

Make Your Own Bucket Scope

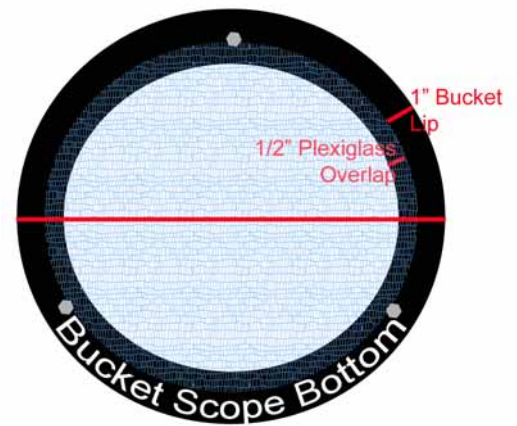
You Will Need:

- clean 5 gallon black bucket (OR black flat spray paint)
- 1/8" plexiglass, pre-cut to proper size (see step two)
- 100% silicone sealant (clear)
- three stainless steel, 1/4" bolts (1/2" long) with nuts
- six stainless steel washers
- saber saw
- electric drill and 1/4" drill bit



Directions

1. If your bucket is not already black, paint the inside of the bucket black to prevent glare. Let dry.
2. Find the diameter of the bottom of the bucket. The plexiglass, when placed over the bottom of the bucket, should allow for a 1" flat edge (or lip) around the bottom of the bucket. Therefore the diameter of the plexiglass should be 2" less than the diameter of the bucket bottom. Make sure this 1" lip extends beyond any tabs or protrusions present on the bottom of the bucket.
3. Draw a circle on the bottom of the bucket that has a diameter that is 1" less than the diameter of the plexiglass (3" less than the diameter of the bottom of the bucket). This is the circle that will be cut out of the bottom of the bucket. The flat lip of the bucket will be a total of 1 1/2" – the plexiglass will overlap the bucket lip by 1/2" all around.



4. Use the electric drill to drill a starting hole just inside the drawn circle. With the saber saw, cut the circle out of the bottom of the bucket (Figure 4).
5. Center the plexiglass over the hole in the bucket – the hole should be completely covered, with the plexiglass overlapping the lip of the bucket by 1/2".

Figure 4



6. Holding the plexiglass in place, mark 3 dots of equal distance from each other around the edge of the plexiglass circle. Use an electric drill to make a hole in the bucket at one of these dots (Figure 6). The hole should lie right at the edge of the plexiglass. Place a bolt in the hole – the head of the bolt should lie partly on top of the plexiglass, but the bolt should still be able to sit straight and fit snugly in the hole.

Figure 6



7. Use the first bolt to hold the plexiglass in place – the plexiglass should be pressed up against the bolt. Drill the second hole. Drilling the holes one at a time and using the seated bolts as guidelines ensures that all the bolts will fit properly and hold the plexiglass in place. Place the second bolt in its hole. Again, be sure that the bolt sits straight but secures the edge of the plexiglass. Now with the first and second bolt to hold the plexiglass in place, repeat the procedure for the third bolt.

8. If there is still protective plastic on the plexiglass, peel it off.

9. Take the bolts out of the bucket and the plexiglass off. Make a continuous ring of silicone – roughly ¼” wide - along the edge of the bucket’s lip (Figure 9).

Figure 9



10. Make another ¼” wide silicone bead along the edge of the plexiglass circle (Figure 10). Press the plexiglass onto the bucket lip – silicone ring onto silicone ring. Be sure to place the plexiglass carefully – don’t cover any bolt holes! Rotate the plexiglass slightly to get rid of any air bubbles.

Figure 10



11. Use the silicone to make a bead over each bolt hole (Figure 11a)– the bead should cover the hole completely. Slide a washer onto a bolt and slide the bolt through the bead of silicone and into the hole (Figure 11b). The bead should distribute fairly evenly underneath the washer and bolt. Repeat for the other two bolts.

Figure 11a



Figure 11b



12. Turn the bucket over. Place another bead of silicone around the end of each bolt, inside the bucket. Slide the second washer into place – again, the silicone should distribute evenly under the washer. Repeat for the other bolts.

Figure 12



13. Screw the nuts tightly into place (two wrenches may be necessary to do this). Do not overtighten the nuts – this causes the plexiglass to crack.

14. Allow the silicone to cure for the amount of time directed (usually 24-48 hours). Check for leaks (Figure 14). The bucket scope is now ready for use!

Figure 14

