

BOWIE

HYDRO-MULCHER



Operators Manual

Bowie Victor 1500/3000

Serial No.: _____



Table of Contents

Getting Started

Unpacking
Getting Started
Major Operation Parts
Quick Start

3

Seeding, Sprigging & Mulching Tips

Seeding and Sprigging
Mulching
Finishing Up

5

Safe and Profitable Operation

6

Taking Care of Your Investment

Maintenance/Inspection Schedule

7

Tank Materials Graph

8

Parts and Repairs

Agitator/Shredder
Packing Gland Assembly
Idler Arm Assembly
Balanced Discharge Gun and Nozzles
Plumbing
Jackshaft Assemblies
Electrical
Flush Tank

9

Bowie Industries, Inc. wishes to thank you for your purchase of the **Imperial Bowie Hydro-Mulcher®**. It has been manufactured after many years of research and development. We are confident that your **Imperial 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 **Imperial 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 **Imperial 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.bowieindustries.com

Troubleshooting Warranty

14

Warranty

Parts List

16

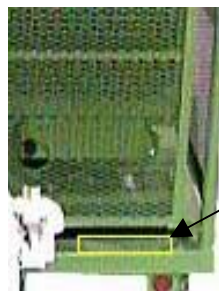
Addendum

Warranty Registration

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

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

These numbers are located on your machine in the following places:
On upper right rear of tank/Serial Number, MO Number



MO
Number

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

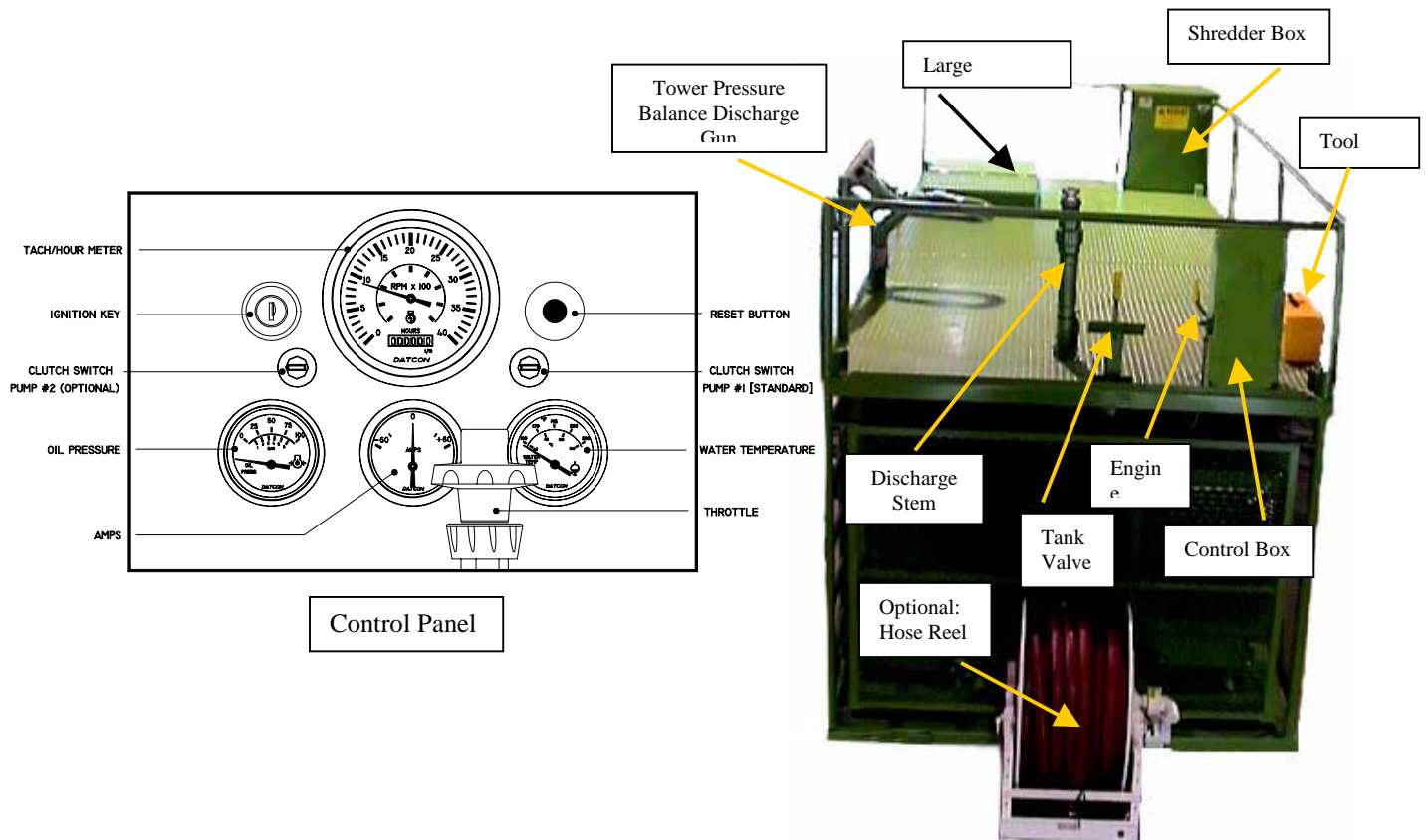
Unpacking

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



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!

FOR J. DEERE ENGINES

- 1) When starting always be sure that the engine clutch and the pump clutch are disengaged
- 2) Pull hand throttle 2 of the way out. Turn the handle in either direction to lock it in place.
- 3) Depress and hold reset button while starting
- 4) Turn the key switch clockwise to crank the engine. When the engine starts, release the key so that it returns to the "ON" position.
- 5) After engine starts, continue to hold the reset button in until the oil pressure gauge reads at least 15 psi. The safety controls will not allow the engine to run at a lesser oil pressure unless the reset button is held in.



⇒ 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.

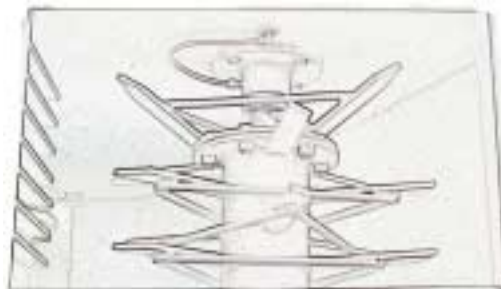
- 2.) add mulch (a minimum of one block or bag)
(wood cellulose fiber or paper based mulch mixing to suspend other materials.)
- 3.) add grass seeds and fertilizer while adding more water.

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.

<i>Bowie</i> <i>Hydro-Mulcher</i> Machine Size	Load Rate lb./kg	1500 lb./kg acre	1800 lb./kg acre	2000 lb./kg acre
1500 Imperial Wood Fiber Mulch Paper Fiber Mulch	750/240 900/408	21780/9879 25624/11623	18150/8233 21780/9879	16133/7318 19800/8981
3000 Imperial Wood Fiber Mulch Paper Fiber Mulch	1500/680 1800/816	43560/19758 52482/23805	36300/16465 43482/19723	33508/15199 39600/17962

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.

