

# M-109 S.P. HOWITZER

"Preserving the Past while Building the Future"



### DECAL APPLICATION INSTRUCTIONS

- Cut desired decal from sheet.
- Dip decal in water for a few seconds.
- Place wet decal on paper towel.
- Wait until decal is movable on paper backing.
  - Place decal in position on model, face up and slide
- 6. Press out air bubbles with a soft damp cloth.
- Milkiness that may appear is for better decal adhesion and will dry clear. Wipe away any excess adhesive.
- 8. Do not touch decal until fully dry.9. Allow the decals 48 hours to dry before applying clear coat.

NOTE: Decals are compatible with setting solutions or solvents. Please Test First

#### READ THIS BEFORE YOU BEGIN

- Study the assembly drawings.
- Each plastic part is identified by a number.
- Take your time when building your model and study the instructions.
- \* For better paint and decal adhesion, wash the plastic parts in a mild detergent solution. Rinse and let air dry.
- Check the fit of each piece before cementing in place
- Use only cement for polystyrene plastic.
- Scrape plating and paint from areas to be cemented.
- \* Allow paint to dry thoroughly before handling parts.
- \* Any unused parts may be discarded.

#### LISEZ CECI AVANT DE COMMENCER

- Étudiez les plans d'assemblage.
- Chaque pièce de plastique est identifiée par un numéro.
- Prenez votre temps lors de la construction de votre modèle et étudiez les instructions.
- Pour une meilleure adhésion de la peinture et de la décalcomanie, lavez les pièces en plastique dans une solution de détergent doux. Rincez et laissez sécher à l'air.
- Vérifiez l'ajustement de chaque pièce avant de la coller en place.
- Utilisez uniquement de la colle pour plastique au polystyrène.
- Grattez toute peinture et le placage sur les régions à coller.
- Laissez sécher la peinture complètement avant de manipuler des pièces.
- Toute pièce non-utilisée peut être jetée.

#### LEA ESTO ANTES DE EMPEZAR

- \* Estudie los dibujos de ensamblaje.
- \* Cada parte plástica está identificada con un número
- Tómese su tiempo al construir su modelo y estudie las instrucciones.
- Para mejor adhesión de pintura y calcomanías, lave las partes plásticas en una solución de detergente suave. Enjuague y deje secar al aire.
- Verifique el encastre de cada pieza antes de cementar en su lugar.
- Use sólo cemento para plástico de poliestireno.
- Raspe las placas y la pintura de las áreas a cementar.
- Deje secar la pintura totalmente antes de manipular las partes.
- Cualesquiera partes sin usar se pueden descartar.

Important--Before Starting understand the difference between part number and sequence assembly number

