General Instructions

The concept behind a Field of Armor model kit is one in which you bend metal at pre-cut areas to form the various parts of a vehicle or tank.

When these parts are bent into place tabs and corresponding holes will line up allowing pop rivets or screws to be inserted to hold the assembly together.

All metal parts will follow this basic method of bending and fastening in order to take the metal parts from a 2D state into a 3D part

- 1. Check that you have received all parts for your new 1/6 scale model of the Jagdpanzer L-70. Go to Field of Armor's website at "www.fieldofarmortanks.com" for a complete list of all parts.
- 2. Wipe down all metal parts with a laquer thinner or acetone solution—Make sure when doing so that there are open flames or embers that may cause a fire while doing this.
- 3. At certain stages of assembly you may want to pre-paint some areas so that you don't have to dis-assemble parts of your work later. For example all the running gear pieces, the Chassis side wall they install against and the well under the fenders. **NOTE:** DO NOT paint any surface that you will be gluing something to.
- 4. Effort should be taken not to lose any of the perforated metal pieces that remain in the flat metal structures (please note that some of these pieces may have come loose during shipping) as some are used as actual parts such as hatches and doors and some are to remain in place.
- 5. Any additional parts and materials over and above those listed in the parts section of these Instructions and that may be obvious in the instruction photographs are the responsibility of the purchaser.
- 6. Should you receive a chassis that has come apart during shipping or comes apart from bending and re-bending (the seams are designed to be bent several times before coming apart but always bend the along the seams slowly as to not over heat the stitching) do not be too concerned as it can be easily repaired by using some scape 20 gauge metal cut into strips approximately ½ " x 2" 2½" long. Bend the strip to 90 degrees or to suit the angle being repaired and drill 1/8" holes to accept Pop Rivets. Place the angle over the area to be repaired spaced at 4" 6" intervals and drill matching holes in the metal pieces being repaired. Secure with Pop Rivets. See Figures 6a, 6b and 6c below.







Figure 6a Figure 6b Figure 6c

General Instructions

- 7. Fill any holes and gaps with Bondo. Remove excess Bondo from surfaces using an exacto knife blade or something similar once it has set up but not hardened completely. When the Bondo has hardened sand smooth with a fine grit sandpaper.
- 8. It is recommended that the modeler use Super-glue when gluing Resin or Plastic Parts to other Resin or Plastic parts. When gluing Resin or Plastic Parts to Metal make sure that the Metal is free of grease and/or oil and glue using Epoxy.
- 9. Some Resin parts when they come out of the molds tend "naturally" to take on a slight curve should you encounter any such parts in your kit this can be eliminated by applying moderate heat and adjusting the part to its proper configuration.
- 10. For handles (not provided) to Engine Access Doors, Commander's Hatch (Cupola), Combat Compartment Access Doors and top of Superstructure Access Hatches it is suggested the modeler drill holes in the metal (in the approximate location shown in the photographs) to accept a bent 1/16th inch copper wire and secure in place with Epoxy (See Figure A).



Figure A

11. Using a piece of scrape metal it is advisable to create a stop for the Engine Access Doors, Combat Compartment Access Doors and top of Superstructure Access Hatches and the Brake Access Covers by Pop Riveting it to the underside of the opening and protruding into the opening (see Figure B). On larger doors (i.e. Engine Cover Deck Doors) or those that don's seat properly you may want to create a stop on the rwo sides of the opening as well.

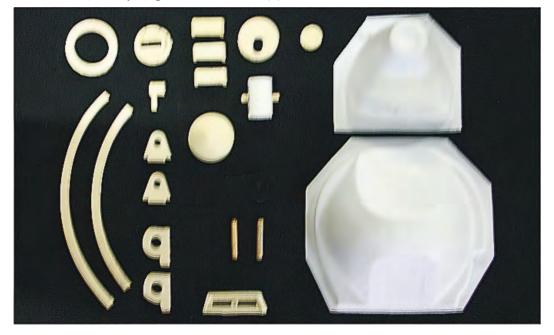


Figure B

- 12. Some parts will require sanding before application.
- 13. Sand the metal surface area to which a part is to be applied and also when securing metal to metal. This will ensure a more secure bond.
- 14. All references to left and right assumes you are sitting in the tank facing forward.

Bag 1 Contents (17 Parts - 23 Pieces)

Note: Quantity of part indicated in ()





(2) Front Tow Hook BRA002-401R



(2) Rear Tow Hook BRa002-402R



(1) Mantlet Housing BRA002-403R



(1) Mantlet BRA002-404R



(1) Upper Periscope BRA002-405R



(1) Periscope Guide (long) BRA002-406R



(1) Periscope Guide (short) BRA002-407R



(3) Periscope Cover BRA002-408R



(1) Close In Defense Port BRA002-409R



(1) Commander's Hatch Detail Piece "A" BRA002-410R



(1) Commander's Hatch Detail Piece "B" BRA002-411R



(1) Driver Visor BRA002-412R



(1) Armored Cover BRA002-413R



(1) Small Vent Cover BRA002-415R



(1) Barrel Receiver and Elevation Back Piece BRA002-416R BRA002-417W



(2) Wooden Dowel Keeper

Bag 2 Contents (1Part - 1Piece)

Note: Quantity of part indicated in ()



(1) Barrel BRA002-418T

Bag 3 Contents (2 Parts - 2 Pieces)

Note: Quantity of part indicated in ()







(1) Barrel Counter Balance BRA001-442T

Bag 4 Contents (1 Part - 36 Pieces)

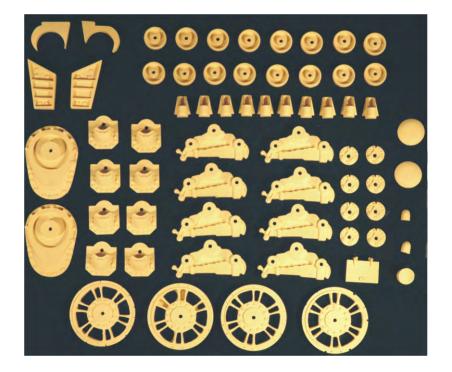
Note: Quantity of part indicated in ()



(36) Road Wheel BRA001-601R

Bag 5 Contents (16 Parts - 66 Pieces)

Note: Quantity of part indicated in ()





(8) Suspension Block BRA001-602R



(4) Drive Wheel BRA001-603R



(1) Radiator Fill Box BRA001-604R



(1) Right Side Idler Brace BRA001-605R



(1) Left Side Idler Brace BRA001-606R



(1) Muffler Exhaust Tube BRA001-607R



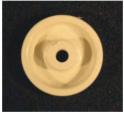
(2) Muffler End Caps BRA001-608R



(1) Muffler Right Bracket - Large BRA001-609R



(1) Muffler Left Bracket - Large BRA001-610R



(16) Return Roller BRA001-621R



(8) Suspension Block Cover BRA001-622R



(8) Suspension Arm BRA001-623R



(10) Bumper BRA001-624R



(2) Drive Gear Housing BRA001-625R



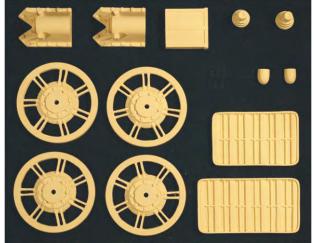
(1) Headlight BRA001-636R



(1) Headlight Bracket BRA001-637R

Bag 6 Contents 8 Parts - 13 Pieces)

Note: Quantity of part indicated in ()





(2) Idler Mount BRA001-617R



(1) Large Engine Grill BRA001-613R



(4) Idler Wheel BRA001-615R



(2) Idler Mount Cap BRA001-618R



(1) Small Engine Grill BRA001-614R



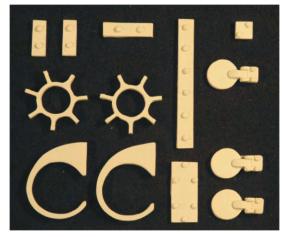
(1) Wooden Jack Block BRA001-616R



(2) Brake Access Cover Vent BRA001-620R

Bag 7 Contents (9 Parts - 13 Pieces)

Note: Quantity of part indicated in ()





(2) Thin Muffler Bracket BRA001-611R



(2) Idler Spacer BRA001-612R



(3) Chassis Service/ Hatch/Gas Cap BRA001-626R



(1) Rear Bolt Detail #1 BRA001-628R



(2) Rear Bolt Detail #2 BRA001-629R



(1) Read Bolt Detail #3 BRA001-630R



(1) Rear Bolt Detail #4 BRA001-631R



(1) Rear Bolt Detail #5 BRA001-632R

Bag 8 Contents (1 Part - 212 Pieces)

Note: Quantity of part indicated in ()



(212) Track Link BRA001-902P

Bag 9 Contents (1 Part - 212 Pieces)

Note: Quantity of part indicated in ()

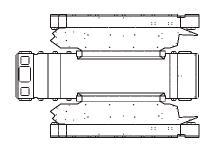


(212) Tack Pin BRA001-901P

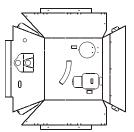
Bag10 Contents (3 Parts - 3 Pieces)

Note: Quantity of part indicated in ()



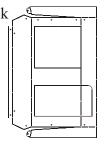


(1) Chassis BRA002-725M-A





(1) Engine Cover Deck BRA002-725M-B

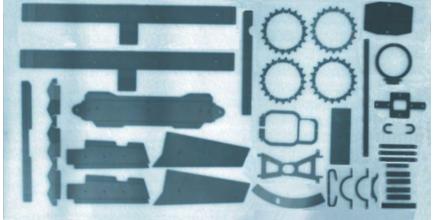


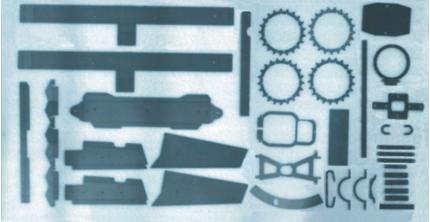


(1) Superstructure BRA002-725M-C

Bag11 Contents (26 Parts - 45 Pieces)

