

## MODIFY YOUR TRASH CONTAINER TO RESIST BEARS



Black bears occur throughout most of Virginia. Residents may not be aware that black bears live nearby until a bear is attracted to a human-related food source such as a trash container or bird feeder. If that occurs, an on-going problem can be prevented by promptly securing trash containers and removing bird feeders and other potential foods that may attract the bear. Keeping black bears out of your trash is one of the best ways to prevent unnecessary bear problems around your home. Storing the trash container in a basement, garage or secure out-building is ideal for preventing access by bears. If there is not a secure location to store your trash, by using a few hand tools and some simple hardware, you can modify your trash container to make it bear resistant. Two different designs are offered depending upon the type of trash container you have. The hardware is relatively inexpensive and should be available at your local hardware or building supply store. You could also use other hardware and your own ideas to make your trash container bear resistant.

Some Counties (ex. Roanoke County) allow trash container modification to deter/prevent access by bears. However, with an automated collection system you must remove the clips or carabineers prior to trash pickup. Contact your county waste collection service to find out if modification is allowed.

Modifying your container may not be enough to keep persistent bears from accessing your trash. Bears have a greater chance to gain access if the container can be tipped over. Use a ratchet strap device to secure the container to a tree or post until trash collection day.

### Tools required include:

Drill with 1/4" and 5/16" drill bits

Wrenches: 7/16" and 1/2"

Ratchet with 7/16" and 1/2" sockets

Tape measure

Black permanent marker

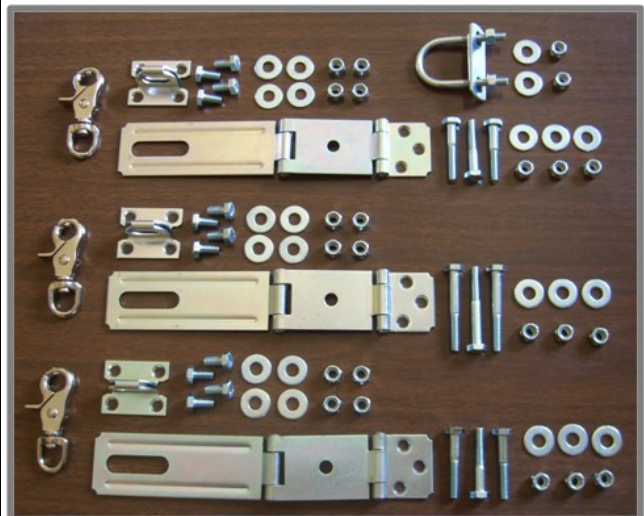
For Design #2, a 1/4" round file, flat file and vise grip pliers are also needed.

## Design #1



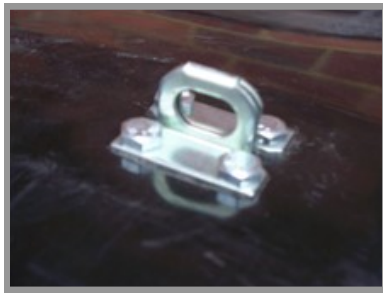
### Materials Needed

Quantity	Item
3 (2)	4½" Double Hinge Hasp (Wood screws in hasp package are not needed.)
3 (2)	1/2" Trigger Snap Clip
1	U-bolt 1/4" x 1 1/8" x 2 1/4"
12 (8)	1/4" x 3/4" Hex Bolts
6 (6)	1/4" x 1 1/2" Hex Bolts
3	1/4" x 2" Hex Bolts
23 (14)	1/4" Flat Washers
23 (14)	1/4" Stop Nuts
Numbers in ( ) are items needed <u>in addition to numbers in black</u> to increase security as found in optional step 6 below.	



## Design #1 Instructions

1. With the lid down, mark position of hinge hasp holes on each side of container body, approximately 9 inches from the front.
2. Drill one 1/4" hole and insert one 1 1/2" Hex Bolt (bolt length may vary with container style). Attach washer and Stop nut, tighten slightly. Align hasp with marks and drill remaining holes. Insert bolts and attach washers/Stop nuts. Tighten all bolts securely.
3. With the lid down again, fold the hinge(s) over the lid. Position the eye of the hasp under the hinge and mark the hole locations. Drill 1/4" holes in the marked spots. Insert four, 1/4" x 3/4" Hex Bolts through each hasp eye, secure with washer and Stop nuts.



