



**SPONGE-JET<sup>®</sup>**

**35E Recycler<sup>™</sup>**

**50E Recycler<sup>™</sup>**

**USER MANUAL**



Sponge-Jet, Inc. (USA)  
14 Patterson Lane  
Newington, NH 03801

+1-603-610-7950  
[www.spongejet.com](http://www.spongejet.com)

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**IMPORTANT NOTE:** While parts, systems, components, operational procedures may be the same between equipment models, the images provided in this manual may vary from model to model.

This manual represents the following models:

**Model:** 35E                      **Weight:** 148 kg (325 lb)

**Model:** 50E                      **Weight:** 170 kg (375 lb)

English Language is Original Instructions.

Translated from Original Instructions.

## Safety Labels



User Manual



Caution/Danger



Ear protection



Safety Gloves



Hazardous Voltage



Two Man Lift



Protective Earth Ground



Do Not Operate with  
Guards Removed



Lockout/Tagout  
Electrical Power



Eye Protection  
Respiratory Protection

Failure to follow all Instructions in manual and any alterations made to equipment following shipment from Sponge-Jet will void warranty. Direct attachment, such as welding or bolting of any additional chutes or hoppers, etc., to vibrating equipment other than those supplied by Sponge-Jet, Inc. will automatically void warranty.

Any connection made to unit must be flexible.

Before starting unit, operator must be certain unit is free to follow movement produced by vibrating parts.

In general, feeding and discharge connections must have sufficient clearance to prevent any contact.

### Before Starting Unit:

The base must have a substantial foundation around entire bottom of the unit base ring. The base must be secured to floor or adequate support structure unless on casters. If, after unit has been started, there are secondary vibrations to foundation or to separator base, unit must be reinforced. With further questions, consult Sponge-Jet, Inc.



**1. All guards and service doors must be in place.**



**2. Risks:**

- a. Operating equipment with guards removed
- b. Hazardous voltage



**3. Required Personal Protective Equipment:**

- a. Wear eye protection
- b. Wear ear protection
- c. Wear safety gloves
- d. Wear respiratory protection



**4. Unit should only to be operated and maintained by trained personnel.**

- a. Read and follow all maintenance instructions and guidelines.  
User should not operate without reading all guidelines.
- b. Licensed electrician for wiring of any electrical equipment is required.

**5. Unit must not be used:**

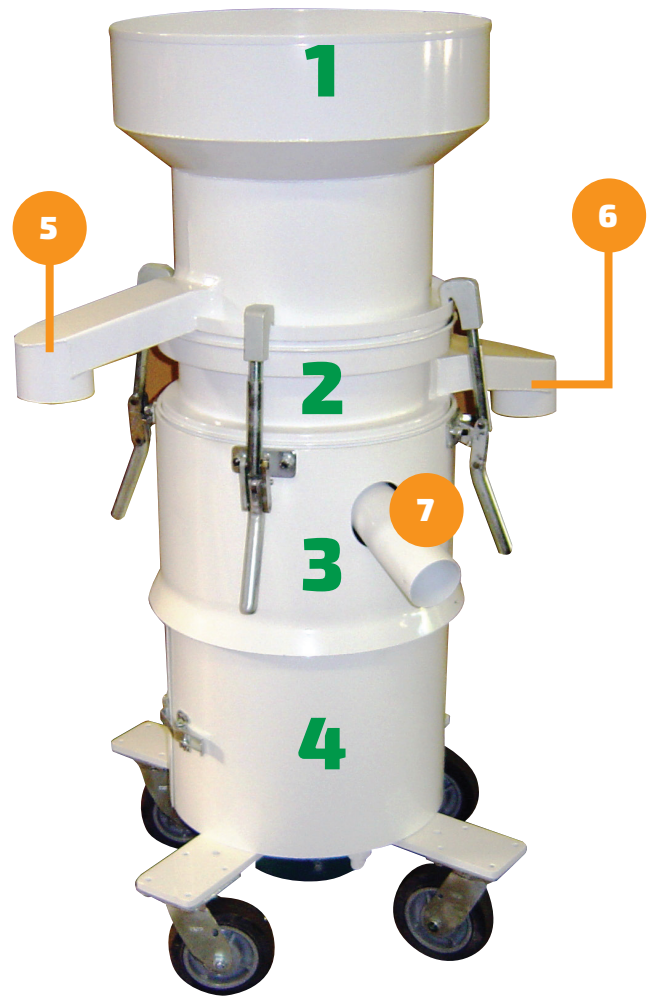
- a. Do not operate with explosive products or products at elevated temperatures.
- b. Do not operate without all guards and covers in place.
- c. Lockout/tagout procedures must be followed before any inspection, maintenance or cleaning is undertaken.
- d. Lockout/tagout procedures must be followed before adjustments are made to eccentric weight mechanism.
- e. User must ensure any cables, hoses or pipes do not present a slip, trip or fall hazard.
- f. Unit should not be climbed on.
- g. User is responsible for taking all necessary precautions dependent on material being screened.
- h. Be careful when moving. Move with help.



