

BOWIE

HYDRO-MULCHER



Operators Manual

Bowie Victor 800/1100

Serial No.: _____



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Bowie Industries, Inc. wishes to thank you for your purchase of the **Victor Bowie Hydro-Mulcher®**. It has been manufactured after many years of research and development. We are confident that your **Victor Bowie Hydro-Mulcher®** will give you unfaltering service for many years making you a proud satisfied owner. In order for this to happen we strongly recommend that you read this manual very thoroughly and see that your **Victor Bowie Hydro-Mulcher®** is used and maintained in a proper way. It has been manufactured using heavy-duty materials throughout. It is designed for ease of use and trouble free operation.

If you have any further questions regarding your **Victor Bowie Hydro-Mulcher®** contact your dealer. When contacting your dealer be sure to have the following information available:

- 1.) Unit Model Number
- 2.) Unit Serial Number
- 3.) Engine Serial Number
- 4.) Engine Spec Number

Our Company is the leader in the Erosion Control and Landscaping Industry. To serve your needs a score of national and international distributors are there to assist you in the sale and service of Bowie Erosion Control and Landscaping Equipment. We want to be your erosion and landscape partner.

Bowie Industries, Inc.

[www.](http://www.bowieindustries.com)

[bowieindustries.com](http://www.bowieindustries.com)

Owen Meyer, President
 Gary Meyer, VP/Engineer
 Bob Jones, Sales Manager
 Jimmy Terry, Parts Manager

These numbers are located on your machine in the following places:
 On upper right rear of tank/Serial Number, Engine plate/MO Number
 Kubota Engines on Base Frame/MO Number

Use this manual to familiarize yourself with features of your new equipment.



Following the operating instructions and doing proper maintenance of your new **Bowie Hydro-Mulcher®** will give you years of reliable and dependable service. So be sure that you read and carefully follow the instructions given in this manual. This manual provides information for the **Bowie Hydro-Mulcher®**.

Bowie Industries, Inc. RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN AND SPECIFICATIONS WITHOUT NOTICE.

READ CAREFULLY ALL THE INSTRUCTIONS

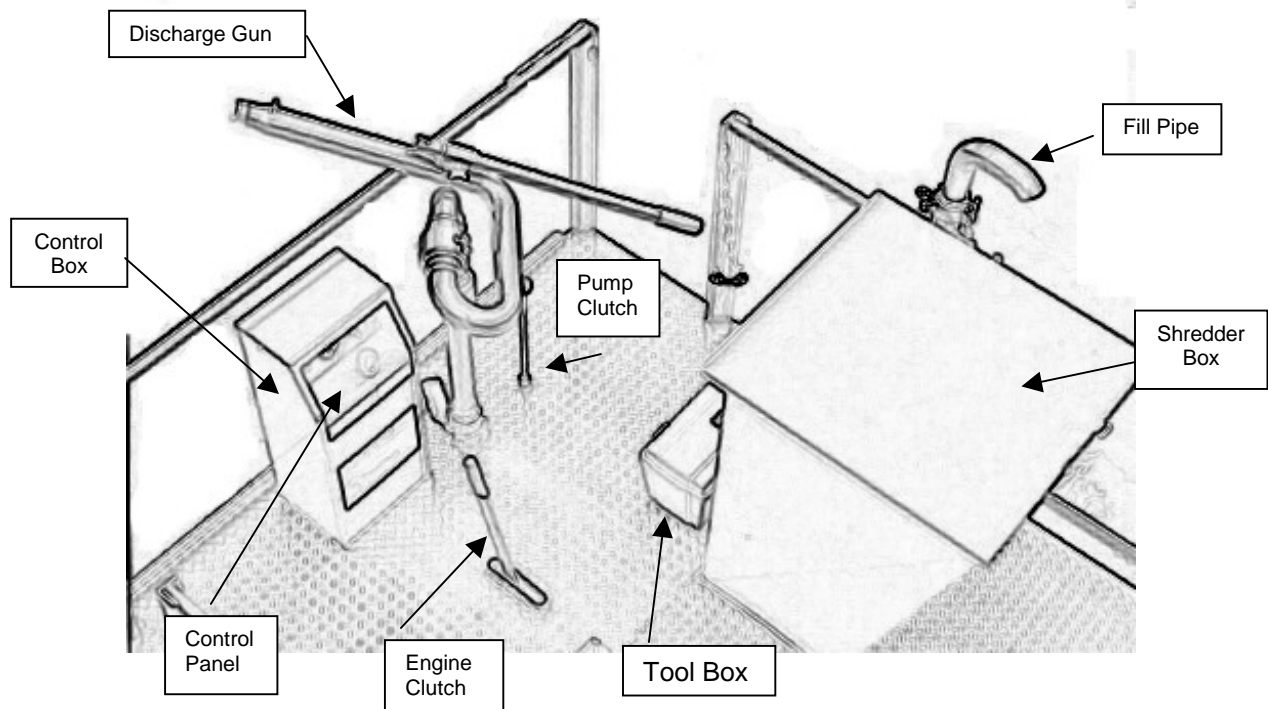
Unpacking

Your new **Bowie Hydro-Mulcher®** is shipped fully assembled, except that the battery will be disconnected. However make sure that prior to starting, that all packaging materials are removed from the tank and engine areas.

Getting Started

Perform the following operations:

- 1.) Read Operation Manual
- 2.) Check engine oil level
- 3.) Fill fuel tank
- 4.) Install and connect battery
- 5.) Trailer Models tighten wheel lug nuts



Make sure that the tank and engine compartments are clear of foreign objects, such as parts packages or boxes which may have been stored during shipment prior to starting.

Before any loading of any materials into tank be sure that it is clean and free of contaminates

⇒ Quick Step 1 Starting Engine

When starting always be sure that the engine clutch and the pump clutch are *disengaged*
Engine cranks, there is fuel but doesn't start....oops, forgot to check the kill switch!

WISCONSIN ENGINES

- 1) When engine is cold, pull choke and throttle out approximately one inch
- 2) Turn ignition on and actuate starter switch
- 3) As engine warms or if engine is running rough close choke and adjust throttle

KUBOTA ENGINES

- 1) See Kubota engine manual



⇒ Quick Step 2 Loading Procedure and Agitation

Prepare the Slurry

- 1.) fill the tank 1/4 full with water

Start the Agitators by engaging the engine clutch.

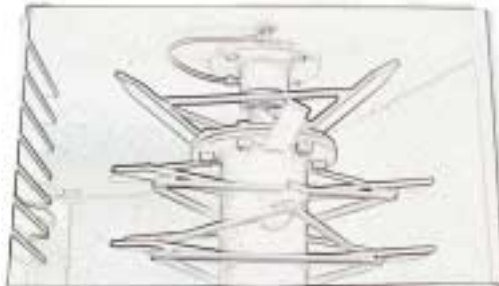
- 2.) add mulch (a minimum of one block or bag)
(wood cellulose fiber or paper based mulch mixing to suspend other materials.)
- 3.) add grass seeds and fertilizer while adding more water.

All ingredients should be in tank by the time the water level is approximately 3/4 of tank capacity.

If you still need to add mulch, seed or fertilizer at this point stop water until all ingredients are in the tank mixing. Then continue to fill with water.

If sprigging, add sprigs after the tank is at least 3/4 full. Mix thoroughly until all the ingredients are homogeneous.

WARNING: keep hand, feet, and limbs free and clear of agitators and from inside of tank



⇒ Quick Step 3 Pumping

When thoroughly mixed -with nozzle and hoses attached - engage the pump clutch to activate pump to start your seeding or sprigging. Raise or lower engine speed to control volume of spraying

Seeding-Sprigging-Mulching Tips

⇒ Seeding-Sprigging

When seeding it is very important that you start with a clean tank, thus preventing contamination of the type and quality of seeds being used. Load materials through the shredder access lid, being careful that no paper, plastic packaging materials or other foreign matter enters the tank. These foreign materials can cause pump and spraying blockage or other application problems. THEY MUST BE REMOVED BEFORE THE PUMP CAN BE OPERATED. Load with the materials to the ratios specified. If the slurry is to be transported, the engine may either be at an idle or shut off, providing the tank gate valve is in the 'closed' position. Not all seed is alike. Erosion control applications often call for exotic mixes and temperamental varieties

⇒ Mulch

Mulch is an important element in the germination of seeds and erosion control. Mulch controls the loss of soil moisture and provides an insulation. At the same time mulch prevents the soil and seeds from being washed or blown away. This property can be enhanced with the use of a tackifier, which is basically an organic glue.

| Machine Size | Load Rate lbs. | 1500 lbs./acre | 1800 lbs./acre | 2000 lbs./acre |
|--------------------|-------------------|-------------------|-------------------|-------------------|
| 800 Victor | | | | |
| Wood Fiber Mulch | 400 | 11616 | 9680 | 8712 |
| Paper Fiber Mulch | 500 | 14520 | 12100 | 10890 |
| 1100 Victor | | | | |
| Wood Fiber Mulch | 550 | 16133 | 13200 | 12100 |
| Paper Fiber Mulch | 650 | 18939 | 15557 | 14052 |

When using extension hoses with pressure control remote valves. A lubricant or slickifier, should be added to the slurry to aid in the flow of materials. In addition for every 50 feet of hose these loading rates should be reduced by 5% because of hose friction.

