



RENWAL "NO-SHOW" CEMENT TECHNIQUE

THE INDIVIDUAL PARTS OF THIS KIT ARE NOT ONLY DESIGNED TO INCORPORATE THE ULTIMATE IN AUTHENTIC DETAIL, BUT ARE ALSO PAINSTAKINGLY ENGINEERED TO INCLUDE SPECIAL CEMENTING SURFACES SUCH AS TABS, RIBS, SHOULDERS, ETC. USING THESE FEATURES IN COMBINATION WITH OUR UNIQUE ASSEMBLY DRAWINGS AND PROCEDURE, WE FEEL THAT YOUR EFFORTS AND OURS WILL BE AMPLY REWARDED BY A CLEAN, DURABLE, QUALITY SCALE MODEL OF SUPERIOR CRAFTSMANSHIP.

INTERESTING FACTS about your MULTIPLE 106 MM RECOILLESS RIFLES

ONTOS

Ontos (from Greek: "The Thing") is a lightly armored vehicle developed by the Allis-Chalmers Company for Army Ordnance and the U.S. Marine Corps., according to specifications based on a new concept in armored warfare.

A low, powerful-looking silhouette moves swiftly onto the field, spits a few rounds of .50-caliber tracers seeking its target—then lets loose a terrible salvo from six big rifles. Before you can get a good look at it, the thing whirls and vanishes.

Instead of carrying one artillery piece, as is the case with tanks, Ontos carries six 106mm recoilless rifles. Instead of heavy protective armor it depends on the speed with which its rifles can be trained on target and its high maneuverability. Because of these characteristics it has been called a hit-and-run weapon.

Ontos carries .50 caliber spotting rifles. Coming within range of the target the Ontos gunner fires this spotting rifle until the bullet flashes on the target. This indicates that the six rifles are also "on target" and the gunner then fires the previously loaded rifles. If necessary to assure a kill, all six may be fired. The

Ontos then quickly turns to find cover for reloading the rifles.

Officially designated "Rifle, Multiple, 106mm, Self-Propelled, M50," the new weapon is an 8.5-Ton, full tracklaying, front sprocket driven vehicle. Two of its six rifles may be demounted for ground use. It also carries four caliber .50 spotting rifles and one caliber .30 machine gun.

The six major caliber weapons may be fired independently, in salvos of two (step firing), or in a salvo of six from the gunner's position inside the vehicle.

Either the major or minor weapons may be fired by either a foot pedal or a hand trigger. When rifles have all been fired, members of the crew must leave the vehicle to reload the fully exposed weapons; hence the vehicle would usually seek cover for that operation.

The vehicle is powered by a General Motors 114 horsepower engine, the same as that used in the 2½ ton Army truck. Speed is in the middle range and climbing ability excellent since Ontos will climb a 60 percent grade or crawl over a 2½ foot vertical wall with equal ease.

YOUR RENWAL BLUEPRINT MODEL

This Multiple 106 mm Recoilless Rifles ONTOS is another in a series of models unsurpassed for rigid conformity to specifications contained in official U.S. Army Blueprints. We wish to take this opportunity to express our gratitude to the U.S. Army Ordnance Corp., and the Office of the Chief of Information and Education, for generously furnishing complete and accurate data. Without this cooperation, the development of a completely authentic model would not have been possible.

PAINTING YOUR MODEL

Essentially, your model has been molded in authentic colors of Olive Drab for hull and turret, and black for the flexible track. However, it is recommended that certain small parts be painted to provide additional realism. Therefore, if you intend to paint your model we recommend that you fully examine all the steps in the instruction sheet for pieces requiring decoration. Complete the painting of all of these pieces prior to assembly, making certain to avoid getting paint on

cementing areas. Use only enamel paints and allow sufficient drying time. Recommended tools for painting are a small (#1) artist's brush, and the end of a toothpick or opened paper clip for minute detailing, such as nuts, rivet heads, etc.

GENERAL INSTRUCTIONS

A. Notice that all parts are identified with a part number which is either stamped on the back of the piece or on a small detachable disc. Remove this disc once you properly identify it with the assembly you are working on.

B. Examine pieces and remove any other excess plastic with a sharp knife blade, making sure all protrusions have been removed. X-Acto knife sets are very handy for trimming and may be purchased at all hobby counters.

