

AMPS EAST
SEPTEMBER 24 & 25, 2010
MIKE DEL VECCHIO







CALL BY CALL B

- WHAT IS ARTILLERY?
- AMMUNITION
- ARTILLERY EQUIPMENT
- ARTILLERY Positions
- Modeling Self Propelled Artillery
- MODELING TOWED ARTILLERY
- AMPS RULES
- DETAILS TO ADD TO ARTILLERY
- THE ARTILLERY VIGNETTE
- TOTALLY SPECIAL









- MIKE DEL VECCHIO, MAJOR, FIELD ARTILLERY, RETIRED
 - SERVED IN THE FOLLOWING CAPACITIES OVER MY MILITARY CAREER
 - BATTERY FIRE DIRECTION OFFICER
 - BATTERY EXECUTIVE OFFICER
 - BATTERY COMMANDER
 - BATTALION ASSISTANT OPERATIONS OFFICER
 - Brigade Fire Support Officer
- A PASSION FOR BUILDING MODELS OF ARTILLERY AND ARTILLERY SUPPORT EQUIPMENT!!
- Known in many forums as "Redleg12"





SUPPORTING UNIT



MAJOR (P) GINO QUINTILIANI

- SERVED IN NUMEROUS

 ARTILLERY POSITIONS AT THE

 BATTERY AND BATTALION LEVEL
- A PASSION FOR MODELING
 MODERN MILITARY EQUIPMENT
 ESPECIALLY ARTILLERY AND
 HELICOPTERS
- KNOWN TO MANY IN THE FORUM WORLD AS "HEAVY ARTY"







HOWITZER, GUN AND MORTAR

- A HOWITZER IS CHARACTERIZED BY A RELATIVELY SHORT BARREL (BARREL LENGTH '15 TO 25 TIMES THE CALIBER OF THE GUN) AND THE USE OF COMPARATIVELY SMALL PROPELLANT CHARGES TO PROPEL PROJECTILES AT RELATIVELY HIGH TRAJECTORIES, WITH A STEEP ANGLE OF DESCENT.,
- THE GUN CHARACTERIZED BY A LONGER BARREL, LARGER PROPELLING CHARGES, SMALLER SHELLS, HIGHER VELOCITIES, AND FLATTER TRAJECTORIES
- THE MORTAR WHICH COULD FIRE AT EVEN HIGHER ANGLES OF ASCENT AND DESCENT.









FIELD ARTILLERY CAN BE BOTH TOWED AND SELF PROPELLED. IT ALSO CAN BE MISSILE.

FIELD ARTILLERY IS A NON LINE OF SIGHT WEAPON WHICH CAN BE FIRED AT LOW ANGLE, LESS THEN 45 DEGREES OR 1600 MILS AND HIGH ANGLE, GREATER THE 45 DEGREES OR 1600 MILS.

CANNON FIELD ARTILLERY CAN VARY IN SIZE, SOME MODERN STANDARD SIZES ARE 105, 122, 152, 155 AND 203 MM.

CANNON FA RANGES UP TO 30 KM, MISSILE ARTILLERY MAY HAVE EVEN GREATER RANGES













KNOWN AS THE INFANTRY POCKET ARTILLERY

MORTARS FIRE AT HIGH ANGLE ONLY, ELEVATION GREATER THAN 45 DEGREES OR 1600 MILS.

TYPICAL MODERN MORTAR CALIBRES ARE 60, 81, 107, AND 120 MM.
RANGES FOR MORTARS ARE UP TO 10 KM.

MORTARS TYPICALLY HAVE A HIGH RATE OF FIRE, 6 -10 RDS/MIN.









CREATED AS COUNTER TO TANKS AFTER WWI.

THE CANNON ANTI-TANK ARTILLERY ARE DIRECT FIRE OR LINE OF SIGHT WEAPONS. THEY ARE TYPICALLY GUNS FIRING AT A HIGHER VELOCITY WITH A FLAT TRAJECTORY. THESE WEAPONS WOULD ONLY FIRE AT LOW ANGLE, LESS THAN 45 DEGREES OR 1600 MILS

ORIGINALLY TOWED WEAPONS, BY THE END OF WWII ALMOST ALL WERE SELF PROPELLED OR TANK DESTROYERS.

