

MODIFICATION AND USE OF THE SELF-ATTACHING DEER COLLAR

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Introduction

Verme (1962) detailed the construction and use of the self-attaching deer collar. During the past several years we have tested this device on the deer habitat research units in Roscommon County. This work has led to a modification in design and construction and some comments on techniques. The material presented here is by no means the ultimate, but only an update in state of the art. We hope more widespread use will prompt further modification and suggestions for improvement of the technique.

Lee Schrader, with the assistance of Forest Fire Experiment Station, was responsible for design and fabrication of the new collars. Jim Terry did the actual field testing and made the drawings for this paper. Dick Moran prepared the manuscript and provided general supervision of the collar project.

Purpose

Returns from self-attaching deer collars have been useful in the Upper Peninsula in the study of deer movements, particularly in defining summer or seasonal ranges of deer with respect to winter yards, home range, etc.

We are attempting to shed some light on deer movements between our research area cuttings and adjacent Mid-Forest Lodge Club feeding stations. It should be possible to learn something about recruitment to crop damage areas by strategic collaring efforts. Collar returns are more likely where "hunter choice" seasons are employed.

Design

We found two major difficulties with the original version: (1) the collar rope sometimes twisted when closing, preventing the sliding ring from riding directly onto the snap spring and closing positively, and (2) the attaching wire had to be filed at the snap when the collar was set. This required an extra operation at the site, some judgment on how deeply to notch the wire, and once filed, the wire was subject to breakage if moved to a new site.

The modified collar features a formed wire spring lock (Fig. 1) designed to close regardless of rotation or position. To eliminate filing of the anchor wire for break-away, the anchor wire is looped to the spring lock with a fixed constant pull-away strength of about 70 pounds. The junction of wire-to-lock is then covered with a plastic sleeve to insure smooth sliding of the ring over the spring lock. Thus, collar sets can be moved without breaking.

Collaring Sites

During the past several years we have capitalized on several of Verme's suggestions with regard to techniques. Snow depths in Roscommon County (and much of the Lower Peninsula) are not often such that deer yard tightly, developing deep runways where collaring sites are abundant.

We have had good success with sites associated with new cutting and young dense aspen stands. Deer often follow well-defined runways or travel lanes from cover to feeding sites, but disperse throughout cuttings. Dense tag alder, balsam, and willow crossings have also been productive. In these situations, passage is restricted to 12-18 inches, and collars can readily be attached and camouflaged. Often, movement can be restricted and a collar site constructed by placing stakes and/or small saplings in strategic locations.