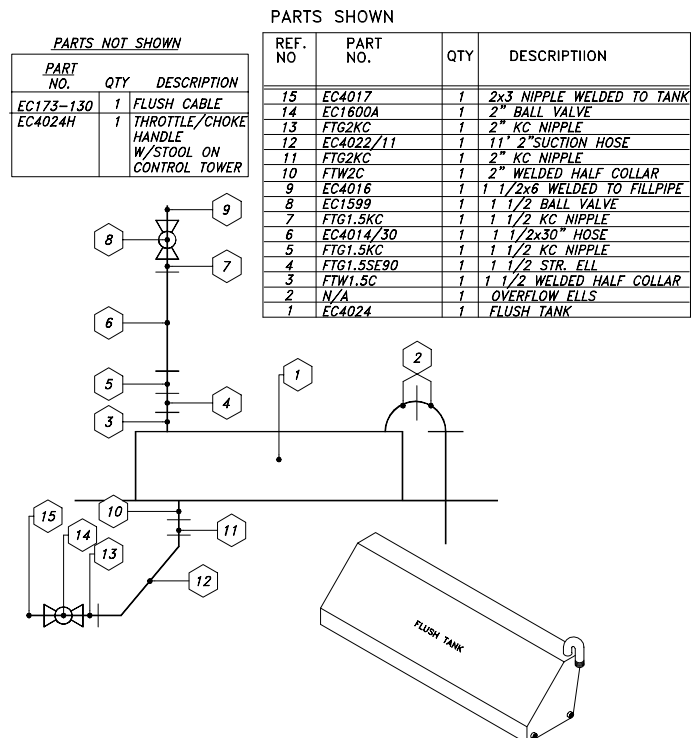
The rate of application varies according to the soil conditions, job specifications, and the type of delivery (i.e. deck or hose application, surface or sub-surface application).

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.



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. Always make sure that safety lights are in proper working order.
11. Maximum speed when empty is 55 mph. Reduce speed when loaded



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

	<u>1500 Imperial</u>	<u>3000 Imperial</u>
Engine:	4039D J. Deere	4039T J. Deere
Empty Wt:	7070 lbs. [3207 kg]	8820 lbs. [4001 kg]
Width:	8'-1" [247cm]	8'-2" [249cm]
Length:	15'-7" [475cm]	18'-6" [564cm]
Height:	7'-3" [221cm]	8'-7" [262cm]
Gross Capacity	1705 US gal [6454l]	3050 US gal [11545.5l]
Agitator Blades:	12	18

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/ Semi- Annual
Controls	Belt and Chain	Tension Damage	●	●	●
	Cable Linkage	check adjust	●	●	●
Engine (as specified in engine mfg. Manual *) See Fig. 1.0 for locations	Air Filter/Cleaner	Check Change	●	●	
	Battery and Connections			●	
	Engine Coolant	Check Change	●	●	
	Engine Oil	Check Change	●	●	
	Fuel Check		●		
	Fuel Filter	Drain Water change	●	●	
	Other	Chassis	(inspect)		
	Grease All Fittings		●		
	Tank	inspect (clean/free of foreign objects) deterioration/damage	●	●	

* 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.

Clean entire machine before storage. Clean inside of tank and drain. Scraped, scratched and bare metal surfaces repaint (Bowie green *Sherwin-Williams* #F75GT5, Tile Clad Safety Red Epoxy *Sherwin-Williams* #B62R38, Tile Clad Epoxy Hardener *Sherwin-Williams* #B60V70)

On 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 half way

Add *Sta-Bil* fuel stabilizer to fuel tank (prevents fuel deterioration, makes starting easier). Run engine for 15 minutes.

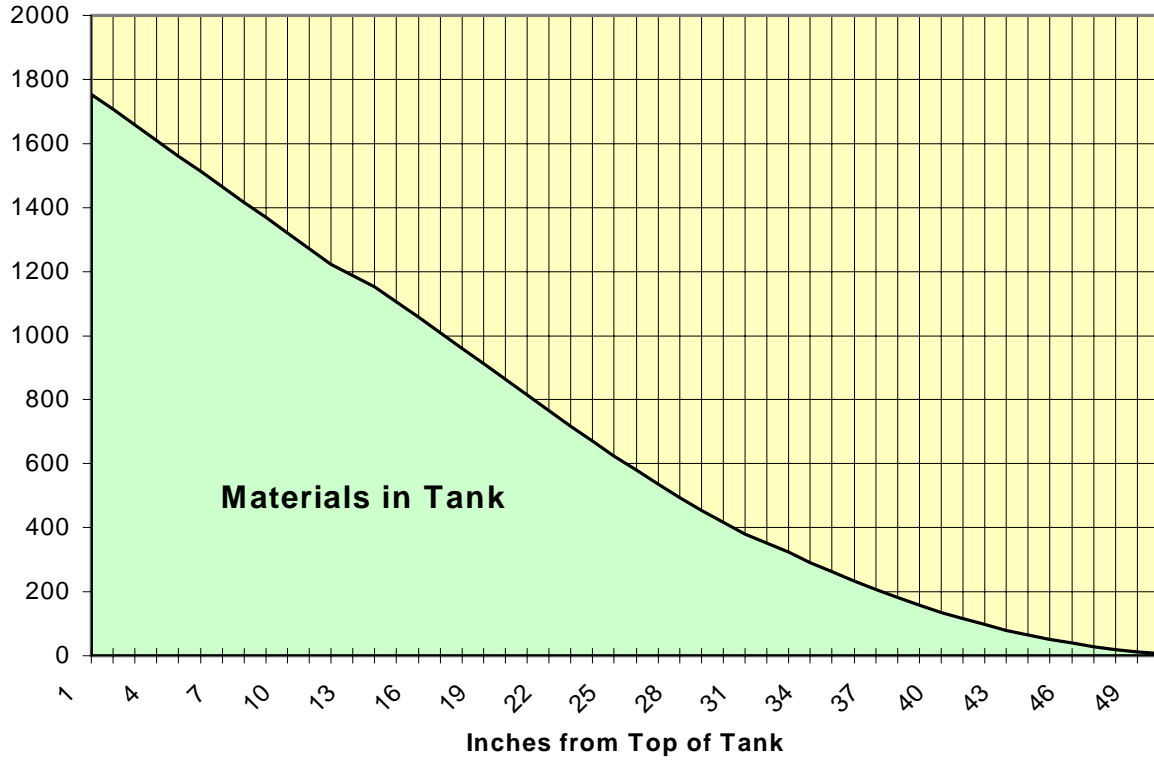
Water cooled engines be sure radiator has proper amount of anti-freeze.

