MASTERPIECE MODELS LLC

Construction Series MMCE001

Master by Marius Chescu

Prototype and instructions by Rick Lawler

LIMA 604

CONSTRUCTION SHOVEL

1/35 SCALE Resin Kit

PREPARATION AND FINISHING INSTRUCTIONS--READ THOROUGHLY BEFORE YOU BEGIN

For assembly, follow the exploded-view diagram provided with your kit. The preparation and finishing steps listed here are recommended for best overall results.

1. DO NOT USE CYANOACRYLATE GLUE ON CLEAR PLASTIC PARTS. This will cause fogging or “fuming” of the plastic. Instead use a clear, two-part epoxy. DevconTM five-minute epoxy works well. We recommend this epoxy for the entire project, as the cyanoacrylate glues can be brittle and unreliable over time.

2. PRIOR TO ASSEMBLY OR PAINTING, REMOVE FLASH AND CASTING ARTIFACTS, AND THOROUGHLY WASH ALL URETHANE RESIN (YELLOW PLASTIC) PARTS. First, remove all mold “flashing” from the edges of the parts. sand away any “casting blocks” on a disk sander, or alternatively by carefully laying the part flat on a sheet of 80-grit sandpaper on a flat, level surface. Run the part over the sandpaper in a figure-eight pattern, occasionally rotating the part in your fingertips, to ensure an even sanding. Finish on a piece of 220 sandpaper using the same technique.

To wash the parts, use warm water with AjaxTM, CometTM, or similar chlorine bleach-based powdered soap. Do this in a sink or basin, with a sponge or fine steel wool sanding pad and rinse thoroughly. This will remove any oily residue (mold release compounds, urethane residues, and even finger oils from handling) from the urethane parts which could interfere with proper glue and paint adhesion. Dry thoroughly.

3. Paint prep and painting

Carefully sand the model with 320- grit sand paper “be very careful not to remove any details” Clean the model

Fill any seams that need filling with any hobby putty that you prefer to use. Prime the model with a good sandable

Primer. We recommend using an auto body laquer primer. Lightly sand the model again using 320- grit sandpaper.

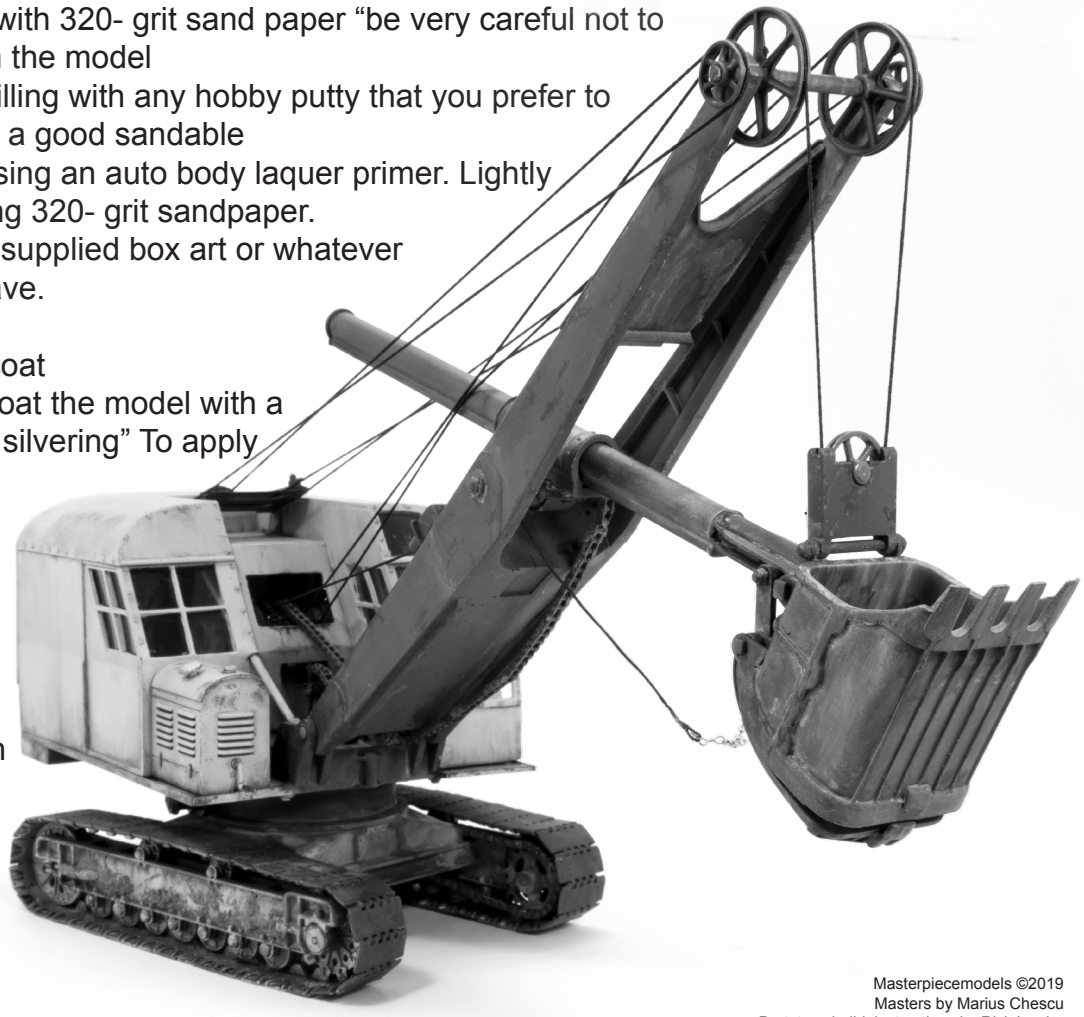
Paint the model using the supplied box art or whatever reference that you may have.

4. decals and final clearcoat

If there are decals Clearcoat the model with a gloss paint. “this prevents silvering” To apply the decals

Cut out individual decals, soak them in warm water for 30 seconds. Once loosened from the sheet

Apply to the model use a decal setting solution such as “solvaset”. Once the decals are dry clear coat The model with either gloss coat or a dull coat.



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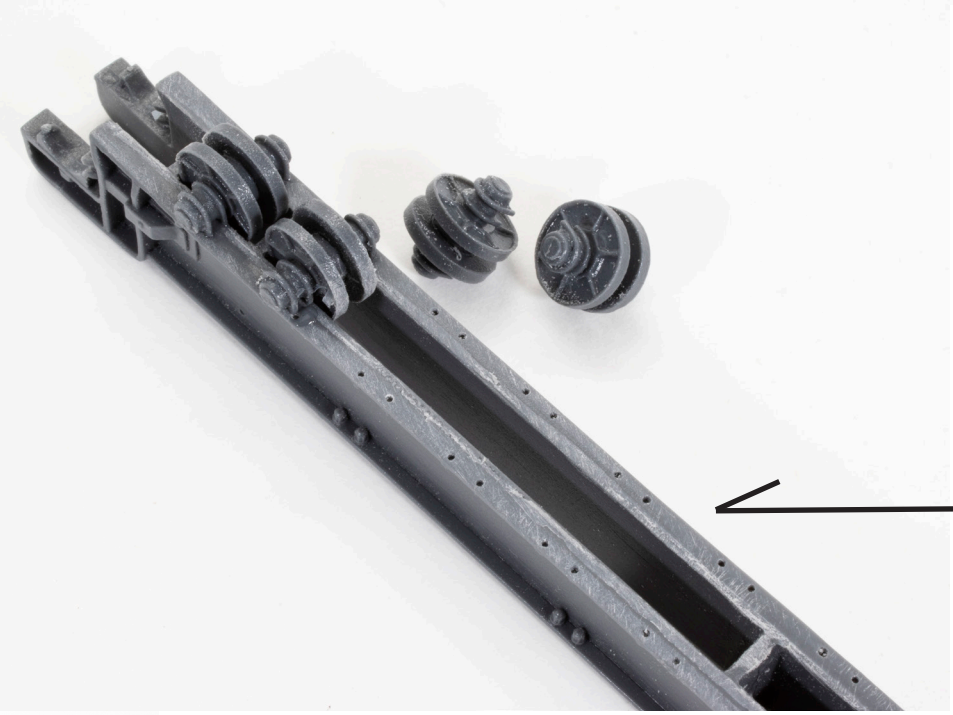
Running Gear.

