DESIGN RECORD

CANADIAN-DEVELOPED MILITARY VEHICLES WORLD WAR II

VOLUME VI

TECHNICAL VEHICLES

ISSUED BY
Army Engineering Design Branch
Department Of Munitions And Supply
Ottawa, Canada

TECHNICAL VEHICLES

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RESTRICTED

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CANADIAN DEVELOPED
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WORLD WAR II

VOLUME Nº ____
OF 8 VOLUMES

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BY

ARMY ENGINEERING DESIGN BRANCH
DEPARTMENT OF MUNITIONS & SUPPLY
OTTAWA CANADA

DEC. 31ST 1945

FIELD COMMENTS

The following comments are extracted from report of I CANADIAN FIELD RESEARCH SECTION ADM H.Q., CANADIAN FORCES IN THE NETHERLANDS, and the source of information includes INFANTRY, ARTILLERY, ARMOURED, RCEME, RCASC, RCE, RCOC, RCCS, RCAMC and DENTAL.

These comments, some of which are in "Question and Answer" form, include recommendations, and are a cross-section of opinion, based on operational experience of users in the Field Army.

* * * *

SIGNALS LORRIES

Q Was the wireless vehicle body large enough to hold all personnel and equipment?

A Units consider wireless vehicle bodies are large enough for personnel and equipment allotted. Trailers are "acquired" by the unit if there is a worthwhile complaint that vehicle will not carry extra kit needed for a particular operation.

Q Were speaking tubes and other intercommunication facilities between operator and vehicle driver necessary?

A Some means of intercommunication between operator and driver is considered necessary. Speaking and intercom. arrangements appear to be satisfactory as presently supplied.

Q Were stowage facilities adequate for technical equipment and operators personal gear? If not, give details.

A Stowage facilities are generally adequate, the amount of personal gear carried by personnel varies, and space was always found for the extra articles.

Q What suggestions can be made to improve the operating conditions within Wireless vehicles, such as:-

Ventilation, screening of windows, air conditioning, heating?

A The optimum of reasonable comfort is desirable in wireless vehicles. Simple improvements such as ventilation, screening, etc., as required in various theatres of operations are put in by units in the field. Air conditioning would be very desirable, but the weight and special circumstances in the vehicle must govern. The latest ACV has an air-conditioning unit which is liked but not appreciated due to the space taken up with the special four cylinder engine.

ENGINEER'S LORRIES

LORRY 3-TON DERRICK

Engineers: Not satisfactory as presently equipped. Boom should be shortened to enable use for recovery; the 30-cwt. trucks* should be replaced by 4-ton 6x6 unit with winch mounted on front end and cable guides for rear couple work.

(*Refers to C.M.P. 30-Cwt. 4x4)

LORRY, 4-TON, 6X6, PONTOON

RCASC: Diamond T is very satisfactory. It is understood a new veh is now in production which will serve for either folding boat or pontoon transporter. This will considerably improve usefulness. The Diamond T FBE unit is also satisfactory.

BREAKDOWN LORRIES

Q Are the capacities of the 3 Breakdown Lorries (light, medium and heavy) sufficient to cover the types of operations which these vehicles are called upon to do?

BREAKDOWN LORRIES (Cont'd.)

A (a) LIGHT BREAKDOWN TRACTOR. The capacity of the present light breakdown tractor is not considered sufficient for field operation as a breakdown recovery vehicle. The medium breakdown tractor is the smallest general purpose breakdown vehicle capable of handling light and medium loads. Wherever possible, the light (Holmes 4x4) breakdown was withdrawn from recovery sections and LAD's of infantry, arty, engrs, recce, etc., regiments, and replaced by Diamond T's. Breakdowns, light, were of some use in rear areas for light road recovery and a road patrol work, but with very limited capabilities. There were a number of uses in and about workshops and vehicle parks for lifting "B" vehicle engines, stores, etc.. Winch and 1/2" cable were too light to be of general use. 4x4 drive, even with chains, coupled with weight of vehicle gave it poor performance in open ground, no traction. Lifting capacity not sufficient for road or field recovery work. Not considered useful as a recovery vehicle. Used more as a light crane.

(b) MEDIUM BREAKDOWN TRACTOR. The Diamond T medium breakdown has sufficient capacity to cover practically all types of light and medium recovery with the exception of heavy AFV's for which D8 crawler tractors and heavy breakdown are used. The double swinging boom of the Diamond T seems generally tendency for side bend under the swinging loads. Cable and winch capacities of the Diamond T medium may be considered satisfactory. The 6x6 feature having all wheels drive, is most desirable with full chains for each wheel as at present. It is recommended that lateral fair leads for side or angular pull from the front winch be installed. There should also be fair leads to allow a rear pull for centrally mounted winch or an additional winch drum be installed at rear. Winch drums should have level wind mechanism.

(c) HEAVY BREAKDOWN TRACTORS. The Mack is generally preferable for heavy recovery work because the short boom, heavily constructed body and frame and good balance will allow picking up a considerably heavier load than any other breakdown. The Mack should be a 6x6 vehicle. The front end suspension of the Mack should be more heavily constructed. In rough, open ground, front axle is inclined to buckle as a result of going over rough ground which vehicle should be able to negotiate. Steering arms should be made heavier and braced at right angle bend. Steering arm breakages were frequent. Cable, both winch and lifting capacities are considered sufficient. Winch drum should have level-wind mechanism. Radiator should be solid support mounted on frame. Top of radiator is supported off cab at present with result that body movement causes excessive twist and stress on radiator causing frequent leaks and serious damage to radiator.

STORES LORRIES

LORRY 3-TON 4X2 STORES, BINNED

Signals: In the Dodge, the special bins of this type of vehicle are an improvement on the Ford or Chevrolet, but trays are required. This vehicle should be a 4x4 unit to be fit for field use.

LORRY 3-TON, 4X4 GS STORES

Armd Regts: Lights should be fitted in binned compartments. Dampness inside stores vehicles causes bright part to rust and parts boxes go to pieces in long spells of wet weather.

RCEME: Type of stores carried decides whether vehicle binned or unbinned. Bins should be removable and fitted in standard 3-ton GS Lorries. Racks for ground stores are better if built in as required rather than with vehicle.

LORRY 3-TON 4X4 GS STORES: Contin.

Ordnance: An excellent G.S. vehicle for general stores transport for all RCOC units. Some type of portable lamp or light in bins should be available for binned stock lorries. On cloudy days and at night very difficult to see section parts and bin numbers or identify parts.

LORRY 3-TON 6-WH STORES.

Artillery: Proven to be good substantial vehicle since usually overloaded and continued to withstand the mis-uses imposed upon them. The 6x6 was felt to be proper vehicle for job intended while 6x4 was insufficiently capable of carrying gross load into wet terrain.

Governor required too frequent adjustment.

Spare tire when vehicle issued was bolted to centre of floor and after stores were located in bins it was necessary to locate spare tire in some other place. More suitable arrangement for carrying spare on side of the vehicle would be satisfactory.

RCEME: Would prefer more 10-ton 6x6 Stores vehicles or smaller 6x6 GS for heavy wksp stores. This veh is, however, satisfactory for RCOC Stores Sections in preference to 3-ton 4x4 vehicle for heavy ground stores.

TANKER LORRIES.

TRUCK, 15-CWT, WATER

Q Should the Truck 15-cwt. 4x4 Water replace the Trailer Water in all unit entitlements?

A For some reason there appears to be a general shortage of water tank vehicles. Without exception units of all arms and services contend they require additional water vehicles to those provided on WE. There is a definite use for water trailers. Each trailer requires towing vehicle when moved for filling and in convoys. This does not present any problem, but it would appear that reason why trucks universally in demand is because unit allowed only one water vehicle will take truck instead of trailer, truck having considerable more capacity and being self-powered unit. Were units, such as workshops, able to have truck and trailer instead of only one vehicle as per WE, they would be quite content with trailer for use to stand at kitchen, while water truck makes necessary rounds.

Q Is the present capacity (200 gals) of the water tank truck sufficient?

A Present capacity of 15-cwt. water trucks is considered low, but is, with full tank, load limit of vehicle. A larger size, up to 800 gal., using 4-ton 6x6, GS chassis, or 3-ton 4x4, 600 gal. might be considered. In dry countries 200 gal. tank presented quite a problem in filling and maintaining water supply from medically certified sources in mobile operations. In many known cases, serious and unnecessary water shortage was due generally to lack of water transport and reasonable capacity.

Infantry: An ideal vehicle - much more preferable to, but should be issued in addition with water trailer. Fairbanks-Morse pump - cylinder sleeve wears rapidly, causing loss of suction. Replacement situation very poor.

Artillery: Water truck to be provided to all units as well as water trailer. Very essential vehicle and proven itself when supply of water limited and at long distances. Suggest truck should be on 3-ton chassis to give bigger capacity for larger units. Freezing of lines and water in cold weather has given trouble.

PETROL SUPPLY

Q Is there a definite requirement for a bulk petrol vehicle in preference to the present system of forward supply by jerricans?

A Consensus of opinion indicates need for bulk petrol supply vehicle tanks. For forward units requiring same, a 600 gal. tank is suggested. For petrol companies, RCASC, larger single vehicle and semi-trailer tanks recommended for use through L of C area, forward to jerrican filling points at rear of "B" Ech.

LORRY, 3-TON 4X4, BULK PETROL

RCASC: Bulk petrol tanks considered a great advantage for RCASC purposes.

MACHINERY LORRIES

Q. Is the MK 2 type with its reduction in equipment and mounted on a 3-ton 4x4 chassis considered as satisfactory as the MK.1 type with its extra equipment and mounted on a 4-ton 6 wh chassis?

A Majority of machinery lorries should be mounted on 6x6 chassis with house type body to protect tools and equipment from elements. Selection of suitable type of vehicle depends upon equipment concerned.

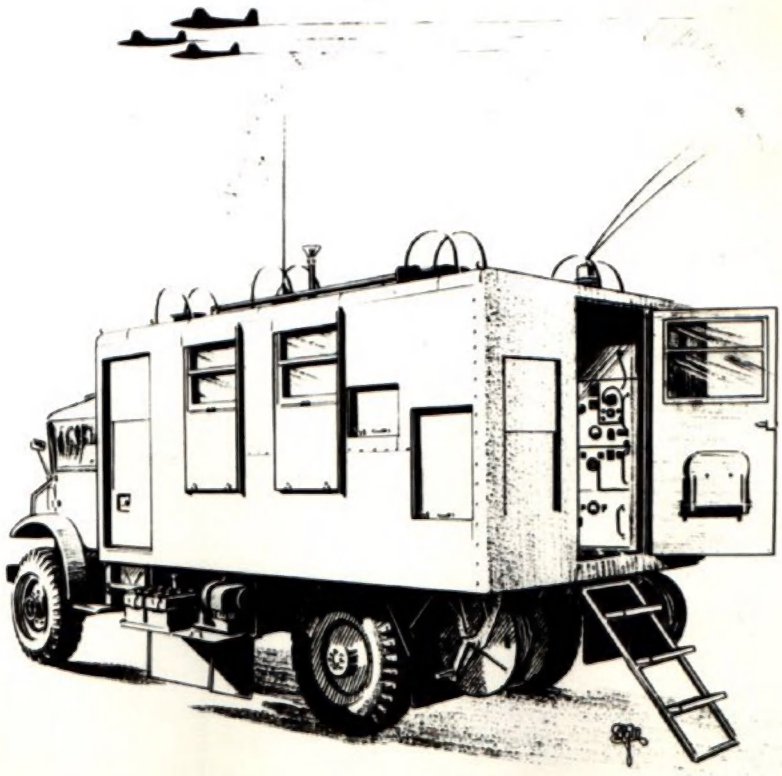
TRUCK, HEAVY UTILITY, MACHINERY "ZL"

RCEME: Design not satisfactory for operation with Telecomm sections because vehicle too low so that repairman must remain in sitting position. This is awkward for inspection or repair of most types of wireless set. Not sufficient storage space for carrying equipment necessary when operating in forward areas as independent unit, et., attached to Signals Maint. Area. Recommended that 15-cwt. chassis with all-metal body, high enough for mechanic to work in standing position and for two mechanics to work comfortably, replace present HU-"ZL". 110/220 Volt AC Generator should be 500 Watt instead of 300 to permit use of soldering iron and instruments, and 300 Watt heater in cold weather. Arrangement of work benches and cupboards similar to the present ZL would be suitable. Standardization of electrical fittings to use British WD equipment supplied. Lighting fixtures connected to 110 volts from Generator as well as present battery operated lights. Standard H.U.P. should be supplied to Telecomm Section in addition to proposed "ZL" Truck and existing "Z" lorry for transportation of Pool Equipment and Wireless sets being transferred from "ZL" in forward areas to "Z" lorry in rear, for major repairs, MUP fitted only for minor servicing requirements.

LORRY 3-TON 6 WHLD MACHINERY "A"

RCEME: House type body is necessary for "A" lorry for protection against weather. Quite satisfactory except battery charging generator and panel should be left out and 110 volt type panel similar to one used in old type "A" lorry installed. When battery charging generator is running in new type lorry there is too much vibration making it impossible to do accurate fine work on lathe. Reason for 110 V charger panel is that at times Gun Sections are detached from main shop and need battery Recharging Equipment. Mount battery charging generator unit on separate trailer. Having spare tire inside the vehicle not satisfactory. Extension was put on frame at rear and spare tire mounted there. Grinding attachments should be supplied with lathe. In space where battery charger generator now located a small shaper should be installed - 12" Stroke. Milling attachment for lathe required. A Dial indicator surface gauge and micrometer should be included with tools.

SIGNALS' LORRIES



SIGNALS LORRIES

The types and designs of lorries used by the Royal Canadian Corps of Signals were many and varied. They ranged from 8-cwt. to 3 ton in capacity and from General Service Lorry adaptations, to House Type single and multi-doored vehicles, while their construction covered all wood, composite steel and wood, all steel, and aluminum and steel. In fact, throughout the years of the war, the vehicles - and particularly the bodies of those vehicles - which were supplied for Signals, were constantly being improved to keep pace with the improvements which were made to Signals equipment.

8 CWT. G.S. WIRELESS

The first unit which was designed was the 8-cwt. General Service type wireless vehicle - Body Code 1-A-2. This was no more than an 8-cwt. General Service body, complete with standard iron pipe superstructure and tailored canvas tarpaulin, the wireless set being mounted on a table at the front of the body. This body was modified a few months later, in that the wheel houses were extended to run the full length of the body. This body was known as the 1-B-2.

However, the General Service type vehicle had many disadvantages from a wireless operator's point of view. It was excessively noisy and the tailored canvas tarpaulin did very little toward keeping out dust and dirt, so that the operator found it almost impossible to keep his equipment free from dust, and in good operation. Further, the space inside the body was so limited that working conditions were most arduous. In addition, the weight of the necessary payload, comprising the operator and his equipment, was far in excess of the rated load of 8-cwt. It was decided therefore, that a different type of vehicle entirely, must be provided.

HEAVY UTILITY WIRELESS

The Heavy Utility was a house type body which had been designed primarily for a personnel carrying vehicle. It was a C.M.P. vehicle - 4 x 4, 101" W.B. - with Run Flat tires, and the body and cab formed one integral structure, a steel partition dividing the driver's compartment from the balance of the body. It had two (2) side doors - in addition to the two (2) doors to the driver's compartment - and one door at the rear of the body. The interior lateral seats were taken from the body, and the right side door sealed up, leaving only the left side and rear doors in operation. The interior of the body was lined with masonite and painted white. A completely enclosed cabinet, with full length side door, was installed in the right rear corner of the body to house a 2 K.W. generator, while a table ran across the full width of the body at the front, on which the wireless set was installed. Two (2) swivel chairs and a stowage cupboard completed the interior fitments. This was known as the 1-C-2 body. When run flat tires were replaced by pneumatic tires, it became necessary to carry and house a spare tire. To this end, therefore, the forward section of the right side panel was cut away to form a recess, and the spare tire was carried in the recess. This was the 1-C-8 body, and was used throughout the war by Signals, proving to be highly satisfactory, in a comparatively restricted role.

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15 CWT. G.S. FITTED FOR WIRELESS

A requirement was raised in late 1941 for a 15-cwt. Wireless vehicle of the General Service Type. The vehicle was to be used in conjunction with artillery units in forward areas and camouflage was a necessity. It was decided, therefore, to take the 15-cwt. General Service all welded, all steel load carrier - Body Code 2-C-1 - and adapt it to a wireless role. A general assembly drawing was received from the U.K. showing the assembly of interior fitments as had been developed in the U.K. and modifications were made to these fitments to fit the 2-C-1 body and to suit Canadian manufacturing procedure. A steel table, similar to the one used in the Heavy Utility Wireless vehicle was installed at the front of the body, paralleling the front body panel, to carry the wireless set. A special folding D.N.D. type seat was bolted to the floor immediately in front of the table, while battery racks were bolted to the floor on either side of the table. Bins, in two (2) sections each, were bolted longitudinally to the side panels, with two (2) folding D.N.D. seats bolted to the floor, back to back, facing the bins. A "chore horse" charging unit was housed on the left side running board of the vehicle to provide power for the interior lighting of the body. A special iron pipe superstructure and tailored tarpaulin completed the body. This was known as the 2-C-3 body.

Under proving ground tests, the vehicle was satisfactory and an order was placed for a number of units. However, before production was under way, it was decided to build the units for C.K.D. pack, using the 2-J-1 basic body. The wireless adaptation was known as the 2-J-3 and 300 units were produced.

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15 CWT. AND 30 CWT. HOUSE TYPE WIRELESS

The first house type Wireless body was built entirely of wood - tongue and groove board construction - with a single door at the rear, pullman type windows in each side and tubular wireless antennae mounted longitudinally on the roof. The roof was covered with #8 duck, water proofed, with wooden wear slats screwed to the roof boards. A fixed, hanging step provided entrance to the body. This was the 2-F-1 body, and was mounted on a 15-cwt. 4 x 4, 101" W.B. chassis.

However, the wooden construction did not prove to be satisfactory, and only the pilot was built. It was decided to rebuild the body in steel. The framework was of formed steel channel, with wood block inserts, the web of the channel facing out. 18 ga. H.R.B.A. steel sheeting was rivetted to the framework, and the general design of the 2-F-1 body was maintained. The roof was of wood, duck covered, with wood wear slats, and the tubular longitudinal antennae. This was the 2-G-1 body and was mounted on a 15-cwt. 4 x 4,101" W.B. chassis, equipped with run flat tires. No provision of course, was made for carrying or mounting a spare tire.

When the change from run flat to pneumatic tires came into effect, in order to conserve rubber, it became necessary to

make provision for a spare tire. It was decided, therefore, to mount the 2-G-1 body on a 30-cwt. 4 x 4, 134" W.B. chassis, and house the spare tire between the back of the cab and the front of the body. However, the spare tire required a space of only 14" whereas the increase in wheelbase from 101" to 134" provided 33". In order to take advantage of this additional space, the length of the body was increased by 18". This was done by, theoretically, cutting the body down the centre of the side panels and inserting the additional 18" in the middle of the body. In this manner, the distribution of the interior fitments was not disturbed. This was the 3-J-1 body.

When arctic or sub-zero operations entered the picture, the wireless vehicles were included in the programme. An "Evanaire" gasoline heater was mounted at the right front of the body, between the cab and the body, with the heater gasoline tank mounted at the left front of the body. A length of copper tubing connected the gas tank to the heater. An induction fan was set into the front body panel. In addition to the heater, the walls, floor and roof of the body were insulated with 2" ten test, which was cemented to the inside of the outside steel sheathing. The entire body was lined with 1/8" masonite. This was the 3-J-2 body.

Under test, the vehicle proved to be quite satisfactory and a production order was placed by D.N.D. A production order also was placed for U.S.S.R. account.

In 1943, information was received from the field, that Signals personnel preferred the shorter wheelbase vehicle (101" W.B.) to the 30-cwt. 134" W.B. vehicle, and requested that an effort be made to mount the spare tire in some place other than between the cab and the body, and thus allow the body to be mounted on 101" W.B. chassis. This meant, of course, that the body would have to be shortened by 18". In other words, to return the body to its original length. A recess was cut in the forward part of the left side panel, and the spare tire bracket attached to the left side panel of the body. In addition, the tubular longitudinal antennae was discarded and mast type antennae, with individual flat steel guards were substituted. This was the 2-G-2 body and proved to be satisfactory.

In the early winter of 1943-44, due to the increase in weight of wireless equipment, and because Signals desired to retain the 15-cwt. House Type Wireless vehicle, it became necessary to reduce considerably the weight of the body of this vehicle. It was decided, therefore, to redesign the structure of the body.

The framework was fabricated of H.R.B.A. steel formed flanged channel, and the inside wood blocks were eliminated. The outside sheathing was of 16 ga. A.C.57S 1/2 H. aluminum, the sheets being rivetted to the flanges of the framework channel by means of A.C. 3/16 diameter brazier (truss) head rivets, spaced at 4" centres. The inside sheathing was of 1/4" fir ply, and was screwed to the web of the framework channel. The radio table and the base of the seats were formed of tubular steel in place of 1/4" angle, and a tubular steel design replaced the 1/4" angle type steps and rear ladder. The roof was fabricated of 18 ga. A.C. 57S 1/4 H. aluminum, with 1/4" masonite wear strips, the masonite being reversed so that the rough surface was exposed. The flat steel antennae guards were changed to tubular steel one piece construction, but interchangeability with other units in the field was maintained. In place of linoleum floor covering, the floor was sprayed with a 3/16" thickness of "Dektred" - an asphalt base paint which hardens to a rough surface and provides an adequate anti-skid surface.

For cold weather or sub-zero operation, the same type of heating - Evanaire - was installed as in the 3-J-2 body, but instead of insulating the walls and roof with ten test, pads of rock wool were cemented to the inside of the aluminum sheathing. The floor of the body, including the wheel houses, was insulated with 1" ten test and covered with linoleum.

A saving in weight of approximately 700 lbs. was attained by the aluminum design and under rigorous proving ground tests the two bodies stood up remarkably well, and production orders were placed for both types of vehicles.

After a number of these units had been in service in the field, it was reported that the masonite wear strips on the roof were "curling" or warping, due to moisture seeping and lodging between the underside of the masonite and the aluminum sheathing of the roof. Instructions were issued, therefore, to substitute 1/4" hardwood slats in place of the 1/8" masonite strips, the hardwood slats being screwed to the roof in the same manner as before. Our production drawings were changed accordingly.

* * *

3 TON HOUSE TYPE WIRELESS

In July 1944, we were advised that a requirement had been raised for a series of 3-ton House Type Wireless vehicles in varied roles. The basic bodies were to be the same, the different roles being individualized by the types of interior furniture and fixtures. A series of General Assembly drawings of the bodies in their different roles, were forwarded to us from the U.K., and general specifications were laid down for the basic body, as far as individual dimensions were concerned, i.e., overall length, width and height. We also were advised that the bodies were to be mounted on 3-ton 4 x 4 - 158" W.B. C.M.P. chassis.

In view of our favourable experience with aluminum and steel construction on the 15 cwt. House type Wireless, it was decided to pilot the body of the 3-ton vehicle in a similar manner. While the U.K. drawings gave the overall length of the basic body as 13 ft., we decided to increase the length of the Canadian built body to 13'6" in order to fit the elongated frame of the 158" W.B. chassis.

The framework of the body was fabricated of formed H.R.B.A. steel flanged channel, with H.R.B.A. steel sheet floor and formed steel channel cross sills and longitudinal sills. The body was sheathed on the outside with 16 ga. A.C. 57S 1/2 H. Aluminum rivetted to the flanges of the framework by means of A.C. 3/16" diameter truss head rivets on 4" centres. The roof was sheathed on the outside with 18 ga. A.C. 57S 1/2 H. Aluminum, rivetted in

four (4) lateral sections, the forward sections overlapping the section immediately behind it, while each section was cemented in order to prevent water seapage from driving rain. 3/16" Masonite wear strips - the rough side uppermost - were screwed to the roof to afford protection to the aluminum sheeting. However, after receiving the report from the field regarding the warping of the Masonite strips on the 15 cwt. House type vehicles, the wear strips were changed to 1/4" Hardwood slats, also screwed to the roof panel.

The interior of the body was sheathed with 3/16" tempered Masonite, and painted white - gloss finish - while the floor plate was sprayed with "Dektred" to a thickness of 1/8".

Two sliding doors and one hinged door provided entrance to the body with tubular construction steps which were housed in the substructure when not in use.

A generator cabinet to house a 3 K.W. charging unit was installed in the left rear corner of the body, and sliding, two (2) section doors were cut into the rear of the left side panel, and left corner of the rear panel to provide ventilation when the generator is in operation. The cabinet can readily be removed from the body when not needed, and the inside panelling of the body was so designed that individual panels can be installed in order to preserve the unbroken surface of the interior of the body.

Two (2) reels with 50 ft. each of cable are suspended each from the left and right rear of the substructure.

The basic body was known as the 55-D-1 body. In addition, five (5) other pilot bodies were built, each with its individual sets of furniture and fixtures. These were as follows:-

1. Cypher Office ..... Body Code 55-D-3
2. Cypher Office modified Body Code 55-D-4
3. Wireless "R" ..... Body Code 55-D-6
4. T.E.V. Div. or Corps.. Body Code 55-D-7
5. Command L.P. ..... Body Code 55-D-8

The basic body, after testing, was equipped with furniture and fixtures to convert to Wireless "I", and carried Body Code 55-D-5.

One other modification of the basic body - Teleprinter (Body Code 55-D-2) - was not pilotted because advice was received from the U.K. that the requirements for this vehicle could be met in British. Complete drawings for the above bodies were released.

It might be mentioned that after the first pilot had been completed, it was decided to insulate and tropicize the other five pilots. To this end "Rock Wool" pads were cemented between the inside and outside sheathings of the body, and steel inside sheeting was substituted for the 3/16" Masonite. In this manner, the bodies were made fungi-proof.

Each of the vehicles was fully tested over the proving ground courses and stood up without failure. However, as the war with Germany and Japan came to a close, no production orders were placed for any of these bodies.

* * *

In addition to the Wireless Vehicles, a number of other units were designed for Signals. These vehicles covered, generally, two roles -

(a) Field, or Ground Cable Laying lorries, and
(b) Telephone construction and maintenance lorries.

CABLE LAYER:

The first Cable Layer was an welded steel General Service type vehicle, complete with iron pipe superstructure and wrap-around tarpaulin. The floor of the body was of hardwood - 1-1/2" thickness. It was a 10 ft. body mounted on a 30 cwt. 134" W.B. C.M.P. chassis. Skids were installed on the floor for the Cable Laying equipment, and an angle iron structure was suspended from the tailgate on which an operator would stand when feeding cable from the lorry. Two racks were provided for housing the spare cable reels, and two (2) tool boxes were set inside the body, the doors of which were set into the side panels, opening from the outside of the body. The spare tire was stowed inside the body at the front. This was the 3-H-1 body. This body later was mounted on a 3-ton 4 x 4 - 158" W.B. chassis, the spare tire being mounted immediately behind the cab. A steel tool box was added to the vehicle, mounted laterally on the chassis frame immediately ahead of the body. This was the 3-H-2 body.

A third adaptation of the body was the Signals Office Lorry. The basic body was the same as that of the Cable Layer bodies, except that the two (2) built-in toolboxes at the left and right rear of the body, respectively, were eliminated. Built-in wooden lockers were installed in the body, running longitudinally the full length of the left and right sides of the body. A two (2) section table with longitudinal centre partition was installed down the middle of the vehicle with a folding seat facing rearwards, at the front of the body. In addition to the wrap-around type tarpaulin, a canvas penthouse with "Monsanto" windows was provided to enable personnel to work outside the vehicle, yet still remain under cover. After the inspection of this pilot, a request was made by General Staff in D.S.D.(W) letter, dated December 19th, 1944, to the effect that a provision be made to install windows in the tarpaulin to supplement the windows in the penthouse. However, as no production orders were pending, this change was not incorporated. This was the 3-H-3 body.

The Cable Layer bodies also were built of composite steel and wood construction, and were known as the 3-K-1 and 3-K-2 bodies. In design, they were the same as the 3-H-1 and 3-H-2 steel bodies, except that the substructure sills were of wood, while the side and front panels and the tailgate were of wood, framed in steel. The Signals Office Lorry with penthouse - 3-H-3 - was not pilotted in composite construction.

* * *

3 TON TELEPHONE LORRY

This vehicle was patterned after the commercial type Bell Telephone Company "Line Construction Vehicle - H.C.V.", the chassis, however, being a 3-ton C.M.P., 4 x 4 - 134" W.B., equipped with 10.50x20 tires. The vehicle was designed to carry a complete set of tools and equipment for

the repair and maintenance of telephone lines and installations and was equipped with winch and derrick poles. The vehicle was operated by a trained telephone line construction crew of Signals' personnel.

The body was of all steel construction, and consisted of a steel platform with specially constructed bins and lockers which were so designed as to form the sides and front of the body. The top was of 3 sections, telescopic design, the fore and aft sections being of steel, while the centre section was of canvas. Tools and equipment were stowed in designated positions over the body, while specialty stores were stowed in the individual bins. This was the 4-K-1 body.

* * *

EARTH BORING MACHINE

This, also, was a special vehicle,the body being mounted on a 3-ton C.M.P.,4 x 4, 134" W.B. chassis. The body was of all steel, all welded construction, with structural steel "I" beams welded to the rear of the substructure, and two (2) adjustable jacks attached to the underside of the rear of the body. The Earth Auger, or Hole Borer, was manufactured by the Highway Trailer Co., Edgerton, Wisconsin. It is designed to dig holes from 9" to 20" in diameter, and to a depth of 9 ft. The boring unit consists of a double train of gears, controlled by two (2) multiple disc clutches and brakes. One train of gears (drive) rotates the Auger while the second train of gears (feed) furnishes the power to force the Auger into the ground while rotating, and raises the Auger from the ground when reversed. The power to operate the Auger is supplied by a Continental engine, Model No.P.F.-226. The Auger, engine, transmission and coupling are mounted on a steel skid frame, while lifting eyes are provided so that the entire unit may be transferred quickly in and out of the vehicle. This body carries Body Code No. 4-M-1.

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In addition to the above vehicles, the Cable Splicers trailer also was used by Signals in telephone construction and maintenance work. See Trailer volume for details of this unit.

* * *

3 TON GENERAL PURPOSE - HIGH POWER

This vehicle was a Signals Office, consisting of a 12 ft. Lindsay steel, house type construction body, mounted on a 3-ton, C.M.P. 4 x 4 - 158" W.B. chassis. The interior of the body was insulated with Thermo Craft paper, and panelled inside with 1/4" plywood. The Thermo Craft and plywood panelling was rot and insect proofed by treatment with Copper Naphthenate solution. The steel floor was coated with "Dektred". Two (2) hinged screen doors were fitted on the inside of the rear body doors. Two (2) 60 cycle, 110-volt A.C. ventilators were provided in the body, and an overhead lighting system - 110 volt - the source of power being an independent, outside supply. A Grouse Hinds condulet was installed in the rear body panel, and a 100 ft. length of three conductor cable provided for extension to the outside source.

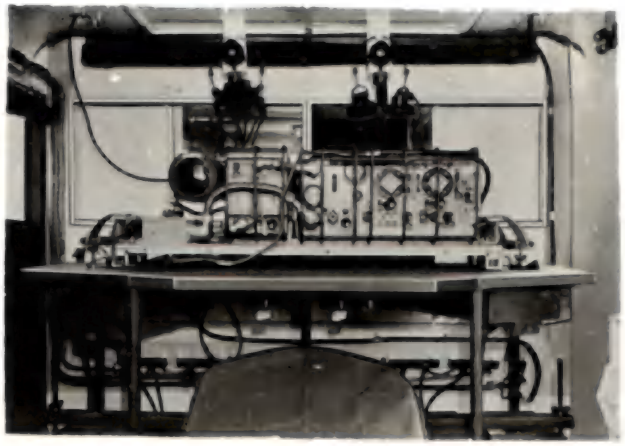
Four (4) gooseneck lamps and five (5) adjustable stools comprised the only fittings which were supplied with the body. This body carried Body Code No. 5-J-7.

* * *

COMMENTS

In general, Users' comments from the field have been good. Suggestions have been made regarding modification, from time to time, as is outlined in previous pages of this introduction, and corrective measures or changes have been made. However, from these reports, it would appear that most, if not all, of the Signals vehicles are loaded in the field above the gross allowable weights, due principally, to the constant improvement and change in design of Signals' equipment, and this factor should be borne in mind in future designing of such vehicles.

HEAVY UTILITY WIRELESS



Function

The purpose of this vehicle is to act as a transmitting and receiving station in forward areas - #19 Truck and Ground Station. The vehicle is operated entirely by Signals' personnel, Driver, mate and 2 operators, and is a self-contained unit in that all necessary work in connection with the operation of the unit is performed in the vehicle.

Dimensions

Overall length of vehicle....163"
" width " " .... 79"
" height " " .... 92-1/2"

Inside length of body proper. 88"
" width " " " . 64"
" height " " " . 51-1/4"

Weights

Curb weight of vehicle.....6450 lbs.
Gross " " "
(excluding personnel)..7390 lbs.
Gross weight of vehicle
(including personnel)..8350 lbs.
Gross allowable weight of
vehicle ....7500 lbs.

Chassis

The chassis of this vehicle is a G.M.C. -Hvy. Utility chassis - Code C8A - and is equipped with 9.25x16 tires.

References

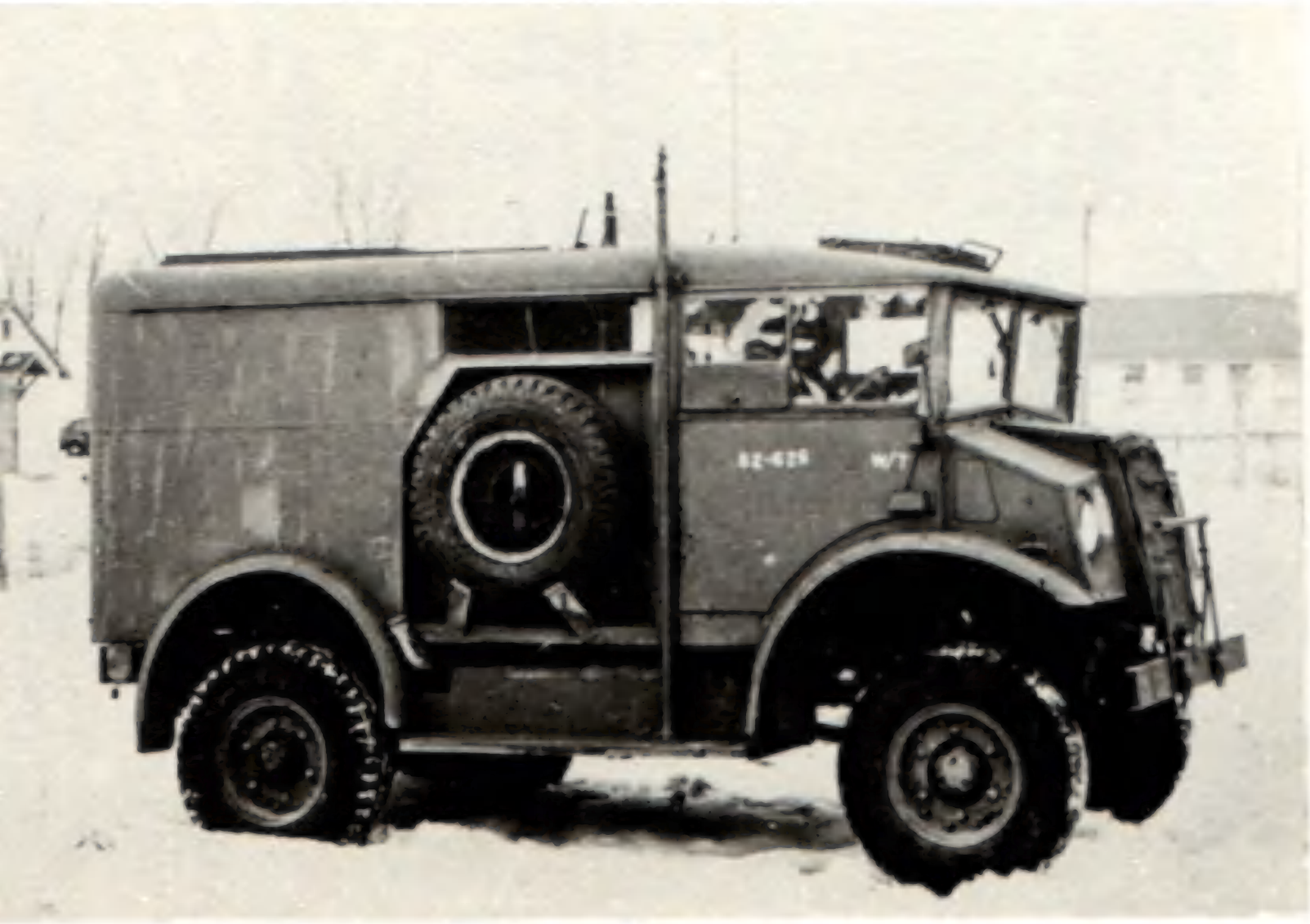
D.M. & S. Schedule of Drawings..... Nil
D.M. & S. File No. 73-V-1
A.E.D.B. Photograph File No..... E-3
Vehicle Code No. H.U.441-M-WIRE-2
Body Code No. 1-C-8
Pilot Model Approval No. 8
Ordnance Proving Ground Report D.V.A-6-518
Maintenance Manual No. MB-C2
Source:- General Motors of Canada

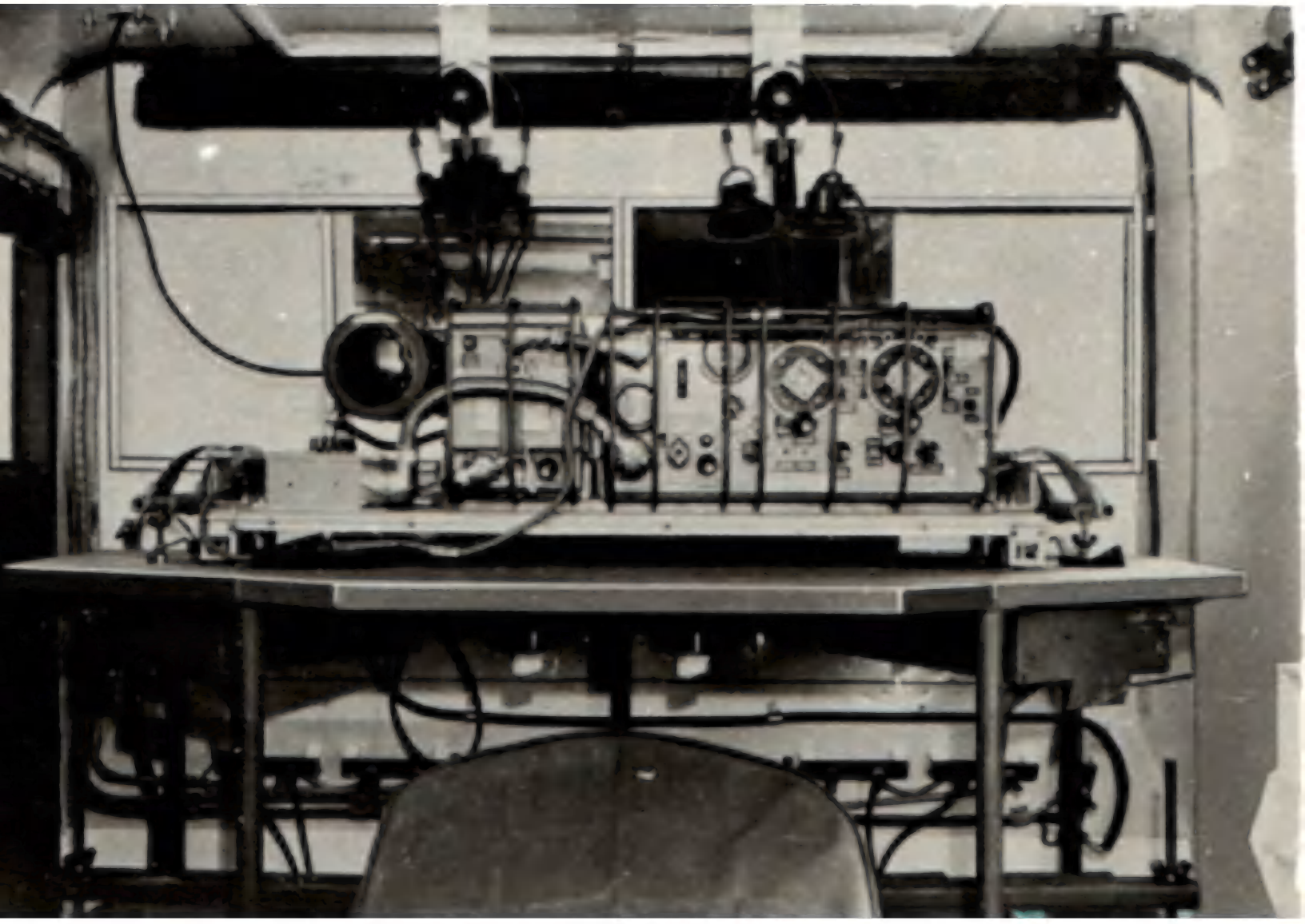
Body

The basic body is a standard Heavy Utility body of all steel construction with spare tire mounted on the right hand body side panel, manufactured by General Motors of Canada

The interior of the body is lined with 1/4" fir ply, is finished in white, and is flocked to eliminate condensation. The rear quarter windows of the basic body have been replaced with sliding steel panels. The canvas curtain between the driver's compartment and the body proper has been replaced by a full metal panel, while the sliding windows of the left side and rear doors of the body proper, have been changed to armour plate.

Interior fitments of the body include generator cabinet for 300 watt auxiliary charging unit, radio table, battery racks, operators chair, stowage cabinet, message form racks, head phone clips, interior lighting, fans and wiring - are supplied by the vehicle manufacturer.





15 CWT. G.S. FITTED FOR WIRELESS

Function

This vehicle was designed to provide wireless facilities for R.C.A., R.C.E., R.C.E.M.E., Workshop units, etc., and is operated by the unit signallers. Wireless sets #9, #11, and #19, may be installed in this vehicle, although the #19 set is more generally used.

Dimensions

Overall length of vehicle.....	169"
" width " "	89"
" height " " to top of aerial base	102"
Inside length of body	79"
" width " "	81"
" height " " to top of superstructure	54"

Weights

Curb weight of vehicle ....8149 lbs.	
Gross weight of vehicle, less personnel (4).....8850 lbs.	
Gross weight of vehicle including personnel (4)..10050 lbs.	
Maximum allowable weight (cross country)..... 9500 lbs.	

References

D.M.& S. Schedule of Dwgs...	S-340608
D.M.& S. File No.	73-B-9
A.E.D.B. Photograph File....	E-4
Vehicle Code No.	C-15A-WIRE-3
Body Code No.	2-J-3
Experimental Engineering Report	E-303
Pilot Model Approval No.	F-209
Maintenance Manual No.	MB-C2

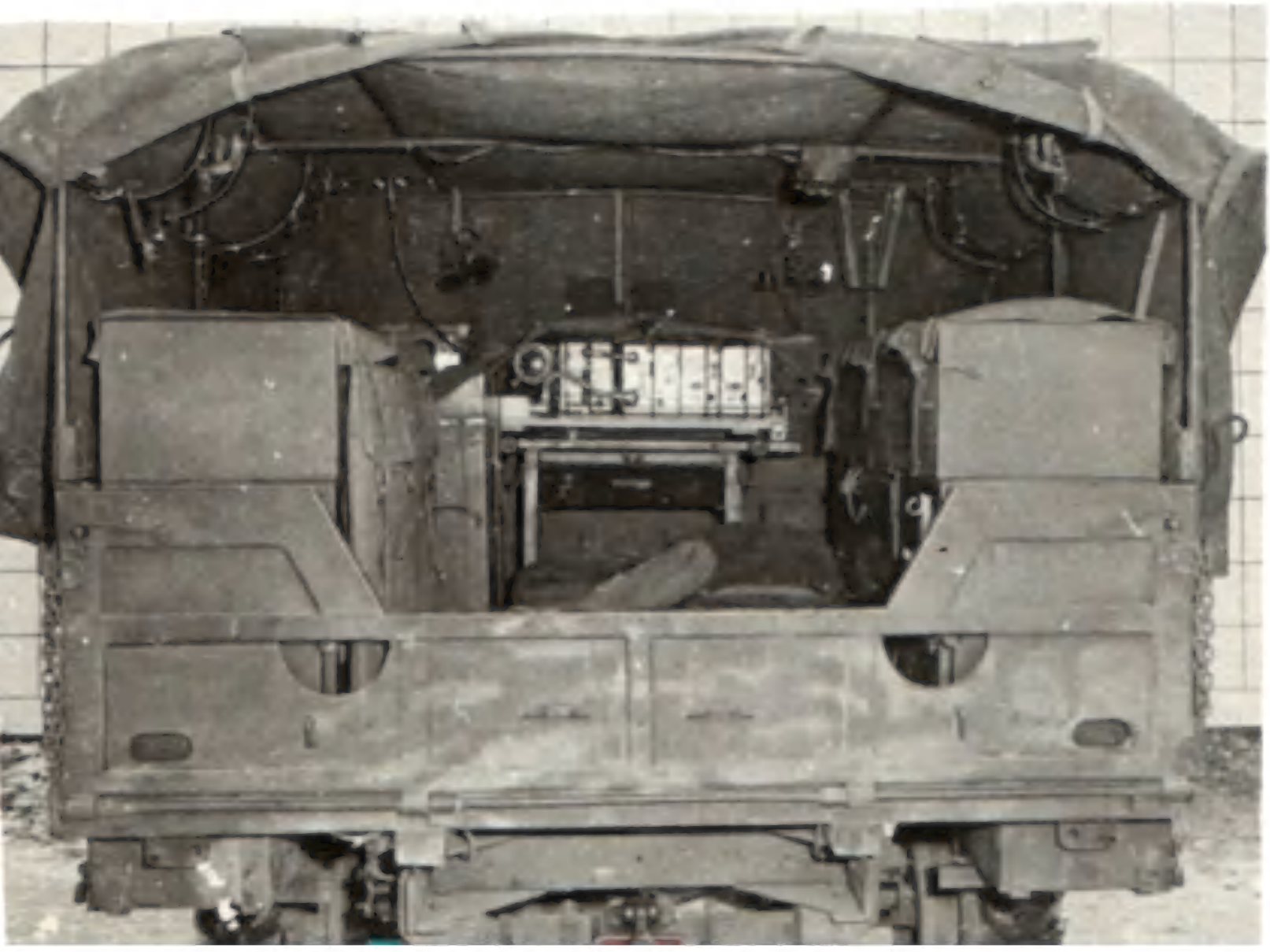
Source: Chassis - General Motors Corp., Ford Motor Company.
Body - Brantford Coach and Body Co. Ltd..

Chassis

The chassis for this vehicle is a C.M.P. 15 Cwt., 4 x 4 - 101" W.B., Code C15A, equipped with 9.00 x 16 tires.

Description of Body

The basic body is a 15 cwt. all steel bolted construction G.S. body - Code -2-J-1- with special fitments to convert to a Wireless role. The fitments supplied by the body manufacturer include the following items:- Two (2) multi-section bins or lockers, bolted longitudinally in the body to the side panels, and to the top of the wheel house. A table with sliding shelf is bolted to the floor on either side of the table. A D.N.D. type folding seat faces the table, while two (2) D.N.D. type folding seats - back to back - face the lockers. A special iron pipe superstructure carries stowage racks, two (2) fixed dome lights, and three (3) sets of rifle clips. Antenna mast bases are bolted to the top of the superstructure. The tailored tarpaulin has wire mesh screen ventilators set in the front panel, with a two (2) piece drop rear curtain, secured with snaps and "D" fasteners. Extension poles are carried in the bins which fit into the superstructure so that the entire top can be removed from the body and set up, on the ground, as an independent penthouse. Auxiliary skirts are provided for the tarpaulin when used in this role. Two (2) antenna masts are mounted in the substructure, while a third mast is mounted on the right running board of the vehicle, immediately to the rear of the door. A 300 watt charging unit is mounted on the left running board, enclosed in a steel housing.



15 CWT. HOUSE TYPE WIRELESS

Function

This vehicle is used for Wireless communication by Signals personnel working ahead and/or to the rear of Armoured Regiments, Recce Regiments, Brigade Headquarters and any other formations or units where No.19 Wireless set and amplifier are required. The vehicle is an independent unit in that all work pertaining to its role is carried out in the vehicle.

Dimensions

Overall length of vehicle...	175-1/2"
" width " " ...	85"
" height " " ...	114"
Inside length of body	85"
" width " "	80"
" height " "	58-1/4"

Weights

Curb weight of vehicle.....	8475 lbs.
Gross weight of vehicle - excluding personnel (4)..	9035 lbs.
Gross weight of vehicle - including personnel (4 @ 240 lbs.).....	9995 lbs.
Maximum allowable weight of vehicle - cross country..	9500 lbs.

References

D.M. & S. Schedule of Dwgs..	S-305225
D.M. & S. File No.	73-B-9-1
A.E.D.B. Photograph File....	E-4
Vehicle Code No.	15A-WIRE-5
Body Code No.	2-K-1
Experimental Engineering Report	E-391
Pilot Model Approval No. ...	F-212
Maintenance Manual No.	MB-C2

Sources: Chassis - General Motors Corp.
Body - Wilson Motor Body Co. Ltd..

Chassis

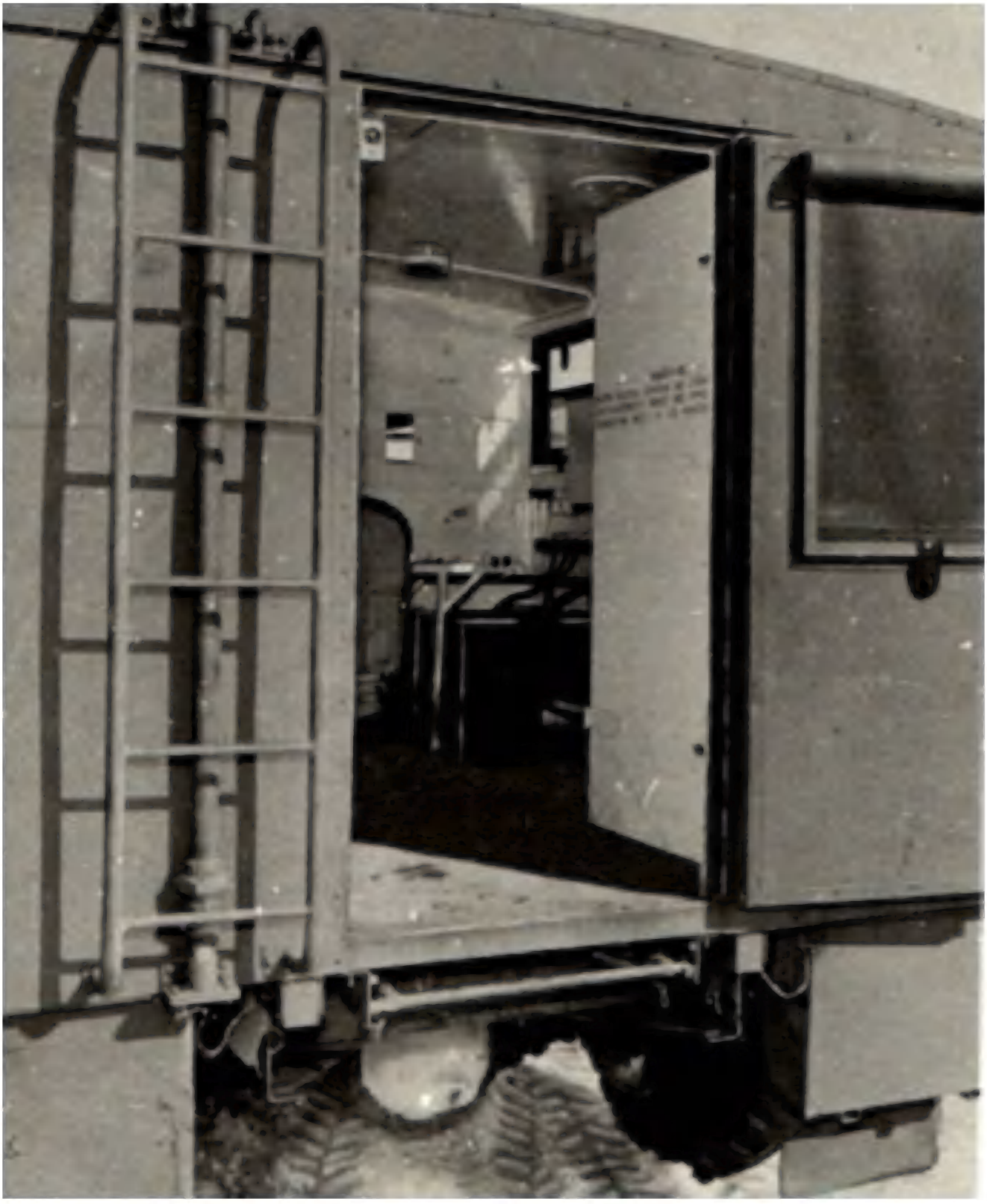
The chassis for this vehicle is a C.M.P. 15-cwt., 4 x 4 - 101" W.B. - Code C15A - equipped with 9.00 x 16 tires.

Description of Body

The body is fabricated of 16 ga. aluminum sheeting rivetted to a formed H.R.B.A. steel flanged channel framework. The floor plate is 12 ga. H.R.B.A. steel plate, welded to a formed steel channel substructure of 6 - 12 ga. cross sills and 2 - 12 ga. longitudinal sills having B.C. fir or hardwood fillers in order to give compression to the body bolts.

The interior of the body is sheeted with 1/4" firply and painted white - gloss finish. The floor is coated with "Dektred".

Interior fitments supplied by the body manufacturer include a generator cabinet in the right rear corner of the body, to house two (2) 300 watt charging units. A table is bolted laterally to the floor, parallel to the front body panel on which is mounted the Wireless set. Two D.N.D. type folding seats are bolted to the floor plate. Battery crates are bolted to the floor at the right side of the body, while a stowage cabinet is set in the left rear corner of the body. A detachable table is stowed between the front of the body and the cab, and is attached to the outside of the left side of the vehicle. A canvas penthouse extends over either side of the body, and all windows are provided with blackout blinds. Communication between the body and the cab is established by means of a communication hatch and a buzzer system.



3 TON HOUSE TYPE WIRELESS

Function

The function of this vehicle, and its adaptations, is to provide Wireless, Teletype and Cypher facilities for Brigade, Division and Corps Headquarters. The vehicle described hereto, is equipped with the basic body only. However, six (6) adaptations of the basic body were built - Wireless "R", Wireless "I", Cypher Office, Cypher Office Modified, T.E.V. Div. or Corps, and Command L.P. - and photographs of the interior of these bodies are shown on the following page.

Dimensions

Overall length of vehicle ....248-1/2"
" width " " .... 95-1/2"
" height " " ....124"

Inside length of body .....159"
" width " " ..... 86"
" height " " ..... 62-3/4"

Weights

Curb weight of vehicle with basic body ..... 12102 lbs.
Gross weight of Wireless "R" including 8 personnel.... 15460 lbs.
Gross weight of Wireless "I" including 8 personnel.... 15406 lbs.
Gross weight of Cypher Office including 8 personnel.... 15384 lbs.
Gross wt.of Cypher Office Mod. including 8 personnel.... 15420 lbs.
Gross wt.of T.E.V.Div.or Corps. including 8 personnel.... 15960 lbs.
Gross wt.of Command L.P. including 8 personnel.... 15890 lbs.

References

D.M.& S. Schedule of Dwgs. - Basic 3-309030
D.M.& S. File No.- Basic ...73-B-9-3
A.E.D.B. Photograph File ... E-7
Body Code -Basic Body 55-D-1
Wireless "R"..... 55-D-6
Wireless "I"..... 55-D-5
Cypher Office ... 55-D-3
" " Modified 55-D-4
T.E.V.Div. or Corps. 55-D-7
Command L.P. 55-D-8
Pilot Model Approval No. ... Nil
Experimental Engineering Report E-547
Maintenance Manual No. MB-C2
Sources:-Chassis-General Motors Corp.
Body - Brantford Coach and Body Ltd..

Chassis

The chassis of this vehicle is a C.M.P. 3-ton, 4 x 4 - 158" W.B. extended frame, Code C60L, equipped with 10.50 x 20 tires.

Description of Basic Body

The substructure of the body comprised a floor sheet of 10 ga. steel, coated with Dektred, welded to ten (10 cross sills fabricated of 10 ga.H.R.B.A. steel formed channel and two (2) formed channel longitudinal sills with B.C. fir or hardwood sill fillers.

The framework of the body was of 16 ga. H.R.B.A. steel formed flanged channel, to which the outside sheeting of 16 ga. 57S 1/4 H aluminum, was rivetted. The roof of the body was sheeted with 18 ga.57S 1/4 H aluminum, the forward sheets overlapping the rear sheets, in order to weatherproof. 1/4" hardwood slats were screwed to the roof to act as wear strips. The interior of the body was lined with 22 ga. galvanized iron sheets and painted white-gloss finished, while rock wool pads were cemented between the inside and outside sheeting in order to insulate the body.

At the front of the left and right sides of the body were sliding doors, and a single hinged door at the rear. Sliding tubular steel ladders were provided at each door, for entrance to the body, and when not in use, were housed in the substructure. Two (2) "Edwards" pullman type windows were set in the left side, and one (1)"Edwards" pullman type window in the right side of the body. All windows were equipped with blackout slides or panels. A 12-volt motor driven ventilator was set in the front panel and a second ventilator in the right side panel at the rear of the body. A generator cabinet was set in the left rear corner of the body, with ventilating doors opening in the left side and rear of the body, which were opened when the charging unit was in operation.

Tubular steel, one piece guards, were provided for the protection of the antenna bases and roof ventilators. The body was wired for two (2) sources of electric current, 12-volt & 110-volt. The power for the 12-volt system was provided by a 300 watt charging unit together with two (2) 12-volt batteries which were housed in a steel, two (2) section box, suspended from the left side of the substructure. An outside source of power was necessary for the 110-volt system, and two (2) reels with 50 ft. each of cable were suspended from the substructure at the left & right hand sides of the body, for this purpose.

A penthouse of #8 waterproofed duck, with poles, ropes and pegs, completed the body. When not in use, the penthouse, ropes and pegs were stowed in a box mounted on the roof at the front of the body, while the poles were strapped longitudinally to the left side of the roof.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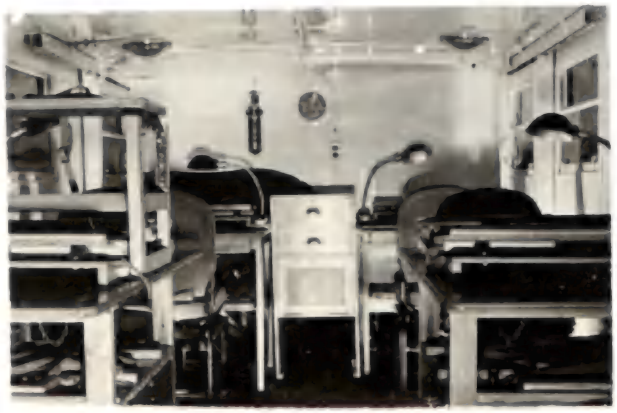
3 TON HOUSE TYPE WIRELESS



WIRELESS "R"

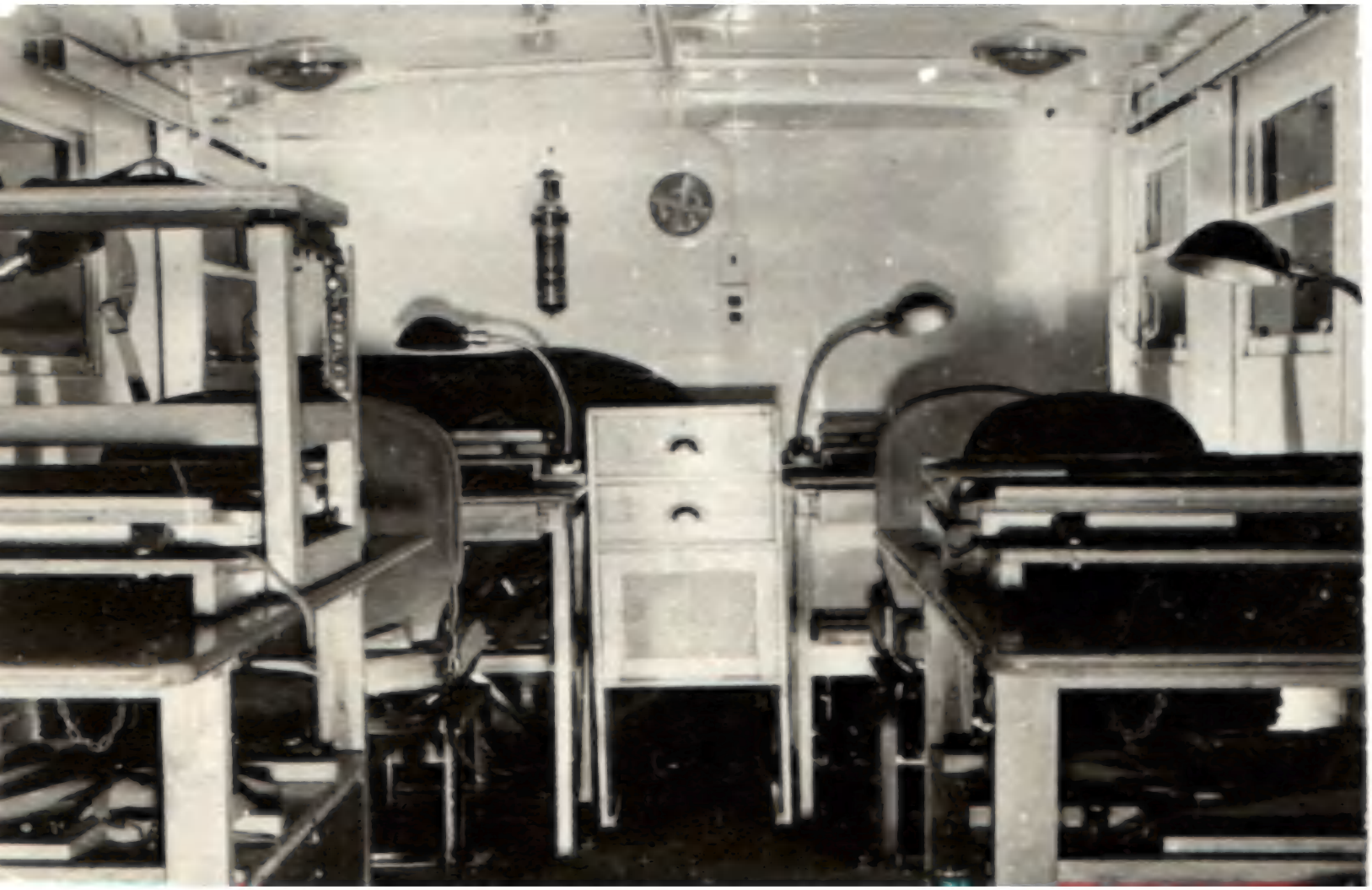
WIRELESS "I"

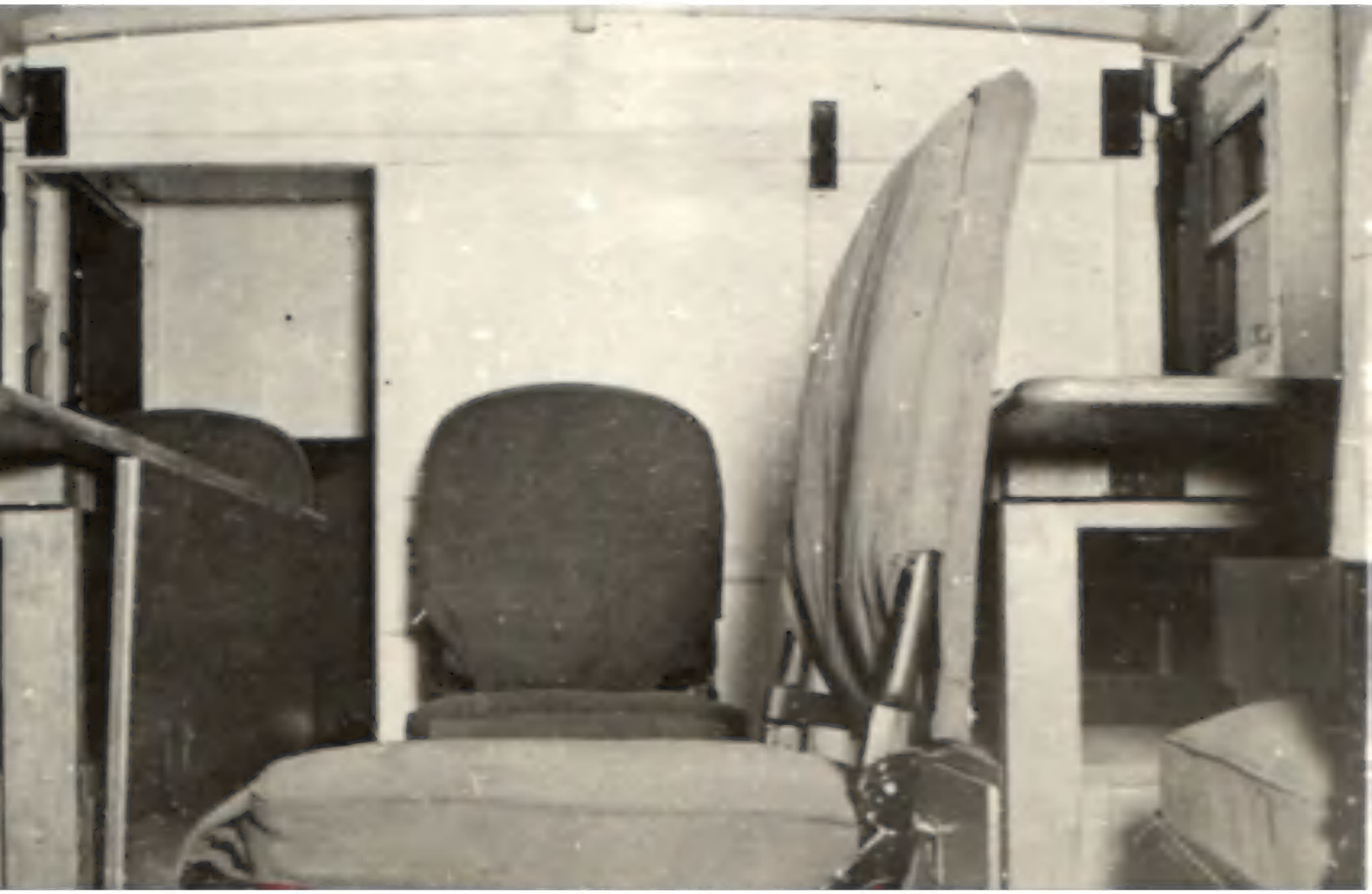
CYPHER OFFICE

CYPHER OFFICE MODIFIED

COMMAND L.P.