Remove battery and store indoors.

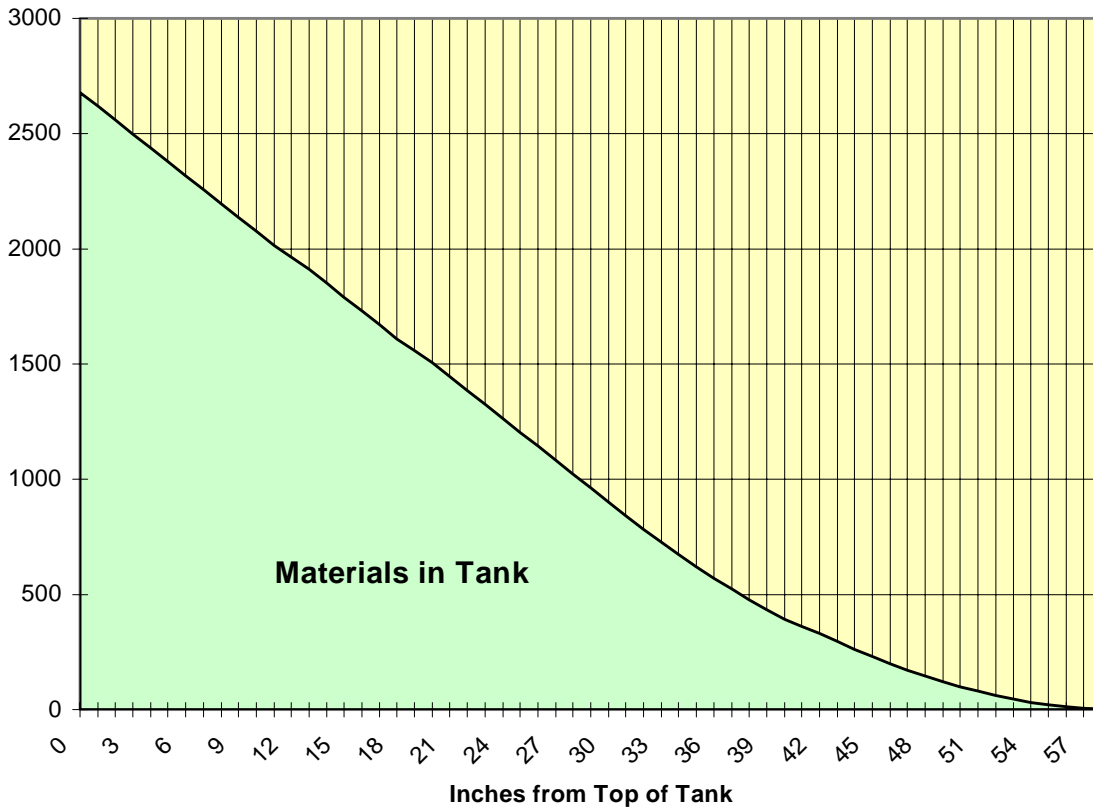
Drain filter on filter-regulator of Horton Air Clutch (1500, 2500, 3000 Models)

Grease all fittings, spray *Chemsearch Lubrease* or equivalent (which penetrates and protects from corrosion) on all roller chain.

