

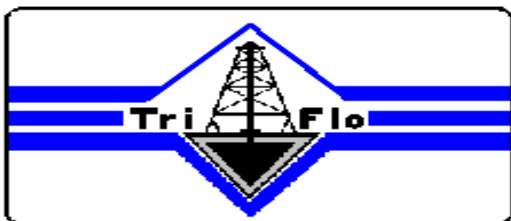


**Tri-Flo Int'l, Inc.**  
P.O. Box 2626, Conroe, Texas 77305  
Bus: (936) 856-8551 Fax: (936) 856-5668

## **SERVICE & OPERATING MANUAL**

### **146 SHALE SHAKER**





**Tri-Flo Int'l, Inc.**  
P.O. Box 2626, Conroe, Texas 77305  
Bus: (936) 856-8551 Fax: (936) 856-5668

## **TRI-FLO 146 HIGH SPEED SHALE SHAKER**

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## **INTRODUCTION**

### **GENERAL INFORMATION**

The TRI-FLO 146 High Speed SHALE SHAKER is a compact and reliable solids removal method. Most shakers are similar in design and application. TRI-FLO asserts that their high-speed shale shaker is that necessary first line of defense against large drilled solids reentering an active mud system. The TRI-FLO 146 High Speed SHALE SHAKER easily removes 74 micron, or larger size, particles for proper mud weight maintenance and efficient solids control. Balanced mud theology to longer pump life, less daily fluid maintenance expense, improved desander and desilter efficiency, and better penetration rates

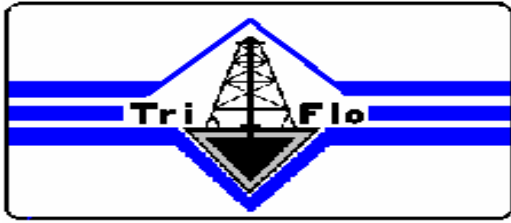
TRI-FLO 146 High Speed SHALE SHAKER is mounted on a heavy-duty skid for added strength and stability. The screen box and deck are made of low alloy steel, reinforced with heavy pipe.

Vibrator amplitude may be changed to six different positions in 1/8" increments. Changing the position of the unbalanced weights in relation to the eccentric shaft makes the adjustment. IT IS IMPORTANT THAT BOTH WEIGHTS BE ON THE SAME SETTING. The vibrator assembly can be changed in the field quickly and simply.

TRI-FLO's deck construction employs two screens set at different slopes. The first screen is flat to allow maximum efficiency while the second screen is at a 5 degree down slope. This allows the maximum amount of mud to be left in the tank.

The lower skid base contains the possum belly with the mud inlet at the bottom and the bottom and the mud flume at the top.

Replacement screens are available from coarse 10-mesh variety to a 200 mesh fine screen and they are easily changed in the field.



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## **OPERATION**

The TRI-FLO 146 High Speed SHALE SHAKER is installed on the end of the mud tank and has a mud line attached to the possum belly from the rig. The drilling mud flows down the line into the possum belly, through the diverter vanes on the mud flume, onto the screens. After the mud passes through the screens it travels through the mud outlet located on the side, into the mud tank. The drill solids or cuttings remain on the screen and then fall off the back of the TRI-FLO 146 High Speed SHALE SHAKER.

The vibrator shaft is driven at 1750 RPM by a 3 HP explosion proof motor.



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## **INSTALLATION**

### **LOCATION**

The TRI-FLO 146 High Speed SHALE SHAKER should be mounted at the end of the mud tank at least 8' wide by 9' long. The TRI-FLO 146 High Speed SHALE SHAKER should be mounted with the inlet towards the flow line and the skid secured to the mud tank.

It is important that the TRI-FLO 146 High Speed SHALE SHAKER be mounted level. This will aid in an efficient operation.

After mounting remove the four shipping bolts. These bolts are located at each spring coil on the vibrating deck.

### **MUD TROUGH**

Place the mud trough in place at the mud inlet on the skid base and place a blanking plate in the unused outlet.

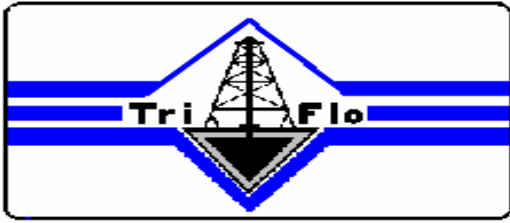
### **FLOWLINE**

Connect a flow line between the bell nipple and the mud inlet of the TRI-FLO 146 High Speed SHALE SHAKER.

It is not recommended to run the flow line into the top of the possum belly as it will reduce the volume of the mud the screens can handle.

### **SHALE SLIDE**

If it is not desirable to permit the cuttings or solids to drop off the end of the screen, it will be necessary to construct a shale slide from the end of the TRI-FLO 146 High Speed SHALE SHAKER to the shale pit. This slide should be as steep as possible. Water spray may be added to wash the cuttings into the shale pit.



