

Lane Pulsator IV—Auto Adjust™ Electro-Ejaculator

PLEASE READ THESE INSTRUCTIONS IMMEDIATELY UPON RECEIPT

Check the box to make sure everything you ordered is here. If something is missing, please call us right away at 1-800-777-2603 or email us at lanemfg@gmail.com

When you receive your Pulsator IV the battery should have a full charge. This is a lead acid, gel cell battery, it needs to be charged continually. When the machine is not in use, it needs to be plugged in to the charger. Even if you don't use the machine for weeks or months, it needs to be plugged in or you will find yourself without a charged battery when you need it. **IMPORTANT:** Do not operate the Pulsator IV with the charger plugged in, this will ruin the charger.

The charger is a "smart" charger and will regulate when it needs to go on and off, you cannot overcharge the battery. The charger has a light to indicate to you the status of the battery charge. When the battery is fully charged the green light will be illuminated, when it is charging the green and orange lights will be illuminated. When choosing an outlet to leave the machine plugged in to, make sure it is not connected to a light switch that may be inadvertently turned off.

For our customers who have 220 voltage, you will need a plug adapter. Please let us know if you have any questions or if you need to order one. We have adapters for UK, EU and AU. We can special order for other countries.

Please feel free to call us anytime you have questions or concerns about your equipment, 1-800-777-2603 or email us at lanemfg@gmail.com

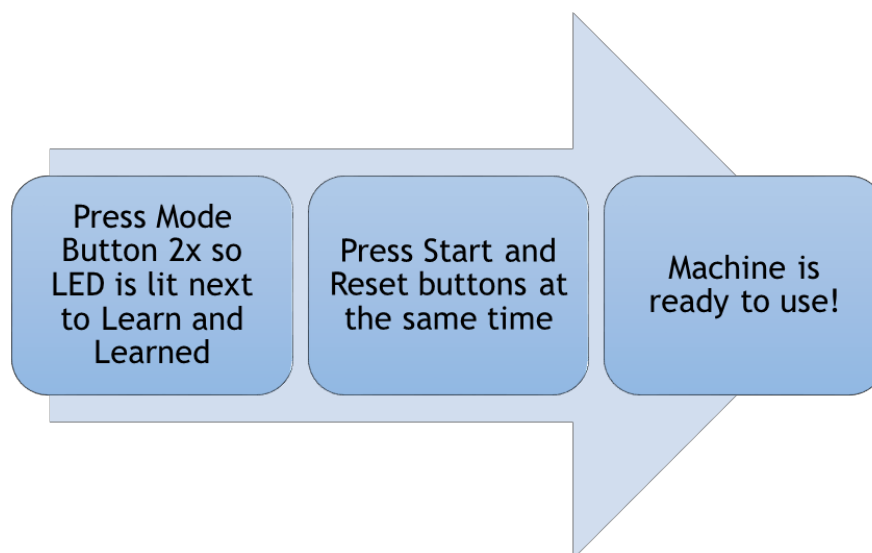
The Pulsator IV has three modes of operation; manual, program and learn. The following is a brief description of each mode.

Manual: The on/off switch is depressed and the “ON” light will come on, the machine is now ready for the manual mode. The “steps” are in the + and - buttons. The black knob is your rheostat which controls the output.

Program: The “Program” mode is a pre-set process. Turn the machine on and then depress the “mode” button until the red light is next to “Run” and “Program”. Depress “Start” to begin the “program” function. The process will start slowly and then get faster as it increases the power. The “program” mode only goes to step 7. If you find that this is not fast enough, or too slow for the animal you are collecting, you may interact with the “Program” mode and increase or decrease the power by using the + or - button. At any time you are using the “program” mode you may revert back to manual by depressing the “start” button, this will take you to manual, but leave you at the same step you were at in “program”. If you wish to start over from the beginning, push reset and the everything will go back to zero and manual.

Learn: The “Learn” mode of the Pulsator IV is designed to let you teach the machine your own collection process. Depress the mode button so that “Learn” and “Learned” have red lights next to them. To begin press “Start” and begin just as if you had the machine in manual. The machine will “learn” your process. When you are finished press the “Reset” button and the “Learn” process is saved. When you want to run this process again, use the “Run” button and press start, there will also be a red light next to “Learned”. A “Learned” process will override the “Program” mode. To delete the “Learned” process make sure the lights are on “Learn” and “Learned” and depress the start and reset at the same time. The “Program” process will be re-instated.