Note: Quantity of part indicated in ()







(1) Loader's Hatch Ring BRA002-701M



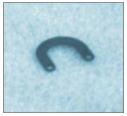
(1) Loader's Hatch Hinge Bracket BRA002-703M



Hinge BRA002-702M



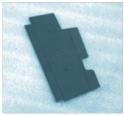
(1) Commander's Hatch Ring BRA002-704M



(2) Commander's Hatch Hinge BRA002-705M



(1) Commander's Hatch Hinge Bracket BRA002-706M



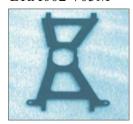
(2) Air Intake Manifold BRA002-707M



(6) Air Intake Manifold Fin BRA002-708M



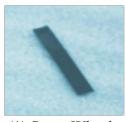
(1) Upper Periscope Track BRA002-709M



(1) Barrel Lock BRA002-710M



(3) Barrel Lock Hinge/Barrel Brace BRA002-711M



(1) Spare Wheel Bracket (Flat) BRA002-712M



(2) Spare Wheel Bracket (Arched) BRA002-713M



(2) Air Intake Side Shield BRA002-714M



(4) Air Intake Side Shield Bracket BRA002-715M



(1) Superstructure to Rear Engine Deck Connection Bracket BRA002-716M



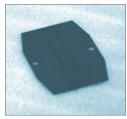
(1) Rear Track Link Holder BRA002-717M



(4) Metal Drive Sprocket Wheel Attachment BRA001-700M



(2) Return Roller Axle Support BRA002-719M



(1) Towing Bracket BRA001-702M



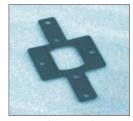
(1) Towing Bracket Housing - BRA001-703M BRA001-704M



(1) Idler Axel Bracket



(1) Rear Brace BRA001-705M



(1) Barrel Rotation Bracket -BRA002-724M

Bag11 Contents (26 Parts - 45 Pieces) CONTINUED

Note: Quantity of part indicated in ()



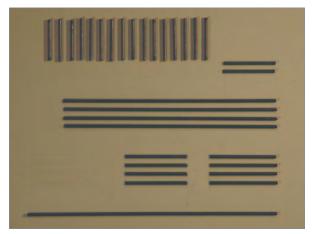
(1) Rear Tow Bracket Reinforcement BRA005-706M



(2) Rear Fender Brace BRA005-705M

Bag12 Contents (5 Parts - 31 Pieces)

Note: Quantity of part indicated in ()



3" Bogey Axle - 16 Pieces - BRA001-801M

3.75" Idler Axle - 2 Pieces - BRA001-802M

15.5" Suspension Axle - 4 Pieces - BRA001-8603M

4.75" Return Roller Axle - 8 Pieces - BRA001-804M

18" Drive Axle - 1 Piece - BRA001-805M

Bag 13 Contents (1 Part - 1 Piece)

Note: Quantity of part indicated in ()



(1) Spacer Material - 36" Length BRA001-806T

Bag 14 Contents (1 Part - 50 Pieces)

Note: Quantity of part indicated in ()



(50) 1/4" Push Nut BRA001-807M

Bag 15 Contents (1 Part - 50 Pieces)

Note: Quantity of part indicated in ()



(50) 4-40 x 5/16" Screw (machine) BRA001-808M

Bag 16 Contents (1 Part - 60 Pieces)

Note: Quantity of part indicated in ()



(60) 1/8" x 1/4" Aluminum Pop Rivets BRA001-807M

Bag 17 Contents (1 Part - 20 Piece)

This part supplied with all tanks purchased after Feb 20, 2007.



(20) #6 ½" (Sheet Metal) BRA001-810M

Bag 18 Contents (1 Part - 1Piece)



(1) 8" long metal rod 1/8" diameter BRA002-813M

Bag 19 Contents (4 Parts - 18 Pieces)

These parts supplied with all tanks purchased after Oct. 2007.





(2) Brake Access Panel Hinge Half (Male) BRA005-432R



(2) Brake Access Panel Hinge Half (Female) BRA005-433R



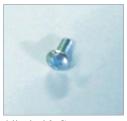
(5) Hinge Half (Male) BRA005-434R



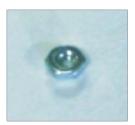
(5) Hinge Half (Female) BRA005-435R

Bag 20 Contents (2 Parts - 8 Pieces)





(4) 4-40 Screw (machine) BRA001-808M



(4) 4-40 Nut BRA001-814M

Bag 21 Contents (1 Part - 1 Piece

Note: Quantity of part indicated in ()



(1) Instruction CD BRA002-ICD

Chassis

Welcome to the world of "Battle Ready Armor"

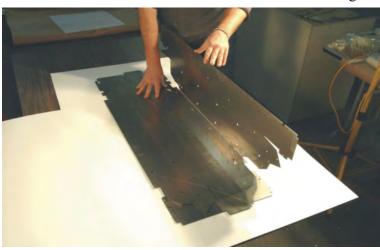
NOTE: The tank used for demonstration in some photographs is the Chassis for a Panzer IV, however the Steps for assembly of the L-70 Chassis are the same and will not adversely affect the assembly.

Step 1. After opening the large package (Bag 1) of metal parts begin with the longest of the three pieces which is the main chassis piece. See Figure 1a.

Note: This piece is folded in a particular manner and to avoid these pieces from breaking apart during assembly, you should only unfold it as illustrated below



Figure 1a



Step 2. Fold out the side piece that lays on top raising it up at the seam just below the lower row of axle holes to a 90 degree angle to the bottom. See Figures 2 and 2a.



Figure 2b

Figure 2a **Step 3.** Raise the other side to a 90 degree angle. See Figure 3.

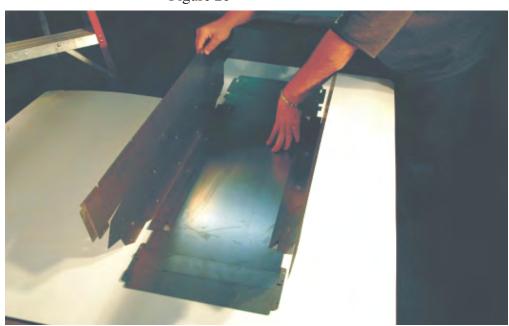


Figure 3

Chassis

Step 4. Bend pop rivet tabs on the end pieces to 90 degrees. See Figures 6a and 6b.









Step 5. Raise the end pieces of the chassis and begin to shape them to match the pop rivet holes in the side panels. See Figures 5a, 5b, 5c and 5d.



Figure 5b



Figure 5c



Figure 5d



Figure 6a



Figure 6b

Step 6. Raise the tabs at the four corners. See Figures 6a and 6b.

Chassis

Note: Creating the bottom stiffener channels is a bit tricky and when the operation is complete they should protrude from the bottom exterior rather than into the interior.



Figure 7

Step 7. Now that we have the tabs bent ready to receive the pop rivets - before you actually secure anything in place you must create the bottom stiffener.

Place the bottom of the chassis body on a flat surface and move it to the edge along the inner most seam. Bend the entire side down to a 90 degree angle. See Figure 7.



Figure 8a

Note: Repeat steps 7 and 8 on other side.

Step 8. Holding the narrow side securely in place, bend the entire side back up at the next seam outward to a 90 degree angle to create the stiffener channel. See Figures 8a and 8b.



Figure 8b

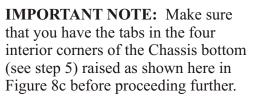




Figure 8c

Chassis

You are now ready to begin too secure the sides and the ends together with pop rivets.

Step 9. Making sure that you have bent all the appropriate tabs as discussed in step 4, line up the holes in the body side panels with the holes in the tabs of the end pieces (their alignment should be self evident) and get your pop rivet gun ready. See Figures 9a, 9b and 9c.



Figure 9a



Figure 9b

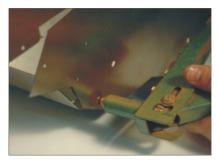


Figure 9c



Note: Although it is obvious that the photographs in Step 9 are of a Panzer IV the securing of the end pieces to the side panels is the same.

Note: Wherever possible Pop Rivets should be in stalled from the

exterior.

Note: When the pop rivet is in place it should look like those in Figure 9d.

Figure 9d

Step 10. Complete pop riveting of all tabs for both the front and rear panels to the sides. When that is completed your chassis should look as the one in Figure 10a.

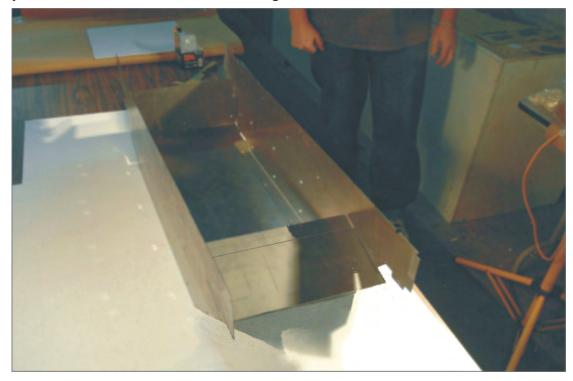


Figure 10a

Chassis

Step 11. Before bending the track fender into place bend the flaps along the edge down at a 90 degree angle to what will become the fender top. See Figures 11a, 11b and 11c.

Note: The tank used for demonstration in the photographs in Figure 11a, 11b and 11c is the Chassis for a Panzer IV, however the Steps for assembly of the L-70 Chassis are the same.







Figure 11a Figure 11b Figure 11c

Step 12. Bend the fender down at a 90 degree angle to the Chassis body to create the fender top. (See Figures 12a and 12b.