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### **POWER REQUIREMENTS**

Connect the power cable from the motor starter switch to the rig power supply.  
Connect the green insulated wire to ground.

The TRI-FLO High Speed SHALE SHAKER is normally wired at the factory for 460 V.A.C., 60 HZ, and 3 PHASE.

If 230 V.A.C., 60 HZ, 3 PHASE is needed it is necessary to :

1. Rewire the motor. (See motor wiring diagram on Page 16)
2. Change the heater strips on the motor starter switch.
3. The motor junction box must be packed with foam rubber to prevent the wires from rubbing together when the shaker is vibrating. This is necessary after the rewiring is completed.

Turn the starter switch on and check the motor rotation. The top of the belt should travel in the same direction as the flow of the mud. This is from the front of the shaker to the back.

If the rotation is incorrect, change any two of the red, black or white wires at the motor junction box at the rig power supply. The green wire should always be ground and would not effect the rotation of the motor.



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## **SCREENS**

The procedure to install or change the screens is as follows:

1. Remove the tension lock nuts, washers, tension springs, the tension bolts and the tension rail plates from the screen box. (See tension plate detail on Page 18) on the screen support bars.
2. Install decking rubber on the screen support bars.
3. Install the screen in position, leaving equal space on each side. When installing the screen be careful not to bend or crease these screens.
4. Put the tension plates in position with the bolts extending through their respective holes in the side plates of the screen box. The tension rail plates should only touch the hook strips and not the screen.
5. Install the springs, washers and lock nuts. Tighten the tension lock nuts to expose 1/8" of the threads, starting at the center tension lock nuts and working toward each end.
6. Check the screen for creases and ripples. If any appear, the hook strips are not even. Work out the wrinkles by hand by adjusting the position of the hook strips and by smoothing the screen cloth by hand.
7. Tighten the center tension lock nuts to expose 5/8" of threads, then tightened the other nuts the same amount, working from on side and the other.
8. Tighten the nuts just enough to fully compress the tension springs. Rap the tension plate and the tension bolt heads lightly with a hammer to insure that the bottom of the tension plate is parallel to the support bar. After fully compressing the springs they will maintain tension on the screens. It is recommended that after 3 hours the tension nuts should be retightened.
9. Wet the screen with water (or diesel when using oil mud) before diverting mudflow over the screen.



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### **LUBRICATION**

TRI-FLO recommends that the grease fillings located on top of each cartridge be greased every twelve hours. Normal service requires approximately ½ ounce of grease in each bearing each 12 hours.

### **ADJUSTMENTS**

The intensity of vibrations may be varied to suit conditions by changing the position of the adjustable counterweights. Position 1 gives the maximum, and each successive notch or setting reduces the motion. Position 6 gives the minimum intensity of vibrations. **IT IS IMPORTANT THAT BOTH COUNTERWEIGHTS HAVE THE SAME SETTING.** This is easily checked by the alignment on the notches in the counterweights.

### **VIBRATOR ROTATION**

The direction of rotation is normally with the flow of the material. In some situations, for a different retention time, the rotation can be opposite the flow of the material (counterflow). Reversing the electrical leads to the motor does change from one to the other.

Other factors such as screen incline and vibrator speed may be adjusted under some circumstances, under the guidance and direction of TRI-FLO INDUSTRIES INTERNATIONAL, INC.



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## **MAINTENANCE**

### **INSPECTION**

A regular schedule of complete dismantling, inspection, and relubrication intervals assures maximum screen life and minimum downtime. The customer should keep a complete record of all such preventive maintenance plus a record of any repairs. Since the TRI-FLO High Speed SHALE SHAKER is a vibratory machine, it is important to correct all minor troubles before serious damage develops. Replace faulty support springs and any missing bolts at once. Cracks forming in the structure (usually at or near the joints) and unusual noises and motion are signs of developing failure. Drill ¼" holes thru the ends of such cracks and consult TRI-FLO at once in the event of such failures.

**WARNING: IF WELDING IS DONE TO NO GROUND WELDER THRU VIBRATING SCREEN.**

After 1500 to 2000 hours of operation, dismantle the vibrator mechanism and clean all parts. Flush bearings with a 200 degree light transformer, or automotive flushing oil. Check screen tension periodically. On reassembly, pack the bearings with grease and fill the adjacent cavity in the housing and retainer with grease to the bottom of the shaft.