Step 1.
Layout of parts for construction of lower suspension and running gear.

Step 2.
Mate left and right halves to produce left and right side



Step 3.
Add road wheels to *both* top and bottom edges.

NOTE: *TWO* diameters of road wheels are included. Smaller size (2 per side) top side of return. Larger size (7 per side) lower return.

NOTE: Small locator holes indicate placement of wheel bracket.

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Step 4.
Proper alignment of bottom running wheels,

Step 5.
Complete running gear (1 side). Repeat process to produce a second set for opposite side of vehicle.

NOTE: Example of smaller and larger sized diameter roadwheels. Smaller sized place top edge, larger to the bottom.

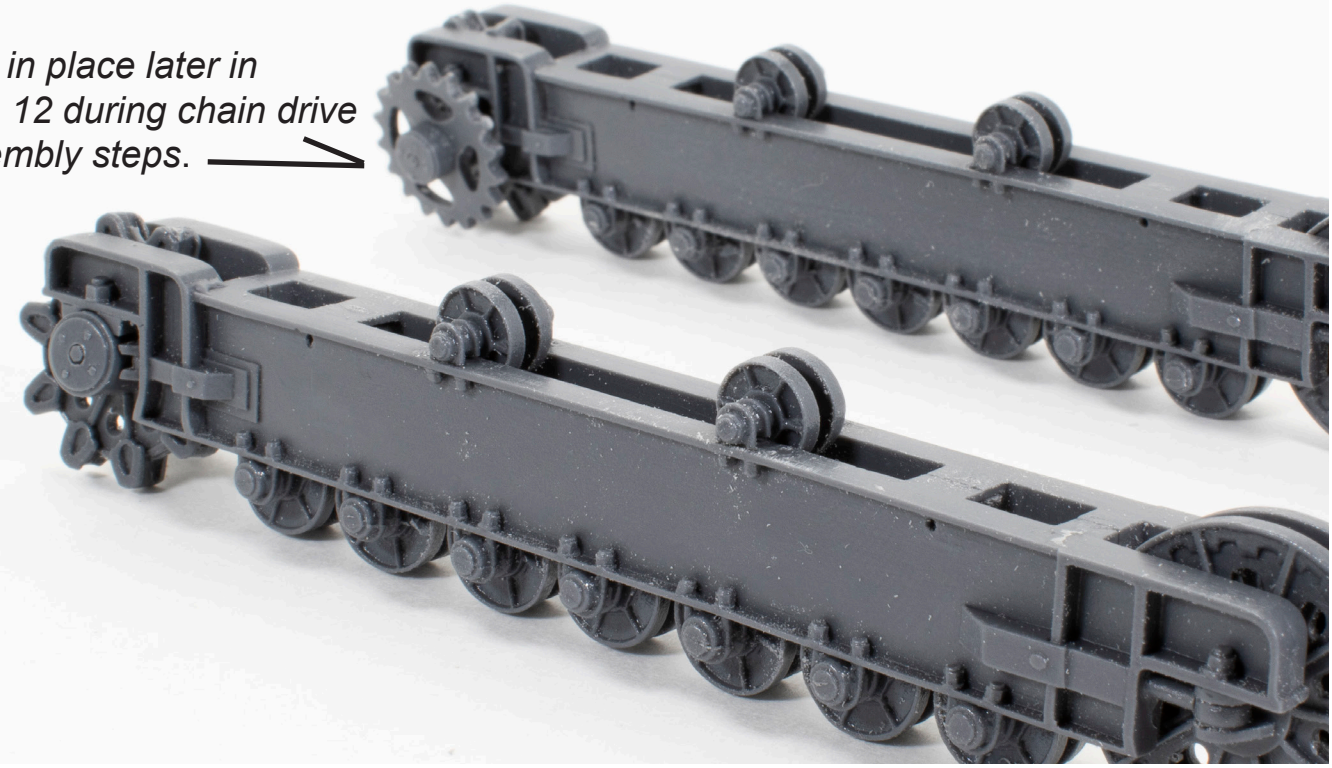
Step 6.
Parts layout for drive and idler wheels.

Step 7.

Completed running gear, including drive wheel and idler wheel.

NOTE: For ease of assembly ***DO NOT*** glue chain drive wheels in place at time.

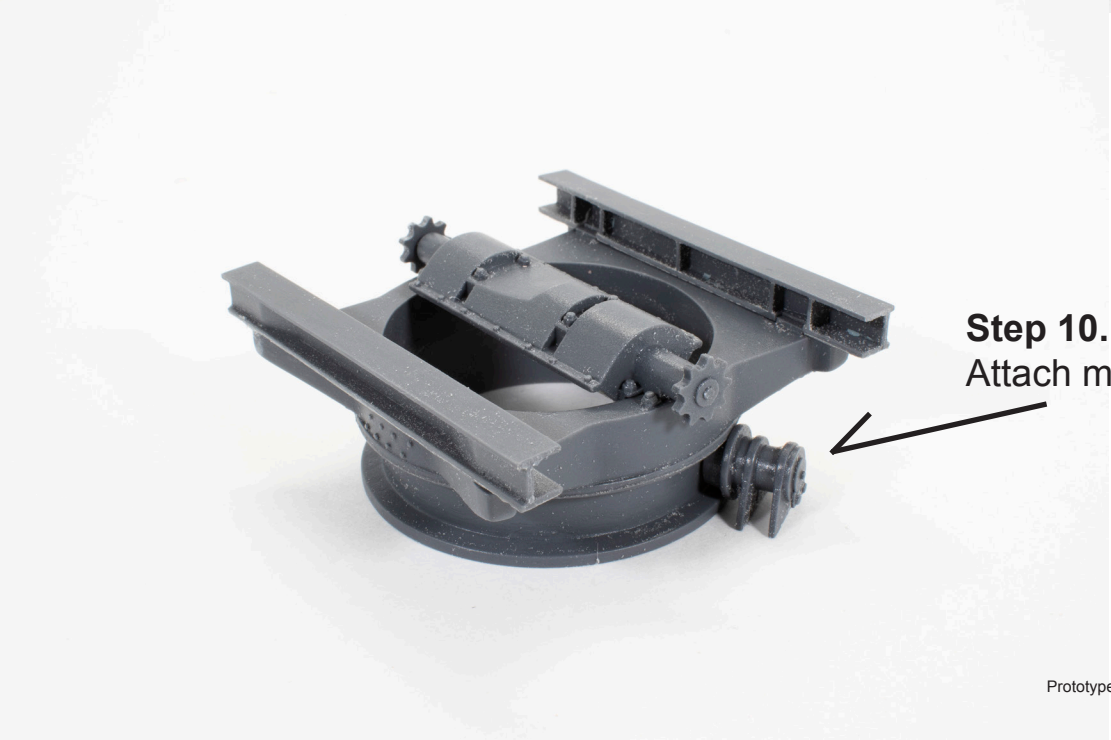
Affix in place later in Step 12 during chain drive assembly steps.



Lower Chassis

Step 8.
Parts layout for lower chassis.

Step 9.
- Attach gear wheels to chain drive shaft.
- Attach support beams to chassis.
- Attach drive shaft to underside of chassis.



Step 10.
Attach motor.