Note: The tank used for demonstration in the photographs in Figure 12a, 12b is the Chassis for a Panzer IV, however the Steps for assembly of the L-70 Chassis are the same.



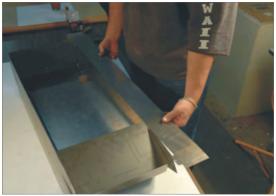


Figure 12a Figure 12b

Step 13. Bend down the tab on the fender fronts (See Figure 13a) and then bend down the fender fronts themselves (See Figure 13b) to an angle that is consistent with the pop rivet hole (See Figure 13c) in the Chassis body. Align the pop rivet holes and secure with a pop rivet (See Figure 13d).

Note: The tank used for demonstration in the photographs in Figure 13a, 13b, 13c, and 13d is the Chassis for a Panzer IV, however the Steps for assembly of the L-70 Chassis are the same. Figure 13e is a Jagdpanzer L-70.









Figure 13a

Figure 13b

Figure 13c

Figure 13d



Note: When this step is completed the fender fronts should look like Figure 13e.

Figure 13e

Jagdpanzer - L-70

Assembly Instructions

Chassis

Step 14. T Bend down the tab on the fender backs as you did on the fender fronts and then bend down the fender backs themselves (See Figure 14a) to an angle that is consistent with the Pop Rivet hole (See Figure 14b) in the Chassis body. Secure with a pop rivet (See Figure 14d). The end result should look like Figure 14d.









Figure 14a Figure 14b Figure 14c Figure 14 d

Step 15. Bend the tabs on the front panel down to be at a 90 degree angle to bottom of the Chassis body (see Figure 15 a). Bend the tab on the rear panel down to be at the same angle (flush with) top of the fenders (See Figure 15b).





Figure 15a Figure 15b

Step 16. Locate the two (2) Return Roller Axle Supports (see Figure 16a) and bend each end into the configuration shown in Figure 16b. Bend the center tab to the configuration shown in 16c. When completed the pieces should resemble the piece shown in Figure 16d.







Figure 16b

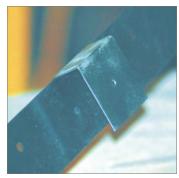


Figure 16c

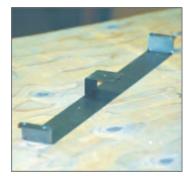


Figure 16d

Chassis

Step 17. Install the Return Roller Support Axle - one to either side of the Chassis as shown in Figure 17a. Secure in place using Pop Rivets. The Pop Rivets should be installed from the outside as shown in Figure 17b. Prior to installing all the Pop Rivets ensure the Return Roller Support Axle is in the correct location by installing a 4.75" Return Roller Axle (see Figure 17c) and make sure it is at a 90 degree angle to the body.





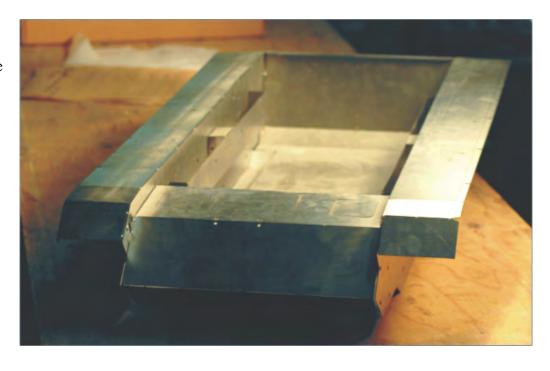


Figure 17a

Figure 17b

Figure 17c

Note: When complete the assembly of the Chassis body should appear as it does in the photograph to the right.



Superstructure and Barrel Assembly

Step 1. The Superstructure may come with either the front and back panels folded in or the side panels folded in; in either case begin by unfolding the folded panels outward to an angle of approximately 110 degrees to the horizontal. See Figure 1a.

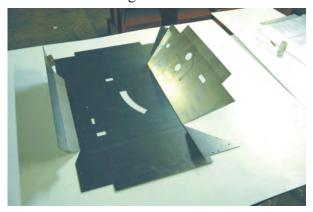
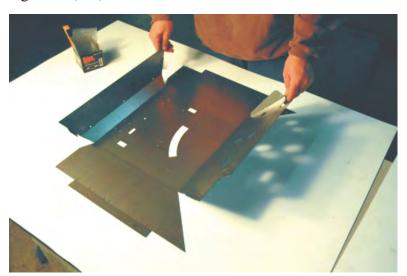


Figure 1a

Step 2. Bend the tabs on the Back Panel of the Superstructure 90 degrees and bend the tabs on the Front Panel of

the Superstructure approximately 80 degrees. See Figures 2a, 2b, 2c and 2d.









Step 3. Raise the Side Panels and further adjust the tabs in the Front and Back Panels so they align with the holes in the side panels. See Figure 3a and 3b. Secure in place with Pop Rivets.



Figure 3a

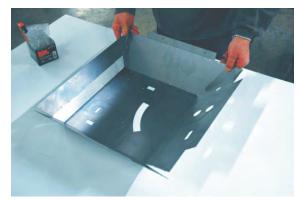


Figure 3b

Superstructure and Barrel Assembly

Step 4. Bend the flanges on the bottoms of the Side Panels in ward until they are horizontally parallel with the top of the Superstructure. See Figure 4a and 4b.



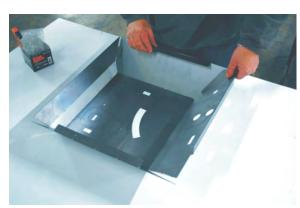


Figure 4a Figure 4b

Step 5. Bend the flange at the bottom of the Front Panel so that it is 90 degrees to the horizontal. See Figure 5a.

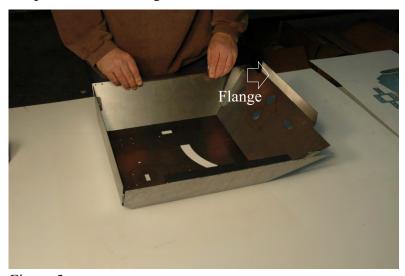


Figure 5a

Step 6. Turn the Superstructure upright to prepare for the installation of the Barrel Rotation Bracket.





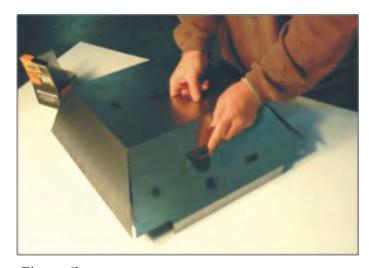


Figure 6b

Superstructure and Barrel Assembly

Step 6. Turn the Superstructure upright to prepare for the installation of the Barrel Rotation Bracket. Insert a finger into the top hole of the cut out and raise it a horizontal position parallel with the top of the Superstructure. See Figure 6a, 6b and 6c.

Insert your finger into the bottom hole of the cut out and bend it outward and upward so it is at a 90 degree angle to the face of the Front Panel. See Figure 6a, 6b and 6c. Push back on unbent portion of the cutout until it is vertical and at a 90 degree angle to the horizontal. Both the upper and lower tabs with the holes in them should be parallel to one another and be at 90 degrees to the vertical.



Figure 6b

This creates a "receiver arm" for the Barrel Rotation Bracket. See Step 7 and Step 8.



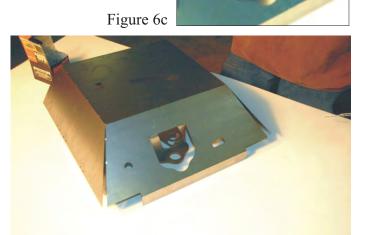


Figure 6a

Note:

When the process is completed it should resemble Figure 6d

Figure 6d

Step 7. Locate the Barrel Rotation

for the completed configuration.

Bracket as shown in Figure 7a. Bend the Side tabs up (See Figure 7b). Bend the End tabs up as shown in Figure 7c. Bend

NOTE: Please read Step 8 before completing Step 7.

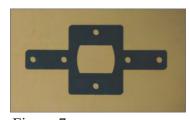


Figure 7a



Figure 7b



Figure 7c



Figure 7d

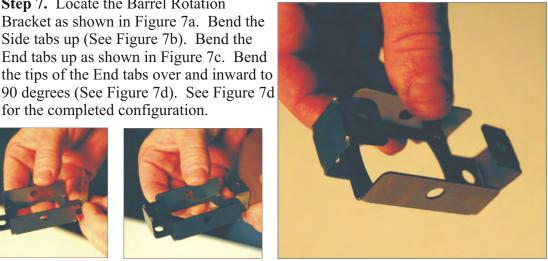


Figure 7e

Superstructure and Barrel Assembly

Step 8. To install the Barrel Rotation Bracket, locate the Barrel Receiver and Elevation Piece and the two (2) Wooden Dowel Keepers (See Figure 8a). There are several ways of installing the Barrel Receiver and Elevation Piece and it can be installed as the Barrel Rotation Bracket is being formed by inserting the dowel ends on the Barrel Receiver and Elevation Piece into the holes of the side Tabs of the Barrel Rotation Bracket as they are being bent into position or it can installed after the Barrel Rotation Bracket is installed by simply bending back one of the Side Tabs and inserting the dowel ends on the Barrel Receiver and Elevation Piece into the holes of the side Tabs and then bending the Side Tab back into place.



To install the Barrel Rotation Bracket slide one End Tab (there is not a top or bottom to the Barrel Rotation Bracket) into top hole of the "receiver arm" for this piece created in Step 6 (See Figure 8b). Bend down the arm of the bottom piece with the hole in it just enough to allow insertion of the other End Tab of the Barrel Rotation Bracket into the bottom hole. Slide one Wooden Dowel into the hole in the top End Tab of the Barrel Rotation Bracket so that the Wooden Dowel rests on the top of the top "receiver arm". Slide one Wooden Dowel into the hole in the bottom End Tab of the Barrel Rotation Bracket so that the Wooden Dowel rests on the bottom of the bottom "receiver arm" (See Figures 7c and 7d.