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## DISASSEMBLY OF THE VIBRATOR

**WARNING: DISCONNECT POWER TO THE ELECTRIC MOTOR AND LOCK THE DISCONNECT SWITCH IN THE OPEN POSITION.**

1. Remove motor and drive pulley guard.
2. Remove the counterweight guard from both ends of the vibrator shaft.
3. Loosen the four motor support bolts located under the motor, loosen the V-belts and remove them.
4. Remove the V-belt sheave (Item W, Drawing B), by first loosening its taper lock hub.
5. Remove the counterweights (Item R, Drawing B), by removing the clamp screws and reusing the screw to open the slots in the counterweights, by tightening the screws into the tapped holes.
6. Remove the collars (Item G, Drawing B) and the retainers (Item C) with the spirolox rings (Item D) in their grooves. Remove cartridge capscrews (Item U).
7. Remove retaining ring (Item K) from the drive side only. By striking on one end of the shaft (Item B) with a lead hammer or a hammer and a block of hardwood, it is possible to start to drive out the cartridge (Item T) on the other side.
8. Then it should be easy to pry either or both cartridges loose from their bores in the housing ends. If difficulty is experienced a cartridge can be bumped from the inside by striking the shaft again at the other end. When one cartridge is removed the shaft can be slipped from the housing.
9. The bearing remaining in the other cartridge should be removed by using 3 long 3/8" NC capscrews and pushing the bearing out. Before inserting the capscrews, the set screws must be removed.



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## **ASSEMBLY OF THE VIBRATOR**

1. Be sure the housing, cartridges, bearings, shafts, etc. are clean. Flush the bearing with (200 degree F) light transformer, spindle, or automotive flushing oil; DO NOT USE KEROSENE OR GASOLINE.
2. Make a sub-assembly of the bearing, cartridges, Spirolox rings (Item E, Drawing B), and the setscrews (Item L). The latter must be replaced in the cartridges as in the original assembly if they have been removed to use longer cap screws for bearing removal.
3. Position and secure on such cartridge-bearing sub-assembly in the housing end on the drive side. Slide the shaft thru the housing from the other side and slip it through the bearing bore. Rotate the shaft while installing the Spirolox rings (Item E). Secure the shaft axially to the drive side bearing by forcing the retaining ring (Item K) into its groove in the shaft.
4. Slip the other cartridge-bearing sub-assembly over the shaft on the side opposite the drive end. Push and tap it into position in the housing end, lifting on the shaft end to center all components properly. Secure cartridges with capscrews (Item U) and lockwashers (Item V). See Page 14 Section 4.E for torque's of the capscrews.
5. Be sure that the shaft and bearings turn freely. Pack both bearings with recommended grease. See Page 14 Section 4.G for recommended grease.
6. Slip Spirolox rings (Item D, Drawing B) into the retainer grooves. Pack the retainers (Item C) with grease to the bottom of the shaft. Slip over the shaft ends, push into position, and fasten with capscrews (Item R). Torque all bolts and capscrews on the vibrator assembly to specifications listed on Page 14 Section 4.E entitled TIGHTENING TORQUES FOR HIGH-STRENGTH BOLTING.



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7. Put indexing collars (Item G & Item H) on shafts. The notched edge of these collars should face the shaft ends. Looking down on these collars, the numbers on the indexing bands will read counter clockwise on one side and clockwise on the other side. Secure the setscrews collars over the key.
8. Mount the counterweight (Item R) on the shafts using the clamp screw in the tapped hole to open the slot to facilitate mounting. Make certain that the projecting lugs of each counterweight engage with the corresponding numbered notches in the indexing collars (Item G & Item H) to produce equal unbalancing or vibrating effects at each end of the shaft.
9. Remove the clamp screw from the tapped hole and insert into the through hole in the counterweight. Secure the counterweight by tightening the clamp screws.
10. Install the V-belt sheave (Item W) and it's Taper-Lock bushing onto the shaft by tightening the screw in the Taper-Lock bushing.
11. Install the matched set of V-belts and tighten the motor support bolts after the V-belts are adjusted. Tighten only enough to prevent slippage when starting and to prevent belt whip.
12. Install the counterweight guards and the motor pulley guard.
13. Check the bolts for fastening the vibrator housing to the screen box. These bolts should be tightened to 210 ft. lbs. See Page 14 for bolt torque.

### **CHANGING THE SPRING COILS ON VIBRATING DECK**

The Spring Coils on the vibrating deck should be checked every 6 months. When the spring shrinks or collapses to less than 4 inches they should be replaced. A new spring measures 4-1/2 inches. Lifting the shaker box, removing the old springs, and installing the new ones does this.



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## **TROUBLESHOOTING**

### **ELECTRIC MOTOR**

1. Check for loose bearings
2. Check the mounting bolts.
3. Check the belt tension.
4. Inspect the power cable for wear between the switch and the motor.

### **VIBRATOR MECHANISM**

#### **Overheating of the Vibrator**

- |           |   |
|-----------|---|
| 1. CAUSE: | Too little lubricant  |
| SOLUTION: | Check seals for leakage and add lubricant.  |
| 2. CAUSE: | Too much lubricant  |
| SOLUTION: | Remove lubricant until proper amount is indicated.                                    |
| 3. CAUSE: | High ambient temperature caused by handling hot material or by surrounding condition. |
| SOLUTION: | Ventilate area or use high temperature lubricant.                                     |

#### **Lubricant Leakage**

- |           |   |
|-----------|---|
| 1. CAUSE: | High temperature causes grease to become fluid and leak thru the seals. |
| SOLUTION: | Use high temperature grease.  |

