VETERINARY SIMULATOR INDUSTRIES

See • Simulate • Do • Teach

COMPACT BOVINE DYSTOCIA

Care, Handling, and Maintenance

This document has been created to describe the care and maintenance of the medium-fidelity Compact, or "table-top" VSI Bovine Dystocia Simulator, to avoid misuse and damage and increase longevity of use. This document deals strictly with the compact cow model and its accessories. Handling of the VSI dystocia calf, which accompanies the cow, is dealt with in a separate document.

Cow Body

This bovine model has been entirely hand crafted which may result in minor inconsistencies between models' form, fit, and finish. The material used to create the cow is fiberglass infused with an epoxy resin. This resin has been chosen for its durability and environmentally friendly characteristics, providing safety during its use and curing process. Although UV resistant, it is sensitive to high temperatures, and not intended to be exposed for long periods under hot sunlight where it may suffer deformation, most evident with the fit of the body hatch. Your model is intended for indoor use. Should your model deform under unusually high temperature conditions, the material can be brought back to its original shape. Achieving this is best handled through a direct communication with a VSI technician. Built-in guides and registers are meant to help in fitting the body access hatch, but care should always be taken with its removal and replacement. The compact cow model is best cleaned with mild soap and water with a low-pressure washer, and never with harsh solvents or abrasive tools.

Six ¼" (5mm) reinforced holes are located along the perimeter of the flat floor of the cow body as a provision for attaching the body directly to a table, or to a bracket or platform which in turn may be attached to a table of appropriate height.

Birth Canal

A replica pelvis cast in resin and a single multi-chambered air bladder, which is fit between the pelvis and inside wall of the cow, create the birth canal of the cow. The pelvis and bladder may be removed for cleaning and to exchange or replace the perineum panel. The bladder is held in place merely by friction. The pelvic bone structure is seated in supports on the body wall of the cow and attached to a flat support via a single bolt through the pelvic floor. This bolt needs to be removed in order to remove the pelvic bone structure. The pressure of the bladder can be adjusted for the desired "feel" via a small valve, with the provided hand pump, and should be inflated only with a hand pump in order to control the inflation and avoid damage. Over-inflation may result in distortion of the pelvic bone structure.

Perineum Panel

The soft perineum panel has been designed with flexibility and durability in mind, with an oversized vulva or anal opening, depending on the style of model. This component will wear and possibly tear, but can be repaired with the provided silicone adhesive, or a similar, readily available silicone adhesive. Any tears should be repaired as soon as they are discovered. To repair the soft material, clean the damaged area thoroughly with isopropyl alcohol, apply the adhesive, set the tear, and avoid use for at least 12 hours. A good repair can be as strong as the original cast material.

This panel is a replaceable part, which, in time, may require a refit depending on the amount of use. The flexible panel is attached to a rigid ring flange which fits inside the horse, locked in place with plastic turn-locks. To remove the flange with panel, first remove the pelvis. The pelvic bone structure is seated into supports on the body-wall of the cow and attached to a flat support via a single bolt through the pelvic floor. This bolt needs to be removed in order to remove the pelvic bone structure. Lift the hook-bones from their mounts and the pelvis will be released. Now, the perineum panel can be released by loosening the steel wing-nuts and turning the twist-locks to a free position, and by carefully tugging and flexing the rigid perineum mounting flange until it is free. The soft panel can now be separated from the rigid ring/flange by removing the plastic fasteners attaching the soft panel to the mounting ring.

The accessory VSI bovine reproductive tract panels each have dedicated rigid installment rings to which they are attached, meaning they can be exchanged within the cow model, dedicating the appropriate panel to a specific exercise. Water-based lubricant should always be used in conjunction with the VSI dystocia calf model or whenever the area is palpated.

Calf Support System

One large inflatable multi-chambered air bladder in the main body cavity of the cow provides the uterine support system for the VSI calf model. The bladder has one large lower chamber and two smaller side bolsters which are all inflated separately via valves at the cranial ends of the chambers. Also attached to these side bolsters is a vinyl flap which should be hung over the edge of the hatch opening to protect the VSI calf model from abrasion during loading or unloading. Once the VSI calf is loaded into position inside the body, these flaps can be folded inside the cow body and the hatch installed. The uterine air support chamber is held in place by friction only and can be easily removed for cleaning.

If the bladder becomes damaged it can be repaired with a quality vinyl repair kit (provided) or contact VSI Ltd.