T.E.V. DIV OR CORPS.





3 TON SIGNALS GENERAL PURPOSE - HIGH POWER - LORRY

Function

Thisvehicle is used by Royal Canadian Corps of Signals as a general purpose house type vehicle for high powered wireless sets. It is also used for Direction Finding equipment and for any other purpose which may call for a heavy house type vehicle such as Office, etc.. Fourteen (14) only of these units were built.

Dimensions

Overall length of vehicle.....227"
" width " " ..... 92"
" height " " .....126"

Inside length of body .....139"
" width " " ..... 85"
" height " " ..... 76"

Weights

Curb weight of vehicle.....10480 lbs.
Gross weight of vehicle ....10985 lbs.
(including two (2) driver personnel).
Maximum allowable weight of
vehicle .....16000 lbs.

References

D.M.& S. Specification No.... O.A. 269
D.M.& S. Schedule of Drawings S-1102576
D.M.& S. File No. 73-L-56
A.E.D.B. Photo File No. F-3A
Vehicle Code No. ..60L-SIGL-CZ-1-MK.IV
Body Code No. 5-J-7
Pilot Model Approval No..... P-230
Maintenance Manual No. MB-C1
Sources:-Chassis - General Motors Corp.
Body - Lindsay
Assembly & fitments - Chrysler Corporation.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4 - 158" W.B. - Code C60L, equipped with 10.50 x 20 tires.

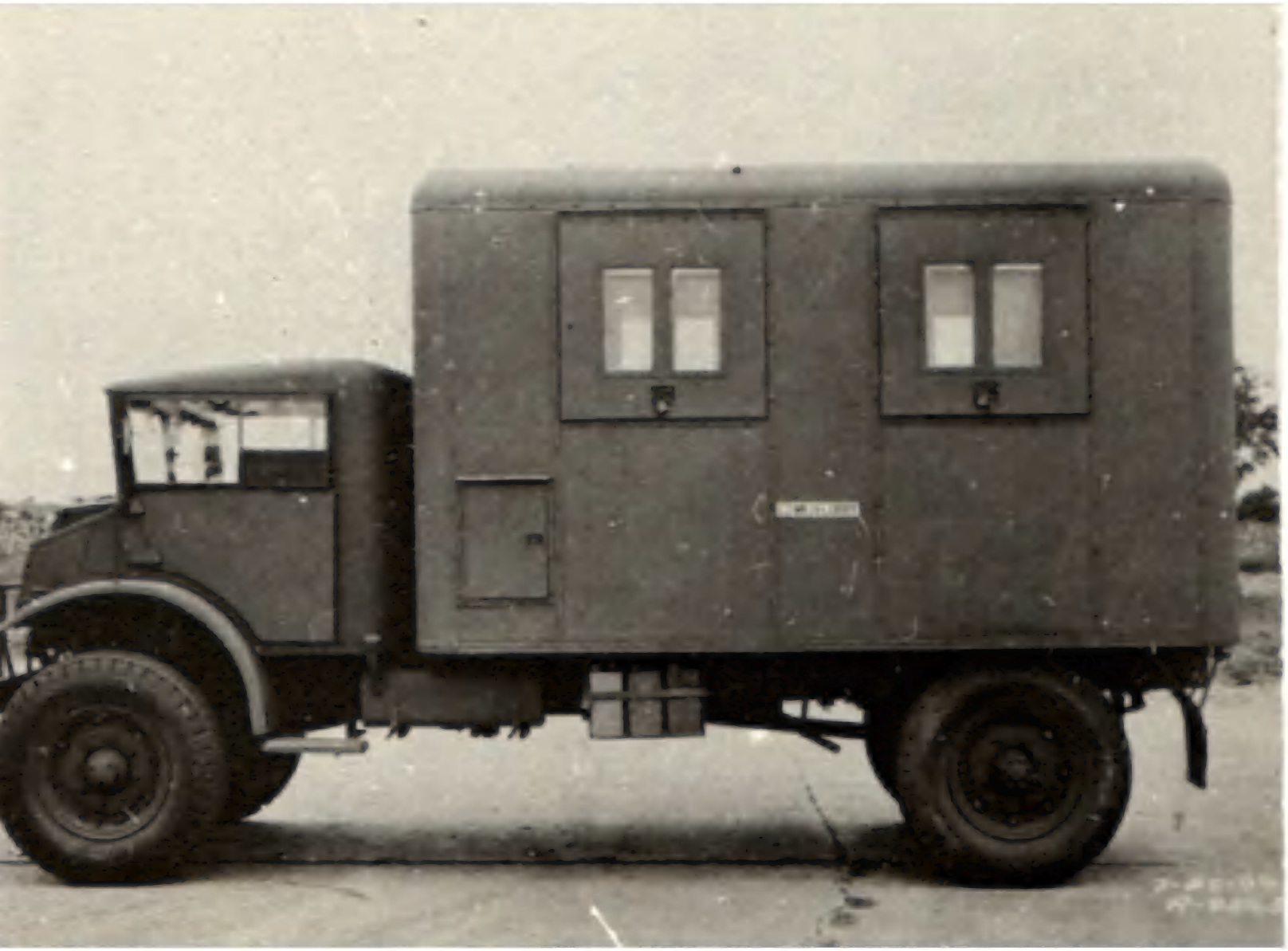
Description of Body

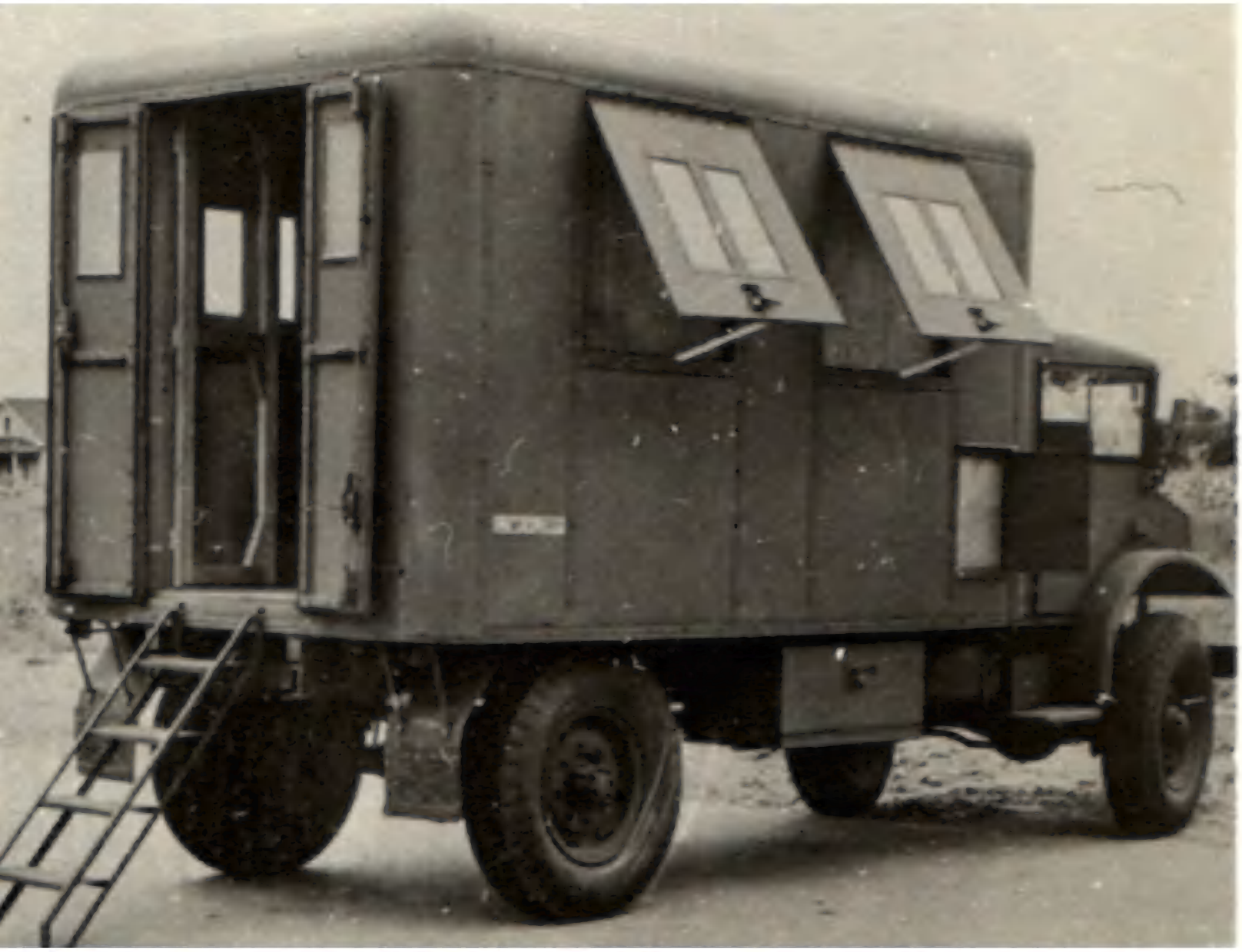
The body is a 12 ft. Lindsay steel house type construction, with substructure of 10 ga. H.R.B.A. formed steel channel cross sills and longitudinal sills, and floor of 10 ga. H.R.B.A. steel sheet, coated with Dektred. The interior of the body is lined with 1/4" plywood and insulated with Thermo Craft paper, the plywood and Thermo Craft being treated with Copper Naphthenate solution against rot and insect action.

The body has two (2) outward swinging rear doors, with two (2) hinged screen doors fitted inside the main doors, swinging inward. Two (2) hinged windows are fitted into each side panel, the windows being equipped with removable screens of fine copper mesh.

Two (2) 60 cycle, 110-volt A.C. ventilators are provided, and an overhead lighting system - 110 volt - the source of power being an outside supply for which a Grouse Hinds condulet is installed in the rear of the body, with a 100 ft. length of 3 conductor cable for extension to the outside source.

The only fitments supplied with the body were four (4) goose neck lamps and five (5) adjustable stools.





30 CWT. STEEL G.S. CABLE LAYER

Function

This vehicle is used by line construction companies of the Royal Canadian Corps. of Signals to transport cable on reels, and to pay out and lay cable by means of a power driven cable layer which is carried in the vehicle.

Dimensions:

Overall length of vehicle .....198"
" width " " ..... 95"
" height " " .....120"

Inside length of body .....120"
" width " " ..... 80"
" height " " to top of superstructure ..... 72-1/2"

Weights

Curb weight of vehicle ..... 10948 lbs.
Payload ..... 1106 lbs.
Gross weight of vehicle ..... 12054 lbs.
Maximum allowable weight .... 12600 lbs.

References:

D.M.& S Schedule of Drawings...S-11645
D.M.& S File No. 73-B-16
A.E.D.B. Photographic File No.. E-5
Vehicle Code No. 30444-M-CABL-1
Body Code No. 3H1
Maintenance Manual No. ..... MB-F1 & MB-C1

Sources:-Chassis - Ford Motor Company, General Motors Corp..
Body - Wilson Motor Bodies Ltd.

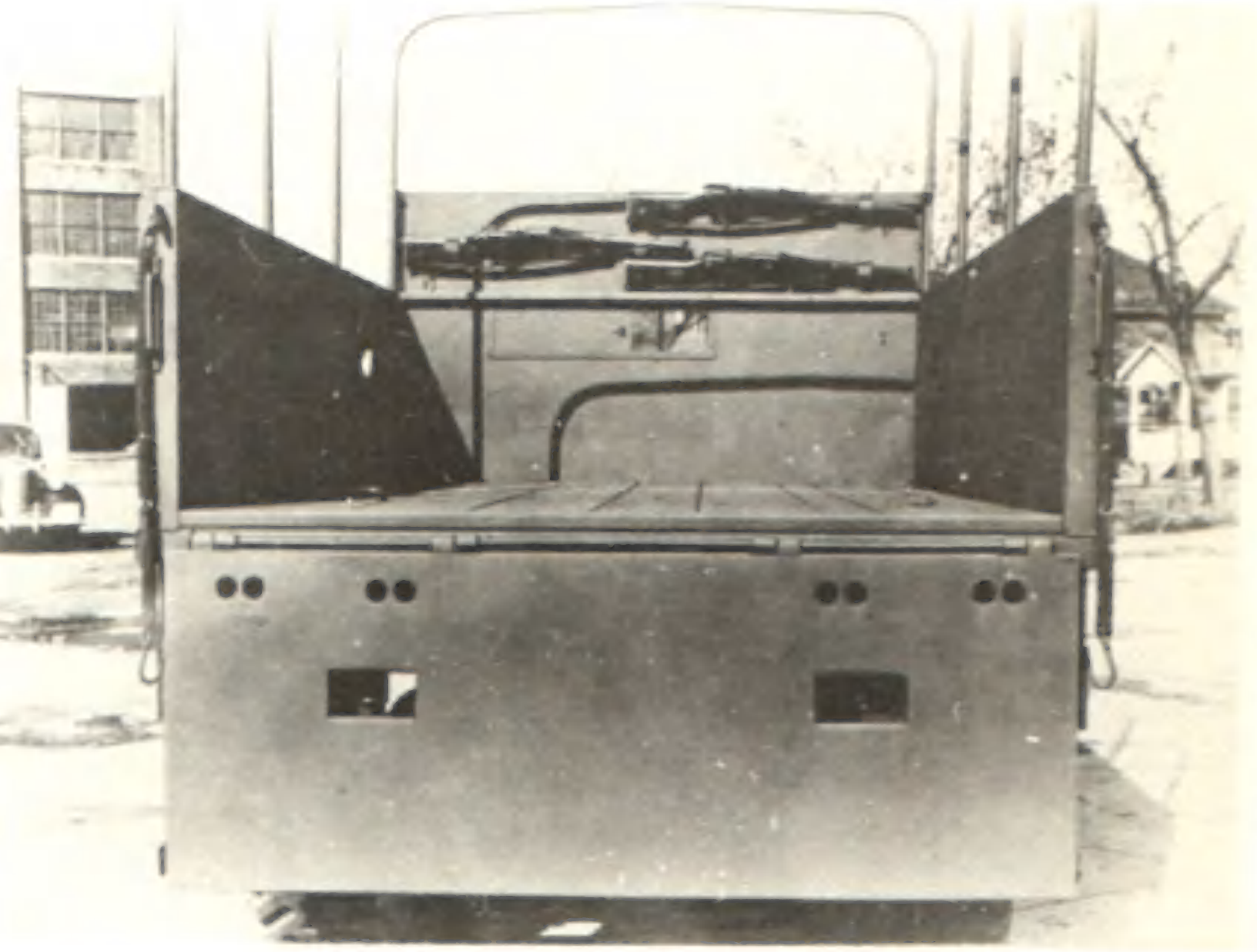
Chassis

The chassis for this vehicle is a 30-Cwt., C.M.P. 4 x 4 - 134" W.B. - Codes F30 & C30 - equipped with 10.50 x 16 tires.

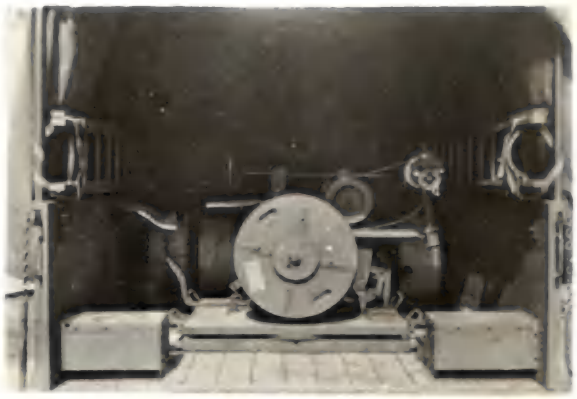
Description of Body

The body of this vehicle is a 10 ft. flat floor, all steel Budd type, gussetted construction body, with hard wood floor - 1-1/2" thickness. The substructure consists of seven (7) cross sills of 10 ga. formed H.R.B.A. steel channel, welded to two (2) 10 ga. formed H.R.B.A. steel longitudinal sills with hardwood sill fillers to provide compression for the mounting U-bolts.

The forward section of the left and right side panels is hinged to drop down in order to permit loading of the cable reels which are carried in the forward section of the body. The front panel is extended 15" in height in order to mount three rifles. The spare tire is mounted in the body, at the left front, and is loaded and unloaded from the left side of the body. Two (2) tool or chain lockers are located at the rear of the left and right side panels, and are accessible only from the outside of the body. Skids are provided on the floor of the body, and an observation platform is attached to the tailgate. Two (2) 9 ft. extension ladders are carried inside the lorry, strapped to the superstructure, while eighteen (18) 16 ft. poles are carried in the substructure between the longitudinal sills and are held in place by a logging chain. Standard iron pipe superstructure and wrap-around tarpaulin are also provided.



30 CWT. COMPOSITE CABLE LAYER



Function

The function of this vehicle is the same as that of the 30 cwt. Steel G.S. Cable Layer, as described in previous page of this volume.

Dimensions

Overall length of vehicle..... 198"
" width " " ..... 95"
" height " " ..... 120"

Inside length of body ..... 120"
" width " " ..... 79-1/2"
" height " " to top of superstructure ..... 69-1/2"

Weights

Curb weight of vehicle..... 9580 lbs.
Weight of equipment ..... 2900 lbs.
Weight five (5) personnel @ 240 lbs. ..... 1200 lbs.
Gross weight of vehicle ....13680 lbs.
Maximum allowable weight....12600 lbs.

References

D.M.& S. Schedule of Drawings..S 34850
D.M.& S. File No. 73-B-16-1
A.E.D.B. Photograph File E-5
Vehicle Code No.....30444M-CABL-2
Body Code No. 3-K-1
Experimental Engineering Report E-386
Pilot Model Approval No. F-118
Maintenance Manual No..... MB-F1 & C1
Sources: Chassis - Ford Motor Co., General Motors Corp.,
Body - Wilson Motor Bodies Ltd.

Chassis

The chassis for this vehicle is a 30 cwt., C.M.P. 0 4 x 4, 134" W.B. - Code F30 & C30, equipped with 10.50 x 16 tires.

Description of Body

The body is a 10 ft. steel, and wood composite construction, the general design being the same as that of the 10 ft. steel Cable Layer body - Code 3-H-1.

The floor is of 1-1/2" hardwood boards, while the side and front panels and the tailgate are of 3/4" B.C. fir or hardwood boards, framed in 10 ga. H.R.B.A. formed steel channels.

The rear cross member of the body has a 10 ga. H.R.B.A. steel formed cover which has a cut-away in the middle to allow for the stowage of the poles in the substructure.

The equipment for cable laying, with reel racks, ladders, etc., is the same as in the 30-cwt. steel Cable Layer.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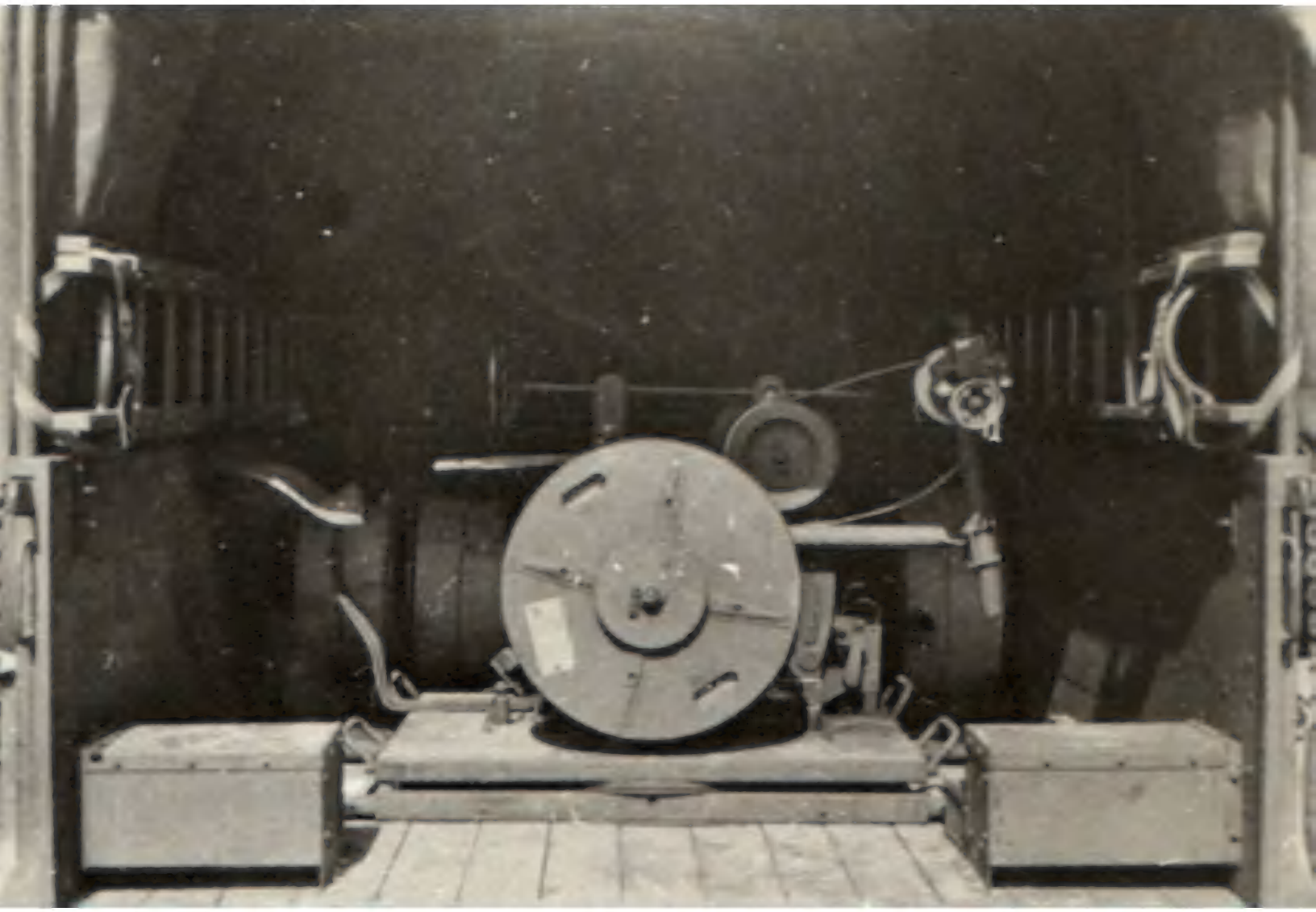
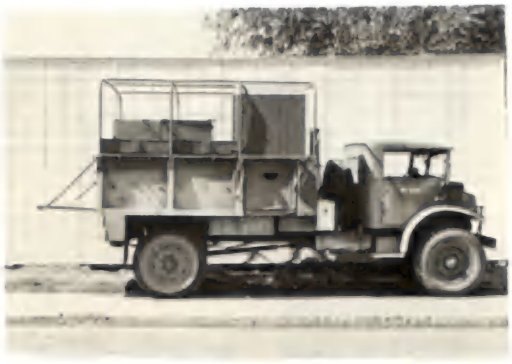
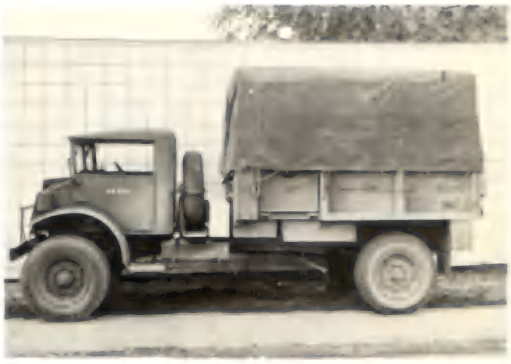
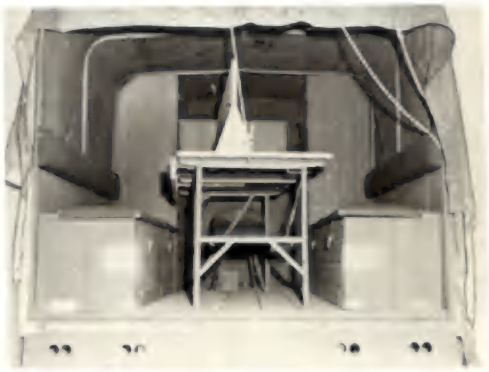


3 TON STEEL G.S. SIGNALS OFFICE LORRY







Function

The purpose of this vehicle is to act as a Signals Office for Division or Corps staff of the Royal Canadian Corps of Signals. It is a G.S.adaptation, with removable interior furniture and/or fixtures.

Dimensions

Overall length of vehicle.....226-1/2"
" width " " ..... 88"
" height " " .....123-1/2"

Inside length of body .....119-1/2"
" width " " ..... 79-1/2"
" height " " to top of superstructure..... 69-1/4"

Weights

Curb weight of vehicle ..... 9670 lbs.
Weight of furniture & fixtures 1255 lbs.
Five (5) personnel @ 240 lbs. 1200 lbs.
Gross weight of vehicle.....12125 lbs.
Maximum allowable weight....15700 lbs.

References

D.M.& S. Schedule of Drawings S-341450
D.M.& S. File No. 73-B-16-2
A.E.D.B. Photographic File.. E-7
Vehicle Code No..... 60L-OFF-4
Body Code No. 3-H-3
Pilot Model Approval No. ... F-252
Exp. Engineering Report No.. E-470
Maintenance Manual No. .. MB-F1, MB-C1
Sources:- Chassis - Ford Motor Co., General Motors Corp.
Body - Wilson Motor Bodies Limited.

Chassis

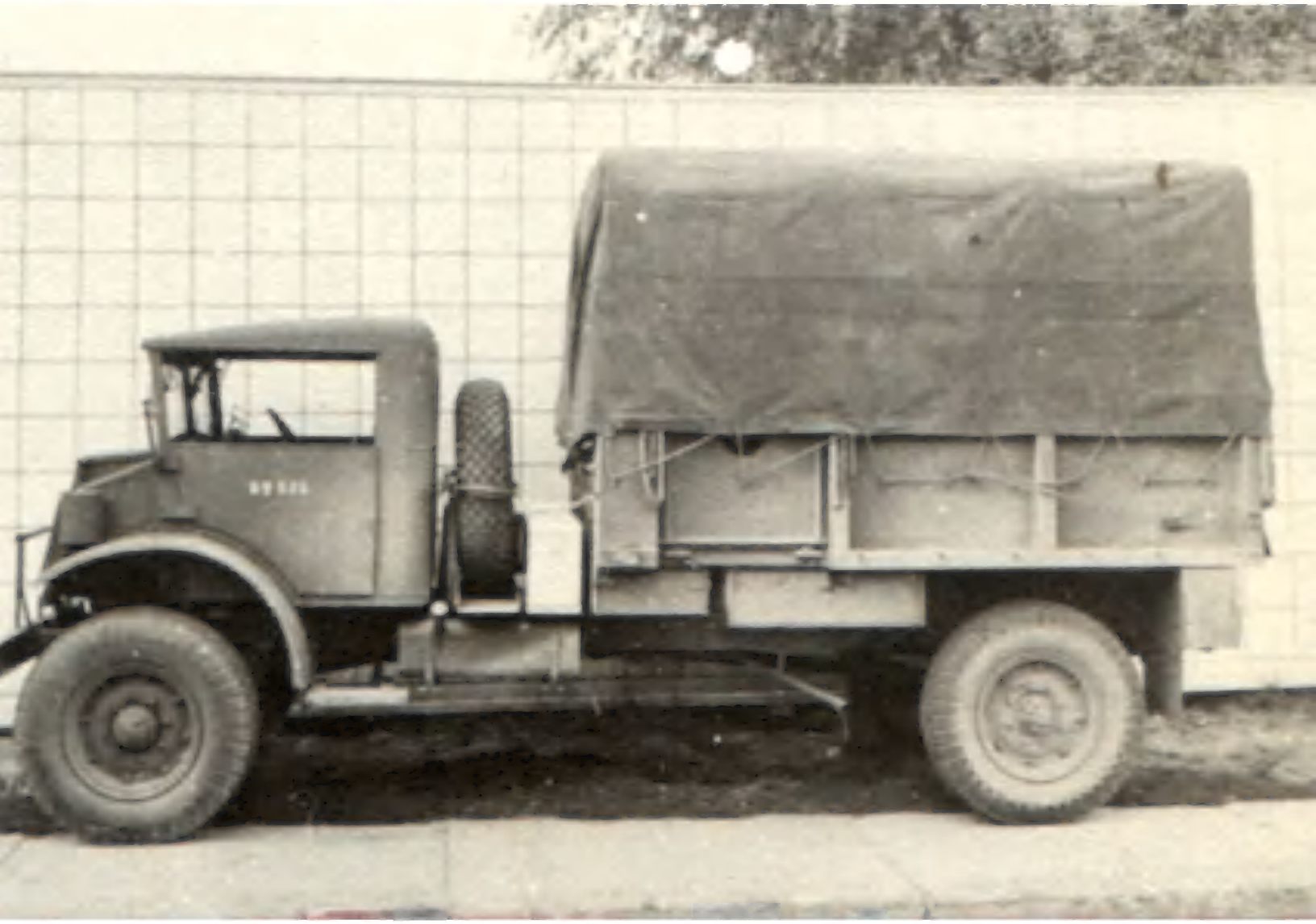
The chassis for this vehicle is a 3-ton C.M.P., 4 x 4 - 158" W.B. - Codes F60L & C60L - equipped with 10.50 x 20 tires.

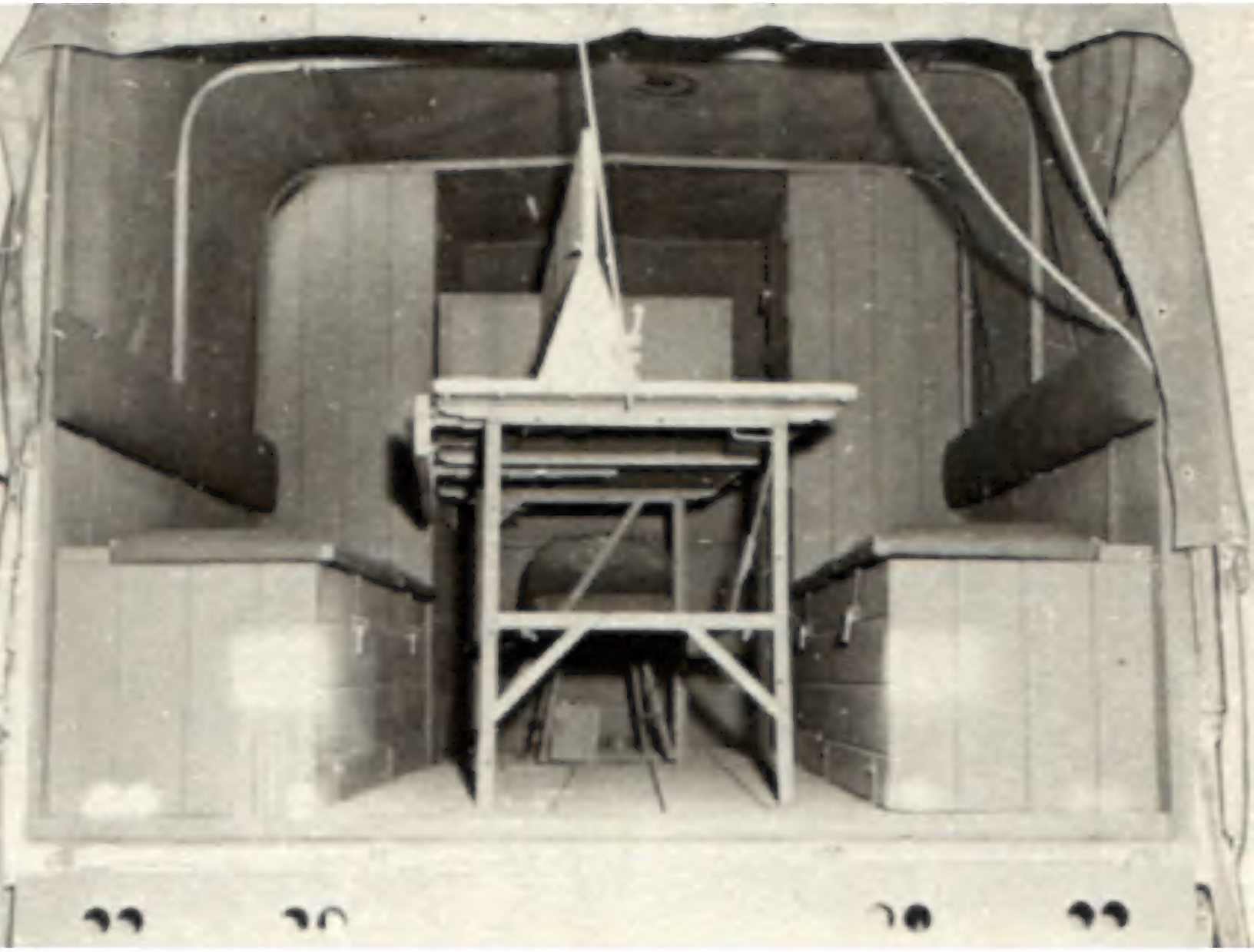
Description of Body

The body is a 10 ft. flat floor, all steel Budd type gussetted construction body, with hardwood floor - 1-1/2" thickness - the same basic body as used in the 30 cwt. Steel G.S. Cable Layer. The spare tire, however, is mounted on the chassis, immediately behind the cab. A steel tool box - 64-3/8" x 9-3/4" x 16" - is mounted laterally on the chassis frame, between the spare tire and the front of the body. A superstructure with wrap-around tarpaulin and canvas penthouse also is provided.

The furniture and fixtures supplied with the body, are as follows:-

Wooden lockers are provided on either side of the body, running longitudinally, the tops being in two (2) sections, and are fitted with padded cushions covered with #10 waterproofed duck, and padded back rests. A centre table runs longitudinally down the centre of the body with a D.N.D. type folding seat at the front - facing the rear of the vehicle. The table has a partition in the centre, from front to rear. Two (2) cupboards are provided at the front of the vehicle. Drop lights are provided for interior lighting.





3 TON TELEPHONE LORRY

Function

This vehicle was designed for use by line construction sections of the Royal Canadian Corps of Signals to erect cable on poles after the cable had been paid out by the Cable Layer vehicle. The vehicle is complete in itself in that all work pertaining to cable erection and telephone construction can be performed in the vehicle by the section.

Dimensions

Overall length of vehicle	218"
" width " "	95"
" height " "	105-1/2"
Inside length of body	127-3/4"
" width " "	65"
" height " "	62-1/2"

Weights

Curb weight of vehicle.....	13320 lbs.
Stores & equipment	2680 lbs.
Weight of 5 Personnel @ 240 lbs.	1200 lbs.
Gross weight of vehicle	17200 lbs.
Maximum allowable weight	16000 lbs.

References

D.M.& S. Specification No.	O.A. 140
D.M.& S. Schedule of Drawings...	S 341960
D.M.& S. File No.	73-V-32-1
A.E.D.B. Photograph File No. ...	E 28
Vehicle Code No.	60444-M-SLC-1
Body Code No.	4-K-1
Pilot Model Approval No.	P-156
Maintenance Workshop Manual	MB-C2
Maintenance Manual for Body and Equipment	SB-27

Sources:-Chassis - General Motors Corp.
Body - Smith Bros. Motor Body Wks.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4, 134" W.B. - Code C60S, equipped with 10.50 x 20 tires.

Description of Body

This is a special steel body, built solely for the telephone lorry. The substructure consists of seven (7) 11 ga.H.R.B.A. formed steel channel crossmembers welded to two (2) 2-1/2 x 5/8 x 3/16 rolled steel channel longitudinal members. The floor sheet is of 16 ga. H.R.B.A. steel plate, with wheelhouses. The front panel is of 16 ga. H.R.B.A. steel plate into which is set, on the inside, a locker running the full width of the body. The side panels are formed into specially designed bins, of 22 ga. H.R.B.A. steel, the bins being partitioned into variously dimensioned compartments in which are stowed the special stores, tools and equipment peculiar to the work which is carried out by the telephone construction section.

The top is of telescopic design, and is divided into three sections - the forward section which is fixed, as well as the sliding rear section, is of 22 ga. H.R.B.A. steel plate, suitably reinforced, while the centre section is made of rubberized fabric tarpaulin. The centre and rear sections telescope into the front section.

A power take-off winch, 10,000 lbs. line pull, is provided, together with telescopic middle pole type derrick. The winch is mounted inside the body at the front, with a removable cover, which forms a bench for the crew when the vehicle is in motion. A detachable cable reel may be affixed to and driven from the outer end of the winch drive shaft. 12' pike poles and 8' spoons are carried on the right side of the body, while a 24' extension ladder is carried on the left side. Other equipment includes a simplex pole jack, wheel chucks, a spindle for reels, and an angle bar guide for light gauge cable.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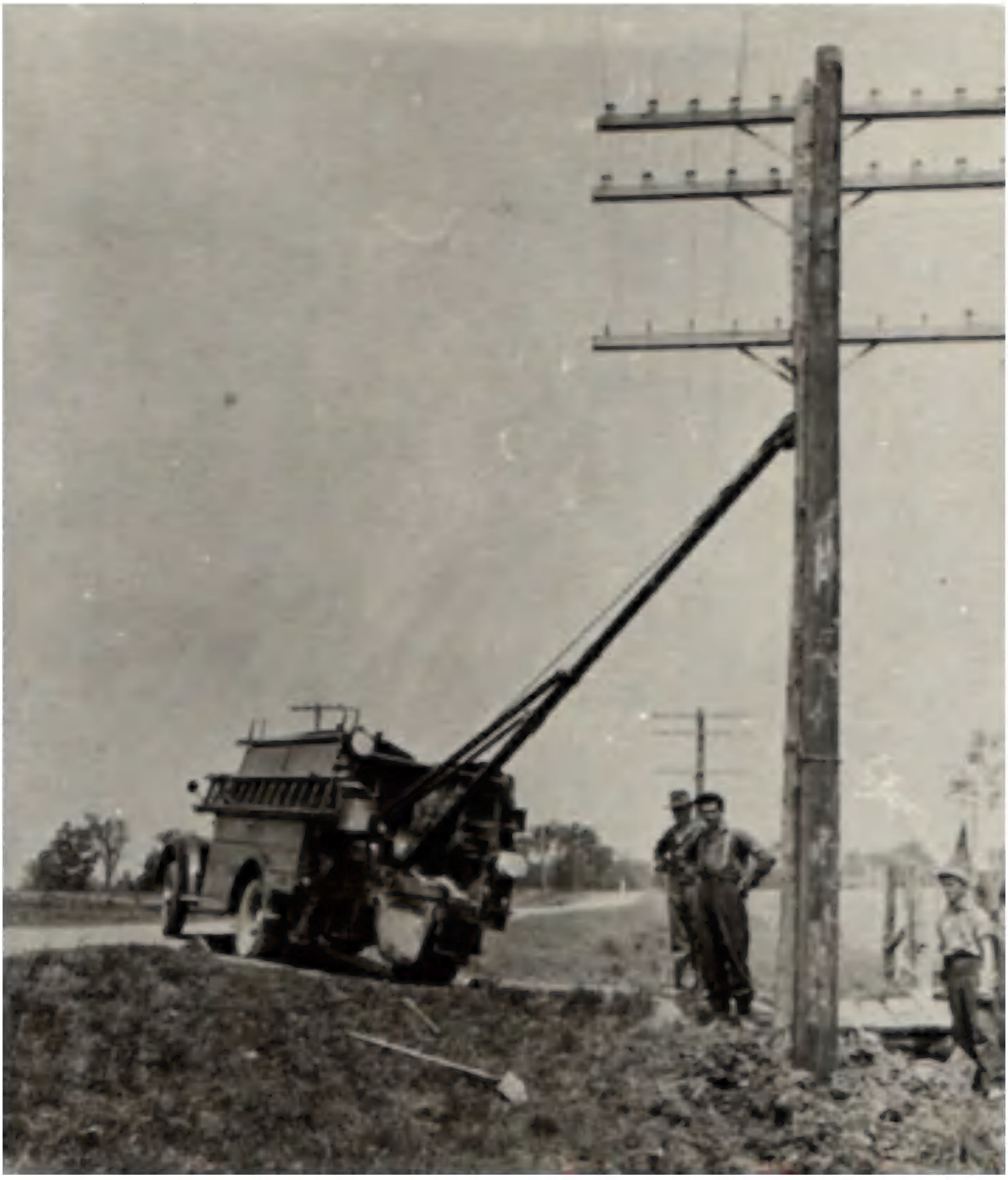

3 TON EARTH BORING MACHINE

Function

This vehicle is used by line construction companies of the Royal Canadian Corps of Signals to bore holes for telephone, or other heavy poles, which may be used along lines of communication. The boring head of the Auger is equipped with levelling mechanisms that permit quick adjustments in order to dig holes straight down, regardless of the position of the truck, or to dig holes at any angle.

Dimensions

Overall length of vehicle.....	235-1/2"
" width " "	89"
" height " "	130"
Inside length of body	120"
" width " "	95"
" height " "	83"

Weights

Curb weight of vehicle	10250 lbs.
Weight of Auger & equipment...	4585 lbs.
Four (4) Personnel @ 240 lbs..	960 lbs.
Gross weight of vehicle	15795 lbs.
Maximum allowable weight	16000 lbs.

References

D.M.& S. Specification No.....	O.A. 110
D.M.& S. Schedule of Drawings..	S 306075
D.M.& S. File No.	73-V-32-2
A.E.D.B. Photograph File No.....	E-28
Vehicle Code No.	C60S-AUGR-1
Body Code No.	4-M-1
Experimental Engineering Report.	E-412
Pilot Model Approval No.	P-243
Maintenance Manual No.	MB-C2

Sources:-Chassis - General Motors Corp.
Body - Gar Wood Co. Ltd.
Auger - Highway Trailer Mfg.Co.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4, 134" W.B. - Code C60S - equipped with 10.50 x 20 tires.

Description of Body

The body is an all steel, all welded 10' body, with square wheelhouses. The substructure consists of front and rear cross sills of 6" standard rolled channel and nine (9) cross sills of 6" standard rolled I beam. The floor sheet is of 10 ga.H.R.B.A. steel plate, welded to the substructure.Two (2) I beams are welded to the underside of the rear of the body, on either side of the longitudinal members, with a base plate to which is attached an adjustable jack. The sides and front panel are of 10 ga. H.R.B.A. steel plate.

A Continental (Buda) engine and the earth auger, including battery, transmission and coupling, are mounted as an integral unit on a steel skid frame on the floor of the body.

Tool boxes are set into each side panel for stowage of the spare auger bits. Space has been provided at the rear of the body beneath the floor for stowage of saws. This space is closed at one end, with a door at the open end. The spare tire is mounted to the front of the left side panel. A standard iron pipe superstructure and special tarpaulin complete the body.

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ENGINEERS' LORRIES

ENGINEERS' LORRIES

GENERAL COMMENTS

Certain types of bridging equipment used by the R.C.E. require specially designed bodies for transportation. This is due to the fact that floating equipments are easily punctured or otherwise damaged, and also because of their large size. Large all-wheel-drive chassis is essential as the vehicles may be called upon to transport equipment close to a bridging site where the ground is soft and the roads bad.

British drawings were received in this country for all the special types of bodies, and the design was modified to suit the type of chassis used. Folding Boat and Small Box Girder bodies were built and mounted on Ford 6 x 4 chassis. It was found, however, that cross country performance of this unit was inadequate, and a decision was made to use heavier all-wheel-drive American built chassis. The chassis subsequently selected was the Diamond T, 4-ton 6 x 6, 201" Wheel Base, with 9.00 x 20 tires.

Six different types of bodies were built for mounting on Diamond T's, and two for other chassis.

1. Pontoon Body, for transporting bridging pontoons and other components.

2. Trestle & Sliding Bay Body, for transporting the landing stage portion of the pontoon bridge.

3. Folding Boat Equipment Body, for transporting the Folding Boats and all the necessary bridge superstructure components.

4. Small Box Girder Body, for transporting the girders and other bridge components.

5. 15' G.S. Body, for transporting Bailey Bridging.

6. Crane Lorry. This is a standard Bay City Model 10 Crane with a goose-neck boom, mounted on a Diamond T 4-ton 6 x 6, 201" Wheel Base chassis. It is used to lift Heavy Bridging components.

7. Crane-Shovel Lorry. This is a Dominion Hoist & Shovel Model 358 Crane mounted on a Mack NR 10-ton 6 x 4 chassis. The unit may be used with shovel, trench hoe, clamshell, dragline or crane attachments. It is used by R.C.E. Road Construction companies.

8. Engineers Winch & Derrick Lorry:- This is a standard 3-ton CMP 158" 4 x 4 chassis with a 10' body, derrick poles and winch. Used for general lifting and winching work.

The Small Box Girder Lorry and the Trestle Sliding Bay Lorry are now considered obsolete, as it is possible to carry this equipment in G.S. types of vehicles.

PERFORMANCE

The performance of the Bridging Equipment Lorries has been generally satisfactory, with four minor exceptions. These are as follows:-

1. Stripping of the worm gear pinions in the lifting tower winches on the F.B.E. Pontoon bodies. This condition was corrected by replacing the bronze pinions with high strength alloy steel pinions.

2. Ability to load Pontoon Body from top, using a crane. This was corrected by hinging the towers at the bottom, which permitted them to be swung down out of the way.

3. At the first of production, chain adjustment was obtained by shimming underneath the winch. A chain adjuster was subsequently included in the design and supplied.

4. The Engineers Winch and Derrick Lorry was originally designed to mount on a 30-cwt. chassis, with a chassis winch. Subsequently, it was found necessary to change to a 3-ton chassis with the winch mounted in the body. This change was made in order to give better winch performance and better load carrying capacity.

FUTURE DESIGN CONSIDERATIONS

The users have stated that they consider a winch essential on Bridging vehicles, as they are frequently called upon to operate in soft ground.

The Pontoon and the Trestle and Sliding Bay vehicles were so equipped, but it was found impractical to provide winches on the other units due to weight limitations.

PONTOON LORRY

Function

Used by Pontoon Platoon of R.C.A.S.C. Bridging Company to carry Pontoon Bridging.

Dimensions

Overall vehicle	length.....	323"
" "	width	94"
" "	height	136"

Weights

	Front	Rear	Total
Curb	8280	9800	18080
Laden	8300	15500	23800

References

A.E.D.B. Drawing Schedule....1079043
Munitions & Supply File No.73-B-19-3
Vehicle Code No.....80661-C-PONT-1
Body Code No. 8D1
Maintenance Manual C661-DT1
Spare Parts List 969B-01
Sources:-Body by Brantford Coach and Body Ltd., Chassis by Diamond T Motor Co., Chicago, U.S.A.. Vehicle boxed and drawings prepared by Chrysler Corporation of Canada, Windsor.

Chassis

The Pontoon Lorry body is designed for mounting on a Diamond T, 4-ton,6x6, 201" W.B. chassis in accordance with U.S. Quartermaster Specification No.LP-91-201F, except that the wheelbase is 201" instead of 172". **The chassis was equipped with 9.00 x 20 tires.**

Body

The body is all steel welded construction with 4 towers, one at each corner of the body. A wood catwalk runs along each side; this is also used to s tow various items such as oars, boathooks, raft connectors, etc..

The towers each contain a hand winch, used for lifting up a pontoon in order that a second pontoon may be stowed underneath.

The body is capable of carrying two bow or two centre pontoons.

TRESTLE AND SLIDING BAY LORRY

Function

Used by R.C.E. to transport Trestle and Sliding Bay components of the Pontoon Bridge.

Dimensions

Overall Vehicle	length.....	323"
"	" width	94"
"	" height	95"

Weights

	Front	Rear	Total
Unladen	8215	9640	17855

References

A.E.D.B. Drawing Schedule.....1079042
Munitions & Supply File No..73-B-19-4
Vehicle Code No. 80661-C-TRES-1
Body Code No. 8G1
Maintenance Manual C661-DT1
Spare Parts List 969B-01
Sources:- Body By Brantford Coach & Body Co.. Chassis by Diamond T Motor Co., Chicago. Vehicle boxed and drawings prepared by Chrysler Corporation of Canada.

Chassis

The body is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" W.B. chassis in accordance with U.S. Quartermaster Spec. No. LP-91-201F, except that the wheelbase is 201" instead of 172". **The chassis was equipped with 9.00 x 20 tires.**

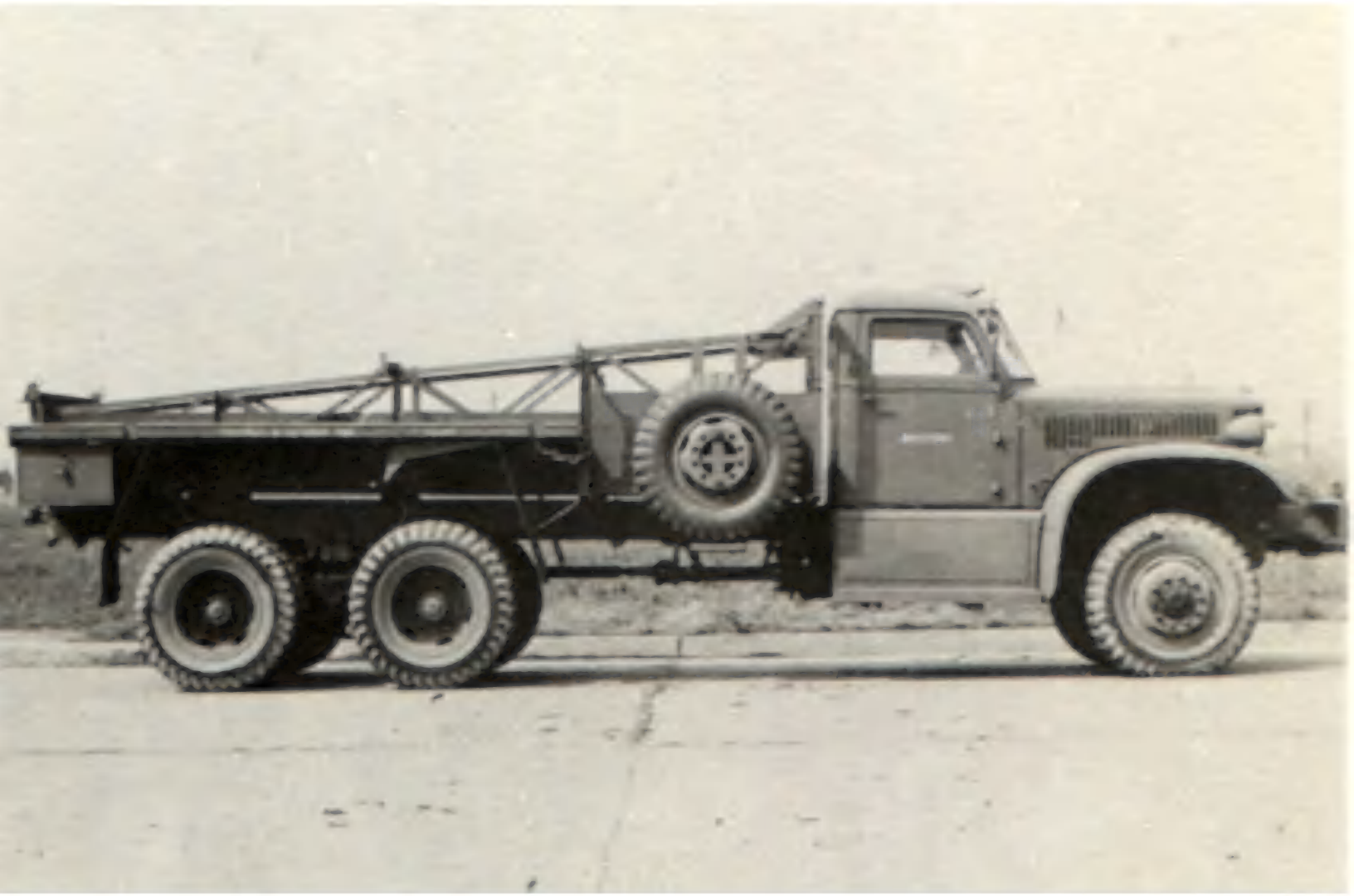
Body

The body is of wood and steel composite construction.

Catwalks are supplied one on each side of the body, and are used to carry stiffening chesses. An inclined ramp is provided for carrying roadbearers and ribands.

A well is provided underneath the ramp for carrying chesses and other components.

Note:-The Trestle & Sliding Bay Lorry has been declared obsolete as it has been found that the various components may be carried in a G.S. type lorry without great inconvenience.



FOLDING BOAT EQUIPMENT LORRY

Function

Used by FBE platoon of R.C.A.S.C. Bridging Coy. to carry F.B.E. Bridging.

Dimensions

Overall vehicle length	323"
" " width	89"
" " height	136"
Length overall with Folding Boats stowed	400"

Weights

	Front	Rear	Total
Curb	7600	9300	16900
Laden	8200	18000	26200

References

A.E.D.B. Drawing Schedule.... 1079040
Munitions & Supply File No..73-B-19-1
Vehicle Code No. 80661-C-FBE-1
Body Code No. 8F1
Maintenance Manual C661-OT1
Spare Parts List 969B-01

Sources:

Body by Brantford Coach & Body Company,
Chassis by Diamond T Motor Co.,Chicago, U.S.A..
Vehicle boxed and drawings prepared by Chrysler Corporation of Canada.

Chassis

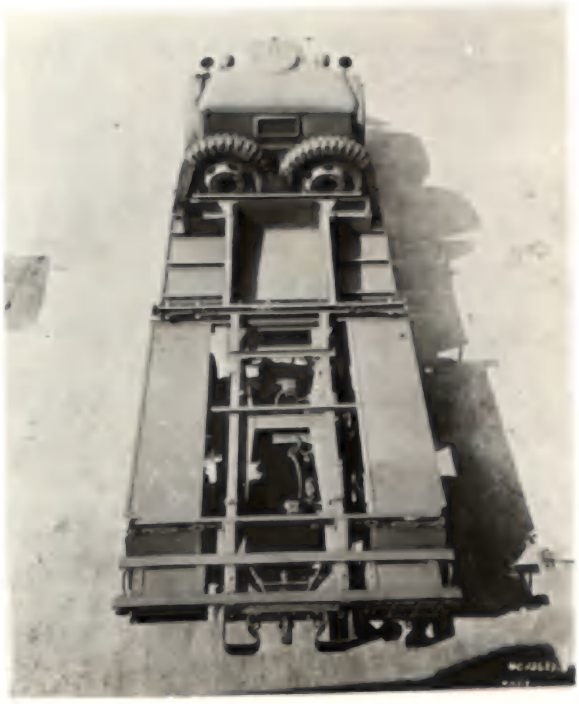
The FBE body is designed for mounting on a Diamond T, 4-ton, 6 x 6, 201" W.B.chassis in accordance with U.S. Quartermaster Spec. No. LP-91-3[illegible], except that the wheelbase is 201" instead of 172". **The chassis was equipped with 9.00 x 20 tires.**

Body

The body is of all steel, welded construction, with 4 towers, one at each corner of the body. These towers are equipped with hand winches so that the boats may be raised and stowed one under the other.

Provision is also made for carrying the roadbearers, chassis, landing stage units, anchors and etc..

SMALL BOX CINDER LORRY



Function:

Used by R.C.E. to transport S. B. G. Bridging.

Dimensions:

Overall Vehicle	length	323"
" "	width	44"
" "	height	95"

Weights:

	Front	Rear	Total
Unladen	7550	8840	16390

References:

A.E.D.B. Drawing Schedule..... 1079041
Munitions & Supply File No...73-B-19-2
Vehicle Code No. 80661-C-SBG-1
Body Code No. 8H1
Maintenance Manual C661-DT1
Spare Parts List 969B-01

Sources:-

Body by Brantford Coach & Body Co.,
Chassis by Diamond T Motor Co., Chicago.
Vehicle boxed and drawings prepared by Chrysler Corporation of Canada.

Chassis:

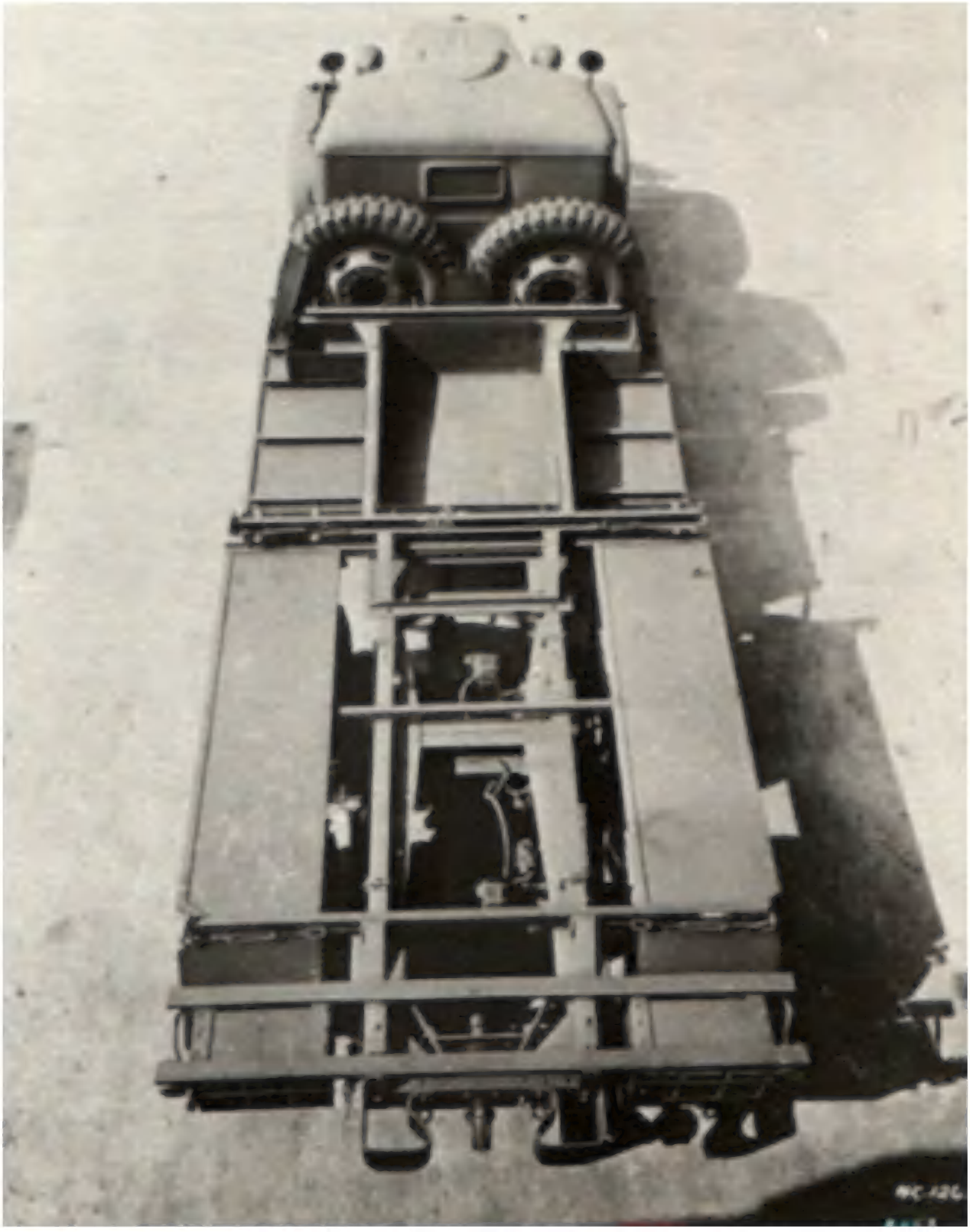
The SBG body is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" W.B. chassis in accordance with U.S. Quartermaster Spec. No. LP-91-201F, except that the wheelbase shall be 201" instead of 172".
The chassis was equipped with 9.00 x 20 tires.

Body:

The body is of all steel welded construction and actually is a steel ramp on which the SBG sections are placed and held in place with racking chains.

Four SBG centre or four Hornbeam sections may be placed on the body at one time. The launching noses and chairs are placed on top of the Hornbeam sections and held in place by racking chains.

Note:- Early in the War the SBG vehicle was declared obsolete as SBG Bridging components readily lend themselves to carriage in G.S. vehicles.



15 FT. GENERAL SERVICE BODY

Function:

Used by R.C.A.S.C. Bridge Companies to transport Bailey and other bridging components.

Dimensions

Overall vehicle	length	322"
" "	width	100"
" "	height	130"

Weights

Complete Vehicle	Front	Rear	Total
Curb	7470	10300	17770
Laden	9300	14500	26800
Body only, c/w tool boxes, mudflaps, superstructure, etc.			3130

References

A.E.D.B. Drawing Schedule	S 17176
Body Code No.	8A1
Munitions & Supply File No.	73-B-22
Vehicle Code No.	80661-C-GS-1
Pilot Model Approval	11
Maintenance Manual	WM-3862, C661-DT1
Parts List	969B-01

Sources:

This body was pilotted by Gar Wood Ind., Windsor, and produced in quantity at Motor Coach Industries, Winnipeg.

The vehicle was boxed for shipment and drawings prepared by Chrysler Corporation of Canada, Windsor.

Chassis

This body is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" W.B. chassis in accordance with U.S. Quartermaster Spec. No. LP-91-201F, except that the wheelbase is 201" instead of 172".
The chassis was equipped with 9.00 x 20 tires.

Body

The body is all steel, welded, Budd type construction, provided with 2 toolboxes and 2 jerrican carriers, one on each side.

CRANE LORRY

Function:

Used by R.C.E. for general lifting work in connection with bridging and other construction work.

Dimensions:

Overall Vehicle		Length	323"
"	"	Width	94"
"	"	Height	132"

Weights

	Front	Rear	Total
Curb	8840	18530	27370

References

A.E.D.B. Drawing Schedule 1081477
Munitions & Supply File No...73-B-19-6
Vehicle Code No. 80661-C-CRANE-1
Maintenance Manual C661-DT1
Spare Parts List 969B-01
Sources:-
Crane by Bay City Shovels, Inc., Bay City, Michigan. Chassis by Diamond T Motor Co., Chicago, Ill..
Vehicle boxed and drawings prepared by Chrysler Corporation of Canada.

Chassis:

The base is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" W.B. chassis in accordance with U.S. Quartermaster Specification No. LP-91-201F, except that the wheelbase shall be 201" instead of 172". **The chassis was equipped with 9.00 x 20 tires**

Crane

The crane is a Standard Bay City Model 10 Unit, with the following exceptions:-

(1) The tail swing is reduced to 4'-0".
(2) A special "Goose Neck" type of boom is provided in order to reduce overall height.

Following is a list of the lifting capacities of the Unit at various radii:

Radius	Max. Lift obtainable over Side	Rear
7'-9"	10,500#	13,000#
10'	6,500	11,500
13'	4,000	8,500


NC 13052-2

CRANE SHOVEL LORRY - DOMINION 358, 5/8 Yd. ON MACK 10 TON NR-4

Function

This vehicle is used by R.C.E. Road Construction Units for general lifting and shovel work.

Dimensions

Overall vehicle length .....41'-10"
" " width ..... 8'- 6"
" " height .....13'- 6"

Weights

	Front	Rear	Total
Curb.....	11240	37035	48275

References

A.E.D.B. Drawing Schedule..... 34480
D.M. & S. File No. 73-B-19-7
Body Code No. 9C1
Parts List (Chassis).....TM10-1544
W.D. Technical Manual..... TM9-818
A.E.D.B. Specification.....O.A. 267
Ordnance Proving Ground Report DVA6-245
E.E.Garage (D.M.& S.) Report. E 476

Sources: Crane Manufactured & installed on chassis by Dominion Hoist & Shovel Co, Lachine, Que..
Chassis by Mack Manufacturing Corp., Allentown, Penn..

Chassis

The crane base is designed for mounting on a Mack NR, 10-ton 6 x 4, 200½" W.B. chassis, with 1100 x 24 tires all round. Duals on rear.

Crane

The crane is a standard Dominion 358 Crane, 5/8" yard capacity.

The base is a welded built up steel structure, designed so that the chassis frame is relieved of all stresses resulting from a lift, when the outriggers are used. The bull gear casting is welded directly to the top of this structure.

A trench hoe, dragline, clam shell and shovel equipment is supplied with each unit.