#### **Gritty Bearing**

- |           |   |
|-----------|---|
| 1. CAUSE: | Entrance of grit while servicing or through the seals during operation. |
| SOLUTION: | Flush bearing and cartridge and relubricate.                            |



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### **Noisy Bearing**

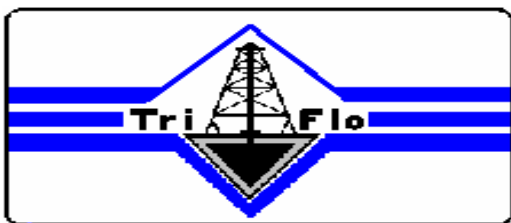
1. CAUSE: Bearing failure caused by mentioned reasons.  
SOLUTION: Replace bearings; take necessary precautionary steps to avoid reoccurring failure.
2. CAUSE: Normal fatigue failure associated with the vibrator service-identified by spalling or roller and inner race at the high load zone.  
SOLUTION: Replace the bearings; see assembly instructions.

### **Erratic Vibration or Performance**

1. CAUSE: Slipping of the V-belts.  
SOLUTION: Replace worn belts or tighten belts by adjusting the motor slide base.
2. CAUSE: Throwing of V-belts.  
SOLUTION: Check belt alignment; check counterweights to insure they are on the same number.
3. CAUSE: Unit is not level.  
SOLUTION: Relevel the shaker with shims.

### **SHORT SCREEN LIFE**

1. Careless handling and installation.
2. Failure to clean all support surfaces prior to screen installation.
3. Improper tension during installation.
4. Tension plates are not seated properly.
5. Cuttings build up under the edge of the screen.
6. Worn or dirty deck rubber.



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**SPARE PARTS**

Always order spare parts from TRI-FLO INTERNATIONAL. This is particularly true of bearings, which may not be available from the local bearing sources because of special internal clearance requirements.

It is advisable to stock the following parts so that breakdowns can be repaired promptly and costly delays eliminated.

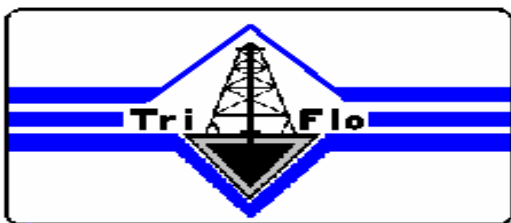
<b>TRI-FLO</b>		
<u>Name of Part</u>	<u>Quantity each Screen</u>	<u>Part No.</u>
<b>Bearing</b>	<b>2</b>	<b>05-00-044</b>
<b>Bearing Cartridge</b>	<b>1</b>	<b>05-00-346</b>
<b>V-belts, Matched Set</b>	<b>2</b>	<b>05-00-066</b>
<b>Tension Bolt Assembly (includes bolts, nuts, spring And 2 washers)</b>	<b>6</b>	<b>03-00-006</b>
<b>Spirolox ring-retainer</b>	<b>4</b>	<b>03-00-008</b>
<b>Spirolox ring-cartridge</b>	<b>4</b>	<b>03-00-010</b>
<b>Spring, Coil (Vibrating Deck)</b>	<b>4</b>	<b>03-00-005</b>
<b>Retaining ring</b>	<b>1</b>	<b>05-00-321</b>

**SAFTEY**

NO PERSON SHOULD STAND, HOLD OR LEAN AGAINST THE VIBRATING FRAMES. VIBRATIONS TRANSMITTED TO THE HUMAN BODY CAN BE HARMFUL. THESE SCREENS ARE NOT THERAPEUTIC DEVICES.

BECAUSE OF THE MOTION OF THE VIBRATING SCREEN IT IS IMPOSSIBLE TO SERVICE THE SHAKER WHILE IN MOTION. NEVER LAY TOOLS OR SPARE PARTS ON THE SCREENS.

ONLY TRAINED PERSONNEL SHOULD OPERATE OR REPAIR THIS SHAKER.



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### TIGHTENING TORQUES FOR HIGH-STRENGTH BOLTS

Cap Screw or bolt Diameter, inches	Torque foot/pounds	
	Bolts	Capscrews
3/8"	41	47
1/2"	105	120
5/8"	210	210

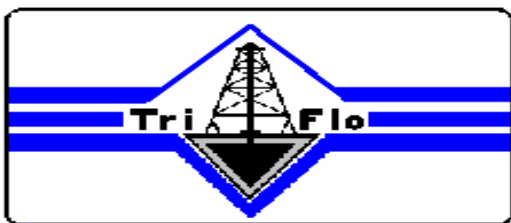
### FORCES

Forces generated by TRI-FLO's 146-T vibration screen at various counterweight settings.

Settings (g's)	Unbalance (inch-lbs)	Stroke (inches)	Forces
1	86.0	.147	6.4
2	83.6	.142	6.2
3	75.9	.129	5.6
4	63.8	.109	4.7
5	48.6	.083	3.6
6	33.5	.057	2.5

### RECOMMENDED LUBRICANTS

Shell Oil Co.	Alvania No. E P-2
Texaco Inc.	Multifax No. E P-2
Gulf Oil Co.	Crown No. 2
Chevron Oil Co.	Duralith No. E P-2
Mobil Oil Corp.	Mobilux E P-0, 1, 2
Universal	Mollux No. 3400
Citgo	Mystik SX-6 Extreme Temp. -65 to 350 degrees
Citgo	Mystik JT-6 High Temp.