## 2.0

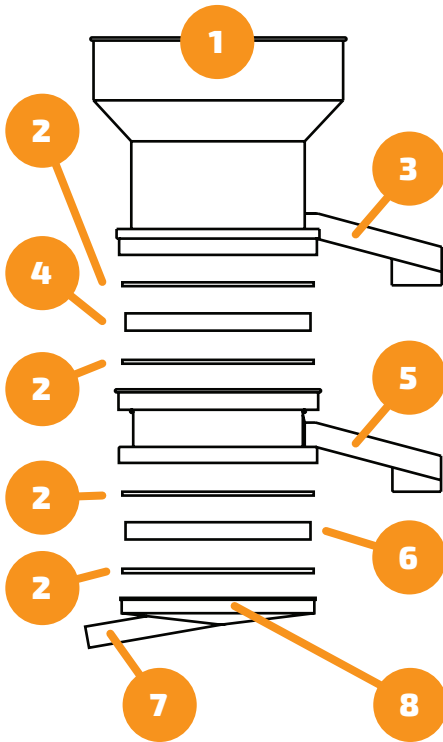
## BASIC COMPONENTS

- 1 Hopper
- 2 Main Rim
- 3 Vibratory Section
- 4 Safety Skirt
- 5 Large Particle Downspout
- 6 Reusable Media Downspout
- 7 Fine Particle Downspout
- 8 Pan Clamp Hook
- 9 Pan Clamp
- 10 Caster
- 11 On/Off Switch
- 12 Motor



# BASIC COMPONENTS (CONTINUED)

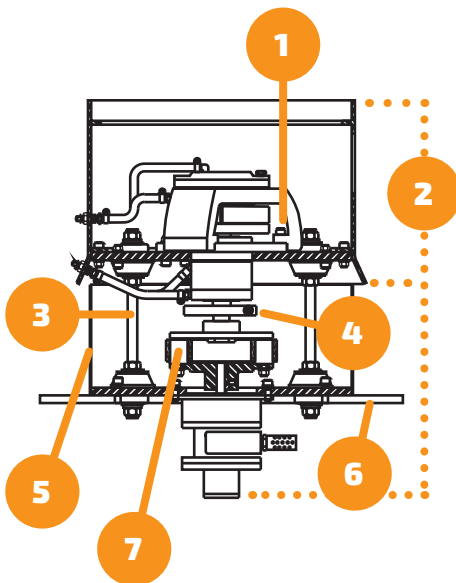
Figure A:



## Sieve Assembly

- 1 Hopper**
- 2 Flat Gasket**
- 3 Large Particle Downspout**  
Oversized particles that cannot pass through top screen are discharged through Large Particle Downspout.
- 4 Top Screen**  
Stainless Steel mesh screen used to separate oversized items larger than Sponge Media particle from reusable Sponge Media.  
(See section 7.5 Sieve Assembly, for proper screen installation)
- 5 Reusable Media Downspout**  
Particles that do not fall through Bottom Screen are discharged through Reusable Media Downspout.
- 6 Bottom Screen**  
Stainless Steel mesh screen used to separate undersized material (normally considered waste) from reusable Sponge Media abrasive.  
(See section 7.5 Sieve Assembly, for proper screen installation)
- 7 Fine Particle Downspout**  
Particles that fall through bottom screen are discharged through Fine Particle Downspout.
- 8 Shallow Funnel**  
Located under the Bottom Screen, the shallow funnel collects and directs fine particulate (waste) into Fine Particle Downspout.