C. Purchase only cement for polystyrene plastic at your local store. Have a small cloth handy to wipe any cement you may accidentally get on your fingers.

D. See back of decals for instructions on how to apply.

RENWAL • FAIRLESS HILLS, PENNSYLVANIA



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assembly instructions



Follow numbered steps carefully for ease of assembly

NO-SHOW CEMENTING is designed into your kit. The parts have been specifically engineered to enable you to complete a model which is free of burns and smears. The instructions and drawings have also been designed to carry out the "NO-SHOW" cementing feature, through the use of blue tones to indicate cementing areas. These design features will enable you to obtain favorable results and reward you with a model you will be proud to display.

1. First, locate and fit pieces together, prior to cementing.

2. Then, APPLY CEMENT *SPARINGLY* ONLY TO THE AREAS INDICATED IN BLUE ON THE INSTRUCTION DRAWINGS. Hold or clamp parts until a permanent bond is assured.

LEGEND

-  Cementing area.
-  Special "No-Show" Cementing Points. Apply cement here after parts are in assembled position.

1 wheels, hull, ammo stowage

CHECK FIT OF PIECES AND TRIM IF NECESSARY

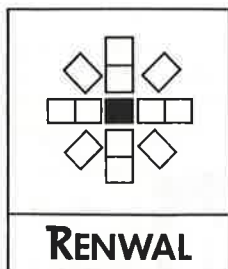
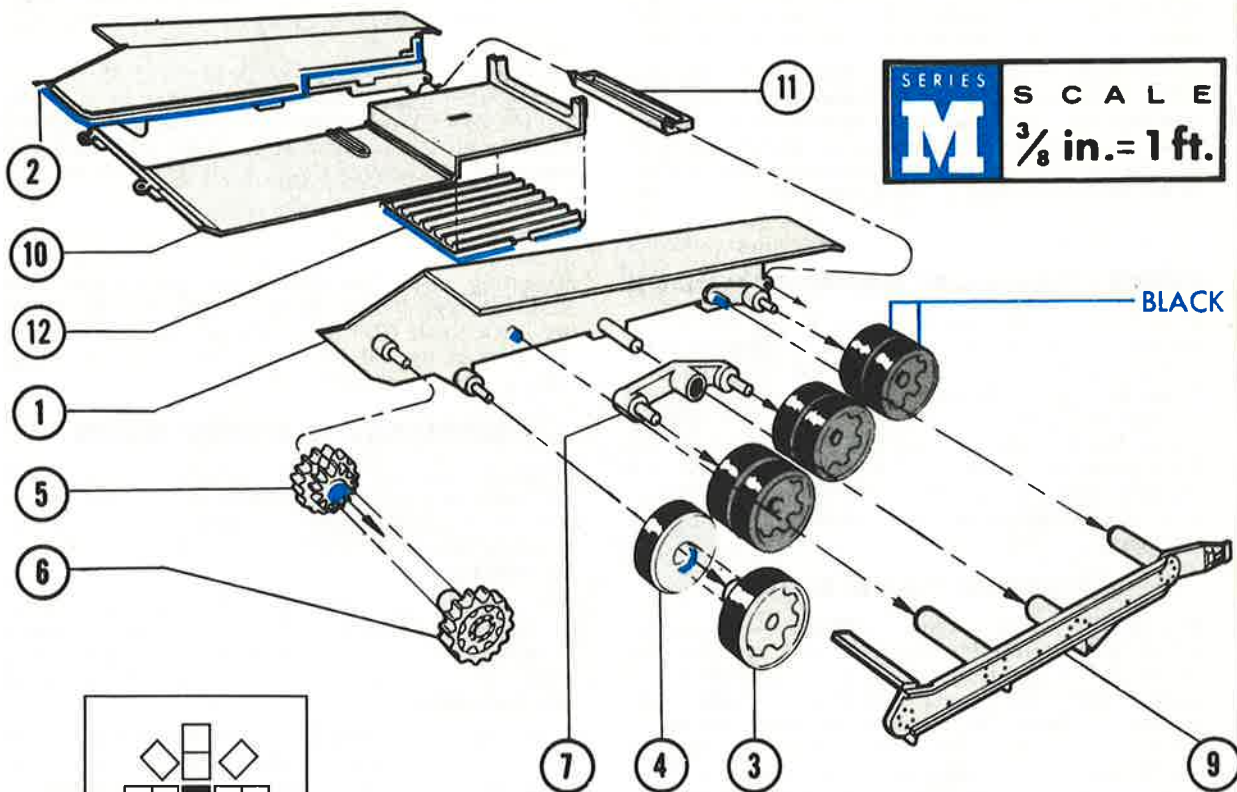
Cement as shown Hull Sides, Left and Right (1-2), to Hull Bottom (10). Allow to dry. Position as shown and insert pin on Ammo Stowage Cover (11) into hole provided in Hull Side. Pin on other end can be inserted into opposite Side by gently flexing Side and allowing pin to enter hole. Cement Ammo Stowage Floor (12) to Bottom.