SLOWLY THE CANNON WAS REPLACED BY RECOILLESS RIFLES AND THEN MISSILES.

MODERN ANTI-TANK ARTILLERY IS STRICTLY MISSILE, SUCH AS THE TOW US WWII CANNON CALIBERS WERE 37, 57, 75 & 90 MM ALSO 3 INCH.









LIKE ANTI-TANK ARTILLERY, IT WAS BORN DURING WWI WITH THE USE OF THE AIRPLANE FOR WARFARE.

SPANS MANY DIFFERENT WEAPONS FROM MACHINE GUNS, AUTOMATIC CANNON, FLAK CANNON TO MISSILES. ANY WEAPON DESIGNED TO COUNTER BATTLEFIELD AIRCRAFT

SOME OF THE WELL KNOW
WEAPONS ARE THE QUAD 50 CAL.
BOTH TOWED OR THE M'16 HALF
TRACK, 40 MM BORFOS GUN, 88
MM FLAK, PATRIOT MISSILE











COAST ARTILLERY WERE LARGE
CALIBER GUNS PERMANENTLY
POSITIONED ALONG THE COAST FOR
DEFENSE AGAINST NAVAL ATTACK.

THERE WERE LARGE GUNS, USUALLY BORN FROM NAVAL GUNS, HAVING CALIBERS OF '12 INCHES OR GREATER.

THE US COAST ARTILLERY WAS DISBANDED IN THE EARLY 60S AND MOST GUN POSITIONS WERE DISMANTLED OR TURNED INTO MUSEUMS









ARTILLERY MODE

SELF PROPELLED ARTILLERY.
EITHER TRACKED, HALF TRACK
OR WHEELED.

A SELF PROPELLED UNIT HAS A INTEGRAL ENGINE TO PROPEL THE WEAPON.

EARLY SELF PROPELLED
ARTILLERY HAD OPEN FIGHTING
COMPARTMENT. MORE MODERN
VERSIONS USED CLOSED
FIGHTING COMPARTMENTS.









ARTILLERY MODE

TOWED ARTILLERY IS THE
OLDEST FORM OF MOVABLE
ARTILLERY. FROM HORSE
DRAWN, TO TRUCK PULLED TO
DROPPED IN BY HELICOPTER.







ANAMUNTTON

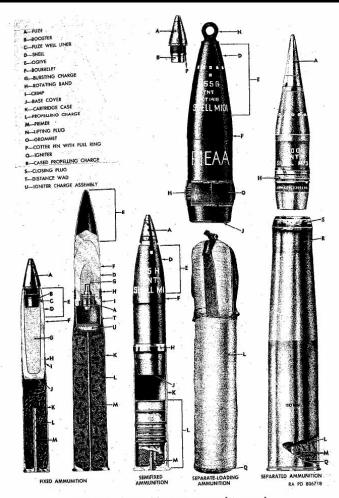


Figure 1. Ammunition terms-complete rounds.

ARTILLERY AMMUNITION

- FIXED
- SEMI- FIXED
- SEPARATE LOADING
- MORTAR





FIXED AMMUNITION IS A SINGLE UNIT. THE POWDER CHARGE IS FIXED AND NOT CHANGED NO MATTER WHAT RANGE IS FIRED.

TANK, ANTI—TANK AND ANTI—
AIRCRAFT CANNON AMMUNITION
IS TYPICALLY FIXED AMMUNITION
FIXED AMMUNITION NORMALLY
USES FAST BURNING POWDERS
GIVING HIGH VELOCITY ROUNDS
THIS TYPE OF AMMUNITION IS

NORMALLY FIRED FROM GUNS.









SEMI — FIXED AMMUNITION
STILL USES A CASING TO HOLD
THE POWDER AND PRIMER. THE
PROJECTILE IS LOOSE FROM THE
CASING.

POWDER IS IN BAGS AND CAN BE ADJUSTED DEPENDING ON THE RANGE TO BE FIRED.











SEPARATE LOADING AMMUNITION IS SIMILAR TO SEMI — FIXED AS THE POWDER CHARGE CAN BE ADJUSTED BASED ON THE RANGE TO BE FIRED.

