HEADQUARTERS
UNITED STATES ARMY, EUROPE
AND SEVENTH ARMY
APO New York 09403

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# IDENTIFICATION GUIDE

## PART TWO

## WEAPONS AND EQUIPMENT
## EAST EUROPEAN COMMUNIST ARMIES

## VOLUME I

## TRACTORS AND TRUCKS
## TRACTORS, AMPHIBIOUS VEHICLES, SNOW AND SWAMP VEHICLES

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UNITED STATES ARMY, EUROPE AND SEVENTH ARMY
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*For supersession see Foreword (page 3).

# FOREWORD

The purpose of this guide is to present the essential tactical, technical and recognition data on weapons and equipment presently employed in the armies and security forces of the Communist countries of Eastern Europe.

Every effort has been made to make this guide comprehensive, within the limits of an unclassified publication. Any discrepancies noted or any information on new or modified weapons or equipment should be forwarded to this headquarters for inclusion in future change sheets.

Part One of this guide supersedes the weapons and armored vehicles sections of the Identification Guide (Ordnance Equipment) Warsaw Pact Countries, USAREUR Pam 30-60-1, Seventh Revised Edition, 31 July 1968; and it also replaces the same section that appeared in the rescinded (6 Oct 69) Identification Handbook, Yugoslav Army Weapons and Equipment, USAREUR Pam 30-60-5, 31 March 1965.

Part Two of this guide replaces the truck and tractor sections of the above mentioned publications and of the Identification Guide (Engineer Equipment) Warsaw Pact Countries, USAREUR Pam 30-60-8, Fifth Edition, 27 February 1970.

Part Three of this guide (to be published at a future date) will cover all other equipment, thus completing the replacement of the older guides mentioned.

The date of information for Part Two, Volume I, of the new guide is June 1973.

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Major General, GS
Deputy Chief of Staff, Intelligence

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# INTRODUCTION

This guide is neither the final nor complete word on the armament and equipment of the ground forces of the East European Communist countries. The fact that this book represents the eighth edition of the weapons and vehicles guide in eighteen years, the sixth edition of the engineer equipment guide over the same period and the second edition of a special guide on Yugoslav Army weapons and equipment in seven years, is testimony to this fact. The picture of any nation's armament and equipment is one of constant obsolescence, change and development. Any nation or military alliance, regardless of political orientation, cannot be understood properly without reference to other nations or alliances. Military developments are among the most international of activities. For this reason the information set forth in this guide should be studied and compared with comparable information about other countries. Pertinent field and technical manuals are good sources of information, as are many unofficial books and periodicals available in many languages.

The old grouping of weapons and equipment by countries has been replaced by a strict grouping by types of weapons and equipment, regardless of country of origin or use. In order to save space the data presented has been given in the metric system--the international system. Extensive conversion tables both to and from the metric system have been provided as well as an explanation of the abbreviations used.

Tables in this guide showing characteristics and specifications will occasionally be incomplete. Data not applicable is indicated by a series of dashes, whereas data either not available or not releaseable in this publication is indicated by a blank space.

Those vehicles not covered in this Part Two, such as dump trucks, will be treated in Part Three, Engineer Equipment. Further data on vehicles of engineer equipment which are covered in Part Two will be given in Part Three.

## METRIC ABBREVIATIONS

| | | |
|---|---|---|
| cd | = | candela |
| cm | = | centimeter |
| g | = | gram |
| kg | = | kilogram |
| $kg/cm^2$ | = | kilograms per square centimeter |
| km | = | kilometer |
| km/h | = | kilometers per hour |
| l | = | liter |
| l/100 km | = | liters per 100 kilometers |
| m | = | meter |
| mm | = | millimeter |
| m/s | = | meters per second |
| s | = | second |
| t | = | ton |

| Metric to U.S. units | U.S. to metric units |
|---|---|
| **WEIGHT** | |
| Milligrams x 0.015 = grains | Grains x 64.80 = milligrams |
| Grams x 15.43 = grains | Grains x 0.065 = grams |
| Grams x 0.035 = ounces | Ounces x 28.35 = grams |
| Grams x 0.0022 = pounds | Pounds x 453.59 = grams |
| Kilograms x 2.205 = pounds | Pounds x 0.454 = kilograms |
| Kilograms x 0.0011 = short tons | Short tons x 907.18 = kilograms |
| Metric tons x 2204.62 = pounds | Pounds x 0.00045 = metric tons |
| Metric tons x 1.102 = short tons | Short tons x 0.907 = metric tons |
| **VELOCITY** | |
| Centimeters/second x 0.033 = feet/second | Feet/second x 30.48 = centimeters/second |
| Meters/second x 3.281 = feet/second | Feet/second x 0.305 = meters/second |
| Meters/second x 196.85 = feet/minute | Feet/minute x 0.0051 = meters/second |
| Kilometers/hour x 0.621 = miles/hour | Miles/hour x 1.609 = kilometers/hour |
| **PRESSURE** | |
| Atmospheres x 14.70 = pounds/square inch | Pounds/square inch x 0.068 = atmospheres |
| Kilograms per square centimeter x 14.223 = pounds per square inch | Pounds per square inch x 0.0703 = kilograms per square centimeter |
| **POWER** | |
| Metric horsepower x 0.9863 = U.S. horsepower | U.S. horsepower x 1.014 = metric horsepower |
| Kilogram-meters x 7.233 = foot-pounds | Foot-pounds x 0.138 = kilogram-meters |
| **FUEL CONSUMPTION** | |
| $\frac{235}{\text{Liters/100 kilometers}}$ = miles per gallon | $\frac{235}{\text{Miles per gallon}}$ = liters/100 kilometers |
| **TEMPERATURE** | |
| $\frac{9}{5}$ centigrade + 32 = degrees Fahrenheit | $\frac{5}{9}$ (Fahrenheit - 32) = degrees centigrade |

| Metric to U.S. units | U.S. to metric units |
|---|---|
| **LENGTH** | |
| Millimeters x 0.03937 = inches | Inches x 25.40 = millimeters |
| Millimeters x 0.00328 = feet | Feet x 304.80 = millimeters |
| Millimeters x 0.00109 = yards | Yards x 914.40 = millimeters |
| Centimeters x 0.3937 = inches | Inches x 2.54 = centimeters |
| Centimeters x 0.0328 = feet | Feet x 30.48 = centimeters |
| Centimeters x 0.0109 = yards | Yards x 91.44 = centimeters |
| Meters x 39.37 = inches | Inches x 0.025 = meters |
| Meters x 3.281 = feet | Feet x 0.305 = meters |
| Meters x 1.094 = yards | Yards x 0.914 = meters |
| Meters x 0.00062 = miles | Miles x 1609.34 = meters |
| Kilometers x 3280.84 = feet | Feet x 0.00030 = kilometers |
| Kilometers x 1093.61 = yards | Yards x 0.00091 = kilometers |
| Kilometers x 0.621 = miles | Miles x 1.609 = kilometers |
| **AREA** | |
| Square millimeters x 0.00155 = square inches | Square inches x 645.16 = square millimeters |
| Square centimeters x 0.155 = square inches | Square inches x 6.452 = square centimeters |
| Square meters x 1550.000 = square inches | Square inches x 0.00065 = square meters |
| Square meters x 10.764 = square feet | Square feet x 0.093 = square meters |
| Square meters x 1.196 = square yards | Square yards x 0.836 = square meters |
| Square kilometers x 0.386 = square miles | Square miles x 2.59 = square kilometers |
| **VOLUME** | |
| Cubic centimeters x 0.061 = cubic inches | Cubic inches x 16.39 = cubic centimeters |
| Cubic meters x 35.31 = cubic feet | Cubic feet x 0.028 = cubic meters |
| Cubic meters x 1.308 = cubic yards | Cubic yards x 0.765 = cubic meters |
| Liters x 61.02 = cubic inches | Cubic inches x 0.016 = liters |
| Liters x 0.035 = cubic feet | Cubic feet x 28.32 = liters |
| **CAPACITY** | |
| Milliliters x 0.271 = fluid drams | Fluid drams x 3.697 = milliliters |
| Milliliters x 0.034 = fluid ounces | Fluid ounces x 29.57 = milliliters |
| Liters x 33.81 = fluid ounces | Fluid ounces x 0.030 = liters |
| Liters x 2.113 = pints | Pints x 0.473 = liters |
| Liters x 1.057 = quarts | Quarts x 0.946 = liters |
| Liters x 0.264 = gallons | Gallons x 3.785 = liters |

## Basic load

In this guide the term basic load is applied to that ammunition carried on board an armored fighting vehicle. In this case the term is the same as "unit of fire" which is the Soviet logistical measuring unit for ammunition.

## Cruising range

The range given for all vehicles is that on a level, paved road, under ideal performance conditions. It represents a maximum which is rarely achieved.

## Ford

The fording depth for vehicles is that maximum which can be achieved without special preparation. It does not consider stream velocity or the use of a snorkel.

## Fuel capacity

The fuel capacity given in this guide is that of all integral tanks, both internal and external. It does not include auxiliary tanks which are not integral to the fuel system.

## Fuel consumption

The fuel consumption rate given for all vehicles represents ideal performance on a level, paved road, with properly performing engine, at a constant low speed, in accordance with the various national measuring standards. It will be exceeded when any one of these conditions is not present.

## Ground contact

The length of track which actually lays on the ground.

## Horsepower

The figure given in the guide is that used by the country producing the vehicle. Normally most, if not all, accessories are mounted

when the horsepower rating is established, similar to the German DIN system.

## Slope

This is the maximum slope the vehicle can climb under ideal conditions.

## Step

This is the maximum vertical obstacle the vehicle can climb under ideal conditions.

## Tilt

This is the maximum side slope a vehicle can negotiate without tipping over.

## Tire size

The tire size used in this guide are Anglo/American in most cases. These sizes are still widely used in the USSR and other European countries. It should be noted, however, that metric tire sizes are being introduced and will become standard.

## Track

The distance between the center of the right and left tracks in tracked vehicle. In vehicles with single tires it is the distance between the centers of the tires. In the case of dual tires the centers are measured between the space between the duals.

## Trench

The maximum horizontal obstacle which a vehicle can overcome under ideal conditions.

## Wheelbase

In this guide the European (not US or USSR) system of measuring three axle vehicle wheelbase has been adopted. This first gives the distance between the first and second axle, and then that between the second and third.

## A NOTE ON NOMENCLATURE AND MODEL DESIGNATIONS

Throughout this guide considerable effort has been made to keep the nomenclature and model designations as close as possible to those used by the country concerned. Naturally not every foreign expression can be translated directly into an understandable United States military term. For this reason some changes have been made. In addition many items of equipment are used in countries other than the country of origin, leading to some differences in nomenclature.

Soviet tracked artillery tractors produced before World War II generally were known by names such as "Komsomolets" or "Komintern." After production was resumed during the latter part of World War II the first new model tractors were known by the name of the factory producing them, such as Ya-12, which was produced at the Yaroslavl Motor Vehicle Plant.

Postwar tractors, except for the M-2, use a new system which is tied in with the class of the vehicle. In this system the first two letters are always "AT", standing for artillery tractor in Russian. These letters are then followed by a single letter (normally with a dash between) such as "P" for semiarmored, "L" for light, "S" for medium, and "T" for heavy. A further letter such as "M" may be added for modified or modernized vehicles. Another variant is the use of the year model such as in the case of the ATS-59, which is an improved medium tractor adopted in 1959. Those tracked artillery tractors covered in this guide which are designated by the letter "M" followed by the complete year have arbitrary designations assigned on the basis of the year of the first public appearance of the vehicle.

Other Soviet tractors, both crawler and wheeled, use other systems. The most common is the use of the letter "T" followed by a dash and one to three digits. Frequently, but not always, the number following the "T" has a close relationship with the horsepower of the original model of the tractor series. The letter "T" may also be combined with other letters which may be related to modifications. An example is "BT", which means swamp tractor, or "TT" which means logging tractor. The letters "DT" may also be used with tractors of the same number reflecting a modification. In one case "DET" is used in the case of a Diesel-electric powered model. Two other prefixes are in use, "TDT" for most logging crawler tractors, and "S" for older model standard crawler tractors. Finally, the digits may be followed by letter suffixes indicating modifications such as T-130GP for the construction variant of the T-130 tractor.

The system described in the last paragraph is also used for manual wheeled tractors, but not for all of them. In the case of the K-700, the letter "K" stands for the Kirov Plant in Leningrad. While in the case of the BelAZ, MAZ, and MoAZ tractors, the normal Soviet automotive

designations are used. This is discussed later.

Soviet wheeled amphibians have two designations. The less common is the normal Soviet automotive one consisting of the plant initials followed by two or three digits. The second and more common designation is a three letter one indicating the size of the vehicle such as MAV (small amphibious vehicle) or BAV (large amphibious vehicle).

A similar system is used for the tracked transporters (amphibious) of the GT series. The automotive designation is normal such as GAZ-47 (GT-S) and GAZ-71 (GT-SM). However, it is less commonly used than the type designation. In this case the "GT" stands for tracked transporter, while the letter "T" stands for heavy, "S" for medium, and "M" for modified or modernized as in the case of the tracked artillery tractors.

Tracked amphibians designed for engineer roles beginning with the PTS and PTS-M have also started to use a similar system, with "PT" meaning amphibious transporter, and the other letters following the artillery tractor pattern. The older K-61 does not fall into this scheme.

Soviet trucks, busses and passenger cars have a well-developed system of model designation, which is currently being expanded to cover the new models coming out of the new factories of KamAZ, Izhevsk, and Tolyatti. The first part of the designation normally consists of factory designations such as Izh or Ural. The second part of the designation consists of two to four digits standing for the vehicle model. These digits may be followed by one or more letters and digits for modifications, or digits alone in the case of some GAZ models. These groups are separated by a dash for easy recognition. In one case, that of the dump and tractor trucks turned out at MMZ on ZIL chassis, a second factory designator is inserted between the basic factory initials and the model number.

Although the factory designators usually change when the production of a vehicle is transferred from one factory to another, the vehicle model number does not. A good example was the YaAZ-200 truck which was transferred from Yaroslavl to Minsk, resulting in the change of the designation to MAZ-200. On the other hand, old factory designations often tend to persist as in the case of the GAZ-69 which is made in Ul'yanovsk (UAZ).

Vehicle model numbers are assigned in blocks. Some of these blocks are listed below. There are occasional exceptions.

| | |
|---|---|
| less than 100 | GAZ |
| 100 series | ZIL (except dump trucks) |
| 200 series | YaAZ |
| | KrAZ |
| | MAZ (early models) |

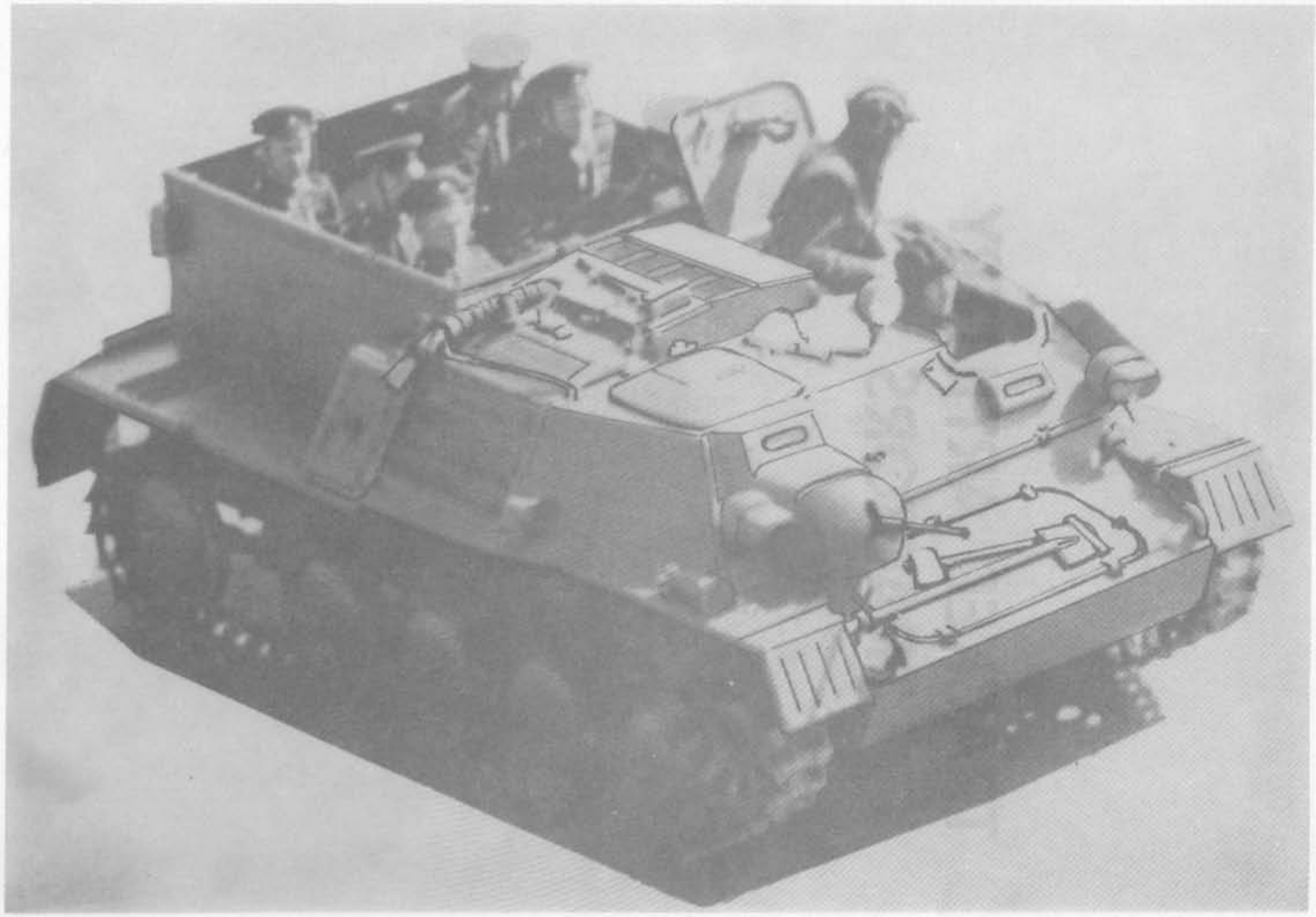
| | |
|---|---|
| 300 series | Ural |
| 400 series | UAZ |
| | Moskvich cars |
| 500 series | MAZ |
| | BelAZ |
| | MoAZ |
| | ZIL dump trucks |
| | MMZ trailers |
| 600 series | KAZ |
| | KAVZ |
| | LAZ |
| | LiAZ |
| | PAZ buses |
| 700 series | YerAZ |
| | trailers |
| 800 series | trailers |
| | GZSA specialized trucks |
| | LuMZ specialized trucks |
| 900 series | ZAZ |
| | LuAZ |
| | GZSA specialized trucks |
| 1500 series | Izh cars |
| 2100 series | VAZ cars |

For further convenience a selection of designators for factories producing or assembling motor vehicles, tractors, and trailers is listed below:

| | | |
|---|---|---|
| AMZ | Altay Engine Plant | Barnaul, RSFSR |
| ATZ | Altay Tractor Plant | Rubtsovsk, RSFSR |
| BAZ | Bryansk Motor Vehicle Plant | Bryansk, RSFSR |
| BelAZ | Belorussian Motor Vehicle Plant | Zhodino, Belorussian SSR |
| BrTZ | Bryank Tractor Factory | Bryansk, RSFSR |
| ChMZAP | Chelyabinsk Machine Building Plant for Motor Vehicle and Tractor Trailers | Bryansk, RSFSR |
| ChTZ | Chelyabinsk Tractor Plant | Chelyabinsk, RSFSR |
| GAZ | Gor'kiy Motor Vehicle Plant | Gor'kiy, RSFSR |
| GZSA | Gor'kiy Plant for Specialized Motor Vehicles | Gor'kiy, RSFSR |
| GZTM | former name for GZSA | |
| IAPZ | Irbitsk Motor Vehicle Trailer Plant | Irbit, RSFSR |
| Izh | Izhevsk Motor Vehicle Plant | Izhevsk, RSFSR |
| KAG | Kaunas Motor Vehicle Body Plant | Kaunas, Lithuanian SSR |
| KamAZ | Kama Motor Vehicle Plant | Naberezhnye Chelny, RSFSR |
| KAVZ | Kurgan Bus Plant | Kurgan, RSFSR |
| KAZ | Kutaisi Motor Vehicle Plant | Kutaisi, Georgia SSR |

| | | |
|---|---|---|
| KhTZ | Kharkov Tractor Plant | Kharkov, Ukrainian SSR |
| KrAZ | Kremenchug Motor Vehicle Plant | Kremenchug, Ukrainian SSR |
| LAZ | L'vov Bus Plant | L'vov, Ukrainian SSR |
| LiAZ | Likino Bus Plant | Likino, RSFSR |
| LuMZ | Lutsk Machine Building Plant | Lutsk, Ukrainian SSR |
| LuAZ | Lutsk Motor Vehicle Plant | Lutsk, Ukrainian SSR |
| MAZ | Minsk Motor Vehicle Plant | Minsk, Belorussian SSR |
| MeMZ | Melitopol Engine Plant | Melitopol, Ukrainian SSR |
| MMZ | Mytishchi Machine Building Plant | Mytishchi, RSFSR |
| MoAZ | Mogilev Lift and Hoist Plant | Mogilev, Belorussian SSR |
| MTZ | Minsk Tractor Plant | Minsk, Belorussian SSR |
| MZMA | Moscow Plant for Small Displacement Motor Vehicles | Moscow, RSFSR |
| NAMI | Scientific Research Institure for Motor Vehicles and Automotive Engines | Moscow, RSFSR |
| NATI | Scientific Research Institute for Tractors | Moscow, RSFSR |
| OAZ | former name for OdAZ | |
| OdAZ | Odessa Motor Vehicle Assembly Plant | Odessa, Ukrainian SSR |
| PAZ | Pavlovo Bus Plant | Pavlovo, RSFSR |
| RAF | Riga Bus Plant | Riga, Latvian SSR |
| SAZ | Saransk Dump Truck Plant | Saranski, RSFSR |
| SMD | Hammer and Sickle Engine Plant | Kharkov, Ukrainian SSR |
| STZ | former name for Volgograd Tractor Plant | |
| TA | Tartu Motor Vehicle Repair Plant | Tartu, Estonia SSR |
| UAZ | Ulyanosvk Motor Vehicle Plant | Ul'yanovsk, RSFSR |
| UMZ | Ufa Engine Plant | Ufa, RSFSR |
| Ural | Ural Motor Vehicle Plant | Miass, RSFSR |
| UralZIS | former name for Ural | |
| VAZ | Volga Motor Vehicle Plant | Tolyatti, RSFSR |
| YaAZ | Yaroslavl Motor Vehicle Plant (now YaMZ) | Yaroslavl, RSFSR |
| YaMZ | Yaroslavl Engine Plant | Yaroslavl, RSFSR |
| YerAZ | Yerivan Motor Vehicle Plant | Yerivan, Armenian SSR |
| ZAZ | Zarorzh'ye Motor Vehicle Plant | Zaporozh'ye, Ukrainian SSR |
| ZIL | Likhachev Motor Vehicle Plant | Moscow, RSFSR |
| ZIS | former name for ZIL | |
| ZMZ | Zavolzhsk Engine Plant | Zavolzhsk, RSFSR |

# TRACKED ARTILLERY TRACTORS



AT-P

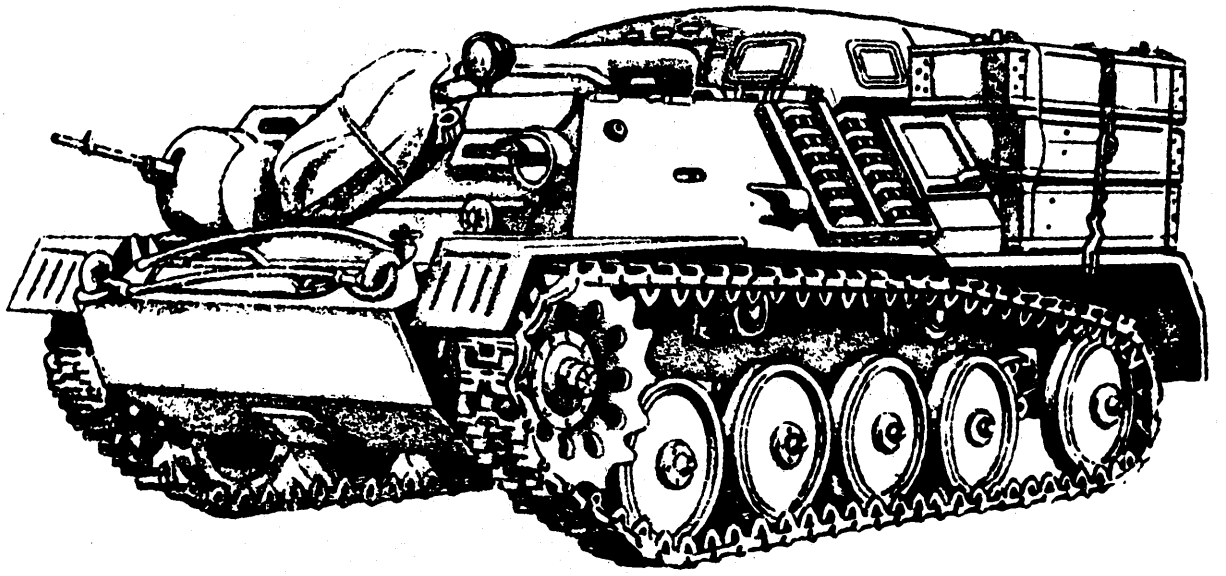
Armored Tracked Artillery Tractor AT-P
Armored Tracked Artillery Tractor AT-P (command)
Armored Tracked Artillery Tractor AT-P (fire control)
Armored Tracked Artillery Tractor M1970

The AT-P armored tracked artillery tractor is a light, fast armored vehicle designed to tow 85 mm and 100 mm antitank guns and to transport their crews and ammunition. In addition the AT-P is used in some Soviet units to tow the 122 mm howitzer M1938 (M-30) and the 122 mm howitzer D-30. The normal version of the AT-P has an open troop compartment. For this reason, it is referred to as a "semi-armored tractor" by the Soviets. Later models used for command purposes have overhead cover for the troop compartment, permanently mounted fender boxes, and a higher circular, fully rotating cupola for the commander. A further modification, found in some artillery reconnaissance units, has a full-width troop compartment. In the basic model, the ammunition is carried externally in ordinary packing boxes on the fenders. The AT-P has been identified in the Soviet Army only. It has torsion bar suspension and can be readily identified by its suspension which features a trailing idler. It has a single 7.62 mm Goryunov machinegun mounted in the bow.

In recent years a new, larger armored tracked artillery tractor has been observed in Soviet units. Based on the GT-T amphibious transporter chassis, the new vehicle (tentatively referred to as the M1970) has a fully armored troop compartment with rear exit doors. It also has a small turret mounted forward and armed with a rifle caliber machinegun. To date the new armored tractor has been seen towing the 100 mm antitank gun T-12 and the 122 mm howitzer M1938 (M-30). In some ways it can be considered the replacement for both the AT-P armored tractor and the unarmored AT-L light tractor. It has also been employed as an armored personnel carrier.

| | | |
|---|---|---|
| weight | kg | 6000 |
| length | mm | 4450 |
| width | mm | 2500 |
| height | mm | 1830 |
| track | mm | 2000 |
| clearance | mm | 330 |
| track width | mm | 300 |
| ground contact | mm | 3000 |
| engine model | | ZIL-123F |
| horsepower | | 110 |
| cylinders | | 6 |
| fuel | | gasoline |
| cooling | | water |
| speed | km/h | 50 |
| cruising range | km | 500 |
| fuel consumption | l/100km | |
| ground pressure | $kg/cm^2$ | 0.4* |
| trench | mm | 1220 |
| step | mm | 700 |
| slope | ° | 30 |
| tilt | ° | |
| ford | mm | 700 |
| crew | | 3 |
| passengers | | 6 |
| payload | kg | 1200 |
| towed load | kg | 3700 |

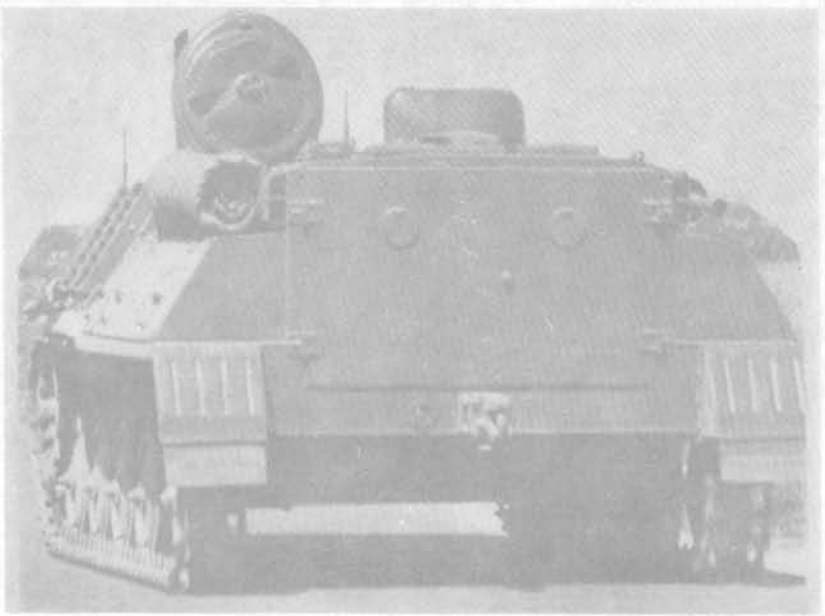
*unloaded
loaded 0.47 $kg/cm^2$



AT-P



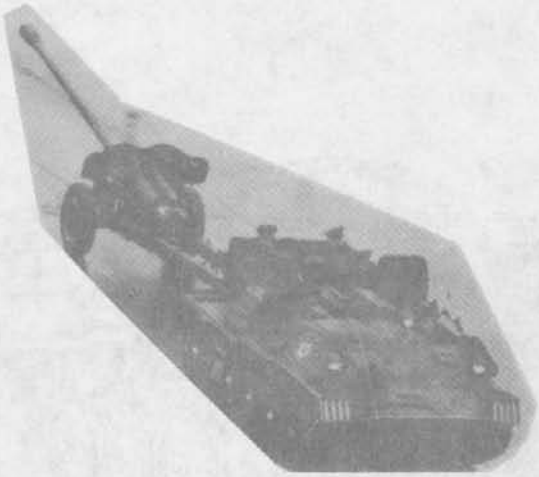
AT-P COMMAND VERSION



AT-P COMMAND VERSION - REAR VIEW



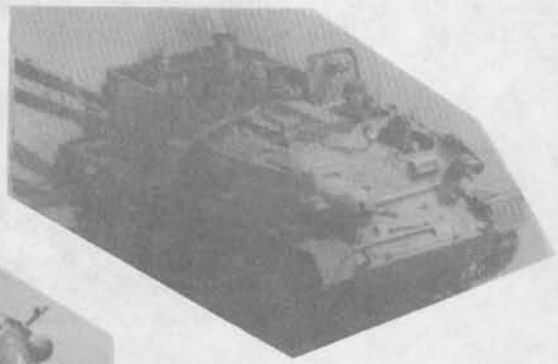
AT-P (FIRE CONTROL)

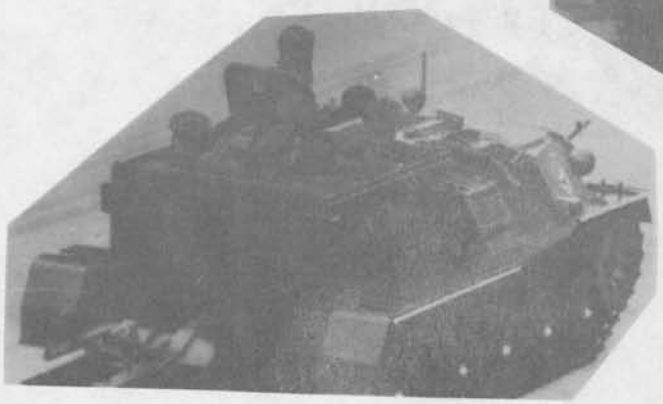


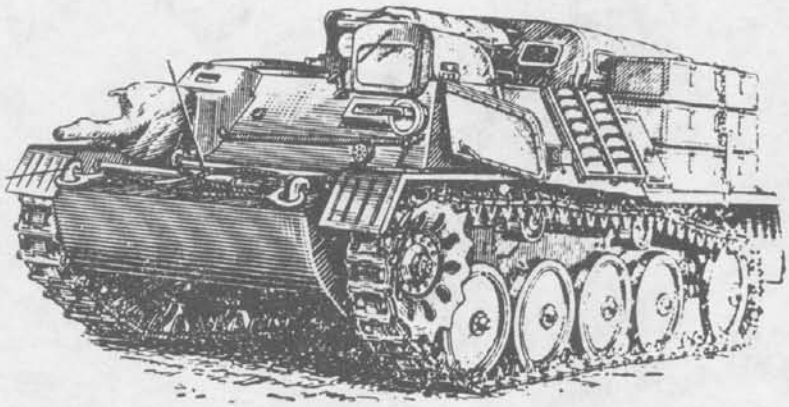
AT-P TOWING 100MM FIELD GUN M1955



AT-P





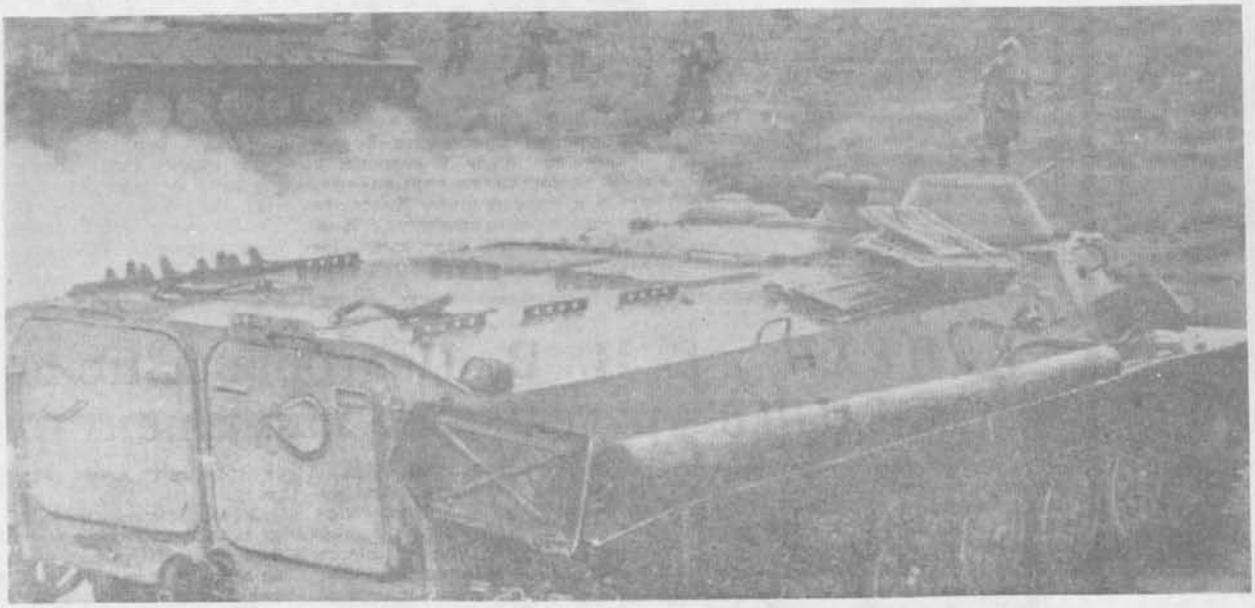


AT-P





AT-P (COMMAND)



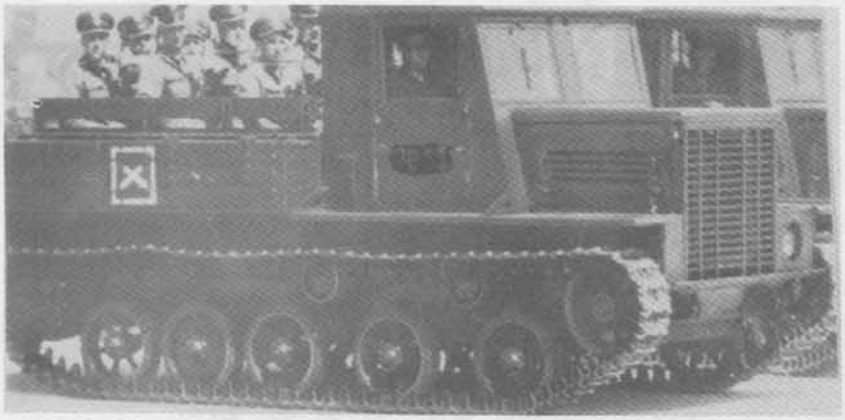
M1970 USED AS ARMORED PERSONNEL CARRIER



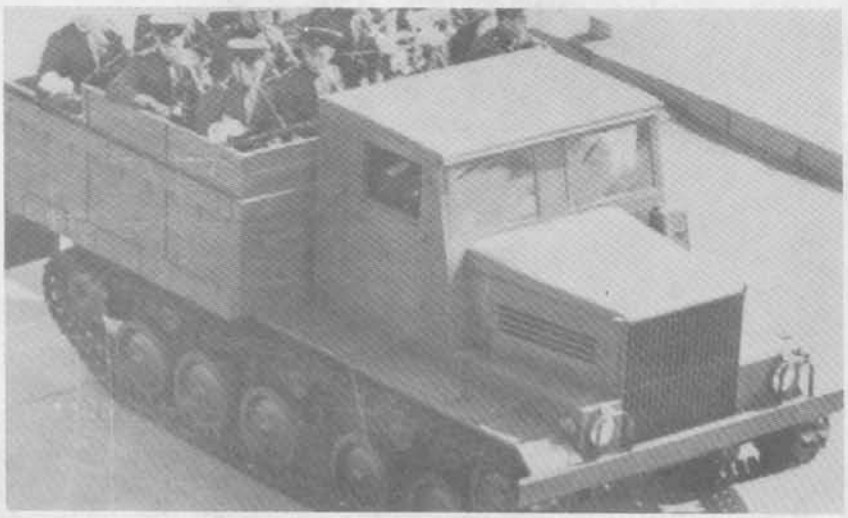
M1970



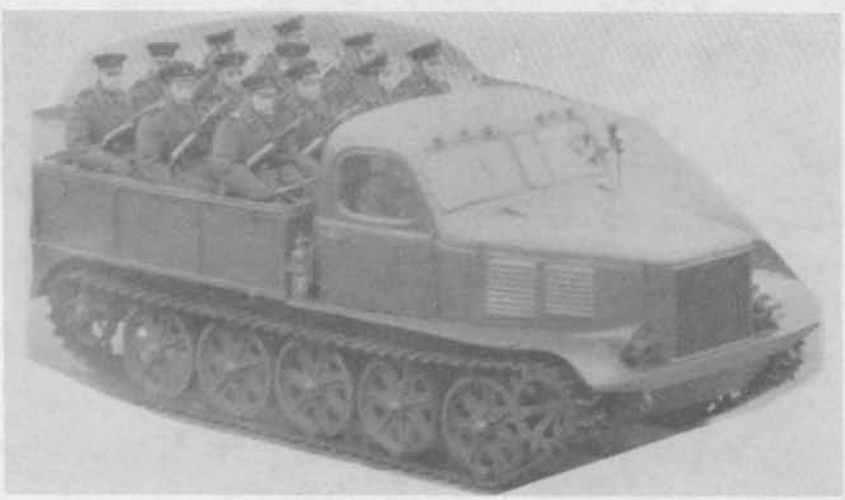
M1970 TOWING 100 MM AT GUN T-12



Ya-12 OR Ya-13



M-2



AT-LM

# LIGHT TRACKED ARTILLERY TRACTORS

Light Tracked Artillery Tractor Ya-12
Light Tracked Artillery Tractor Ya-13F
Light Tracked Artillery Tractor M-2
Light Tracked Artillery Tractor K-800
Light Tracked Artillery Tractor GJ-800
Light Tracked Artillery Tractor AT-L
Light Tracked Artillery Tractor AT-LM

The diesel-powered Ya-12 and the gasoline-powered Ya-13F tractors went into production during World War II and were used for a number of years thereafter. They were identical in appearance. In the immediate postwar era a new vehicle of similar appearance, the diesel-powered M-2, was introduced. Although it could not tow as heavy a load as the Ya-12, it used a Soviet-produced engine rather than a United States lend-lease powerplant. The M-2 is now rarely encountered, but still may be held in war reserve. All of these tractors can be distinguished from the later AT-L by the use of a rear drive sprocket, the SU-76 type suspension, and the boxy shaped cab with wooden cargo box. The M-2 can be distinguished from the Ya-12 and Ya-13F by the presence of two headlights, the front bumper, and the higher cargo compartment.

The K-800 is a Hungarian tractor based on the M-2. The GJ-800 is a Yugoslav-made version of the Hungarian tractor differing in the use of a FAMOS 120-horsepower, six cylinder, water-cooled diesel engine and the cab of the FAP six-ton truck. The Hungarian K-800 uses a 130-horsepower Csepel diesel engine. Neither tractor is frequently encountered today, although both are still in use. The K-800 was also exported to Communist China.

The AT-L appeared in 1953 and was used for a number of years as the prime mover for a variety of weapons and equipment. The 160 mm and 240 mm mortars, the 57 mm antiaircraft guns, and the 122 mm and 152 mm howitzers were frequently towed by the AT-1. In the past decade, however, many units have switched from tracked artillery tractors to 6x6 trucks as prime movers, so that the ZIL-157, ZIL-131, and the Ural-375 trucks have for all practical purposes taken over the role of the AT-L as an artillery prime mover. In addition to its role as an artillery prime mover, the AT-L has been used as the carrier for artillery radar, including the SNAR-2, and as the mount for the OLT dozer blade.

The original AT-L had a running gear consisting of six small roadwheels and three track support rollers; however, in 1956 the AT-LM appeared, which used only five large roadwheels without track support rollers. In both cases the drive sprocket was forward. Both versions of the AT-L are otherwise identical.

AT-L tractors are found as prime movers in the Romanian and Bulgarian Armies. In the radar role they are also employed in other forces, including those of the Middle East and North Africa.

| | | Ya-12 | Ya-13F | M-2 |
|---|---|---|---|---|
| weight* | kg | 6500 | 5700 | 7200 |
| length | mm | 4890 | 4890 | 4973 |
| width | mm | 2400 | 2400 | 2820 |
| height | mm | 2200 | 2290 | 2325** |
| track | mm | 2100 | 2100 | 2112 |
| clearance | mm | 305 | 310 | 370 |
| track width | mm | 300 | 300 | 300 |
| ground contact | mm | | | 2750 |
| engine model | | GMD 4-71 | ZIS-MF | YaAZ-204B |
| horsepower | | 110 | 95 | 110***** |
| cylinders | | 4 | 6 | 4 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 37 | 23 | 35 |
| cruising range*** | km | 290 | 210 | 330 |
| fuel capacity | l | 275 | 275 | 345 |
| fuel consumption | l/100km | | | |
| ground pressure | $kg/cm^2$ | 0.52 | 0.47 | 0.437****** |
| trench | mm | | | 1500 |
| step | mm | | | 500 |
| slope**** | ° | 18 | 16 | 18 |
| tilt | ° | 20 | 26 | 20 |
| ford | mm | 600 | 600 | 600 |
| crew | | 2 | 2 | 2 |
| passengers | | | | 8 |
| payload | kg | 2000 | 2000 | 2000 |
| towed load | kg | 8000 | 5000 | 6000 |

*fueled without crew

**unloaded over cab, 2450 mm over canvas

***on highways, on dirt roads Ya-12.....230 km
Ya-13F.....185 km
M-2.....225 km

****loaded and towing an artillery piece, 30° for all models without load

*****some vehicles have 105 HP engine

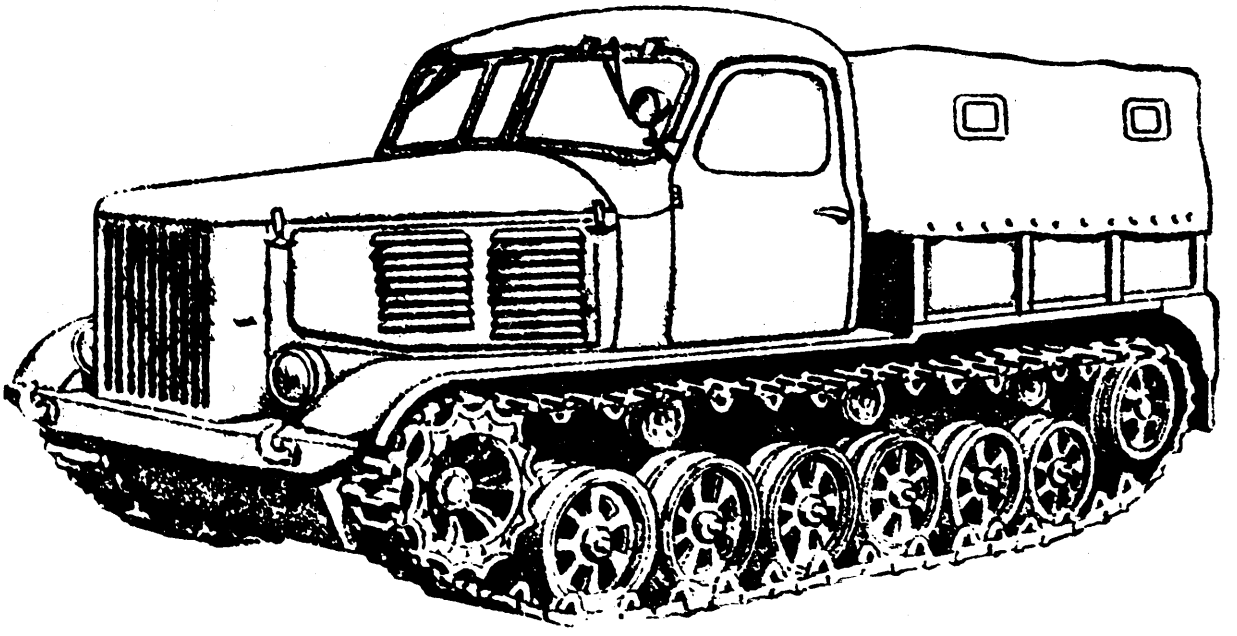
******unloaded, 0.556 $kg/cm^2$ fully loaded

| | | AT-L | K800*** |
|---|---|---|---|
| weight | kg | 6300 | 6400 |
| length | mm | 5313 | 5000 |
| width | mm | 2214 | 2400 |
| height | mm | 2180 | 2200 |
| track | mm | 1900 | 2100 |
| clearance | mm | 350 | 300 |
| track width | mm | 300 | 300 |
| ground contact | mm | 3005 | 2750 |
| engine model | | YaMZ-M204VKr | Csepel |
| horsepower | | 130* | 130 |
| cylinders | | 4 | 6 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 42 | 35 |
| cruising range | km | 300 | 300 |
| fuel capacity | l | 300 | 280 |
| fuel consumption | l/100km | | |
| ground pressure | $kg/cm^2$ | 0.45 | 0.45 |
| trench | mm | 1000 | 1500 |
| step | mm | 600 | 500 |
| slope | ° | 30 | 30 |
| tilt | | | |
| ford | mm | 600** | 600 |
| crew | | 3 | 2 |
| passengers | | 8 | 14 |
| payload | kg | 2000 | 1800 |
| towed load | kg | 6000 | 8000 |

*some engines are rated at 135 HP

**some vehicles can ford to 1000 mm depth.

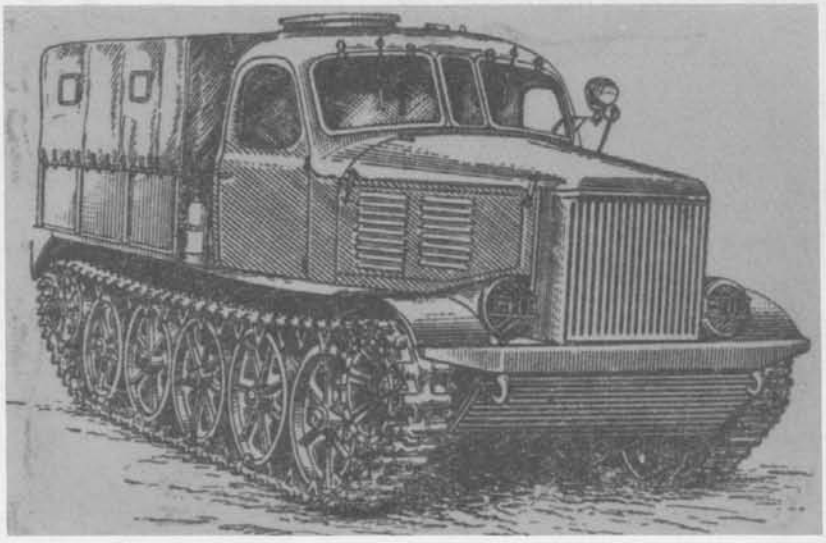
***the Yugoslav version, the GJ-800 uses the FAMOS 120-HP, 6-cylinder, water cooled engine and has the cab of the FAP truck.



