



A/C Cooler

Materials:	
1 wheeled cooler	4 10/32 washers
1 6 foot section 1 inch PVC pipe	4 5/16 hex head bolts
1 2 inch 90 degree PVC street elbow	8 5/16 nuts
1 3 inch PVC toilet flange	8 5/16 washers
1 2 inch PVC 'T'	1 12 volt 3 inch inline fan
2 '2 to 1' inch PVC reducers	1 6 foot cigarette lighter adapter cord
2 1 inch PVC 90 degree elbows	1 6 foot length of pipe insulation
2 1 inch 45 degree elbows	1 aluminum can
1 4 x4 1/4 inch plywood section	Clear silicon
4 10/32 flat head screws	PVC primer and glue
4 10/32 nylock nuts	Silver and blue paint
	Scrap Sheet metal
	Zip ties

Tools:

Dremel tool with attachments	Wrenches
Drill with various bits	Pipe cutter
Caulking gun	Disc sander
Tin snips	Jig saw
Wire strippers/crimpers	Tape measure

Preparing the PVC:

Cut 6 foot PVC pipe into 2 four inch and 2 six inch lengths. Set aside.
Prime and glue 45 degree elbows onto one end of each six inch piece.
Prime and glue 90 degree elbow onto perpendicular end of 45 making sure there is a definite left and right side pipe.
Tape 90 opening and paint silver. Let dry.
Using Dremel with cutting wheel cut two slots onto one side of 2 inch T.
Using tin snips cut aluminum can and flatten. Cut can in half and fold each half once to crease.
Cut half way down crease and unfold to create tabs. Slide folded half into PVC slot and wrap tabs around PVC pipe.
Zip tie in place and seal with silicon. Let cure.

Preparing the Cooler:

Measure center inside front of cooler 4 1/4 inches from bottom of cooler and mark. Drill small hole through to outside.
Center toilet flange base on hole. Mark the full circumference on outside of cooler. Use Dremel to cut out hole.
Test flange for fit and trim if necessary. **DO NOT GLUE PVC DURING THIS STEP.**
Temporarily insert flange and attach 2 inch elbow and T, there should be minimal clearance from bottom of cooler.
Insert reducers into T and mark areas where 1 inch pipe will extend through both forward sidewalls of cooler.
Remove all PVC from cooler and drill these holes using 1 inch spade bit.
Replace PVC and line up holes using 4 inch PVC pipe section, trim holes where necessary for fit. Again remove PVC.
Using silicon seal all exposed insulation in cooler. Insert toilet flange and drill holes in square pattern parallel to base.
Insert flat head screws, washers and nuts and secure with wrench. **DO NOT OVERTIGHTEN.**
Fill any gaps on inside area with silicon, let cure.

Preparing the Plywood:

Set face of toilet flange on board and trace outline for inside and outside diameters. Mark holes for locking bolts.
Using jigsaw cut slightly larger outside diameter and use 12 volt fan diameter to cut inside hole.
Use disc sander to smooth edges of outer dimensions and Dremel sanding bit for inner. Test fan fit and trim where necessary.
Using tin snips cut small squares out of sheet metal. Paint plywood and metal squares blue. Set aside

Assembly:

Prime and glue 2 inch elbow, T, reducers and 4 inch sections respectively. Fill gaps in sidewalls with silicon. Let cure.
Prime and glue side pipes so 45 degree elbows are perpendicular to base of cooler.
Install bolts onto plywood leaving 1 inch gap between head of bolt and first nut.
Install washers between nuts and plywood and adjust to fit so plywood can be seated and reseated easily on the toilet flange.
Secure fan using small metal squares and crimp lighter chord to fan wires. Accent side pipes with insulation.