Find eight Outside Road Wheels (3) and eight Inside Road Wheels (4). Join Road Wheels by applying

cement to areas shown. Join Drive Wheels, Outside and Inside (5-6), in same manner.

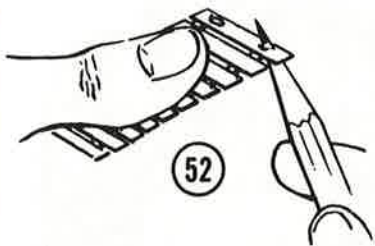
Place hole in Road Wheel Arm (7) over pin on assembled Hull Side as shown. Without cementing, place four assembled Road Wheels on protruding pins on Arm and Hull Side.

Suspension Rail-Left (9) is joined to Hull Side, applying cement as shown. Assembled Drive Wheel is placed on remaining pin without cementing.



NOTE: Circled numbers are **ONLY** for parts identifications, and have no bearing on the assembly sequence.

2 flexible tracks

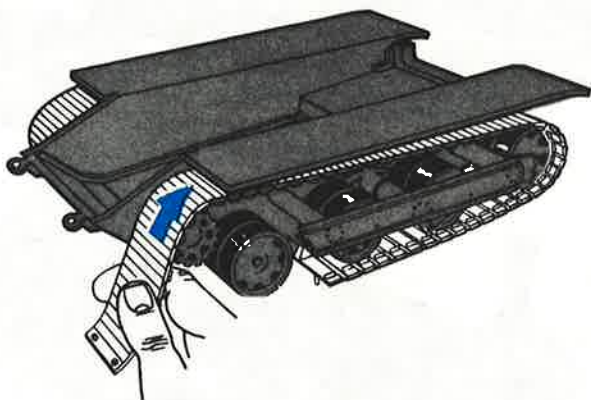


Flexible Track (52) can now be fastened to assembly by passing end of Track over Drive Wheel and engaging teeth on Track with teeth on Drive Wheel. Continue threading Tracks completely around Road Wheels until two ends are positioned for fastening. See separate detail drawing for correct assembly procedure.

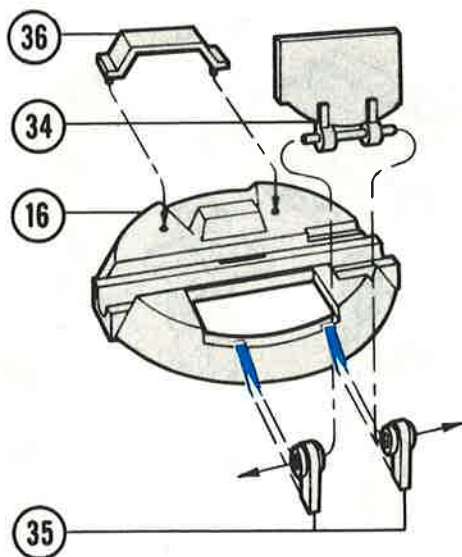
Duplicate previous procedure for right side of Hull using Suspension Rail-Right (8) and preassembled Road Wheels, Drive Wheels and Road Wheel Arm.

Check assembled Track action by pushing assembly along flat surface and over an obstacle such as a pencil or artist's brush handle. Set assembly aside.

NOTE: Track locking design is engineered to facilitate ease of assembly. First insert a pencil into holes from underside of Track and simultaneously rotate pencil while applying pressure. Using this technique, the holes in the Track will become flared, enabling you to easily press pins into holes on other end of Track, thus joining the two ends. (Positive locking is accomplished by the ability of the material to return to its original shape, thereby firmly holding Tracks together.)