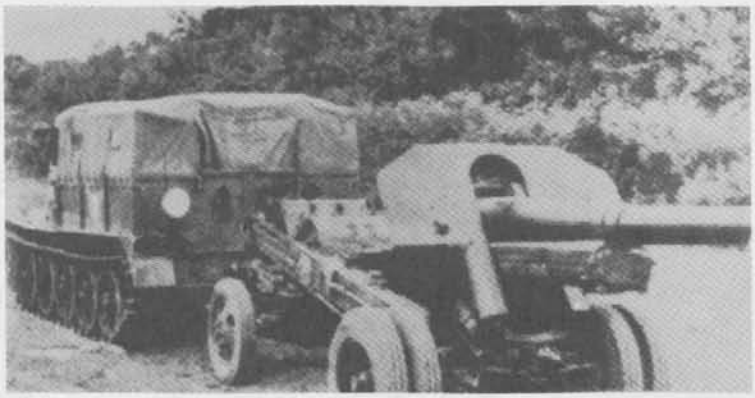
AT-L



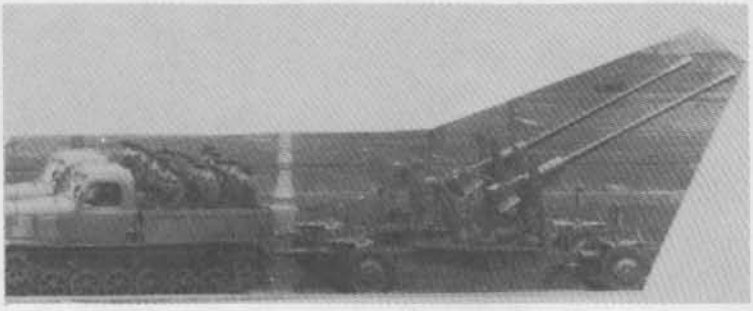
K-800



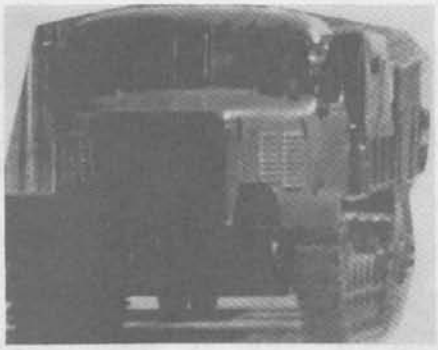
AT-LM



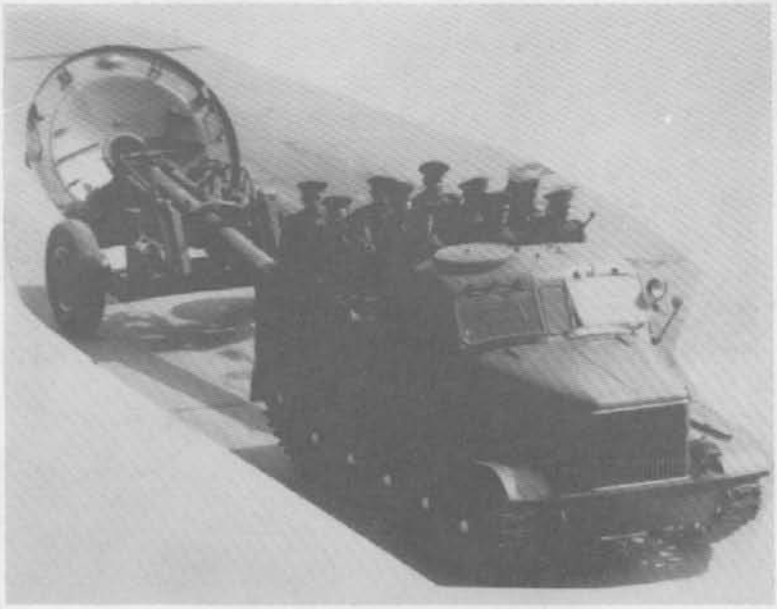
AT-LM TOWING 152 MM HOWITZER M1938



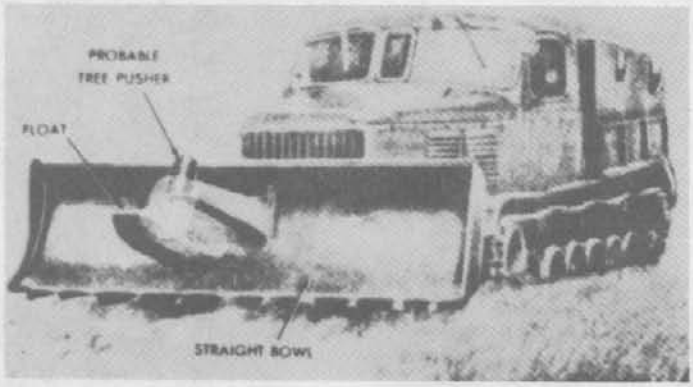
AT-L TOWING 57 MM AA GUN S-60



AT-L



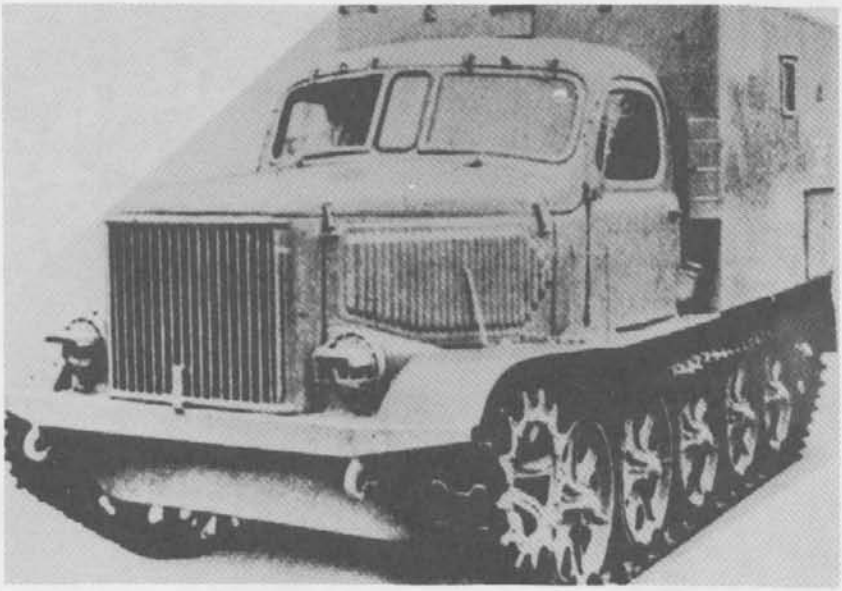
AT-LM TOWING 240 MM MORTAR M-240




AT-L WITH OLT DOZER



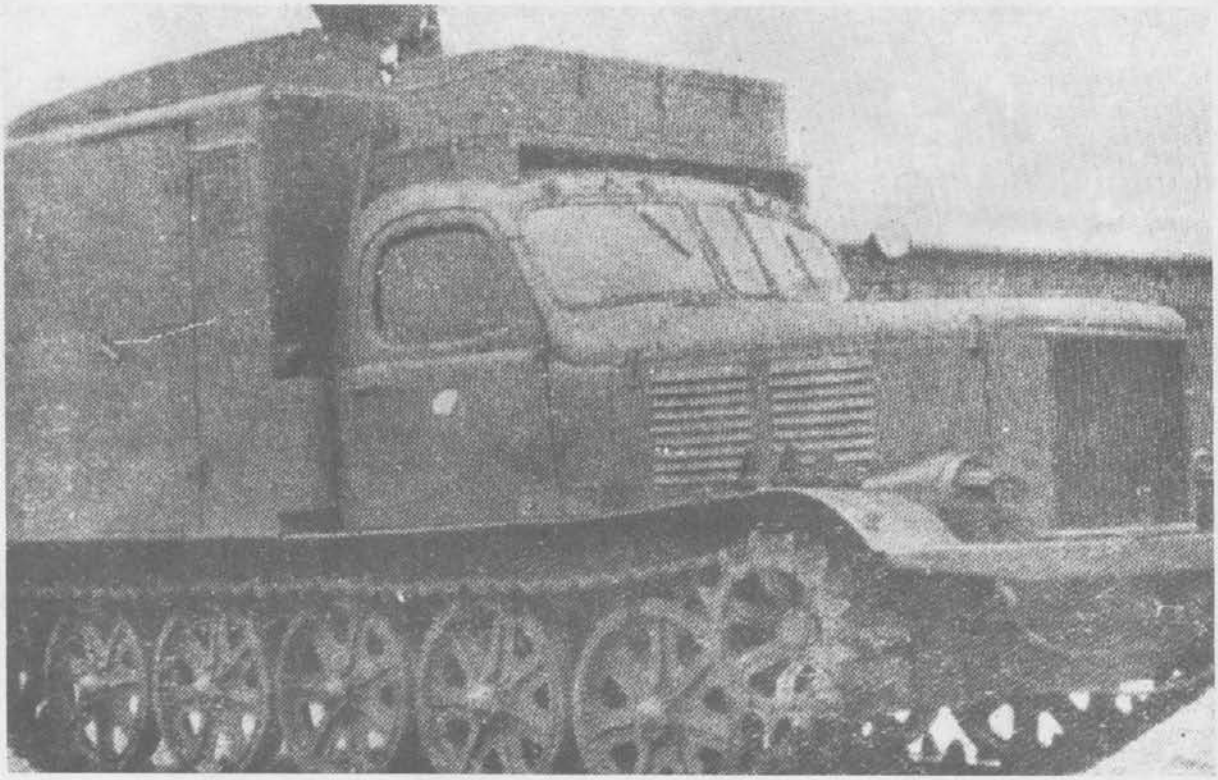
AT-LM WITH OLT DOZER



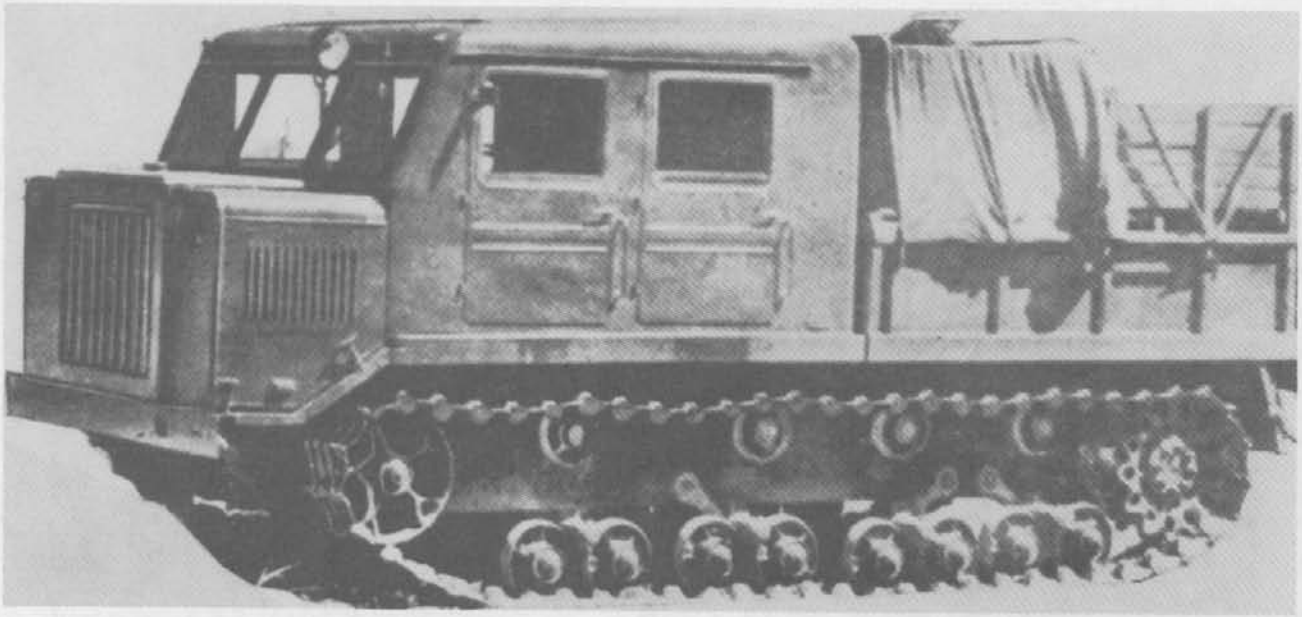
GEOLOGICAL STATION PSI-1
AT-LM



K800 TOWING 122 MM CORPS GUN M1931/37 (A-19)



AT-LM MOUNTING SNAR RADAR



AT-S

# MEDIUM TRACKED ARTILLERY TRACTORS

Medium Tracked Artillery Tractor AT-S
Medium Tracked Artillery Tractor ATS-59
Medium Tracked Artillery Tractor Mazur D-300 (ACS)
Medium Tracked Artillery Tractor Mazur D-350 (ACS)
Medium Tracked Artillery Tractor M1972

The AT-S, which first appeared in 1954, is a very distinctive appearing vehicle with a running gear differing from all other currently used Warsaw Pact tracked vehicles. In contrast to other artillery tractors (except to older Ya-12, Ya-13F, and M-2), the drive sprocket is in the rear and the idler in front. There are eight small roadwheels arranged in pairs, suspended on torsion bars. The track is further supported by four track support rollers. The cab is well forward, and the engine compartment protrudes forward of the track, giving the AT-S the appearance of a half-track vehicle at some angles. At the present time, the AT-S is used primarily as the prime mover for the 130mm field gun, the 152mm gun-howitzer, the 100mm antiaircraft gun, and the launcher for the SA-2 GUIDELINE surface-to-air guided missile. In addition, the AT-S is used as the carrier for the BM-24T multiround rocket launcher, various electronic equipment, and as the mount for the OST dozer blade. It is employed in all Warsaw Pact countries except Czechoslovakia and has been exported to the Middle East, North Africa, and Yugoslavia.

An improved version, the ATS-59, appeared in 1959. It has a lower silhouette, different running gear, a more powerful engine, and a greater top speed. Many of the automotive elements have been borrowed from the T-54A medium tank. The running gear resembles that of the AT-LM and of the AT-T in that it consists of five large roadwheels without track support rollers. The hood is more prominent than that on the AT-S, but the engine is located behind the cab, resulting in a small cargo space. The ATS-59 is used in the same roles as the AT-S, and it has been identified with the East German, Polish, and Romanian Armies as well as with the Soviet forces. It has also been exported to the Middle East. Currently, the ATS-59 is being produced in Poland in place of the nationally designed Mazur D-350.

A new artillery tractor was displayed on the 7 November 1972 parade in Moscow. It appears to be a modified version of the ATS-59, fitted with a larger cab capable of carrying an entire gun crew.

The Polish Mazur D-350, also known as the ACS, was developed in Poland in the mid 1950's on the basis of the Soviet AT-S. Originally produced in prototype form as the Mazur D-300, it went into serial production with a more powerful engine as the Mazur D-350. The Mazur tractors are distinctive in appearance with five medium-size roadwheels and four doors, but has a short, wide hood. The Mazur D-350 is used both in the Polish and Czechoslovak forces. It has been replaced in production in Poland by the ATS-59.

| | | AT-S | ATS-59 | Mazur D-350 |
|---|---|---|---|---|
| weight | kg | 12000 | 13000 | 13560 |
| length | mm | 5870 | 6280 | 5810 |
| width | mm | 2570 | 2780 | 2890 |
| height* | mm | 2535 | 2300 | 2600 |
| track | mm | 1900 | 2250 | 2448 |
| clearance | mm | 400 | 425 | 465 |
| track width | mm | 425 | 425 | 425 |
| ground contact | mm | 3070 | | |
| engine model | | V-54-T | A-650 | D-350 |
| horsepower | | 250 | 300 | 350 |
| cylinders | | V-12 | V-12 | V-12 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 35 | 39 | 53 |
| cruising range | km | 380 | 350*** | 390 |
| fuel capacity | l | 420 | | |
| fuel consumption | l/100km | 110 | 163**** | |
| ground pressure | kg/cm$^2$ | 0.58 | 0.52 | 0.65 |
| trench | mm | 1450 | 2500 | |
| step | mm | 600 | 1100 | |
| slope | ° | 28 | 35****** | 30 |
| tilt | ° | | 25 | |
| ford | mm | 1000 | 1500 | 800 |
| crew** | | 7 | 2 | 2+7 |
| passengers** | | 10 | 14 | |
| payload | kg | 3000 | 3000 | 3500/5000******* |
| towed load | kg | 16000 | 14000 | 10000/15000******* |

*cab
over tarp AT-S.....2850
ATS-59...2500
Mazur....2695

**crew=persons in cab
passengers=persons in cargo space

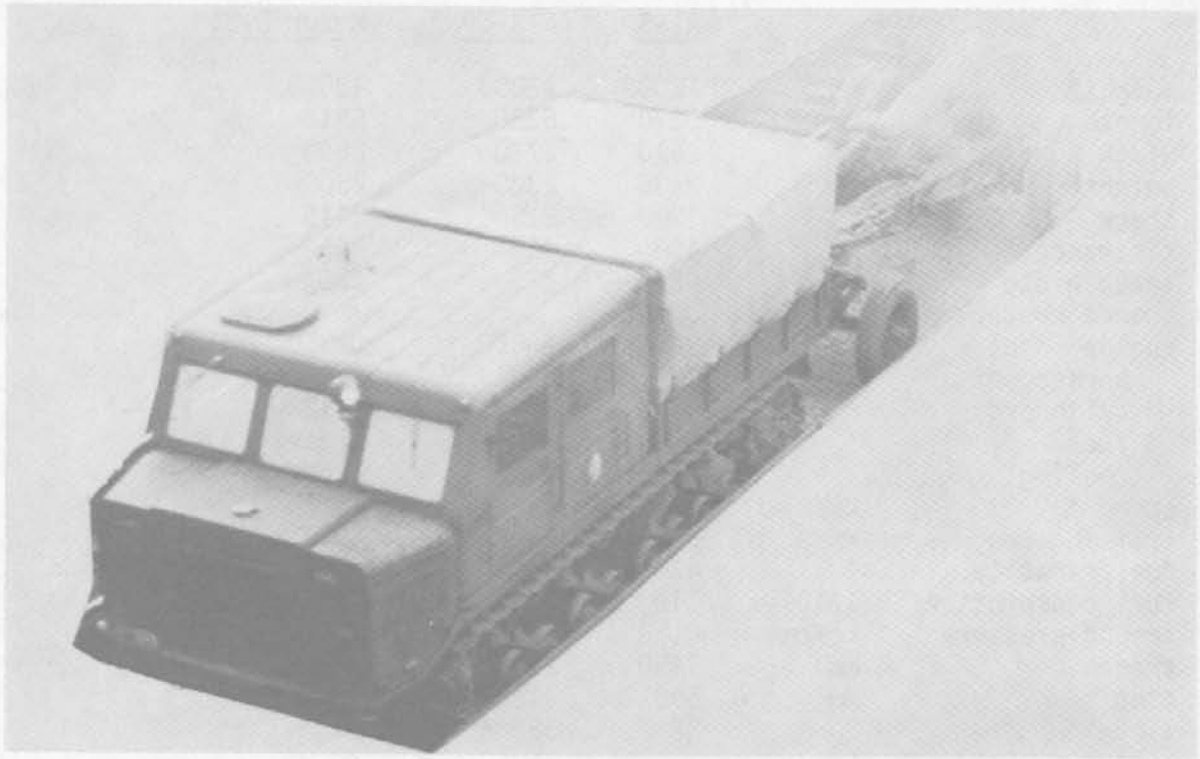
***loaded, towing full load
with extra tanks 500 km

****loaded, not towing

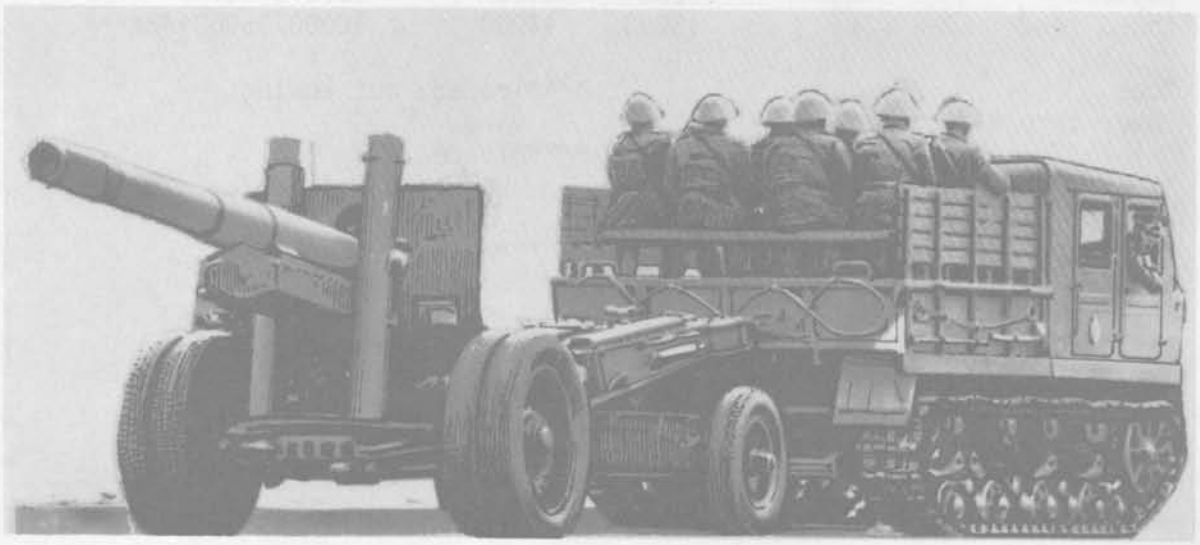
*****loaded
unloaded 0.42 kg/cm$^2$

******without load
with load 18 to 20°

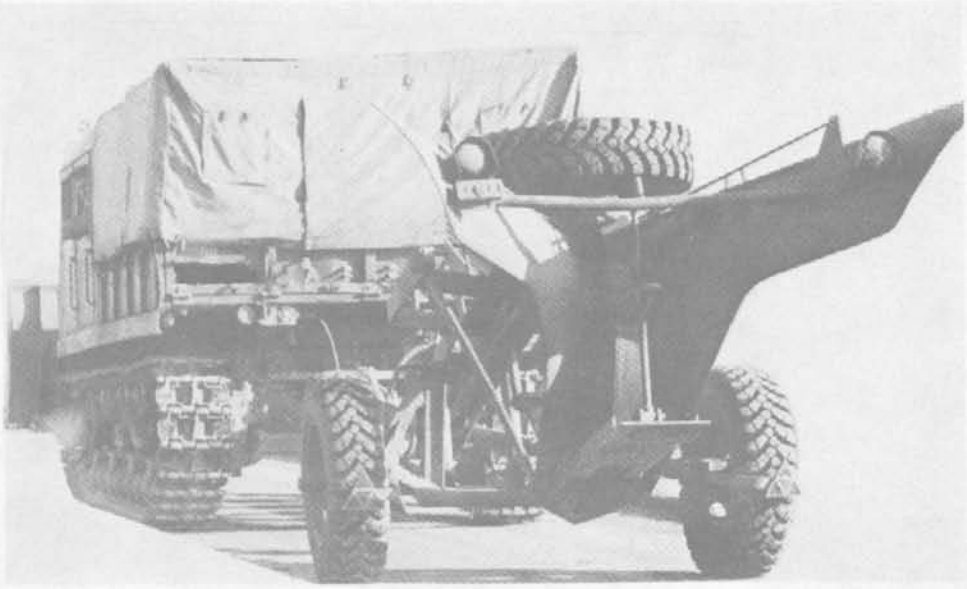
*******cross country/highway



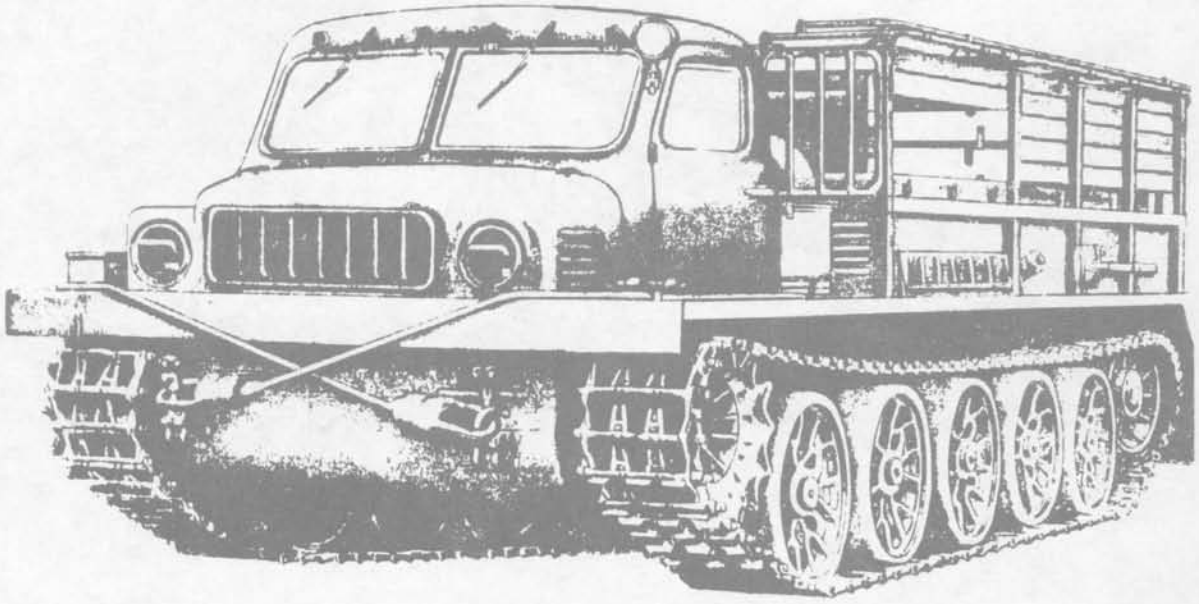
AT-S



AT-S TOWING 152 MM GUN-HOWITZER M 1937



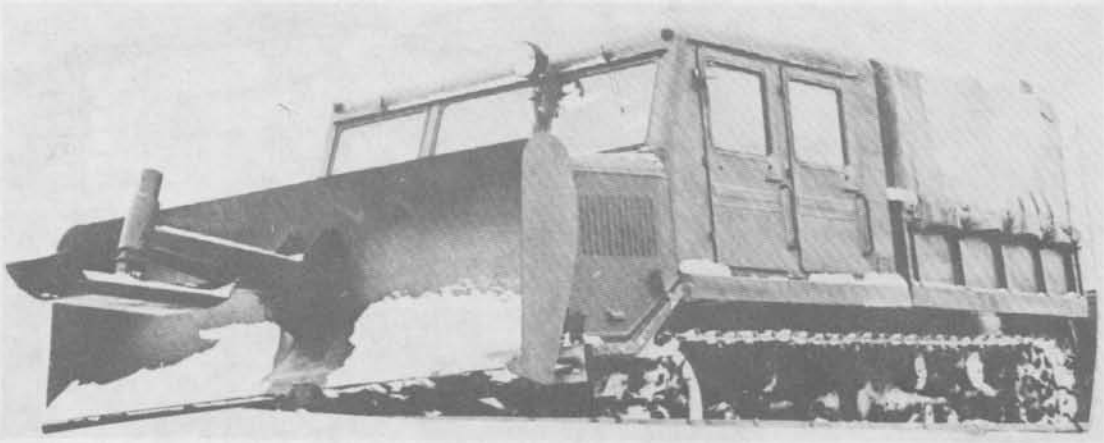
AT-S WITH GP-60 TRENCH PLOW

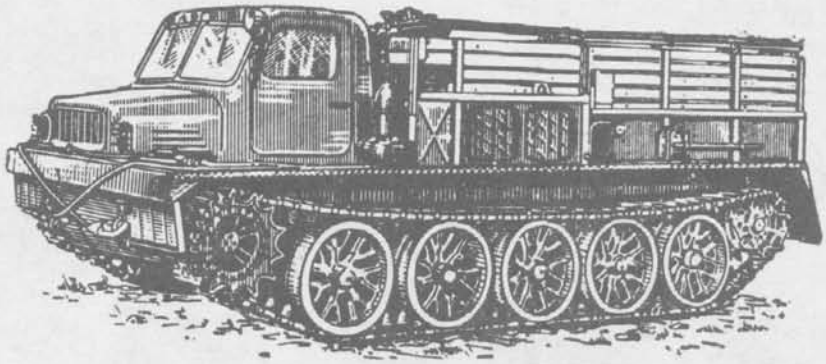


ATS-59

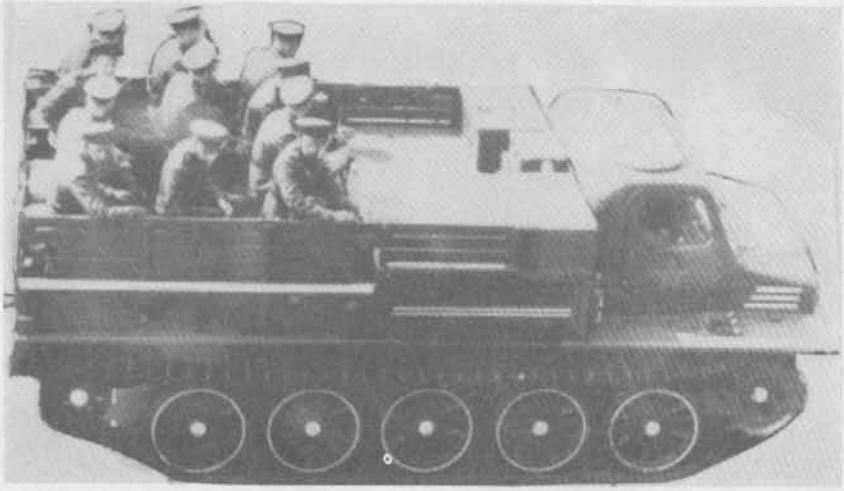


AT-S WITH OST DOZER





ATS-59



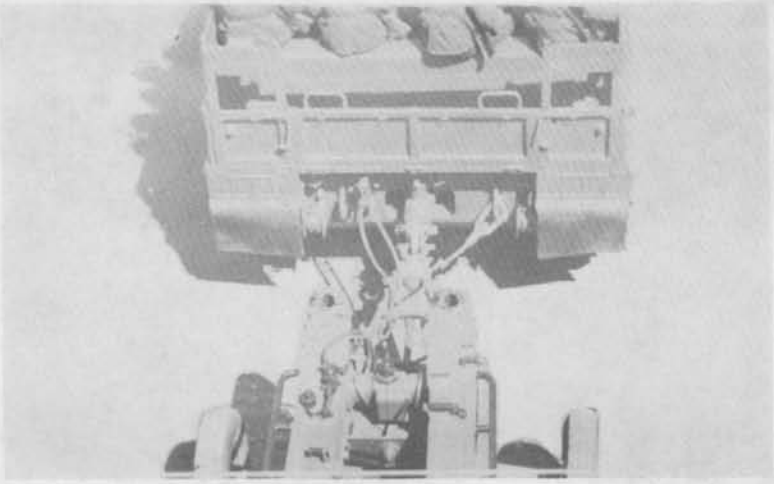
ATS-59

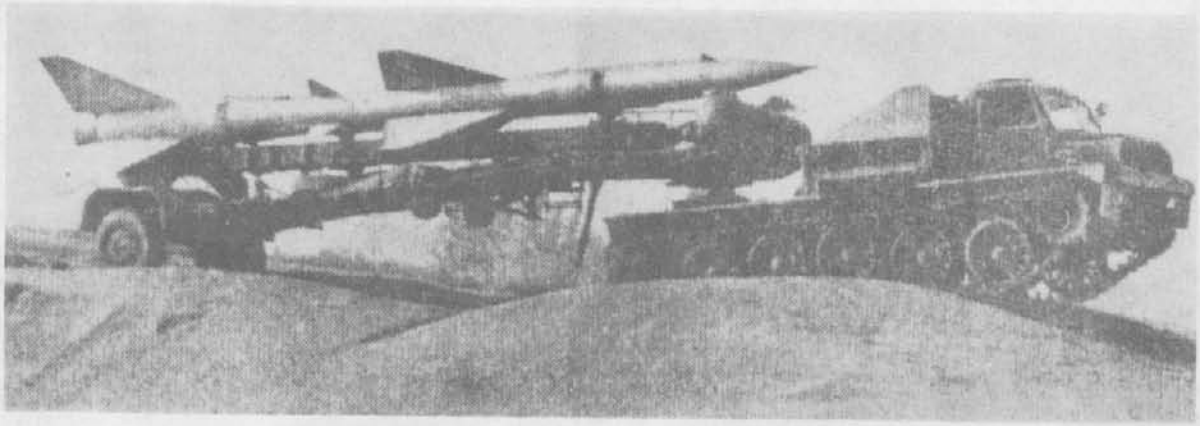


ATS-59 TOWING 130 MM FIELD GUN M-46



ATS-59 TOWING 130 MM FIELD GUN M-46

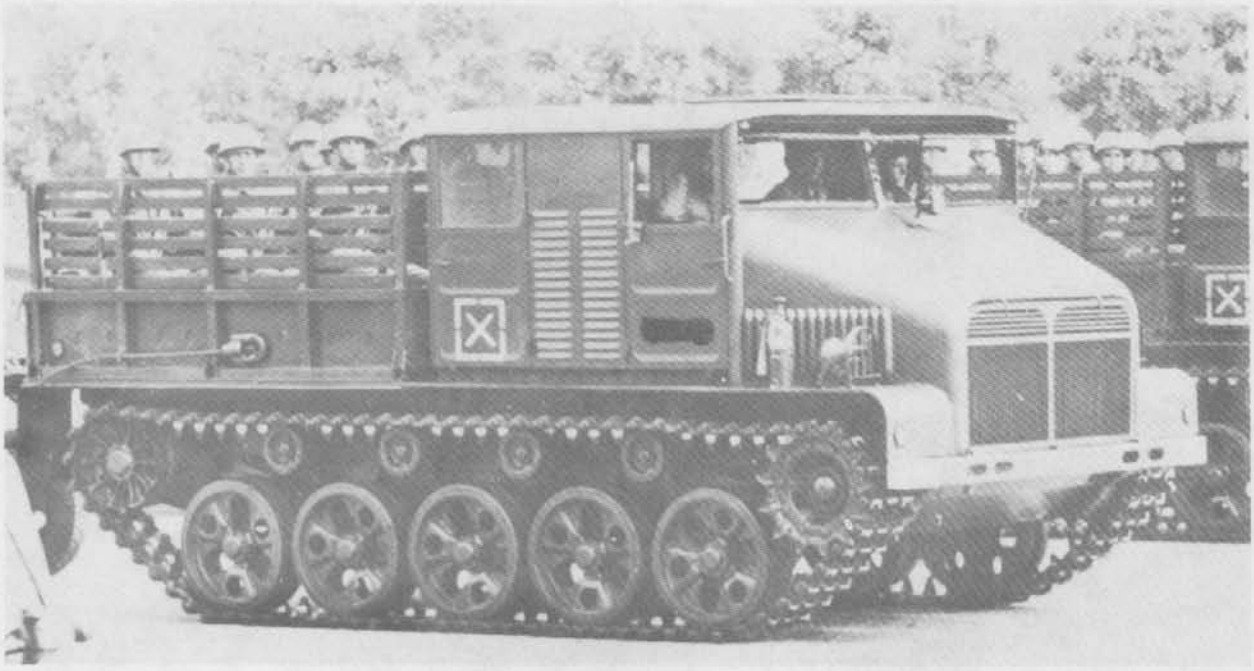




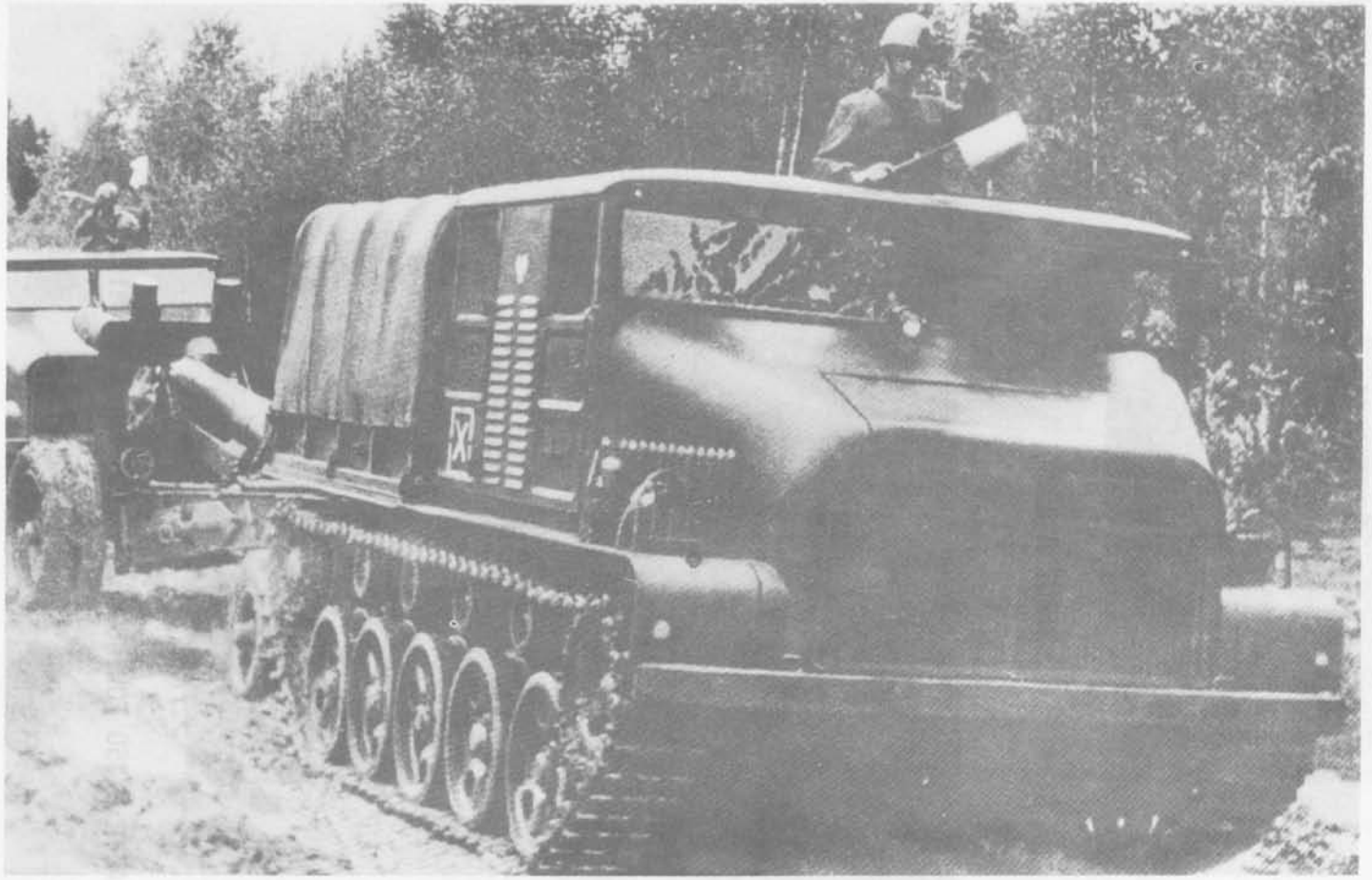
ATS-59 WITH SA-2 ON RESUPPLY SEMITRAILER



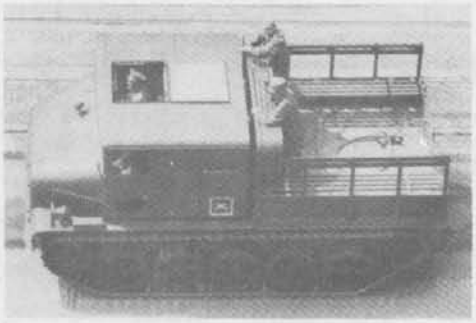
ATS-59 WITH DOZER



MAZUR D-350



MAZUR D-350 TOWING 152 MM GUN-HOWITZER M1937



MAZUR D-350

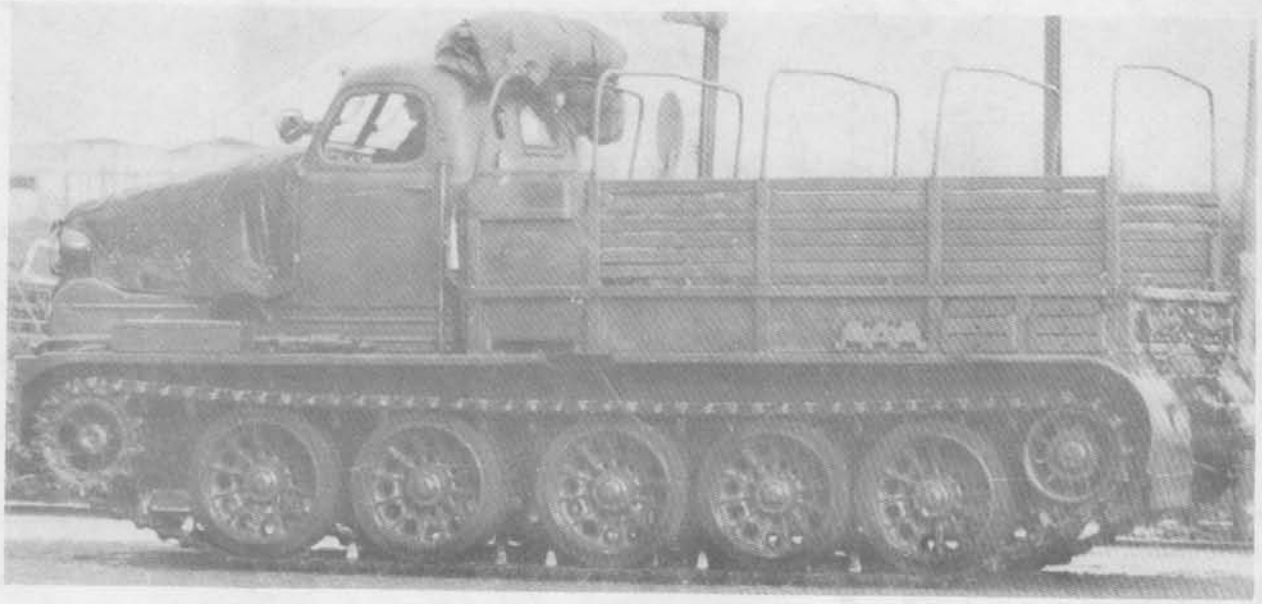




MAZUR D-350 TOWING 152 MM GUN-HOWITZER M1937



M1972 TOWING 130 MM FIELD GUN M-46



AT-T

## Heavy Tracked Artillery Tractor AT-T

The AT-T, which appeared in 1950, is the largest tracked artillery tractor used by the Warsaw Pact armies. Like most other tracked artillery tractors, it has a truck-type body with a driver's cab and a cargo/personnel platform. The torsion bar suspension system resembles that of the T-34 medium tank in appearance with five large roadwheels and no track support rollers. However, the drive sprocket is in the front. Because of the similarity in the suspension, care must be taken to distinguish the heavy AT-T from the medium ATS-59 and the light AT-LM. The AT-T was once common as an artillery prime mover, but since has been replaced in this role to a large extent by medium tractors. Only the 203 mm gun-howitzer and the 130 mm antiaircraft and coastal guns are still towed regularly by the AT-T. However, the AT-T still finds extensive employment as the basis for specialized engineer vehicles such as the BTM and MDK-2 ditching machines and the BAT and BAT-M dozers. Further, it has been used as the mount for the ARSOM field artillery radar, and in a lengthened version for a surface-to-air guided missile associated radar. The AT-T is used throughout the Warsaw Pact and has been exported to the Middle East, North Africa and Yugoslavia.

## AT-T

| | | |
|---|---|---|
| weight | kg | 20000 |
| length | mm | 6990 |
| width | mm | 3170 |
| height | mm | 2580* |
| track | mm | 2640 |
| clearance | mm | 425 |
| track width | mm | 508 |
| ground contact | mm | 3836 |
| engine model | | V-401 |
| horsepower | | 415 |
| cylinders | | V-12 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 35 |
| cruising range | km | 700 |
| fuel capacity | l | 1415 |
| fuel consumption | l/100km | 190** |
| ground pressure | $kg/cm^2$ | 0.68*** |
| trench | mm | 2100 |
| step | mm | 1000 |
| slope | ° | 30**** |
| tilt | ° | |
| ford | mm | 750***** |
| crew | | 4****** |
| passengers | | 14****** |
| payload | kg | 5000 |
| towed load | kg | 25000 |

*over cab
2845 mm over tarp

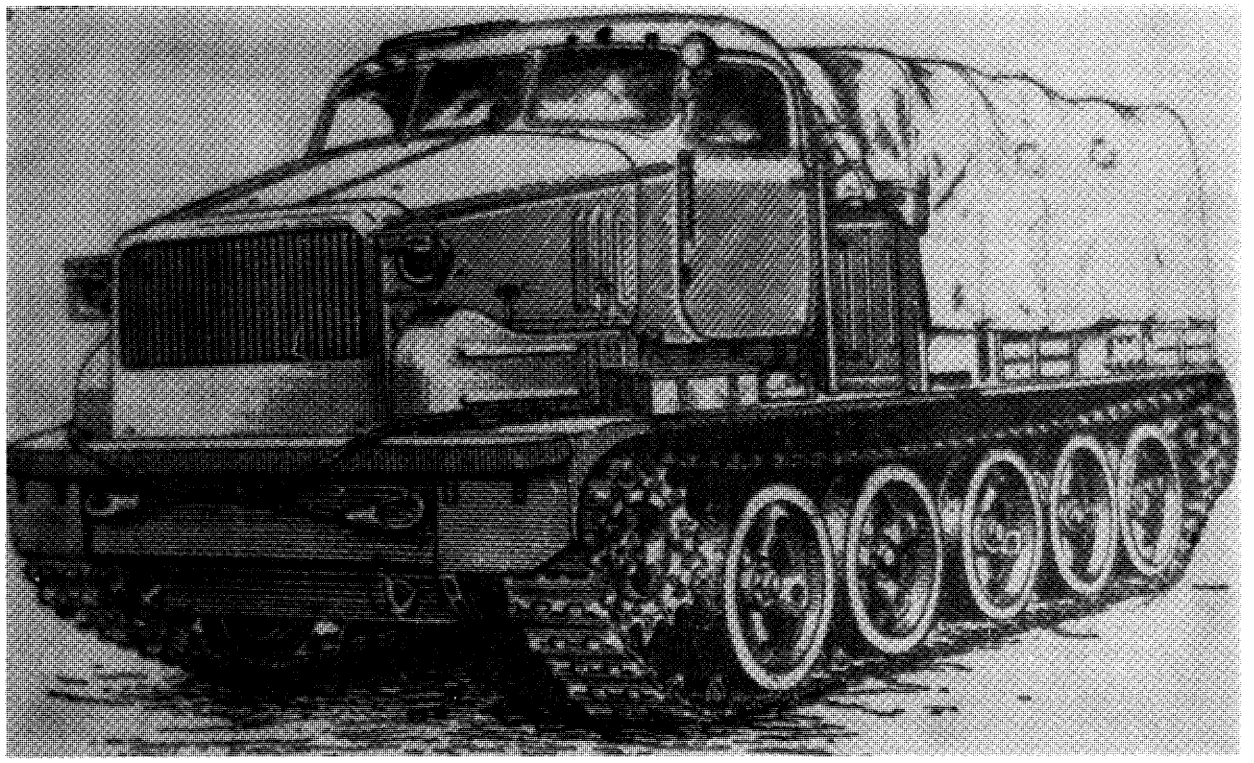
**with tow
140 l/100 km without tow

***loaded
0.52 $kg/cm^2$ unloaded

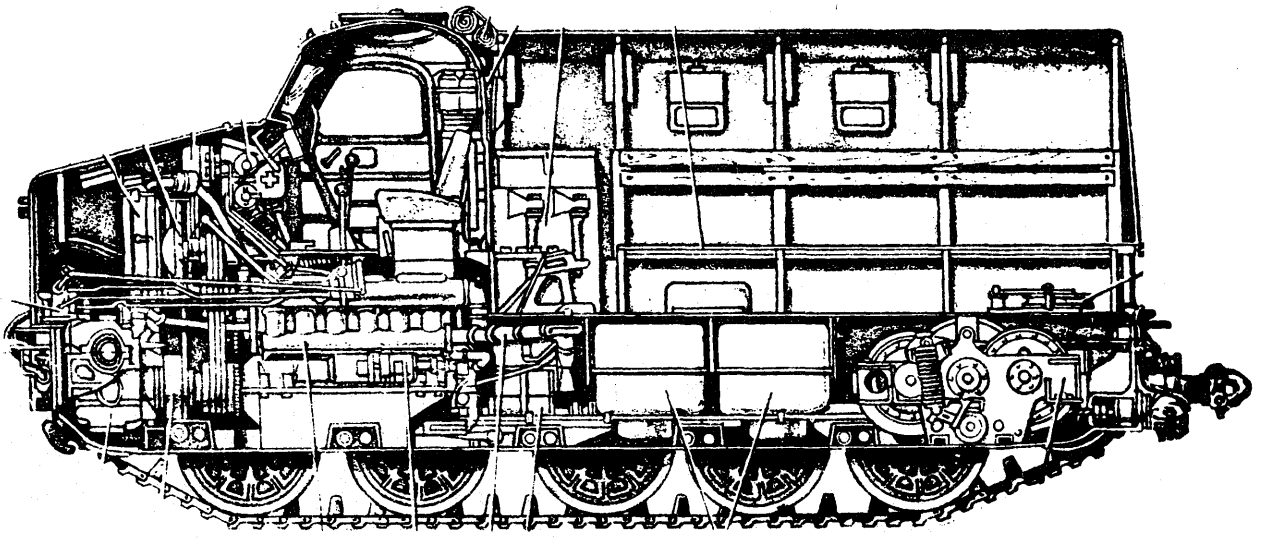
****without tow
25° with tow

*****also reported as 1000 mm

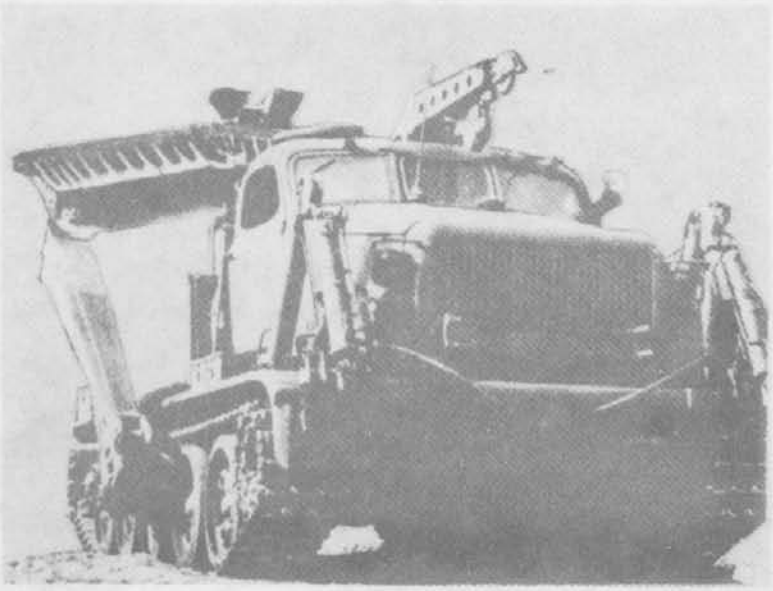
******crew=cab
passengers=platform



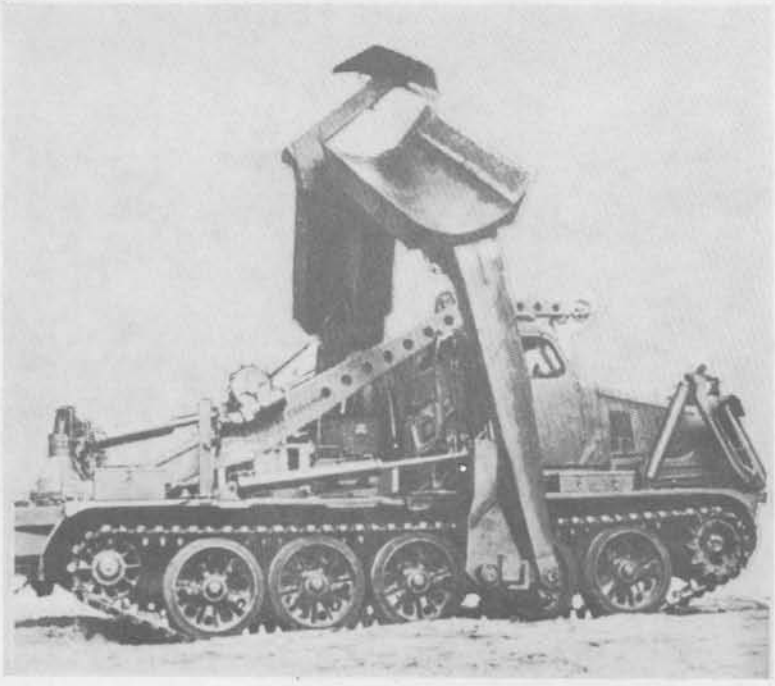
AT-T

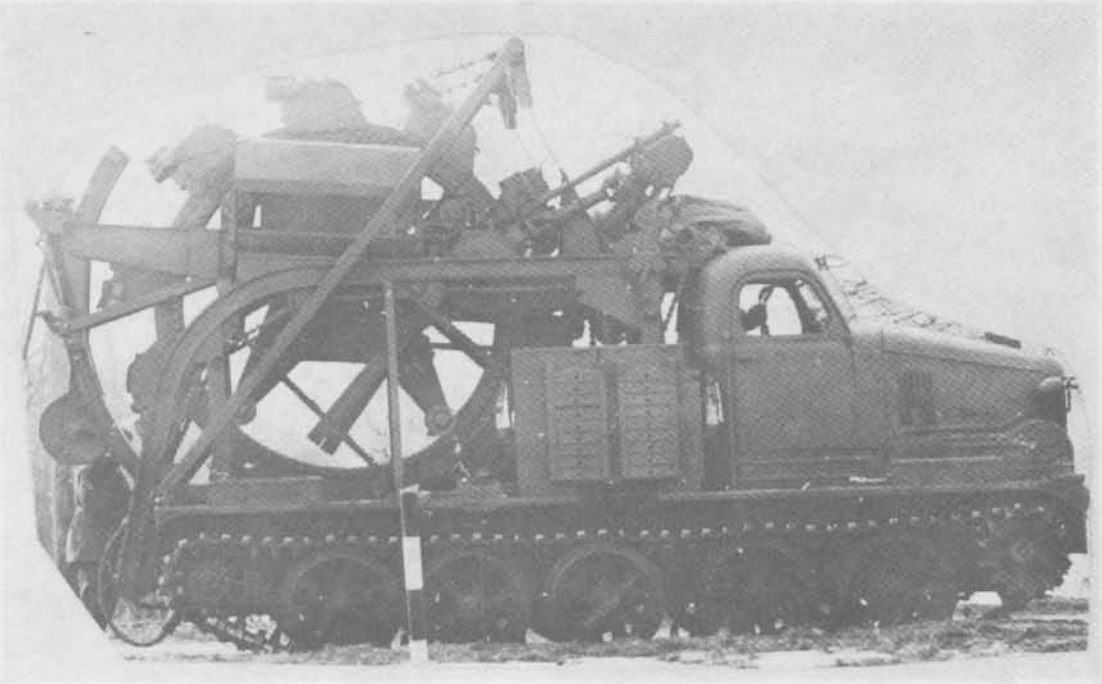


AT-T

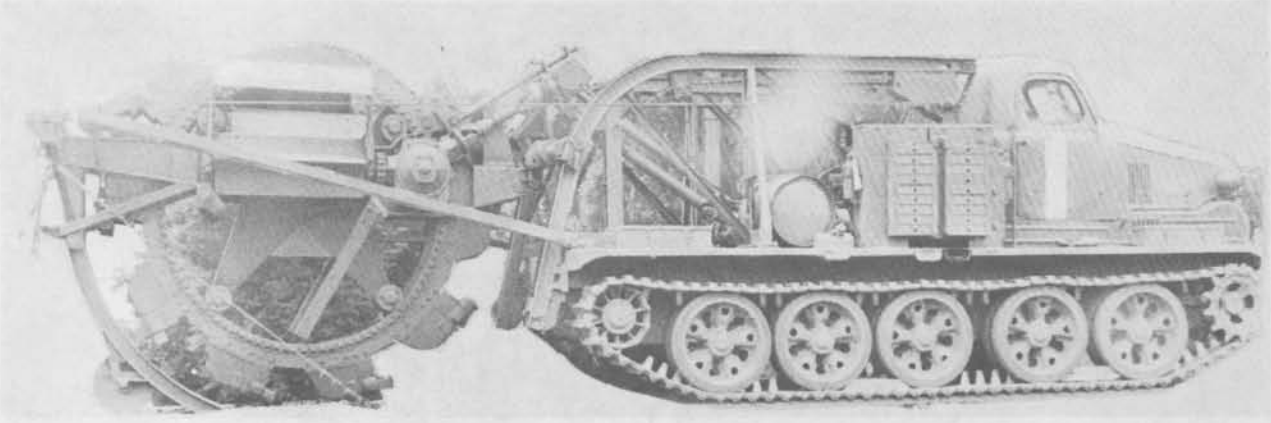


BAT-M





BTM IN TRAVEL POSITION



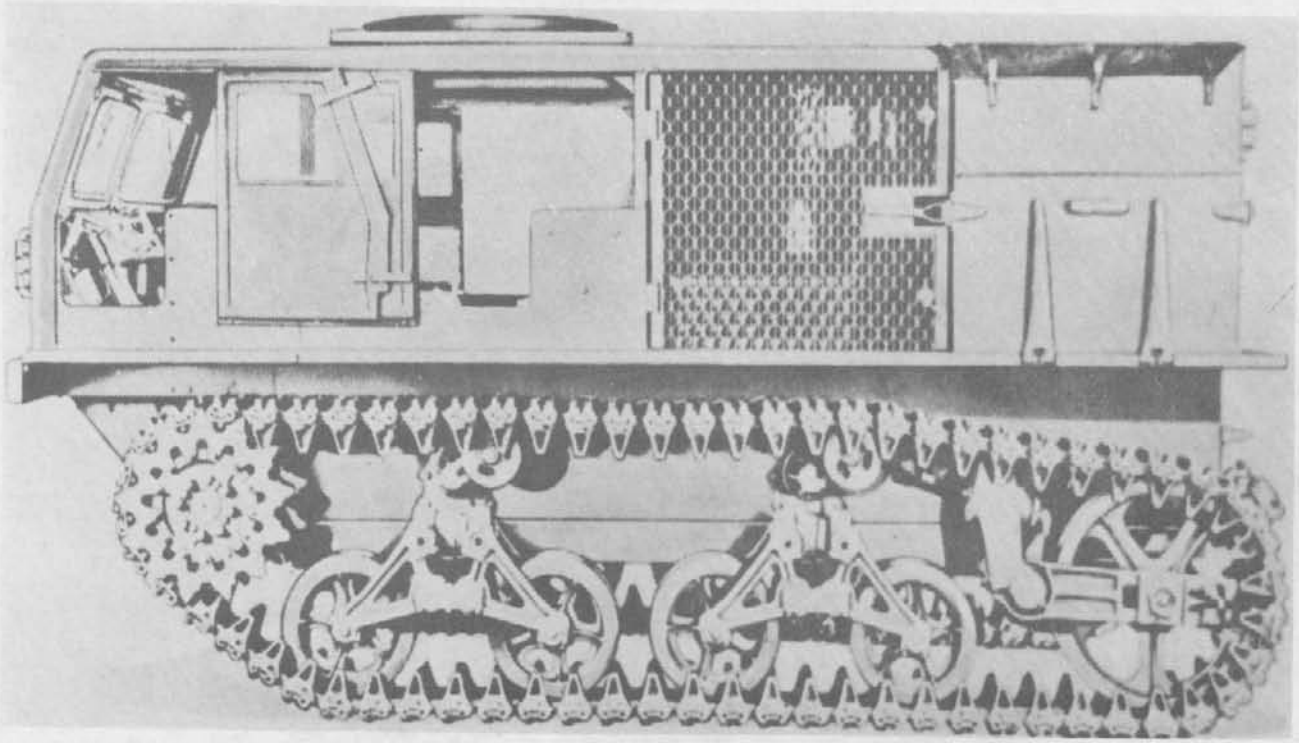
BTM IN WORKING POSITION



MDK-2



ARSOM FIELD ARTILLERY RADAR ON AT-T



M4



M5

Tracked Artillery Tractor M4
Tracked Artillery Tractor M5

The M4 is a medium artillery tractor of United States World War II origin which is used in the Yugoslav Army. It is used to tow weapons such as the 155 mm gun M2, the 203 howitzer M2, and the 90 mm antiaircraft gun M1A1. It is very distinctive in appearance with forward drive sprockets, a large trailing idler, four smaller roadwheels mounted in pairs, and two track support rollers. The gasoline engine is in the rear of the vehicle. It has outside track guides.