Figure B:

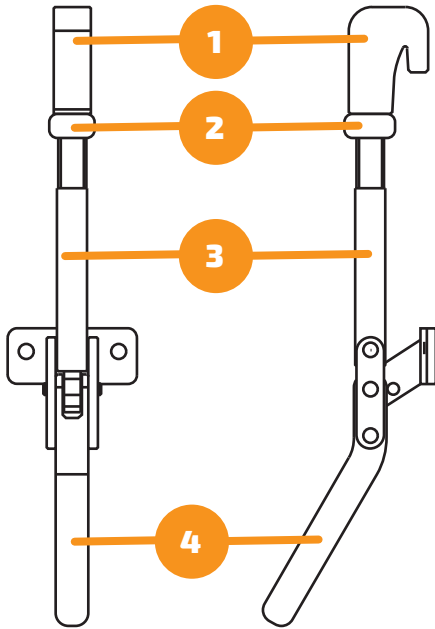


## Vibratory Portion and Lower Base Assembly

- 1 Flywheel**  
Vibratory energy generated directly by Flywheel is transmitted to Sieve Assembly.
- 2 Vibratory Portion**  
Is located over Lower Base Assembly and supports Sieve Assembly.
- 3 Suspension Rod**  
Vibratory Portion is located over Lower Base Assembly and supports Sieve Assembly.
- 4 Weight**  
This off center weight causes upper the eccentric Flywheel to move media across screen.
- 5 Side Cover**  
This removable cover serves as protection for the components located inside the Lower Base Assembly.
- 6 Lower Base Assembly**  
Supports Main Controls, Air Motor, Vibratory Portion and Sieve Assembly.
- 7 Flexible Coupling**  
Absorbs startup torque from electric motor and passes that energy up through Vibratory Portion.

# BASIC COMPONENTS *(CONTINUED)*

**Figure C:**



## **Pan Clamps**

- 1 Pan Clamp Hook**  
Adjustment for varying sized gaskets is made by turning Pan Clamp Hook.
- 2 Lock Nut**  
Used to prevent Pan Clamp Hook from swiveling when dismounting Pan Clamps (*50E only*).
- 3 Threaded Rod**  
Pan Clamp Hook threads onto Threaded Rod.
- 4 Handle**  
Used to secure Pan Clamp to Sieve Assembly.

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## 3.0

# RECEIPT & INSPECTION

Upon receipt of shipment, review packing list, immediately check for missing or damaged parts; open all boxes and crates, and/or any abnormalities; if missing/broken parts, promptly notify appropriate carrier and your Sponge-Jet representative.

- Examine all screens and components to insure damage has not occurred during shipment.
- Operate unit on a sturdy, flat surface. This will assure maximum efficiency.
- Vibrating parts should never come in contact with static parts of unit or its surroundings.
- Check to be sure screen elements are level.