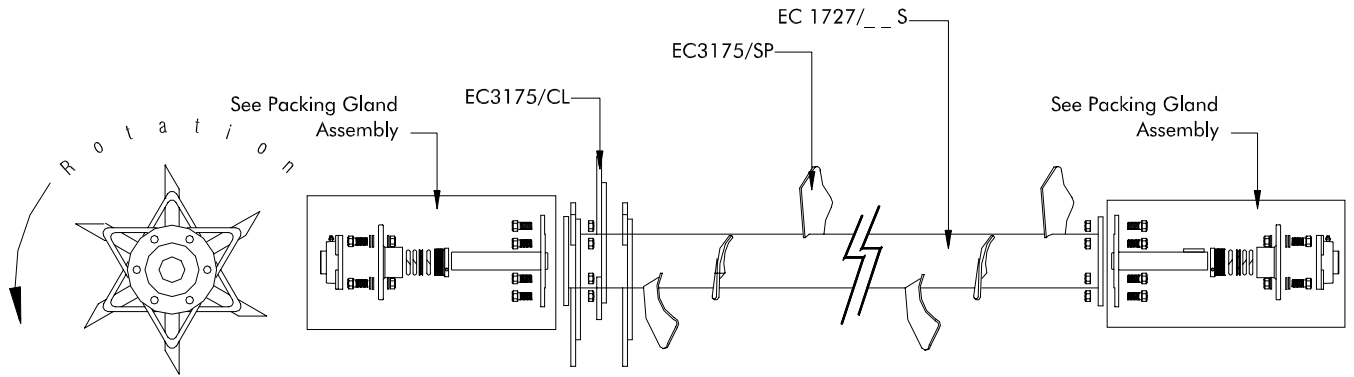
1500 Gallon Imperial



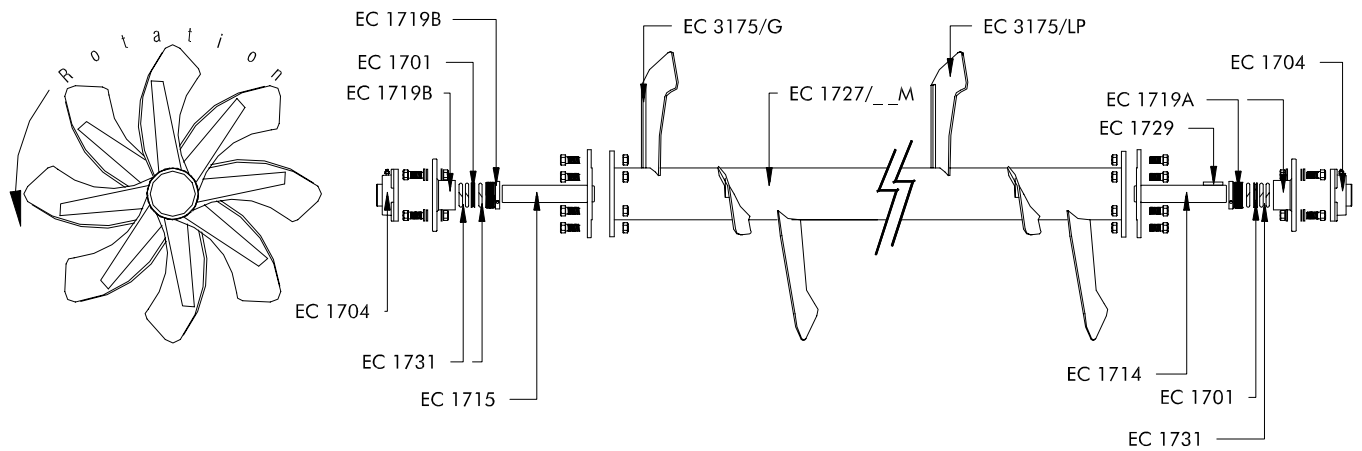
3000 Gallon Imperial



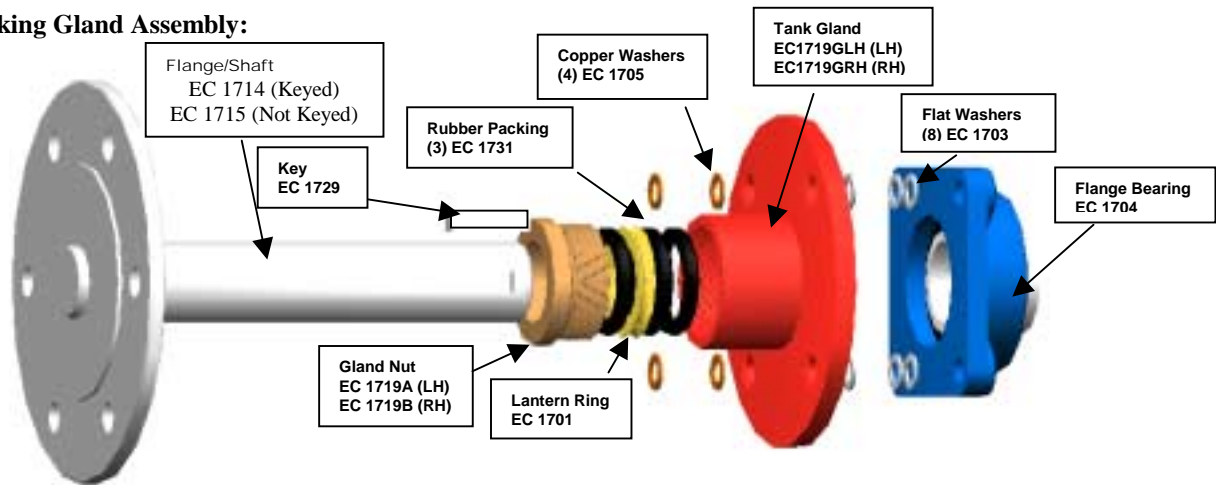
Shredder/Agitator:



Agitator:



Packing Gland Assembly:



Drive System

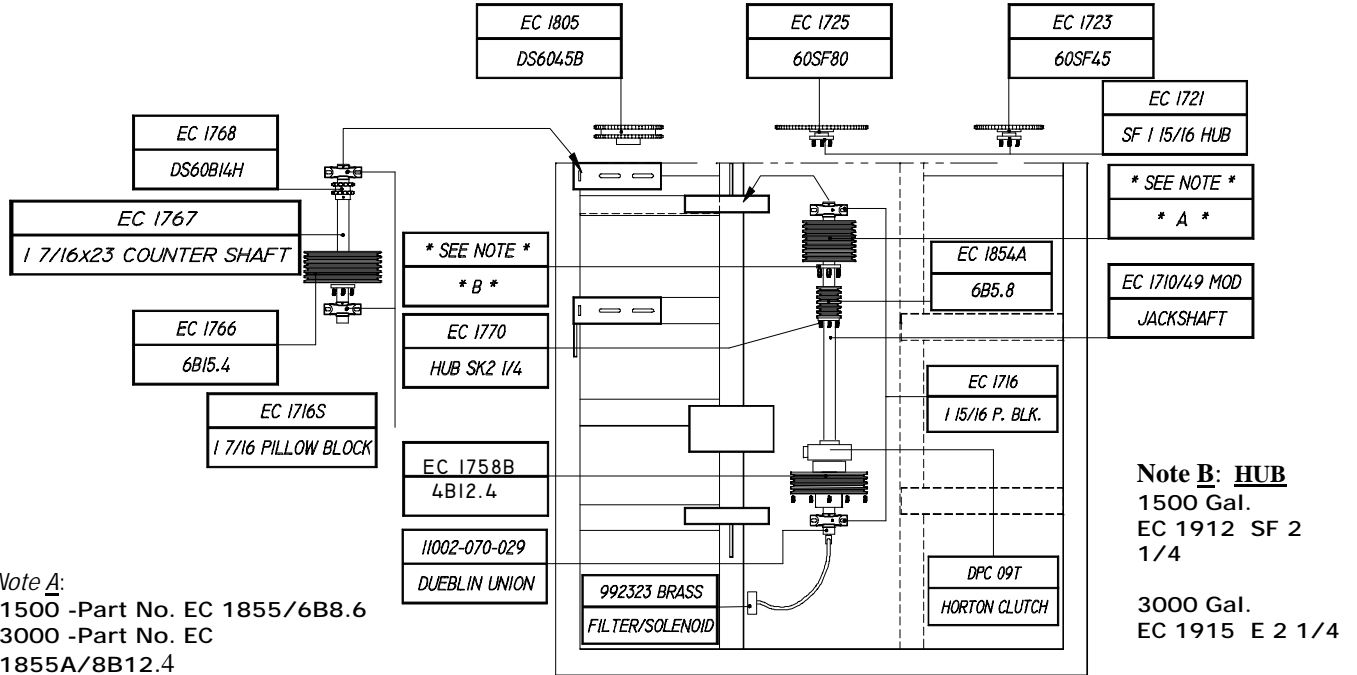
Chain Drives:

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

***Optional hydraulic drive is available**



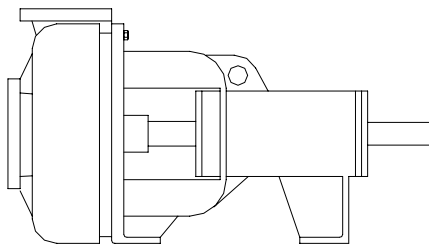
Note A:
 1500 -Part No. EC 1855/6B8.6
 3000 -Part No. EC 1855A/8B12.4

Engine Sheave Not Shown

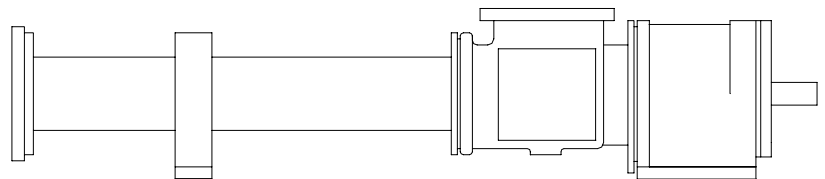
1500 -Part No EC 1911/6B7.4
 3000 -Part No FC 1914/8B11.0

Pump

The pump may either be a 4" x 3" centrifugal pump or optional Moyno pump, controlled by pump clutch



CENTRIFUGAL TYPE PUMP



MOYNO TYPE PUMP

See manufacturers manual

HORTON "Air Champ"® Installation, Operation, & Maintenance Instructions.