The M5 is a light-medium artillery tractor also of United States World War II origin which is used in the Yugoslav Army. It has been observed towing the 155 mm howitzer M1 and M-65, the 122 mm corps gun M1931/37, the 152 mm gun-howitzer M1937 and the 94 mm antiaircraft gun. Like the other United States tractor, it has a distinctive appearance with a similar suspension system.

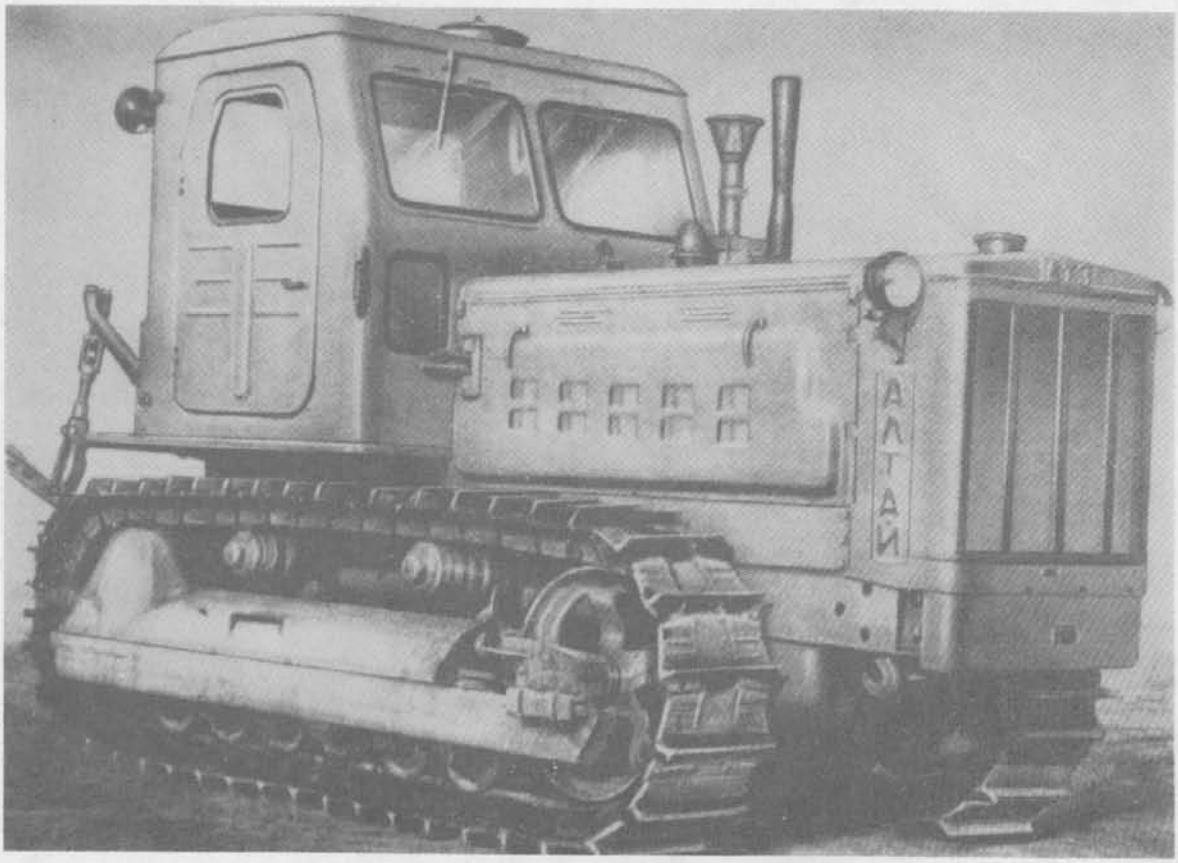
| | | M4 | M5 |
|---|---|---|---|
| weight combat | kg | 14200 | 12900 |
| length | mm | 5334 | 4851 |
| width | mm | 2464 | 2540 |
| height | mm | 2743 | 2642 |
| track | mm | 2032 | 2108 |
| clearance | mm | 521 | 502 |
| track width | mm | 432 | 300 |
| ground contact | mm | 3150 | 3505 |
| engine model | | Mod 14562* | Cont R 6572 |
| horsepower | | 190 | 207 |
| cylinders | | 6 | 6 |
| fuel | | gasoline | gasoline |
| cooling | | water | water |
| speed | km/h | 56 | 48 |
| cruising range | km | 160 | 240 |
| fuel capacity | l | 473 | 378.5 |
| fuel consumption | l/100km | | |
| ground pressure | kg/cm$^2$ | 0.534 | 0.78 |
| trench | mm | 1524 | 1677 |
| step | mm | 737 | 457 |
| slope | ° | 16*** | 27*** |
| tilt | ° | | |
| ford | mm | 1041 | 1346 |
| crew | | | |
| passengers | | 11** | 9** |
| payload | kg | | |
| towed load | kg | 17600 | 9070 |

*Waukesha

**including crew

***with tow

# SOVIET CRAWLER TRACTORS



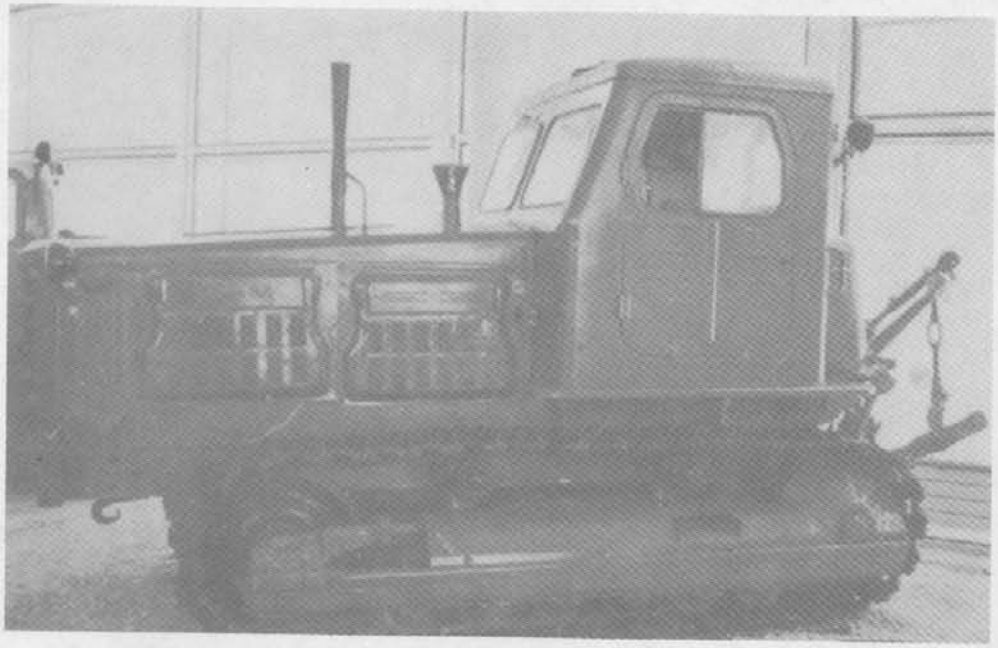

T-4

Crawler Tractor T-4
Crawler Tractor T-4A
Crawler Tractor T-4M
Crawler Tractor T-4P
Crawler Tractor BT-4
Crawler Tractor TT-4

The T-4 series of crawler tractors went into production at the Altay Tractor Plant in 1965. They all have eight-speed transmissions; double plate, synchromesh clutches; flexible propellor shafts; and independent power takeoff with a separate clutch on the rear axle housing. Further, they are equipped with hermetically sealed cabs which can be heated and ventilated.

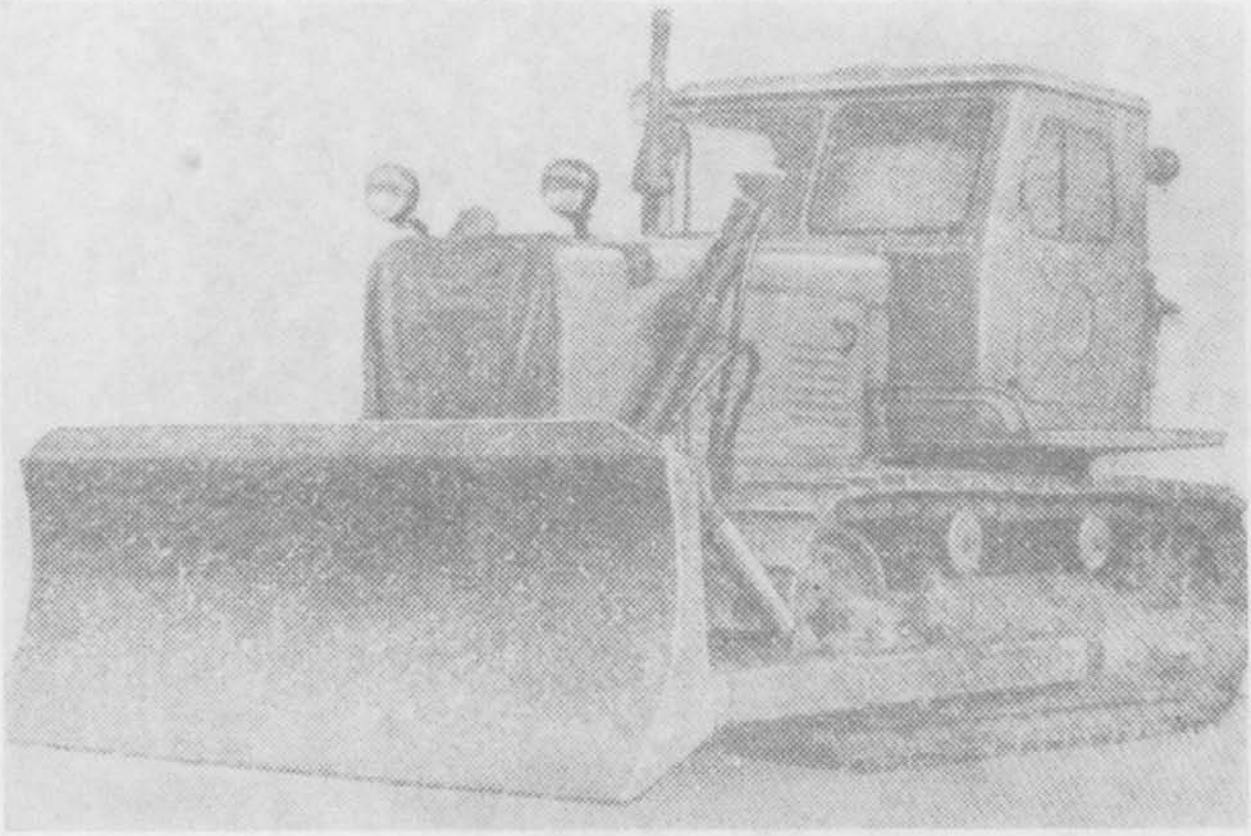
The T-4M differs from the basic model in that it uses a more powerful engine, which is also found on the BT-4 swamp tractor. The T-4P is designed for extremely hot climates, while the TT-4 is a logging tractor considerably different in running gear and superstructure.

| | | T-4 | T-4M | BT-4 | TT-4 |
|---|---|---|---|---|---|
| weight | kg | 7800 | | | 11300 |
| length | mm | 4475 | | | 5909 |
| width | mm | 1952 | | | 2460 |
| height | mm | 2615 | | | 2662 |
| track | mm | 1384 | | | 2000 |
| clearance | mm | 362 | | 660 | 500 |
| track width | mm | | | | |
| ground contact | mm | 2460 | | | |
| engine model | | AM-01 | | | AM-01 |
| horsepower | | 110 | 120-130 | 120-130 | 110 |
| cylinders | | 6 | 6 | 6 | 6 |
| fuel | | diesel | diesel | diesel | diesel |
| cooling | | water | water | water | water |
| speed | km/h | 9.17 | | 9 | 10.16 |
| fuel capacity | l | 300 | | | 180 |
| ground pressure | $kg/cm^2$ | | | 0.2 | 0.44 |
| trench | mm | | | | |
| step | mm | | | | |
| slope | ° | | | | |
| tilt | ° | | | | |
| ford | mm | | | | |
| towed load | kg | | | | |
| drawbar pull | kg | 5000 | | 6360 | 8880 |

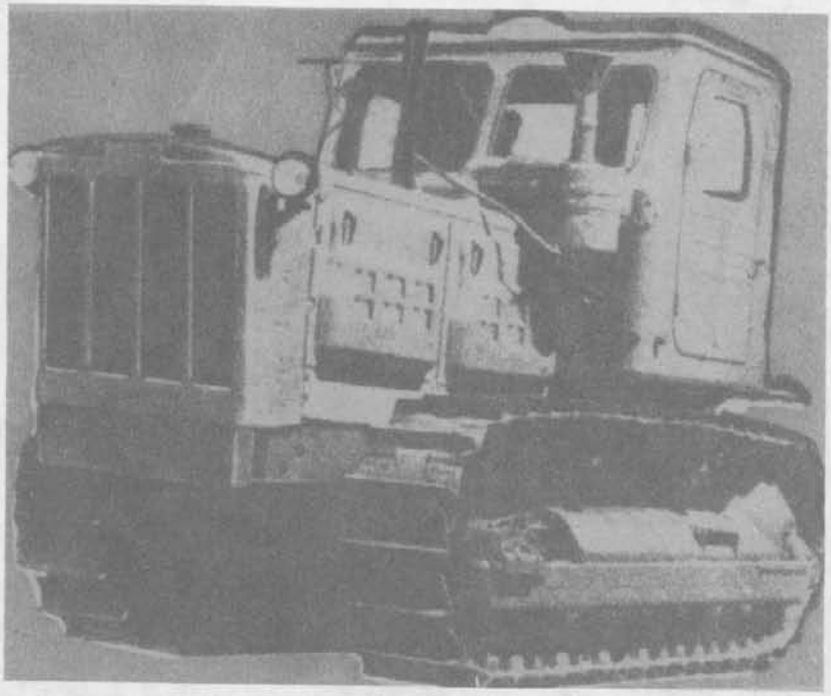


T-4M





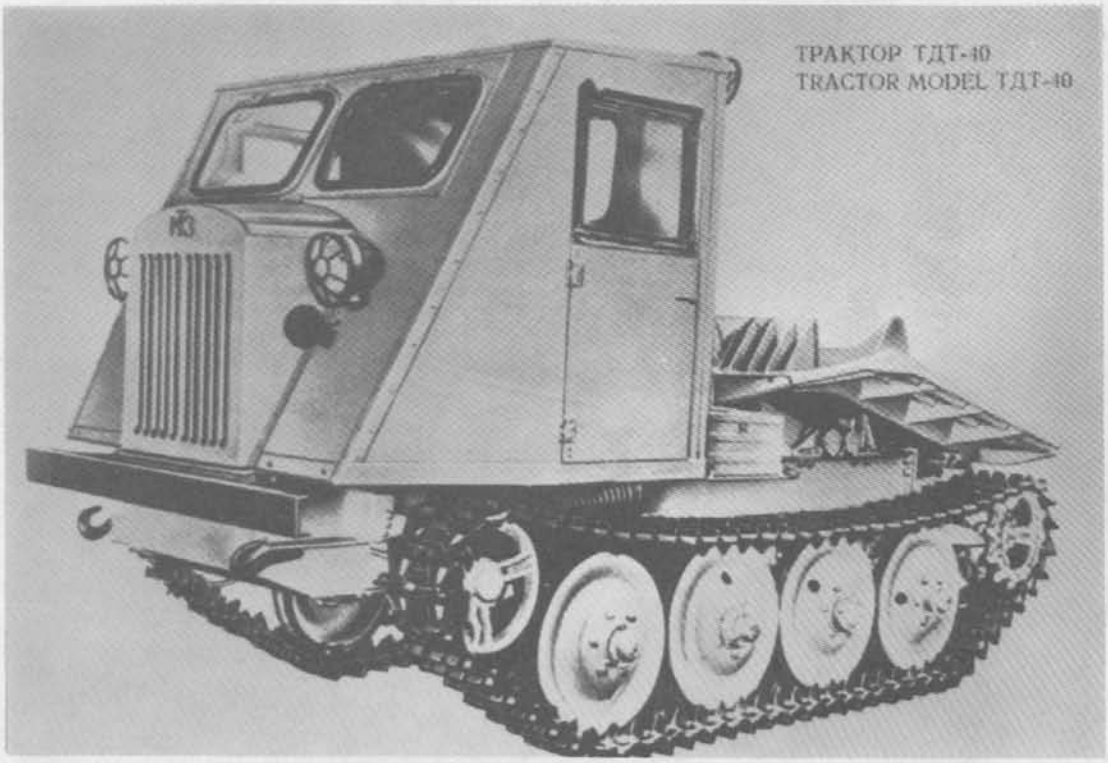
T-4



T-4



TT-4




TDT-40

Crawler Tractor TDT-40
Crawler Tractor TDT-40M
Crawler Tractor TDT-55
Crawler Tractor TDT-60
Crawler Tractor TDT-75

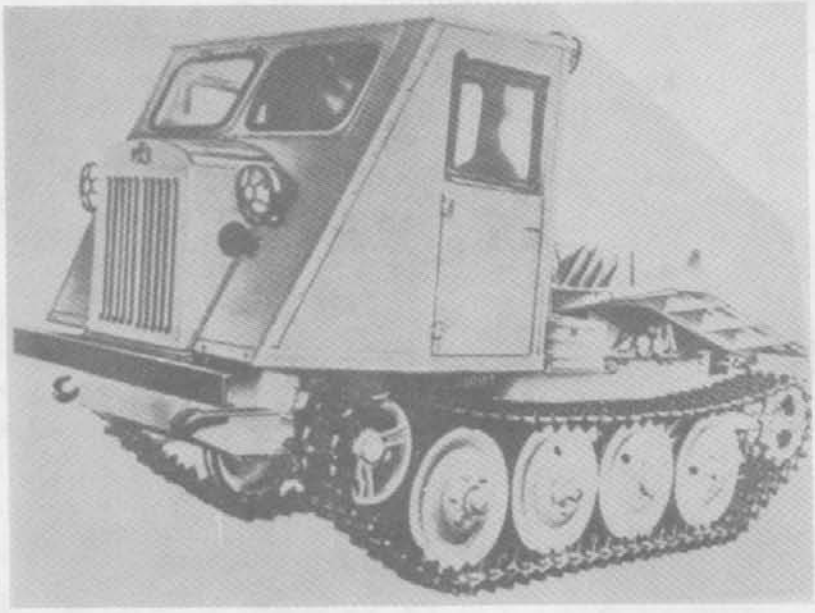
All crawler tractors of the TDT series have been designed for logging work and are very similar in design. The more recent models tend to have more powerful engines and greater drawbar pull, although they have a lower maximum speed. The most distinctive vehicle is the TDT-55 which is the only model with a one-man cab and a dozer blade.

The TDT-60 and TDT-75 can be distinguished from the earlier TDT-40 models because they have five roadwheels in place of the four of the other models. The TDT-75 can be distinguished from the TDT-60 by the use of a three-piece windshield. However, the TDT-75 is difficult to distinguish from the TT-4 logging tractor.

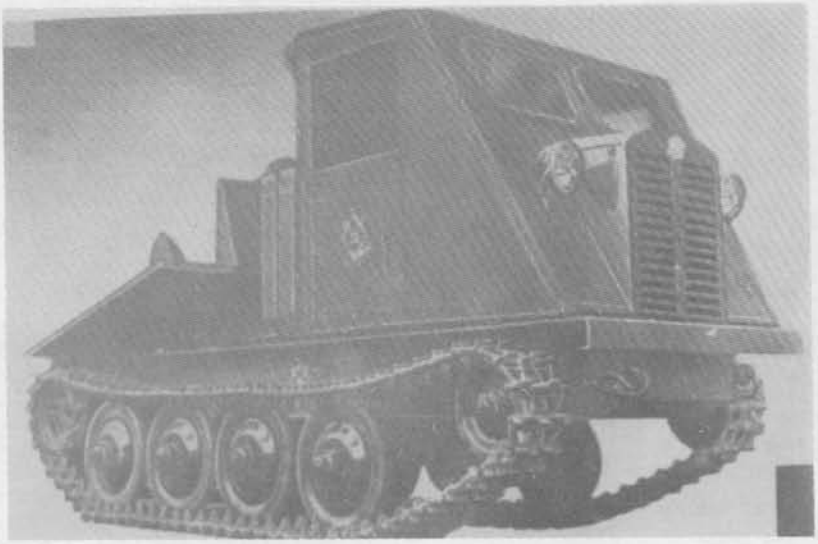
| | | TDT-40 | TDT-40M |
|---|---|---|---|
| weight | kg | 6700 | 6700 |
| length | mm | 4500 | 4500 |
| width | mm | 2014 | 2014 |
| height | mm | 2430 | 2340 |
| track | mm | 1575 | 1480 |
| clearance | mm | 540 | 540 |
| track width | mm | 340 | 340 |
| ground contact | mm | 2040 | 2400 |
| engine model | | D-40T | D-48T* |
| horsepower | | 45 | 48 to 50 |
| cylinders | | 4 | 4 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 11.65 | 12.42 |
| fuel capacity | l | 100 | 100 |
| ground pressure | $kg/cm^2$ | 0.45 | 0.45 |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | | |
| drawbar pull | kg | 3270 | 4320 |

*some tractors have the D-50T engine.

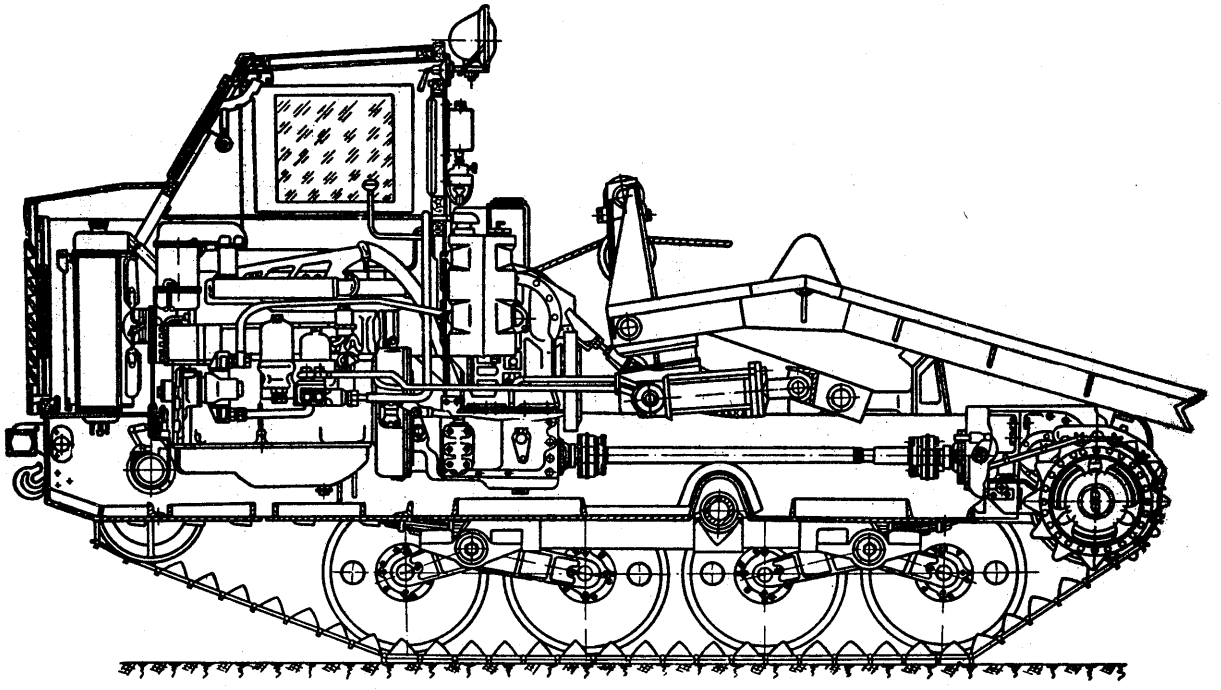
| | | TDT-55 | TDT-60 | TDT-75 |
|---|---|---|---|---|
| weight | kg | 8200 | 10800 | 11000 |
| length | mm | 5570 | 5505 | 5505 |
| width | mm | 2245 | 2370 | 2370 |
| height | mm | 2525 | 2700 | 2700 |
| track | mm | 1690 | 1910 | 1910 |
| clearance | mm | 525 | 550 | 550 |
| track width | mm | | 460 | 460 |
| ground contact | mm | 2330 | 2720 | 2720 |
| engine model | | SMD-14B | D-60T | D75T-AT |
| horsepower | | 62 | 60 | 75 |
| cylinders | | 4 | 4 | 4 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 10.92 | 7.64 | 7.64 |
| fuel capacity | l | 100 | 110 | 100 |
| ground pressure | $kg/cm^2$ | 0.43 | 0.4 | 0.408 |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | kg | 4960 | 5260 | 6820 |



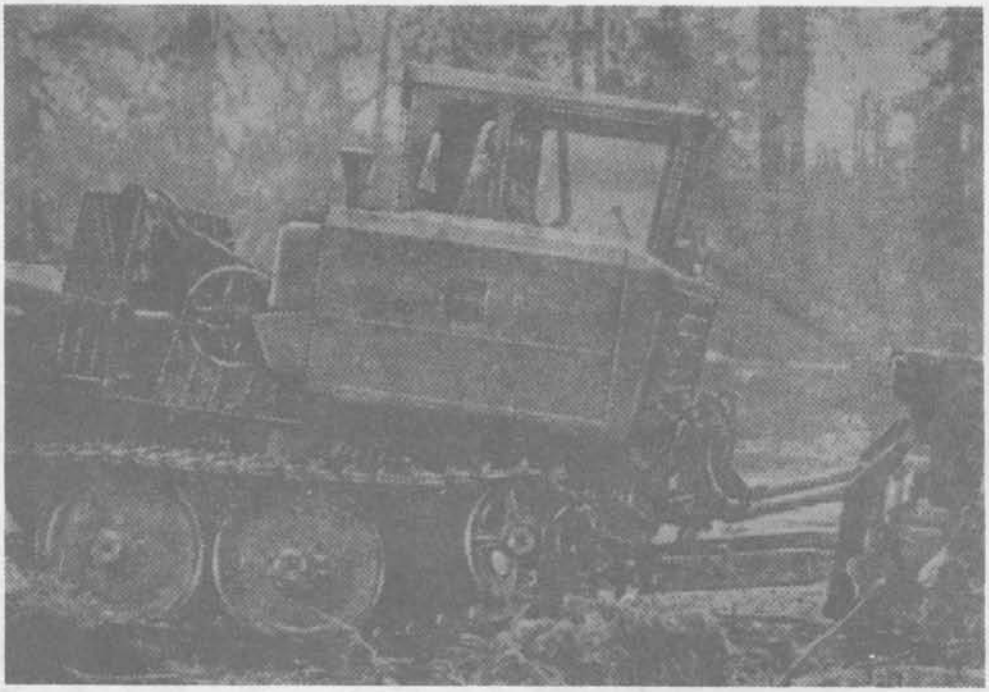
TDT-40



TDT-40M

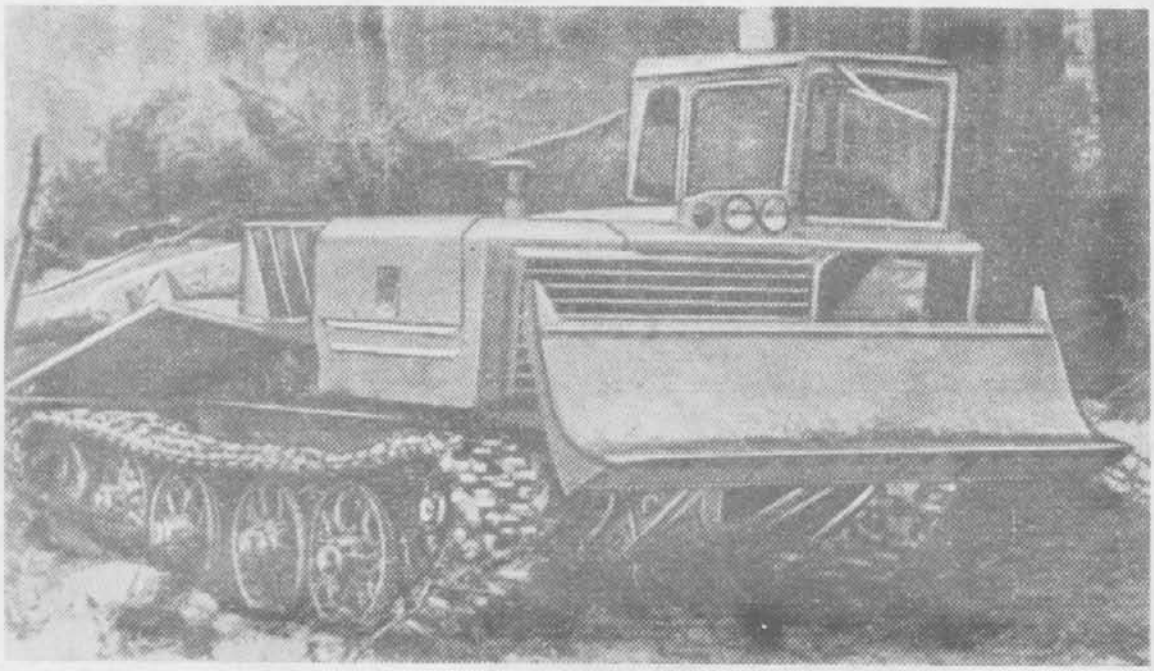


TDT-40M

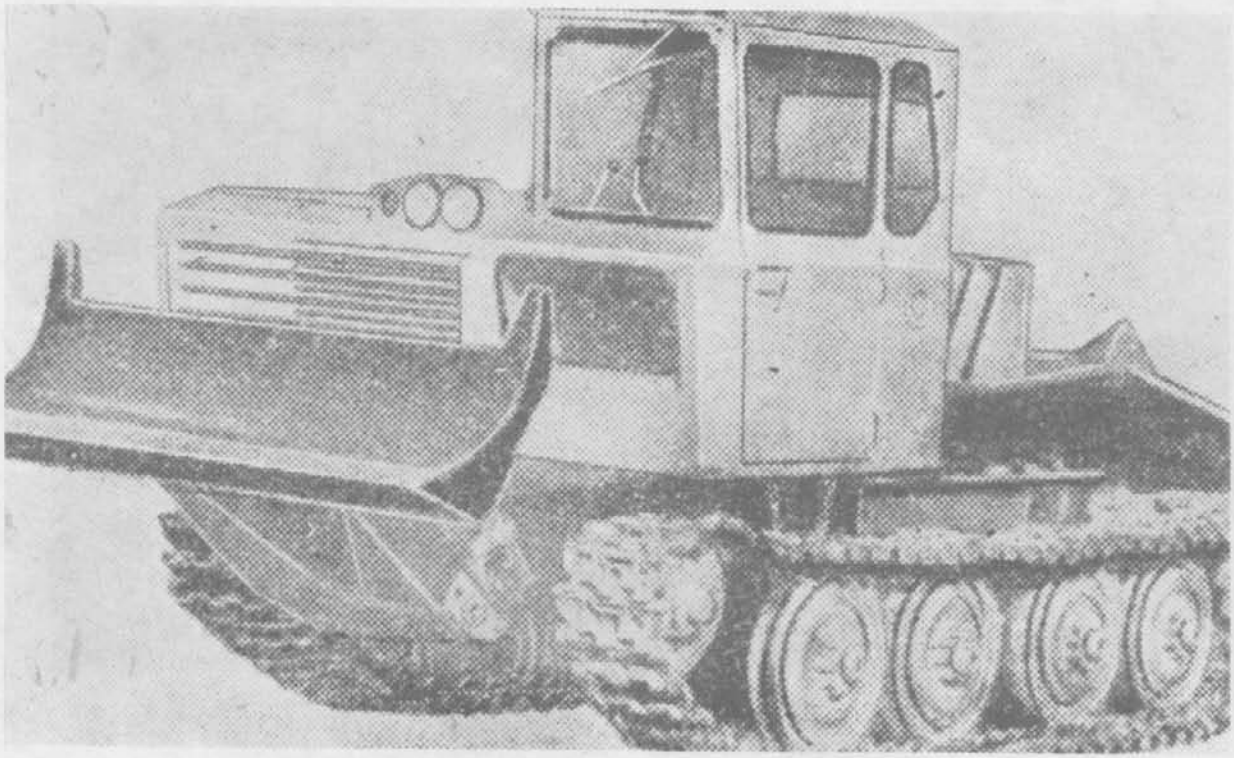


TDT-55

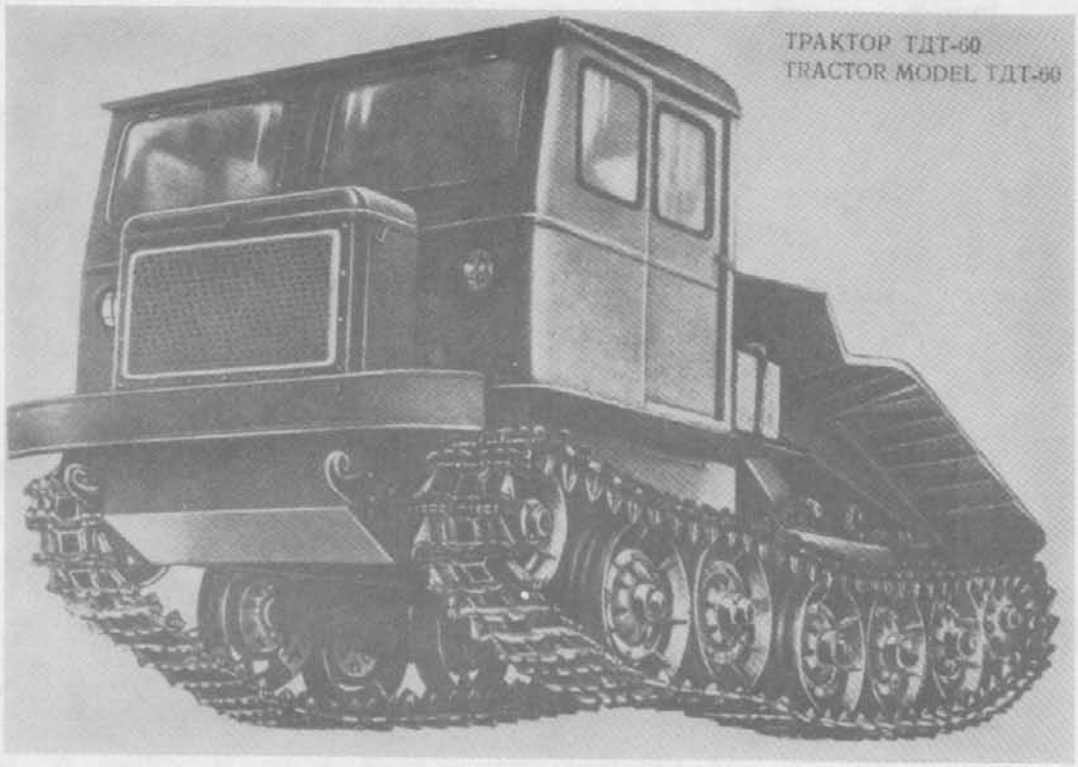




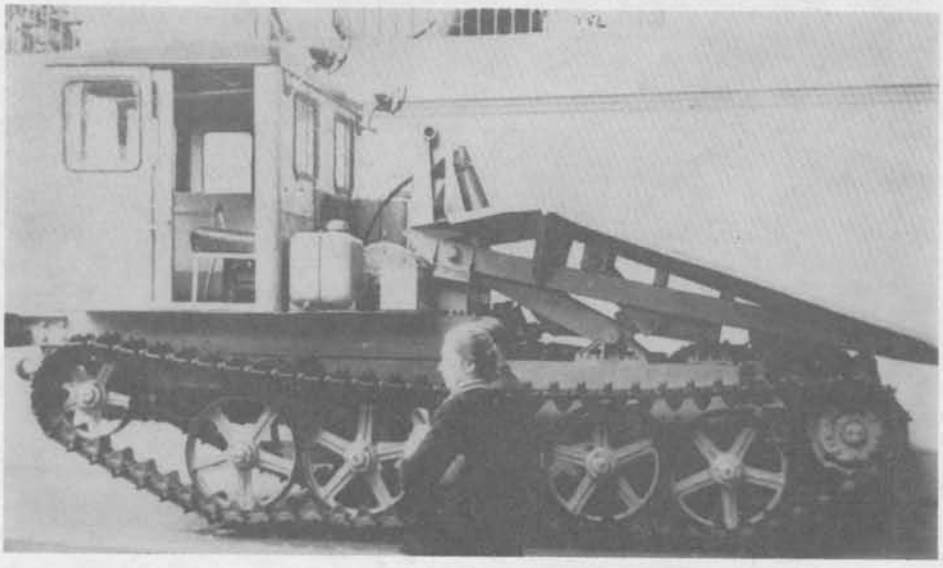
TDT-55



TDT-55



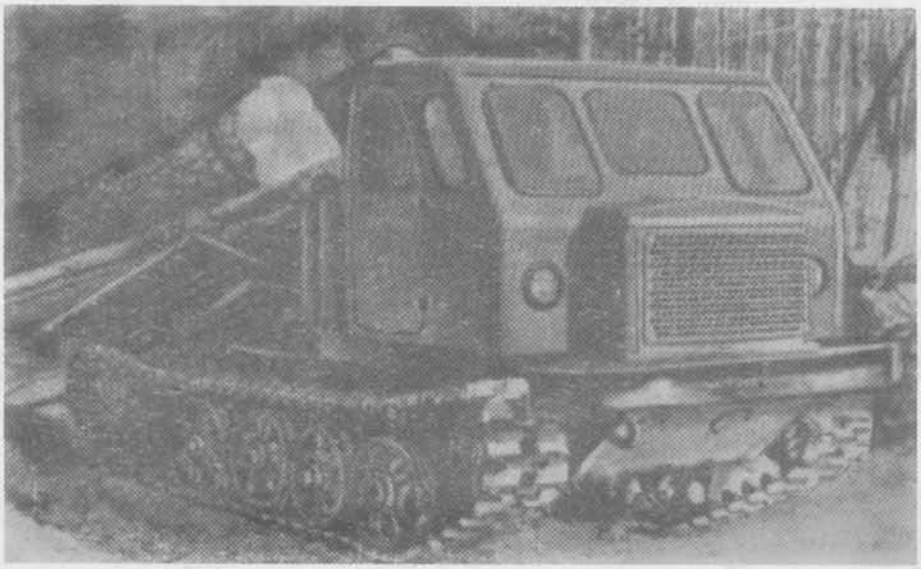

TDT-60

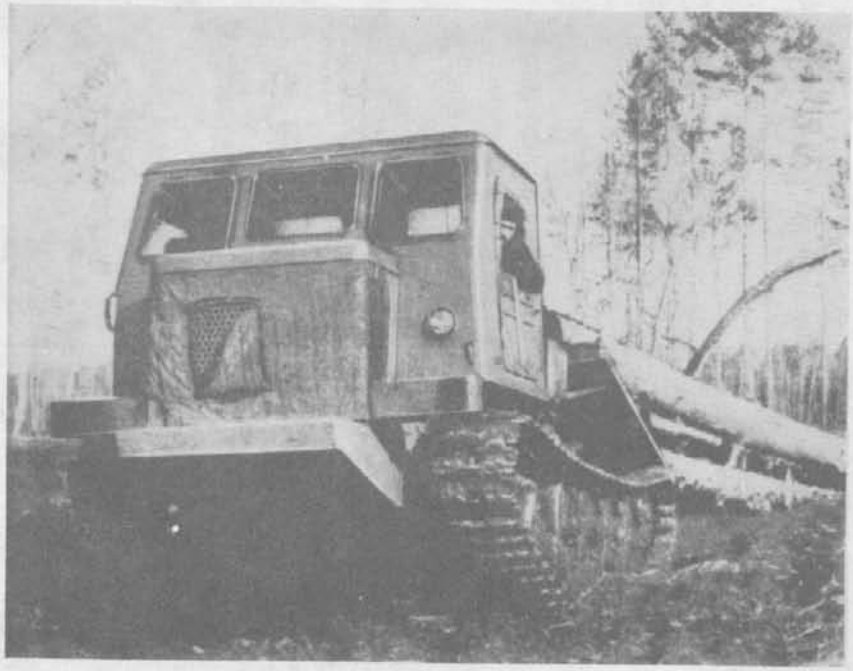


TDT-60

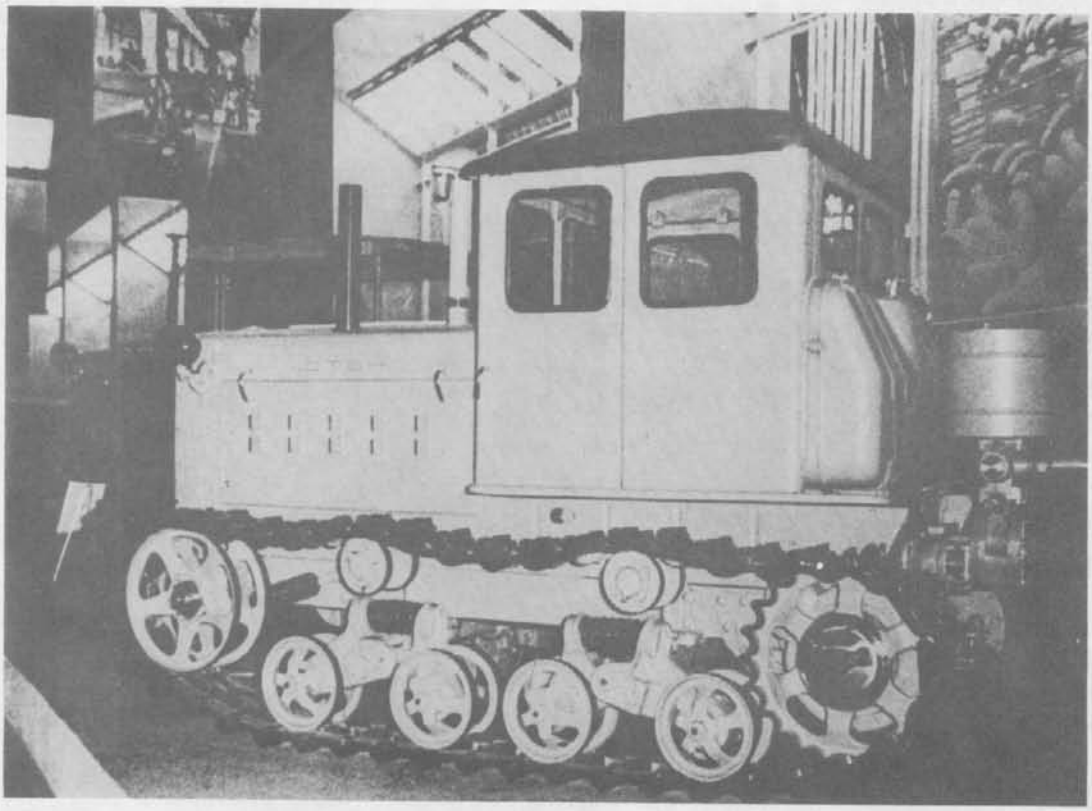


TDT-75





TDT-75



DT-54

Crawler Tractor DT-54
Crawler Tractor DT-54A
Crawler Tractor DT-55
Crawler Tractor DT-55A
Crawler Tractor DT-56
Crawler Tractor DT-57
Crawler Tractor T-74
Crawler Tractor T-75
Crawler Tractor DT-75
Crawler Tractor DT-75M
Crawler Tractor DT-75S

Since 1949, when the original DT-54 went into production, the tractors of this series have been employed in a variety of roles and in many modifications. They are now in the process of being phased out by newer and more powerful models, but nevertheless they will continue to be encountered for many years to come. All can be recognized by the rear-mounted cab (except for the DT-57), the track carrier rollers, and the model numbers on the side of the hood. The basic cab is used on the DT-54, the DT-54A, The DT-55, the DT-55A, the T-74 and the T-75. A modified cab with slanting V-shaped windshield is used on the DT-56 and DT-75. The DT-57 has an open cab with a roof.

The DT-55 models are swamp tractors with wider tracks and longer ground contact. Other modifications were also made to the suspension elements.

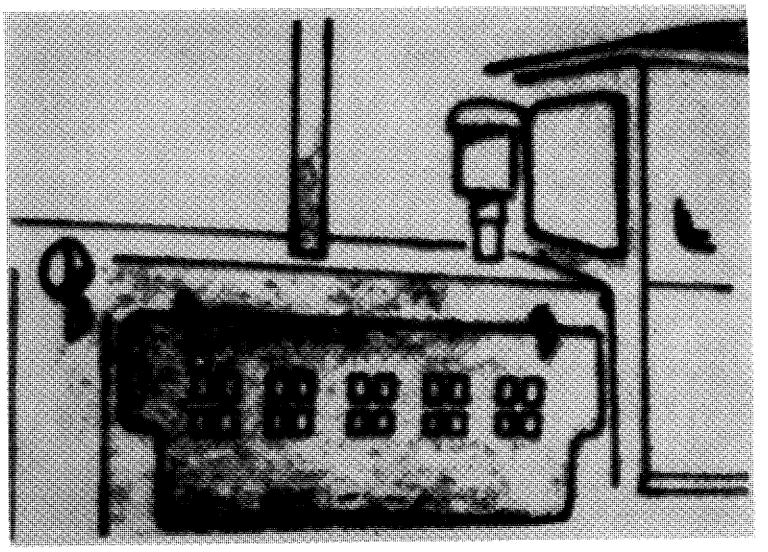
The DT-56 is a DT-54 modified with a four-range, six-speed transmission. It lacks the rectangular areas on the hood and has an inverted funnel-shaped exhaust. As noted above, the cab styling has been modified. The tractor is lighter than the others in the DT-54 series.

The DT-57 is a side-slope tractor distinguished by its open cab.

