DESIGN RECORD

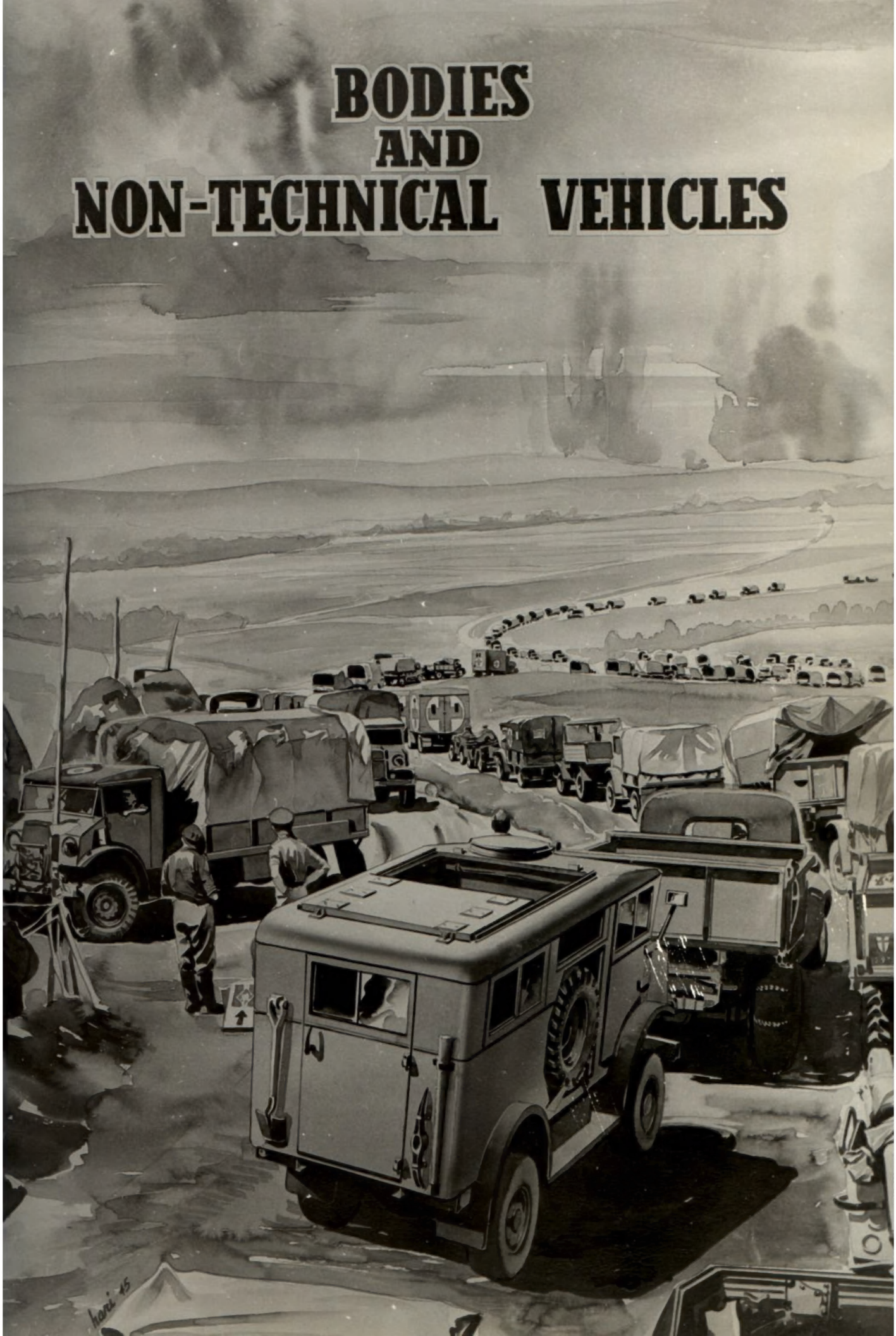
CANADIAN-DEVELOPED MILITARY VEHICLES WORLD WAR II

VOLUME V

BODIES AND NON-TECHNICAL VEHICLES

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

BODIES AND NON-TECHNICAL VEHICLES



NON-TECHNICAL VEHICLES
AND
BASIC BODIES

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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.

A A A A

BODIES GENERALLY

Q Exclusive of Dental and Wireless bodies, can house type bodies be replaced by the general service type with a modification kit to suit the required role, bearing in mind weather problems?

A It is doubtful that house type bodies at present in use could be replaced by GS type with modification kit. Each case should be individually questioned as to necessity for use, but present house type bodies which have been considered, such as machinery lorries, RASC vans, etc., are considered necessary in view of dirt, dust and weather conditions.

Q If house type bodies are necessary, can the length be standardized to 12 and 14 foot bodies and meet all requirements as to length, excluding the Ambulance body?

A Excluding the ambulance body, close questioning has revealed no good reason why standard 12 ft. and 14 ft. house type bodies will not meet all requirements, providing care is taken in the layout and installation of machinery and equipment required to be fitted inside.

Q Exclusive of winterized vehicles, if house type bodies are necessary should they have insulation between walls to reduce condensation and inside temperature caused by sun rays?

A With exception of wireless vehicles and similar special types in which insulation is integral with built-in veh fittings, insulation between walls is not considered necessary for house type vehicles as manufactured. In the majority of cases where insulation is required, suitable type can be put in in the field. Requirements and types of insulation vary greatly. Insulation does not materially reduce condensation which results from quick heating of small cubic air space inside low ceiling vehicle. Excessive inside temperature caused by sun is not materially reduced by insulation. An outside canopy sun shade suspended over vehicle is more effective and economical than insulation of walls.

Q If house type bodies are necessary, what is the minimum head room for practical purposes in order to establish a standard for all types?

A A standard minimum headroom for practical purposes in house type bodies is recommended to be 6'4" at centre peak inside.

Q Can the adjustable type of superstructure be eliminated?

A Adjustable type of superstructure is of little practical use in the field. Superstructure is used in full up position or removed altogether. When removed, tarpaulin is frequently lashed down over a low load.

Q- If the adjustable type superstructure is eliminated what headroom would meet requirements for general service bodies:
(a) minimum
(b) desirable

A (a) Minimum working headroom 6'2" at centre peak inside clear.
(b) Desirable working headroom 6'4" at centre peak inside clear.

Q Should the depth of side panels for general service bodies be reduced to eliminate the danger of over-loading?

A Existing depth of side panels for GS vehicle bodies are considered satisfactory and it is not recommended they be reduced. It is not felt that this would in any way eliminate the danger of overloading, any reduction would reduce bulk carrying capabilities.

Q Is the flat floor type general service body preferable to the wheel house type, bearing in mind that the former provides an unrestricted load space, whereas the latter provides lower loading height and lower centre of gravity resulting in lower chassis and, particularly, tire strain?

A Although the flat floor type GS body may offer the occasional advantage, the wheel well type is preferable for reasons given in question.

Q In order to lighten GS bodies, and thus provide better vehicle performance and longer tire life, would it be reasonable to reduce durability slightly? (This question is based on statements from field that Canadian steel bodies outlast the chassis).

A General opinion is that it would be worth experimenting with reduction of durability of GS bodies in order to lighten vehicle and improve performance. Existing body (i.e. steel box) has been most satisfactory. It is doubtful that economical reduction would be worthwhile.

CABS

Q Is the visibility advantage of semi-cab-over-engine type vehicles material compared with conventional type of vehicles?

A Visibility is considered better in semi-cab-over-engine type, especially in working in restricted spaces.

Q Are cab-over-engine advantages sufficient to outweigh the disadvantages of restricted space for vehicle maintenance operations?

A Advantages of cab-over-engine are considered desirable. Few, if any, complaints have been made that vehicle maintenance work is restricted or difficult in this type of vehicle.

Q Is the forwarding sloping windshield of C.M.P. cab advantageous?

A The forward sloping windshield is considered to be an advantage over the vertical or backsloping type principally because it does not pick up road glare to the same extent, and does not show a flash reflection at long distances which can be seen by the enemy, as the reflection is downward. Some drivers also contend that the forward slope (angle of refraction) eliminates, to a large extent, windshield glare from on-coming vehicles at night.

Q Is the all steel cab preferable to the American type steel lower half with soft top?

A The steel cab with roof hatch is generally preferable to the American steel lower half with soft top. Every country has wet and cold periods.

PENTHOUSES

Comment received from C.M.H.Q., dated July 13th, 1945:

"These penthouses have done a good job. Ease of erection is of primary importance in design of these shelters."

GENERAL SERVICE VEHICLES

Q Can 15-cwt. 4 x 4 GS Trucks be replaced by Lorries 3-ton 4 x 4 GS? If Truck 15-cwt. 4 x 4 GS is required in certain WEs, state reasons.

A It is not considered feasible that lorry 3-ton 4 x 4 GS could suitably replace truck 15-cwt. 4x4 GS in all uses so as to eliminate 15-cwts. The 15-cwt. is considerably more manoeuvrable, is faster, can get through traffic quickly compared to 3-ton and will operate successfully on ground and under conditions where the 3-ton would stall or bog down or is too large for the purpose. The 15-cwt. is ideal for unit light delivery truck and medical purposes, for which 3-ton is too large or cumbersome. It is ideal for small working parties and sub-sections moving independently, and is generally used by all units for light, fast pick-up, ration deliveries, parts and stores service, etc..

Q Is the pay load capacity of the lorry 3-ton 4 x 4 GS sufficient or is the tendency in the field to overload these vehicles?

A The payload capacity of the lorry 3-ton 4 x 4 GS is considered to be sufficient for its purpose and there is seldom, if ever, any good reason to overload these vehicles other than lack of adequate transport or indifference, neither of which is the fault of the vehicle. Mounted on a 6x6 chassis a 4-ton vehicle would solve the majority of problems in loading 1098 actual requirements, ease the driver problem and generally be more acceptable under up-to-date conditions and operational demands in the field. Should Canadian firms be unable to produce 4 ton lorry 6x6 in large numbers, heaviest 3-ton or over Std Veh 6x6 is recommended.

Q Would a 3-ton 6x6 GS load carrying vehicle be preferred to the present 3-ton 4 x 4?

A A 3-ton 6x6 GS vehicle is considered preferable to the 3-ton 4 x 4 although if we are going into 6x6 vehicles of this class it would seem sensible to build a 4 or 5-ton 6x6 vehicle to replace the present 3-ton 4 x 4 unit should this be possible and feasible from production point of view.

HEAVY UTILITY LORRIES

TRUCK, HUP, 8-CWT 4X4

Infantry: This type of vehicle proved to be very satisfactory in the field when fitted up as an office for paymasters, company officers, adjutants, etc.. It is considered to be preferable to a 15-cwt. size office lorry due to the abundance of space and inside body length for this particular use. It is suggested that this vehicle be equipped with a spare tire on the rear and have three low removable seats for when used as troop carrier.

RCEME: These vehicles used mostly as personnel carriers as such should be fitted with two more seats. Also used by RCEME, with Telecomn trucks, to go with minimum equipment on inspections, etc.. Satisfactory under all road conditions and has lots of power under all conditions. Front springs break frequently.

DENTAL LORRIES

Dentals: Requires body insulation and the installation of a washbasin and drain. Could be equipped with a water supply tank and small water heater unit such as spirit heater and coil. Lighting system is unsatisfactory.

Dentals (Cont'd.)

The present Lorry was found to be quite satisfactory in the field as regards speed and power, manoeuvrability and performance in all road conditions. The dimensions of the present body are quite satisfactory and the flat floor without fender wells is necessary. The present 4x4 drive is quite sufficient having regard to the load carried. Recommended improvements should include a completely insulated body and the floor covered with heavy type of linoleum. The window at the front of the body should be the same type as side windows so that the screening can be used. A screen door in two sections should also be fitted. It has been found that the wooden door is not satisfactory. Due to warpage, it needs constant refitting. The door lock (padlock type) is not satisfactory due to interchangeability of keys with consequent loss of equipment. A Yale Mortice lock is suggested. Levelling jacks similar to those used on machinery lorries should be installed so that the body can be levelled up on any type of ground and be kept stable. The clinics should have a built-in sink and an outside fill water reservoir, also cupboards rather than open shelves for towels and clothing. More ring-bolts are necessary in the floor to hold down equipment while on the move. The present lighting system should have the addition of an extendable bracket type operating light. The auxiliary 6-volt lighting system should be run on extra batteries carried on a rack in the chassis rather than from the battery of the lorry. If a variable transformer is installed, electric power could be used quite often to save wear and tear on the generator or an alternative 110/220 V light system be wired in for use when the Dental Lorry is working in unit lines where power is available. The vehicle battery will not stand up to constant use without running the motor, which is noisy, sets up vibrations in unit and not good for the engine in hot weather as it overheats when not moving.

ARTILLERY TRACTORS

Medium Arty Tractors

Q Both the FWD(SU) 4-ton 4 x 4 and Mack 6-ton 6x6 have been used as MAT's. Is the Mack 6-ton 6x6 preferred because it is a 6x6 with corresponding improved traction and flotation?

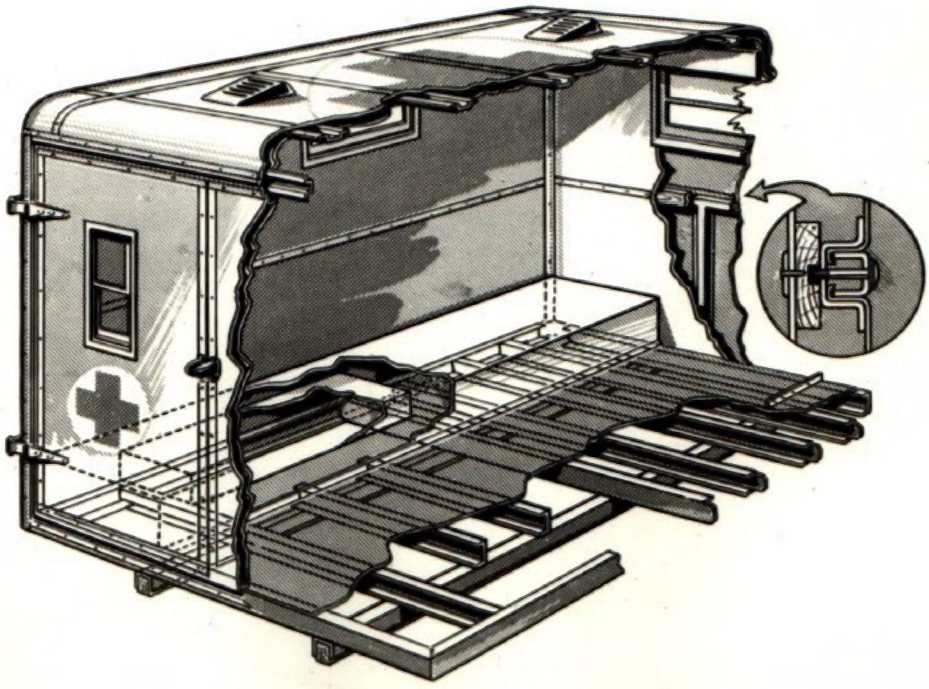
A The Mack 6-ton 6x6 is preferred as a MAT because it is 6 x 6 drive, better weight balance when loaded and generally better performance in this role.

ALL VEHICLES

Q Has there been much trouble due to loosening of bolts, etc., due to vibration? Are more severe vibration tests required?

A Principal frequency of loosening of bolts is with body and frame U/bolts, common on most vehicles. Checking tightness of bolts is part of task system, most other body and engine bolts are reasonably secure. More severe vibration tests are not considered necessary.

BASIC BODIES



BASIC BODIES

FOREWORD

In 1939, the number of manufacturers who specialized in truck body construction was not great, and an even lesser number was adequately equipped with modern facilities, especially such facilities as are required for the manufacture of sturdy steel bodies. This situation resulted from the fact that the majority of the truck bodies which were being produced for commercial purposes were platform-stake type, in which woodworking was predominant, with rolled steel angles and/or channels being cut, drilled and fitted for assembling the bodies. In other words, the number of sheet metal covered, or fabricated bodies being built was not sufficient to warrant heavy expenditures for such items of equipment as power shears, power breaks and punch presses, because the majority of the manufacturers involved were very small in comparison with the Motor Car manufacturing companies which were producing the chassis.

The majority of chassis produced, in peacetime, by the three large Automotive Manufacturers, were for passenger cars. Further, these same companies produced a large number of "panel" and "pick-up" commercial bodies. However, orders for truck bodies placed with the truck-body industry were related to the remaining commercial chassis, and these represented a very small proportion of the entire chassis building potential.

Thus, when all chassis building was diverted to truck requirements for military purposes, and when each of the chassis required a truck body, a tremendous load was placed upon the Canadian truck body industry. In fact, it was too great, and additional sources and facilities had to be developed rapidly. Therefore, it was suggested by Ottawa authority, that a group of sheet metal working firms and body builders form an association to assist each other in producing truck bodies in large quantities. The Steel Body Manufacturers' Association was formed, and arrangements made to pool purchasing facilities, in addition to other means of helping each other. A list of all contractors is included in Specifications O.A. 33 and O.A. 86.

It was necessary that the central design control must be familiar not only with the equipment in all plants, but make sure that the body design was so established, that all plants, large or small, meagrely or well equipped, could utilize their production facilities to full capacity. This was difficult, and owing to the urgent need for bodies, it was impossible to attain this objective immediately, but early in 1941, this result was achieved.

A.B.D.B. established and controlled the body design, and acknowledges the support and assistance of the contractors and S.B.M.A.

The early body design specified such items as non-standard bolts and rolled steel sections which were not normally stocked, while many of the parts required highly skilled labour in layout work to obtain the radii or contours called for on the existing drawings. With the change of design to the "Budd" type body, came the change from specially formed sections to square break parts, with the result that press breaks and rollers no longer were necessary, because the bodies could be produced by the use of shears, power breaks, drill presses and arc welding machines. In this regard, exception must be made for the Lindsay type construction, the Heavy Utility body, and for cabs. The Lindsay bodies were prefabricated by one source, while the Heavy Utility bodies, and the Cabs, were products of the Motor Car manufacturers, and not the truck body industry.

Deviations from Design were granted from time to time, which allowed certain manufacturers to take advantage of their press break equipment in the forming of sections, and when production capacity warranted, additional pieces and parts were processed through these machines, and turned over to other contractors. In addition, when mild steel, produced from billet stock, was removed from available materials for body construction, it was necessary to utilize plant facilities in the farm implement industry to shear and punch steel which had been processed from reclaimed rail steel. This was very difficult work and required heavy equipment.

For future planning, it is suggested that every consideration be given to utilizing to the fullest extent, the die-press capacity of the better equipped sheet metal and body manufacturing plants in order to produce standard parts for all body contractors. In this manner, steel would be conserved, and light-weight design could be established so as to increase chassis performance and add to the life of tires.

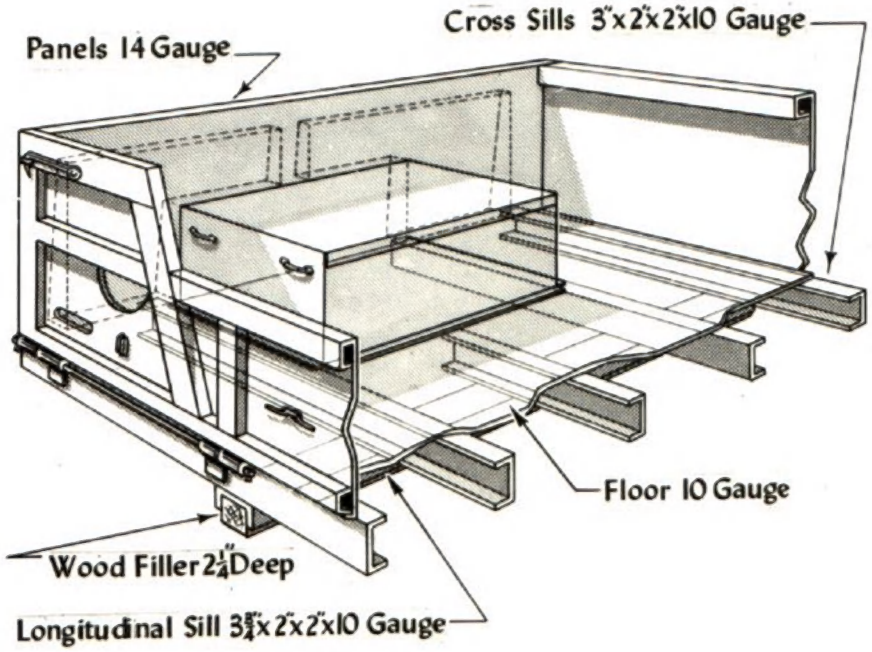
BASIC BODIES

The term "Basic Body" is used to designate the type and construction of a vehicle body, before any modifications are made to suit the particular role of the vehicle, and prior to the installation of any fittings or fixtures which may be required.

G.S. ALL WELDED, ALL STEEL

15 CWT WELDED STEEL BODY - 2C1

The 15-Cwt. General Service, all welded, all steel body was the first basic body which was produced in quantity. This body carried Body Code 2C1, and was mounted on 15-cwt. C.M.P. 4 x 2 and 4 x 4 - 101" W.B. chassis. It was used as the basic body for the following vehicles:- 15 Cwt. 4 x 2 General Service, 15-Cwt. 4 x 2 Van, 15-Cwt. 4 x 2 Cable Layer, 15 Cwt. 4 x 2 Personnel Carrier, 15-Cwt. 4 x 2 Anti Tank Tractor, 15 Cwt. 4 x 2 Anti Aircraft and Anti Tank Tractor, 15-Cwt. 4 x 4 General Service, 15-Cwt. 4 x 4 Van, 15-Cwt. 4 x 4 G.S. Office, 15-Cwt. 4 x 4 Cable Layer, 15-Cwt. 4 x 4 Personnel Carrier, 15-Cwt. 4 x 4 Anti Tank Tractor, 15-Cwt. 4 x 4 Anti Aircraft and Anti Tank Tractor, 15-Cwt. 4 x 4 G.S. Wireless.