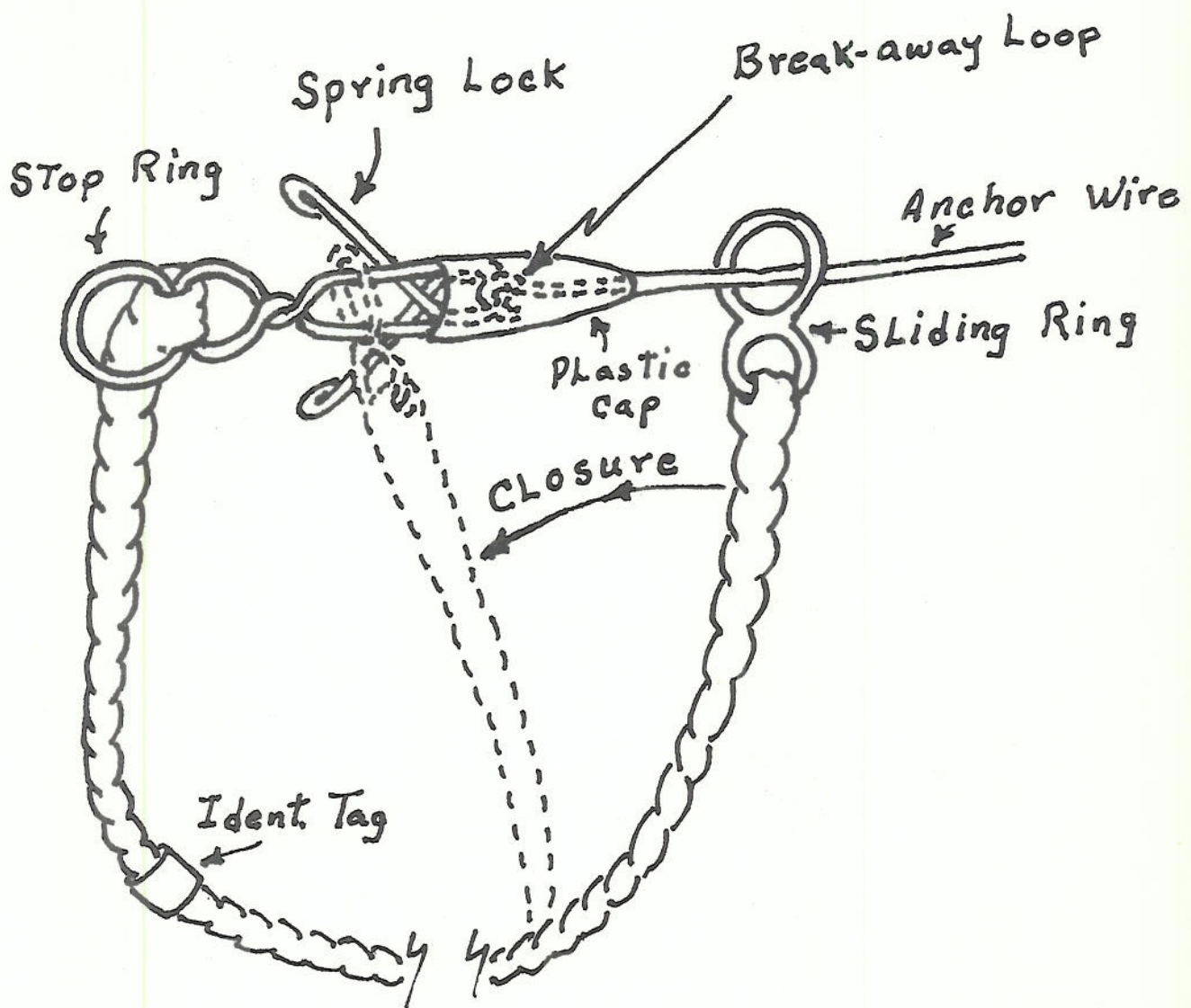


Fig. 1. Detail of modified self-attaching deer collar.

Deer are much more likely to pass through a set where the attaching wire, loop, and collar are part of the "scene". On the other hand, they usually bypass a "naked" set which presents new visual, olfactory, and tactile sensations. Thus, when working in upland situations with poorly defined runways and little restriction in deer movements, one must use extra care in site selection and set-up.

Setting Collars

Working under the described field conditions, we have had good success with the "drag set" (Fig. 2) as suggested by Verme. This is particularly well adapted to uplands--cuttings and young stands where a site must be created or improved by addition of poles, small saplings, etc. in order to restrict passage and provide a place for the anchor wire.

For the drag, cut an aspen or hardwood sapling of 1-1½ inches dbh approximately 8-10 feet in length leaving the limbs attached. Using No. 20 soft wire, fasten this drag "lightly" to a growing support tree (or stake) along the runway (Fig. 2).

After threading the anchor wire through the sliding ring on the end of the collar, wrap it once around the drag (tree or stake in the case of a "solid" set) and twist around itself to secure (Fig. 3). Cut off any excess to prevent interference with the sliding ring. The wire loop should be about 15 inches in diameter from collar to anchor wire at widest point (see Fig. 2). The anchor wire should slope downward smoothly at the anchor point to facilitate sliding of the ring.

The opposite or snap end of the collar should be fastened lightly to the drag, stake or tree (Fig. 3). While a "solid" set, using an intact tree or stake only (as in Fig. 3), can be effective, the addition of the drag has several advantages. In the case of small deer, the dragging and bouncing