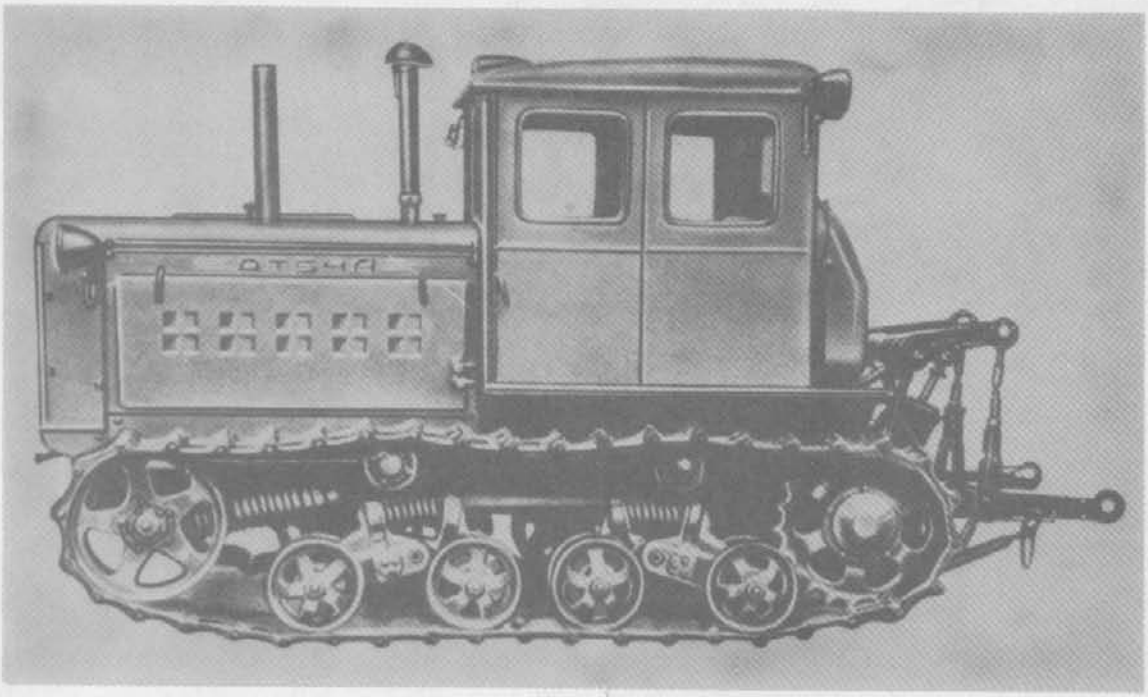
The T-74, T-75, and DT-75 tractors are all powered by 75-horsepower engines in place of the 54-horsepower models of the other tractors. The T-74 and T-75 resemble the original DT-54, but the T-74 has slanting louvres on the side of the hood. The DT-75 tractors are up-engined DT-56 models and have the same styling. The DT-75M has a 90-horsepower engine.

| | | DT-54 | DT-54A | DT-55A |
|---|---|---|---|---|
| weight | kg | 5400 | 5515 | 6050 |
| length | mm | 3600 | 3660 | 3945 |
| width | mm | 1865 | 1865 | 2105 |
| height | mm | 2300 | 2310 | 2240 |
| track | mm | 1435 | 1435 | 1575 |
| clearance | mm | 260 | 260 | 260 |
| track width | mm | 390 | 430 | 530 |
| ground contact | mm | 1622 | 1622 | 2244 |
| engine model | | D-54 | D-54A | D-54A |
| horsepower | | 54 | 54 | 54 |
| cylinders | | 4 | 4 | 4 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 7.9 | 7.9 | 7.9 |
| fuel capacity | l | 250 | 250 | |
| ground pressure | $kg/cm^2$ | 0.41 | 0.41 | 0.22 |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | kg | 2850 | 2850 | 2819 |

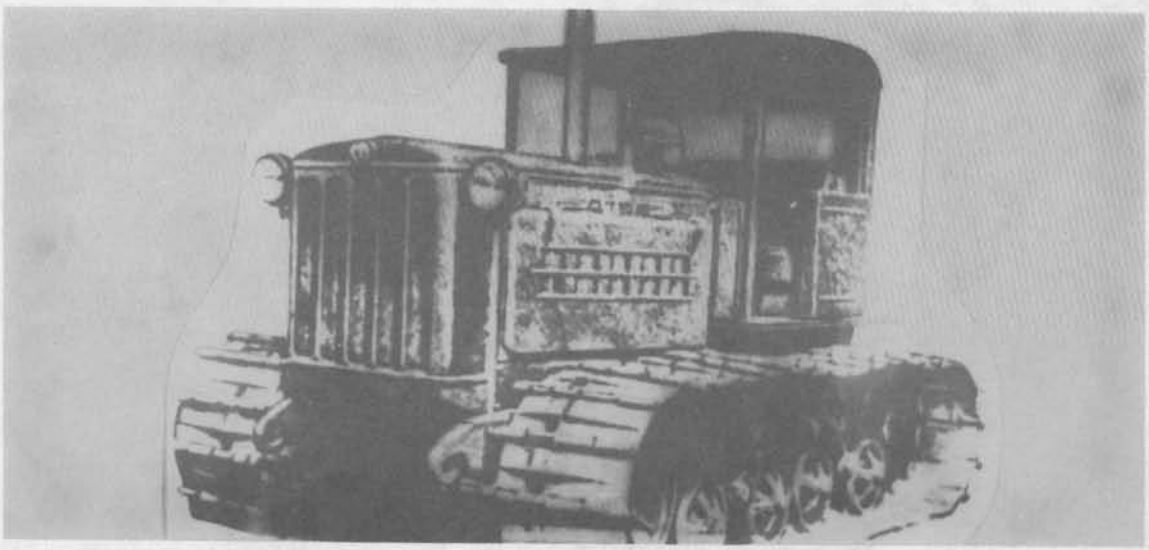
| | | DT-56 | T-74 | T-75 | DT-75 |
|---|---|---|---|---|---|
| weight | kg | 4820 | 5770 | 5590* | 5450** |
| length | mm | 3572 | 3825 | 3600 | 3860 |
| width | mm | 1640 | 1845 | 1845 | 1750 |
| height | mm | 2213 | 2325 | 2300 | 2254 |
| track | mm | 1250 | 1435 | 1435 | 1330 |
| clearance | mm | 280 | 280 | 280 | 326 |
| track width | mm | 345 | | 390 | |
| ground contact | mm | | 1622 | 1622 | 1612 |
| engine model | | SMD-55 | SMD-14A | D-75 | SMD-14 |
| horsepower | | 55 | 75 | 75 | 75 |
| cylinders | | 4 | 4 | 4 | 4 |
| fuel | | diesel | diesel | diesel | diesel |
| cooling | | water | water | water | water |
| speed | km/h | 10.7 | 11.47 | 10.6 | 10.7 |
| fuel capacity | l | | | 218 | 245 |
| ground pressure | kg/cm2 | 0.39 | 0.42 | 0.44 | 0.44 |
| trench | mm | | | | |
| step | mm | | | | |
| slope | ° | | | | |
| tilt | ° | | | | |
| ford | mm | | | | |
| towed load | kg | | | | |
| drawbar pull | kg | 3320 | 3460 | 3500 | 3680 |



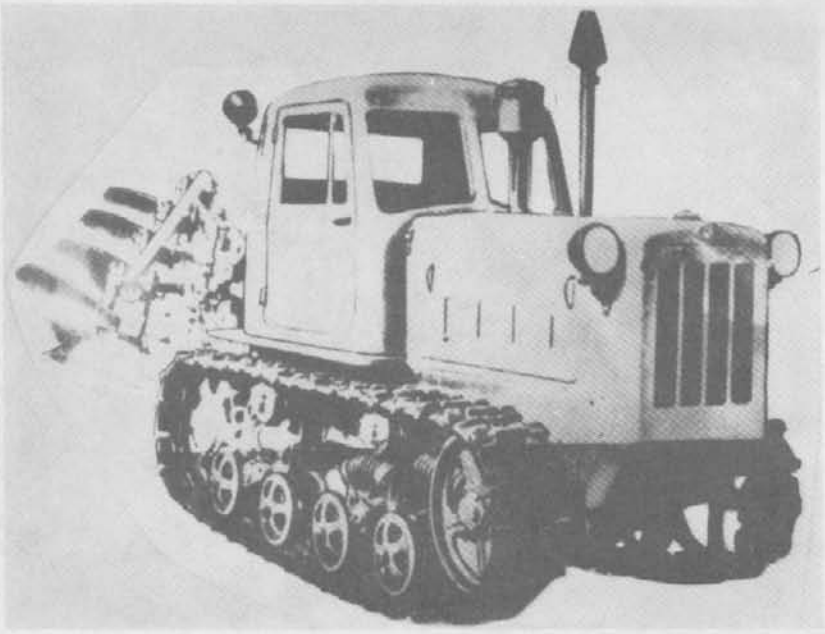
DT-54A



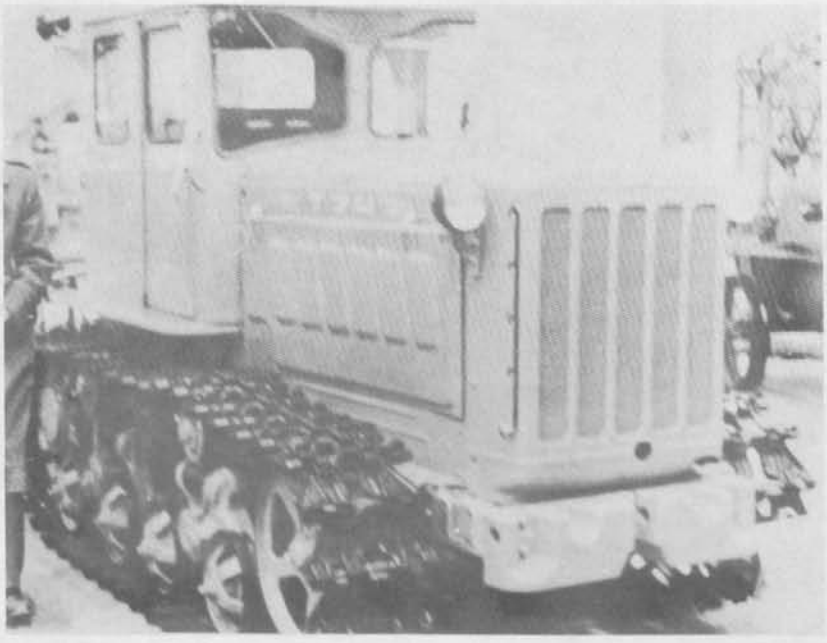

DT-54A



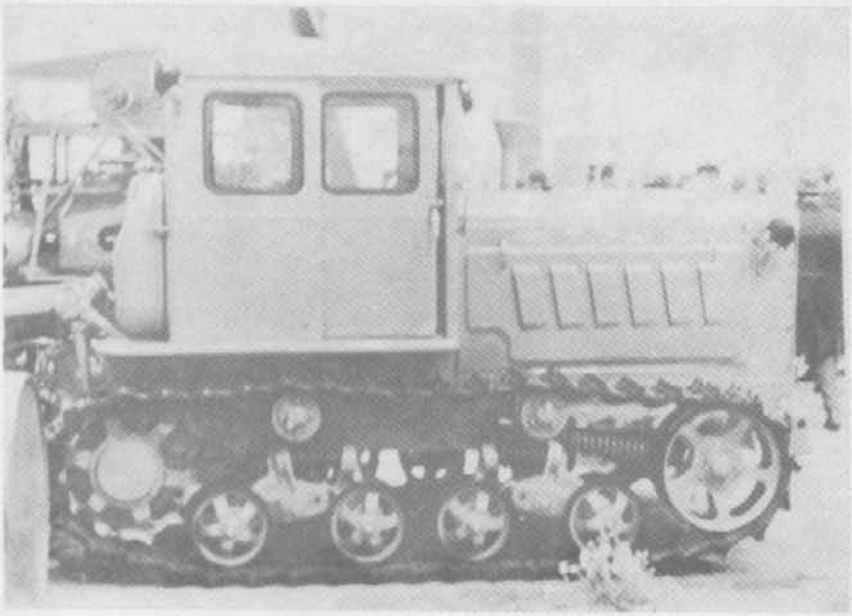
DT-55



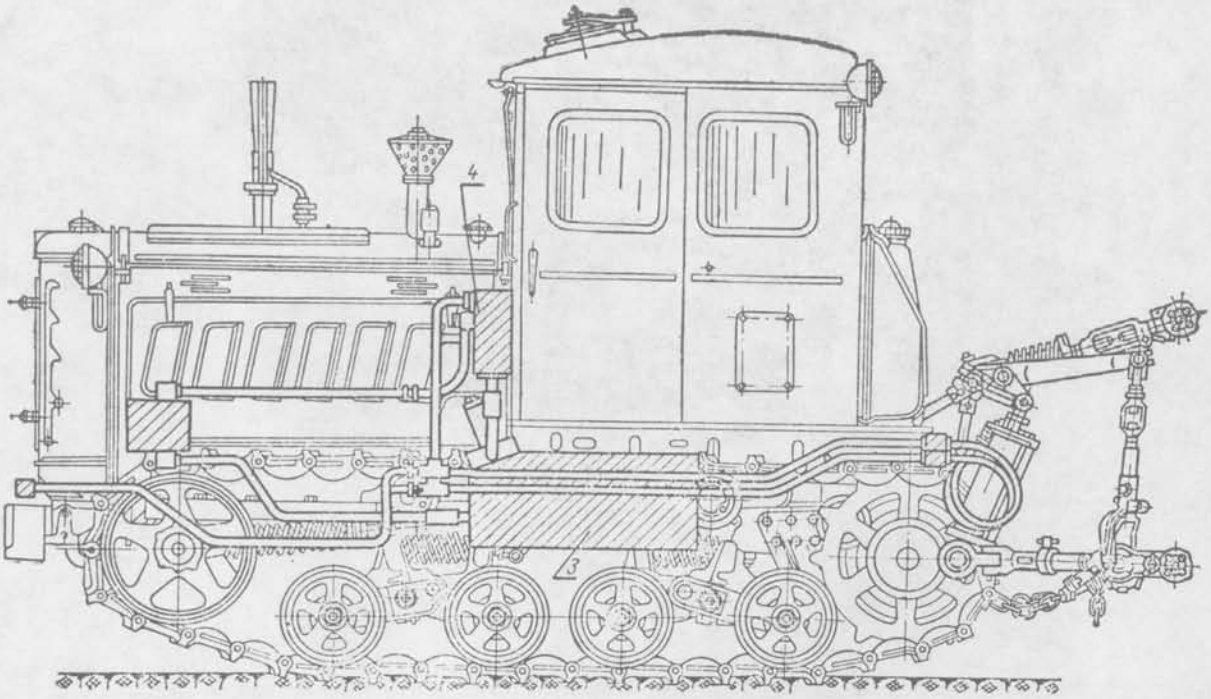
DT-56



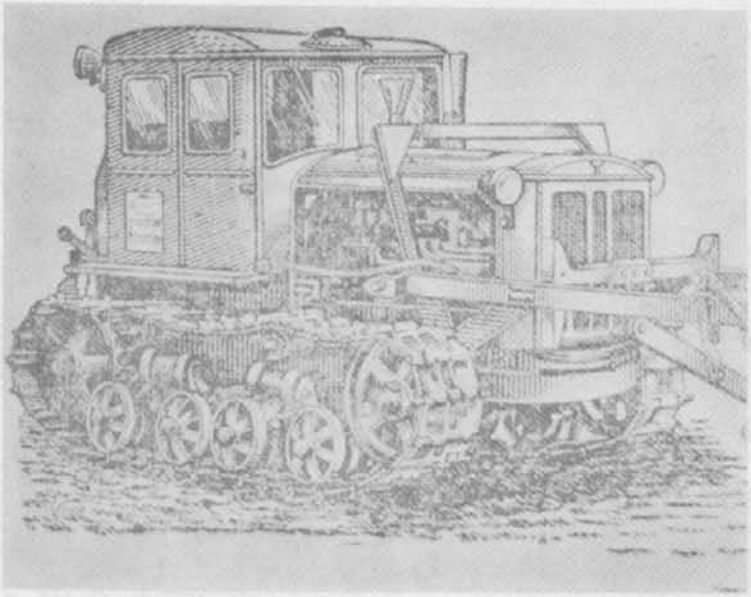
T-74



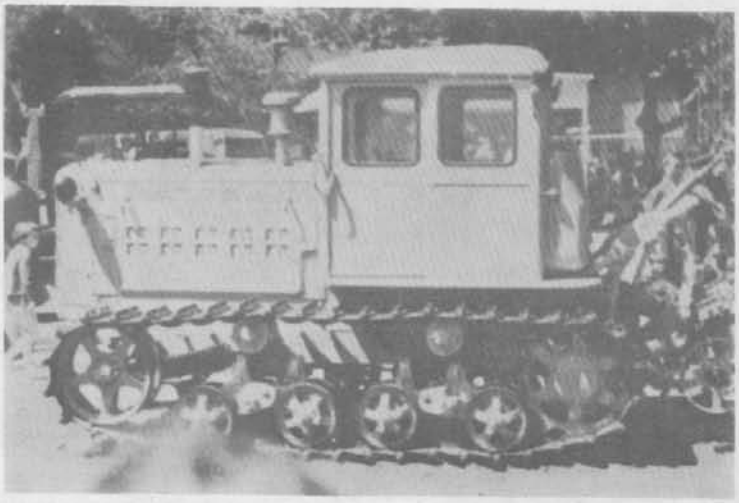
T-74



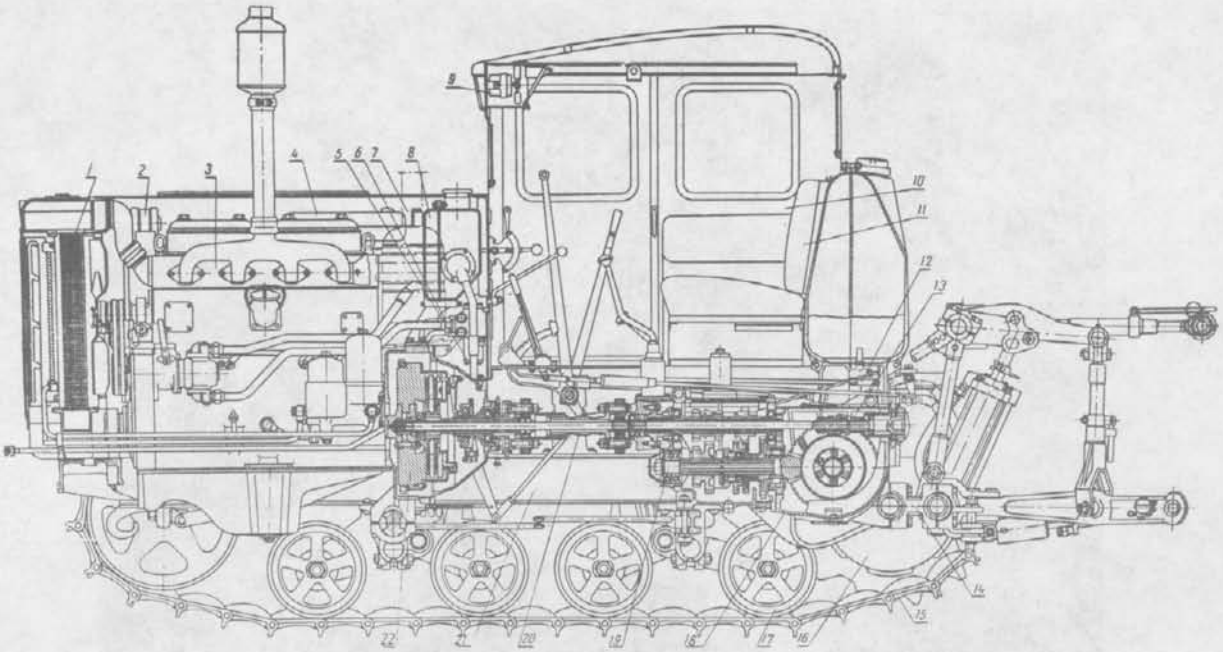
T-74



T-74



T-75



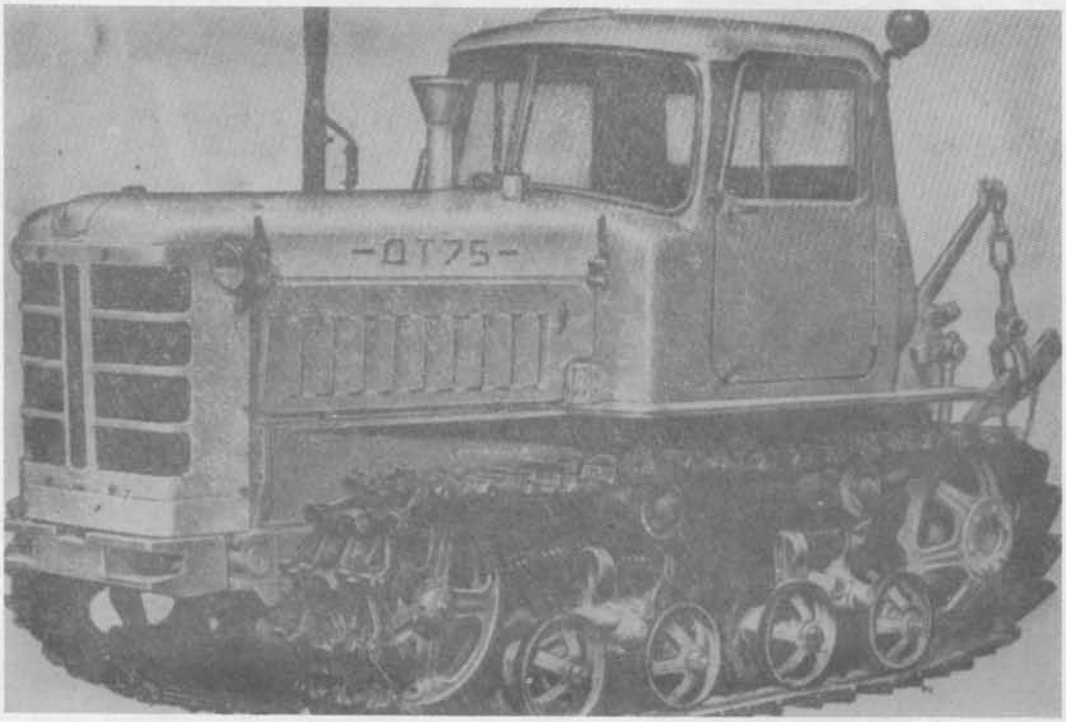
T-75

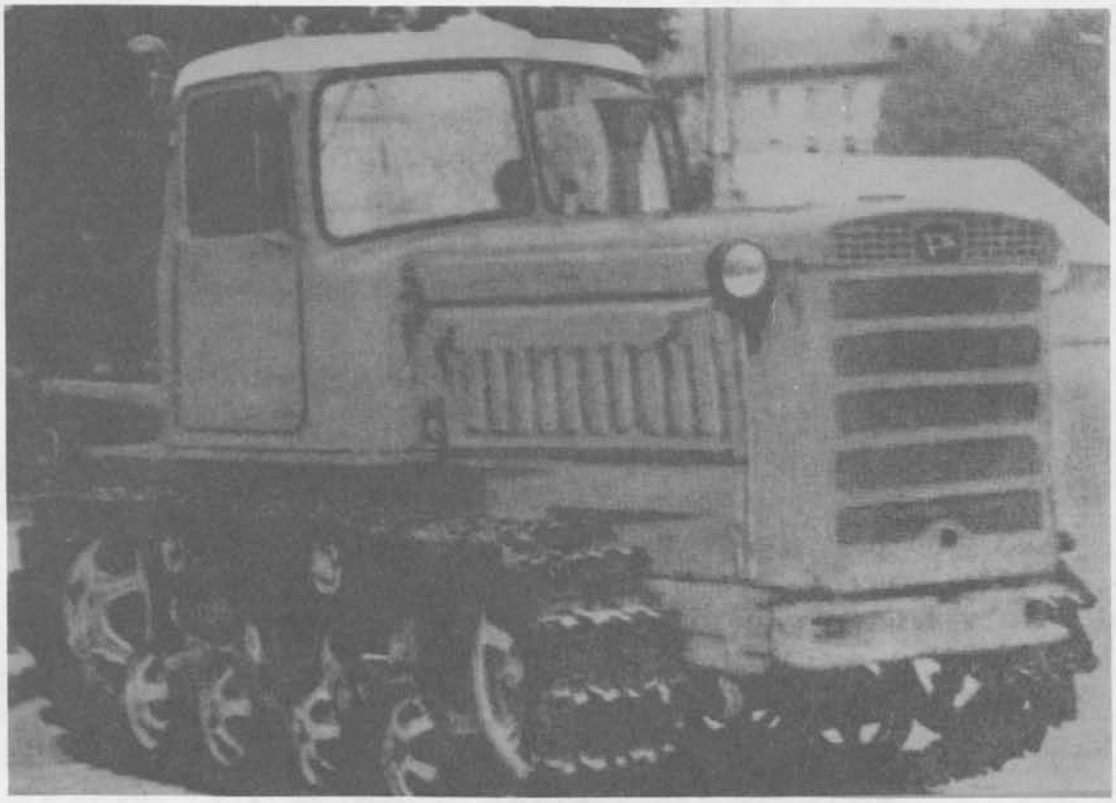



DT-75




DT-75

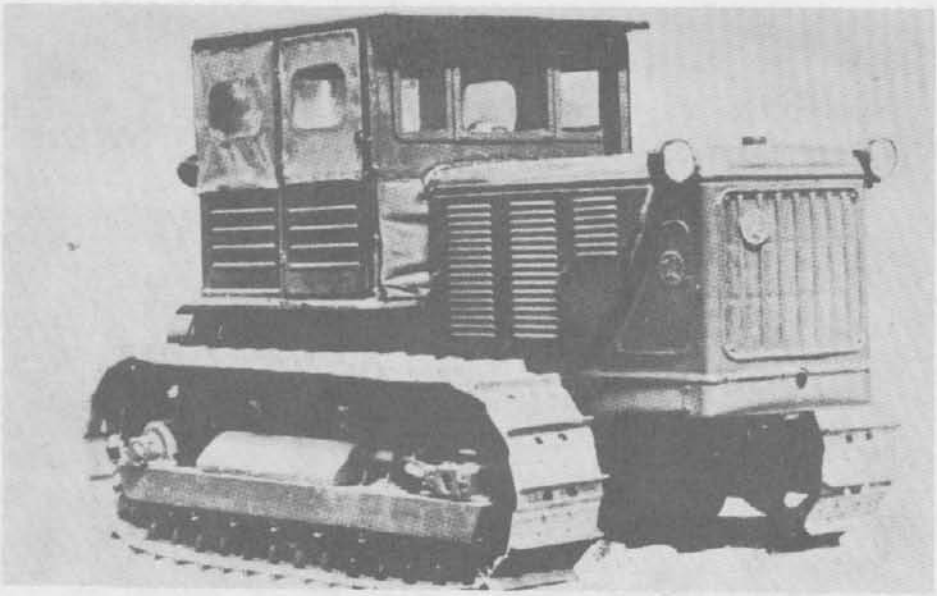




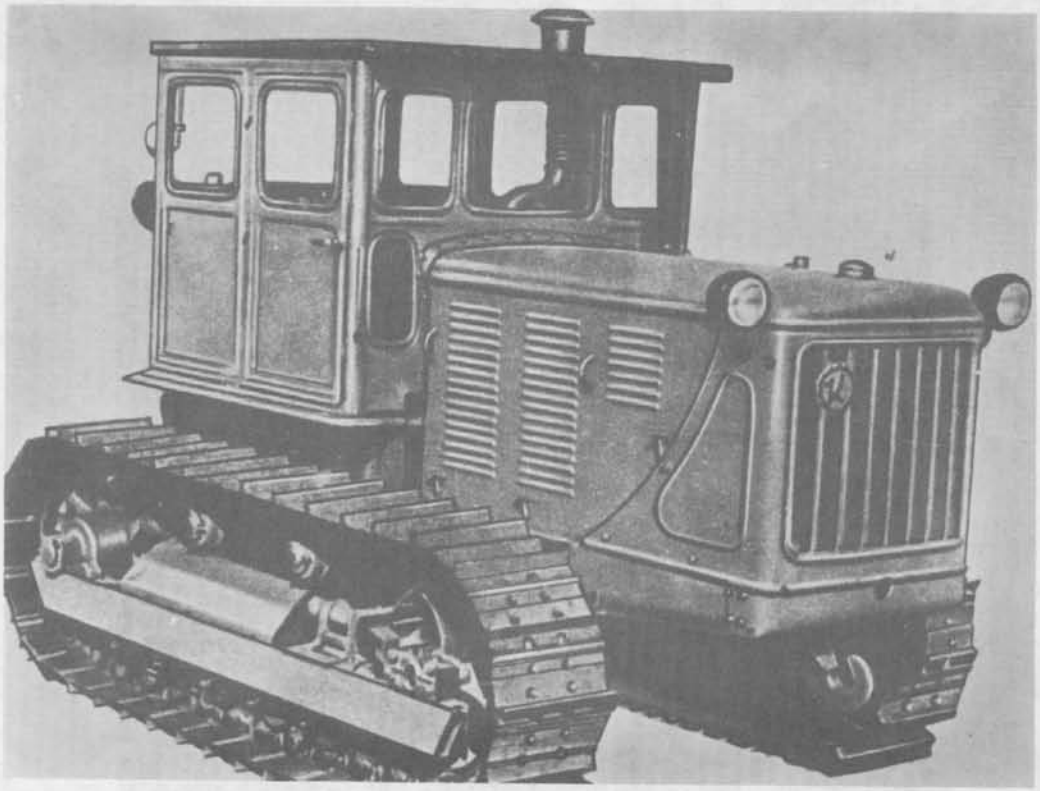
DT-75M



DT-75S



S-80



S-100

Crawler Tractor S-60
Crawler Tractor S-65
Crawler Tractor S-80
Crawler Tractor S-100
Crawler Tractor S-100B
Crawler Tractor S-100GP
Crawler Tractor S-100GS
Crawler Tractor T-100M
Crawler Tractor T-100MB
Crawler Tractor T-100MGP
Crawler Tractor T-100MGS

This series of tractors began with the older S-60 which went into production in 1933. It was continued by the improved S-65, and finally moved into the post World War II era with the S-80 which was produced at the Chelyabinsk Tractor Plant (ChTZ) from 1946 to 1958. Improvements in the horsepower of the engine in 1958 caused a redesignation to S-100, and finally, further changes including greater horsepower and a small variant in styling resulted in the T-100M tractor.

The S-80 and S-100 tractors are almost identical in appearance and are very similar to the United States D7 Caterpillar which the Soviets received on lend-lease during World War II. The S-80 can be distinguished by its cab with canvas side curtains or wood-set windows. The S-100 has an all-metal cab. The essential differences are in the engine models.

The various submodels of the S-100 tractor series are modified for specific missions. The S-100B is fitted with a wider track, making it suitable for operations in swampy areas. For operations on hard ground, the normal-width track is used. The S-100GP has a hydraulic powerlift with a remote jack and a front-mounted implement control linkage. It is used for various construction tasks such as road building. This model is the one most encountered in military units. The S-100GS is a farm tractor with a universal hydraulic system.

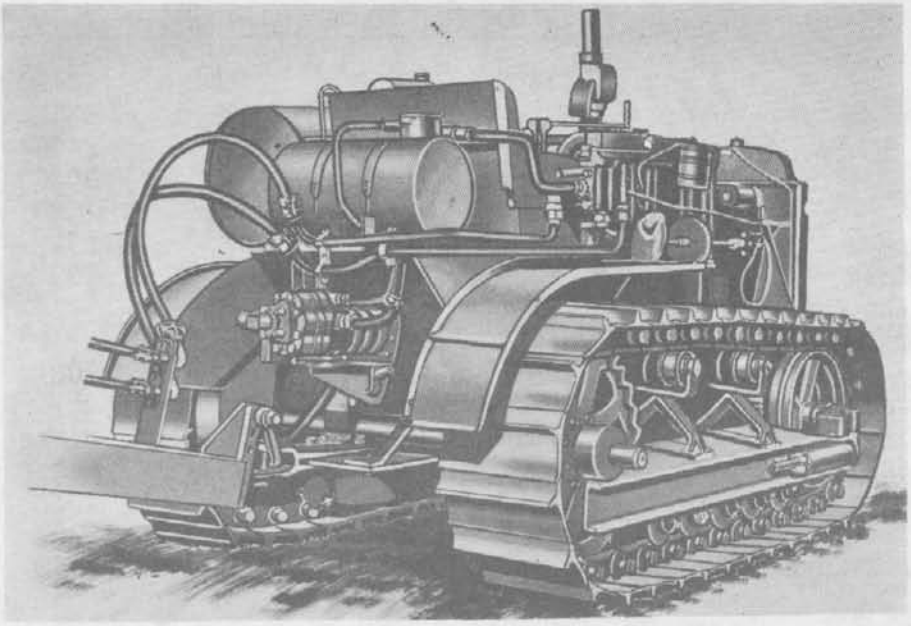
The last model in the series is the T-100M, which originally was called the T-108. It has an all-metal cab with triangular lower front windows. The hood and grill design varies with the submodels as it was in the case of the S-100 tractors. The T-100MB is a swamp tractor, the T-100MGP a construction tractor, and the T-100MGS a farm model. The modifications are essentially the same as those in the S-100 models.

It is planned to replace the tractors of this series with the new T-130 which is also produced at ChTZ.

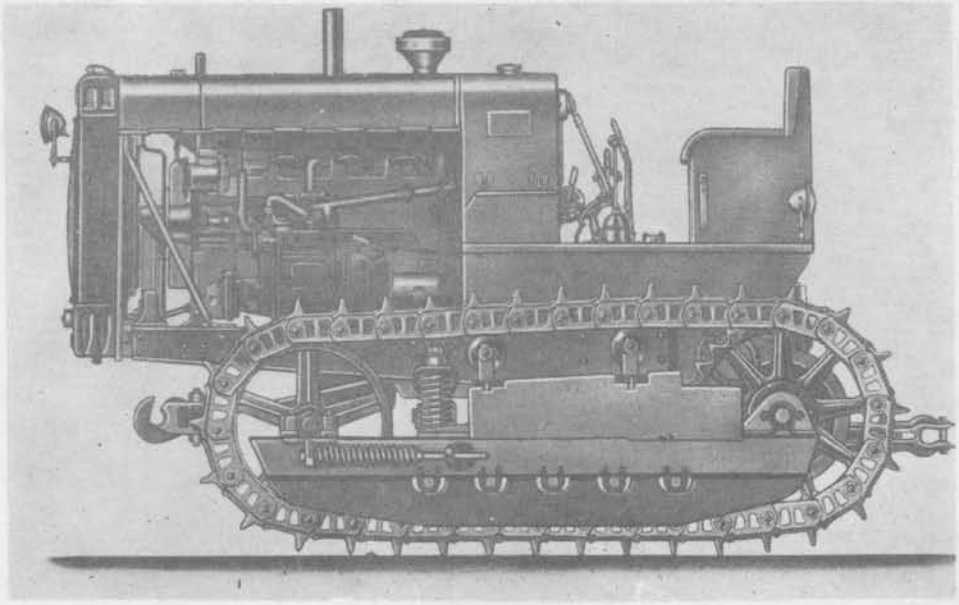
| | | S-80 | S-100 | S-100B | S-100GP |
|---|---|---|---|---|---|
| weight | kg | 11930 | 11400 | 13300 | 12100 |
| length | mm | 4223 | 4255 | 4716 | 4255 |
| width | mm | 2456 | 2460 | 3280 | 2460 |
| height | mm | 2767* | 3059 | 2765 | 3059 |
| track | mm | 1880 | 1880 | 2880 | 1880 |
| clearance | mm | 330 | 391 | 331 | 331 |
| track width | mm | 500 | 500 | 1000 | 500 |
| ground contact | mm | 2370 | 2370 | | |
| engine model | | KDM-46 | KDM-100 | KDM-100B | KDM-100 |
| horsepower | | 80 | 90 | 100 | 100 |
| cylinders | | 4 | 4 | 4 | 4 |
| fuel | | diesel | diesel | diesel | diesel |
| cooling | | water | water | water | water |
| speed | km/h | 9.65 | 7.61 | 10.13 | 10.15 |
| fuel capacity | l | 235 | 235 | | |
| ground pressure | $kg/cm^2$ | 0.48 | 0.48 | 0.28 | 0.5 |
| trench | mm | | | | |
| step | mm | | | | |
| slope | ° | | | | |
| tilt | ° | | | | |
| ford | mm | | | | |
| towed load | kg | | | | |
| drawbar pull | kg | 8800 | 9000 | 9000 | 9000 |

*at radiator

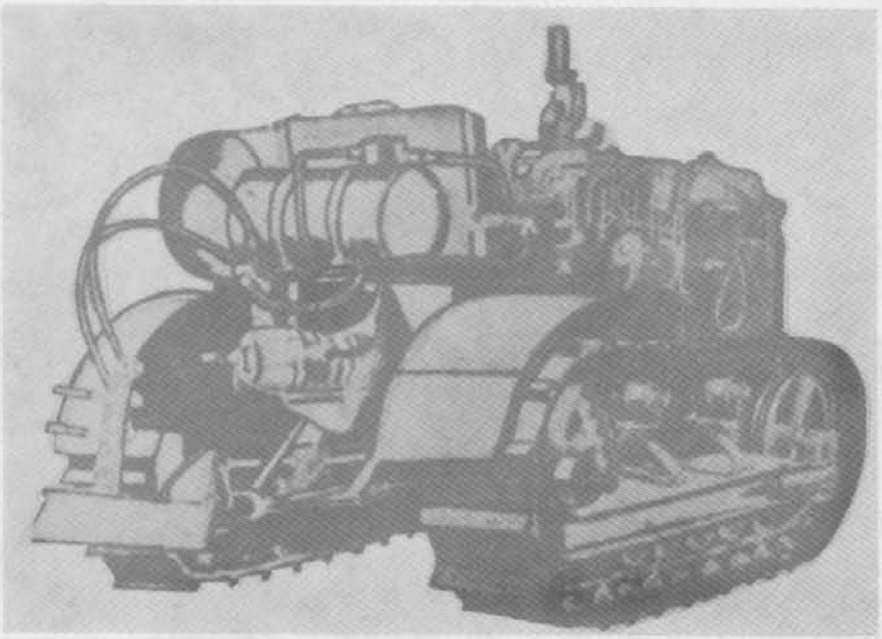
| | | T-100M | T-100MB | T-100MGP | T-100MGS |
|---|---|---|---|---|---|
| weight | kg | 11400 | 13300 | 11800 | 12400 |
| length | mm | 4255 | 4716 | 4305 | 5344 |
| width | mm | 2460 | 3250 | 2460 | 2460 |
| height | mm | 3040 | 2745 | 3040 | 3040 |
| track | mm | 1880 | 2280 | 1880 | 1880 |
| clearance | mm | 391 | 391 | 391 | 391 |
| track width | mm | 500 | 970 | 500 | 500 |
| ground contact | mm | 2370 | | | |
| engine model | | D-108 | D-108 | D-108 | D-108 |
| horsepower | | 108 | 108 | 108 | 108 |
| cylinders | | 4 | 4 | 4 | 4 |
| fuel | | diesel | diesel | diesel | diesel |
| cooling | | water | water | water | water |
| speed | km/h | 10.13 | 5.4 | 10.13 | 10.12 |
| fuel capacity | l | 235 | 235 | 235 | 235 |
| ground pressure | $kg/cm^2$ | 0.48 | 0.27 | 0.48 | 0.48 |
| trench | mm | | | | |
| step | mm | | | | |
| slope | ° | | | | |
| tilt | ° | | | | |
| ford | mm | | | | |
| towed load | kg | | | | |
| drawbar pull | kg | 9500 | 9500 | 9500 | 9500 |



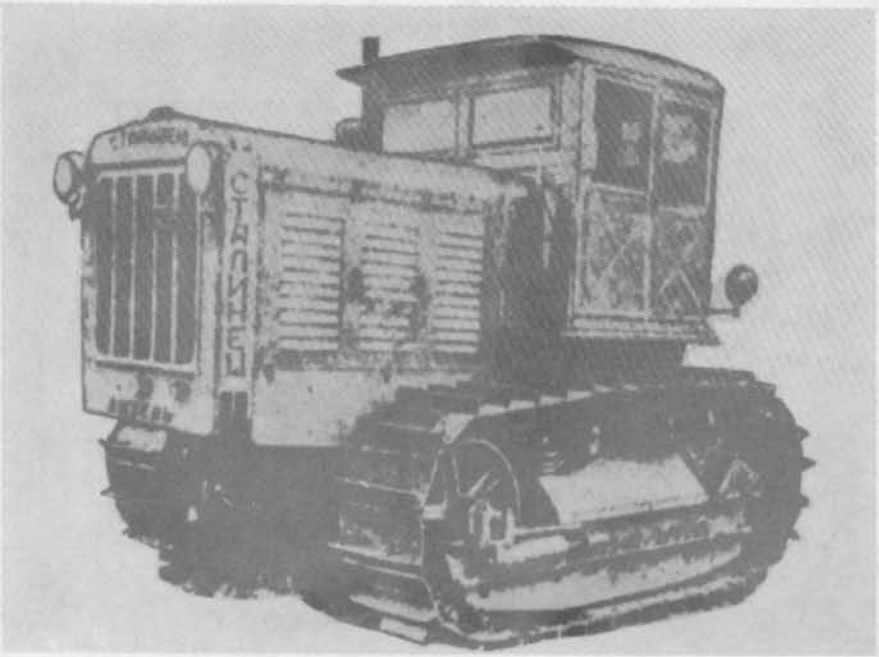
S-60



S-65

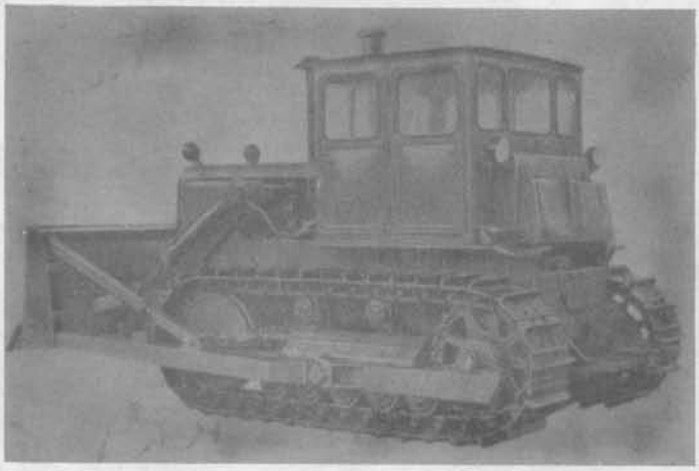


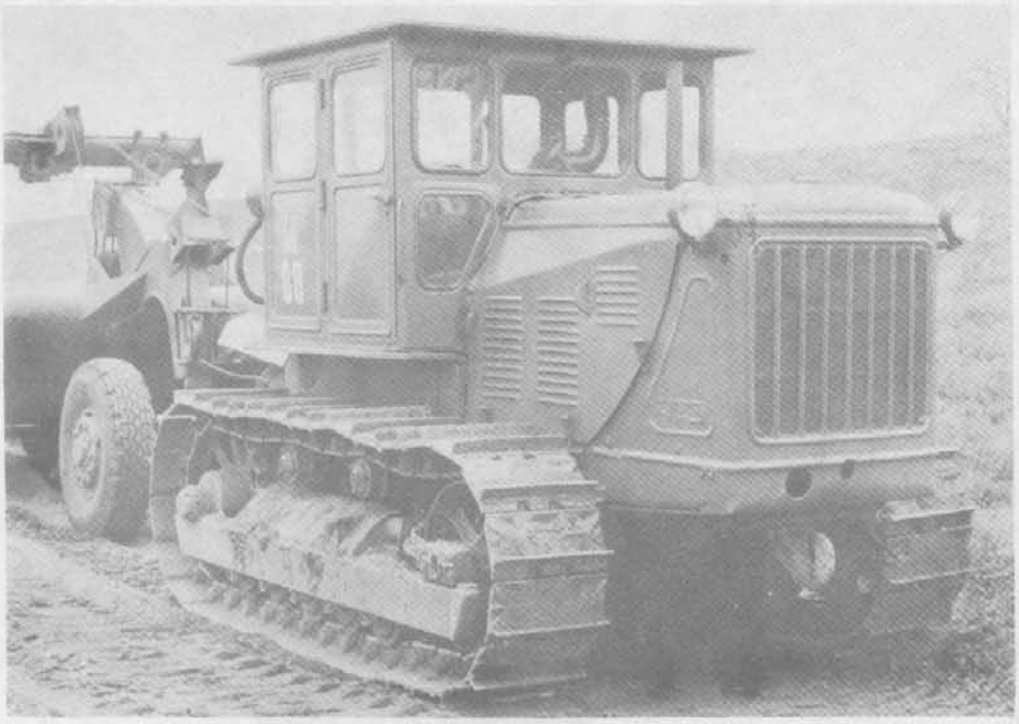
S-60





S-100GP

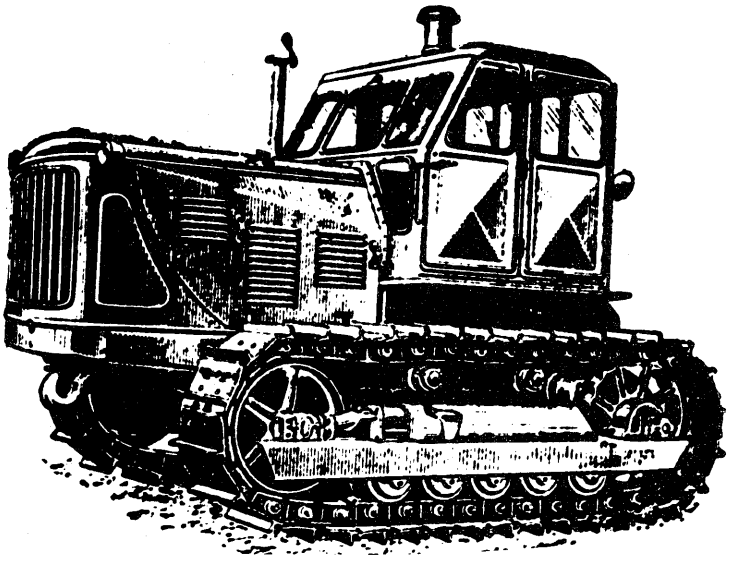




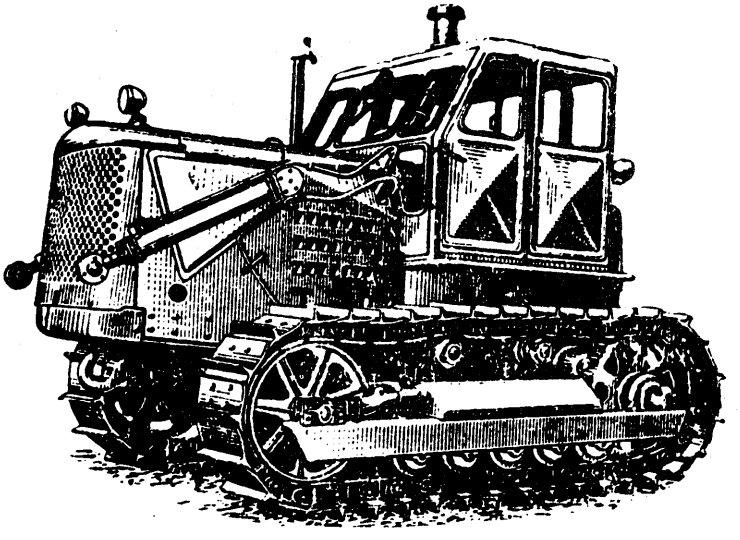
MODIFIED S-100 CAB WITH T-100M HOOD



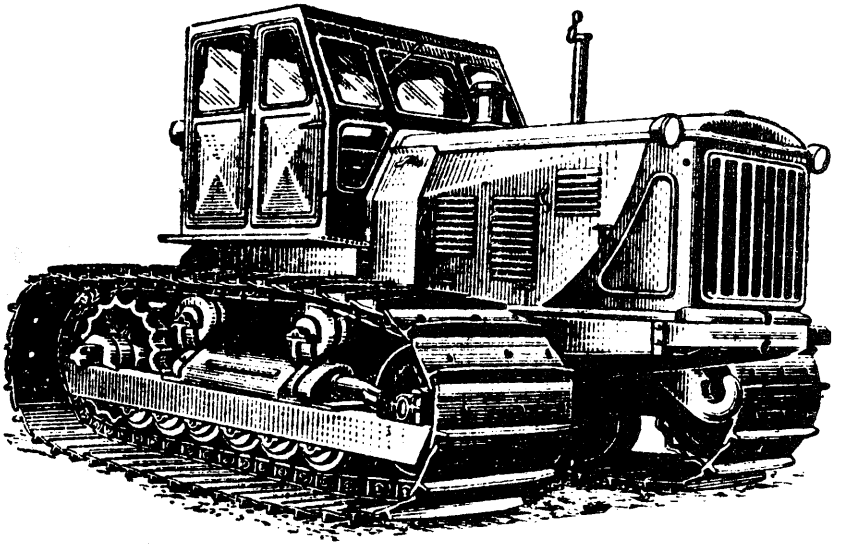
S-100B



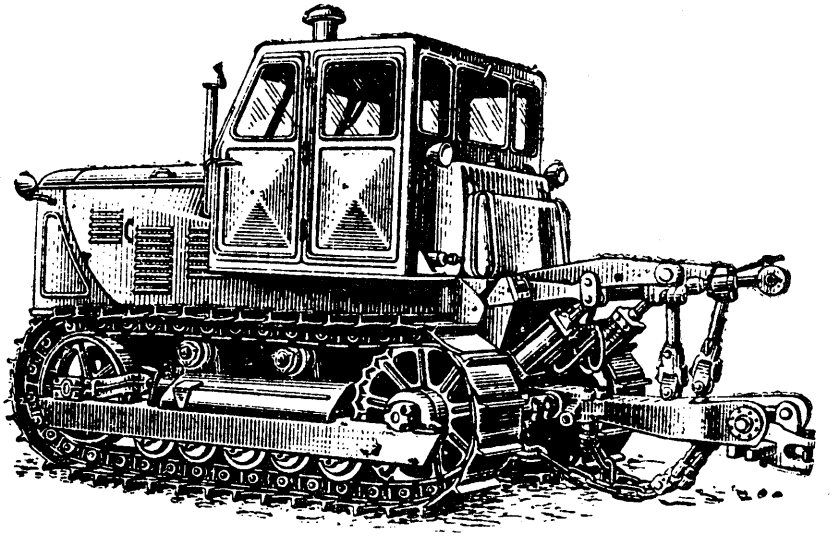
T-100M



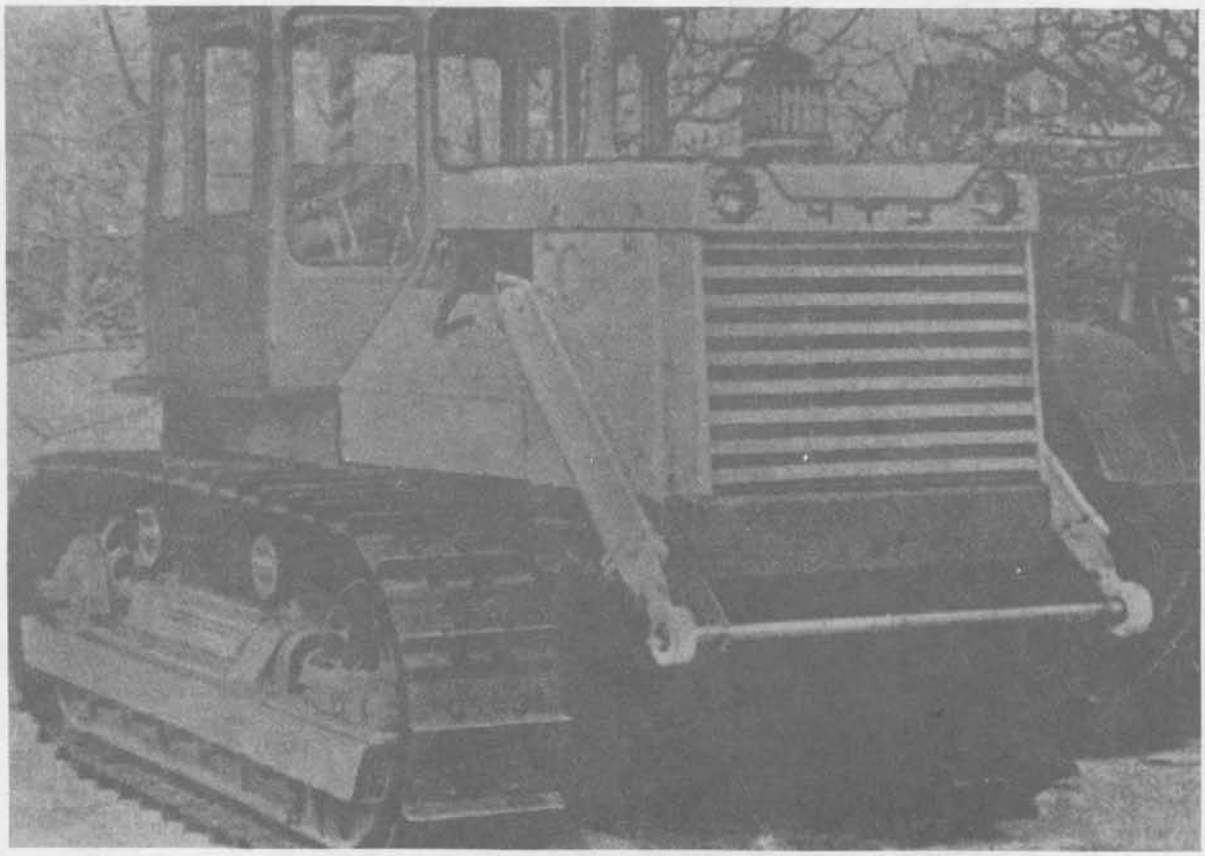
T-100MGP



T-100MGS



T-100MB



T-130

# CRAWLER TRACTORS T-130 AND T-170 SERIES

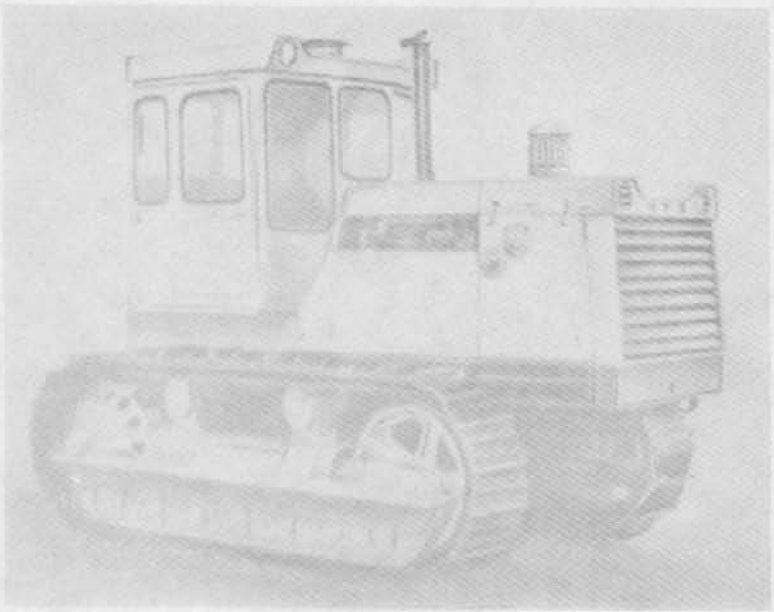
Crawler Tractor T-130
Crawler Tractor T-130A
Crawler Tractor T-130B
Crawler Tractor T-130GP
Crawler Tractor T-130P
Crawler Tractor T-170

The T-130 series was designed to replace the tractors of the S-80 series (S-100 and T-100M). Many of the parts are reported to be interchangeable with the earlier series, but the T-130's are powered by a more powerful engine giving a better overall performance.