Figure 8a







Figure 8c Figure 8b Figure 8d

Step 9. Locate the Barrel, Barrel Counter Balance, Mantlet and Mantlet Housing.







Mantlet

Mantlet Housing





Barrel Counter Balance

Barrel

Superstructure and Barrel Assembly

Step 10. With a pencil draw a line around the Mantlet at the bottom of the ridge. Your pencil should follow the bottom of the grove easily (See Figure 10a). Using a sharp utility knife or a sharp pair of scissors trim off the excess styrene along the pencil line you have just drawn (See Figure 10b). Sand off any rough edges or imperfections and when completed should resemble Figure 10c







Figure 10a Figure 10b Figure 10c

Step 11. At the front tip of the mantlet you will see a depression (See Figure 11a). With a pencil draw a line around the mantlet at the bottom of the ridge. Your pencil should follow the bottom of the grove easily. Using a sharp utility knife cut out the styrene (See Figure 11b) to form a hole the slightly smaller than the diameter of the Barrel. Ream out the hole and smooth the surface so that it fits snugly around the Barrel (See Figure 11c).







Figure 11a Figure 11b Figure 11c

Step 12. Locate the ridge line where the top slopped surface with the circle depression detail changes direction (See Figure 12a). With a pencil continue a line around the bottom of the Mantlet Housing (See Figure 12b). The dimension is approximately 1/4" down from the horizontal surface on the vertical surface. Using a sharp utility knife or a sharp pair of scissors trim off the excess styrene along the pencil line you have just drawn (See Figure 12c). Sand off any rough edges or imperfections.







Figure 12a Figure 12b Figure 12c

Superstructure and Barrel Assembly

Step 13. With a pencil draw a line around the rectangular depression in the Mantlet Housing. Your pencil should follow the bottom of the grove easily. Using a sharp utility knife or a sharp pair of scissors cut out the excess styrene along the pencil line you have just drawn (See Figure 13a). Sand off any rough edges or imperfections and when completed should resemble Figure 13b. To make the mounting of the Mantlet Housing to the Front Panel of the Superstructure more secure cut some pieces of scrap wood or plastic (not provided) approximately 1/4" thick and secure them with epoxy or Super glue to the back side (inside) of the Mantlet Housing (See Figure 13c).





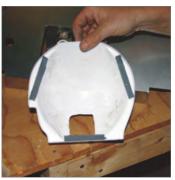


Figure 13a Figure 13b

Figure 13c

Step 14. Install the Barrel by inserting it into the front of the Barrel Receiver and Elevation Back Piece (See Figure 14a). There is no need to glue these pieces together as the Barrel Receiver and back Piece is slightly tapered and if the Barrel is inserted up to the dowel cross piece it should be a solid connection. The other reason for not gluing these pieces together is that you can remove the Barrel if need be for easier moving or packaging.



Figure 14a

Step 15. Turn the Superstructure upside down to install the Barrel Counter Balance. Add weight (not provided) to the Barrel Counter Balance (See Figure 15a). Insert the Barrel Counter Balance into the rear of the Barrel Receiver and Elevation Back Piece (See Figure 15b and 15c). Add additional weight to the Barrel Counter Balance until the Barrel and Barrel Counter Balance assembly will remain in the position you place it in.







Figure 15b

Figure 15c

Superstructure and Barrel Assembly

Step 15. Turn the Superstructure with the Barrel and Barrel Counter Balance now installed right side up. Slide the Mantlet Housing over the Barrel and adjust it into position (See figures 15a and 15b). Facing the Tank line the right side of the Mantlet housing up with the left vertical edge of the rectangular cut out in the Front Panel of the Superstructure and so the bottom edge of the Mantlet Housing is flush with the bottom seam of the Front panel of the Superstructure. Secure in place using Epoxy.







Figure 15a Figure 15b Figure 15c

Step 16. To make the mounting of the Mantlet to the Barrel more secure cut a circular piece of scrap wood or plastic (not provided) approximately 3/8" thick to the inside diameter of the tip of the Mantlet and drill a hole in it to fit snugly around the Barrel. Secure it with epoxy or Super glue to the inside tip of the Mantlet so the hole in the scrap piece match the hole in the Mantlet tip and so that it is tight against the inside surface of the Mantlet tip. Slide the Mantlet over the Barrel (See Figure 16a) and move it up the Barrel into position (See figure 16b). Move the Mantlet up to the Mantlet Housing so that it fits snugly. Tip the Barrel down so that the top edge of the Mantlet is at the upper edge of the cut out in the Mantlet Housing See Figure 16c) and make a mark on the Barrel (See Figure 16d). Secure the Mantlet to the Barrel using Super-glue and aligning the outside tip if the Mantlet with the pencil mark you made on the Barrel.









Figure 16a Figure 16b **Note:** Your Superstructure and Barrel assembly should resemble Figure 16e to the side.





Figure 16e

Jagdpanzer - L-70 Assembly Instructions Superstructure and Barrel Assembly

Note: Your metal assembly so far is the Chassis and the Superstructure with the Barrel Assembly installed and when place together should resemble Figure 17a) to the side.



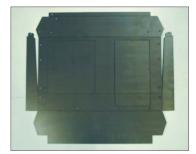
Figure 17a

Engine Cover Deck

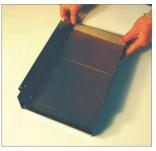
Step 1 The Engine Cover Deck is the third of the large pieces in the bundle (See Figure 1a) and is shipped with the Front Panel folded over. Raise the Front Panel until it is at a 90 degree angle to the horizontal.

Fold the Tabs at the ends of the Side Panels inward to approximately 85 degrees and raise the Rear Panel up until the holes in the Rear Panel align with the hole in the Tabs of the Side Panels (See Figures 1b and 1c). Secure in place with Pop Rivets.

Bend the flange the is across the bottom of the Rear Panel Slightly in ward until it is vertically 90 degrees to the horizontal.







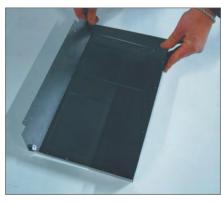


Figure 1a

Figure 1b

Figure 1c

When completed the assembly should look like figure 1d.

Figure 1d

Step 2. Locate the Commander's Hatch ring (See Figure 2a) and the Loaders Hatch Ring (See Figure 2b). Using a pair of plyers (See Figure 2c) bend the Tabs to 90 degrees (See Figure 2d) and install them to the underside of the

top of the Superstructure by lining up the pop rivet holes in each piece with the holes in the top the Superstructure and securing them with Pop Rivets

(See Figure 2e).





Note: Figures 2c, 2d and 2e are of the Loaders Hatch Ring. The procedure is the same for the Commander's Hatch Ring.



Figure 2a

Figure 2b

Figure 2c



Figure 2d

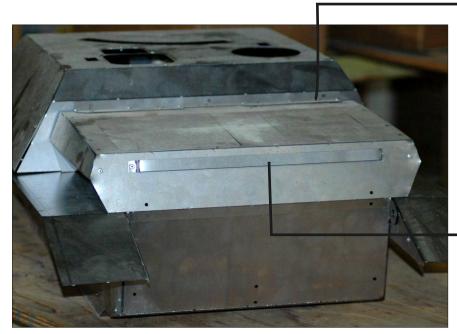


Detail of Engine Cover Deck and Superstructure



Figure 2e

Engine Cover Deck



Detail of Engine Cover Deck and Superstructure

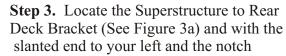




Figure 3a

facing you fold it lengthwise along the seam upward to 90 degrees. Place the Bracket along the top front edge of the Engine Cover Deck with the notched edge on the Rear Deck.

Line up the holes in the Bracket with those in the Engine Cover Deck and secure with Pop Rivets.

Step 4. Locate the Rear Track Link Holder (See Figure 4a). Fold each end

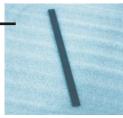


Figure 4a

inward at the second seam to 90 degrees and then fold the Tab at each end with the hole in it outward to 90 degrees. Align the holes in the Bracket with those in the Rear Panel of the Engine

Cover Deck and secure with Pop Rivets.



Figure 5a

Note: Your have now completed the metal assembly of the three major metal pieces, the Chassis and the Superstructure (with Barrel Assembly installed) and the Engine Cover Deck. When placed together should resemble Figures 5a and 5b to the side and below.



Figure 5b

IMPORTANT: You have now completed the three (3) major portions of the tank, the Chassis, the Superstructure with Barrel Assembly and the Engine Cover Deck. DO NOT at this point secure any of these pieces together as you will require access to the Chassis, Superstructure with Barrel Assembly and Engine Cover Deck for other installations. By following the instructions that follow it will insure that you will not assemble or place parts onto the Superstructure out of order and should therefore avoid having to DIS-assemble anything in order to complete a specific task.

Running Gear

IMPORTANT - You have now completed the three (3) major portions of the tank, the Chassis, the Superstructure and the Engine Cover Deck. DO NOT at this point secure any of these pieces together at this time as you will require access to the Chassis and the Superstructure for other installations. By following the instructions that follow it will insure that you will not assemble or place parts onto the superstructure out of order and should therefore avoid having to DIS-assemble anything in order to complete a specific task.

Step1. Locate the three following parts - the Idler Axle Bracket, the Towing Bracket and the Towing Bracket Housing. See Figure 1.

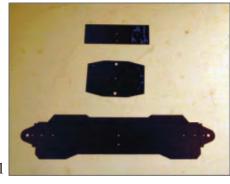


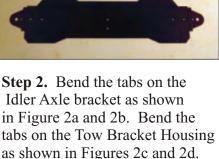
Figure 1



Figure 2a



Figure 2b



Fold the sides of the Towing Bracket along the seams as shown

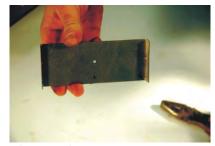


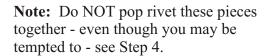
Figure 2c Figure 2d



in Figure 2e.

