



# BOB WHITE SYSTEMS

## THE COMPLETE GOAT MILKING SYSTEM



**A PACKAGE FOR MILKING LARGE DAIRY GOATS, DAIRY SHEEP AND/OR NIGERIAN DWARF GOATS**

**Attention: Please read instructions thoroughly before using equipment**

**Upon receiving the unit, please check IMMEDIATELY to see whether there is any visible damage to the bucket milker, vacuum pump, or other items. If there is any damage do not attempt to run the unit!**

**Call or email Bob White Systems. (802) 763-2777**



## YOUR SYSTEM INCLUDES:

NOTE: THIS PACKAGE GENERALLY SHIPS IN 3-4 PACKAGES. SOME OF THE ITEMS IN THIS PACKAGE MAY SHIP BY FREIGHT. THEY MAY ARRIVE AT YOUR DESTINATION AT DIFFERENT TIMES.

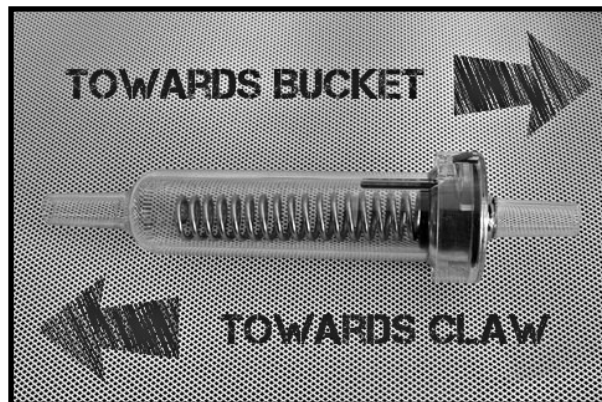
Milking System:									
Vacuum Pump	¾ HP	or	1 HP						
Claw Style	ITP 207	or	Eco-Cluster	or	NuPulse				
Bucket Size	35lb S.S.	or	55lb S.S.	or	65lb S.S.	or	65lb ECO	or	68lb Poly
Package Size	One Goat	or	Two Goats	or	Four Goats	or	One Sheep	or	Two Sheep

Equipment Care Package:	Udder Care Package:	Filter System:	Milk Storage:
10lb Dairy Equipment Cleaner	Iodine Teat Dip	(1 or 2) In-Line Filter(s)	10 Quart Milk Tote
Long Equipment Brush	Aluminum Strip Cup	6" Paper Sock Filters	
Inflation Bore Brush	Teat Dip Cup	or	<b>Port Plugs:</b>
5/8 <sup>th</sup> Hose Cleaning Kit	Teat Wipes	Lightweight Strainer	Pulsator Plug
Lightweight Stainless Pail		Disc Filters 4 9/16"	5/8" Port Plug

## ASSEMBLING YOUR MILKING SYSTEM

### STEPS OF OPERATION:

- 1) COLLECT ALL OF YOUR PACKAGES IN ONE PLACE. BE SURE TO READ ALL LABELS AND DIRECTIONS OF THE INDIVIDUAL PRODUCTS BEFORE STARTING.
- 2) PREPARE YOUR TEAT DIP CUP BY FILLING IT WITH 6-8 OUNCES OF THE IODINE TEAT DIP.
- 3) **IN-LINE FILTER:** TO INSTALL THE IN-LINE FILTER. CUT THE SILICONE HOSE ABOUT **10-12 INCHES** FROM WHERE IT IS CONNECTED TO THE LID PORT. YOU WANT TO BE SURE THAT IT ISN'T COMPROMISING THE FLOW OF THE MILK, AND FAR ENOUGH AWAY FROM THE CLAW THAT A COW CANNOT STEP ON IT DURING MILKING. INSERT THE IN-LINE FILTER WHERE YOU HAVE MADE THE CUT. THE LARGER END GOES TOWARDS THE BUCKET AND THE SMALLER END TOWARDS THE CLAW.