Help! My machine is stuck in Learned mode!



The following checked items are included in your Pulsator IV package:

_____ Machine _____ Serial Number
_____ Battery Charger 110/220 volts
_____ Carrying Case
_____ Bull Probe - 2-Electrode _____
_____ Additional Probe(s) _____
_____ Two Probe Cords
_____ Semen Collection Handle
_____ 100 Disposable Director Cones
_____ 100 Disposable Collection Vials
_____ Scrotal Tape
_____ Instructions
_____ Additional Items _____

If any of these items are missing please contact us immediately at 1-800-777-2603 or
lanemfg@gmail.com

If you need to re-order supplies please visit our website www.lane-mfg.com

The Pulsator IV has a five year warranty on all parts, except the battery and it has a one year warranty. If properly taken care of the battery should last 3—5 years. Service by anyone other than Lane Manufacturing Inc or its agents nullifies your warranty. Please return the enclosed warranty card so that we can keep accurate records on your machine. If you sell your machine, please let us know so that our record can be changed.

Conducting a Breeding Soundness Examination of a Bull

The goal of breeding soundness evaluation of bulls is to determine their suitability for breeding, usually in natural service. Each component of the examination is equally important and each should be carefully evaluated to arrive at the correct diagnosis and/or prognosis for breeding soundness.

The components of that examination are as follows:

1. Evaluation of the bull's history
2. General physical examination
3. Examination of the testes and measurement of scrotal circumference
4. Detailed examination of the genital tract
5. Collection and analysis of representative semen samples

Evaluation of the Bull's History

Every breeding soundness examination should begin with a complete history of the bull. Of particular interests are how long the owner has had possession of the bull, was he purchased or home reared, vaccination and deworming history, any prior or current injury and/or illness and treatment, and the bull's breeding history. Signalment, or the bull's unique identification, should be recorded along with age, breed, and either bodyweight or evaluation of the bull's body condition. A well organized veterinarian can obtain an adequate history of each bull very quickly.

Conducting a Thorough Physical Examination

Most breeding soundness examinations are conducted on bulls used predominantly for natural service. Therefore it is extremely important that the bull be physically normal and free from undesirable structural or heritable defects that may limit breeding soundness. The physical examination may be more important than evaluation of the semen sample as bulls that are structurally unsound likely will prove to be inefficient breeders regardless of semen quality. The bull should be observed to walk and move in normal fashion as a lame bull may not be able to breed an appropriate number of cows in a defined breeding season. Likewise the eyes should be free of tumors, injuries, infections or scarring so that vision is not impaired. Bulls with undesirable physical characteristics or abnormalities should be eliminated without collecting and analyzing semen. ***Careful proper handling and physical examination of the bull also serves a pre-ejaculatory stimuli, making semen collection easier.***

Measuring Scrotal Circumference and Conducting a Thorough Examination of the Scrotum and Testicles

Scrotal Circumference:

Scrotal circumference measurement is a very important part of any Breeding Soundness Examination because testicular mass has strong correlation with total sperm production. Use an inelastic scrotal tape to measure the circumference of the combined testicles at their widest portion while grasping the neck of the scrotum and firmly pushing the testicles ventrally. Apply sufficient pressure to the scrotal tape to slightly indent the scrotal skin and record the measurement in centimeters. In order to meet acceptable sperm production the Society for Theriogenology recommends the following minimum measurements according to the bull's age:

Minimum Recommended Scrotal Cir-	
Age (in months)	SC (cm)
≤ 15	30
$> 15 \leq 18$	31
$> 18 \leq 21$	32
$> 21 \leq 24$	33
> 24	34

Scrotum and testes:

A methodical approach to palpation of the testicles, pampiniform plexus and epididymis is of utmost importance. The testicles should be similar in size, shape and consistency. Greater than 10% difference in size or shape between the two testicles could be indicative of a number of pathological conditions and warrants further diagnostic workup. It is important to remember that differences in size or shape could be due to an acute (swollen) or chronic (atrophic) injury and that the likelihood of the initially damaged testicle causing deferred pathology to the adjacent testicle is great. An experienced person should be able to discern softening of the testicles by palpation, and could be evidence of testicular degeneration which should be confirmed by semen analysis. The testicles should be freely moveable within the scrotum and in the summer months should remain in a pendulous position as opposed to slight retraction toward the body wall during winter months. The examiner should also palpate the entire testicle, for evidence of abscessation, hematocele, tumors, fibrosis, or other discrepancy in consistency while remaining cognizant of testicular and scrotal temperature. The scrotal skin should be free of injury or lesions that may impede testicular thermoregulation.

