

# THE USE OF A MODIFIED, LARGE CERVID HYDRAULIC SQUEEZE CHUTE FOR RESTRAINT OF EXOTIC UNGULATES

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## Introduction

Maintenance of healthy collections of captive, exotic ungulates requires development and implementation of rigid, intensive preventive medicine programs. Preventive medicine programs often require frequent handling of animals for such things as quarantine, annual, and preshipment health screening, disease surveillance, parasite control, and dental and hoof prophylaxis. State and federal veterinarians are also beginning to impose more extensive testing requirements for interstate and international shipments of exotic ungulates which entail increased animal handling and manipulation. Progressive collections are utilizing captive ungulates for numerous studies addressing the medical, management, behavioral, and reproductive concerns of various species in captivity and in the wild which, again, often requires frequent handling of animals. The development of good chute systems and restraint devices can streamline these procedures and reduce the stress and possible morbidity associated with frequent and/or multiple anesthetics on individual animals. Drop-floor chutes have been used effectively at numerous facilities for the restraint of several ungulate species; however, these systems appear to have some drawbacks and lack versatility.<sup>1</sup> This report describes the in-factory modification of a large cervid hydraulic Tamer<sup>R</sup> (Fauna Research, Inc., 8 Bard Avenue, Red Hook, New York 12571) into a versatile restraint chute which has been effective for restraint of several medium to large ungulate species at White Oak Conservation Center.

## Design and Modification

The standard hydraulic Tamer<sup>R</sup> consists of 4' x 8' sides with high and low 4" padding separated by bare metal. One side is moved horizontally by a large hydraulic piston and supplies the crushing/restraint action of the unit. The sides can open wide to form a 6' x 8' open stall-like structure. Both sides can be moved independently of one another in the vertical direction to allow elevation of the restrained animal. The operator stands on a platform on the horizontally stationary side and controls the unit with 3 levers while watching the animal in the chute. The crushing force of the unit is controlled by an adjustable bleed valve near the control levers, and the hydraulics are powered by a commercial two horsepower motor and heavy duty hydraulic pump.

Several important in-factory modifications were made to the standard hydraulic Tamer<sup>R</sup> to improve its versatility and effectiveness for the varied ungulate species housed at White Oak Conservation Center. The height of its sides was extended by 3' with reinforced solid steel walls with slide access doors to prevent escape by jumping species while still allowing good access to the animal. The sides of the unit were hinged on moving arms to allow independent angulation of the sides. The sides can be angled together at the bottom to act as a V-shaped impingement chute for small species (similar to a drop-floor chute) or angled together at the top for better control of the head and neck of large, powerful species. Two inch padding was added to the center section of both sides to improve safety and prevent horn entrapment of smaller species. Two hinged access doors were placed in the center section of both sides to increase access to animals for bleeding and injections.

## Results and Discussion

The most important feature of this modified hydraulic Tamer<sup>R</sup> chute is its great versatility. It can easily be changed from a raised, drop impingement chute for small and medium ungulates to an active, crush chute for large ungulates. The operator has quick, precise control over the action of the chute and can quickly squeeze an animal for safe restraint

or can "back-off" and allow the animal to re-position itself. If the animal is powerful and struggling, its legs can be lifted off the ground to take away its advantage. The unit can be opened wide to allow an animal to turn around, to allow an animal to calm down, or for use in sorting several animals. With smaller species, 2 to 3 animals can be restrained together in the chute. The unit allows good access to animals from the top through the sliding access doors, from the sides through the hinged access doors, or from the front and rear. Access is good for performing most procedures. If the animal is lifted off the ground, access to the feet for trimming or treatment can occur. To reduce noise levels, the hydraulic pump and motor can be moved away from the chute.

This modified hydraulic Tamer<sup>R</sup> has been used successfully to restrain lowland nyala, greater kudu, bongo antelope, giant eland, and banteng so far at White Oak Conservation Center. The unit has been extremely useful for preventive medicine procedures and for repetitive, daily, hands-on treatment of cases which would otherwise require immobilization. Its most important future use will be for research applications.

#### LITERATURE CITED

1. Blumer, E. S. and T. W. deMaar. 1993. Manual restraint systems for the management of non-domestic hoofstock. *Proceedings American Association of Zoo Veterinarians*. pp. 156-159.