4. Attach Trigger Snap Clips or carabineers to each hasp eye to secure lid. Mark location of front hasp and repeat process above, using 1/4" x 2" Hex Bolts.
5. On either side, 6 inches below the top, mark and drill holes for the U-bolt. Remove the nuts and plate, then screw the 1/4" nuts evenly 3/4" from the end of the u-bolt. Replace the plate and insert into u-bolt into the drilled holes. Attach washers and Stop nuts and tighten. Use the u-bolt to store Trigger Snap Clips or carabineers on day of trash pickup.



6. To increase trash container security, install two additional double hinge hasps, one on each side, 8 inches from the back.





## Design #2



### Materials Needed

(one of each shown below)

Quantity	Item
10	7/8" X 8" Mending Plate
5	1/2" Trigger Snap Clip
1	U bolt 1/4" x 1 1/8" x 2 1/4"
15	1/4" x 3/4" Hex Bolts
10	3/8" x 3/4" Hex Bolts
27	1/4" Flat Washers
17	1/4" Stop Nuts
10	3/8" Stop Nuts



## Design #2 Instructions

1. Make a mark 1 1/4" from one end on five of the 7/8" x 8" Mending Plates.

2. Attach Mending Plates to the inside of container. First, make a mark on the inside of the trash container 9" from the front. Hold the Mending Plate on this mark and align the mark on the Mending Plate with the inside top of the container. Mark one of the holes and drill one 1/4" hole. Insert one 1/4" x 3/4" Hex Bolt with washer through the container side. Secure the Mending Plate on the inside with a Stop nut, tighten slightly. Drill remaining two holes through the Mending Plate and attach bolts, washers and Stop nuts. Tighten nuts securely. On the same side, install another Mending Plate 9" from the back. Repeat installation of two Mending Plates on the opposite side.



3. With the lid down, mark the lid where the Mending Plates make contact. Flip the lid over and drill a series of 1/4" holes to make a slot(s) for the Mending Plate(s). Use the round or flat file to complete the slot. Position the lid over the Mending Plates and check alignment.

4. Place a Top Support Plate (see details on how to create these plates below) over each of the protruding Mending Plates, align with the slot cut into the lid and mark position of holes. Drill two 5/16" holes for each plate and insert 3/8" Hex Bolts. Attach washers and Stop nuts inside lid. Tighten securely.



5. Install a Mending Plate and Top Support Plate, centered in the front, using the same process above.

6. Attach Trigger Snap Clips or carabineers to each Mending Plate hole to secure lid. (Helpful tip- enlarge hole with 3/8" drill bit.)



7. On either side, 6 inches below the top, mark and drill holes for the U-bolt. Remove the nuts and plate, then screw the 1/4" nuts evenly 3/4" from the end of the u-bolt. Replace the plate and insert into u-bolt into the drilled holes. Attach washer and Stop nut and tighten. Use the u-bolt to store Trigger Snap Clips or carabineers on day of trash pickup.



8. Make the Top Support Plates (5) from 7/8" x 8" Mending Plate. Begin by marking a line along the center between the center two pre-drilled holes (Figure 1). Drill four or five 1/4" holes centered on this line (Figure 2). Use a 1/4" round file to clean out the drilled holes and a flat file to complete the slot (Figure 3). Secure the plate(s) with Vise Grip pliers or in a vise when drilling and filing.



Figure 1



Figure 2



Figure 3

Simply making your trash inaccessible to bears and making sure there are no other attractants on your property can help prevent conflicts and

## Keep Bears Wild!

Check out our website at [www.dgif.virginia.gov/wildlife/bear/](http://www.dgif.virginia.gov/wildlife/bear/) to:

- Watch a video of the live "bear test" on a retrofitted trash can (cans provided by Roanoke County, "bear test" made possible by the Virginia Tech Black Bear Research Center )
- Watch the video version of these instructions (originally filmed by Roanoke County and RVTV-3)
- Find instructions and videos about other do-it-yourself projects like electric fencing
- Learn about bears, their behaviors, biology, and more ways to prevent conflicts