SEPARATE LOADING AMMUNITION IS USED ON LARGE CALIBER ARTILLERY, TYPICALLY LARGER THEN 125MM.

AMMUNITION IS A SEPARATE PROJECTILE, POWDER CHARGE AND PRIMER.









MORTAR AMMUNITION USES
ATTACHED PROPELLANT CHARGES
(CHEESE). THESE CHARGES CAN
BE ADJUSTED BASED ON RANGE
TO BE FIRED.

THE PRIMER IS INTEGRAL IN THE DESIGN.







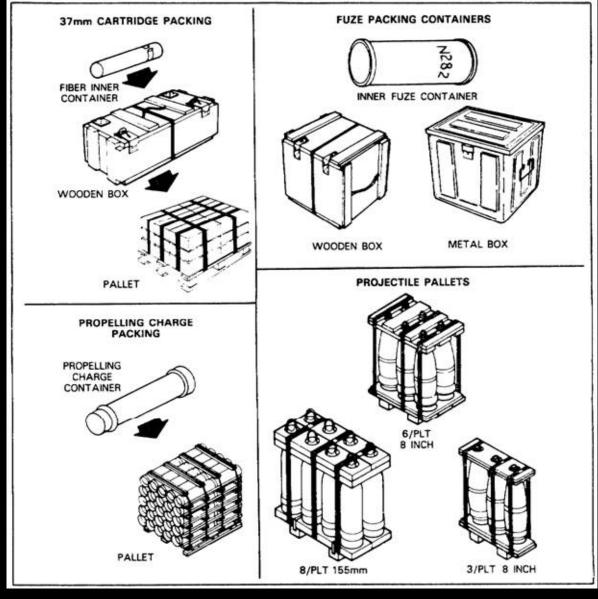




PACKAGING

SMALLER CALIBER AMMUNITION,
EITHER FIXED, SEMI FIXED OR
MORTAR, CAN BE PACKAGED IN
FIBER TUBES. MOST TIMES
THESE TUBES ARE THEN
PACKAGED IN CRATES OF
MULTIPLE ROUNDS AND
PALLETIZED.

SEPARATE LOADING AMMUNITION
HAS SEPARATE PALLETIZED
PACKAGING FOR PROJECTILES,
POWDER INCREMENTS AND
PRIMERS.











PACKAGING

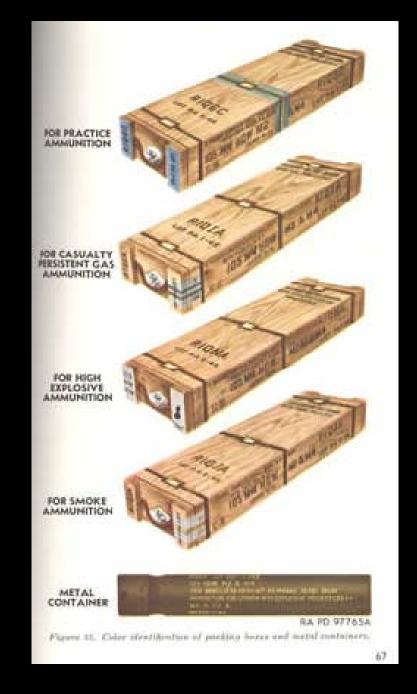
TUBES AND CRATING ARE NORMALLY BANDED.

CRATES AND PALLETS WILL HAVE STENCIL MARKINGS OF THE AMMUNITION SIZE, TYPE, AND LOT

CRATES WILL NORMALLY HAVE ROPE HANDLES

TUBES ARE TAPED CLOSED AT THEIR CAPS

FUSES ARE NORMALLY PACKED IN 50 CAL SIZE AMMUNITION CANS.