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ADDENDUM: LIMA 604

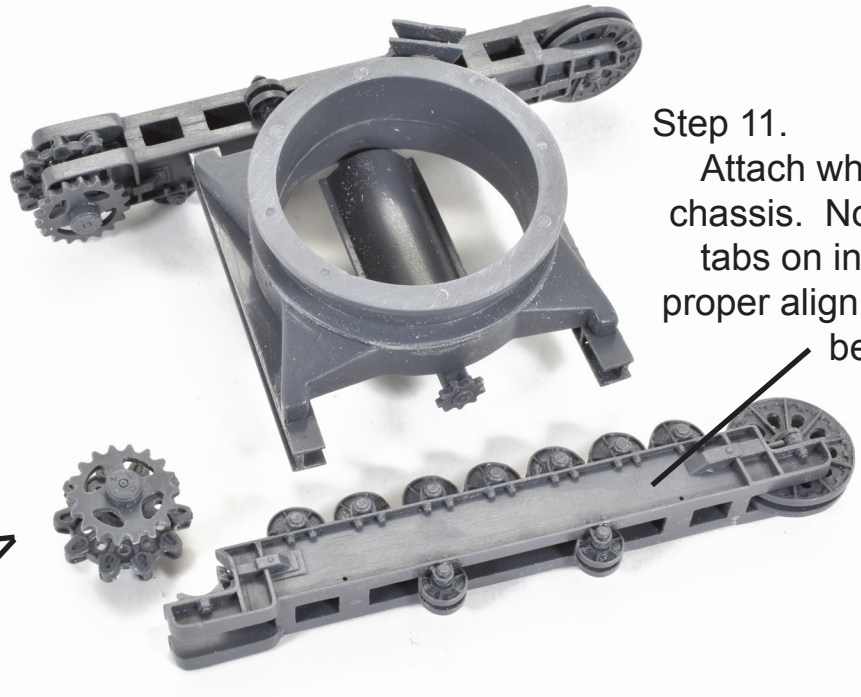
Disregard the placement of motor as described in Step 10. This placement is shown in error.

For proper placement and parts:

Step 8: Motor should be x4 pcs.

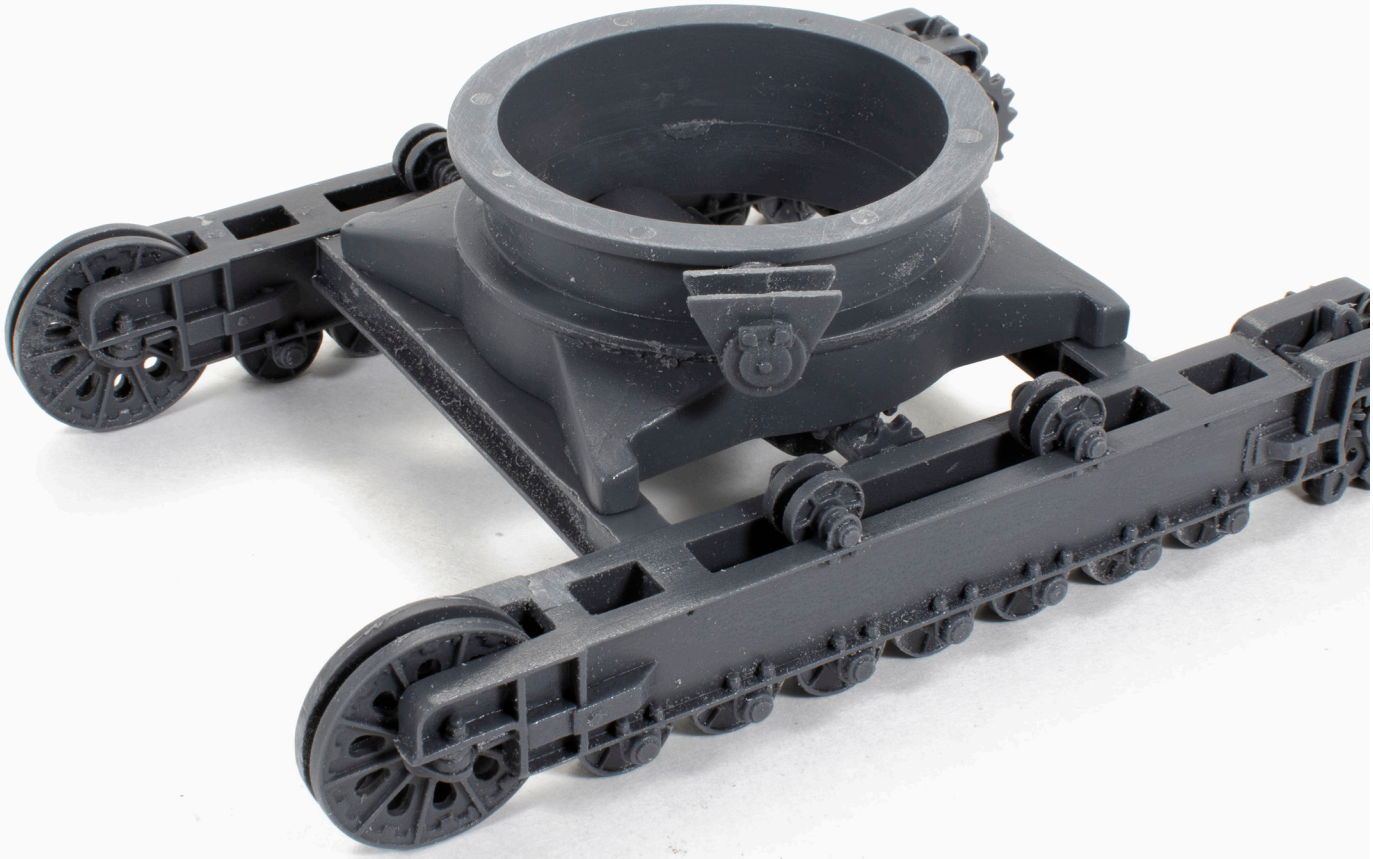
Step 10: Disregard step and motor placement.

To reconcile motor placement please see image below: Motors (x4) placed on surface brackets on underside cabin floor plate.



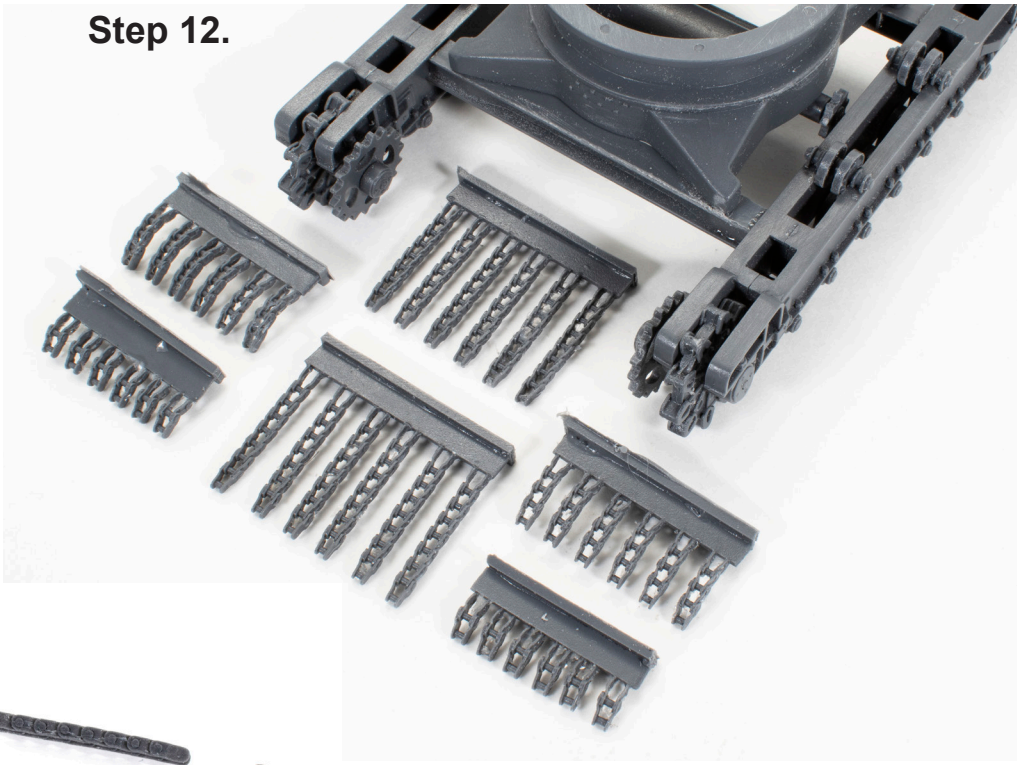
Step 11.
Attach wheel frames to chassis. Note small holes/ tabs on interior side for proper alignment of support beams.