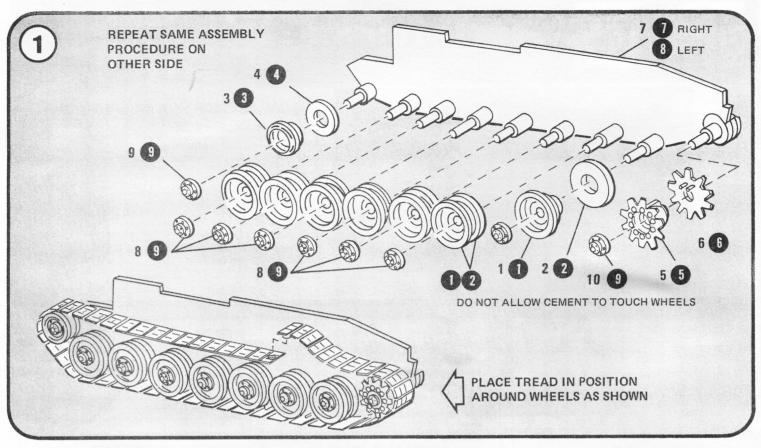


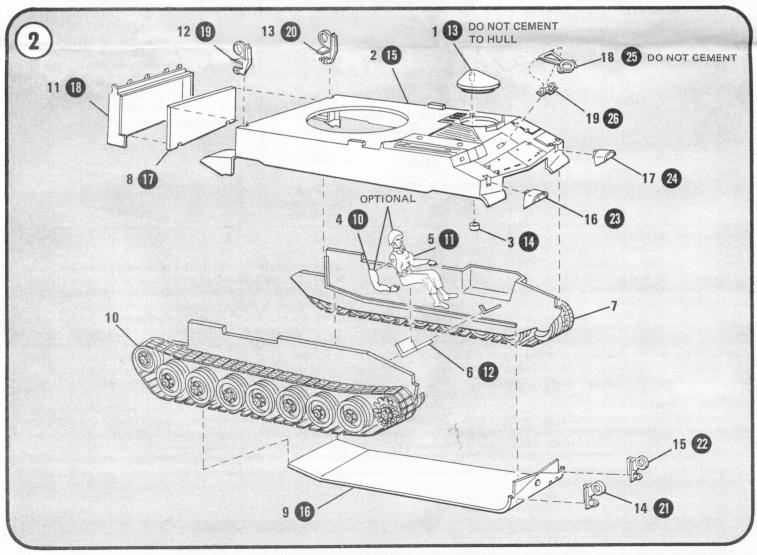
**ASSEMBLY** 4 = SEQUENCE NUMBER

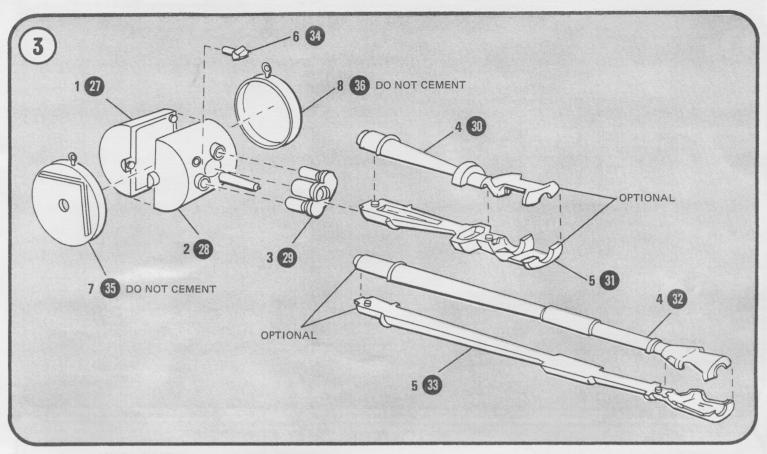
## About the M-109 SP Howitzer

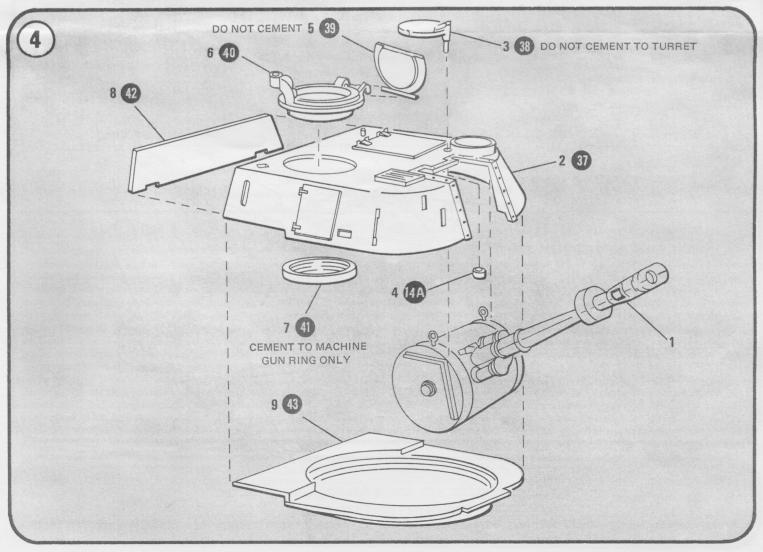
The M109 self-propelled medium howitzer was designed to replace the Army's weapons of similar type from World War II. Its principal characteristics of welded construction plus seals on all hull doors, hatches, and access plates, made the M109 watertight and therefore, amphibious. In June of 1963, the M109 was classified as the new standard. A ball-bearing race ring measuring a 100 inches in diameter, the largest in any standard combat vehicle, allows the turret-type cab to rotate 360 degrees, a great advantage over the older types of self-propelled vehicles. Another convenience is that the cab has more room for the firing party. The cab houses all controls for communications, the firing systems, and sighting instruments. There are both power and manual controls to revolve the turret and raise the howitzer. The M109 runs on a 425 horsepower V-8 liquid cooled diesel engine with a turbo charger and an electric starter. A 100-amp engine driven alternator and a selenium rectifier operate the electrical units and charge the batteries. The cross-type transmission with torque converter and lockup clutch has four forward speeds and two reverses. Seven dual road wheels and a dual track tension idler wheel on each side of the hull drive the rubber-covered steel-link tracks. The M109 fires a 155 mm howitzer which is mounted on trunnions. it has a semi-automatic breech lock designed for separate loading. The breech opens by counter-recoil and closes by a laminated torsion spring. The built-up type tube has a full length forged liner and a jacket which covers three quarters of the breech end.