** NOTE **

HYDRO-MULCHER

SHEAVE

HUB

1500 GAL.

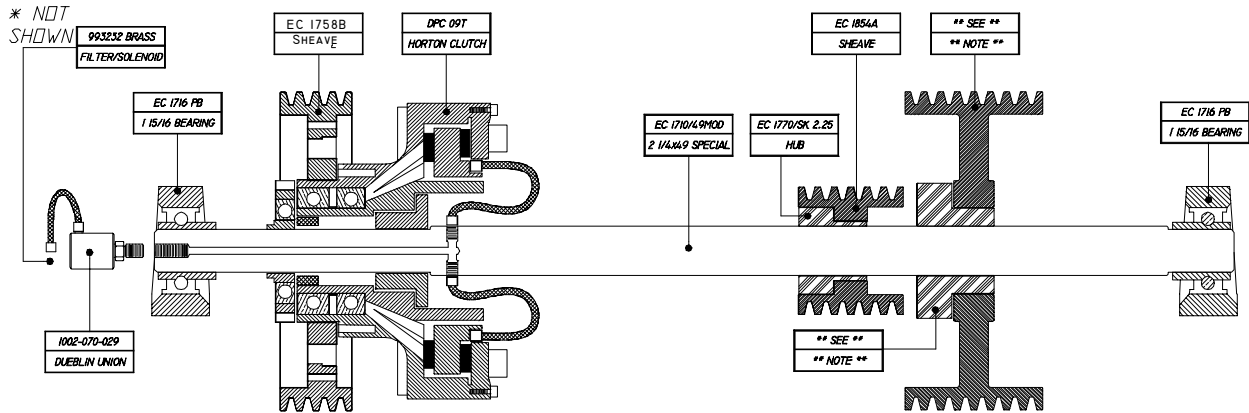
EC 1855 6B8.6

EC 1912 SF 2 1/4

2500/3000 GAL.

EC 1855A 8B12.4

EC 1915 E 2 1/4



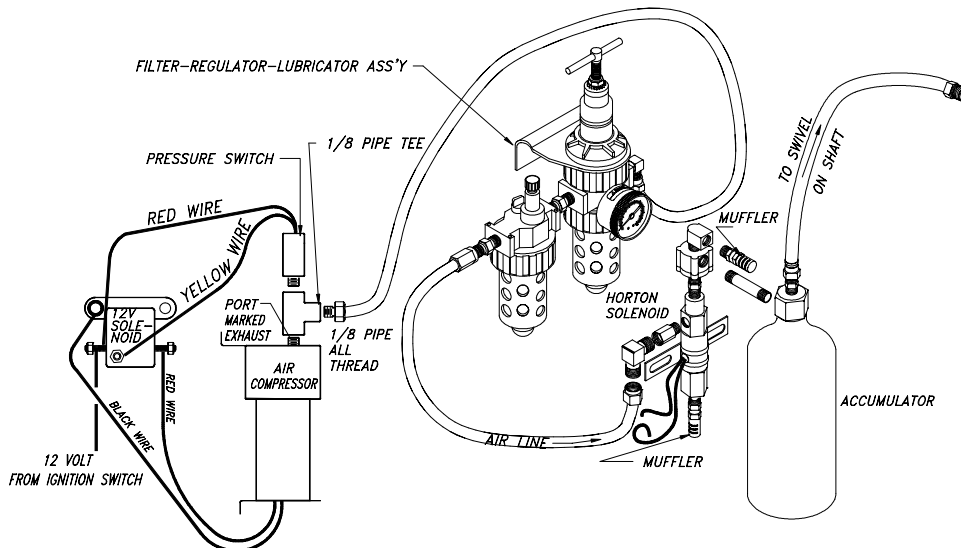
PARTS NOTES:

QTY	DESCRIPTION
1	(* OPTION) 315 CDC 50/12 -K55A AIR COMPRESSOR-12 VOLT TI COMP/VAC
1	1.J 57420A FILTER LUBRICATOR
2	2.J TOGGLE SWITCH (DOUBLE POLE-DOUBLE THROW- 12V/35 AMP
1	3.J 3200x4x2 BRASS ADAPTER FITTING
2	4.J DOUBLE POLE TOGGLE SWITCH
1	5.J WH1468x6 BRASS FITTING 3/8-1/4 MALE BRAKE CONN.
1	6.J WH1469x6 BRASS FITTING 3/8-1/4 90° AIR BRAKE ELL

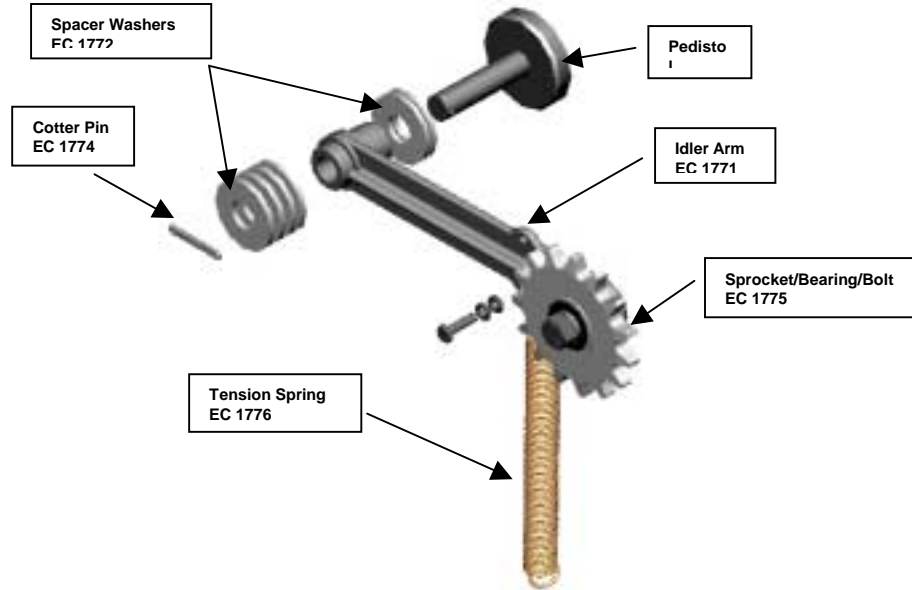
Jackshaft Assembly

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.

