

Chapter 24 - Finishing Mechanicals

Things to Consider



Components

Electrical Fixtures & Outlets Thermostat A/C Cage	Plumbing Fixtures Water Heater	HVAC Registers A/C
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Timing & Prerequisites

- This phase of the project cannot begin until the cabinets and countertops are installed.
- The House/Project Lead will work with the Habitat Superintendent to coordinate these volunteer activities.

Activities

The mechanical contractors will complete this phase once the cabinets and doors have been installed.

Final HVAC (Contractor)

Permanently install the thermostat and test the furnace.

The final supply lines and cold air returns will be installed.

When the foundation for the house is poured, the contractor will pour a pad for the a/c condenser. After the final grade is done, the contractor will set the condenser on the pad.

A/C Cage (Volunteers)

The cage should fit over the a/c condenser with the bottom rails flush to the concrete pad. The back of the cage should be within 4" of the house. The power line will extend from the unit to the disconnect box on the house. The line should be long enough to allow the cage to slide back close to the house.

The cage will be installed with three (3) red head bolts tapped into the pad. Be sure to apply adhesive to the holes before inserting the red head bolts.

Finish Plumbing (Contractor)

The plumber will install the kitchen sink; trap and faucets.

The toilets will be installed.

The traps and faucets for the vanities will be installed.

The hot water heater will be installed.

The water supply lines will be completed.

Finish Electrical (Contractor)

The electrician will install all of the outlets and fixtures.

All of the electrical runs will be installed into the service panel.

Vented Range Hood (Volunteer)

The range hood will be installed below the upper cabinet above the range. The hood must be vented to the outside; therefore ductwork must be installed behind the hood. There are two pieces to the ductwork. One part fits into the back of the vent and extends through the wall. The other piece fits on the outside and has flapper to keep wind from blowing back inside. The outside piece must be trimmed to size. Follow these steps to install the vent and ductwork:

1. Remove the filter and fan from your hood. Remove the knockout for the ductwork in the back of the vent. Also remove the knockout for the electrical wire.
2. Turn off the electrical power to the wire for the power vent.
3. Hold the hood up under the cabinet and mark the location for the duct on the wall with a pencil. Also mark the location of the electrical wire hole.
4. Use a utility knife to remove the drywall and the insulation behind the drywall. Using a 8" long drill bit, drill holes through the outside wall in each corner of the opening. Be careful to keep the bit square to the hole.
5. Set a ladder outside beneath the holes. Climb up and connect the holes with a pencil. Using a reciprocating saw cut through the siding, Dow Styrofoam and OSB.
6. Once the hole for the ductwork is open, insert the ductwork through the hole from the inside. The ductwork should slide straight through the hole. Adjust the hole if needed with a reciprocating saw.
7. The outside cover will need to be adjusted to fit into the hole. Measure the depth of the hole and the length of the ductwork. Cut the outside cover piece to a length which will allow it to slide over the ductwork and tight against the side.
8. Slide the two pieces together and anchor the outside piece to the house with two (2) 3" decking screws.
9. Drill a hole in the drywall at the location of the electrical wire access. The electrical wire must be routed to the hole. Tunnel the drywall to route the wire to the hole.
10. Spray expanding foam into the wall filling the cavity containing the ductwork and wiring.

11. Install a cable clamp in the electrical knockout hole on the hood. Hold the hood in its final position and feed the electrical cable through the clamp. Slide the hood over the fingers on the ductwork. Bend the finger over hold the ductwork to the vent. Screw the hood in position below the cabinet with four $\frac{3}{4}$ " pan head screws.
12. Reinstall the fan unit and filter. Connect the black wires together, the white wires together, and the green or copper wires together or to a ground screw. Cover the wire connections with wire nuts, and then cover all the wiring with the electrical housing cover. Finally, turn the power back on and see how it all works.