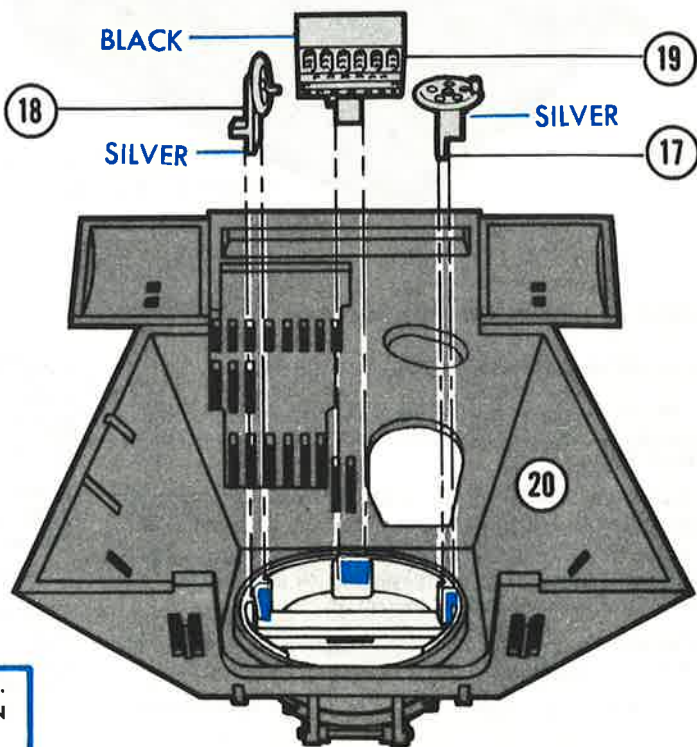


3 swivel turret, hatch, controls



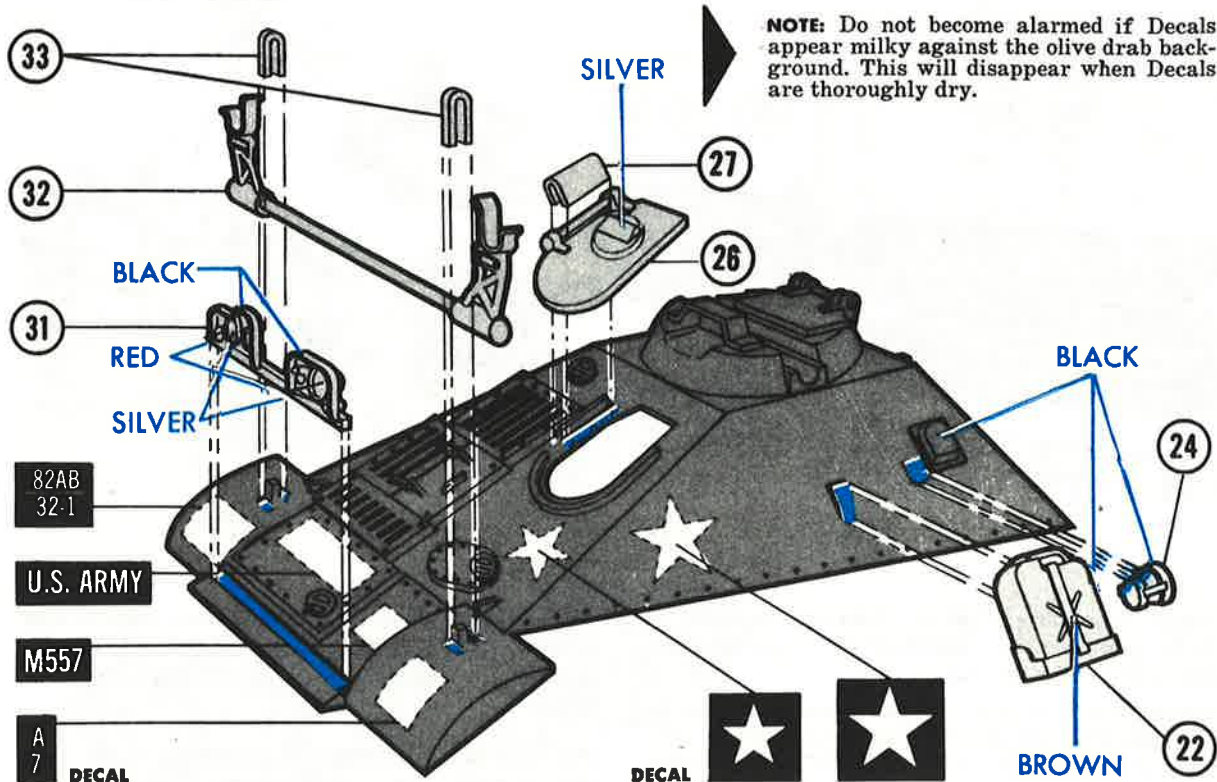
Find Swivel Turret (16), Commander's Hatch Door (34) and two Commander's Hatch Hinges (35). Very carefully place a small amount of cement into one cutout in Turret and insert Hinge. Before cement hardens, insert pin on Hatch Door into Hinge just assembled, making certain Hinge and Hatch are positioned correctly, by checking fit of Hatch in Turret. Carefully place a small amount of cement into remaining cutout in Turret. Position hole in other Hinge over pin on Hatch and insert Hinge into cutout. Hatch should open and close freely. Cement Periscope Shield (36) to Turret.