NOTE: Chain drive wheel remains loose (non-glued) for ease of assembly.



Chain Drive & Track Assembly

Step 12.



Chain Drive Detail View.

Chain consists of (4) straight lengths, (3) larger curved lengths and (3) short curved lengths.

NOTES:

1. Begin by gluing straight lengths together.

2. Glue (3) smaller diameter curved parts together, affixing to small gear.

3. Glue (3) larger diameter curved parts together, affixing to larger gear.

4. Place small gear in place

5. Affix upper and lower straight lengths to loose ends of small gear chains.

6. Place larger chain gear in place, not yet glued in place. Spin large gear to achieve proper alignment with ends of straight lengths.

7. Once proper alignment is achived, glue front gear in place. Affix straight lengths of chain to front gear curved chain ends.

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Step 13.

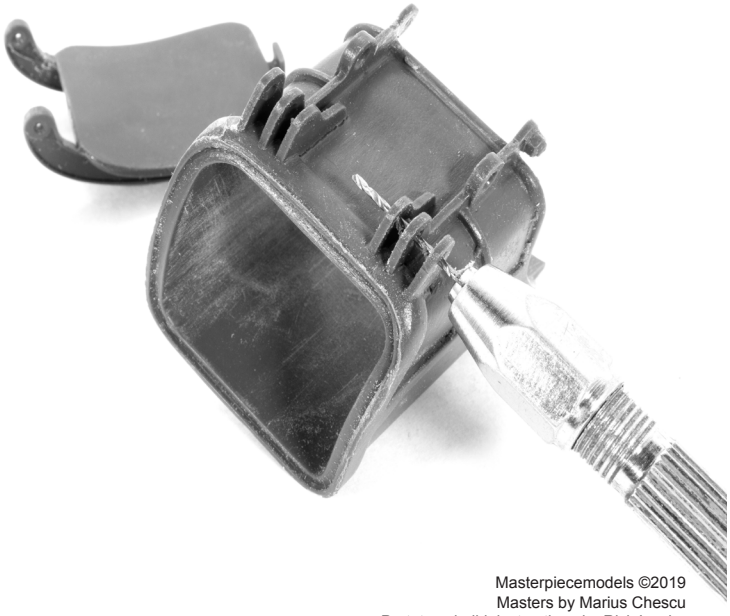
Tracks consists of 38 links per side.

Note: For ease of assembly complete upper and lower straight runs first, and then proceed to assemble curved links over drive and idler wheels.

Shovel Arm and Bucket

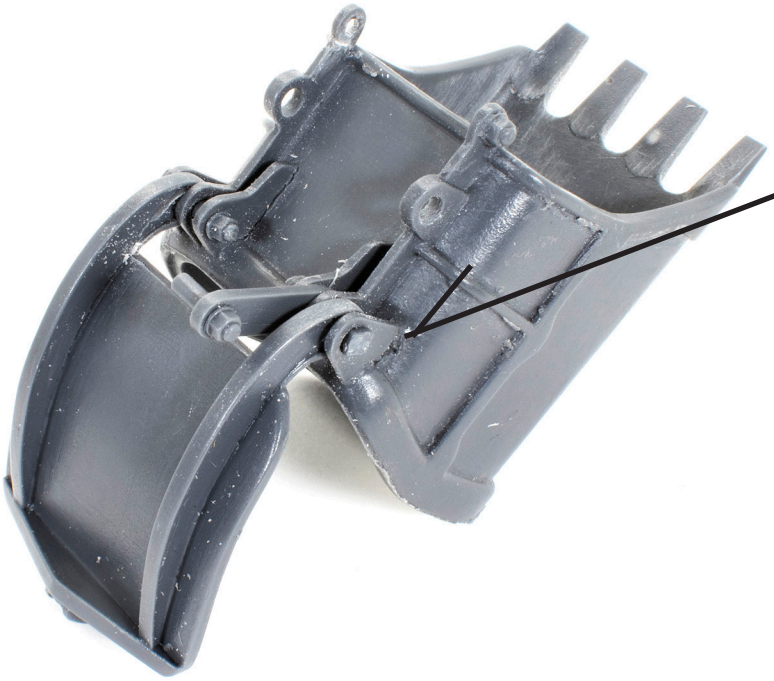
Step 13.

Begin by drilling out all holes as indicated by casting dimples to size as indicated cast pin size (approx 1.5 mm).



Step 14.

Insert pins into all drilled holes for working pivot points.



Step 15.

Bucket pulley parts layout and assembly

NOTE: For ease of rigging assembly **DO NOT** affix sproket wheel within assembly at this time.

Install shovel arm by inserting pins into previously drilled holes.