CONSTRUCTIONAL DRAWING OF 2C1 - 15 CWT - BASIC BODY

Dimensions:

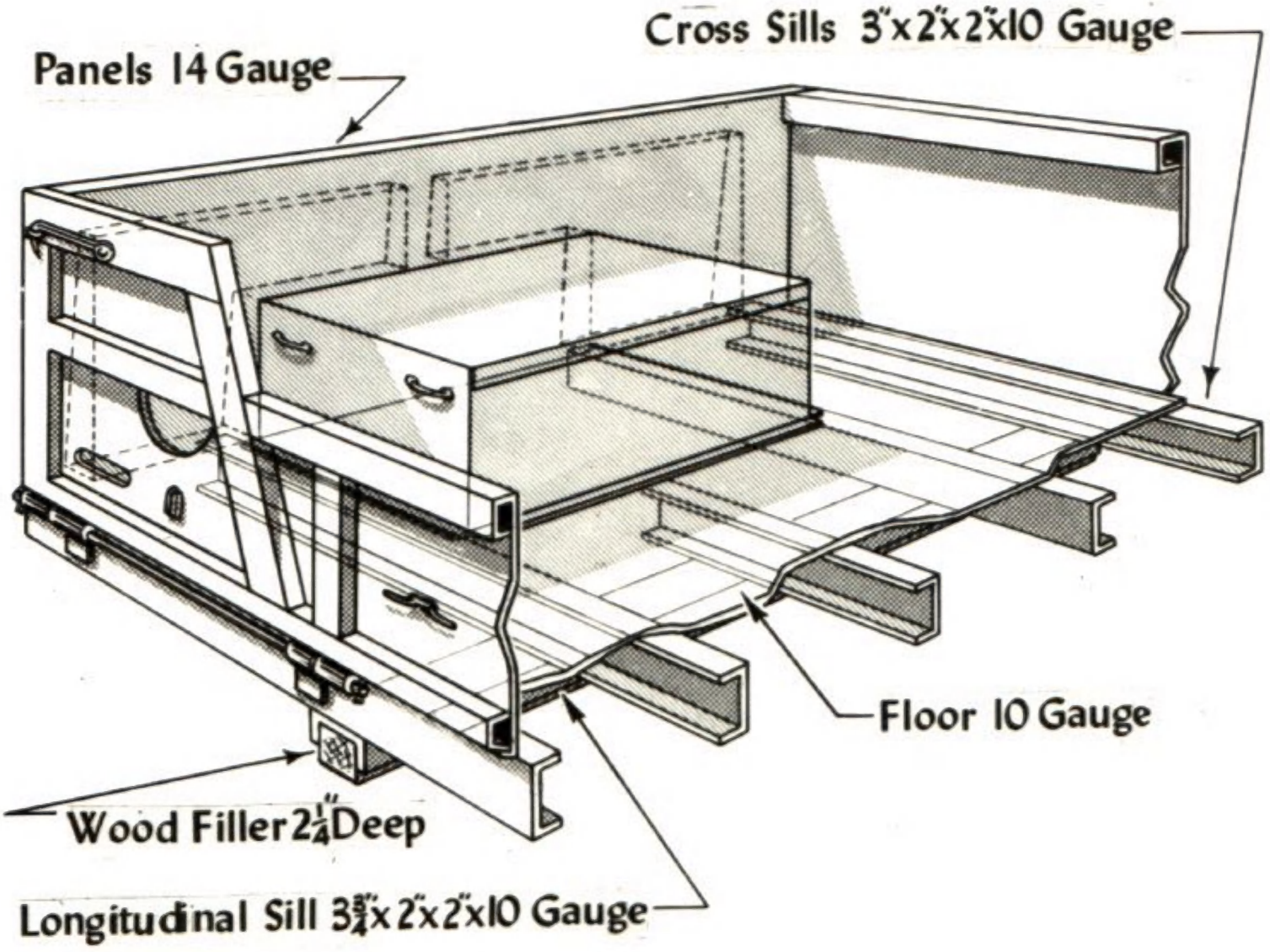
Overall length of body	81-1/2"
Overall width of body	85-5/8"
Inside length of body	77-1/2"
Inside width of body	81"
Inside height of sides	22"

Weights:

Weight of basic body	867 lbs.
Weight of P.O.W. Carriers	48 lbs.
Weight of Superstructure	38 lbs.
Weight of Tarpaulin	58 lbs.
Weight of Tool box	108 lbs.
Weight of Spare Tire Carrier	70 lbs.
Total	1189 lbs.

Description of Body:

The body is a gussetted "Budd" type, all welded, all steel body, with five (5) cross sills of 10 ga. H.R.B.A. steel formed channel, 3" x 2" x 2", welded to two (2) longitudinal sills of 10 ga. H.R.B.A. steel formed channel 3-3/4 x 2" x 2". The cross sills are laid on their flanges, the flanges of the sills being welded to the longitudinal sills and floor sheet respectively, while the longitudinal sills are inverted, with hardwood or B.C. Fir sill fillers which act as compression blocks, and eliminate metal to metal contact with the chassis frame side members. The floor sheet is of 10 ga. H.R.B.A. steel plate, with 36" wheel houses. The sides and front panel of the body, which are of 14 ga. H.R.B.A. steel, are fixed, and the tailgate is hinged at the bottom with four (4) strap hinges. Hooks are provided on the side panels for retaining the tailgate in the "up" position. Lashing hooks and cleats are welded to the side panels, front panel and tailgate, for lashing down the tarpaulin. One (1) steel box is suspended from each of the four corners of the body and holds one (1) two (2)-gallon or two (2) one (1)-gallon cans for carrying Petrol, Oil or Water.


Cross Sills 3"x2"x2"x10 Gauge
Panels 14 Gauge
Floor 10 Gauge
Wood Filler 2¼" Deep
Longitudinal Sill 3¾"x2"x2"x10 Gauge

Description of Body (Continued)

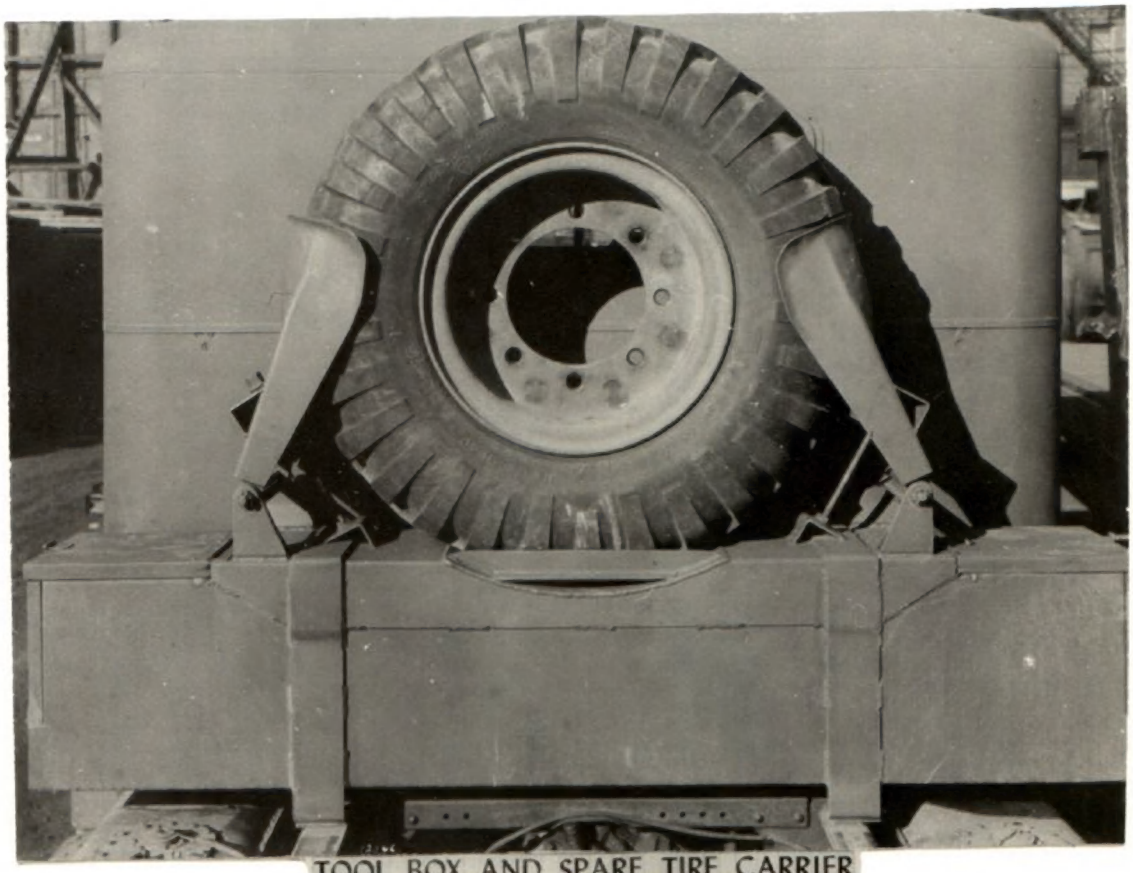
A combination steel tool box and spare tire carrier - 66" x 11-1/4" x 13-5/8" - is mounted laterally across the chassis frame, between the cab and the body, the spare tire carrier being seated on top of the tool box, with one (1) fixed arm and one (1) hinged arm to allow easy mounting and dismounting of the spare tire.

Accomodation is made for a tubular superstructure and tailored tarpaulin. However, a flat tarpaulin also may be used with this body, without the superstructure.

References:

D.M. & S. Schedule of Drawings

Basic Body	S 16703
Tool Box	G 12358
Spare tire carrier	E 12396
Superstructure	C 11056
Wrap around tarpaulin	G 1602
Flat tarpaulin	E 1601



TOOL BOX AND SPARE TIRE CARRIER
2CI - 15 CWT - BASIC BODY

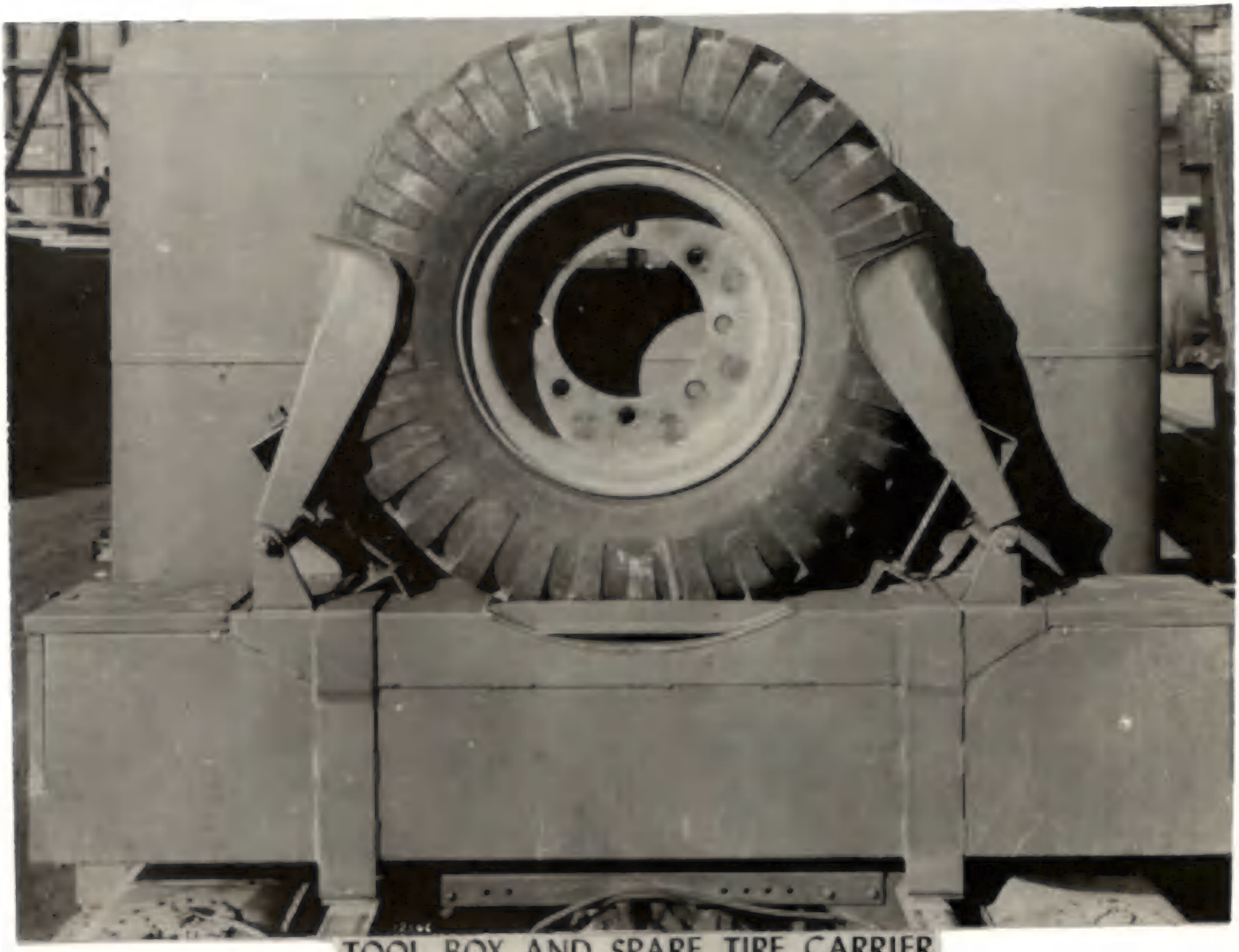
* * * *

12 FT WELDED STEEL BODIES 5E3 &5F1

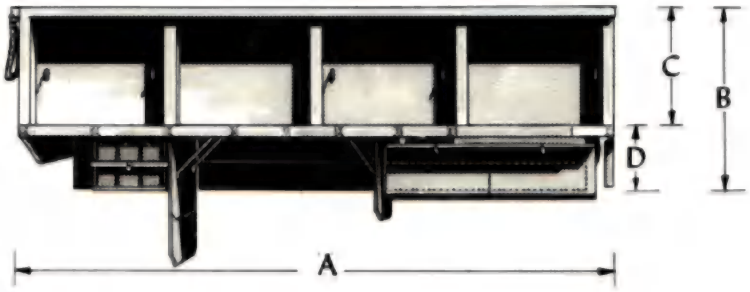
Two 12 ft. all welded, all steel basic bodies were produced, the 5E1 - later modified to 5E3 - having a flat floor, for mounting on 3-ton Modified Conventional 4 x 2 - 158" & 160" W.B. chassis, and the 5F1 with 54" wheelhouses for mounting on 3-ton C.M.P. 4 x 4 - 158" W.B. chassis.

12 FT FLAT FLOOR BODY - 5E3

The 5E3 basic body was used in the construction of the following lorries :- the 2-ton 4 x 2 General Service Lorry, the 3-ton 4 x 2 General Service Lorry, the 3-ton 4 x 2 Stores and the 3-ton 4 x 2 Workshop. It was also used in the 3-ton C.M.P. 4 x 4 Stores Mk. II.



TOOL BOX AND SPARE TIRE CARRIER
2C1 - 15 CWT - BASIC BODY



DIMENSIONS	A	B	C	D			WIDTH
OVERALL	149"	45"		14-7/8"			88"
INSIDE	141"		30"				80"

NOTE:- D INDICATES WHEELHOUSE CLEARANCE FROM BOTTOM OF RIVET STRIP

Weights:

Basic Body	1720 lbs.
Tool boxes & chain lockers	245 lbs.
Jerrican carriers (2)	51 lbs.
Superstructure	194 lbs.
Tarpaulin	78 lbs.
Grille	21 lbs.
Total	2309 lbs.

References:

D.M. & S. Schedule of Drawings

Basic Body	S	19450
Tool boxes & chain lockers	A	19503 & 6
Jerrican Carriers	E	340187
Superstructure	G	16500
Tarpaulin	E	1154

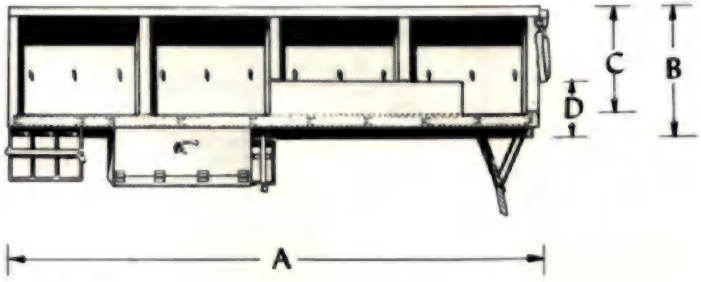
Description of Body

This basic body was a gussetted "Budd" type, flat floor, all welded, all steel body. The substructure consisted of nine (9) 10 ga. H.R.B.A. formed steel cross members, 2 x 3 x 2 welded to two (2) 10 ga. H.R.B.A. formed steel longitudinal members, 2-3)4 x 6-3/8. The webs of the longitudinal members were welded to the lower flange of the cross sills,and the upper flanges of the cross sills were welded to the floor sheet. Longitudinal sill fillers were installed to provide compression between the body and the chassis frame side members. The floor sheet was of 10 ga. H.R.B.A. steel plate. Steel wear strips were welded to the upper side of the floor sheet. The side panels and front panel were of 14 ga. H.R.B.A. steel and the tailgate was of 12 ga. H.P.B.A. formed steel, all stiffened by means of box-like gussets. A drop chain was provided for the tailgate. A tubular steel superstructure was provided, with wrap-around tarpaulin, while a tubular steel grille was seated in sockets in the front panel, in order to protect the cab and driver from damage or injuries by possible surging of the load. The spare tire was housed in the right front of the substructure and was mounted from the right side of the body.

x x x x

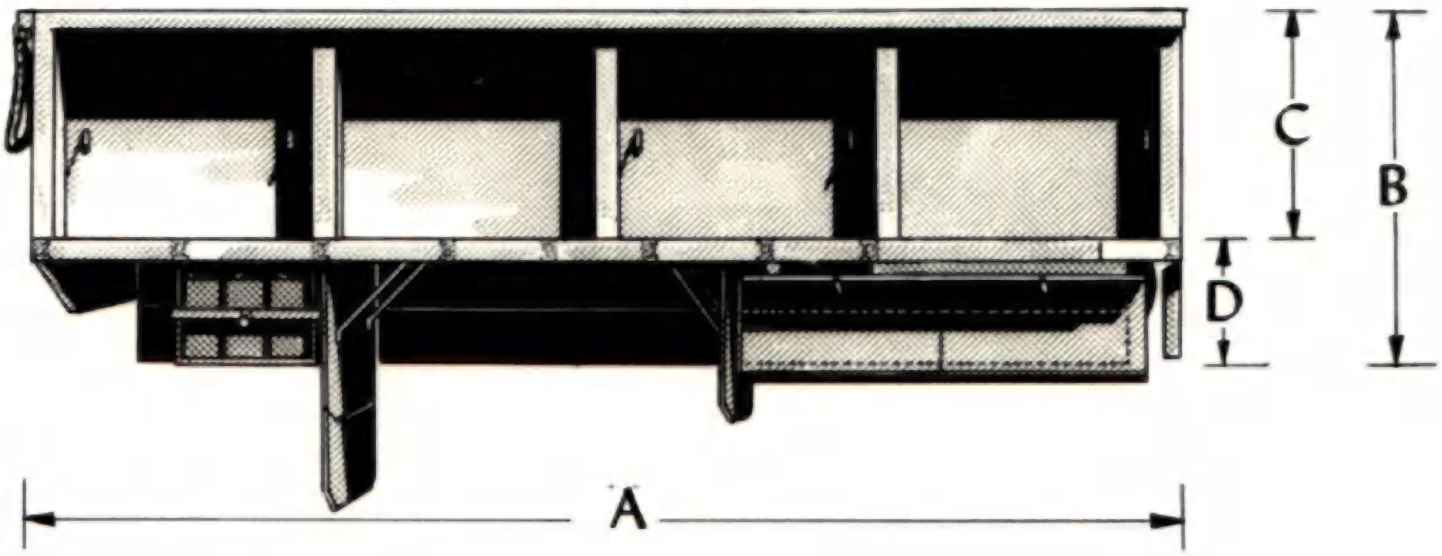
12 FT WHEELHOUSE BODY 5FI

The 5F1 basic body was used in the construction of the following lorries:- the 3-ton C.M.P. 4 x 4 General Service Lorry, 3-ton Machinery "J", 3-ton Machinery "B.C.", 3-ton Machinery "A" Mk.II, 3-ton Machinery "W" Mk. II, 3-ton W.C. Vehicle, and 3-ton 4 x 2 General Service Lorry.