COLOR CODING

AMMUNITION IS NORMALLY
COLOR CODED FOR THE TYPE.
CHECK YOUR RESEARCH AND
ERA FOR HOW ROUNDS WERE
CODED

MARKINGS

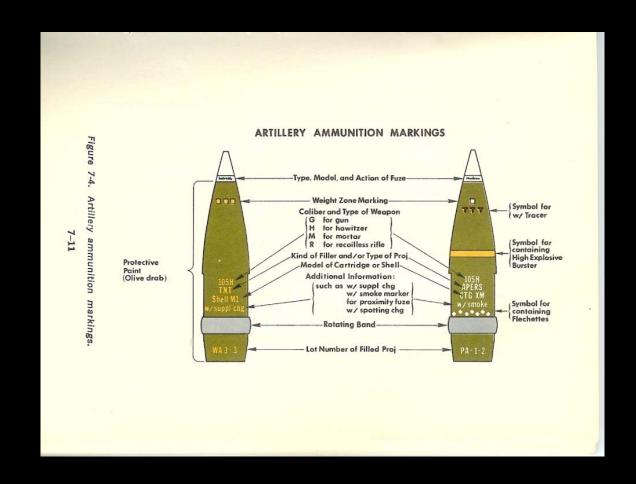
ROUNDS WILL BE STENCILED WITH THEIR LOT, TYPE, SIZE AND WEIGHT

FUSES

FUSES ALSO VARY IN COLOR BASED ON TYPE

ROTATING BAND

NORMALLY A COPPER COLOR









ARTHURY POSITIONS



Deliberate

- A PLANNED AND WELL LAID
 OUT POSITION. USUALLY USED
 FOR A PERIOD OF TIME BY THE
 UNIT
- HASTY
 - A QUICK EMPLACEMENT TO RESPOND FOR SUPPORT
- Unconventional
 - Out of the box!!





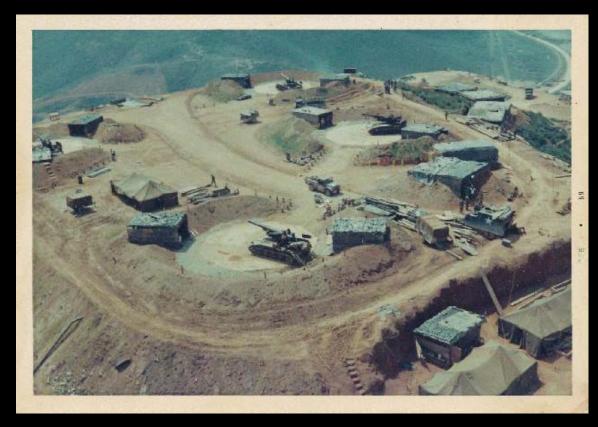


DELIBERATE

WELL THOUGHT OUT FOR BOTH FIRE SUPPORT AND FOR POSITION DEFENSE.

THE POSITION CAN BE PREPARED FOR LONG TERM OCCUPATION.

WILL INCLUDE POSITIONS FOR GUN SECTIONS, FIRE DIRECTION, AMMUNITION ALONG WITH BATTERY HQ









HASTY

QUICKLY LAID OUT TO PROVIDE RAPID SUPPORT.

THESE POSITIONS CAN BE
OCCUPIED BASED ON AN
IMMEDIATE CALL FOR FIRE OR
BASED ON A RAID TYPE
MISSION.

IN SOME CASES A HASTY
POSITION CAN BE IMPROVED TO
BE A MORE DELIBERATE
POSITION AS THE TACTICAL
SITUATION DICTATES.







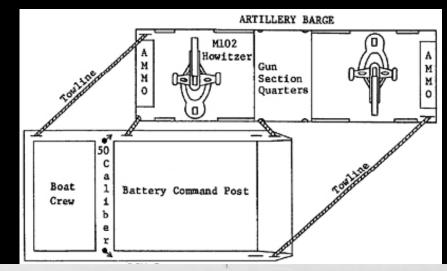


Unconventional

THIS IS THE MODIFICATION OF A NON-STANDARD AREA.

A EXAMPLE SHOWN HERE IS
THE ARTILLERY BARGES USED IN
VIETNAM.

OTHER EXAMPLES ARE THE 105MM MOUNTED IN THE DUKU OR ARTILLERY IN LANDING CRAFT.



