EBERBACH
CORPORATION

E8013.25 Heavy Duty Blender
VARIABLE SPEED 600-10,500 rpm
230 V, 50/60 HZ

!!!DANGER!!!
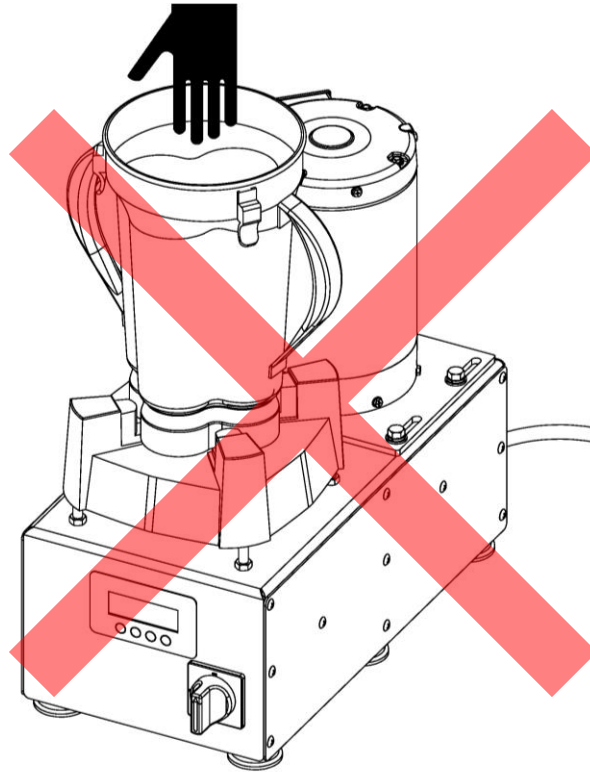
NEVER REACH INSIDE THE CONTAINER WHEN POWER IS ON.

LOAD BLENDING CONTAINER BEFORE PLACING ON BLENDER. NEVER ADD/POUR ANYTHING WHILE MACHINE IS ON.

NEVER LEAVE ANY LARGE OR HARD OBJECT INSIDE THE CONTAINER WHILE THE CONTAINER IS ON THE BLENDER.

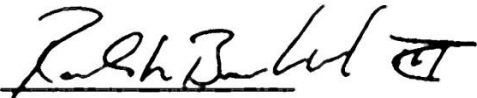ALWAYS USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE)

FAILURE TO COMPLY WITH WARNING NOTICES COULD RESULT IN DEATH OR SERIOUS INJURY AND EQUIPMENT/PROPERTY DAMAGE AND VOID THE WARRANTY.

!!!DANGER!!!

EBERBACH
CORPORATION

DECLARATION OF CONFORMITY

With regard to European Directives

Manufacturers Name: **Eberbach Corporation**

Manufacturers Address: **5900 Schooner Street Van Buren Twp, MI 48111**

Declares under our sole responsibility that the Product(s):   **E8013.25   Lab Blender**

Is in conformity with the following:

Safety Specifications: IEC/EN 61326-1:2006   IEC/EN 61000-4-
      Safety of Machinery   4:2004

Mechanical Specifications: EN/ISO12100:2010
      Machinery Directive   EN60204-1:2006+A1:2009
                     EN/ISO13857:2008

Environmental Specification: EU Machinery Directive 2006/42/EC
  Restrictions of Hazardous Substances   EN50581:2012
  (RoHS)

Signed on behalf of Eberbach Corporation

(Signature of authorized person)   Date of Affixing the CE Mark:
Ralph Boehnke III   REV:A
President & CEO   Date: June 29, 2012

Eberbach Corporation
5900 Schooner St, Van Buren Township Mi 48111
Phone: (734) 665-8877   Fax: (734) 665-9099   Web: www.eberbachlabtools.com

<u>USE AND CARE FOR CATALOG NUMBER:</u>

E8013.25   Heavy Duty Blender
230 V, 50/60 HZ
VARIABLE SPEED 600-10,500 rpm (±10%)

<u>GENERAL INFORMATION</u>

1. Handle this unit with care. Use team lift to lift unit up. Unit weights over 105lbs (47.5kg).
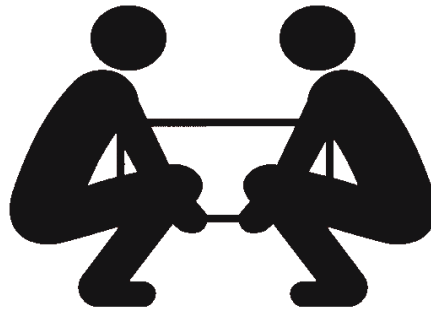
TWO PERSON LIFT

<u>IMPORTANT</u>

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. Only trained personnel should operate this equipment.