Without cementing, Turret is now inserted into opening in Hull Top (20). Turn entire assembly upside down and carefully apply cement to three "U" shaped receptacles in Turret. Position as shown and insert Traversing and Elevating Hand Wheels (17-18). Complete assembly by positioning Fire Control Box (19) into remaining receptacle. Turret should rotate freely.



NOTE: LIGHT GREY TONE INDICATES INDIVIDUAL PARTS. DARKER GREY TONE INDICATES PARTS THAT HAVE BEEN ASSEMBLED.

4 top plates, hatch, lights, doors, tools



CHECK FIT OF PIECES AND TRIM IF NECESSARY

Apply cement to area indicated and join Front Lights Section (31) to Hull Top.

Assemble Driver's Hatch (26) to Driver's Hatch Hinge (27) as shown and insert Hinge into cutouts provided in Hull Top. Cement Hinge permanently by applying cement from underside of Hull Top. Hatch should operate freely.

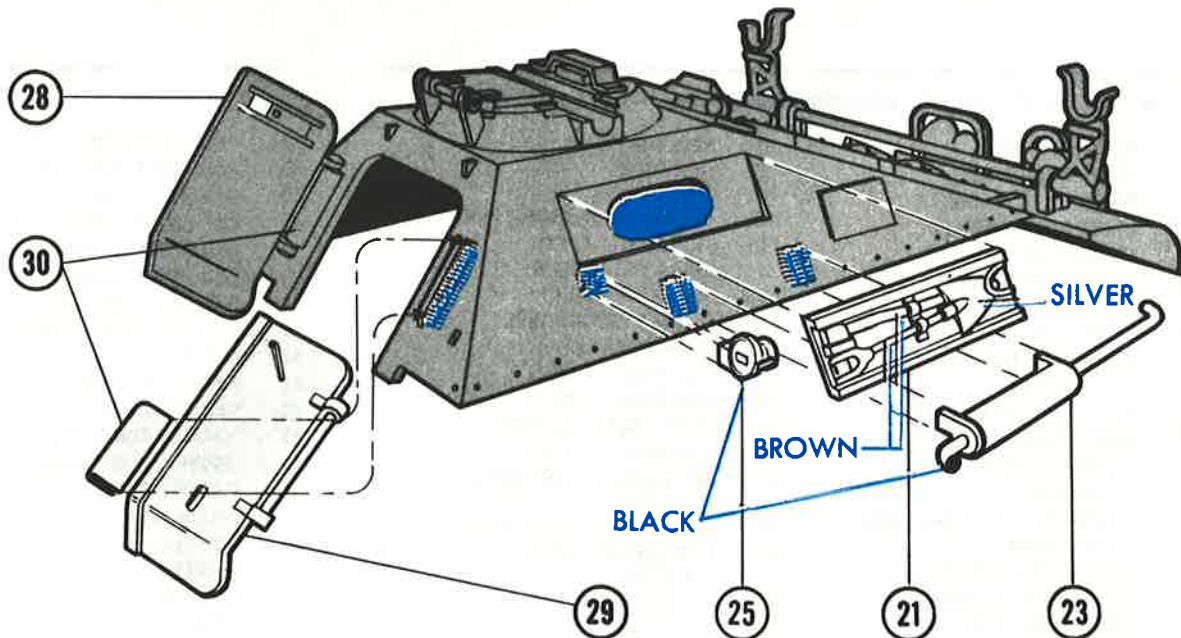
Assemble Gun Traveling Lock and Hinges (32-33) to Hull Top by inserting Hinges into cutouts provided and cement from underside of Hull Top. Gun Traveling Lock should pivot freely.