BE SURE TO INSERT A FILTER BEFORE MILKING! GENTLY TWIST OFF THE CAP AND REMOVE THE SPRING. SLIDE THE SOCK FILTER ONTO THE SPRING, DOWN TO THE RUBBER GROMMET. PUT THE SPRING ASSEMBLY BACK IN THE FILTER CASE, AND TWIST THE CAP BACK INTO PLACE. THE CAP ONLY NEEDS TO BE TWISTED TO "FINGER TIGHT" PRESSURE IN ORDER FOR IT TO WORK PROPERLY. **DO NOT OVER-TIGHTEN!**



## OPERATING YOUR NEW BUCKET MILKER

**THE FOLLOWING GUIDELINES WILL ASSIST THE FIRST TIME USER IN PROPERLY OPERATING A BUCKET TYPE MILKER SYSTEM.**

**PLEASE NOTE:** GOAT/SHEEP SIDE PRACTICE AND PRE AND POST CARE OF THE ANIMAL IS LEFT SOLELY UP TO THE DAIRYMAN. BOB-WHITE SYSTEMS RECOGNIZES ONLY THE PRACTICES PUBLISHED BY THE NATIONAL MASTITIS COUNCIL, MILKING MACHINE MANUFACTURERS COUNCIL, AND ESTABLISHED 3A GUIDELINES. BOB-WHITE SYSTEMS MAKES NO CLAIM AS TO THE RIGHT OR WRONG WAY OF USING THE ABOVE TYPE OF MILKING SYSTEMS, BOB-WHITE SYSTEMS ONLY DESCRIBES THE FUNCTION OF HOW THE PIECE OF EQUIPMENT WAS DESIGNED TO WORK AND HAS BEEN PROVEN TO WORK IN PRACTICAL FIELD APPLICATIONS. **BOB-WHITE SYSTEMS WILL NOT BE HELD ACCOUNTABLE FOR ANY CLAIMS OR DAMAGES OUTSIDE OF THE 1-YEAR WARRANTY.**

### STEPS OF OPERATION CONTINUED:

**4)** PLACE YOUR VACUUM PUMP IN A CENTRAL LOCATION NEAR AN 110V OUTLET. REVIEW THE VACUUM PUMP PAGES BEFORE OPERATING. WHEN PLUGGING IN THE PUMP, **DO NOT USE AN EXTENSION CORD!** YOU CAN USE UP TO A 100 FOOT LONG VACUUM LINE TO GET PRESSURE TO YOUR BUCKET SYSTEM.

VACUUM LEVELS TO OPERATE THE BUCKET MILKER CAN BE BETWEEN 11" TO 15" OF MERCURY. RECOMMENDED LEVEL IS **12" HG FOR GOATS AND SHEEP**. BUCKET SYSTEMS REQUIRE A LARGE VOLUME OF VACUUM TO COMPLETELY SATISFY THEIR REQUIREMENTS, IF VACUUM LEVELS ARE TOO LOW IT WILL BE HARDER TO APPLY THE MILKING UNIT.

USING THE 1/2" VACUUM HOSE SUPPLIED, CONNECT THE ADAPTOR ON THE BUCKET LID TO THE VACUUM SYSTEM. THE VACUUM SUPPLIED TO THE ADAPTOR ON THE LID SUPPLIES VACUUM TO BOTH THE BUCKET AND THE PULSATOR.

**TO ADJUST THE VACUUM PRESSURE:** WHILE THE WHOLE SYSTEM IS RUNNING, READ THE GAUGE. IF IT IS NOT WITHIN THE 12 INCH RANGE, YOU WILL NEED TO ADJUST THE PRESSURE USING THE REGULATOR VALVE. IT IS LOCATED NEXT TO THE VACUUM GAUGE.

FOR THE **3/4 HP VACUUM PUMP**, HOLD THE REGULATOR SCREW RIGID WITH A SCREW DRIVER AND LOOSEN THE LOCK NUT. TO INCREASE THE VACUUM LEVEL TURN THE INNER ADJUSTING NUT CLOCKWISE. TO DECREASE THE VACUUM LEVEL TURN THE INNER NUT COUNTER-CLOCKWISE. WHEN THE DESIRED VACUUM PRESSURE IS ATTAINED, TIGHTEN THE LOCK NUT AGAINST THE ADJUSTING NUT— THIS WILL PREVENT THE SETTING FROM CHANGING DUE TO VIBRATION.

FOR THE **1HP VACUUM PUMP**, ADJUST LEVEL BY LOOSENING THE NUT ON TOP OF THE REGULATOR AND TURNING THE MAIN BODY TO ADJUST. TO INCREASE THE VACUUM LEVEL TURN THE BODY CLOCKWISE. TO DECREASE THE VACUUM LEVEL TURN THE BODY COUNTER-CLOCKWISE. TIGHTEN THE NUT WHEN THE DESIRED VACUUM LEVEL IS REACHED— THIS WILL PREVENT THE SETTING FROM CHANGING DUE TO VIBRATION.