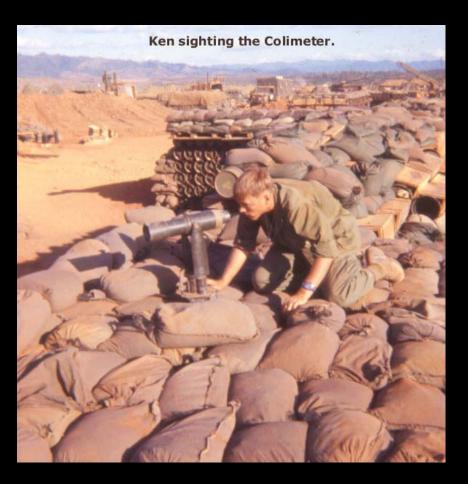








ARTHLERY EQUIPMENT



- RAMMING STAFFS
- COLLIMATOR
- AIMING POSTS
- SECTION CHEST
- DUNNAGE
- COMMUNICATIONS
- FUSE CANS
- TARPS AND GUN COVERS
- ADDITIONAL WHEELS







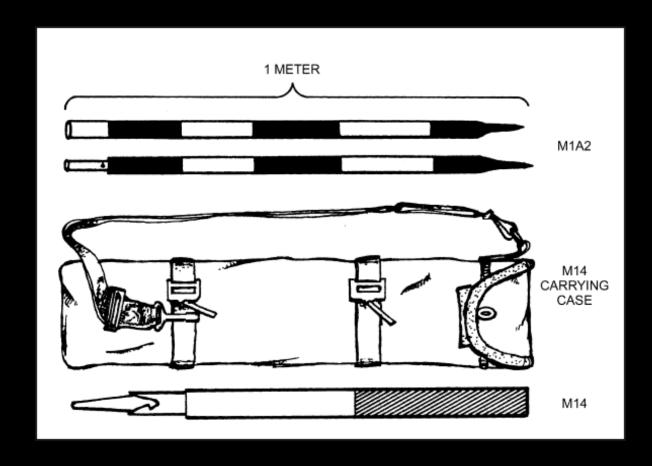


AIMING EQUIPMENT

COLLIMATOR, AIMING POSTS
PANORAMIC TELESCOPE,
ELBOW TELESCOPE

THE PANORAMIC TELESCOPE IS USED TO SET THE DEFLECTION (AZIMUTH) ON THE WEAPON BASE ON EITHER DIRECT TARGET SIGHTING OR SIGHTING ON A REFERENCE.

AIMING POSTS ARE USED AS A SURVEYED REFERENCE. THESE ARE REPLACED WITH THE MORE ACCURATE INFINITY COLLIMATOR ELBOW TELESCOPE IS USED FOR DIRECT









COMMUNICATIONS

IN ORDER FOR THE GUN CREWS
TO COMMUNICATE WITH THE
FIRE DIRECTION CENTER EITHER
RADIOS OR WIRE CONNECTED
TELEPHONES ARE USED















FIRING EQUIPMENT

RAMMING STAFFS

SECTION CHEST

DUNNAGE

FUSE CANS

PAIL & BORE BRUSH

EQUIPMENT USED IN FIRING THE WEAPON. RAMMING STAFF FOR CLEANING AND RAMMING SEPARATE LOADING AMMO.
SECTION CHEST FOR FUSE WRENCHES AND OTHER GUN EQUIPMENT.. A PAIL WITH BORE BRUSH TO SWAB THE BORE.









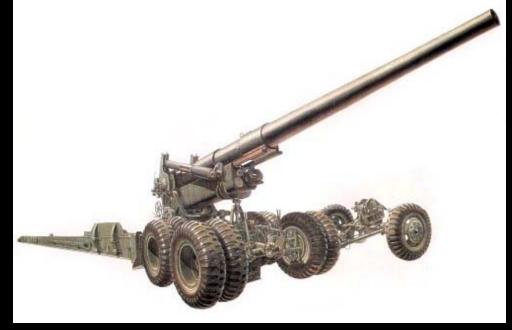
TRAVELING EQUIPMENT

TARPS AND GUN COVERS ADDITIONAL WHEELS

SPECIAL TOWING WHEEL SET AS USED FOR THE M1 (M59) 155MM LONG TOM WHEN PULLED BY THE M4 18TON HST.