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

HOLD DOWN HOLES

LOCKING PLUNGERS

1   2
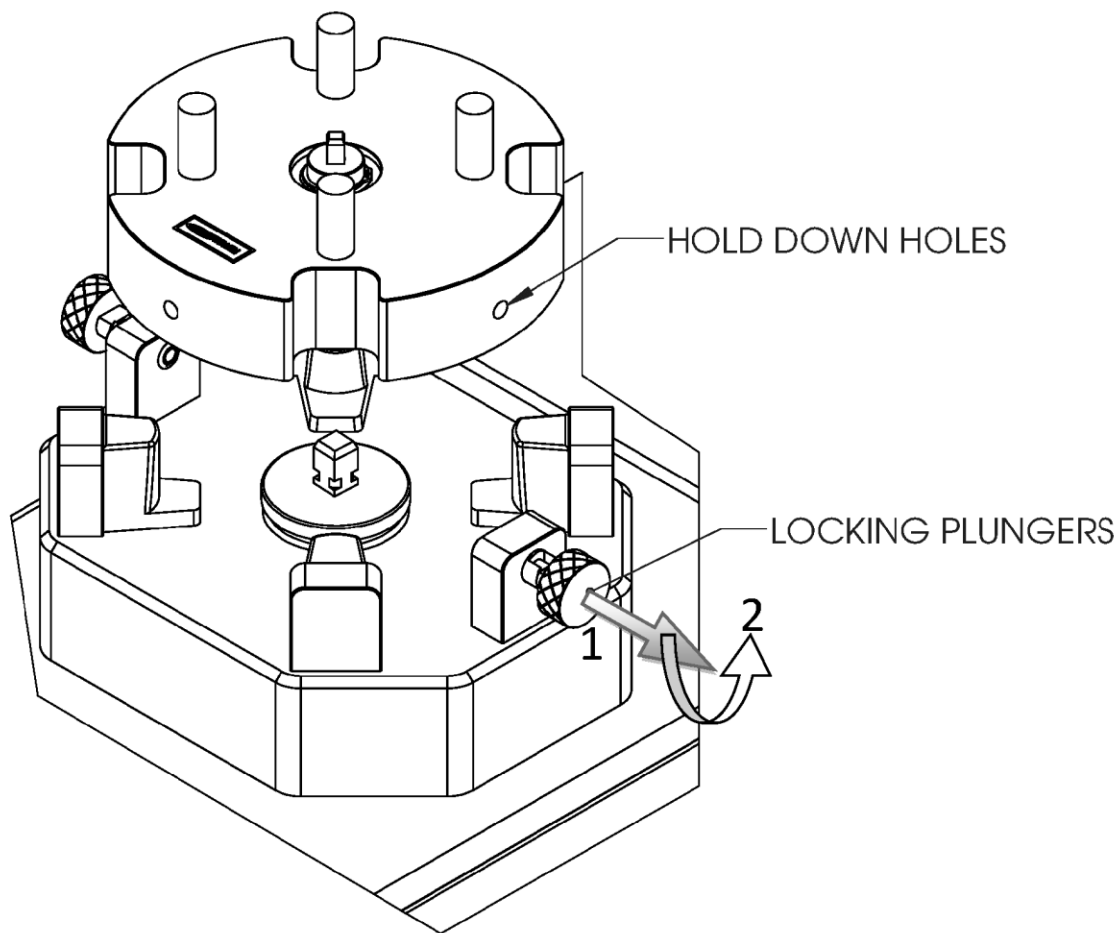
1 -2. Retract the locking plungers by pulling and
      twisting.