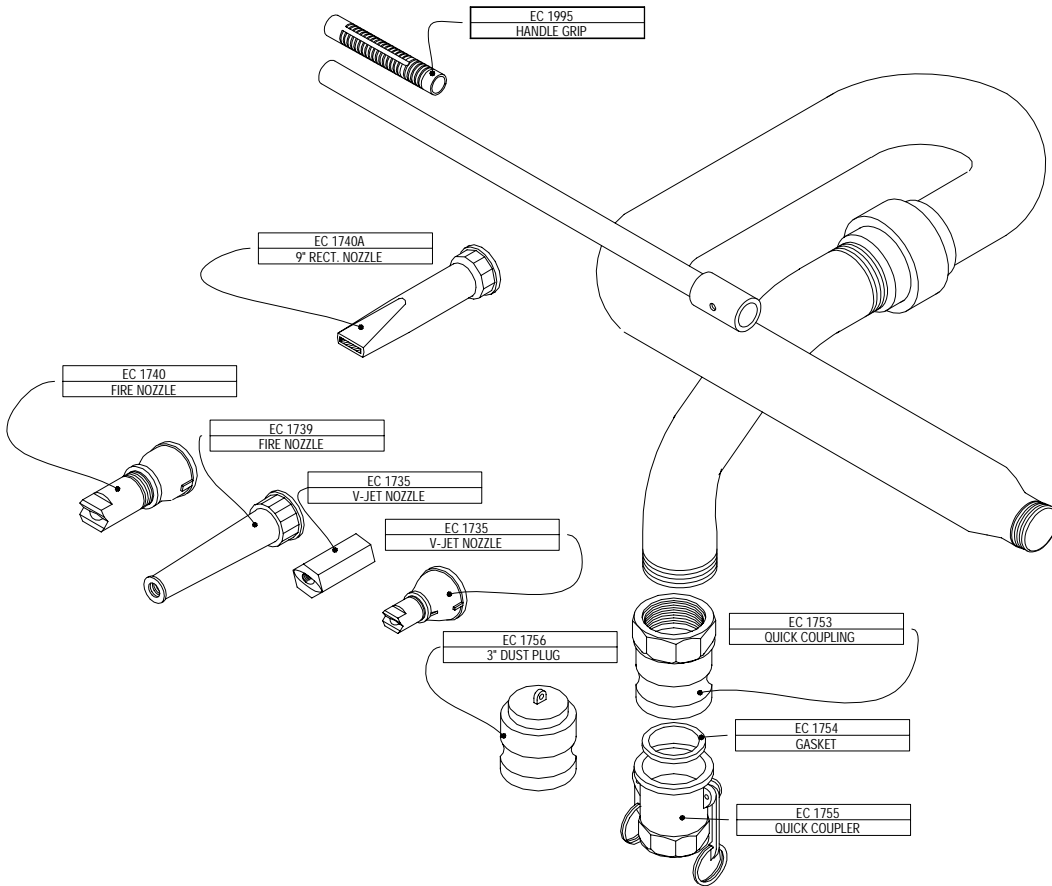


Idler Arm Assembly:



Discharge and Swivel Assembly

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 # EC1806/3"). We recommend that at least one such kit be readily available

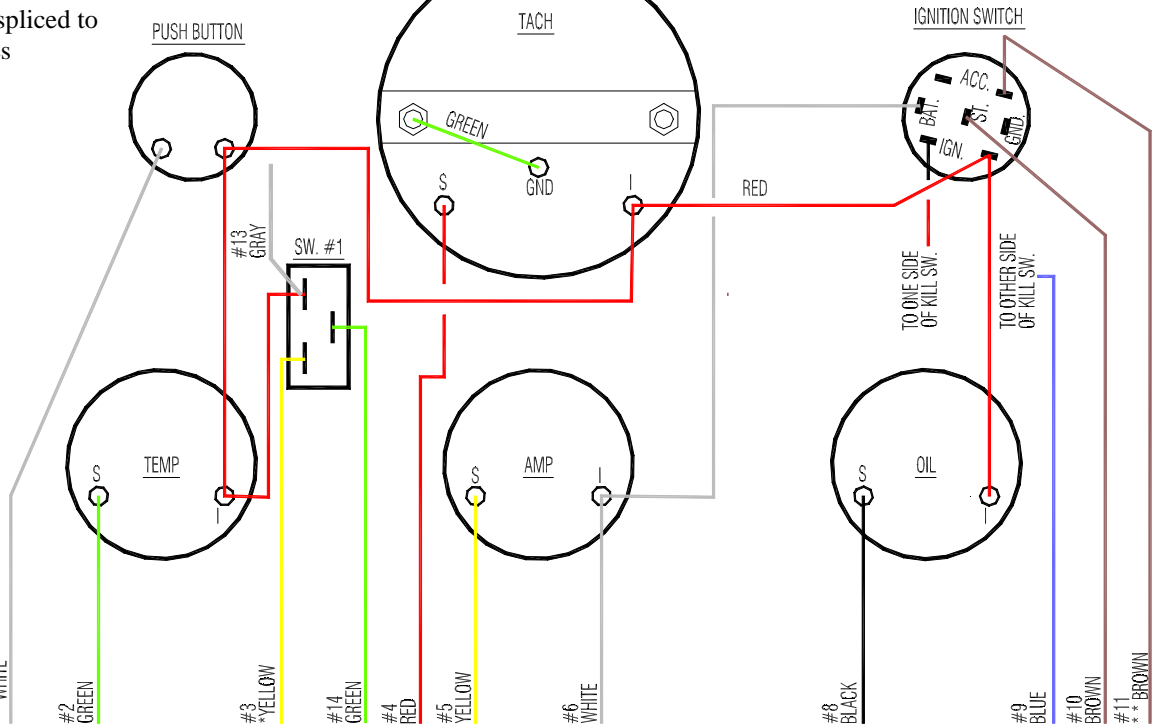


J. DEERE WIRING DIAGRAM

SINGLE PUMP

Notes: ** wires spliced to white-black wires

- #1 to Hobbs switch on engine
- #2 to temperature sending unit
- #3 to Horton solenoid
- #4 to tach wire on alternator
- #5 to battery post on alternator
- #6 to battery post on starter
- #7 to Horton solenoid [Monyo pump only]
- #8 to oil pressure sending unit
- #9 to one side of kill switch
- #10 to starter post on starter
- #11 to exciter plug on alternator
- #12 to battery post on horn relay
- #13 to top post on lower switch [Deming pump]
- #14 to center post on lower switch [Deming pump]