TARP, BARREL COVERS, TRAVEL MARKERS TO COVER THE BARREL WHEN TRAVELING.









MODELING SELF PROPELLED-ARTULLERY









TIPS NOT A TRANSPORT



- DO NOT OVERDO THE
 GEAR...ARTILLERY IS READY
 TO FIRE, EVEN WHEN
 TRAVELING
- NO STORAGE IN THE FIGHTING COMPARTMENT EXCEPT AMMUNITION









MODELING TOWED ARTILLERY











MODELING INFORMATION

- IF YOU SHOW THE WEAPON EMPLACED, THE TRAILS OR SPADES SHOULD BE POSITIONED AND EITHER PARTIALLY DUG IN OR WITH MATERIAL BEHIND IT LIKE LOGS TO ADSORB THE RECOIL
- AMMUNITION SHOULD BE LAID OUT TO THE REAR EITHER ON THE GROUND, ON THE PRIME MOVER OR AMMUNITION VEHICLE. AMMUNITION WOULD NORMALLY BE SEPARATED BY TYPE AND LOT.
- A SECTION CHEST AN COMMUNICATION EQUIPMENT WILL BE TO ONE SIDE OF THE WEAPON REAR.
- A FUSE CAN AND PAIL WITH BORE BRUSH WILL BE NEAR THE BREECH
- COVERS AND TRAVEL WHEELS WILL BE TO THE SIDE AND MAYBE SOMEWHAT FORWARD BUT OUT OF THE WAY DURING FIRING.
- AIMING POLES AND COLLIMATORS WILL BE IN RIGHT FRONT OF THE WEAPON







MODELING INFORMATION

- PIONEER TOOLS USED TO HELP DIG IN THE SPADES WOULD BE OFF WITH THE WHEELS AND TARPS OR TO THE REAR OF THE AMMUNITION.
- FUSE CANS WILL BE IN THE SAME AREA AS THE AMMUNITION, PRIMER CANS WILL BE NEAR THE BREECH.
- DUNNAGE WILL BE TO THE SIDE OR SIDE REAR OF THE WEAPON. FIBERS AND CRATES TO THE REAR OF THE AMMUNITION. SPENT CASINGS TO THE LEFT SIDE OF THE WEAPON.







ARTHUR POR ARTHUR ORDNANCE

- CATEGORY VI, ORDNANCE: THIS CATEGORY IS DEFINED AS TOWED ORDNANCE AND OTHER TOWED OR STATIONARY MILITARY EQUIPMENT. THERE ARE SEVERAL SPECIAL CASES THAT HAVE COME UP IN THIS CATEGORY. THE FOLLOWING GUIDELINES AND EXCEPTIONS ARE PROVIDED TO COVER QUESTIONS DEALING WITH PROJECTS FALLING OUTSIDE OF AMPS' USUAL REQUIREMENT FOR A MODEL TO BE "RELATING TO GROUND FORCES SINCE 1899".
- BECAUSE MANY ARTILLERY SUBJECTS USED IN THE 20th CENTURY WERE PRODUCED BEFORE THE 1899 CUT-OFF DATE THIS CATEGORY IS OPEN TO ANY "CANNON" OR "GUN" WITH CLOSED BORE TUBES USING A CHEMICAL CHARGE TO PROPEL A PROJECTILE. PIECES USING SPRING POWER OR COUNTER WEIGHTS, UNLESS PLAINLY BEING MILITARY SUBJECTS BUILT AFTER 1899, ARE INELIGIBLE. FOR EXAMPLE, BALLISTAE OR CATAPULTS FROM THE ROMAN ERA ARE INELIGIBLE. BY CONTRAST, WW I BOMB-THROWING CATAPULTS, PIATS, OR AIR PRESSURE MORTARS ARE ELIGIBLE.
- IN KEEPING WITH THE GROUND FORCES THEME, PROJECTS INCLUDING PHYSICAL PARTS OF NAVAL VESSELS (PORTIONS OF DECKS, TURRETS ETC.) OR AIRCRAFT ARE INELIGIBLE UNLESS THEY ARE CLEARLY A GROUND FORCES WEAPON TEMPORARY MOUNTED. EXAMPLES OF ELIGIBLE SUBJECTS INCLUDE:
- VIETNAM ERA US 105MM HOWITZER ON RIVER BARGE OR PONTOON
- GERMAN FLAK 38 ON A FERRYBOAT
- EXAMPLES OF INELIGIBLE SUBJECTS:
- US 37mm cannon w/o wheels lashed to PT boat bow
- GERMAN 20MM FLAK GUN ON SHIPBOARD MOUNT.
- ROCKETS AND MISSILES: IN ORDER TO BE ELIGIBLE THE ROCKET OR MISSILE MUST BE ON A GROUND OR VEHICLE-MOUNTED LAUNCHER OR IN A TRANSPORT CRADLE. FOR EXAMPLE, A GERMAN V-2 (A-4) MISSILE SHOWN IN FLIGHT WOULD NOT QUALIFY, BUT A V-2 DEPLOYED FOR LAUNCH ON ITS LAUNCHER OR IN TRAVEL MODE ON A CARRIER TRAILER WOULD QUALIFY.







