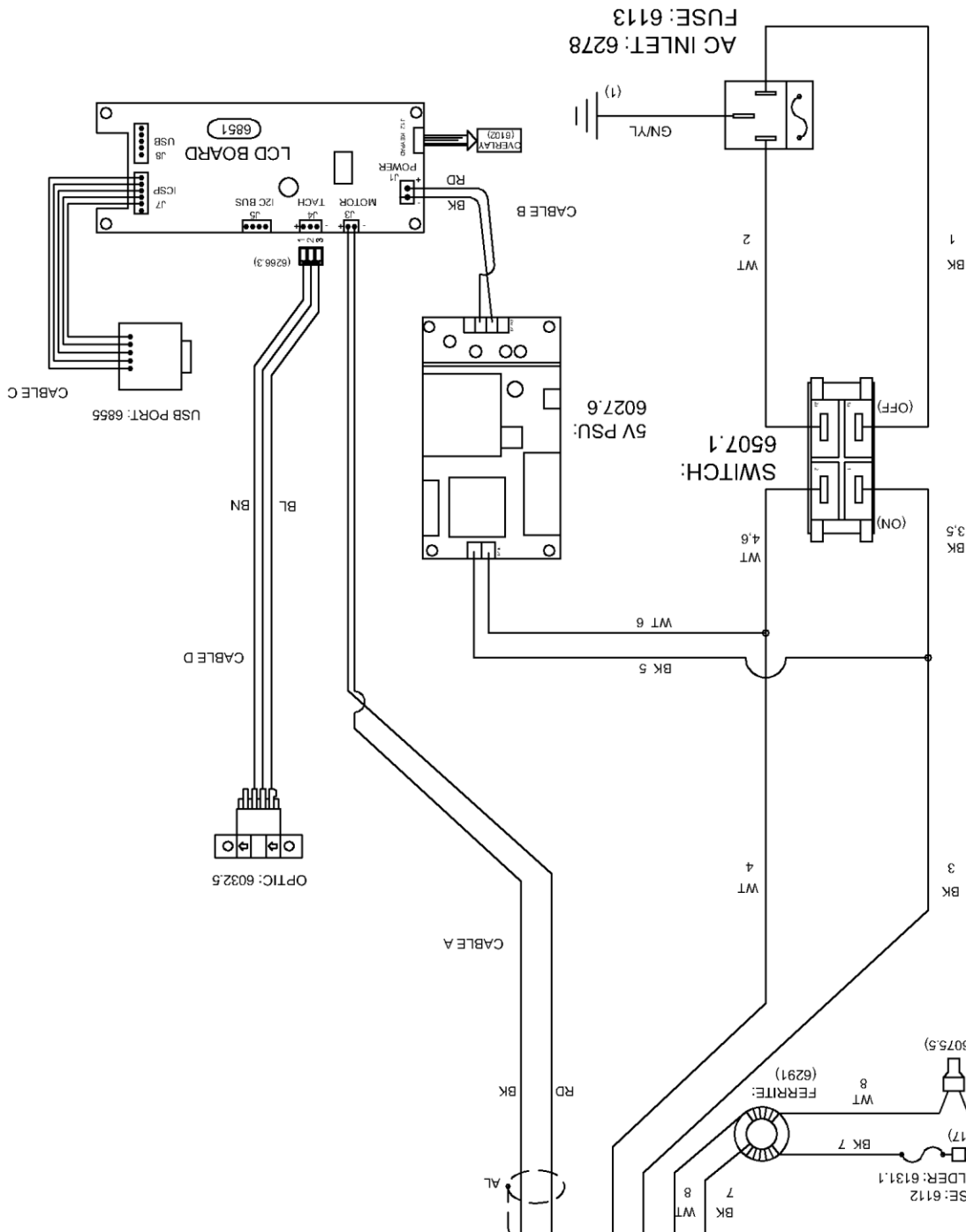
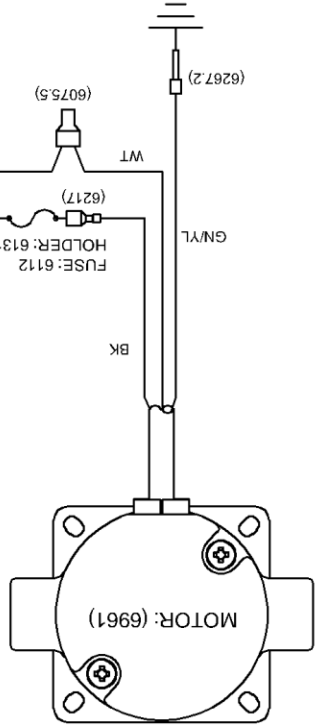
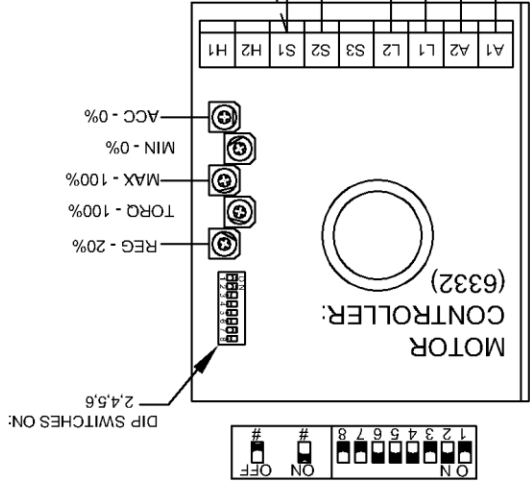
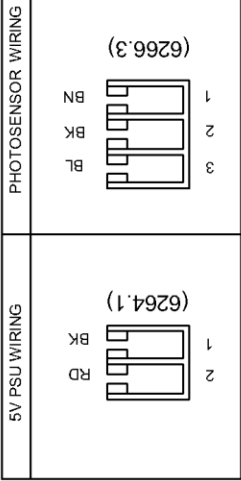
Lubrication when shaker is used for intermittent duty:

- A. Oil crank bearing through hole in center of bearing bracket every 6 months.
- B. Oil the 8 bearings located at the top and bottom of each of the 4 rocker arms every 6 months. Place oil on the shaft next to the bearing.
- C. Oil the connecting rod bearings every 6 months. Place oil on the shaft next to the bearing at the upper end and at the crank end of the connecting rod.

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

PartNo	DESCRIPTION	QTY.
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4283.2	3L290R V-BELT GATES #1290	1
4351 COLLAR	10	
4487.5	8" CAST IRON PULLEY, POWER DRIVE AK84-1/2	1
5528	3.75" SUCTION CUP W/ 5/16-18 THREADED POST	4
6010.7	30W POWER SUPPLY	1
6032.5*	PRE-WIRED PHOTO MICROSENSOR (PART OF WIRE HARNESS)	1
6063.1	CABLE TIE MOUNT, HOLE DIA (.025 - .125")	8
6063.2	CABLE TIE	9
6102	OVERLAY, NO ENCODER	1
6112	FUSE, 1.25AMP TIME DELAY	1
6113	FUSE, TIME DELAY 3A	2
6131.1	FUSE HOLDER	1
6217	QUICK DISCONNECT FEMALE	1
6267.2	NON INSULATED RING TERMINAL	1
6278	AC INLET	1
6332	BODINE DC MOTOR CONTROLLER MODEL #780	1
6507.1	ROCKER SWITCH	1
6649	115V POWER CORD, TYPE B PLUG	1
6730.3	5 TERMINAL GROUNDING BLOCK	1
6851	DISPLAY BOARD	1
6855	USB BOARD	1
6961	MOTOR	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 HEAD MACHINE SCREW	2
8050	#4-40 x 3/8" S/S PAN HD. MACHINE SCREW	4
8279.1	#10-32 X 3/8" S/S SELF LOCKING BOTTEN HD. SOCKET SCREW	12
8285	#8-32 X 1/4" S/S TRUST HD. SCREW	20
8287	#4-40 X 1/2" S/S BUTTON SOCKET SCREW	2

8323	1/4"-20 X 3/16" SET SCREW	1
8513	1/4"-28 X 1/2" HEX HEAD SCREW	1
8518.5	1/4"-28 X 3/4" 316 S/S HEX HEAD SCREW	4
8521.5	1/4"-28 X 1.25" 316 S/S HEX HEAD SCREW	4
8582.4	#8-32 X 5/8" S/S SOCKET HD. SCREW	2
9207.5	#5-40 SS NYLON-INSERT HEX LOCKNUT	2
9216	#4-40 S/S MACHINE SCREW NUT	2
9235	#8-32 S/S MACHINE SCREW NUT	2
9271.5	1/4"-28 316 S/S HEX NUT	8
9436	1/4" S/S SAE WASHER	13
9462	#4 S/S SAE WASHER	2
9609	BLACK FIBER WASHER, 0.3906 X 0.625 X 0.032	18
9627.5	BLACK FIBER WASHER, 0.510 X 0.750 X 0.031	3
EP6000.027	SPACER ROD	4
EP6000.526A	ROCKER ARM ASSEMBLY	4
EP6000.529A	CONNECTING ROD ASSEMBLY	1
EP6013.25.SS.501A	REAR PANEL ASSEMBLY	1
EP6013.508A	CRANK SUB ASSEMBLY	1
EP6013.516A	CRANK BEARING BRACKET SUB ASSEMBLY	1
EP6013.652A	WIRING HARNESS	1
EP6013.SS.015	TACH BRACKET	1
EP6013.SS.016	POWER SUPPLY MOUNT	1
EP6013.SS.017	Motor Mount	1
EP6013.SS.504A	BASE ASSEMBLY	1
EP6013.SS.510A	FRONT PANEL ASSEMBLY	1
EP6015.SS.512A	TOP PLATE ASSEMBLY	1
EP6145.106	PULLEY	1
EP6145.545A	TACH WHEEL ASSEMBLY	1



EBERBACH CORPORATION USA

ASSEMBLY	PART NAME	ELECTRONIC ASSEMBLY			
MATERIAL	SCALE	N/A	DRW.	10/2/2018	DEPT.
FINISH	REF'D	1	FAB.		ASM.
REVISED	REV'D		J.B.	10/2/2018	PART NO.
					E6013.605A

NOTE: USE 6" OF CABLE WRAP (6193)