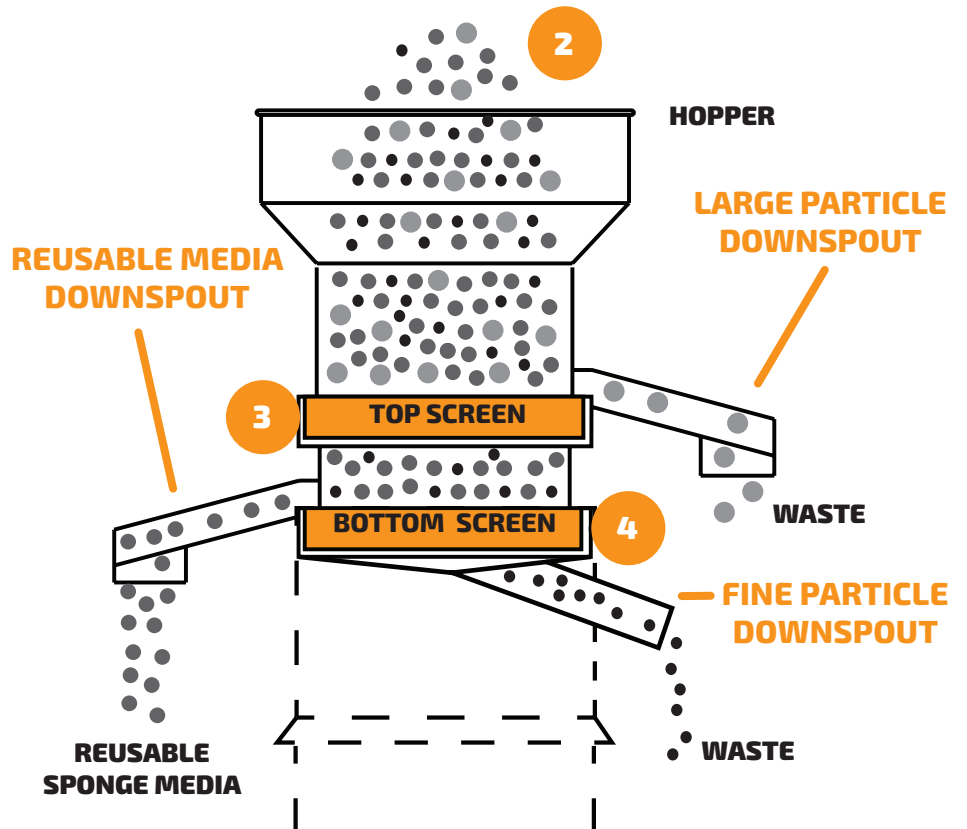
# 4.0

# MEDIA CLASSIFICATION



### Media Classification Process:

- (1) Connect unit to an adequate electric supply, and turn on.
- (2) After blasting Sponge Media abrasive, collect and pour it into **Hopper**.
- (3) Sponge Media abrasives and small contaminants pass through **Top Screen**, while oversized particles exit via **Large Particle Downspout**.
- (4) Spent Sponge Media abrasives and small contaminants pass below **Bottom Screen**, and exit through **Fine Particle Downspout**, while reusable-sized Sponge Media abrasives exit above **Bottom Screen** via **Reusable Media Downspout**.



**IMPORTANT:** Proper separation of oversized and undersized particles from reusable Sponge Media™ abrasive is critical to reducing airborne dust and minimizing risk of clogging Sponge-Jet Feed Unit™ while blasting.

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## 4.1 TOP SCREEN - LARGE PARTICLE CLASSIFICATION

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**Top Screen** is a standard #3 mesh screen used to separate unwanted foreign matter larger than most Sponge Media particles. Items such as nuts, bolts or rocks are separated and discharged as oversized particles through **Large Particle Downspout**.



### **WARNING:**

Oversize particles, if re-introduced back into Working Mix, can cause harm or damage by (1) becoming a projectile capable of injuring people, (2) harming work surface, (3) piercing pressurized blast hose, (4) clogging Feed Unit and/or (5) damaging/jamming the drive mechanism.

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## 4.2 REUSABLE MEDIA

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Sponge Media that do not pass through **Bottom Screen** exit unit via **Reusable Media Downspout**. Sponge Media abrasive that exit **Reusable Media Downspout** can be reused in Sponge-Jet Feed Unit.

**Working Mix:** a blend of blasted Sponge Media passed through Recycler (*as reusable Sponge Media*) plus a quantity of new Sponge Media added every 2-3 passes through Recycler. Generally this is 1-2 bags per hour, per nozzle.