The rate of application varies according to the soil conditions, job specifications, and the type of delivery (i.e. deck or hose application, surface or sub-surface application).

As a rule of thumb seeding can be simultaneously mulched with wood fiber at the rate of 1,000# per acre. Grass seeding results are not directly proportional to amounts of wood fiber used in rates greater than 2,000# per acre, except for Hydro-Sprigging. Upon the emptying of the tank disengage clutches, idle engine, then cut off power.

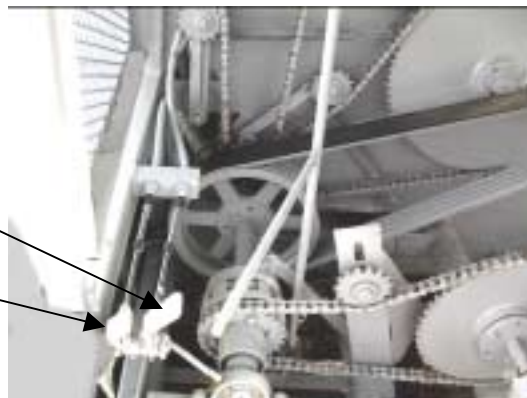
⇒ FINISHING UP AT THE END OF DAY OR JOB

To insure long life of the equipment and costly down time always clean your equipment inside and out. Flush the tank, pump, hose and nozzles with water. Remember that fertilizers are corrosive. If you have the Flush Tank Option this option provides clean water to the pump and discharge hose bypassing the tank slurry.

The flush tank provides a convenient means of cleaning the pump and hoses without completely flushing the main storage tank. The clean water supply and controls are shown in [Flush Tank Option Plumbing](#)

Note:
Both Levers pulled toward
back of machine to operate
flush system.

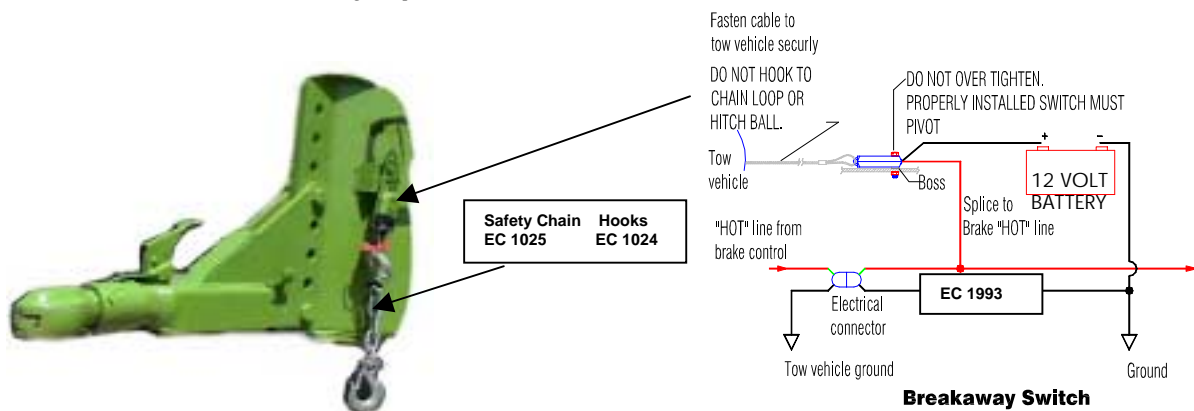
To close system for normal
operation push both levers
forward toward tank



Make your Jobs Safe and Profitable

Avoid down and lost time by working safely. Be sure to follow safety tips and warning labels that are included with your Hydro-Mulcher®.

1. Wear safety glasses.
2. Remove or secure all objects on top of tank before starting engine.
3. Remove any foreign objects from tank prior to starting engine or pump.
4. Do not remove or operate without safety guards in place.
5. Prior to servicing tank, agitator(s), lubrication, or making equipment adjustments-Turn the Engine Off and Disconnect Battery.
6. Operator should be the only one on the tank floor during operations.
7. When Hydro-Mulcher® is moving avoid sudden starts and stops.
8. Avoid obstacles while there are persons on the Hydro-Mulcher®
9. Never direct discharge at people, buildings, power lines or equipment.
10. Trailer or Gooseneck Models always check tires and wheel lug nuts.
11. When Trailer Towing read *Trailer and Towing Guide*, part number 025800.
12. Always secure close coupler on ball.
13. Always connect safety chain to towing vehicle.
14. Always secure hitch pin and retainer.
15. Always properly secure trailer breakaway switch
16. Always make sure that safety lights are in proper working order.
17. Maximum speed when empty is 55 mph. Reduce speed when loaded
17. Each *Bulldog Coupler*[™] comes with a "hb" ball and should be used only with that ball. Use only "hb" ball with the *Bulldog Coupler*[™] *HammerBlow*[™] Ball Sizes: 1B: 1-7/8" 2C: 2" 4B: 2-5/16" #5: 2-1/4" #6: 3"



Typical of Warning, Danger and Caution Labels found on Hydro-Mulcher®

Taking Care of Your Investment in the Bowie Hydro-Mulcher®

Your Hydro-Mulcher is the best on the market. Now it's your turn to keep it that way by giving it the proper care and maintenance.

We have included in this manual this maintenance schedule to assist you.

| Maintenance/Inspection Schedule | | Daily | 100 HRS OR Monthly | 300 HRS OR Semi- Annual |
|--|---|--|--|-------------------------------------|
| Controls | Belt and Chain Tension Damage | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Cable Linkage check adjust | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Engine (as specified in engine mfg. Manual *) | Air Filter/Cleaner Check Clean (gasoline) Change (diesel) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | |
| | Battery and Connections | | <input checked="" type="checkbox"/> | |
| | Engine Coolant Check Change | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | Engine Oil Check Change | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | Fuel Check | <input checked="" type="checkbox"/> | | |
| | Fuel Filter Drain water change | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Other | Chassis (inspect) | | | <input checked="" type="checkbox"/> |
| | Breakaway, Trailer (inspect) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | Grease All Fittings | <input checked="" type="checkbox"/> | | |
| | Hitch, Trailer (inspect) | <input checked="" type="checkbox"/> | | |
| | Lights, Trailer (inspect) | <input checked="" type="checkbox"/> | | |
| | Tank inspect (clean/free of foreign objects) deterioration/damage | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | Safety Chains (inspect) | <input checked="" type="checkbox"/> | | |
| | Tires Inflation Damage | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | |
| | Wheel Bearings Repack | | | <input checked="" type="checkbox"/> |
| | Wheel Lugs Torque (inspect) | <input checked="" type="checkbox"/> | | |

* The manufacturer provides these manuals. The specifications and instructions in these manuals are to be followed for the specific parts. A failure to do so could result in voiding the manufacturers warranty

Other Items to Watch Closely:

- **Cleaning-** It is very important to keep the unit clean inside and out. Flushing the pump, hoses, and nozzles with clean water. Remember fertilizers are corrosive. Frequently clean air cleaner and change engine oil.
- **Lubrication-** The grease fittings are easily found and should be greased with an all-purpose waterproof grease on a daily basis. If unit has been idle for a period of time be sure to grease prior to use.

- **Tires & Wheels-** It is extremely important to apply and maintain proper wheel mounting torque on your trailer axle. Torque is a measure of the amount of tightening applied to a nut or bolt and is expressed as length times force. A force of 90 pounds applied at the end of a wrench one foot long will yield 90 lb.-ft of torque. Torque wrenches are the best method to assure that the proper amount of torque is being applied to the fastener.

Note: wheel nuts or bolts must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.

Be sure to use only the fasteners matched to the cone angle of your wheel (usually 60° or 90°). The *proper procedure* for attaching your wheels is as follows:

Start all bolts or nuts by hand to prevent cross threading.

Tighten bolts or nuts in the sequence illustrated (Fig. 5.3).

Tightening the fasteners should be done in stages. Follow the recommended sequence:

- 1) Tighten all fasteners to 20-25 lb.-ft
- 2) Then to 50-60 lb.-ft, finally to 85-95 lb.-ft

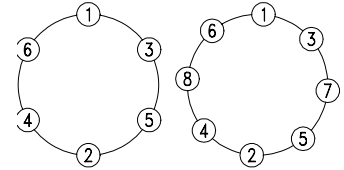


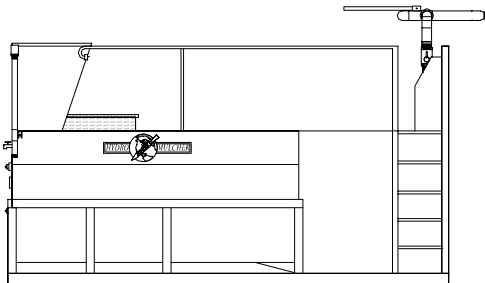
Fig 5.3

Wheel nut/bolts should be torqued before first on road use and after each wheel removal. Check and re-torque after the first 25 miles and again at 75 miles. Check periodically thereafter.

