

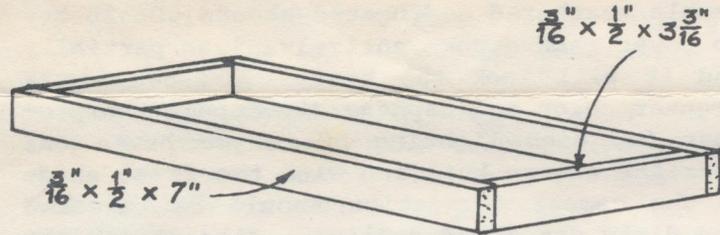
LVM16 - POWERHOUSE

A powerhouse is a building in which power is generated for one purpose or another. Powerhouses usually were huge impressive structures made of brick or stone, or combinations of both. However, the mining industry invested most of its money underground in removing coal, not on the surface buildings necessary to process it for the market. Therefore, the powerhouse, like all the rest of the buildings, was fabricated from a steel framework and a cheap corrugated covering.

With this model, we have tried to depict a typical mine powerhouse with its tall steel, guyed smokestack, which furnished power to run pumps, compressors, mine locos and many other things. The water tank provided water necessary for washing, sorting and grading coal.

POWERHOUSE FOUNDATION

Using the two $3\frac{3}{16}$ " x $\frac{1}{2}$ " x $3\frac{3}{16}$ " and two $3\frac{3}{16}$ " x $\frac{1}{2}$ " x 7" pieces supplied, glue them into a square frame as shown overlapping the $3\frac{3}{16}$ " pieces. Make sure this foundation is square before the glue sets.



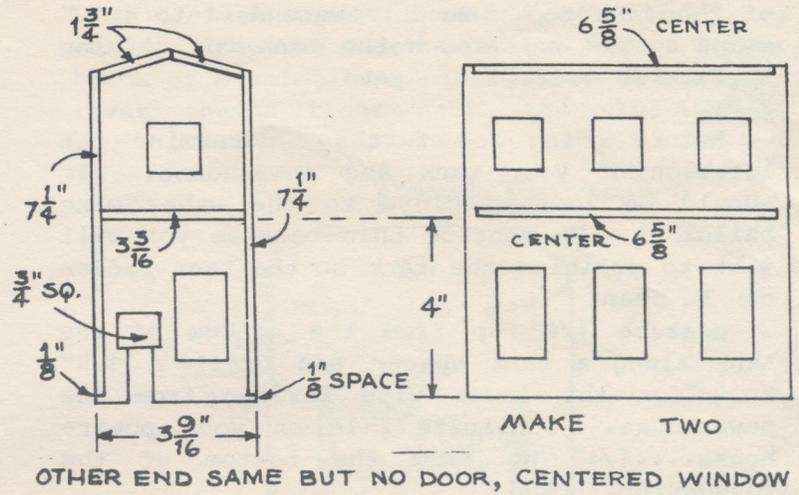
POWERHOUSE WALLS

You will find six corrugated sheets marked in red, green, blue and orange letters. Glue the edges of the "A" sheets to the "B" sheets of the same color keeping the bottom edges against a straight edge to keep them even. When the glue has set, carefully cut out all the windows, door opening and roof lines.

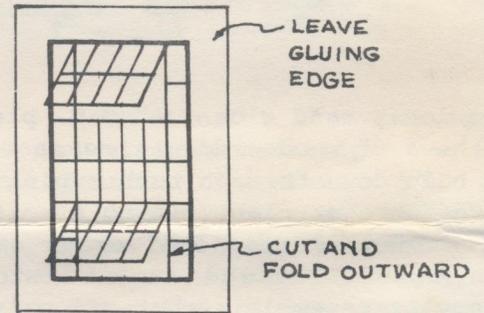
Starting at the bottom of each wall, measure up 1 1/2" and scribe a horizontal line across the corrugated sheet using an X-acto knife. Do not cut deep, just enough to make a visible line that shows. Repeat this all the way up each wall at 1 1/2" intervals. These lines will resemble the edges of corrugated sheet rows.