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## 4.3 BOTTOM SCREEN - FINE PARTICLE CLASSIFICATION

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**Bottom Screen** is a number #16 mesh screen used to separate foreign matter smaller than most Sponge Media particles. Fine particles are separated from Sponge Media and discharged through **Fine Particle Downspout** and are normally considered waste. Fine particles usually include paint chips, broken down (*spent*) Sponge Media. These fine particles, if added to the Working Mix, will increase ambient dust levels at work site.

**Important:** Dust level tolerance can change from project to project and is subject to guidance from project management. When hazardous materials such as lead paint, chromates, radionuclides, cadmium, or PCB's are present, there are additional demands for managing dust and waste according to best practices and applicable local, state and federal regulations.

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## 5.0

# ELECTRICAL REQUIREMENTS

Unit is equipped with a 1 HP, Single phase, 115v/230v, auto-sensing 50/60 Hz, 3450 RPM, TEFC motor, which requires 11.2/5.6 amps.

Unit comes equipped with 3m (10ft) of 12 AWG supply wire.

Use of extension cords are strongly discouraged.



**WARNING:**

Motor is not thermally protected.

## 6.0

# NORMAL OPERATION

**IMPORTANT:** It is essential not to restrict movement of vibrating portion of unit. It is recommended no rigid connections be added to inlet/outlet of unit. Rigid connections can reduce efficiency of unit and lead to extra fatigue of sheet metal parts and weldments.

## 6.1 ADJUSTMENT OF PAN CLAMPS

**Pan Clamps** have a simple adjustment that allows for different thicknesses of **Flat Gaskets**.

Adjustment is made by turning **Pan Clamp Hook**. Under normal operation, adjustment should not be necessary if all **Pan Clamps** and gaskets are in their proper location. Pressure required to close the four (4) **Pan Clamps** should not exceed 6.8 kg (15 lb) or each at the end of **Handle**.



**WARNING:**

Do not apply excessive force while tightening Pam Clamps. Vibration of unit can cause overtightened clamps to break.



## 6.2 FILLING THEN STARTING UNIT

1. Sponge Media is added through **Hopper** located on top of unit.
2. After connecting unit to an adequate electrical supply, activate by turning **On/Off Switch** to "ON". A powerful gyrating vibration will occur.



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# 7.0

# ADVANCED OPERATION

**IMPORTANT:** Before operation, if unit has been disassembled, verify the following has been completed:

- There is no restricted movement of vibrating portion of unit.
- No rigid connections have been added to inlet/outlet of unit. Rigid connections can reduce efficiency of unit and lead to extra fatigue of its sheet metal parts and weldments.

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## 7.1 AMPLITUDE OF VIBRATION

Adjustment during use of unit should be kept to a minimum. One variable the operator should be concerned with is amplitude of vibration. Unit has one (1) **Flywheel**, which is adjustable to five (5) varying degrees of "off-center". This adjustment will modify horizontal amplitude. Located below **Flywheel** housing (*on flywheel shaft*) is an adjustable weight. When the weight is set off center from upper flywheel weight, varying amounts of vertical deflection occur. This deflection is also a function of the RPM from the Flywheel.

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## 7.2 PROCEDURE FOR ADJUSTMENT OF AMPLITUDE

Adjust **Flywheel** as follows:

1. Remove **Sieve Assembly** to expose top bearing housing bracket.
2. In the bracket there will be a ½" "thru-hole". Rotate **Flywheel** until the ½" socket head cap screw comes into view. Amplitude setting numbers will range from 1 to 3.
3. Remove screw until **Flywheel** slide weight can be rotated to desired setting number.
4. Tighten screw securely.

Adjust **Kicker Weight** as follows:

A second adjustment is available by moving kicker weight. To adjust kicker weight, remove **Side Cover**. Kicker weight is located directly above upper coupling flange. One (1) bolt clamps the fan-shaped weight to the shaft. This weight is set by factory at zero degrees with flywheel weights. To achieve maximum amplitude, loosen with 5/16" Allen wrench; rotate weight 180 degrees and tighten. Settings between 0 degrees and 180 degrees are available.