DIMENSIONS	A	B	C	D			WIDTH
OVERALL	147"	36 1/2"		15 1/8"			87 5/8"
INSIDE	143 7/8"		30"				80"

NOTE:- D INDICATES WHEELHOUSE CLEARANCE FROM BOTTOM OF LONGITUDINAL SILL FILLER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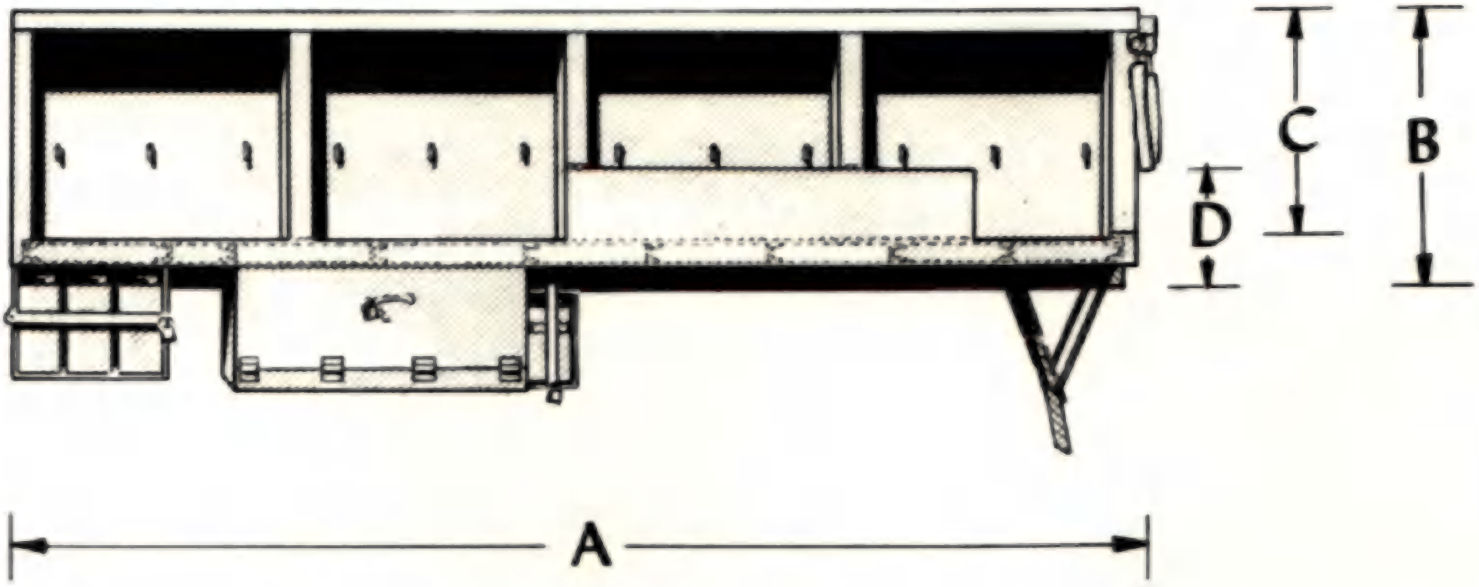
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BASIC BODIES (CONTINUED)

Weights:

Basic body	1780 lbs.
Tool boxes (2)	250 lbs.
Jerrican Carriers (2)	46 lbs.
Superstructure	165 lbs.
Tarpaulin	78 lbs.
Grille	21 lbs.
Total	2340 lbs.

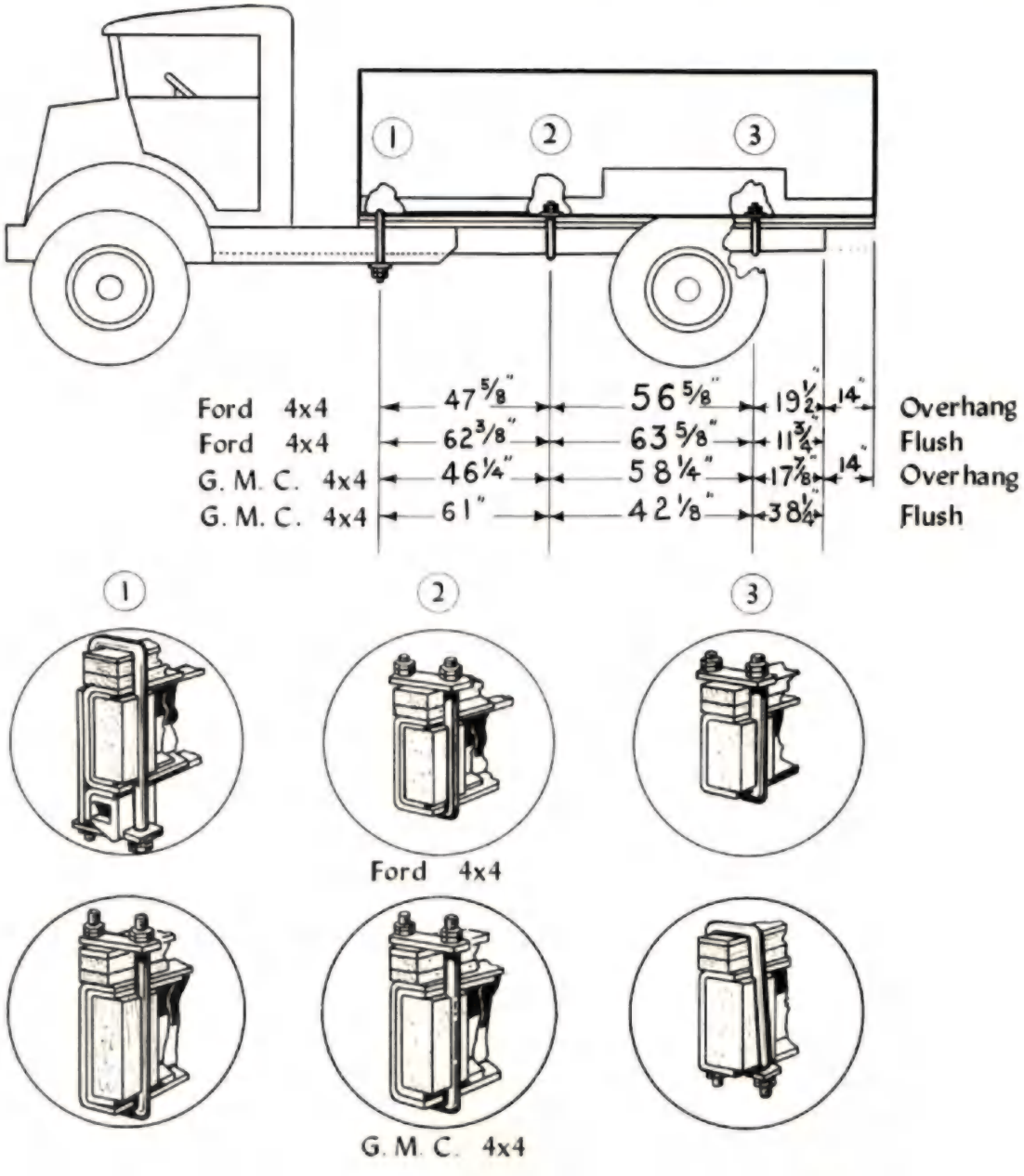
References:

D.N. & S. Schedule of Drawings

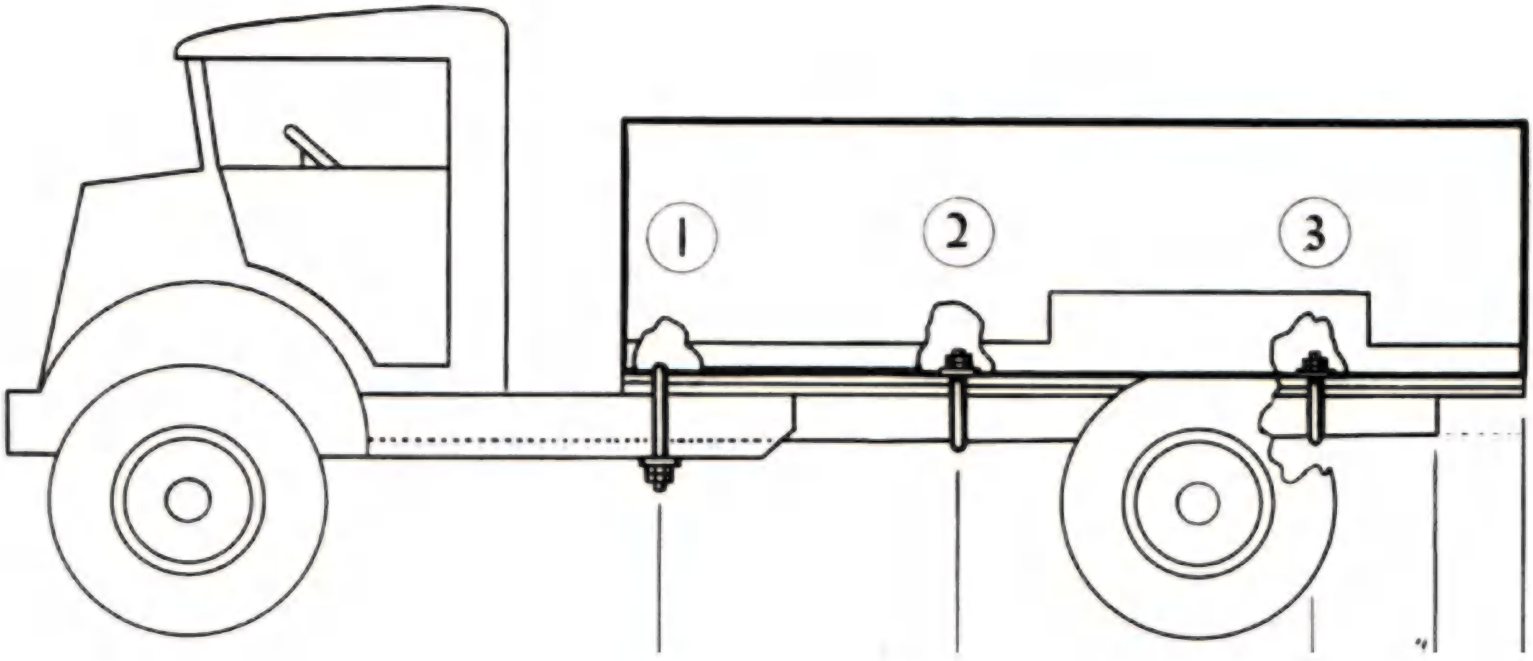
Basic body	S	11450
Tool Boxes	S	342699
Jerrican Carriers	E	340777
Superstructure	G	16344
Tarpaulin	F	16489

Description of Body

This basic body is a gussetted "Rudd" type, all welded body and has a substructure composed of ten (10) cross sills of 10 ga. H.R.B.A. formed steel channel - 2 x 3 x 2 - which are welded to two (2) longitudinal sills of 10 ga. H.R.B.A. formed steel channel - 3 x 3 x 3 . The longitudinal sills are inverted and provided with sill fillers of hardwood or B.C. fir. The floor sheet, which is welded to the cross sills, is of 10 ga. H.R.B.A. steel plate, with steel wear strips welded to the upper side. The side panels and front panel which are stiffened by box like formed steel gussets, are of 14 ga. H.R.B.A. steel plate, while the tailgate is of formed 12 ga. H.R.B.A. steel plate, also stiffened by box like gussets and with retaining chains at either side. A standard pipe superstructure with wrap-around tarpaulin is provided, and lashing cleats and hooks are welded to the body panels and tailgate for securing the tarpaulin. The spare tire is mounted laterally on the chassis frame between the cab and body.



TYPICAL METHOD OF MOUNTING 12 FT BASIC ALL STEEL BODY ON 3 TON C.M.P. 158" - 160" W.B. CHASSIS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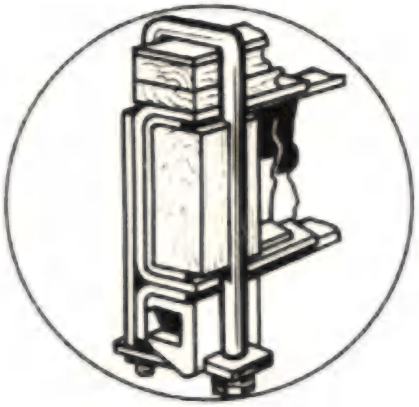

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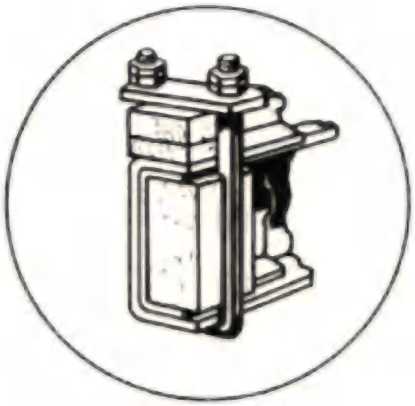

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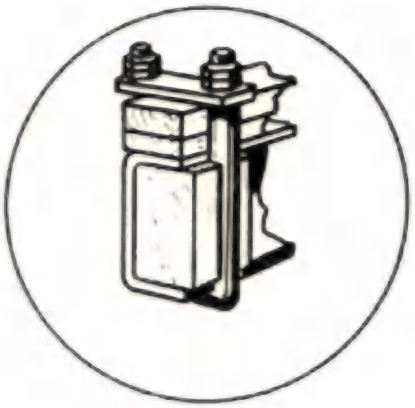
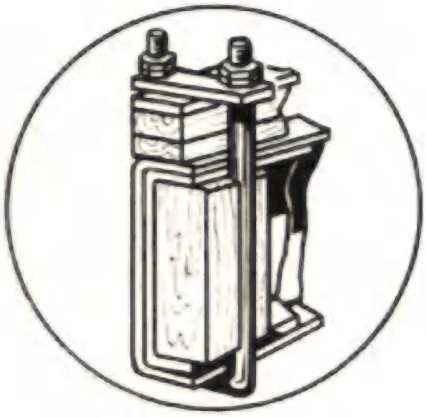
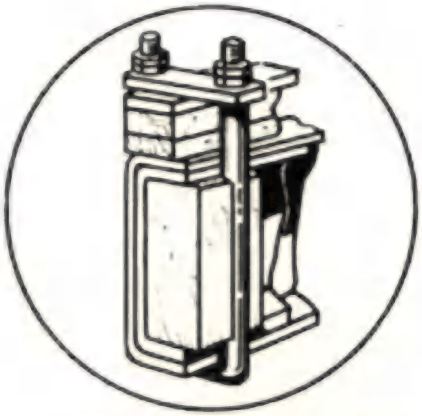


Ford 4x4





G. M. C. 4x4

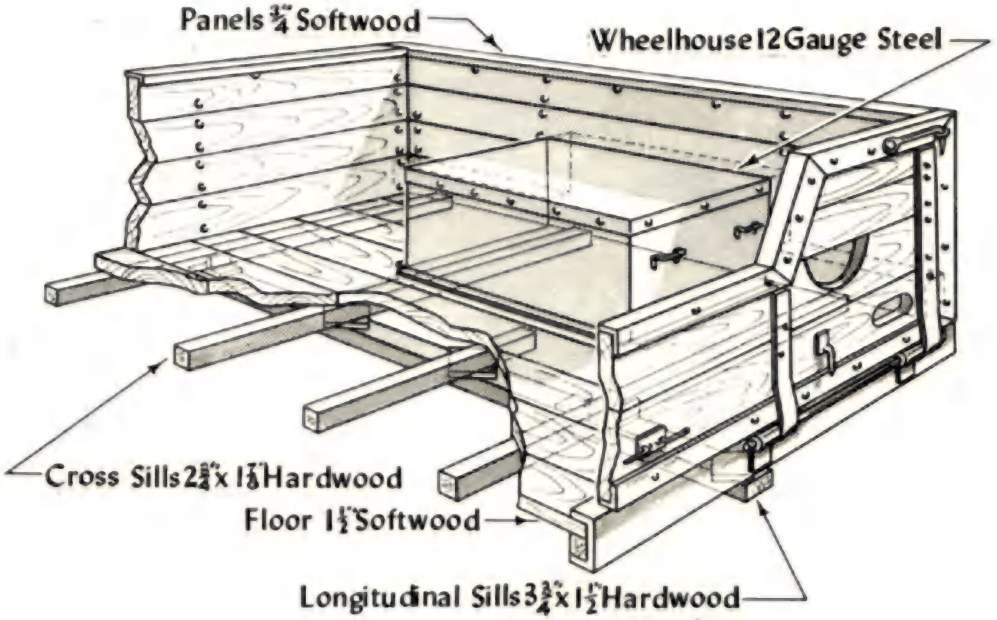
BASIC BODIES (CONTINUED)

G.S. BOLTED, COMPOSITE, WOOD & STEEL

The basic bodies for the 15-Cwt. and 12 ft. General Service type lorries also were built in composite wood and steel bolted construction, retaining, as far as possible, the same dimensions as in the all welded, all steel basic bodies. These bodies were C.K.D. (complete Knock-Down) in order to ship in pack, thus saving shipping space.

15 CWT. BOLTED. COMPOSITE BODY 2H1

This body carried Code 2H1 and was mounted on 15-Cwt. Modified Conventional 4 x 2 - 101" W.B. chassis and 15-Cwt. C.M.P. 4 x 4 - 101" W.B. chassis. These bodies were used in the construction of the same vehicles as were the 15 cwt. all welded, all steel bodies - 2C1.



CONSTRUCTIONAL DRAWING OF 15 CWT COMPOSITE - 2H1 - BODY

Dimensions

	Overall	Inside
Length of body	80-3/8"	77-3/4"
Width of body	85-3/4"	81"
Height of body	27-1/8"	21-1/8"

Weights

Weight of basic body	692 lbs.
Weight of Jerrican Carriers	48 lbs.
Weight of Superstructure	38 lbs.
Weight of Tarpaulin	58 lbs.
Total	836 lbs.

Description of Body

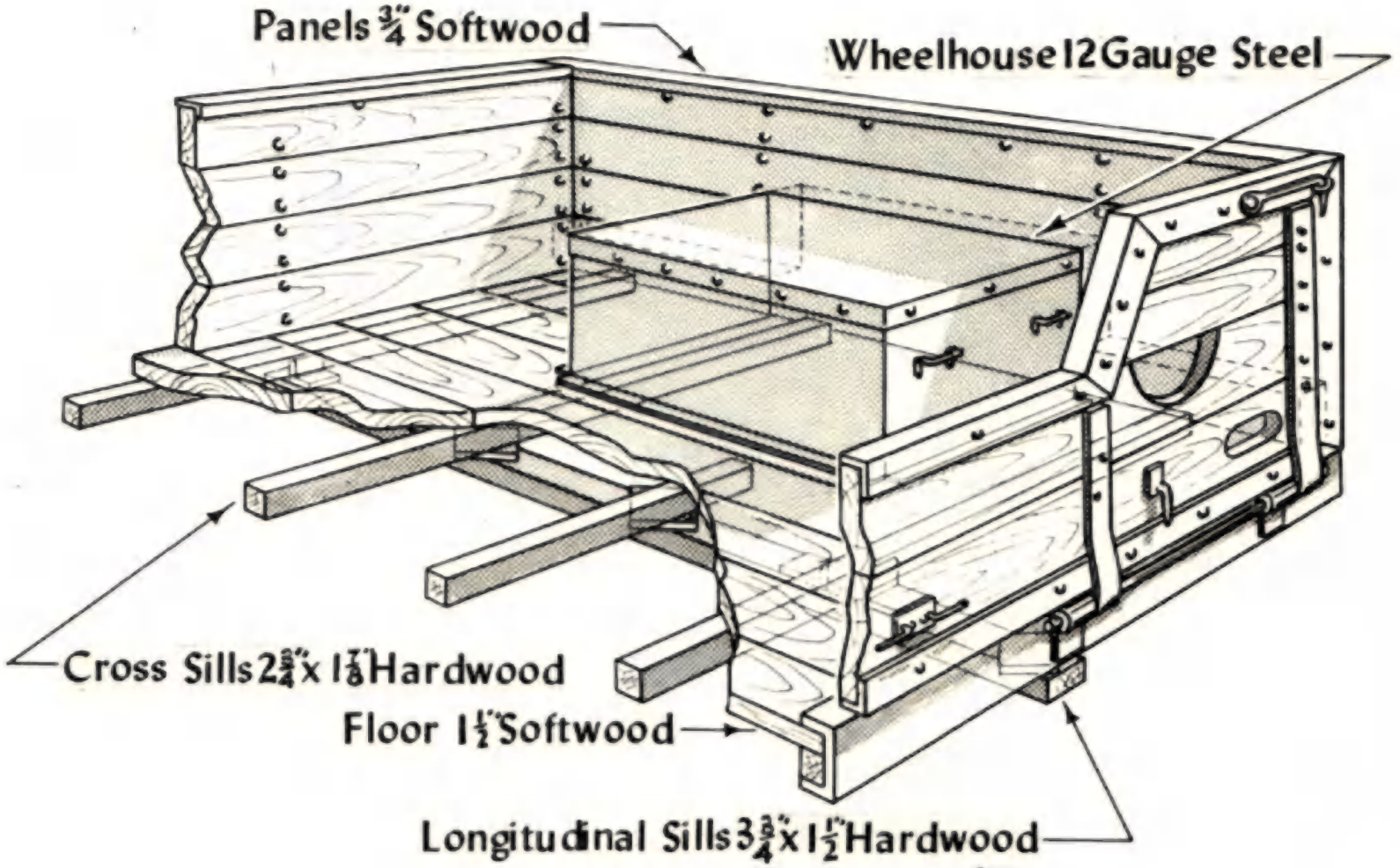
The body is of composite wood and steel, bolted construction, with substructure comprising five (5) cross sills of hardwood or B.C. fir, bolted to two (2) longitudinal sills, also of hardwood or B.C. fir. The flooring is of B.C. fir plain edged boards - random widths - bolted to the cross sills with minimum 3/32" and maximum 3/16" clearance between each board. These clearances were specified to prevent arching of the floor which might otherwise be caused by swelling of the boards, due to weather conditions. Wheel houses of 12 ga. H.R.B.A. steel are bolted to the floor and side panels. The side and front panels are of hardwood or B.C. fir plain edge boards bolted to a 12 ga. H.R.B.A. steel framework. Formed gussets of 12 ga. H.R.B.A. steel are bolted to the steel rub rail and to the uprights of the steel framework, while structural steel angles are bolted to the front corners. The tailgate is of hardwood or B.C. fir boards, bolted to a 12 ga. H.R.B.A. steel framework and strengthened by means of steel straps - 1/4" thickness - to which the boards are bolted and which is welded at top and bottom to the steel framework. Lashing hooks and cleats are bolted to the body panels and tailgate for lashing down the tarpaulin. The same tool box and spare tire carrier, P.O.W. carriers, superstructure and tarpaulins are used with this body as with the 2C1 - 15 Cwt. all welded, all steel body.