Ancillary equipment, such as holdfasts, crow-bars, sledges, slings, shovels, etc., are supplied.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ENGINEER'S WINCH AND DERRICK DORRY

Function

Used by R.C.E. for bridging operations, for recovery work; also, used in Ordnance and Engineer Field Parts to lift various equipment.

Dimensions

Overall vehicle	length	219"
" "	width	84"
" "	height	117"

Weights

	Front	Rear	Total
Curb	5230	5670	10900
Laden	6200	9500	15700

References

A.E.D.B. Specification...O.A. 42, 51 & 59
A.E.D.B. Drawing Schedule. 340300, 340340, 340350, 340360
D.M. & S. File No. 73-D-1
Body Code No. ..... 4H3 to 4H6
Parts List, Chassis F60S-01
Maintenance Manual & Spare Parts List SB-25

Sources:- Body and equipment (Derrick Poles and Winch) supplied by Gar Wood Industries Ltd., Windsor, Ontario; chassis supplied by Ford Motor Company.

Chassis

The body is designed for mounting on a Ford 3-ton 4 x 4, 134" W.B. chassis, with 10.50 x 20 tires.

Body

The body is all steel construction, 10' long, with a full length wheelhouse.

Models 4H1 and 4H2 have hinged sides; the models 4H3 and 4H4 are semi K.D., bolted, and the models 4H5 and 4H6 have fixed sides, all welded construction.

A superstructure and tarpaulin are provided and the tire carrier is mounted inside the body, on the R.H. wheelhouse.

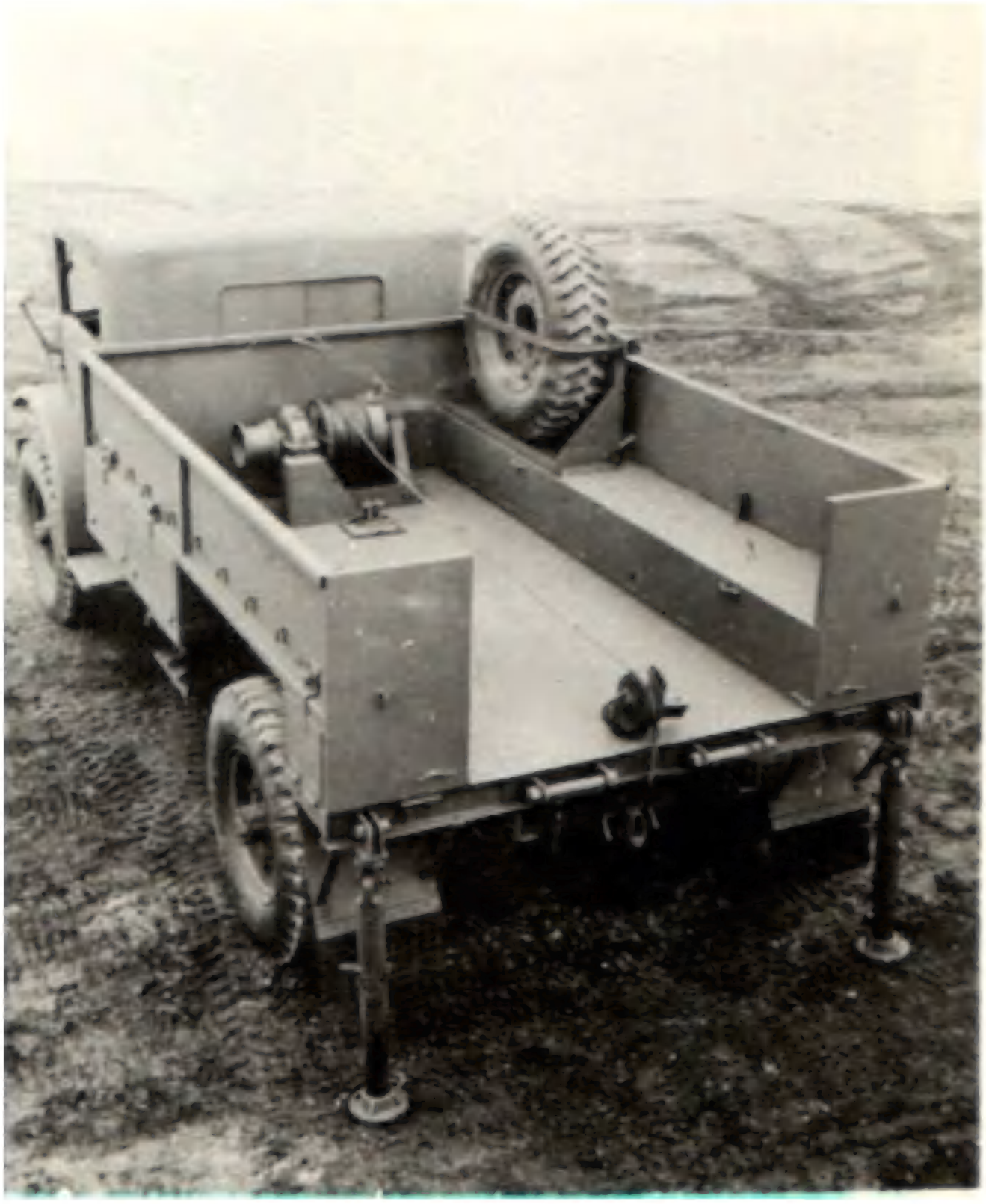
Telescopic rear jacks are provided.

Winch & Derrick Equipment

The winch is a Gar Wood Model 3M, driven from the transfer case Power Take Off. 200' of 1/2" steel cable is supplied and the winch has a pulling capacity of approximately 10,000 lbs. on the first layer of rope. A universal type of sheave block is provided to lead the cable over the rear of the body.

The derrick poles are adjustable and may be extended to handle a pole with a maximum length of 45'. Three positions of the centre leg are possible. The maximum lifts obtainable at these three positions are 1600, 3000 and 4500 lbs..


4 x 4
134½" W.B.



Function:

This body has been designed as a light weight aluminum structure to be used by Field Coys. R.C.E., to be employed either as a G.S. body or a Class VI Pontoon.

Used in the body role, it is to be capable of carrying 12 men, with tools and equipment.

Raft connectors and roadbearers are provided so that two pontoons may be connected in tandem and connected together to form a Class XII raft.

Dimensions:

1. Platform:	Length	160-1/2"
	Width	93"
2. Pontoon:	Outside width...	88"
	" length..	182"
	Height of sides.	37-3/4"
3. Complete Vehicle:	Overall length..	272"
	" width...	93"
	" height..	119"

Weights:

Complete Vehicle	Front	Rear	Total
Curb	5049	6518	11567

Pontoon & Fittings	
Pontoon only	830#
Roadbearers (13' length).....	297#

References

A.E.D.B. Drawing Schedule.....	310500
D.N. & S. Specification.....O.A.	245
Munitions & Supply File No...	73-B-19-8
Body Code No.	5521
E.E. Test Report	E 509

Sources:

The platform and body were built and fitted to the chassis by Geo. W. Reed Co., Ltd., Montreal.

The platform is designed to fit a Ford or Chevrolet C.M.P.3-ton 4 x 4,158" W.B. chassis.

Description:

Two pilot bodies only were built which differ slightly in construction. One body had aluminum ribs made in the form of a "top hat" section; the other body had ribs made from an "H" section aluminum extrusion.

The skin was 0.064" AC57S-H sheet, and the gunwales were 6" channel extrusions of AC26S-T alloy. Rivetted construction was employed throughout, and a cement known as "Heldite" was used to seal the lap joints. The tailgate seal was a sponge rubber strip, approximately 1" x 3/8" in section.

The bodies, when used as pontoons, could be coupled back to back, using standard Mk.V Pontoon Deck Couplers.

The roadbearers are made of two (2) 8" AC26S-T channels with 2" H section cross members 17" long.

Steel splice plates and pins are provided for connecting the roadbearers together.

The pontoon, or raft, may be propelled by means of oars or an outboard motor. A special bracket must be provided when a motor is used.

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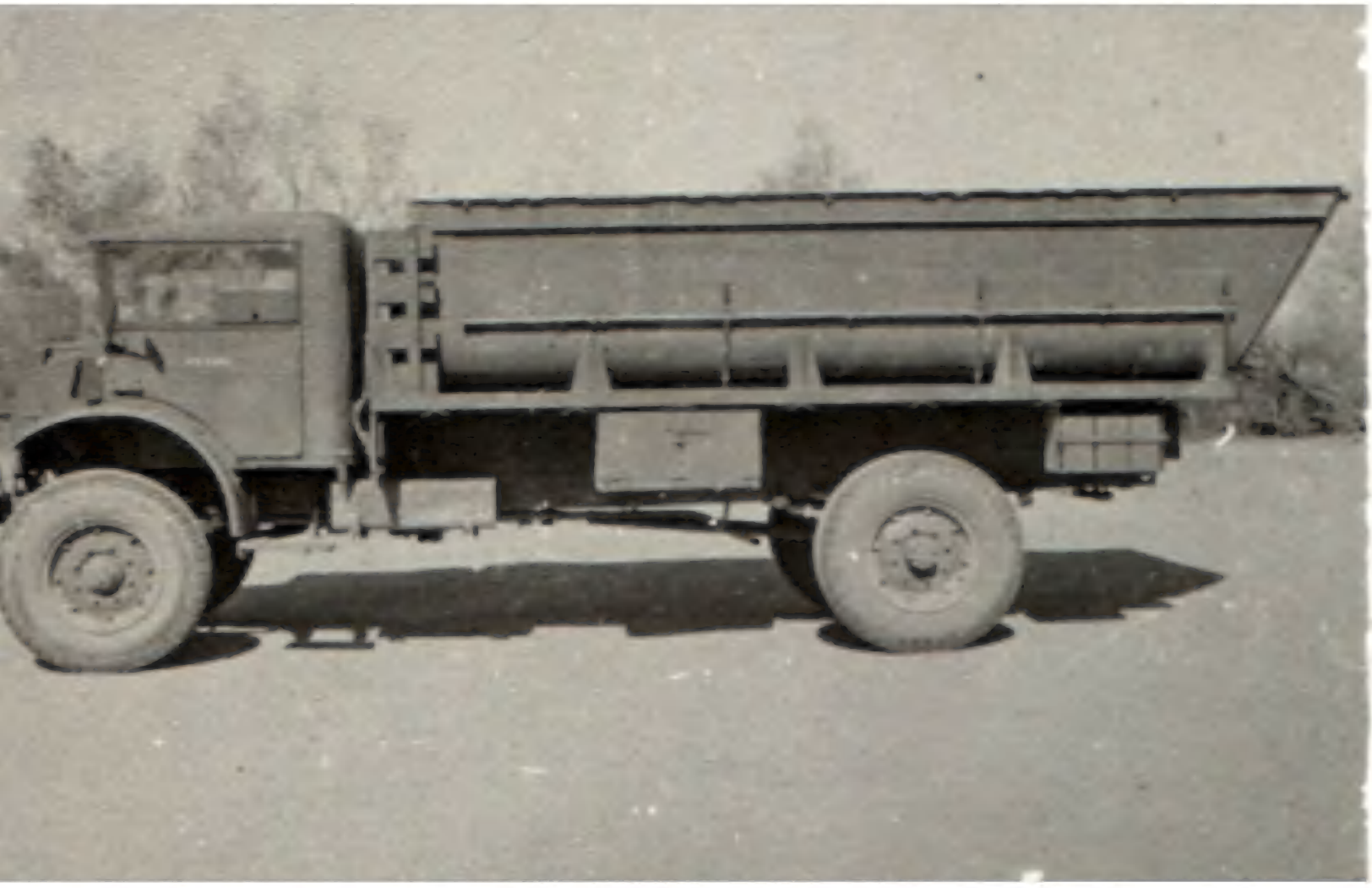
Additional Notes:

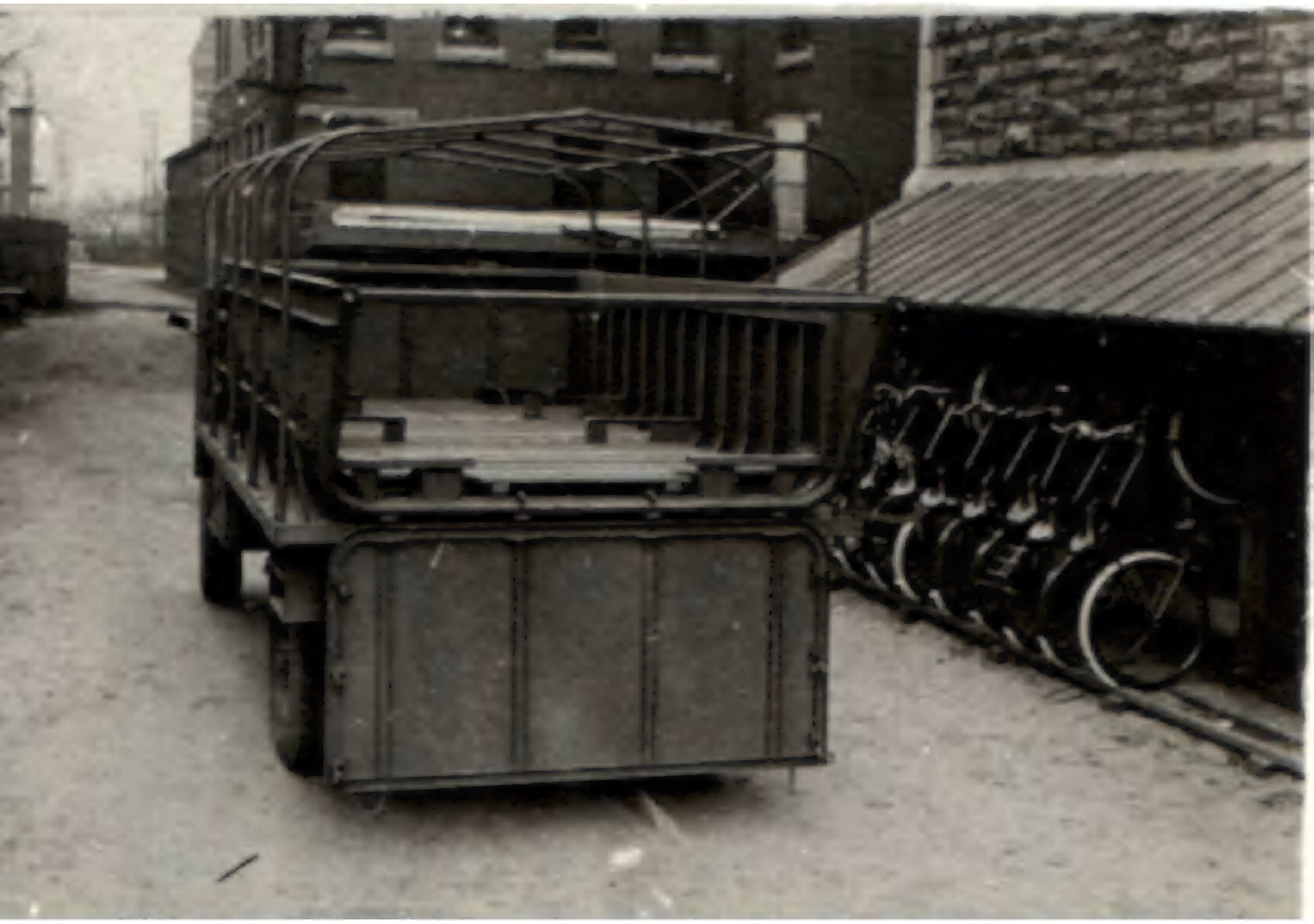
The platform on which the Pontoon rests is an adoption of the standard 12 ft. 5U1 flat floor body. The construction is all steel, welded with the length and width increased.

When the Pontoon is off-loaded, a flat steel platform 13'6" in length and 8'-0" in width is provided. Stake racks, which are also used as protection for the pontoon floor, may be installed and the vehicle used as a cargo carrying stake truck.

A superstructure and tarpaulin are provided. The superstructure fastens to the platform and is independent of the pontoon, which may be loaded or off-loaded with the superstructure in place.

This body was experimental only. However, in trials at Yuma, Arizona, it demonstrated that the principle for which it was intended was sufficiently sound to result in a request from U.S. engineers that A.E.D.B. develop pilot bodies for 2-1/2 ton 6 x 6. This latter project was started, but was cancelled on cessation of hostilities.





ALUMINUM AMPHIBIOUS TRUCK BODY OR PONTOON

METHOD OF UNLOADING PONTOON FROM PLATFORM

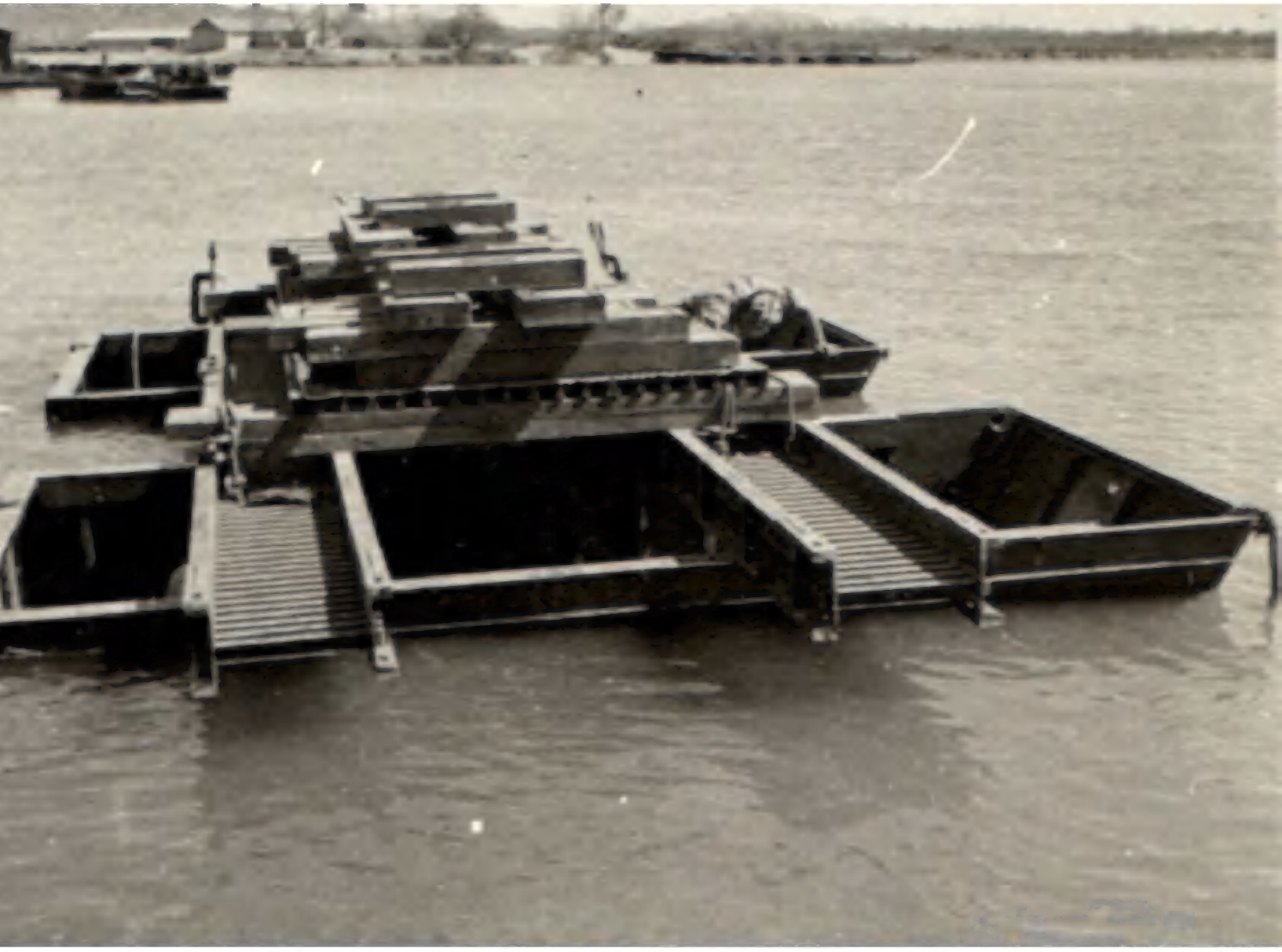
BODY USED IN PERSONNEL CARRIER ROLE. TAILGATE DOWN.

PONTOON LOADED WITH 12000# OF PIG LEAD PLUS 3 MEN .

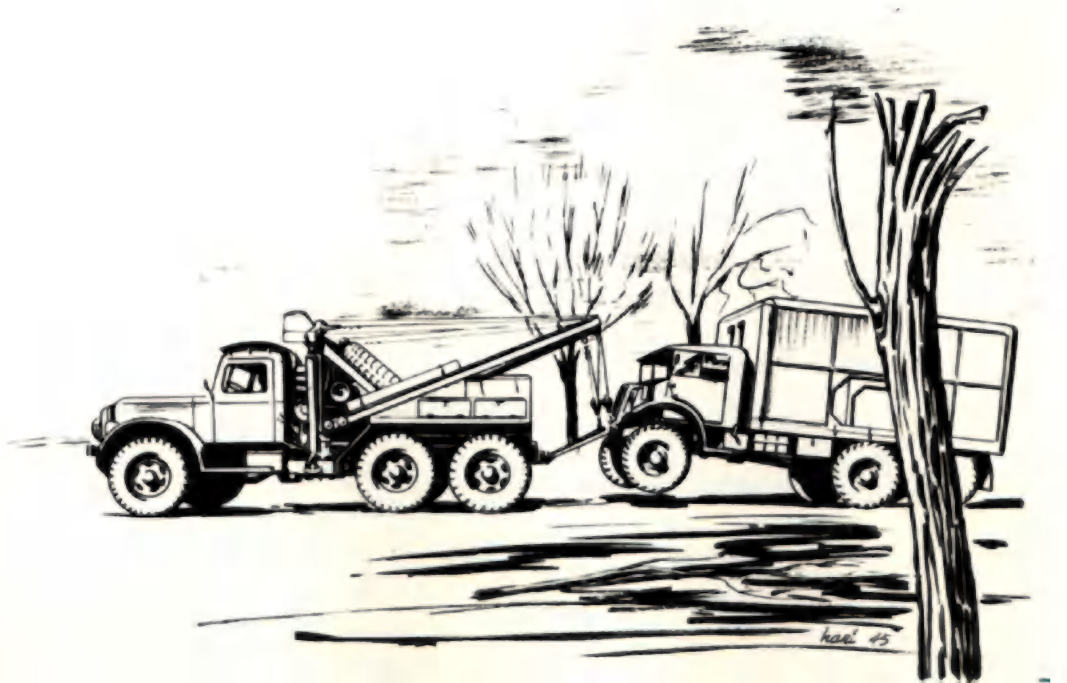
TWO PONTOONS JOINED TO FORM A RAFT. SHOWN WITH ROADBEARERS IN PLACE PLUS 24000# OF PIG LEAD

METHOD OF LOADING TRUCK ON TWO PONTOON RAFT.

3 TON 4X4, 159" W.B. C.M.P. TRUCK ON TWO PONTOON RAFT.



BREAKDOWN LORRIES



BREAKDOWN LORRIES

SHEET ONE

General Description

There have been several different types of Breakdown vehicles developed in Canada, from which 4 main types emerged and were produced. These types differ from one another in the lifting capacities of the crane unit and in the chassis to which the cranes are fitted. The capacities of the cranes given below are for a lift on a single boom and with two booms locked together at the rear, using two part lines in both cases. The figures given are for a static lift, and do not mean that the vehicle is capable of movement with this weight suspended from the booms.

The four main types are as follows:-

1. Hand Operated Breakdown - Mounted on G.M. & Ford 3-ton, 158" 4 x 4 chassis, Gar Wood CA5 Crane, 2-1/2 and 5 tons.

2. Light Breakdown (Power Operated) - Mounted on G.M. 3-ton, 134" 4x4 chassis Gar Wood CA5P & Holmes W-45CE Cranes, 2-1/2 and 5 tons.

3. Medium Breakdown (Power Operated) - Mounted on a Diamond T 4-ton, 172" 6x6 chassis. Holmes W-45 Crane, 2-1/2 and 5 tons. This is an American vehicle, built to U.S. Quartermaster Corps Specifications.

4. (a) Heavy Breakdown (PowersOperated) - Mounted on a Mack, 6 ton, 169" 6 x 4 chassis. Gar Wood CA8P Crane, 8 and 15 tons.

   (b) Heavy Breakdown (Power Operated) - Mounted on a Leyland "Terrier", 6-ton 156" 6 x 4 chassis, Holmes W-45CD Crane, 8 and 15 tons.

Wrecking Cranes

All the types of cranes mentioned above are of the same general type, and have proven satisfactory in service with the exception of the paying-on of the cable on the winch drum. This problem, however, is not confined to wrecking cranes, and is always present wherever winches are used on vehicles. The problem, which does not admit of an easy solution, is discussed more fully under the following heading.

Winches

Recovery winches were provided on two of the different types:- (i.e., Medium and Heavy Breakdown Lorries.

The Medium (Diamond T) Breakdown is equipped with a front mounted winch which suffers from the disadvantage of being incapable of a pull to the rear.

The Heavy Breakdown Lorry is equipped with a winch mounted behind the cab immediately to the rear of the wrecker mast. This vehicle is equipped with fairleads for a front and rear pull, and has an obvious advantage over the front mounted winch.

All winches, whether on Breakdown, Transporter or other Recovery vehicles, suffered from the uneven paying-on of the cable on the winch drum. The problem may be minimized to a great extent by meticulous care on the part of the operators. However, this aim is difficult, if not impossible, to attain in Service for a variety of reasons.

Considerable research, therefore, has been done on this continent and in England on the problem. Various schemes have been tried, such as lagging the winch drum, level winding devices of the Archimedeon Screw type, Tapered rollers and the Pendulum paying-on device. All have proven unsatisfactory, with the exception of the Pendulum type. Several satisfactory installations of this gear have been made. The device is simple and sturdy, but has the disadvantage of requiring a small fleet angle, which means considerable distance between the winch drum and the fairleads. This device is covered by a patent, and has not been fitted to production vehicles in Canada due to the fact that it was perfected at a late date.

It is illustrated in Figures 1 and 2.

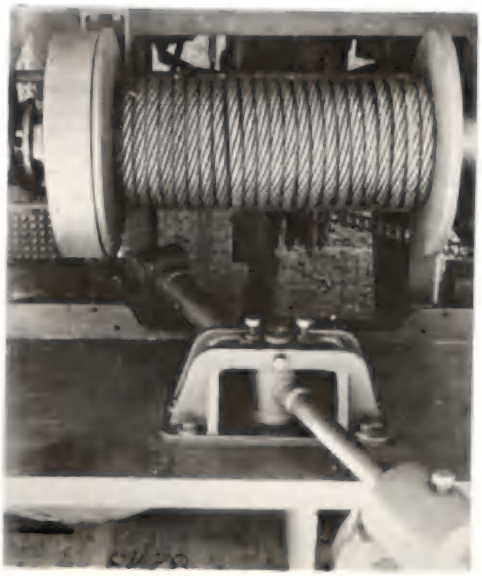


FIG. 1

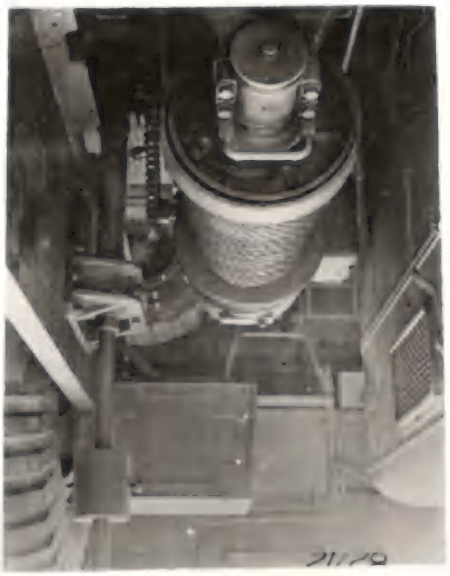


FIG. 2

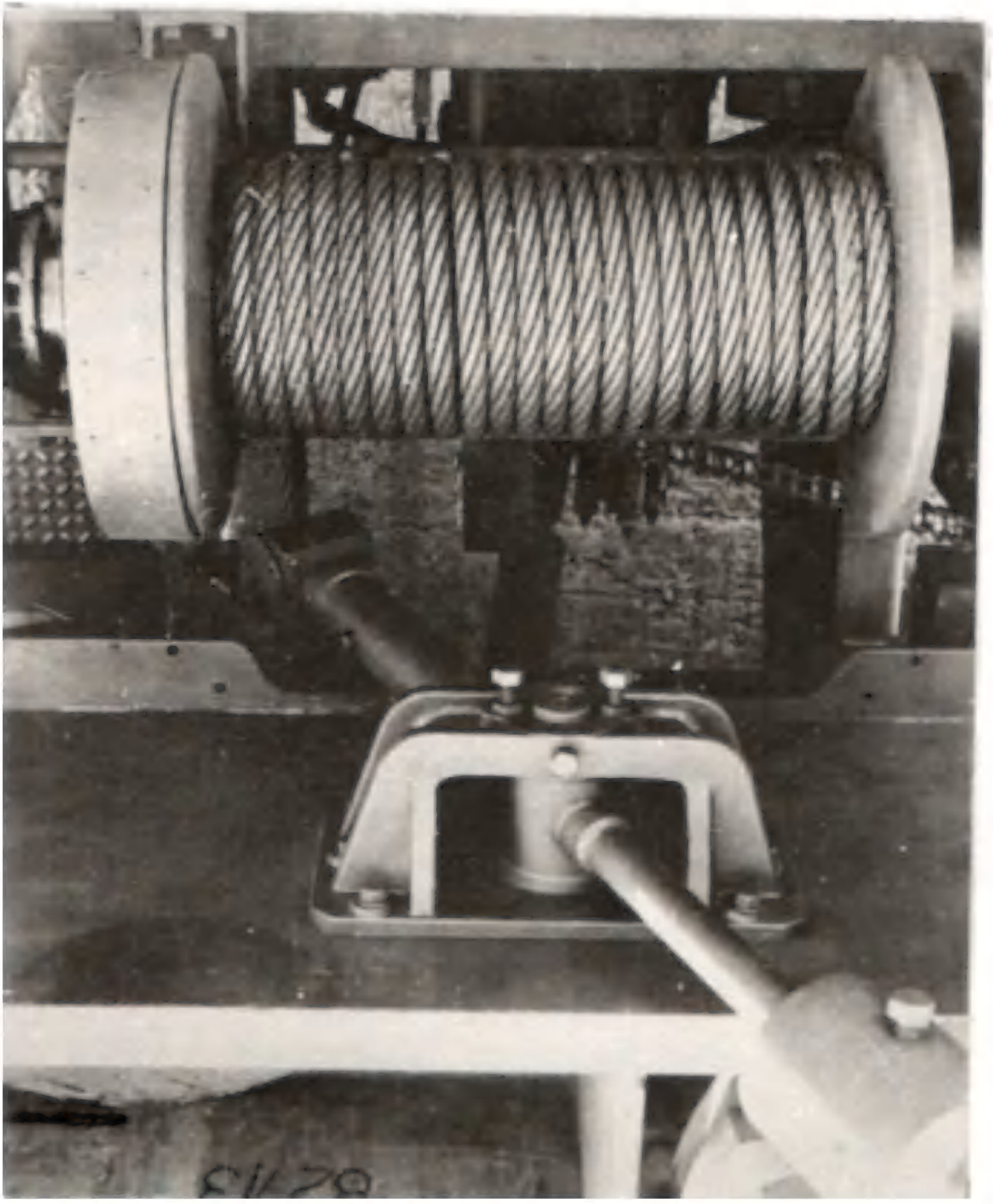


FIG. 3

FIG. 5

FIG. 4

FIG. 6

Winches (Cont'd.)

In order to avoid Cable breakage, it was found necessary to limit, in some way, the torque input to the winch. This was accomplished by incorporating a shear pin or a spring loaded torque limiting device in the drive line. This latter device shuts off the engine when the torque reaches a predetermined figure, and has the advantage of being adjustable, whereas a shear pin is not adjustable, and requires replacement after each failure.

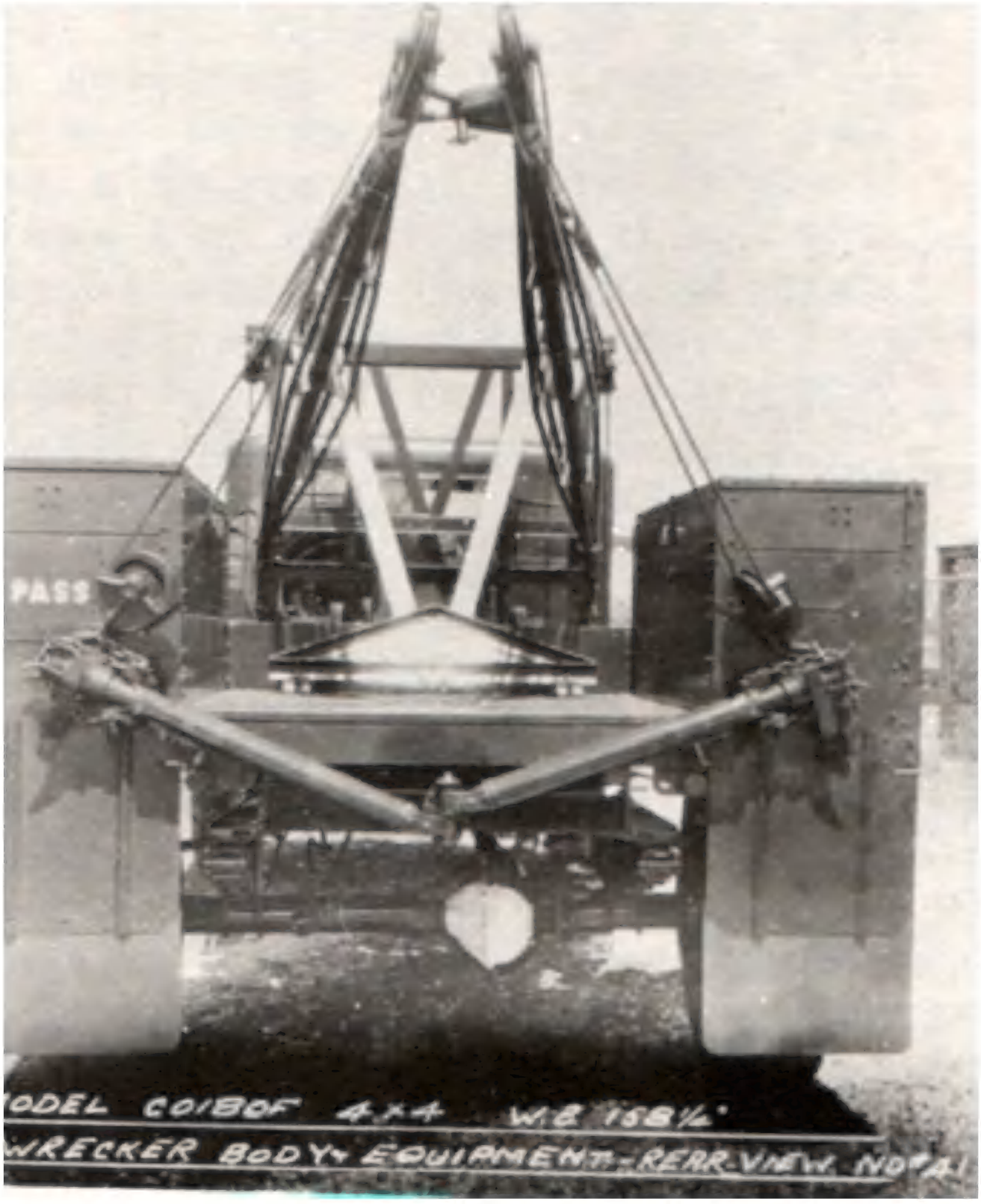
In light of the above, it would appear that the recovery winch on a Breakdown vehicle should be mounted to the rear of the cab, and should have
(i) a torque limiting device of the motor-shut-off type,
(ii) a paying-on gear,
(iii) fairlead provision so that a pull may be made to the front or to the rear.

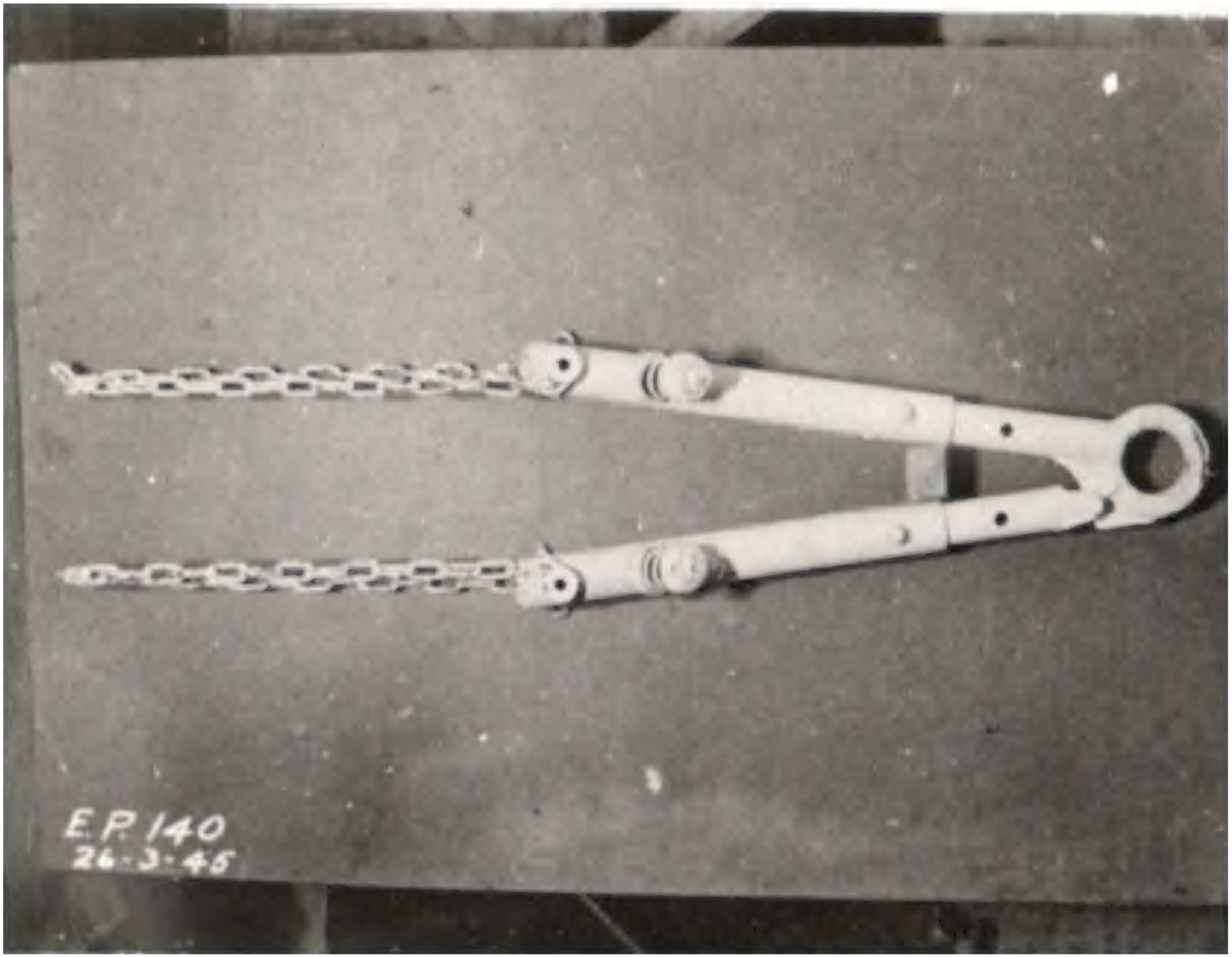
Towbars

At the start of the development of the Breakdown Lorries, a standard Holmes type of towbar, as used for Commercial Automotive work, was used (See Fig. 3). It was found that this was not suitable for Army vehicles, and a second type was developed. (See Fig. 4). This type was suitable for the front and rear towing of C.M.P. vehicles but, subsequently, was found unsuitable for the towing of certain American and British built vehicles.

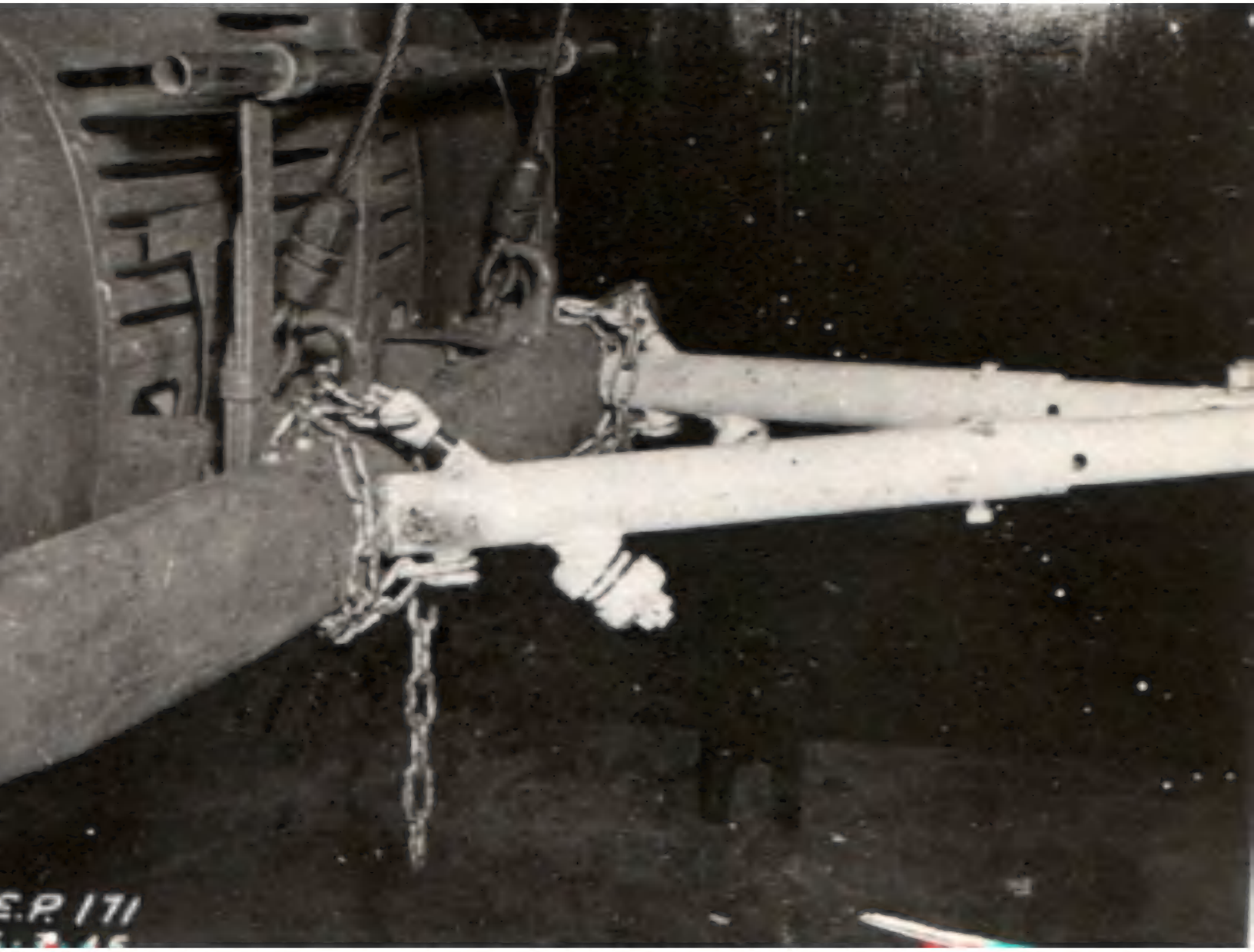
A third type (Figs. 5 & 6), was then developed, and is the closest approach to a universal type produced to date in this country. Due to the lateness of the completion of design, this type has not been in production, and has not received Service use.

However, considerable testing has been completed without failure.


PASS
ODEL C01BOF 4x4 W.B 158½"
WRECKER BODY EQUIPMENT - REAR VIEW NO. A1


E.P. 140
24-3-45


MODEL GBW 3 TON 4x4 158¼" WB.


E.P. 171

Ancillary Equipment

The equipment as supplied for these vehicles has proven satisfactory in service with the exception of the snatch blocks and shackles. Quite frequently, the blocks and winch cable are so arranged that a mechanical advantage of several times the winch pull is obtained. This imposed loads on the tackle much greater than it was designed for. It was found necessary, therefore, to supply heavier snatch blocks and shackles.

Future Design Considerations

None of the various chassis to which wrecking cranes were fitted were designed for the purpose. This was unavoidable, as they were the only types available. A special design would have taken a comparatively long time to develop. When transporting a load suspended from the booms the result was a load distribution that was not ideal.

However, with a specially designed chassis, the equipment could be re-arranged and the forces acting on the chassis frame more equally distributed to provide a greater "lift and tow" performance for a given tire capacity. The following is offered in the spirit of academic discussion, and it is realized the ideal may not easily be attained.

Fig. 7 brings out the point clearly.

Future Design Considerations (Continued)

In this system, consider the moments about the rear wheels when the load W is such that the front wheels just begin to leave the ground.

It may be seen that three forces tend to resist the overturning moment due to weight W (a) the weight of the vehicle acting through the centre of gravity; (b) the vertical component of the force in the boom AB; (c) the vertical component of the force in the stiff leg CD.

If the chassis were redesigned so that the crane could be moved forward, it is obvious that a greater proportion of the weight W would be imposed on the front wheels, thus increasing the "lift and tow" ability of the vehicle. With the correct type of chassis, it would, in fact, be possible to place the crane so that the correct proportion of the load W would at all times be transmitted to the front and rear wheels.

On the present designs of Breakdown Vehicles, the "lift and tow" performance is always limited by the lifting of the front wheels from the ground.

Another point to be borne in mind for future design is the provision of telescopic booms. A longer boom would increase the number of uses to which the vehicle could be put, such as lifting an engine from a tank. The crane on a Mack Heavy Breakdown Lorry was actually modified in this manner in England and proven satisfactory.

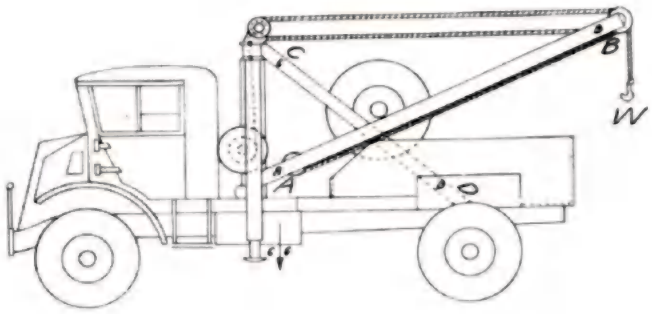
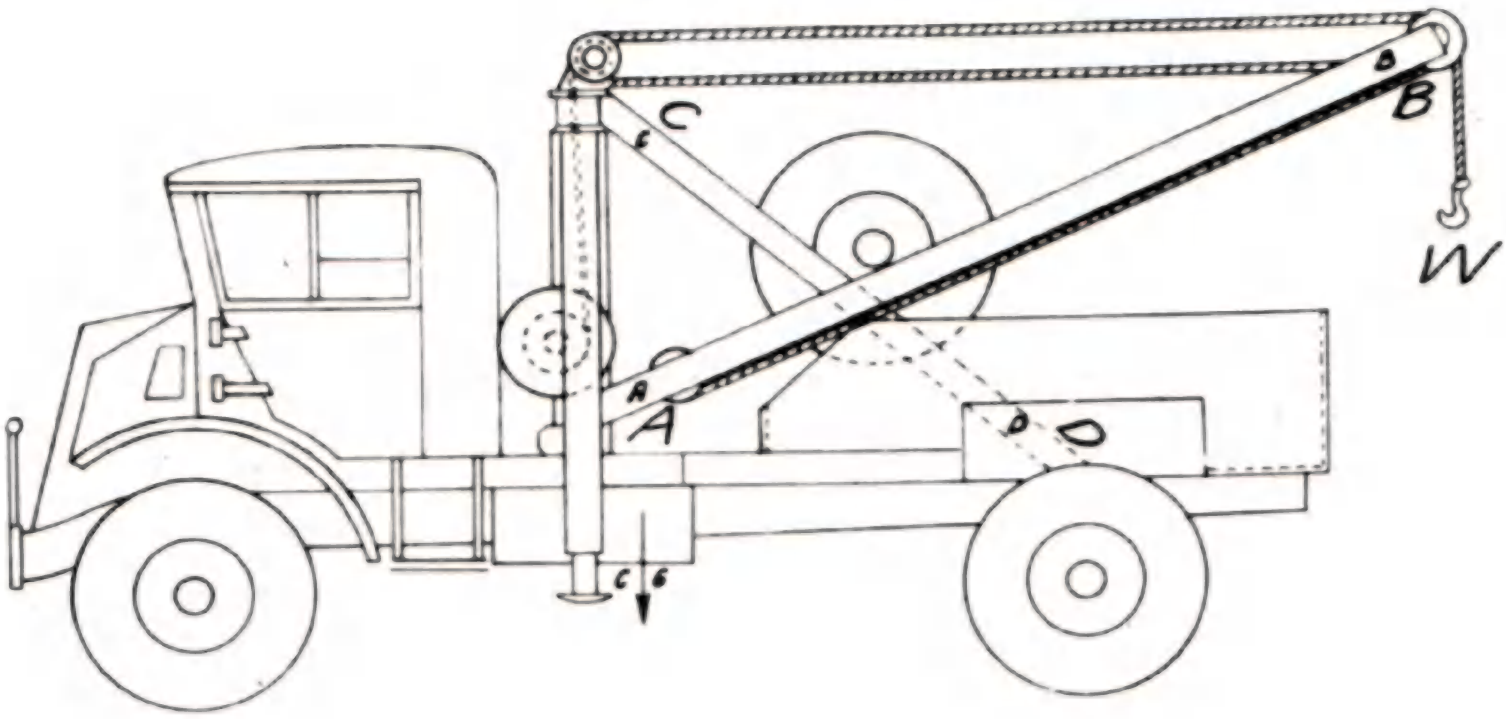


FIG. 7

Comments:

Extract of Report, dated September 25, 1945, from the Director-General, A.E.D.B., to Major-General Brunskill, B.A.S., referring to conversation held with Canadian Army personnel in the field, reading as follows:

> "As these men were the ones responsible for the use of breakdown lorries, their opinion was asked regarding the different types. They unhesitatingly stated that the light lorry was relatively useless, but that the medium and heavy breakdowns were very good. They pointed out, and this was subsequently confirmed by Army Service Corps and other Users, that the system of having breakdown recovery points along the roads had worked out extremely well and that this was largely due to the medium and heavy breakdown equipment. It is the opinion of all those with whom we talked in the Canadian Army that a reasonably plentiful supply of breakdown units of good quality, stationed at strategic points, is of far greater value than the equipping of individual vehicles with means of extricating themselves from trouble. This comment is based on the operations in Italy and North West Europe."


C
B
W
A
D
G

Function

The function of this vehicle is to recover light types of wheeled vehicles from the field.

Dimensions

Overall vehicle length	245"
" " width	96"
" " height	108"

Weights

	Front	Rear	Total
Laden weight(fully equipped, 2 men in cab)	5684	6216	11900
Maximum gross rating	6500	10700	16000

References

M. & S. Specification	O.A. 92
M. & S. File No.	73-V-12-1
Vehicle Code No.	60448-M-BRKD-1
Pilot Model Approval No.	Nil
Chassis Maintenance Manuals: Ford	MBF1
G.M.	MBC1
Technical Equipment Maintenance Manual	SB-33
" " Spare Parts List	SB33-01
Body Code No.	5L1 & 5L2
Schedule No.	343548 & 343549

Sources

This model has been built by both General Motors and Ford, on their respective chassis.

Body

Composite wood and steel construction with two stowage lockers - one on each side.

Chassis

The body and equipment is designed for mounting on both G.M. and Ford 3-ton 158" wheelbase, 4 x 4 chassis.

Main Items of Equipment

1. Wrecking crane, Gar Wood CA5 or Holmes, with a static lift capacity of 2-1/2 tons on one boom and 5 tons on two booms, using two part lines. Hand operated BeeBee lifting winches, with 100' of 1/2" 6 x 37 cable.
2. Towing frame, with attachments for CVP vehicle bumpers.
3. Superstructure and Tarpaulin.
4. Various small items of wrecking equipment such as axes, picks, shovels, tow ropes, shackles, ground anchors, snatch blocks, and etc..

LIGHT BREAKDOWN LORRY (POWER OPERATED)

Function:

The function of this vehicle is to recover light types of wheeled vehicles from the field.

Dimensions:

Overall vehicle length	222"
" " width	96"
" " height	112-½"

Weights:

	Front	Rear	Total
Curb weight	5975	8135	14130

References:

Munitions & Supply Specification	O.A.91
Munitions & Supply File No.	73-V-12-2
Vehicle Code No.	60444-M-BRKD-1,2,3,& 4.
Chassis Maintenance Manual	CM... MBC1
Body Code No.	401 & 402
D.M. & S. Drawing Schedule...	17799 & 17800
Equipment Maintenance Manual.	SB-33
Spare Parts List (Technical Equipment).	SB-33-01

Description of Body:

The body is of all steel, welded construction with 4 toolboxes, 2 on each side. Two chain lockers, one on either side, are provided at the rear corners of the body.

Hold down clamps and saddles are provided on the floor of the body for stowing one acetylene and one oxygen bottle.

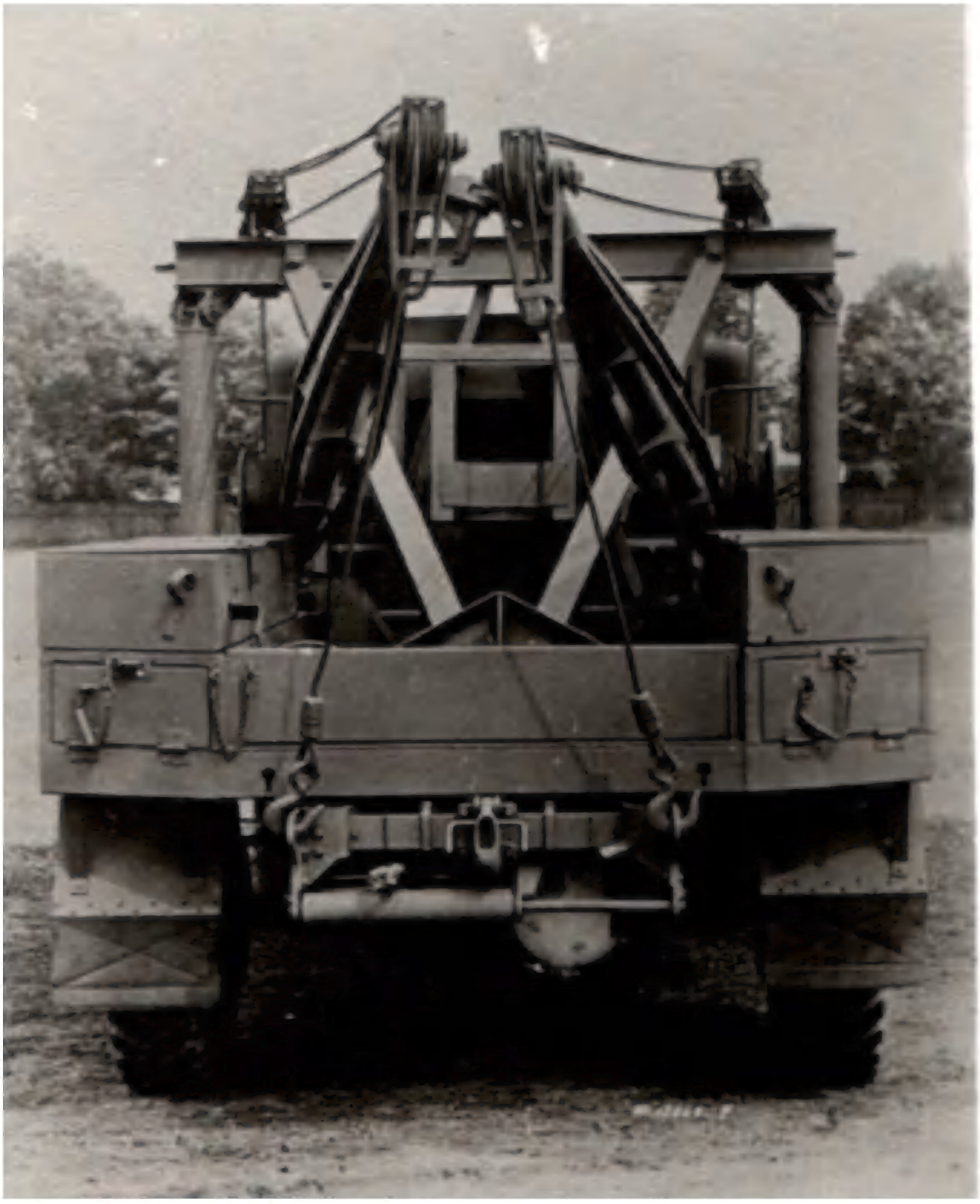
Provision is made for carrying spare fuel, oil and water by means of a carrier attached to the wrecker 'A' frame with lugs.

Description of Chassis:

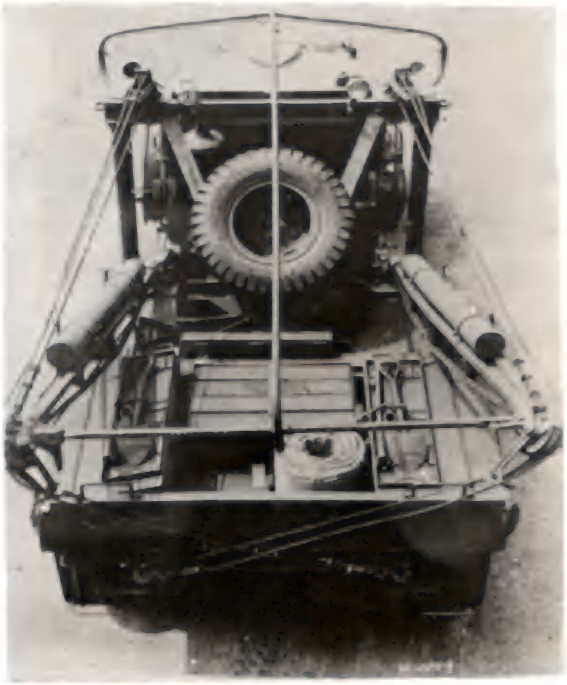
The body and equipment is designed for mounting on a General Motors 3-ton 4 x 4, 134" W.B. chassis, with 10.50 x 20 tires.

Main Items of Equipment:

1. Wrecking Crane, Gar Wood CA5P or Holmes W-45-CE with a static lift capacity of 2-1/2 tons on one boom and 5 tons on two booms using two part lines. Crane, winch drums have a capacity of 150' of 3/8" 6 x 19 cable.
2. Under body winch with rear fairleads. Winch drum has a capacity of 120' of 6 x 37 5/8" cable.
3. Towing frame, with attachments for CMP vehicle bumpers.
4. Superstructure and tarpaulin.
5. Oxy-acetylene welding & cutting outfit.
6. Various small items of wrecking equipment such as axes, picks, shovels, tow ropes, shackles, ground anchors, snatch blocks and etc..



MEDIUM BREAKDOWN LORRY



Function

The function of this vehicle is to recover Medium - Heavy types of wheeled vehicles and some types of A.F.V.'s.

Dimensions

Overall vehicle	length	286"
"	width	100"
"	height	115"

Weights

	Front	Rear	Total
Curb weight	1975	15630	23605

References

U.S. Q/M. Specification....LP-91-801F
Munitions & Supply File No. 73-V-12-3
Vehicle Code No..... 80661-C-BRKD-1
Pilot Model Approval..... 50
Chassis Maintenance Manual. C661-DT1
Spare Parts List TM-10-1296

Sources:-

This vehicle was built and equipped to U.S.Army Specifications, by Diamond T Motor Car Co., Chicago.

Several items of equipment were added to the vehicle to bring it up to War Office requirements. Supply of this equipment and stowage was worked out at Chryslers, who supplied this extra equipment and the necessary instruction drawings, as a kit, one for each vehicle.

Body

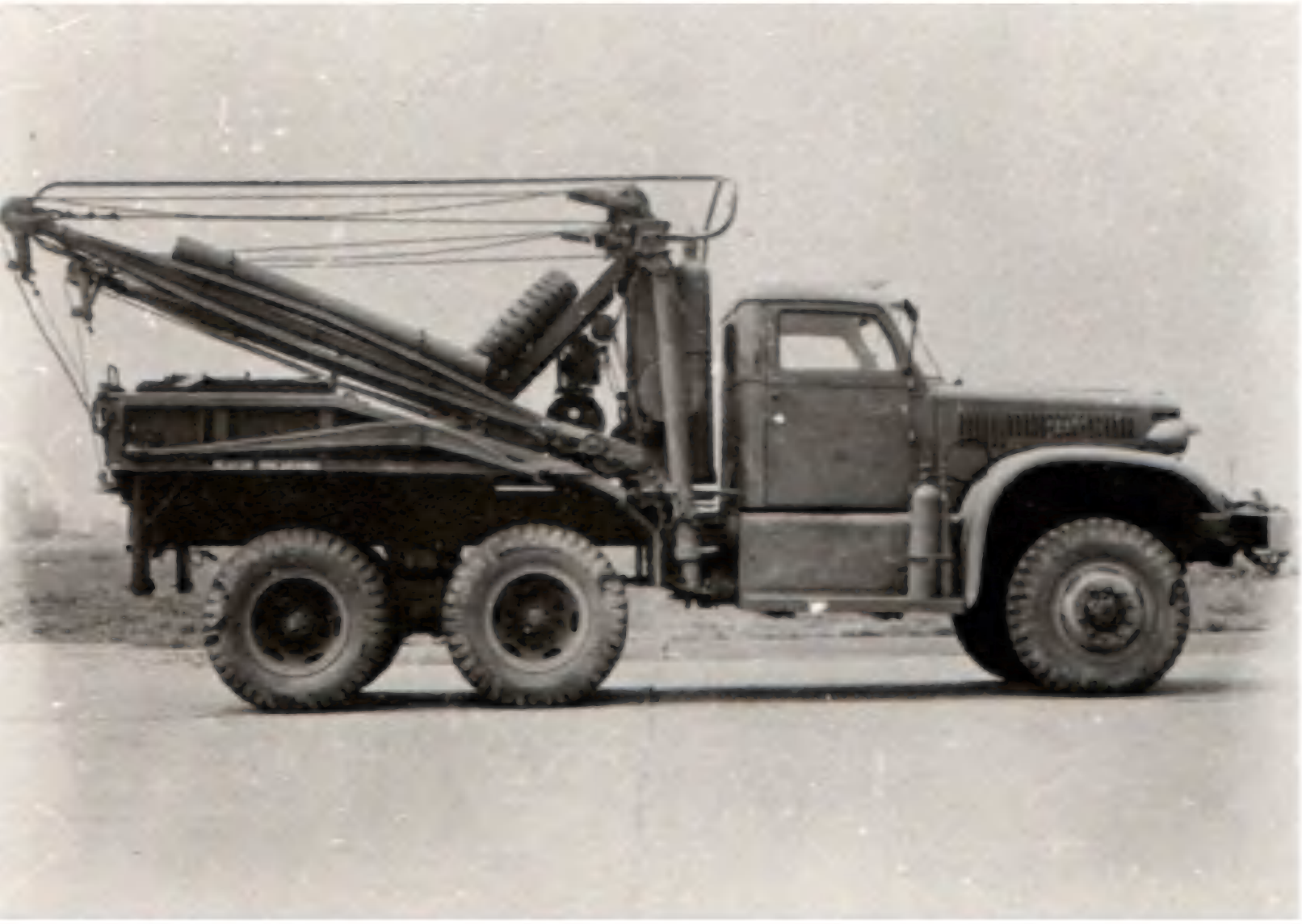
All steel welded construction. Two (2) stowage lockers provided, one at each side.