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## ADVANCED OPERATION (CONTINUED)

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**NOTE:** The amplitude setting of the Electric Media Recycler, with the flywheel shaft running at 3450RPM, should not exceed flywheel setting #3, which is factory set. Adjustment requires the use of a RPM calibration tool.



**WARNING:** Failure to use a calibration tool or properly set the RPM rate can damage the equipment and will void the warranty.

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### 7.3 ALIGNMENT

Prior to shipment, this unit has been adjusted for efficient operation. Under normal operating conditions, these settings should not need adjustment. However, shocks can occur during shipment, which may necessitate slight re-alignment. Efficient operation results when motor and flywheel shaft are parallel. When this occurs, faces of the flywheel Upper Coupling Flange and the motor flange are also parallel.

If uneven vibrating or jerking occurs, check that coupling faces are parallel by measurement. If they are not parallel, adjust by varying length of three (3) **Suspension Rods**. To perform this operation, loosening and screw up (or down), the three (3) pairs of hexagon nuts. Secure base of Suspension Rods and lower compressed rubber bushings. After adjustment is made, these nuts must be securely tightened. At the same time, check that the faces of the flanges are parallel.

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### 7.4 ALIGNMENT OF FLANGES

A minimum clearance of 1 ¼" (32 mm) must be maintained between faces of the Coupling Flanges. Coupling Flanges must be held parallel to within .010in (0.254mm). Parallel alignment of flange is performed by adjusting three (3) lower Suspension Rod nuts. After coupling flanges are proven to be parallel, installation of flexible rubber coupling may proceed.

**NOTE: Flexible Rubber Coupling** is 1" (24.5 mm) thick with four (4) 1/8" (3.2 mm) thick bosses.



**WARNING:** Never run motor with only flexible rubber coupling attached to motor flange. Failure may result in serious damage and/or injury.



## ADVANCED OPERATION (CONTINUED)

### 7.5 SIEVE ASSEMBLY

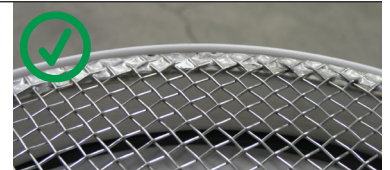
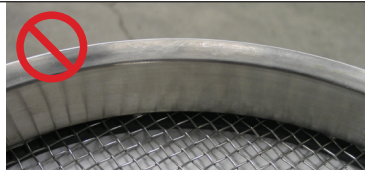


The dismantable **Sieve Assembly** is constructed of welded steel. Failure to properly assemble and fasten **Sieve Assembly** will sharply shorten life of weldments.

**Sieve Assembly** consists of five parts. Assemble as follows:

1. Place **Fine Particle Downspout** through hole provided in **Vibratory Portion**. **Note:** Be sure downspout is centered.
2. Place **Flat Gasket** into **Shallow Funnel**.
3. Place standard #16 **Screen** into **Shallow Funnel** and on top of **Flat Gasket**. (*IMPORTANT: Place wired side up\*\**)
4. Place **Flat Gasket** onto **Screen** making sure to center **Flat Gasket**.
5. Place **Double Deck Main Rim** over **Flat Gasket** and **Screen** and into **Shallow Funnel**.
6. Place **Flat Gasket** into **Double Deck Main Rim**.
7. Place standard #3 **Screen** into **Double Deck Main Rim** and on top of **Flat Gasket**. (*IMPORTANT: Place wired side up\*\**).
8. Place **Flat Gasket** onto **Screen**, making sure to center **Flat Gasket**.
9. Place **Hopper** over **Flat Gasket**, making sure **Large Particle Downspout** is opposite from **Re-usable Media Downspout**.
10. Attach **Pan Clamps**. These must be closed to secure **Sieve Assembly**.

**\*\*IMPORTANT:** All screens must be assembled with mesh on top. Incorrect installation is an easy mistake and will cause unit to operate unsatisfactorily.