References:

D.M. & S. Schedule of Drawings

Basic Body	S 3840
Tool Box	G 12358
Spare Tire Carrier	E 12396
Superstructure	C 11056
Wrap around Tarpaulin ..	G 1602
Flat Tarpaulin	E 1601

* * * *


Panels ¾" Softwood
Wheelhouse 12 Gauge Steel
Cross Sills 2⅝" x 1⅞" Hardwood
Floor 1½" Softwood
Longitudinal Sills 3¾" x 1½" Hardwood

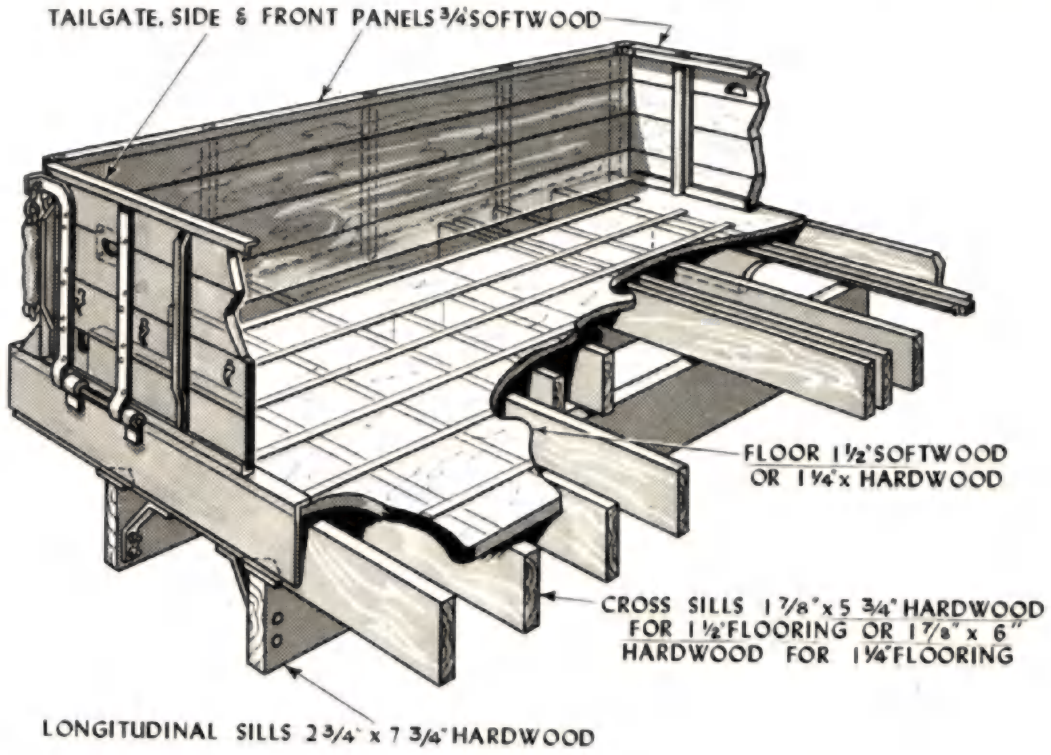
BASIC BODIES (CONTINUED)

12 FT BOLTED COMPOSITE BODIES, 5RI, 5PI, 5QI

Three 12 ft. bolted, composite wood and steel bodies were produced - the 5R1 having a flat floor, for mounting on Ford and Chrysler 3-ton Modified Conventional 4 x 2 - 158" and 160" W.B. chassis; the 5P1 with 54" wheel houses for mounting on 3-ton C.M.P. 4 x 4 - 158" W.B. chassis, and the 5Q1 with wheel houses 4" in height, for mounting on General Motors 3-ton Modified Conventional 4 x 2 chassis - 160" W.B. - 32" frame. These bodies, like the 2H1 - 15-Cwt. basic body - were of bolted design, which feature enabled them to be shipped in knocked down packs. (C.K.D.).

12 FT FLAT FLOOR BODY - 5RI

The 5R1 basic body was used in the construction of the following lorries :- the 3-ton 4 x 2 General Service Lorry, the 3-ton 4 x 2 Stores and the 3-ton 4 x 2 Workshop.



CONSTRUCTIONAL DRAWING OF 3 TON COMPOSITE - 5RI BODY

Weights:

Basic Body	1910 lbs.
Tool box (1) & Chain lockers (2)	245 lbs.
Jerrican Carriers (2)	51 lbs.
Superstructure	184 lbs.
Tarpaulin	82 lbs.
Grille	21 lbs.
Total	2493 lbs.

Dimensions:

Overall length of basic body	147-1/4"
Overall width of basic body	87-3/8"
Overall height of basic body	45-3/4"
Inside length of basic body	143-3/8"
Inside width of basic body	78-3/8"
Inside height of basic body	30"

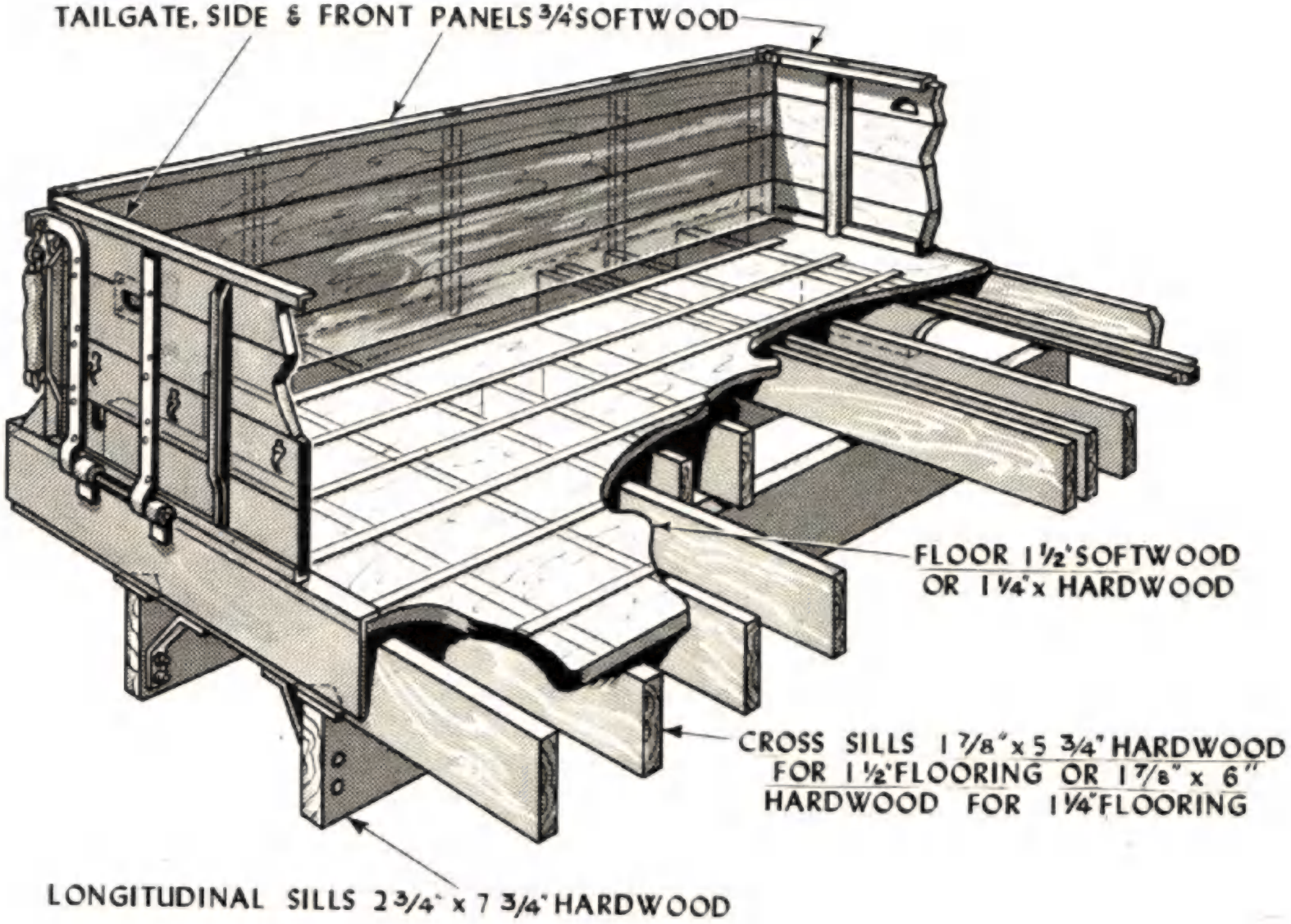
References:

D.M. & S. Schedule of Drawings

Basic Body	S	16501
Tool boxes & chain lockers F-344100	E	16538
Jerrican carriers	E	340187
Superstructure	G	16500
Tarpaulin	E	1154
Experimental Engineering Test Report		E-60

Description of Body

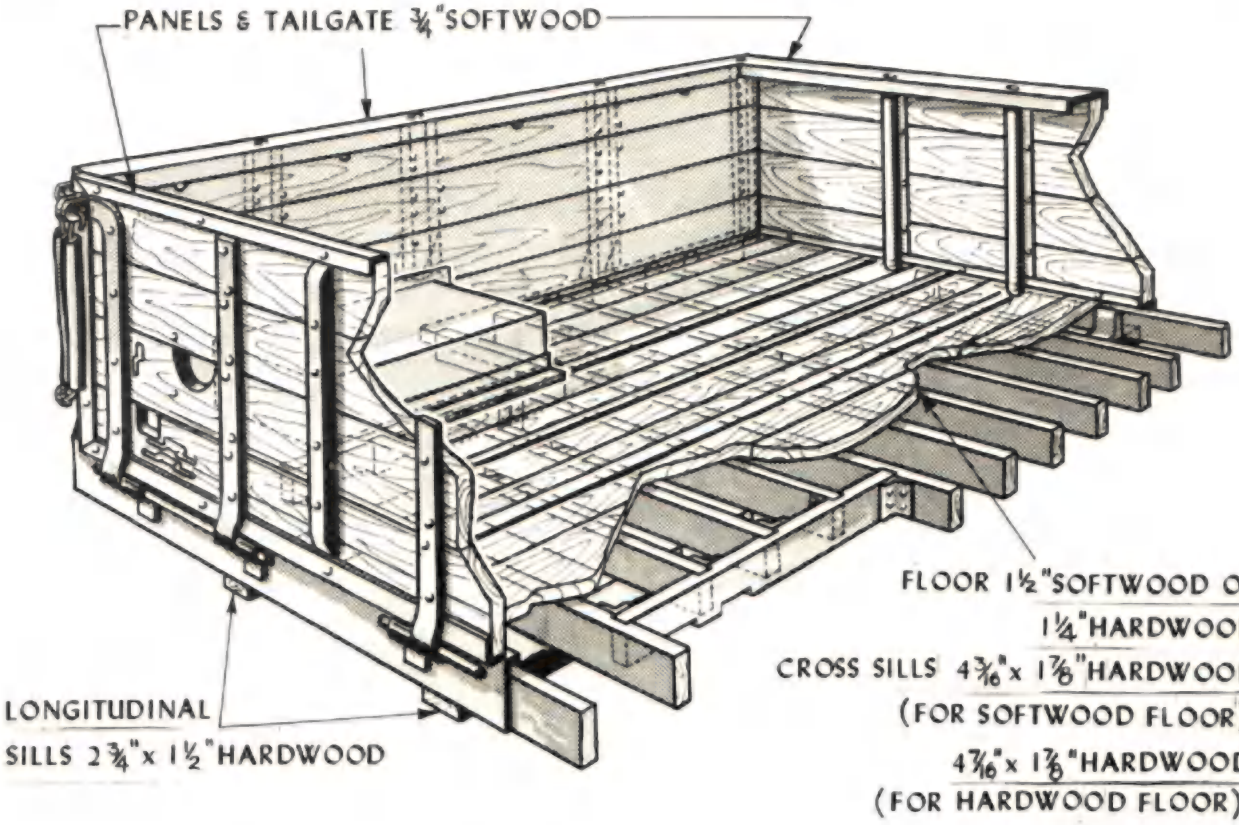
This basic body was of composite wood and steel construction, and so designed that each major assembly was interchangeable as a unit with other 5R1 basic bodies. The substructure consisted of eight (8) hardwood or B.C. fir full width, and two (2) stub cross sills bolted to two (2) hardwood or B.C. fir longitudinal sills. The under edge of the longitudinal sills was counterbored to fit over the rivet heads of the chassis frame side rails. The flooring, in turn, was bolted to the cross sills, with steel wear strips on the upper side. The side panels, front panel and tailgate were of 3/4" B.C. fir boards, bolted to a steel framework, the individual panels being stiffened by means of formed steel gussets. Steel angles were set in at each front corner to stiffen the assembly. A tool box, two (2) chain lockers and two (2) jerrican carriers were suspended from the substructure and a pipe grille was installed at the front panel to protect the cab and driver from possible surging forward of the load. The spare tire was housed in the substructure at the right front of the body. A standard iron pipe superstructure and wrap around tarpaulin completed the picture.


TAILGATE, SIDE & FRONT PANELS 3/4" SOFTWOOD
FLOOR 1 1/2" SOFTWOOD OR 1 1/4" x HARDWOOD
CROSS SILLS 1 7/8" x 5 3/4" HARDWOOD FOR 1 1/2" FLOORING OR 1 7/8" x 6" HARDWOOD FOR 1 1/4" FLOORING
LONGITUDINAL SILLS 2 3/4" x 7 3/4" HARDWOOD

BASIC BODIES (CONTINUED)

12 FT WHEELHOUSE BODY 5PI

The 5P1 basic body was used in the construction of the following lorries :- the 3-ton C.M.P. 4 x 4 General Service Lorry, the 3-ton M.O. Vehicle and the 3-ton 4 x 2 General Service Lorry.



CONSTRUCTIONAL DRAWING OF 3 TON COMPOSITE - 5PI BODY

Weights:

Weight of Basic Body	1525 lbs.
Weight of tool boxes (2)	250 lbs.
Weight of Jerrican Carriers (2)	51 lbs.
Weight of Grille	25 lbs.
Weight of superstructure	165 lbs.
Weight of tarpaulin	82 lbs.
Total	1998 lbs.

Dimensions:

Overall length of basic body	147-3/16"
Overall width of basic body	87-1/8"
Overall height of basic body	38-1/16"
Inside length of basic body	143-1/4"
Inside width of basic body	78-3/8"
Inside height of basic body	30"

References:

D.M. & S. Schedule of Drawings

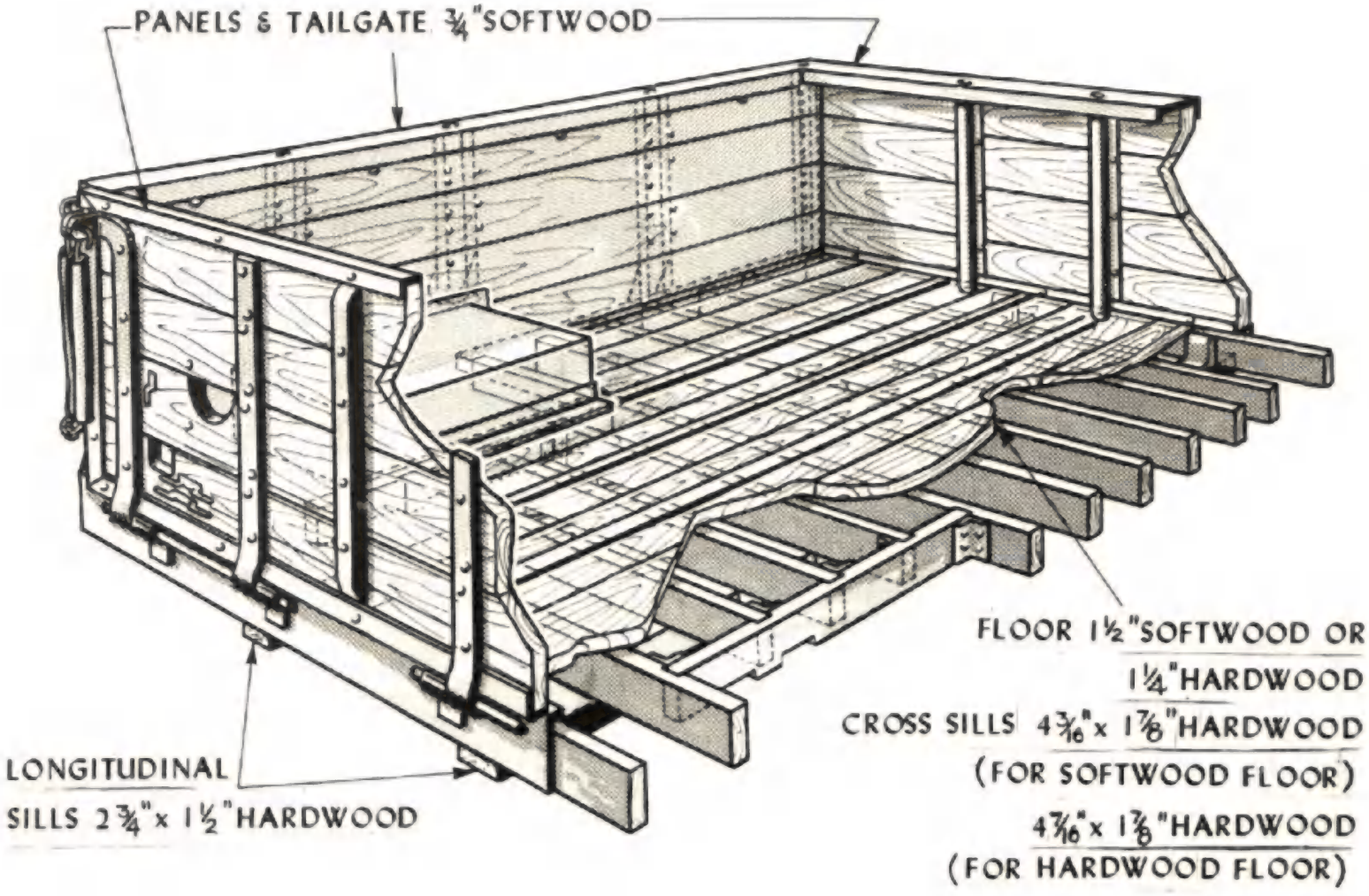
Basic body	S 3724
Tool Boxes	F 344100
Jerrican Carriers	E 340187
Superstructure	G 16344
Tarpaulin	F 16489

Description of Body:

The basic body was of composite wood and steel construction, the substructure consisting of nine (9) full width and three (3) stub, cross sills of hardwood or B.C. fir, bolted to two (2) longitudinal sills of hardwood or B.C. fir. The flooring was of hardwood or B.C. fir boards bolted to the cross sills, with steel wear strips screwed to the upper side. The wheelhouses were of steel, bolted to the floor and side panels. The side panels, front panel and tailgate, were of B.C. fir boards, enclosed in a steel frame which was stiffened by the addition of steel gussets. Steel angles were installed at the left and right front corners to strengthen the assembly.

A tubular grille was installed in the front panel to prevent surging forward of the load against the cab. A standard iron pipe superstructure and wrap-around tarpaulin also were provided.

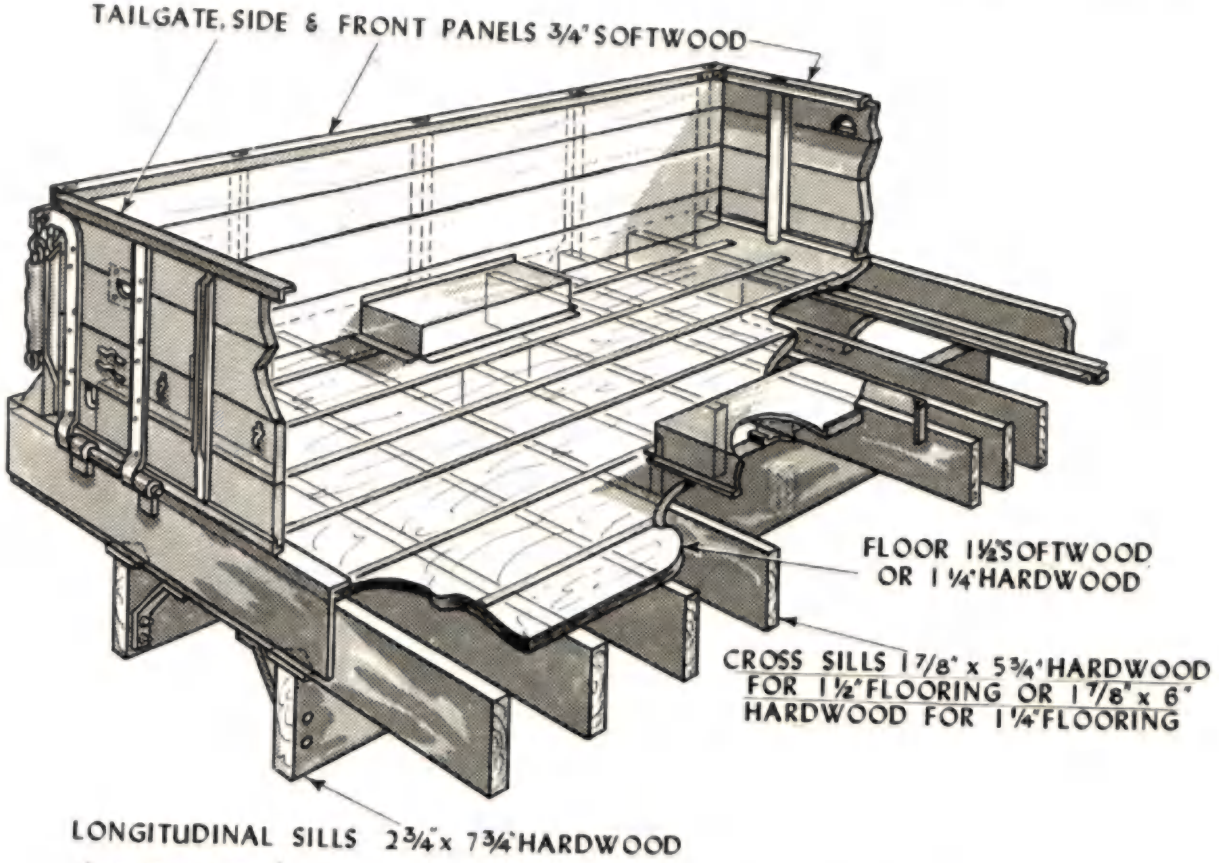
The spare tire was mounted laterally on the chassis frame between the cab and the front of the body.