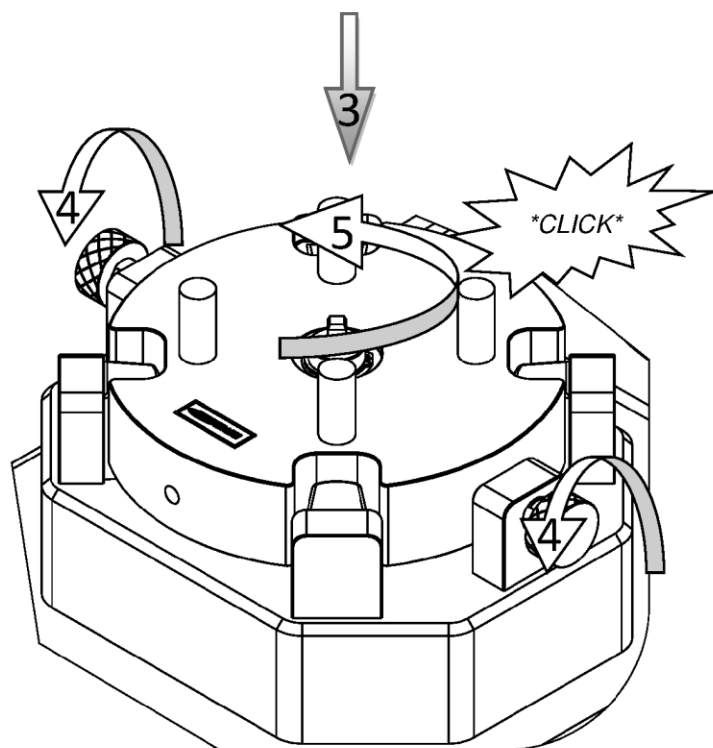3.   Place a blender container or adapter with hold
      down holes on the blender base.

4.   Twist the Locking Plungers till they click.

5.   Twist the blender container or adapter till it clicks
      into position.

6.   Assure that the blender container or adapter is
      secured down.

⚠️   Only adapter base or blending containers that
have _Hold Down Holes_ will lock down. Do no try to lock
down an adapter base or blending container that does
not have a _Hold Down Holes_.
Do not leave machine running unattended.

3

4   5   *CLICK*

4

*E8051.LB ADAPTER SHOWN NOT INCLUDED WITH MACHINE

OPERATION

Place the blender on a sturdy table or bench.

Connect the power cord to a 230**V**, 50/60 Hz, 16A outlet.

Insure that there is a blending container on the blender base before turning the power on. This will prevent damage to the machine and to the user.

Turn the Power Rotary Switch to the ON position.

```
6        7

  * 1.  Run
    2.  Timed Run
    3.  Speed Run
    4.  Pulse Run

  5    4    3    2          1
```
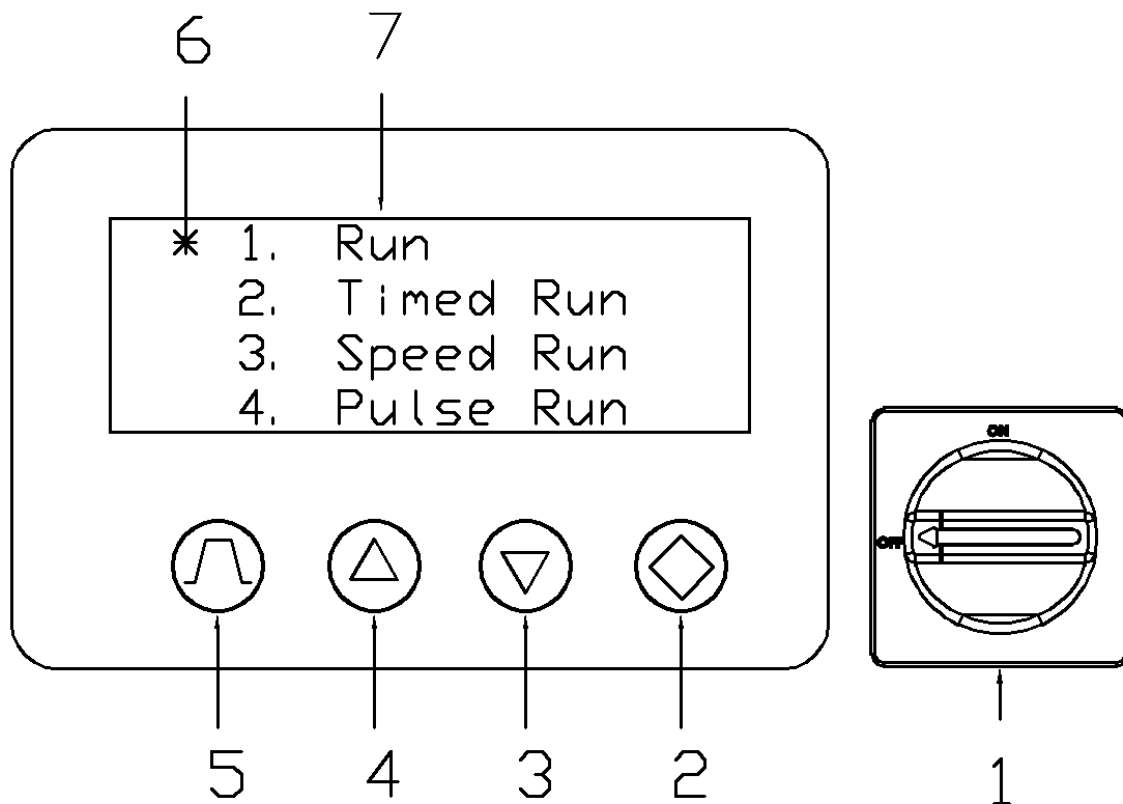
1) Power Rotary Switch
2) Enter Button
3) Down Button
4) Up Button
5) Pulse Button
6) Cursor
7) Liquid Crystal Display