FOR MORE INFORMATION ABOUT THE CARE AND MAINTENANCE OF YOUR VACUUM PUMP, SEE THE ATTACHED VACUUM PUMP MANUAL.

**5)** PULSATION RATE IS RECOMMENDED AT 90 PULSATIONS PER MINUTE FOR GOATS AND 120 PULSES PER MINUTE FOR SHEEP. THE NUPULSE CLAW WILL REGULATE PULSATION RATE AND NOT REQUIRE A PULSATION UNIT ON THE LID OF THE BUCKET MILKER.

THE RATIO IS THE PERCENTAGE OF TIME THE INFLATION IS IN THE OPEN (MILK FLOW) PHASE TO THE TIME IT IS IN A CLOSED (MASSAGING THE TEAT). ECO CLUSTER, ITP 207 AND DELAVAL BUCKET MILKERS COME WITH A #D95 PULSATOR EQUIPPED WITH A 50:50 RATIO.



## THE COMPLETE GOAT & SHEEP MILKING SYSTEM USER MANUAL

**SETTING THE PULSATION RATE:** WHILE THE WHOLE UNIT IS RUNNING, YOU WILL HEAR TWO CLICKS FOR EVERY ONE PULSE. COUNT THE NUMBER OF "UP BEATS" (ONE OF THE TWO CLICKS) THE PULSATOR MAKES IN 30 SECONDS. MULTIPLY THAT NUMBER BY TWO AND YOU HAVE THE PULSATION RATE. A SMALL ALLEN WRENCH IS INCLUDED WITH YOUR PULSATOR TO ADJUST THE SETTING. THE ALLEN SCREW IS LOCATED ON THE BACK OF THE PULSATOR AND SMALL ADJUSTMENTS TO THE SCREW WILL CHANGE THE RATE. REMEMBER YOU ARE LOOKING FOR THE PULSATOR TO PULSE 90 TIMES IN ONE MINUTE. TEST THE PULSATION RATE WITH BOTH THE IN-LINE SHUT-OFF VALVES OPEN AND THEN CLOSED. WHEN THE VALVE IS OPEN WAIT FOR THE VACUUM PRESSURE TO ADJUST AND FOR THE PULSATOR TO REGAIN THE PROPER SPEED. ANYTIME YOU LOSE VACUUM (AND THEREFORE THE PULSATOR) CLOSE THE IN-LINE VALVE AND WAIT FOR THE VACUUM PRESSURE TO BUILD BACK UP.

**6) Eco-CLUSTER:** THE ECO CLUSTER IS EQUIPPED WITH A METAL LEVER AT THE BASE OF EACH CLAW. WHEN THE LEVER IS TWISTED TO THE HIGHEST POSITION (UP) IT IS IN THE NON-MILKING POSITION. WHEN THE LEVER IS TWISTED TO THE **LOWEST POSITION (DOWN)** IT IS IN THE **MILKING/CLEANING POSITION**. THE LEVER CAN BE POSITIONED DOWN TO THE MILKING POSITION FOR THE DURATION OF YOUR MILKING. EVEN ACROSS MULTIPLE ANIMALS. MAKE SURE THE VACUUM PUMP IS RUNNING AND YOU CAN HEAR/FEEL AIR BEING DRAWN INTO THE OPENING OF THE INFLATIONS. THE CLAW WILL PICK UP SUCTION AND PULSATION ONCE ON THE GOAT/SHEEP'S TEAT. AS SOON AS MILK FLOW HAS STOPPED, REMOVE FROM THE GOAT/SHEEP'S TEAT BY TWISTING THE TEAT CUP AND PULLING DOWN GENTLY. THIS WILL CREATE WRINKLE IN THE TEAT AND RELEASE THE FULL SUCTION.