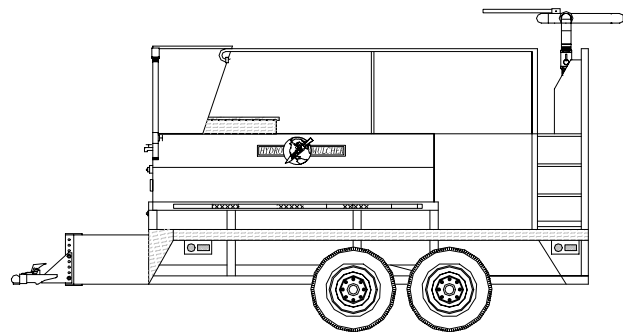
Tires

Before mounting tires onto wheels make certain that the rim size and contour is approved for the tire as shown in the *Tire and Rim Association Yearbook* or the tire manufacturer's catalog. Also make sure that the tire will carry the rated load.

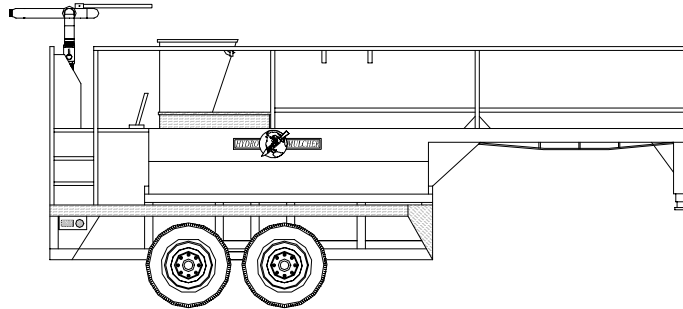
- **Winterization-** Clean entire machine before storage. Clean inside of tank and drain.
Centrifugal Pumps: remove drain plug in bottom of pump
Bowie Gear Pumps: grease each fitting with 15 pumps of grease. Turn pump slowly a few revolutions
All ball and gate valves open halfway.
Add *Sta-Bil* fuel stabilizer to fuel tank (prevents fuel deterioration, makes starting easier).
Run engine for 15 minutes.
Water cooled engines be sure radiator has proper anti-freeze.
Remove and store battery indoors.
Spray WD-40 on *Formsprag* Clutches. Grease all fittings, spray *Chemsearch Lubrease* or equivalent (which penetrates and protects from corrosion) on all roller



Skid



Bumper Pull

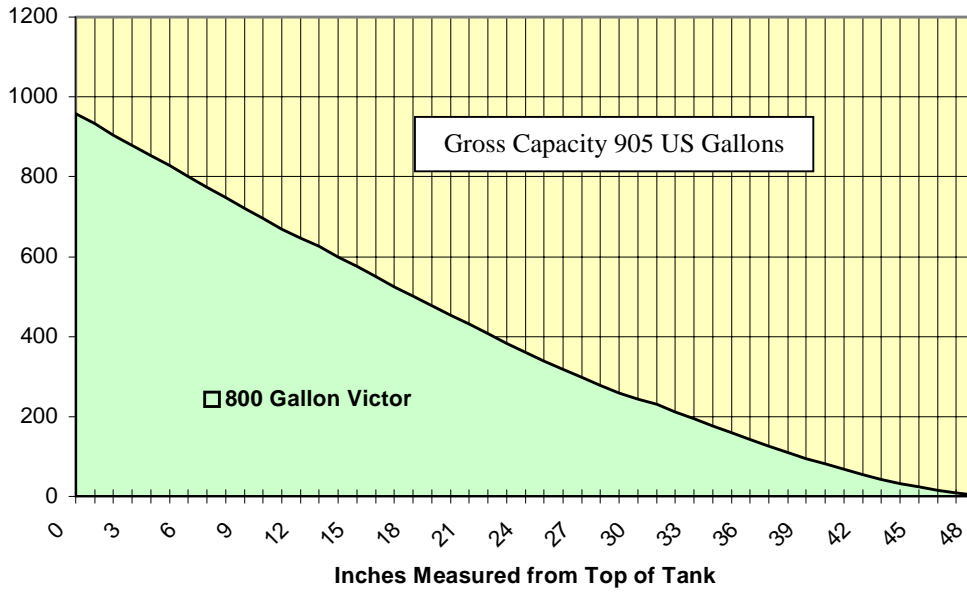


Gooseneck

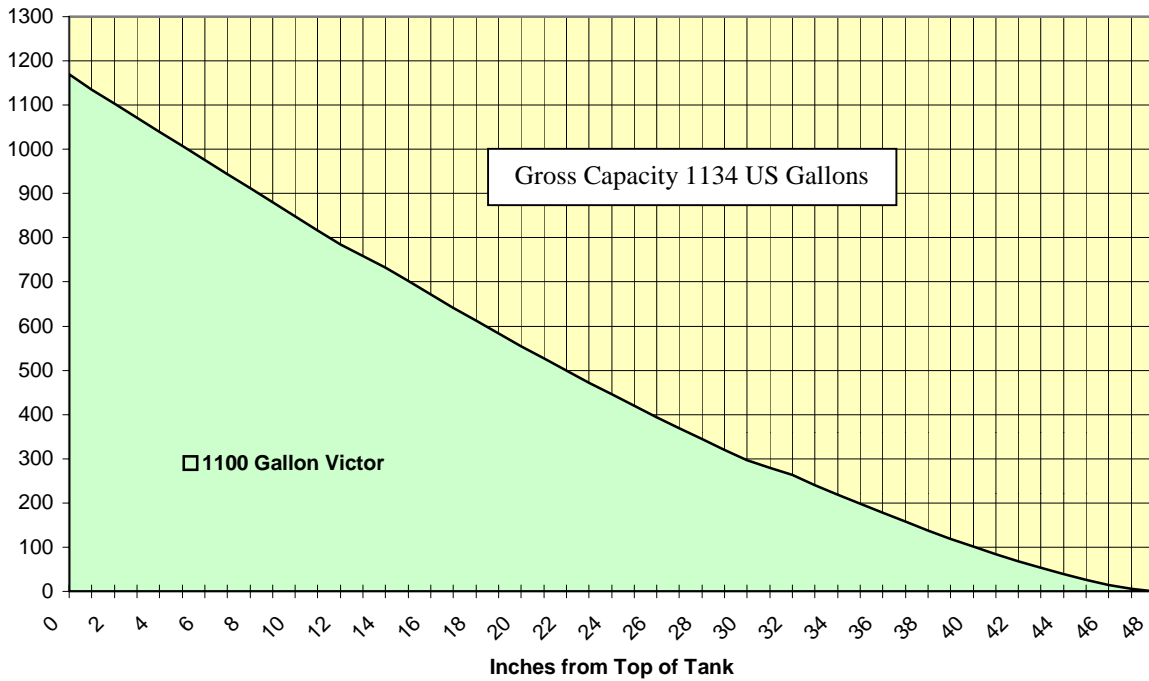
| | | 800 Gallon Victor | | | | 1100 Gallon Victor | | | |
|-----------------------|--------|---|-----------------------------------|--|--------------------------------------|---|-----------------------------------|--|--------------------------------------|
| | | Kubota Engine Centrifugal Pump | Kubota Engine Bowie Pump | Wisconsin Engine Centrifugal Pump | Wisconsin Engine Bowie Pump | Kubota Engine Centrifugal Pump | Kubota Engine Bowie Pump | Wisconsin Engine Centrifugal Pump | Wisconsin Engine Bowie Pump |
| Skid | Width | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm | 6'-0" 183cm |
| | Length | 11'-3" 353cm | 11'-10" 360cm | 10'-4" 315cm | 10'-4" 315cm | 12'-9" 389cm | 13'-4" 406cm | 11'-10" 360cm | 11'-10" 360cm |
| | Height | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm |
| | Weight | | | | | | | | |
| | | | | | | | | | |
| Bumper Pull | Width | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm |
| | Length | 16'-4" 498cm | 17'-1" 521cm | 14'-6" 442cm | 14'-6" 442cm | 17'-10" 544cm | 18'-11" 577cm | 16'-0" 488cm | 16'-0" 488cm |
| | Height | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm |
| | Weight | | | | | | | | |
| | | | | | | | | | |
| Gooseneck Pull | Width | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm | 7'-4" 224cm |
| | Length | 19'-3" 587cm | 19'-10" 579cm | 18'-4" 559cm | 18'-4" 559cm | 20'-9" 633cm | 21'-4" 650cm | 19'-10" 579cm | 19'-10" 579cm |
| | Height | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm | 8'-8" 264cm |
| | Weight | | | | | | | | |
| | | | | | | | | | |

Materials Graphs:

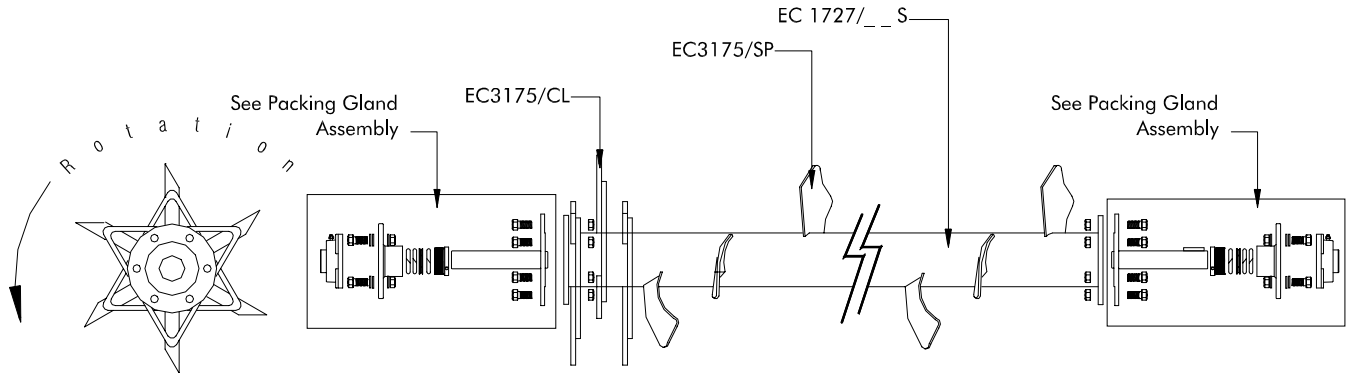
Materials in Tank



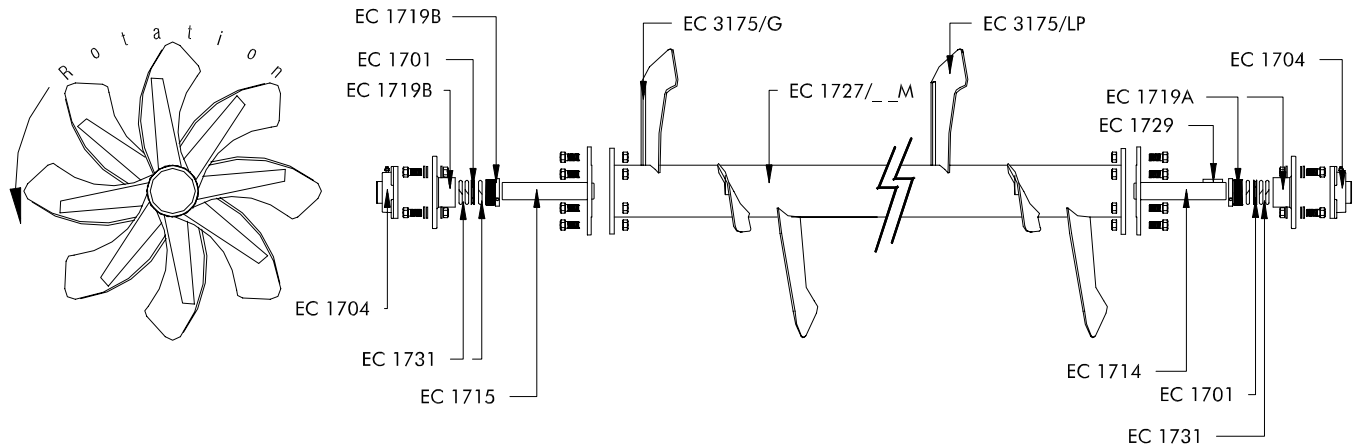
Materials in Tank



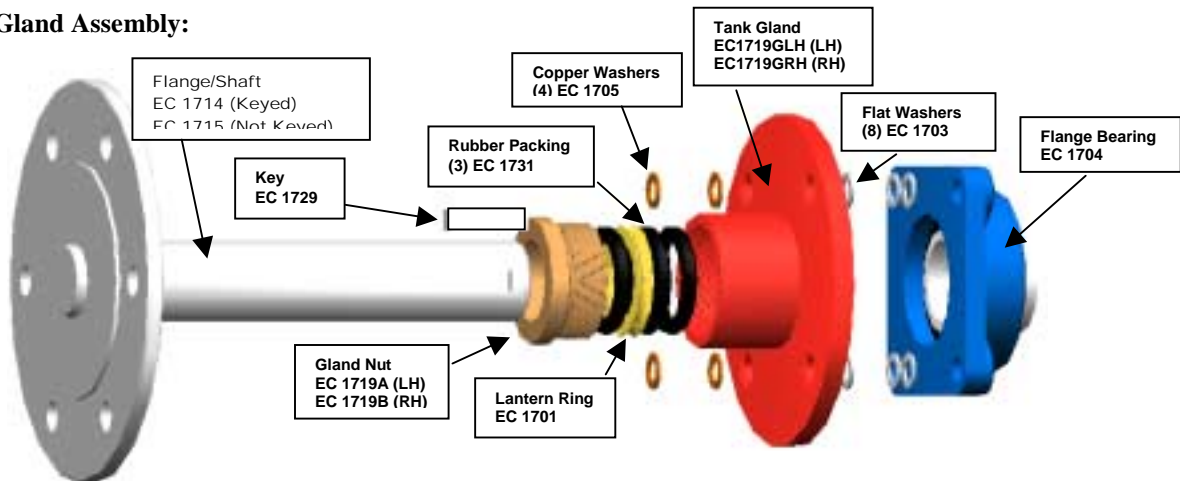
Shredder/Agitator:



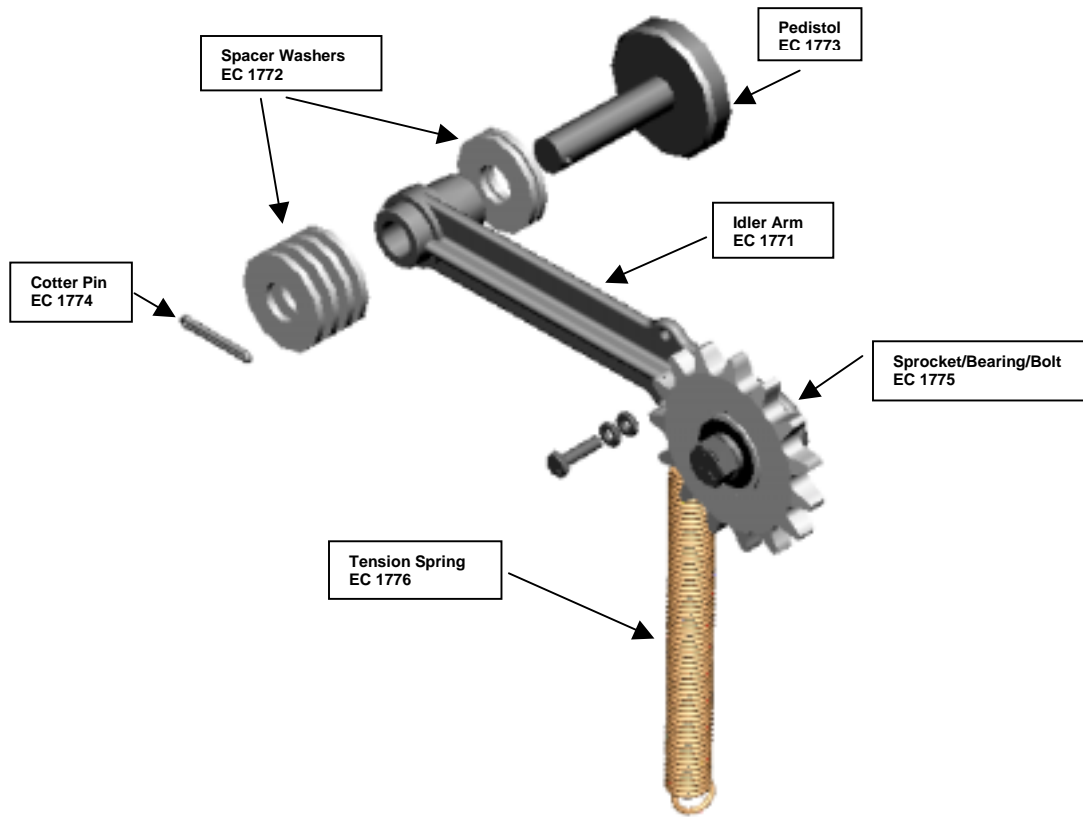
Agitator:



Packing Gland Assembly:

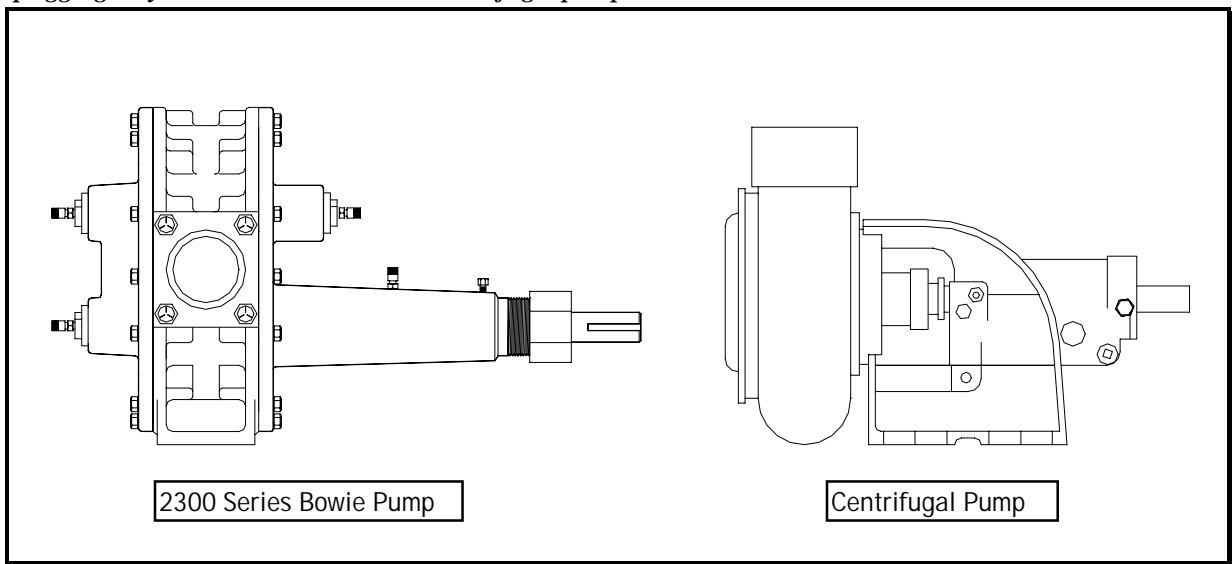


Idler Arm Assembly:



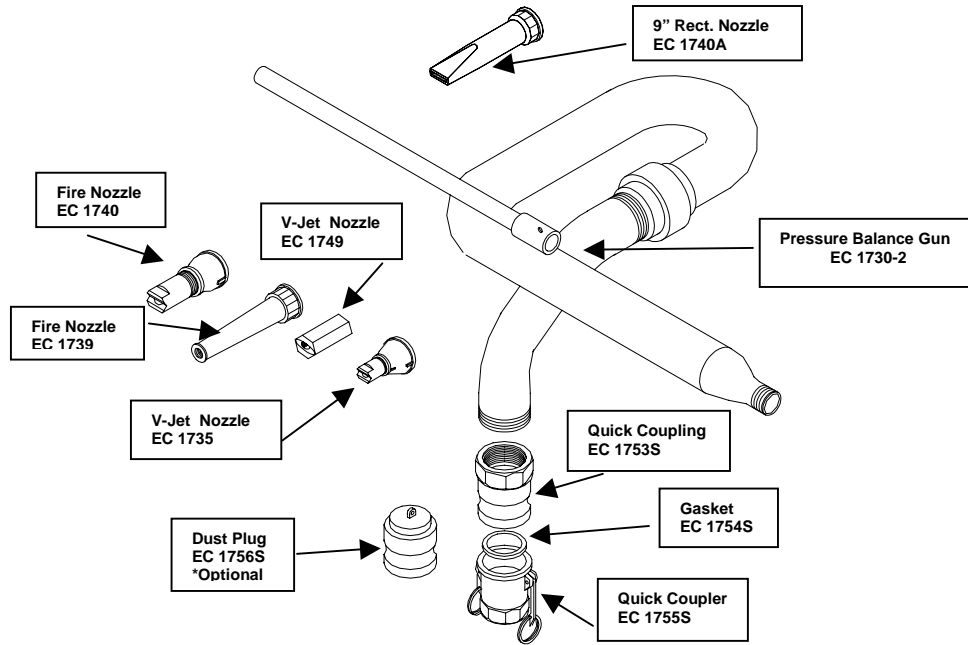
Pump and Discharge

Sprigging may not be conducted with a centrifugal pump.



The discharge gun is 2" mounted with a quick coupling to facilitate removal.

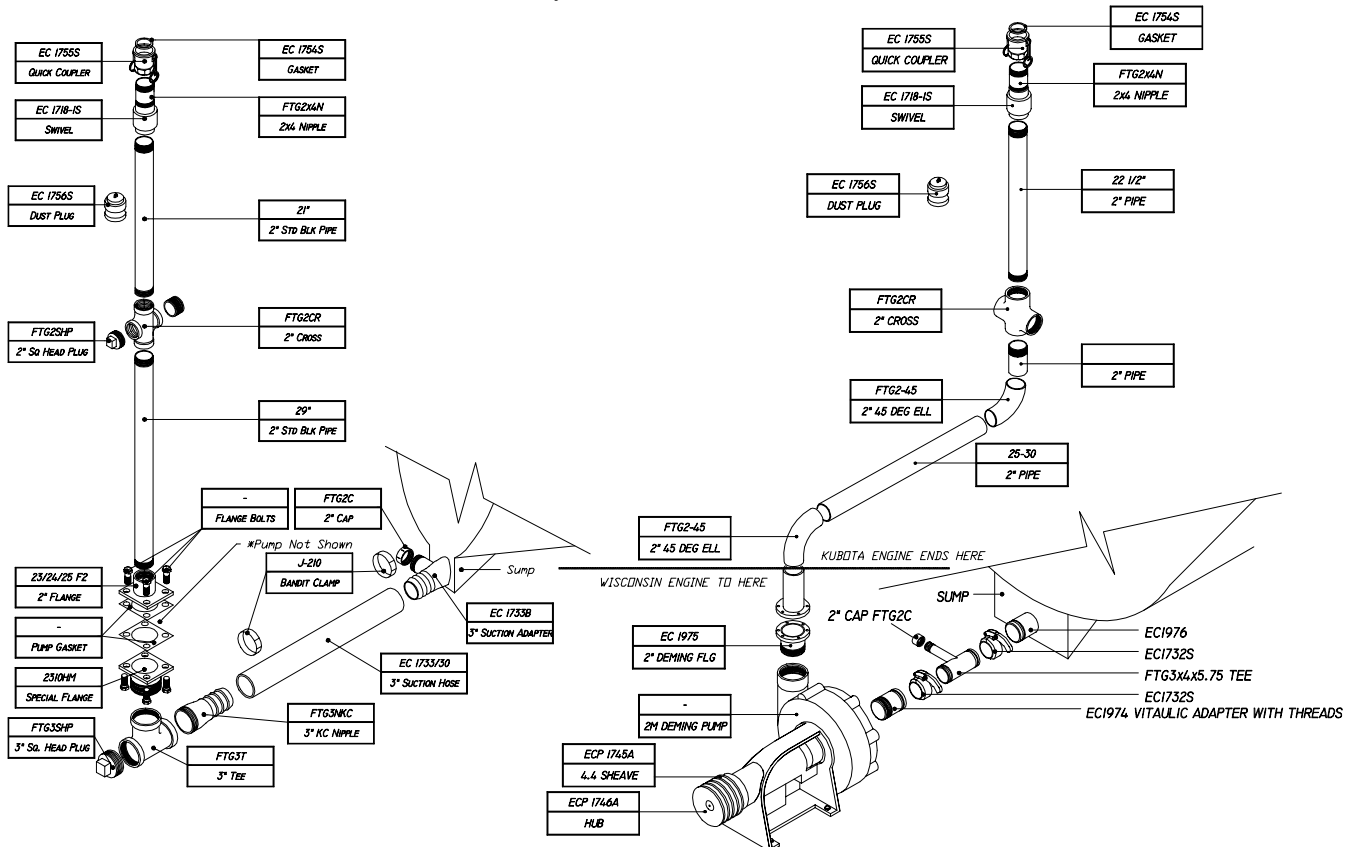
Nozzles available are: sprigging nozzle, two different fire nozzles, two different V-jet nozzles and a fan nozzle



The swivel assembly is located on the discharge pipe. Occasionally it is necessary to replace the o'ring seals and balls.

A repair kit is available containing needed parts (Part # EC1806).

We recommend that at least one such kit be readily available.