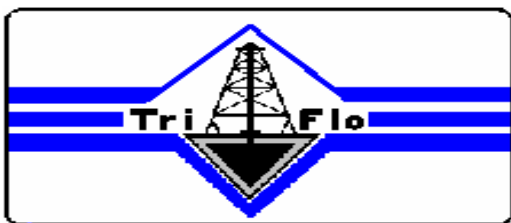


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### SCREEN SIZES

MESH	TRI-FLO PART NO
10 Mesh Screen	05-00-378
20 Mesh Screen	03-00-013
30 Mesh Screen	03-00-014
40 Mesh Screen	03-00-015
50 Mesh Screen	03-00-016
60 Mesh Screen	03-00-017
80 Mesh Screen	03-00-018
100 Mesh Screen	03-00-019
120 Mesh Screen	03-00-020
150 Mesh Screen	03-00-021
165 Mesh Screen	03-00-026
200 Mesh Screen	03-00-022

When ordering screens they should be ordered in pairs. Both screens should be replaced at the same time.



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**LOW VOLTAGE WIRING**

4	5	6
o	o	o
o7	o8	o9
o1	o2	o3

Motor leads 4-5-6 together tape  
 Motor leads 7-1 power lead 1 - tape  
 Motor leads 8-2 power lead 2 - tape  
 Motor leads 9-3 power lead 3 - tape

Line Power

Note: The low voltage heater is a H26. TRI-FLO Part No. 01-00-041. If it is necessary to change from high voltage (440 V.A.C.) to low voltage (220 V.A.C.), the heater must be changed.

**HIGH VOLTAGE WIRING**

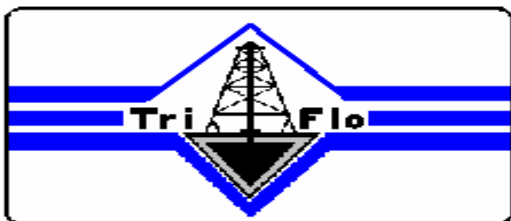
4	5	6
o	o	o
o7	o8	o9
o1	o2	o3

Motor lead 4-7 tape  
 Motor lead 5-8 tape  
 Motor lead 6-9 tape  
 Motor lead 1 - to power lead 1 - tape  
 Motor lead 2 - to power lead 2 - tape  
 Motor lead 3 - to power lead 3 - tape

Line Power

Note: High Voltage heater is a H28. TRI-FLO Part No. 01-00-042. If it is necessary to change from Low voltage (220 V.A.C.) to High voltage (440 V.A.C.), the heater must be changed.

**NOTE:** (If motor rotates in wrong direction reverse any two of the power leads).  
**NOTE:** IF THE MOTOR JUNCTION BOX IS REWIRED OR CHANGED IT MUST BE JACKED WITH FOAM RUBBER TO PREVEN THE WIRES FROM RUBBING TOGETHER WHEN THE SHAKER IS VIBRATING.



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**TABLE**  
**COMMON OILFIELD SHAKER SCREENS**

MESH	WIRE DIAMETER	OPENING INCHES	OPENING MICRONS	% OPEN AREA
8 X 8	0.28	.097	2464	60.2
10 X 10	.025	.075	1905	56.3
12 X 12	.023	.060	1524	51.8
14 X 14	.020	.051	1295	51.0
16 X 16	.018	.0445	1130	50.7
18 X 18	.018	.0376	995	45.8
20 X 20	.017	.033	838	43.6
8 X 20	.032/.020	.093/.030	2362/762	45.7
20 X 30	.015	.035/.0183	889/465	39.5
30 X 30	.012	.0213	541	40.8
30 X 40	.010	.0233/.015	592/381	42.5
40 X 36	.010	.015/.0178	381/452	40.5
40 X 40	.010	.015	381	36.0
50 X 40	.0085	.0115/.0165	292/419	38.3
50 X 50	.009	.011	279	30.3
60 X 40	.009	.0077/.016	200/406	31.1
60 X 60	.0075	.0092	234	30.5
70 X 30	.0075	.007/.026	178/660	40.3
80 X 80	.0055	.007	178	31.4
100 X 100	.0045	.0055	140	30.3
120 X 120	.0037	.0046	117	30.9
150 X 150	.0046	.0041	104	37.4
160 X 160	.0038	.0038	97	37.64
200 X 200	.00029	.0029	74	33.60