PANELS & TAILGATE ¾"SOFTWOOD
FLOOR 1½"SOFTWOOD OR
1¼"HARDWOOD
CROSS SILLS 4 3/16"x 1⅞"HARDWOOD
(FOR SOFTWOOD FLOOR)
4 7/16"x 1⅞"HARDWOOD
(FOR HARDWOOD FLOOR)
LONGITUDINAL
SILLS 2¾"x 1½"HARDWOOD

BASIC BODIES (CONTINUED)

12 FT - 4" WHEELHOUSE BODY - 5Q1

The 5Q1 basic body was specifically designed for mounting on a G.M. 3-ton Modified Conventional chassis, and in order to obtain the necessary wheel clearance, while yet keeping the same substructure dimensions as the 5R1 basic body, it was necessary to provide wheel houses 4" in height. This body was used only in the G.M. - 3-Ton 4 x 2 - General Service Lorry.



CONSTRUCTIONAL DRAWING OF 3 TON COMPOSITE - 5Q1 - BODY

Weights:

Basic body	1890 lbs.
Tool box (1) & Chain lockers (2)	245 lbs.
Jerrican Carriers (2)	51 lbs.
Grille	21 lbs.
Superstructure	184 lbs.
Tarpaulin	82 lbs.
Total	2473 lbs.

Dimensions:

Overall length of body	147-1/4"
Overall width of body	87-3/8"
Overall height of body	46-1/8"
Inside length of body	143-3/8"
Inside width of body	78-3/8"
Inside height of body	30"

References:

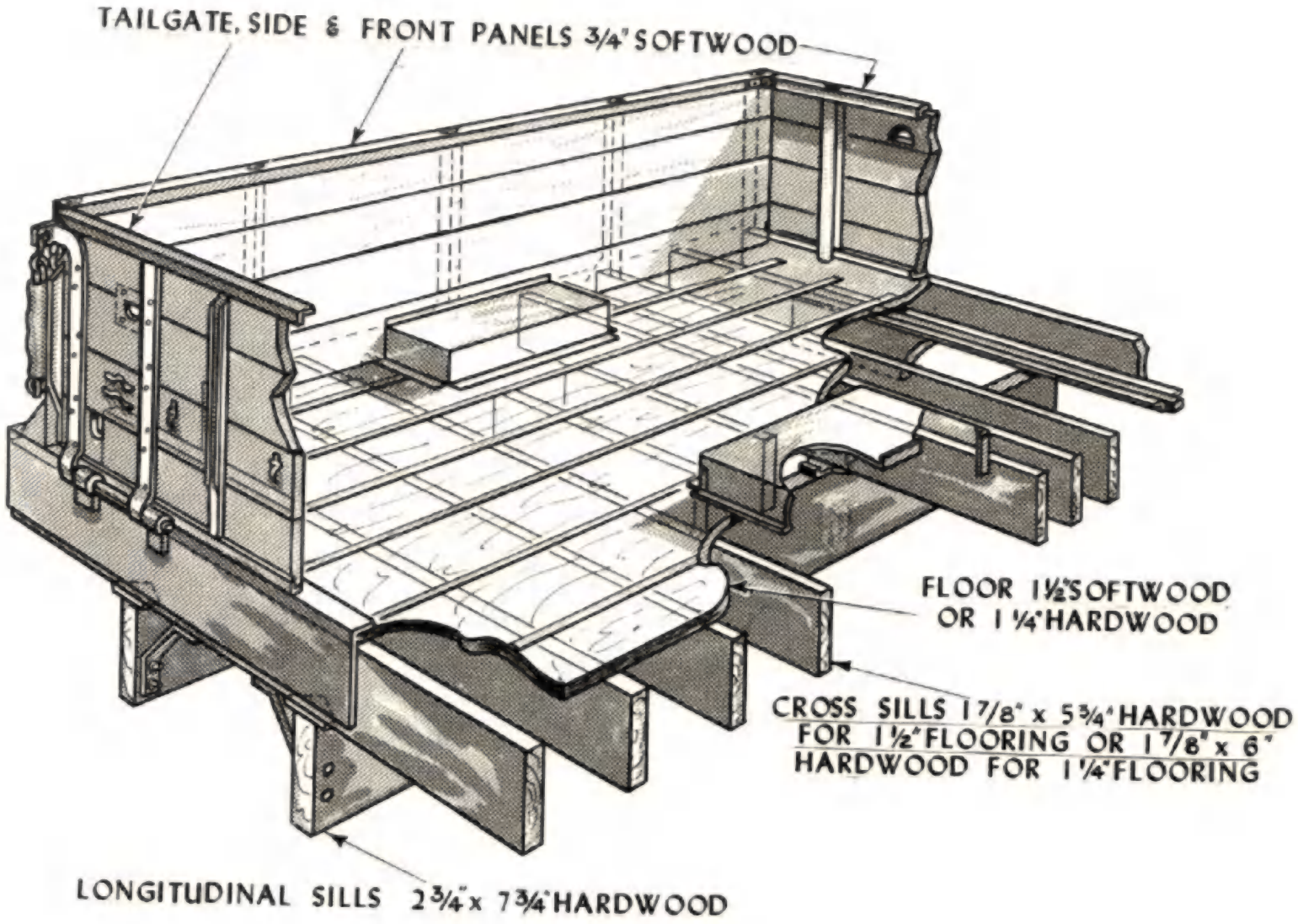
D.M. & S. Schedule of Drawings

Basic body	S 35551
Tool box	F 344100
Chain lockers	E 16538
Jerrican carriers	E 340187
Superstructure	G 16500
Tarpaulin	F 16489

Description of Body:

The basic body is similar in design to the 5R1 body, and is of composite wood and steel construction, the substructure consisting of eight (8) full width cross sills and two (2) longitudinal sills of hardwood or B.C. fir. The floor is of hardwood or B.C. fir, with steel wear strips screwed to the upper side. Steel wheel houses - 4" in height - are bolted to the floor and side panels. The side panels, front panel and tailgate are of 3/4" hardwood or B.C. fir boards, encased in a steel framework, the entire assemblies being stiffened by means of steel gussets.

A grille, standard iron pipe superstructure and wrap around tarpaulin are provided. The spare tire is housed in the substructure at the right front corner of the body.


TAILGATE, SIDE & FRONT PANELS 3/4" SOFTWOOD
FLOOR 1½" SOFTWOOD OR 1¼" HARDWOOD
CROSS SILLS 1⅞" x 5¾" HARDWOOD FOR 1½" FLOORING OR 1⅞" x 6" HARDWOOD FOR 1¼" FLOORING
LONGITUDINAL SILLS 2¾" x 7¾" HARDWOOD

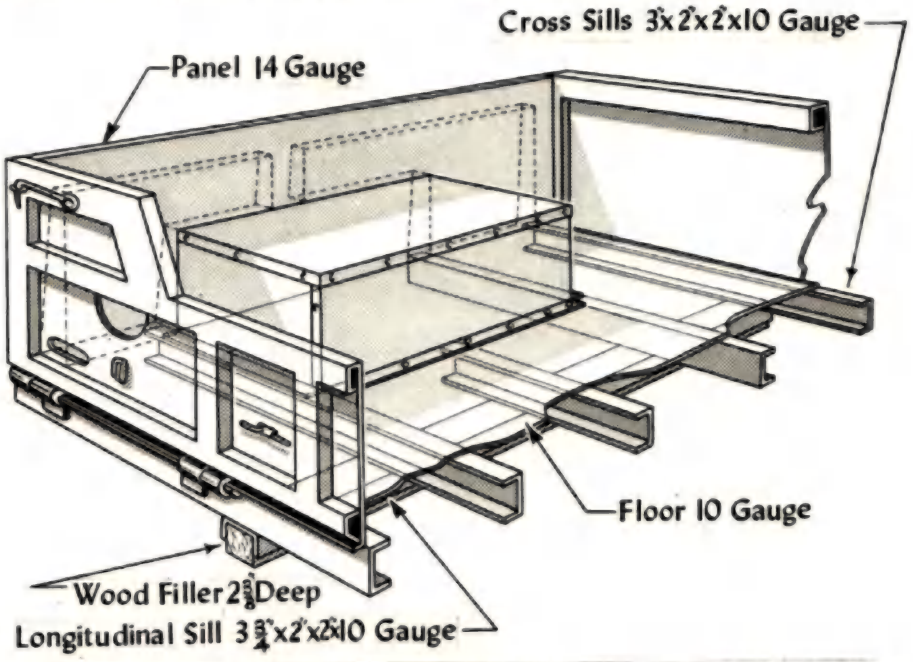
BASIC BODIES (CONTINUED)

G.S. BOLTED, ALL STEEL

Four bolted, all steel General Service basic bodies were produced :- the 15-cwt. - 2J1, and three (3) 12 ft. bodies. The 5W1 was mounted on Ford and Chrysler 3-ton 4 x 2 Modified Conventional 158" - 160" W.B. chassis, while the 5W1 was mounted on 3-ton 4 x 4 C.M.P. - 158" W.B. chassis. The 5V1 was specifically designed for mounting on G.M. 4 x 2 Modified Conventional - 160" W.B. chassis, 32" frame, and was equipped with wheelhouses 4" in height in order to give necessary wheel clearance.

15 CWT BOLTED STEEL BODY - 2J1

The 15-cwt. General Service, bolted, all steel body was introduced when the supply of steel became easier, yet was designed to retain the knock-down feature which had been developed in the composite bodies. This body was mounted on 15-cwt. C.M.P. 4 x 2 and 4 x 4 - 101" W.B. chassis and was interchangeable with all 15-cwt. 2C1 and 2H1 basic bodies. It was used as basic body in the same vehicles as were the 2C1 and 2H1 basic bodies.



CONSTRUCTIONAL DRAWING OF 15 CWT - 2J1 - BASIC BODY

Dimensions:

Overall length of body	80-3/8"
Overall width of body	86-1/8"
Inside length of body	78-3/4"
Inside width of body	81"
Inside height of sides	22"

Weights:

Weight of Basic body	892 lbs.
Weight of 2-Jerrican carriers & 1-Oil can.....	54 lbs.
Weight of Superstructure	38 lbs.
Weight of Tarpaulin	58 lbs.
Weight of Tool box	108 lbs.
Weight of Spare tire carrier	70 lbs.
Total	1220 lbs.

References:

D.M. & S. Schedule of Drawings

Basic Body	S- 30600
Tool Box	G- 12358
Spare Tire Carrier	E- 12396
Superstructure	C- 11056
Wrap around tarpaulin	C- 1602
Flat tarpaulin	E- 1601
Jerrican Carrier	S-340780

Description of Body:

This basic body is a gussetted "Budd" type, bolted, all steel body, with square wheel houses. The substructure comprises five (5) 10 ga. H.R.B.A. formed steel channel cross sills and two (2) 10 ga. H.R.B.A. formed steel channel longitudinal sills, with wood longitudinal sill fillers. The cross sills are laid on their flanges while the longitudinal sills are inverted. The floor sheet is of 10 ga. H.R.B.A. steel plate, while the side and front panels and the tailgate are of 14 ga. H.R.B.A. formed steel sheet. Hooks are provided on the tailgate and side panels for retaining the tailgate in the 'up' position. Lashing hooks and cleats are provided on the body for lashing down the tarpaulin. A four (4) gallon Jerrican carrier is suspended from the substructure at the left and right front corners, while a 1-gallon Oil can carrier is mounted beneath the left rear corner. The tool box and spare tire carriers, as well as the superstructure and tarpaulins, are the same as on the 2C1 and 2H1 - 15-Cwt. basic bodies.

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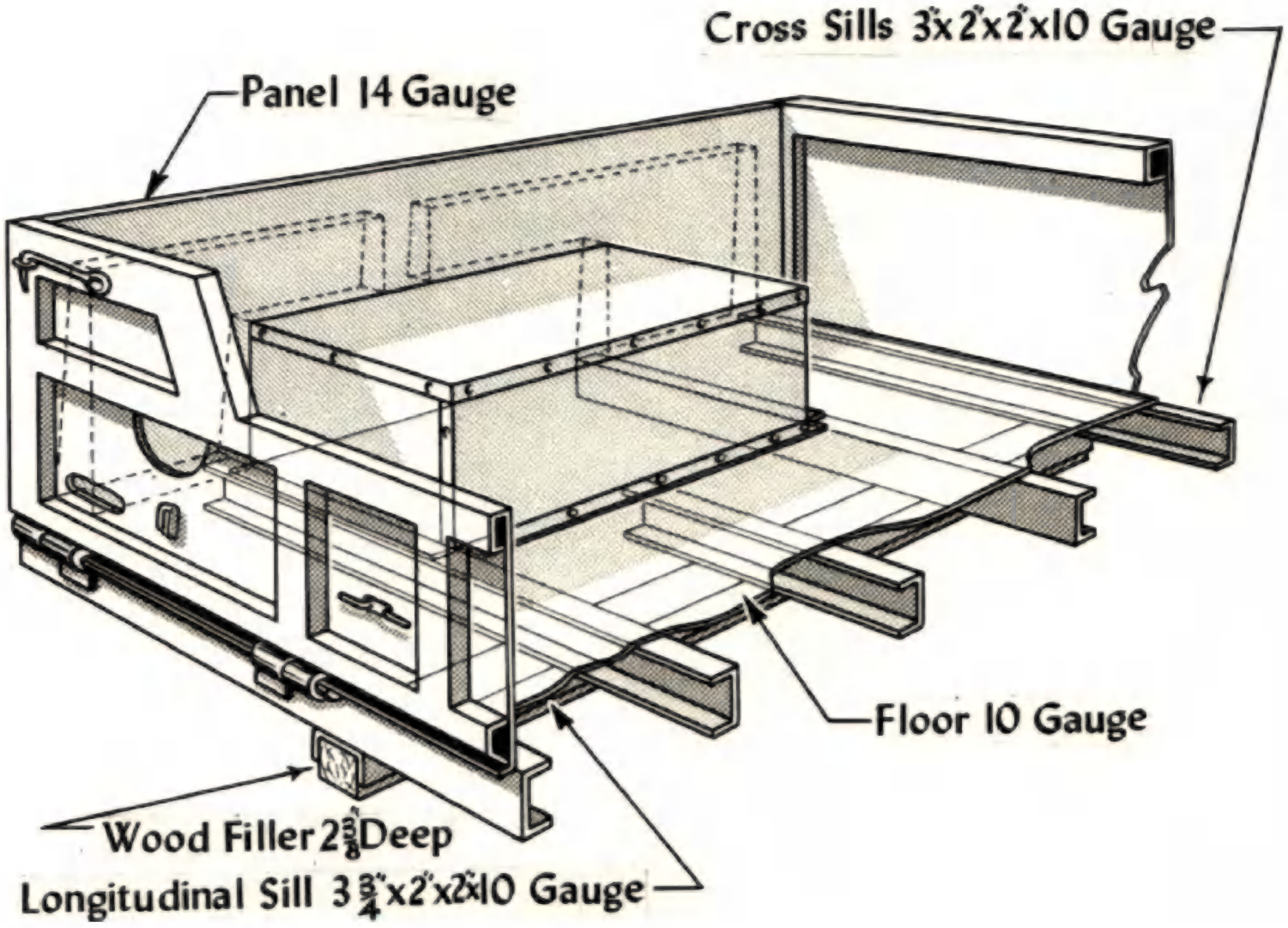
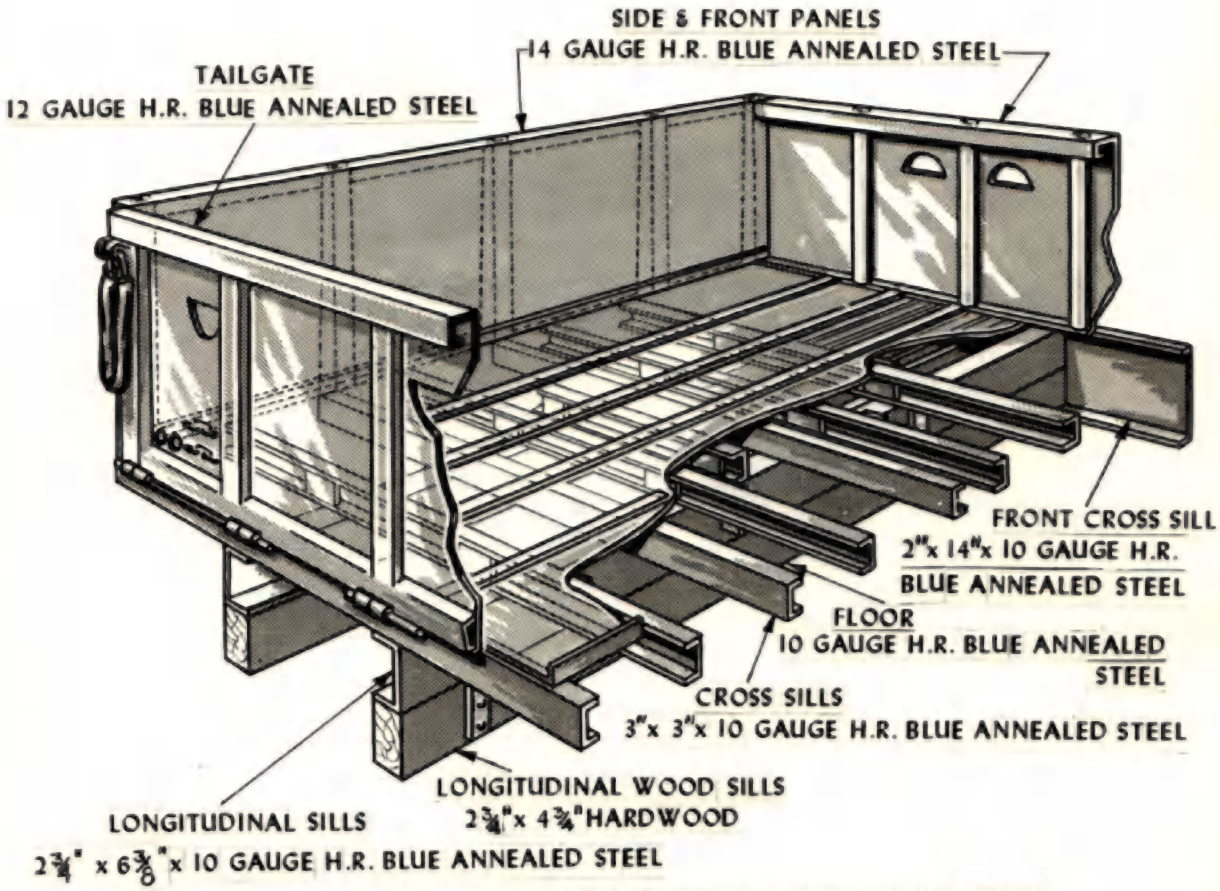

Cross Sills 3"x2"x2"x10 Gauge
Panel 14 Gauge
Floor 10 Gauge
Wood Filler 2 3/8" Deep
Longitudinal Sill 3 3/4"x2"x2"x10 Gauge

BASIC BODIES (CONTINUED)

12 FT FLAT FLOOR BODIES - 5U1 & 5V1

Two (2) 12 ft. Flat Floor bolted steel basic bodies were produced, the 5U1 being interchangeable with 5E3 (welded steel) and 5R1 (bolted composite) all being mounted on Chrysler and Ford 3-ton Modified Conventional 4 x 2 - 158" and 160" W.B., and the 5V1 with 4" wheelhouses, being interchangeable with the 5Q1 (bolted composite with 4" wheelhouses) for mounting on General Motors 3-ton Modified Conventional 4 x 2 chassis - 160" W.B. - 32" frame.



CONSTRUCTIONAL DRAWING OF 12 FT.- 5U1 - BASIC BODY

Weights:

Basic Body (5U1 & 5V1)	1882 lbs.
Tool boxes & chain lockers ...	245 lbs.
Jerrican carriers (2)	51 lbs.
Superstructure	194 lbs.
Tarpaulin	78 lbs.
Grille	21 lbs.
Total	2471 lbs.