Modifications are the T-130A for use in the Far North, the T-130B swamp tractor, the T-130P for use in hot climates, and the T-130GP designed for use with construction machinery. Two different kinds of styling have appeared in the prototypes. The more angular models are those chosen for production which is planned for 1973 at ChTZ.

The T-170 is a similar tractor, but with a more powerful (175-horsepower) engine.

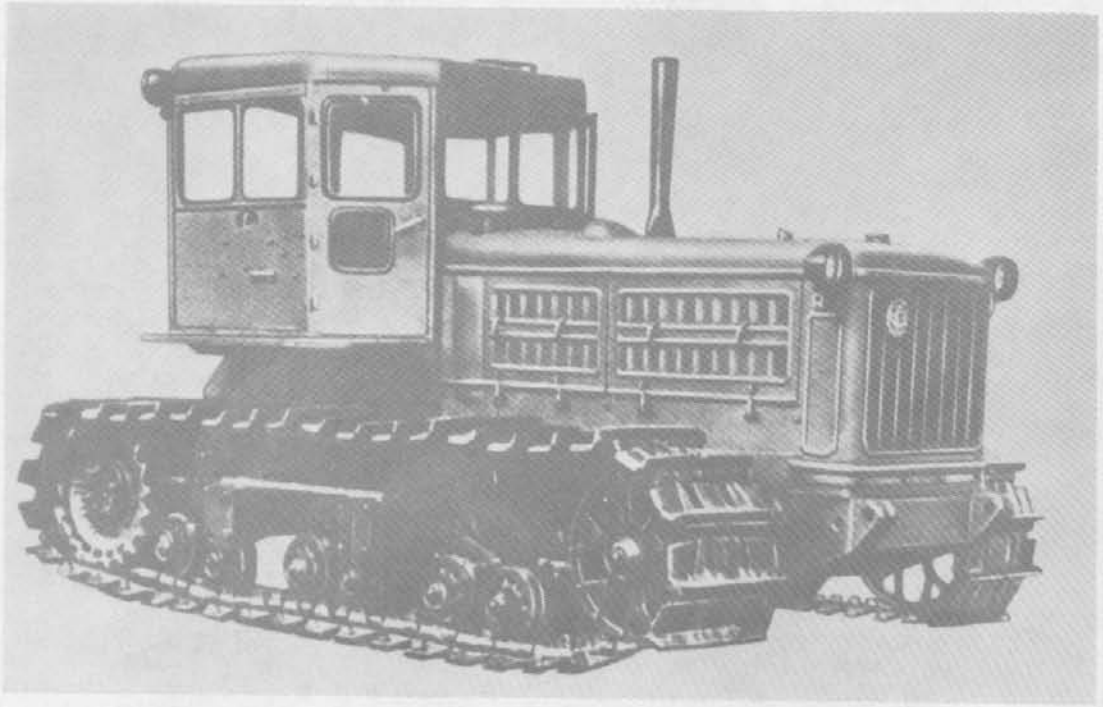
| | | T-130 | T-130GP |
|---|---|---|---|
| weight | kg | 11500 | 12500* |
| length | mm | 4330 | 4428 |
| width | mm | 2475 | 2475 |
| height | mm | 2850 | 3140 |
| track | mm | 1880 | |
| clearance | mm | 423 | |
| track width | mm | | |
| ground contact | mm | | |
| engine model | | D-130 | D-130 |
| horsepower | | 135 | 135 |
| cylinders | | 4 | 4 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 10.65 | 10.4 |
| cruising range | km | | |
| fuel capacity | l | | |
| fuel consumption | l/100km | | |
| ground pressure | $kg/cm^2$ | 0.48 | 0.48 |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | | |
| drawbar pull | kg | 9000 | 9500 |



T-130



T-130GP



T-140

Crawler Tractor T-140
Crawler Tractor T-140D
Crawler Tractor T-180
Crawler Tractor T-180G
Crawler Tractor T-180GP
Crawler Tractor T-180KS
Crawler Tractor T-180S

The T-140 crawler tractor has a hexagonal cab mounted on the rear of the vehicle with a platform on both sides. The running gear has six bogie track rollers and three track support rollers. The tracks are almost even with the front of the hood. A built-in compressor supplies compressed air to the pneumatically driven power control unit.

A modified version, the T-140D, is the basic vehicle for the D-543 universal single bucket loader.

Until the advent of the DET-250, the T-140 was the most powerful tractor built in the USSR.

The tractors of the T-180 series are improved versions of the T-140 equipped with a more powerful engine. As a result, it is extremely difficult to distinguish between the two series in certain configurations.

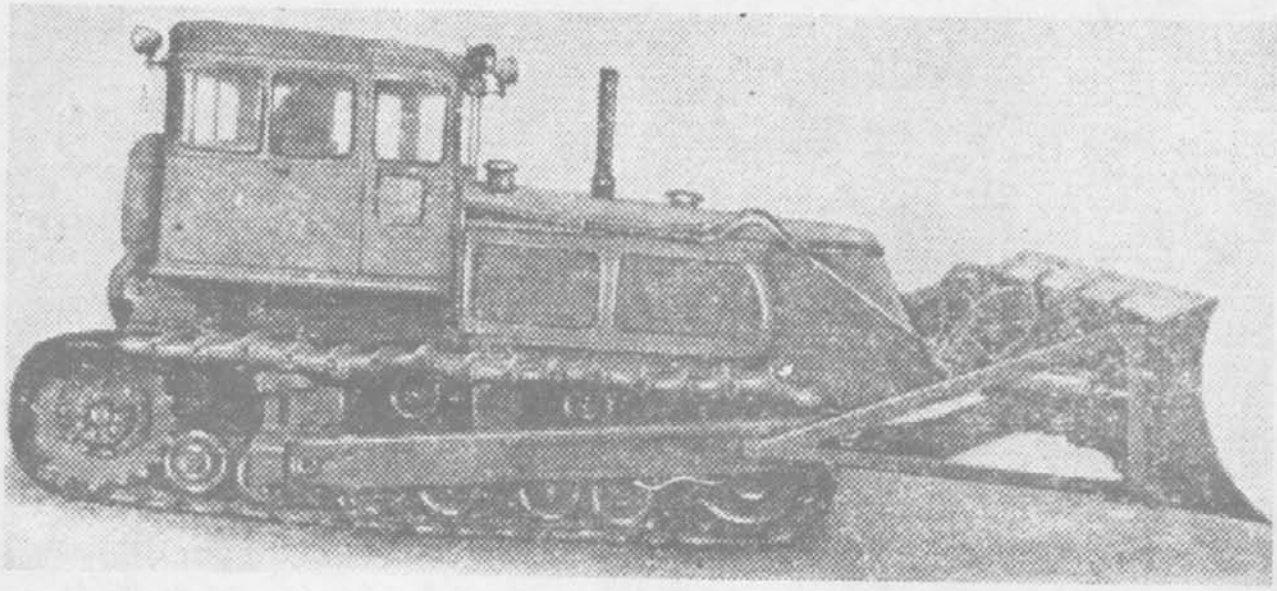
| | | T-140 | T-180GP |
|---|---|---|---|
| weight | kg | 15150 | 15000* |
| length | mm | 5300 | 5420 |
| width | mm | 2740 | 2740 |
| height | mm | 2900 | |
| track | mm | 2040 | |
| clearance | mm | 480 | |
| track width | mm | 700 | |
| ground contact | mm | 2310 | |
| engine model | | 6 KDM-50T | D-180 |
| horsepower | | 140 | 180 |
| cylinders | | 6 | 6 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 10.9 | 11.9 |
| cruising range | km | | |
| fuel capacity | l | 420 | |
| ground pressure | $kg/cm^2$ | 0.5 | 0.42 |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | | |
| drawbar pull | kg | 13300 | 15150 |

*dry weight

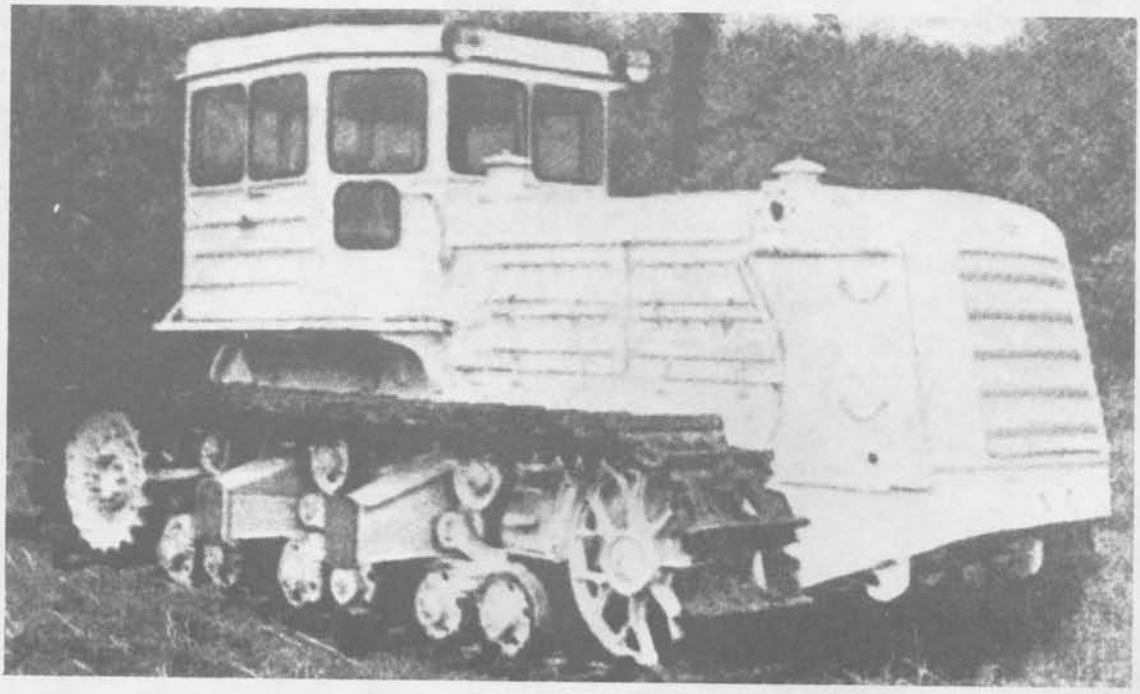


T-140

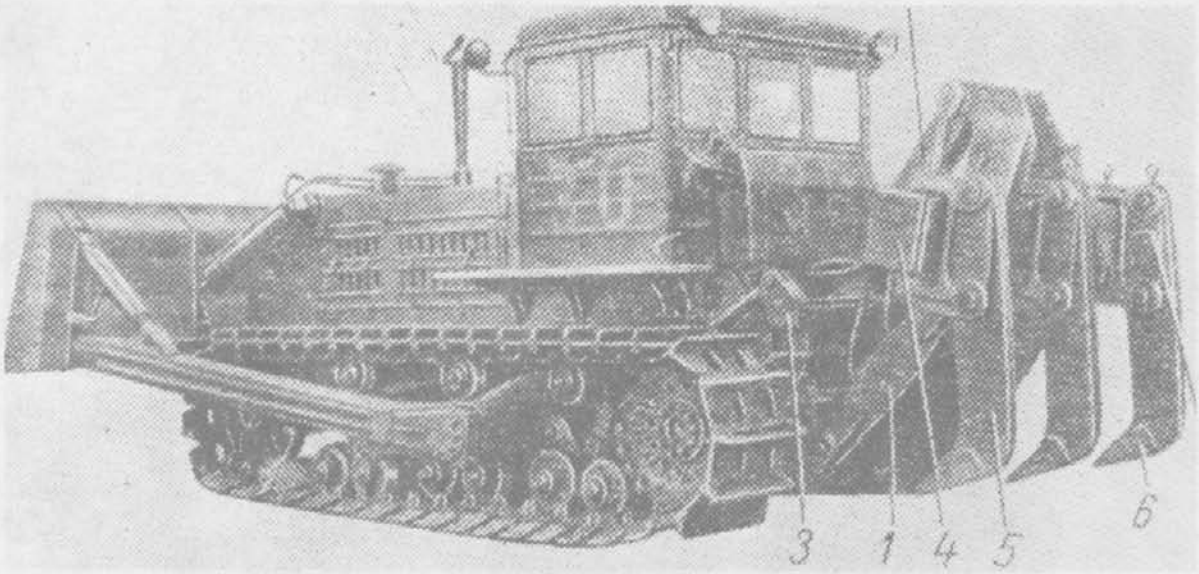




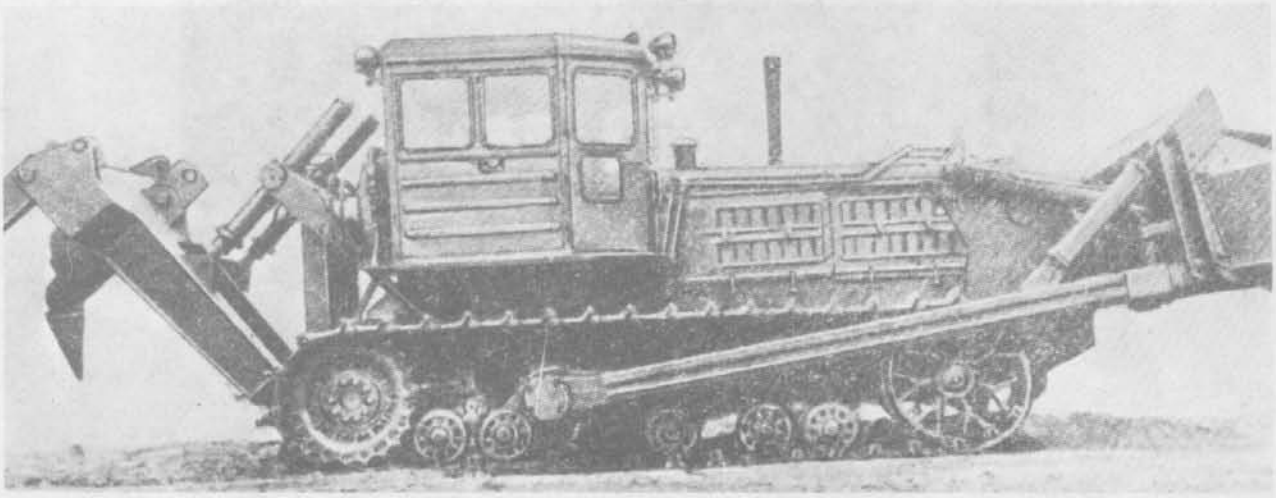
T-140



T-180G




T-180KS



T-180S



T-150

## Crawler Tractor T-150

The T-150 tractor has been developed by the Kharkov Tractor Plant (KhTZ) as the replacement for the long used DT-54 series. It is a greatly improved tractor with a much more powerful engine (160-horsepower), higher speed, simplified steering, quieter running gear, and a fully sealed cab. A wheeled version, the T-150K, has also been developed. Both models are scheduled for serial production in 1973.

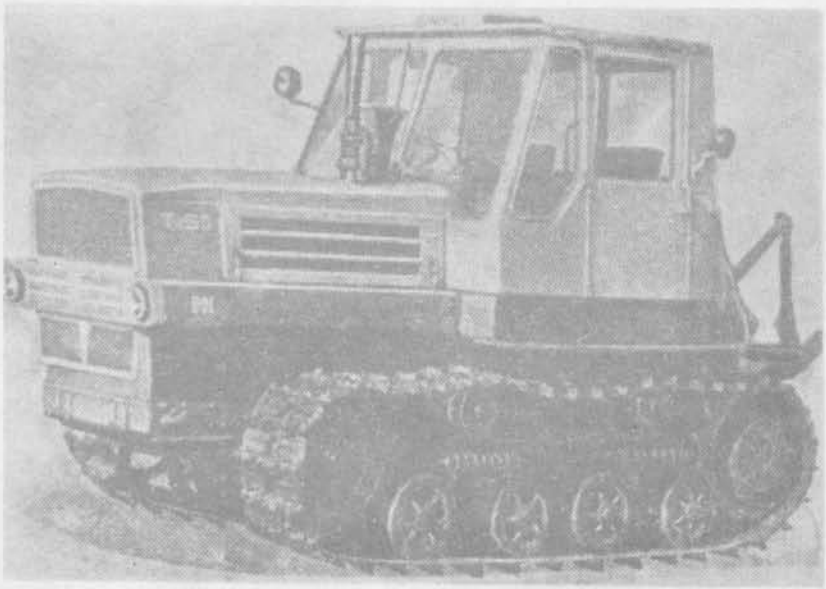


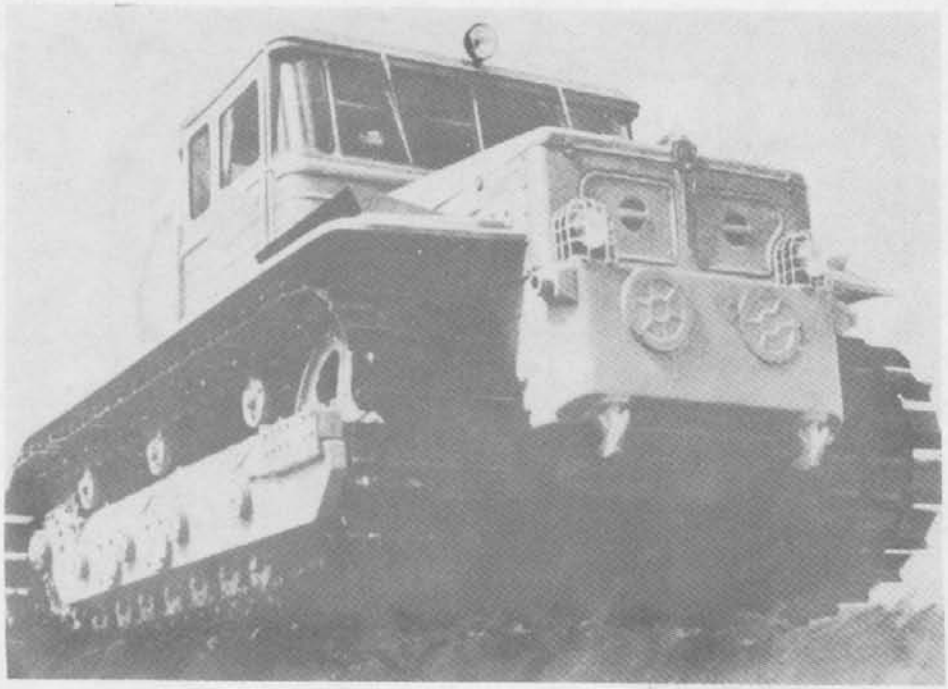
T-150





T-150





DET-250 (1961)



DET-250 (1966)

Crawler Tractor DET-250
Crawler Tractor DET-250A
Crawler Tractor DET-450

The DET-250 tractors from Chelyabinsk are the largest crawler tractors currently produced in the Soviet Union. They are distinguished by large-horsepower diesel engines which power hydraulic-electric drive transmissions. The hermetically sealed, all-metal cab provides all-around vision as well as heat and sound insulation. Recognition features are the cab mounted in the center of the chassis, fenders nearly even with the front of the hood, the crawler suspension with eight track rollers and three carrier rollers, and the absence of a radiator grill.

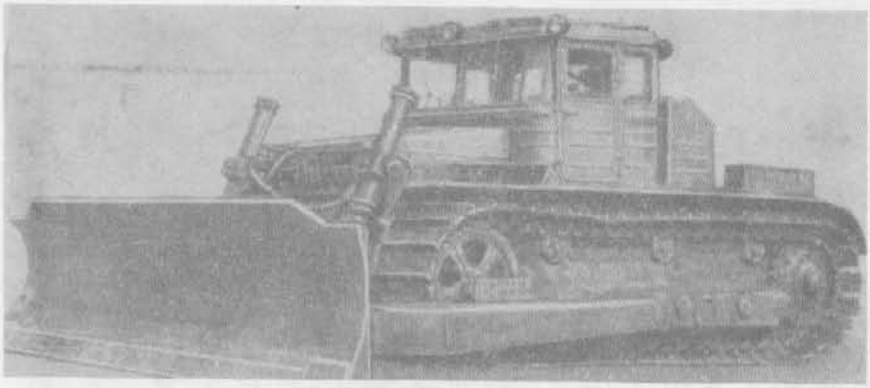
A special feature of the DET-250 is that it can be used as a mobile electric power station with a 60-kilowatt generating output.

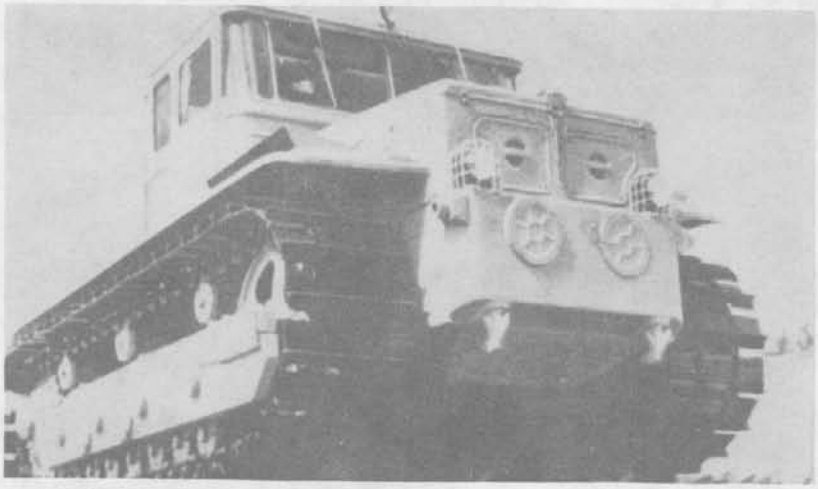
When the engine is modified by the addition of two superchargers, raising the horsepower to 500, the tractor is known as the DET-450. The DET-250A is designed for operation in extremely cold climates.

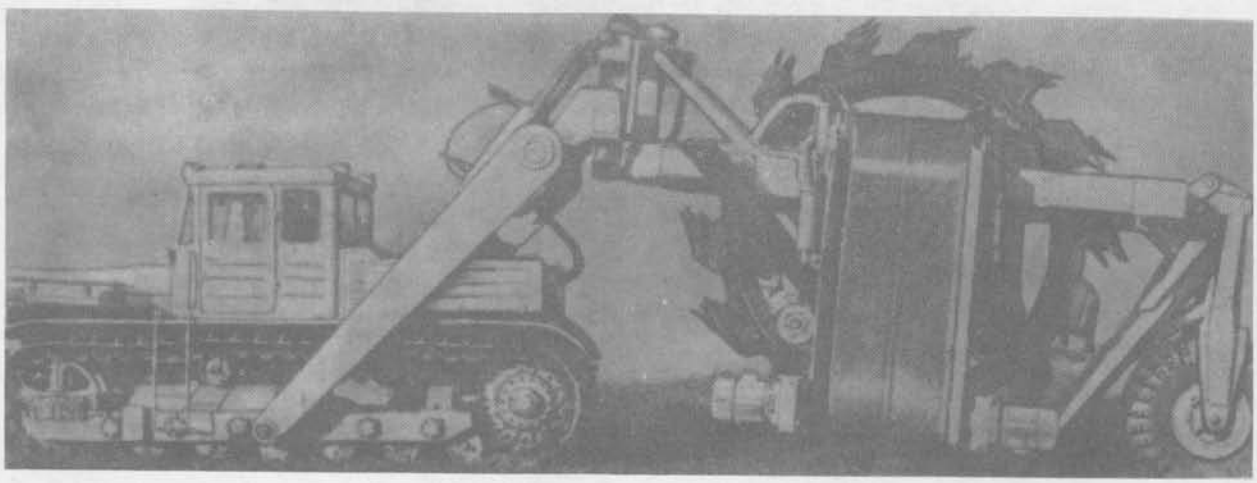
DET-250

| | | |
|---|---|---|
| weight | kg | 25200 |
| length | mm | 6236 |
| width | mm | 3220 |
| height | mm | 3180 |
| track | mm | 2450 |
| clearance | mm | 500 |
| track width | mm | 690 |
| ground contact | mm | 3218 |
| engine model | | V-30* |
| horsepower | | 300 |
| cylinders | | V-12 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 20 |
| cruising range | km | |
| fuel capacity | l | |
| fuel consumption | l/100km | |
| ground pressure | $kg/cm^2$ | 0.565 |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 22000 |

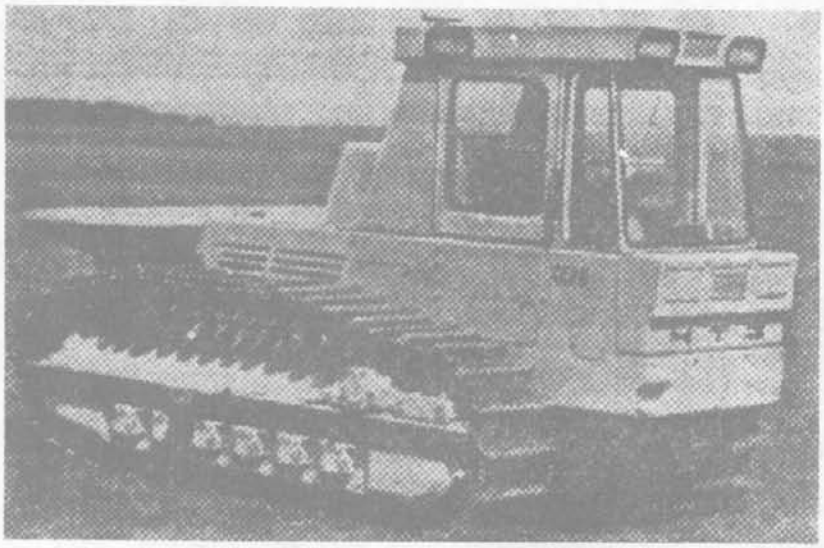
*or model B 748-1







DET-250



T-220



T-230

Crawler Tractor T-220
Crawler Tractor T-330
Crawler Tractor T-500

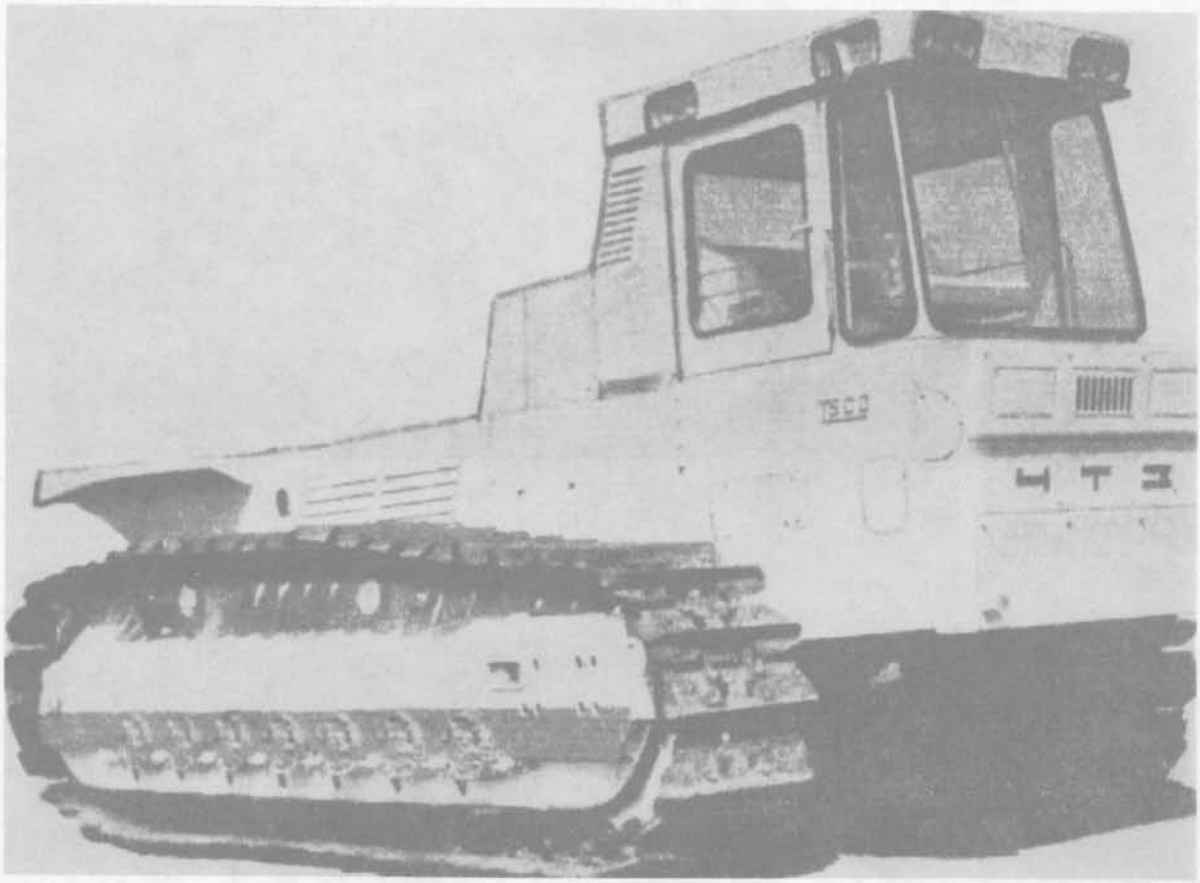
These three diesel-powered prototype tractors were developed for operation in extreme cold climates. The cold-weather design features include a rear-mounted, air-cooled engine; a rear-mounted platform; and a snub-nosed, fiberglass cab which is located in front of the track.

| | | T-220 | T-330 | T-500 |
|---|---|---|---|---|
| weight | kg | 15000 | | 14000 |
| length | mm | 5050 | | 6090 |
| width | mm | 2130 | | 2130 |
| height | mm | 3040 | | 3040 |
| track | mm | | | |
| clearance | mm | | | |
| track width | mm | | | |
| ground contact | mm | | | |
| engine model | | DV-220 | 8DV-330 | DV-500 |
| horsepower | | 220 | 330 | 500 |
| cylinders | | | V-8 | V-12 |
| fuel | | diesel | diesel | diesel |
| cooling | | air | air | air |
| speed | km/h | | | |
| fuel capacity | l | | | |
| ground pressure | $kg/cm^2$ | | | |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | kg | | | |



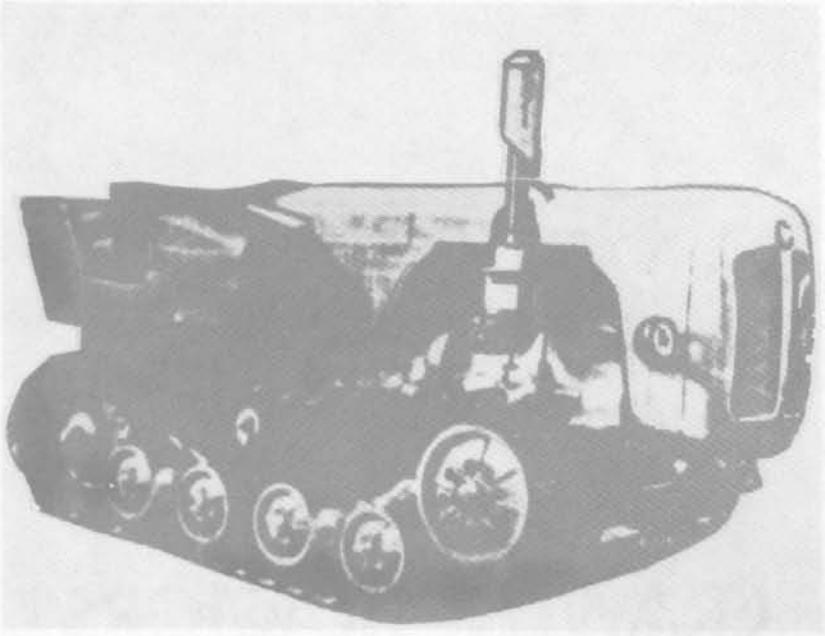

T-330



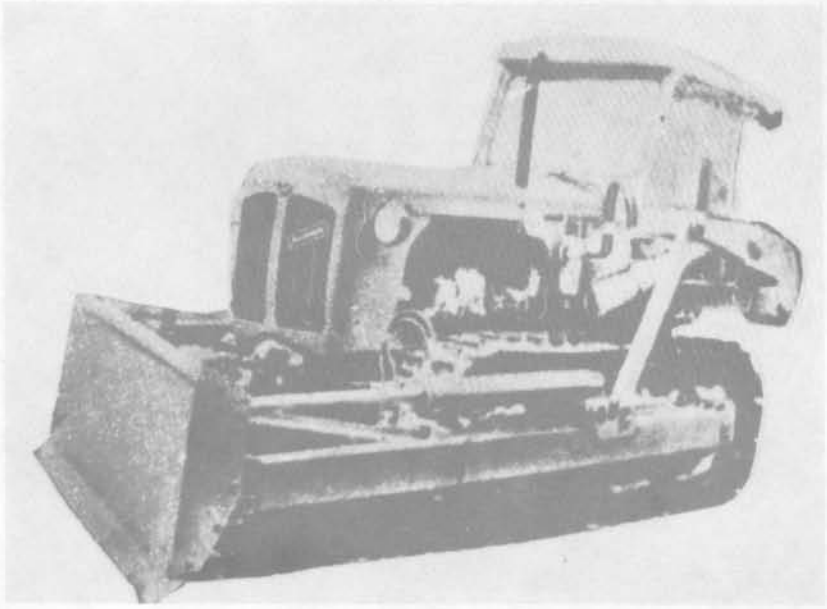



T-500

# NON-SOVIET CRAWLER TRACTORS



KS-30



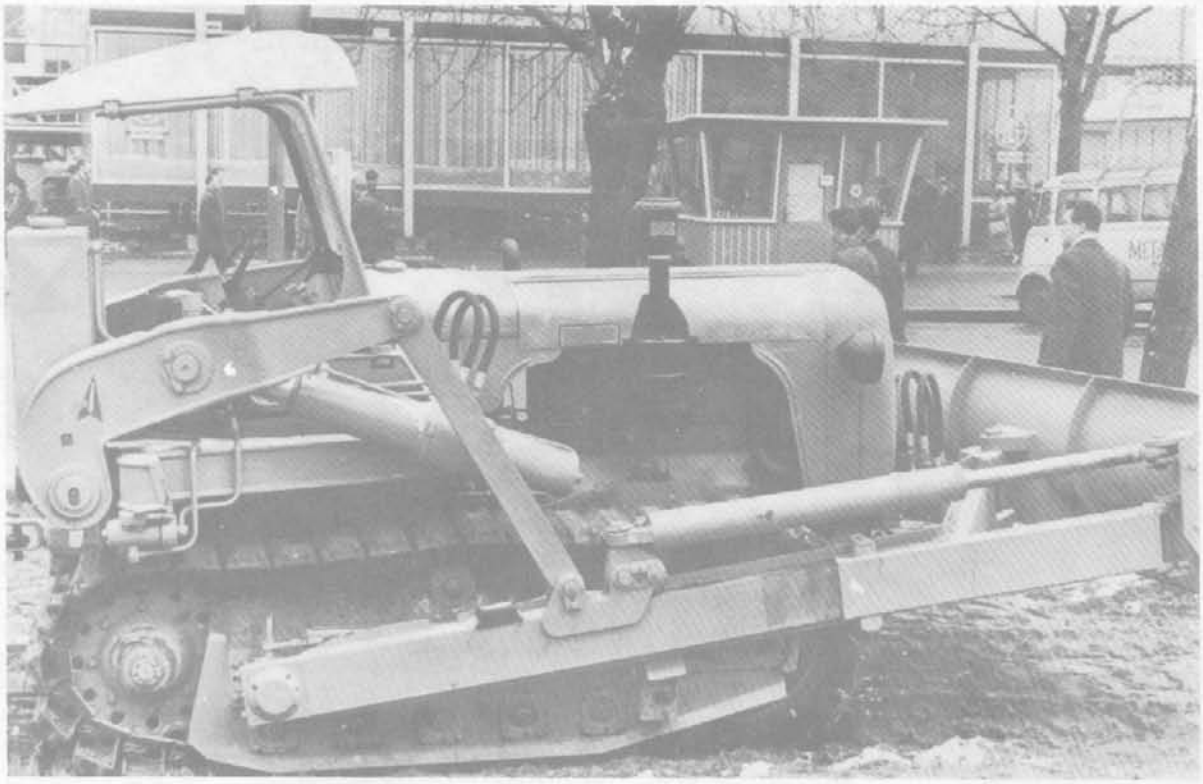
KT-50P1

# EAST GERMAN CRAWLER TRACTORS KS-30 SERIES

Crawler Tractor KS-30
Crawler Tractor KT-50

The KS-30 and KT-50 crawler tractors are basically the same vehicle and were developed from the earlier KS-07. They use the same diesel engine, but differ in suspension. The KS-30, designed for agricultural work, has four track rollers. The KT-50, designed for construction work, has five rigidly mounted track rollers. The KT-50 is used widely in the East German forces as a dozer (KT-50Pl) or as a front loader (KT-50Uk).

| | | KS-30 | KT-50UK |
|---|---|---|---|
| weight | kg | 5200 | 7900 |
| length | mm | 3985 | 4450 |
| width | mm | 1610 | 1950 |
| height | mm | 2280 | 2450 |
| track | mm | 1245 | 1245 |
| clearance | mm | 280 | 280 |
| track width | mm | 360/420 | 420 |
| ground contact | mm | 1670 | 1670 |
| engine model | | 4F175D2 | 4F175D2 |
| horsepower | | 63 | 63 |
| cylinders | | 4 | 4 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 8 | 3.3 |
| cruising range | km | 90 | 100 |
| fuel capacity | l | 180 | 90 |
| fuel consumption | l/100km | | 50 to 75 |
| ground pressure | $kg/cm^2$ | 0.46 | 0.54 |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | | 9000 |
| drawbar pull | kg | 4730 | 4250 |



KT-50P



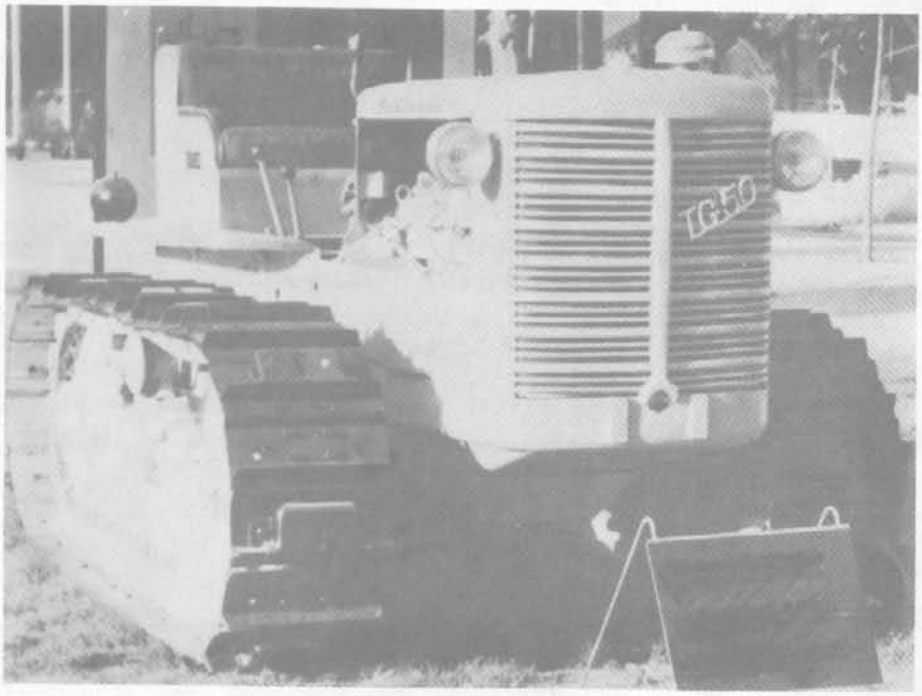

BNT-60

Crawler Tractor BNT-60
Crawler Tractor BNT-90

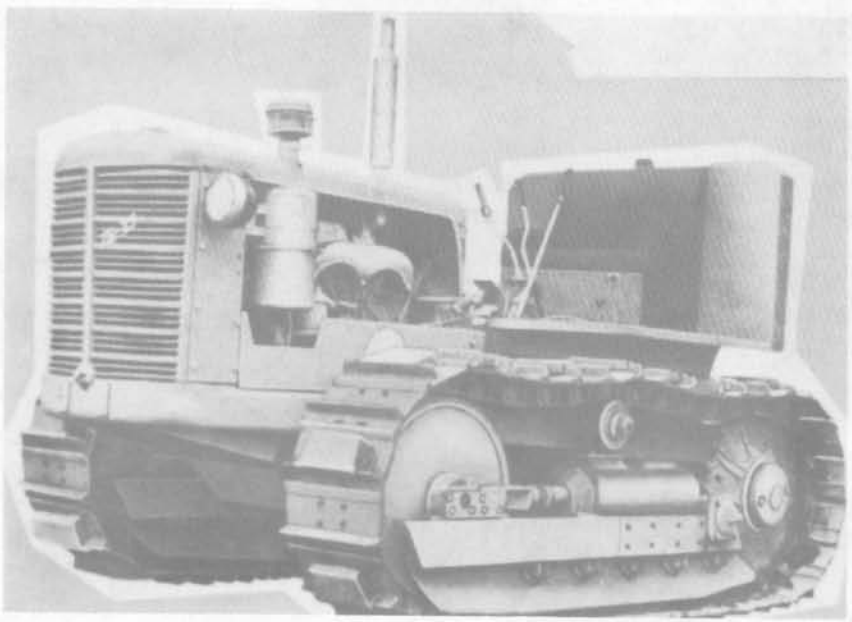
The Bratsvo Engineering Plant at Novi Travnik (BNT) produces a series of tractors based on the Soviet DT-54 models. The BNT-60 is a close copy of the Soviet DT-54, although in recent years it has been given an engine of increased horsepower.

The latest model is the BNT-90 which features a number of improvements, including a 90-horsepower engine. It can be distinguished by its distinctive angular styling.

| | | BNT-60 |
|---|---|---|
| weight | kg | 5470 |
| length | mm | 3630 |
| width | mm | 1880 |
| height | mm | 2270 |
| track | mm | 1435 |
| clearance | mm | 320 |
| track width | mm | 445 |
| ground contact | mm | |
| engine model | | IMT-036T/BNT 60 |
| horsepower | | 63 |
| cylinders | | 6 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 7.85 |
| fuel capacity | l | 250 |
| ground pressure | $kg/cm^2$ | 0.4 |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 1140 |




TG-50



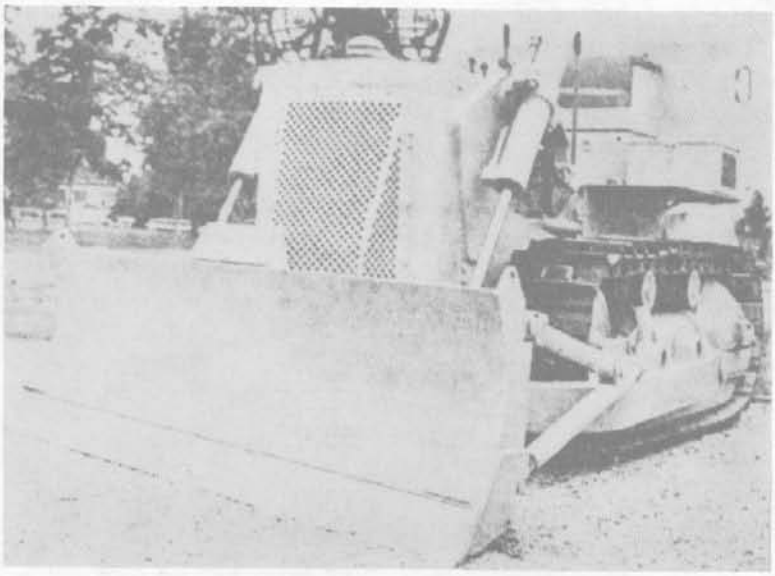
TG-75

Crawler Tractor TG-50
Crawler Tractor TG-75
Crawler Tractor TG-90
Crawler Tractor TG-90S
Crawler Tractor TG-90SH
Crawler Tractor TG-90SM

The Yugoslav crawler tractors are produced at the 14th October Plant in Krusevac. They can be used for agricultural or earth-moving operations. The smallest model, the TG-50, has an unusual design feature. The workman, within four hours, can convert the tractor into a wheeled model, the TT-50. Only a jack, four wooden blocks, a steel support, and standard hand tools are necessary.

The heavier models, used for earth-moving operations, are comparable in performance to the United States World War II D6 and D7 tractors. The TG-90SH has a dozer blade with hydraulic controls; the TG-90SM uses mechanical controls.

| | | TG-50 | TG-75 | TG-90S |
|---|---|---|---|---|
| weight | kg | 4630 | 5800 | 9450 |
| length | mm | 3000 | 3250 | 3570 |
| width | mm | 1790 | 1820 | 2180 |
| height | mm | 1485 | 1550 | 1950 |
| track | mm | 1400 | 1400 | 1570 |
| clearance | mm | 300 | 300 | 300 |
| track width | mm | 390 | 420 | 450 |
| ground contact | mm | 1545 | 1795 | 2130 |
| engine model | | IM-036T | IM-036/TA | |
| horsepower | | 54 | 73 | 105 |
| cylinders | | 4 | 6 | 4 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 12 | 13.2 | 9.52 |
| fuel capacity | l | 90 | 110 | 220 |
| ground pressure | $kg/cm^2$ | 0.38 | 0.384 | 0.47 |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | kg | 5400 | 5800 | 9100 |



TG-160

# YUGOSLAV CRAWLER TRACTOR TG-160 SERIES

Crawler Tractor TG-160
Crawler Tractor TG-160M

The TG-160 is the most powerful crawler tractor produced by the 14th October Plant in Krusevac. It is used normally in construction work and can be fitted with a variety of attachments. The TG-160M is especially modified for an angledozer.

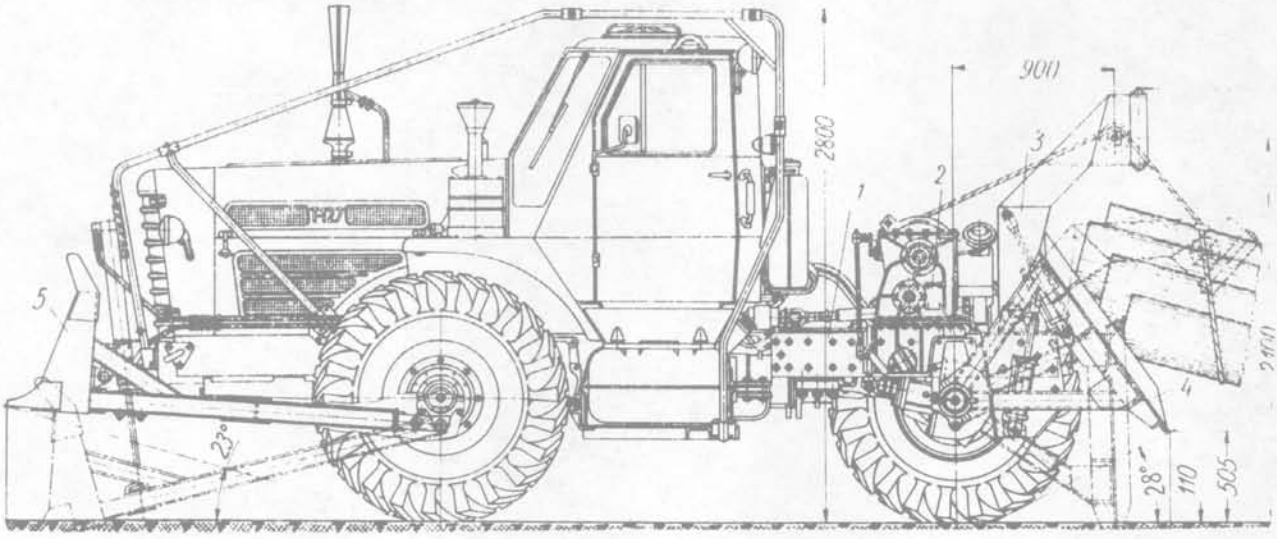
## TG-160

| | | |
|---|---|---|
| weight | kg | 16250 |
| length | mm | 4655 |
| width | mm | 2575 |
| height | mm | 2150 |
| track | mm | 1950 |
| clearance | mm | 300 |
| track width | mm | 600 |
| ground contact | mm | 2570 |
| engine model | | Wola 7 DSR-150 |
| horsepower | | 180 |
| cylinders | | 6 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 9.7 |
| fuel capacity | l | 360 |
| ground pressure | $kg/cm^2$ | 0.5 |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 15700 |

# SOVIET WHEELED TRACTORS



T-125




T-127

Wheeled Tractor T-125
Wheeled Tractor T-127
Wheeled Tractor T-128
Wheeled Tractor T-150K
Wheeled Tractor T-155
Wheeled Tractor T-158

Along with the heavy weight K-700 tractor series the Soviets have been developing a lighter model with all-wheel-drive. Although like the K-700 tractors these light models were designed for agricultural use, modifications have been made to permit them to be employed in construction work and logging.

After beginning with the prototypes of the T-90 series in the early 1960's the Soviets developed the T-125 models. These are two-axle, four-wheel-drive tractors with closed cabs. The modifications include the T-127 logging tractor and the T-128 tractor with increased horsepower.

In an attempt to increase the standardization of various tractor models the T-150 wheeled tractor was developed on the basis of the T-150 crawler tractor (the planned replacement for the DT-54 series). Although the T-150K is very much like the earlier T-125, it has the advantage of having a 70 percent interchangeability of components with the T-150 crawler tractor. The T-150K has a weight of 7,442 kg with a top speed of 29.1 km/h.