Operation: Rotate the **Power Switch** clockwise into the ON position. The **LCD** should light up and show the main menu. There are four different run modes to choose from. Select a run mode by moving the **Cursor** (using the **Up/Down Buttons**) and press the **Enter Button**.

Run Mode: The blender 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 blender in real time. The **Cursor** can be moved with the **Up/Down Buttons**. Move the **Cursor** to the RPM line item and press the **Enter Button**. The speed can now be increased/decreased by pressing and holding the **Up/Down Buttons**. Press the **Enter Button** once more to move the **Cursor** again**.** Once engaged the timer will begin counting all the way up to 999 hours before the timer overflows back to zero. To pause the blender (move the **Cursor** to the PAUSE and press the **Enter Button)** or (press the **Pulse Button**.) The clock will pause at its current time and the blender will gradually come to a complete stop. The clock and blender can be resumed at its current time and speed by (selecting RESUME and pressing the **Enter Button**) or (pressing the **Pulse Button**). To go back to the main menu move the **Cursor** to the EXIT item and then press the **Enter Button**.

NOTE: Tachometer accuracy is based on field frequency of VFD and can only be within +/-5% of spindle speed assuming slip rate of 4.2Hz.

```
┌─────────────────────────────────┐
│ 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 blender 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 up/down arrows can be used to move the **Cursor** between parameters. Press the **Enter Button** to adjust a setting. Now the **Up/Down Buttons** can be used to change the parameters value. Press the **Enter Button** once more to move the **Cursor** again. The longest run time allowed is 999:59:59. Once the time is set move the **Cursor** to the RPM line item. Press the **Enter Button.** The speed can be set using the **Up/Down Buttons**. Press the **Enter Button** once more to move the **Cursor** again**.** Now that the data is set navigate the **Cursor** to the START line item 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 blender will begin at the selected speed and the timer will begin counting down. The speed can be adjusted in real time using the same procedure as outlined in the Run Menu section. The blender and countdown timer can be paused and resumed. Exiting the Timed Run

```
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. Navigate the **Cursor** to the RPM line item and press the **Enter Button.** Adjust the speed with the **Up/Down Buttons**. Press the **Enter Button** once more. 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** to begin.

```
 ┌─────────────────────────────────────┐
 │        SPEED RUN SETUP              │
 │                                     │
 │  RPM                          100   │
 │ ✳ START                      EXIT   │
 └─────────────────────────────────────┘
```

SPEED RUN SETUP MENU

The user will now be taken to the speed run menu. The blender 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

Pulse Run Mode: There are two different Pulse Run Modes: Manual Pulse and Program Pulse. The Program Pulse requires a setup first. Move the **Cursor** to (1. Set Program) line item and press **Enter.**

```
┌─────────────────────────────────────┐
│ *  1. Set Program                   │
│    2. Run Program                    │
│    3. Manual Pulse                   │
│    4. Exit                           │
└─────────────────────────────────────┘
```