Figure 2e

Step 3. Place the Towing Bracket Housing against the Idler Axle bracket as shown in Figure 3a and line up the holes. Next place the Towing Bracket in the Towing Bracket Housing (See Figure 3b) and line up the bottom hole. The entire assembly should look as it appears in Figure 3c.



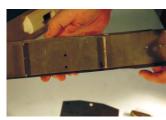


Figure 3a



Figure 3b



Figure 3c

Running Gear

Step 4. Place the Idler Axle Bracket, Towing Bracket, Towing Bracket Housing Assembly at the rear of the Chassis and align the holes. Pop rivet the Assembly in place with two (2) pop rivets. See Figures 4a, 4b and 4c. When the assembly is in place it should look like it does in Figure 4d.

Figure 4b



Figure 4a



Figure 4c Figure 4d

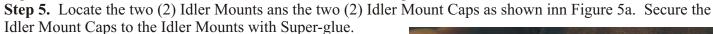




Figure 5a



Figure 5c

Figure 5d



Slide the Idler Mount and Idler Mount Cap assembly into place - one on each side of the Idler Axle Bracket as shown in figures 5b, 5cand 5d. Align the hole in the Assembly with the hole in the bracket.

Note: When you have it aligned mark the three holes (2 on the back and 1 on the end) on the Idler Mount assembly and pre-drill for Sheet Metal Screws.

Figure 5b

Running Gear

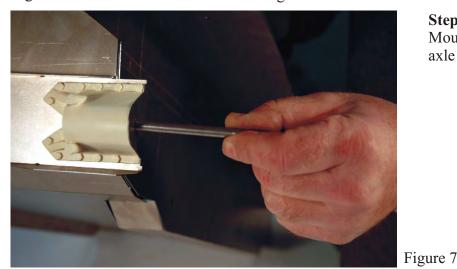
Step 6 Place the Idler Mount assemblies in place and fasten with the three (3) #6 x ½" Sheet Metal Screws. One screw in the end (Figures 6a), one screw in the back outside the Chassis (Figure 6b) and one on the back inside the Chassis (Figure 6c)







Figure 6a Figure 6b Figure 6c



Step 7. Insert one (1) Idler Axle in each Idler Mount Assembly. (See Figure 7) Secure the axle in place with epoxy

Step 8. With the Chassis portion of the tank sitting right side up insert the four (4) 15.5 "Suspension Axles into each of the four lower holes in the Chassis. See Figures 8a.

Figure 8a

Note: The photograph (Figure 8b)
DOES NOT show the Return Roller
Axle Support (this is new upgrade)
and the only difference in assembly
is that you will use shorter 4.75" Return
Roller Axles rather than the current ones.



Figure 8b

Note: The Suspension Axles should be laying flat across the Chassis bottom spanning the stiffening channels that run the length of the Chassis on either side. See Figure 8b.

Running Gear

Step 9. Turn the tank Chsassis so that the bottom side is facing up. Locate 8 each of the following: Suspension Blocks, Suspension Block Covers and Suspension Arms. Four of each part will be used on each side of the tank. See Figure 9.



Note: Follow the same photographs and instructions shown for each side of the tanks running gear from Step 9 through Step 18.

Figure 9

Step 10. Position 4 of the Suspension Blocks on the axles so that the concave protrusion is away from the bottom and toward the top of the fender skirt. Fasten them in place using epoxy. See Figures 10a and 10b.



Figure 10a



Figure 10b

Step 11. When the Suspension Blocks are securely in place install one (1) Suspension Arm onto each of the axles (See Figure 11a) so the rounded portion of the center hole fits into the concave of the Suspension Block (See Figure 11b) and so that the detail on the Suspension Arm is facing outward.

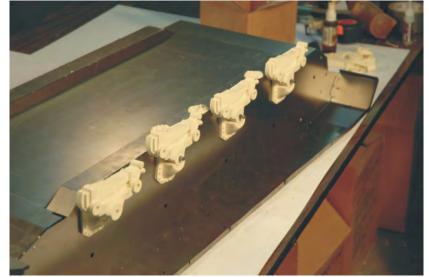


Figure 11a



Figure 11b

Running Gear

Step 12. Install the 3"BbogeyAxles onto the Suspension arms - two (2) per Suspension Arm - one (1) axle on each end. Secure the axles in place with epoxy making sure that the axle is flush with the inside face of the

Suspension Arm. See Figures 12a and 12b.

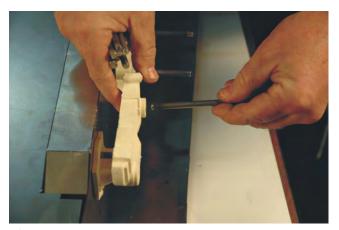


Figure 12a

Step 13. Installing the Suspension Block Covers. Slide the Suspension Block Cover over the axle detail side facing outward and align the notch in the Suspension Block Cover with the pin on the Suspension Block. (See Figures 12 a and 12b) Secure in place with Super-glue making sure not to get any on the Suspension Arm.



Figure 13a

Note: The Suspension Block and the Suspension Block Cover can be assembled prior to their being secured to the Chassis. Make sure when doing it this way that axle holes are aligned properly and that when securing the assembly to the Chassis that axle holes on the Assembly line up with the axle holes in the Chassis. Also when finally installing the axle make sure that you have inserted the Suspension Arm in place properly.

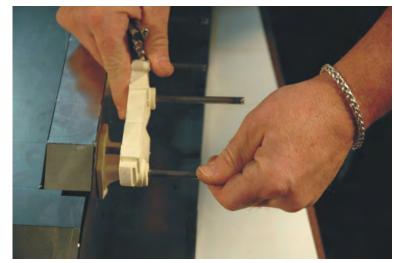


Figure 12b



Figure 13b

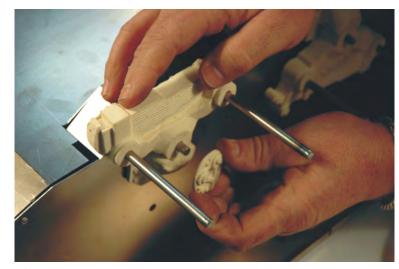


Figure 13c

Running Gear

Step 14. Balance the amount of the axle exposed beyond the Suspension Block Cap piece so that it is the same on both sides (Approx. 1/4") of the tank and secure the axle in place with a Push Nut. See Figures 14a and 14b.



Figure 14a



Figure 14b

Step 15. Install the 18" Drive Axle and install in the front of the Chassis in the axle hole. Locate the Drive Gear Housing. (See Figure 15a) and install it as over the axle and securing it in place with epoxy as shown in Figures 15b and 15c.



Figure 15a



Step 16. Locate the Left and Right Idler Braces and install them in the location shown in Figures 16a and 16b directly behind the Idler Mount. Secure in place using epoxy.

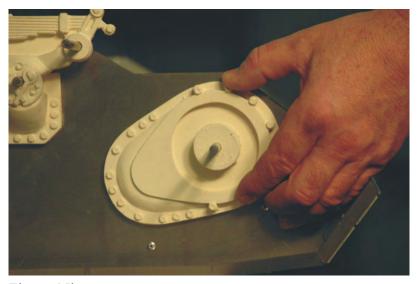


Figure 15b

Figure 15c



Figure 16a



Figure 16b

Running Gear

Step 17. Locate the ten (10) Bumpers and allocate 5 per side. Installing the Bumpers - Starting at the REAR install one (1) on either side of the Rear Suspension Assembly (See Figure 1a). Install one (1) of each of the remaining three (3) Bumpers toward the front on each of the other three (3) Suspension Assemblies. Line the tops of the bumpers with the tops of the Suspension Blocks and so the widest part of the Bumper is 1/4" away from the Suspension Block (See Figure 3c).



Figure 17b

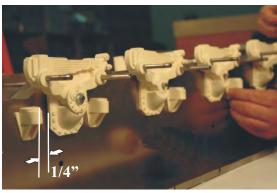


Figure 17c

Figure 17a

Step 18. Locate the Idler Wheels and the Idler Spacer (See Figure 18a). Using Super-glue secure the Idler Spacer to the inside face of one of the Idler Wheels making sure that it is centered around the axle hole in the wheel (See Figures 18b and 18c) and so that the prongs on the Idler Spacer are centered between the spokes of the Idler Wheel (See Figure 18d). Using one of the short axles as a guide place the second Idler Wheel in place on the axle and align the spokes so that one Wheel is the mirror image of the other and secure using Super-glue (See Figures 18e and 18f). Install an 11/16" long section of Spacer Material on the Idler Axle and mount the Idler Wheel Assembly on the Idler Axles. Secure in place with a push nut.

Note: This procedure can be undertaken directly onto Idler Axle in place on the installed Idler Axle.



Figure 18a

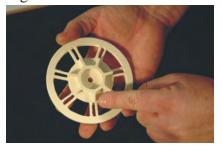


Figure 18d



Figure 18b



Figure 18e



Figure 18c



Figure 18f

Running Gear

Step 19. Locate the bag of 36 Road Wheels. On each of the Bogey Axles place one (1) Road Wheel with the detail portion facing inward (See Figure 19a). Slide a 1/4" length of Spacer Material over each of the Bogey Axles (See Figure 19b). Place a second Road Wheel on each of the Bogey Wheels with the detail portion facing outward (See Figure 19c). There should be approximately 1/4" of axle exposed when the Wheels and the Spacer Materials are installed. Secure in place with Push Nuts.