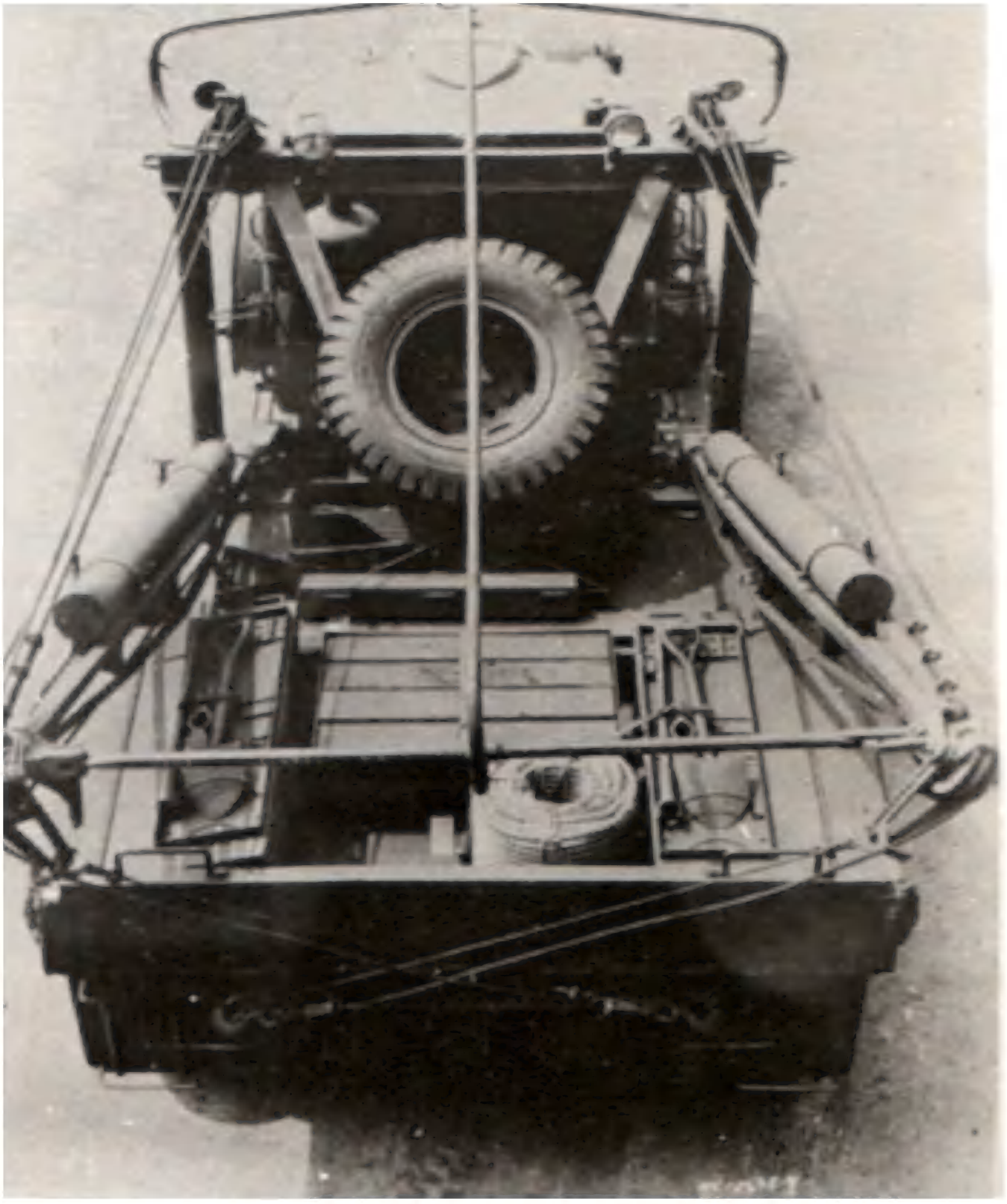
Chassis

Body and equipment is designed for mounting on a Diamond T,Model 969B, 4-ton 6 x 6,151" W.B. chassis, with 9.00 x 20 tires.

Main Items of Equipment

1. Wrecking Crane,Holmes,W-45 with a static lift capacity of 5 tons on one boom and 10 tons on two booms,using 2-part lines. The crane winch drums have a capacity of 200' of 1/2", 6 x 19 cable.
2. Front mounted pulling winch with a cable capacity of 300' of 5/8" 6 x 19 cable.
3. Air Compressor and receiver mounted underneath the crane."a" frame. This unit has a capacity of 1-1/2cubic feet per minute, at 150# /sq. in. pressure.
4. V-type tow bar.
5. Towing Distance Bar with a universal clamp.
6. Superstructure and tarpaulin.
7. Oxy-acetylene welding and cutting outfit.
8. Various small items of wrecking equipment, such as axes, picks, shovels, two ropes, shackles, ground anchors, snatch blocks, and etc..





HEAVY BREAKDOWN LORRY (POWER OPERATED)

Function

The function of this vehicle is to recover heavy types of wheeled vehicles and certain types of A.F.V.'s.

Dimensions

Overall vehicle length	325"
" " width	99"
" " height	129"

Weights

	Front	Rear	Total
Laden weight (curb plus driver & mate)	10520	19540	30060#

References

Munitions & Supply Specification O.A.186
Munitions & Supply File 73-V-12-4
Vehicle Code No. 200646-C-BRKD-1
Pilot Model Approval..... 70
Chassis Maintenance Manual... C646-MAC 1
Chassis Spare Parts List....MACK-LMSW-01
Technical Equipment
Maintenance Manual..... BRKD-CW-1
Mack Mfg. Co. Chassis
Specification... LMSW 7431
Body Code No. 6G2
D.M. & S. Drawing Schedule.... 1053713

Source:- The supply and installation of the wrecking equipment has been performed by Chrysler Corporation Ltd.,Windsor.

Body

The body is all steel welded construction with 6 stowage lockers, 3 on each side. Provision is made for carrying two 6-volt batteries in the L.H. locker.

Chassis

The body and equipment are designed for mounting on a Mack LMSW, 166-1/2 inch W.B. 4-ton, 6 x 4 chassis, equipped with 13.50 x 20 tires.

Main Items of Equipment

1. Wrecking Crane, Gar Wood, CA8P, with a static lift capacity of 8-tons on one boom and 15-tons on two booms, using 2 part lines. The crane winch drums have a capacity of 125" of 1/2", 6 x 37 cable.
2. A pulling winch, mounted at the rear of the cab. This is a Gar Wood model 5M, with a capacity of 300' of 6 x 37 3/4" diameter wire rope. The torque control is set at 18,000#.
3. V-type tow bar.
4. Superstructure and tarpaulin.
5. Oxy-acetylene welding and cutting outfit.
6. Two slave batteries, carried in the L.H. body compartment.
7. Various small items of wrecking equipment such as axes, picks, shovels, rope, ground rollers, ground anchors and etc..

Comment:- At the request of the Department of National Defence, 12 Leyland "Terrier" 6 x 4, Medium Artillery tractors were reconditioned and fitted with Heavy Wrecking cranes. The crane is the 8 and 15-ton type, and is illustrated above. Six only of these units were completed before cancellation.

STORES LORRIES

STORES LORRIES

The first Stores Lorries produced, were the 5D series for Ministry of Supply account which were built and equipped by the Ford Motor Co. The bodies were built by Brantford Coach and Body Ltd. and had 20" fixed sides, front panel and tailgate and were of all welded, all steel construction. However, after the Budd type, gussetted construction, all welded all steel flat floor G.S. body - 5E series - was designed, it was decided to use the 5E body converted to a Stores body, the sides and front panels and tailgate, however, to remain 20" in height, as was the 5D2 Stores body. This was the 5E2 Stores body, mounted on Dodge and Ford Modified Conventional 4 x 2 - 158" and 160" W.B. chassis. A further amendment later was made to the body by increasing the number of cross sills to nine (9) in order to provide additional support to the floor. These were known as the 5E6 and 5E7 bodies.

When the 5U series body was designed, in order to conserve shipping space, the 5U2 adaption was produced. The 5U bodies were of bolted, all steel construction, and were designed to pack "completely knocked down" - C.K.D. These bodies all were mounted on Modified Conventional chassis.

The 5U3 body was an adaptation of the 5U2 body and was designed to be mounted on a C.M.P. 3 ton 4 x 4 - 158" W.B. chassis. However, the dimension between the back of the cab and the centre line of the rear axle on the Modified Conventional chassis is considerably less than the same dimension of a C.M.P. chassis - (Dodge Modified Conventional, 86" - C.M.P.,110"). Therefore, it was necessary to relocate the cross sills of the body to allow for the necessary wheel clearance.

* * *

In addition to the lorries mentioned above, two (2) types of Stores lorries were designed and produced for D.N.D. account. The first units were the Machinery Lorry Type "Stores" the body of which was a house type, and the Machinery Lorry Type "Stores MK II", whose body was a General Service Type, similar to the 5U3 Stores Lorry.

The Machinery Lorry Type "Stores" with house type body was mounted on General Motors 3 ton 6 x 6 - 160-1/2" W.B. chassis equipped with 10.50 x 20 tires. The body was a Lindsay, all steel, 14 ft. body, the same as the other house type bodies in the Machinery Lorry programme, complete with canvas penthouse.

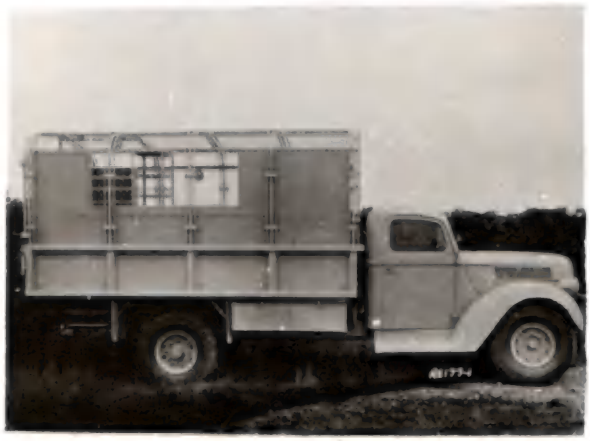
A double door was provided at the rear of the body, and detachable steps were provided with checker plate treads for entrance to the body. The steps, when not in use, were stowed in the left rear corner of the body. Two lighting systems were installed in the body - a 110 volt system which required an outside source of current and an auxiliary 6 volt system which was operated from the vehicle battery. This latter system, of course, was operated only when no outside source of electricity was available. The spare tire was stowed inside the body at the front.

The house type Stores lorry, however, had a number of drawbacks, chief of which were its excessive weight and restricted manoeuvrability. It was decided, therefore, to produce the G.S. converted type of Stores lorry which was known as Machinery Lorry Type "Stores MK II". The basic body used for this adaptation was the 5F Series 12 ft. all welded all steel G.S. body, with flat floor and was known as the 5F11. The spare tire was mounted at the right front, in the substructure, and an inside heater was provided at the front, ahead of the front bins, occupying that space where the spare tire had been stowed in the MK I house type body. In this manner, no additional aisle space was taken up. Wire mesh screens were used to enclose the upper portion of the body, with wrap around tarpaulin. Again, a 110 volt lighting system was installed for operation from an outside source of direct current, and an auxiliary 6 volt system which operated from the vehicle battery. The ladder when not in use, was stowed between the longitudinal sills. In all cases, the bins used were of standard design, X, Y, Z, type, complete with padlocks.

USERS COMMENTS

Users comments, in general, have been good and, in fact, no complaints were made regarding the vehicles supplied for Ministry of Supply account. However, D.N.D. stated that the payload of stores seemed to be low as compared with the gross weight of the vehicle, and its gross rating. This referred particularly to the MK II G.S. type Stores Lorry, the payload being 2720 lbs. as compared with the gross weight of the vehicle (excluding stores) of 13,280 lbs. and the maximum gross rating of the vehicle of 16,000 lbs. In an effort to relieve this shortcoming, it was decided to redesign the interior fitments. A project was started to build the bins of aluminum instead of steel but the project was cancelled when the war with Japan came to a close. However, it is estimated that by building the bins of 14 ga. aluminum (.064 B. & S.) a saving of approximately 750 lbs. could be made. In this manner, the payload of stores would be increased to 3470 lbs. Other weight saving measures also considered, were fabricating the screens and frames of aluminum instead of steel, which would give an estimated additional stores payload of 250 lbs. It is considered that a satisfactory stores payload should be approximately 4,000 lbs. and it is believed that this objective could be achieved without sacrificing any portion of the basic design.

3 TON G. S. STORES LORRY



Function:

The purpose of this vehicle is to supply general workshop supplies in the field, and is operated in conjunction with the G.S. Workshop Lorry. The Stores Lorry contains a supply of all materials that might be required for service operations within the scope of the workshop unit. The vehicle was designed for Ministry of Supply account, and was in two (2) stages: (a) the 5-U-2 body to be mounted on Dodge and Ford Modified Conventional 4 x 2 - 158" and 160" W.B. chassis, and (b) the 5-U-3 body to be mounted on Ford and General Motors C.M.P. 4 x 4 - 158" W.B. chassis, both chassis being equipped with 10.50 x 16 tires.

Dimensions of Body:

Outside length of body.....	150"
Outside width of body.....	87-3/8"
Outside height of body proper	44-3/8"
Outside height of body and superstructure.	88-7/8"
Inside length of body.....	141-1/8"
Inside width of body.....	80"
Inside height of body proper	30-1/4"
Inside height of body and superstructure..	72-1/4"
Height from ground to top of superstructure..	120"

Weights:

Weight of chassis and cab complete.....	5245 lbs.
Weight of body complete.....	4455 lbs.
Weight of stores as per Specification O.A.26.....	1332 lbs.
Gross weight of vehicle....	11032 lbs.

References:

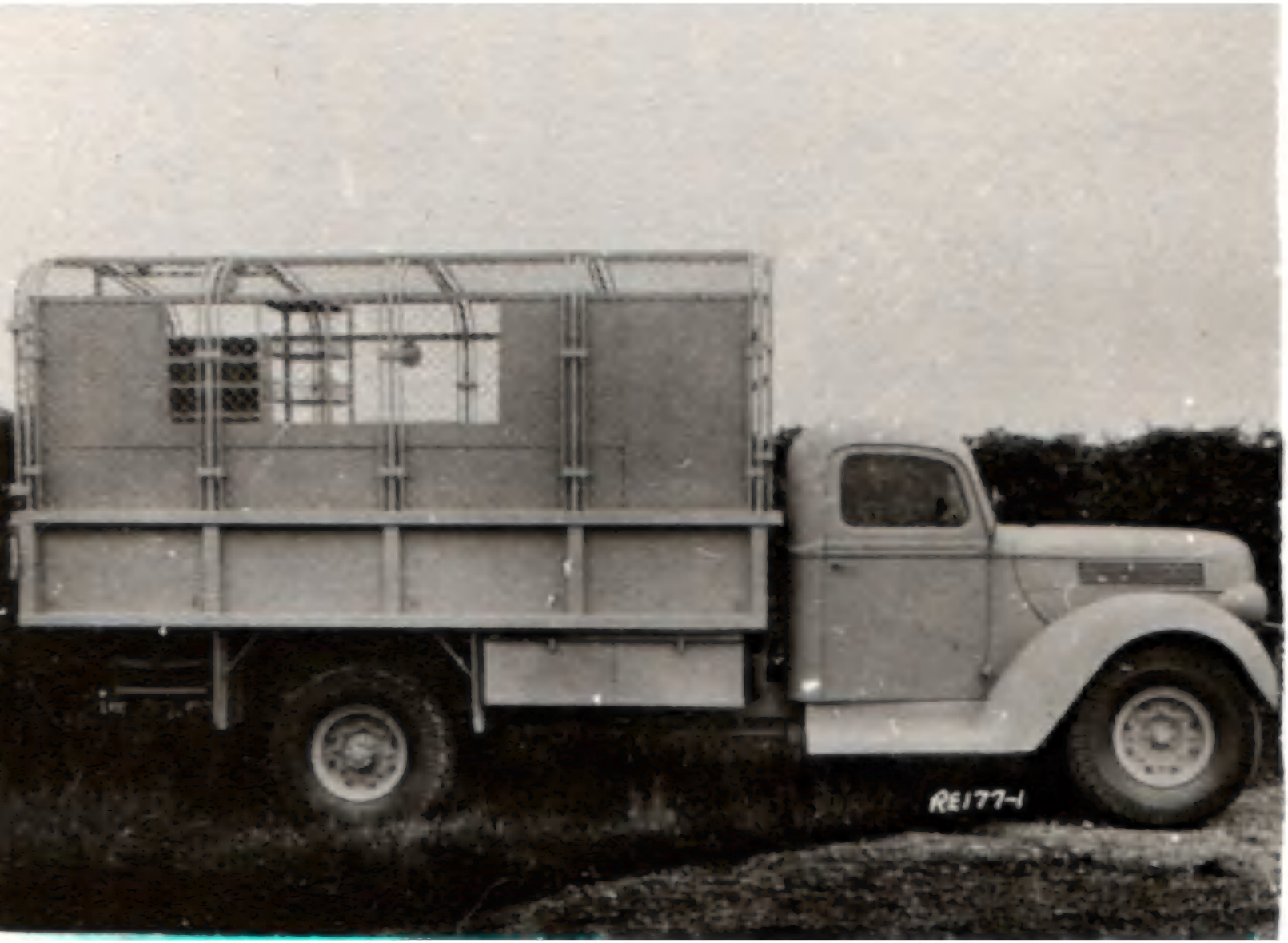
D.M. & S. Schedule of Drawings.....	S-340375
D.M. & S. Specification No..	O.A. 26
D.M. & S. File No.	73-W-1
Body Code No.	5U2 & 5U3
Vehicle Code No.	D6OL-STOR-1
Sources:	Chrysler Corporation.
	Ford Motor Company.
	General Motors Corporation.

Description of Body:

The body is a standard 12 ft. General Service gussetted construction bolted steel body - Code 5-U-1 - with 30" fixed sides and a flat floor with the spare tire housed at the right front of the substructure. The grille was deleted from the front panel and the longitudinal wear strips were deleted from the floor plate. Steel stores bins are fitted to the interior of the body for accommodating the stores. The body is equipped with a G. S. type standard iron pipe superstructure, and heavy wire screening - 3/16" x 2" mesh - is provided to enclose the front, top and sides. Two wire screen swinging doors are provided at the rear, complete with hasp, staple and padlock. A single tarpaulin extension support is installed at the rear top centre of the superstructure. A portable rear step of steel construction is attached to the tailgate when the tailgate is in the 90° open position, flush with the floor of the body.

Jerrican carriers, oil can carrier, and tool boxes are provided as in the G.S. body. Rear wheel splash shields are provided fore and aft of the rear wheels.

Typical stores provided in the lorry, include Powdered Borax, Bowden cable, Carborundum paste, Emery cloth, Steel rods of various diameters, Glue, Size, Graphite, Solder, Wire nails, Cotter pins, Wood screws, Fricton tape, assorted Lumber, Shellac, Hack saw blades, Light bulbs and Dry Batteries, Electric cable of assorted sizes, Bolts and nuts, Rivets, Washers, Flat steel in assorted gauges, and other items of general use in repair and maintenance.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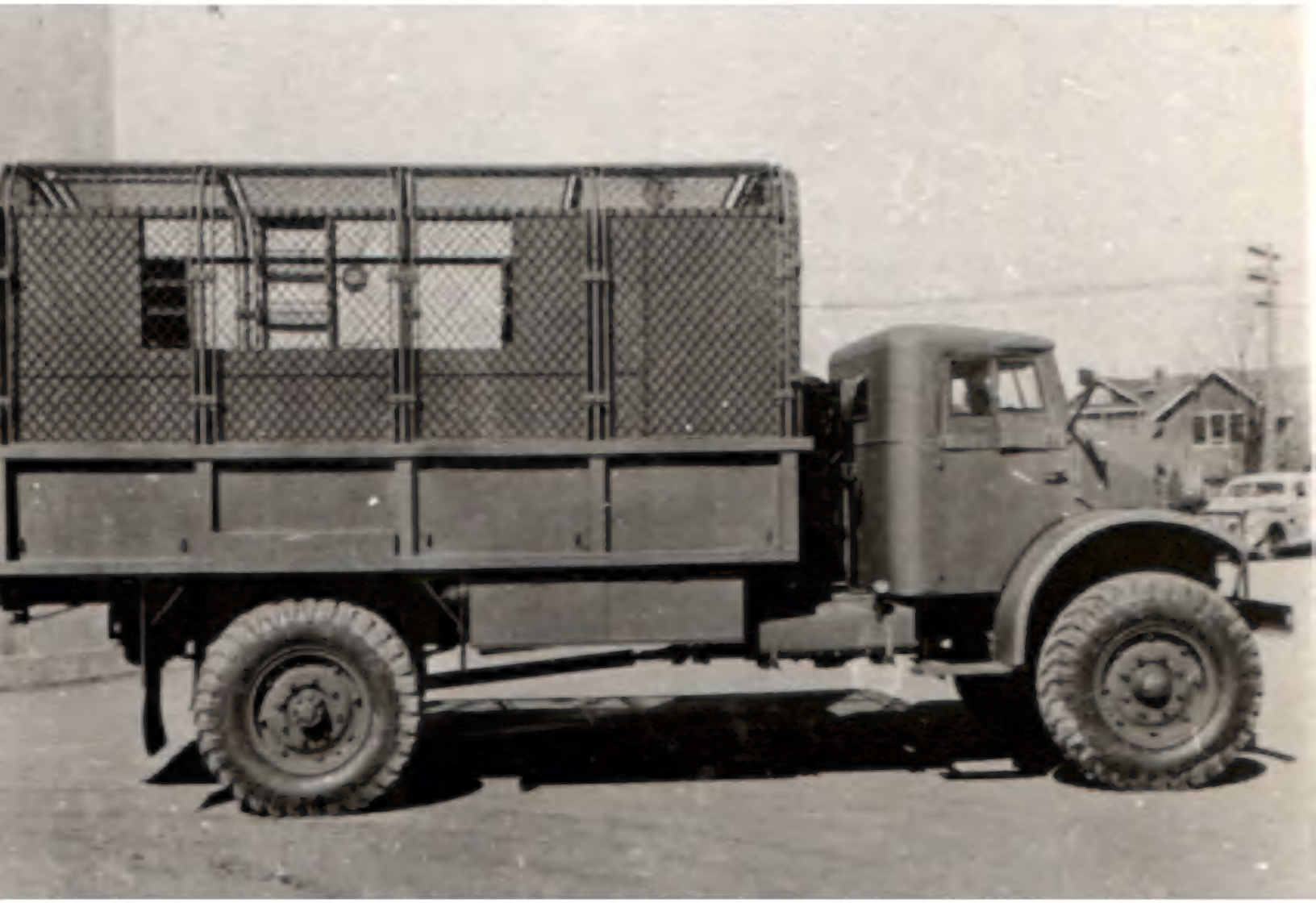


MACHINERY LORRY TYPE "STORES MK. II"

Function

The function of this vehicle is to carry M.T. Spares in the field.

Dimensions

Overall vehicle length.....	227"
" " width	88-1/2"
" " height	128"
Overall body length	144"
" " width	88-1/2"
" " height (less superstructure)	39-1/4"
Inside body length	143-1/8"
" " width	80"
" " headroom	74"
Clearance (ramp at gross weight) at Muffler.....	7/8"
(Minimum at gross weight) Tail Pipe.....	16-7/8"
Angle of Approach ..57°	Limiting Point .. Towing Eyes
Angle of Departure..40°	Limiting Point .. Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....	5705	7005	12800
Personnel	305	175	480
Gross (not including Stores).....	6010	7180	13280
Payload (Stores).....			2720
Maximum Gross Rating.	6500	9500	16000

References

A.E.D.B. Specification.....	O.A. 156-2
A.E.D.B. Drawing Schedule....	1102494
Munitions & Supply File.....	73-L-50
Vehicle Code No.	F60L-STOR-1-MK.II
Body Code No.	5F11
Chassis Model No.	F60L
Pilot Model Approval No.	F237
Ordnance Proving Ground Report .....DVA 6 Project 236W 1	
Chassis Maintenance Manual....	MB-F1

Sources:- Chassis by Ford Motor, body by S.B.M.A., equipment installed by Chrysler Corporation.

Chassis

The body and equipment is designed for mounting on a Ford, C.M.P. 4 x 4,158" wheelbase chassis with 10.50 x 20 tires.

Body

General Service type, 12', all steel body, flat floor, Code 5F11, complete with tubular steel superstructure completely screened with wire mesh. A tarpaulin and rear opening blackout curtain are provided. A standard vehicle tool box, jerrican carriers and oil can carriers are mounted underneath, and stowage for the ladder is provided between the longitudinal sills.

Main Items of Equipment

1. Overhead Lighting, one 6-volt circuit operating from the vehicle battery, and a 110-volt circuit for operation from an outside source of direct current.
2. Standard bins - 6 "Y" type and 2 "Z" type.
3. Kardex System.
4. Filing Cabinet.
5. Portable Desk and Stool.
6. Rifle Clips, fire extinguishers and Hand Lamps.


WIRING

MACHINERY LORRY TYPE "STORES"

Function

The function of this vehicle is to carry Ordnance Stores.

Dimensions

Overall vehicle length.....	250"
" " width	91"
" " height	124-5/8"
Inside body length	165"
" " width	87"
" " height	75"

Weights

	Front	Rear	Total
Curb (Complete vehicle less personnel).	5320	10155	15195
Payload (Personnel)	290	190	480
Gross	5610	10345	15975
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification No.... O.A. 156
A.E.D.B. Drawing Schedule.... 1077234
Munitions & Supply File No... 73-L-34
Vehicle Code No. 60660-M-STORES-1
Body Code 8L11
Chassis Model 60660-M
Chassis Maintenance Manual M660-C1
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler.

Chassis

The body and equipment is designed for mounting on a General Motors, 3-ton, 6 x 6, 160-1/2" wheelbase chassis with 10.50 x 20 tires.

Body

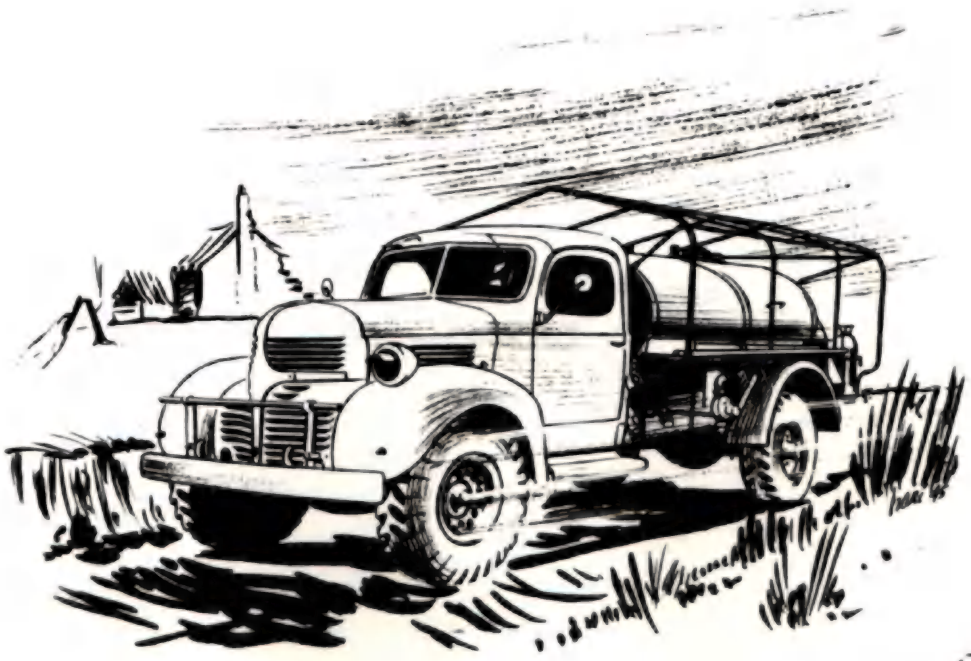
Lindsay, all steel, 14' body, with drop-side workbenches. A canvas penthouse and accessories, vehicle tool box and P.O.W. carriers are supplied. Double entrance doors are located at the rear. The interior is fitted with a spare tire carrier, a 110-volt lighting system (which requires an outside source of direct current), a 6-volt lighting system operated from the vehicle battery, and rifle clips.

Main Items of Equipment

1. Two "X", four "Y" and two "Z" type steel bins with shelves above.
2. Cartons for "X" type bins.
3. Folding Table
4. File Board.
5. Hand Lamps, Interconnecting Cable.

Note:- This model superseded by Stores MK.II - See preceding page.

TANKER LORRIES



WATER AND PETROL TANKERS

General

1. Water Tankers:

There have been, in all, 3 different types of Water Tankers produced in Canada. These are the 200 gallon, 350 gallon and the 450 gallon capacity. Large quantities of the 200-gallon and the 450 gallon size have been produced. A pilot model only of the 350-gallon unit was built.

These vehicles have proven satisfactory in Service, the clearest indication of this being the number of re-orders. Considerable difficulty was experienced with the water filters at the start of production. This was due to the trouble encountered in maintaining tolerances in the manufacture of the filter rings, which make up the filter "candle". This resulted in the formation of an uneven bed of filter powder on the candle, which, in turn, caused slow and indifferent filtering. The problem was finally solved by using a special die and a coining press to emboss the rings. Before a solution to the filter ring problem was found, a considerable amount of test work was carried out with ceramic elements, with a good measure of success. The best type of filter "stone" tested was formed of "Alexite", which is compounded of a carborundum material, and is quite a dense and heavy material, and will stand up to severe mishandling. The test results obtained were excellent, the turbidity count of the filtrate being lower at higher pressures than with the Metafilter.

A filter using an Aloxite element could be built at much less cost than the Metafilter type. However, by the time test work was completed, many hundreds of vehicles were in the field and it was felt that the advantage of having all filters interchangeable outweighed the advantage of having an improved type. All during this period, considerable test work was carried out at the Ontario Dept. of Health Laboratories in Toronto on the various types of filter elements. The filtrate was tested for turbidity and bacteriological counts. With the best types of elements it was found possible to remove 98% of the bacteria, with no visible turbidity.

At the start of production, and for a considerable time thereafter, pressure gauges were fitted to the filters to give an indication of when back flushing was necessary. In the interests of simplicity, it was later decided to remove the gauges and lower the setting on the relief valve; the need for back flushing would then be indicated by the blowing of the relief valve.

In addition to the above, a 15-cwt. - 180 gallon Water Tank Trailer was built, particulars of which may be found in Trailer Volume of this series.

At the Users' request, a superstructure and tarpaulin were added to all models for camouflage purposes.

One 350 Gallon Tanker was modified so that it could be used for fighting grass fires. This involved removal of the filters, and a re-routing of the piping so that water could be pumped from the Tanker. This unit did not prove successful, due to the small capacity of the water pump.

2. Petrol Tankers:

Two types of Petrol Tankers have been produced in Canada in quantity. They are the 800 Gallon Unit, mounted on G.M., Ford and Dodge chassis and a 1500 gallon Semi-Trailer Unit. Five Tankers, with a capacity of 750 gallons and a pilot model 600 gallon unit were built, but were considered to be of insufficient capacity.

After the 800 gallon unit was in production for some time, it was decided to simplify the design by eliminating the bucket box at the rear of the tank and replace the two rotary hand pumps with one semi-rotary type of hand pump. Discharge hoses were stowed on the catwalks and the semi-rotary hand pump was affixed to a bracket underneath the L.H. catwalk. A carbon dioxide (Foamite) type of fire extinguisher was added to the vehicle equipment and stowed between cab and tank.

Superstructures and tarpaulins have been standard from the start of production.

No design defects were encountered in Service with the 800 or the 1500 gallon units. One complaint that arose, and perhaps worthy of mention, was in connection with discharge hoses. Aviation fuel containing aromatics was dispensed; with the ordinary type of hose supplied, it was found that the linings quickly deteriorated. This condition was corrected by supplying hoses with aromatic-resistant linings.

Function

The function of this vehicle is to transport and store filtered and sterilized water in the field. It is equipped to pump and filter water from rivers, ponds, wells, etc..

It should be noted that the sterilization process is carried out by the R.C.A.M.C., or by the Unit Water Orderley, as a separate operation.

Dimensions

Overall vehicle length	172"
" " width	89"
" " height	90"
Tank Length (including stores compartment)	81"
Section	30" x 45"

Weights

Dodge 4 x 2

	Front	Rear	Total
Curb	2817	4074	6891
Payload (Water and Personnel)	372	2108	2480
Gross	3189	6182	9371
Maximum Gross Rating	3000	5750	8750

G.M. 4 x 4

	Front	Rear	Total
Curb	3010	3733	6743
Payload (Water and Personnel).	708	1951	2659
Gross	3718	5684	9402
Maximum Gross Rating	3400	5100	8500

References

A.E.D.B. Specification..... O.A. 124
A.E.D.B. Drawing Schedules:
On G.M. Chassis, old type filters 34450
On Dodge " " " " 16350
On G.M. " new " " 309530
On Dodge " " " " 302530
Munitions & Supply File No... 73-T-9
Vehicle Code Numbers:-
G.M. Chassis.....15A-WATR-1,2,3
Dodge Chassis D15-WATR-1
Body Code Numbers:-
G.M. Chassis 2E1, 2E3
Dodge Chassis 2E2, 2E4
Chassis Models: G.M..... 15A-M-T
Dodge..... D15
Maintenance Manuals:-
G.M. Chassis... MB-C2
Equipment..... SB-7
Dodge Chassis.. C42A-D1
Equipment..... WATR-D1

Sources:- Chassis by General Motors and Chrysler Corporation, tank and equipment by S.B.M.A.

Chassis

The tank and equipment is designed for mounting on a Dodge, 4x2, 15 cwt.,129-1/2 wheelbase, or a General Motors C.M.P., 15-cwt., 4 x 4, 101" wheelbase chassis, with 9.00 x 16 tires.

Tank and Equipment

The tank is elliptical in shape and constructed of hot rolled mild steel with a capacity of 200 Imperial gallons. It is equipped with removeable baffles, manhole cover and a sump fitting with drain plug.

A duplex piston pump, driven from the vehicle power take-off, at approximately 300 r.p.m., is supplied for filling the tank, and as a standby two differential type hand pumps are supplied. The former is protected by a relief valve, set at 90#/sq. inch.

Two filters of the "Metafilter" type are mounted one on each side near the front of the tank.

A metal stores compartment is located at the rear of the tank for stowage of suction hoses, tank cleaning brush, filter powder, sterilization equipment, spare parts., etc..

The vehicle is also fitted with a superstructure and tarpaulin, jerrican or P.O.W. can carriers, and vehicle tool boxes.

Note:- On early models Canadian design filters were used and on more recent models a British design was used.

Pump Performance

The power pump, under normal filtering conditions, can fill the tank in twenty to thirty minutes.

The hand pumps will deliver approximately two gallons per minute each at normal operating speed.

350 GALLON WATER TANKER

Function

The function of this vehicle is to transport and store filtered and sterilized water in the field. It is equipped to pump and filter water from any available source.

The sterilization process is carried out by the R.C.A.M.C. as a separate operation, or by the Unit Water Orderly.

Dimensions

Overall Vehicle Length	236"
" " Width	86"
" " Height	93"
Tank Length (including stores compartment)	122-1/4"
Section	30" x 45"

Weights

	Front	Rear	Total
Curb	4965	4610	9575
Payload (Water and Personnel)	835	3145	3980
Gross	5800	7755	13555
Maximum Gross Rating	7000	10700	16000

References

A.E.D.B. Specification	O.A. 126
A.E.D.B. Drawing Schedule	M.R.3847A
Munitions & Supply File No.	73-T-71
Body Code No.	5S1
Chassis Model No.	C60L
Maintenance Manual (Chassis)	Pilot Model only built.
Maintenance Manual (Tank & Equipment)	Pilot Model only built.

Sources:- Chassis by General Motors, Tank & equipment by S.E.M.A.

Chassis

The tank and equipment is designed for mounting on a General Motors, C.M.P. 3-ton 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

Tank and Equipment

The tank is elliptical in shape and constructed of hot rolled mild steel with a capacity of 350 Imperial gallons. (The tank will actually hold approximately 400 gallons to allow for expansion.) It is fitted with removable baffles, manhole cover and a sump fitting with drain plug.

A duplex piston pump, driven from the vehicle power take-off at approximately 600 r.p.m., is supplied for filling the tank, with two differential type hand pumps for use in case of power pump failure.

Two filters of the "Metafilter" type are mounted on each side, near the front of the tank.

A metal stores compartment is attached to the rear of the tank for stowage of suction hoses, tank cleaning brush, filter powder, sterilization equipment, spare parts, wrenches, etc..

The vehicle is fitted with a superstructure and tarpaulin, jerrican or P.O.W. Can carriers, and vehicle tool boxes.

Pump Performance

The power pump, under normal filtering conditions, can fill the tank in twenty to thirty minutes.

The hand pumps will deliver approximately two gallons per minute each at normal operating speed.

450 GALLON WATER TANKER

Function:

The function of this vehicle is to transport and store filtered and sterilized water in the field. It is equipped to pump and filter water from any available source.

The sterilization process is carried out by the R.C.A.M.C. or by the Unit Water Orderly, as a separate operation.

Dimensions

Overall vehicle length	255"
" " width	77"
" " height	90"
Tank length (including stores compartment)	130"
Section	31" x 49"

Weights

	Front	Rear	Total
Gross	3619	9781	13400
Maximum Gross Rating	4150	10300	14450

References

A.E.D.B. Specification	O.A. 246
A.E.D.B. Drawing Schedule	M.R.4131A
Munitions & Supply File No.	73-T-87
Vehicle Code No.	D60L-WATR-1
Body Code No.	5T1
Chassis Model No.	T110-L-5
Pilot Model Approval	150-P
Maintenance Manual	C420-D2
Spare Parts List	WM-3929
Operating & Spare Parts Manual (Tank & Equipment)	450WT-D1

Sources:- Chassis by Chrysler Corp.,
Tank & equipment by S.R.M.A.

Chassis

The tank and equipment is designed for mounting on a Dodge, 3-ton, 4 x 2, 158" wheelbase chassis, with 10.50 x 16 tires.

Tank and Equipment

The tank is elliptical in shape and constructed of hot rolled mild steel with a capacity of 450 Imperial gallons. (Actual capacity is in excess of this to allow for expansion). It is fitted with removable baffles, manhole cover and a sump fitting with drain plug.

A duplex piston pump, driven from the vehicle power take-off, at approximately 600 r.p.m., is supplied for filling the tank, with two differential type hand pumps in case of power pump failure.

Two filters of the "Metafilter" type are mounted on each side of the tank, near the front.

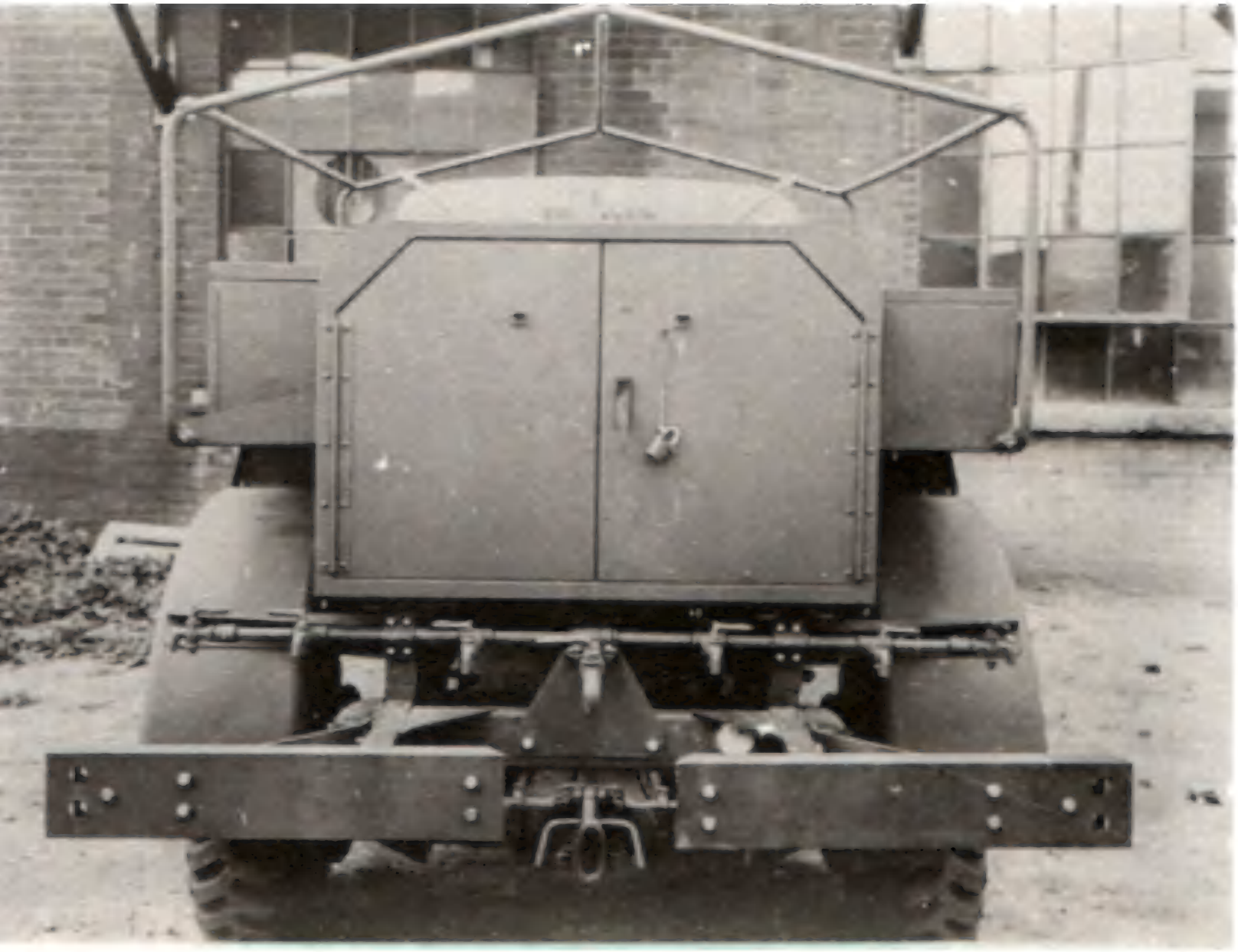
A metal stores compartment is attached to the rear of the tank for stowage of suction hoses, tank clearing brush, filter powder, sterilization equipment, spare parts., etc..

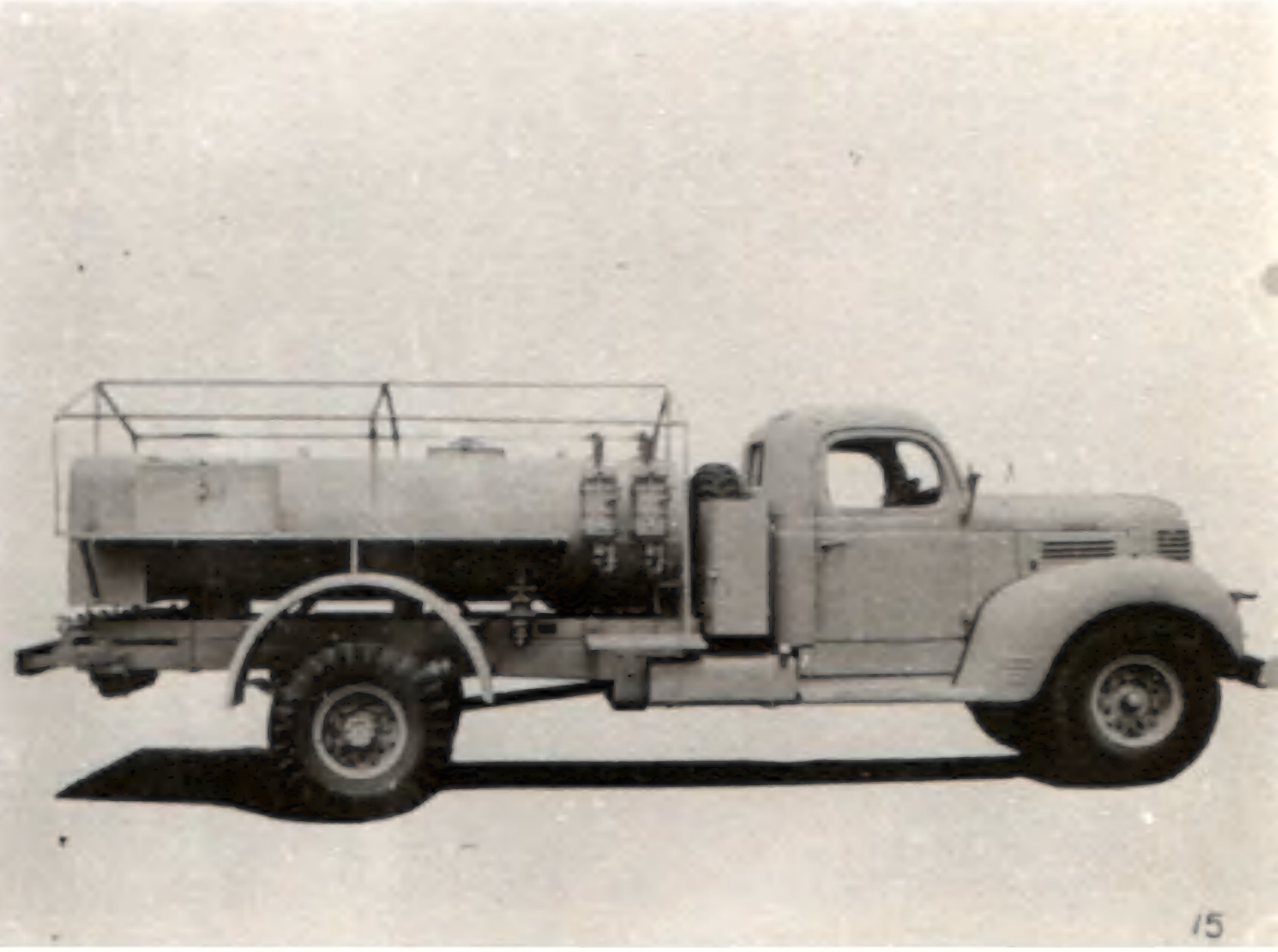
The vehicle is fitted with a superstructure and tarpaulin, jerrican or P.O.M. carriers, and vehicle tool boxes.

Pump Performance

The power pump will, under normal filtering conditions, fill the tank at the rate of about 15 gallons per minute.

The hand pumps will deliver approximately two gallons per minute each at normal operating speed.





800 GALLON PETROL TANKER

Function

Used by R.C.A.S.C. General Transport Coys. for the bulk transport of petrol in Operational Areas.

Dimensions

Overall vehicle	length	230"
" "	width	89"
" "	height	92"

Weights

	Front	Rear	Total
Curb.....	4980	4420	9400
Laden	5960	9890	15850

References

A.E.D.B. Specification.....	O.A. 190
A.E.D.B. Drawing Schedule...	MR 4450A
Munitions & Supply File No..	73-B-15
Vehicle Code No.....60448-M-GAS-1	
Maintenance Manual(Tank only)	SB-11
Body Code No.....	5K4
Spare Parts List (Chassis)..	C60L-02

Sources:-
Body by Metallic Roofing Co.,and W.D. Beath. Chassis by Ford,General Motors and Chrysler Corporation.

Chassis

The 800 Gallon Petrol Tanker is designed for mounting on either of the following chassis:-

1. G.M. 3-ton, 4 x 4, 158" W.B.
2. Ford 3-ton, 4 x 4 (or 4 x 2), 158" W.B.
3. Dodge 3-ton, 4 x 2, 160" W.B.

Tank

The tank shell is fabricated from 12 ga. M.S. sheet, and is divided into two (2) compartments.

A semi-rotary hand pump is provided,which is mounted underneath the L.H. catwalk. A spare tire, tool box and fire extinguisher is mounted between cab and body.

Several hose lengths are provided for gravity discharge and for can filling purposes.


SMITH & CO. Limited
EE

MACHINERY LORRIES

MACHINERY LORRIES. (MOBILE WORKSHOPS)

I. General

The following pages describe the various types of Machinery Lorries, (Mobile Workshops) produced in Canada. The introductory remarks are applicable also to Machinery Trailers and Generator trailers described in the Trailer Volume.

As the modern Army became more and more mechanized in this war ofmovement the maintenance and repair facilities had to take to wheels in order to "keep the Army rolling". This requirement created the problem of carrying into the field, on wheeled vehicles, equipment usually found in modern machine shops, garages, carpenter shops, electrical repair shops, etc.. Furthermore, this equipment had to be able to function where no outside source of power was available. To accomplish the latter, some types of vehicles were equipped with engine-driven generating sets, either self-contained units or ones driven through power-take off from the vehicle engine; others not so equipped obtained power from other lorries or generating trailers in the same formation.

The early history of Machinery Lorry production for the Canadian Army goes back to 1940 when it was decided to develop this type of vehicle at the Ordnance Workshops in Kingston. Requirements increased to the point where the Workshops could not handle the job, and after trying to carry on at a small contractor's in Montreal, the contract was finally given to the Chrysler Corporation of Canada. Later additional contracts were issued covering similar vehicles for the U.S.S.R., with the addition of equipment to enable them to operate under arctic conditions.

In the development of both, the following general procedure was used:-

(a) The contractor was supplied with a preliminary specification covering the required material, and a layout showing the general arrangement of equipment in the lorry.

(b) The pilot was developed by the contractor under the supervision of A.E.D.B. engineers.

(c) Reliability and functional tests.

(d) General Staff Inspection. (Canadian Army Lorries) A.E.D.B. Inspection of vehicles for the U.S.S.R..

(e) Contractor made any changes resulting from the tests and inspection, and completed the drawings.

(f) Formal approval by A.E.D.B. for production.

While this procedure was fairly clear cut, difficulties developed which made progress slow in the early stages of the program. There was considerable indecision on the part of military authorities as to the need for certain equipment, and as much of the equipment, especially machine tools, was of U.S. manufacture and obtainable only on a high priority basis, any such delay seriously affected material deliveries. In addition, A.E.D.B. specifications procedure did not permit the contractor to substitute equipment which might be more easily obtained, without formal authority from A.E.D.B.. To eliminate delays and the paper work involved, the specifications were ultimately written in such a manner that the contractor could purchase equivalent articles to those specified, where interchangeability was not affected. Where the latter was affected, however, control was retained by A.E.D.B.. Perhaps most of

I. General (Cont'd.)

the delay was caused by the desire of all those concerned, to develop machinery lorries which were near perfect. Experience has shown that supplying a good useful vehicle at first, and improving it as production proceeded, paid dividends in faster delivery.

As can be readily seen, an enormous amount of drafting work was required. In the earlier stages, the contractor was required to draw up so many details that months elapsed between the time the pilot was approved and a set of production drawings was completed. The number of drawings required was reduced as experience was gained, until only assembly and sub-assembly drawings were subject to A.E.D.B. approval, and details were practically eliminated. Where required for more economical purchasing, the contractor drew them up in the form of sketches which eliminated the need for approval by A.E.D.B.

With reference to the lorries developed for the U.S.S.R., the problem was further complicated by the requirement for "Arcticized" vehicles. First, it was necessary to provide arcticized equipment which would permit operation of the engine-driven generating sets, compressor sets, etc., to operate in temperatures down to -40°F. Also, bodies had to be insulated and heated to permit machine tool operation when outside temperatures ranged down to -40°F.. While some "cold weather" equipment was available, a considerable amount of "cold room" testing was carried out before installations adaptable to machinery lorries, were developed. Furthermore, addition of the arcticizing equipment imposed greater loads on the chassis which were already, in most cases, up to the maximum permissible. In order to hold loads within the permissible ratings it was finally decided to remove certain equipment from the overloaded lorries. This equipment was shipped in special packs and presumably carried in other vehicles in the field.

In conclusion, experience showed that where so many types of lorries were involved, only a large manufacturer had the space, the engineering, planning and purchasing facilities to handle the program satisfactorily. Close liaison work between the contractor, design agency and government inspection group is also very necessary to keep development work and production moving with a minimum of delay.

II. Equipment

With respect to the types of chassis, bodies and equipment chosen for these vehicles the following points are worth noting:-

(a) Chassis

Normally the Machinery Lorry travels on roads, but it must be capable, in emergencies, of travelling over more difficult terrain. For these reasons a slightly greater load may be imposed on a given chassis than when the latter is used as a straight General Service vehicle; but an all-wheel drive vehicle was found necessary in order to cope with the emergencies mentioned above.

The standard existing military chassis, which would best meet these conditions, was always chosen if at all possible. Thus parts supply and vehicle maintenance were simplified. Power take-off equipment is usually an important part of chassis equipment for this use.

MACHINERY LORRIES. (MOBILE WORKSHOPS)
(CONTINUED)

II. Equipment (Cont'd.)

(b) Bodies

The bodies chosen were limited to:

(i) All-steel house type, Lindsay construction, but fitted with special substructures to carry the heavy machinery.

(ii) All-steel, G.S. type with superstructure, tarpaulin, drop-side workbenches and, in most cases, 6 inches wider than standard load-carrying G.S. types.

Advantages may be found for both.

The house type body lends itself exceedingly well to the Machinery Lorry role. It provides better protection against weather and dust. It can be heated easily. It can be provided with windows. Blackout equipment can be readily used. It provides facilities on walls and ceiling for the mounting of equipment. It can be locked up. From the point of view of workshop alone, the house-type body is vastly superior.

On the other hand, the G.S. body offers the advantages of less weight, less cost, is more easily obtained, more easily repaired, possesses low silhouette, requires smaller pack for shipping, and has no special appearance to draw enemy attention.

(c) Tools and Equipment

The various tools and equipment required in each type of vehicle were, of course, governed by the function of the vehicle, and experience in static workshops indicated the more common types of machinery required. This information is now available in D.N.D. scales of Mobilization Equipment.

Since most machine tools are not designed for mobile use, especially under weather and dust conditions encountered in field service, the best commercial equipment available, consistent with simplicity and ruggedness, was specified. Electric generators and motors were in most cases tropically wound, and experience showed that the simpler types of M.T. test equipment stood up best in service.

Installation and mountings for this equipment were designed to protect the equipment, as far as possible, from road shock, body distortion, dust and weather.

As mentioned previously, both self-contained generating sets and power take-off generating sets were used. The advantages of the latter are in weight and space saving and the fact that no flexible couplings, with the possibility of mis-alignment, are required. On the other hand, vehicle engines must be serviced and replaced more often where they carry out a double role.

Another important factor is interchangeability. As the spare parts situation in the field was always acute, tools and equipment in the various types of lorries were standardized as much as possible, and a kit of fast wearing parts for each component was supplied in each vehicle.

III. Modifications

Generally speaking, most of the modifications on Machinery Lorry equipment were of a minor nature. However, some serious faults developed, and, in order to indicate the type of trouble which can be encountered, a few representative changes are outlined below:-

(a) Flexible Couplings

(i) Reports were received that Chrysler flexible couplings used on engine-driven generator sets were failing due to misalignment between the engine and generator.

To correct this condition the Chrysler coupling was progressively improved and gauges were developed which permitted more accurate alignment. Ultimately, all the affected lorries and trailers in Canada and all the U.S.S.R. jobs were equipped with the improved coupling, and little difficulty has been reported since. No replacements were sent Overseas, however, as D.D.E.M. arranged to supply a "Silent-bloc" coupling manufactured in the U.K. as replacement units, with the claim that this coupling permitted greater latitude in parallel and angular alignment. This coupling was not tested here to substantiate this claim. However, failures of the "Silentbloc" coupling were reported from the N.W.E. Theatre early in 1945.

(ii) With the original type of flexible coupling used on the engine-driven compressor set on the Type "J" lorry, it was not possible to disconnect the compressor from the engine for starting. It was found that when starting the engine in cold weather the additional resistance of the compressor unit may throw such a heavy load on the starting motor that the cranking speed would be too slow to start the engine.

To eliminate this trouble, the original coupling was changed to a Rawson centrifugal clutch type, the engagement of which is controlled by the speed of the engine. This permits the engine to be started and run at low engine speeds without driving the compressor, the clutch automatically engaging when the engine is speeded up to the governed speed.

(b) Lathe Mountings

One of the most difficult problems in the design of these vehicles was the installation of pedestal type Lathes, as these were not designed for mobile use. In order to eliminate the possibility of damage from sudden starts and stops, or the jolting when travelling over rough roads, it was decided to use spring-loaded mountings at both the headstock and tailstock ends. It became apparent when the vehicles went into service, however, that the rough usage caused bending and fracturing of the hold-down bolts, and, in some cases, cracking of the lathe castings.

It was then decided to eliminate the flexible mounting at the headstock end and increase the size of the mounting bolts. Since introduction of this method of mounting there have been no further complaints.

MACHINERY LORRIES. (MOBILE WORKSHOPS) (CONTINUED)

III. Modifications (Cont'd.)

(c) Reversed Polarity in Generators

Cases were reported of generators with reversed polarity. The cause of this complaint was traced to improper use of resistance battery charging equipment, which permitted current from the batteries on charge to flow in a reverse direction.

To make the system "fool proof" a reverse current relay, or automatic switch was incorporated in the series resistance battery charging panel. If any reversal of current occurs this safety device will automatically break the electrical circuit and prevent the current reaching the generator windings. When the generator is started and the current generated flows through the panel in the normal manner the switch automatically closes the circuit to the battery charging outlets.

IV. Users Comments

Up to this time, no official reports have been received from users on these vehicles. Unofficially, however, reports have been good. R.C.E.M.E. officers in the field have indicated to visiting officers of A.E.D.B. and D.N.D. that the lorries have performed their function in a very satisfactory manner, and are superior to similar British types.

V. Additional Notes

It should be noted that the foregoing remarks refer most specifically to lorries built for the Canadian Army and the U.S.S.R. However, they are also applicable in many respects to Light D Workshops built by the Ford Motor Company and General Motors of Canada for the Ministry of Supply.

In addition, several vehicles are shown which were built for Research Enterprises Limited (R.E.L). Both house type and General Service type bodies were developed, and while not fitted with equipment other than special bins and lockers, close liaison with R.E.L. personnel was necessary to ensure suitable installation for their functional role.

MACHINERY LORRY TYPE "A"

Function

The function of this vehicle is to provide facilities for General Turning, Drilling, Grinding and Battery Charging in the field.

Note:- This lorry provides power only for battery charging. Power for other operations must be obtained from an outside source, 110-volt D.C..

Dimensions

Overall vehicle length	248"
" " width	92"
" " height	128-1/2"
Outside body length	168"
" " width	92"
" " height	84-1/2"
Inside body length	167"
" " width	89"
" " headroom (centre line)	77-1/2"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)	6000	14450	20460
Payload (Personnel)	355	110	480
Gross	6355	14560	20940
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification	O.A. 162
A.E.D.B. Drawing Schedule	1077626
Munitions & Supply File	73-L-23
Body Code	8L4
Chassis Model	60660-M
Vehicle Code No.	60660-M-MACH-A-1
Pilot Model Approval No.	112F
Ordnance Proving Ground Report	DVA 6 Project 236 G
Chassis Maintenance Manual	M660-C1
Maintenance Manual & Spare Parts List for body & eq'pt.	WM 3830

Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corp..

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P., 3-ton, 6 x 6, 160-1/2" wheelbase chassis, with 10.50 x 20 tires.

Body

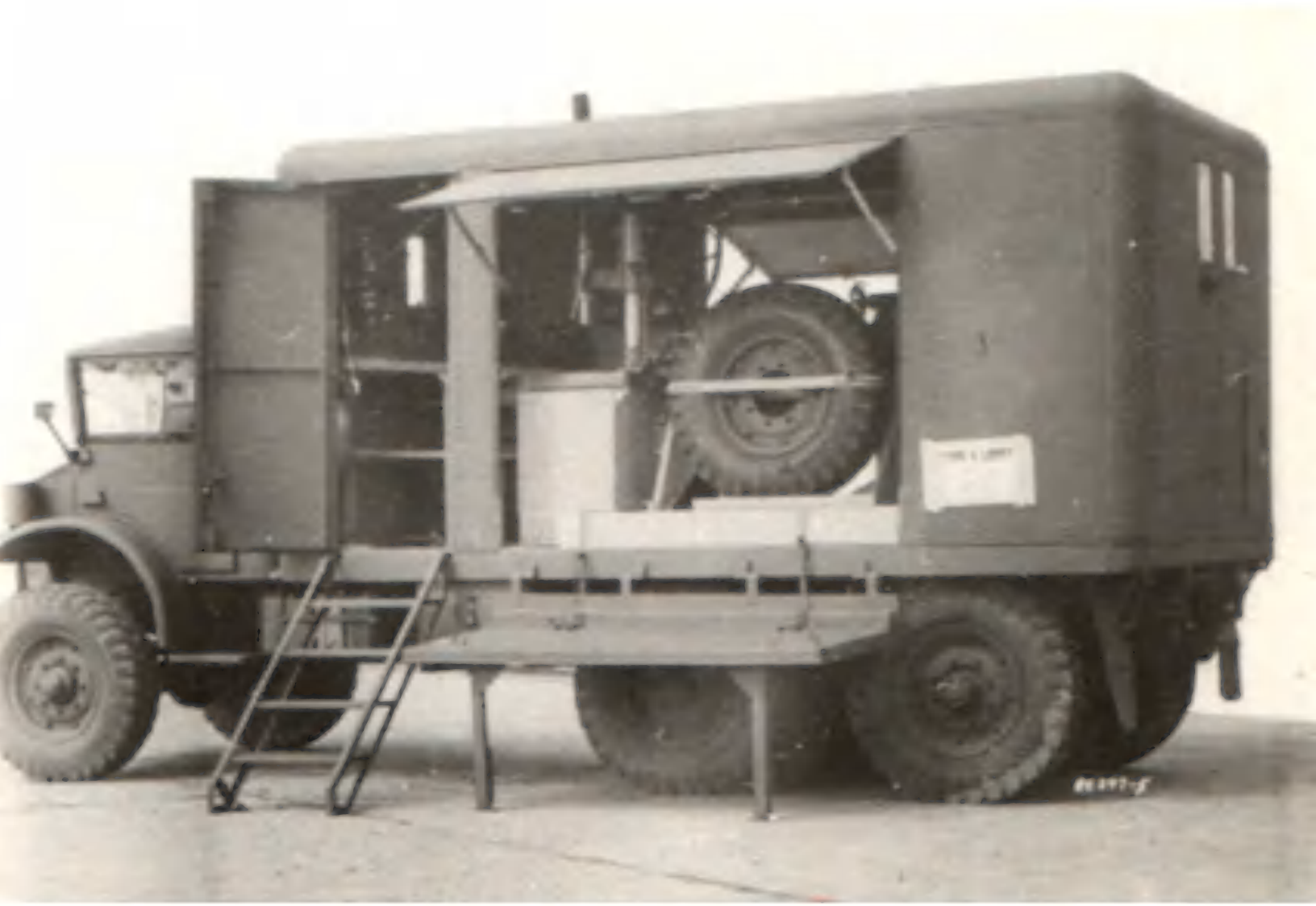
Lindsay, all steel, 14' body, with drop-side workbenches and canopies. Duck penthouses, poles, etc., vehicle tool boxes and jerrican carriers are supplied. The inside of the body is fitted with a spare tire carrier, tool cabinets, workbenches, rifle clips and fire extinguishers. A 110-volt overhead lighting system is supplied, equipped with white and blackout bulbs, the former controlled by a blackout switch on the entrance door located on the left side.

Main Items of Equipment

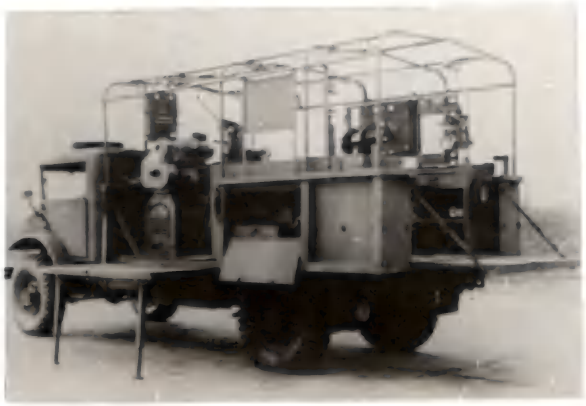
1. Lathe, 17" swing, 54" centres, pedestal type and equipped with a 1-1/2 h.p. motor.
2. Drill Press, bench type, 1" capacity, complete with 3/4 h.p. motor.
3. Bench Grinder, 10" bench type, 1 h.p..
4. Portable Drill, 1/2", complete with stand.
5. Portable Drill, 5/16".
6. Battery Charging Set consisting of a 7-1/2 volt generator and Briggs & Stratton engine.
7. Main Distribution Panel.
8. Battery Charging Switchboard with ten 6-volt outlets.
9. Battery Charging Cables, Interconnecting Cables, Hand Lamps, Cell Testers, etc..
10. Lathe Tools, sets of drills, grinding wheels, and vises and other hand tools.
11. Spare parts kits for all technical equipment.

Note:- This model superseded by A MK. II - see following page.

An arcticized version of Type A, built for the U.S.S.R., is described on page 67



MACHINERY LORRY TYPE "A MK. II"



Function

The function of this lorry is to provide facilities for general turning and drilling in the field.

Dimensions

Overall vehicle length	242"
" " width	94"
" " height	118-5/8"
Outside body length	144-1/2"
" " width	94"
" " height	78"
Inside body length	144"
" " width	86"
" " headroom	75-1/4"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	7-3/4"
Minimum at gross weight	16-3/4"
Angle of Approach 56°	Limiting Point ...Towing Eyes
Angle of Departure 38°	Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)	6275	9285	15560
Payload (Personnel)	280	165	465
Gross	6555	9450	16025
Maximum gross rating.	6500	10700	16000

References

A.E.D.R. Specification	O.A. 162-2
A.E.D.R. Drawing Schedule....	1101292
Munitions U Supply File	73-L-42
Vehicle Code No.	F60L-W-MACH-A-1-MKII
Body Code	5F10
Chassis Model	F60L
Pilot Model Approval	F236
Ordnance Proving Ground Report ..... DVA 6 Project	F236G1
Chassis Maintenance Manual....	MB-F1
Maintenance Manual & Spare Parts List for body & tech. equip't	SM-3830

Sources:

Chassis by Ford Motor Co., body by S.B.M.A., equipment installed by Chrysler Corp., Windsor

Chassis

The body and equipment are designed for mounting on a Ford Motor, C.M.P. 3-ton 4x4 158" wheelbase chassis, with 10.50 x 20 tires.

Body

G.S. type, all steel, 12' body, Code 5F10, with dropside workbenches, tubular steel superstructure and tarpaulin, vehicle tool box, jerrican carriers, penthouses, etc., are supplied. The interior is fitted with workbenches, stowage brackets, rifle clips, etc., and a 110-volt overhead lighting system.