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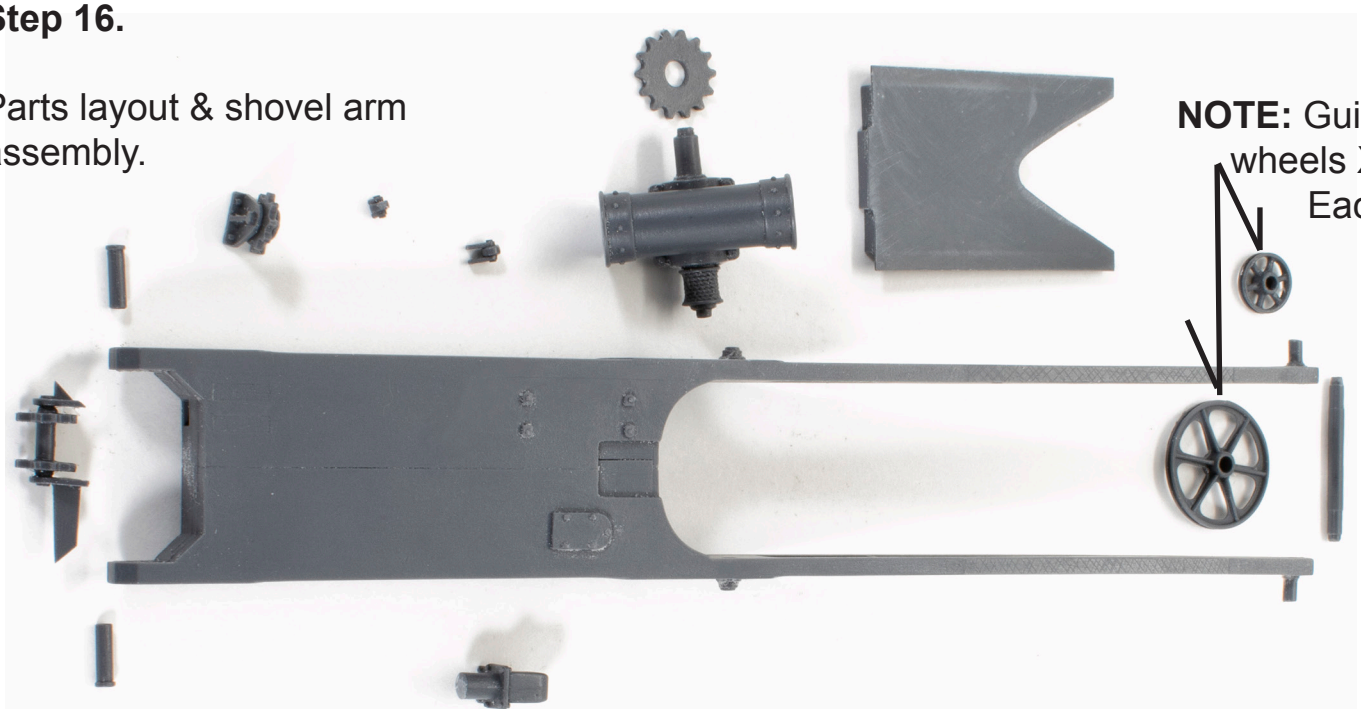
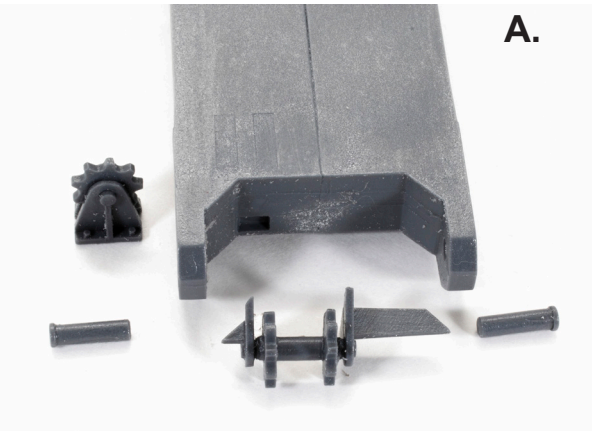
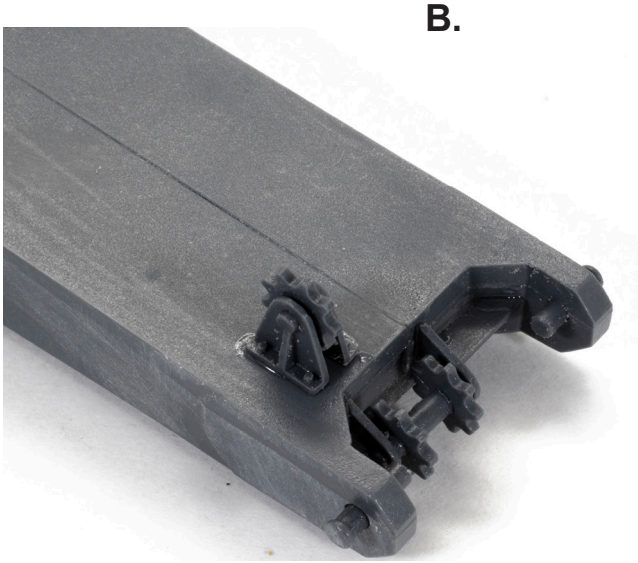
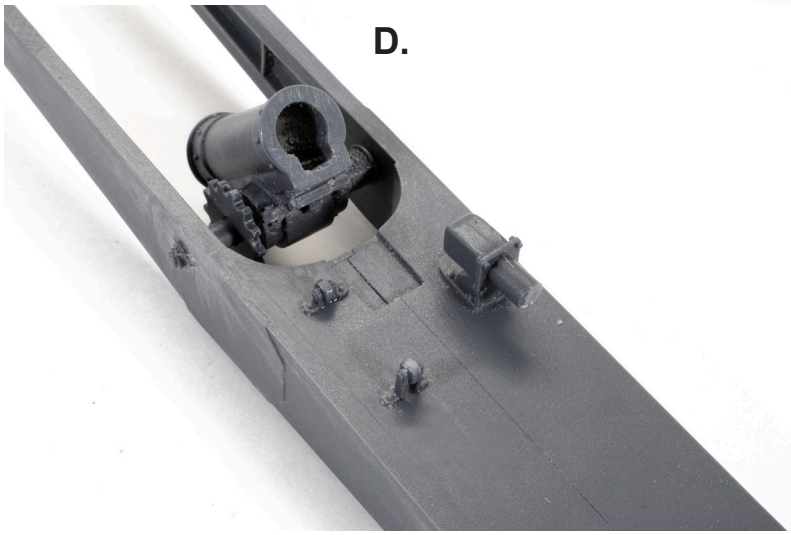
Step 16.

Parts layout & shovel arm assembly.





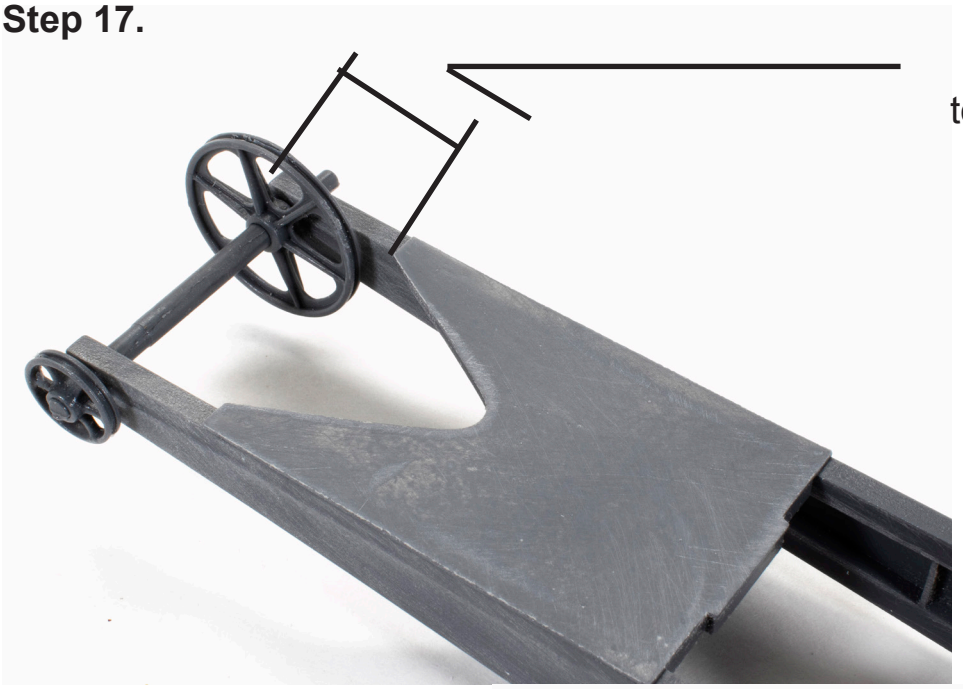




C.

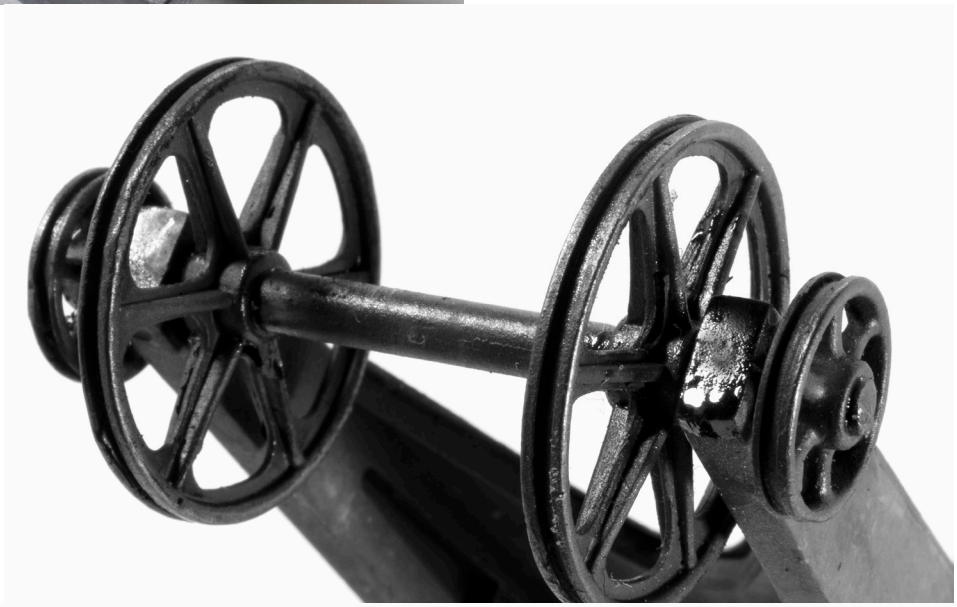
(C) Drill pilot hole for cable attachement before affixing.