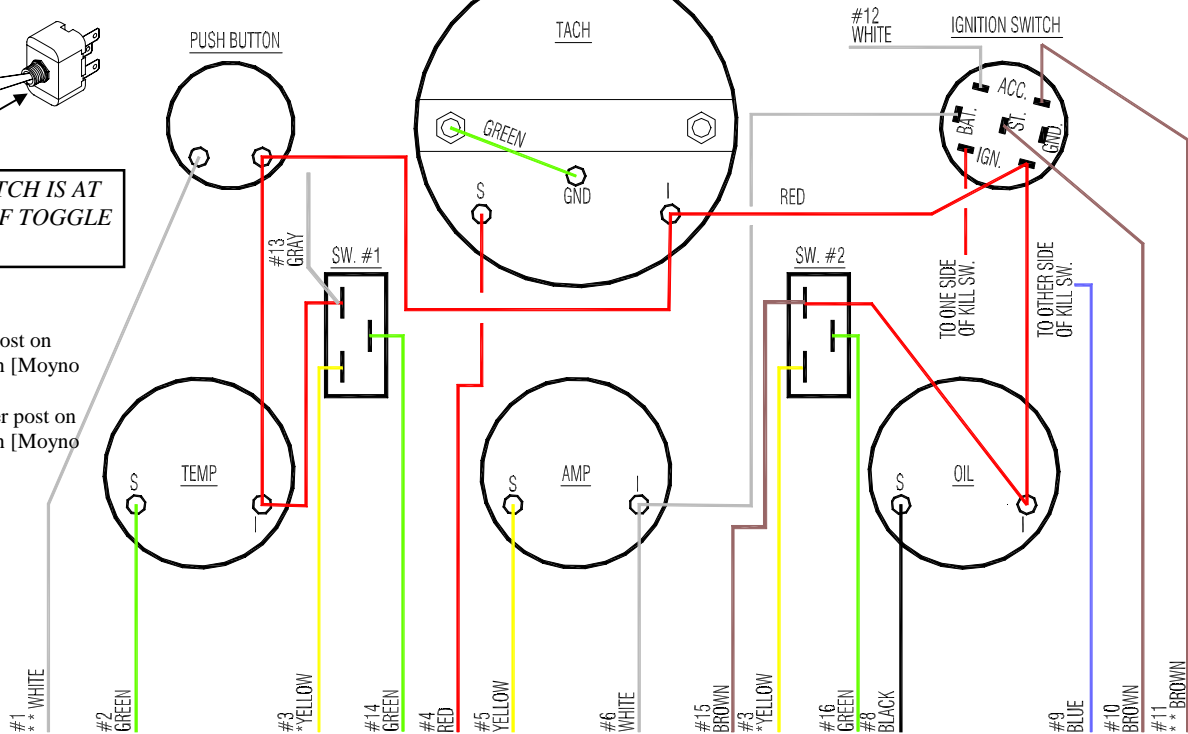


DUAL PUMPS

Switch #1 to Deming pump
Switch #2 to Moyno pump

NOTE: NOTCH IS AT BOTTOM OF TOGGLE SWITCH

- #15 to top post on lower switch [Moyno pump]
- #16 to center post on lower switch [Moyno pump]



Options

These are standard options that are available:

*Moyno Pump - Loading Elevator - Fender Wells - Flush System
Recirculation System - Hydraulic Drive System - Custom Colors
Hose Reel, Manual or Electric Powered*

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

TROUBLE	PROBABLE CAUSE	CHECKOUT PROCEDURE REMEDIAL ACTION
ENGINE		
1. Engine hard to start or will not start	air in fuel line clogged fuel filter cold weather crankcase oil too heavy dirty or faulty injection nozzles improper starting procedure improper type of fuel injection pump shut-off not reset low battery no fuel remote control kill switch water, dirt, or air in fuel system	bleed fuel line replace filter element use cold weather starting aids use oil of proper viscosity have authorized dealer or engine distributor check review starting procedure consult fuel supplier; use proper type fuel injectors turn key switch to "OFF" then to "ON" deactivate check battery-charge or replace check fuel tank remote control kill switch protection drain, flush, fill and bleed system
2. Engine knocks	engine overheating injection pump out of time insufficient oil low coolant temperature	remove and check thermostat See manufacturers service manual see your authorized servicing dealer or engine distributor add oil
3. Engine runs rough or cuts out intermittently	clogged fuel filter dirty or faulty injection nozzles low coolant temperature water, dirt, or air in fuel system	replace filter element have authorized dealer/engine distributor check injectors remove and check thermostat drain, flush, fill, and bleed system
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
5. Engine problems not listed	See manufacturers service manual	See manufacturers service manual

TROUBLE	PROBABLE CAUSE	CHECKOUT PROCEDURE REMEDIAL ACTION
NOZZLE/ GUN ASSEMBLY		
1. Mulch lacking volume, velocity or range	Obstruction in plumbing Sheared pump drive key Slipping engine drive belt Slipping pump clutch Tank contents low	Check plumbing from nozzle to tank Replace key Adjust belt tension Adjust clutch Fill tank
2. Stiff assembly rotation	Damaged swivel bearings Dragging swivel assembly	Install swivel repair kit Lubricate bearings
AGITATOR or SHREDDER ASSEMBLY		
1. Agitator and Shredder will not start	Broken chain Control lever linkage Sheared drive sprocket key	Replace damaged or broken part Adjust linkage Replace drive key
2. Slow rotation	Clutch slipping Control lever linkage Low engine speed	Install clutch repair kit Adjust linkage Increase engine RPM
3. Noisy	Foreign object in tank Loose agitator or shredder drive key Loose chain Loose support bearings	Stop engine, perform lock-out, inspect tank Replace key Stretched chain; remove one half or full link Repair or replace
TANK ASSEMBLY		
1. Leaks around agitator or shredder bearings	Dry or loose packing	Lubricate daily with water pump grease
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 Pump inlet Sump inside tank Valving for slurry	Remove and flush Remove debris and flush Remove debris and flush Remove debris and flush