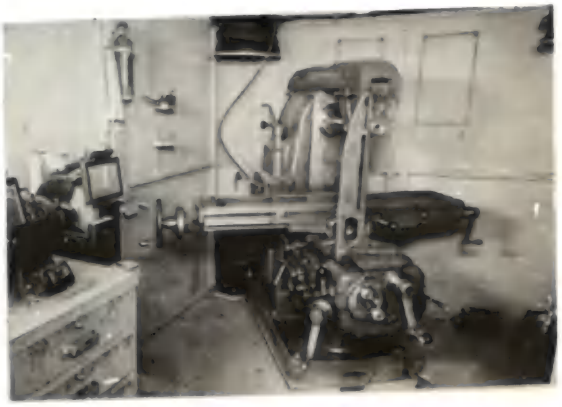
Main Items of Equipment

1. Generator, 7-1/2 K.W., 115-volt D.C., V-belt driven from the Chassis Power Take-off.
2. Control Panel, 7-1/2 K.W.
3. Resistance Battery Charging Panel.
4. Lathe, 16" swing, 33-1/2" centres, screw cutting.
5. Portable Drills, 1", 1/2", 5/16".
6. Grinder, bench type, 10".
7. Lathe tools, sets of drills, etc..
8. Hand Lamps, Interconnecting Cable, Battery Cell Testers, vises, etc..
9. Spare parts kits.

Note:- This lorry with the addition of a power hacksaw and a gas welding trailer will replace the M.E.7-1/2 (Section I).

Note:- This model supersedes "Type A" described on the previous page.

MACHINERY LORRY TYPE "B"



Function

The function of this vehicle is to provide facilities for Milling, Drilling and Grinding operations in the field.

Note:- Electric power to operate the technical equipment must be obtained from an outside source of 110-volt direct current.

Dimensions

Overall vehicle length	248"
" " width	92"
" " height	129"
Outside body length	168"
" " width	92"
" " height	84.5"
Inside body length	167"
" " width	89"
" " headroom	77.5"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	9"
Minimum at gross weight	20-3/4"
Angle of Approach 70°	Limiting Point ..Front Bumper
Angle of Departure 45°	Limiting Point .....Tow Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)...	6505	13015	19490
Payload (personnel)	295	175	480
Gross	6800	13190	19970
Maximum gross rating	7000	14000	20000

References

A.E.D.B. Specification.....	O.A. 163
A.E.D.B. Drawing Schedule....	1080582
Munitions & Supply File	73-L-24
Body Code No.	8L5
Chassis Model No.	M-60660C
Vehicle Code No.....60660-M-MACH-B-1	
Pilot Model Approval No.....	101-F
Ordnance Proving Ground Report .....Project DVA 6, 236W-1	
Chassis Maintenance Manual...	M660-C1
Combined Maintenance Manual & Spare Parts List for body & technical equipment	WM 3852
Sources:- Chassis by General Motors, body assembled and equipment installed by the Chrysler Corporation.	

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P.,3-ton, 6 x 6, 160" wheelbase chassis with 10.50 x 20 tires.

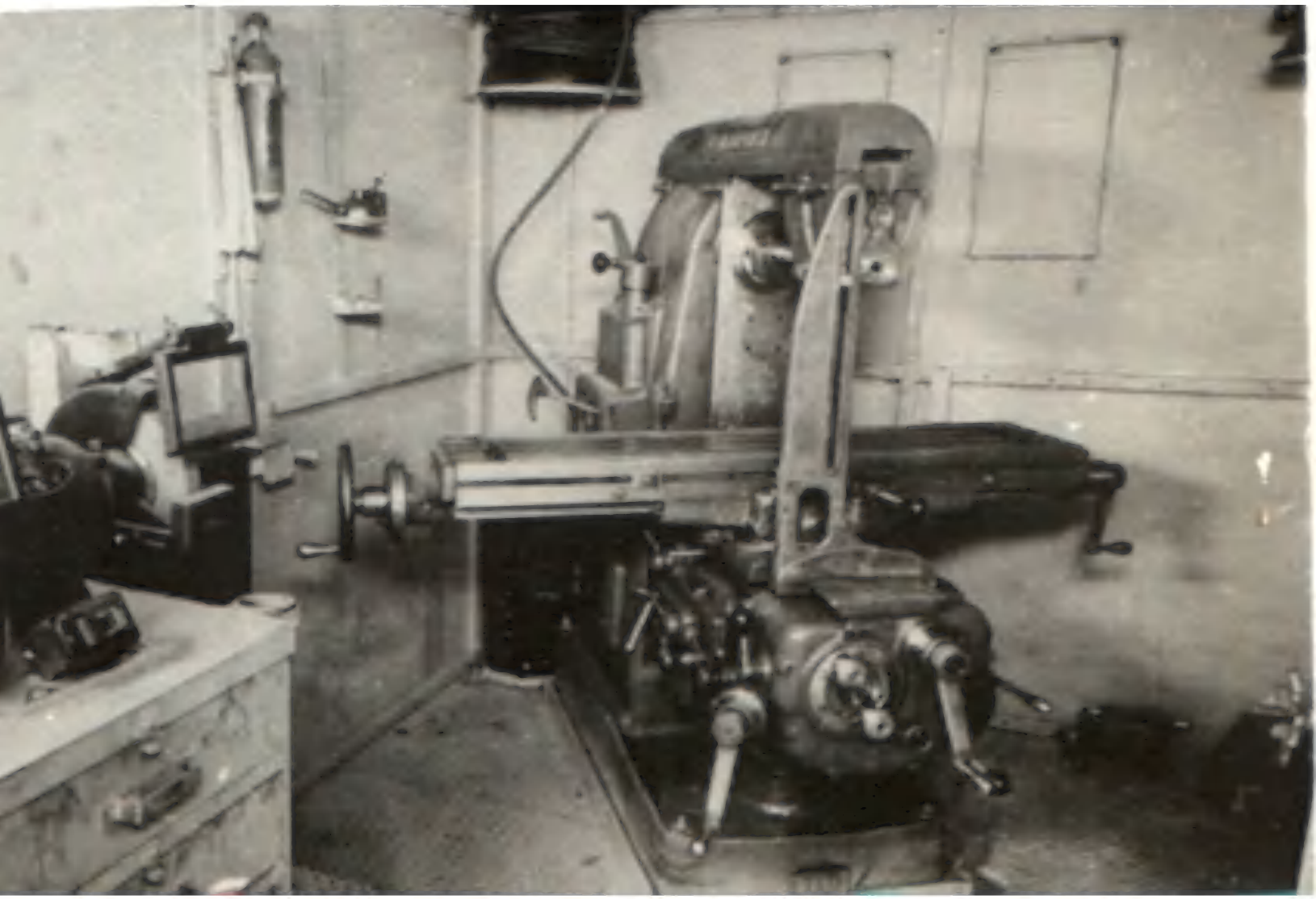
Body

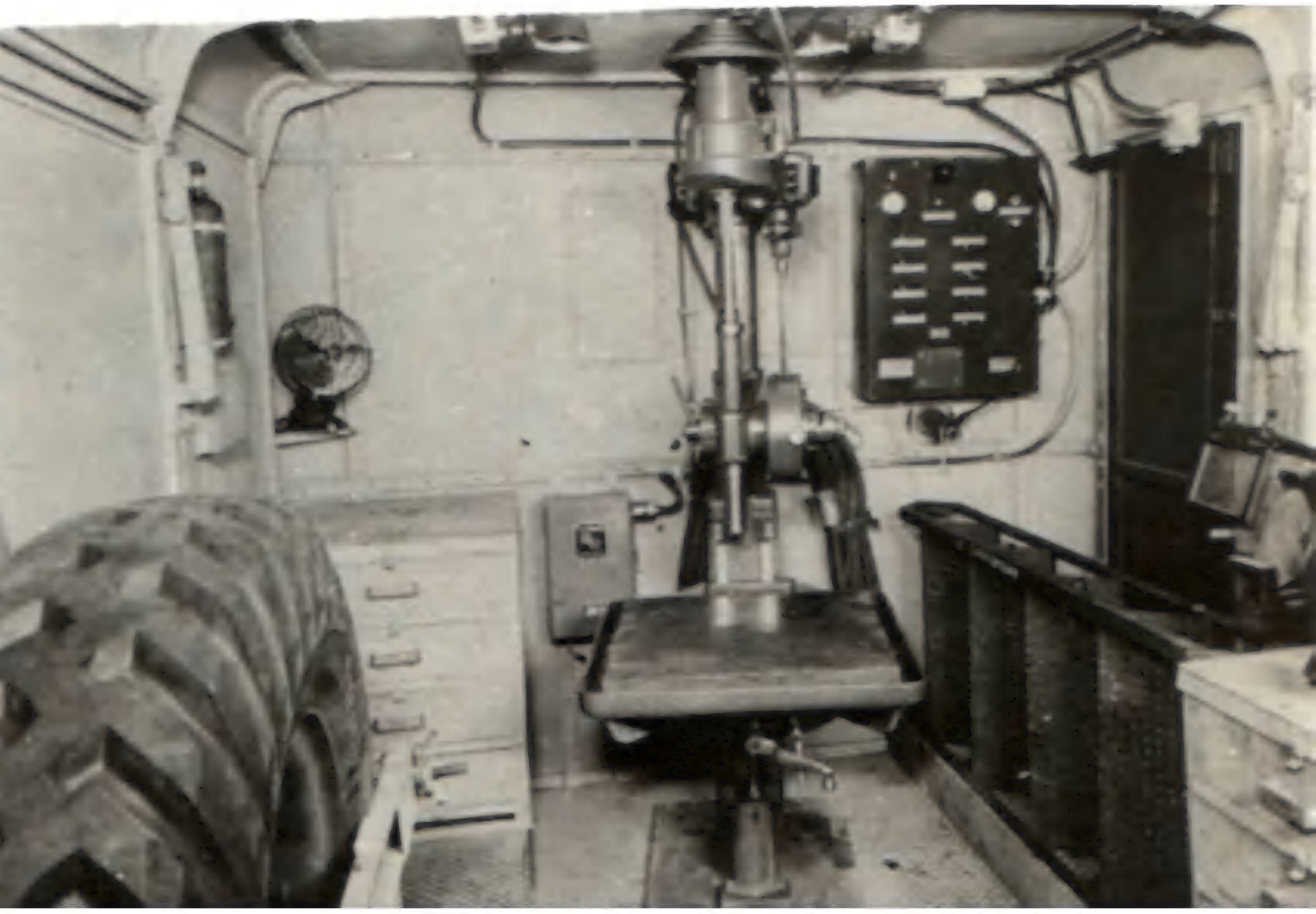
Lindsay, all steel, 14', house type body with dropside workbenches and canopeis.Duck penthouses, poles and spreaders, vehicle tool boxes, and jerrican carriers are supplied. The inside of the body is fitted with a spare tire carrier, tool cabinets, shelves, and rifle clips. A 110-volt lighting system is mounted on the ceiling and is fitted with "white" and "blackout" bulbs. An automatic switch mounted on the entrance door may be cut in under blackout conditions to "douse" the white lights when the door is opened.

Main Items of Equipment

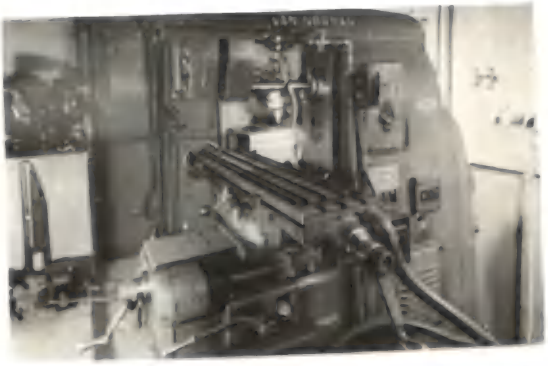
1. Switchboard, 7-1/2 K.W., 110 volt D.C.
2. Interconnecting Cable for hook-up to outside source of power.
3. Milling Machine, (van Norman #2), complete with coolant pump, 3 H.P. motor and controls.
4. Drilling Machine, pedestal type,(Buffalo #16) 7/8" capacity in mild steel,complete with 1 h.p. electric motor and controls.
5. Grinder, bench type, 8", 1/2 H.P. motor and controls.
6. Miscellaneous tools and accessories for the milling machine, drill and grinder.
7. Hand tools such as Vises, calipers, oil cans, etc..
8. Spare parts kits for all technical equipment.

Note:- This model superseded by B MK.II - see following page.





MACHINERY LORRY TYPE "B" MK. II"



Function

The purpose of this vehicle is to provide facilities for Milling, Drilling and Grinding operations in the field.

Note:- Power for operation of the machinery must be obtained from an outside source of 110-volt direct current.

Dimensions

Overall vehicle length.....	227-1/2"
" " width	90"
" " height.....	120-5/8"
Overall body length	144"
" " width	90"
" " height	89-5/8"
Inside body length	141"
" " width	87"
" " headroom	74-1/2"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	9-1/4"
Minimum at gross weight	18-1/4"
Angle of Approach 60°	Limiting Point .. Towing Eyes
Angle of Departure 42°	Limiting Point .. Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)	6120	9335	15425
Payload (Personnel)	305	160	470
Gross	6425	9495	15895
Maximum gross rating	6500	10700	16000

References

A.E.D.B. Specification ..... C.A. 163-2
A.E.D.B. Drawing Schedule... 1100751
Munitions & Supply File..... 73-L-43
Vehicle Code No.....F60L-MACH-B-1-MK.II
Body Code No. 5J10
Chassis Model F60L
Pilot Model Approval 213F
Ordnance Proving Ground Report ..... DVA 6 Project 236 N1 & 2
Chassis Maintenance Manual... MB-F1
Maintenance Manual & Spare Parts List for body & tech. equip't. WW 3852
Sources:- Chassis by Ford Motor, body assembled and equipment installed by Chrysler Corp..

Chassis

The body and equipment are designed for mounting on a Ford Motor, G.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

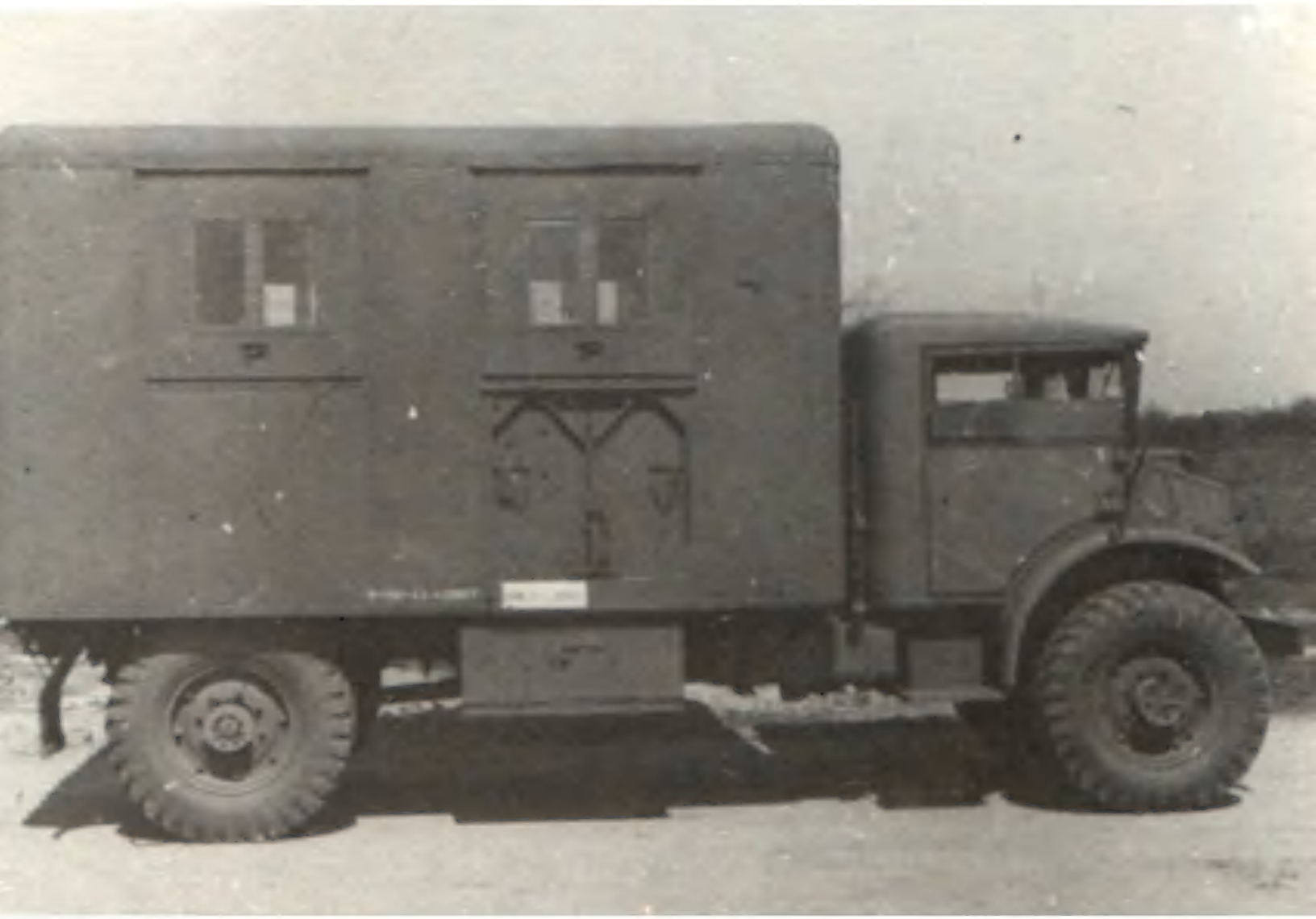
Body

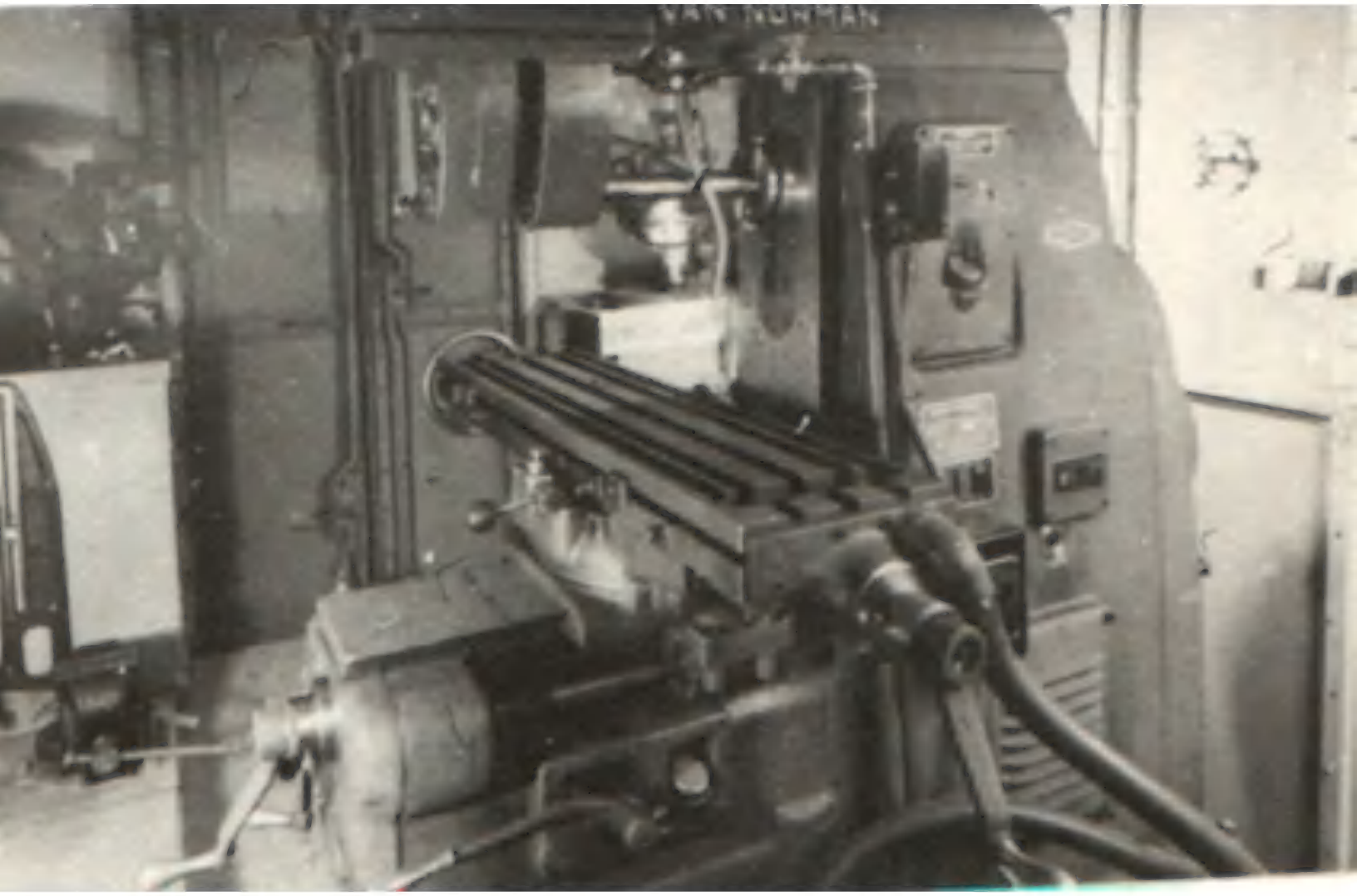
Lindsay, all steel, 12', house type body with one dropside workbench on the right side and entrance doors at the rear. A vehicle tool box and jerrican carriers are mounted under the body. The inside is fitted with tool cabinets, shelves, blackout shields for the windows, spare tire carrier, and a 110-volt D.C. overhead lighting system.

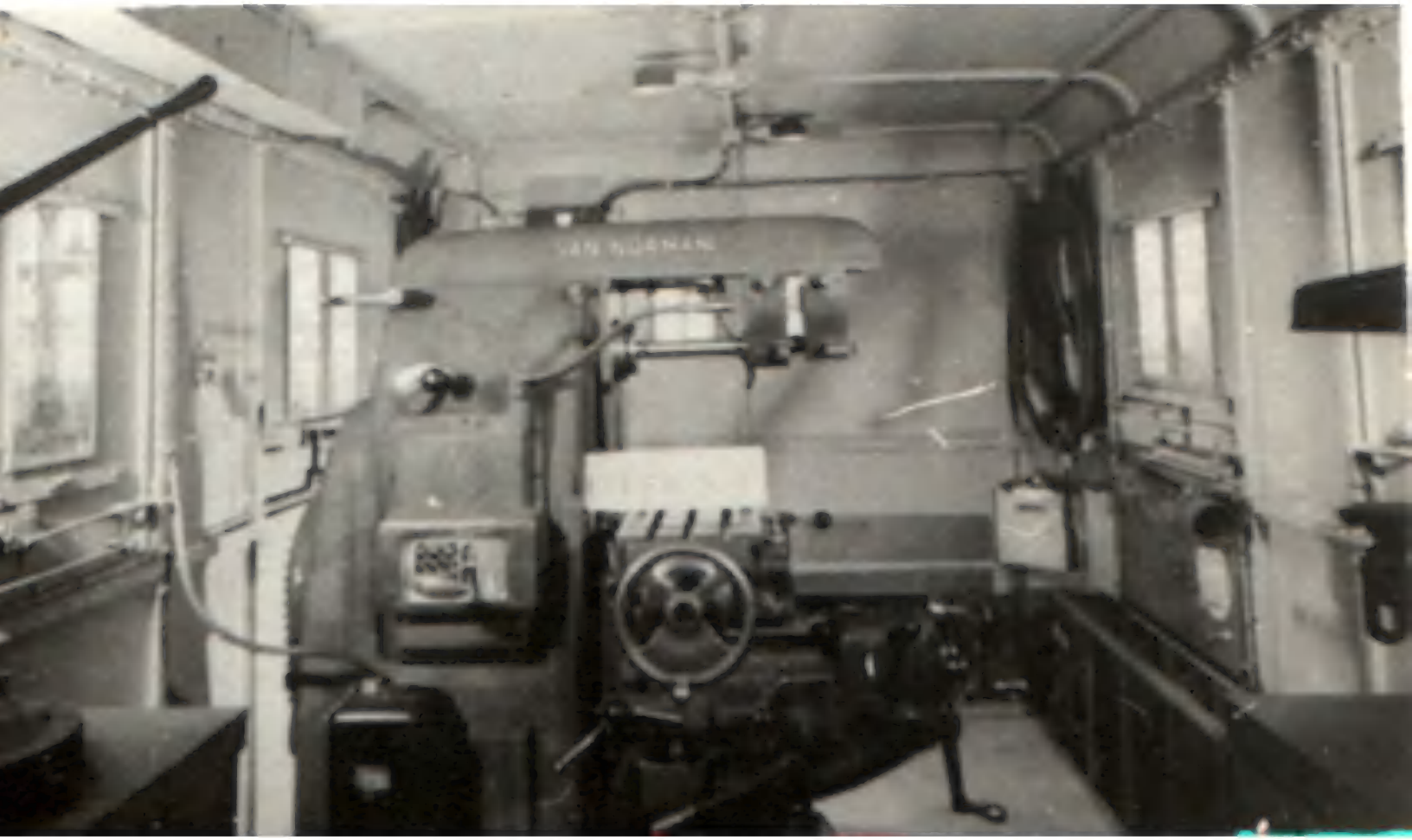
Main Items of Equipment

1. Main Distribution Panel, 7-1/2 K.W.
2. Interconnecting Cable, Hand Lamps, etc..
3. Milling Machine, Universal, (van Norman #2L.U.) with coolant pump.
4. Portable Drill, heavy duty, 1" complete with stand.
5. Bench Tool Grinder, 7".
6. Milling tools and accessories, sets of drills, vises and miscellaneous hand tools.
7. Spare parts kits.

Note:- This model supersedes Type "B" described on previous page.




VAN NORMAN


IAN NORMAN

MACHINERY LORRY TYPE "C"

Function

The function of this vehicle is to provide facilities for general turning, thread-cutting down to 3 threads per inch, metal sawing and drilling in the field.

Dimensions

Overall vehicle length	250-1/4"
" " width	90-7/8"
" " height	124-5/8"
Outside body length	168"
" " width	92"
" " height	86-3/4"
Inside body length	165"
" " width	87"
" " headroom	77-3/4"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)	5850	11705	17645
Payload (personnel)	290	190	480
Gross	6140	11895	18125
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification	O.A. 164
A.E.D.B. Drawing Schedule	1080930
Munitions & Supply File No.	73-L-25
Body Code No.	8L6
Chassis Model No.	60660-M
Vehicle Code No.	60660-M-MACH-C-1
Pilot Model Approval	102F
Chassis Maintenance Manual	M660-C1
Maintenance Manual & Spare Parts List for body & eq'pt.	WM 3853
Sources:-	Chassis by General Motors, body assembled and equipment installed by Chrysler Corp..

Chassis

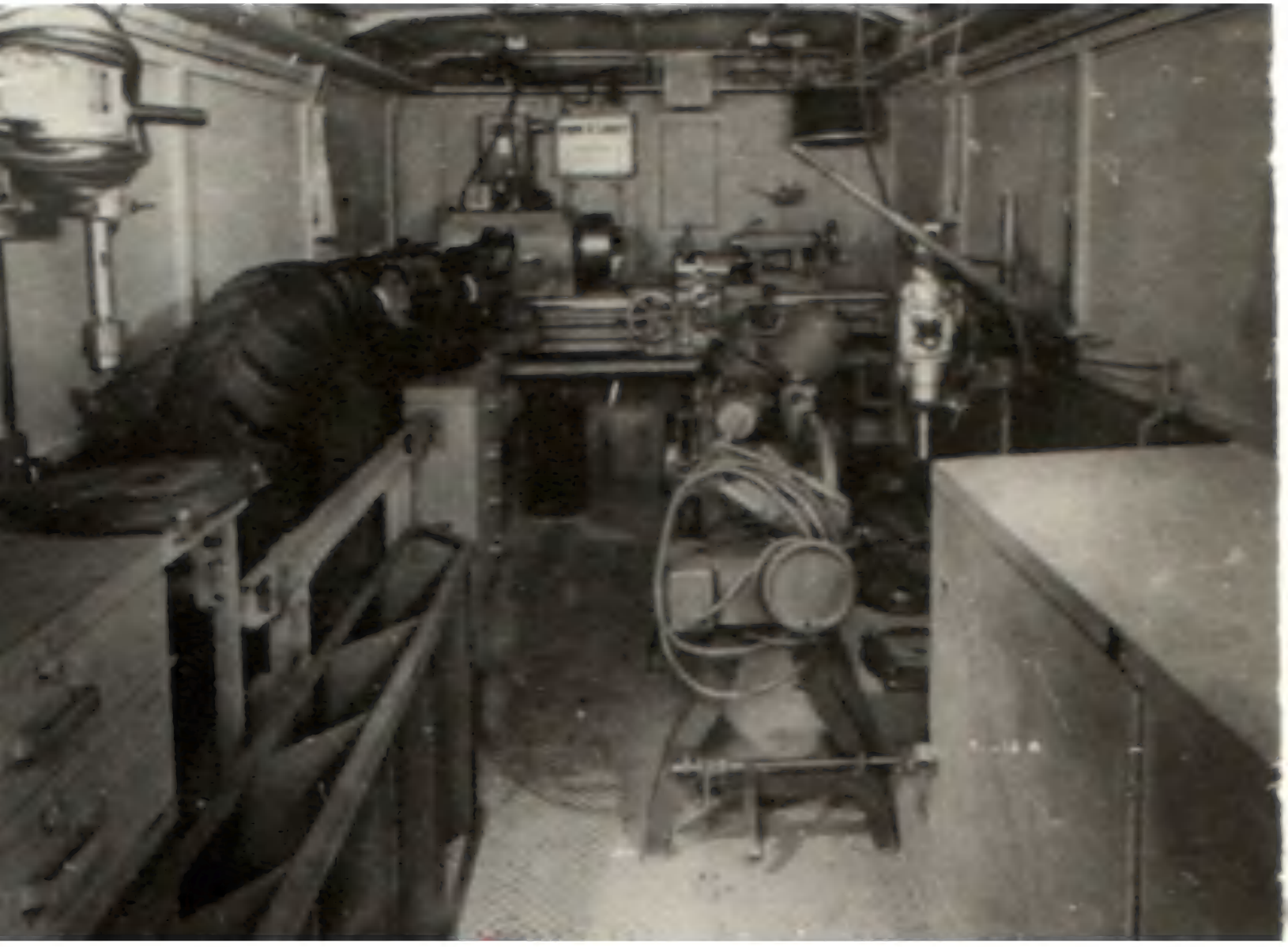
The body and equipment is designed for mounting on a General Motors C.M.P., 3-ton, 6 x 6, 160-1/2" wheelbase chassis with 10.50 x 20 tires.

Body

Lindsay, all steel, 14' body, with dropside workbenches and canopies, ventilator doors for the generator set and an opening for use when long stock is being turned on the lathe. Duck penthouses, poles, etc., vehicle tool boxes, and jerrican carriers are supplied. The inside is fitted with a spare tire carrier, tool cabinets, workbenches, and rifle clips. A 110-volt lighting system is mounted overhead. Double entrance doors are located at the rear.

Main Items of Equipment

1. Generator, 3 K.W. 110-volt D.C. driven by a Briggs & Stratton air-cooled engine.
2. Main Distribution Panel.
3. Lathe, 17" swing, 30" centres complete with coolant pump.
4. Power hacksaw with cutting speeds of 60, 90 and 130 ft./min. and a capacity of 5" stock.
5. Portable Drill, 1".
6. Portable Drill, 1/2" complete with stand.
7. Bench Grinder, 10".
8. Interconnecting Cables, Hand Lamps.
9. Lathe tools, sets of drills, vises, fire extinguishers, hand tools.
10. Spare parts kits for all technical equipment.



MACHINERY LORRY TYPE "CZ"

Function

The function of this lorry is to provide facilities for testing, maintaining and repairing radio equipment in the field.

Dimensions

Overall vehicle length	249-1/2"
" " width	90-3/4"
" " height	125"
Outside body length	168"
" " width	90-3/4"
" " height	86-5/8"
Inside body length	165"
" " width	87"
" " headroom	77-3/4"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	8-1/2"
Minimum at gross weight	20-1/2"

Angle of Approach 64° Limiting Point ...Towing Eyes

Angle of Departure 44° Limiting Point ... Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....	6200	10065	16235
Payload (Personnel).	260	195	510
Gross	6460	10260	16745
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification..... O.A. 184
A.E.D.B. Drawing Schedule 1085706
Munitions & Supply File 73-L-36
Vehicle Code No. 60660-M-MACH-CZ-1
Body Code No. 8L16
Chassis Model C-60660-M
Pilot Model Approval 148F
Chassis Maintenance Manual M660-C1
Maintenance Manual & Spare Parts List for body & tech. equip't. WM 3859
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corp..

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P.,3-ton, [illegible], 160" wheelbase chassis with 10.50 x 20 tires.

Body

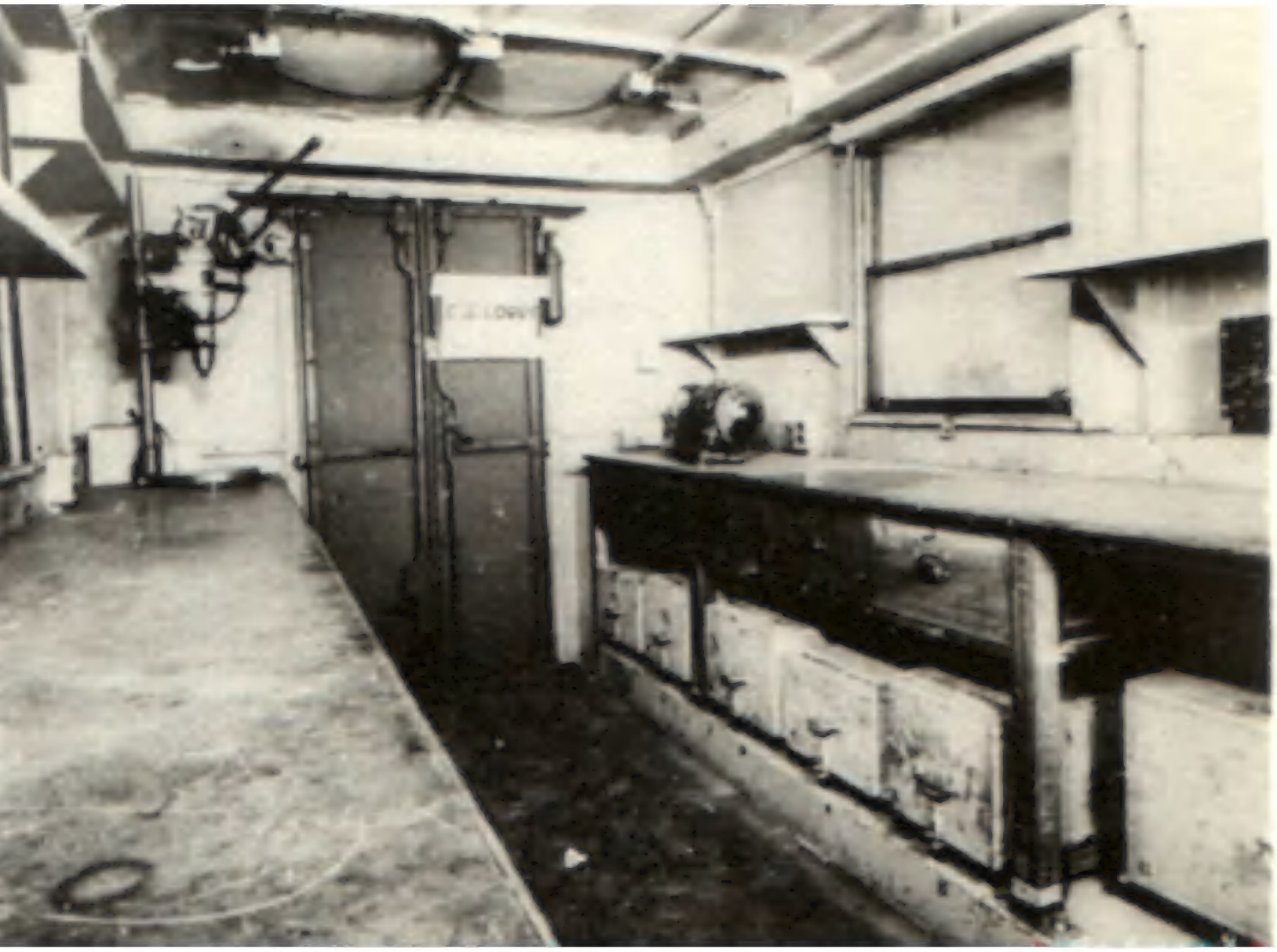
Lindsay, all steel, 14' house type body with two pullman type windows on each side, and entrance door at the rear. Ventilator doors are provided at the right front corner for a ventilating fan. Vehicle tool boxes and P.O.W. carriers are suspended from the substructure. The inside of the body is fitted with a spare tire carrier, shelves, workbenches and a 110-volt lighting system.

Main Items of Equipment

1. Generator, 3.75 K.V.A., 120-volt, 60 cycle, single phase, V-belt driven by a 6 H.P. single cylinder, air-cooled gasoline engine.
2. Main Distribution Panel, 3 K.V.A.,110-volt A.C..
3. Power supplies, 110-volt primary, 300 volt secondary.
4. Transformers, filament, 10 amp., 110-volt primary, 6.3 volt secondary.
5. Power system including bus bars, test panels, etc..
6. Portable Drill, 5/8".
7. Portable Drill, 5/16".
8. Bench Grinder, 6".
9. Hand lamps, sets of drills, set of taps and dies, hacksaws and other hand tools.
10. Kits of spare parts.

Note:-Stands and boxes are provided under the workbenches for stowage of test equipment such as Signal Generators, Valve Testers, etc., supplied at destination by R.C.O.C.

Note:- This model superseded by CZ MK.II - see following page.



MACHINERY LORRY TYPE "CZ MK. II"

Function

The function of this lorry is to provide facilities for maintaining, testing and repairing radio equipment in the field.

Dimensions

Overall vehicle length	220-1/4"
" " width	91"
" " height	121-3/4"
Overall body length	144"
" " width	91"
" " height	86"
Inside body length	141-1/2"
" " width	87-1/4"
" " headroom	78-3/4"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	8-7/8"
Minimum at gross weight	17-7/8"
Angle of Approach 60°	Limiting Point ...Towing Eyes
Angle of Departure 45°	Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6075	6870	12950
Payload (personnel)	330	160	485
Gross	6405	7030	13435
Maximum Gross Rating	6500	10700	16000

References

A.E.D.B. Specification....	C.A. 184-2
A.E.D.B. Drawing Schedule.	1101114
Munitions & Supply File....	73-L-47
Vehicle Code No.	F60L-VACH-CZ-1-MK.II
Body Code No.	5J13
Chassis Model	F60L
Pilot Model Approval	P239
Ordnance Proving Ground Report	DVA 6 Project 236 V
Chassis Maintenance Manual..	CM-F1
Maintenance Manual & Spare Parts List for body & tech.eq'pt.	MV 3859
Sources:-	Chassis by Ford Motor Co., body assembled and equipment installed by Chrysler Corp..

Chassis

The body and equipment is designed for mounting on a Ford, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

Body

Lindsay, all steel, 12' house type body, with a dropside workbench on the right side. Two windows are fitted on each side, and these are screened with 3/8" mesh, and boards are provided for blackout use. Double entrance doors are located at the rear. A jerrican carrier and vehicle tool box are mounted under the body. The inside is fitted with workbenches, shelves, racks, spare tire carrier, etc.. A 110-volt D.C. lighting system is mounted overhead.

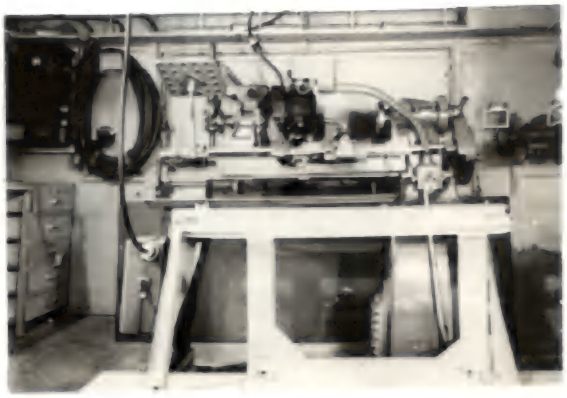
Main Items of Equipment

1. Generator, 3 K.V.A., 110-volt, 60 cycle, single phase, V-belt driven by a 6 H.P., single cylinder air-cooled gasoline engine.
2. Main Distribution Panel, 3 K.V.A., 110-volt, A.C.
3. Power Supplies, 110-volt primary, 300-volt secondary.
4. Transformers, filament, 10 amp. 110-volt primary, 6.3 volt secondary.
5. Power System including bus bars, receptacles, test panels, etc..
6. Portable Drills, 5/8" and 5/16".
7. Bench Grinder, 7".
8. Hand Lamps, sets of drills, sets of taps and dies, hacksaws and other hand tools.
9. Kits of spare parts.

Note:- Stands and boxes are provided under the workbenches for stowage of test equipment such as Signal generators, valve testers, etc., supplied at destination by R.C.O.C.

Note:- This model superseded type "CZ" described on previous page. "CZ" types were ultimately removed from C.A.O. establishments and reworked into "Z" types.

MACHINERY LORRY TYPE "D"



Function

The purpose of this vehicle is to provide facilities for precision turning and drilling in the field.

Note:- Power to operate the technical equipment in this vehicle must be obtained from an outside source of 110-volt direct current.

Dimensions

Overall vehicle length.....	250-1/4"
" " width	90-7/8"
" " height	124-5/8"
Outside body length	168"
" " width	92"
" " height	86-3/4"
Inside body length	165"
" " width	87"
" " headroom (centre line).....	77-3/4"
Height, ground to floor at rear (curb weight).....	46-5/8"
Clearance (at Hand Brake Drum); Ramp at gross weight	8-3/8"
Minimum at gross weight	20-3/8"

Angle of Approach 63° Limiting Point ....Towing Eye

Angle of Departure 43° Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)...	5900	12160	18040
Payload (personnel).	290	190	520
Gross	6190	12350	18540
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification	O.A. 165
A.E.D.B. Drawing Schedule ...	1077651
Munitions & Supply File No...	73-L-21
Body Code No.	8L7
Chassis Model	60660-M
Vehicle Code No. 60660-M-MACH-D-1	
Pilot Model Approval	125F
Ordnance Proving Ground Report .....DVA 6 Project 236D	
Chassis Maintenance Manual...	M660-C1
Maintenance Manual & Spare Parts List for body & equipment...	MM 3855

Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corp..

Chassis

The body and equipment is designed for mounting on a General Motors C.M.P. 3-ton, 6 x 6, 160-1/2" wheelbase chassis with 10.50 x 20 tires.

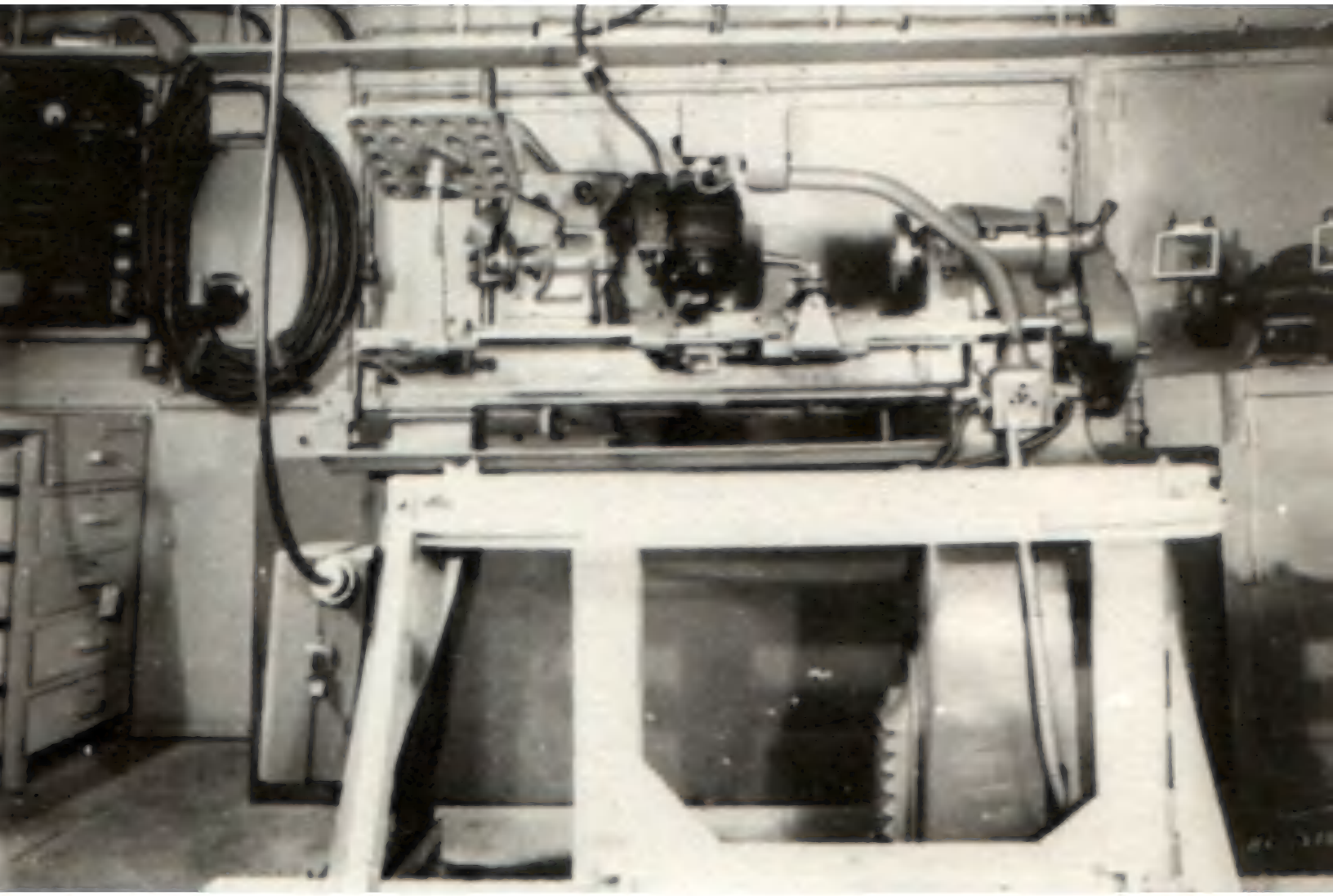
Body

Lindsay, all steel, 14' body, with dropside workbenches and canopies. Duck penthouses, poles, etc., vehicle tool boxes and jerrican carriers are supplied. The inside of the body is fitted with a spare tire carrier, tool cabinets, workbenches, fire extinguishers and rifle clips. A 110-volt overhead lighting system is supplied. The entrance door is fitted with a "black-out" switch to extinguish the white lights in the system and leave on only the blackout bulbs when the door is opened.

Main Items of Equipment

1. Main Distribution Panel, 3 K.W..
2. Lathe, precision tool room, 10" swing, 26-3/4" centres, 1" collet capacity with 3/4 h.p. motor.
3. Drill Press, bench type, sensitive, 3/8" capacity, with 1/2 H.P. motor.
4. Bench Grinder, 8", 1/2 H.P..
5. Lathe, watchmaker's, 4" swing, 10" to 12" bed complete with 1/10 H.P. motor.
6. Portable drill, 1/2" heavy duty.
7. Hand Lamps, Interconnecting cable, vises, sets of drills, lathe tools and miscellaneous hand tools.
8. Spare parts kits for all technical equipment.

Note:- An articized version of this type, built for the U.S.A.A., is described on page 87



MACHINERY LORRY TYPE "D1"

Function

The function of this vehicle is to provide facilities for Instrument Repair in the field.

Note:-Power for lighting and operation of machinery must be obtained from an outside source of 110-volt direct current.

Dimensions

Overall vehicle length	238"
" " width	91"
" " height	122-1/2"
Overall body length	144"
" " width	92"
" " height	83"
Inside body length	141-1/4"
" " width	87-1/4"
" " headroom	77-1/4"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	5390	6875	12425
Payload (personnel)	345	165	480
Gross	5735	7040	12905
Maximum Gross Rating	5400	10700	16000

References

A.E.D.B. Specification.....	O.A. 166
A.E.D.B. Drawing Schedule ...	1077098
Munitions & Supply File No...	73-L-22
Vehicle Code No. 60448-M-MACH-D1-1	
Body Code No.	5J2
Chassis Model	60448-M
Pilot Model Approval	126F
Chassis Maintenance Manual ..	MB-C2
Maintenance Manual & Spare Parts List for body & tech. eq'pt.	WW 3855
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler.	

Chassis

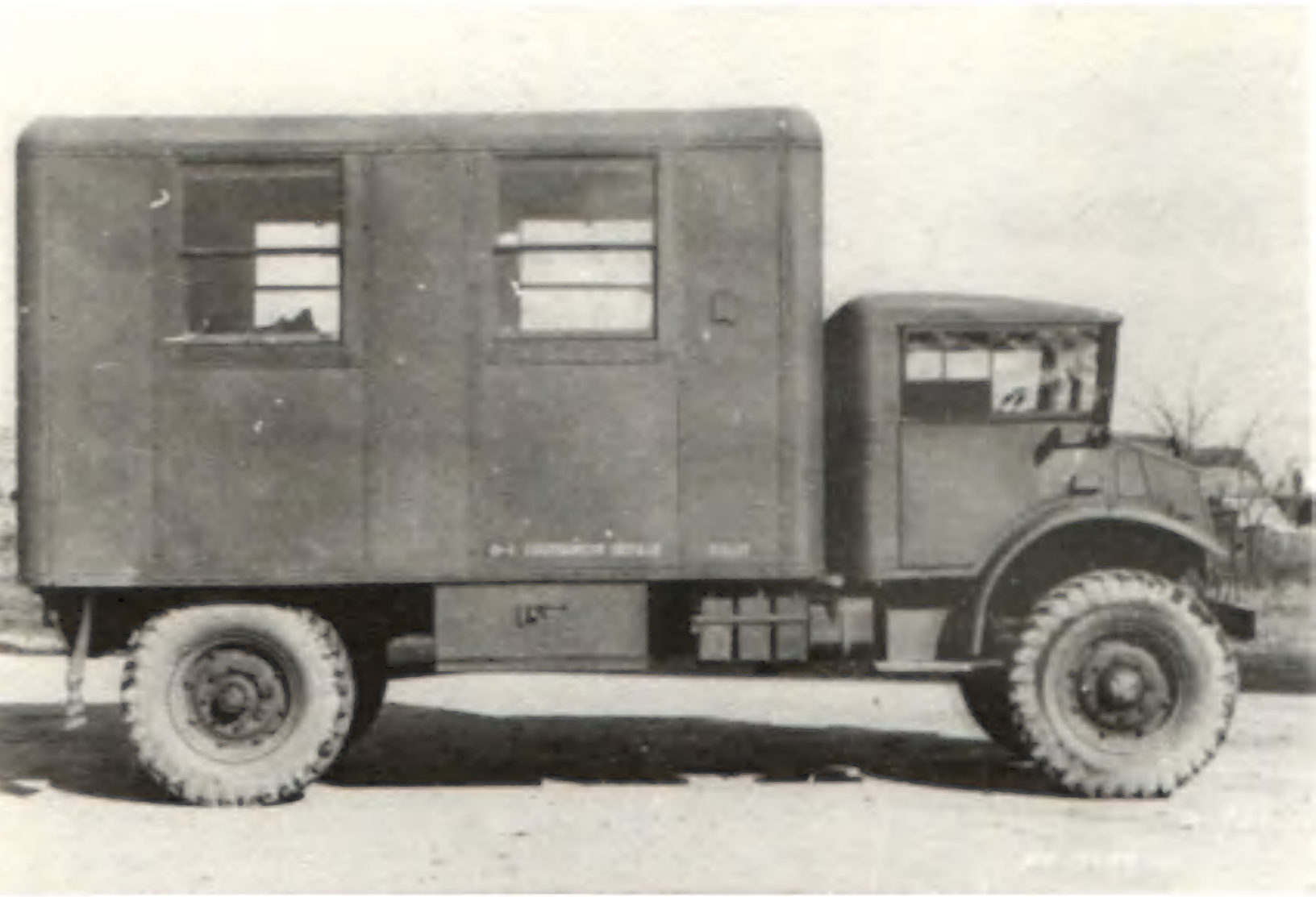
The body and equipment is designed for mounting on a General Motors, C.M.P. 3-ton 4 x 4, 158" wheelbase chassis, with 10.50 x 20 tires.

Body

Lindsay, all steel, 12' house type body with double entrance doors at the rear. Two vehicle tool boxes and two jerrican carriers are supplied. The inside of the body is fitted with metal workbenches, cabinets, a spare tire carrier, window blackout curtains, fire extinguishers and rifle clips. A 110-volt lighting system with blackout and white lights, and controlled by an automatic door switch, is supplied.

Main Items of Equipment

1. Main Distribution Panel, 3 K.W..
2. Lathe, precision, bench type, 9" swing 20" centres, with 1/2 H.P. Motor.
3. Lathe, watchmaker's, 4" swing, 10" to 12" bed, with 1/10 H.P. motor.
4. Drill Press, bench type, sensitive, 3/8" capacity, with 1/2 H.P. motor.
5. Bench Grinder, 8", 1/2 H.P.
6. Drill, portable, 5/16" with stand.
7. Interconnecting cable, hand lamps.
8. Lathe tools, sets of drills, vises and miscellaneous hand tools.
9. Spare parts kits for all technical equipment.



Function

The function of this vehicle is to provide facilities for general repair of automotive electrical equipment and machinery lorry electrical equipment in the field.

Dimensions

Overall vehicle length	.....	240"
" " width	.....	90-1/2"
" " height	.....	127"
Inside body length	.....	165"
" " width	.....	87"
" " headroom	.....	75"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6030	12325	18145
Payload (personnel)	295	175	480
Gross	6325	12500	18625
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification.....O.A. 168
A.E.D.B. Drawing Schedule ... 1082353
Munitions & Supply File 73-L-30
Vehicle Code No. 60660-M-MACH-F-1
Body Code 8L12
Chassis Model 60660-M
Pilot Model Approval 143F
Ordnance Proving Ground Report ..... DVA 6 Project 236-Q
Chassis Maintenance Manual .. M660-C1
Maintenance Manual & Spare Parts List for body & technical equipment ..... WW 3856
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corporation.

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P. 3-ton, 6x6, 160-1/2" wheelbase chassis with 10.50 x 20 tires.

Body

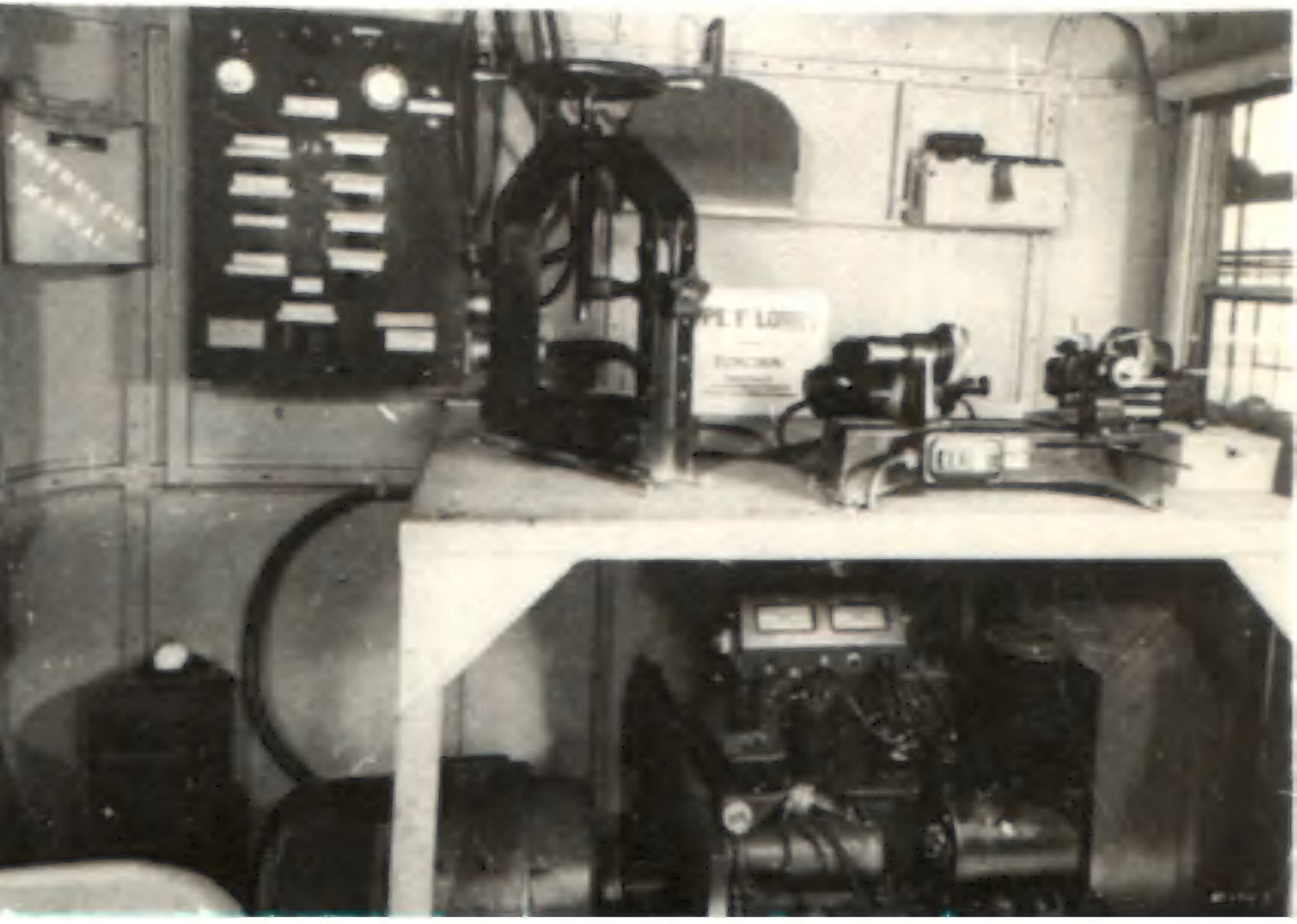
Lindsay, all steel, 14' body with ventilator doors for the generator set, 4 lift-type windows and double entrance doors at the rear. The inside of the body is fitted with a steel generator housing, workbenches, spare tire carrier, a 110-volt overhead lighting system, blackout blinds, rifle clips, etc..

Main Items of Equipment

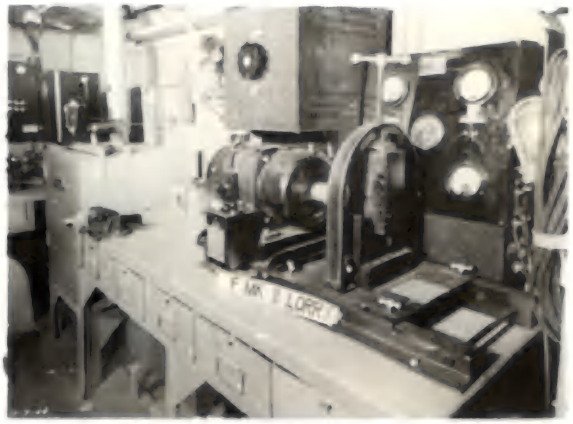
1. Generator, D.C., 7-1/2 K.W. 115-volt driven by a Willys, 4-cylinder, gasoline engine.
2. Power Panel, 7-1/2 K.W.
3. Battery Charging Switchboard.
4. Universal Electric Servicer.
5. Commutator Lathe and Undercutter.
6. Generator and general purpose press.
7. Drying oven, electric, 110-volt, complete with thermostatic control.
8. Drill Press, bench type, 1/2" capacity, complete with 1/2 H.P. motor.
9. Bench Grinder, 7".
10. Magnetizer, growlers, interrupter, coil, condenser and circuit tester, volt-amp. tester, insulation tester and battery service kit.
11. Interconnecting cable, hand lamps, two 6-volt batteries, vises, sets of drills, screw-cutting tools, soldering irons, etc..
12. Spare parts kits for all technical equipment.

Note:- This model superseded by F.MK. II - see following page.

An arcticized version of this vehicle is described on page 88.



MACHINERY LORRY TYPE "F MK. II"



Function

The function of this vehicle is to provide facilities for maintaining, testing and repairing automotive electrical equipment in the field.

Dimensions

Overall vehicle length..... 228"
" " width ..... 89-1/2"
" " height ..... 121"

Overall body length ..... 144"
" " width ..... 89-1/2"
" " height ..... 87"

Inside body length ..... 142"
" " width ..... 87"
" " headroom ..... 75-1/2"

Clearance (at Hand Brake Drum):
Ramp at gross weight..... 7-3/4"
Minimum at gross weight ..... 16-1/2"

Angle of Approach 60° Limiting Point ..Front Bumper
Angle of Departure 48° Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6160	8435	14590
Pay load (personnel).	340	145	480
Gross	6500	8580	15070
Maximum gross rating	6500	10700	16000

References

A.E.D.B. Specification No....O.A. 168-2
A.E.D.B. Drawing Schedule ... 1100751
Munitions & Supply File No... 73-L-44
Vehicle Code No....F60L-MACH-F-1-MK. II
Body Code No. 5J11
Pilot Model Approval P248
Ordnance Proving Ground Report ..... DVA 6 Project 2364-1
Chassis Maintenance Manual .. MM-F1
Maintenance Manual & Spare Parts List for body & equip't.... WM3856
Sources:- Chassis by Ford Motor, Body assembled and equipment installed by Chrysler Corporation.

Chassis

The body and equipment is designed for mounting on a Ford, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

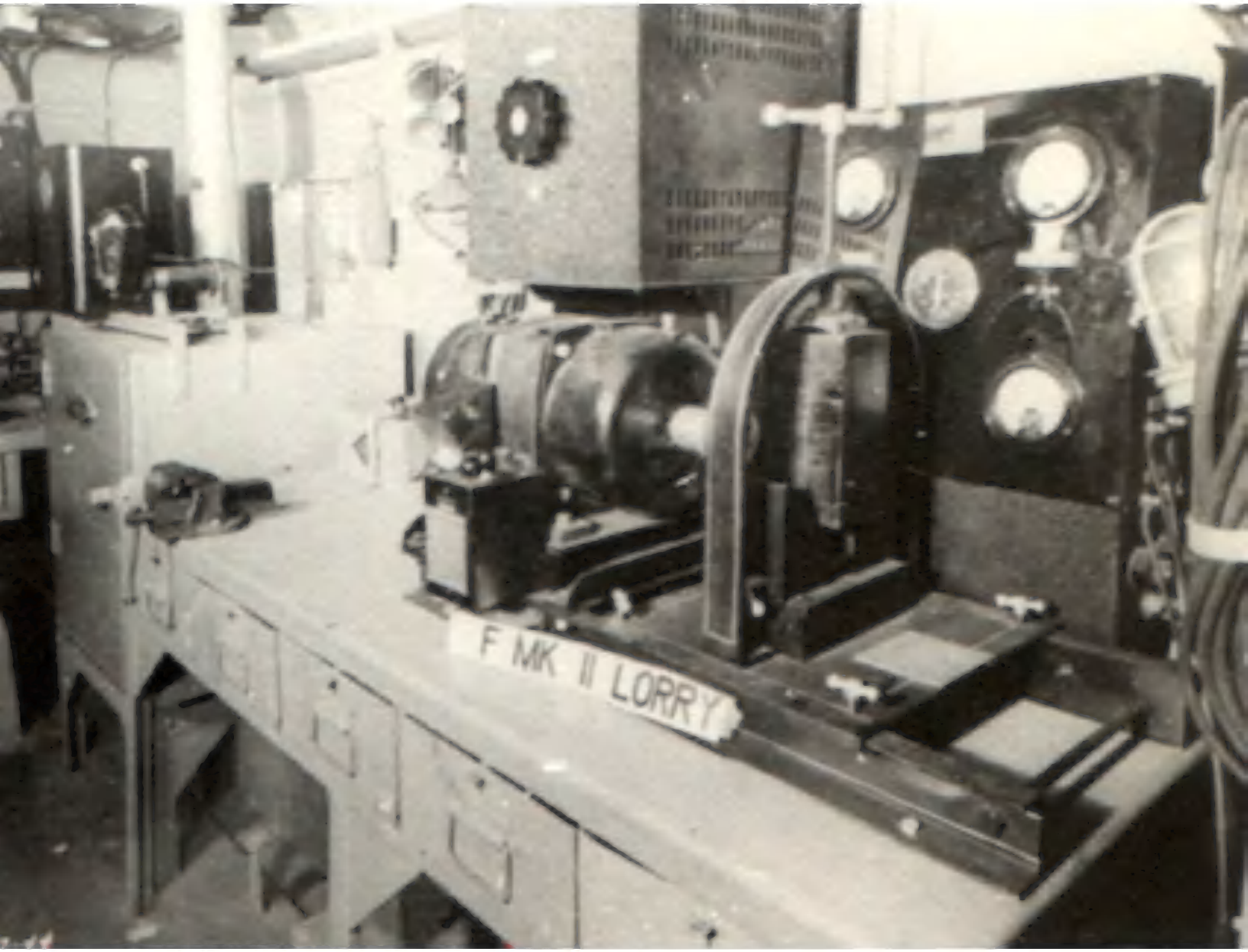
Body

Lindsay, all steel, 12' house type body with one dropside workbench on the left side, and double entrance doors at the rear. A vehicle tool box, and Jerrican carriers, are mounted under the body. The inside is fitted with cabinets, workbenches, spare tire carrier, blackout shields for the windows and a 110-volt D.C. overhead lighting system.