Since the corrugated sheets used in this kit sometimes come in different widths, check the end wall sheets (7 3/4" height) and trim one edge to make it no wider than 3 9/16".

Turn the walls over with the smooth side upward. Using the precut $3\frac{3}{16}$ " square strip-wood furnished, glue them in place as shown for wall reinforcing.

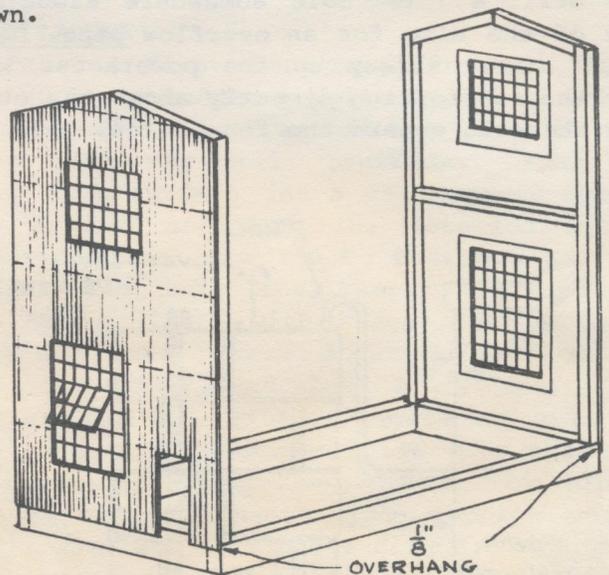


Next, paint all four walls flat black inside and out. When the paint is dry, cut out the windows supplied leaving an edge for gluing them in place. If you desire some windows open, cut as shown and fold outward. Then position and glue the windows into the openings.



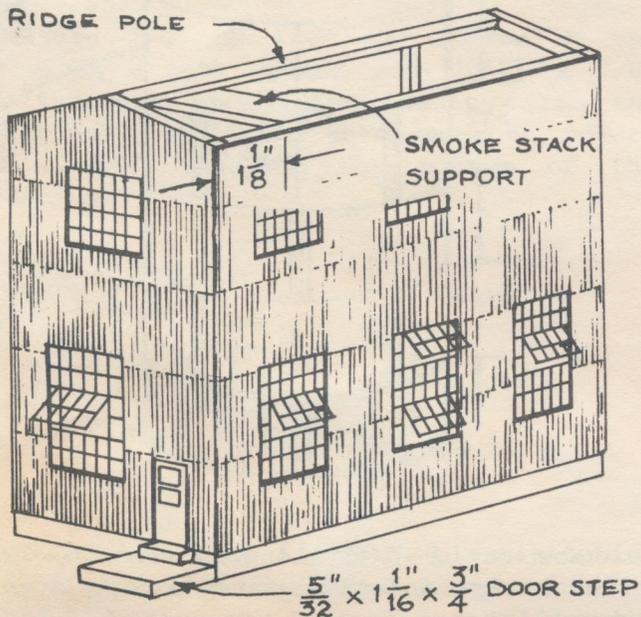
POWERHOUSE ASSEMBLY

To assemble the powerhouse glue the bottom edges of the side walls (blue and orange) to the short sides of the walls of the foundation first as shown.



Then glue the red and green side walls in place, and if necessary, trim any overhang at the corners of the building. Next, firmly glue the smokestack support ($5\frac{1}{32}$ " x $3\frac{1}{4}$ " x

3 3/16") as shown in the sketch. Then add the ridge pole between the roof peaks. Glue the cast door in its place and paint it flat black. When the paint is dry, glue clear plastic on the inside for a window glass. Finally, glue the 5/32" x 1 1/16" x 3/4" door step to the foundation beneath the doorway. Paint the entire foundation and door step Floquil Cement color.

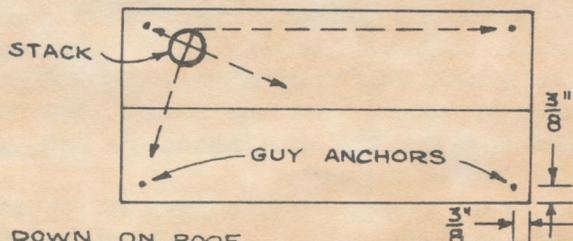


Take the two 2 1/8" x 7 1/2" card stock roof pieces, lay them side by side, and tape the joint with masking tape on the one side. Cut out the smoke stack opening where marked. Now glue the roof in place making sure the smokestack opening is located over the smokestack support. See sketch.