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# 8.0

# ROUTINE MAINTENANCE

**IMPORTANT:** Under NO circumstances should inspection, adjustment or lubrication be conducted while unit is running or connected to electric supply.

- There is no restricted movement of vibrating portion of unit.
- No rigid connections have been added to inlet/outlet of unit. Rigid connections can reduce efficiency of unit and lead to extra fatigue of its sheet metal parts and weldments.

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## 8.1 LUBRICATION

Unit has been tested before shipment. **DO NOT** grease unit until it has been operated for 500 hours. Grease using 1 to 2 pumps or small amount, every 40 hours of operation. **DO NOT OVER-GREASE.**

**Recommended Lubricants:**

1. Citco AP, Citco oil
2. Ore-Lube K2
3. Mobilux Grease #2, Socony Mobil Oil Co.
4. Val-Lith #IP, Valvoline Co.
5. VS SGA
6. Multifak #2, Texaco Inc.
7. Alvanie R#, Shell Oil Co.



**WARNING: DO NOT FORCE EXCESSIVE GREASE.** Excessive grease can damage bearings and motor system.

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## 8.2 ACCESS TO GREASE FITTINGS

Two (2) bearings are greased by access through grease fittings on side of unit.

**IMPORTANT:** This unit was greased before shipment. Add grease using 1 to 2 pumps every 40 hours of operation. If the unit has not been used for one year, add 1 to 2 pumps of grease.



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# 9.0

# REBUILD MAINTENANCE

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## 9.1 REPLACEMENT OF TOP ROLLER BEARING

1. Remove **Sieve Assembly**.
2. Remove grease lines.
3. Remove ring (6) 5/16" hex head cap screws, top bearing housing cap and brass mole connector.
4. Remove top bearing housing with bearing.
5. Loosen top bearing sleeve bolt.
6. Carefully press bearings and seal out of housing and top bearing sleeve.
7. Clean and deburr housing and sleeve - examine parts for wear.
8. Press new bearing and seal into sieve and housing.  
**IMPORTANT:** Re-pack bearing with grease (*See recommended lubricants*).
9. Replace top bearing sleeve and sleeve bolt.  
**IMPORTANT:** Use thread locker on sleeve bolt (*Perma Lok MM115 or equal*).
10. Insert top housing cap and 5/16" hex head cap screws.
11. Reattach grease lines.

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## 9.2 REPLACEMENT OF FLYWHEEL BEARING

1. Remove **Sieve Assembly**.
2. Release **Side Cover** clamp and open cover.
3. Loosen and remove top (2) flexible rubber coupling locknuts (*3/8" - 16 thread*).
4. Remove (3) 5/8-11 hex nuts from Suspension Rods above rubber bushings.
5. Remove top sieve weldment.
6. Follow steps 1 through 6 of "Replacement of Top Roller Bearing" (*If not already complete*).
7. Loosen (2) 3/8-16 set screws - Remove Flywheel.
8. Loosen (10) 3/8-16 set screws.

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## REBUILD MAINTENANCE (CONTINUED)

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### 9.3 REPLACEMENT OF FLYWHEEL BEARING (CONTINUED)

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9. Loosen (1) 7/16" hex head cap screws from ends of shaft, then loosen (2) 3/8-16 socket head cap screws and remove upper coupling flange.
10. Remove (10) 3/8-16 socket head cap screws and grease line.
11. Remove **Flywheel** housing from top sieve weldment.
12. Loosen 1/4" cap screws; remove Flywheel top cap and bottom cap.
13. Slide **Flywheel** shaft (*with bearings*) through bottom of housing.
14. Remove circlip; press bearing from shaft.
15. Press outside race of roller bearings from flywheel housing.
16. Remove seals from top and bottom caps.
17. Clean and inspect all parts for wear; deburr all parts as required.
18. Follow steps 1 through 16 in reverse order to reassemble.

**IMPORTANT:** Follow steps for proper alignment after assembly.

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# NOTES

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**MODEL**

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**SERIAL**

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