-AMPS-RULES FOR ARTHLERY/ORDNANCE

- Judges Note: This category is for <u>towed</u> ordnance. With the exception of some modern artillery pieces, missiles or trailers with small auxiliary power units, subjects with driver controls and engines belong in other categories. Ordnance that is typically disconnected from the prime mover for use such as towed AT guns, the US Atomic Cannon, the Soviet SA-2 missile on its transport trailer, Patriot missile radar, ammunition trailers or German Flak searchlight are eligible for Category VI, even with the prime mover connected. Some examples belonging elsewhere are: SCUD missile transporter-erector-launchers or Katyusha rocket launchers (Category V, Wheeled Vehicles); US M12 '155mm or German Panzerjager 38(t) self-propelled guns (Category IV, Open Top or Vehicles with Open Hatches with Interiors); Sturmmörser Tiger or Soviet ISU-152 (either Category I, II, III, or IV as with other tracked or semi-tracked vehicles).
- SINCE THIS CATEGORY IS DESIGNED TO PRESENT TOWED ORDNANCE OR MILITARY EQUIPMENT, DISCONNECTED FROM THE PRIME MOVER OR IN THEIR EMPLACED POSITION, DETAILS PRESENTED IN PROXIMITY OF THE MODEL TO REPRESENT SUPPORT ITEMS USED BY OR CARRIED ON THE EQUIPMENT MAY ALSO BE JUDGED AND COUNTED WITHIN THE CONSTRUCTION GROUP UNDER HULL. CHASSIS. AND TURRET DETAILING.
- EXAMPLES OF THESE TYPES OF ITEMS ARE ARTILLERY AMMUNITION, AMMUNITION CRATES, RAMMING STAFFS, AIMING POSTS (COLLIMATOR), FUSE CANS. SECTION CHESTS, ARTILLERY TOOLS, GENERATOR OR ITEMS PUT TO THE SIDE NORMALLY USED IN TOWING SUCH AS COVERS TARPS OR TOWING WHEELS. EXAMPLE OF ITEMS THAT DO NOT QUALIFY ARE COMMON MILITARY POSITION IMPROVEMENT ITEMS SUCH AS SANDBAGS, CAMOUFLAGE NETS, CREW SERVED WEAPON POSITIONS.







ADDED DETAILS FOR ARTILLERY

- THOSE ITEMS ON THE WEAPON WHICH ARE ARTILLERY
 - LANYARD
 - MUZZLE PLUG
 - CHRONOGRAPH









PSGGB













MUZZLE PLUG

HERE YOU CAN SEE IT ON A RETAINING CORD HANGING FROM THE BARREL











M90 RADAR CHRONOGRAPH

USED TO MEASURE THE
VELOCITY OF THE FIRED ROUND.
THE RADAR ANTENNA AND
HOLDER ARE MOUNTED ON A
BRACKET SOMEWHERE NEAR THE
BARREL.

THE VELOCITY INFORMATION IS
USED TO CALIBRATE THE
WEAPON TO THE LOT OF
AMMUNITION AND WEAR ON THE
WEAPON.