Cement Rear Lights, Left and Right (24-25) to Hull

by inserting tabs on Lights into openings provided. Apply cement to tabs from underside of Hull Top. Cement Water Tank (22) to Hull Top.

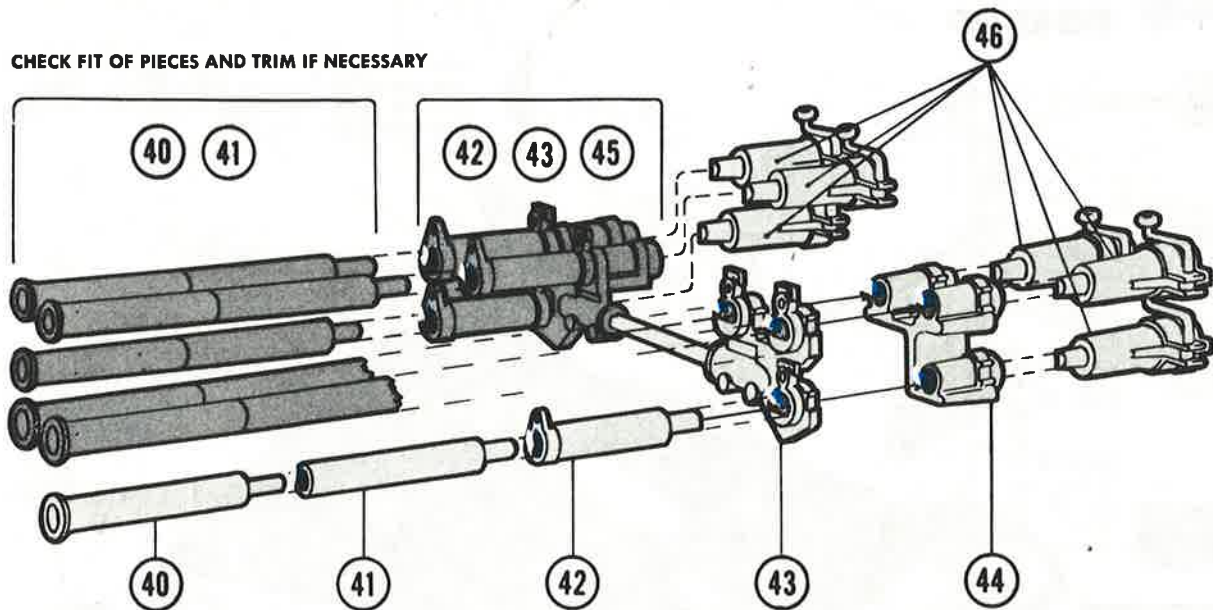
Position as shown and cement Tool Rack (21) to Hull Top. Position as shown and insert locating tabs on Muffler (23) into openings provided and apply cement from underside of Hull Top.

Assemble Rear Door Hinge (30) to Rear Left Door (28) and insert Hinge into cutouts in Hull Top and carefully apply cement to Hinge from underside of Hull Top. Repeat procedure for Right Door (29). Doors should operate freely.



5 recoilless rifles, breech locks

CHECK FIT OF PIECES AND TRIM IF NECESSARY



1. Before proceeding with the following instructions study drawings very carefully to avoid incorrect assembly of Gun Barrels.

Apply cement to areas indicated and assemble six Gun Barrels-Rear (42) to Gun Mount Swivel (43) locating "D" shaped studs into "D" shaped holes. Make sure to seat and align properly. Allow cement to dry.