Main Items of Equipment

1. Generator, 7-1/2 K.W., 115-volt D.C., V-belt driven from the chassis Power Take-off.
2. Power Panel, 7-1/2 K.W.
3. Resistance Battery Charging Panel.
4. Hand Lamps, battery jumper cables, etc..
5. Generator Test Stand, 110-volt.
6. Press, generator, starter and general purpose.
7. Lathe, commutator and undercutter.
8. Drill press, bench type, 5/8" capacity in cast iron.
9. Bench Grinder, 7".
10. Oven, drying, 2.1 K.W. 110-volt with thermostatic control.
11. Magnetizer, growlers, interrupter, coil, condenser and circuit tester, and other automotive test equipment.
12. Sets of drills, accessories for lathe, press, etc..
13. Taps and dies, soldering irons, expendable stores, etc..
14. Spare parts kits for technical equipment.

Note:- This model supersedes Type "F" described on previous page.


F MK II LORRY

MACHINERY LORRY TYPE "H"

Function

The function of this vehicle is to provide facilities for heavy turning and screw cutting in the field.

Note:- Electrical power to operate the technical equipment must be obtained from outside source of 110-volt direct current.

Dimensions

Overall vehicle length	326-1/2"
" " width	100-1/2"
" " height	130-3/4"
Outside body length	182"
" " width	100-1/2"
" " height	88"
Inside body length	178-1/4"
" " width	89-3/4"
" " headroom	77-1/2"
Clearance (Running Board Hanger):	
Ramp at gross weight	3/4"
Minimum at gross weight	16-3/4"
Angle of Approach 40°	Limiting Point ..Front Bumper
Angle of Departure 40°	Limiting Point ...Rear Bumper

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	8505	18920	27335
Payload (personnel)	145	245	27485
Gross	8650	19165	27820
Maximum Gross Rating	8135	18265	26400

References

A.E.D.B. Specification.....	O.A. 169
A.E.D.B. Drawing Schedule....	1082354
Munitions & Supply File	73-L-27
Vehicle Code No.	80661-C-MACH-H-1
Body Code No.	8C1
Chassis Model	80661-C
Pilot Model Approval	122F
Ordnance Proving Ground Report	DVA 6 Project 236H
Chassis Maintenance Manual...	C661-DT 1
Maintenance Manual & Spare Parts List for body & tech. equip't.	WM 3857
Sources:-	Chassis by Diamond T. Corp., body by S.B.M.A., equipment installed by Chrysler Corp..

Chassis

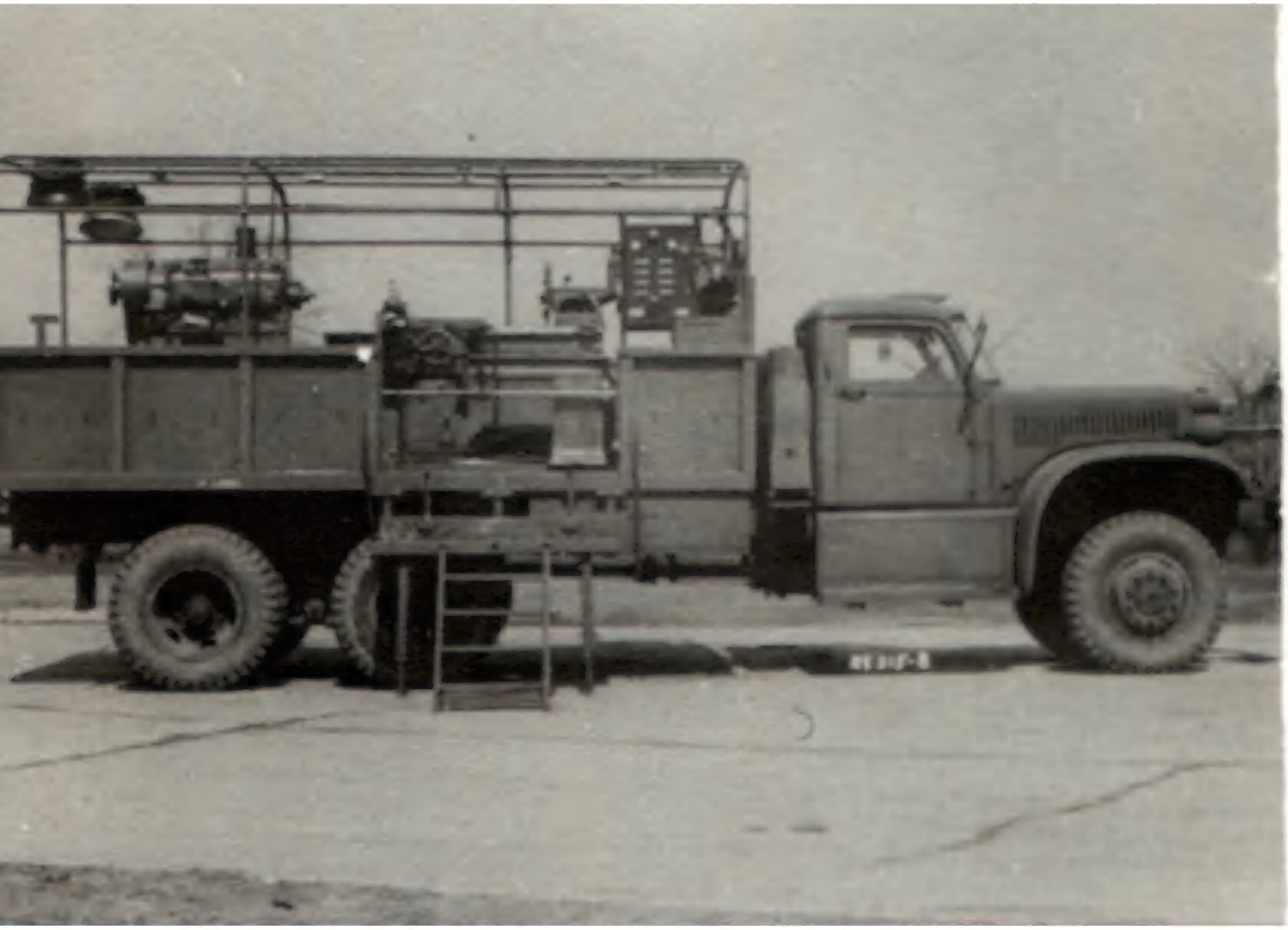
The body and equipment is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" wheelbase chassis, with 9.00 x 20 tires.

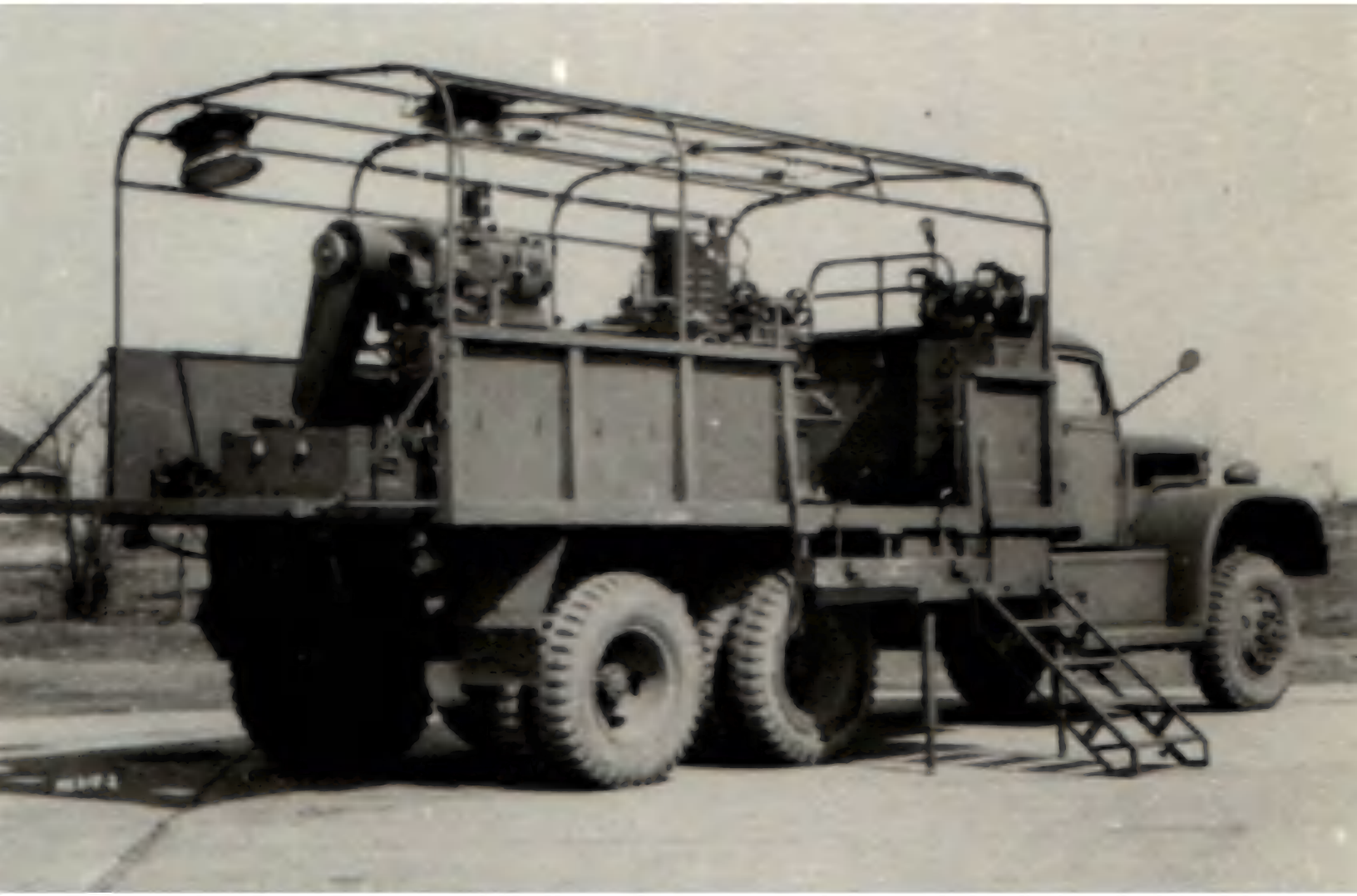
Body

G.S. type, 15'3", all steel body, Code 8C1, with dropside workbenches, a tubular superstructure and tarpaulin. Penthouses, vehicle tool boxes and P.O.W. carriers are supplied. The inside of the body is fitted with cabinets, rifle clips, etc., and a 110-volt D.C. lighting system overhead.

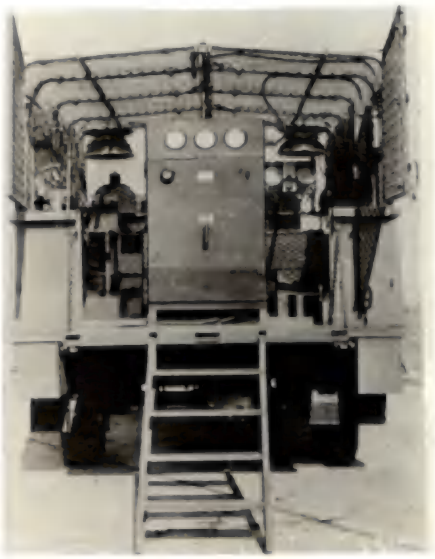
Main Items of Equipment

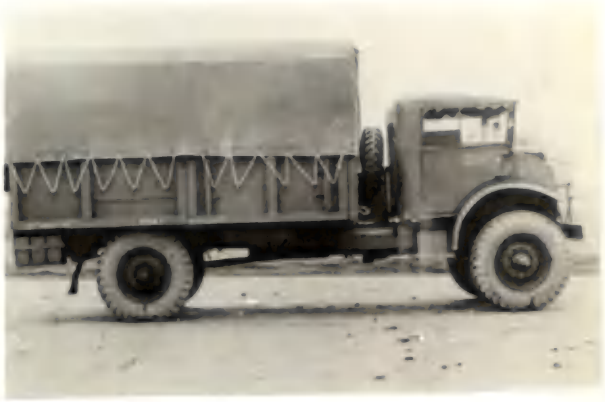
1. Main Distribution Panel, 7-1/2 volt.
2. Lathe, pedestal type, 18"/32" gap bed, 4'11" centres.
3. Bench Grinder, 8".
4. Hand Lamps and Interconnecting Cable.
5. Lathe tools, vises, etc..
6. Spare parts kits.

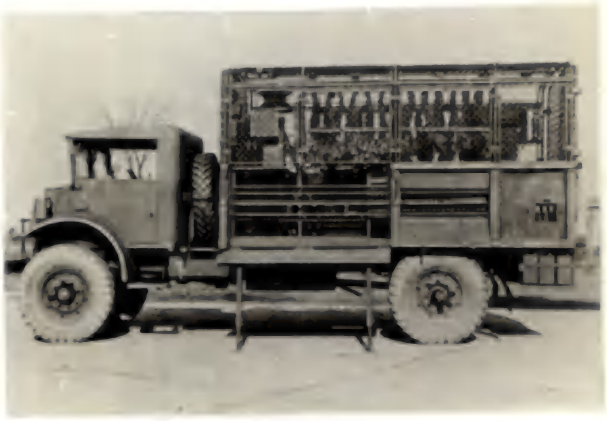




MACHINERY LORRY TYPE "I" AND "OFP BATTERY CHARGER"







Function

The function of this vehicle is to provide facilities for charging 6-volt and 12-volt storage batteries by the constant potential and modified constant potential methods.

Dimensions

Overall vehicle length .....243-1/2"
" " width ..... 93-3/4"
" " height .....115-3/4"

Inside body length .....144"
" " width ..... 86"
" " headroom (at centre line).... 75"

Angle of Departure 27°
Limiting Point...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel).	5680	10320	16010
Payload (personnel)	295	175	480
Gross	5975	10495	16490
Maximum Gross Rating	5400	10700	16000

References

A.E.D.B. Specification..... O.A. 163
A.E.D.B. Drawing Schedule... 1055002
Munitions & Supply File...73-L-14-15
Chassis Model No. 60448-M
Body Code No. 5F7
Vehicle Code No.....60448-M-MACH-I-1
Pilot Model Approval No..... 71
Ordnance Proving Ground Report ..... DVA 6 Project 236-0
Chassis Maintenance Manual .. MB-C2
Combined Maintenance Manual & Spare Parts List for body & technical equipment WM-3842
Sources:- Chassis by General Motors, body by S.E.M.A., equipment installed by Chrysler Corp..

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

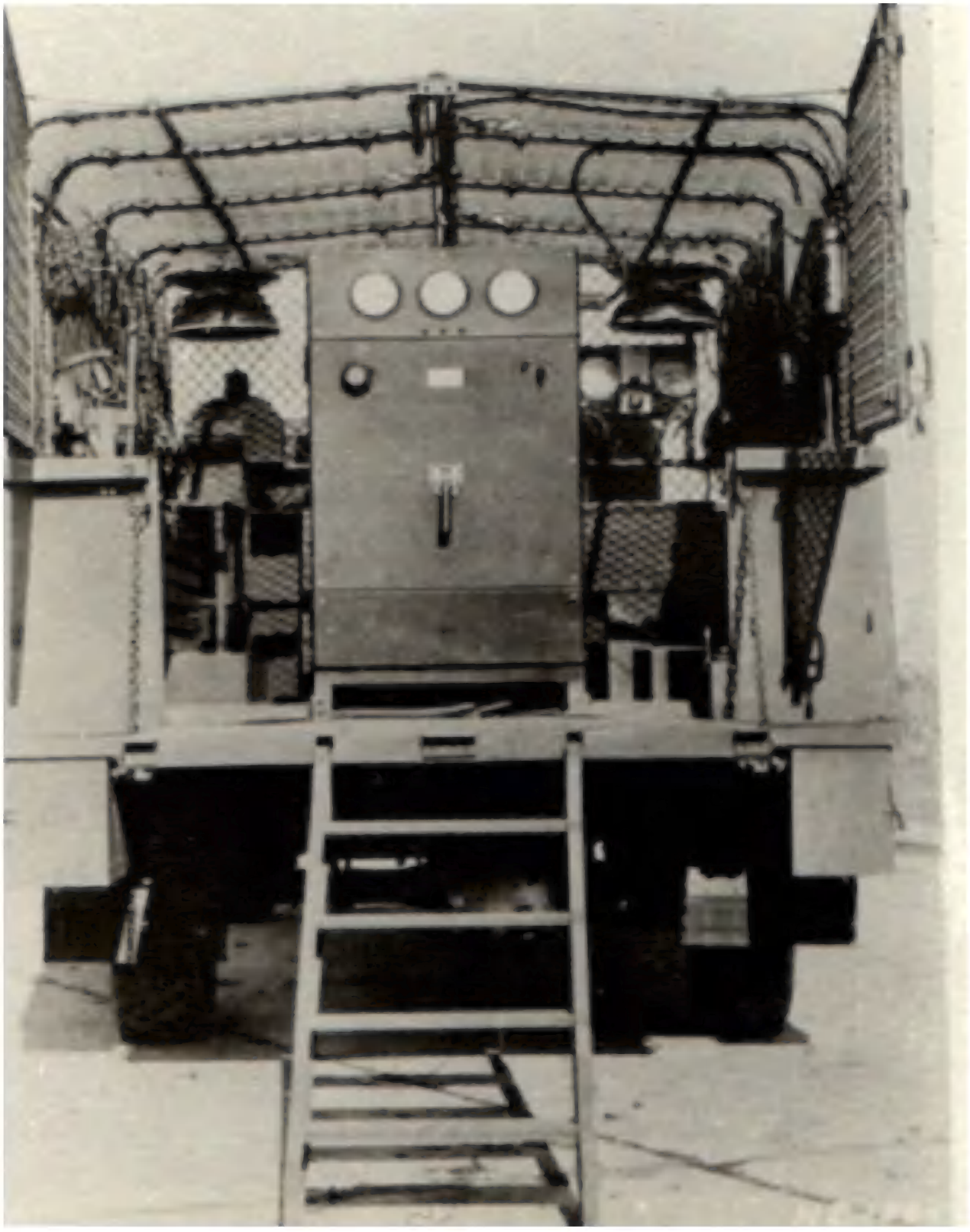
Body

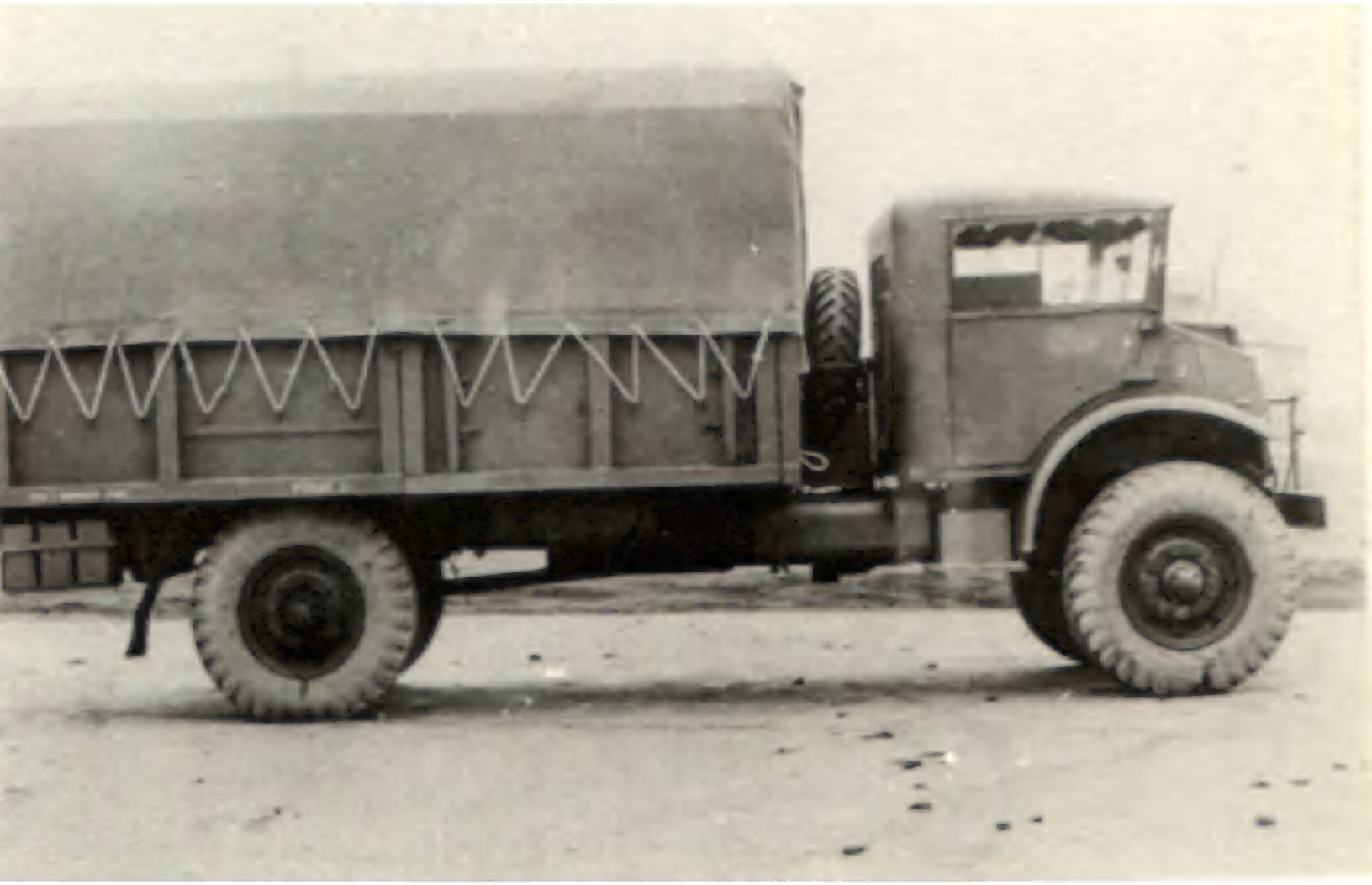
G.S. type, 12', all steel body, Code 5F7, with dropside workbenches covered with sheet lead (or Dektred). A tubular steel superstructure with wire mesh screening, tarpaulin, tool box and P.O.W. carriers is supplied. A steel cabinet, a rack for batteries and a steel container for mixing electrolyte are also provided. A 12-volt lighting system is suspended from the superstructure. Rifle clips and fire extinguishers are also fitted.

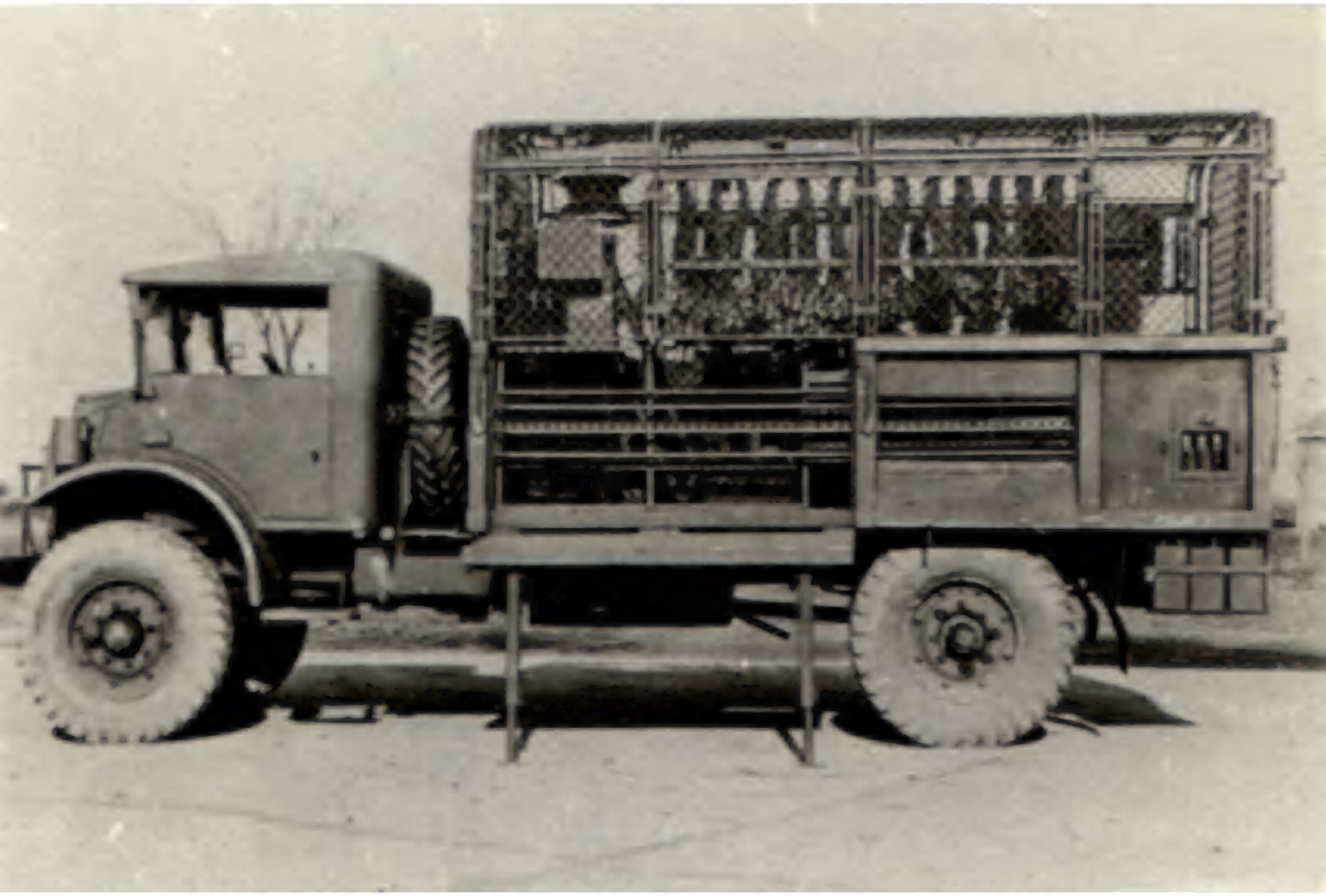
Main Items of Equipment

1. 7-1/2 K.W. 7-1/2/15 volt, 1000/500 amp. D.C. generator driven by a Willys 4-cylinder gasoline engine.
2. Control Cubicle for 7-1/2 K.W.generator.
3. Lighting Distribution Panel, 15-volt.
4. Terminal Box for Interconnection.
5. Bus Bars, cables and connectors.
6. Battery Charger Leads and Fixed Resistance Charging Units.
7. Sulphuric acid, and distilled water containers, cell testers, battery service kit, stand-by lighting batteries, thermometers, rubber aprons, etc..
8. Spare parts kits for all technical equipment.

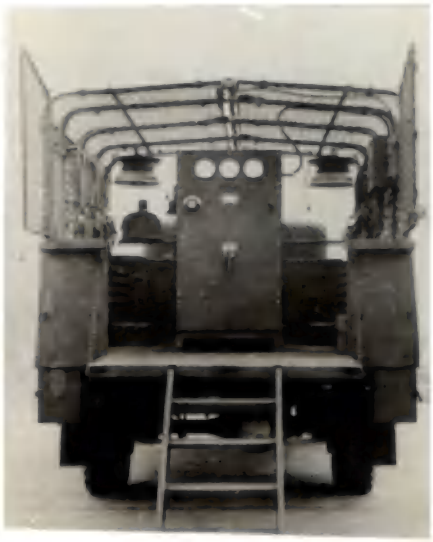
Note:- An arcticized version of this type, built for the U.S.S.R., is described on page 89

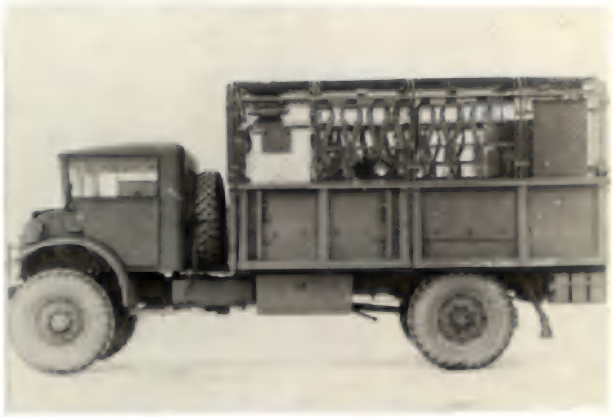






MACHINERY LORRY TYPE "I-30"





Function

The function of this vehicle is to provide facilities for charging approximately fifty 12-volt and twenty-five 24-volt batteries at one time in the field.

Dimensions

Overall vehicle length	243-1/2"
" " width	93-3/4"
" " height	115-3/4"
Inside body length	144"
" " width	86"
" " headroom (at centre line).....	75"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)...	6875	9340	14215
Pay load (personnel).	295	175	480
Gross	5170	9515	14695
Maximum Gross Rating	5400	10700	16000

References

A.E.D.B. Specification .....O.A. 170
A.E.D.B. Drawing Schedule..... 1080942
Munitions & Supply File No. ... 73-L-31
Chassis Model No. 60448-M
Body Code No. 5F8
Vehicle Code No. ...60448M-MACH-I-30-1
Pilot Model Approval 100F
Ordnance Proving Ground Report .....DVA 6 Project 236
Chassis Maintenance Manual MB-C2
Maintenance Manual & Spare Parts List for body & tech. eq'pt.. WM 3843
Sources:- Chassis by General Motors, body by S.B.M.A., equipment installed by Chrysler Corp..

Chassis

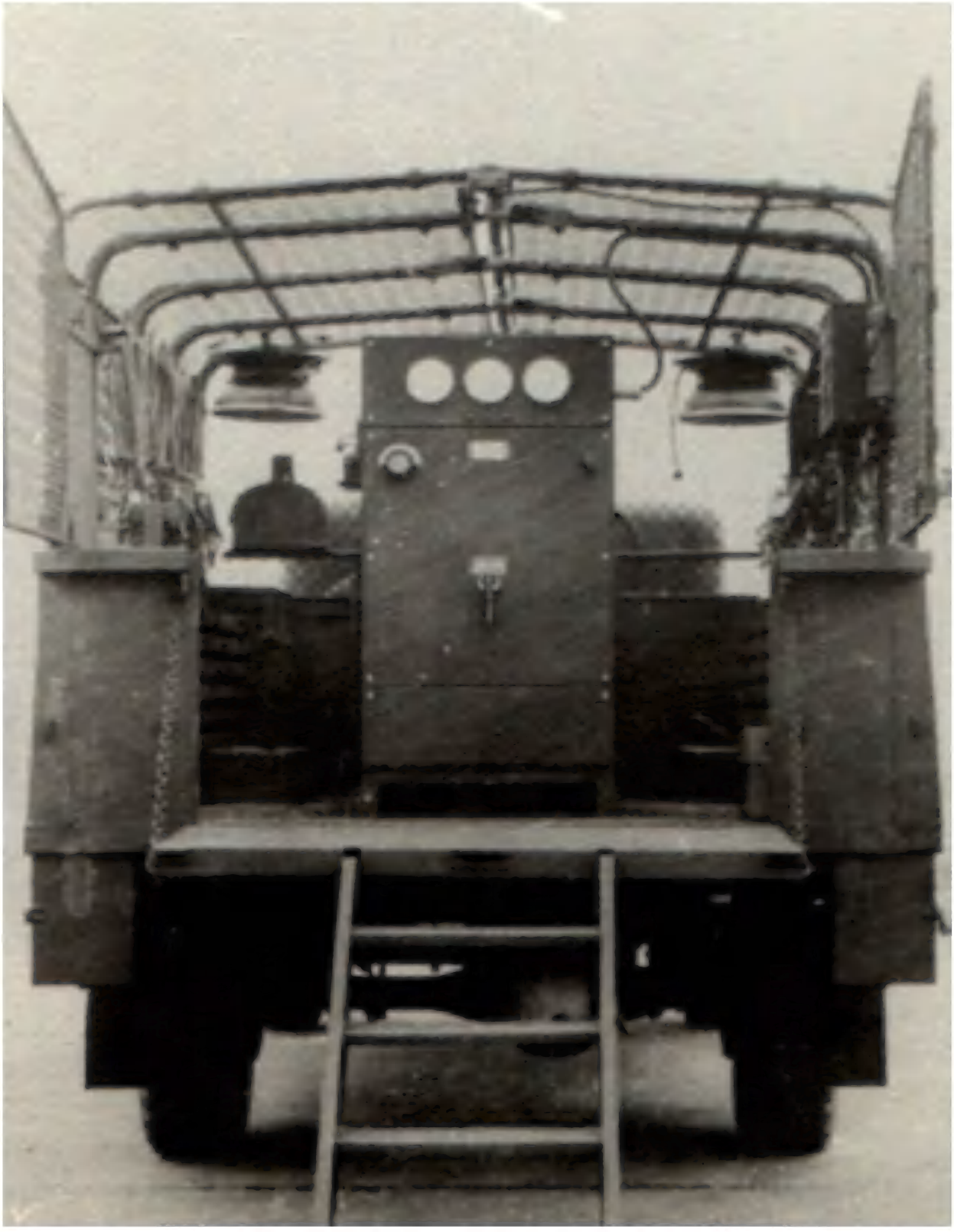
The body and equipment is designed for mounting on a General Motors, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis, with 10.50 x 20 tires.

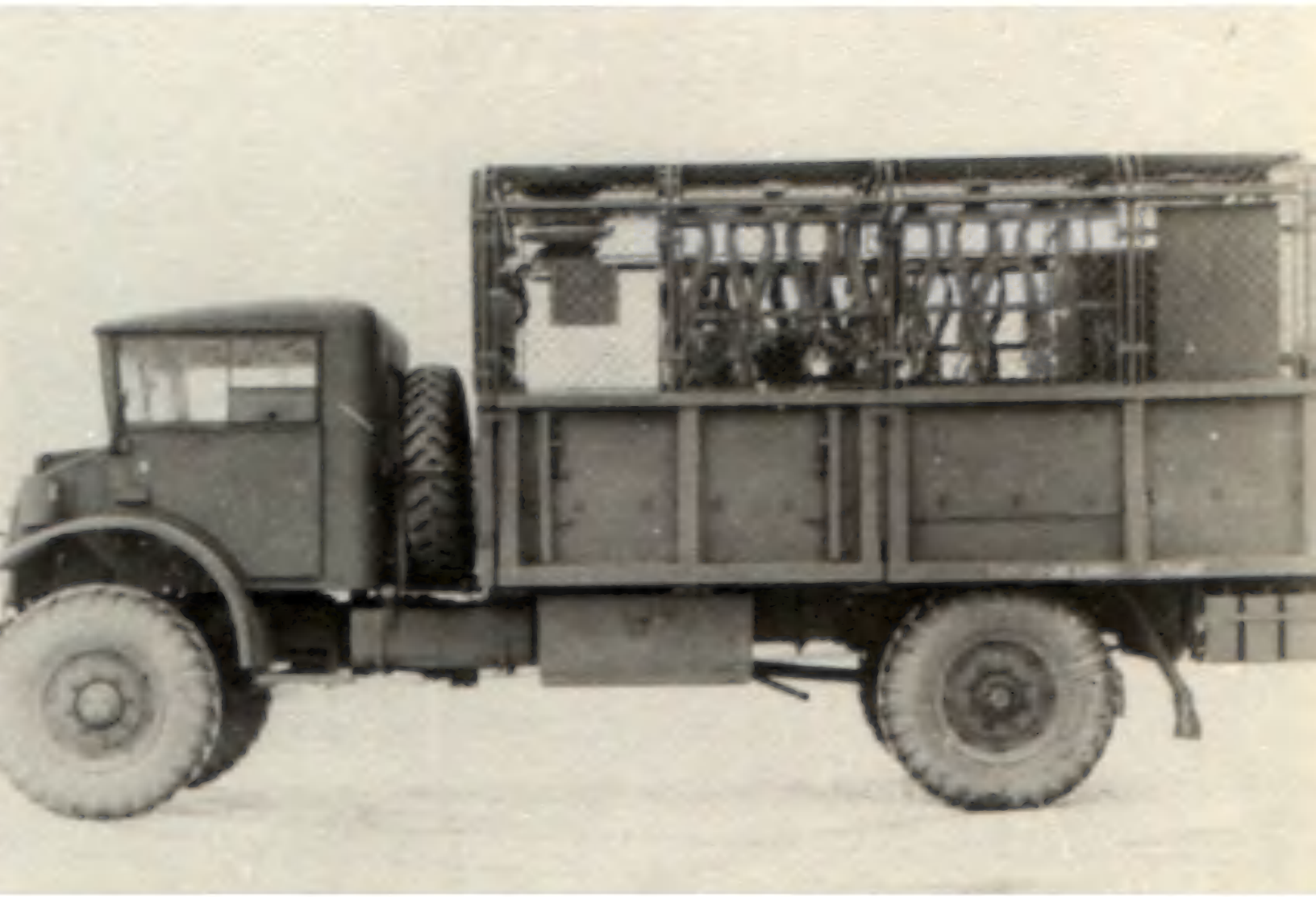
Body

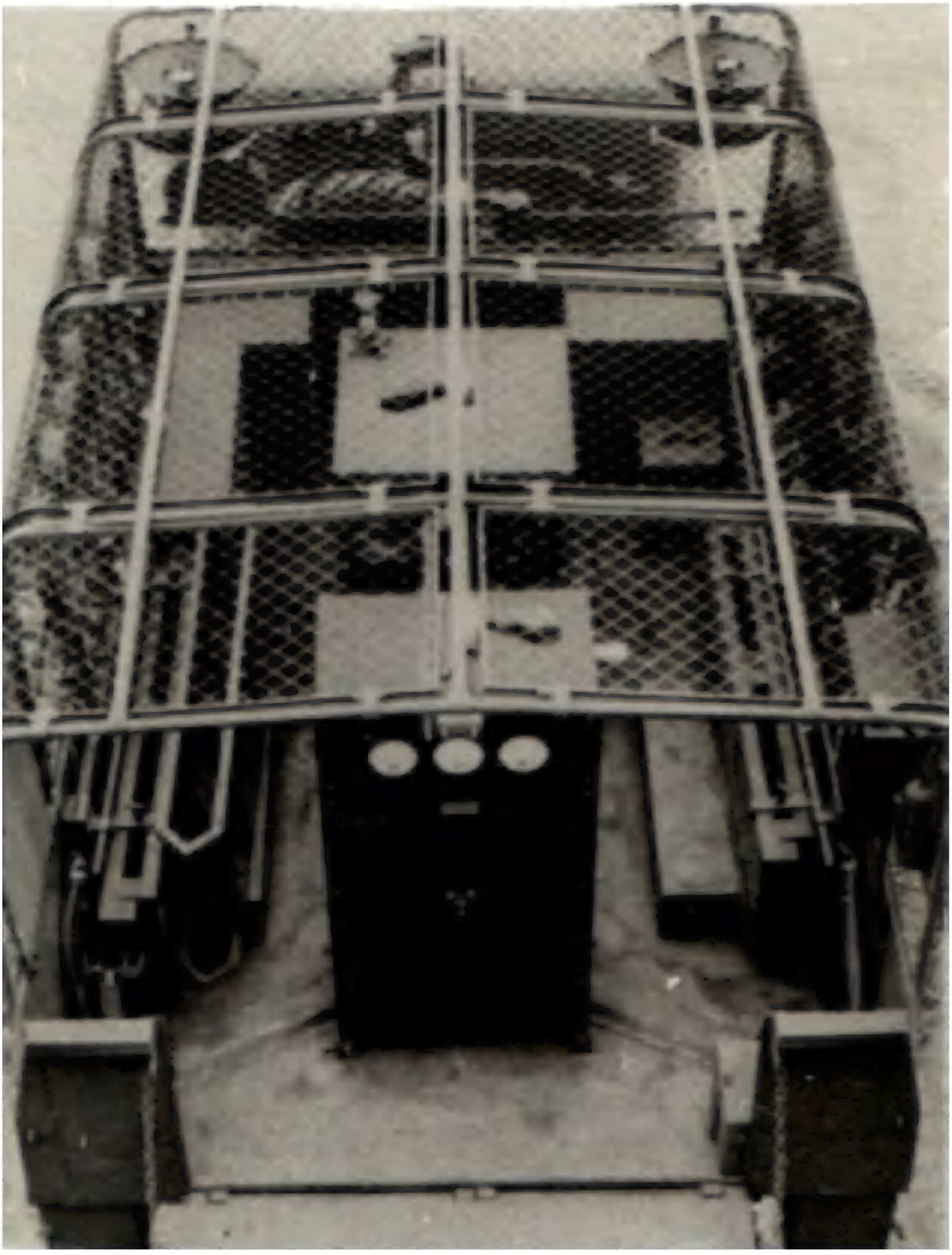
G.S. type, 12', all steel body, Code 5F8, with dropside workbenches covered with sheet lead (or Dektred). A tubular steel superstructure with wire mesh screening, tarpaulin, vehicle tool box, jerrican carrier, and two canvas penthouses are supplied. The interior is fitted with a steel cabinet, a steel workbench over the generating set, a steel container for mixing electrolyte, rifle clips, and a 12-volt overhead lighting system.

Main Items of Equipment

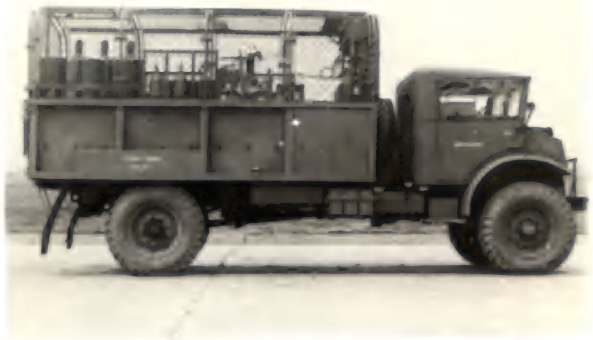
1. 7-1/2 K.W. 15/30 volt, 500/250 amperes, D.C. generator driven by a Willy's, 4 cylinder gasoline engine.
2. Control cubicle, for 7-1/2 K.W. generator.
3. Lighting Distribution Panel, 15-volt D.C..
4. Bus bars, cables and connectors.
5. Battery Charging Leads and Fixed resistance charging units.
6. Sulphuric Acid and distilled water containers, portable ammeter, cell testers, battery service kit, stand-by batteries for lighting, and rubber aprons.
7. Spare parts kits for all technical equipment.







MACHINERY LORRY TYPE "J"



Function

The function of this vehicle is to provide facilities for charging steel reservoirs with dry compressed air at a pressure of 1800 lbs. per square inch, these reservoirs to be used for re-charging recuperators on artillery equipment.

Dimensions

Overall vehicle length .....241-1/4"
" " width ..... 90"
" " height .....116-1/4"

Inside body length .....143-3/4"
" " width ..... 80"
" " headroom (centre line)..... 70"

Clearance (at Hand Brake Drum):
Ramp at gross weight ..... 11-1/4"
Minimum at gross weight .... 20-1/4"

Angle of Approach 62° Limiting Point ....Towing Eye
Angle of Departure 28° Limiting Point .Rear Mudguard

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	5730	9410	15145
Payload (Personnel)	395	100	500
Gross	6125	9510	15645
Maximum Gross Rating	5400	10700	16000

References

A.E.D.B. Specification..... O.A. 171
A.E.D.B. Drawing Schedule.... 1077612
Munitions & Supply File 73-L-17
Chassis Model No. 60448-M
Body Code No. 5F6
Vehicle Code No.....60448-M-MACH-J-1
Pilot Model Approval F-85
Ordnance Proving Ground Report .....DVA 6 Project 236
Chassis Maintenance Manual .. MB-C2
Maintenance Manual & Spare Parts List for body & tech.eq'pt. WM 3815
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corp..

Chassis

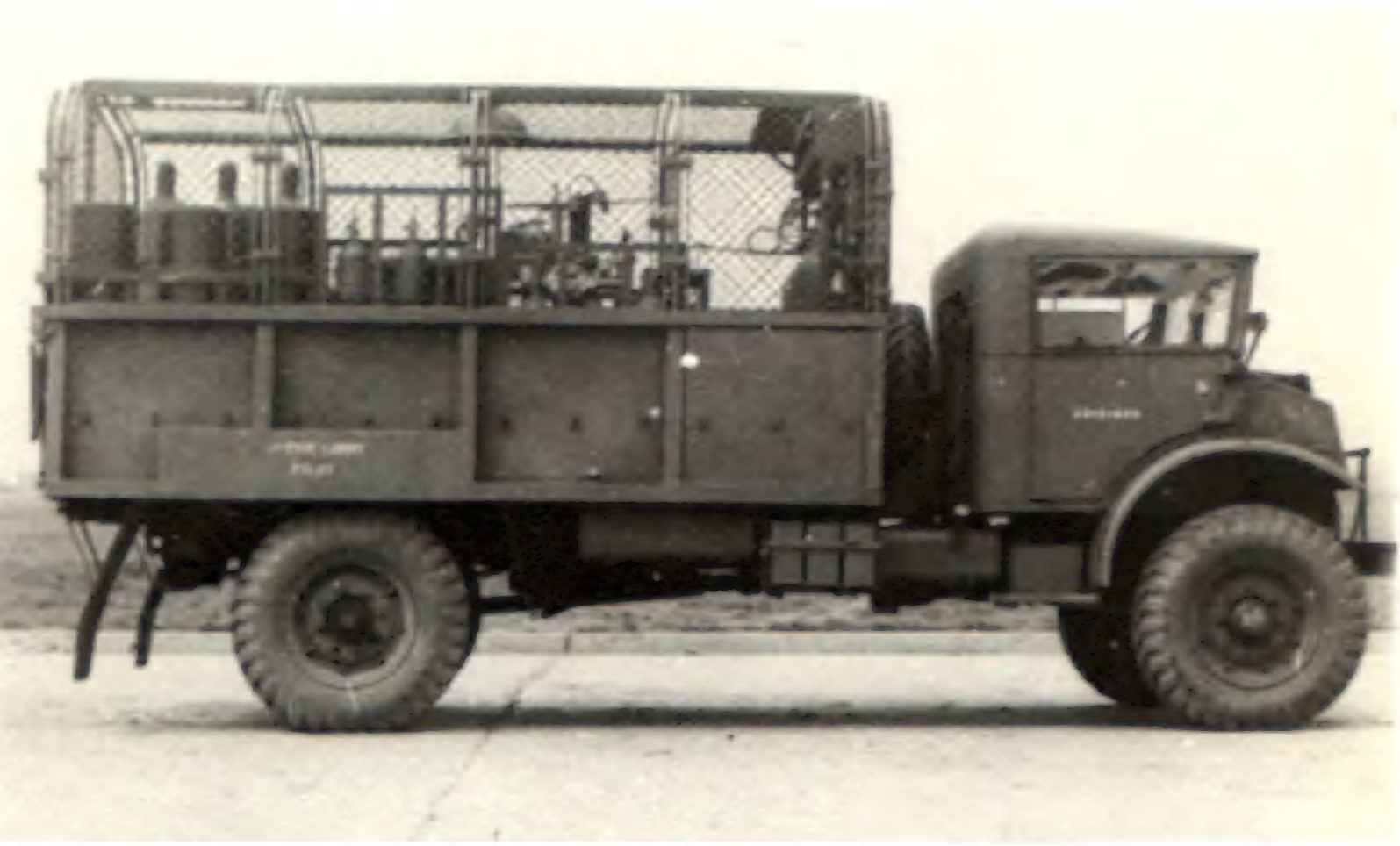
The body and equipment are designed for mounting on a General Motors, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

Body

S.S. type, 12' all steel body, Code 5F6, with a drop panel on each side. A tubular steel superstructure with wire mesh screening, tarpaulin, penthouses, vehicle tool box and jerrican carriers are supplied. The inside is fitted with racks for stowage of compressed air and acetylene cylinders, spare parts box, a 6-volt overhead cargo lamp, fire extinguisher and rifle clips.

Main Items of Equipment

1. Air Compressor, Ingersoll Rand Model 303, 3-stage, delivery of 10.5 C.F.M. at 600 r.p.m. opersting pressure 3500 lbs./sq. in., V-belt driven by a 4-cylinder gasoline engine.
2. Aftercooler and purge.
3. Piping Harness complete with manifold, valves, gauges, etc..
4. Hand Lamps, thermometers, wrenches.
5. Spare parts kits for all technical equipment.



MACHINERY LORRY TYPE "KL"

Function

The function of this vehicle is to provide facilities for electric welding in the field.

Dimensions

Overall vehicle length	167-1/4"
" " width	86-1/4"
" " height	91-1/2"
Overall platform length	86"
" " width	86-1/4"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)	3935	6145	10070
Payload (personnel)	295	195	480
Gross	4230	6340	10550
Maximum Gross Rating	5000	5800	10000

References

A.E.D.B. Specification..... O.A. 87
Munitions & Supply File..... 73-L-10
Vehicle Code No.(F orC) 15A-MACH- KL-1
Chassis Model No. ..... (F)15A
Pilot Model Approval F4
Chassis Maintenance Manual-Ford MB-F1
Maintenance Manual & Spare Parts List for equipment SE-167A
Sources:- Ford Motor Company.

Chassis

The platform and equipment is designed for mounting on a Ford, C.M.P., 15-cwt., 4 x 4, 101" wheelbase chassis, with 9.00 x 16 tires.

Platform

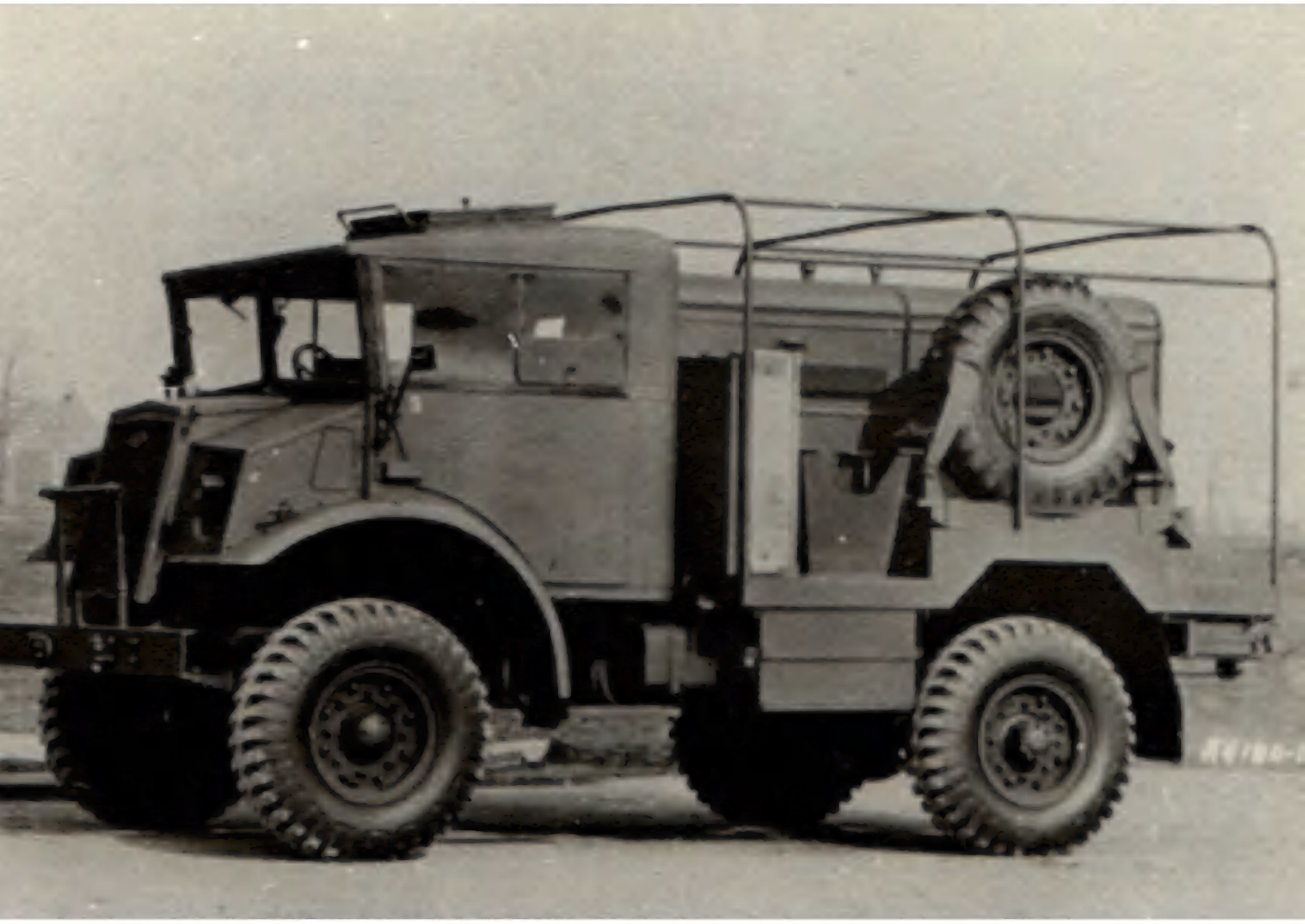
The platform is constructed of structural channel with non-skid floor-plate, and is complete with superstructure and tarpaulin. Carriers for 2 jerricans and two one-gallon oil cans, and two vehicle tool boxes are mounted under the platform.

Main Items of Equipment

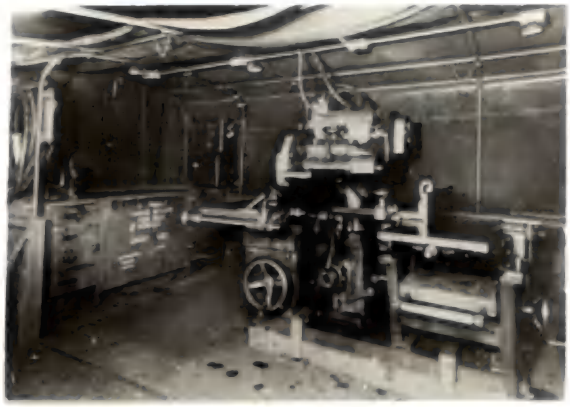
1. Electric Arc-Welder, Lincoln, 300 amp., directly connected to a Ford V-8, 95 H.P. engine, complete with metal housing.
2. Welding accessories, folding table and screen.
3. Portable Grinder, 5".
4. Swivel base vise, 5".
5. Spare parts kits.

Note:- An arcticized version of this vehicle was built for the U.S.S.R. - the chassis arcticized in accordance with A.E.D.B. specification O.A. 111, and the generator engine in accordance with O.A. 87-3.

Type KL lorry superseded Electric Welding outfits mounted on 2-wheel, 15-cwt. Trailers, seven of which were produced. One was a 200-amp. Lincoln, one a 300 amp. Hobart and three were 300 amp. Lincoln.



MACHINERY LORRY TYPE "L"



Function

The function of this vehicle is to provide facilities for general woodworking in the field.

Note:- Electric power to operate the equipment must be obtained from an outside source of 110-volt direct current.

Dimensions

Overall vehicle length..... 250"
" " width ..... 92"
" " height ..... 131-3/4"

Inside body length ..... 163"
" " width ..... 80"
" " headroom ..... 74-1/2"

Clearance (at Hand Brake Drum):
Ramp at gross weight ..... 13-1/4"
Minimum at gross weight .... 19-1/4"

Angle of Approach 67° Limiting Point ....Towing Eye
Angle of Departure 45° Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6430	14010	20425
Payload (personnel)	295	175	480
Gross	6725	14185	20905
Maximum Gross Rating	7000	14000	20000

(Above gross reduced by approx. 500 lbs. on production units by use of lighter gauge floor plate).

References

A.E.D.B. Specification..... O.A. 172
A.E.D.B. Drawing Schedule.... 1100176
Munitions & Supply File No... 73-L-32
Chassis Model No. 60660-M
Body Code No. 8E1
Vehicle Code No.....60660-M-MACH-L-1
Pilot Model Approval No..... 183F
Ordnance Proving Ground Report ..... DVA 6 Project 236 P
Chassis Maintenance Manual.... M660-C1
Maintenance Manual & Spare Parts List for body & tech. eq'pt. WM 3858
Sources:- Chassis by General Motors, Body by S.B.M.A., equipment installed by Chrysler Corp..

Chassis

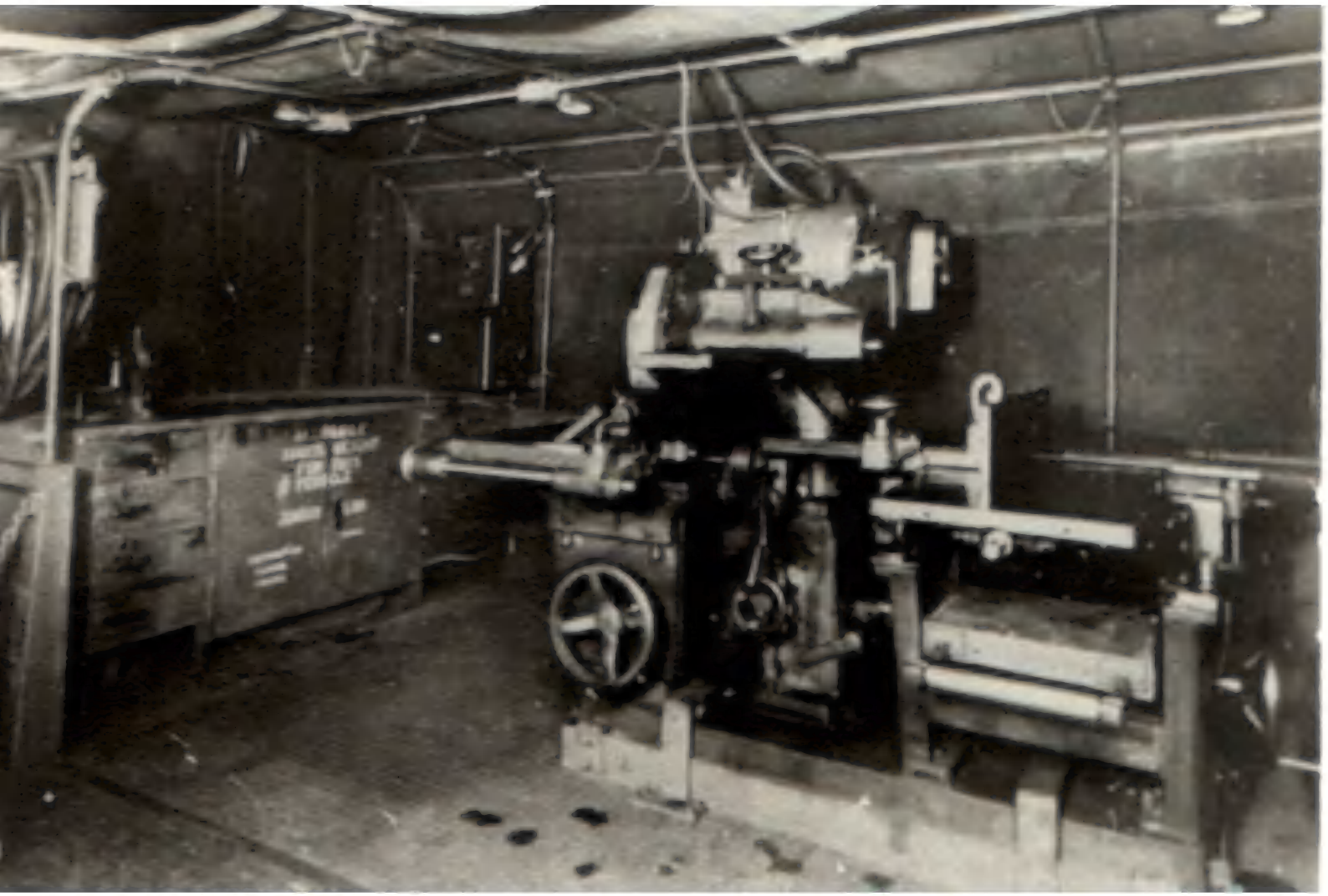
The body and equipment are designed for mounting on a General Motors, C.M.P.,3-ton, 6 x 6, 160" wheelbase chassis, with 10.50 x 20 tires.

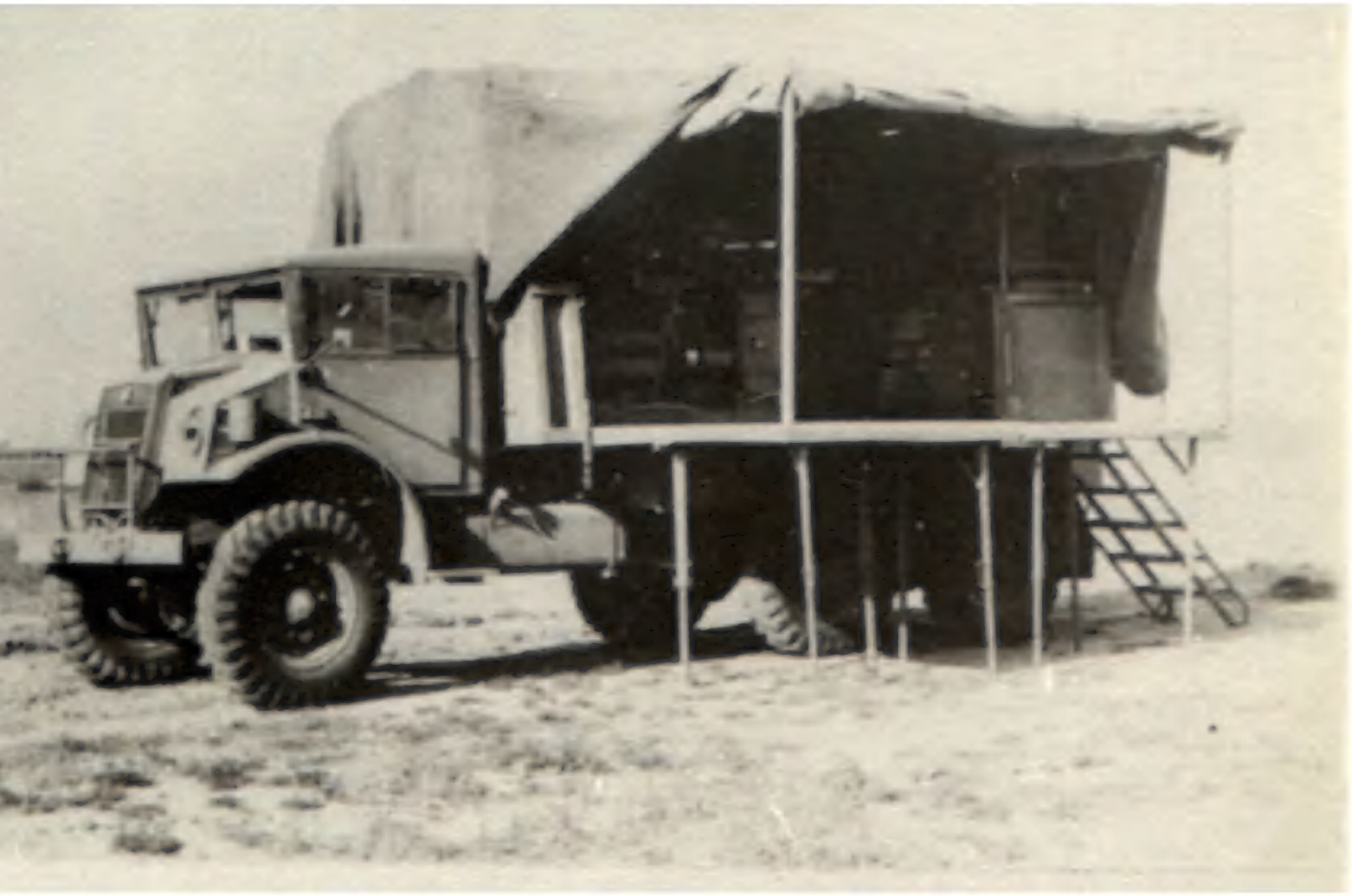
Body

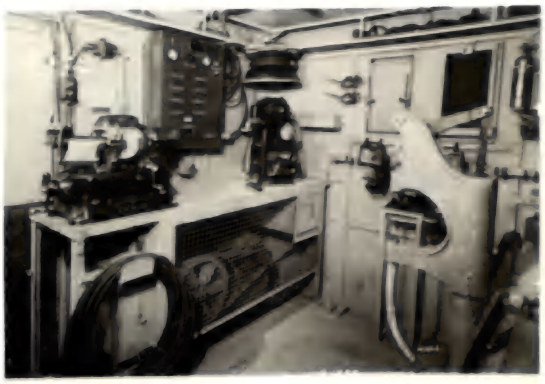
G.S. type, 14', all steel, Code 8E1, with two dropside panels on each side which form a working platform. A tubular steel superstructure, tarpaulin, penthouses, vehicle tool boxes and P.O.W. carriers are supplied. The interior is fitted with a spare tire carrier, workbench, rifle clips and a 110-volt overhead lighting system.

Main Items of Equipment

1. Distribution Panel, 9 K.W..
2. Woodworker Machine with surfacer and thicknesser 16" x 9", arranged to rip, cross cut, plane, rabbet, chamfer,mould, thickness, tenon, groove, bore, grind planer knives and set saws. Complete with 8 H.P. motor and starter.
3. Interconnecting cable, hand lamps, woodworker's vise.
4. Spare part kits for woodworker.







Function

The function of this vehicle is to provide facilities for M.T. maintenance in the field.

Dimensions

Overall vehicle length	326"
" " width	100-1/2"
" " height	130"
Outside body length	182-1/4"
" " width	99-3/4"
" " height	81"
Inside body length	180"
" " width	97"
" " headroom	74"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	8355	18105	26270
Payload (personnel)..	295	195	480
Gross	8650	18300	26750
Maximum Gross Rating	8135	18265	26400

References

A.E.D.B. Specification	O.A. 173
A.E.D.B. Drawing Schedule ...	1077981
Munitions & Supply File	73-L-12
Vehicle Code No.	80661-C-MACH-M-1
Body Code No.	8K2
Chassis Model No.	975A
Pilot Model Approval	124F
Ordnance Proving Ground Report	DVA 6 Project 236F
Chassis Maintenance Manual ..	C660-DT1
Maintenance Manual & Spare Parts List for body & tech. eq'pt.	WM 3862

Sources:- Chassis by Diamond T. Corporation; body assembled and equipment installed by Chrysler Corporation.