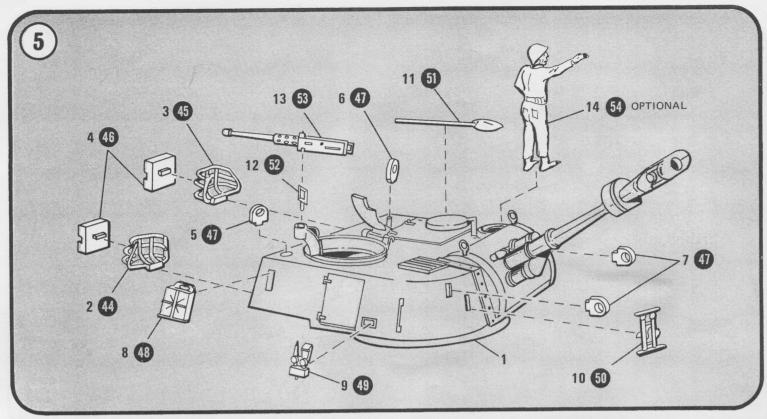
Above and beyond the actual tank and its parts, there is a list of 133 items of equipment called On-Equipment Material (OEM) which the crew needs for top echelon maintenance. The list ranges from fire control equipment to a 14 quart galvanized bucket for water to swab the howitzer bore between rounds. The M109 fits well into most cargo planes, so it is fairly easy to transport. Since it is lighter, amphibious, and has greater firing and cruising range than it's predecessors, it is far more maneuverable in battle. The M109 has increased platform stability and has an easy to adjust mount which enables the telescope on the indirect firing system to be aimed vertically no matter the pitch or cant of the tank. The direct fire system has an accurate telescope and mount which allows the howitzer to be put in action more rapidly than older ones. The M109 has been modernized to use a new long barrel gun manufactured in Italy by OTO-Melara. This 155/39mm gun allows the M109 to fire it shells over 15 miles with extreme accuracy. This modification was used for vehicles in the U.S. and many other countries including Italy, West Germany, Spain, Japan, and Israel. The M109 saw its combat debut in Vietnam in the 1960's. Israel used the M109 against Egypt in the 1973 Yom Kippur War and in the 1982 and 2006 Lebanon Wars. Iran used the M109 in the Iran-Iraq War in the 1980s. The M109 saw service with the British, Egyptian and Saudi Arabian Armies in the 1991 Gulf War. The M109 also saw service with the U.S. Army in the Gulf War, as well as in the Iraq War from 2003 to 2011. Variations of this big gun are still in use all over the world today.

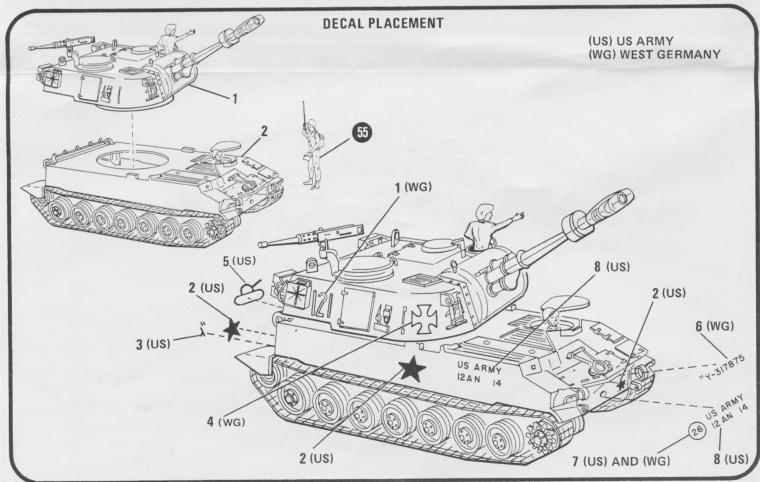












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