SMOKESTACK

Paint the plastic smokestack aluminum. When dry, measure off five 2" segments along its length and mark them. Then lay the stack flat on your work surface and by holding a black felt tip pen against the work surface at each of these 2" marks, rotate the smokestack slowly so that a black line is scribed around the stack at each of these 2" intervals to represent joints.

Coat the one end of the stack with plenty of glue; also apply glue around the opening in the roof, and insert the stack in this opening until it rests upon the smokestack support beneath. Make sure the stack is vertical and allow glue to set.



LOOKING DOWN ON ROOF

When the stack is secure, drill holes through the stack at the first and third joints from the top as shown. The one hole points to the two opposite roof corners. The other is drilled on a 90 degree angle to the first hole.

ROOFING

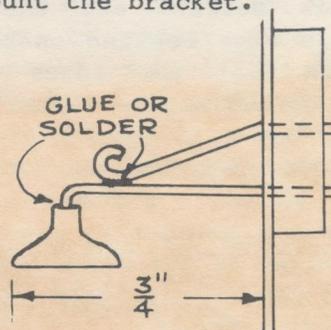
Use 3/4" wide masking tape for roofing paper. This is not furnished. Begin at the lower edge with one strip keeping the tape flush with the roof edge. Lay successive strips across the card roof, overlapping the lower one by 1/4". Do not run all of them all the way across but make breaks in various rows and overlap these breaks by 1/16" to represent ends of rolls. Trim off the edges with a scissor. When you reach the peak on one side, start at the bottom of the other side and continue upward until you reach the top. Then lay a 1/2" wide cap strip across the joint at the peak. Paint the roofing Floquil Grimy Black.

GUY WIRES

Drill small holes where shown in the roof sketch for guy anchors. Bend the ends of four straight pins into loops and insert them at these points. They should enter the 3/16" reinforcing beneath for a solid foundation. Using the heavy black thread provided, and a needle, fasten the lower guy wires first, then attach the upper guy wires. When they are all fastened to the guy anchors, tap the pins down slightly to tighten the threads and make them taut.

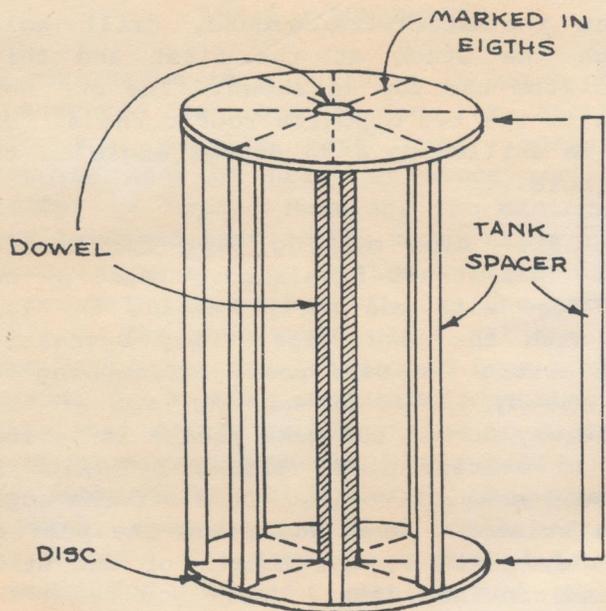
LIGHT BRACKET

Using the 2" length of .030 wire supplied, make the light bracket shown in the sketch. Drill holes into the corrugated siding and reinforcing block above the powerhouse doorway and mount the bracket.



WATER TANK ASSEMBLY

Make the tank core as shown in the sketch. Place both hardboard discs upon one end of the 1/2" dowell tightly together. Now make a mark on both edges at a certain point. This point we will call number one. Then mark off each disc on the smooth side evenly into eighths as shown. Glue a disc at each end of the 1/2" dowell, with the marks above each other.