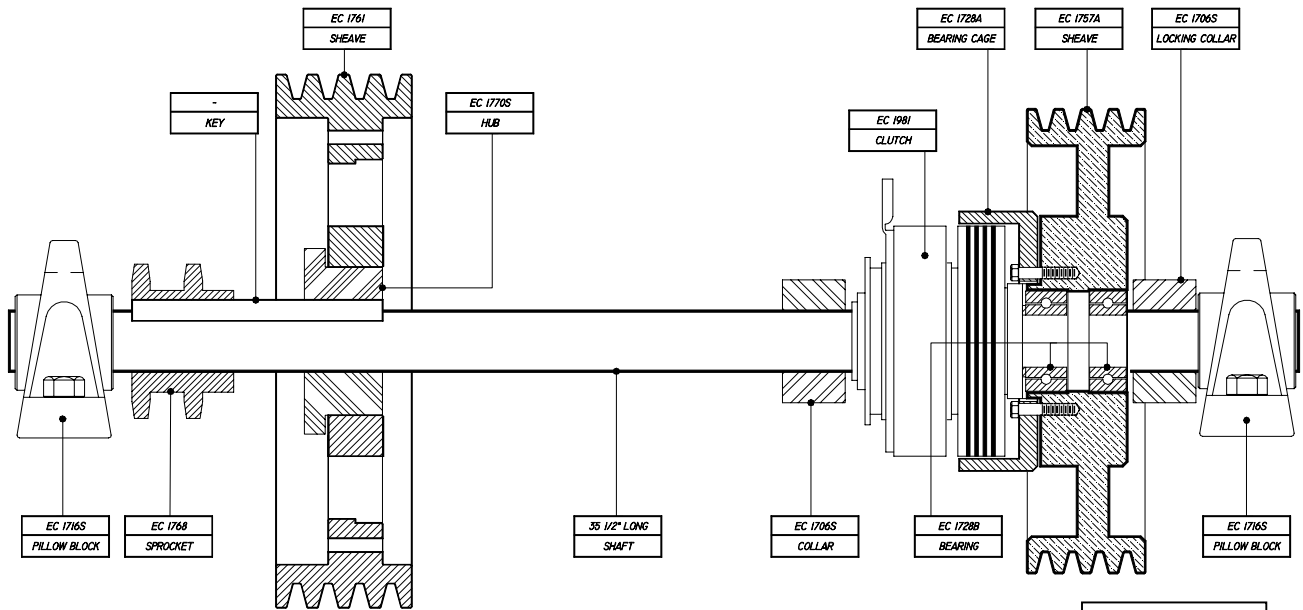


Drive Assemblies-Belts and Chains

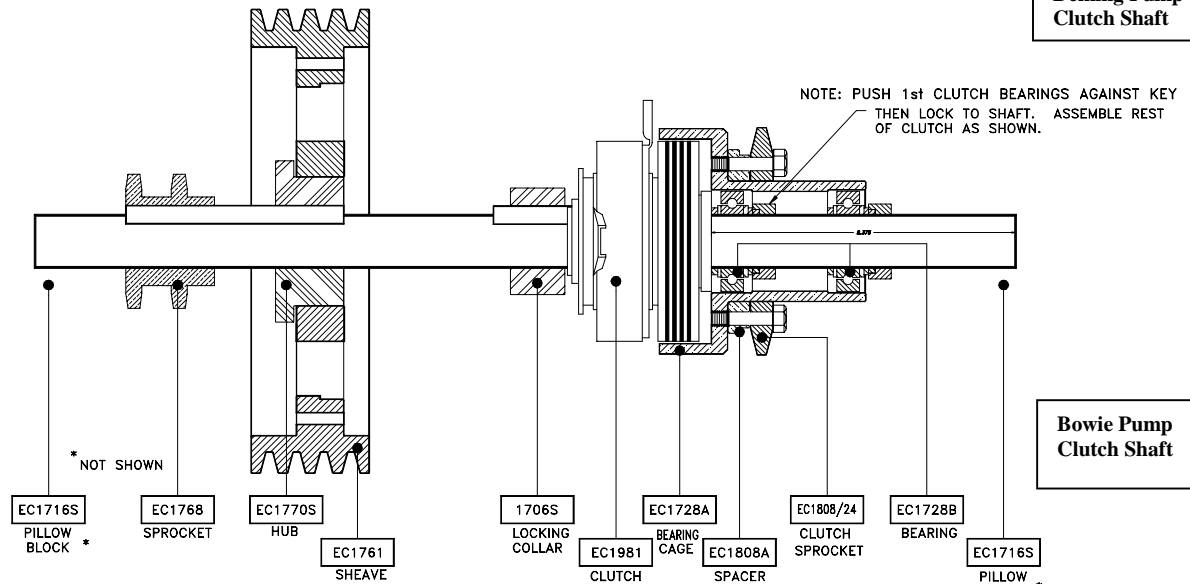
Jackshaft Assembly

It is necessary for each pillow block bearing properly lubricated. However occasionally they need to be replaced (Part # EC1716S) therefore we recommend that a spare be on hand.

Should the sheave become loose on the shaft replace the hub and key set with genuine Bowie parts. Note: key to fit snugly in the sheave.



Deming Pump Clutch Shaft



Bowie Pump Clutch Shaft



Deming Pump Clutch Shaft



Bowie Pump Clutch Shaft

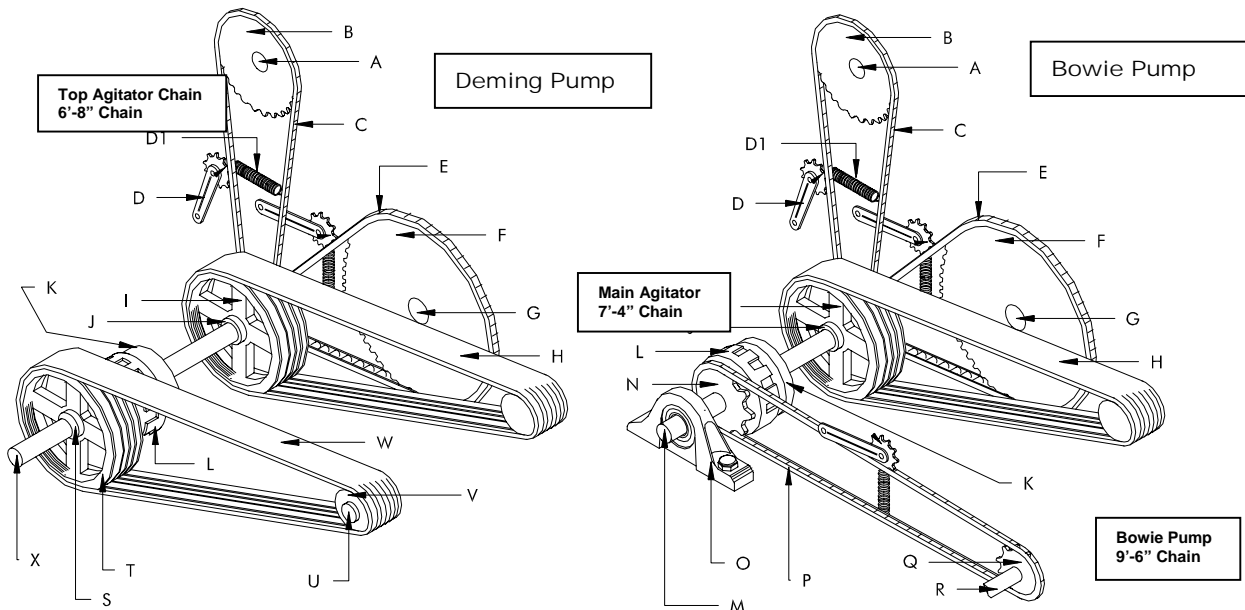
Chain Drives:

Chain drives should be kept to the proper tension. If chain becomes loose then remove a half link or full link as needed to keep the proper tension.

Engine Belt:

Units with Bowie Pumps- Loosen engine base bolts. Use tension pull bolts on right side to make adjustments. When adjusted re-tighten engine base bolts.

Units with Centrifugal Pumps Adjustments can be made with the engine tension pull bolts as with units using Bowie pumps. Also retensioning can be made by using tension pull bolts on the jack shaft.

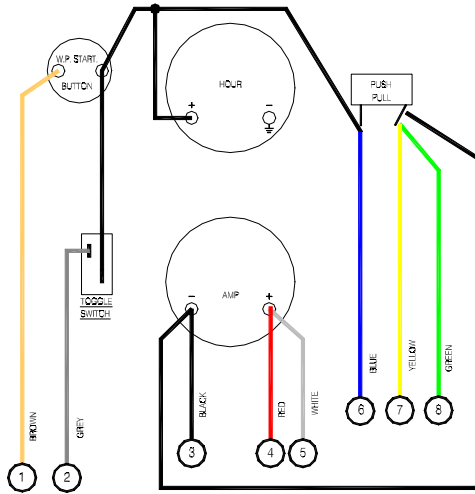


| Part No. | Description | Part No. | Description | Part No. | Description |
|----------|---|----------|-------------------------------|----------|--------------------------|
| A | EC 1721 Hub, SF 1 15/16" | I | EC 1761 Sheave | Q | EC1815/54 Sprocket, Pump |
| B | EC 1723 Sprocket, Shredder | J | EC 1770 Hub, SF 1 7/16" | R | EC 1816 Hub |
| C | EC 1741/7 Chain, Roller Shredder | K | EC 1981 Clutch | S | |
| D | EC 1775 Idler Arm Sprocket w/bearing & bolt | I | EC 1761 Sheave | T | EC 1757A Sheave |
| D1 | EC 1776 Spring, Tension | L | EC 1728A Bearing Cage | U | ECP 1745A |
| E | EC 1741/8 Chain Roller Main Agitator | M | EC 1710 Jackshaft | V | ECP 1746A |
| F | EC 1725 Sprocket, Main Agitator | N | EC 1808/24 Sprocket, Clutch | W | EC 1858/62 |
| G | EC 1721 Hub, SF 1 15/16" | O | EC1716S Bearing, Pillow Block | X | |
| H | EC 1743 Belt, Engine Drive | P | EC1708/10 Chain, Roller Pump | | |

Electrical System

Consists of basically two different systems:

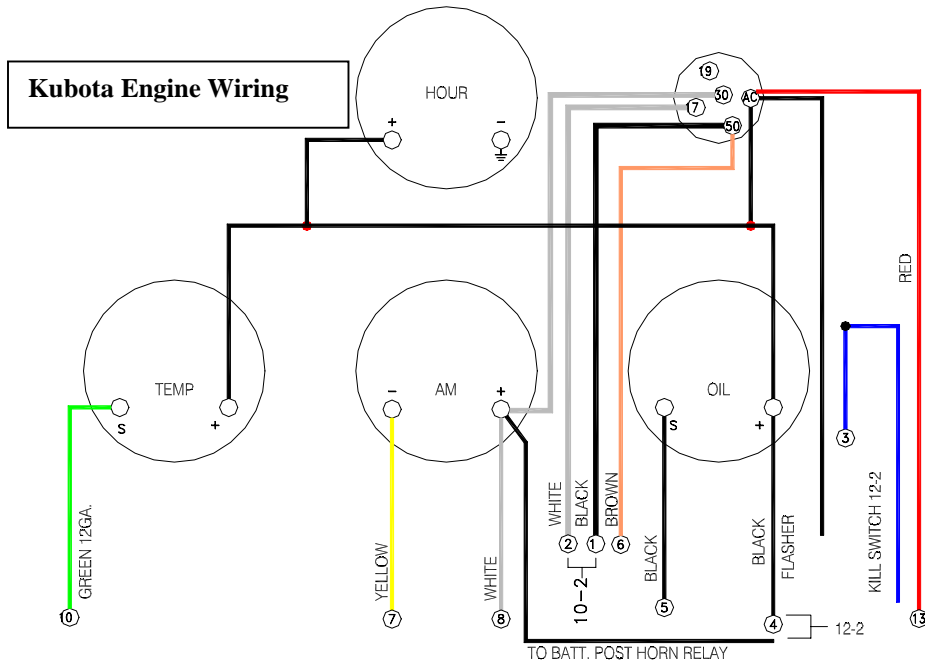
- 1.) Engine ignition and engine gauges. Wisconsin engine gauge panel wiring
- 2.) Kubota engine panel wiring
- 3.) Engine control panel gauges
- 4.) Trailer running lights



Wisconsin Engine Wiring

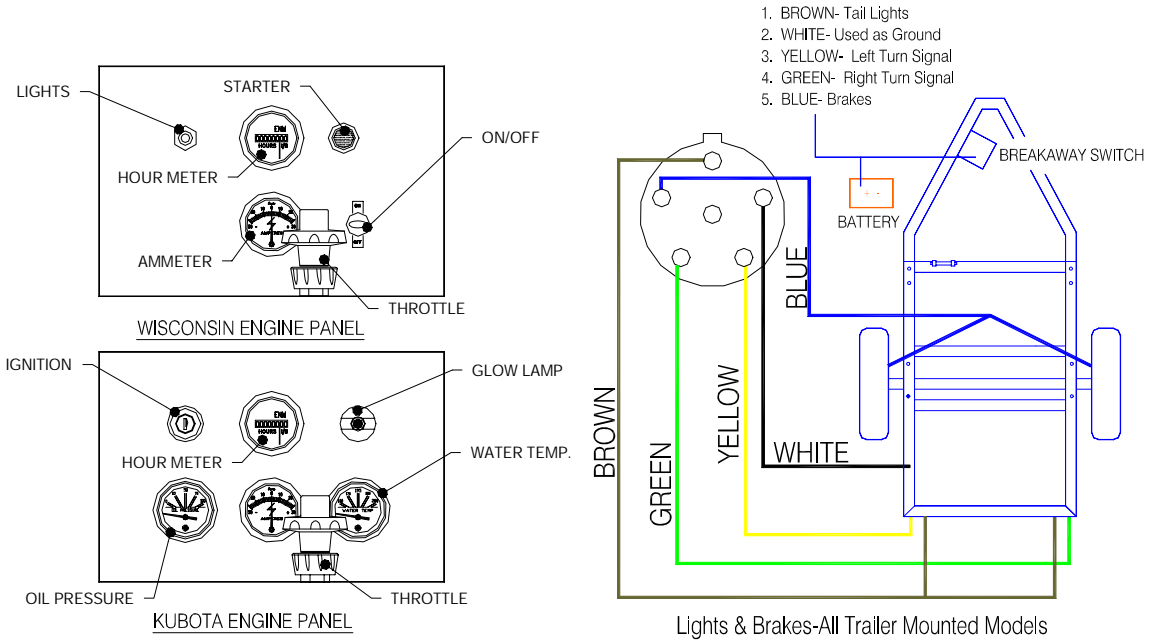
Note: KILL SWITCH CONNECTS BETWEEN WIRE FROM PUSH-PULL ON ENGINE TO '+' ON COIL

1. TO POST ON START BUTTON W/WIRE GOING TO STARTER
2. TO FLASHER
3. TO '+' SIDE OF AMP GAUGE ON ENGINE
4. TO 10 GA. WIRE GOING TO STARTER [BATTERY POST]
5. TO BATTERY POST ON HORN RELAY
6. TO POST ON PUSH/PULL WITH WIRE GOING TO COIL
7. TO POST ON PUSH/PULL
8. TO POST ON STARTER BUTTON



Kubota Engine Wiring

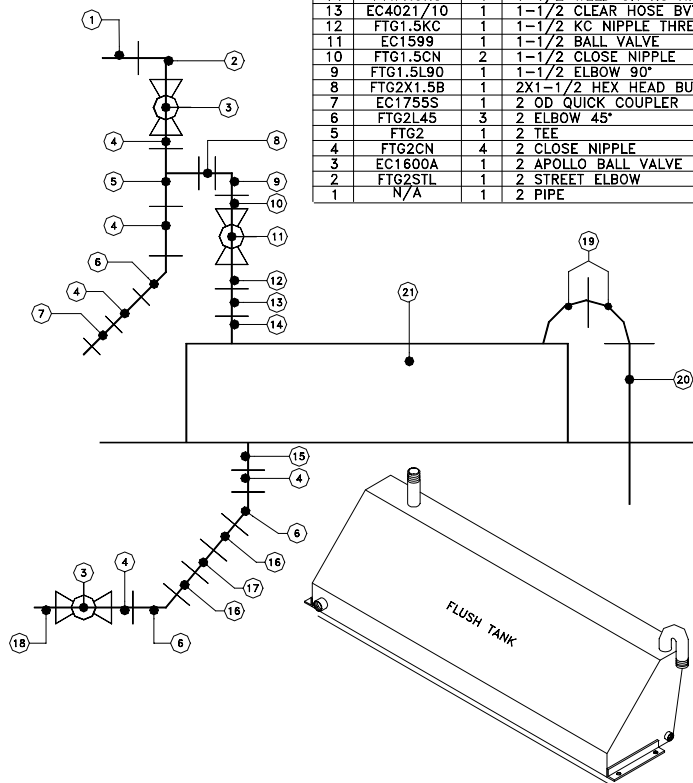
| ENGINE WIRING - KUBOTA V-1902 | | * 7 WIRE LOOM |
|-------------------------------|---|----------------|
| 1 | WIRE MARKED PULL (WHITE) ON INJECTOR PUMP | BLACK 10 GA |
| 2 | GLOW PLUGS | WHITE 10 GA |
| 3 | IGN. REGULATOR WIRE MARKED HOLD (RED) ON SOLONOID | BLUE * 14 GA |
| 4 | FLASHER | BLACK 12 GA |
| 5 | OIL | BLACK * 12 GA |
| 6 | STARTER | BROWN * 12 GA |
| 7 | ALTERNATOR | YELLOW * 12 GA |
| 8 | BATTER (ALT) | WHITE * 10 GA |
| 10 | TEMPERATURE | GREEN * 12 GA |
| 12 | KILL SWITCH | 12-2 |
| 13 | *IGN. ON ALTERNATOR | RED * 12 GA |



Flush Tank Option:

PARTS SHOWN

| REF NO | PART NO. | QTY | DESCRIPTION |
|--------|-----------|-----|--------------------------|
| 21 | EC4025T | 1 | FLUSH TANK |
| 20 | EC4014/26 | 1 | 1-1/2 CLEAR HOSE BVT-26" |
| 19 | N/A | 1 | 1-1/2 OVERFLOW ELLS |
| 18 | N/A | 1 | 2 SUMP NIPPLE |
| 17 | EC4022/28 | 1 | 2 WATER SUCTION HOSE-28" |
| 16 | FTG2KC | 2 | 2 KC NIPPLE THREADED |
| 15 | FTW2C | 1 | 2 WELD ON COLLAR |
| 14 | FTW1.5KC | 1 | 1-1/2 WELD ON KC NIPPLE |
| 13 | EC4021/10 | 1 | 1-1/2 CLEAR HOSE BVT-10" |
| 12 | FTG1.5KC | 1 | 1-1/2 KC NIPPLE THREADED |
| 11 | EC1599 | 1 | 1-1/2 BALL VALVE |
| 10 | FTG1.5CN | 2 | 1-1/2 CLOSE NIPPLE |
| 9 | FTG1.5L90 | 1 | 1-1/2 ELBOW 90° |
| 8 | FTG2X1.5B | 1 | 2X1-1/2 HEX HEAD BUSHING |
| 7 | EC1755S | 1 | 2 OD QUICK COUPLER |
| 6 | FTG2L45 | 3 | 2 ELBOW 45° |
| 5 | FTG2 | 1 | 2 TEE |
| 4 | FTG2CN | 4 | 2 CLOSE NIPPLE |
| 3 | EC1600A | 1 | 2 APOLLO BALL VALVE |
| 2 | FTG2STL | 1 | 2 STREET ELBOW |
| 1 | N/A | 1 | 2 PIPE |



Options

These are standard options that are available [] .

| Option | 800 Model | 1100 Model |
|----------------------------------|-------------------------------------|--|
| Wisconsin W-4 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Kubota 1902 diesel, water cooled | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Bowie Pump | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Centrifugal Pump | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Skid | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Bumper pull | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Gooseneck | | <input checked="" type="checkbox"/> |
| Hose Reel | manual electric power | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |
| Flush System | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Limited Warranty

Contact your **Bowie Hydro-Mulcher®** sales representative for more information.