The T-155 has been announced as a model with increased horsepower.

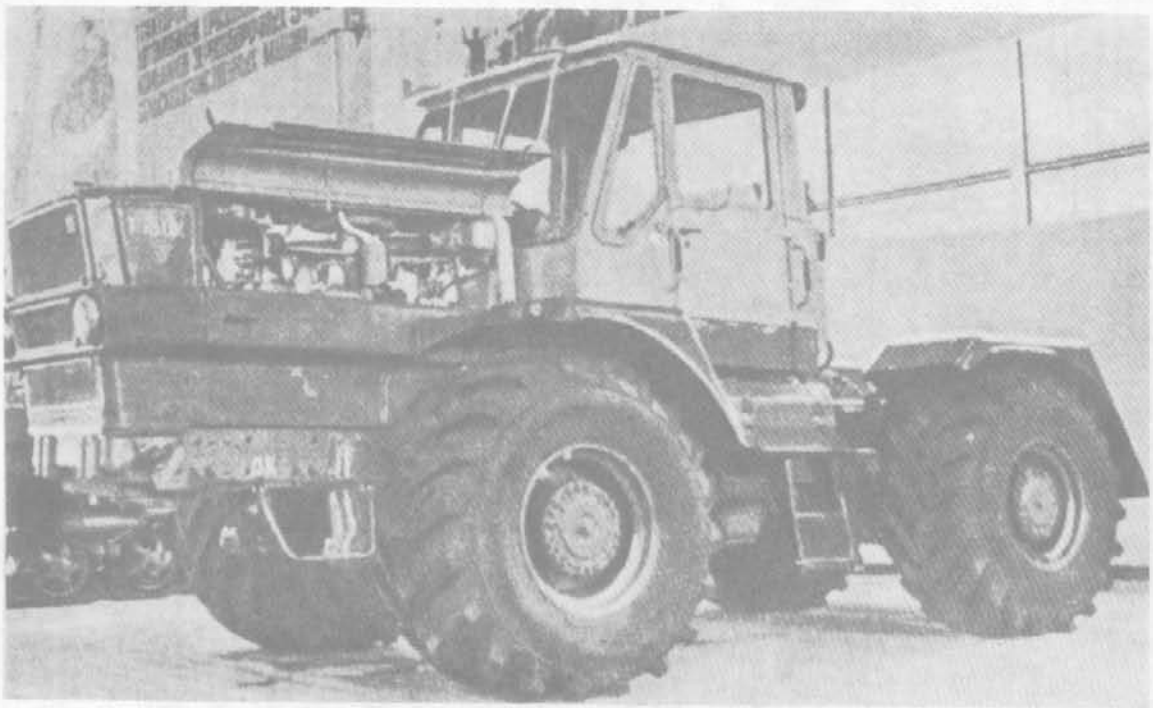
## T-125

| | | |
|---|---|---|
| weight | kg | 7800 |
| wheelbase | mm | 2860 |
| length | mm | 5830 |
| width | mm | 2075 |
| height | mm | 2600 |
| track front | mm | 1630 |
| rear | mm | 1910 |
| clearance | mm | 400 |
| tire size | | 18x24* |
| engine model | | SMD-462** |
| horsepower | | 130 |
| cylinders | | 6 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 29*** |
| fuel capacity | l | 330 |
| trench | mm | 720 |
| step | mm | 600 |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | 12000 |
| drawbar pull | kg | 3500 |

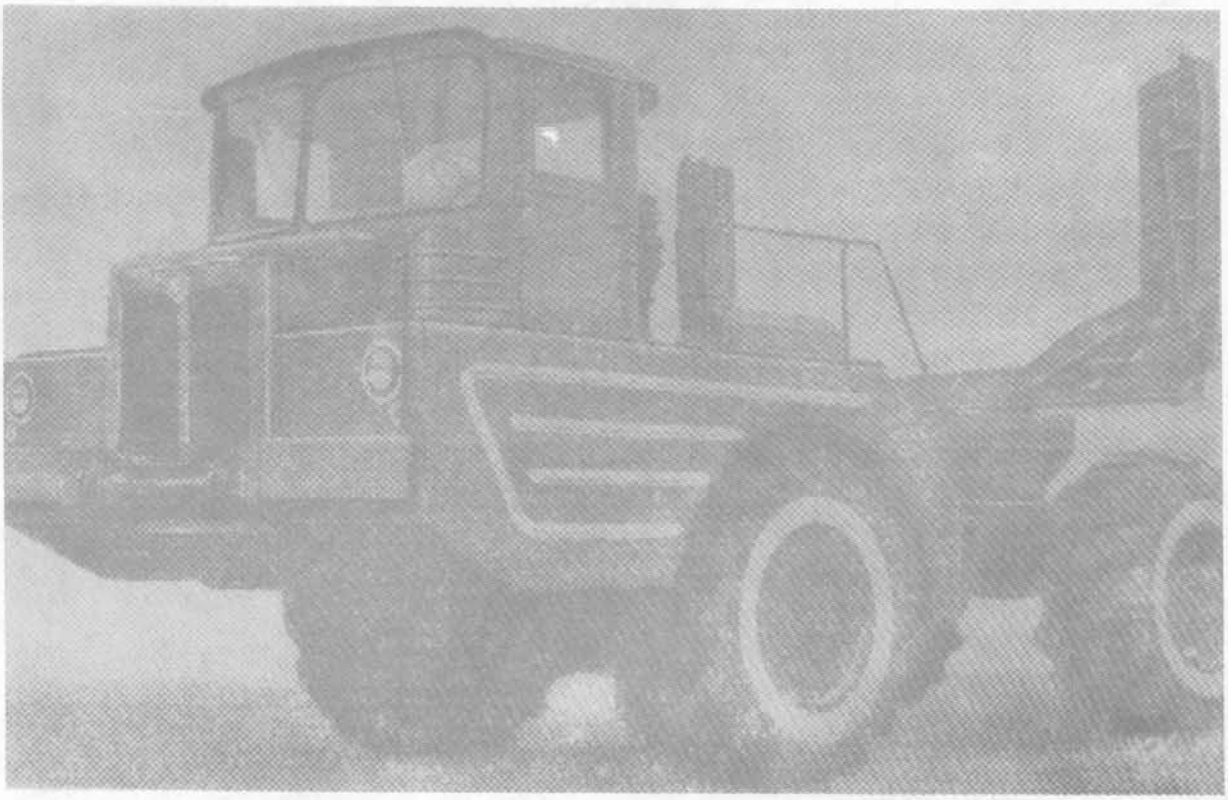
*or 18.4 x 15

**or AM-03 which is also used for T-127.
The T-150K uses the 160-HP SMD-60 engine.

***34.4 km/h for the T-127



T-150K



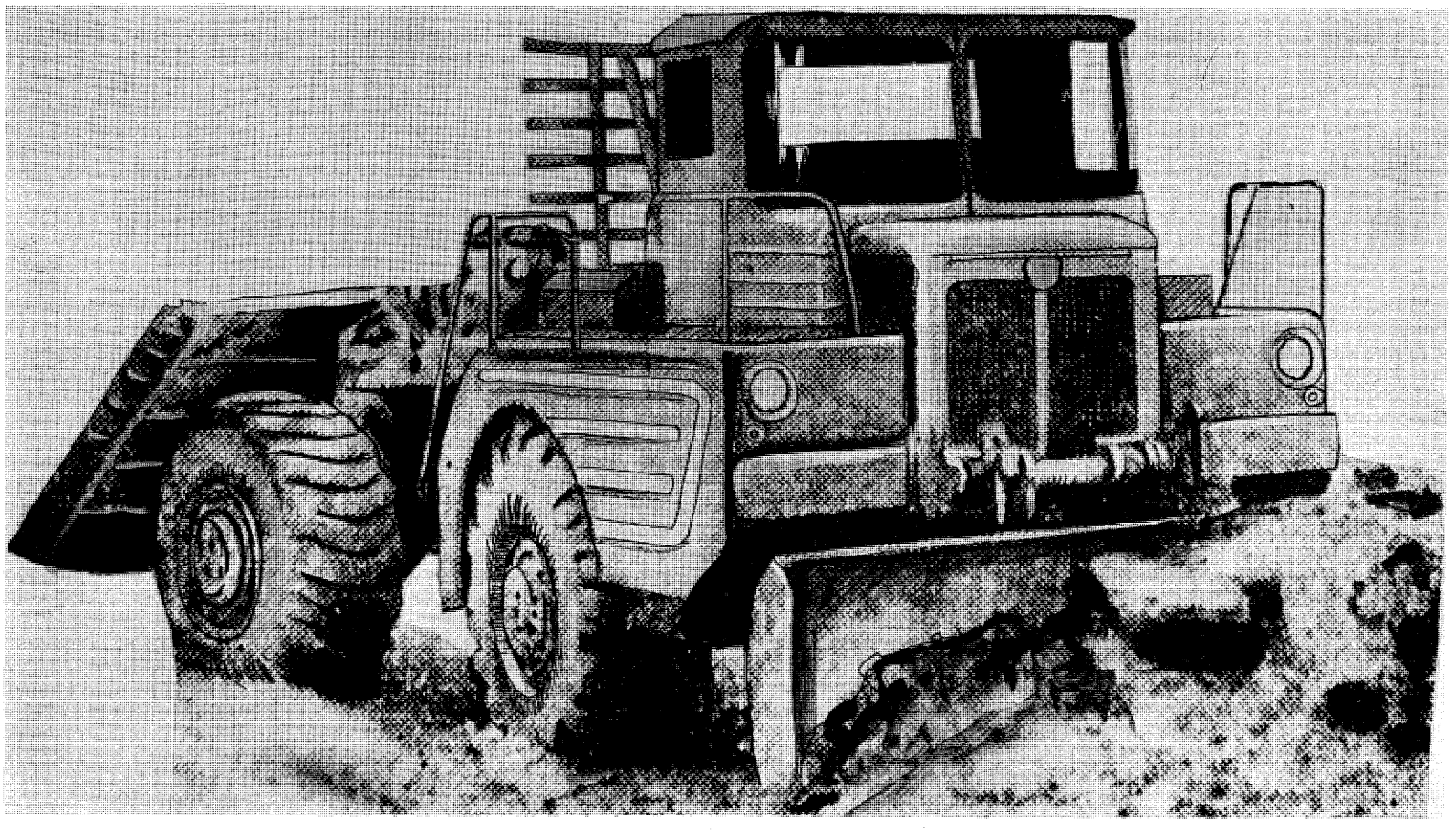
T-210

## Wheeled Tractor T-210

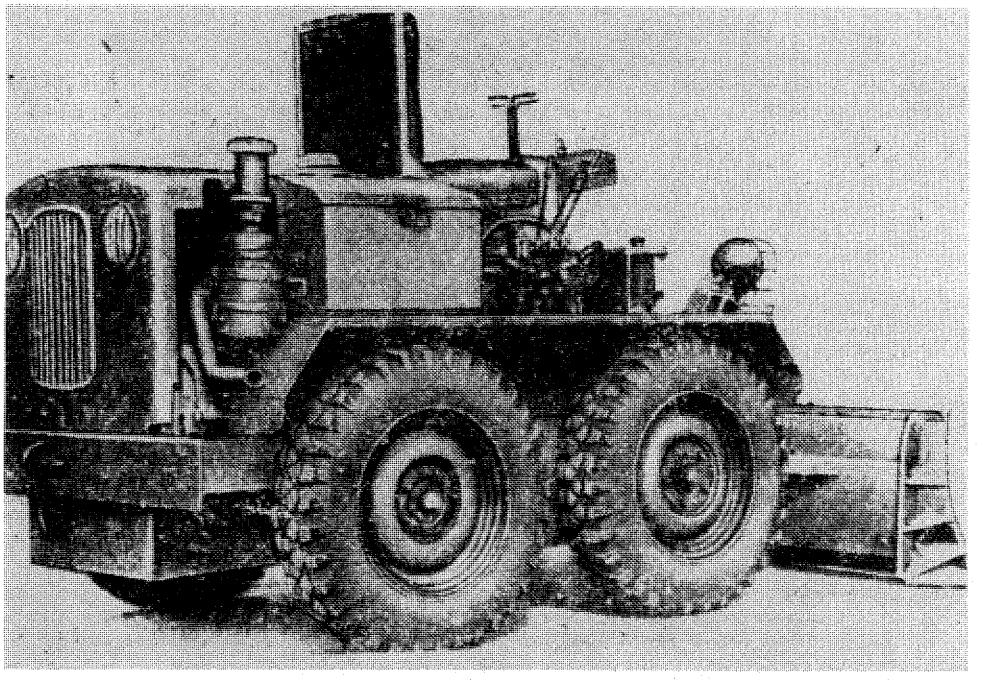
Although the two-axle, all-wheel-drive T-210 was originally designed for a logging tractor, it can mount a dozer blade and be used for construction tasks. Recognition features are the snub-nosed cab in the front-center of the tractor and the large, square fenders surrounding the cab.

T-210

| | | |
|---|---|---|
| weight | kg | 24000 |
| wheelbase | mm | 4000 |
| length | mm | 8080 |
| width | mm | 3200 |
| height | mm | 4050 |
| track front | mm | 2450 |
| rear | mm | 2450 |
| clearance | mm | 900 |
| tire size | | |
| engine model | | 2D-12GSM |
| horsepower | | 300 |
| cylinders | | V-12 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 32 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | 40000 |
| drawbar pull | kg | 24000 |



T-210



D-456

Wheeled Tractor D-456
Wheeled Tractor D-456M

The D-456 is a small, dual-range, tractor designed for the small jobs in scattered locations. The size of the equipment makes it readily air transportable, and thus militarily significant. The attachments are controlled by a single hydraulic cylinder. They include a bulldozer, crane, fork lift, loader-shovel, trench digger, street sweeper, auger, and rotary snow remover.

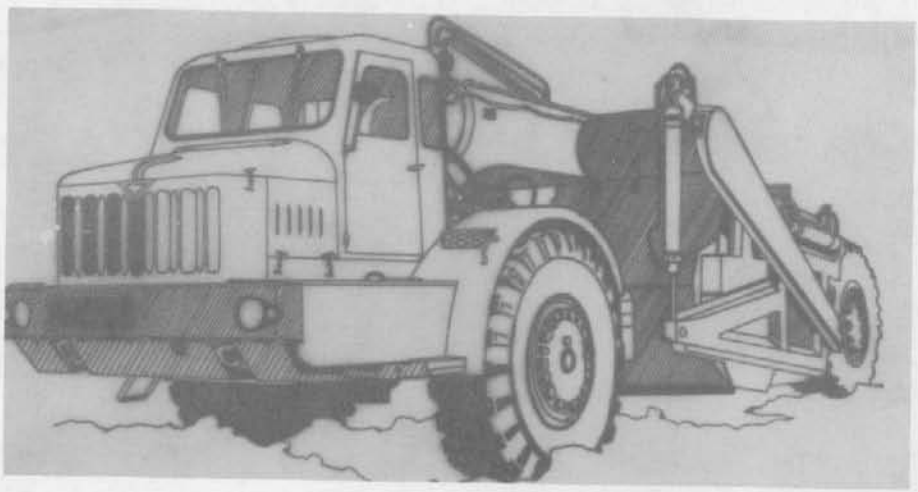
| | | D-456 |
|---|---|---|
| weight | kg | 1640 |
| wheelbase | mm | 880 |
| length | mm | 2050 |
| width | mm | 1270 |
| height | mm | 1570 |
| track | mm | 1100 |
| clearance | mm | 190 |
| tire size | | |
| engine model | | D-16 |
| horsepower | | 16 |
| cylinders | | |
| fuel | | diesel |
| cooling | | |
| speed | km/h | 14.5 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 1045 |



D-456



MAZ-529

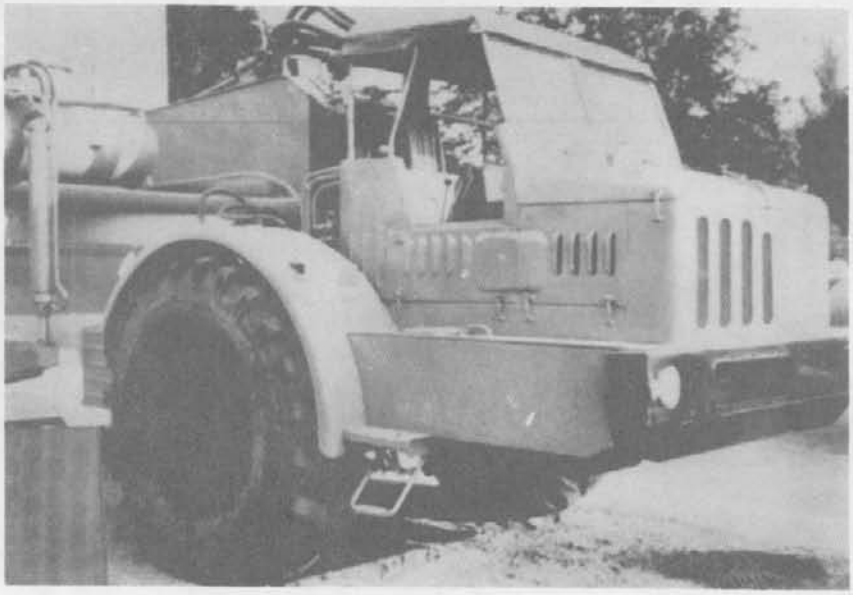


MAZ-529V

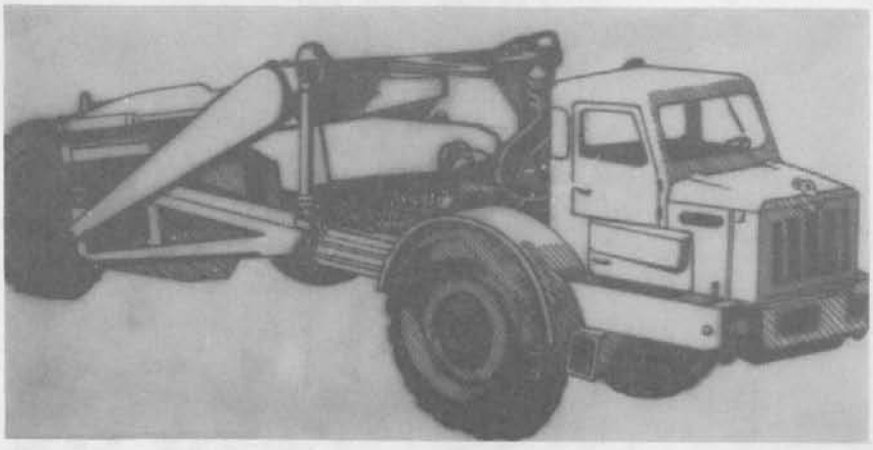
Wheeled Tractor MAZ-529
Wheeled Tractor MAZ-529E
Wheeled Tractor MAZ-529V

The MAZ-529 is a high-speed, single-axle, rubber-tired prime mover used with scrapers, rollers, and other semi-trailed equipment. All machines and attachments used with the MAZ-529 series can also be used with the new MoAZ-546 tractor, the replacement for the MAZ-529. Equipped with low pressure tires and a high-speed differential, the MAZ-529 has good mobility and is well suited for military use. In addition to its role in construction units, the tractor has appeared in missile units. The MAZ-529 comes in a variety of submodels with different cab styles and various engines. Older models have an angular cab, while the newer ones, such as the MAZ-529V and MAZ-529E, have rounded snub-nosed, truck-type cabs.

| | | MAZ-529 | MAZ-529V |
|---|---|---|---|
| weight | kg | 8500 | 5500 |
| length | mm | 4150 | 3500 |
| width | mm | 2950 | 3140 |
| height | mm | 2925 | 3390 |
| track | mm | 2300 | 2300 |
| clearance | mm | 570 | 650 |
| tire size | | 24x28 | 21 x 28 |
| engine model | | YaAZ-206 | YaAZ-M206 |
| horsepower | | 120 | 180 |
| cylinders | | 4 | 6 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 40 | 40 |
| fuel capacity | l | | |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | 10000 | 14500 |
| drawbar pull | kg | | 12000 |



MAZ-529E



MAZ-529V





BelAZ-531

Wheeled tractor BelAZ-531
Wheeled tractor BelAZ-531T

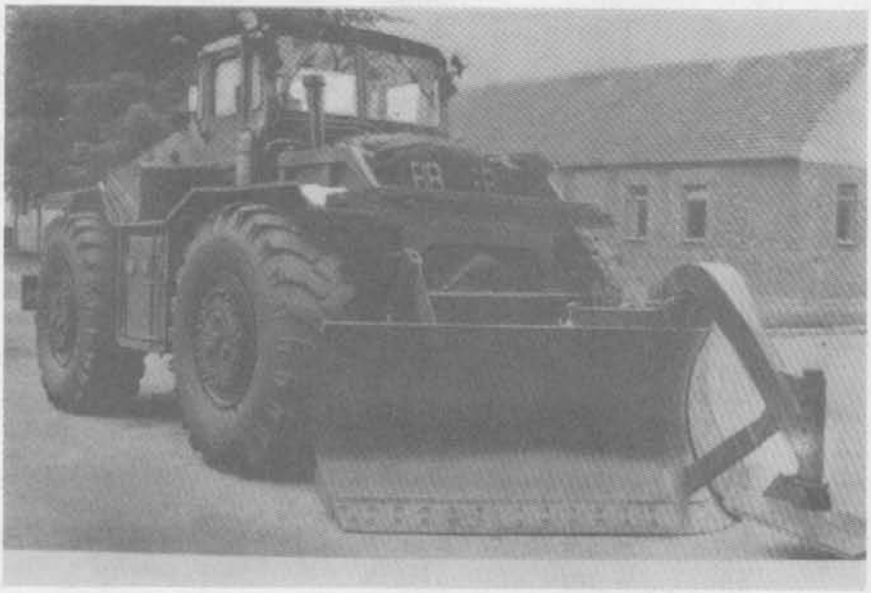
The BelAZ-531 wheeled tractors are part of a new line of single-axle prime movers used in conjunction with semi-trailed scrapers, dump bodies, and other attachments. Using a semitrailer, the tractor can turn 90 degrees in either direction. The BelAZ-531 can be identified by the flat, horizontally slotted grill with dual headlights, a left-hand mounted peaked cab, and the two exhaust stacks to the right.

| | | BelAZ-531 | BelAZ-531T |
|---|---|---|---|
| weight | kg | 14000 | 14000 |
| length | mm | 4875 | 4950 |
| width | mm | 3386 | 3380 |
| height | mm | 3325 | 3350 |
| track | mm | 2530 | 2490 |
| clearance | mm | 670 | 670 |
| tire size | | | 27x33 |
| engine model | | | D-12A450 |
| horsepower | | 360 | 450 |
| cylinders | | V-12 | V-12 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 55 | 60 |
| fuel capacity | l | | |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | 44000 | 40000 |
| drawbar pull | kg | 15000 | 21000 |





PKT ON MAZ-538

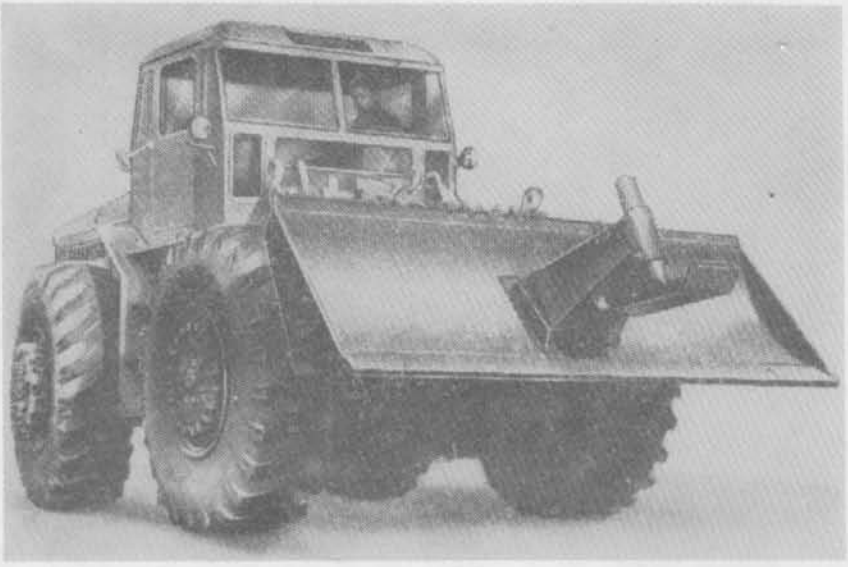


## WHEELED TRACTORS MAZ-538 SERIES

The MAZ-538 is a new large, all-wheel-drive tractor being introduced into engineer units of the Soviet Army. This diesel-powered vehicle has appeared in two versions, the PKT road building machine, illustrated on the opposite page, and the BKT which mounts a bulldozer only. The engine has 375 horsepower.



МоАZ-542



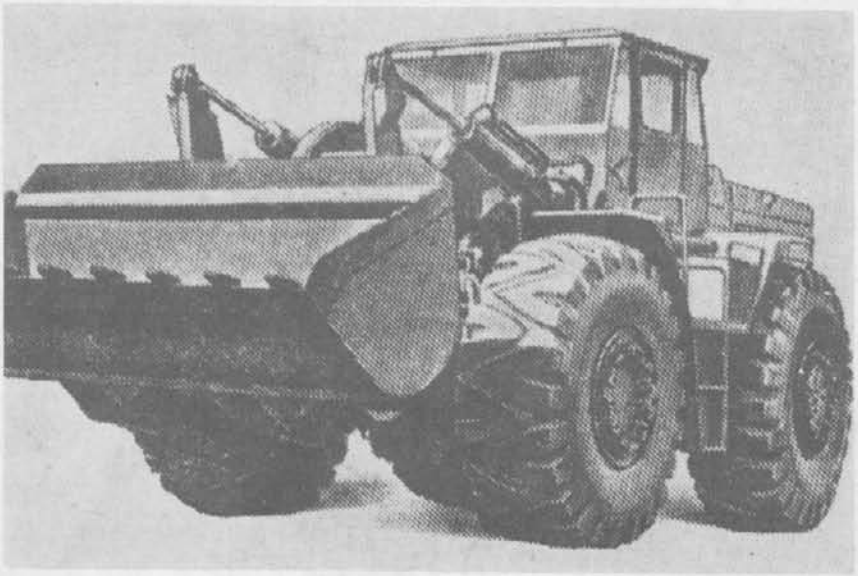
# WHEELED TRACTORS MoAZ-542 SERIES

The MoAZ-542 is a new two-axle, rubber-tire tractor designed to replace the older MAZ-528. It can be recognized by the longer overhanging engine compartment, the horizontal grill slots, and the built-in ladder on the cab. The MoAZ-542, which is closely related in design to the MoAZ-546 single-axle tractor-prime-mover and the MoAZ-542 dump truck, is well suited for general towing work.

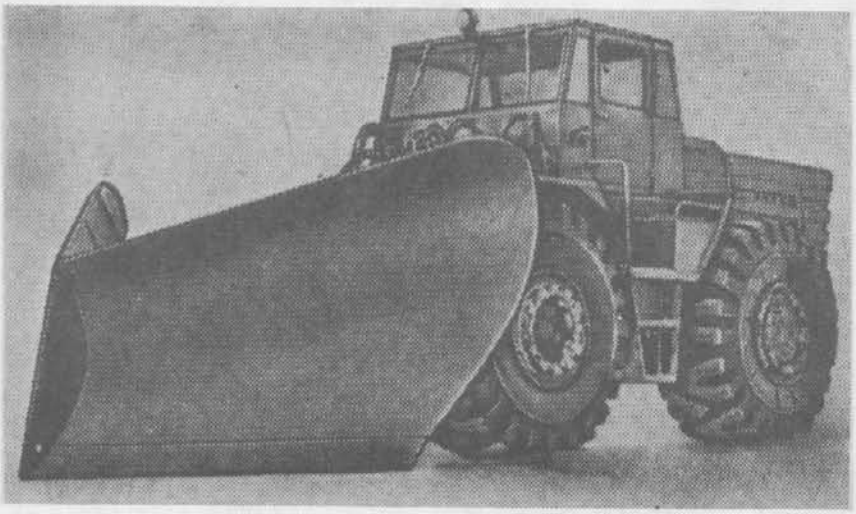
MoAZ-542

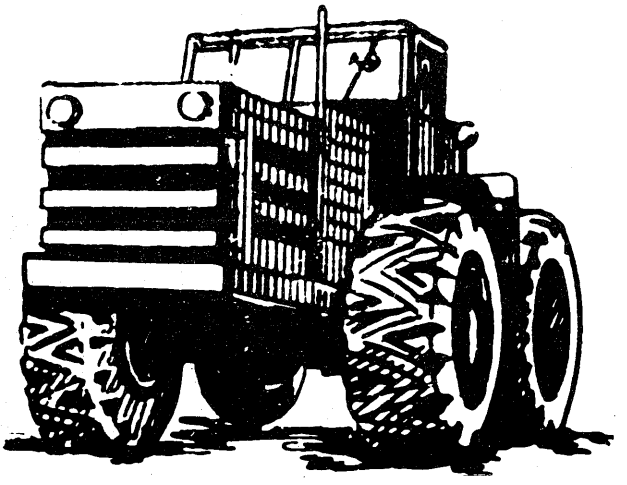
| | | |
|---|---|---|
| weight | kg | 12500 |
| wheelbase | mm | 2700 |
| length | mm | 5900 |
| width | mm | 3150 |
| height | mm | 3250 |
| track front | mm | 2400 |
| rear | mm | 2400 |
| clearance | mm | |
| tire size | | 20.50x25* |
| engine model | | YaMZ-238 |
| horsepower | | 240 |
| cylinders | | V-8 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 50 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 10500 |

*or 21x18

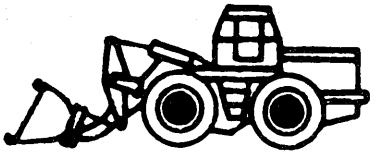


MoAZ-542

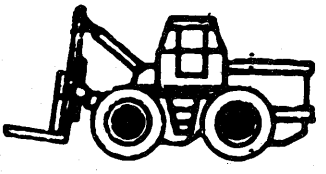




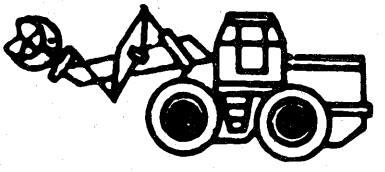
12



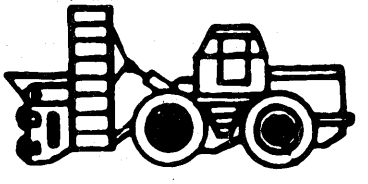
13



14

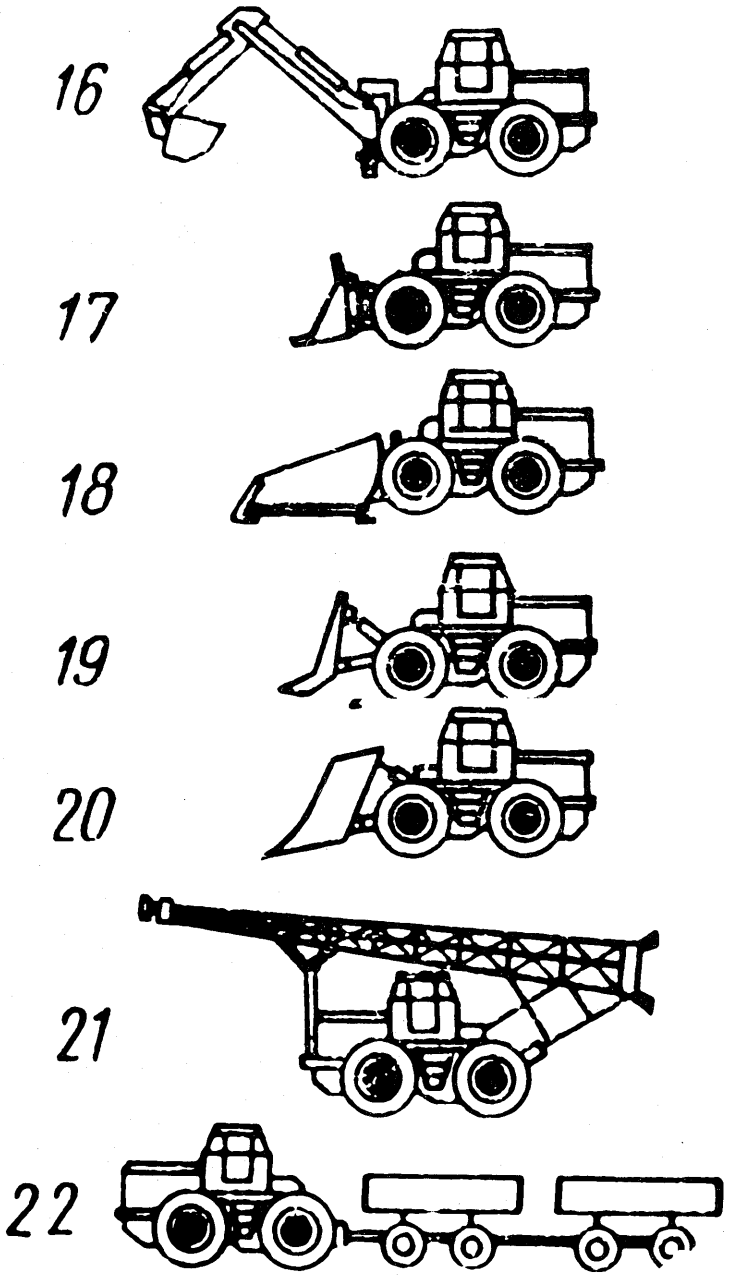


15



MoAZ-542, ATTACHMENTS

(12) FRONT LOADER
(13) FORK LIFT
(14) TIMBER GRAB
(15) ROTARY SNOWPLOW




MoAZ-542, ATTACHMENTS

(16) BACKHOE
(17) BULLDOZER
(18) SNOWPLOW
(19) BRUSH BLADE
(20) BRUSH CUTTER
(21) DRILL RIG
(22) PRIME MOVER



MoAZ-546

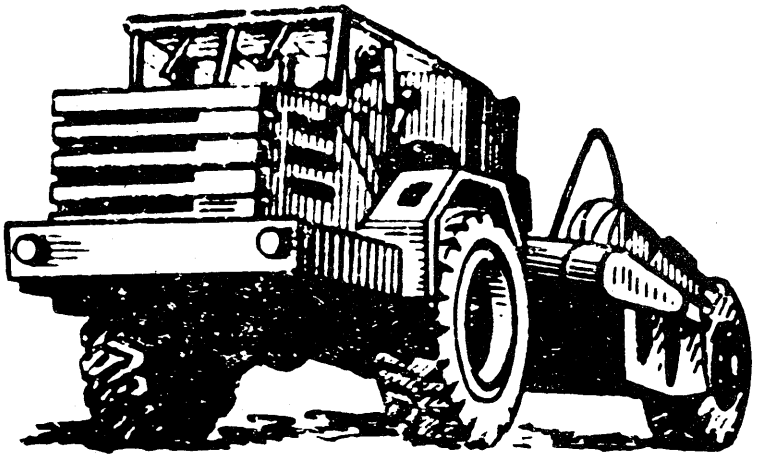


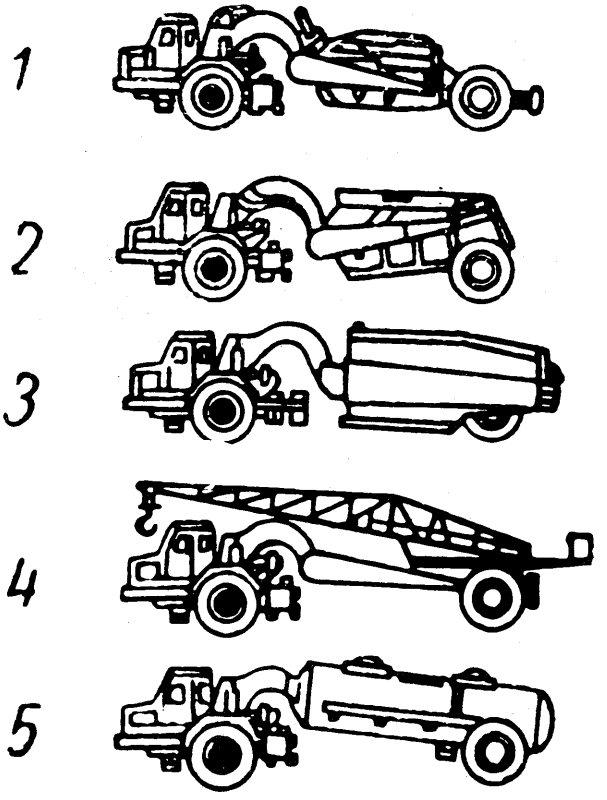
## Wheeled tractor MoAZ-546

The MoAZ-546, together with the MoAZ-522 dump truck, forms a part of a family characterized by a high degree of interchangeability of components and powerplants. The MoAZ-546, which is the replacement for the older MAZ-529 series, is a single-axle, rubber-tire-mounted tractor designed to tow semi-railed construction equipment such as scrapers, rollers, cranes, elevator-graders, and POL tanks. The tractor is ruggedly constructed and intended for hard, prolonged use.

MoAZ-546

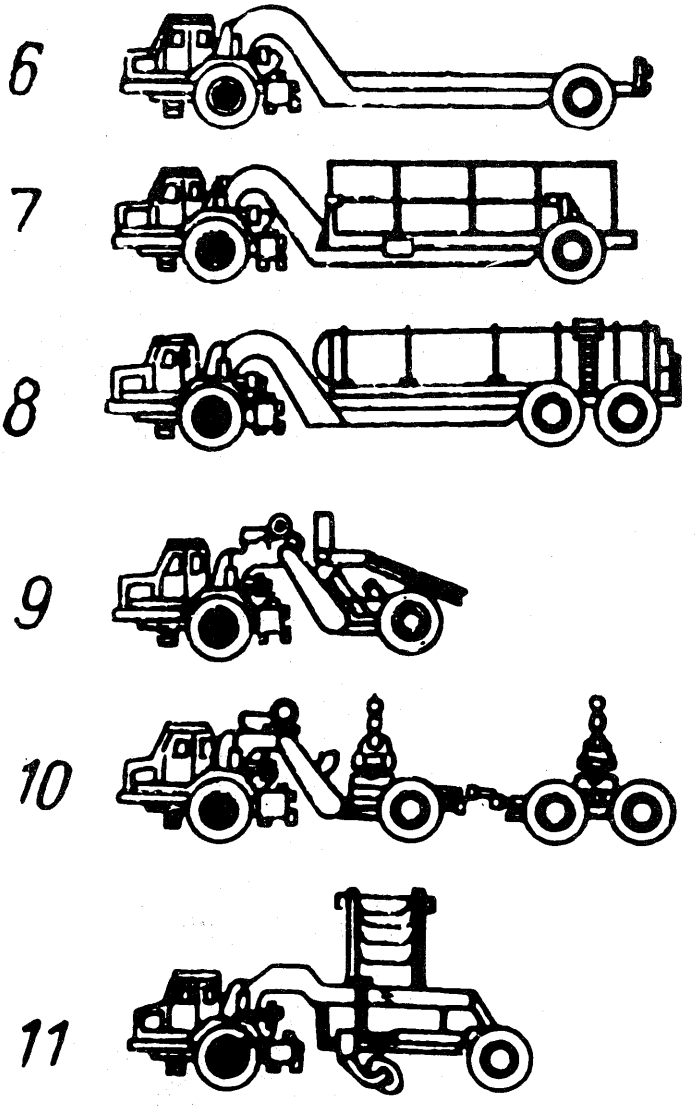
| | | |
|---|---|---|
| weight | kg | 10000 |
| length | mm | 4450 |
| width | mm | 3150 |
| height | mm | 2990 |
| track | mm | 2400 |
| clearance | mm | |
| tire size | | |
| engine model | | YaMZ0238 |
| horsepower | | 240 |
| cylinders | | V-8 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 40 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 12000 |





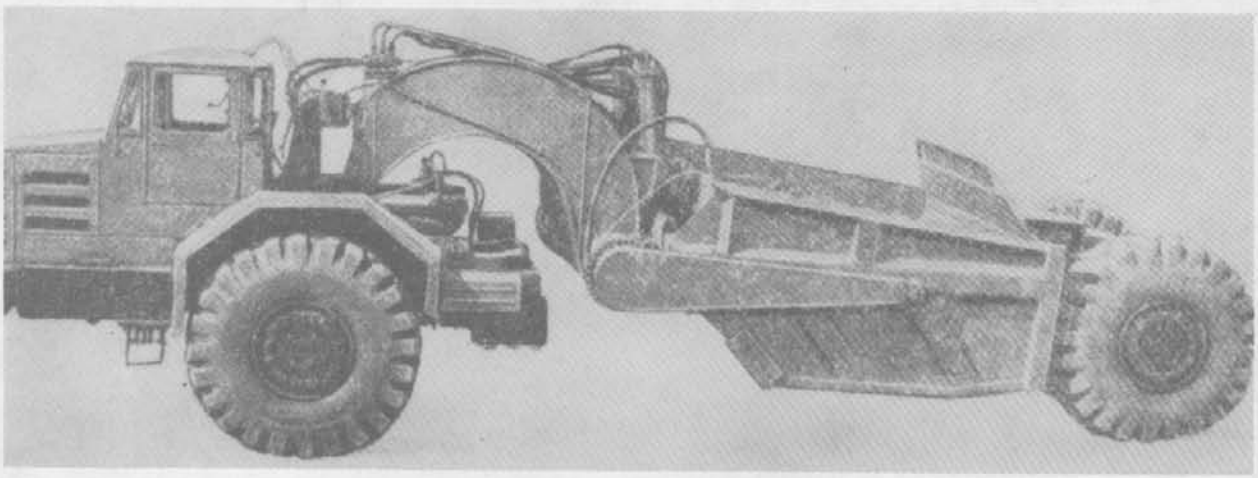

MoAZ-546, ATTACHMENTS

(1) SCRAPER
(2) BACK DUMP
(3) PNEUMATIC TIRED ROLLER
(4) WHEEL CRANE
(5) LIQUID TRANSPORTER

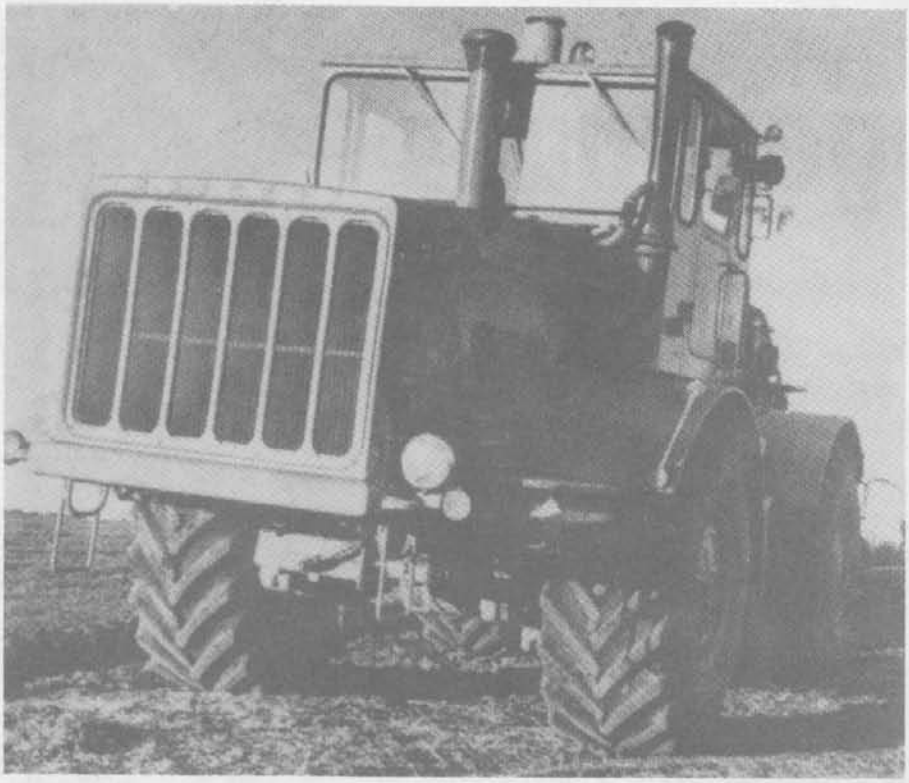



MoAZ-546, ATTACHMENTS

(6) ENGINEER EQUIPMENT TRAILER
(7) BOX TRAILER
(8) LIQUID TRANSPORTER
(9) FORESTRY TRAILER
(10) TIMBER TRANSPORTER
(11) ELEVATING GRADER



MoAZ-546



K-700



# WHEELED TRACTORS K-700 SERIES

Wheeled Tractor K-700
Wheeled Tractor K-700A
Wheeled Tractor K-701
Wheeled Tractor K-702
Wheeled Tractor K-703

The four-wheel-drive "Kirovets" K-700 tractor was designed originally for production in the Kirov Plant in Leningrad as an agricultural tractor. However, its design characteristics have permitted the development of variants for use in logging and construction work.

The K-700A is used for construction work, as is the improved K-702. The K-702 has an improved hydraulic system and wider tires. The K-703 is a logging tractor. All K-700 series tractors have military potential.

The K-701 is an improved agricultural tractor with wider tires and a 300-horsepower engine.

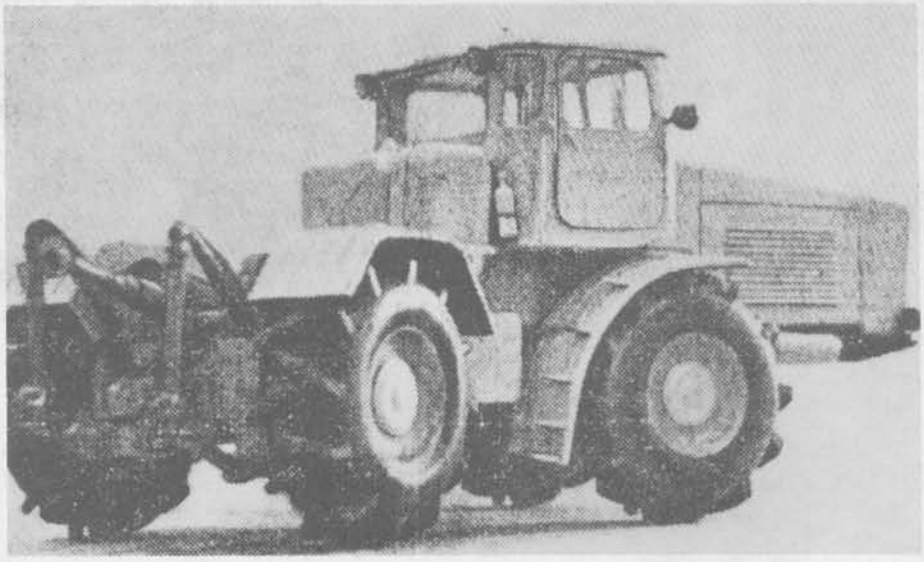
| | | K-700 | K-702 |
|---|---|---|---|
| weight | kg | 12000 | |
| wheelbase | mm | 3050 | 3200 |
| length | mm | 7235 | |
| width | mm | 2530 | |
| height | mm | 3225 | 3535 |
| track front | mm | 1910 | 2170 |
| rear | mm | 1910 | 2170 |
| clearance | mm | 340 | |
| tire size | | 18x26 | 18x25 |
| engine model | | YaMZ-238NB | YaMZ-238NB |
| horsepower | | 212 | 212 |
| cylinders | | V-8 | V-8 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 28 | 40 |
| fuel capacity | l | 450 | |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | 32000 | |
| drawbar pull | kg | 6000 | |

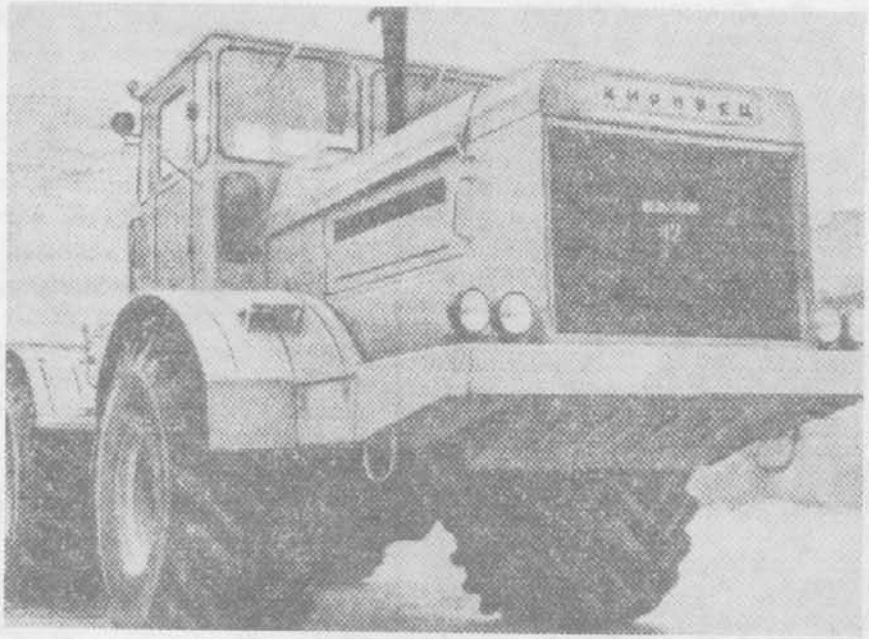


K-700

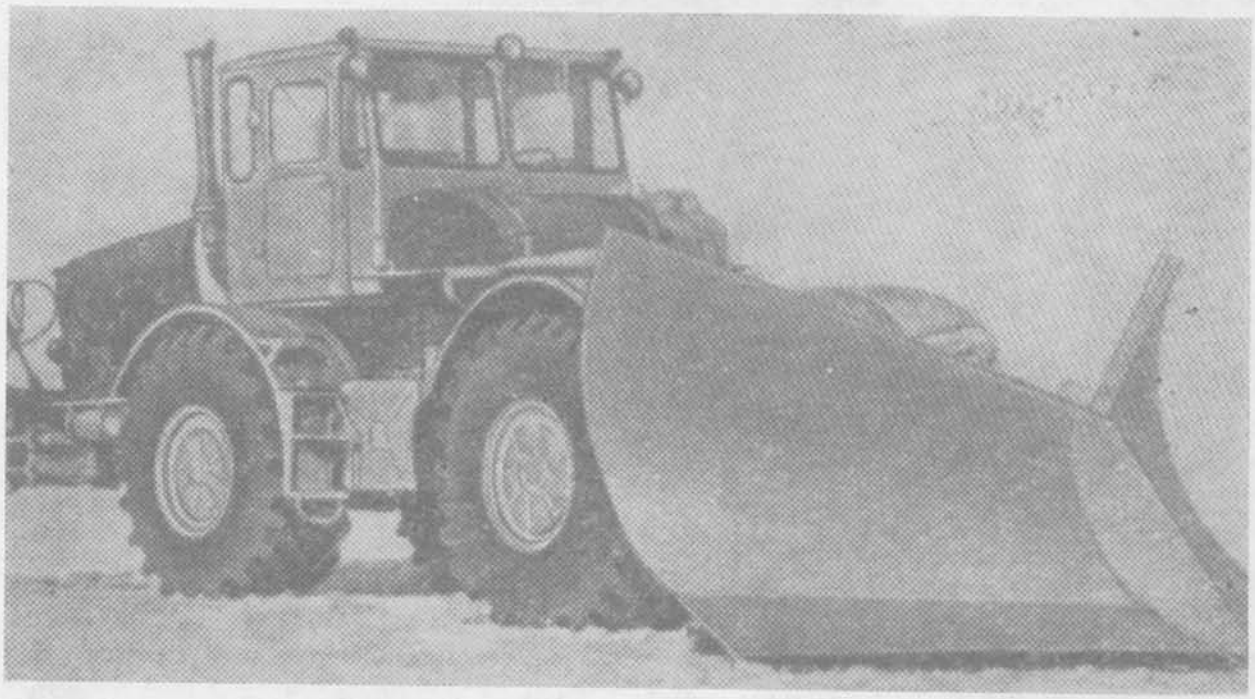


K-700



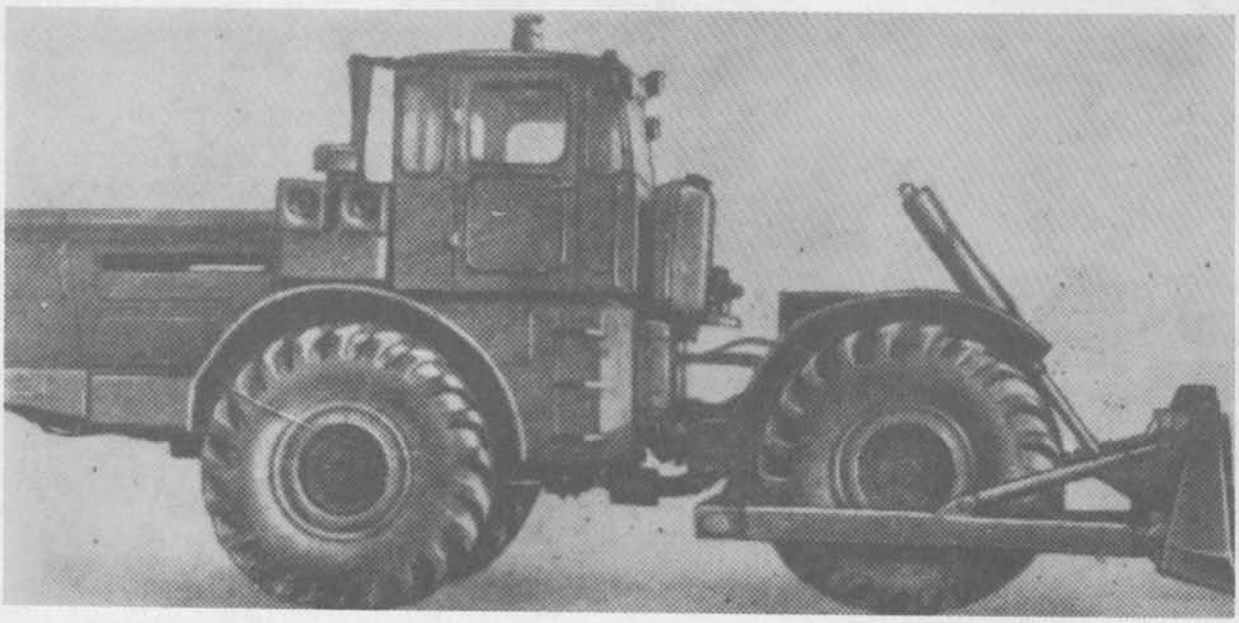


K-700A





K-702



# NON-SOVIET WHEELED TRACTORS



DOK-L



Wheeled Engineer Tractor DOK
Wheeled Engineer Tractor DOK-L
Wheeled Engineer Tractor DOK-R

The Czechoslovak DOK (Dozer on Wheels) is a universal engineer tractor of considerable versatility which has been adopted by both the Czechoslovak and East German Armies. It is powered by an air-cooled diesel engine and has electric drive, with various hydraulically operated attachments. In addition, an electrically driven winch is located at the rear of the cab. The cab is hermetically sealed and has a filtered ventilation system which permits operation of the DOK in contaminated areas.