Glue the eight $\frac{3}{16}$ " x $\frac{5}{16}$ " x $6\frac{7}{8}$ " spacers between the discs, in line with the marks with the $\frac{3}{16}$ " surface facing outward. As you glue each spacer, rest the disc rims against your work surface, and press the spacer out flush with the edges of the discs. Repeat with all the spacers. These spacers will keep the card wrapper straight when it is applied. Set the core aside to dry thoroughly.

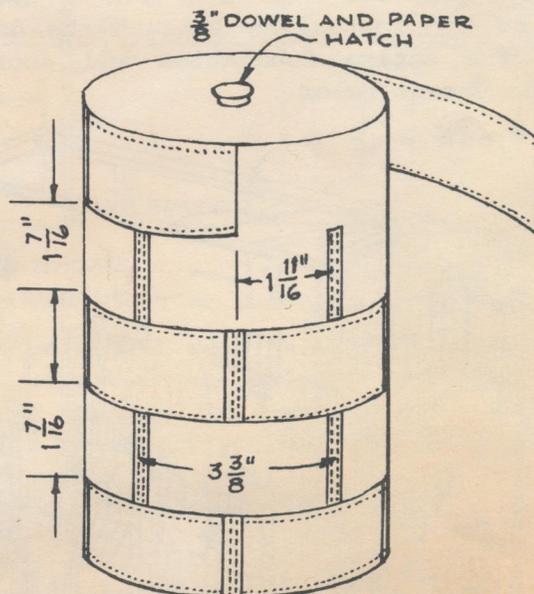
When dry, temporarily wrap the $7\frac{3}{8}$ " x $13\frac{3}{4}$ " posterboard tank wrapper around the core to check exactly how long it should be cut so the ends will meet perfectly. Cut to fit. With one of the core discs resting flat on the work surface, glue one end of the wrapper to one of the tank spacers, leaving half of the space exposed. Hold this firmly in place until the glue sets...with the core against the work surface and the wrapper straight out, one edge resting on the table. This will assure that the edges will fit flush with the top and bottom discs.

When the glue has set, spread glue around the edges of both discs and the half of the tank spacer that is still exposed. Pull the wrapper around tight being sure the edges are flush with the edges of the discs. Use rubber bands or masking tape to hold the wrapper until it is thoroughly dry.

RIVET SHEETS

Wrap the heavy paper (with a row of rivets along each edge) around the tank to obtain an exact fit and cut it off so it doesn't overlap. Do this with the other two sheets. Apply a thin glue to the unriveted surface of the rivet sheet and wrap around the tank keeping the edge even with the edge of the tank. Repeat this on the other end of the tank and also in the middle. This will give you three

$1\frac{7}{16}$ " wide sheets spaced $1\frac{7}{16}$ " apart as shown. Keep the sheet joint in line. Rubber bands or masking tape can be used to hold the rivet sheets tight until the glue dries.



Now cut $1\frac{7}{16}$ " lengths from the double rivet strips and glue these strips over the exposed sheet joints. Measure $3\frac{3}{8}$ " from the center of these double rivet strips around each rivet sheet to give you four equidistant intervals. Glue rivet strips at these points around the tank. Between the rivet sheets, directly on the tank wrapper mark off four more equidistant points which are centered between the other rivet strips and glue rivet strips in these places. See sketch.

TANK LADDER

Cut the first four rungs from one end of the HO brass ladder supplied. Use a scissor or side cutter. File off any part of these rungs that may still protrude. Feel over your tank surface for a tank spacer beneath the wrapper and mark its location with a penciled line from top to bottom. Lay your ladder along this line, keeping the bottom of the ladder (part with rungs) even with the bottom of the tank. About $\frac{3}{16}$ " from each end of the tank, and about $2\frac{1}{4}$ " apart, make marks along this line to locate the pins that will support the ladder. Be sure each mark is beneath a ladder rung. Drill #74 holes at these points. Insert pins, tapping them in until they are only protruding $\frac{1}{8}$ " above the tank wrapper. Now solder or glue (we prefer the former) the pin heads to the center of the ladder rungs.