**LEFT:** WHEN THE LEVER IS TWISTED TO THE HIGHEST POSITION (UP) = NON MILKING POSITION.

**MIDDLE:** WHEN THE LEVER IS TWISTED TO THE LOWEST POSITION (DOWN) = MILKING/CLEANING POSITION.

**RIGHT:** THE BUTTON ON THE BOTTOM OF THE ITP 207 CLAW.



**ITP 207 CLUSTER:** THE ITP 207 CLUSTER HAS A FULLY AUTOMATIC CLAW. (THIS IS DIFFERENT FROM AN AUTOMATIC TAKE-OFF YOU MAY HAVE HEARD OF) MAKE SURE THE VACUUM PUMP IS RUNNING. YOU CAN HEAR/FEEL AIR BEING DRAWN INTO THE OPENING OF THE INFLATIONS BY PUSHING THE BUTTON AT THE BOTTOM OF EACH CLAW. IF YOU ARE EVER EXPERIENCING AIR LEAKING OUT OF THE TEAT CUPS, SIMPLY PUSH THE BUTTON AT THE BOTTOM OF THE LEAKING CLAW. IT SHOULD MAKE A "SHOOP" SOUND BRIEFLY AND RESET THE AUTOMATIC FEATURE. AS SOON AS MILK FLOW HAS STOPPED, REMOVE FROM THE GOAT/SHEEP'S TEAT BY TWISTING THE TEAT CUP AND PULLING DOWN GENTLY. THIS WILL CREATE WRINKLE IN THE TEAT AND RELEASE THE FULL SUCTION.

**DELAVAL OR NUPULSE STYLE CLAW:** WHEN APPLYING THE MILKER UNIT (CLAW) THE SHUT OFF ON THE CLAW MUST BE OPENED (PUSH SHUT OFF UP) TO ALLOW VACUUM TO BE SUPPLIED TO THE UNIT. MAKE SURE THE VACUUM PUMP IS RUNNING AND YOU CAN HEAR AIR BEING DRAWN INTO THE OPENING OF THE INFLATIONS. WHILE HOLDING THE CLAW IN YOUR LEFT HAND, THE SHELLS AND INFLATIONS WILL HANG DOWN TOWARDS THE GROUND SO THAT THE INFLATIONS "KINK" AND CUT THE VACUUM OFF TO THE INFLATION. ONCE BOTH OF THE INFLATIONS ARE "KINKED" AND NO AIR IS ABLE TO ENTER THE INFLATIONS THROUGH THEIR OPENINGS THE PULSATOR WILL START PULSATING. THIS WILL INDICATE YOU ARE NOW READY TO APPLY THE MILKER UNIT. SUPPORT THE CLAW AND APPLYING SLIGHT UPWARD PRESSURE ON THE INFLATIONS AS YOU PLACE IT ON THE ANIMAL. CLOSE THE SHUT OFF ON THE CLAW, (PULL SHUT OFF DOWN) BEFORE TAKING OF THE GOAT/SHEEP OR SHEEP.

**CLEAR SILICONE INFLATIONS ARE KEY AS YOU CAN BE SURE YOU HAVEN'T FOLDED A TEAT IN THE CUP. DO NOT OVER MILK GOATS! IT IS IMPORTANT TO REMOVE THE TEAT CUP AND INFLATIONS AS SOON AS YOU DO NOT SEE ANY MORE MILK STREAMING FROM THE TEAT.**



## CLEANING AND MAINTENANCE

### CLEANING:

ONCE MILKING IS FINISHED, PULL OUT THE PAPER SOCK FILTER OF THE IN-LINE FILTER AND DISPOSE OF IT PROPERLY.

**TIP:** THE FILTER CAN BE A GOOD INDICATOR OF YOUR GOAT/SHEEP'S HEALTH. BECOME FAMILIAR WITH WHAT HER "NORMAL" LOOKS LIKE, ALWAYS KEEPING AN EYE OUT FOR LARGE CLUMPS, BLOOD CLOTS, ETC.

**RINSE:** DIRECTLY AFTER MILKING, RINSE THE ENTIRE MILKING UNIT WITH WATER (90°-120°F). THE CLAW CAN BE RINSED IN PLACE BY SUBMERGING IN A SINK/PAIL AND DRAWING THE WATER THROUGH THE UNIT. THE SHUT-OFF BUTTON ON A DELAVAL OR NUPULSE STYLE CLAW SHOULD BE PRESSED DOWN AND LOCKED IN PLACE UNDER THE SMALL PLASTIC NOTCHES. THE ECO CLUSTER LEVER SHOULD BE DOWN FOR THE MILKING/CLEANING POSITION. BE SURE TO MAKE A DIPPING MOTION WHILE IT SUCKS UP WATER TO INCREASE TURBIDITY AND SCRUBBING ACTION. THIS WILL ALSO CLEAN THE MILK HOSE FROM THE CLAW TO THE BUCKET.