Chassis

The body and equipment is designed for mounting on a Diamond T, 4-ton 6 x 6, 201" wheelbase chassis, with 9.00 x 20 tires.

Body

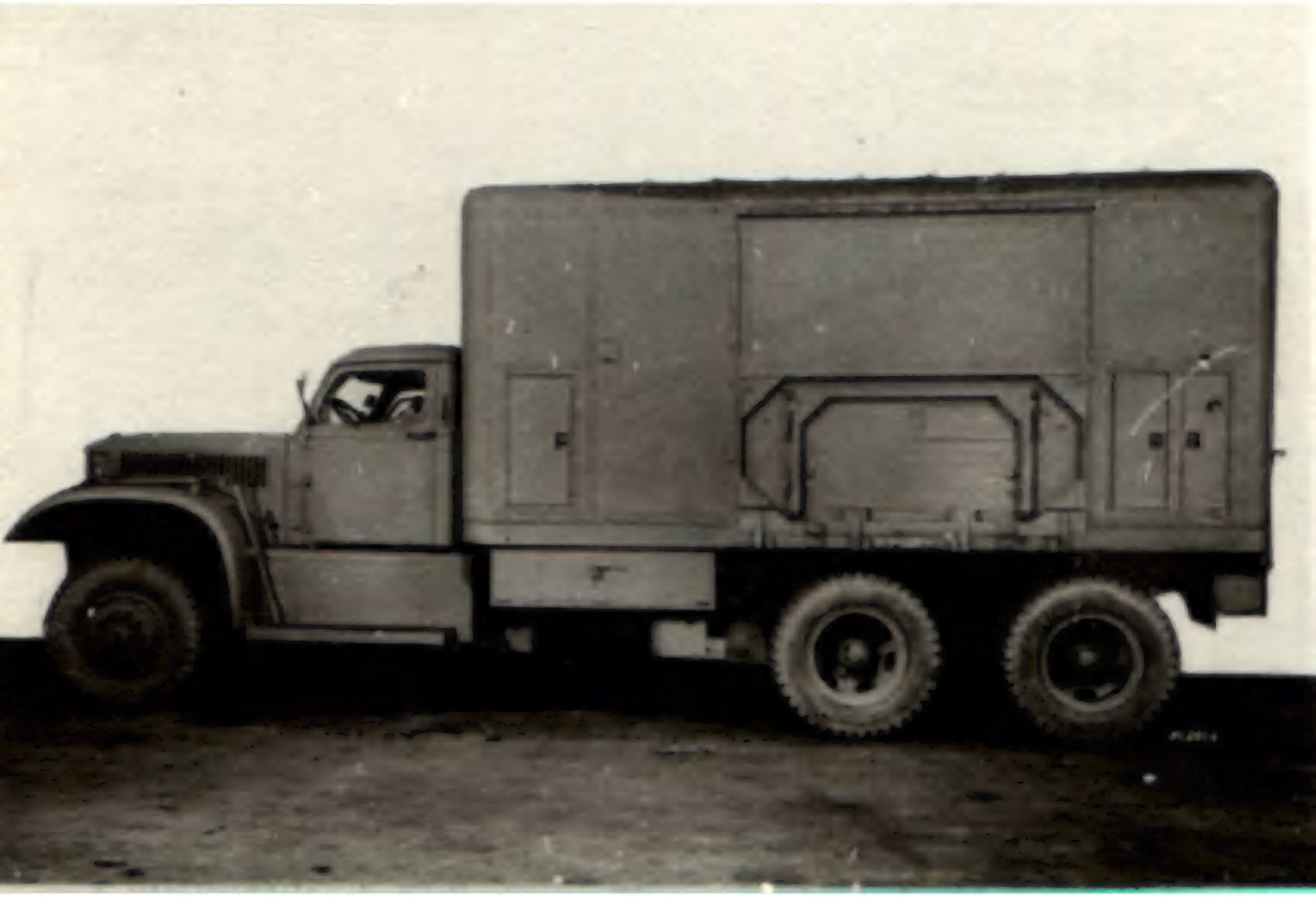
Lindsay, all steel, 15'3" house type body with dropside workbenches and canopies. Ventilating doors are provided for the charging sets and compressor. Canvas penthouses, vehicle tool boxes and P.O.W. carriers are supplied. The interior is fitted with workbenches, shelves, cabinets, spare tire carrier, etc.. A 110-volt lighting system is installed overhead with a blackout control switch on the rear entrance doors.

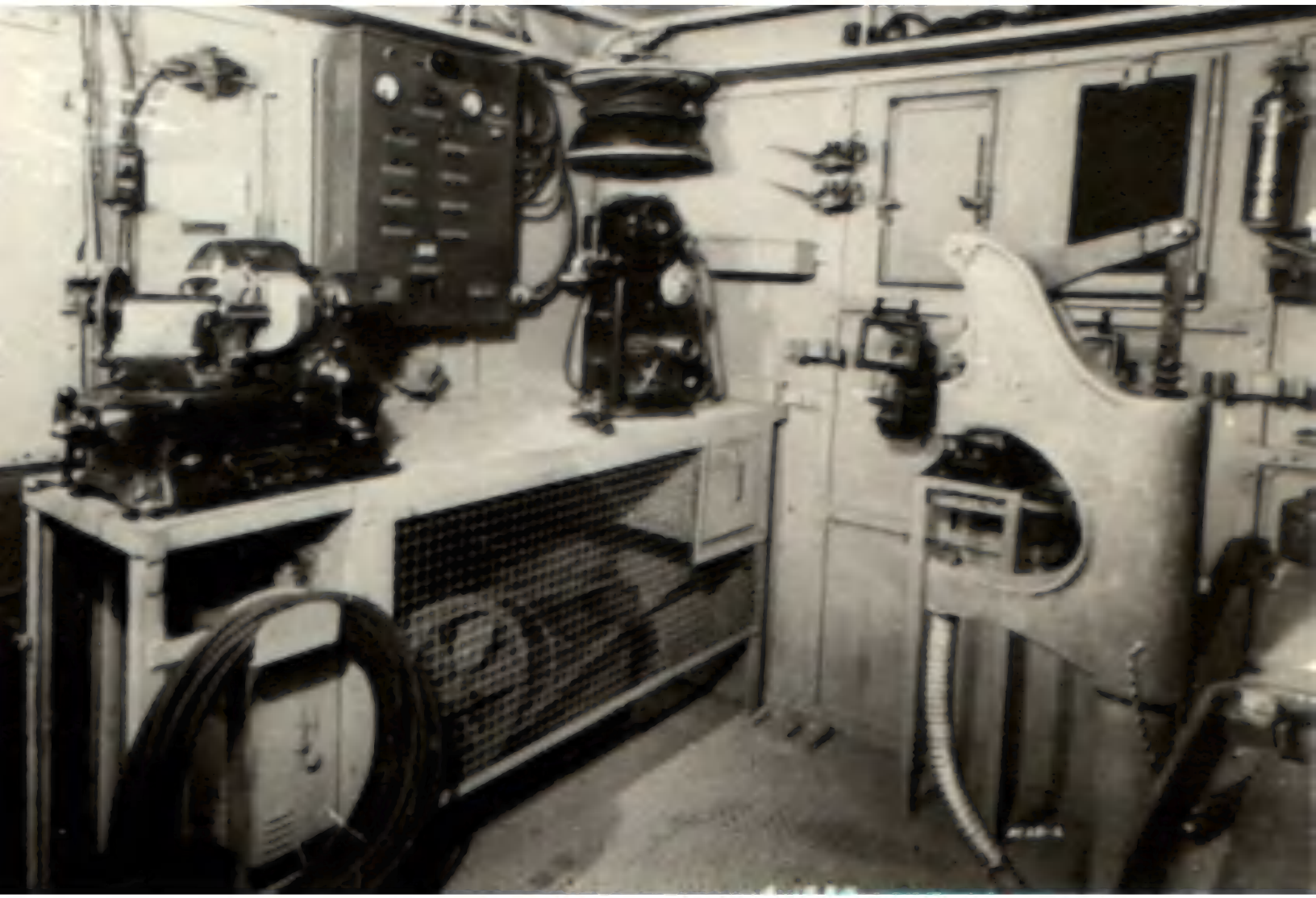
Main Items of Equipment

1. Generator, 7-1/2 K.W., 115-volt, D.C. directly driven by a Willys Model MB. gasoline engine.
2. Main Distribution Panel, 7-1/2 K.W.
3. Generator, 1260 watt, 7-1/2 volt battery charging driven by a 5 H.P. air-cooled gasoline engine.
4. Generator, 1260 watt, 15-volt battery charging driven by a 5 H.P. air-cooled gasoline engine.
5. Battery Charging Board, constant potential, 7-1/2 volt and 15-volt combination.
6. Resistance Battery Charging Panel.
7. Lathe, bench type, 10" swing, 26"centres.
8. Drill Press, Bench type, 1/2" capacity in cast iron.
9. Bench Grinder, 8".
10. Portable Drill, 1/4".
11. Portable Drill, 5/8".
12. Valve Refacer, wet grinding, 5/8".
13. Valve Seat Grinder.
14. Pin Hole Grinder.
15. Brake Reliner Combination.
16. Air Compressor.
17. Tools and accessories for the above equipment.
18. Hand lamps, interconnecting cables, etc..
19. Spare parts kits for the above.

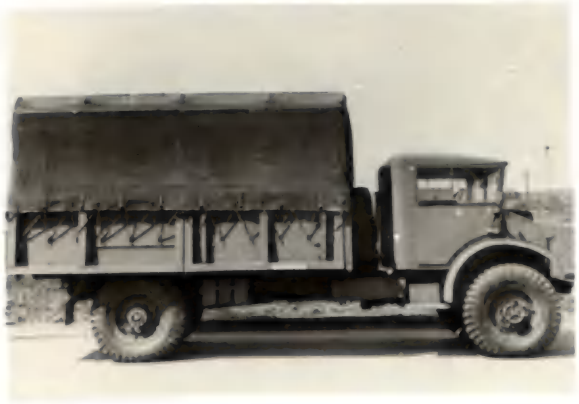
Note:- This model superseded by M MK.II - see following page.

An arcticized version of this vehicle is described on page 89.





MACHINERY LORRY TYPE "M MK. II"



Function

The function of this lorry is to provide facilities for general I.T.service and repairs in the field.

Dimensions

Overall vehicle length.....	243"
" " width	94"
" " height	118"
Outside body length	144"
" " width	94"
" " height	83-1/2"
Inside body length	144"
" " width	86"
" " headroom	76-1/2"
Clearance (at Hand Brake Drum):	
Ramp at gross weight.....	9-3/8"
Minimum at gross weight	18-3/8"
Angle of Approach 61-1/2°	Limiting Point ..Towing Eyes
Angle of Departure 38-1/2°	Limiting Point ..Tail lights

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....	6090	8740	14825
Payload (personnel).	310	165	500
Gross	6400	8905	15325
Maximum Gross Rating	6500	10700	16000

References

A.E.D.B. Specification	O.A. 173-2
A.E.D.B. Drawing Schedule ...	1100567
Munitions & Supply File	73-L-40
Vehicle Code No.....	60L-MACH-M-1-MK.II
Body Code No.	5F12
Chassis Model No.	F60L
Pilot Model Approval	201F
Ordnance Proving Ground Report .....DVA 6 Project	236 F1
Chassis Maintenance Manual ..	MB-F1
Maintenance Manual & Spare Parts List for body & tech. equip't.	WM 4060
Sources:- Chassis by Ford Motor, body by S.B.M.A., equipment installed by Chrysler Corporation.	

Chassis

The body and equipment is designed for mounting on a Ford Motor, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

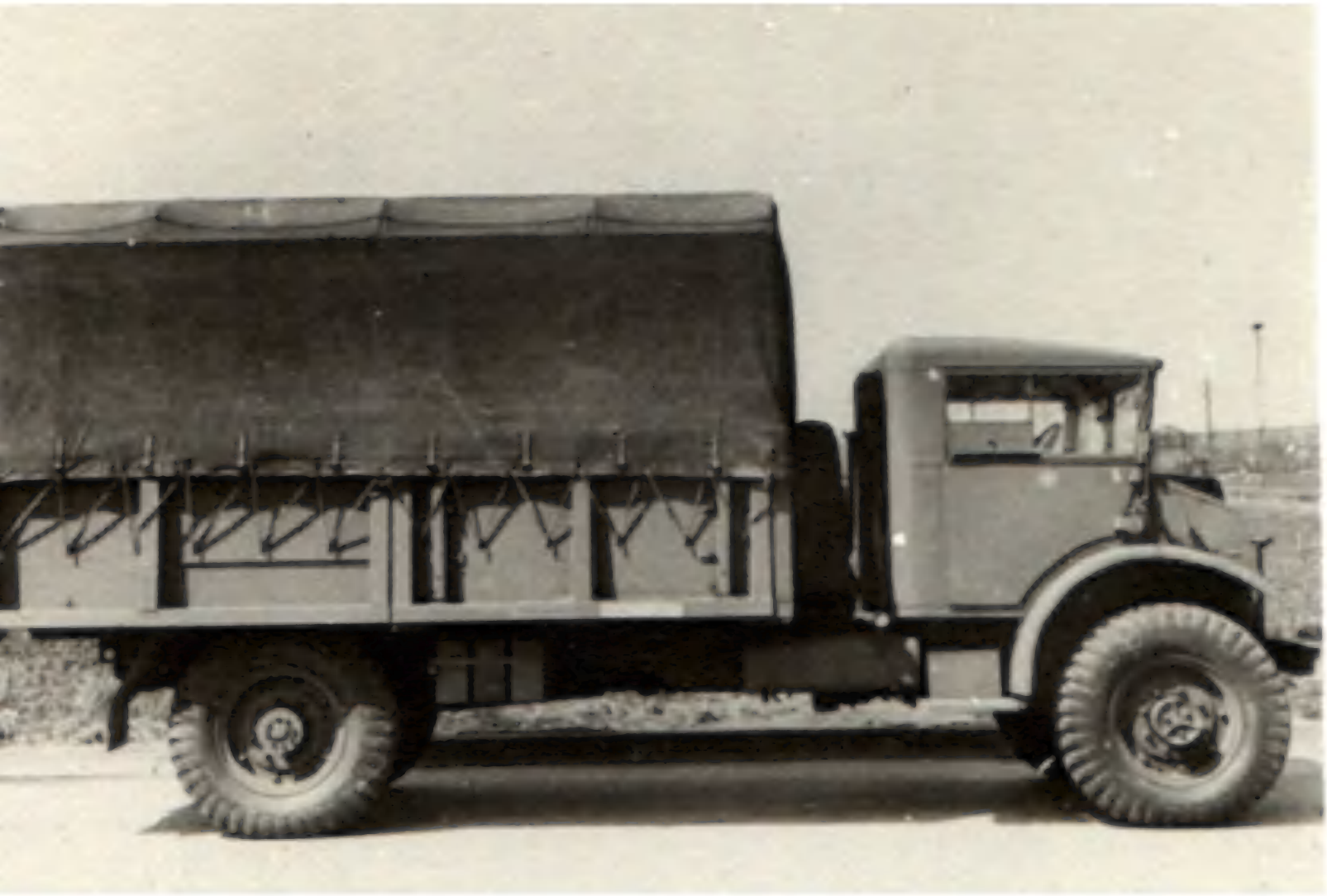
Body

G.S., all steel, 12' body, Code 5F12, with dropside workbenches, tubular steel superstructure and tarpaulin. Vehicle tool box, jerrican carriers, penthouses, etc., are supplied. The inside is fitted with workbenches, rifle clips, stowage brackets, etc., and a 110-volt D.C., overhead lighting system.

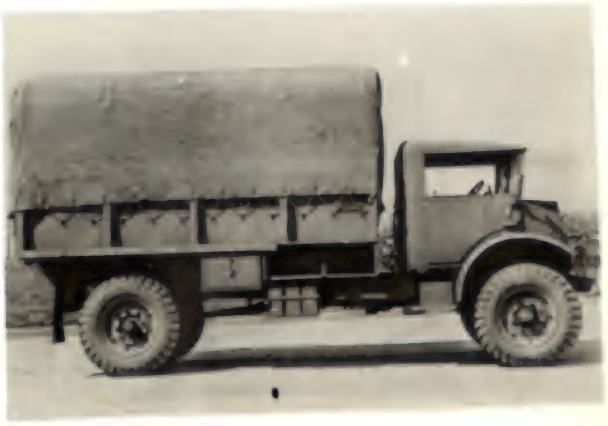
Main Items of Equipment

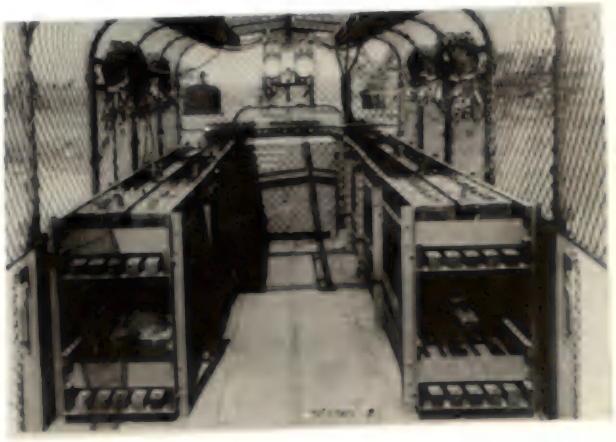
1. Generator, 7-1/2 K.W. 115-volt D.C. V-belt driven from the chassis Power Take Off.
2. Control Panel, 7-1/2 K.W..
3. Resistance Battery Charging Panel.
4. Lathe, bench type, 9" or 10" swing 26" centres.
5. Drill Press, bench type, 3/8" capacity in cast iron.
6. Bench Grinder, 7".
7. Portable Drills, 1/4" and 5/8".
8. Valve Refacer, 5/8" wet grinding.
9. Valve Seat Grinder.
10. Brake Reliner Combination.
11. Air Compressor, (Brunner H-Z-AS).
12. Spark Plug Cleaner and Tester.
13. Tools and accessories for the above.
14. Hand Lamps, arbor press, vises and other hand tools.
15. Spare parts kits.

Note:- This model supersedes "Type M" described on previous page.



MACHINERY LORRY TYPE "OFP BATTERY STORAGE"





Function

The function of this vehicle is to provide facilities for storing and transporting 6-volt and 12-volt batteries in the field. It is also equipped to supply approximately fifty of these with a freshening charge, without removing them from the lorry, by interconnection to a Type "I" or "OFP Battery Charging Lorry".

Dimensions

Overall vehicle length.....	233"
" " width	88-
" " height	125"
Inside body length	143-3/4"
" " width	80"
" " headroom(at centre line)....	70"

Angle of Departure ... 42°
Limiting Point.....Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....5605		6515	12140
Payload (personnel).. 295		175	480
Gross 5900		6690	12620
Maximum Gross Rating 5400		10700	16000

References

A.E.D.B. Specification.....	O.A. 161
A.E.D.B. Drawing Schedule	1054262
Munitions & Supply File No. ..	73-L-16
Vehicle Code No. 60448-M-MACH-BS-1	
Body Code No.	5F3
Pilot Model Approval No.	73
Ordnance Proving Ground Report .....DVA 6, Project236C	
Chassis Maintenance Manual....	MB-C2
Combined Maintenance Manual & Spare Parts List for body and technical equipment	WM 3845
Chassis Model No.	60448-M
Sources:- Chassis by General Motors, body by S.B.M.A., equipment installed by Chrysler Corporation.	

Chassis

The body and equipment is designed for mounting on a General Motors, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

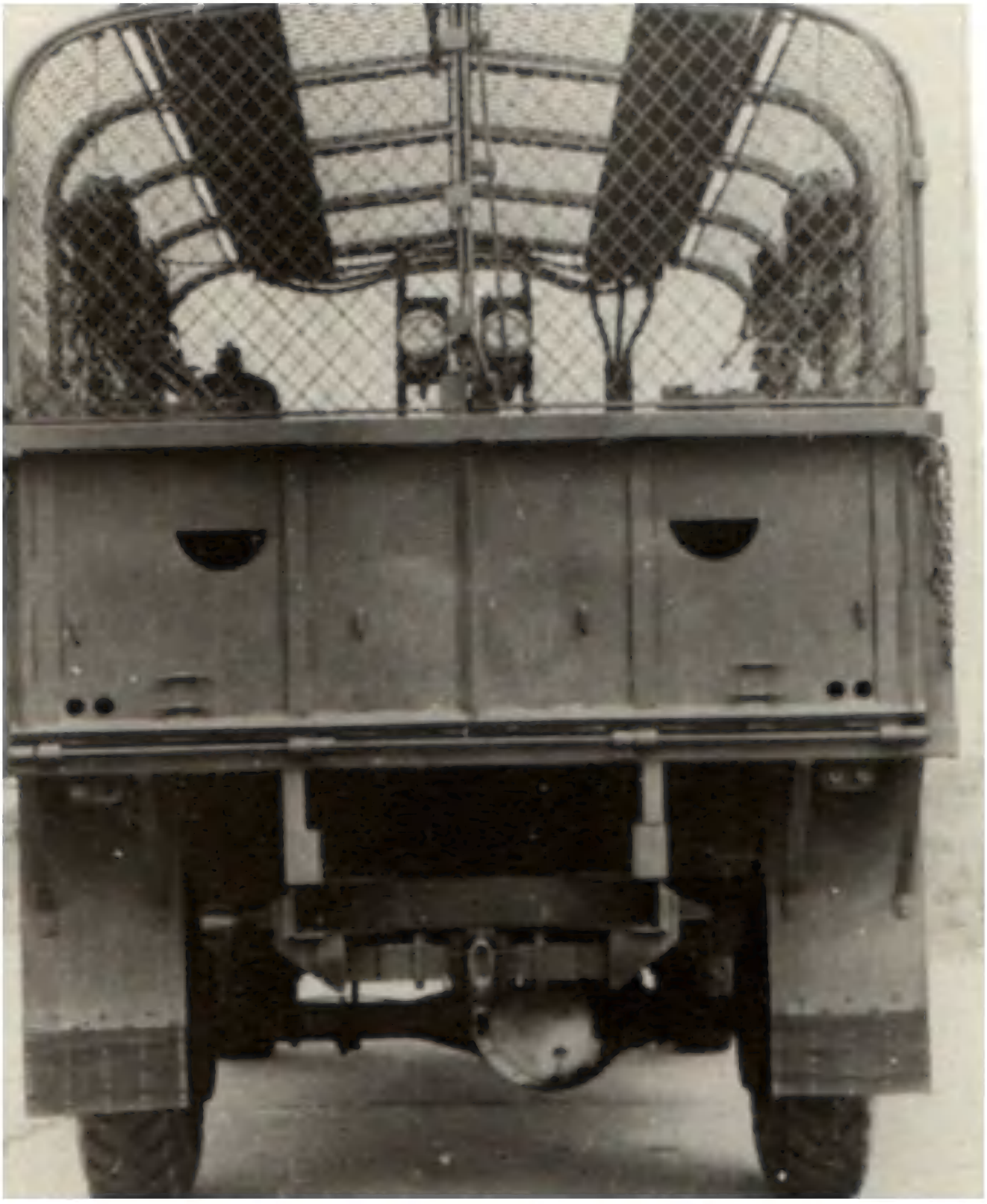
Body

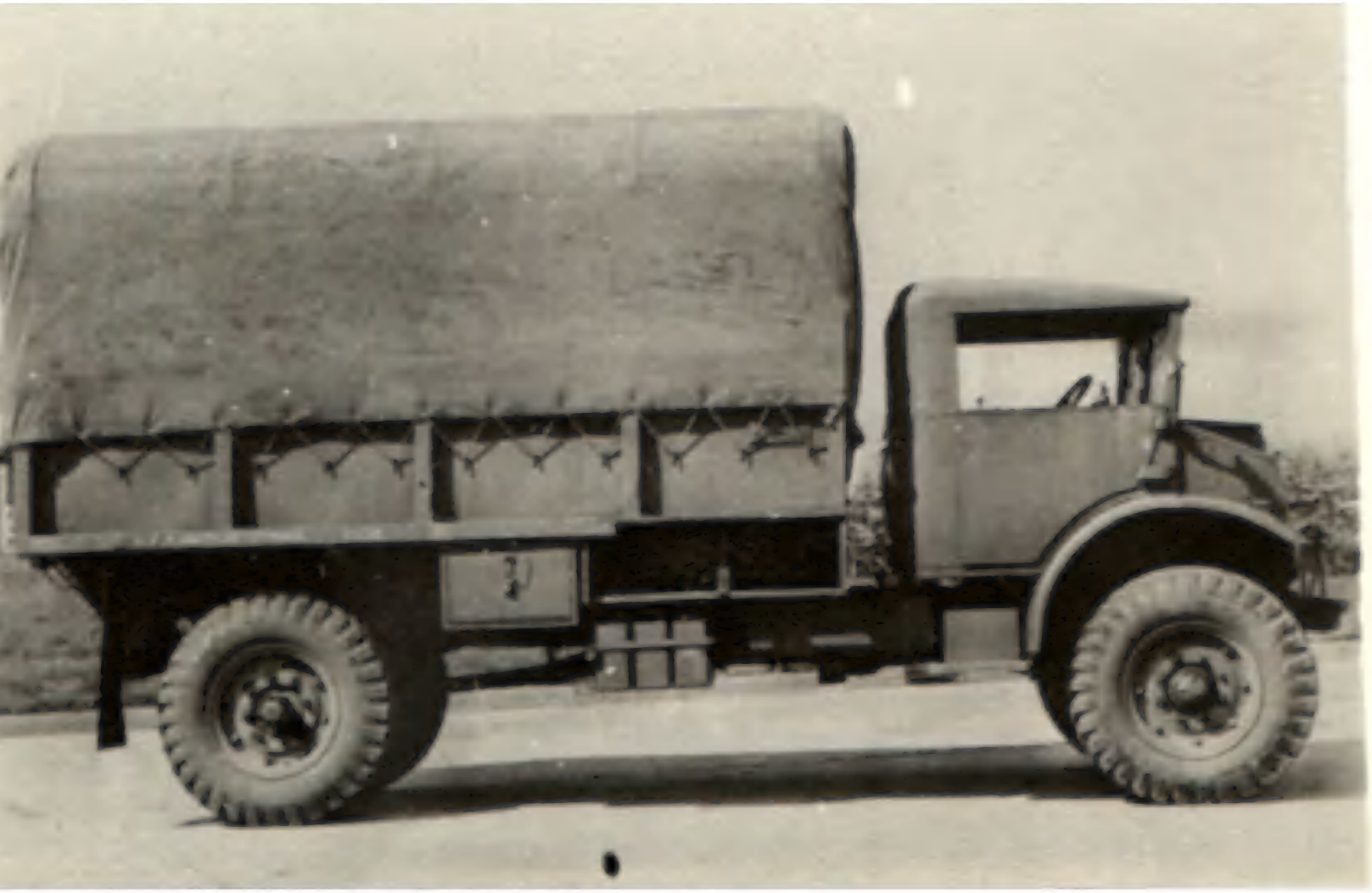
G.S. type, 12', all steel body, Code 5F3. A tubular steel superstructure with wire mesh screening and a tarpaulin are supplied. Two vehicle tool boxes, two P.C.W. carriers, and a spare tire carrier are mounted under the body substructure.

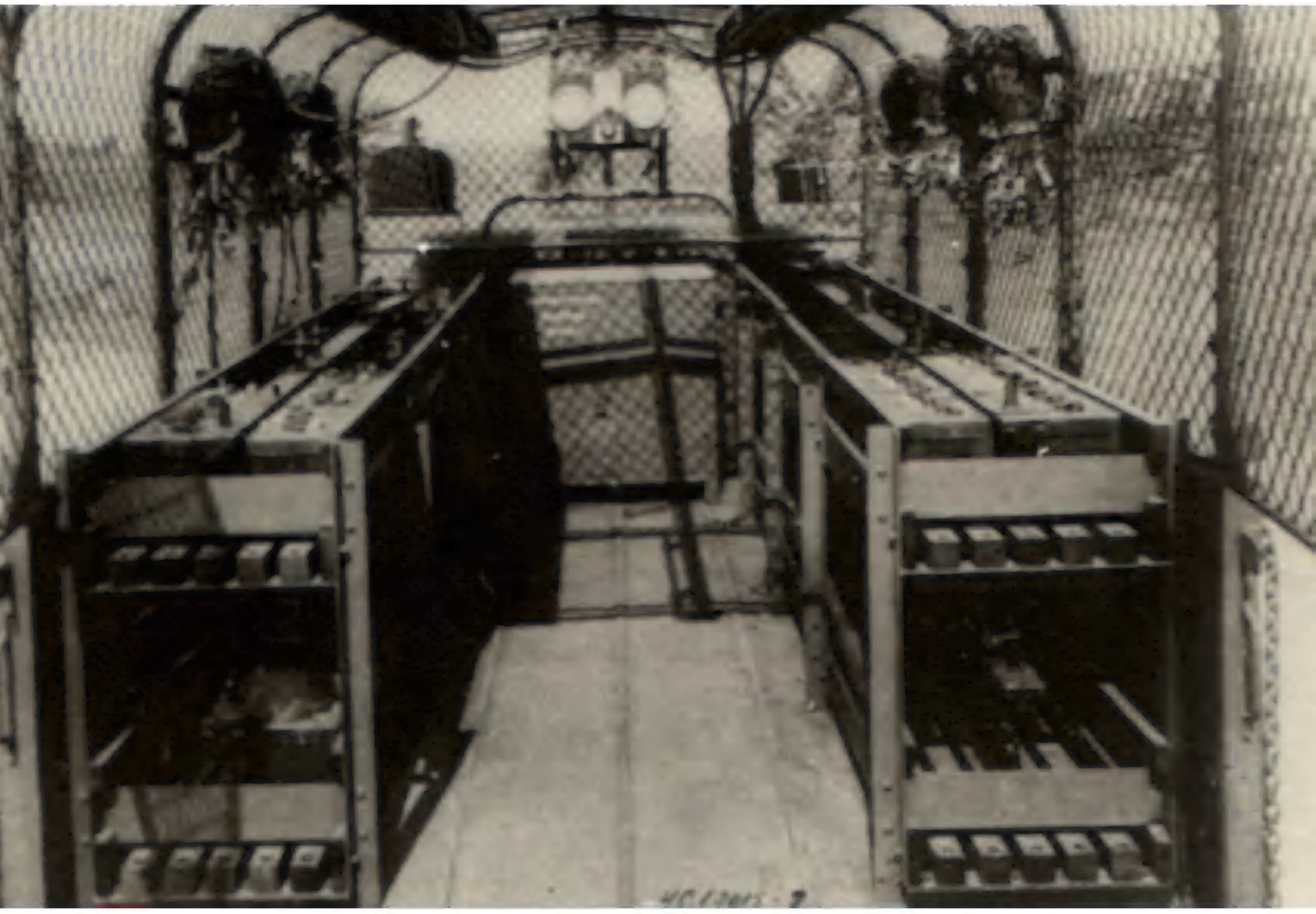
A double tier battery rack is provided on each side of the body, and a steel cabinet is mounted at the front. A 3-conductor bus bar is suspended from the superstructure over each battery rack and wired to a terminal box mounted on the forward panel of the right side.

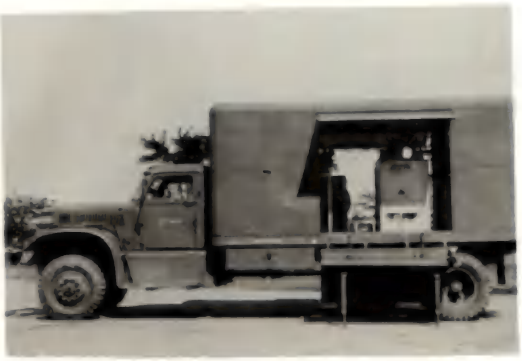
Main Items of Equipment

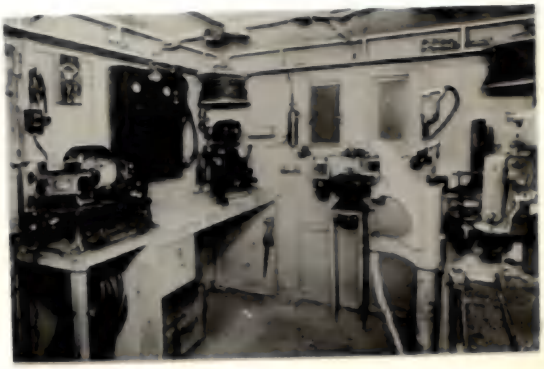
1. Battery Charging Leads.
2. Battery Condition and Capacity Tester or a Cell Tester.
3. Battery Service Kit.
4. Rubber Aprons.

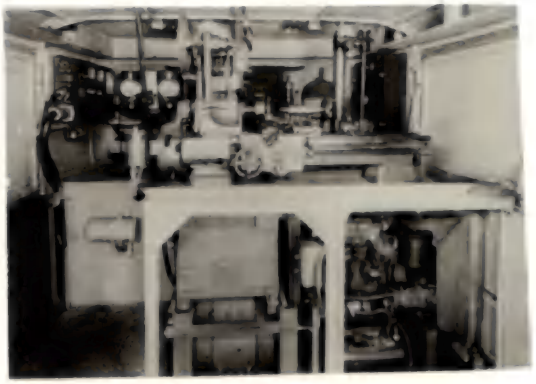












Function

The function of this vehicle is to provide facilities for M.T. Maintenance (R.C. A.S.C. Workshop).

Note:- To complete this equipment a 4-wheeled auxiliary Q.M.G. M.T. trailer described in Trailer Volume, is provided.

Dimensions

Overall vehicle length .....326"
" " width .....100-1/2"
" " height.....130"

Outside body length .....182-1/4"
" " width ..... 99-3/4"
" " height ..... 81"

Inside body length .....180"
" " width ..... 97"
" " headroom ..... 74"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	8255	18255	26270
Payload (Personnel)	295	195	480
Gross	8550	18450	26750
Maximum Gross Rating	8135	18265	26400

References

A.E.D.B. Specification.....O.A. 157
A.E.D.B. Drawing Schedule..... 1051503
Munitions & Supply File..... 73-L-18
Vehicle Code No. 80661-C-MACH-Q-1
Body Code No. 8K1
Chassis Model No. 975A
Pilot Model Approval No. 64F
Ordnance Proving Ground Report .....DVA 6 Project 236-I
Chassis Maintenance Manual.... C661DT1
Maintenance Manual & Spare Parts List for body & tech. eq'pt. WW 3829
Sources:- Chassis by Diamond T Corporation, body assembled and equipment installed by Chrysler Corporation.

Chassis

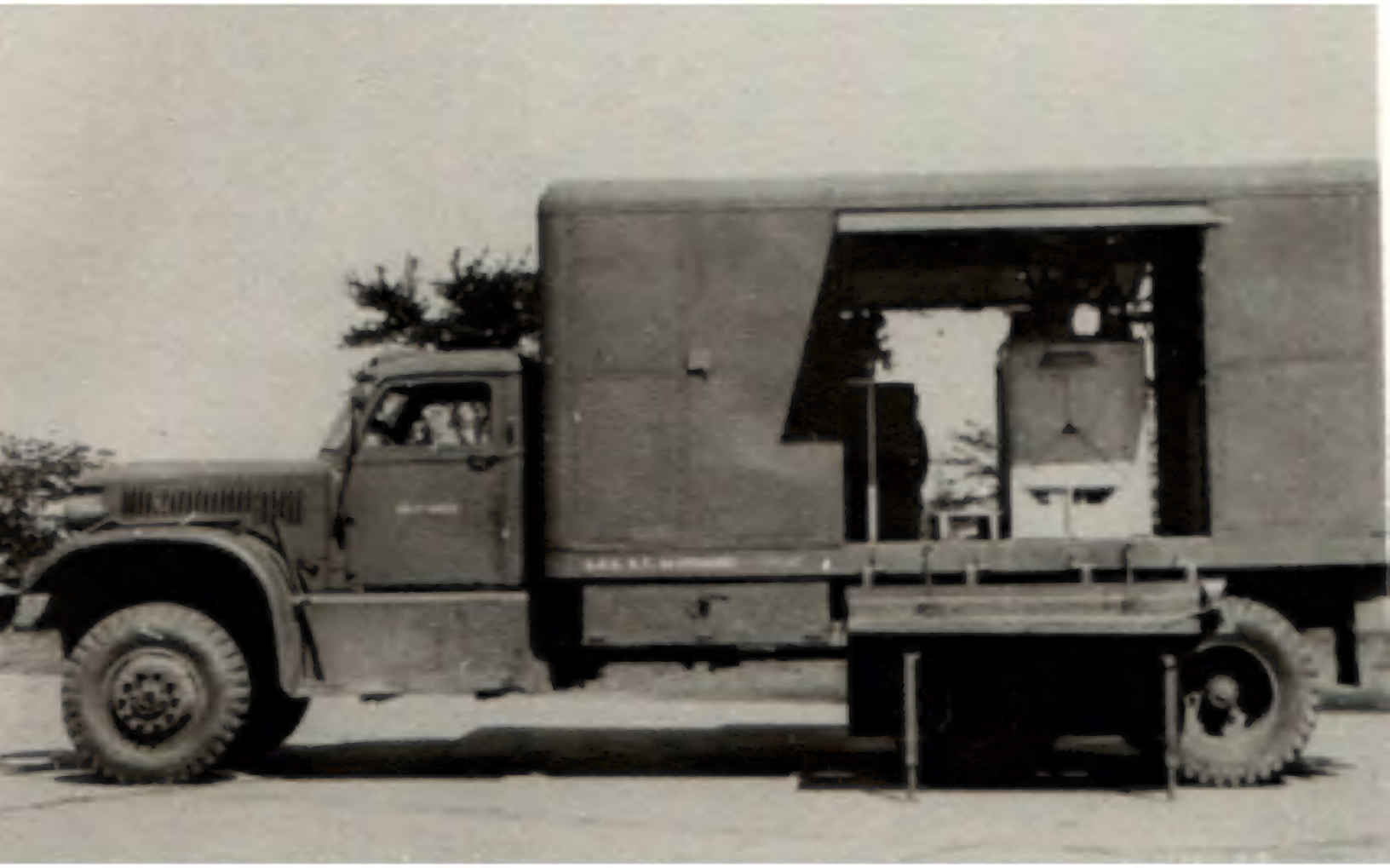
The body and equipment are designed for mounting on a Diamond T, 4-ton, 6 x 6,201" wheelbase chassis with 9.00 x 20 tires.

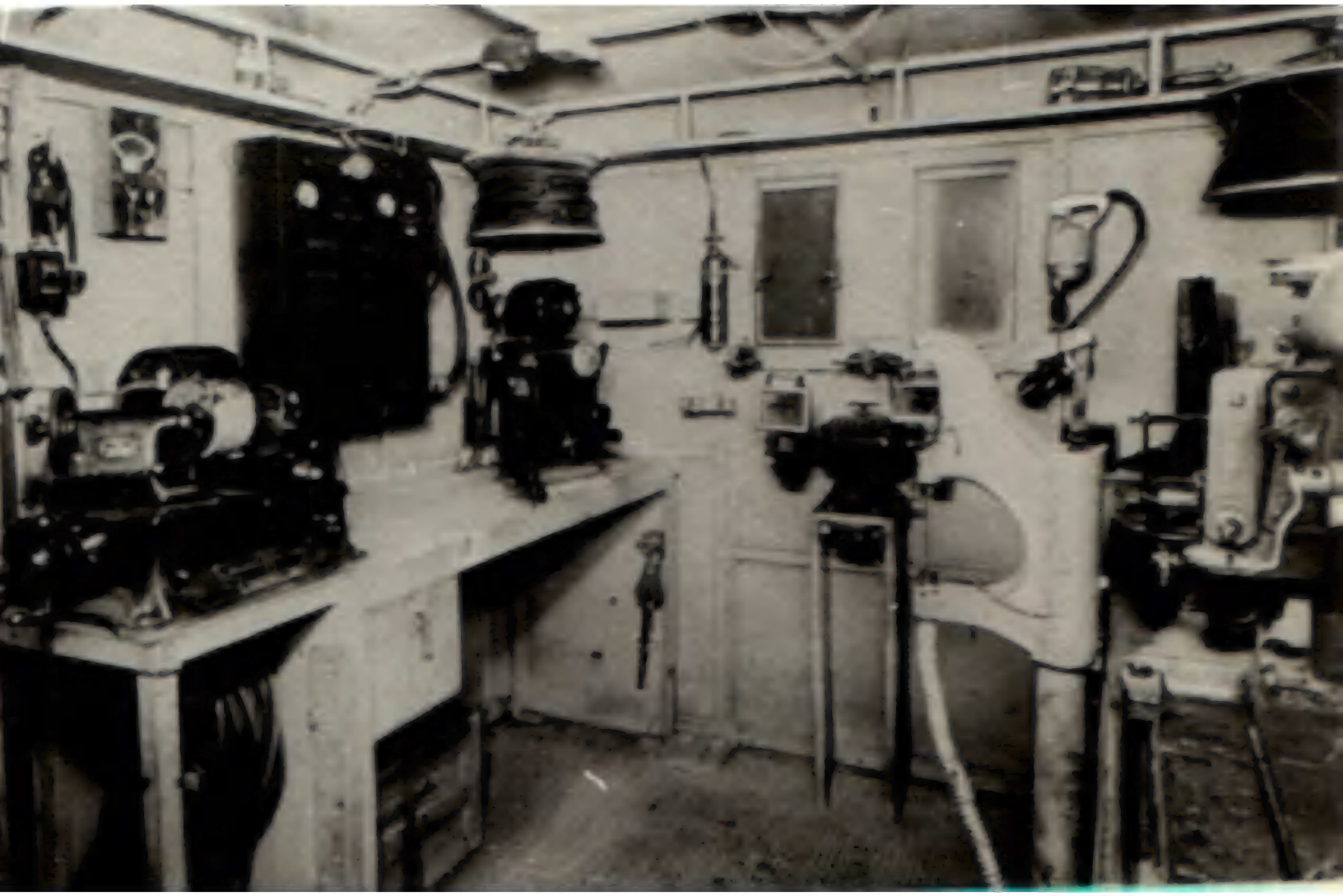
Body

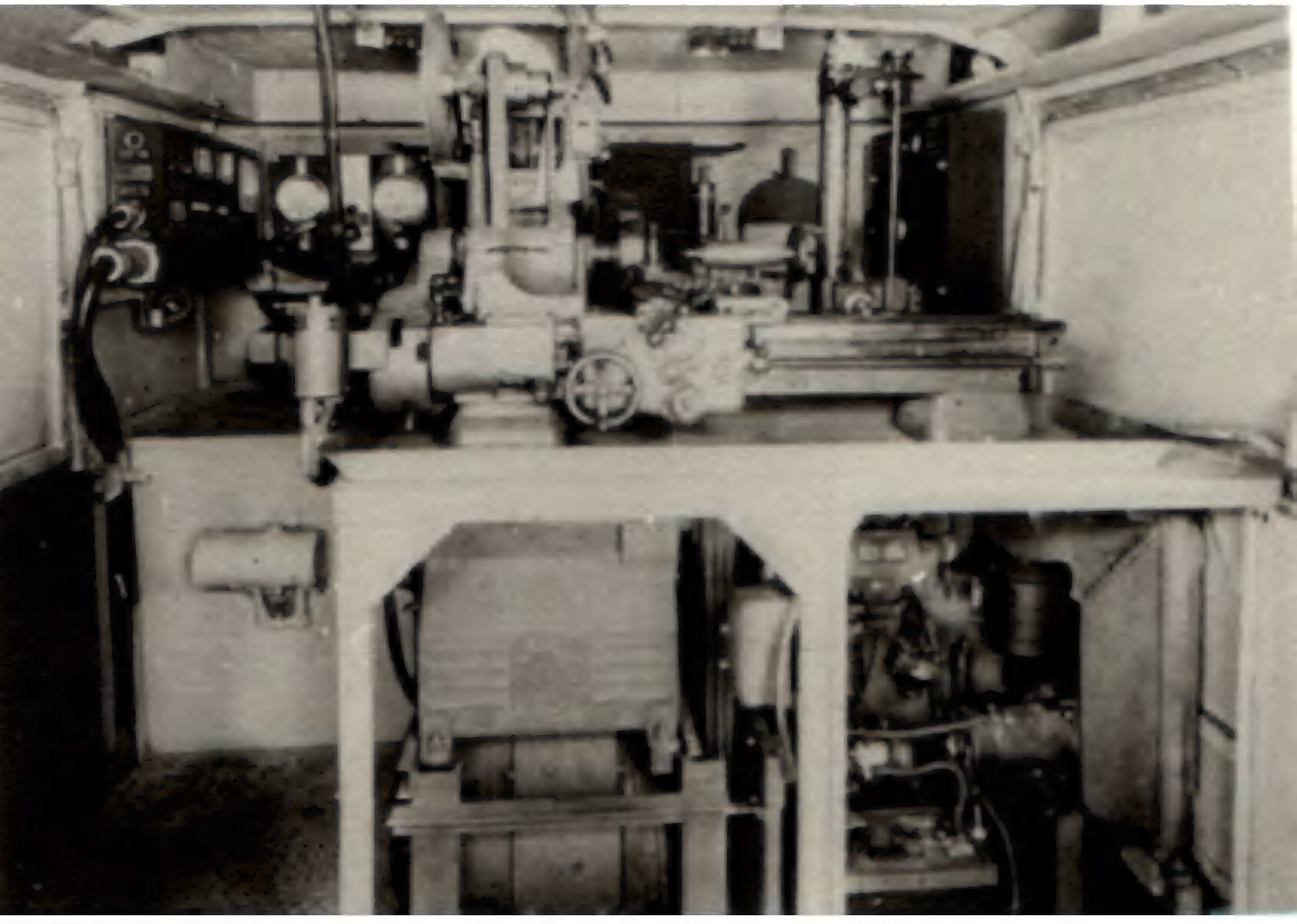
Lindsay, all steel, 15' 3" house type body with dropside workbenches and canopies. Ventilating doors are provided for the battery charging set. Canvas penthouses, vehicle tool box, and R.O.W. carriers are supplied. The interior is fitted with shelves, workbenches, cabinets, spare tire carrier, etc., and a 110-volt lighting system is installed overhead, with automatic blackout control by a switch on the rear entrance doors.

Main Items of Equipment

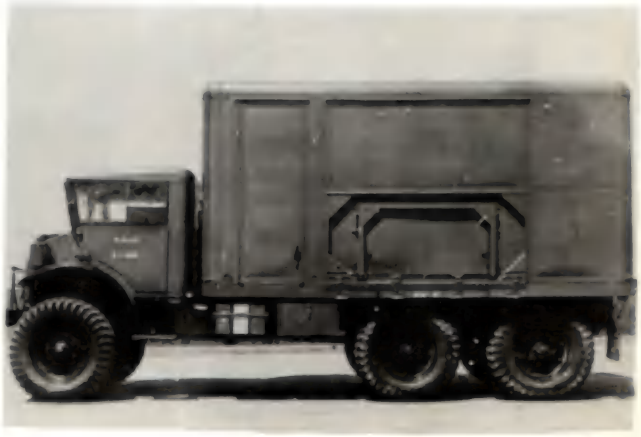
1. Generator, 7-1/2 K.W., 115-volt, D.C. directly driven by a Willy's model MB gasoline engine.
2. Main Distribution Panel, 7-1/2 K.W..
3. Generator, 1260 watts, 7-1/2 volt battery charging, driven by a 5 H.P. air-cooled gasoline engine.
4. Battery Charging Board, constant potential, 7-1/2 volt.
5. Resistance Battery Charging Panel.
6. Lathe, bench type, 10" swing, 26" centres.
7. Drill Press, bench type, 1/2" capacity in cast iron.
8. Bench Grinder, 8".
9. Portable Drills, 1/4" and 5/8".
10. Valve Refacer, 5/8" wet grinding.
11. Valve Seat Grinder.
12. Pin Hole Grinder.
13. Cylinder Hone Grinder.
14. Brake Reliner combination.
15. Boring Bar.
16. Welder, 200 amp. belt driven from the Willy's engine.
17. Tools and accessories for the above equipment.
18. Hand Lamps, battery service kit, interconnecting cables, hand tools, etc..
19. Spare parts kits for all technical equipment.







MACHINERY LORRY TYPE "R.C.A.F. MAINTENANCE"



Function

The function of this vehicle is to provide facilities for repairing aircraft and other R.C.A.F. equipment in the field.

Dimensions

Overall vehicle length.....248"
" " width ..... 92"
" " height .....128-1/2"

Outside body length .....168"
" " width ..... 92"
" " height ..... 85-1/2"

Inside body length .....167"
" " width ..... 89"
" " headroom ..... 77"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6075	11875	17940
Payload (personnel)	295	175	480
Gross	6370	12050	18420

These weights do not include miscellaneous equipment which R.C.A.F. supplied at destination.

Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification..... O.A. 187
Munitions & Supply File 73-L-38
Vehicle Code No. .....R.C.A.F. MT-1
Chassis Model M-60660-C
Chassis Maintenance Manual... M660-C
Maintenance Manual & Spare Parts List for body & tech.eq'pt.. WM 3924
Sources:- Chassis by General Motors, body assembled & equipment installed by Chrysler Corp..

Chassis

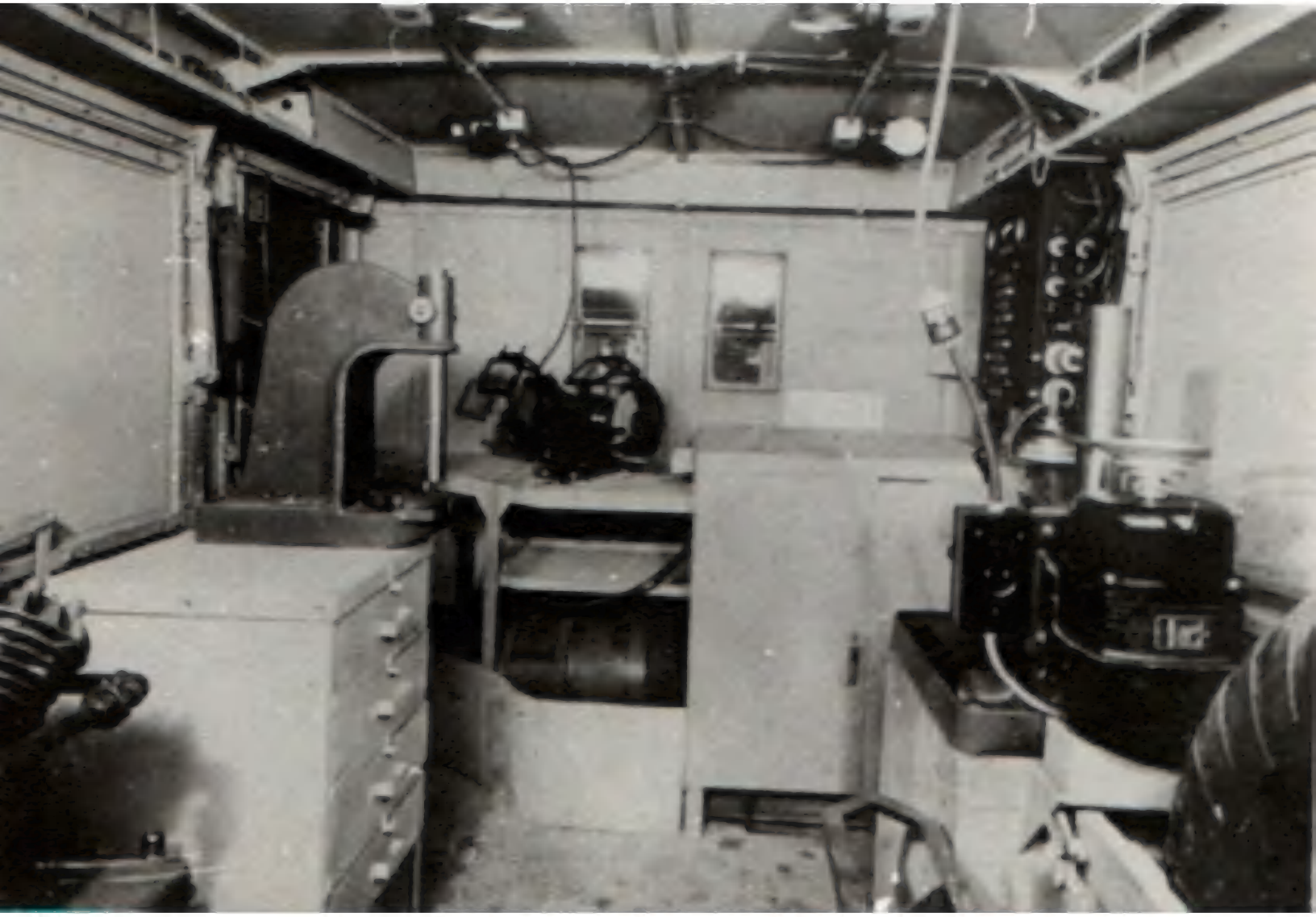
The body and equipment are designed for mounting on a General Motors, C.M.P., 3-ton 6 x 6, 160" wheelbase chassis with 10.50 x 20 tires. No blackout lighting is supplied.

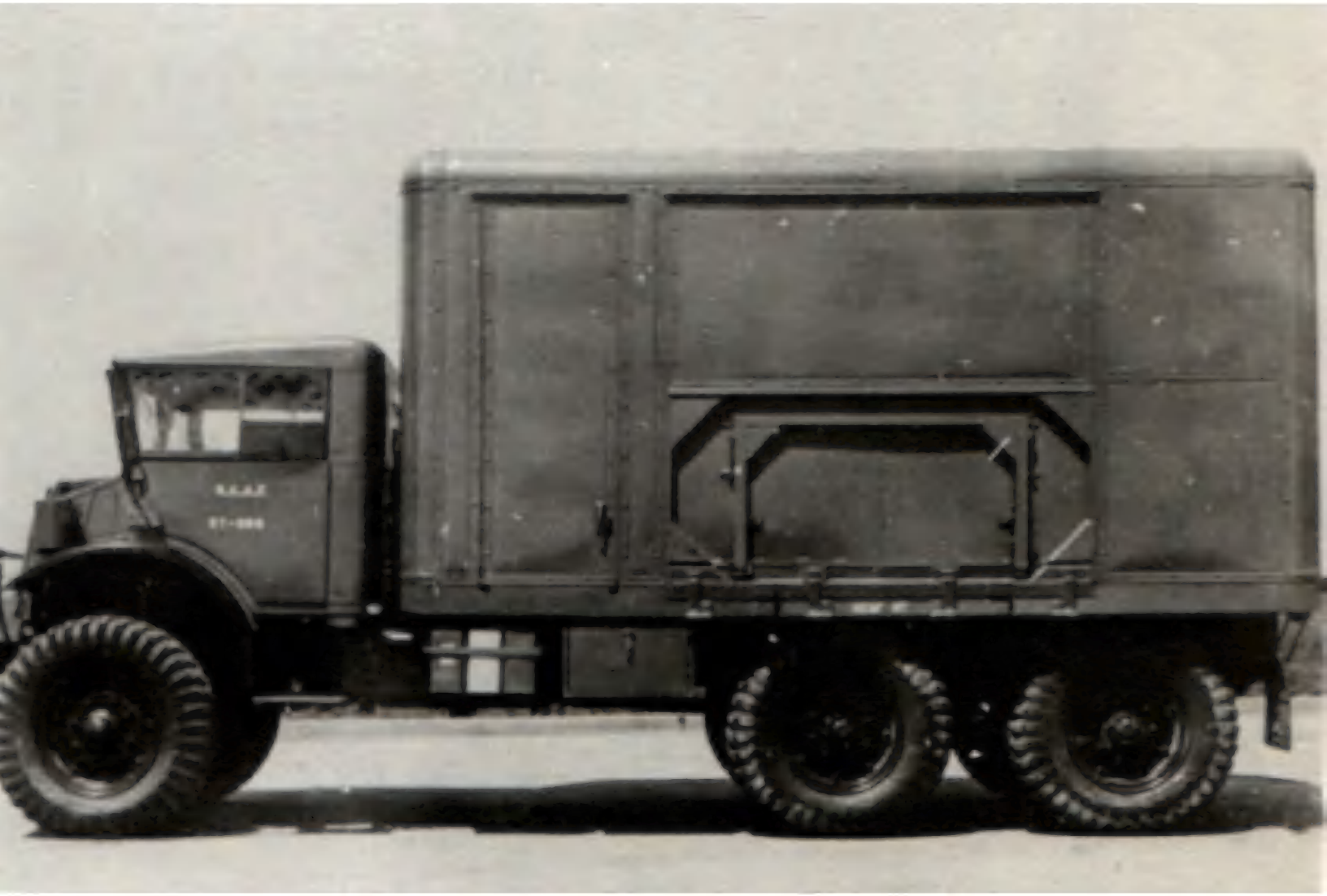
Body

Lindsay, all steel, 14' house type body with dropside workbenches and canopies, and entrance door near the front on the left side. Ventilating doors for the generating set are provided in the right front corner of the body. Canvas penthouses, P.O.W. carriers and a vehicle tool box are supplied. The inside of the body is fitted with a spare tire carrier, cabinets, workbenches, and a 110-volt D.C. overhead lighting system.

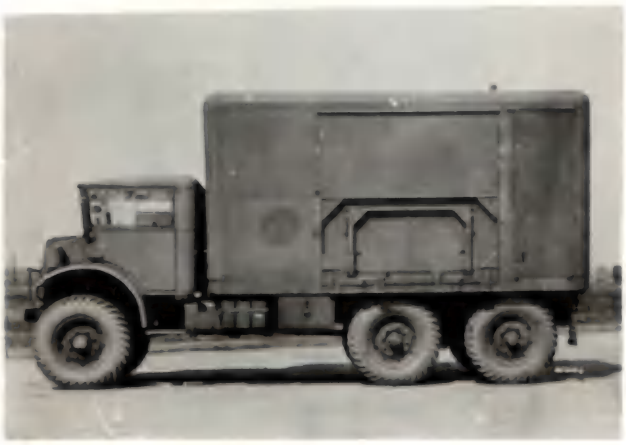
Main Items of Equipment

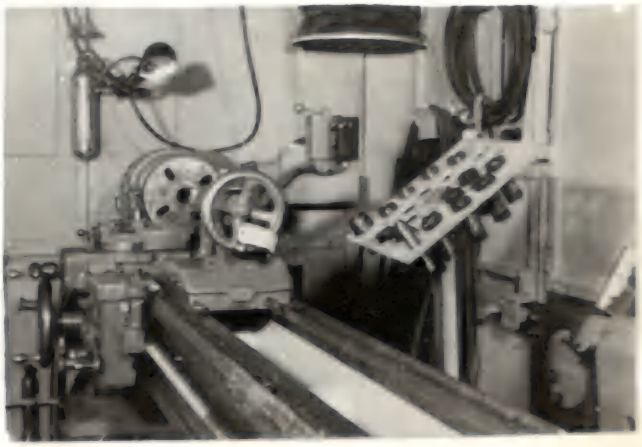
1. Generator, 7-1/2 K.W. 110-volt D.C. directly driven by a Willys, Model MB, gasoline engine.
2. Main Distribution Panel.
3. Lathe, 10" swing, 26" centres with 1/3 H.P. motor.
4. Drill Press, bench type, 1/2" capacity in cast iron.
5. Bench Grinder, 8".
6. Air Compressor, (Brunner model H-7), single stage, 150 lbs. working pressure.
7. Arbor Press, 3-ton, 11" to 12" ram travel.
8. Motorola heater, 40000 B.T.U.
9. Lathe tools, interconnecting cable.
10. Spare parts kits for above.





MACHINERY LORRY TYPE "R.E. 7-1/2 K.W. (E & M)"





Function

The function of this vehicle is to provide facilities for the repair of Engineers' equipment in the field.

Dimensions

Overall vehicle length .....248"
" " width ..... 92"
" " height .....128-1/2"

Outside body length .....168"
" " width ..... 92"
" " height ..... 85-1/2"

Inside Body length .....167"
" " width..... 89"
" " headroom ..... 77"

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....5830		13710	19660
Payload (personnel).. 295		175	480
Gross 6125		13885	20140
Maximum Gross Rating 7000		14000	20000

References

A.E.D.B. Specification ..... O.A. 167
A.E.D.B. Drawing Schedule 1078924
Munitions & Supply File 73-L-26
Vehicle Code No.....60660-M-MACH-E7-1
Body Code No. 8L8
Chassis Model No. M-60660-C
Pilot Model Approval 127F
Chassis Maintenance Manual M660-C1
Maintenance Manual & Spare Parts List for body & equipment..... WM 3851
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corporation.

Chassis

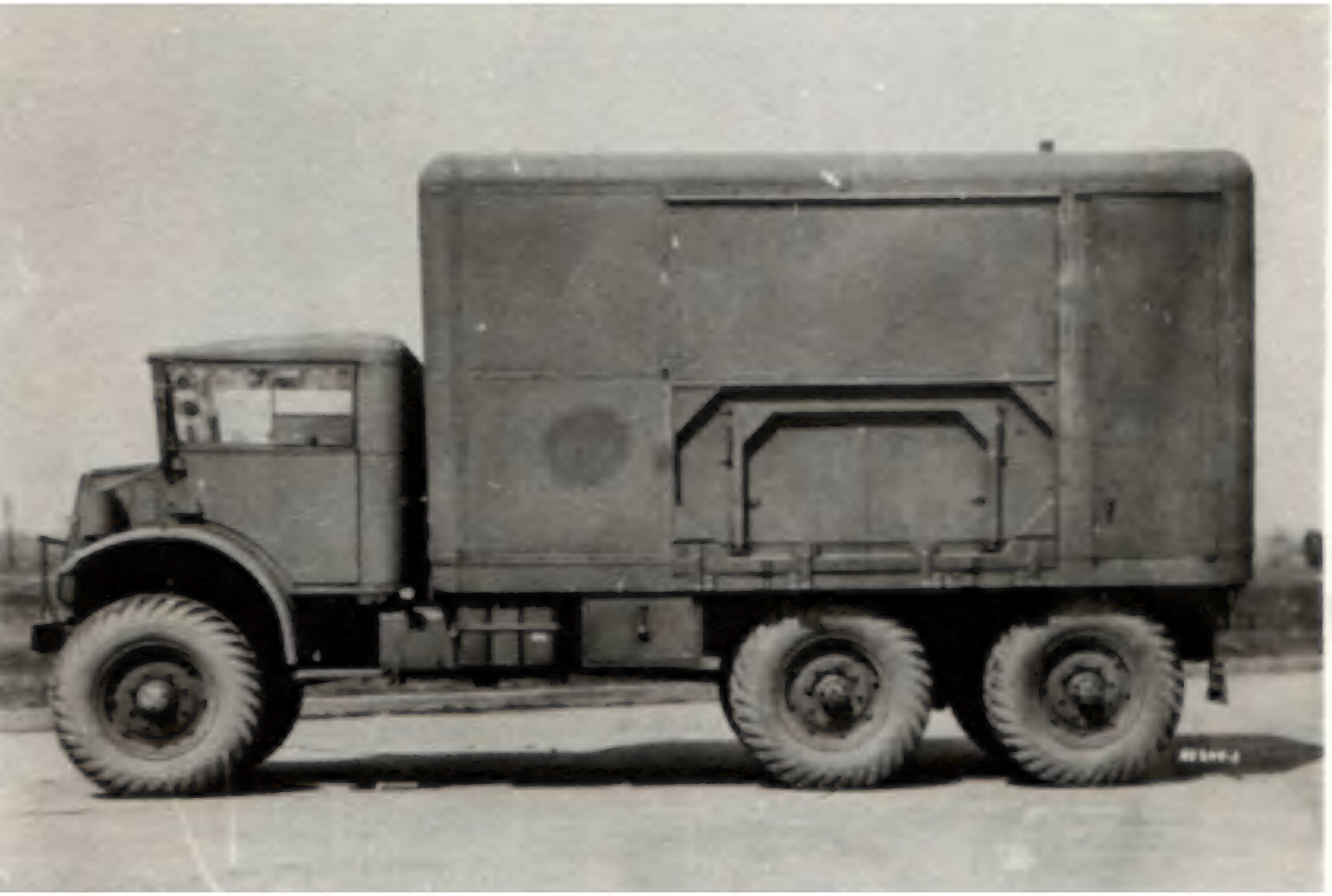
The body and equipment is designed for mounting on a General Motors, C.M.P., 3-ton, 6 x 6, 160" wheelbase chassis with 10.50 x 20 tires.