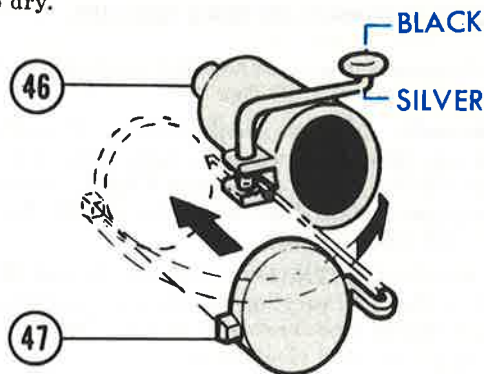
2. Breech Mounts-Left and Right (44-45) are cemented to Gun Mount Swivel locating full round holes over protruding studs of the Gun Barrels-Rear. Set aside to dry.

Six Gun Muzzles (40) are assembled to six Gun Barrels-Front (41) applying cement as shown. Set aside to dry.

Use no cement to assemble six Breech Locks (47) to six Breeches (46) by inserting hook on Lock into opening in Breech as shown in separate drawing.

Now place cement into "D" shaped holes in previously assembled Breech Mounts and holding Breech Lock in closed position, join each Breech to Mounts inserting "D" shaped studs into "D" shaped holes. Allow to dry.

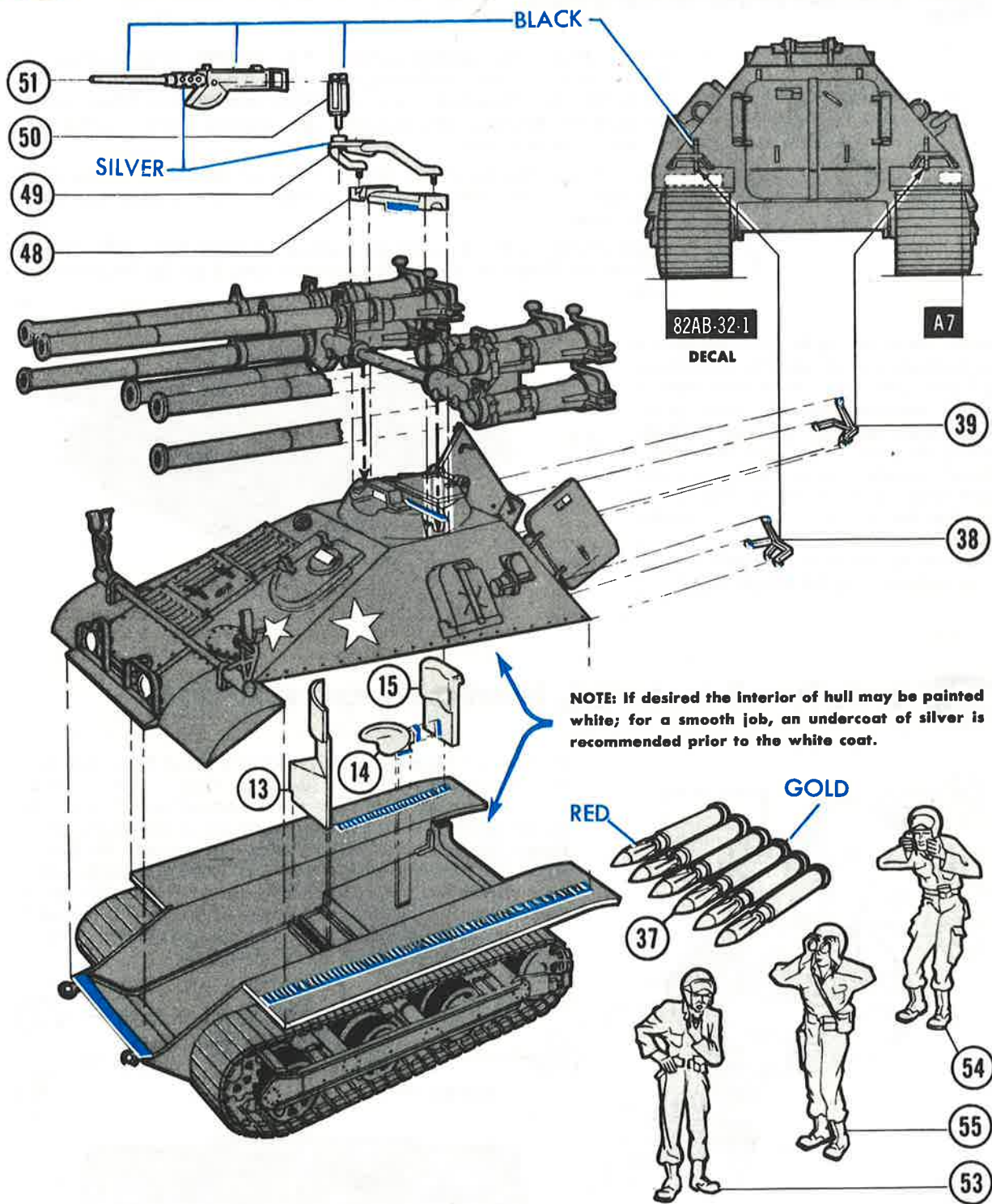
Six previously assembled Gun Barrels are now assembled as shown.