**EXCEPTION:** FOR AN ITP 207 THE WHOLE CLUSTER MUST BE SUBMERGED IN WATER. DO NOT MAKE THE DIPPING MOTION AT ANY POINT OF THE CLEANING PROCESS. IF IT FLOATS TO THE TOP, IT WILL SUCK UP WATER THROUGH THE BUTTON AT THE BOTTOM AND NOT CLEAN THE UNIT THOROUGHLY.

IT IS IMPORTANT TO NOT OVERFILL YOUR BUCKET USING THIS METHOD. BE SURE THAT YOUR SINK/PAIL IS FILLED APPROPRIATELY FOR THE SIZE OF YOUR MILKING BUCKET. OVERFILLING THE MILK BUCKET CAN SEND SUDS AND FLUIDS INTO THE VACUUM LINE.

**WASH:** TO CLEAN THE CLAW IN PLACE (CIP) SUBMERGE IN A SINK/PAIL WITH 1 OZ OF CLEANING POWDER FOR EVERY TWO GALLONS OF WARM WATER (125°F). MAKE A DIPPING MOTION AS THE CLAW RUNS THE CLEANING SOLUTION INTO THE BUCKET. ONCE THE SOLUTION HAS BEEN TRANSFERRED TO THE MILKING BUCKET SEPARATE THE PULSATOR (WITH OR WITHOUT THE ADAPTOR) AND SET IT ASIDE. CLEAN THE LID WITH A BRUSH, PAYING SPECIAL ATTENTION TO THE PORTS. SEPARATE THE LID GASKET AND CLEAN THOROUGHLY. TAKE A MOMENT TO SCRUB THE INSIDE OF EACH INFLATION WITH THE BORE BRUSH. IF YOUR BORE BRUSH IS LONGER THAN YOUR INFLATION, BE SURE TO REMOVE THE CLAW FROM THE INFLATION TO CLEAN INSIDE. IT IS IMPORTANT THAT THE PLASTIC CROSS SECTION IN THE ITP 207 CLAW REMAINS INTACT. SEE PHOTO BELOW OF AN INTACT CROSS-SECTION.

**FINAL RINSE:** THERE ARE TWO WAYS YOU CAN PROCEED WITH A FINAL RINSE.

**WARM WATER RINSE:** RINSE THE SOLUTION OFF OF THE CLAW, BUCKET, AND REMAINING PARTS WITH WARM WATER (125°F).

**ACID RINSE:** AFTER RINSING THE EQUIPMENT CLEANER OFF OF ALL THE SURFACES, RINSE IN TEPID WATER THAT HAS BEEN ACIDIFIED. CHOOSE A DAIRY ACID CLEANER THAT IS RIGHT FOR YOU. THIS WILL REMOVE TRACES OF ALKALINE CLEANER AND PREVENT MINERAL DEPOSITS (MILK STONE) FROM BUILDING UP, EVEN ON STAINLESS STEEL. DO NOT RINSE AGAIN, SET TO DRY.



**STORAGE:** AFTER THE CLEANING AND RINSING PROCEDURES ARE ACCOMPLISHED, THE CLAW SHOULD BE POSITIONED SO THAT IT WILL DRAIN ANY RESIDUAL SOLUTION AND THE BUCKET SHOULD BE TURNED UPSIDE DOWN TO ENSURE COMPLETE DRAINING.

**SANITIZE:** JUST BEFORE EACH MILKING, RE-ASSEMBLE THE MILKING MACHINE. THE PULSATOR AND ADAPTOR WILL NEED TO BE RETURNED TO THE LID, WITH THE PULSATOR SLID FULLY ONTO THE ADAPTOR AND THE LID NUT TIGHTENED TO A "FINGER TIGHT" PRESSURE. FLUSH WITH A DAIRY SANITIZER BY FOLLOWING THE DIRECTIONS ON THE SANITIZER LABEL FOR PROPER CONCENTRATION, CONTACT TIME AND WATER TEMPERATURE.

**NUPULSE USERS:** THE MILK LINE WILL ATTACH TO THE PORT THAT HAS A STAINLESS STEEL GUARD AROUND IT ON THE UNDERSIDE OF THE LID. THE VACUUM LINE IS ATTACHED TO THE PORT WITH NO GUARD AROUND IT.