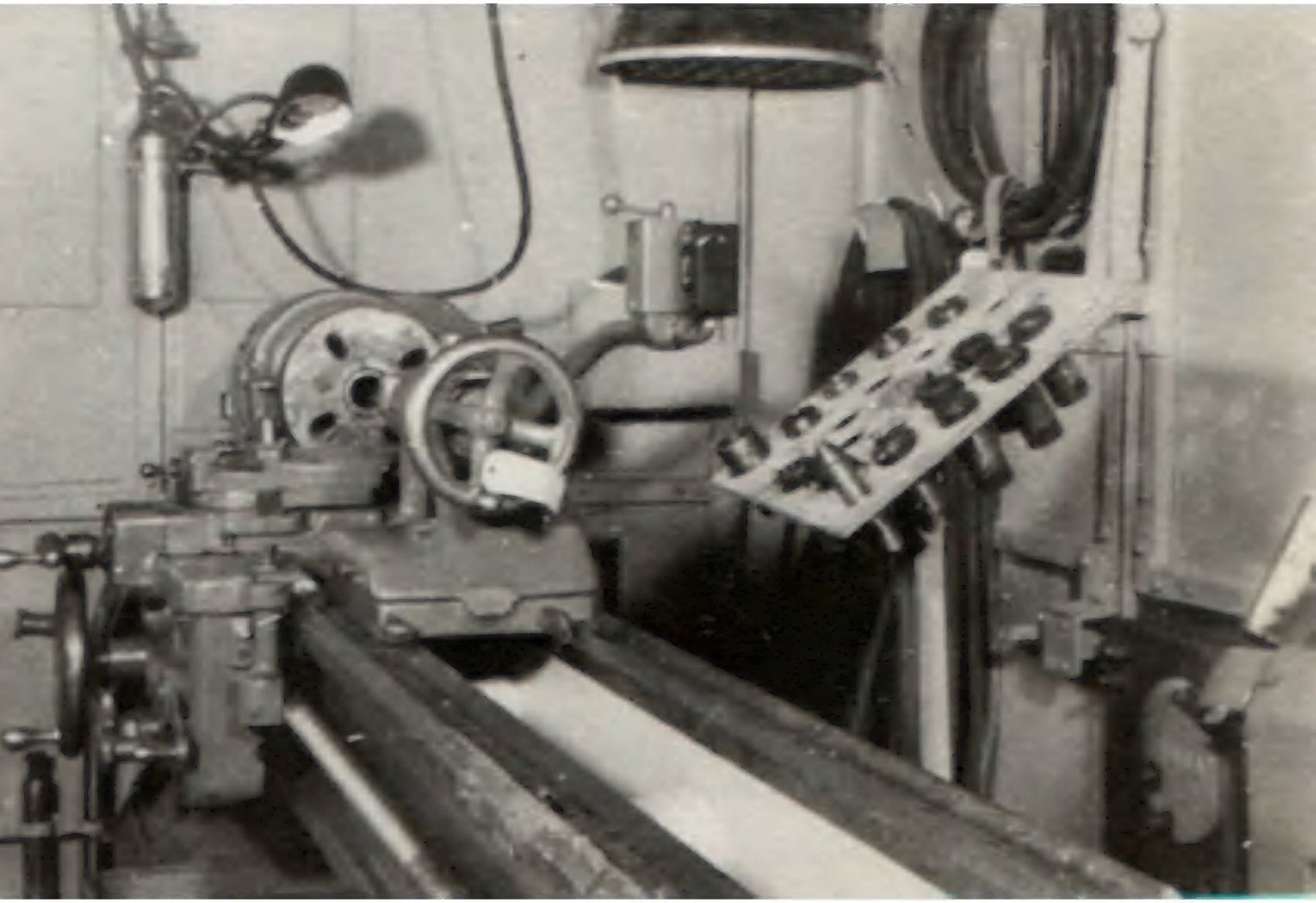
Body

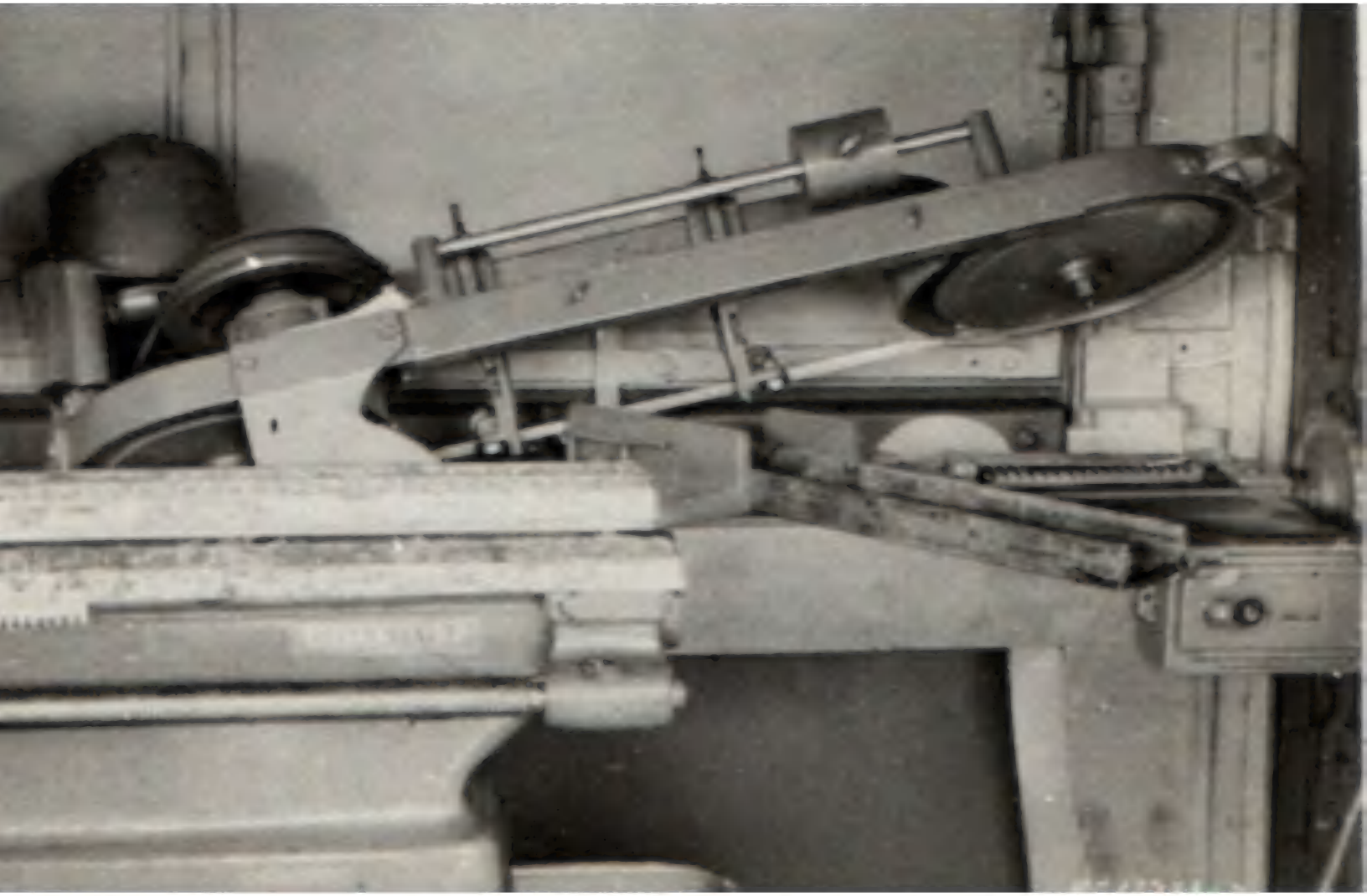
Lindsay, all steel, 14' house type body with dropside workbenches, entrance door on the left side and ventilator doors for the generator set. Duck penthouses, poles, vehicle tool box and jerrican carriers are supplied. The inside is fitted with a spare tire carrier, tool cabinets, workbenches rifle clips, etc.. A 110-volt lighting system, blackout equipped, is mounted overhead.

Main Items of Equipment

1. Generator, 7-1/2 K.W. 110-volt D.C. driven by a Willys, Model MB, gasoline engine.
2. Main Distribution Panel.
3. Lathe, 16" swing, 45" centres, with 1-1/2 H.P. Motor.
4. Bandsaw, metal cutting, 5" x 10" capacity, with 1/3 H.P. Motor.
5. Bench Grinder, 10".
6. Portable Drill, 1" with stand.
7. Interconnecting cables, hand lamps, etc..
8. Lathe tools, sets of drills, vises and other hand tools.
9. Spare parts kits for technical equipment.







MACHINERY LORRY TYPE "R.E. 25 K.W."

Function

The function of this vehicle is to effect heavy repair of Engineer's equipment.

Note:- Power for this vehicle is supplied by a 2-wheeled R.E. 25 K.W. Trailer, described in Volu

Dimensions

Overall vehicle length .....324-1/2"
" " width ..... 99-1/4"
" " height .....130-5/8"

Outside body length .....186"
" " width ..... 99-1/4"
" " height ..... 80"

Inside body length .....179-3/4"
" " width ..... 89-3/4"
" " headroom ..... 72-1/2"

Clearance (channel under fender):
Ramp at gross weight ..... 1-1/2"
Minimum at gross weight ..... 17-1/2"

Angle of Approach 39° Limiting Point ..Front Bumper
Angle of Departure 40° Limiting Point Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	8165	18765	27075
Payload (personnel)	290	360	550
Gross	8455	19125	27625
Maximum Gross Rating	8135	18265	26400

References

A.E.D.B. Specification .....O.A. 174
A.E.D.B. Drawing Schedule..... 1078666
Munitions & Supply File 73-L-28
Vehicle Code No.....80661-C-MACH-E25-1
Body Code No. 8B1
Chassis Model No. 975A
Pilot Model Approval..... 104F
Ordnance Proving Ground Report .....DVA 6 Project 236R
Chassis Maintenance Manual.... C661DT1
Maintenance Manual & Spare Parts List for body & tech. equip't.WM 3846
Sources:- Chassis by Diamond T. Corporation, body by S.E.M.A., equipment installed by Chrysler Corporation.

Chassis

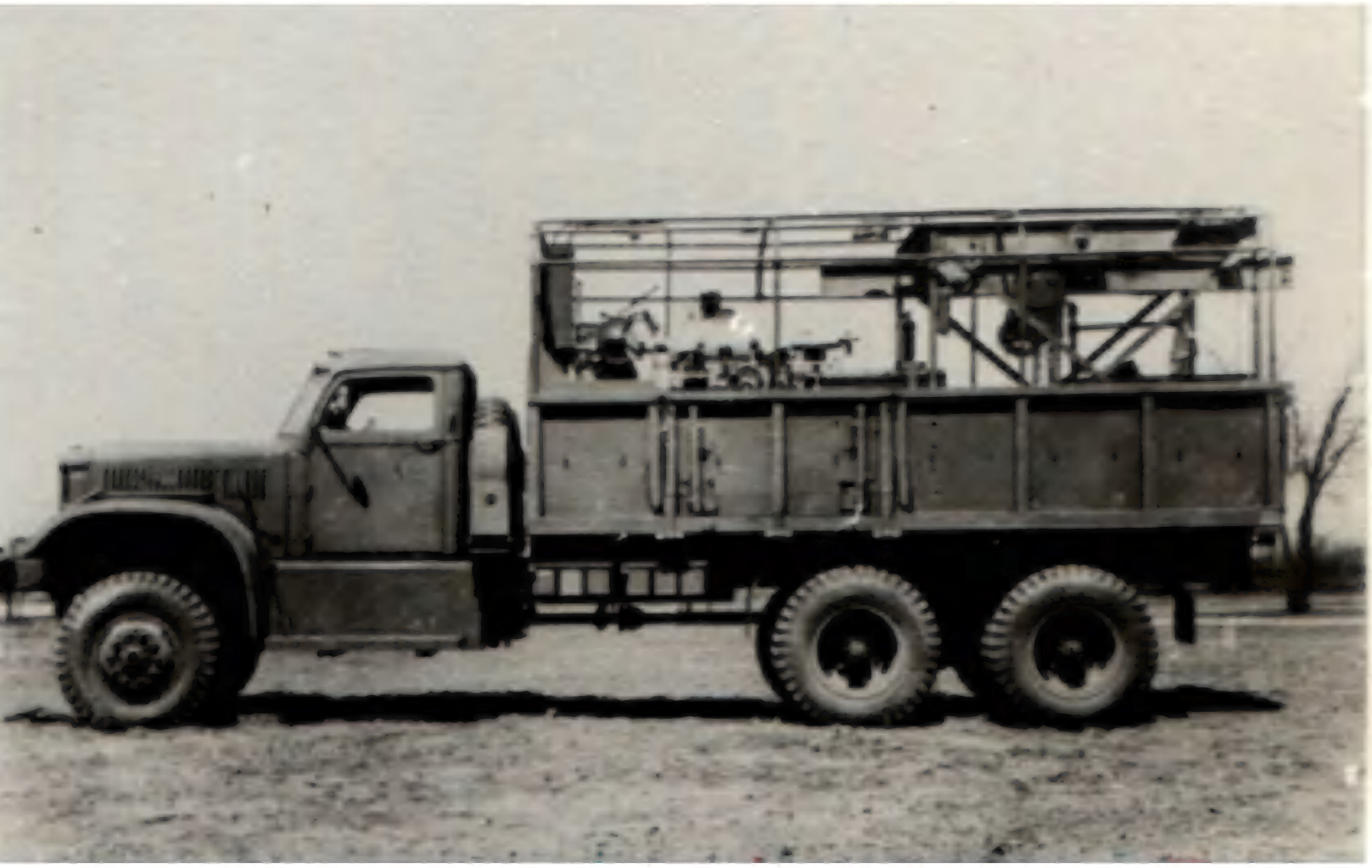
The body and equipment are designed for mounting on a Diamond T, 4-ton, 6x6, 201" wheelbase chassis with 9.00 x 20 tires.

Body

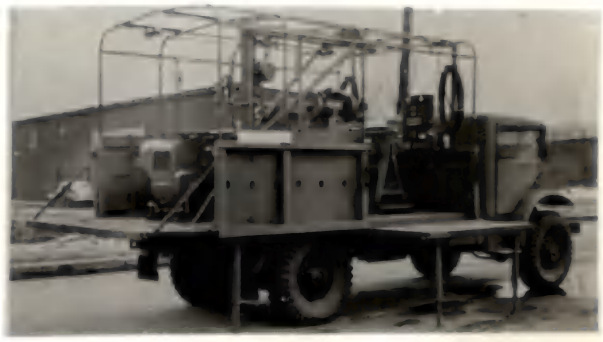
G.S. type, 15' all steel body, Code 8B1, with dropside workbenches, a tubular superstructure and tarpaulin. The rear corners are fitted for screw type jacks for use when moving the saw in or out. Dropside blackout curtains, vehicle tool box, and P.O.W. carriers are supplied. The interior is fitted with cabinets for tool stowage, rifle clips, etc., and a 110-volt D.C. overhead lighting system. A monorail structure is located at the rear for loading and unloading the saw.

Main Items of Equipment

1. Main Distribution Panel, 3 K.W..
2. Lathe, pedestal, 17" swing, 30 centres with coolant pump.
3. Grinder, bench type, 10".
4. Portable Drill, 1" complete with stand.
5. Circular Saw, 32".
6. Chain Hoist, spur gear, 1-1/2 ton capacity.
7. Lathe tools, sets of drills, vises, etc..
8. Hand Lamps, Interconnecting cables.
9. Spare parts kits for above.



MACHINERY LORRY TYPE "R.E. 25 K.W. MK. II"



Function

The function of this vehicle is to effect heavy repair of Engineer's equipment.

Dimensions

Overall vehicle length.....245"
" " width ..... 94"
" " height .....123"

Outside body length .....148"
" " width ..... 94"
" " height ..... 86-3/4"

Inside body length .....144"
" " width ..... 84"
" " headroom ..... 79"

Clearance (at Hand Brake Drum):
Ramp at gross weight ..... 2-1/2"
Minimum at gross weight ..... 12"

Angle of Approach 55° Limiting Point ..Front Bumper
Angle of Departure 33-1/2° Limiting Point .....Jack Leg

Weights - (with steel body)

	Front	Rear	Total
Curb (complete vehicle less personnel)..	5805	10455	16250
Payload (personnel)	295	175	480
Gross	6100	10630	16730
Maximum Gross Rating	6500	10700	16000

Weights - (with aluminum body)

	Front	Rear	Total
Curb (complete vehicle less personnel)..	5555	9425	14970
Payload	295	175	480
Gross	5850	9600	15450
Maximum gross rating	6500	10700	16000

References

A.E.D.B. Specification .....O.A. 174-2
A.E.D.B. Drawing Schedule... 345050
Munitions & Supply File No. 73-L-55
Vehicle Code No.:
(steel body)....60L-MACH-E25-1-MK.II
(aluminum ")....60L-MACH-E25-2-MK.II
Body Code No.:(Steel)..... 55C1
(Aluminum).... 55C2
Chassis Model No. F60L
E.E. Report No. E595
Chassis Maintenance Manual.. MB-F1
Sources:- Chassis by Ford Motor, body and equipment installed by Cusson Bros..

Chassis

The body and equipment are designed for mounting on a Ford, 3-ton, 4 x 4, 158" wheelbase, long frame chassis with 10.50 x 20 tires.

Body

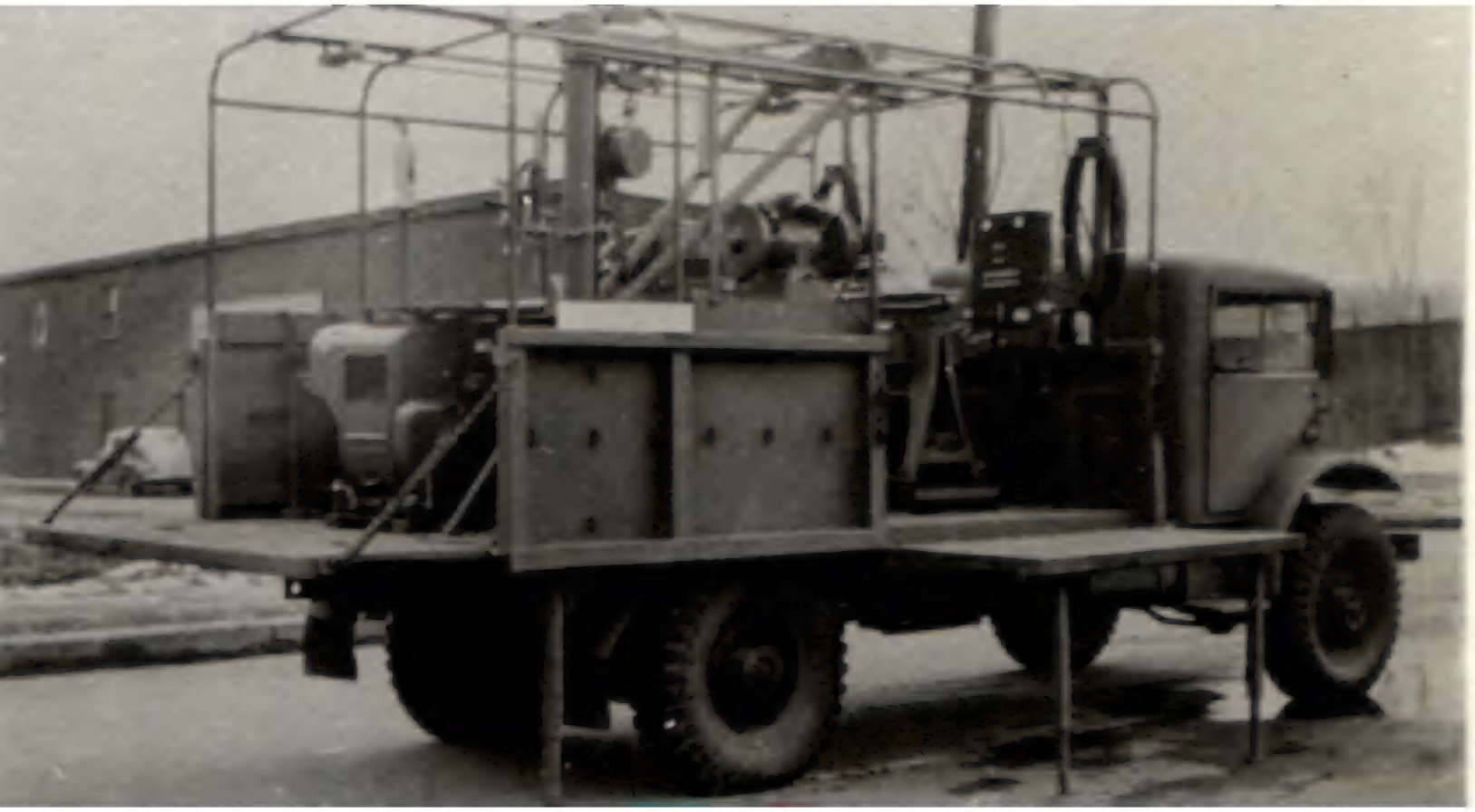
(1) G.S. type, 12', all steel welded, Code 55C1, with dropside workbenches, tubular steel superstructure and tarpaulin.

(2) G.S. type, 12', aluminum rivetted construction, Code 55C2, with dropside workbenches, tubular aluminum superstructure, and tarpaulin.

Both types equipped with a screw type jack for off-loading the saw, vehicle tool box, jerrican carriers, penthouses, etc.. A swinging crane with a 1/2 ton chain hoist is provided for off-loading the saw.

Main Items of Equipment

1. Generator, 3 K.W. 110-volt D.C., V-belt driven from the vehicle power take-off.
2. Welding Generator, 200 amp., V-belt driven from the vehicle power take-off.
3. Overhead Lighting System, 110 volt D.C..
4. Lathe, pedestal type, swing centres, equipped with 3/4 H.P. motor & controls.
5. Bench Grinder, 10".
6. Portable Drill, 1", with s tand.
7. Rip Saw, 32", driven by a V.E.4, Wisconsin, air-cooled gasoline engine.
8. Tools and accessory for the above equipment.
9. Hand lamp, vises, fire extinguishers, etc..
10. Spare parts kits.



MACHINERY LORRY, TYPE "15 CWT. SLAVE BATTERY CHARGER"

Function

The function of this vehicle is to provide power for starting cold vehicles, particularly A.F.V., in order to conserve vehicle batteries, and for charging a limited number of 6, 12, or 24-volt batteries in the field.

Dimensions

Overall vehicle length .....168"
" " width ..... 86-1/2"
" " height ..... 93"

Overall body length ..... 81"
" " width ..... 86-1/2"
" " height ..... 61-1/4"

Inside body length ..... 78"
" " width ..... 81"
" " headroom ..... 53"

Clearance (minimum) at front axle drain plug ..... 8-3/16"

Angle of Approach 54° Limiting Point ..Front Bumper
Angle of Departure 42° Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)...	3875	4435	8290
Payload (personnel).	195	295	480
Gross	4070	4730	8770
Maximum Gross Rating	5000	5800	10000

Chassis

The unit is designed for mounting on a C.M.P., 15-cwt., 4 x 4, 101" wheelbase chassis.

Body

General service, Code 2H2 body complete with superstructure and tarpaulin. Carriers for two 4-gallon jerricans and a 1-gallon oil can are mounted under the body. A vehicle tool box is located under the spare tire carrier between cab and body.

Main Items of Equipment

1. Battery Charging Generator, 30-volt, 1260 watt, 42 Amp. directly driven by a 6 H.P. air-cooled gasoline engine.
2. Control Panel for above.
3. Battery racks and distilled water carriers.
4. Cables, batteries, charging leads, battery kit, engine tools.
5. Spare parts kits.

References

A.E.D.B. Specification..... O.A. 138
A.E.D.B. Drawing Schedule for body and equipment 341907
Munitions & Supply File No..... 73-L-51
Vehicle Code .....(ForC) 15A-BC-1
Chassis Model ..... (C) 15A
Experimental Engineering Report E 492
Chassis Maintenance Manual..... MB-C2
Sources:- Body by S.B.M.A., Chassis and equipment installed by General Motors (pilot only built).


EE


EE

Function

The purpose of this vehicle is to provide facilities for maintaining, testing and repairing Wireless equipment in the field.

Note:- Electric power is supplied by a generating set carried in the lorry but operated outside and interconnected to a receptacle in the lorry body.

Dimensions

Overall vehicle length	249-7/8"
" " width	90"
" " height	125"
Outside body length	168"
" " width	90"
" " height	86"
Inside body length	161-1/4"
" " width	82-1/4"
" " headroom	74-5/8"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	8-1/4"
Minimum at gross weight	20-1/4"
Angle of Approach 64°	Limiting Point ..Front Bumper
Angle of Departure 43°	Limiting Point ...Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	6050	11010	17090
Payload (personnel)	295	175	480
Gross	6345	11185	17570
Maximum Gross Rating	7000	14000	20000

References

A.E.D.B. Specification ..... O.A. 185
A.E.D.B. Drawing Schedule ... 1083955
Munitions & Supply File 73-L-33
Vehicle Code No. 60660-M-MACH-Z-1
Body Code No. 8L14
Chassis Model No. C-60660-M
Pilot Model Approval 138P
Chassis Maintenance Manual... M660-C1
Maintenance Manual & Spare Parts List for body & tech. equip't.WM 3860
Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corporation.

Chassis

The body and equipment are designed for mounting on a General Motors, C.M.P.,3-ton, 6 x 6, 160" wheelbase chassis with 10.50 x 20 tires.

Body

Lindsay, all-steel, 14' house type body with two pullman type windows on each side. The latter are screened and equipped with blackout blinds. Ventilation doors are provided at the right front corners for a ventilating fan, and double entrance doors are located at the rear. Vehicle toolboxes and jerrican carriers are supplied. The inside of the body is fitted with a spare tire carrier, metal shelves, wooden workbenches; and the aisle is covered with wood flooring. A 110-volt overhead lighting system is supplied.

Main Items of Equipment

1. Generator, 2000 watt, 110-volt, single phase, 60-cycle, A.C. direct driven by a 2-cylinder gasoline engine complete with control panel and skid base.(Onan model 07C44E).
2. Distribution Panel, 110/220 volt, 60 cycle.
3. Battery Charger, selenium type, 110-volt, 60 cycle input, 24 volts D.C. output.
4. Transformer, 2.75 K.V.A., 115/230 volt.
5. Test panels, bus bar system, terminal blocks, receptacles, etc..
6. Portable Drill, 5/16".
7. Batteries, battery service kit, cell testers, drills, etc..
8. Spare parts kits.

Note:- Stands and boxes are provided under the workbenches for stowage of test equipment such as bridges, Signal Generators, etc., supplied at destination by R.C.O.C.

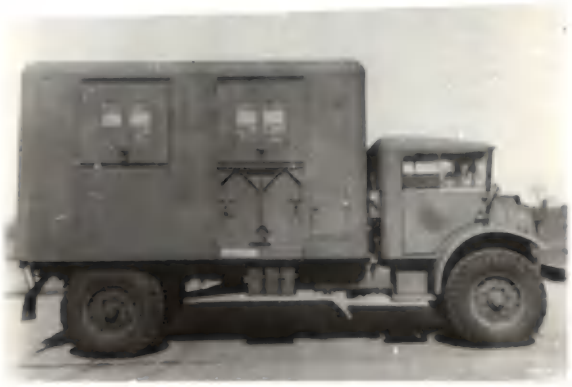
Note:- This model superseded by Z MK. II - see following page.

An arcticized version of Type "Z", built for the U.S.S.R. is described on page 88


HC-13227-


TYPE 2 LORRY

MACHINERY LORRY TYPE "Z MK. II"



Function

The function of this vehicle is to provide facilities for maintaining, testing and repairing Wireless equipment in the field.

Dimensions

Overall vehicle length.....	227-1/2"
" " width	91-1/2"
" " height	121"
Overall body length	144"
" " width	91-1/2"
" " height	83"
Inside body length	141-1/4"
" " width	87-1/4"
" " headroom	77-1/4"
Clearance (at Hand Brake Drum):	
Ramp at gross weight	8-3/4"
Minimum at gross weight	17-3/4"
Angle of Approach 58°	Limiting Point ..Front Bumper
Angle of Departure 45°	Limiting Point .Rear Mudguard

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)..	5930	6535	12475
Payload (personnel)	345	165	495
Gross	6275	6700	12970
Maximum Gross Rating	6500	10700	16000

References

A.E.D.B. Specification.....O.A.	185-2
A.E.D.B. Drawing Schedule.....	1100812
Munitions & Supply File No....	73-L-46
Vehicle Code No.....F60L-MACH-Z-1-MK.II	
Body Code No.	5J12
Chassis Model No.	F60L
Pilot Model Approval	219F
Ordnance Proving Ground Report .... DVA 6 Project	236U
Chassis Maintenance Manual....	MB-F1
Maintenance Manual and Spare Parts List for body & tech.eqpt.	WM 3860
Sources:....Chassis by Ford Motor Co., body assembled and equipment installed by Chrysler Corp..	

Chassis

The body and equipment are designed for mounting on a Ford, C.M.P., 3-ton, 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

Body

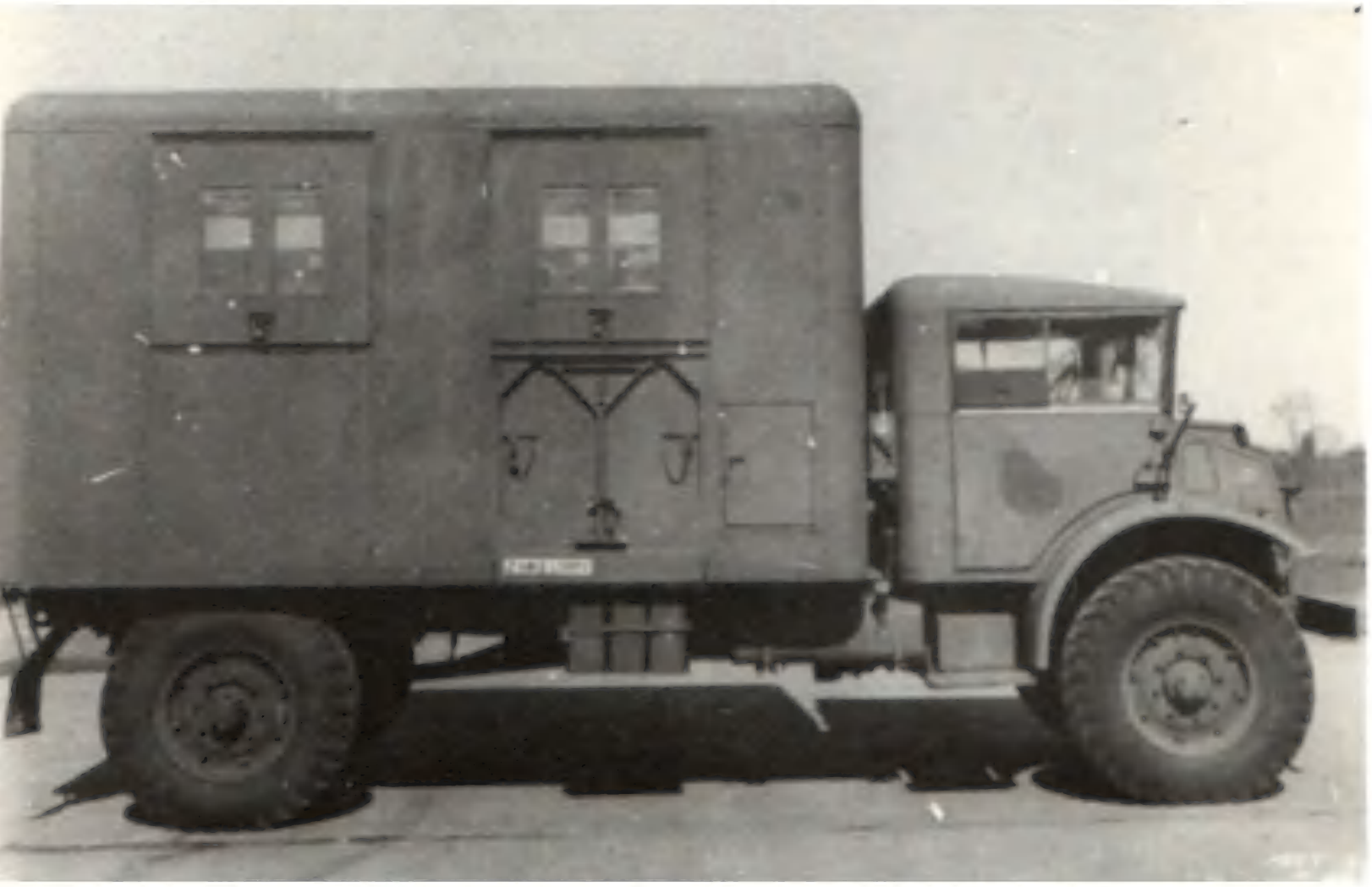
Lindsay, all steel, 12' house type body, with a dropside workbench on the right side. Two windows are fitted in each side, and these are screened with 3/8" mesh. Boards are provided for blackout use. A vehicle tool box and jerrican carrier are mounted under the body. The inside is fitted with workbenches, shelves, racks, spare tire carrier, etc.. A 110-volt D.C. overhead lighting system is supplied, blackout controlled by an automatic switch on the rear entrance doors.

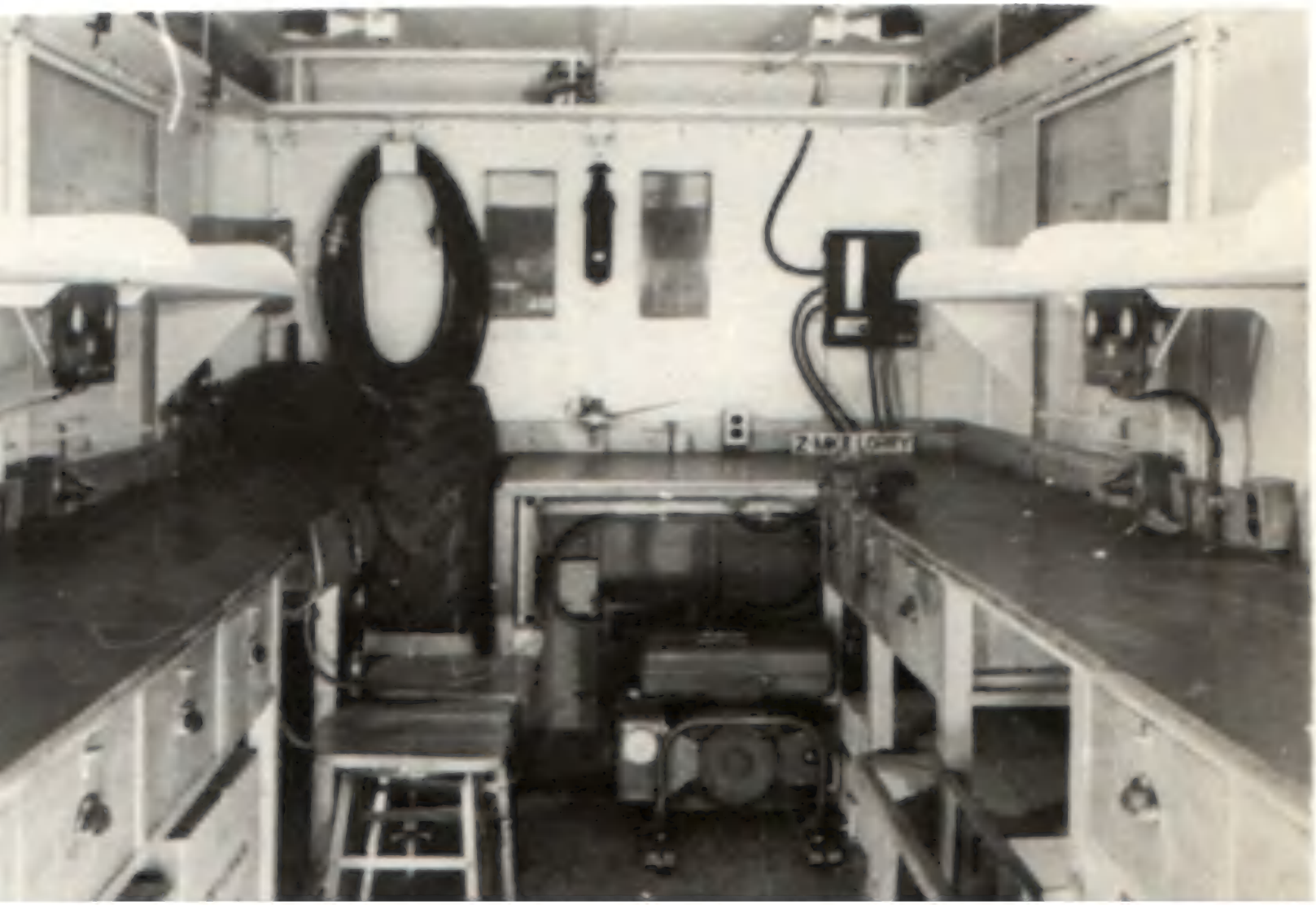
Main Items of Equipment

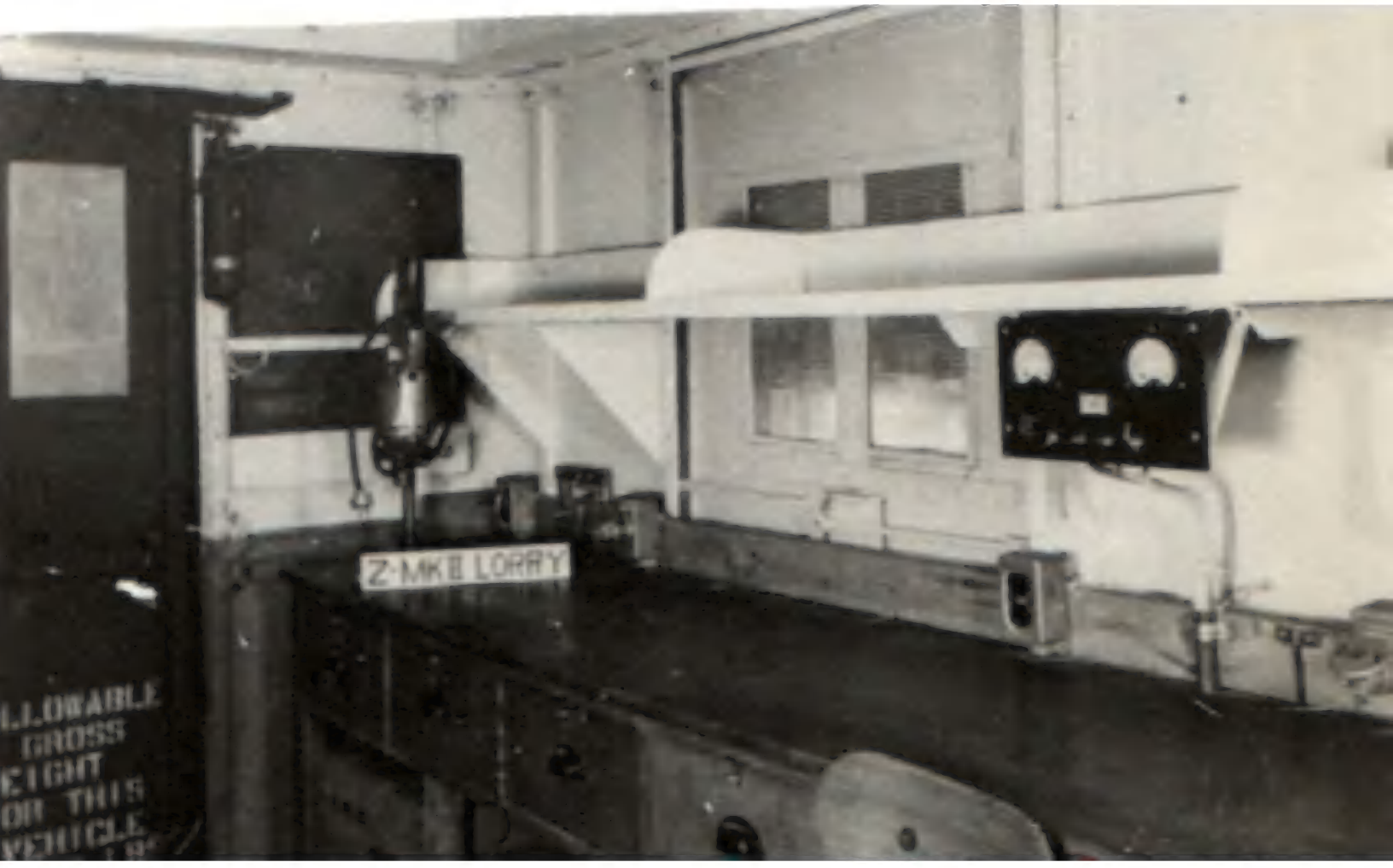
1. Generator set consisting of an A.C. generator, 2000 watt, 115-volt, 60 cycle, close-coupled to a two-cylinder, air-cooled gasoline engine, with control panel and skid base.
2. Distribution Panel, 110/220 volt.
3. Transformer, 2.75 K.V.A., 115/230 volt.
4. Test panels, bus bars, terminal blocks, receptacles, etc..
5. Portable Drill, 5/16".
6. Batteries, battery service kit, cell testers, etc..
7. Sets of drills, oil can and other hand tools.
8. Spare Parts Kits.

Note:-In early models stands and boxes were provided under the workbenches for stowage of test equipment such as Bridges, Signal Generators, etc., supplied at destination by R.C.O.C..
In later models the boxes and stands were deleted and replaced with wooden lockers and a resiliently mounted shelf across the front of the body.

Note:- This model superseded Type "Z" described on previous page.






Z-MK II LORRY

MACHINERY LORRY TYPE "ZL"

Function

The function of this vehicle is to provide facilities for the maintenance, repair and testing of Wireless Equipment in the field.

Dimensions

Overall vehicle length.....163"
" " width ..... 79"
" " height ..... 88"

Inside body length ..... 85"
" " width ..... 68-1/2"
" " headroom ..... 54"

Clearance (at Transfer Case):
Ramp at gross weight..... 8"
Minimum at gross weight ..... 14"

Angle of Approach 55° Limiting Point ...Towing Eyes
Angle of Departure 45° Limiting Point Rear Step Bracket

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)....	3405	3565	6985
Payload(3 men & eq'pt)	270	455	715
Gross	3675	4020	7700
Maximum Gross Rating	3500	4000	7820

References

A.E.D.B. Specification..... O.A. 188
A.E.D.B. Drawing Schedule.... 1099372
Munitions & Supply File No... 73-L-37
Vehicle Code No. C8A-MACH-ZL-2
Body Code No. 1C10
Chassis Model No. C8A
Pilot Model Approval No. 217F
Ordnance Proving Ground Report .....DVA 6 Project 236 T2
Chassis Maintenance Manual.... MB-C2
Maintenance Manual & Spare Parts List for body & tech. equip't. WM 3982
Sources:- Chassis and body by General Motors, equipment installed by Chrysler Corporation.

Chassis

The body and equipment is designed for mounting on a General Motors, H.U. 4x4, 101" wheelbase chassis.

Body

The body is a Heavy Utility, all steel, the latest type as shown above with spare tire mounted on right side. Two 1-gallon can carriers are mounted under the body. A ventilating door is provided for the generator in the left rear corner. The interior is fitted with workbenches, cabinets, racks and a 6-volt lighting system.

Main Items of Equipment

1. Generator set, consisting of a 115-volt, 60-cycle, single phase 3.1 amp., 350 watt A.C. 15-volt, 14 amp., 150 watt D.C. generator directly connected to 1 H.P., one cylinder gasoline engine (Onan Model #358 R.S.).
2. Control Panel for above.
3. Transformer, 500 watt, 115 volt primary, 115/230 volt secondary, 60 cycle, single phase.
4. Test panel, 6 and 12 volt.
5. Batteries, secondary, portable, 6-volt.
6. Receptacle system, interconnecting cables, electric heater, hand lamps, etc..
7. Vises, hacksaw, hand drills, soldering irons, expendable stores, etc..
8. Spare parts kits.

Note:- Test equipment such as Signal Generator, Audio Oscillator, etc., supplied at destination by R.C.O.C.


ZL-LORRY


INSTRUCT
MANUAL
INSIDE

Function:

To carry special Wireless equipment as installed by Research Enterprises Limited, Toronto.

Dimensions:	Inside	Outside
Length.....	140-3/4"	147"
Width.....	85-1/2"	94"
Height.....	71-1/4"	78-1/2"

Weight..... 4180 lbs.

References:

A.E.D.B. Specification	none
A.E.D.B. Drawing Schedule.	S-303370
A.E.D.B. Photo File.....	E-7
D.M. & S. Correspondence File.....	73-V-25
Body Code.....	5-J-4
Pilot Model Approval.....	221F
Maintenance Manual and Spare Parts List.....	Not available

Manufacturers:

Brantford Coach and Body Company, Brantford.

Chassis:

3 Ton 158" W.B. - 4 x 4 Canadian Military Pattern with 10.50 - 16 tires.

Description of Body:

12 ft. house type body of Lindsay construction. Interior is lined with plywood. Sub frame is made of steel channels, welded to longitudinal channels and steel floor. Wheel houses are provided over each rear wheel. Floor and wheel houses are insulated with wall board and covered with battle ship linoleum. Walls and ceiling are insulated with ten test. Entrance with single door is provided at rear. Folding steps are provided at rear.

Left side is equipped with an opening fitted with a platform and shelter. Platform may be used as a work bench or as a bridge when two vehicles are placed side by side.

When two vehicles are placed in this manner, provision is made for a canvas wrap around tunnel which extends over the shelter, down each side and is held in place by a draw string. This feature permits operation under blackout conditions.

One hinged door is provided in the floor and another in the side panel in the right rear corner to facilitate electrical connections. Attachments are provided on the rear of the body for a light trap, in the form of a canvas to permit vestibule entrance and exit under blackout conditions. Two static ventilators are fitted into each side panel. In the upper front corner of the right side is an outlet for an exhaust blower. This opening is equipped with a hinged door.

6 volt lights are provided in the roof coves, one in each side, one at the front and one at the rear. A bracket is provided in the roof cove on the right side to accommodate a clock. Tool boxes and carriers for spare fuel, oil and water are mounted under the front corners of the body. A tip up seat is mounted on the rear panel at the left. Spare wheel is carried between body and cab.

Operational Body 5-J-3

This body is identical with the 5-J-4 with the following exceptions:

1. Tracks added to floor for equipment.
2. Two additional ventilator openings, with hinged cover added in front of body, one at top and one at bottom.

Reference:

A.E.D.B. Drawing Schedule.....	S-303371
Pilot Model Approval.....	193 F

Operational Body 5-J-5

This body is identical with the 5-J-4 with the following exceptions:

1. 6 volt lights were not installed in front of body.
2. Tip up seat was not provided at rear of body.
3. Work bench was added in front end of body.

Reference:

A.E.D.B. Drawing Schedule.....	S-303372
Pilot Model Approval.....	F 233

LORRY, 3-TON 4 X 2 - 158" W.B. FIRE FIGHTING

Function

The function of this vehicle is to fight fires in Army camps.

Dimensions

Overall vehicle length.....	254"
" " width	87"
" " height	102"
Body length	180"
" width	88"
" height	47-1/2"

Weights

	Front	Rear	Total
Gross	4150	5750	9900

Note:- The above weights include two men in the cab, two men on the rear platform, 100 gallons of water in the booster tank but less 1000' of 2-1/2" hose and fittings which were supplied at destination.

References

A.E.D.B. Specification.....	O.A. 119
Munitions & Supply File No...	73-T-95
D.N.D. Drawing Schedule	C/T 52
Body Code No.	55A1
Chassis Model No.	F60SL
Pilot Model Approval	F 235
Chassis Maintenance Manual...	SE 29C
Fire Fighting Equipment Manual and Spare Parts List.....	SB 39

Source:- Chassis by Ford Motor, Body and equipment installation by Smith Bros. Motor Body Works.

Chassis

The body and equipment were designed for mounting on a Standard Commercial Ford, 1943 Model, 3-ton, 4 x 2, 158" wheelbase chassis with conventional type cab.

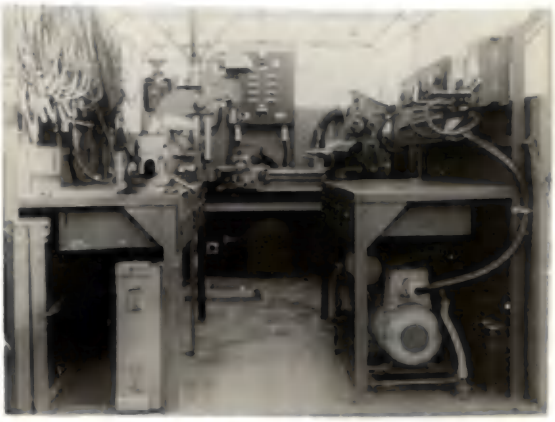
Body

The body is constructed of seasoned oak, ash or birchwood framework, reinforced with steel and covered with tempered masonite. It is divided into three compartments, two for hose and one for the booster water tank. Equipment cabinets are provided over the rear fenders.

Equipment

1. Fire Pump, centrifugal, front-mounted, gear driven from the vehicle engine, capacity of 600 U.S. gallons per minute at 120 lbs. pressure.
2. Water Tank, booster, 100 gallon.
3. Fire hose, 1-1/2", 500 ft..
4. Chemical hose, 1", 250 ft..
5. Suction Hose, 4-1/2", 10 ft. lengths.
6. Ladders, axes, respirators, searchlight, hose couplings, spanners and other fire fighting equipment.

MACHINERY LORRY TYPE "LIGHT D" (U.K. FORCES)



Function

The function of this vehicle is to provide facilities for emergency light repairs, welding and battery charging in the field.

Dimensions

Overall vehicle length	243-1/2"
" " width	88"
" " height	113"
Overall body length	144-1/2"
" " width	88"
" " height (sides)	20"
Inside body length	144"
" " width	77"
" " headroom	72"

Clearance (at Hand Brake Drum):
Ramp at gross weight ..... 3"
Minimum at gross weight..... 19"

Angle of Approach 60° Limiting Point ..Front Bumper
Angle of Departure30° Limiting Point Rear cross member

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel).	5855	9435	15300
Payload (Personnel)..	265	195	480
Gross	6120	9630	15780
Maximum gross rating	6500	10700	16000

References

A.E.D.B. Specification..... O.A. 68
Munitions & Supply File No. .. 73-L-5
Vehicle Code No. ForC-60L-WKSP-3
Body Code No. 5D4
Chassis Model No. .....(ForC) 60L
Pilot Model Approval 226F
Chassis Maintenance Manual. Ford MB-F1
G.M. MB-C2
Maintenance Manual & Spare Parts List for body and equipment SE-170
Sources :..Body by S.B.M.A., Chassis and technical equipment installed by Ford Motors or General Motors.

Chassis

The body and equipment is designed for mounting on a C.M.P. 4 x 4, 158" wheelbase chassis with 10.50 x 20 tires.

Body

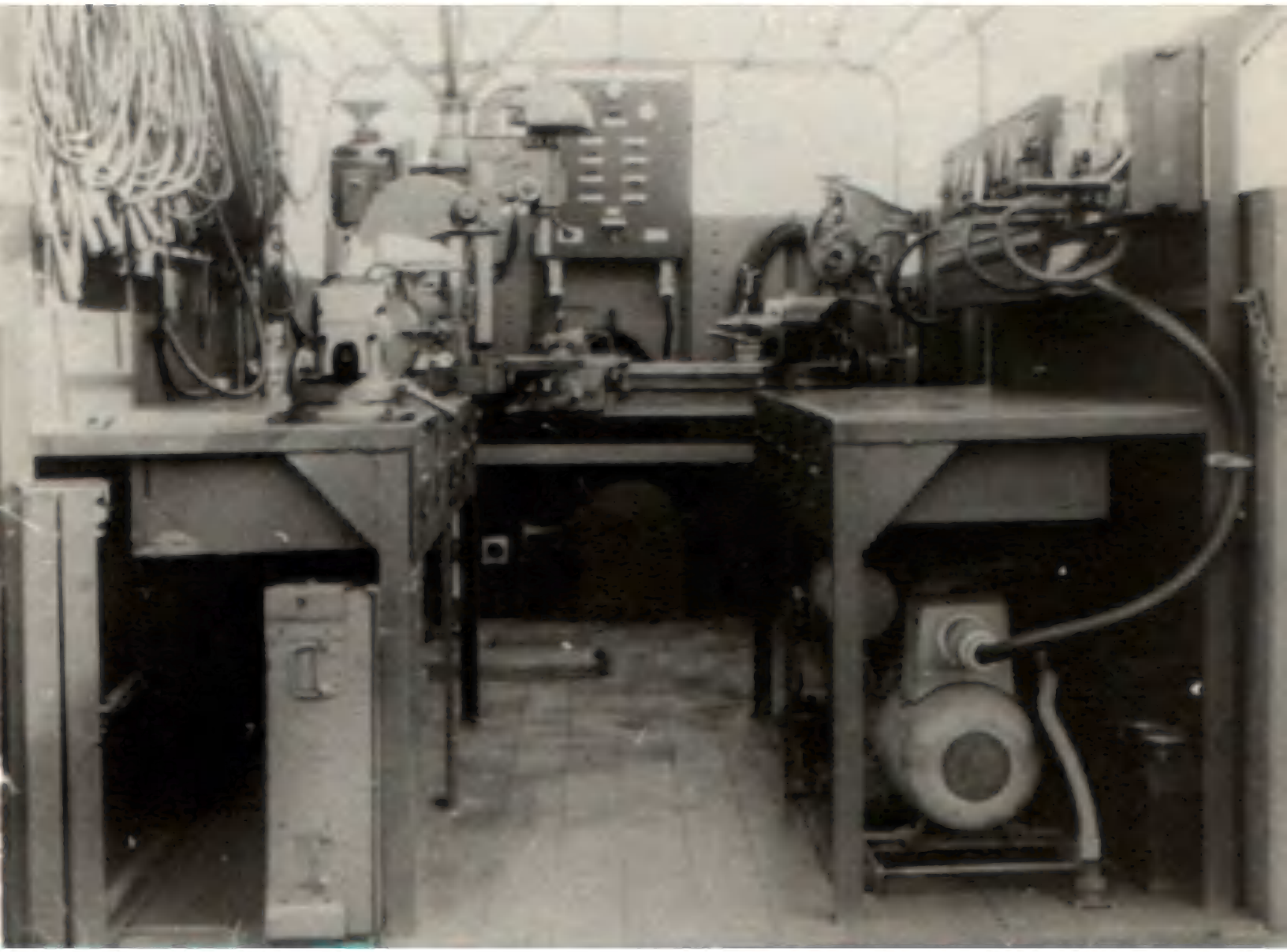
General Service type, 12', all steel body, Code 5D4, complete with tubular steel superstructure and tarpaulin. Vehicle tool box and jerrican carriers are provided under the body. The interior is fitted with workbenches, and stowage fitments for the equipment.

Main Items of Equipment

1. Generator, 3 K.W. 125-volt D.C. driven from the vehicle Power Take-off.
2. Power Panel, 3 K.W.
3. Welding Generator, 200 amp. driven from the vehicle Power Take-off.
   Note:-On earlier models a 7-1/2 K.W. Generator, 7-1/2 K.W. Power Panel and a Resistance type Welding Rheostat were supplied.
4. Generator, battery charging, 7-1/2 volt constant potential, close-coupled to a 6 H.P. air-cooled gasoline engine.
5. Battery Charging Panel, with ten charging outlets.
6. Overhead Lighting System, 110-volt, D.C.
7. Lathe, bench type, 9" swing, 28" centres.
8. Air Compressor, portable, 6 cu. Ft/min. displacement, developing pressure of 125 lbs/sq. inch, and driven by a single cylinder gasoline engine.
9. Bench Grinder, 7".
10. Portable Drill, 1/2".
11. Post Drill.
12. Arbor Press, anvil, folding forge, vises, hammers and other hand tools.
13. Battery cell testers, hand lamps, charging leads, etc..
14. Spare parts Kits.

Note:- A code 5E2 all steel, 12', flat floor G.S. type body, mounted on a 4 x 2, 158" - 160" W.B. chassis was used for early production. This type is now obsolete.

A special Light D Lorry was built for use in the Tanganyika wheat fields. It carried tools for servicing M.T. and farm tractors in addition to the regular tools.



MACHINERY LORRY TYPE "ARTILLERY ARMAMENT REPAIR" (U.S.S.R. ONLY)

Function

The function of this vehicle is to provide facilities for the repair of armament.

Dimensions

Overall vehicle length	250-1/2"
" " width	89"
" " height	124"
Outside body length	168"
" " width	89"
" " height	86-3/4"
Inside body length	165"
" " width	86-3/4"
" " headroom	74-1/2"
Clearance (at Vehicle Tool Box):	
Ramp at gross weight	10-1/2"
Minimum at gross weight	26-1/2"

Angle of Approach..61½° Limiting Point .. Towing Eye.

Angle of Departure 52½° Limiting Point .. Pintle Hook

Weights

	Front	Rear	Total
Curb (complete vehicle less personnel)...	5880	11900	17780
Payload(personnel)	295	175	480
Gross	6185	12075	18260
Maximum Gross Rating	7000	14000	20000

References

	O.A. 111
A.E.D.B. Specification	O.A. 271
A.E.D.B. Drawing Schedule	1099646
Munitions & Supply File No.....	73-19-8
Vehicle Code No.....	60660-M-MACH-AR-3
Body Code No.....	8L17
Chassis Model No.	C-60660 M
Pilot Model Approval No.	206-F
Chassis Maintenance Manual	M660-C1
Combined Maintenance Manual & Spare Parts List for body & tech.eq'pt	WM3981

Sources:- Chassis by General Motors, body assembled and equipment installed by Chrysler Corporation.

Chassis

The body and equipment are designed for mounting on a General Motors, C.M.P. 3-ton, 6 x 6, 160" wheelbase chassis with 10.50 x 20 tires.

Body

Lindsay, all steel, 14' house type body with two lift type windows on each side. The latter are screened and fitted with blackout blinds. Entrance doors are at the rear. The interior walls and ceiling are insulated with spray-on insulator, and the floor is covered with wood. Shelves, workbenches and cabinets are fitted inside the body, and penthouses, vehicle toolboxes, P.O.W. carriers, etc., are provided. A 110-volt overhead lighting system is also supplied.

Main Items of Equipment

1. Generator, 3 K.W. 125-volt D.C. V-belt driven by a 6 H.P. gasoline engine.
2. Switchboard, 3 K.W..
3. Lathe, bench type, 9" swing, 28" centres.
4. Bench, Grinder, 8".
5. Portable Drill, 1/2".
6. Arbor Press, 6-ton chain hoist, tripod for hoist.
7. Artillery Repair Kit, Armourers Repair Kit.
8. Lathe Tools, drill sets, vises, wrenches, etc..
9. Spare parts kits.

Note:- Special Tools and Gauges for 2-Pdr., 6-Pdr. 3" M7, 75 and 76 m.m. etc., were supplied in special packs and are not included in weights shown opposite.

MACHINERY LORRY TYPE "A-3"

This vehicle was built for the U.S.S.R. and is similar to Machinery Lorry, Type A, with the exceptions noted:-

1. Body arcticized by use of:-
   (a) Spray-on insulation on interior walls and ceiling.
   (b) Wooden flooring over steel floor.
   (c) Arcticized duck for penthouses, etc..
   (d) Motorola Heater, 40000 B.T.U.
2. Chassis arcticized in accordance with A.E.D.B. Specification O.A. 111.
3. Additional sets of drills, lathe tools and miscellaneous hand tools supplied. Due to weight limitations these were shipped in a separate pack.
4. Weights

	Front	Rear	Total
Curb	5755	14385	20165
Payload	405	140	525
Gross	6160	14525	20690
Maximum Gross Rating	7000	14000	20000

5. References

A.E.D.B. Specification .... O.A. 162-3
A.E.D.B. Drawing Schedule.. 1086335
Munitions & Supply File.... 73-19-10
Vehicle Code No. 60660-M-MACH-A-3
Body Code No. 8L10
Pilot Model Approval 151F
Maintenance Manual & Spare Parts List for Body & tech. eq'pt. WM 3959

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MACHINERY LORRY TYPE "D-3"

This vehicle was built for the U.S.S.R. and is similar to Machinery Lorry Type "D", with the exceptions noted:-

1. Body arcticized by use of:-
   (a) Spray-on insulation on interior walls and ceiling.
   (b) Wooden flooring over steel floor.
   (c) Arcticized duck for penthouses, etc..
   (d) Motorola gasoline heater, 40000 B.T.U..
2. Chassis arcticized in accordance with A.E.D.B. Specification O.A. 111.
3. Additional sets of drills, lathe tools, armourers kit supplied. Due to weight limitations these were shipped in a separate pack.
4. Weights

	Front	Rear	Total
Curb	6030	12450	18465
Payload	295	175	480
Gross	6325	12625	18945
Maximum Gross Rating	7000	14000	20000

5. References

A.E.D.B. Specification.....O.A. 165-3
A.E.D.B. Drawing Schedule.... 1086926
Munitions & Supply File No.... 73-19-2
Vehicle Code No.....60660-M-MACH-D-3
Body Code No. 8L9
Pilot Model Approval 162F
Maintenance Manual & Spare Parts List for body & tech. eq'pt. WM 3960

MACHINERY LORRY TYPE "F-3"

This vehicle was built for the U.S.S.R., and is similar to Machinery Lorry Type "F" with the exceptions noted:-

1. Body arcticized by use of:-
   (a) Spray-on insulator on interior walls and ceiling.
   (b) Wooden flooring over steel floor.
   (c) Arcticized duck for penthouses, etc..
   (d) Motorola Heater, 40000 B.T.U..
2. Chassis arcticized in accordance with A.E.D.B. Specification O.A. 111.
3. Generating Set engine arcticized by use of:-
   (a) A housing completely covering the set.
   (b) Gasoline water heater.
   (c) Dole primer.
   (d) Insulated battery box.
   (e) Crankcase prediluter.
   (f) Crankcase ventilator valve.
4. Switchboard and Electric Servicer nameplates and instruction plates printed in Russian.
5. Weights

	Front	Rear	Total
Curb	6275	13185	19505
Payload	270	195	495
Gross	6545	13380	20000
Maximum Gross Rating	7000	14000	20000

6. References

A.E.D.B. Specification .....O.A.	168-3
A.E.D.B. Drawing Schedule	1086573
Munitions & Supply File	73-19-4
Vehicle Code No.....60660-M-MACH-F-3	
Body Code No.	8L13
Pilot Model Approval	164F
Maintenance Manual & Spare Parts List for body & tech. eq'pt...	WM 3961

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MACHINERY LORRY TYPE "Z-3"

This vehicle was built for the U.S.S.R., and is similar to Machinery Lorry Type "Z" with the exceptions noted:-

1. Body arcticized by the use of:-
   (a) Spray-on insulation on the interior walls and ceiling.
   (b) Arcticized duck for penthouses, etc..
   (c) Motorola Heater, 40000 B.T.U..
2. Chassis arcticized in accordance with A.E.D.B. Specification O.A. 111.
3. Equipment arcticized by use of:-
   (a) Insulated battery box with electric heaters.
   (b) Portable steel housing for generator set with duct.
   (c) Hand Crank heater for use with generator set housing.
4. Test equipment such as Bridges, Capacity Resistance, Signal Generators, Wavemeters, etc., supplied.
5. Spare parts kits for heaters and test equipment.
6. Weights

	Front	Rear	Total
Curb	6135	11210	17395
Payload	290	200	465
Gross	6425	11410	17860
Maximum Gross Rating	7000	14000	20000

7. References

A.E.D.B. Specification.....O.A.	185-3
A.E.D.B. Drawing Schedule	1099039
Munitions & Supply File No....	73-19-6
Vehicle Code No.....60660-M-MACH-Z-3	
Body Code No.	8L15
Pilot Model Approval	173F
Maintenance Manual & Spare Parts List for body & tech. eq'pt..	WM 3963

MACHINERY LORRY TYPE "M-3"

This vehicle was built for the U.S.S.R., and is similar to Machinery Lorry Type "M", with the exceptions noted:-

1. Body arcticized by use of:-
   (a) Spray-on insulation on the interior walls and ceiling.
   (b) Wooden flooring over the steel floor.
   (c) Arcticized duck for penthouses, etc..
   (d) Motorola Heater, 40000 B.T.U..
2. Chassis arcticized in accordance with Munitions & Supply Specification C.A. 111.
3. 7-1/2 K.W. Generating Set engine arcticized by use of:-
   (a) Gasoline water heater.
   (b) Insulated battery box.
   (c) Dole primer.
   (d) Crankcase prediluter.
   (e) Crankcase ventilator valve.
4. Battery charging sets were removed and shipped in special pack listed as Item 5.
5. A special pack of related equipment such as tool chests, porto power outfit, wrench sets., etc., was shipped with each lorry.
6. Weights

	Front	Rear	Total
Curb	7795	17510	25430
Payload	385	210	520
Gross	8180	17720	25950
Maximum Gross Rating	8135	18265	26400

7. References

A.E.D.B. Specification .....O.A. 173-3
A.E.D.B. Drawing Schedule 1099858
Munitions & Supply File.....73-19-10
Vehicle Code No. 80661-C-MACH-M-3
Body Code No. 8K3
Pilot Model Approval 200F
Maintenance Manual & Spare Parts List for body & tech. eq'pt.. WM 3962

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MACHINERY LORRY, TYPE "OFP BATTERY CHARGER - 3"

This vehicle was built for the U.S.S.R. and is similar to Machinery Lorry Type "O.F.P. Battery Charger", with the exceptions noted:-

1. Body arcticized by the use of:-
   (a) Arcticized duck for penthouses, tarpaulins, etc..
   (b) Two Motorola Heaters, 20000 B.T.U..
   (c) Steel panel at rear fitted around superstructure bow.
2. Chassis arcticized in accordance with A.E.D.B. Specification O.A. 111.
3. Generating Set engine arcticized by use of:-
   (a) Gasoline Water Heater.
   (b) Insulated battery box.
   (c) Dole primer.
   (d) Crankcase pre-diluter.
   (e) Crankcase ventilator valve.
   (f) Cold weather diaphragm on fuel pump.
4. Control Cubicle and Switchboard Panel Instruction plates printed in Russian.
5. Weights

	Front	Rear	Total
Curb	5675	10380	16070
Payload	345	180	510
Gross	6020	10560	16580
Maximum Gross Rating	6500	10700	16000

6. References

A.E.D.B. Specification.....O.A. 276
A.E.D.B. Drawing Schedule.....1085537
Munitions & Supply File No. ...73-19-3
Vehicle Code No.....60448-M-MACH-BC-3
Body Code No. 8K3
Pilot Model Approval 200F
Maintenance Manual & Spare Parts List for body & tech. eq'pt...WM 3962