Step 17.



NOTE: Align forward edge of top plate 3/4” from front edge.

NOTE: Install (2) large & (2) small sprokets as shown.



Step 18.

Slide shove arm through reciver collar. Final extension position is modelers choice.

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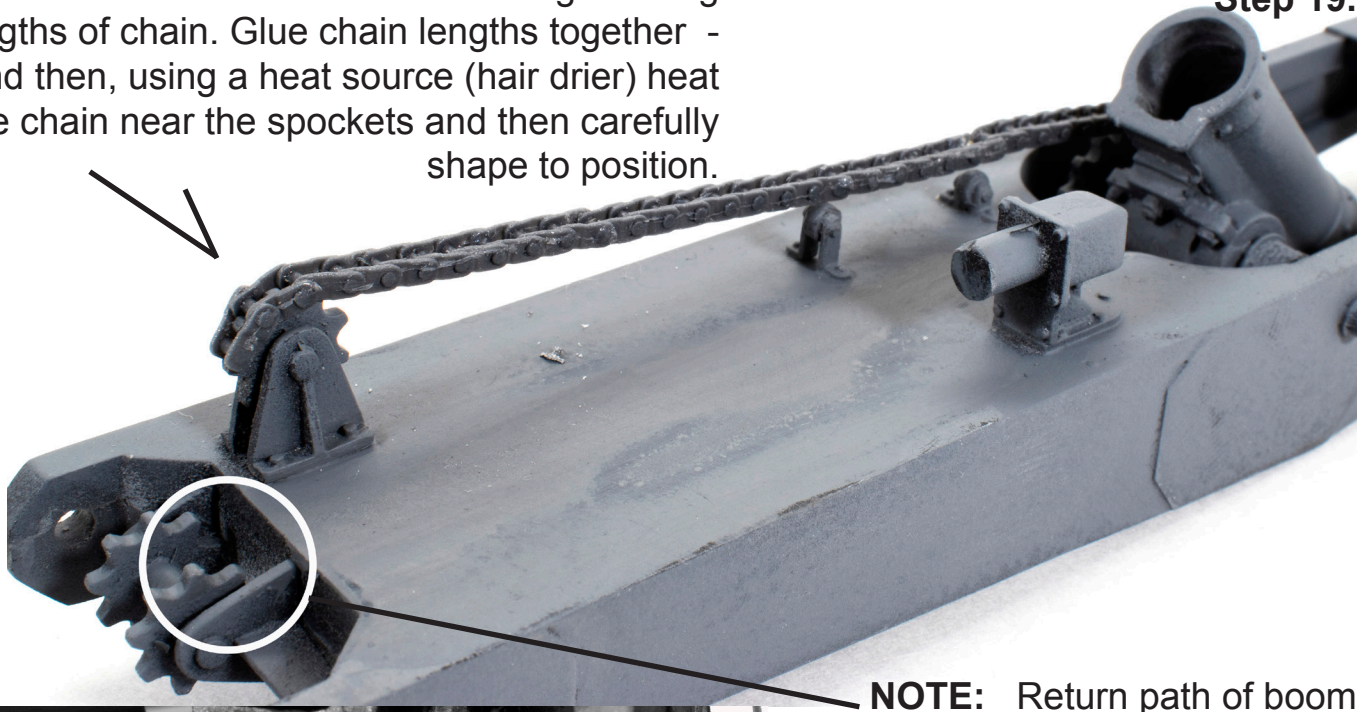
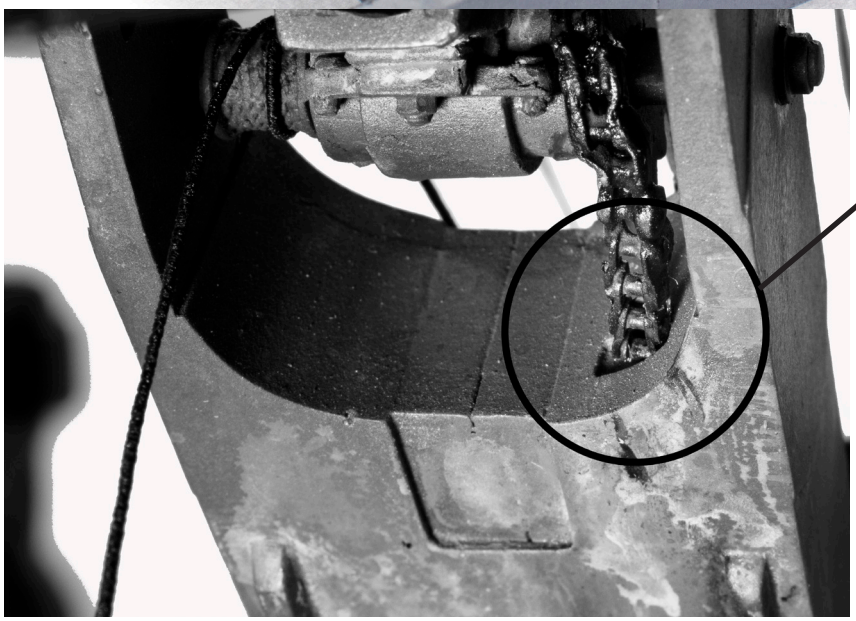
Step 19.

NOTE: Install chain drive using the long lengths of chain. Glue chain lengths together - and then, using a heat source (hair drier) heat the chain near the spockets and then carefully shape to position.





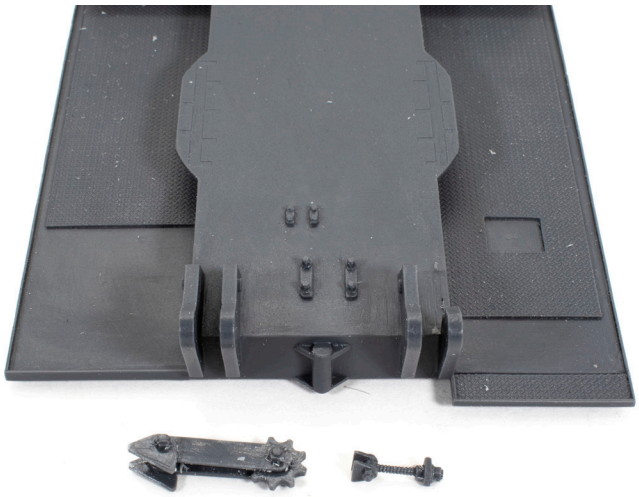
NOTE: Return path of boom chain is directed *THROUGH* the boom. To simulate, attach chain ends into rectangular indentations found on the upper and lower gear sprocket postions.

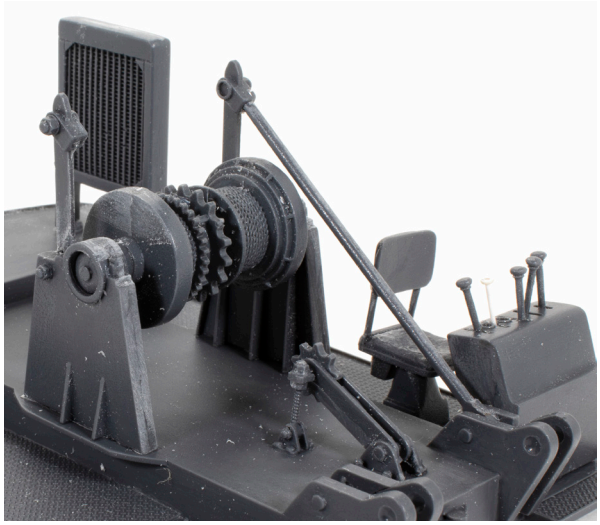
NOTE: Installation of chain drive from internal cabin drive **CANNOT** be completed ***until after*** final assembly of cabin as these chains must pass through the front engine room openings.