A translucent vinyl bag represents a rudimentary uterus to contain the calf and the lubricant. This bag has a flange attached to the rigid ring of the perineum panel, via the same fasteners as the soft vulvar panel. This uterine bag has a dorsal opening through which to insert the calf and a Velcro closing. Grommets and short elastic cords with clips attach the vinyl bag dorsally to a central 'D'-shaped ring on the body wall of the cow, and anteriorly to the same 'D'-rings on the bulkhead where the sling is clipped. These clips keep the uterine bag from prolapsing during the extraction exercise.

Whenever the VSI calf model is in use, moderate amounts of a water-based lubricant should be applied to the soft perineum panel of the cow and to the calf, in order to avoid damage to any components. A diluted glycerin-based liquid soap will work as well or better than obstetrics lubricant, and the operator should be suitably gloved as if performing tasks on a live animal.

Tail

The flexible tail is detachable. The tail is fastened via two acorn nuts inside the cow, directly above the attaching system of the perineum panel. When these nuts are removed, the tail can be detached by pulling straight up at the tail root.

Calf Pulling

A modified Dr. Frank's Fetal Extractor and drop mat have been provided with the cow model. Padding has been added to the jack base to avoid damaging the surface paint and texture of the cow model. The puller should be used as it normally would be with a live animal to extract the VSI calf model. Use of any other form of extractors may cause damage to the surface of the cow model.

When placed directly behind the cow model, the mat creates a soft landing surface for the calf, should the calf be dropped during the extraction procedure. The mat should always be used when the potential exists to drop a calf during any procedure. The calf model should never be dropped on a hard surface.

Storage

The compact VSI bovine unit should always be stored indoors under moderated temperature conditions. It is appropriate to store the calf model inside the cow, but only if the chambers of the calf support system are properly inflated. However, the calf should always be removed from the cow for transportation purposes, and carried in the carrying bag provided, or a similar container.

General

The main body of the compact cow model and its large components are best cleaned with a mild soap and low pressure washing system. No parts should ever be cleaned with harsh solvents or abrasive tools. The cow model is painted with acrylic latex paints and coatings, and can be touched up if chipping or other damage occurs through use. Many components can be easily replaced if they become damaged or faulty.

Please contact Veterinary Simulator Industries Ltd. for specific repair instructions or any concerns or inquiries.

Veterinary Simulator Industries
Calgary, Canada, (403)-262-9393,
www.vetsimulators.com.
consult@vetsimulators.com

Stay up to date with new products and features on Facebook, YouTube and Instagram @vetsimulators

VETERINARY SIMULATOR INDUSTRIES

See • Simulate • Do • Teach

DYSTOCIA CALF MODEL

Care, Handling and Maintenance

Veterinary Simulator Industries Ltd. has developed this dystocia calf model to aid in the instruction and demonstration of various dystocia positions and remedies thereof. A great deal of research and testing has been involved in producing the most durable simulator with the greatest flexibility and most natural movement. However, in order to create a product that is a close biological mimic, VSI has employed a soft skin and articulated skeleton that require care and supervision in handling. The VSI dystocia calf model should be used only for table-top demonstration or with the compatible VSI dystocia cow model. In no instance should the calf model be used with any other manufacturer's simulators.

VSI provides warranty for any manufacturer defects, but can`t provide protection against damage caused by misuse and unsupervised handling. The model is heavy, yet has a delicate nature and should be treated as such, similar to a real animal. Although a real calf may experience trauma and rough handling during its birth, it only needs to endure this procedure one time. Your calf may experience the birthing procedure several times a day. These simple instructions are intended to provide some guidance and awareness that will help your VSI dystocia calf model last for years of use in your educational environment, but nothing super-cedes common sense and good judgment.

We always recommend the VSI calf model be used only with a VSI bovine dystocia simulator model, or for table-top demonstration, and especially in conjunction with the VSI uterine bag, as other simulators may cause damage to the calf model. Loading the calf into the bag is a process greatly eased with the application of a moderate amount of lubricant.

Although the calf model has been designed for instruction in chaining legs and pulling with jacks, it is not intended to be unduly strained in pulling, or to be dropped on to surfaces from any height. Mishandling in this way or any other way can cause damage to the skin, hooves, and skeleton.

When used with VSI cow model and uterine bag, moderate amounts of water-based lubricants should be used on the calf model, inside the uterine bag and on the perineum panel to help create a realistic, slippery surface, and to limit resistance and friction that may cause damage to the soft skins.

The floor mat provided with the VSI dystocia cow model should always be employed when there is potential danger of dropping the calf. Otherwise, a padded surface should be used in the event the calf is unduly released and is dropped.

When demonstrating use of the head-snare, only the soft VSI chin support piece should be used, as other snares may cause damage. The calf model should never be carried by the tail or ears, as this may result in damage.