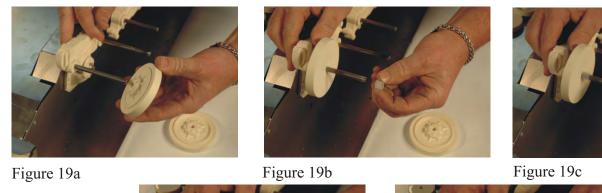








Figure 19d Figure 19e

Step 20. Install the four (4) Return Roller Axles (eight (8) axles if you are installing to the Return Roller Axle Support) in the axle holes in the upper part of the Chassis (See Figure 20a) just under the fenders. Install a 1-1/4" long piece of Spacer Material on the Return Roller Axle (See Figure 20b). Slide one (1) Return Roller Wheel with the detail portion to the inside (See Figure 20c). Install a 1/4" long piece of Spacer Material over the axle (See Figure 20d). Install a second Return Roller Wheel on the axle and with the detail portion facing outward (See Figure 20e). Secure with a Push Nut (See Figure 20f).



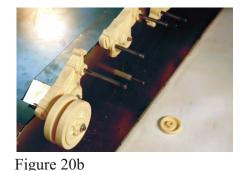
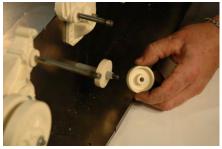




Figure 20a





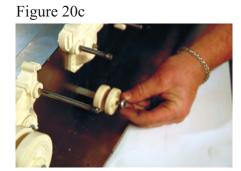


Figure 20d Figure 20e

Figure 20f

Running Gear

Step 21. Each side of the tank has a pair of Drive Wheels (See Figure 21a) that need some assembly before being installed Pre-drill the Resin portion of the Drive Wheels at the twelve (12) dimples around the outside edge and start two (2) 4-40 x 1//4" machine screws (See Figure 21b). Place the slots on the metal portion of the Drive Wheel over the screws and position it so that it fits into the rabbet around the outer edge of the resin piece (See Figure 21c). Secure the metal portion of the Drive Wheel to the resin portion using ten (10) additional machine screws (See Figure 21d).

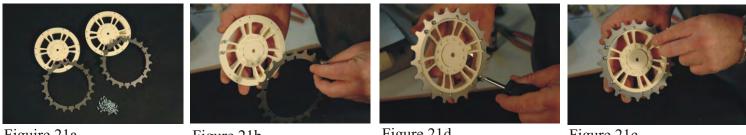


Figure 21a Figure 21b Figure 21d Figure 21c **Step 22.** Install the 18" Drive Axle at the front of the tank through the holes provided. Place an approx. 11/16" long piece of Spacer Material (See Note A Below) over the Axle (See Figure 22a). Install one (1) Drive Wheel onto the axle with the metal piece to the inside (See Figure 22b. Install a 1/2" length of Spacer Material (See Note A Below) and install the second Drive Wheel with the metal portion facing outward (See Figure 22c).

Secure in the Drive Wheels in place with a Push Nut (See Figure 22d).

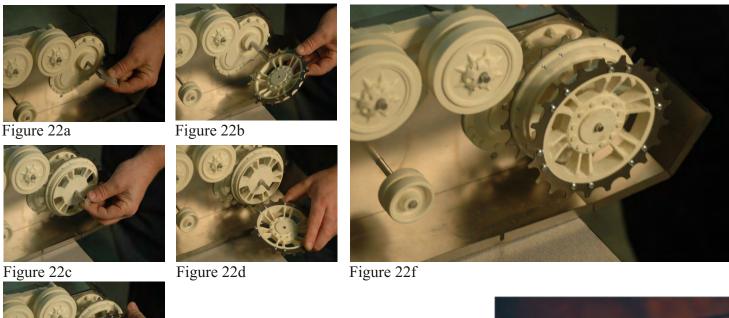




Figure 22e

Note A: The length of the Spacer Material between the Drive Gear Housing and the inside Drive Wheel and the distance between the two (2) Drive Wheels should be determined by laying an assemble section of track over the cogs of the metal gear portion of the Drive Wheels and measuring the distance between the two (2) wheels (See Figure 21g).



Figure 21g

General Note: If any of the axles when the final installation of the wheel assemblies is completed and any of the axles protrude more than 1/4" past the wheel OR are aesthetically unpleasing cut them off to the desired length.

Running Gear

Step 22. Assemble the tracks. Fit the three (3) tabs of one piece of Track into the three (3) depressions of a second piece and insert a Track Pin (See Figures 22a and 22b). Repeat this process with half the track pieces to form one single track assembly (See Figure 22c). Assemble the remainder of the pieces to create the second track assembly.







Figure 22a Figure 22b Figure 22c

Step 23. To assure the alignment of drape a piece of track over the drive Wheels and the Road Wheels and the Return Rollers (See Figures 23a and 23b. The tongue on the underside of track piece should run smoothly through the space between the wheels (See Figure 23c). Make adjustments to the Spacer Material as required to assure proper tracking.



Figure 23a





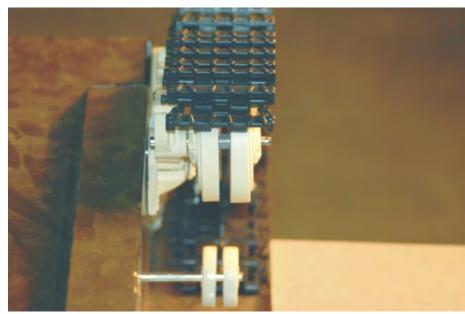
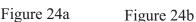


Figure 23b

Step 24. Lay the track assemblies over the Wheels and Rollers making sure that the tracks are engaged with the Drive Wheel Sprockets and insert the last Track Pin (See Figure 24 a). If there is to much slack in the track or the track is not long enough either remove a Track Link or add one as the case may be to complete the installation See Figure 24b).



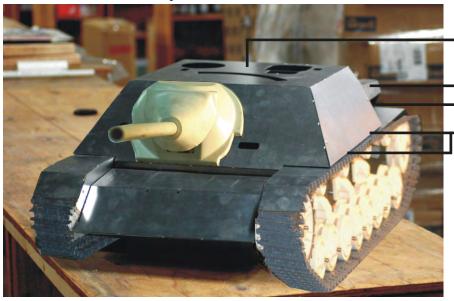
Note: It is advisable to remove the track during the remainder of the assembly process. This will keep the tank from shifting and Rolling about while you are working.





Chassis, Superstructure and Engine Cover Deck and Manifold Assembly

Step 1. With the running gear now installed there is no reason not to attach the Superstructure and the Engine Cover Deck to the Chassis. Beginning with the Superstructure align the holes in the tabs at the bottoms of the Side Panels rear of the Superstructure to matches the holes in the Chassis Fenders. Secure in place with Pop Rivets from the underside of the fenders. If you have not removed the Tracks to continue your assembly process you will need to do that to facilitate this procedure.



Superstructure

Engine Cover Deck Manifold Assembly Location

Approximate position of hole location for Pop Rivets.

IMPORTANT

If it is your intention to install drive motors and a Radio Control System (upgrade kits coming soon) at a later date then you may want to secure the Upper Deck to the Chassis only at the side tabs and using Self-tapping or Sheet metal Screws rather than Pop Rivets.

Figure 1a

Step 2. Having secured the Superstructure to the Chassis the next step is to attach the Engine Cover Deck. Before attaching the Engine Cover Deck to The Chassis and Superstructure you will need to assemble the Manifolds and secure them in place to the undersides of the Engine Cover Deck.

Step 3. There are two (2) Air Intake Manifold pieces and six (6) Intake Manifold Fins. They are assembled using one (1) Air Intake Manifold piece and three (3) Intake Manifold Fins (See Figure 3a).

Step 4. Bend the tabs at the top and bottom of the Air Intake Manifold pieces to an angle complimentary to the slot in the Intake Manifold Fins (See Figure 4a) and also bend the tabs with the holes in them on the Intake Manifold Fins to a 90 degree angle (See Figure 4b)



Figure 4a



Figure 4b

Step 5. Slip the slots in the Intake Manifold Fins and align the holes in the with the holes

in the Air Intake Manifold and secure with Pop Rivets. (See Figure 5a) When complete you should have two Manifold Assemblies that are the mirror image of one another and resemble Figure 5b.



Intake Manifold Fins need to be in the opposite direction for each side.



Note: Remember there is a left side and a right side and so the tabs on the

Figure 5a



Figure 3a

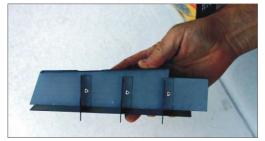


Figure 5b

Chassis, Superstructure and Engine Cover Deck and Manifold Assembly

Step 6. Install the Manifold Assemblies on the right and left sides of the Engine Cover Deck. The holes in the top tab of the Manifold Assembly will line up with the holes in the Engine Cover Deck. Secure with Pop Rivets. (See Figure 6a)

Note: The photograph in Figure 6a is of a Panzer IV however the installation for the Jagdpanzer L-70 is the same and will look similar in appearance when completed.

Figure 6a

Step 7. Place the Engine Cover Deck in place on the Chassis at the rear of the Superstructure so that the Flange at the bottom of the Rear Panel of the Engine Cover Deck lap over (to the outside) the Chassis and making sure the hole in the Superstructure to Rear Deck Bracket line up with the holes in the Superstructure. Secure the Engine Cover Deck via the Rear Deck Bracket to the Superstructure using Pop Rivets (See Figure 7a).



Figure 7a

IMPORTANT

If it is your intention to install drive motors and a Radio Control System (upgrade kits coming soon) at a later date then you may want to secure the Engine Cover Deck to the Chassis using Self-tapping or Sheet Metal Screws rather than Pop Rivets in the spot (there is one location on either side) indicated by the Arrow in Figure 7b.

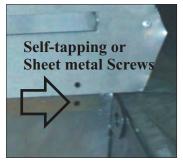


Figure 7b



Note:

Your tank assembly should now resemble Figure 8a.