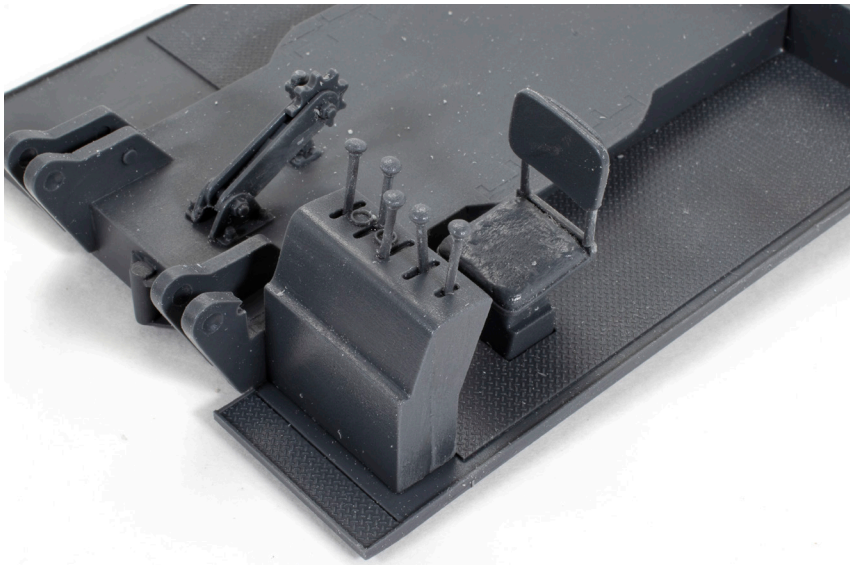
Boom arm must also be fixed in place.

Step 20.

Cabin Interior & Platform.







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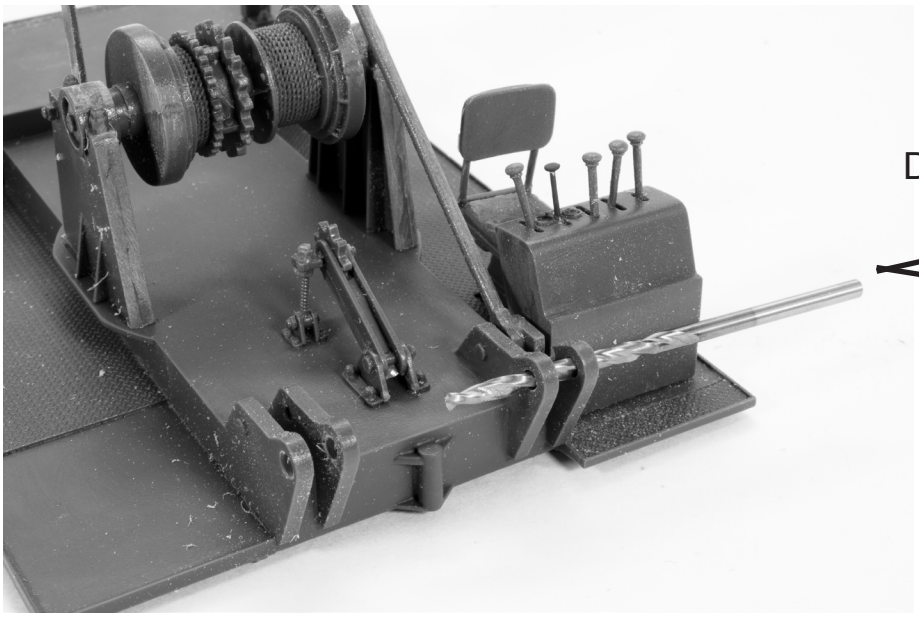
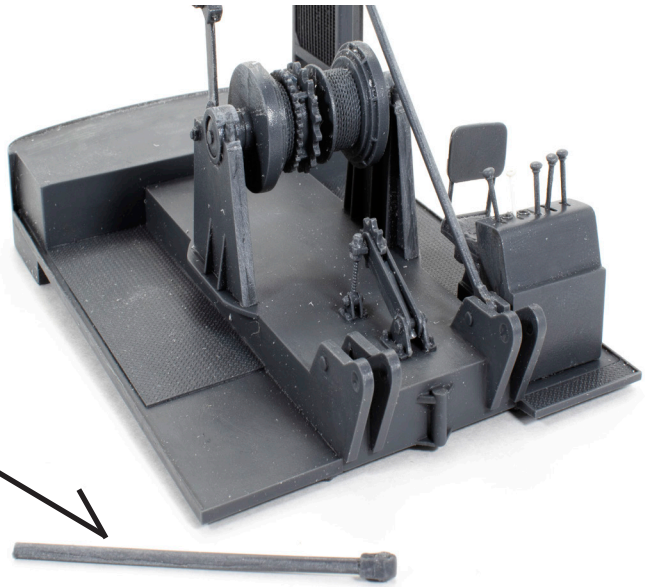
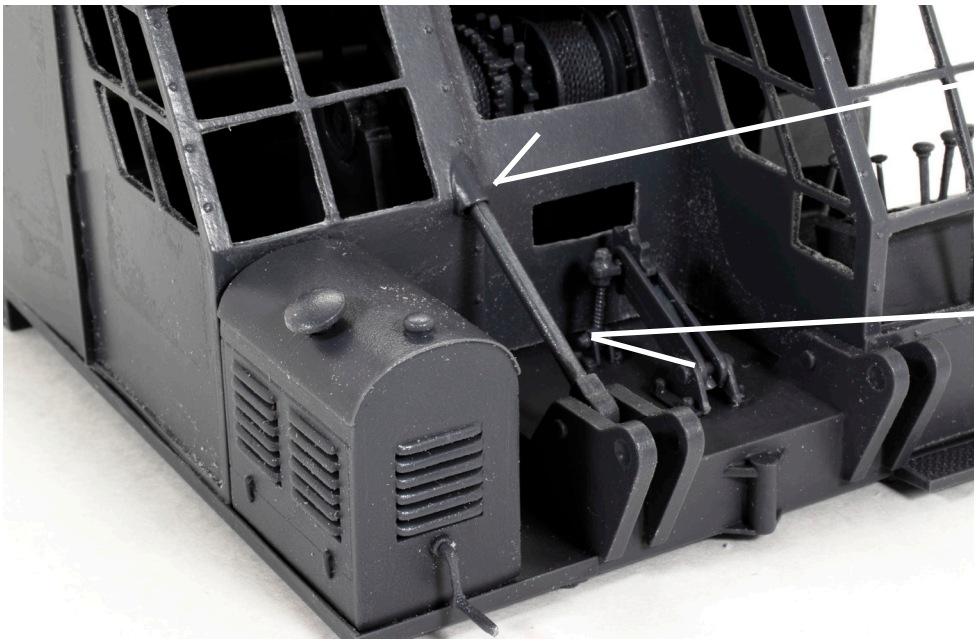


Drill out pin holes for attaching shovel boom.



NOTE: Post must be installed into postion *AFTER* cabin is in final postion.



NOTE: Drill out hole for post prior to cabin installation.

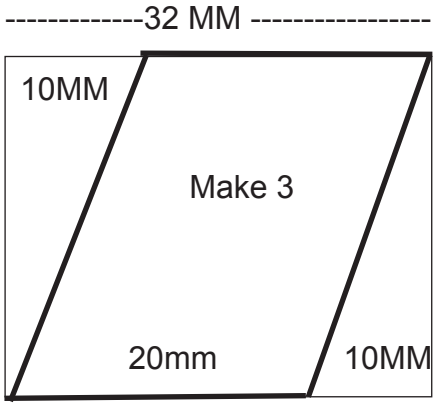
Fix support pole into postion only after cabin in final postion.