The skin of the VSI calf model is composed of silicone, which can be difficult to repair with any materials other than the adhesives provided by, or silicone adhesives recommended by VSI. When gluing tears, first thoroughly clean the damaged area with rubbing alcohol, never with harsh chemicals or solvents. Allow the glue to set and cure for at least 16 hours before use. Tears should be repaired as soon as they appear, in order to prevent further tearing and to close any openings that allow access to the body cavity.

For general cleaning, the entire calf model can be power washed
or scrubbed with mild detergent and water and a soft cloth, but should not be immersed. If there are tears in the skin, care should be taken to avoid getting water inside the body. Repairs should be completed and cured before the model is given a general washing.

The calf model is best stored in the VSI dystocia cow model, supported by the air-support system, as long as the chambers of the support system are properly inflated. Otherwise, the calf is best kept in the provided storage bag. If the calf is stored in any other way, a padded surface and covering should be used. The soft skin, combined with the weight of the calf, can be permanently impressed by resting on a hard surface for long periods of time. The skin of the calf has a somewhat tacky nature which tends to attract dirt and other particles, therefore should be covered when not in use.

VSI continues research and development of techniques, design, and materials in an effort to improve all aspects our products, attempting to create the optimal educational and interactive tools. We invite feedback and suggestions in an ongoing collaborative effort between our manufacturing industry and our end-use clientele.

Please contact Veterinary Simulator Industries Ltd. for specific repair instructions or any concerns or inquiries.

Veterinary Simulator Industries
Calgary, Canada, (403)-262-9393,
www.vetsimulators.com.
consult@vetsimulators.com

Stay up to date with new products and features on Facebook, YouTube and Instagram @vetsimulators

VETERINARY SIMULATOR INDUSTRIES

See • Simulate • Do • Teach

DYSTOCIA CALF MODEL WARRANTY

Warranty, Care, Use

This document contains information regarding warranty, care, use, and maintenance pertaining to the VSI dystocia calf model. VSI Ltd. has dedicated a great deal of time, energy, and funds into the design and development of the dystocia calf model, but only real-world use in varied situations over a protracted period of time has properly determined the functionality, durability, and requirements of the model. With this information, VSI has attempted to create price point, purchasing, and warranty guidelines that best suit both VSI and the end-user clients, as well as provide aid in the purchasing decision.

The dystocia calf and cow model were designed and developed with particular parameters of use in mind, based on available technology and on consultation with professional collaborators, namely veterinary educators and practitioners. The model has seen use outside these original parameters, both in frequency, environment, supervision, and general expectation. VSI has attempted to make design and composition changes to accommodate broader use of the models, but this has generally only served to widen the expectation of use and push the models further beyond their limitations.

The dystocia models are intended to demonstrate in-utero mal-presentation and the subsequent in-utero manipulation to properly present the calf for extraction, under the guidance and supervision of qualified instructors. Extraction should be kept to a minimum, as this is the process by which the models endure the greatest strain and the greatest risk of damage. When the calf is extracted, it should never be allowed to drop to the floor, should be gently lowered, and the floor should always have a soft drop-mat in place in case the calf is accidentally dropped.

The model is not meant for public demonstration unless all of the above guidelines can be followed during such a demonstration. The model is heavy, yet has a delicate nature and should be treated as such. Although a real calf may experience trauma and rough handling during its birth, the real calf only needs to endure this procedure one time. The VSI model calf may experience the birthing procedure several times throughout its lifetime. With proper care, clients have been able to extract the calf from the cow model over 1000 times without any major issues. A single instance of mishandling can cause irreversible damage.

Detailed instructions on use, care, and maintenance are included with the models, and are intended to provide some guidance and awareness that will help your VSI dystocia calf model last for years of use in an educational environment, but nothing supersedes common sense and good judgment.

VSI provides a 1 year warranty (commencing the date the model is received by the purchaser) for any manufacturer defects, but cannot provide warranty protection against damage caused by misuse and unsupervised handling, or the appearance of a manufacturer defect after the stated 1 year period. If the calf shows damage after 1 year of use, it may still be repaired and refurbished by VSI for a fee and applicable shipping charges.

We rely on our partners in education for their input, dedication, and collaboration in the continued development, improvement, and use of VSI simulation models. We believe practical models are an important part of the modern didactic system, but we depend on the understanding and cooperation of the professionals who employ them in their programs.

Please contact Veterinary Simulator Industries Ltd. for specific repair instructions or any concerns or inquiries.

Veterinary Simulator Industries
Calgary, Canada, (403)-262-9393,
www.vetsimulators.com.
consult@vetsimulators.com

Stay up to date with new products and features on Facebook, YouTube and Instagram @vetsimulators