Dimensions: (5U1 & 5V1)

Outside length of body	147-1/8"
Outside width of body	87-5/8"
Inside length of body	143-3/4"
Inside width of body	80"
Inside height of sides	30"

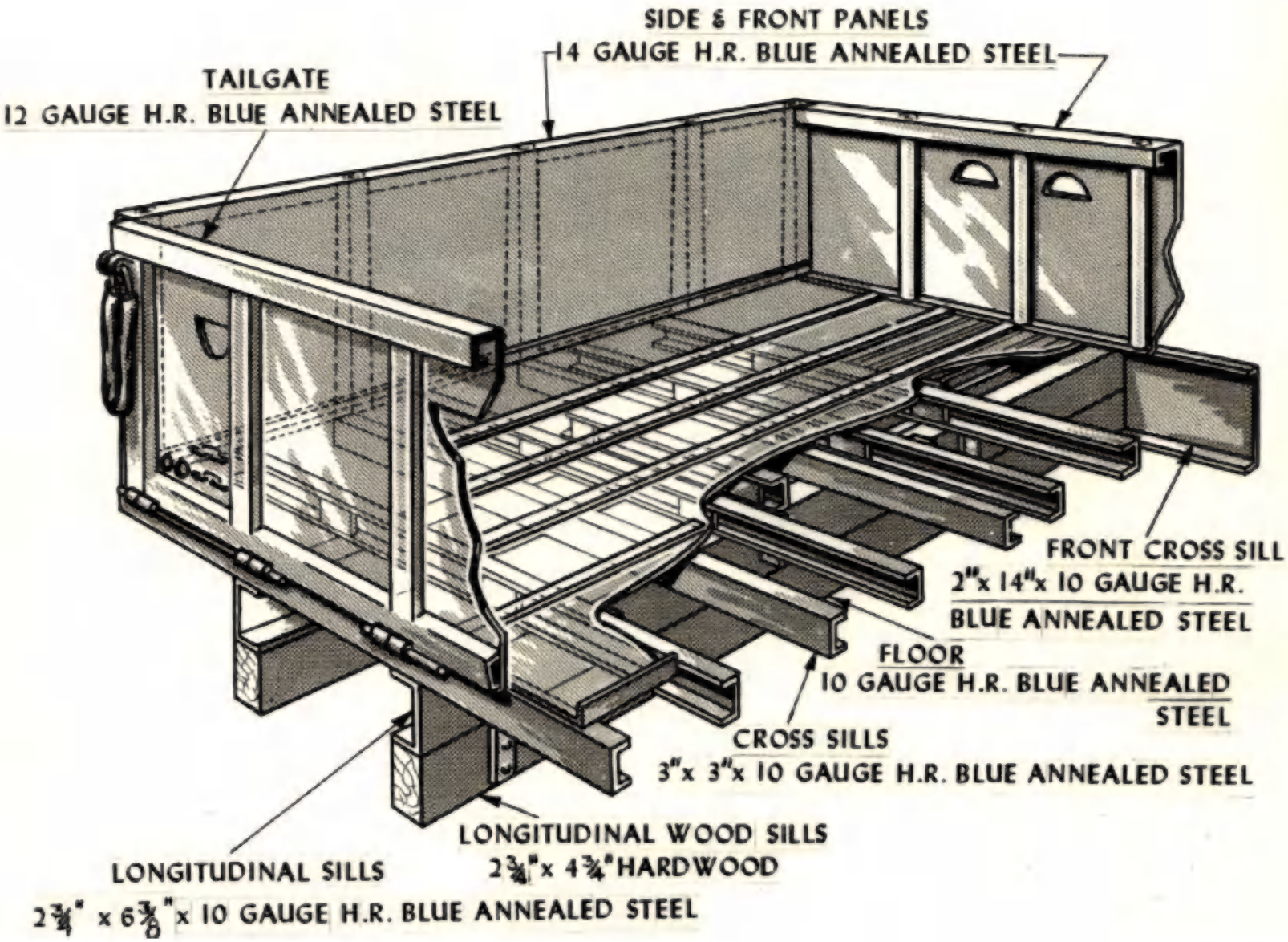
References:

D.M. & S. Schedules of Drawings

Basic Body (5U1)	S-16400
Basic Body (5V1)	S-30500
Tool boxes & chain lockers	A-16480-3
Jerrican Carriers	B-340187
Superstructure	G-16500
Tarpaulin	B- 1154

Description of Body :

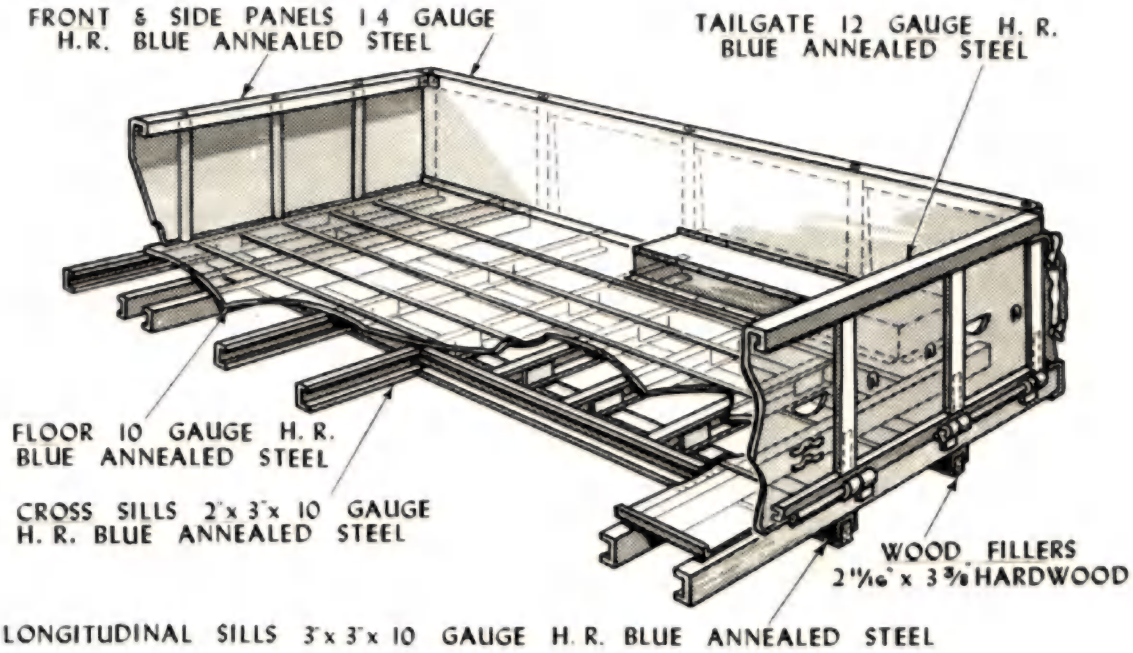
The basic body was a gussetted "Budd" type, flat floor, bolted, all steel body. The substructure consisted of eight (8) full length, and one (1) stub, cross sills of 10 ga. H.R.B.A. formed steel channel with two (2) 10 ga. H.R.B.A. formed steel channel longitudinal sills. Hardwood longitudinal sill fillers were provided. The floor sheet was of 10 ga. H. R.B.A. steel plate, with steel wear strips welded to the upper side of the floor. The side panels and front panel were of 14 ga. H.R.B.A. formed steel plate, while the tailgate was formed of 12 ga. H.R.B.A. steel, all panels being stiffened by means of box-like gussets. A drop chain was provided for the tailgate. A tubular steel grille and superstructure, with wrap-around tarpaulin, were the same as the 5E3 and 5R1 basic bodies. The spare tire was housed in the right front of the substructure and was mounted from the right side of the body.


SIDE & FRONT PANELS
14 GAUGE H.R. BLUE ANNEALED STEEL
TAILGATE
12 GAUGE H.R. BLUE ANNEALED STEEL
FRONT CROSS SILL
2" x 14" x 10 GAUGE H.R.
BLUE ANNEALED STEEL
FLOOR
10 GAUGE H.R. BLUE ANNEALED
STEEL
CROSS SILLS
3" x 3" x 10 GAUGE H.R. BLUE ANNEALED STEEL
LONGITUDINAL WOOD SILLS
2¾" x 4¾" HARDWOOD
LONGITUDINAL SILLS
2¾" x 6⅜" x 10 GAUGE H.R. BLUE ANNEALED STEEL

BASIC BODIES (CONTINUED)

12 FT WHEELHOUSE BODY - 5W1

The 5W1 body was interchangeable with the 5F1 (welded steel) and the 5P1 (bolted composite) and was used as basic body in the same vehicles.



CONSTRUCTIONAL DRAWING OF 12 FT - 5W1 - BASIC BODY

Dimensions:

Overall length of body	147-1/8"
Overall width of body	87-5/8"
Inside length of body	143-3/4"
Inside width of body	80"
Inside height of sides	30"

Weights:

Basic body	1830 lbs.
Tool boxes (2)	250 lbs.
Jerrican Carriers (2)	46 lbs.
Superstructure	165 lbs.
Tarpaulin	78 lbs.
Grille	21 lbs.
Total	2390 lbs.

References:

D.M. & S. Schedule of Drawings

Basic Body	S 35024
Tool Boxes	S 344100
Jerrican Carriers	E 340187
Superstructure	G 16344
Tarpaulin	F 16489

Experimental Engineering Reports E-297, E-508 & app.

Description of Body:

The basic body is a complete knock down, gussetted, "Budd" type, all steel body of bolted construction. The substructure consists of ten (10) cross sills of 10 ga. H.R.B.A. formed steel channel and two (2) longitudinal sills of 10 ga. H.R.B.A. formed steel channel. The longitudinal sills are inverted, with hardwood sill fillers for compression. The floor sheet is of 10 ga. H.R.B.A. steel plate, with steel wear strips welded to the upper side. Two (2) wheelhouses, 54" in length, are bolted to the floor plate and the side panels. The side and front panels are of 14 ga. H.R.B.A. formed steel, and are stiffened with box-like gussets. The tailgate is of 12 ga. H.R.B.A. formed steel, likewise stiffened by means of gussets, and with retaining chains at the side. Standard iron pipe grille, superstructure and wrap around tarpaulin, tool boxes and jerrican carriers are the same as on the 5F1 and 5P1 bodies.

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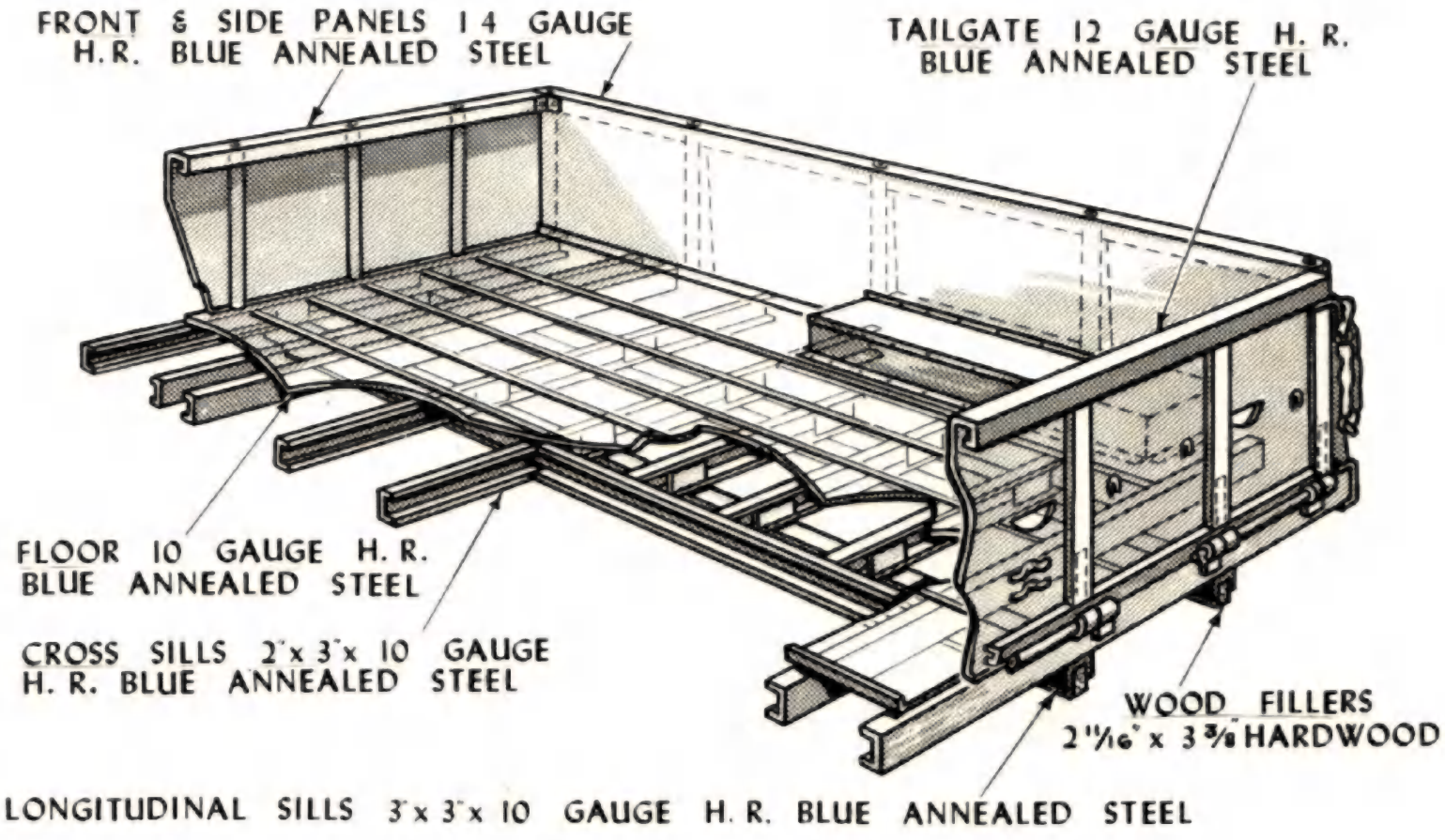
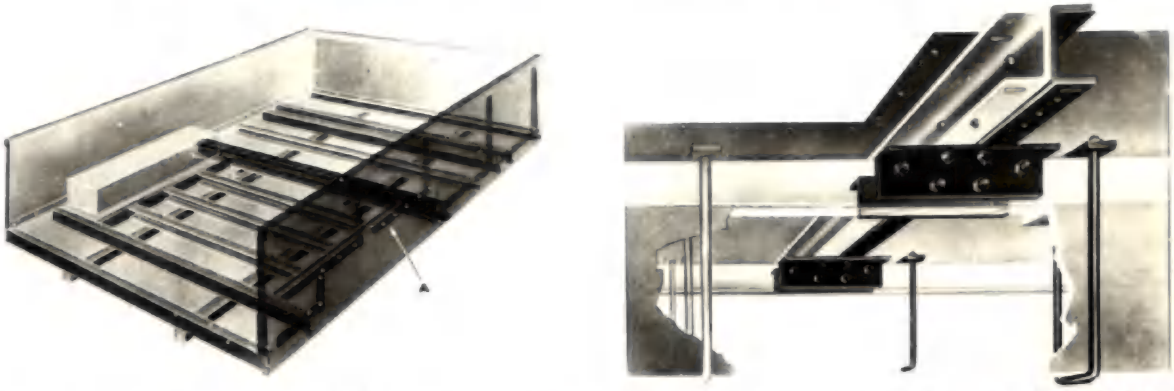
12 FT WITH WHEELHOUSE - TRANSVERSE SPLIT - 5W1A

Early in 1945, a requirement was raised for the 12 ft. bolted steel body - 5W1 - to be made Airportable, in order to be transported in a Dakota C 47 aircraft. It was decided, therefore, to split the entire body substructure, transversely, into two halves, at the first cross sill forward of the wheelhouse, and design a bolting and stiffening arrangement, so that no strength would be lost after assembly. As the side panels, front panel and tailgate were of bolted construction, there was no necessity to make any modification to those units.


FRONT & SIDE PANELS 14 GAUGE H.R. BLUE ANNEALED STEEL
TAILGATE 12 GAUGE H. R. BLUE ANNEALED STEEL
FLOOR 10 GAUGE H. R. BLUE ANNEALED STEEL
CROSS SILLS 2"x 3"x 10 GAUGE H. R. BLUE ANNEALED STEEL
WOOD FILLERS 2 1/16" x 3 3/8" HARDWOOD
LONGITUDINAL SILLS 3"x 3"x 10 GAUGE H. R. BLUE ANNEALED STEEL

BASIC BODIES (CONTINUED)

12 FT WITH WHEELHOUSE - TRANSVERSE SPLIT - 5W1A (CONTINUED)



Arrow "A" shows transverse split in substructure. View taken at arrow "A" in opposite picture.

Dimensions:

All dimensions of the 5W1 - 12 ft. bolted steel body - were retained.

Weights:

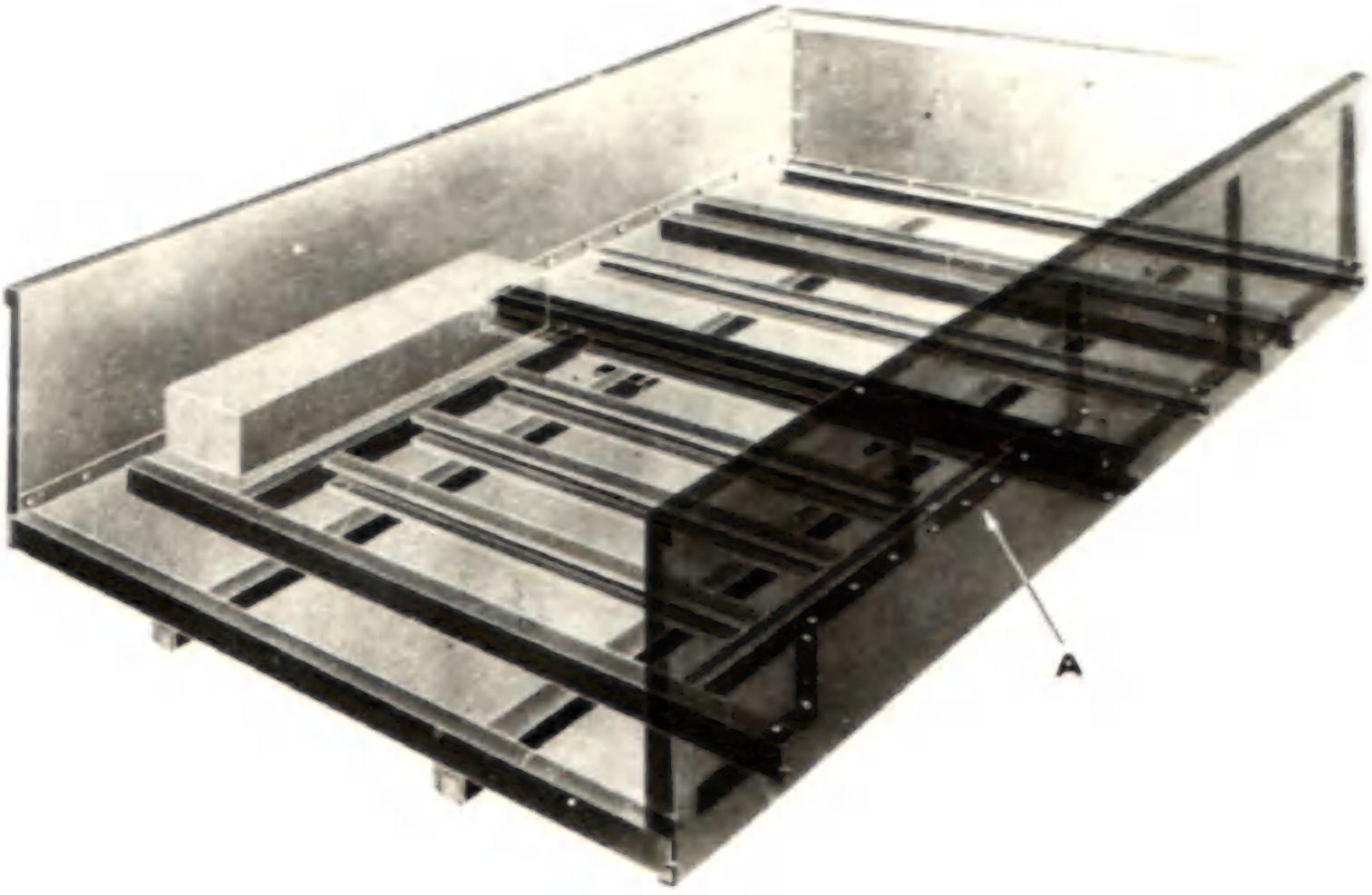
The weight of the additional substructure bolting assembly was 26 lbs. making a total weight of this basic body 1856 lbs., as compared with 1830 lbs, the weight of the 5W1 basic body.