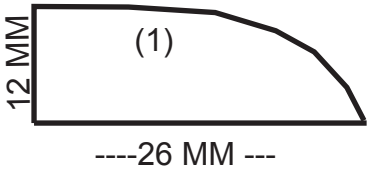
Windows

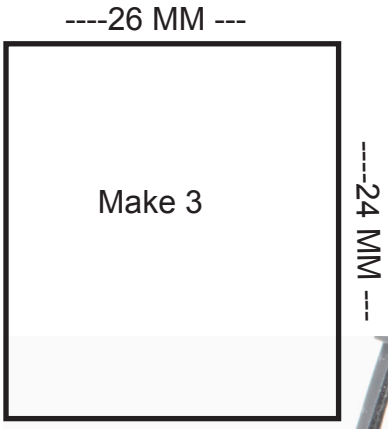
Windows may be created from by using the provided clear plastic.

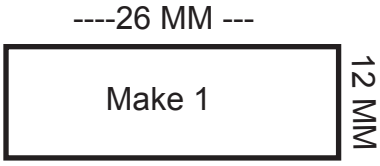
Step 21.

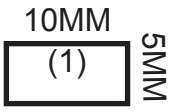
Please use these shape templates shown as reference. NOTE: Actual sizing to fit may require a slight trim of the plastic in order to achieve perfect fit.

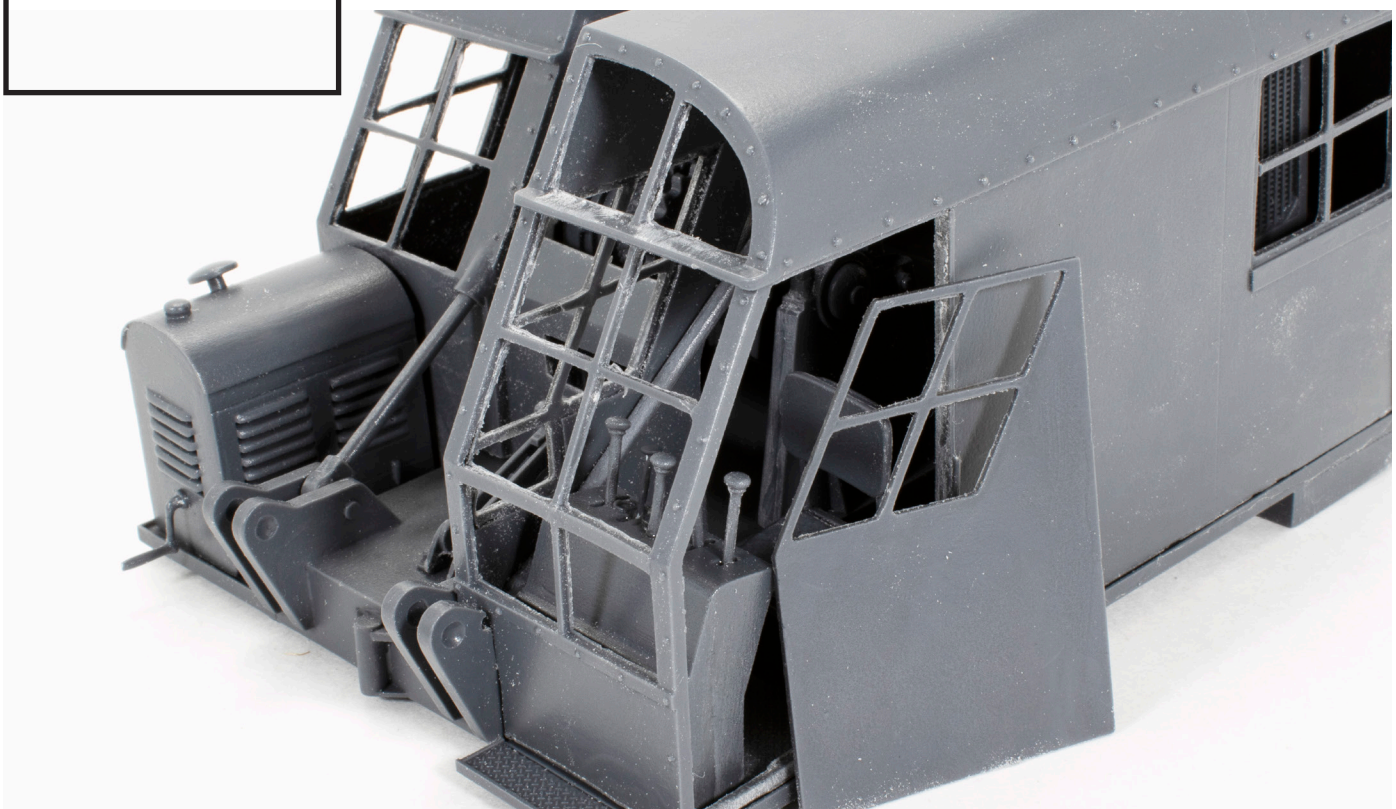








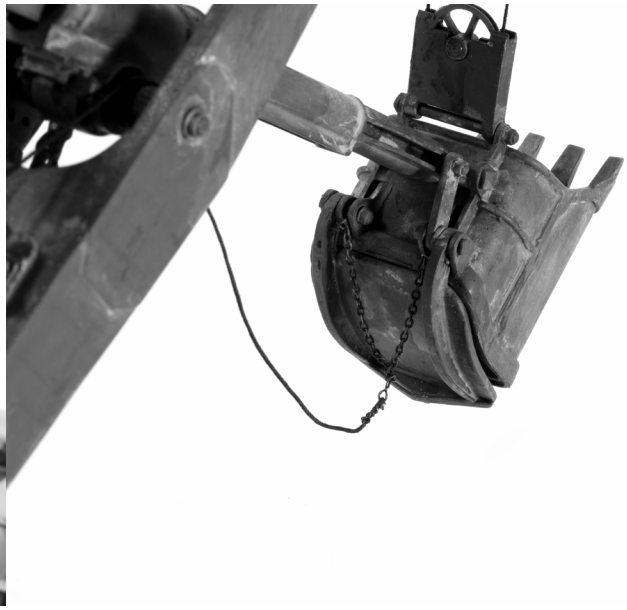




Step 21.

Cable Rigging

NOTE: String diameter is 10mm. Elastic string is recommended.



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NOTE: Installation of drive chain to shovel boom is now possible after installation of cab structure - and boom arm is fixed in place.

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I would like to thank John Geigle and Masterpiece Models for allowing me the opportunity to prepare these instructions, and build and paint this proptype of the Lima 604 shovel. The Lima 604 has a rich history, both military and civilian, that allows the modeler unlimited opportunities in painting and dislplay. As I approached the painting of this model, I chose to portray the machine as it might be used in a civilian role.

Regardless of the finish you might choose to create for your own Lima 604, building a library of reference images of this machine - and construction equipment in general - is highly recommended. Not only will they provide color references, but more importantly, I find these references a necessity with it comes to creating realistic weathering finish.

As mentioned during the instructions, the final assembly of the boom drive chains cannot be completed until the model is nearly fully assembled. Thus, the model requires that the model be painted (at least the interior and exterior of the cab) early in the process; I chose to paint the entire model as subassemblies as they were constructed. Whatever painting path you choose to follow, it is essential that the first step of painting is a good primer layer.

On this model I used my usual arsenal of paints and techniques. Base layers were laid using acrylic colors, with weathering mostly accomplished using artists' oils. Pigments were used to create the heavier accumulations of dirt on the lower running gear. Heavy grease as seen on the drive chains was created using a mixture of Fresh Engine Oil enamal paint, black pigment and a decent touch of ochre artists' oil.

I trust that you will enjoy building and painting this kit as much as I did.

Sincerely,

Rick Lawler

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