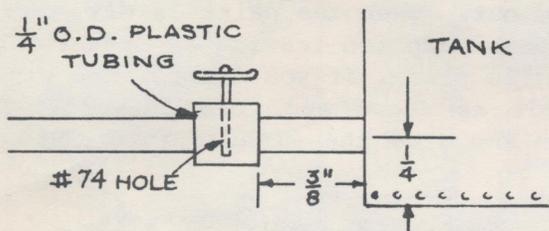
Your ladder should now be attached with the rungless points projecting above the top

of the tank top. Bend these ends into a "U" shape so the ends touch the tank top forming a graceful curve.

PIPING

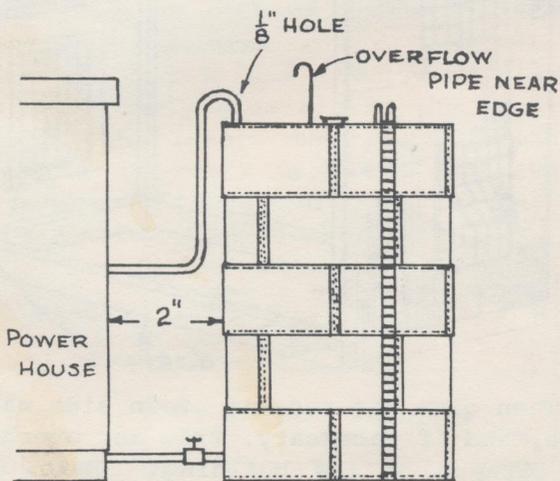
Before going any further, determine the location of your tank and powerhouse. It should be located close to the other mine buildings. We mention this because you will want to position the tank so the tank ladder can be seen.

Measure 1/4" up from the bottom of the tank along a tank spacer and drill a 1/8" hole for the lower pipe leading from the powerhouse. Duplicate this on your powerhouse....1/4" up from the bottom of the foundation.



Then locate and glue 1/4" O.D. plastic tubing on the 1/8" wooden dowell as shown. Drill a #74 hole down through both tubing and dowell. Cut off the straight pin to a suitable length and solder or glue 1/4" dress snap supplied to the head end and insert into the hole. This will resemble a shut-off valve.

Insert the dowell into the powerhouse foundation and the valve end into the tank. Directly above this pipe, drill a 1/8" hole down through the hardboard disc on tank top. Also drill a 1/16" hole somewhere along the edge of the disc for an overflow pipe. Drill a 1/8" hole halfway up the powerhouse wall into the reenforcing directly above the other pipe where it enters the foundation.



Using 6" wire, bend and fit a pipe as shown between the powerhouse and the tank. Glue the pipes in place. Fashion the "cane" shaped overflow pipe from 1/16" wire furnished. Insert into the hole and glue.

Cut out the circle on the large drawing sheet marked "tank hatch cover" and paste it on some thin card stock such as file folders or postcard. Then cut the card out and glue this hatch cover on the 3/8" dia. x 5/32" length dowell supplied. Glue this hatch to the center of the tank top.

PAINTING AND WEATHERING

The water tank and piping should be painted flat black. Since the corrugated siding on these mine buildings was coated with roofing pitch to seal it from rust and weather, we must simulate the individual sheets. So, mix a bit of Floquil Concrete color (or some white) with the flat black to make a lighter shade of flat black. Using a square ended 3/8" wide brush, start from the edges of the scribed lines on the corrugated sides of the powerhouse and stroke downwards to the nextline. Do this across the building leaving some brush width spaces unpainted or original flat black color. This should resemble weathered corrugated sheets. Don't try to cover each stroke entirely, just partially and it will look the best. You can mix a lighter color and haphazardly repeat the process for high lighting after you have gone over the entire building with the first shade

The cement foundation should be streaked and dirty for added realism. Also streak the stack. A good item to use is a soft lead pencil. Rub a downward streak, and using your finger rub it downward to take away the boldness of the pencil line. The water tank can be streaked with the above lighter shade of flat black to appear dirty and weathered.

This should conclude the Anthracite facilities. We hope you enjoyed the construction and hope you will try some of our other scale kits to add realism to your S gauge model railroad.

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