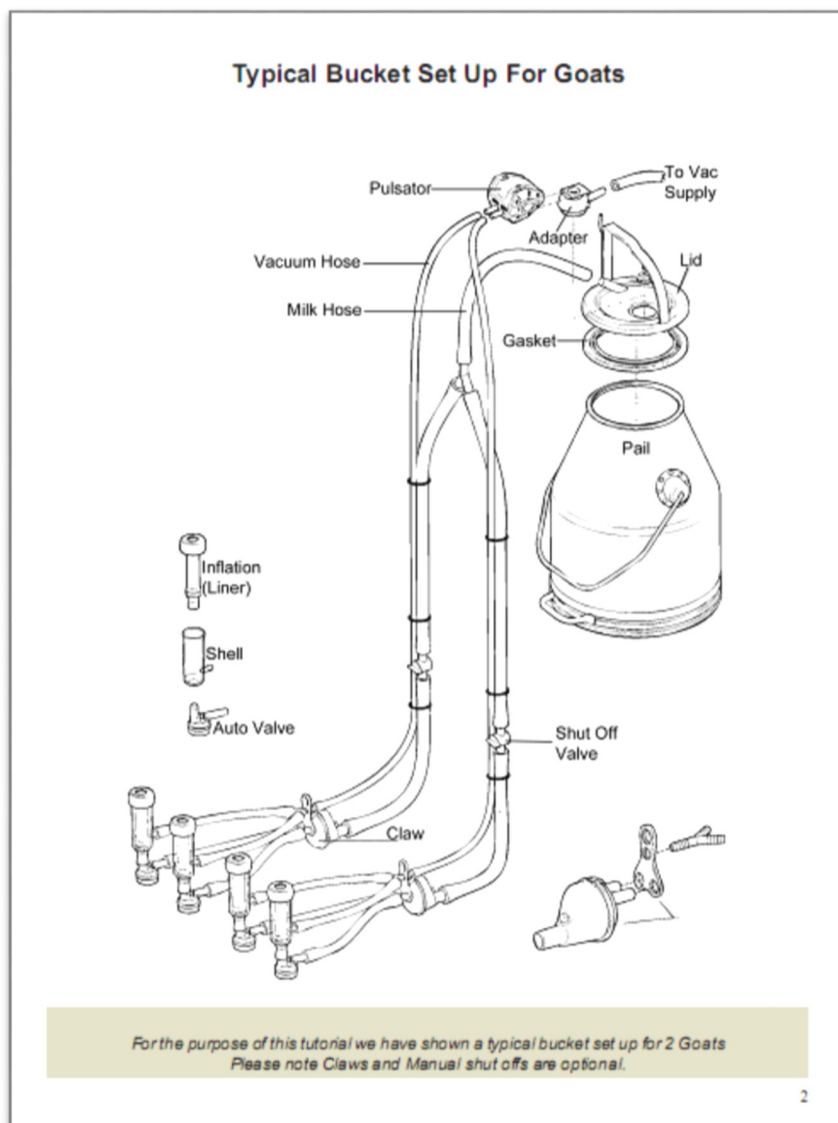
**MAINTENANCE:**

**INFLATIONS** SHOULD BE CHANGED REGULARLY (FOR RUBBER INFLATIONS EVERY 1,200 MILKINGS, FOR SILICONE INFLATIONS EVERY 5,000 MILKINGS, OR SOONER IF DAMAGE IS APPARENT). FOR SEASONAL OPERATIONS, CHANGE THE INFLATIONS EVERY YEAR OR TWO.

**MILK TUBING AND PULSATION LINE** SHOULD BE REPLACED EVERY YEAR TO PROMOTE SANITARY CONDITIONS AND MAINTAIN FLEXIBILITY.

**THE PULSATOR SHOULD BE PERIODICALLY CLEANED. FOR BRK, HEART OR INTERPULS PULSATORS THIS IS DONE BY SUBMERGING THE PULSATOR IN WATER AND CLEANING WITH A SOFT TOOTHBRUSH STYLE BRUSH, USE WARM SOAPY WATER (MILD DISH SOAP IS FINE). TO DRY THE PULSATOR, PLACE IT ON THE BUCKET ON LET IT OPERATE ON THE BUCKET FOR SEVERAL MINUTES UNTIL DRY. DO NOT ATTEMPT TO DRY WHEN FREEZING CONDITIONS EXIST. AND REMEMBER BRK HEART AND INTERPULS PULSATOR SHOULD NEVER BE OILED.**

PULSATORS SHOULD BE REBUILT EVERY 25,000 HOURS OF OPERATION. ALL THE PARTS THAT SHOULD BE REPLACED ARE AVAILABLE IN A KIT FROM BOB-WHITE SYSTEMS. THIS REBUILD CAN BE PERFORMED BY THE DAIRYMAN AND REQUIRES NO SPECIAL SKILLS.