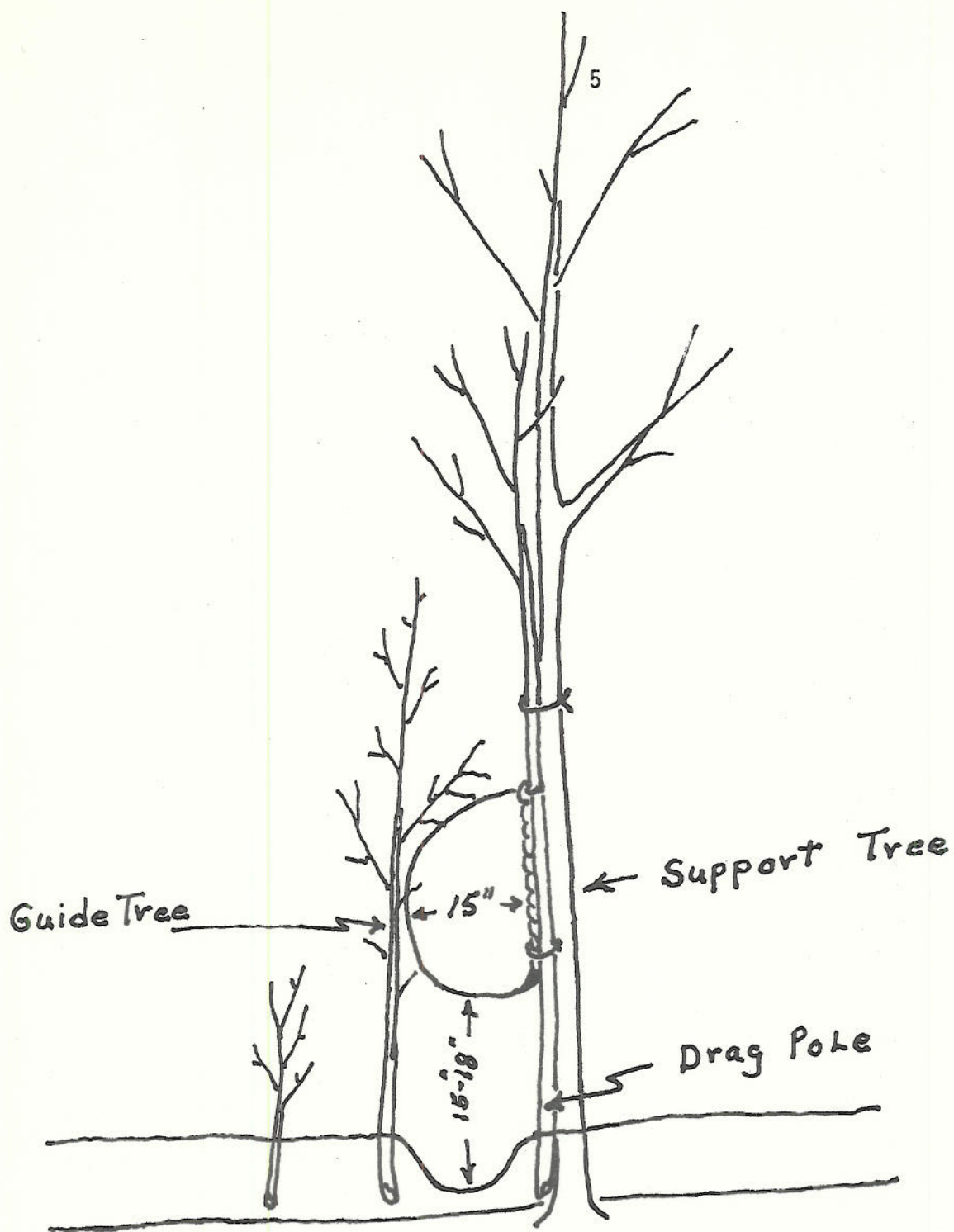


Fig. 2. Drag set on runway using natural support tree and additional guide tree.