In the DOK-L version, the tractor is equipped with a universal shovel, while in the DOK-R version an arrow-shaped blade is mounted. This blade may also be adjusted from the "V" form to a straight configuration.

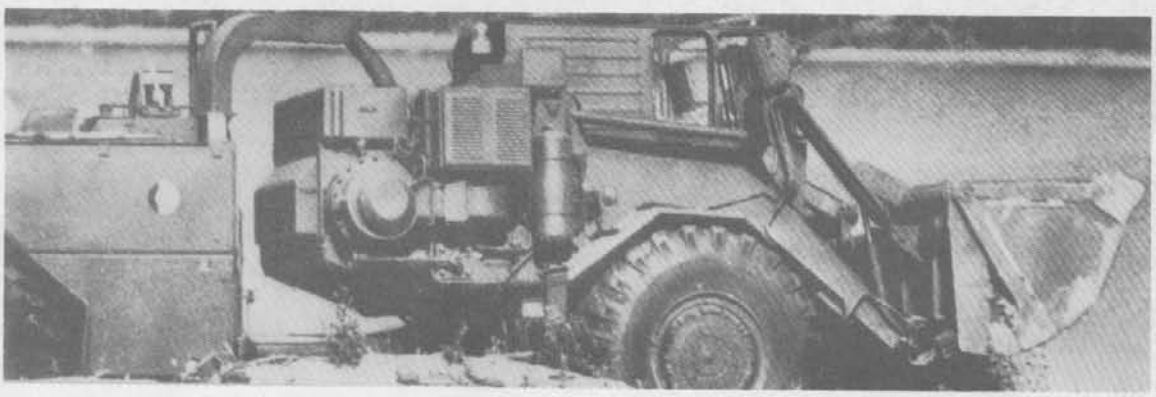
| | | DOK-L | DOK-R |
|---|---|---|---|
| weight | kg | 28000 | 28000 |
| wheelbase | mm | 5000 | 5000 |
| length | mm | 10530 | 10350 |
| width | mm | 3150 | 3150*** |
| height | mm | 3150 | 3150 |
| track | mm | 2450 | 2450 |
| clearance | mm | 450 | 450 |
| tire size | | 21x28 | 21x28 |
| engine model | | T-930-42 | T-930-42 |
| horsepower | | 255 | 255 |
| cylinders | | V-12 | V-12 |
| fuel | | diesel | diesel |
| cooling | | air | air |
| speed | km/h | 50* | 50* |
| cruising range | km | 250** | 250** |
| fuel capacity | l | 500 | 500 |
| fuel consumption | l/100km | | |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | 1500 | 1500 |
| towed load | kg | 65000 | 65000 |
| drawbar pull | kg | 21000 | 21000 |

*on roads
on crosscountry 30km/h

**cross country

***when dozing
with snowplow 4825 mm







DOK-L



LKT-75

## Wheeled Tractor LKT-75

The LKT-75 is a new four-wheel-drive tractor designed for logging work. It is powered by a 78-horsepower, 4-cylinder, water-cooled diesel engine, giving it a maximum speed of 25 km/h, with a maximum drawbar pull of 4000 to 5000 kg. Undoubtedly the logging version is one of many modifications which can be made to this new tractor. Like the Soviet K-700 and T-125/150K wheeled tractors, the LKT-75 has military potential.



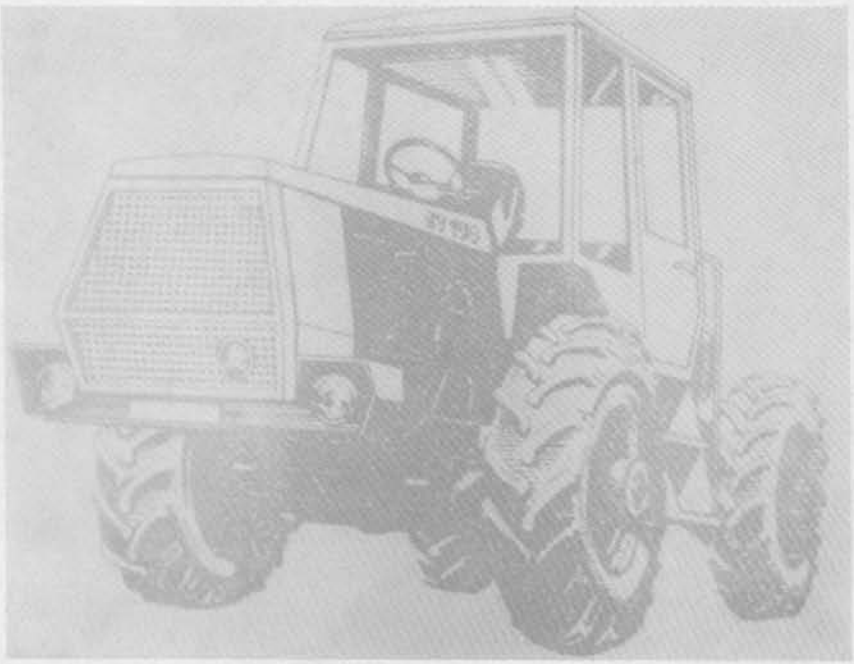
LKT-75





LKT-75





ST-180

# CZECHOSLOVAK WHEELED TRACTORS ST-180 AND ZETOR 12045

Wheeled Tractor ST-180
Wheeled Tractor Zetor 12045

Two new all-wheel-drive tractors have been produced in Czechoslovakia by the firm of Skoda and Zetor. Due to its horsepower, the ST-180 is especially capable of military use.

| | | ST-180 | Zetor 12045 |
|---|---|---|---|
| weight | kg | 7580 | 4600 |
| wheelbase | mm | 3100 | 2695 |
| length | mm | 6200 | 4250 |
| width | mm | 2450 | 2190 |
| height | mm | 3190 | 2480 |
| track front | mm | 1880 | 1500 |
| rear | mm | 1880 | 1500 |
| clearance | mm | 440 | 420 |
| tire size | | | |
| engine model | | M 634 | Zetor 12001 |
| horsepower | | 180 | 110 to 120 |
| cylinders | | 6 | 6 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed | km/h | 25.7 | 24 |
| cruising range | km | | |
| fuel capacity | l | | |
| fuel consumption | l/100km | | |
| trench | mm | | |
| step | mm | | |
| slope | ° | | |
| tilt | ° | | |
| ford | mm | | |
| towed load | kg | | |
| drawbar pull | kg | 6443 | |



T-180



Wheeled Tractor T-180
Wheeled Tractor T-180A
Wheeled Tractor T-200

The T-180 is a two-wheeled prime mover which is designed to tow the 12 m TV-10 cross-country side-dump semitrailer, the 10 m D-10 rear-dumping semitrailers, or the 10 m D-10 rear-dumping semitrailers, or the 10 m S-10 motorized scraper. The motorized scraper has a 160-horsepower engine mounted on the rear which is synchronized to work in unison with the prime mover. All of these attachments are hydraulically operated. The basic tractor has a five-speed, dual-range, pneumatically synchronized transmission. If the hydraulic steering loses pressure, a safety device locks the brakes immediately. The tractor can turn 90 degrees in either direction and is steered by two hydraulic ram cylinders or by braking each wheel independently. The T-180 can be recognized by its sleek lines, cab on the left, downward sloping hood, full grill, and wrap-around front bumper.

A newer version of this series is the T-180A. This model can be recognized by its blunt engine cowling, cab on left, flat hood with rolled sides, small shaped grill, split vent above hood (with or without cover), large "T-180" numbers located below the windshield, wrap-around bumpers with two front towing connections, and cutout steps located on the left side. The newest version, the T-200, has different styling and a 180 horsepower engine.

| | | T-180A |
|---|---|---|
| weight | kg | 9000 |
| length | mm | 4830 |
| width | mm | 2780 |
| height | mm | 2800 |
| track | mm | 2110 |
| clearance | mm | |
| tire size | | 21x20 |
| engine model | | T928-2 |
| horsepower | | 160 |
| cylinders | | V-8 |
| fuel | | diesel |
| cooling | | air |
| speed | km/h | 40.2 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | 14 |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | 11600 |



GMG 2-70



## Cross-Country Multi-Purpose Vehicle GMG 2-70

This vehicle was developed as a result of a careful study of Western vehicles such as the West German Unimog and the British Land-rover. It was designed for transport purposes in agriculture, forestry, and in construction. It has also been adopted by the East German military forces.

With various attachments the GMG 2-70 can function as a forklift, a mobile shovel, clamshell, crane, or as a straight forward prime mover. Due to its all-wheel-drive, it has considerable off-road mobility.

## GMG 2-70

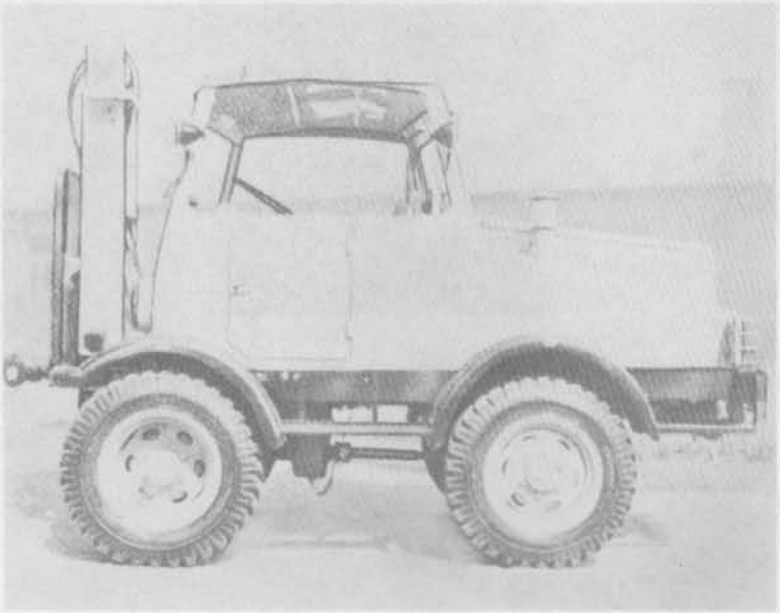
| | | |
|---|---|---|
| weight | kg | 3300 |
| wheelbase | mm | 1800 |
| length | mm | 3750 |
| width | mm | 2100 |
| height | mm | 2400 |
| track | mm | 1636/1664 |
| clearance | mm | 280 |
| tire size | | |
| engine model | | 4 KVD 12,5 SRL* |
| horsepower | | 70 |
| cylinders | | 4 |
| fuel | | diesel |
| cooling | | air |
| speed | km/h | 57** |
| fuel capacity | l | |
| trench | mm | 800 |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | 900 |
| payload | | 2700 |
| towed load | kg | |
| drawbar pull | kg | |

*or LO 4 gasoline air cooled

**61 km/h for gasoline-powered version




GMG 2-70





ZT-300



ZT-303

Wheeled Tractor ZT-300
Wheeled Tractor ZT-301
Wheeled Tractor ZT-303
Wheeled Tractor ZT-304

Although East Germany has produced wheeled tractors for a number of years, the only models suitable for military purposes are those of the ZT-300 series.

The ZT-300 is the basic farm tractor which has been modified into the ZT-301 construction tractor. The ZT-303 is more suited to general military use as a prime mover since it has four-wheel-drive. The ZT-304 is reported as a "transport" tractor.

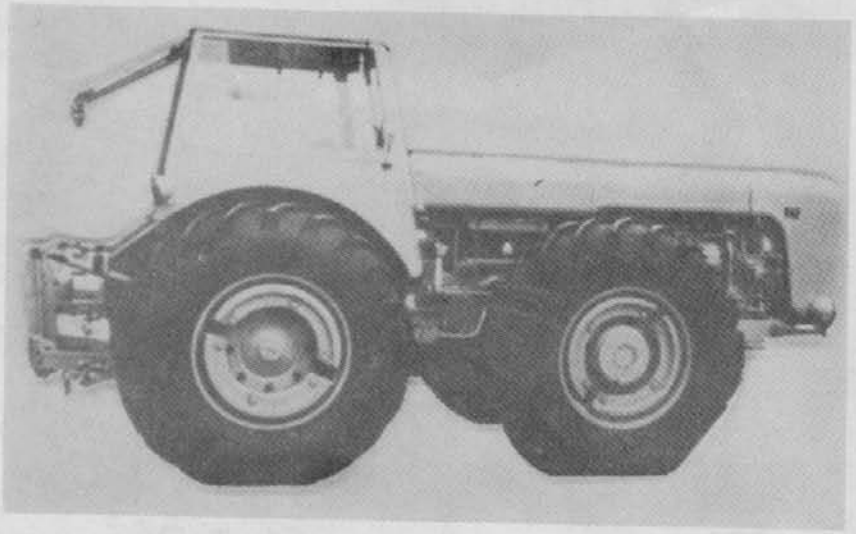
All of these tractors are produced at the Schoenebeck Tractor Plant and are equipped with the same engine, except for the ZT-301 construction tractor which has a three-cylinder model of only 60 horsepower.

| | | ZT-300 | ZT-301 | ZT-303 |
|---|---|---|---|---|
| weight | kg | 4950 | | c.5200 |
| wheelbase | mm | 2800 | 2400 | |
| length | mm | 4690 | | |
| width | mm | 2017 | | |
| height | mm | 1800/2586 | | |
| track | mm | 1550* | | |
| clearance | mm | 460 | | |
| tire size | | 7.25x20 & 15x30 | | |
| engine model | | 4 VD 14,5/12 SRW | 3 VD 14,5/12 SRW | |
| horsepower | | 90 | 60 | 90 |
| cylinders | | 4 | 3 | 4 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | 29.9 | 18.7 | |
| fuel capacity | l | 130 | | |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | kg | | | |

*front track changeable 1625 rear 2000
1750
1875



ZT-300



D4K



D4K-13

# HUNGARIAN WHEELED TRACTORS DUTRA SERIES

Wheeled Tractor D4K
Wheeled Tractor D4K-B
Wheeled Tractor Dutra-steyr 100

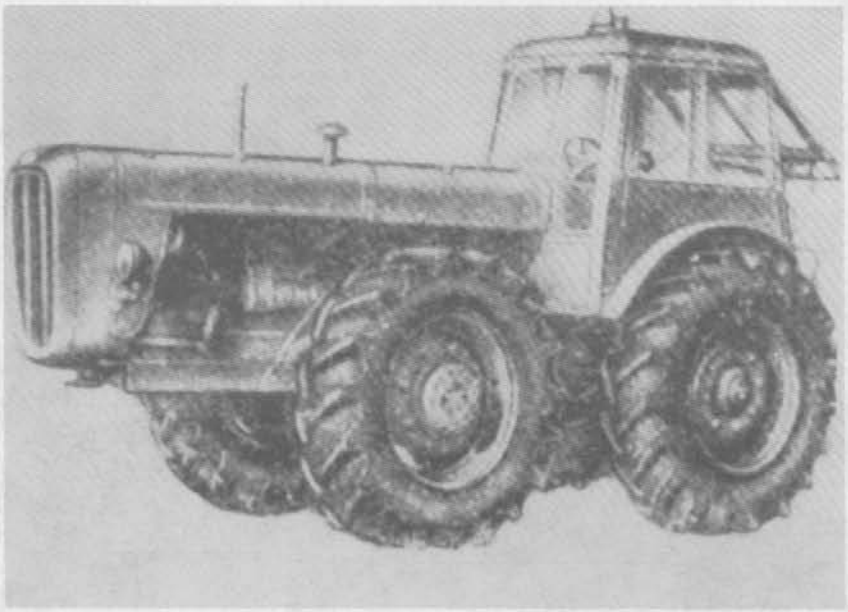
The Hungarian Dutra D4K all-wheel-drive tractor first appeared in 1961 and has since been exported to a number of Warsaw Pact countries, especially East Germany. It can be recognized by its long, overhanging hood, headlights mounted halfway up the front cowl, and the indented grill. The second model, the D4K-B, with a more powerful engine, has a similar appearance. Both tractors feature independent power takeoff. An unusual feature is that a ballast of 1200 kg is available by adding weights to the wheels and by filling the tires with water.

The newest Hungarian all-wheel-drive tractor is the Dutra-Steyr 110 which is made on license from the Austrian firm of Steyr. This tractor may appear in the near future with engines up to 180 horsepower.

| | | D4K | D4K-B | Dutra-Steyr 110 |
|---|---|---|---|---|
| weight | kg | 4328 | 5100 | 5100 |
| wheelbase | mm | 1850 | 1950 | 1950 |
| length | mm | 4600 | 4920 | 5020 |
| width | mm | 1880 | 2100 | 2200 |
| height | mm | 2260 | 2560 | 2530 |
| track front | mm | 1550 | 1730 | 1730 |
| rear | mm | 1550 | 1730 | 1730 |
| clearance | mm | 300 | 500 | 510 |
| tire size | | 13x30 | 15x30 | 15x30 |
| engine model | | DT-414 | D-613-15 | Steyr WB 610.50 |
| horsepower | | 65 | 90 | 105 |
| cylinders | | 4 | 6 | 6 |
| fuel | | diesel | diesel | diesel |
| cooling | | water | water | water |
| speed | km/h | | 21.45 | 24.5 |
| fuel capacity | l | | | 200 |
| trench | mm | | | |
| step | mm | | | |
| slope | ° | | | |
| tilt | ° | | | |
| ford | mm | | | |
| towed load | kg | | | |
| drawbar pull | | 4230 | | |




D4K-B






ZgSH-201A



## Wheeled Tractor ZgSH-201A

This GOER type vehicle is the first of its kind to be produced in Poland. Like the Czechoslovak T-180A and the various Soviet single-axle wheeled tractors, it can be coupled to various kinds of construction equipment and semitrailers. Originally the ZgSH-201A was called the Cl-160 "Mammut" and was equipped with a Polish 170-horsepower, six-cylinder, in-line diesel engine, but current models use the British Leyland diesel which is produced in Poland on license.



T-100

Wheeled Tractor T-100 "Tigar"
Wheeled Tractor T-120S

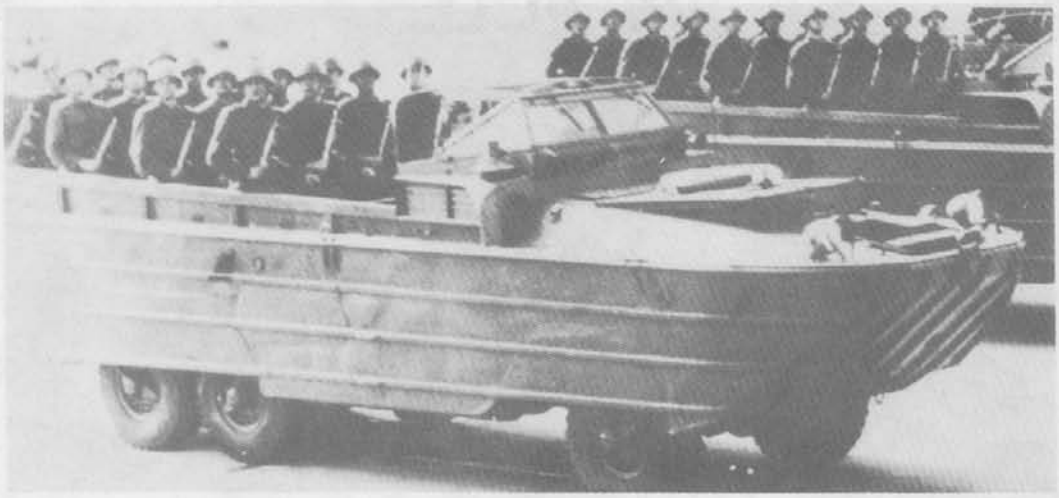
Two large-wheeled tractors designed for construction work are produced in Yugoslavia. The T-100 "Tigar" is employed primarily on construction sites in the civilian economy, while the new T-120S universal tractor is almost exclusively a military model.

| | | T-100 |
|---|---|---|
| weight | kg | 9700 |
| wheelbase | mm | 1554 |
| length | mm | 3732 |
| width | mm | 2642 |
| height | mm | 2600 |
| track front | mm | |
| rear | mm | |
| clearance | mm | |
| tire size | | |
| engine model | | Famos FA-100 |
| horsepower | | 100 |
| cylinders | | 6 |
| fuel | | diesel |
| cooling | | water |
| speed | km/h | 23.6 |
| fuel capacity | l | |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| towed load | kg | |
| drawbar pull | kg | |

# AMPHIBIOUS VEHICLES



MAV



BAV

# AMPHIBIOUS TRUCKS

Amphibious Truck, 4x4, GAZ-46 (MAV)
Amphibious Truck, 4x4, P2S
Amphibious Truck, 6x6, 485 (BAV)
Amphibious Truck, 6x6, 485A (BAV-A)

At the present time most Warsaw Pact amphibious vehicles are tracked, but nevertheless, many of the older amphibious trucks are still employed, most of them of Soviet origin. Soviet interest in amphibious trucks dates back to World War II when amphibious jeeps and amphibious 6x6 trucks (DUKW) were provided by the United States under the lend-lease program.

The amphibious jeep was the model on which the Soviet GAS-46 (MAV) was built. Originally produced on a modified GAZ-67B chassis, the MAV (small amphibious motor vehicle) was later turned out using the UAZ-69 chassis. Design is conventional with water propulsion being provided by a large three-bladed propellor located in the rear of the vehicle. Today the MAV is found in engineer reconnaissance units, although the various armored scout cars are also used in this role.

The East German P2S amphibious jeep was an unsuccessful attempt to build a comparable vehicle to the MAV using the chassis of the P2M jeep of East German design. Only very few of these vehicles were produced, and today they are rarely encountered.

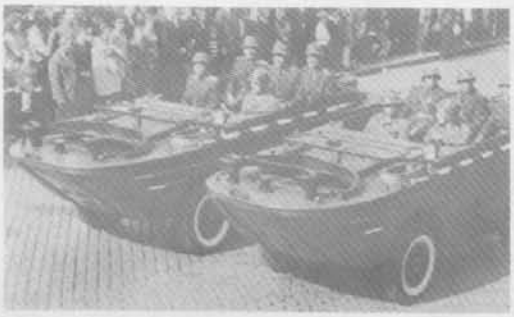
The Soviet BAV (large amphibious motor vehicle) was originally produced on the modified ZIL-151 chassis, but with large single tires with external airlines for the central tire pressure regulation system. In effect it was an improved copy of the United States World War II DUKW. An important practical modification over the DUKW was the provision of a longer cargo compartment and a tailgate for easier loading and unloading. The BAV-A was produced on a modified ZIL-157 chassis, thus incorporating internal airlines for the central tire pressure regulation system. Both vehicles are propelled in the water by a large three-bladed propellor located in the rear. The engine is the same model as used in the BTR-152 series of wheeled armored personnel carriers. Originally, the BAV was referred to as the ZIL-485, but in recent years the factory name ZIL has been dropped.

| | | MAV* | P2S | BAV | BAV-A |
|---|---|---|---|---|---|
| weight | kg | 1980 | 1969 | 7150 | |
| wheelbase | mm | 2300 | 2285 | 3668+1120 | 3668+1120 |
| length | mm | 5060 | 5100 | 9540 | 9540 |
| width | mm | 1735 | 1835 | 2485 | 2485 |
| height | mm | 2040** | 1860** | 2660** | |
| track front | mm | 1440 | 1400 | 1620 | 1620 |
| rear | mm | 1440 | 1400 | 1620 | 1620 |
| clearance | mm | 240 | 300 | 280 | |
| tire size | | 6.50x16 | | 11x18 | 12x18 |
| engine model | | M-20 | 6M 6/35L | ZIL-123 | ZIL-123 |
| horsepower | | 55 | 65 | 110 | 110 |
| cylinders | | 4 | 6 | 6 | 6 |
| fuel | | gasoline | gasoline | gasoline | gasoline |
| cooling | | water | water | water | water |
| speed land | km/h | 90 | 95 | 60 | 60 |
| water | km/h | 9 | 9 | 10 | 10 |
| cruising | km | 500 | | 480 | 480 |
| fuel capacity | l | 90 | | 240 | 240 |
| fuel consumption | l/100km | 17.7 | | 47 | 47 |
| trench | mm | 360 | 360 | 600 | 720 |
| step | mm | 300 | 300 | 400 | 600 |
| slope | ° | 25 | | 30 | 30 |
| tilt | ° | | | | |
| payload land | kg | 500 | 450 | 2500 | 2500 |
| water | kg | 500 | | 2500 | 2500 |
| personnel | | 5 | 5 | 25 | 25 |

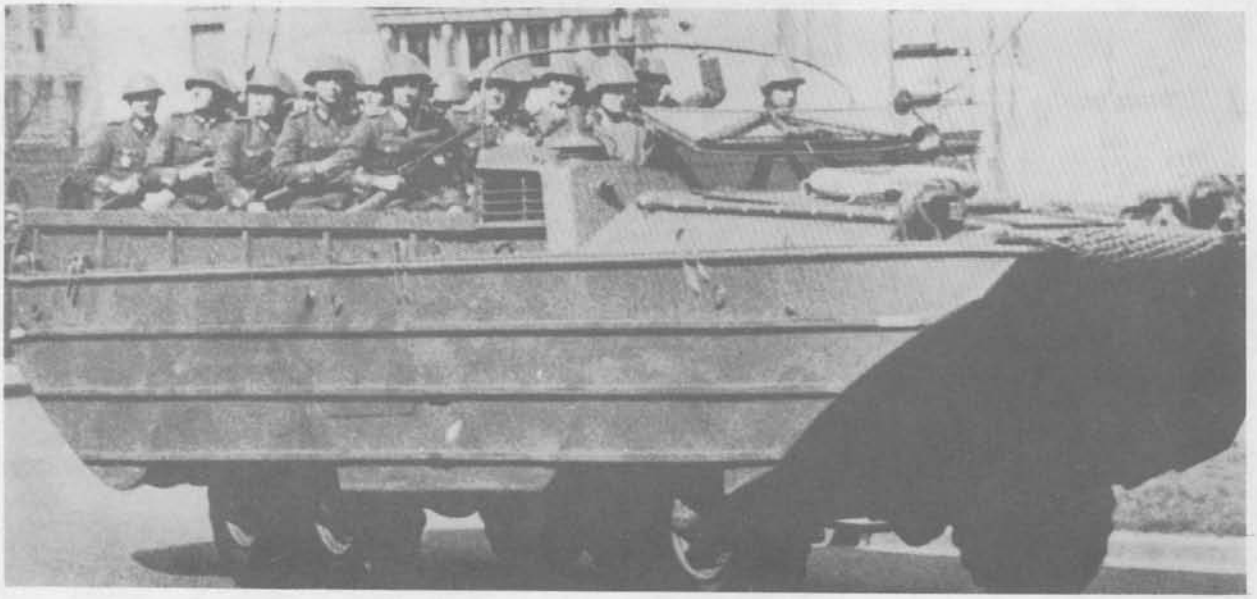
*early MAV vehicles based on GAZ-67B jeep have somewhat different dimensions. The GAZ-67 engine of 54 horsepower has slightly different performance figures and 7.50x16.6 tires.

**over canvas





MAV



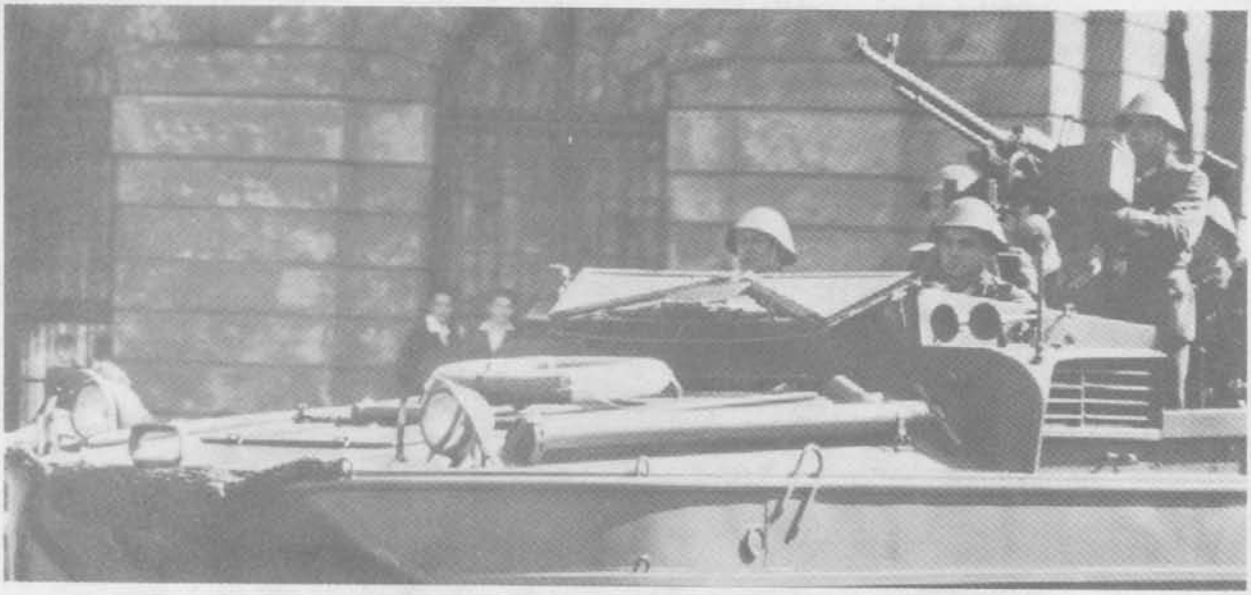
BAV



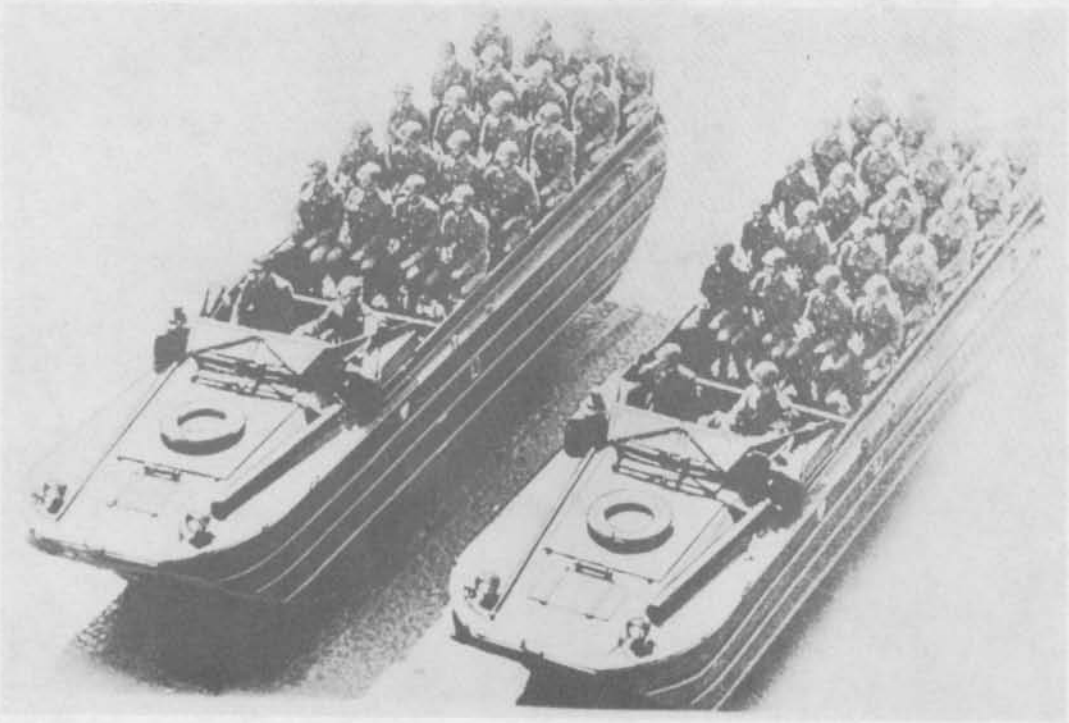
MAV WITH P2M

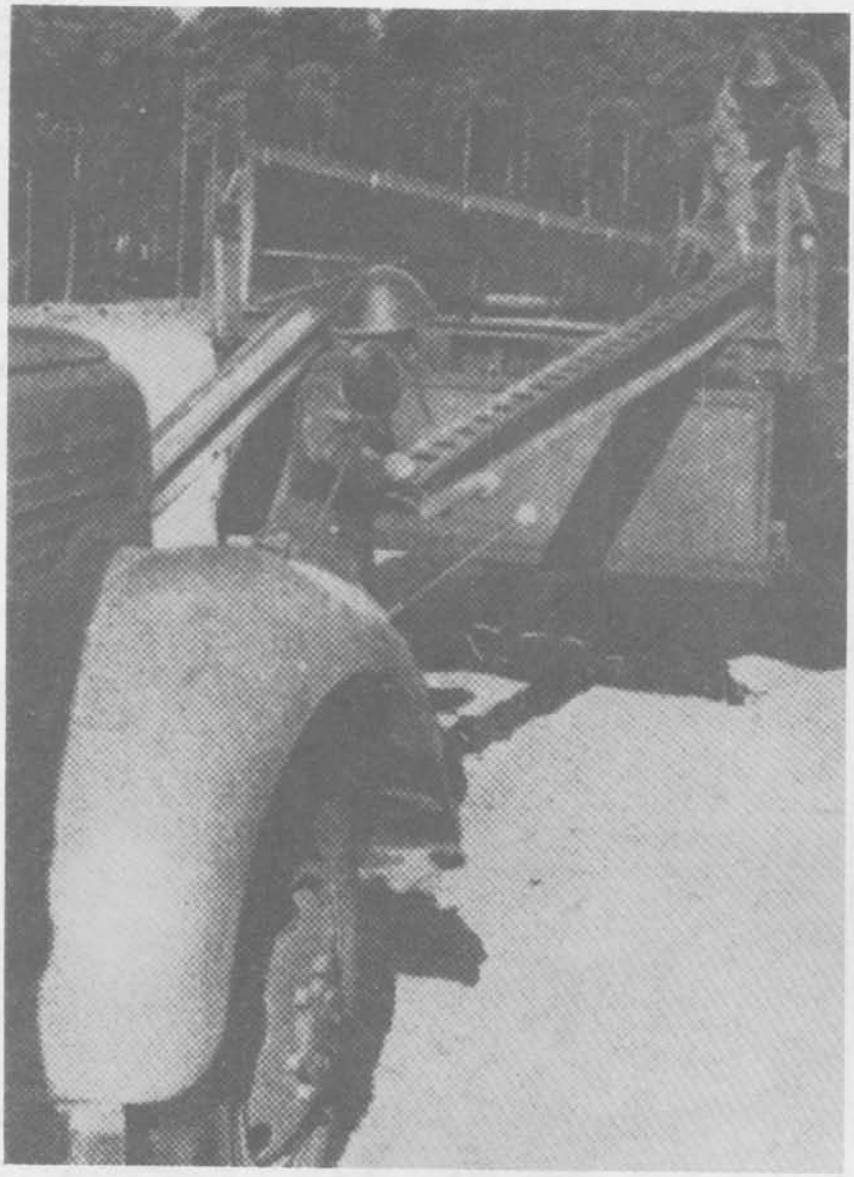


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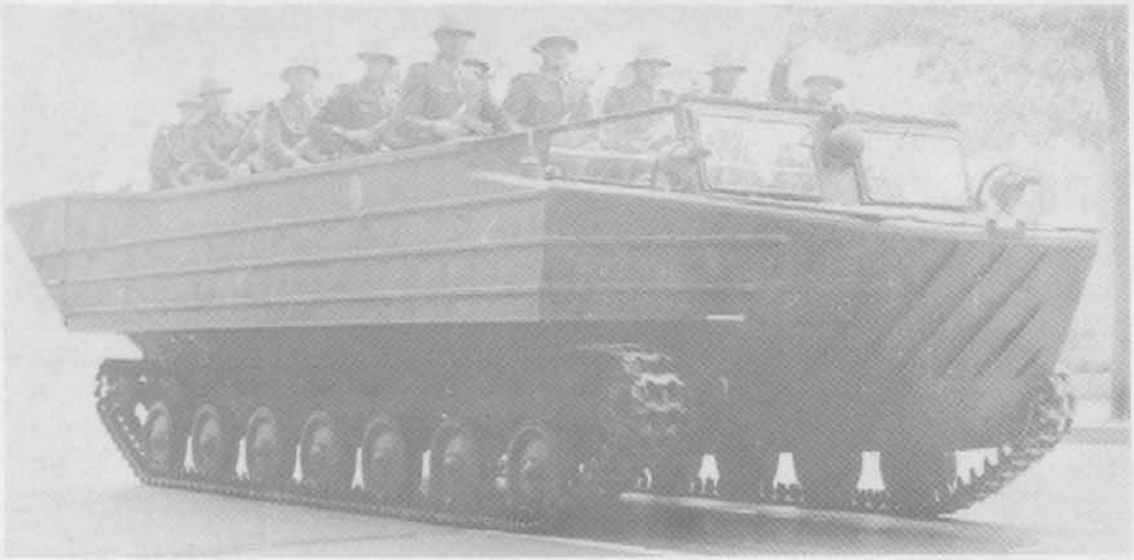


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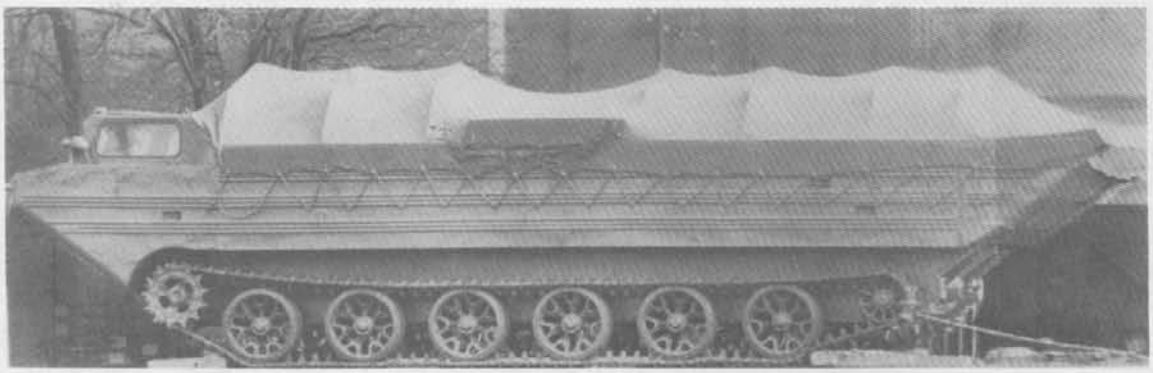




BAV LOADING RAMPS



K-61



PTS

Tracked Amphibian K-61 (GPT)
Tracked Amphibian PTS
Tracked Amphibian PTS-M

The K-61 and PTS tracked amphibians are large unarmored vehicles widely used in all of the armies of the Warsaw Pact. They are employed to transport cargo, equipment, weapons, and personnel in river crossing operations. They are also used to a limited extent in over-the-beach landings.

The K-61, sometimes known as the GPT (tracked swimming transporter), is the older and smaller of the vehicles. It is unique in that it is the only known Soviet tracked vehicle to use support slides in the track system instead of conventional track support rollers. It is capable of carrying either a 152 mm howitzer or a ZIL-157 truck in the water. Access to the cargo compartment is through a large tailgate which also acts as a loading ramp. Two large three-bladed propellors located in the rear of the vehicle provide water propulsion. Originally appearing in the early 1950's, the K-61 is now being replaced by the PTS.

The PTS, which first appeared in the middle 1960's is a much larger and more powerful vehicle than the K-61. Although it resembles the K-61, it can be easily distinguished. The overall dimensions are larger; the fully enclosed cab is located farther forward; and the running gear is different. The PTS (medium swimming transporter) has infrared driving and surveillance equipment, radio communication, an intercom system, and a high-capacity bilge pump. With its completely sealed cab, it can be operated under conditions of chemical or nuclear contamination.

A recent development is the PKP amphibious trailer which is used in connection with the PTS. For river-crossing operations, an artillery piece is loaded onto the trailer, while the prime mover is carried in the PTS. This permits faster crossing of the water barrier by artillery units.

| | | K-61 | PTS-M |
|---|---|---|---|
| weight | kg | 9550 | 17700 |
| length | mm | 9150 | 11500 |
| width | mm | 3150 | 3300 |
| height | mm | 2150 | 2650 |
| track | mm | 2600 | 2900 |
| clearance | mm | 360* | 500 |
| track width | mm | 300 | 480 |
| ground contact | mm | 4560 | 5630 |
| engine model | | YaAZ-M204VKr | A-712P |
| horsepower | | 135 | 250 |
| cylinders | | 4 | V-12 |
| fuel | | diesel | diesel |
| cooling | | water | water |
| speed land | km/h | 36 | 40 |
| water | km/h | 10 | 15 |
| cruising range | km | 260 | 300 |
| fuel capacity | l | 260 | |
| fuel consumption | l/100km | 95 | |
| ground pressure | | | |
| unloaded | $kg/cm^2$ | 0.35 | 0.32 |
| loaded | $kg/cm^2$ | 0.46 | 0.41 |
| trench | mm | 3000 | 2500 |
| step | mm | 650 | 650 |
| slope unloaded | ° | 42 | 30 |
| loaded | ° | 15** | 10 |
| crew | | 2 | 2 |
| passengers | | 60 | 70 |
| payload land | kg | 3000 | 5000 |
| water | kg | 5000 | 10000 |
| towed load | kg | | |
| entry angle*** | ° | 15 | |

*loaded
400 mm unloaded

**with cargo
10° only with vehicle

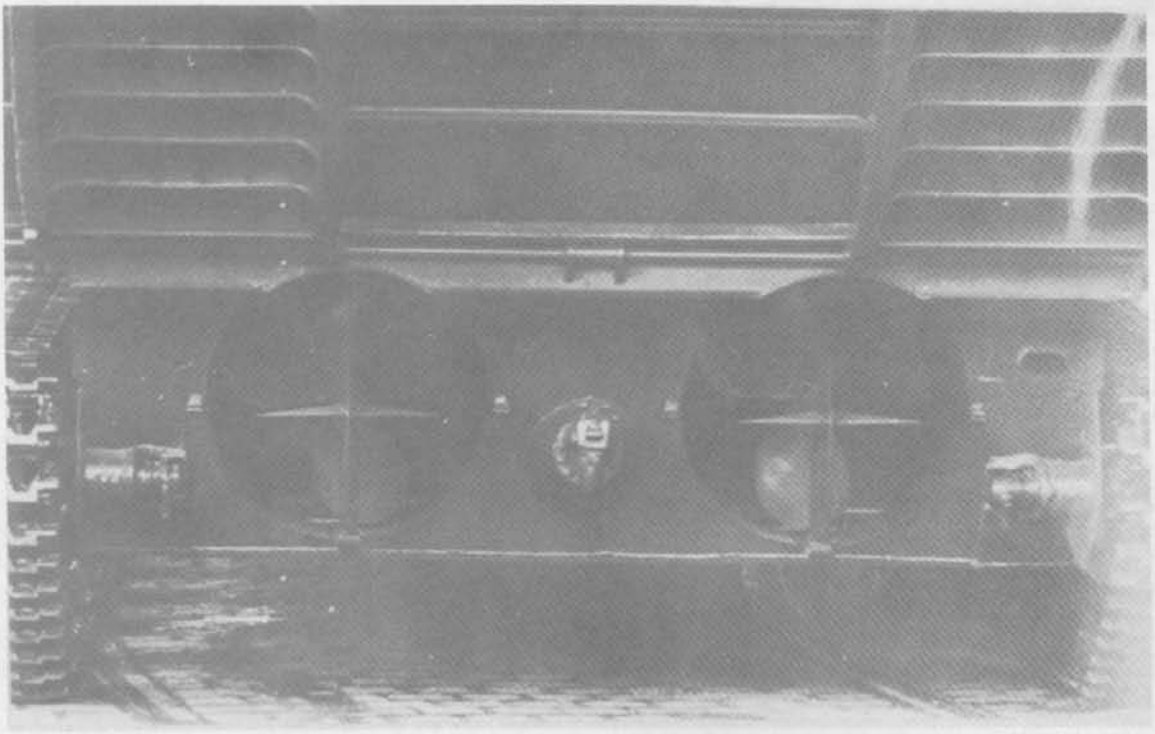
***without load
K-61 with load 10°
K-61 with vehicle 5°
PTS-M with load 15°
also exit angle
for PTS-M



K-61

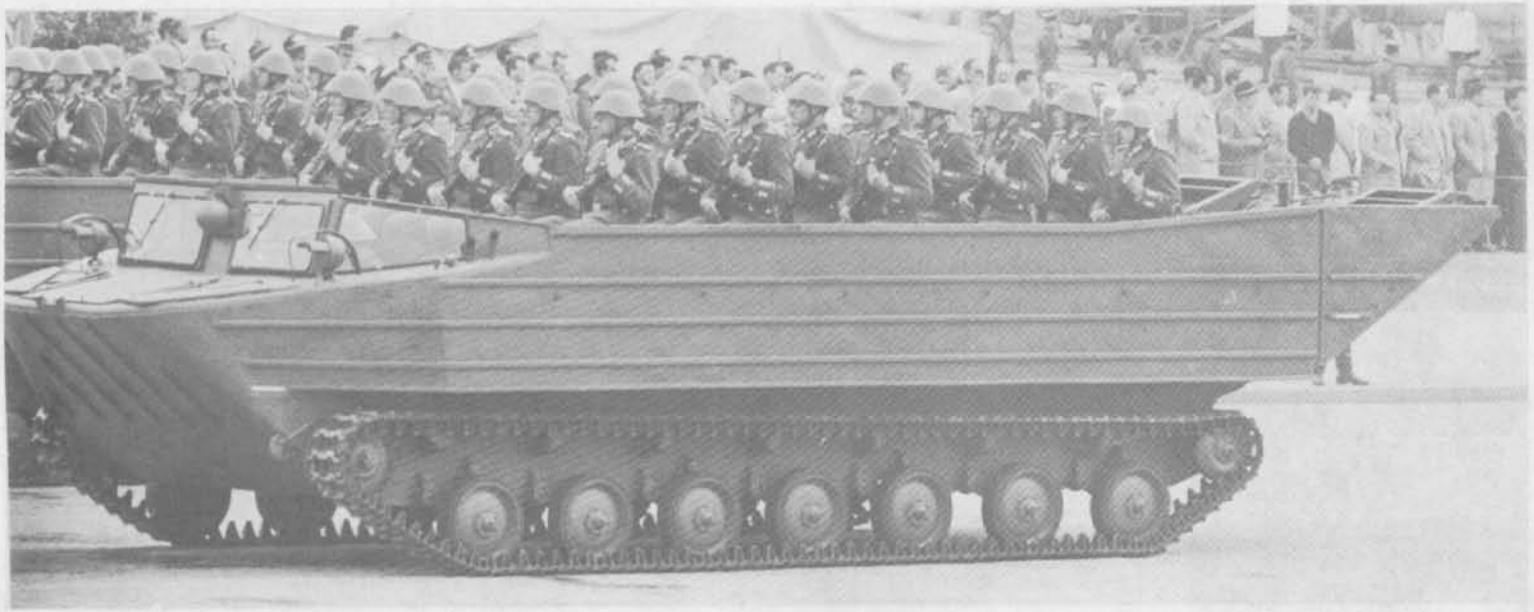


K-61 WITH 76MM DIVISIONAL GUN M1942



K-61





K-61



K-61 WITH CZECH 85 MM FIELD GUN



K-61 WITH ZPU-2

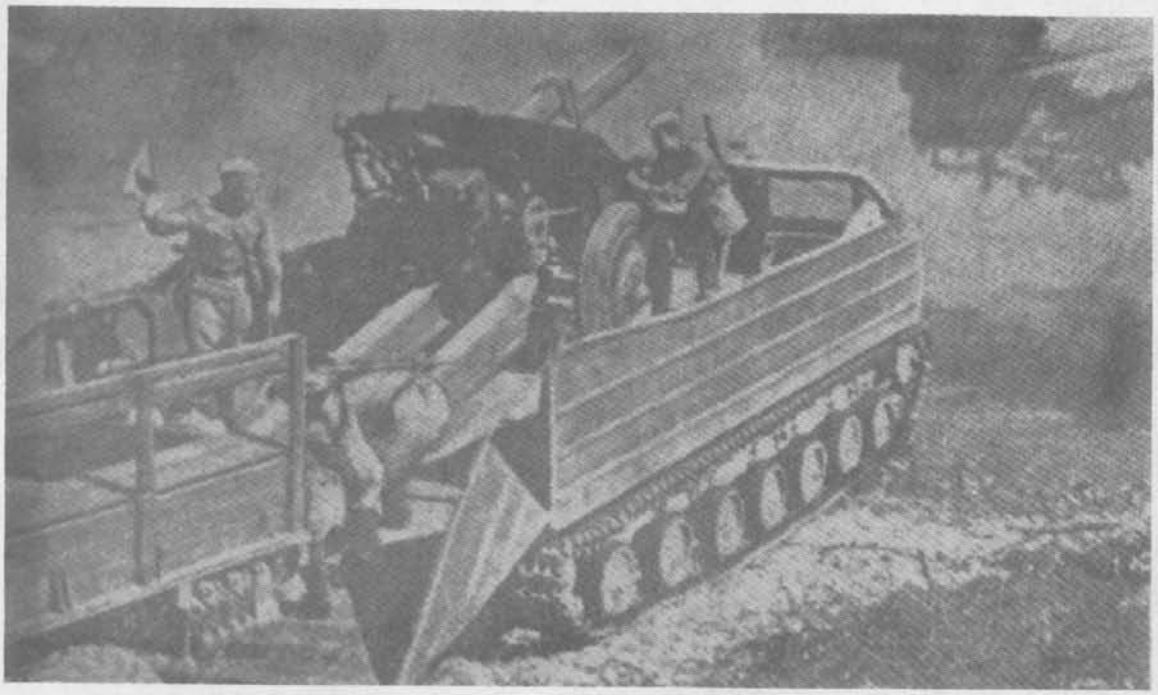


K-61 WITH ZPU-4

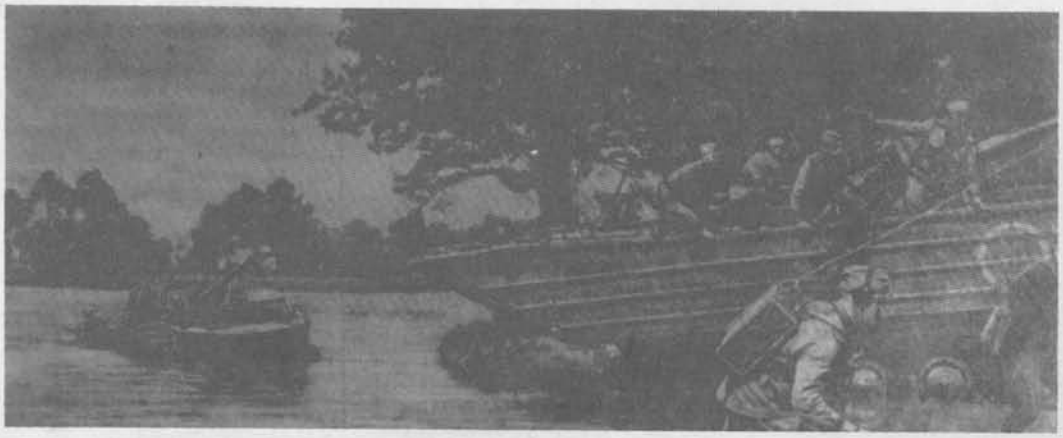


K-61 WITH 122 MM HOWITZER M1938 (M-30)