The pampiniform plexus and testicular cords should be palpated from the ventral body wall to the edge of the testicle for fluid or nodular or granulomatous enlargements. The epididymis should be palpated in its entirety with the head craniodorsally, the body caudomedially, and the tail ventrally noting changes in size, shape, consistency, and evidence of pain.

Conducting a Detailed Genital Tract Examination

External Genitalia:

Beginning at the external orifice of the prepuce palpate the external sheath caudally to the neck of the scrotum. Palpate the penis through the sheath to determine that it is free of adhesions, abscesses and scar tissue. The entire penis must be examined during each breeding soundness examination. It is not uncommon to find persistent penile frenulums in young bulls. Other lesions such as circumferential hair rings, fibropapillomas, urethral fistulae, preputial adhesions, scar tissue and penile or preputial infections may also be found. *Detailed examination of the external genital structures often explains why a bull may not respond readily to electroejaculation or produce satisfactory semen samples.*

Internal Genitalia and Inguinal Rings:

The last part of the physical examination of every bull during breeding soundness evaluation should be careful examination of the internal genital structures by rectal palpation. The rectal examination serves three purposes:

1. allows evaluation of internal genital structures
2. removes fecal material from the rectum, allowing probe electrodes to contact the rectal mucosa
3. aids in semen collection by pre-stimulation for electroejaculation

In most bulls, the pelvic genital structures can be palpated with the hand inserted into the rectum up to the wrist. After the rectum is cleaned, locate the urethralis muscle along the floor of the pelvis. This structure is easily identified as a longitudinal cylindrical structure 3 to 4 cm in diameter lying on the midline of the floor of the pelvis. In most bulls this muscle contracts rhythmically in response to rectal palpation. The dorsal transverse ridge of the prostate gland lies just cranial to the urethralis muscle and feels like a firm band up to 1.5 cm wide and serves as a landmark for locating the seminal vesicles (vesicular glands) and the ampullae of the ductus deferens.

The paired vesicular glands (seminal vesicles) should be approximately symmetrical, slightly movable and are located cranioventral to the prostate. They are normally lobulated and extreme firmness, adhesions, pain on palpation, or fluid accumulations within the glands are often indicative of current or prior inflammation. Active inflammation or infection of the glands may be reflected in elevated white blood cells in the ejaculate.

The paired ampullae of the ductus deferens lie on the midline between the seminal vesicles. They are each usually no larger than 1.5 cm in diameter and are palpable as thick-walled tubular structures that progress cranioventrally towards the internal inguinal rings.

The internal inguinal rings should be palpated per rectum as excessive size of these structures may lead to inguinal hernia. The rings are palpated just cranial and ventrolateral to the pelvic brim by directing the hand 15 cm ventrally and 5-15 cm laterally. The rings are a slit in the abdominal oblique muscle and if they are larger than 5-8 cm, or admit more than 3 fingers from the palpator's hand, the bull may be predisposed to development of inguinal hernia. Only the spermatic cord should enter the internal inguinal ring.

The importance of rectal palpation of the internal genital tract before attempting semen collection cannot be overemphasized. In addition to providing important information about the structures themselves, this procedure evacuates the rectum and provides needed pre-stimulation for the bull which greatly facilitates electroejaculation for semen collection.

Added resources:

Barth AD Evaluation of potential breeding soundness of the bull. In Youngquist RS and Trelfall WR, editors: *Current therapy in large animal theriogenology* 2, St. Louis, 2007, Saunders.

Dyce, KM et al: *Textbook of Veterinary Anatomy*. 2nd ed, WB Saunders, Philadelphia, 1997, pp 718-720.

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