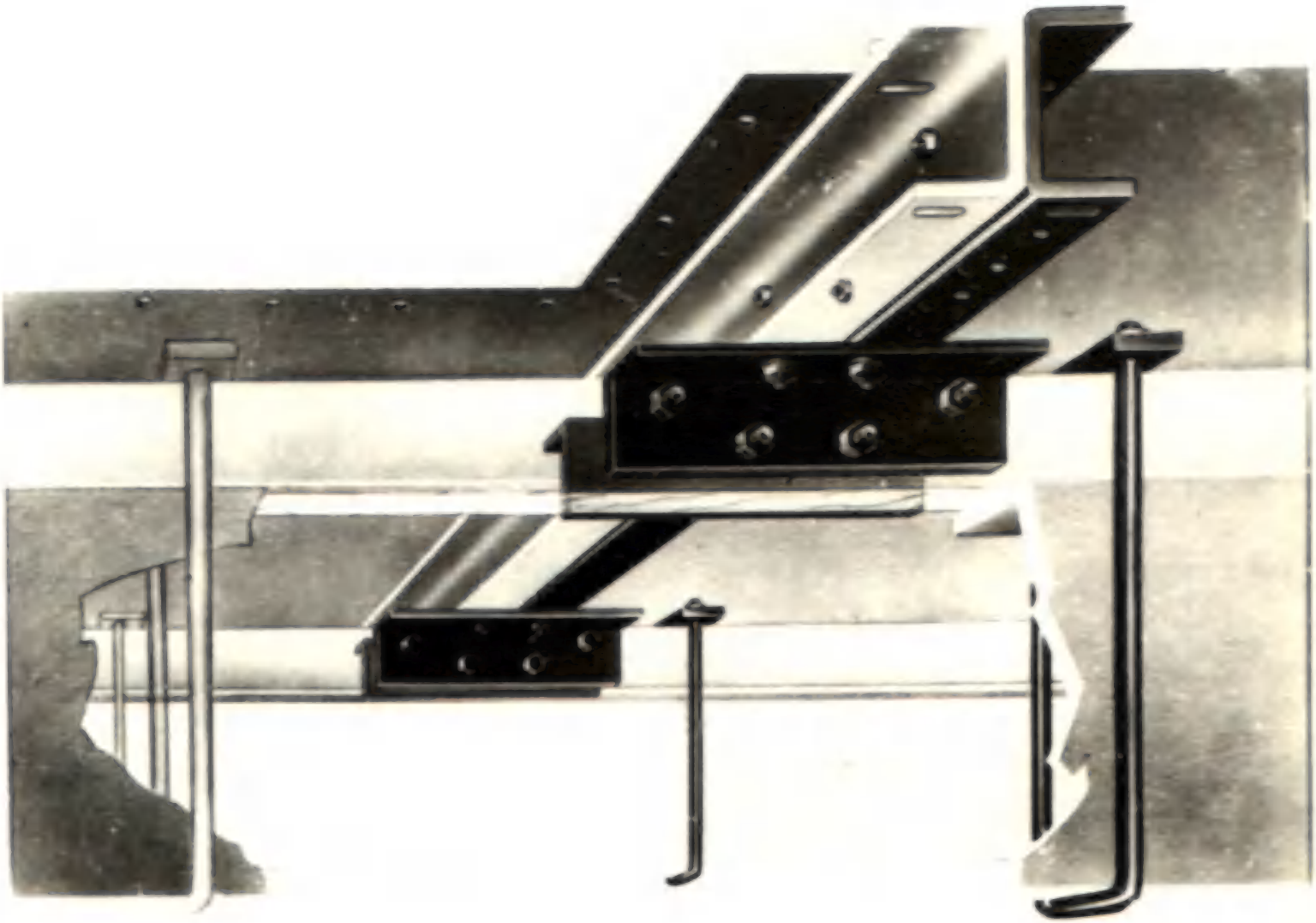
References:

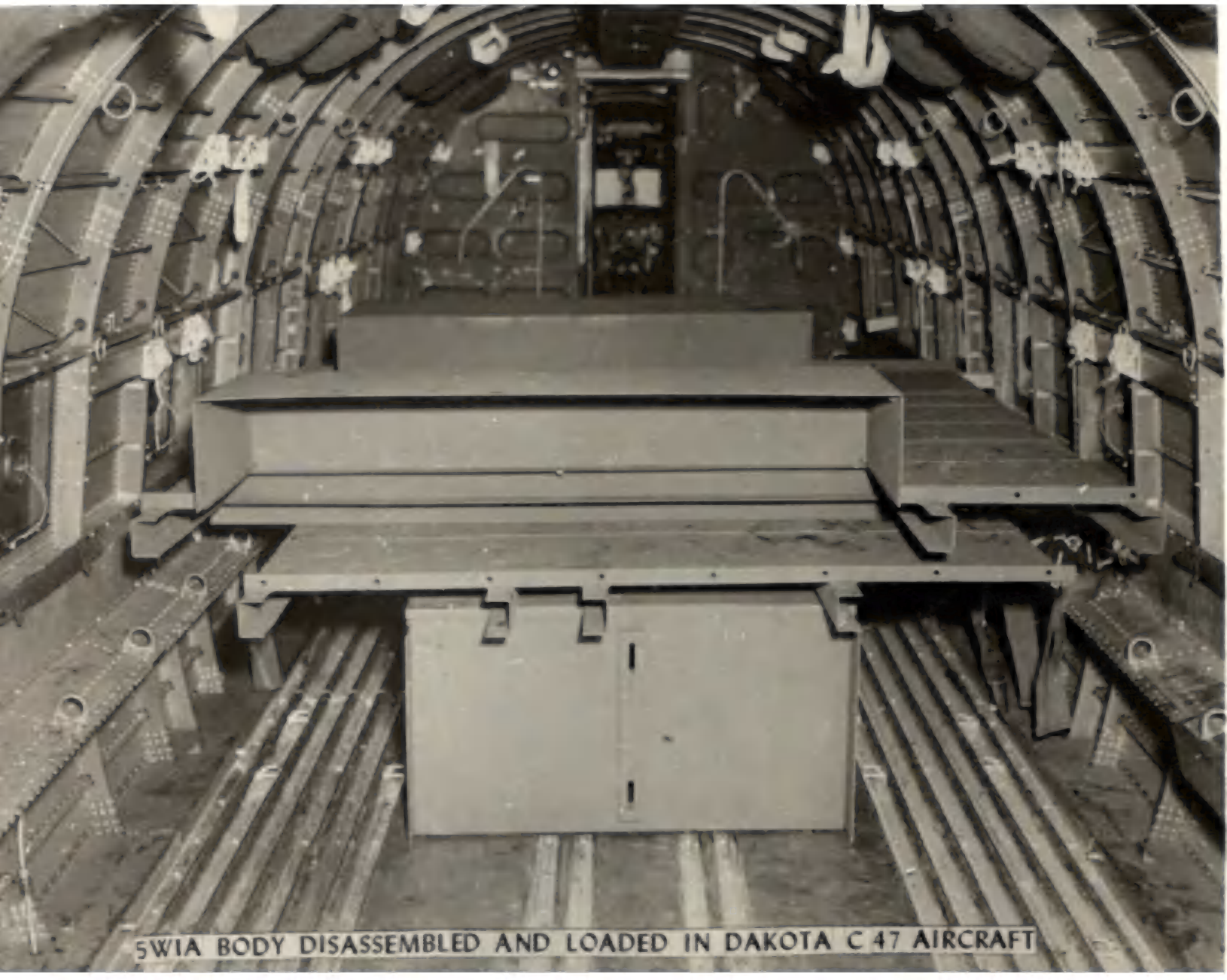
D.M. & S. Schedule of Drawings

Basic Body	S 344000
Tool boxes	S 345136 & 7
Jerrican Carriers	E 340187
Grille	E 11512
Superstructure	G 16344
Tarpaulin	F 16489
Experimental Engineering Reports	E-545

5W1A BODY DISASSEMBLED AND LOADED IN DAKOTA C 47 AIRCRAFT


A





5WIA BODY DISASSEMBLED AND LOADED IN DAKOTA C 47 AIRCRAFT

GENERAL SERVICE LIGHT WEIGHT STEEL

At the start of hostilities, no facilities were available to test vehicle bodies for durability of design. Consequently, each design, or change of design, had to be sufficiently rugged to withstand shocks of all kinds. This was accomplished by fabricating nearly all parts from 10 gauge mild steel, except substructure sills, which were formed from 8 gauge steel. Tailgate hinges and keepers were made from 3/8 flat mild steel, and 1/4" chains were used to hold tailgates in horizontal position. Superstructures were fabricated from 1" dia. black pipe, five bows and five longitudinal rails comprising one unit.

During the second quarter of 1941 it was decided to change the basic design of general service bodies to what was known as "Budd" type construction. Side panel gussets were tapered, in place of the straight design used previously. The body substructure was made from 10 ga.sheets, side and front panels from 14 gauge, and the tailgate panel from 12 gauge steel. The longitudinal rails in the superstructure were lessened in number from five to three.

A weight saving of approximately 600 to 700 lbs. was effected,and after certain minor changes had been made to the Budd design, to assist production, a weight of 2350 lbs. was obtained for the body complete with all tool boxes, mounting stock, spare fuel carriers and including the superstructure and tarpaulin.

Again it was impossible to prove the design as test facilities were not available. However, chassis with the Budd type bodies were tested by both Ford and General Motors. As no defects occurred during these tests, the design was used, whenever possible, in new bodies.

In 1943, the body design again was reviewed from the weight angle, to conserve metal and give increased chassis performance with longer tire life. In order to bring new thought into this project a series of meetings were arranged where technical representatives and production superintendents from members of the Steel Body Manufacturers Association advanced their ideas on the subject.

As a result of these meetings, it was arranged that A.E.D. Branch would place purchase orders for four light weight general service type bodies, as follows :-

(a) One body to be designed and produced in light gauge high strength steel by Motor Coach Industries Ltd., Winnipeg.

(b) One body to be designed and produced in light gauge high strength steel by Brantford Coach & Body Co.Ltd., Brantford, Ont.

(c) Two bodies to be designed and produced in light gauge high strength steel by Canadian Top & Body Corp., Tilbury, Ontario.

At the same time, Army Engineering Design Branch were to review the current general service body, and possibly place an order to purchase a body wherein the gauges of mild steel used were considerably lighter than presently specified. All five of these bodies were to be designed to permit loading in a C 47 Dakota aircraft.

The #1 body from Canadian Top & Body Corporation was received in the spring of 1945, and a few days later a body was received from Motor Coach Industries.

The Tilbury body was tested and weighed,with all information recorded in Experimental Engineering Report E 588. The Winnipeg body is recorded in Report E 598. The Tilbury body weighed approximately 1350 lbs., and the Winnipeg body,1400 lbs..

While both bodies successfully completed their tests, it was apparent that the Tilbury body was the superior, both from assembly and disassembly point of view, in addition to ruggedness of design. The Tilbury body is split transversely and all parts nest in the rear half of the body, while the Winnipeg body is split longitudinally, and does not stow away as readily as the Tilbury design.

During the time that the two bodies were being tested, A.E.D. Branch purchased light weight tailgates, tool boxes and superstructures, which were tested with satisfactory results, and recorded in Reports E 590, E 601, E 575 and E 619. The saving in weight represented practically 50% in each case.

At this stage of the development, a group of United States Steel Corporation engineers visited Ottawa to offer assistance in the project. The two light weight high strength steel bodies and a standard mild steel body were run over various test courses to acquaint them with types of terrain over which army vehicles must operate when necessary. After a thorough study of all factors involved, their recommendations were to retain A.E.D. Branch design due to ease of assembly and simplicity of design, but to lighten the body by using high strength steels of approximately 75000 lbs. tensile strength.

The arc welding of high strength steel presents quite a problem compared to the ease with which mild steel can be handled. Different members of the S.B.M.A. requested careful consideration be given to this matter before A.E.D.B. made any change in steel specification for production produced bodies. Due to this condition, and the fact that high strength steel had not been made available in quantities, and no assurance that it would, it was suggested by Canadian Top and Body Corp. that they be permitted to produce their second body by using the light gauge mild steel design which had been engineered by A.E.D.B.. This proposal was accepted.

This light gauge mild steel body, Code 5W7A, was produced to D.M. & S. drawings, Schedule 321170, and has been tested by D.V.S.A. of Department of National Defence. A verbal report has been received to the effect that no failures occurred during the tests over various courses at V.P.E. The body weighs less than 1500 lbs.,complete with all mounting stock, tool boxes, spare fuel carriers, superstructure and tarpaulin. The weight saving of approximately 900 lbs., or 40%, is considered a very satisfactory step in the reduction of weight programme. Further testing will be necessary to establish a "life-time" as compared to the present production general service 5W1A body which has given very satisfactory results in the different fields of operation.

Aluminum general service bodies,designed for mounting on 15-Cwt. APT, chassis,were produced, and withstood testing over the General Motors test courses. These vehicles are presently being tested by D.V.S.A., of Department of National Defence, for A.E.D.B.. An aluminum 12' general service type body, with drop side doors, was produced for use in the Machinery Lorry programme, but owing to the cessation of hostilities it did not reach the quantity production stage. Tests now being conducted are proving satisfactory, and it is estimated that 1200 lbs. in weight is saved when this body is compared to the steel type.

During the war period, high strength steel and aluminum were not available for body construction, and using this fact as a guide, it would appear essential that whatever steps are taken to reduce the weight of the bodies should be accomplished on the basis of production run units being fabricated from mild steel.

The above should be considered as an interim report on this subject. A full report will be issued later.

BASIC BODIES (CONTINUED)

GENERAL SERVICE LIGHT WEIGHT STEEL (CONTINUED)

Tilbury Light Wt. Body.

Tilbury Light Wt. Body.

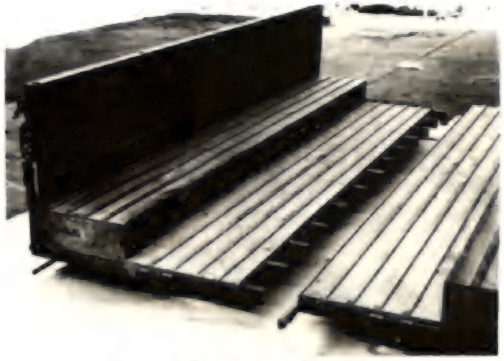
Tilbury Light Wt. Body -
Rear Section - Substr.

Tilbury Light Wt. Body -
Front Section - Substr.

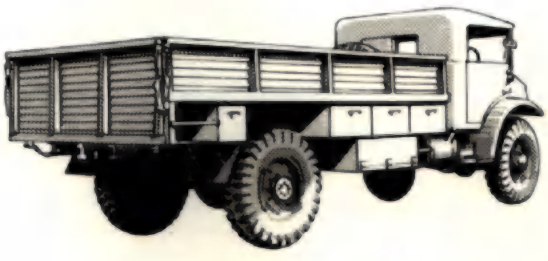
Wpg. Light Weight Body

Wpg. Light Weight Body

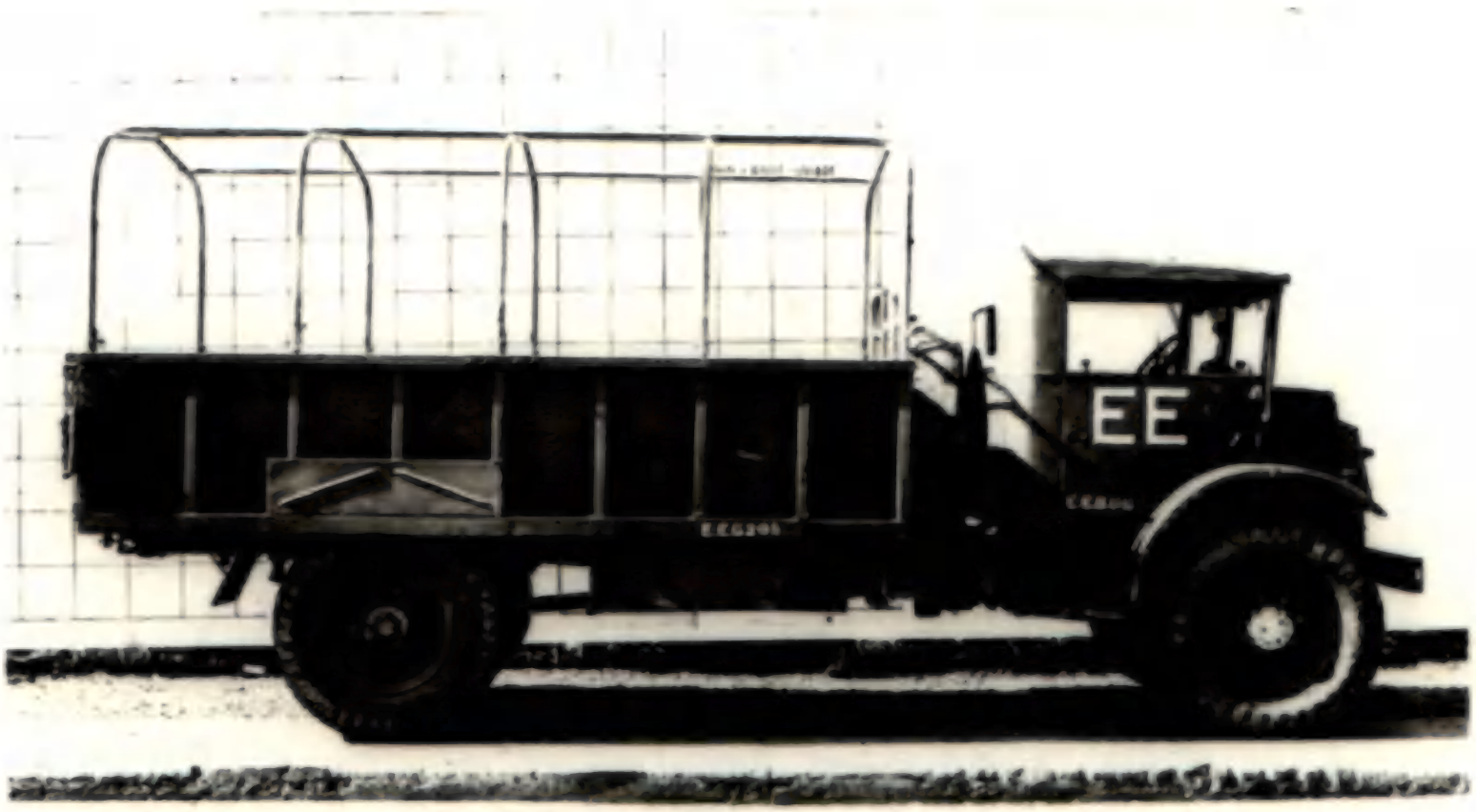
Wpg. Light Weight Body
Front view of right section



Wpg. Light Weight Body
Rear view of left section



Brantford Light Wt. Body.

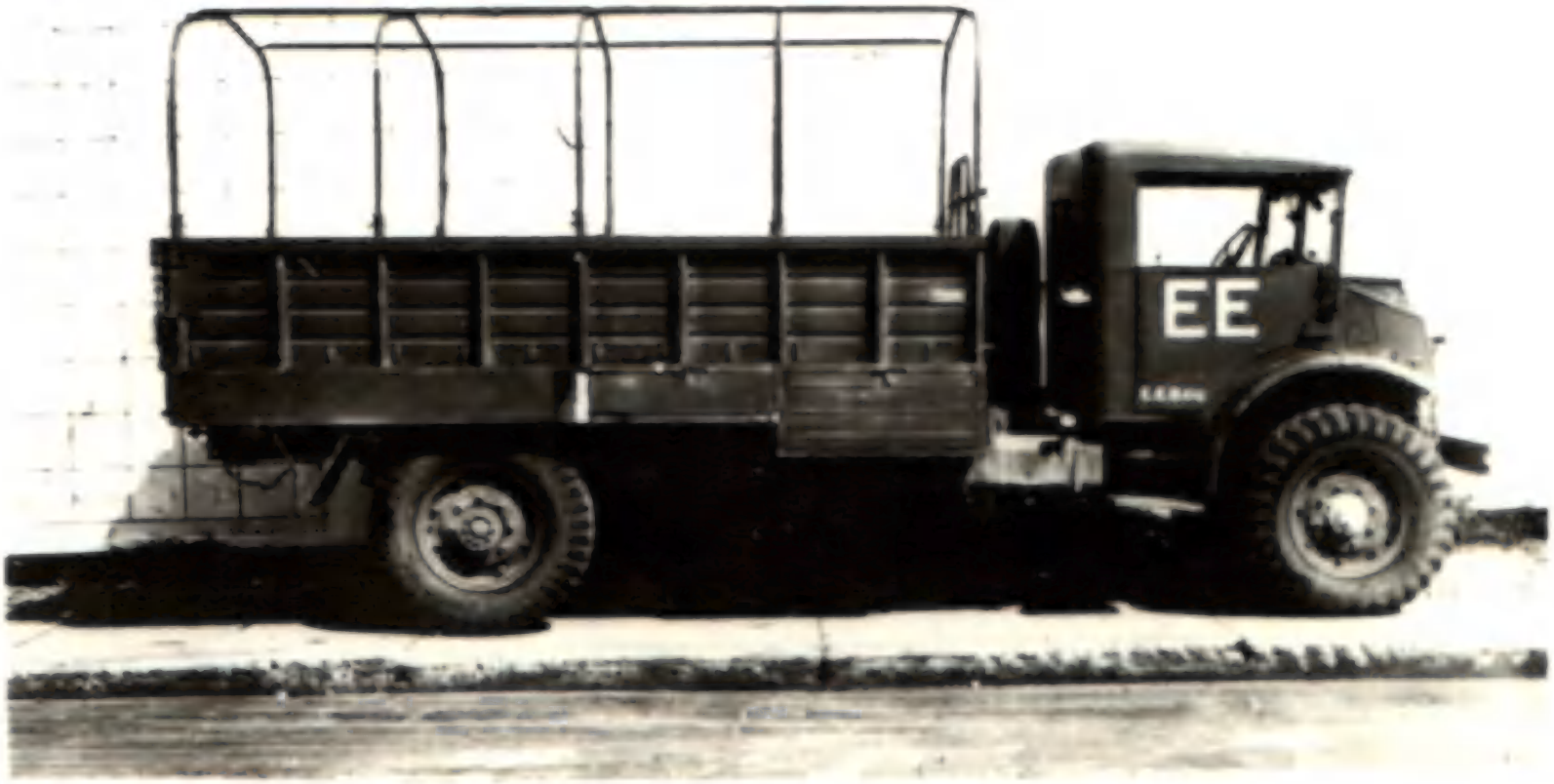


Tilbury Light Wt. Body.

Tilbury Light Wt. Body.

Tilbury Light Wt. Body -
Rear Section - Substr.

Tilbury Light Wt. Body -
Front Section - Substr.