General Location	Part Number	Qty	Description	
AGITATOR	EC 1721	2	HUB, SPROCKET 1 15/16 SF	
	EC 1723	1	SPROCKET, SHREDDER 60SF45	
	EC 1725	1	SPROCKET, MAIN AGITATOR 60SF80	
	EC 1805	1	SPROCKET, SHREDDER DS60B45	
BELTS	EC 1857	2	BELTS, JACKSHAFT 3B70	
	EC 1858/100 *	1	BELT, ENGINE DRIVE [1500 IMPERIAL]	
	EC 1858/112 **	1	BELT, ENGINE DRIVE [2500-3000 IMP.]	
CLUTCH		1	HUB, E 2 1/4 [POST 7/95 MODELS]	
	EC 1707	2	BEARING, BALL FAFNIR 1115KRR	
	EC 1710	1	JACKSHAFT, 2 1/4x 49 MOD	
	EC 1716	2	BEARING, PILLOW BLOCK SKF SY115	
	EC 1758B	1	SHEAVE, 4B12.4	
	EC 1758	1	SHEAVE, MTO 12.4DDx4 B	
	EC 1851B	1	HUB, SK 1 15/16	
	EC 1854A	1	SHEAVE, 6B5.8	
	EC 1855 *	1	SHEAVE, COUNTER DRIVE 6B8.6 [1500	
	EC 1855A **	1	SHEAVE, 8B12.4 [2500-3000 IMP]	
	EC 1855B	1	HUB, E 1 15/16 [PRE 7/95 MODELS]	
	EC 1912	1	HUB, SF 2 1/4	
	EC 1912*	1	HUB, SF 2 1/4 (1500)	
	EC 1915	1	HUB, E 2 1/4	
	** USED ON MODELS **	DPC 09T	1	HORTON CLUTCH ASSEMBLY
	MANUFACTURED AFTER	#993232	1	BRASS FILTER SOLENOID
	3/96	11002-070-029	1	DUEBLIN UNION
	DISCHARGE	EC1016	1	NOZZLE SET (SET OF 4)
		EC 1718-1	1	3" SWIVEL ASSEMBLY
EC 1753		1	ADP., QUICK COUPLER (30A)	
EC 1755		2	COUPLING, QUICK (30)D	
ELECTRICAL	EC1006	1	HORN	
	EC1007	2	BATTERY TERMINAL END	
	EC1008	2	BATTERY TERMINAL END, COPPER	
	EC 1785	2	LIGHT, FLASHING	
	EC 1793	1	SWITCH, FOOT TAPE	
	EC 1987	1	TOGGLE SWITCH	
	EC 1990A	1	STARTER BUTTON W/P	
	EC 1991	1	HORN RELAY	
	EC 1996	1	PIGTAIL FOR FLASHER	
	EC 1997	1	FLASHER	
	HC-12	1	73415 CLUTCH ENGAGEMENT LIGHT	
	ENGINE	EC 1856	1	HUB & KEY 2 1/4
EC 1911 *		1	SHEAVE, ENGINE 6B7.4 [1500 IMPERIAL]	
EC 1914 **		1	SHEAVE, ENGINE 8B11.0	
EC 1915		2	HUB, ENGINE SHEAVE SF 2 1/4	
FUEL TANK	BFTG F 1557	1	5/16H X 1/4P 90 BRASS FTG	
	BFTG F1555	1	5/16H X 1/4P ST BRASS FTG	

IDLER ASSEMBLY	EC 1771	3	IDLER ARM
	EC 1773	3	IDLER BRACKET [PEDISTOL]
	EC 1774	3	COTTER PIN
	EC 1775	3	SPROCKET/BEARING/BOLT
	EC 1776	3	SPRING, TENSION
JACKSHAFT	EC 1716S	2	BEARING, PILLOW BLOCK SKF SY107
	EC 1766	1	SHEAVE 6B15.4
	EC 1767	1	COUNTER SHAFT 1 15/16x23
	EC 1768	1	SPROCKET, DS60B14 1 7/16 BORE
	EC 1770	1	HUB, SHEAVE SF 1 7/16
MISC	EC4020G	1	SPIRAL FUEL GAUGE
	EC 1005	1	GAS TANK CAP
	EC 1009	2	BATTERY HOLD DOWN BOLT
	EC 1017	1	SPANNER WRENCH
	EC 1720	1	4" O'RING
	EC 1732	1	COUPLER, VICTAULIC 4"
	EC 1784	1	SPROCKET, VALVE OPENING (40B16)
	EC 1994	2	HANDLE GRIP, LARGE
	EC 1995	3	HANDLE GRIP, SMALL
	EC 2000	1	OPEN/CLOSED SIGN
PACKING GLAND	EC 1701	6	RING, LANTERN
	EC 1704	6	BEARING, FLANGE SKF FY115
	EC 1705	24	WASHER, COPPER
	EC 1719A	3	NUT, PACKING GLAND LH
	EC 1719B	3	NUT, PACKING GLAND RH
	EC 1729	3	KEY
	EC 1731	18	PACKING, RUBBER
PUMP	EC 1744	1	BELT, PUMP DRIVE (4B58)
	ECP 1745	1	HUB, DEMMING 1 1/4SK
	ECP 1746	1	SHEAVE, DEMING PUMP 4B7.0
	ECP 8321	1	3MD DEMING PUMP
HORTON AIR CLUTCH	ECH 960204	1	Horton Air Clutch W/acc. Kit
	ECH 11967	2	Hose Assembly
	ECH 537	4	90° Elbow Fitting
	ECH 553	1	Air Union
	ECH 855400	1	Roto Seal Hose
	ECH 939101	1	Air Filter
	ECH 939300	1	1/8" Exhaust Muffler
	ECH 94001	1	Regulator For Horton Air Clutch
	ECH 94510	1	1/8" NPT Quick Ext Valve
	ECH 960800	1	Seal Repair Kit
	ECH 960900	1	Bearing Kit
	ECH 993232	1	Valve Filter
	ECH B45	1	Alum Air Canister
	ECH 11705	1	Horton Air Clutch Retrofit Kit D/S
	ECH 11710	1	Horton Retrofit Kit W/O Compressor and Switch

When ordering parts please have your:

Model # _____

Serial # _____

handy for the parts man to effectively help you.

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.**

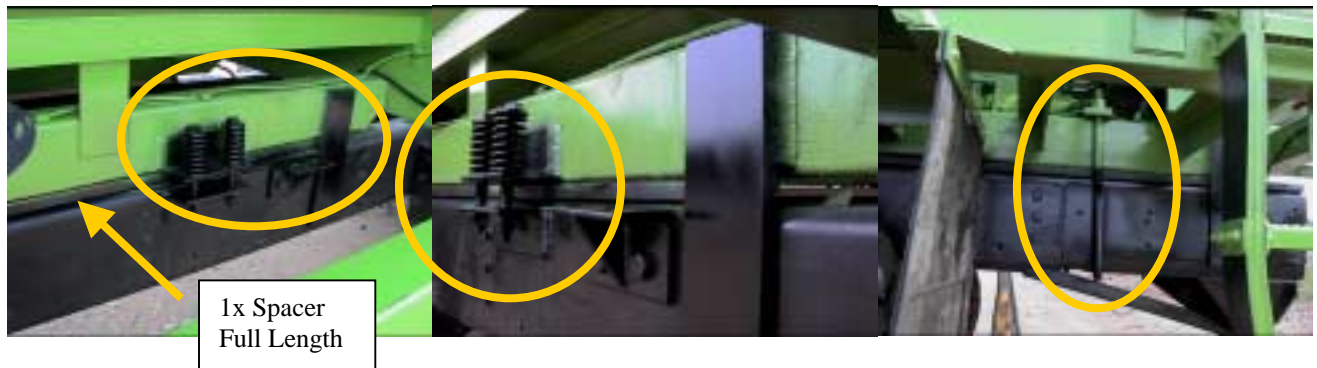
New equipment warranty applies to original purchasers for a period of twelve months from date of purchase. Such equipment is warranted free from defects in materials and workmanship. Warranty does not extend to any equipment that had been damaged in accident or shipment, misuse, abuse, or modified by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



Typical Mounting Gussets and Brackets on Heavy Duty Truck Frame