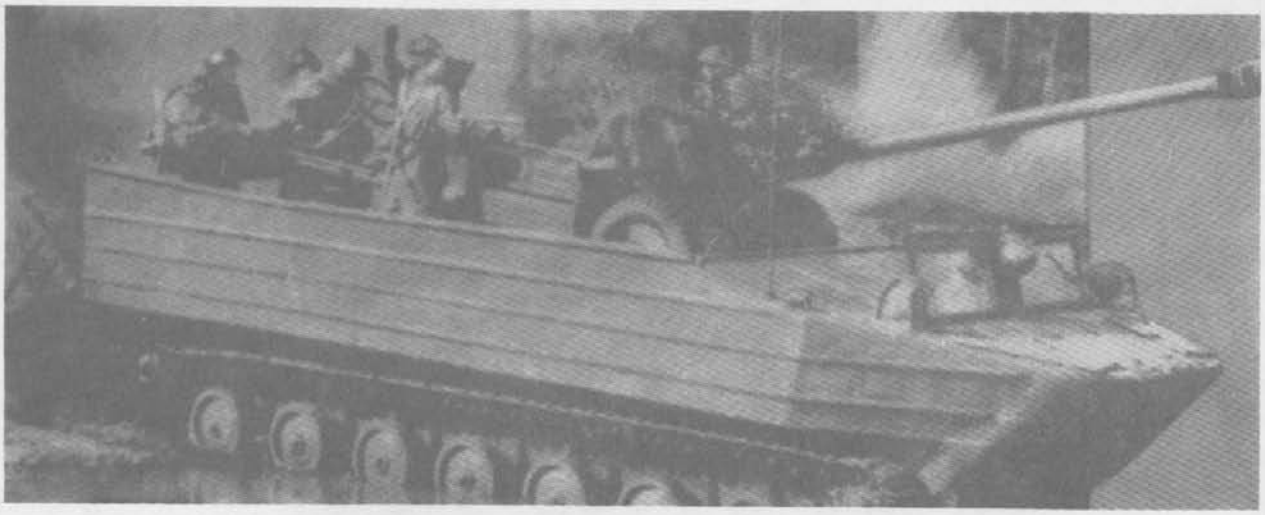




K-61 WITH 122 MM HOWITZER M1938 (M-30)



K-61 WITH 85 MM FIELD GUNS



K-61 CARRYING 85 MM AUXILIARY PROPELLED FIELD GUN SD-44



K-61 WITH 120 MM MORTAR

CARRYING
UAZ-67

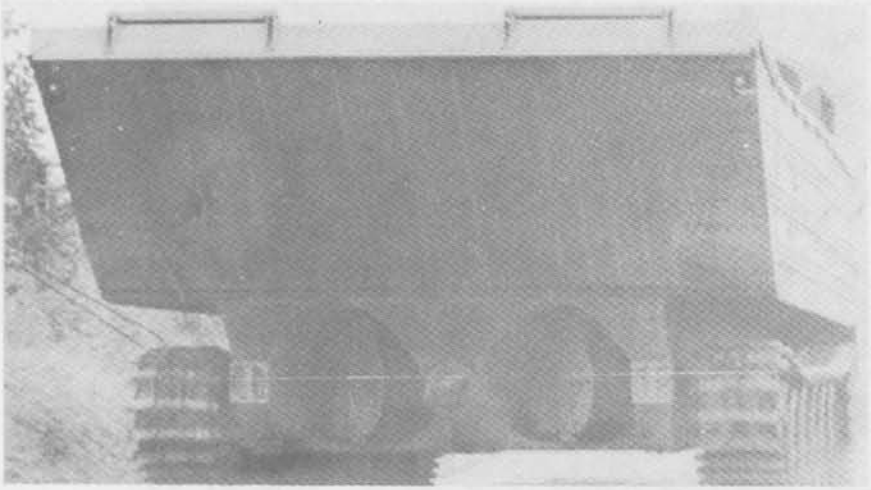


CARRYING
GAZ-63

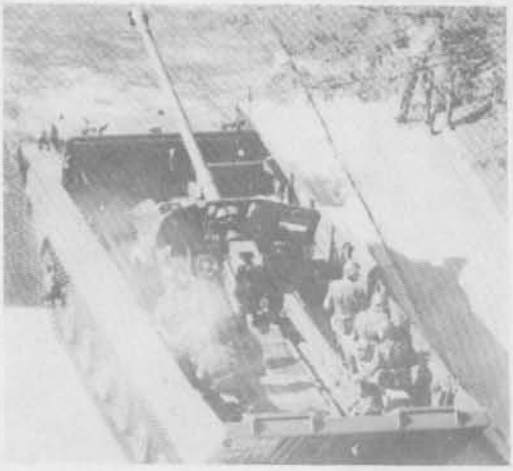
K-61



K-61 LOADING GAZ-63 CARRYING 14.5 MM AA HEAVY MACHINEGUN ZPU-2

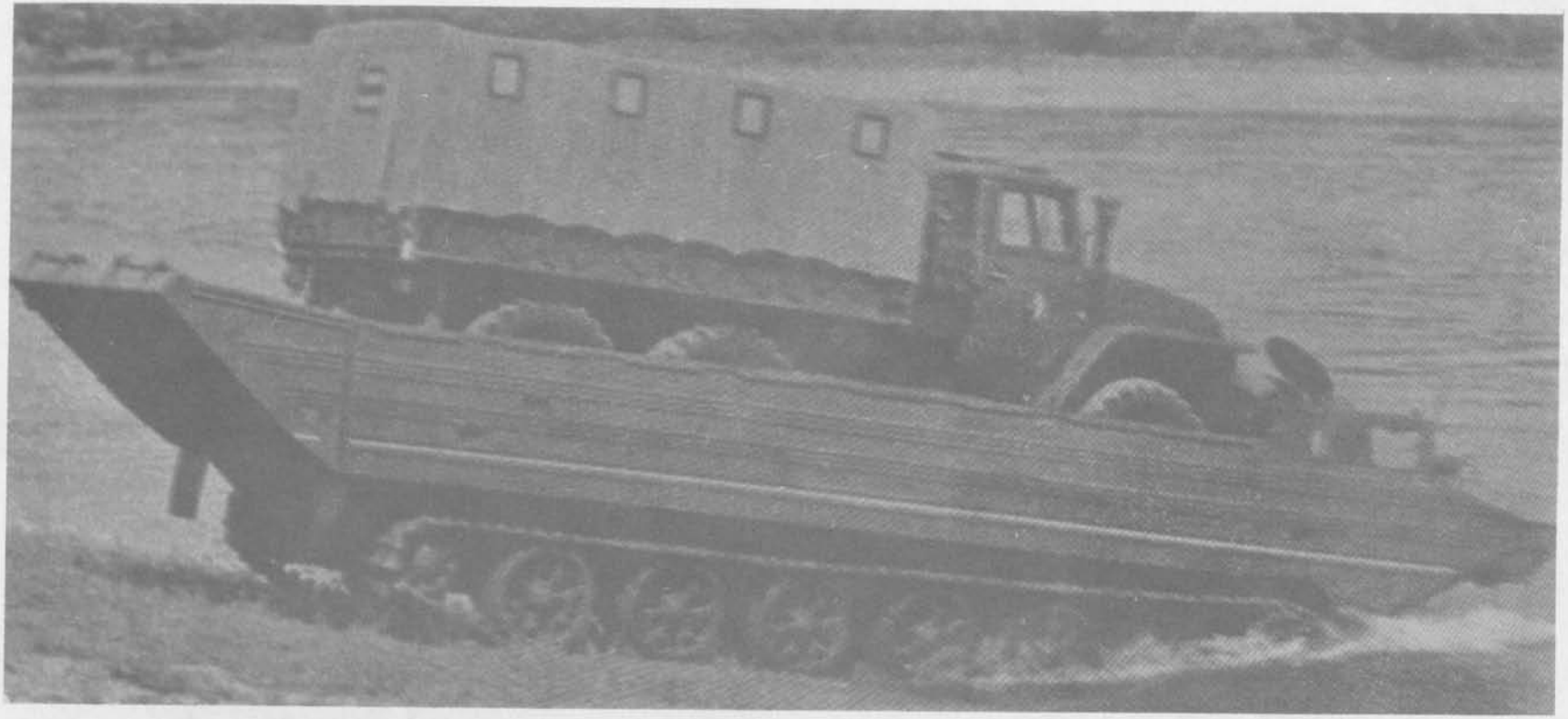


PTS



PTS WITH 100 MM FIELD GUN M1944





URAL-375D ON PTS



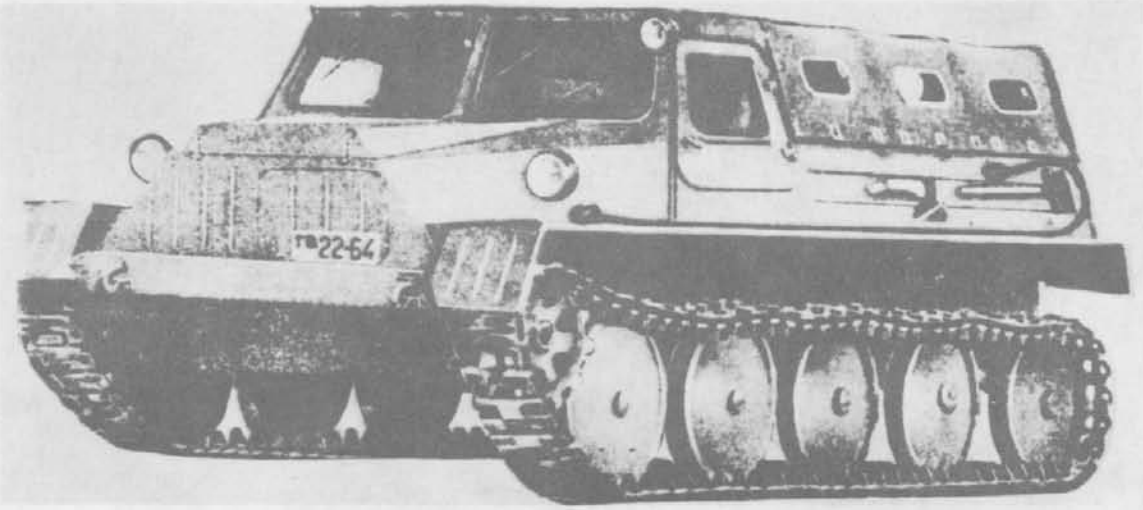
PTS WITH URAL-375D



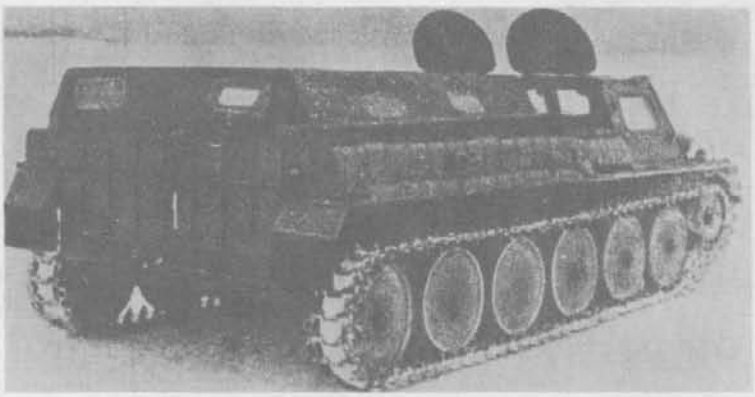
PTS



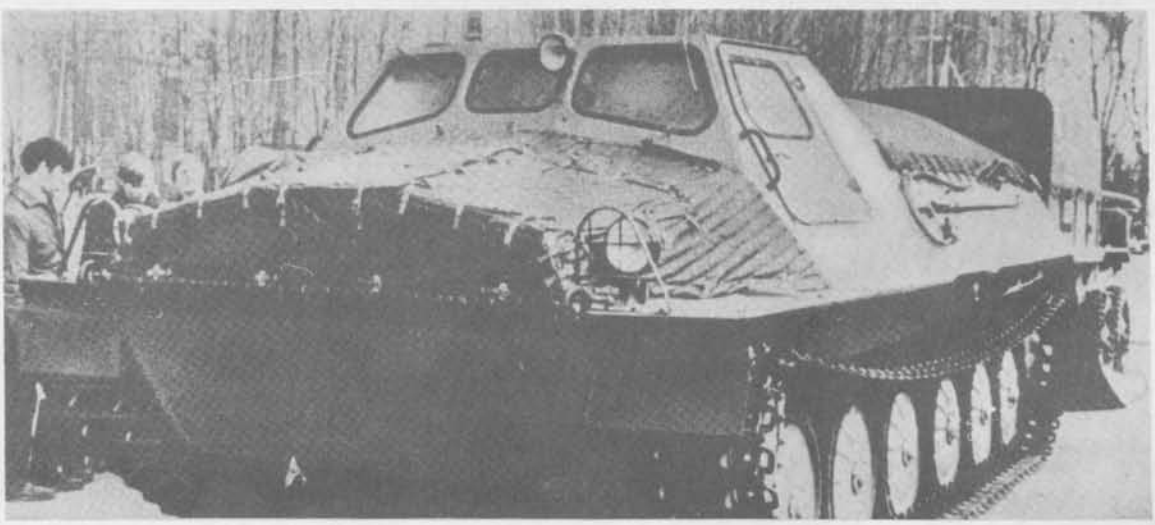
PTS CARRYING L01800A TRUCK



GT-S



GT-SM



GT-T

Tracked Transporter GT-S (GAZ-47)
Tracked Transporter GT-SM (GAZ-71)
Tracked Transporter GT-T

The various tracked transporters were designed to carry cargo and personnel across marshy ground or in Arctic regions. For this reason the design provides for a very low ground pressure and an amphibious capability. In contrast to most Soviet amphibious vehicles, the tracked transporters use their tracks for water propulsion. These vehicles may also be used to tow trailers or light artillery pieces.

The first tracked transporter to be produced was the GT-S (GAZ-47), which has been used by the Soviet Army as a personnel carrier, reconnaissance vehicle, and as a prime mover for 120 mm mortars and 57 mm antitank guns. It has also been used for a variety of roles in civilian enterprises.

An improved GT-S, known as the GT-SM, is now in production. Although it is approximately the same size as the earlier model and with the same cargo/personnel capacity, the GT-SM has a more powerful engine (adopted from the GAZ-53 and GAZ-66 trucks), giving it improved performance.

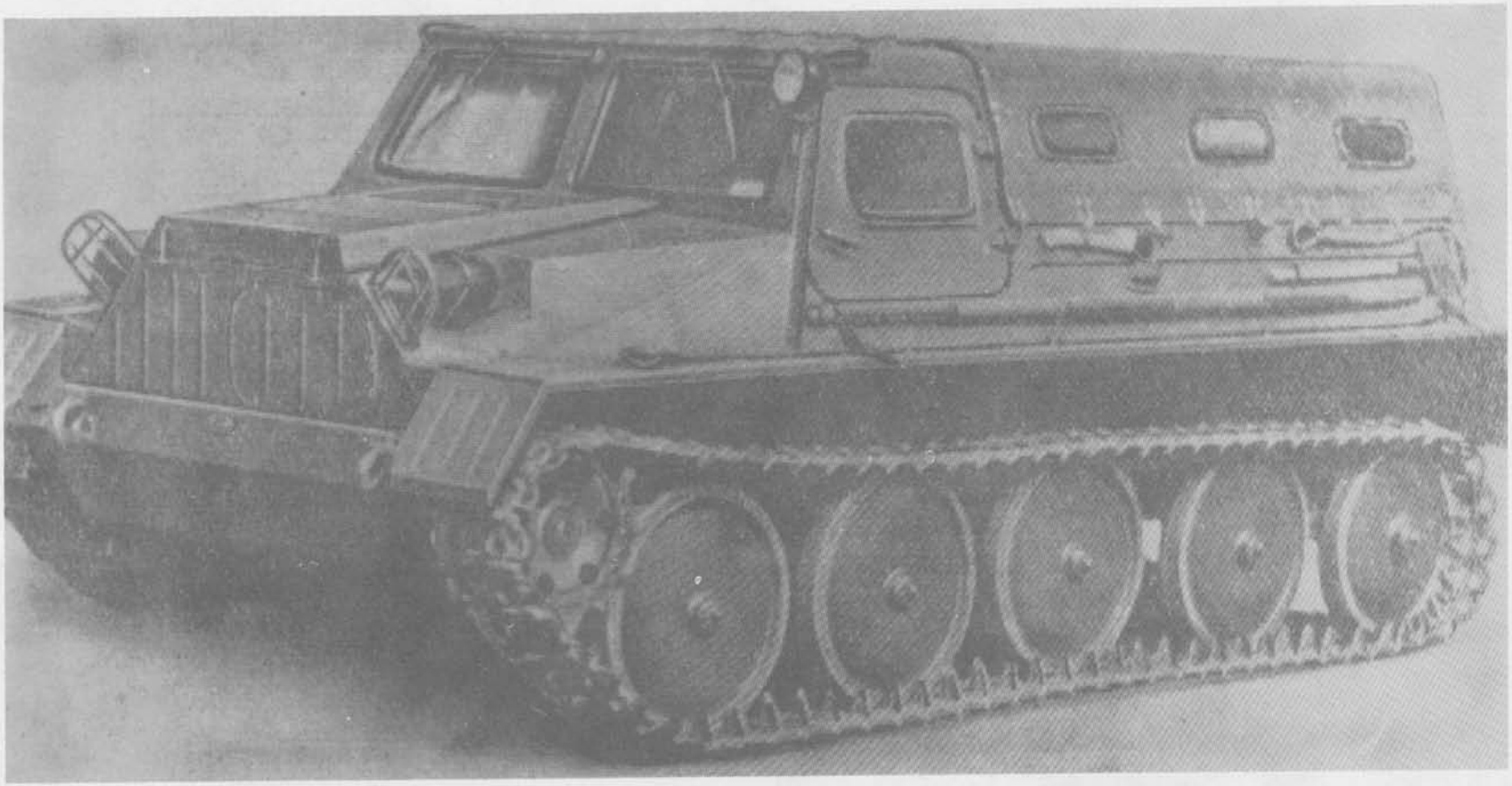
The largest of the tracked transporters is the GT-T which has doubled the payload of the other transporters and is powered by a diesel engine. It is easy to distinguish from the other vehicles, especially since the running gear employs PT-76 type roadwheels. The GT-T has been used by the Soviet Army in a variety of roles. It also forms the basis for the new armored tracked artillery tractor/APC, M1970.

| | | GT-S | GT-SM | GT-T |
|---|---|---|---|---|
| weight | kg | 3600* | 3750* | 8000* |
| length | mm | 4900 | 5365 | 6500 |
| width | mm | 2435 | 2582 | |
| height | mm | 1960 | 1740 | |
| track | mm | 2050 | 2180 | |
| clearance | mm | 400 | 380 | 450 |
| track width | mm | 300 | 300 | 360 |
| ground contact | mm | 3350 | 3630 | |
| engine model | | GAZ-61 | GAZ-71 | IZ-6 |
| horsepower | | 85** | 115 | 200 |
| cylinders | | 6 | V-8 | 6 |
| fuel | | gasoline | gasoline | diesel |
| cooling | | water | water | water |
| speed land | km/h | 35-39 | 50 | 45 |
| water | km/h | 4 | 5-6 | |
| cruising range | km | 725 | | 500 |
| fuel capacity | l | 208 | 300 | |
| fuel consumption | l/100km | | | |
| ground pressure | $kg/cm^2$ | 0.24*** | | 0.24*** |
| trench | mm | 1300 | | |
| step | mm | 600 | | |
| slope | ° | 30 | | 35 |
| tilt | ° | | | |
| crew | | 2 | 2 | 3 |
| passengers | | 9 | 10 | 10 |
| payload land | kg | 1000 | 1000 | 2000 |
| water | kg | | | |
| towed load | kg | 2000 | 2000 | 4000 |

*empty weight, 4650 kg combat loaded for GT-S
4850 kg combat laoded for GT-SM
10200 kg combat loaded for GT-T

**early models had 74-horsepower engine

***loaded

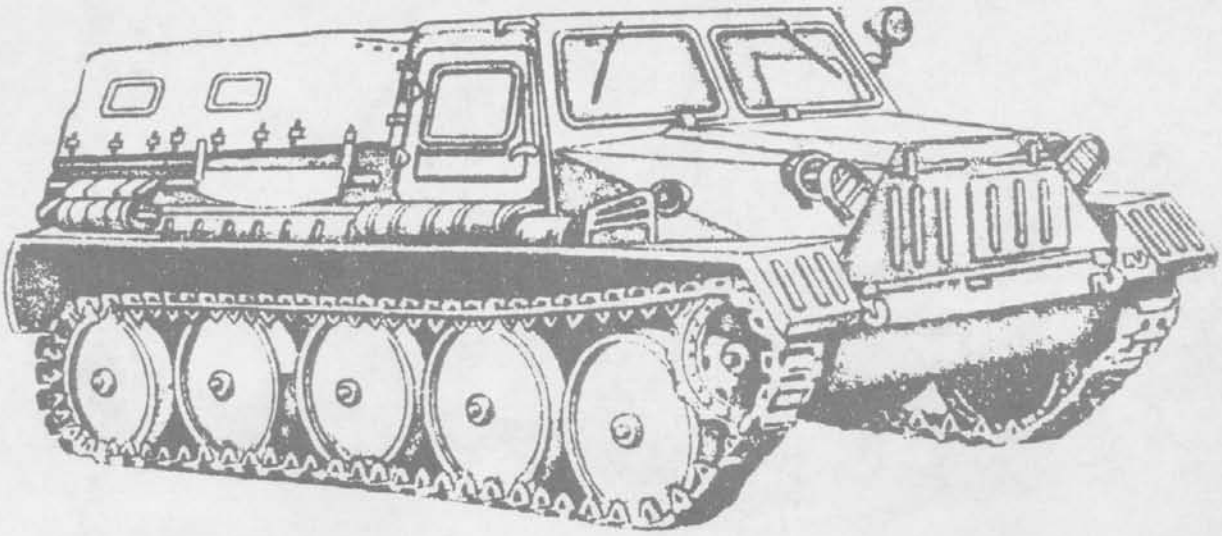


GT-S

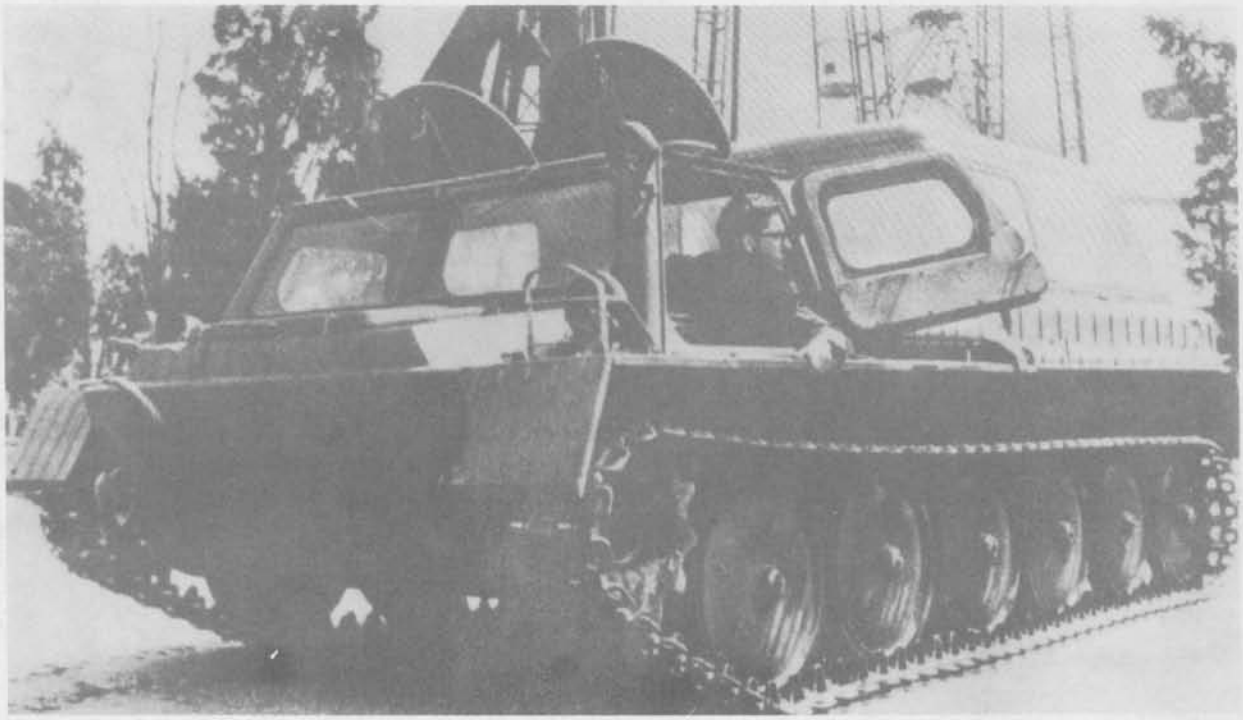


GT-S

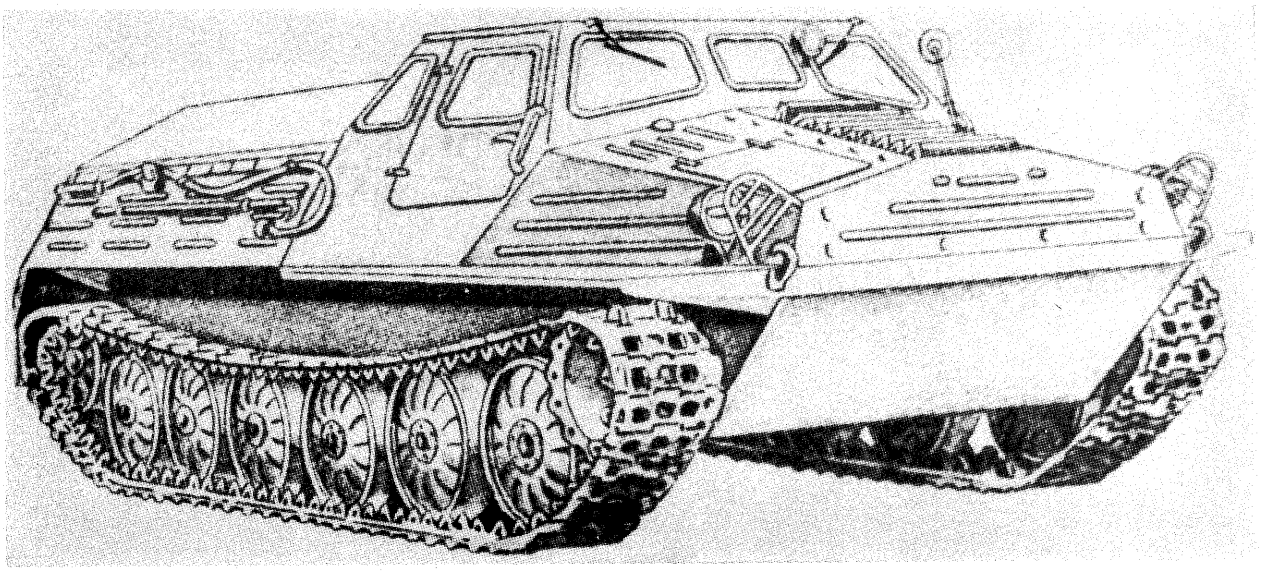




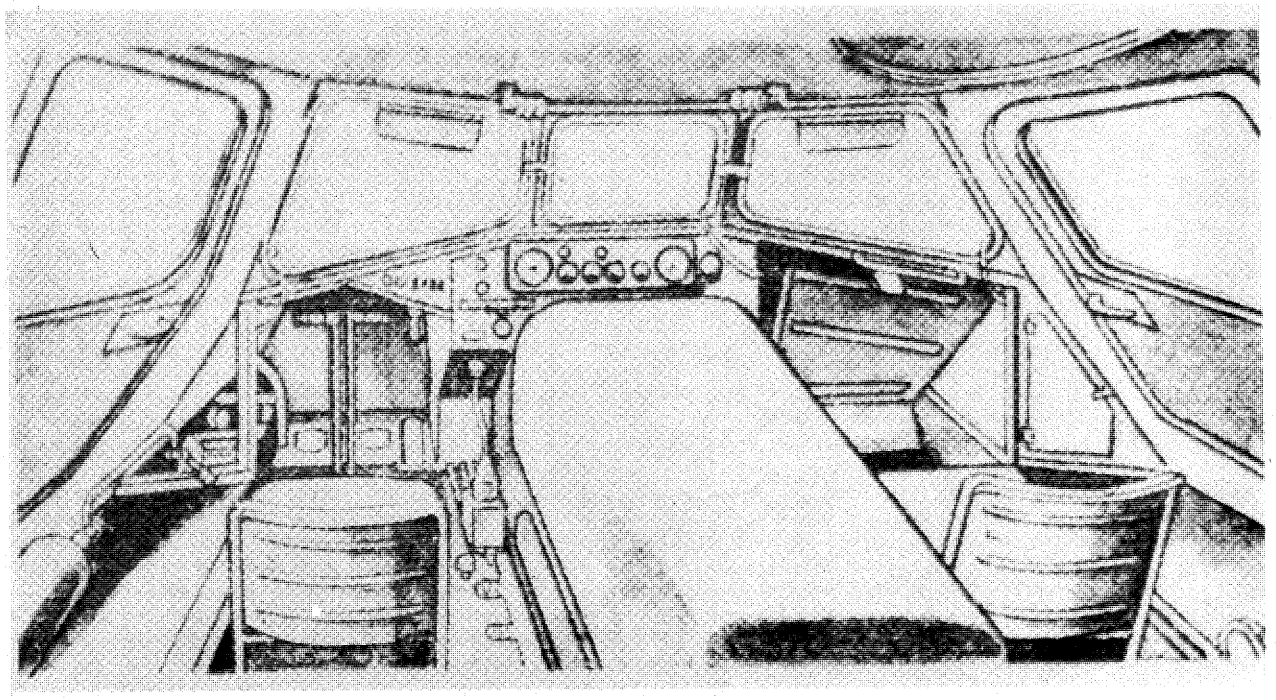
GT-S



GT-SM



GT-T





GT-T WITH SA-2

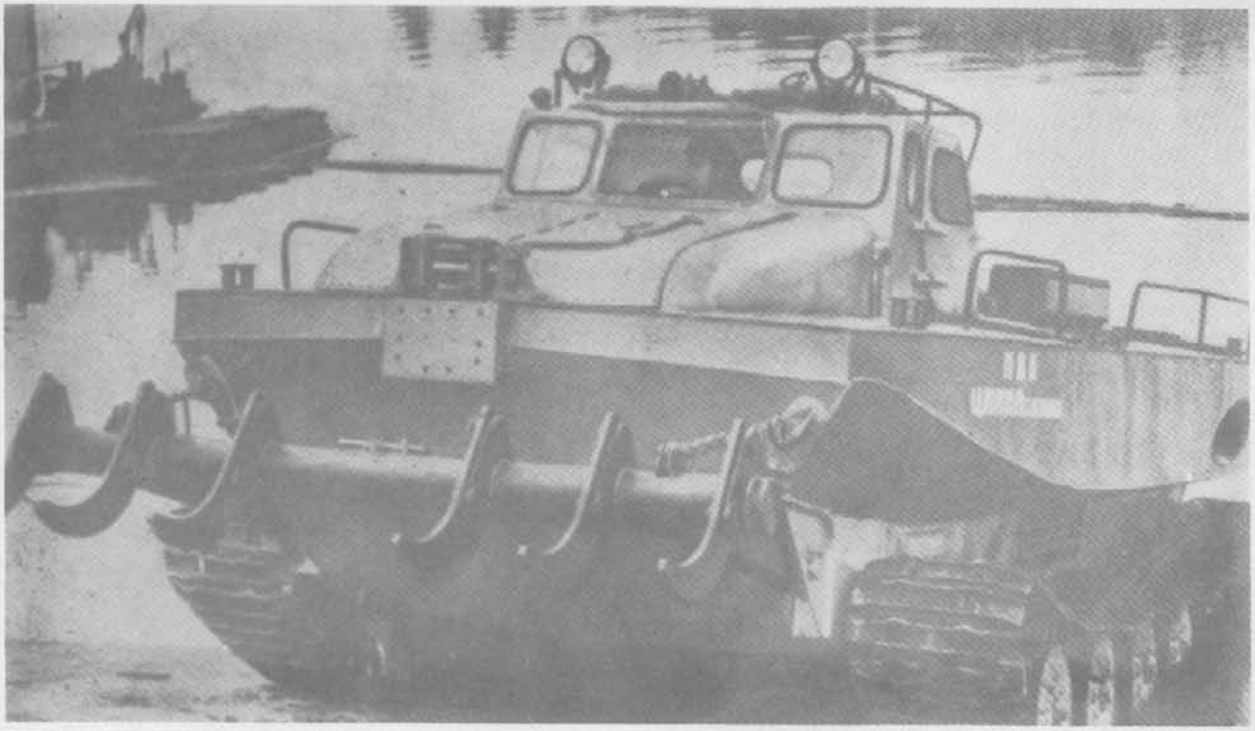


"ONEZHETS" TP-90

Amphibious Crawler Tractor P-49 "Onezhets"
Amphibious Crawler Tractor TP-90 "Onezhets"
Amphibious Crawler Tractor PVA

Prototype amphibious logging tractors have been developed by the Onega Tractor Plant at Petrozavodsk on the basis of the TDT-55 logging tractor. In addition to the provision of a flotation hull, the tractors have been provided with a wider track (540 mm for TP-90) and a more powerful engine. The TP-90 reaches a top speed of 9.5 km/h in the water and can climb a 35° slope.

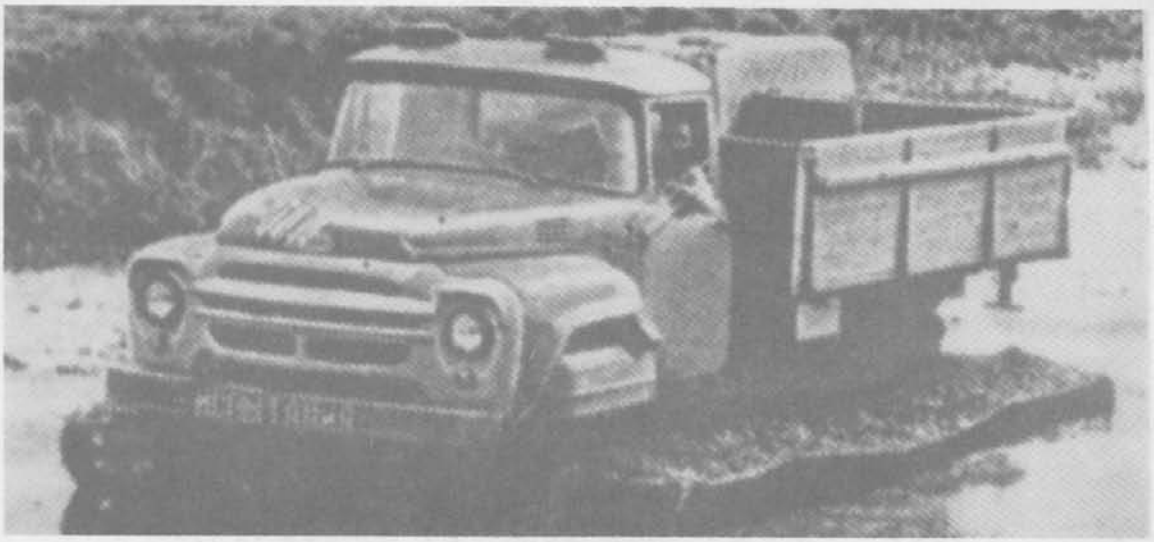
The PVA is another prototype amphibious logging tractor based on the PT-76 amphibious tank chassis but with wider tracks.



PVA



# SNOW AND SWAMP VEHICLES



V-1 "VITYAZ"



Snow and Swamp Vehicle Uragan-8
Snow and Swamp Vehicle SBKh
Snow and Swamp Vehicle V-1 "Vityaz"

The USSR has produced a number of prototype specialized snow and swamp vehicles. One of these is the Uragan-8, which is an experimental 8x8 truck featuring rolligon tires. The Uragan-8, which uses the cab of the AT-S artillery tractor, weighs 9000 kg, has a payload of 8000 kg, and a top speed of 60 km/h.

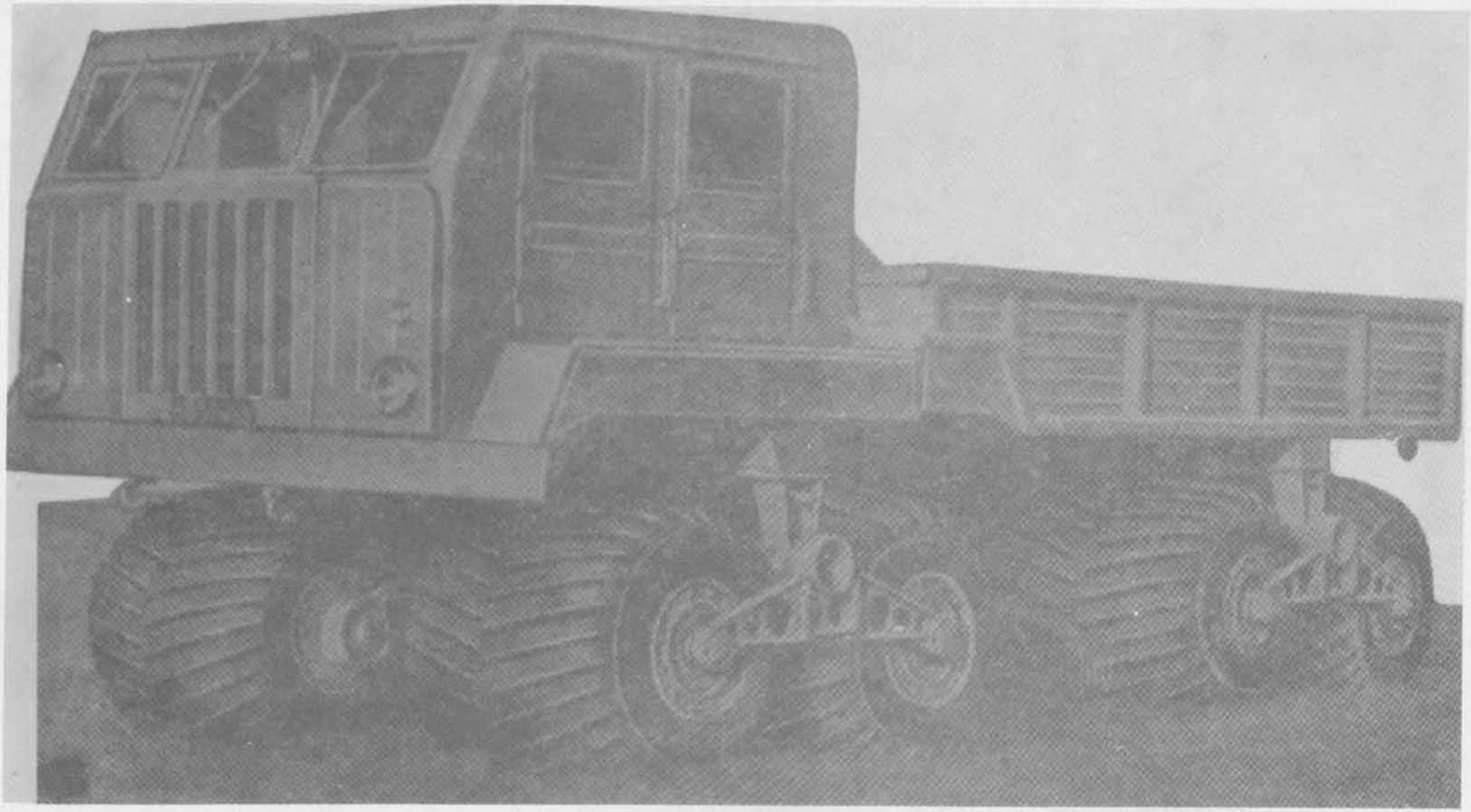
Another vehicle is the SBKh, which is based on the AT-S artillery tractor. In place of the narrow tracks and small roadwheel suspension of the AT-S, it has a very wide track with a suspension featuring four pneumatic tired roadwheels. The weight of the SBKh is 13.5 metric tons with the capability of carrying 7 metric tons. The top speed is 35 km/h.

A later vehicle is the V-1 "Vityaz" which is based on the chassis of the ZIL-130 truck, but incorporates elements of the T-100M crawler tractor. Although it uses the normal ZIL-130 truck body, the suspension system resembles that of the SBKh with 8.25x20 pneumatic tires being used as roadwheels. The track consists of endless rubber cord belts reinforced with steel cable with stamped links made of spring steel. The latter are attached to the rubber belts by special bolts. The drive sprocket has been moved forward.

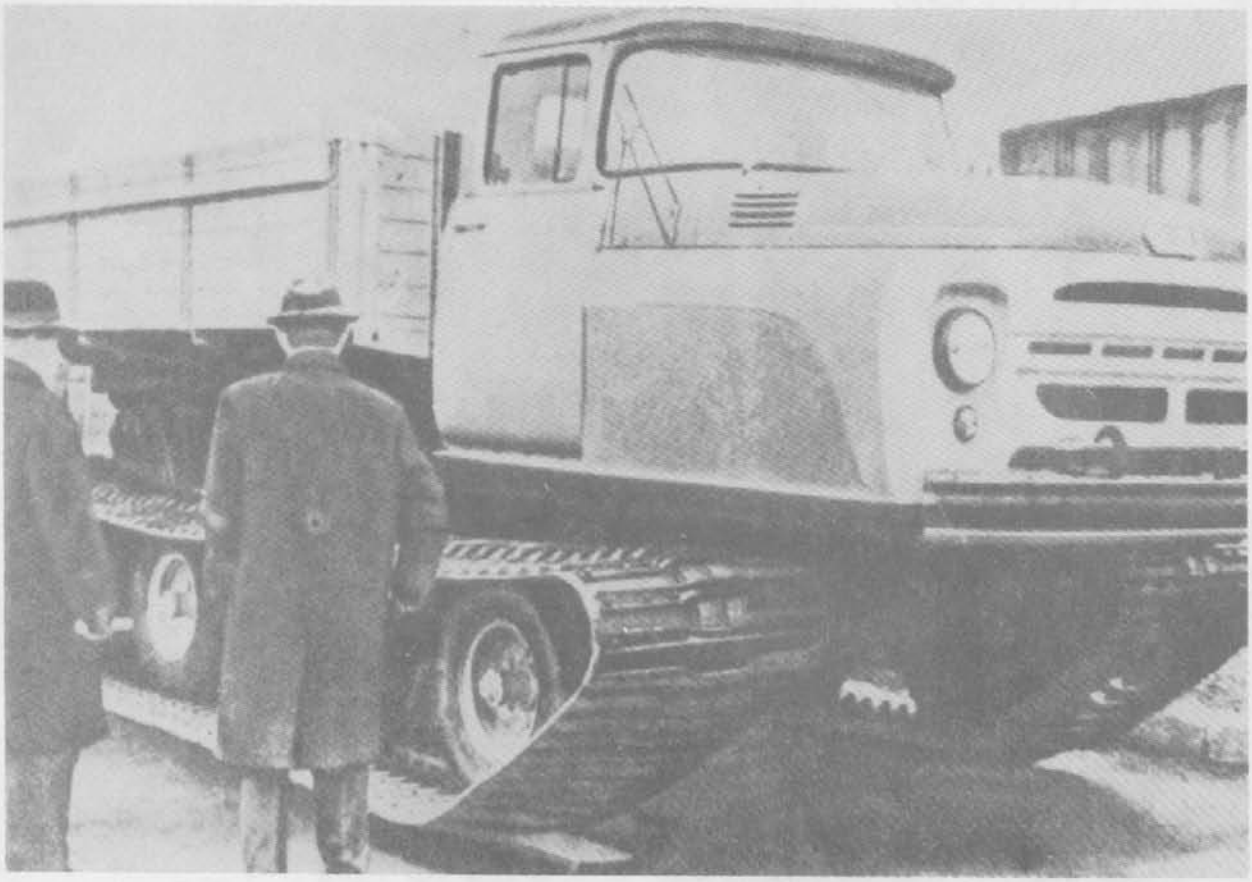
## V-1

| | | |
|---|---|---|
| weight | kg | 4200 |
| length | mm | 6715 |
| width | mm | 3170 |
| height | mm | 2650 |
| track | mm | |
| clearance | mm | |
| track width | mm | 930 |
| ground contact | mm | |
| engine model | | ZIL-130 |
| horsepower | | 148 |
| cylinders | | V-8 |
| fuel | | gasoline |
| cooling | | water |
| speed | km/h | 27.2 |
| cruising range | km | |
| fuel capacity | l | |
| fuel consumption | l/100km | |
| ground pressure | $kg/cm^2$ | 0.13* |
| trench | mm | |
| step | mm | |
| slope | ° | |
| tilt | ° | |
| ford | mm | |
| payload | kg | 3000 |

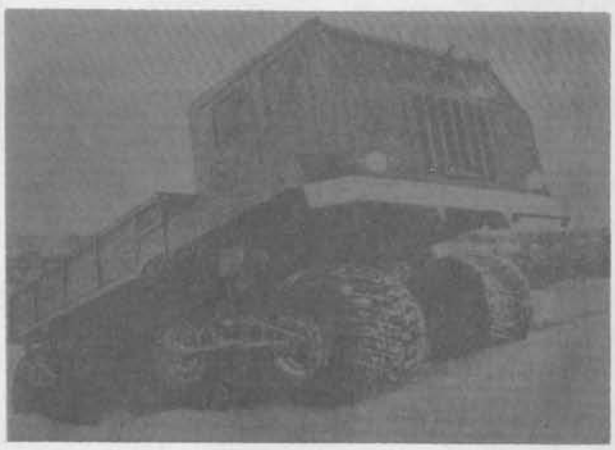
*fully loaded, 0.09 $kg/cm^2$ unloaded



URAGAN-8



V-1 "VITYAZ"



URAGAN-8

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| USAIC & SCH - CCU - FT HUACHUCA | 002 |
| USA INF CEN FT BENNING | 001 |
| USA INF SCH - INF AGCY | 005 |
| USA INTELCOM - ICPO-I | 002 |
| USA JAPAN - G2 | 001 |
| USA LOG CEN - DIR OF MAINT | 001 |
| USA LN GP NORTHAG/BAOR | 150 |
| USA LN GP CCFFA | 016 |
| USAMC STIT - EUR | 001 |
| USA MATERIEL COMD | 001 |
| USA MP SCH - MP AGCY | 001 |
| USA MISSILE COMD REDSTONE ARSENAL | 005 |
| USA MOB EQUIP RES & DEV COMD | 002 |
| USA MUNITIONS COMD | 001 |
| USA QM SCH - SUPPLY AGCY | 001 |
| USAREUR & 7A CATC | 001 |
| USAREUR & 7A CSTC - AEUO-IMP | 001 |
| USAREUR & 7A DCSOPS - CURR OPS BR | 005 |
| USAREUR & 7A ODCSI - AEAGB-C(GO)LN | 002 |
| USAREUR & 7A ODCSI - COLL DIV | 004 |
| USAREUR & 7A ODCSI - IDHS-FMA | 001 |
| USAREUR & 7A ODCSI - LNO - APO 09794 | 001 |
| USAREUR & 7A ODCSI - PDN DIV (SPT) | 061 |
| USAREUR & 7A TNG CTR - AETTG-SC | 006 |
| USAREUR LNO TO CCFFA | 015 |
| USARPAC - G2 | 007 |

| | NO OF COPIES |
|---|---|
| USA PERS SURVEY DET | 001 |
| USA SCTY EVAL GP (LNO) | 020 |
| USA SETAF - G2/3 - I&S BR | 002 |
| USA SP SCTY DET | 001 |
| USASAFS AUGSBURG (TSCO-12COPIES, IAEAOP-B62-12COPIES) | 024 |
| USASAFS BERLIN | 012 |
| USASRD - NSA HQS BLDG - FT MEADE | 001 |
| USA STRAT & TAC ANAL GP | 001 |
| USA TANK AUTOMOTIVE COMD | 006 |
| USA TRANS SCH - TRANS AGCY | 001 |
| USA WAR COLLEGE | 001 |
| USA WEAPONS COMD | 004 |
| USCONARC DCSI | 001 |
| USDAO - AMAN JORDAN | 002 |
| USDAO - APO 09159 | 013 |
| USDAO - APO 09170 | 001 |
| USDAO - APO 09223 | 005 |
| USDAO - APO 09285 | 005 |
| USDAO - APO 09667 | 002 |
| USDAO - APO 09672 | 001 |
| USDAO - APO 09777 | 001 |
| USDAO - APO 09794 | 001 |
| USDAO - ATHENS | 005 |
| USDAO - BOX 36 FPO 09540 | 001 |
| USDAO - BELGRADE | 005 |
| USDAO - BUCHAREST | 001 |
| USDAO - BUDAPEST | 005 |
| USDAO - HELSINKI | 001 |
| USDAO - LISBON | 005 |
| USDAO - MOSCOW | 005 |
| USDAO - PRAGUE | 007 |
| USDAO - SOFIA | 005 |
| USDAO - VALETTA | 012 |
| USDAO - WARSAW | 007 |
| US ELE ALLIED NAV FCS SOUTH | 001 |
| USEUCOM - ECJB - J2 | 006 |
| USMLM | 020 |
| USN AIR DEV CEN - SC & TI OFF | 001 |
| USN AIR STA - AIR TEST 2 EVAL - KEY WEST | 001 |
| USNAVEUR - BOX 7 - FPO 09510 | 001 |
| USN EOD FAC - INDIAN HEAD MD | 001 |
| USN MED RSCH LAB - CAMP LEJEUNE | 001 |
| USN REP GERMANY (DET 1) | 001 |
| USN WPNS LAB - DAHLGREN VA | 001 |
| USN WAR COLLEGE | 001 |
| USPACAF & PFIHS & DS | 001 |
| USPACOM | 001 |
| USPAC FLT NAVY NO 128 | 002 |

| | NO OF COPIES |
|---|---|
| US READ COMD - RCJ2-O | 004 |
| USTASCOMEUR - AEZGC-Z-I | 002 |
| USTDC - J2 - BOX 24 - APO SF 96263 | 003 |
| WATERVLIET ARSENAL | 001 |
| TOTAL | 3062 |