PARTS LIST FOR YOUR SERIES M557 ONTOS

1	HULL—LEFT SIDE	20	HULL TOP	38	REAR DOOR STOP—LEFT
2	HULL—RIGHT SIDE	21	TOOL RACK	39	REAR DOOR STOP—RIGHT
3	OUTSIDE ROAD WHEEL (8)	22	WATER TANK	40	GUN MUZZLE (6)
4	INSIDE ROAD WHEEL (8)	23	MUFFLER AND EXHAUST PIPE	41	GUN BARREL—FRONT (6)
5	INSIDE DRIVE WHEEL (2)	24	REAR LIGHT—LEFT	42	GUN BARREL—REAR (6)
6	OUTSIDE DRIVE WHEEL (2)	25	REAR LIGHT—RIGHT	43	GUN MOUNT SWIVEL
7	ROAD WHEEL ARM (2)	26	DRIVER'S HATCH	44	BREECH MOUNT—LEFT
8	SUSPENSION RAIL—RIGHT	27	DRIVER'S HATCH HINGE	45	BREECH MOUNT—RIGHT
9	SUSPENSION RAIL—LEFT	28	REAR DOOR—LEFT	46	BREECH (6)
10	HULL BOTTOM	29	REAR DOOR—RIGHT	47	BREECH LOCK (6)
11	AMMO STOWAGE COVER	30	REAR DOOR HINGE (2)	48	GUN MOUNT RETAINER
12	AMMO STOWAGE FLOOR	31	FRONT LIGHTS SECTION	49	MACHINE GUN MOUNT
13	MOTOR FIREWALL	32	GUN TRAVELING LOCK	50	MACHINE GUN SWIVEL
14	COMMANDER'S SEAT	33	GUN TRAVELING LOCK HINGE (2)	51	MACHINE GUN
15	COMMANDER'S SEAT BACK REST	34	1 EXTRA	52	FLEXIBLE TRACK (2)
16	SWIVEL TURRET	35	COMMANDER'S HATCH DOOR	53	DRIVER
17	TRAVERSING HAND WHEEL	35	COMMANDER'S HATCH DOOR HINGE (2)	54	LOADER
18	ELEVATING HAND WHEEL	36	1 EXTRA	55	COMMANDER
19	FIRE CONTROL BOX	36	PERISCOPE SHIELD	56	DECALS
		37	ROCKET (6)		

6 final assembly



NOTE: If desired the interior of hull may be painted white; for a smooth job, an undercoat of silver is recommended prior to the white coat.

CHECK FIT OF PIECES AND TRIM IF NECESSARY

Cement Motor Firewall (13) to Hull Bottom.
 Cement Commander's Seat (14) into slot in Commander's Seat Back(15). Cement seat assembly to Hull Bottom.
 Now join Hull Top to Hull Bottom by applying cement to area indicated in blue tone at front. Complete the joining operation by applying cement from inside through rear door opening to the special "no show" cementing points indicated.
 Cement Rear Door Stop Left and Right (38-39) as shown in separate detail drawing.
 Gun Assembly is now attached to Turret by *very care-*

fully APPLYING cement to area indicated and carefully sandwiching Gun Mount Swivel between Turret and Gun Mount Retainer (48). Gun assembly should elevate freely.
 Cement Machine Gun Mount (49) to Retainer. Carefully snap Machine Gun (51) into Machine Gun Swivel (50). Insert key on Swivel into cutout provided on Mount. Unit should pivot freely.
 Crew members can be painted and positioned in or out of the vehicle as desired.
 To complete your Model insert six Rockets (37) into Ammo Stowage box at rear of Tank.