## FREQUENTLY ASKED QUESTIONS & TROUBLESHOOTING

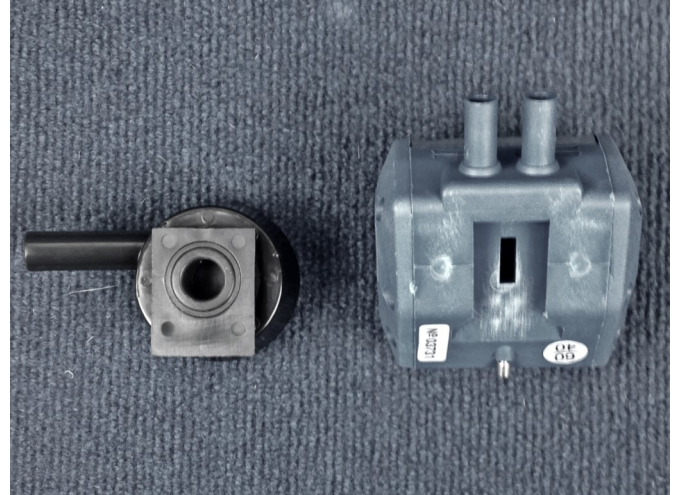
### FAQ:

#### My pulsator isn't working. What do I do?

Here are a few things to double check:

- Check the vacuum pressure. Vacuum gages should be set to 14"mg for cows and 12"mg for goats and sheep. Listen for any air escaping in the system.
- Check that your pulsator adaptor is positioned correctly. **90% of the time this is the reason for a faulting pulsator.**

The pulsator adaptor has a beveled side and a flat side to the piece that slides onto the pulsator. Be sure that the flat side of the adaptor is pushed all the way against the pulsator. This ensures that the square on the pulsator and the hole on the pulsator line up properly. The photo to the right shows the flat side facing the top of the photo and the beveled side facing the bottom of the photo.



- Check the interior of the pulsator for any dirt, or sawdust. This requires opening up the pulsator. We recommend you do this by following the D#95 Pulsator Instructions and Parts worksheet. \*Do you need another copy? See [bobwhitesystems.com](http://bobwhitesystems.com) for a digital copy.\*
- Turn all of the shut-off valves to the off position and wait as the vacuum pressure regains. Once vacuum pressure is re-established, the pulsator will begin clicking again.

## TROUBLESHOOTING

### UNITS FALLING OFF

- OVERMILKING
- WET, SOAPY TEATS
- WORN RUBBERWARE
- VACUUM LEVEL TOO LOW
- LINE FLOODING
- LEAK IN THE VACUUM LINE
- SHUT-OFF BUTTON IS 'OPEN'

### COW/GOAT/SHEEP KICKING

- VACUUM SET TOO HIGH
- PULSATOR MALFUNCTION
- STRAY VOLTAGE
- OVER MILKING
- TEAT END ABRASIONS/SORE TEATS

### SLOW MILKING

- VACUUM TOO LOW
- WORN INFLATIONS
- VACUUM LEAKS
- CLOGGED BOWL VENT (NUPULSE)
- OVER MILKING
- MILK HOSE OR INLET VALVE UNDERSIZED
- PULSATOR RUBBERWARE WORN OUT

### UNIT SPEEDS UP

- THIS IS NORMAL FOR A NUPULSE CLAW DURING HEAVY MILK FLOW
- CHECK THE PULSATION RATE FOR THE PULSATORS ON THE LID OF THE BUCKETS. ADJUST TO THE RECOMMENDED PULSES PER MINUTE FOR YOUR SPECIES.

### PULSATOR SLOW DOWN OR STOP

- MILK HOSE KINKED (NUPULSE)
- AIR LEAKS IN CLAW
- BOBBIN HOLE PLUGGED
- DIRTY AIR FILTER
- DAMAGED OR MISSING "O" RING (NUPULSE)
- DAMAGED DIAPHRAGM RUBBER (NUPULSE)
- CHECK THE PULSATION RATE FOR THE PULSATORS ON THE LID OF THE BUCKETS. ADJUST TO THE RECOMMENDED PULSES PER MINUTE FOR YOUR SPECIES.