Figure 8a

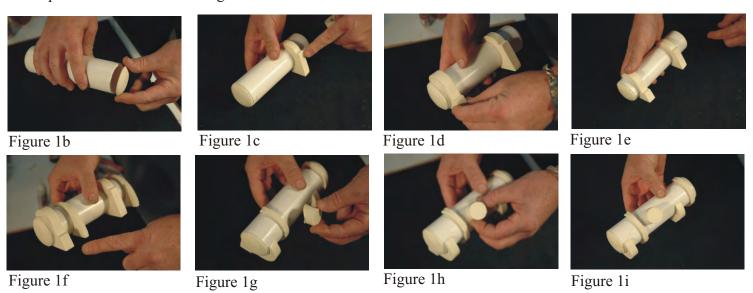
Muffler Assembly

Step 1. Locate the muffler parts as shown in Figure 1a. Using Super-glue apply the Muffler End Caps to the Muffler Tube (See Figure 1b). Install the Muffler Right Bracket Large in 1-3/4" from the end of the Muffler Tube to the centerline of the Bracket (See Figure 1c). Install the Muffler Left Bracket Large at the left end of the Muffler Tubed in approximately 1/8" (See Figures 1d and 1e) making sure the flat mounting surface (the flat portions opposite the top of the hook arch) match. Install one (1) Thin Muffler Bracket at the right end of the Muffler Tube and one (1) on the left side of the Muffler Tube in approx. 5/8" from the Large Bracket (See Figure 1e) making sure the flat portions match the plane of the Large Brackets. Install the Muffler Exhaust Tube onto the assembly as indicated in Figure 1g.



Figure 1a

The location should be approx. 3/4" in from the edge of the Thin Muffler Bracket tot he edge of the Exhaust Tube. The bottom edge of the Exhaust Tube should touch a horizontal line drawn across the Muffler tube at the top edge of the hook portion of the Large Muffler Brackets (See Figures 1g and 1h). Before finally gluing the Exhaust Tube into position hold it in its location and check that it clears the metal of the tank Superstructure. When the assembly is complete it should look like Figure 1i.



Step 2. Install the Muffler Assembly in the location shown in Figures 2a, 2b.

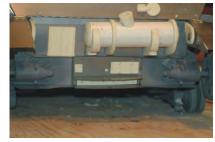


Figure 2a

Note: It would be wise to wait until the Chassis, Superstructure and Barrel Assembly and Engine Cover Deck are assembled before completing this installation.



Figure 2b

Individual Part Placement

Rear Brace

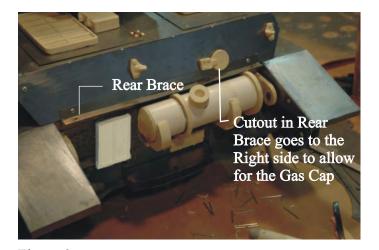
Step 1. Locate the metal Rear brace as Shown is Figure 1a.



Figure 1a

Step 2. Align the Rear Brace along the bottom of the rear of the Upper Deck with the cutout to the right side

Deck with the cutout to the right side Figure 2a and so the holes in the Brace match those in the Upper Deck and secure in place with Pop Rivets. Bend the rear brace up at the seam so that it is horizontal to the ground.





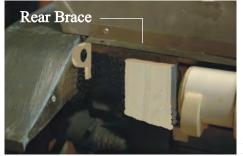


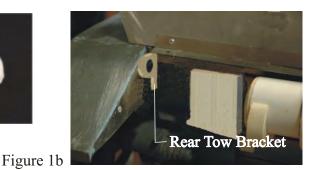
Figure 2b Figure 2c

Rear Tow Hooks

Step 1. Install one (1) Rear Tow Hook (See Figure 1a) on either side to the inside of the rear fender and into the slot in the Chassis (See Figure 13b).



Figure 1a



Front Tow Hooks

Step 1. Install one (1) Front Tow Hook (See Figure 1a) on either side to the inside of the front fender and into the slot in the Chassis (See Figure 1b and 1c).



Figure 1a



Figure 1b



Figure 1c

Individual Part Placement

Headlight and Headlight Bracket

Step 1. Install the Headlight Bracket (Figure 1a and 1c) by drilling holes in the fender to suit the holes in the Headlight Bracket and secure in place using sheet metal screws or a suitable nut and bolt making sure their length doesn't interfere with the Treads (See Figure A). Secure the Headlight (See Figure 1b)into the bracket using Super-glue (See Figure 1d).









Figure 1d

Figure 1e

Figure 1c

Figure 1b

Barrel Lock

Figure 1a

Step 1. You will need the Barrel lock and the Barrel Lock Hinge. Fold down the Tabs with the holes in them back at 90 degrees and fold down the Flanges along the seam in the same direction (See Figure 1a). Fold the Tabs at either end of the Barrel Lock Hinge to 90 degrees. Align the holes in the horizontal arm of the Barrel Lock Hinge with the holes in the center of the top edge of the Chassis and secure with Pop Rivets. Use a portion of the 1/8" diameter rod as the hinge pin.







(1) Barrel Lock Hinge



Figure 1a



Figure 1b



Figure 1c



Figure 1d



Figure 1e

Individual Part Placement

Placement for (1) Driver Visor, (1) Armored Cover and (2) Brake Access Cover Vents.



(1) Armored Cover BRA002-413R
Install to the left of the Mantlet Housing centered over the rectangular cut out in the Front Panel of the Superstructure.



(1) Driver Visor BRA002-412R Install over the rectangular cut out in the Front Panel of the Superstructure.

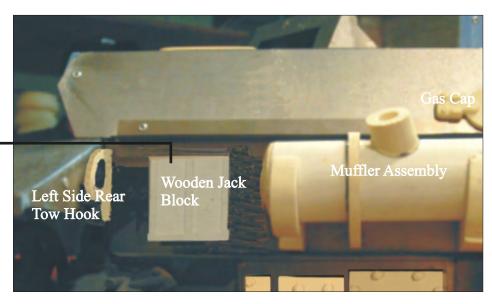


(2) Brake Vent Cover BRA001-620R Install one (1) vent on either side. See Brake Access Panel Doors, Hinges and Vents - Page 42

Wooden Jack Block



(1) Wooden Jack Block BRA002-616R Install the Wooden Jack Block on the center of the rear wall of the Chassis between the Muffler Assembly and the left side Rear Tow Hook.



Loader's Hatch



Individual Part Placement

Commander's Hatch



(1) Commander's Hatch Detail Piece "B" JPZ411R

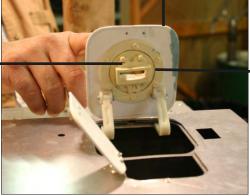
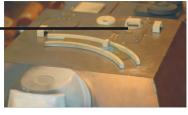


Figure 1b



(1) Commander's

"A" JPZ410R

Hatch Detail Piece

Figure !a

Step 1. Install Detail Piece "A" to the center of the Square Door of the Commander's Hatch using Epoxy and install Detail Piece "B" inside of Detail Piece "A". (See Figure 1b).

Brake Access Panel Doors, Hinges and Vents

Locate two (2) sets of hinge halves as shown below (Note: 0ne (1) set of hinges is supplied as an extra set) Assemble the hinge halves by drilling a hole throw each part and inserting a pin through the two halves. Here in the shop we use 1/16" copper wire for the pin.



(3) Brake Access Panel Hinge Half - A



(3) Brake Access Panel Hinge Half - B



Brake Access Panel Hinge Assembly



(2) Brake Access Cover Vent

Gently twist the individual Brake Access Doors from the front of the Chassis (they are attached with two small stitches of metal that allow easy removal). Attach One (1) sets of hinges door panel to the door side only.

Using Epoxy attach the Brake Access Cover Vent to the Brake Access Door in the center of each door approximately 3/8 inches down from the top edge (see Figure A)..



Figure A



Brake Access Assembly

NOTE: Using a piece of scrape metal it is advisable to create a stop for the Engine Access Doors (See Figure 1e) (and the Brake Access Covers) to close against by Pop Riveting it to the underside of the opening and protruding into the opening.

Place the Brake Access Doors back into their respective openings in the Chassis front secure them in place by fastening the other half of the Hinge to the Chassis. When done the Assmbly should look like Figure A.

Individual Part Placement

Placement for (3) Periscope Covers, (1) Close In Defense Port,

- (1) Periscope Guide (long), (1) Periscope Guide (short),
- (1) Upper Periscope Track, (1) Upper Periscope.



(1) Periscope Guide (long) BRA002-406R

Install the long Periscope Guide to the rear of the crescent shaped cut out in with the inner edge lining up with the edge of the cut out and the ends extending past the opening approx. 3/4 inches at either end.

Note: It is advisable to fit the long and short Periscope Guides to the Upper Periscope Track before installing the Periscope Guides.

Install the short Periscope Guide to the front of the crescent shaped cut out in with the inner edge lining up with the edge of the cut out and the ends extending past the opening approx. 3/4 inches at either end.



(1) Close In Defense Port BRA002-409R

Install the Close In Defense Port over the small round hole just to the right of the Commander's Hatch.



(3) Periscope Cover BRA002-408R

Install one (1) Periscope Cover to the Commander's Hatch and one (1) to each of two (2) rectangular cut outs in the top of the Superstructure.

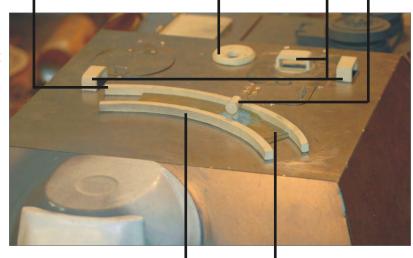


(1) Upper Periscope BRA002-405R

Install the Upper Periscope to slot in the Upper Periscope Track so that the large round portion is facing forward.