ARTILLERYMEN

- ALMOST ALL FIGURES ARE WRONG FOR ARTILLERY
- WITH THE EXCEPTION OF THE MODERN ACU VEST, ARTILLERYMEN DO NOT WARE LOAD BEARING EQUIPMENT WHILE WORKING ON THE WEAPON
- ARTILLERYMEN WILL NOT CARRY PERSONAL WEAPONS. RIFLES ARE STACKED NEAR THE REAR OR IN CLOSE BY STORAGE ON SELF PROPELLED WEAPONS.
- ARTILLERYMEN WILL ALWAYS WEAR A HELMET WHEN FIRING THE WEAPON (BRAIN BUCKET)
- THERE WOULD NORMALLY BE A CREW SERVED (MACHINE GUN) WEAPON FOR DEFENSE EITHER MOUNTED ON THE SP CARRIAGE OR EMPLACED NEAR THE FRONT OF THE WEAPON.







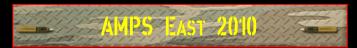


ARTILLERY SOLDIERS

HERE IS AN EXAMPLE OF
ARTILLERYMEN FIRING IN
VIETNAM. PERSONAL GEAR,
LOAD BEARING EQUIPMENT, ETC.
WOULD NOT BE WORN AS THERE
ARE TOO MANY AREAS AROUND
THE WEAPON WHERE THIS
EQUIPMENT COULD BE CAUGHT,
ESPECIALLY WHILE FIRING.









PERSONAL WEAPONS

HERE IS A WEAPON STACK. MANY
TIMES THE LOAD BEARING
EQUIPMENT WOULD BE STORED
UNDER THE STACK









AN/TPQ 36 RADAR

AN TMQ 41 MET. STATION













TOWN SPECIAL STATE OF THE PARTY OF THE PARTY

M1200 ARMORED KNIGHT



M332 1 1/2 TON AMMUNITION TRAILER



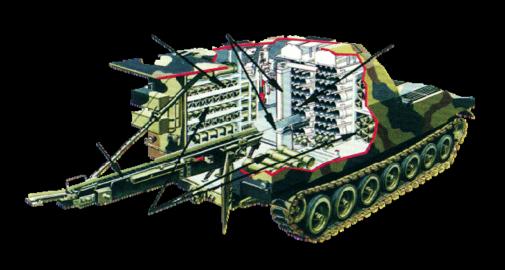


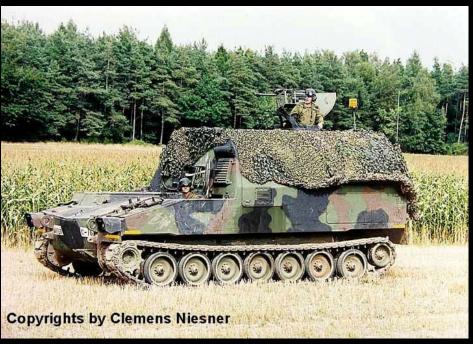


TOWN STREET ALL STREET AND STREET

N992 INTERNAL

M992 FA AMMUNITION SUPPORT VEHICLE









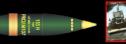


M7 BFIST

M981 FIRE SUPPORT TRACK















M1131 FIRE SUPPORT VEHICLE

LPWS PHALANX













DON'T OVEREDAD THE BORE.



- DON'T LET THIS HAPPEN TO YOU!!
- Research
 - ARTILLERY IS NOT A TANK.WHAT YOU THINK MAY NOT APPLY
- ASK
 - GO ON THE FORUMS AND ASK
 THE QUESTIONS







ROUNDS COMPLETE:



- THANKS TO ALL OF YOU WHO CAME TO THIS SESSION AND TO THE STAFF OF NMMA/AMPS EAST
- THANKS TO ALL MY FELLOW REDLEG'S, PAST AND PRESENT, THE KING'S OF BATTLE









THIS TO THE SECOND OF THE SECO



QUESTIONS???

- IF AFTER THIS SEMINAR YOU HAVE FURTHER QUESTIONS CONTACT ME AT:
 - REDLEG12@REDLEG2SCALE.COM
- FEEL FREE TO ALSO CHECK
 OUT MY WEB SITE FOR A
 COPY OF THESE SLIDES
 - www.redleg2scale.com