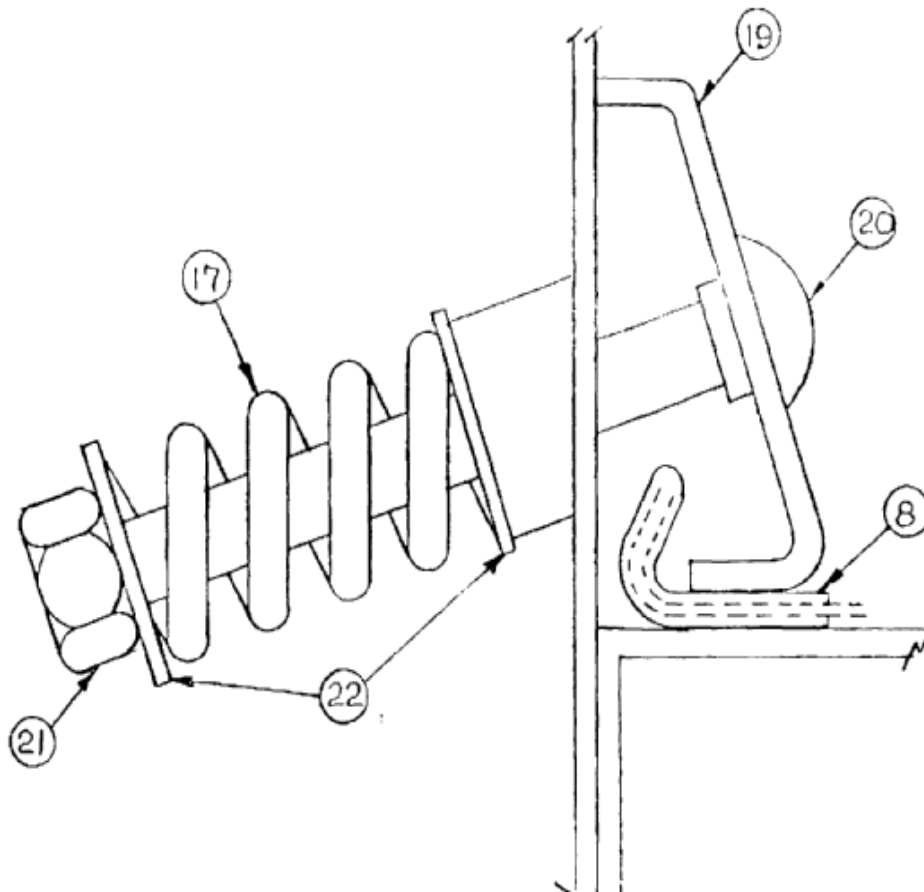
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 Bus: (936) 856-8551 Fax: (936) 856-5668

<b>TFI 146 SHAKER SCREENS</b>	
<b>Part No.</b>	<b>Description</b>
<b><u>TRI-FLO 4' x 3' STANDARD SCREEN</u></b>	
05-00-378	4 x 3 - 10 Mesh Screen
03-00-013	4 x 3 - 20 Mesh Screen
03-00-014	4 x 3 - 30 Mesh Screen
03-00-015	4 x 3 - 40 Mesh Screen
03-00-016	4 x 3 - 50 Mesh Screen
03-00-017	4 x 3 - 60 Mesh Screen
03-00-018	4 x 3 - 80 Mesh Screen w/ backup
03-00-019	4 x 3 - 100 Mesh Screen w/ backup
03-00-020	4 x 3 - 120 Mesh Screen w/ backup
03-00-021	4 x 3 - 150 Mesh Screen w/ backup
03-00-026	4 x 3 - 165 Mesh Screen w/ backup
05-00-417	4 x 3 - 175 Mesh Screen w/ backup
05-00-397	4 x 3 - 180 Mesh Screen w/ backup
03-00-022	4 x 3 - 200 Mesh Screen w/ backup
05-00-391	4 x 3 - 250 Mesh Screen w/ backup
05-00-390	4 x 3 - 325 Mesh Screen w/ backup
05-00-405	4 x 3 - 400 Mesh Screen w/ backup
<b><u>TRI-FLO 4' x 3' STANDARD SCREEN w/ 2" PLASTIC BACK</u></b>	
05-00-418	4 x 3 - 38 Mesh Screen
05-00-419	4 x 3 - 50 Mesh Screen
05-00-420	4 x 3 - 70 Mesh Screen
05-00-434	4 x 3 - 80 Mesh Screen
05-00-421	4 x 3 - 84 Mesh Screen
05-00-435	4 x 3 - 100 Mesh Screen
05-00-423	4 x 3 - 110 Mesh Screen
05-00-436	4 x 3 - 120 Mesh Screen
05-00-424	4 x 3 - 140 Mesh Screen
05-00-437	4 x 3 - 150 Mesh Screen
05-00-438	4 x 3 - 165 Mesh Screen
05-00-425	4 x 3 - 175 Mesh Screen
05-00-439	4 x 3 - 180 Mesh Screen
05-00-440	4 x 3 - 200 Mesh Screen
05-00-426	4 x 3 - 210 Mesh Screen
05-00-428	4 x 3 - 250 Mesh Screen
05-00-442	4 x 3 - 300 Mesh Screen
05-00-443	4 x 3 - 400 Mesh Screen