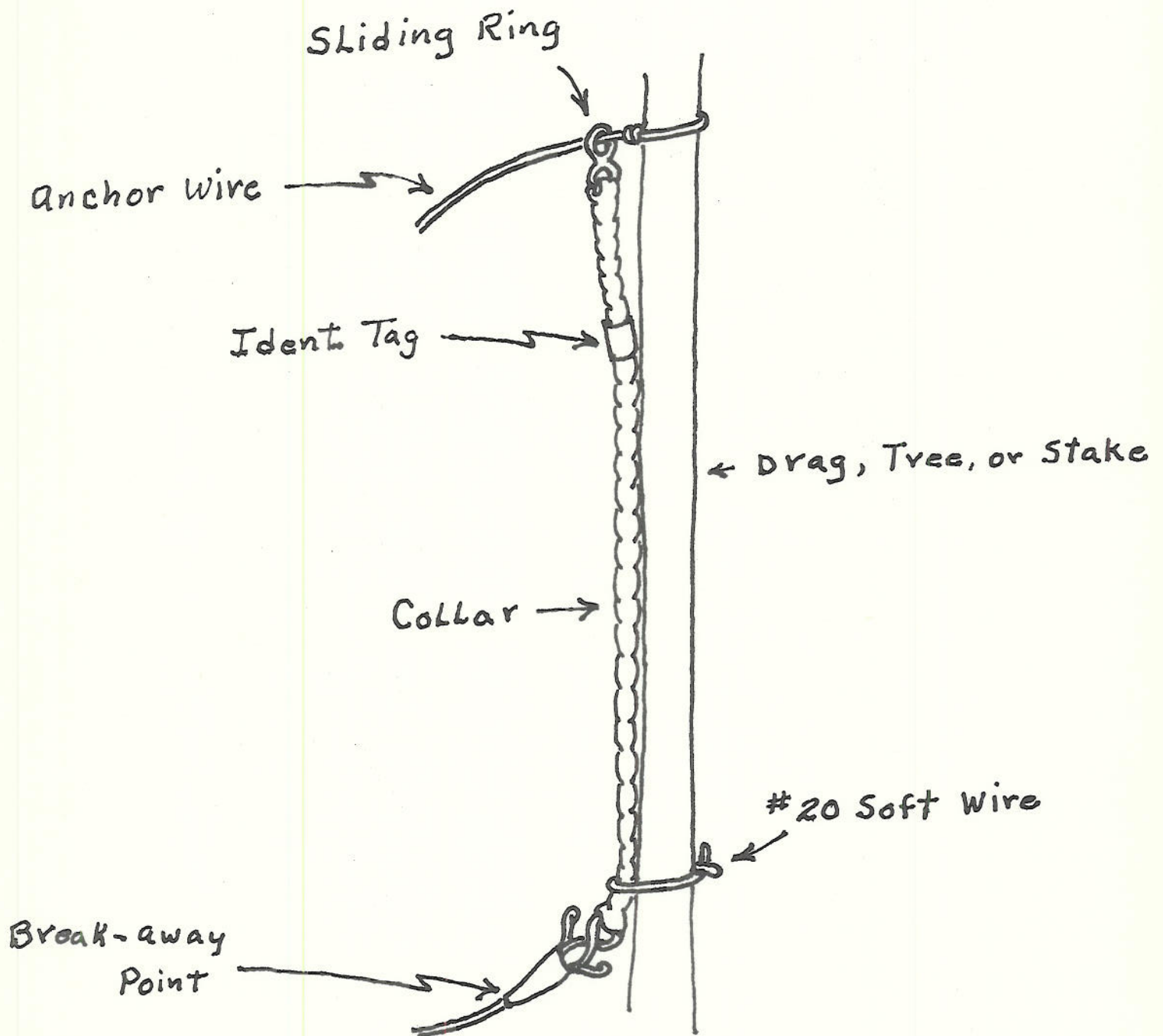


Fig. 3. Attachment detail of collar to drag, sapling or stake.

increases the chances of the loop closing and locking. Also the drag mark can be easily followed in the snow for verification of a catch--or recovery of a misfire. This can save time where there is more than one set of tracks present.

Additional steps for an effective set would include final touches to camouflage the device, and placement of guide trees and brush to steer the deer into the collar. A limb positioned over the top of the anchor wire loop not only conceals the wire, but encourages the deer to lower the head downward into the loop zone.

Records

A small field notebook record should be kept of each set showing:

1. date set is made
2. location (legal and local)
3. collar color
4. collar tag number
5. performance

date of successful catch

date of misfire

date reset etc.

We have found that where several collars are set at a given location, it facilitates record-keeping to thumb tack a small round paper tag at each set showing the tag number for that collar. It is then immediately evident as to which collar is missing. It also may help to flag the area for ease of relocation.

All records, unused collars, and/or broken collars should be returned to the Houghton Lake Wildlife Research Station. This will permit us to have

a single central tag file for the Region. The Station can supply collars and collar record summary sheets (Fig. 4).

Field Equipment

Collars

Hatchet

Needlenose pliers

Side-cutting pliers

Staples

#20 soft wire

Tags and tacks

Small notebook

Pencil

Plastic flagging

LITERATURE CITED

- Verme, L. J. 1962. An automatic tagging device for deer. J. Wildl. Manage. 26(4):387-392.

Fig. 4. Summary of data for the proposed San Joaquin River Dam and Reservoir. Prepared by USWDC.