PULSE SELECT MENU

Program Setup Menu: Setup the Program by selecting the Program Number. There are 16 programs that can be configured. The Blender will run for the duration specified by the ON time. The Blender will stop for the duration of the OFF time. The speed of the Blender can be configured in the Program Run Menu. Use the **Up/Down Buttons** to move between the line items. Press the **Enter Button** to edit the parameters. Use the **Pulse Button** to reset the times.

```
┌─────────────────────────────────────┐
│ *  PROGRAM#                         │
│    ON:             hr: mn: sc       │
│    OFF:            hr: mn: sc       │
│    SAVE                    EXIT     │
└─────────────────────────────────────┘
```

PROGRAM SETUP MENU

Program Run Menu: Select the Program Run Menu from the Pulse Select Menu line item (2. Run Program.) Navigate the Cursor to select a line item. Use the Enter Button to modify the parameter. Select the Program Number you wish to run. Then select a RPM for the blender to operate at. Now move the Cursor to the START line item and press ENTER. Pressing START again will reset the program timer.

```
┌─────────────────────────────────┐
│ PROGRAM PULSE RUN               │
│ PROGRAM#              1          │
│ RPM                100          │
│ START              EXIT         │
└─────────────────────────────────┘
        PROGRAM RUN MENU
```

Manual Pulse Mode: The Manual Pulse Mode can be selected from the Pulse Select Menu line item (3. Manual Pulse.) Set up the Blender RPM by pressing the **Up/Down Buttons**. Press the **Pulse Button** to begin stirring. The Motor will only rotate while the **Pulse Button** is pressed.

```
┌─────────────────────────────────┐
│          PULSE RUN              │
│ TACH                 1          │
│ RPM                100          │
│ EXIT                            │
└─────────────────────────────────┘
        MANUAL PULSE MENU
```

MAINTENANCE

Lubrication:

Lubrication is not required. All bearings are permanently lubricated and sealed.

Belt:

The belt is pretensioned at the factory. Replacement belts can be purchased from Eberbach directly. The replacement belt number is #4302.

1. <u>UNPLUG THE MACHINE FROM THE OUTLET</u>
2. Remove the right-side panel from the machine.
3. Loosen the four (4) bolts holding down the motor.
4. Push the motor forwards (towards the blender base) to loosen the belt.
5. Carefully remove the belt and replace with a new belt.
6. Push the motor backwards (towards the power cord) to tighten the belt.
7. Correct pretension of the belt can be estimated by having little or no slack on the belt.
8. Retighten the four (4) bolts in a holding down the motor.
9. Reinstall the right-side panel.

OVERLOADING AND FUSE REPLACEMENT

The blender is rated for intermediate duty. Continues run of the blender could damage the variable frequency drive or the motor.

The Variable Frequency Drive (VFD) powers the Motor with 3-phase Alternating Current. The VFD is protected with two 17.5A FRN type fuses. The fuses will blow if something fails inside the VFD. The Display board is powered by a 5V DC supply. The DC supply is protected with two 0.5A MDL type fuses. The fuses will blow only if something fails inside of the power supply.