Note: It is advisable to fasten the Upper Periscope to the Upper Periscope Track before installing the Upper Periscope Track.

Install the Upper Periscope Track to cover the crescent shaped cut out in Superstructure and so that it fits between the long and short Periscope Guides.



(1) Periscope Guide (short) BRA002-407R



(1) Upper Periscope Track BRA002-709M

Brummbar Assembly Instructions

Engine Access Doors, Hinge and Engine Grill Assembly

Step 1. Gently twist the individual Engine Access Doors from the Engine Deck Cover (they are attached with two small stitches of metal that allow easy removal) and attach two (2) sets of hinges to the wide door panel and three (3) sets of hinges to the long door panel (see Figure 1a). **NOTE:** The configuration shown is a Brummbar but the L-70 Rear Engine Deck Doors are assembled the same way.



NOTE: Assemble the hinge halves by drilling a hole throw each part and inserting a pin (see Figures 1b, 1c and 1d) through the two halves (here in the shop we use 1/16" copper wire for the pin) and then install them to the door side only.







Figure 1a Figure 1b

Figure 1c

Figure 1d



NOTE: Using a piece of scrape metal it is advisable to create a stop for the Engine Access Doors (See Figure 1e) (and the Brake Access Covers) to close against by Pop Riveting it to the underside of the opening and protruding into the opening.

Figure 1e

Step 2. Take each of the Engine Access Doors and install the Engine Grills in them. First bend the four (4) Metal Tabs into what would be where the Engines would be (see Figures 2a and 2b). Lay the Access Door face down and fit the Engine grill into the opening in the metal so that the face of the grill is flush with the metal (see Figure 2c). Bend the Metal Tabs over the Resin Grill piece and place a dab of Epoxy on the back side of each Metal Tab to hold the Grill securely in position (see Figure 2d).



Figure 2b

Figure 2a





Figure 2d

Figure 2c

Individual Part Placement

Placement for (1) Large Engine Grill, (1) Small Engine Grill, (1) Radiator Fill Box, (4) Road Wheels, (1) Small Vent Cover and (1) Gas Cap.



(1) Large Engine
Grill
BRA001-613R
Install this Grill on the
left side Engine Access
Door and mount to the
top and to the left side.
Make sure there is room
for the Radiator Fill Box.
For hinges (not provided)
use small hobby hinges.



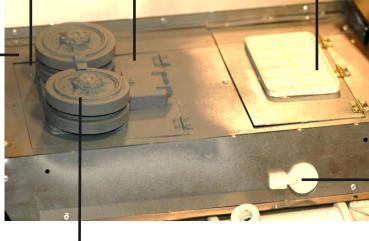
(1) Radiator Fill
Box
BRa001-604R
Install on the left side
of the Motor Access
Door and the right
hand side and about
2/3 of the way up
from the bottom and
adjacent to the Large
Engine Grill.

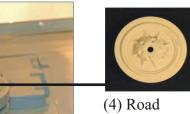


(1) Small Engine Grill BRA001-614R Install this Grill on the right side Engine Access Door near the top and to the right side. For hinges (not provided) use small hobby hinges.



(1) Small Vent
Cover
BRA002-415R
Install the Small Vent
Cover so that the left
edge of the Vent lines
up with the jamb of the
non-hinged side of the
the left Engine Access
Panel and centered
between the upper jamb
and the Superstructure to
Engine Cover Deck
Attachment Bracket.









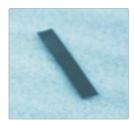
(1) Gas Cap BRA001-626R Install the Gas Cap so that the bottom curve of it fit into the cutout of the Rear Brace.

Install in pairs of two (2) over the top of the Large Engine Grill using the one (1) Spare Wheel Bracket (JPZ512M) and the two (2) Spare Wheel Brackets (JPZ513M) as illustrated. See expanded installation instructions on next page.

Individual Part Placement

Spare Wheel Assembly

Step 1. Locate the one (1)Spare Wheel Bracket (Flat) and the two (2) Spare Wheel Brackets (Arched). See Below.



(1) Spare Wheel Bracket (Flat) BRA002-712M



(2) Spare Wheel Bracket (Arched) BRA002-713M

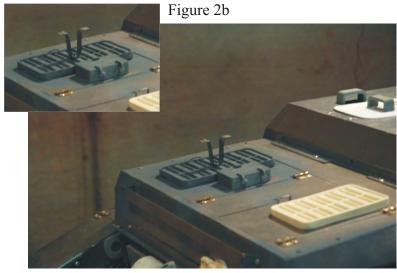


Figure 2a

Step 2. Bend the Flat Bracket into the configuration shown in Figures 2a and 2b. Locate the configured Bracket in the center of Large Engine Grill and secure in place with a Sheet Metal Screw. It is advised to pre-drill for the screw and to apply epoxy to the screw to assure a solid and secure installation.

Step 3. Place two Drive Wheels one on top of the other and slide them up under the tab of the Bracket so that they

are tight against the vertical arm of the configured Bracket - one set in the front and one set in the rear (See Figure 3a). Mark the center of the Drive Wheel axle hole onto the Large Engine Grill. Drill a 1/4" hole in the Large Engine Grill in the locations you have just marked down to the metal.



Figure 3a

Step 4. Cut two (2) pieces of 1/4" dowel (not included)) approximately 2" in length. Using the dowel as though it were an axle insert it through two of the Spare Drive Wheels and then insert dowel with the wheels into the 1/4" hole you created in the Large Engine Grill with the Wheel detail face up. Secure in place with Super-glue.

Step 5. Bend each of the Arched Spare Wheel Brackets into the configuration shown in Figure 5a.



Figure 5a

Step 6. Fit the one (1) Bracket around the outer edge of the front pair of Spare Drive Wheels and one (1) Bracket around the rear pair of Spare Drive Wheels. Secure each Bracket in place to the Rear Engine Deck door with Pop Rivets (See Figure 6a).



Figure 6a

Individual Part Placement

Air Intake Side Sheids

Step 1. Locate the two (2) Air Intake Side Shields and the four (4) Air Intake Side Shield Brackets.

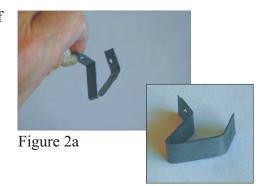


(2) Air Intake Side Shield BRA002-14M



(4) Air Intake Side Shield Bracket BRA002-715M

Step 2. Along the seams of each of the Air Intake Side Shield Brackets bend them into the shape shown in Figures 2a and 2b,



Step 3. Using pop rivets attach one bracket to the front and one bracket to the rear by lining the hole in the bracket with the hole in the Air Intake Side Shield and secure with Pop Rivets (See Figure 3a).





Figure 3a

Step 5. Complete both side in the same manner and when they are in place adjust the Brackets so there is minimal space between the Superstructure and the Air Intake Side Shields and so that the line of the Side Shield is a smooth extension of the side of the Superstructure (See Figures 5a and 5b).

Step 4. Place the Air Intake Side Shield into position and adjust the Air Intake Side Shield Brackets so that the holes in the Brackets align with the holes in the Engine Cover Deck (See Figure 4a). Secure in place using Pop Rivets (See Figure 4b).



Figure 4a



Figure 5a

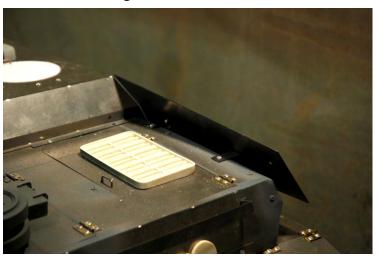


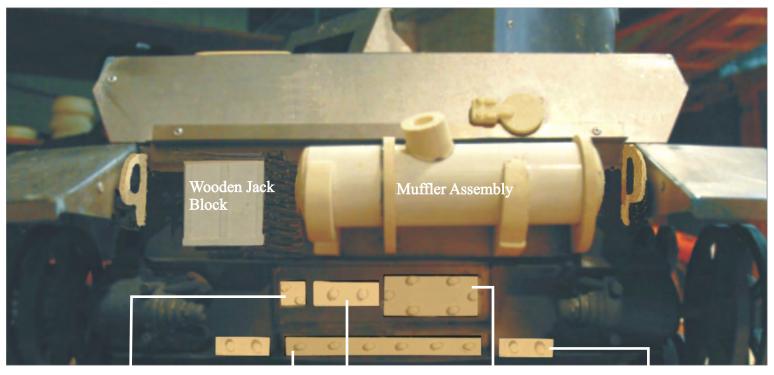
Figure 5b

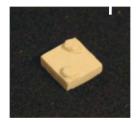
Individual Part Placement

Bolt Details

Placement locations for Bolt Details #1, #2, #3, #4 and #5.

Rear View





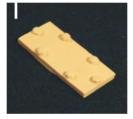
(1) Rear Bolt Detail #1 Install this Bolt Detail above the rear Towing Bracket inside the Towing Bracket Housing on the left side.



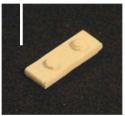
(1) Rear Bolt
Detail #4
Install this Bolt
Detail horizontally
inside the Towing
Bracket. Cut to
accommodate the
Rear Tow Bracket
Reinforcement piece.



(1) Read Bolt Detail #2 Install this Bolt Detail between Bolt Detail #1 and Bolt Detail #5 above the Towing Bracket



(1) Rear Bolt
Detail #5
Install this Bolt
Detail above the
rear Towing Bracket
inside the Towing
Bracket Housing on
the right side.



(2) Rear Bolt

Detail #3
Install one (1) Bolt
Detail on either side
between the Towing
Bracket Brace and
the Idler Mount
Assembly

Chassis Service Hatch

Install the Chassis Service Hatches on the left side of the Chassis. One (1) in front as shown in Figure A and one (1) in the rear as shown in Figure B.



Figure A



(2) Chassis Service Hatch



Figure B