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**TENSION PLATE AND SCREEN ASSEMBLY**



PART	TRI-FLO PART NO.
Tension Bolt Assembly (includes Bolt, nut, spring & 2 washers)	03-00-006
Tension Bolt (Item 20)	04-00-107
Tension Spring (Item 17)	05-00-350
Tension Lock Nut (Item 21)	04-00-150
Tension Washer (Item 22)	04-00-177
Tension Rail Plate	03-00-007



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**TFI-146 SHALE SHAKER VIBRATOR  
 BREAKDOWN**

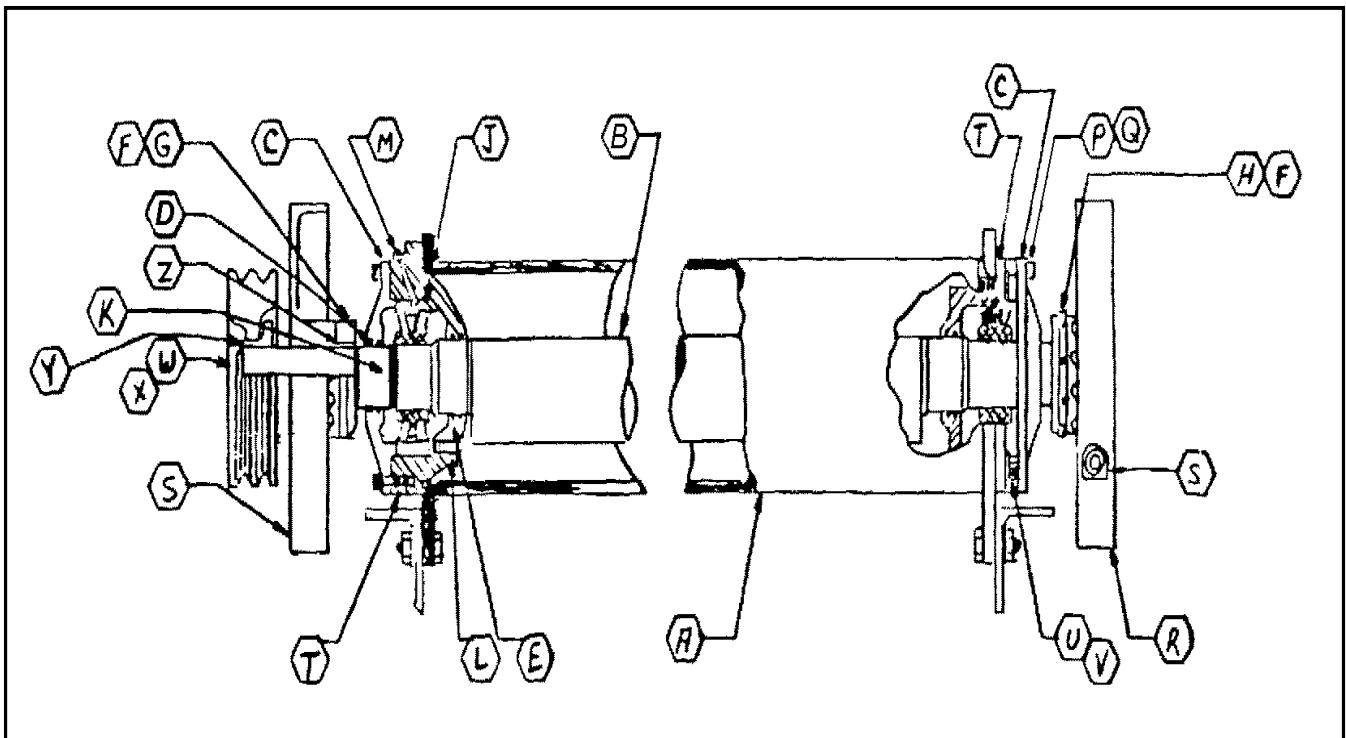
ITEM	QTY	PIN	DESCRIPTION
A	1	03-00-591	Vibrator Housing
B	1	03-00-039	Vibrator Shaft
C	1	05-00-379	Retainer
D	4	03-00-008	Spirolox Ring - Retainer *4
E	4	03-00-010	Spirolox Ring - Cartridge *4
F	2	05-00-388	Set Screw for Collar
G	1	05-00-349	Collar (Drive End)
H	1	05-00-377	Collar (Opp End Drive)
J	2	05-00-044	Bearing *2
K	1	05-00-321	Retaining Ring *1
L	6	05-00-046	Set Screw
M	2	05-00-186	Grease Fitting (Zert)
P	8	04-00-090	Capscrew - 3/8"
Q	8	04-00-169	Lockwasher - 3/8"
R	2	05-00-129	Counterweight
S	2	04-00-109	Counterweight Bolt 5/8" x 4"
T	2	04-00-109	Cartridge
U	8	04-00-130	Capscrew - 1/2" Grade 8
V	8	04-00-162	Lockwasher - 1/2"
W	1	05-00-344	V-Belt Pulley
X	1	05-00-083	V-Belt Pulley Bushing
Y	1	05-00-239	Keystock 1/2" x 1/2" x 1 1/4"
Z	1	05-00-240	Keystock 1/2" x 1/2" x 1"