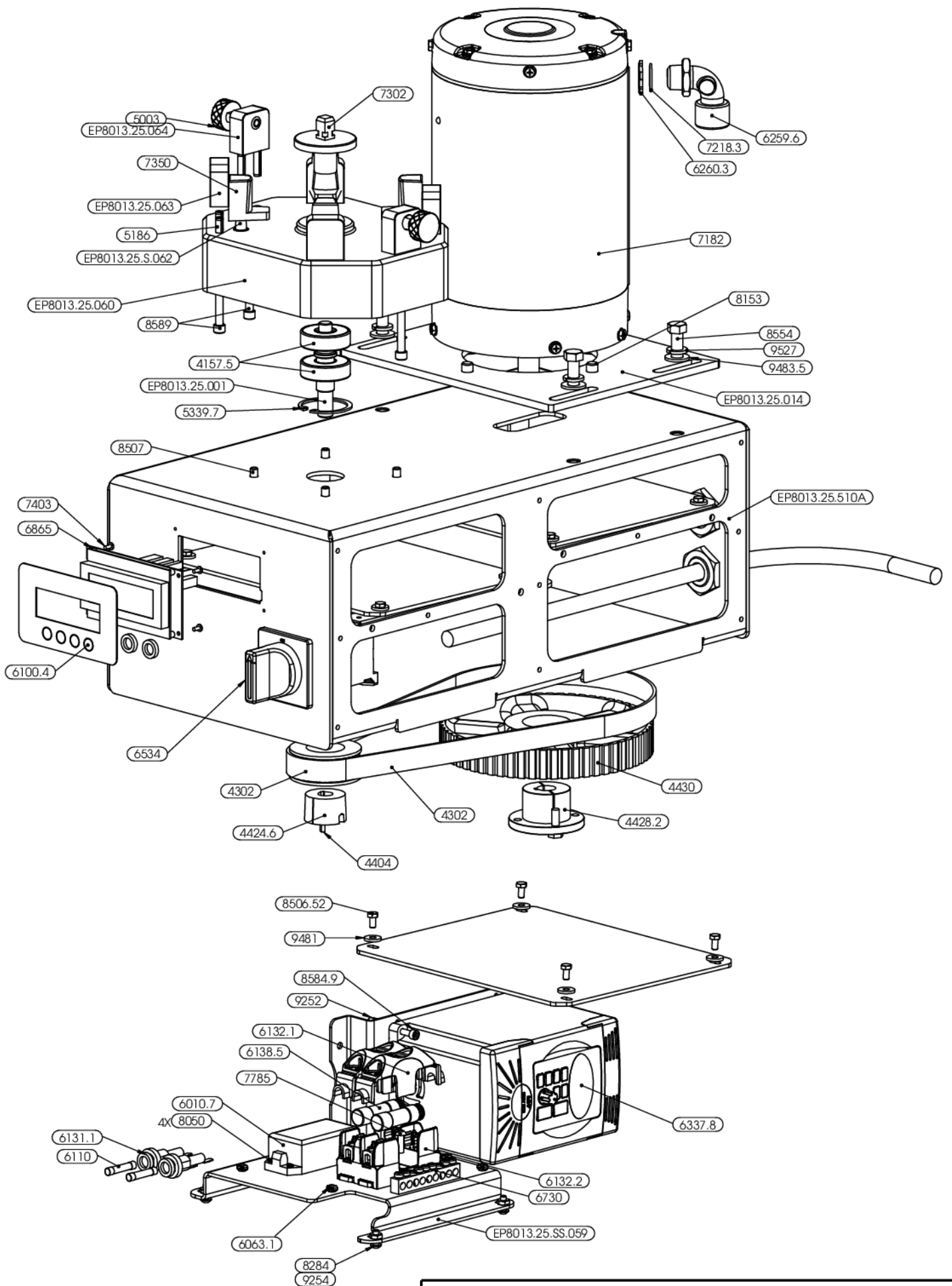**NOTE: If a fuse blows repairs may be needed.**

If you have any doubts or inquiries concerning operation contact your supplier or *Eberbach Corporation* technical service @ *1-800-422-2558*.

BLENDER E8013.25

PART NO	DESCRIPTION	QTY.
4157.5	BEARING	2
4302	BELT, 345L075	1
4404	1/8" SQ MACHINE KEY 3/4"L	1
4424.5	PULLEY	1
4424.6	TAPER BUSHING, 1008 1/2"	1
4428.2	HUB 5/8"	1
4430	GEAR BELT PULLEY, 60 TOOTH	1
5003	RETRACTABLE SPRING PLUNGER.	2
5186	1/4 X 1 STEEL SPRING PIN	12
5339.7	INTERNAL RETAINING RING, 1-11/16"	1
5531	FOOT WITH WASHER UNIRUBBER BLACK	6
6010.7	30W POWER SUPPLY	1
6063.1	CABLE TIE MOUNT, HOLE DIA (.025 - .125")	5
6063.2	CABLE TIE	5
6100.4	OVERLAY	1
6110	FUSE, 0.5AMP TIME DELAY	2
6131.1	FUSE HOLDER	2
6132.1	FUSE COVER	2
6132.2	FUSE HOLDER	1
6138.5	FUSE 17.5 AMP	2
6259	SEALING RING, 3/4"	2
6259.5	CORD GRIP, 3/4" ELBOW	1
6259.6	CORD GRIP, 1/2" ELBOW	1
6259.7	CORD GRIP, 3/4"	1
6260.3	LOCKNUT, 1/2"	1
6337.8	ADJUSTABLE FREQUENCY DRIVE	1
6534	DISCONNECTOR SWITCH	1
6730	7 TERMINAL GROUNDING BLOCK	1
6865	DISPLAY BOARD	1
7182	MOTOR, 1-1/2HP WASHDOWN	1
7218.3	O-RING	1
7302	COUPLING ASSEMBLY	1
7350	PAD	4
7403	#4-40 X 1/4" S/S BINDING HD. MACHINE SCREW	4
7785	#10-32 X 5/8" S/S ROUND HD. MACHINE SCREW	2
7865	1/4"-20 X 3/4" ROUND HD. MACHINE SCREW	6
8050	#4-40 x 3/8" S/S PAN HD. MACHINE SCREW	4
8153	3/8"-16 X 3/4" FLAT HD. SOCKET SCREW	4
8277.4	#10-32 X 3/8" S/S TRUST HD. SCREW	22