To effect warranty the warranty registration card must be filled out and returned **Bowie Industries, Inc.** within thirty days of purchase. No warranty is in effect without this card being returned to **Bowie Industries, Inc.**

New equipment warranty applies to original purchasers for a period of twelve months from date of purchase. Such equipment is warranted free from defects in materials and workmanship. Warranty does not extend to any equipment that had been damaged in accident or shipment, misuse, abuse, or modified by anyone other than **Bowie Industries, Inc.**

Your sole remedies under this warranty is limited to repairing or replacement of any part that is returned to **Bowie Industries, Inc.** or to a **Bowie Industries, Inc.** authorized dealer, freight prepaid. Returns for warranty needs to be accompanied with a return authorization number. Such repair or replacement to be made provided that defect is covered by warranty as determined by **Bowie Industries, Inc.**

Warranty exclusions: (1) normal maintenance and/or adjustments, (2) altered equipment, (3) engines, engine clutches, batteries, tires or other accessories that are subject to respective manufacturers warranties.

Except as expressly set forth above, no other warranties, either expressed or implied, are made with respect said equipment. **Bowie Industries, Inc.** expressly disclaims all warranties not stated herein. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Bowie Industries, Inc. reserves the right to make changes in design and specifications without notice.

| | TROUBLE | PROBABLE CAUSE | CHECKOUT PROCEDURE REMEDIAL ACTION |
|---------------------------------|---|--|---|
| ENGINE | 1. Engine will not crank | low battery faulty ignition switch faulty starter switch faulty starter solenoid faulty starter motor | check battery-charge or replace check and replace if needed check and replace if needed check and replace if needed check and replace if needed |
| | 2. Engine Cranks but won't start | improper throttle or choke settings no fuel to engine no spark to engine | adjust settings per engine starting instructions check fuel supply-clogged fuel filter or line, flush or replace check for fouled spark plugs-clean, reset gap or replace check distributor wires to plugs-repair or replace faulty wires |
| | 3. Engine runs rough or cuts out intermittently after warm up | fuel supply dirty or faulty carburetor dirty air cleaner faulty spark plug or plug wires intermittent short in ignition wiring faulty engine valve or cylinder ring | clogged filter or lines-replace or flush as needed clean and/or adjust or replace clean or replace element check plugs- clean, reset gap or replace; faulty wires replace perform continuity check of wiring-repair or replace defects see manufacturers engine manual |
| | 4. Battery will not maintain a charge | dead cell or short across cells faulty alternator or voltage regulator | check and replace if needed check and replace if needed |
| NOZZLE /GUN ASSEMBLY | 1. Mulch lacking volume or Velocity (range) | Tank contents low Obstruction in plumbing Slipping engine drive belt Slipping pump clutch Sheared pump drive key | fill tank check plumbing from nozzle to tank adjust belt tension adjust clutch replace key |
| | 2. Stiff assembly rotation | dragging swivel assembly damaged swivel bearings | lubricate bearings install swivel repair kit |
| AGITATOR OR SHREDDER | 1. Agitator and shredder will not start | control lever linkage broken chain sheared sprocket drive key | adjust linkage replace damaged or broken component replace drive key |
| | 2. Slow rotation | control lever linkage low engine speed clutch slipping | adjust linkage Increase engine rpm install clutch repair kit |
| | 3. Noisy | foreign object in tank loose chain loose support bearings loose agitator or shredder drive key | Stop engine, perform lock-out, inspect tank faulty idler sprocket bearing or spring stretched chain; remove one half or full link repair or replace replace |
| TANK ASSEMBLY | 1. Leaking around agitator or shredder shaft bearings | dry or loose packing | lubricate packing daily with water pump grease if leaks persist after lubrication then tighten packing glands |
| | 2. Slurry not homogeneous | not enough water | see section 3.3 add water until tank is full, continue agitation until slurry is homogeneous |
| CLOGGED OR BLOCKED LINES | 1. No material spraying | nozzle valving for slurry sump inside tank pump inlet | remove and flush remove debris and flush remove debris and flush remove debris and flush |

Parts Stock Numbers

| DESCRIPTION | | QTY | PART NO. | DESCRIPTION | | QTY | PART NO. |
|------------------|---------------------------------|-----|------------|----------------------|------------------------------|-----|------------|
| AGITATOR | Hub, Sprocket 1-15/16 SF | 1 | EC 1721 | ENGINE | Hub, Sheave 1-3/16" SD Hub | 1 | EC 1810S |
| | Sprocket, Main Agitator 60SF80 | 1 | EC 1725 | | Sheave, Engine 4B4.2 | 1 | EC 1811 |
| | Chain, Roller 7' Upper Agitator | 1 | EC 1741/7 | IDLER | Idler Arm | 2 | EC 1771 |
| | Chain, Roller 8' Lower Agitator | 1 | EC 1741/8 | | Idler Bracket [Pedestal] | 2 | EC 1773 |
| BELTS | Belts, Engine Drive 4B80 | 1 | EC 1743 | | Sprocket/Bearing/Bolt | 2 | EC 1775 |
| CLUTCH | Locking Collar | 1 | EC 1706S | | Spring, Tension | 2 | EC 1776 |
| | Bearing , P Block SKFSY107 | 2 | EC 1716S | MISC | Spanner Wrench | 1 | EC 1017 |
| | Bearing Cage | 1 | EC 1728A | | 1/4 Clevis Hook | 2 | EC 1024 |
| | Bearing, Fafnir 1107KRR | 2 | EC 1728B | | Chain, 1/4 High Test Safety | 6' | EC 1025 |
| | Sheave, Engine Drive 4B12.4 | 1 | EC 1761 | | Bracket, License Tag | 1 | EC 1026 |
| | Sprocket DS60B14 1-7/16 Bore | 2 | EC 1768 | | 2-5/16 Ball Hitch Assembly | 1 | EC 1830 |
| | Hub, Sheave SF 1-7/16" | 1 | EC 1770 | | Pintle Hitch (Optional) | 1 | EC 1830P |
| | Spacer | 1 | EC 1808A | | Grip, Small Handle | 2 | EC 1995 |
| | Sprocket, Clutch 60A24 | 1 | EC 1808/24 | PACKING GLAND | Ring, Lantern | 4 | EC 1701 |
| | Clutch, Formsprague | 1 | EC 1981 | | Bearing, Flange SKF FY115 | 2 | EC 1704 |
| DISCHARGE | Nozzle Set (Set of four) | 1 | EC 1016 | | Washer, 1/2 Copper | 16 | EC 1705 |
| | Swivel | 1 | EC 1718-1S | | Nut, Packing Gland LH | 2 | EC 1719A |
| | Gasket | 1 | EC 1754S | | Nut, Packing Gland RH | 2 | EC 1719B |
| | Quick Coupler | 1 | EC 1755S | | Packing, Rubber | 12 | EC 1731 |
| | Dust Plug | 1 | EC 1756S | PUMP | | | |
| ELECTRIC | Battery, Terminal End | 2 | EC 1007 | <i>Bowie Pump</i> | | | |
| | Battery, Copper Terminal End | 2 | EC 1008 | | Sprocket, Pump 60SF60 | 1 | EC 1815/60 |
| | Battery, Hold Down Bolt | 2 | EC 1009 | | Bearing, Pillow Block 1-1/8" | 1 | EC 1815/PB |
| | Light, Clearance | 2 | EC 1835 | | Chain, Roller 10' | 1 | EC 1741/10 |
| | Light, Reflector | 8 | EC 1836 | <i>Deming Pump</i> | | | |
| | Light, Comb. Stop/Tail | 2 | EC 1839 | | Sheave | 1 | EC 1757A |
| | Switch, Breakaway Safety | 1 | EC 1993 | | Belt | 1 | EC 1858/62 |

When ordering parts please have your:

Model # _____

Serial # _____

handy for the parts man to effectively help you. Thank you!

Your Parts Man