**\* INDICATES QUANTITY OF RECOMMENDED SPARES**  
**\* SEE PAGE 21 FOR DRAWING**



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**TFI-146 VIBRATOR ASSEMBLY**

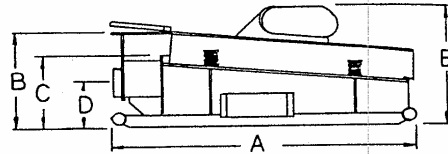
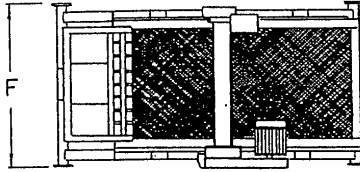


### DIMENSIONS FOR SINGLE SHAKER

A — 8' 2"  
B — 3' 1½"

C — 2' 6½"  
D — 1' 4"

E — 3' 10"@  
F — 5' 5½"



**EACH SHAKER:**

Powered by: 3 hp 230/460 volt  
3 phase 60 hz. motor  
Operating speed: 1750 RPM

Explosion proof motor & starter.  
10" Feed Manifold with by pass to mud tanks.  
Weight: 2575 lbs.

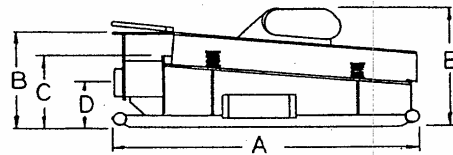
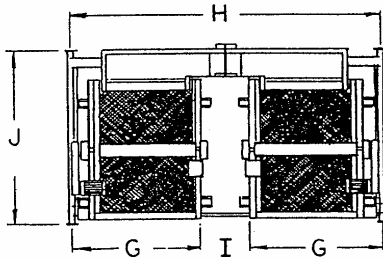
### DIMENSIONS FOR DUAL SHAKER

A — 6' 5"  
B — 3' 3¾"  
C — 2' 8"

D — 1' 6½"  
E — 4' 1½"@

G — 5' 3"  
H — 13' 0"

I — 2' 0½"  
J — 8' 0"



**EACH SHAKER:**

Powered by: 3 hp 230/460 volt  
3 phase 60 hz. motor  
Operating speed: 1750 RPM

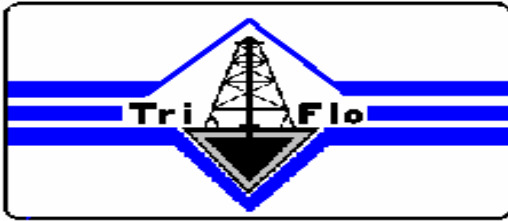
Explosion proof motor & starter.  
10" Feed Manifold with by pass to mud tanks.  
Weight: 7280 lbs.

#### Call Us

We will be most happy to further explain the advantages of our equipment or discuss any other needs you might have. Expertise in solids control, pressure control and rig instrumentation is what Tri-Flo is all about.



**Tri-Flo**  
on the job  
when and where you need us.



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### TFI 146 SHALE SHAKER

Part No.	Description
01-00-041	Heater Strip H-26
01-00-081	Starter - Size 0 Nema 12 Waterproof
01-00-099	Starter - Size 0 Nema
01-00-082	Starter Block
01-00-123	Motor - 3HP TEFC 1800 RPM
01-00-128	Motor - 3 HP XP 1800 RPM
03-00-004	Decking Rubber
03-00-011	Deck Spring - Heavy Duty
03-00-006	Tension Bolt Assembly
04-00-014	Tie Down Bolt Assembly
04-00-107	Tension Bolt
04-00-150	Tension Nut
05-00-350	Tension Spring
04-00-177	Tension Washers
03-00-007	Tension Rail
03-00-008	Retainer Ring - Spirolox
03-00-010	Cartridge Ring - Spirolox
03-00-039	Vibrating Shaft
04-00-162	Cartridge Lock Washer
04-00-169	Retainer Lock Washer
05-00-044	Bearing
05-00-046	Set Screw - Bearing Cartridge
05-00-344(00-00-401 50HZ)	Sheave
05-00-083	Motor Bushing
05-00-084	Shaft Bushing
05-00-063(066 -50HZ)	Drive Belt (B-42) / (B-44 50 HZ)
05-00-131	Counterweight Balance
04-00-103	Cartridge Cap Screw
04-00-029	Retainer Cap Screw
05-00-239	Keystock Pulley
05-00-240	Keystock Collar
05-00-321	Shaft Retaining Ring
05-00-346	Bearing Cartridge
05-00-349	Index Collar - Drive End
05-00-377	Index Collar - Non Drive End
05-00-379	Bearing Retainer
05-00-388	Set Screw - Index Collar
01-00-109	10/4 S.O. Cord



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**NOTES**