8284	#10-32 X 1/2" BOTTEN HD. SOCKET SCREW	4
8506.52	#10-32 X 3/8" S/S HEX HEAD SCREW	8
8507	1/4"-20 X 1/2" HEX HEAD SCREW	4
8554	3/8"-16 X 1" HEX HEAD SCREW	4
8584.9	#10-32 X 3/4" S/S SOCKET HD. STEEL SCREW	2
8589	1/4-20" X 1-1/2" SOCKET HD. SCREW	6
9252	#10-32 NYLON-INSERT LOCKNUT	2
9254	#10-32 S/S MACHINE SCREW NUT	4
9318.5	HEX LOCKNUT, 3/4"	2
9435	#12 SAE WASHER	4
9481	#10 S/S SAE WASHER	8
9483.5	3/8" S/S SAE WASHER	4
9527	3/8" SPLIT LOCK WASHER	4
EP8013.25.001	SPINDLE	1
EP8013.25.014	MOTOR MOUNT PLATE	1
EP8013.25.044	BOTTOM CLOSURE	1
EP8013.25.045	INNER DEVIDER	1
EP8013.25.046	FRONT INNER DEVIDER	1
EP8013.25.055	SIDE PANEL	2
EP8013.25.060	BLENDER HOUSING	1
EP8013.25.063	POST	4
EP8013.25.064	LOCKING POST	2
EP8013.25.510A	BLENDER BASE ASSEMBLY	1
EP8013.25.652A	WIRE HARNESS	1
EP8013.25.S.062	TAPER POST	4
EP8013.25.SS.059	ELETRONICS BRACKET	1

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Drawing Name	BLENDER
PART NO.	E8013.25

EBERBACH CORPORATION U.S.A.

7218.3

6259.6

6630

8277.4 22X

EP8013.25.055

6259.5

6259

6259.7

6624.1

6259

EP8013.25.044

5531

7865

CABLE A

J7 ICSP   J8 USB

LCD BOARD
(6865)

J3

GN
RD

J1 POWER

OVERLAY
(6100.4)

BK
RD

MOTOR WIRING - LOW VOLTAGE

TO VFD

T4
T5 (6075.6)
T6

T1 (6075.6)   U
T7

T2 (6075.6)   V
T8

T3 (6075.6)   W
T9

EBERBACH CORPORATION USA

PART NAME   ELECTRONIC ASSEMBLY

ASSEMBLY   —

MATERIAL   —

FINISH   —

REVISED

APPR BY J.B.   DEPT DRW. J.B.   DATE 1/29/2020
            FAB.
            ASM.

SCALE N/A

REL'D 1

REV 3
1-29-2020
J.B.

PART NO. E8013.25.605A

RD
BK

RD
BK

5V PSU: 6010.7

BL
BN

BL 6   BN 5

FUSE:
(6110)   0.5A   0.5A   FUSE:
                          (6110)

BL 4   BN 3

SHIELD

GN
BK
WT
RD

M
(7182)

GN   WT   RD   BK
⏚2   W   V   U

B2 B1 T3 T2 T1

YL

D1
BK

D2
BL

⏚1
GN

VFD (6337.8)

⏚ L3 L2 L1

(6075.8)

BK 1

(6075.8)

BL 2

FUSE:
(6138.5)
17.5A

FUSE:
(6138.5)
17.5A

BK
C1

BL
C2

MAINS SWITCH
(6534)

BL L2

BK L1

(6075.8)

(6075.8)

LINE 2
WT

BK
LINE 1

(6668.7)