## 1 HP PORTABLE VACUUM PUMP



THIS VACUUM PUMP SYSTEM SHIPS VIA TRUCK FREIGHT. SINCE THERE IS MINIMAL ASSEMBLY REQUIRED, IT SHOULD BE READY TO PLUG INTO 110 VOLTS UPON ARRIVAL. IN MOST CASES THE UNIT IS SHIPPED WITH THE HANDLE DETACHED. TO ASSEMBLE HANDLE TO UNIT, TIGHTEN THE UNION ON BOTTOM OF HANDLE WITH A SMALL PIPE WRENCH

THIS UNIT HAS A VAPOR OIL VANE VACUUM PUMP. CHECK OIL LEVEL UPON ARRIVAL AND BEFORE EACH USE. THE OIL LEVEL GAUGE IS THE SMALL PIECE OF CLEAR HOSE IN A U-SHAPE ON THE SIDE OF THE PUMP. OIL MUST ALWAYS BE VISIBLE IN THIS TUBE WHILE PUMP IS RUNNING. TO ADD OIL, SIMPLY POP OUT THE BLACK PLASTIC PLUG ON TOP OF OIL TANK. REFILL WITH HIGH QUALITY 10W40 MOTOR OIL. PRESS THE PLUG BACK INTO PLACE ONCE OIL LEVEL IS FULL. DO NOT FILL ABOVE THE OIL WICK.

AS THE OIL RUNS THRU THE VACUUM PUMP, IT IS DISCHARGED INTO THE EXHAUST CHAMBER IN THE BACK PORTION OF THE TANK. THE OIL WILL SETTLE TO THE BOTTOM AND THE AIR WILL BE EXHAUSTED THRU THE  $\frac{3}{4}$ " PIPE ELBOW TOWARD THE TOP OF CHAMBER. IF THE PUMP IS RUN FOR A LONG PERIOD OF TIME IN THE SAME POSITION, A SMALL AMOUNT OF OIL MAY ACCUMULATE ON THE FLOOR DIRECTLY BELOW THE ELBOW. THIS IS NORMAL AS IT IS THE VAPOR OF OIL. IF THIS CREATES A PROBLEM, A SMALL PIECE OF CARDBOARD CAN BE PLACED UNDER THE ELBOW.

THE METAL TANK UNDER THE PUMP IS A MOISTURE TRAP AND VACUUM STORAGE TANK. MILK OR WATER THAT GETS DRAWN INTO THE TANK SHOULD DRAIN OUT THE DUCKBILL DRAIN IN THE BOTTOM OF THE TANK AFTER PUMP IS SHUT DOWN. IF TOO MUCH WATER OR MILK ENTERS THE TANK, THE PUMP WILL NEED TO BE FLUSHED.

### FLUSHING THE PUMP AFTER FLUID HAS ENTERED THE TANK:

If too much water or milk gets into the tank, it will be drawn into the vacuum pump. If this occurs, it will need to be flushed out.

- 1) Locate the oil tube and remove at the oil reservoir.
- 2) Remove the plug on the bottom of exhaust chamber. This is to drain chamber after flushing process is complete.
- 3) Kerosene or fuel oil works best for the flushing process. **DO NOT** use gasoline or any other highly flammable liquid to flush the vacuum pump. Start the pump and insert the tube into the cleaning fluid. Allow the pump to draw the fluid in. Periodically let air enter the tube along with the fluid. You may need up to a gallon of fluid to fully clean the pump.
- 4) Once the cleaning fluid is gone, use the same method to draw about 5 ounces of 10w40 motor oil into the pump to complete the flushing process.
- 5) Put plug back in exhaust chamber and allow pump to run at normal vacuum level for 15 to 30 minute to flush out.





## 3/4 HP VACUUM PUMP



PLEASE REFER TO THE INSTALLATION AND OPERATION MANUAL INCLUDED. THIS WILL GUIDE YOU THROUGH THE ASSEMBLY AND USE OF YOUR NEW 3/4 HP VACUUM PUMP. BE AWARE THAT SOME OF THE INSTRUCTIONS ARE FOR A NUPULSE CLAW, WHICH HAS THE PULSATION ON THE CLAW. YOUR UNIT DIFFERS IN EVERY WAY EXCEPT FOR INSTRUCTIONS SPECIFICALLY FOR THE 3/4 HP VACUUM PUMP.

FEEL FREE TO CALL **(802) 763-2777** IF YOU HAVE ANY QUESTIONS.