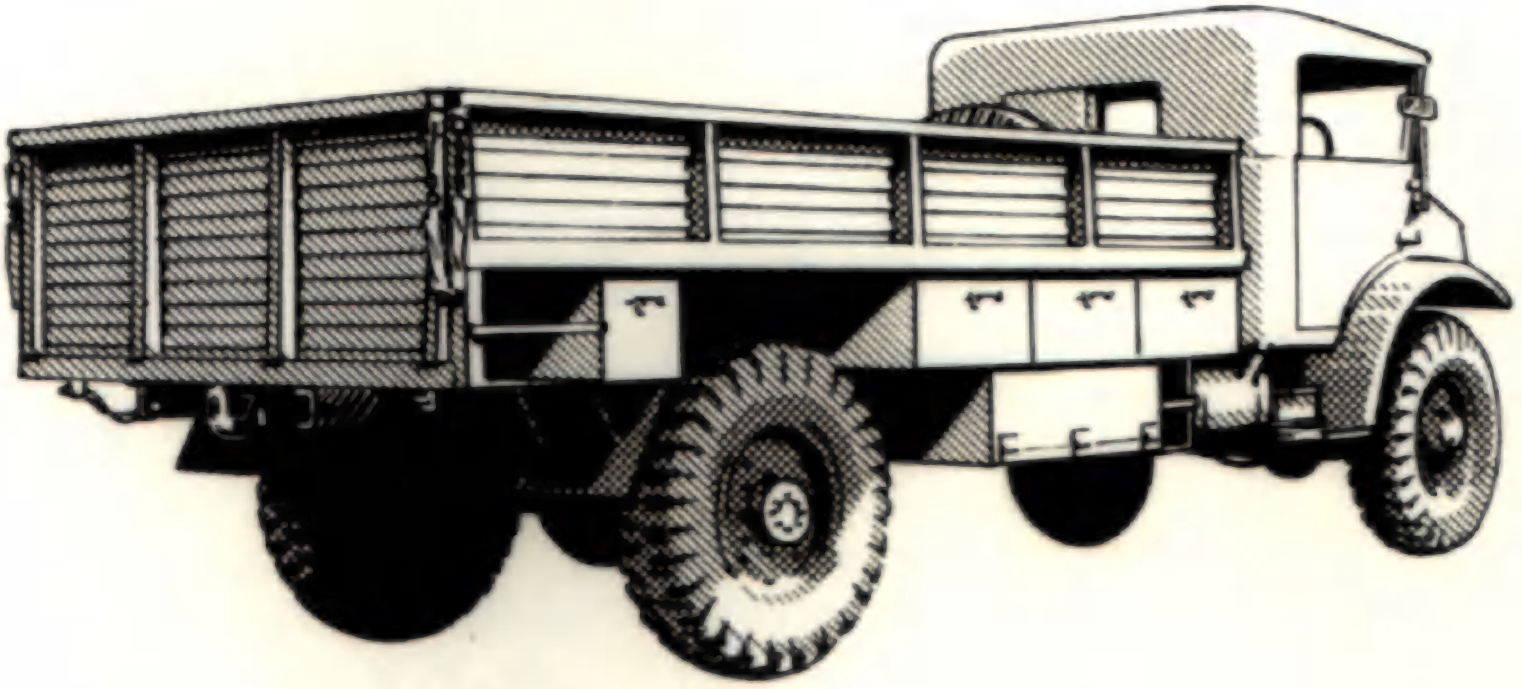


Wpg. Light Weight Body

Wpg. Light Weight Body

Wpg. Light Weight Body
Front view of right section

Wpg. Light Weight Body
Rear view of left section



Brantford Light Wt. Body.

BASIC BODIES (CONTINUED)

GENERAL SERVICE ALUMINUM BODY

In July, 1944, a request was received from Ministry of Supply, to design a 15-cwt. air-portable vehicle which could be loaded into a Dakota C57 aircraft without necessitating any modifications in the field other than mounting and dismounting the body from the chassis. A specification was set up and confirmed by Ministry of Supply, limiting the unladen weight of the vehicle to 5,000 lbs., which weight was to include oil, water and petrol for 150 miles minimum radius of action.

General Motors developed the chassis and two bodies were developed by A.E.D.B., being built by Gardner Equipment Co. Ltd.. These bodies - G.S. type - were constructed of aluminum.

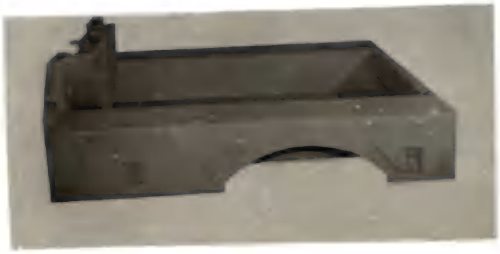
Body #1. The first body had full length wheelhouses, 8-1/2" deep, with side panels extending 15-1/2", a total of 24" from top of floor to top of side panel. An aluminum superstructure with 57-1/8" headroom was provided, with a #10 duck tailored tarpaulin. An extension to the tarpaulin acted as roof to the vehicle cab.

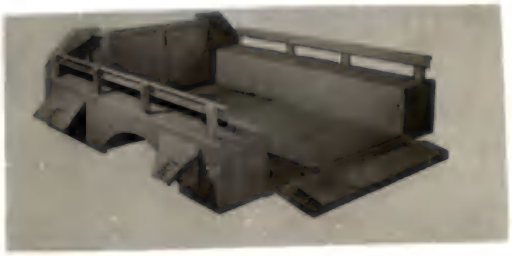
The front panel was indented to house the spare tire, being so designed that two thirds of the spare tire was carried in the front panel, the other third projecting over the cab floor. No metal back or sides were provided with the cab, but canvas curtains extended from the floor to the roof extension of the tarpaulin.

Tool lockers were built in the full length wheelhouses, while Jerrican carriers and an oil can carrier were located on the cab floor.

Body #2. This body differed from Body #1 in that the wheelhouses were 12" in depth, instead of 8-1/2", and the side panels above the wheelhouses were eliminated. The change was made to permit remounting of the body on the chassis within the aircraft, thus saving the weight of body lashing equipment. However, removable "lazy-backs" were provided, so that a total side wall height of 24" was obtained.

The weight of the complete body, including mounting stock, was 417 lbs., while the gross weight of the complete vehicle, less personnel and payload, was 5560 lbs.





References:

Body #1 - - D.M. & S. Schedule of Drawings S-344700
Body Code No. 2N1A

Body #2 - - D.M. & S. Schedule of Drawings S-344900
Body Code No. 2N2A

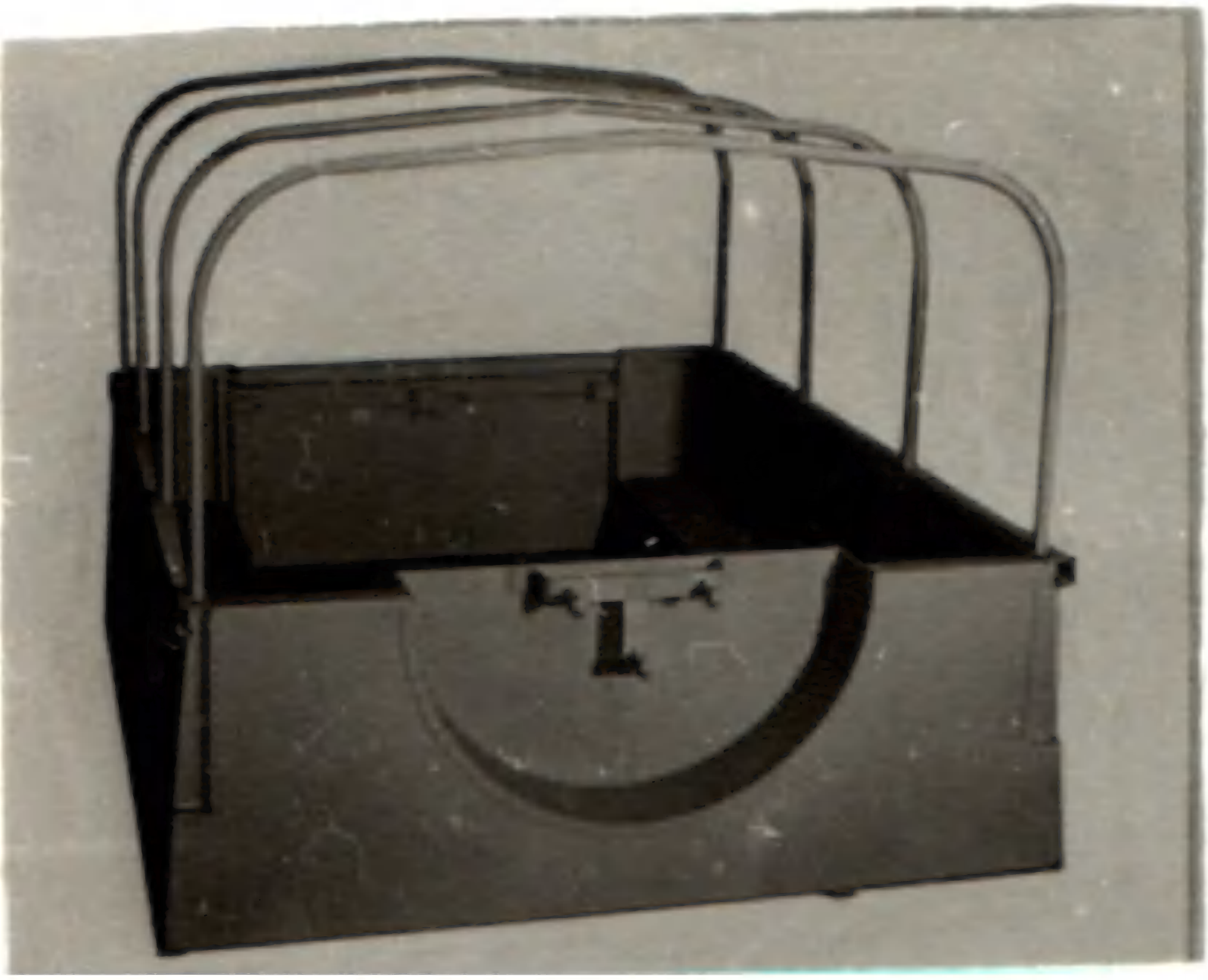
D.M. & S. File No. 73-V-43
A.E.D.B. Photograph File No. .....
Experimental Engineering Report Nos. ..... E-629 & 30

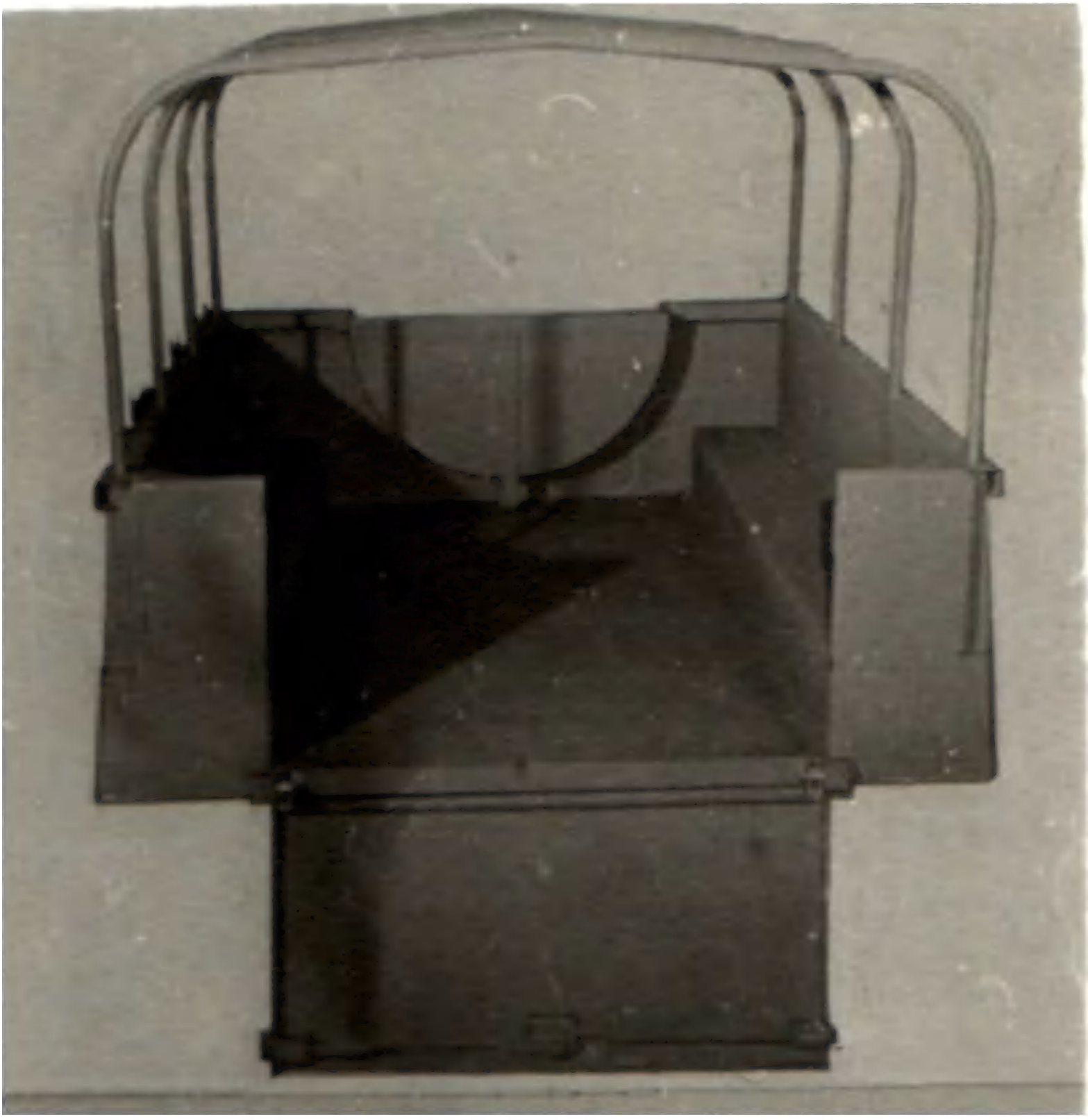
Dimensions:

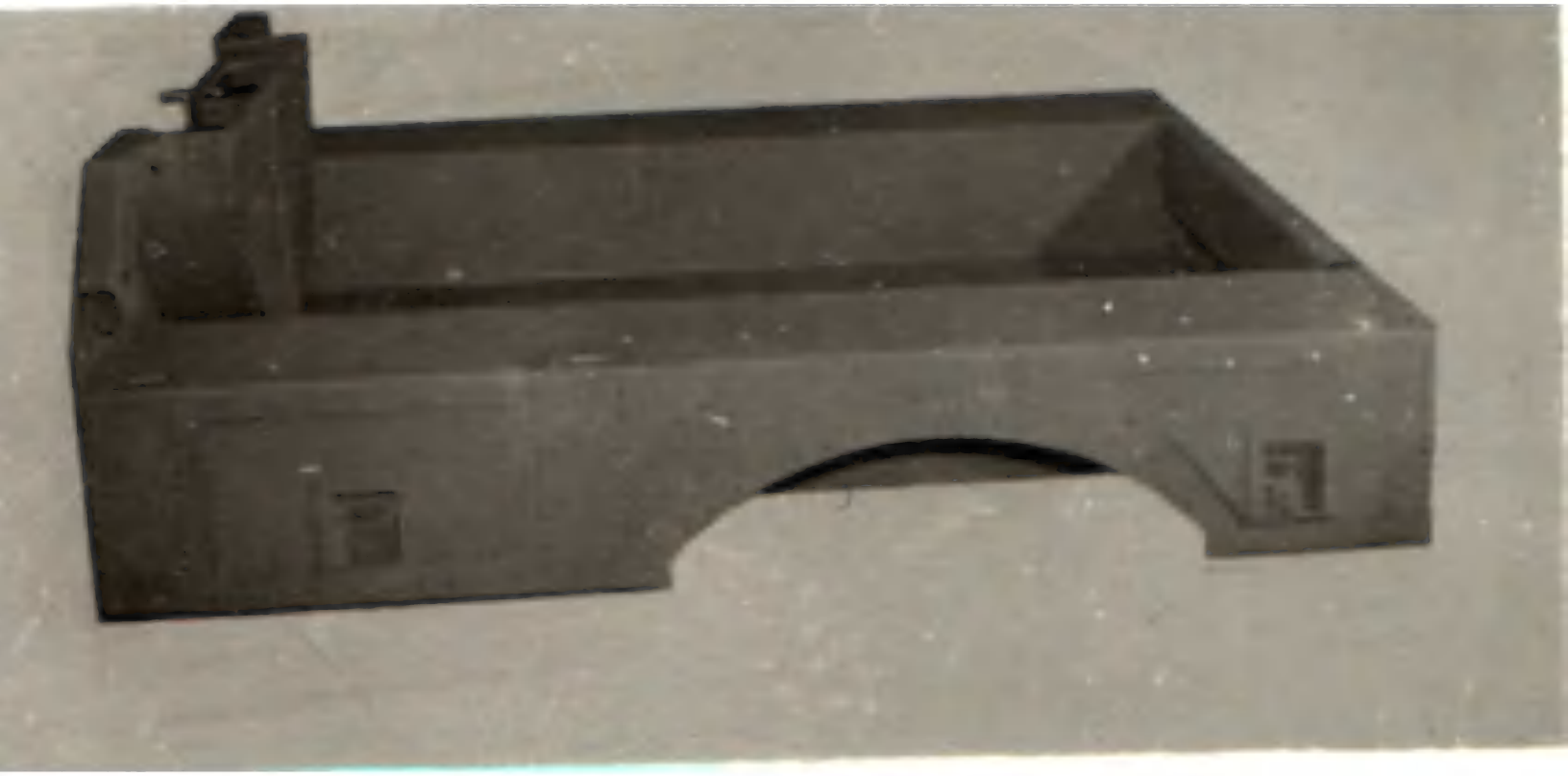
Overall length of bodies	83-1/2"
Overall width of bodies	73-3/4"
Inside length of bodies	82"
Inside width of bodies	66"

NOTE:

There was no production on either of these bodies due to cessation of hostilities. However, the pilot models presently are under test by W.P.E.







BASIC BODIES (CONTINUED)

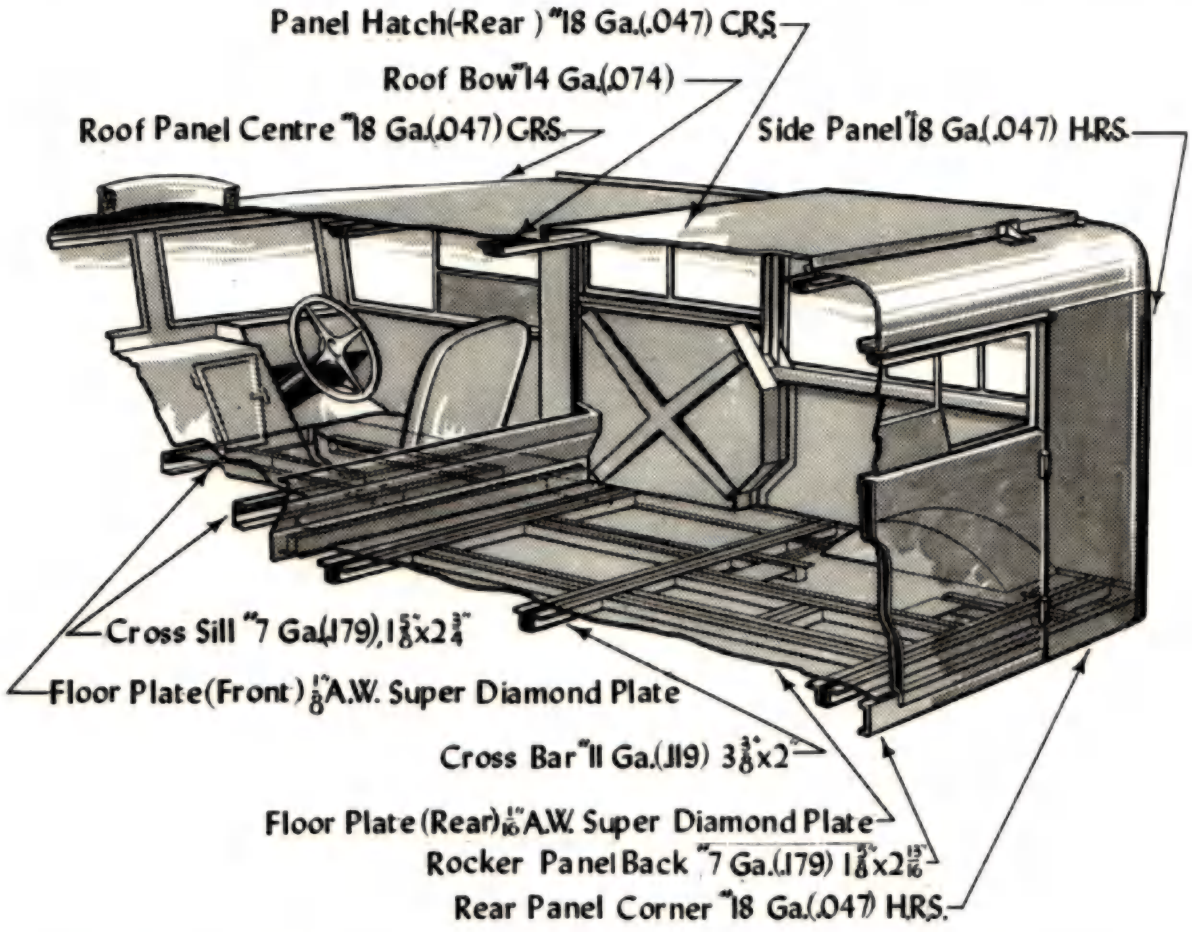
HOUSE TYPE - CONVENTIONAL WOOD & STEEL

The commercial or conventional pattern of House Type Body construction, either all steel or wood and steel, lent itself very well to certain types of military vehicles, especially when mounted on the smaller wheel base chassis, such as 101" Heavy Utility and 15 Cwt. chassis, or on the 3-ton chassis where restriction of body weight was not a factor because of heavy equipment which must be carried.

HEAVY UTILITY HOUSE TYPE BODIES

The Heavy Utility Conventional Welded, All Steel House type body was produced in quantity and was adapted to a number of roles. These were mounted on the H.U. C.M.P. 4 x 4 - 101" W.B. chassis - body and chassis produced by General Motors Corp., and were, as follows:-

H.U. Personnel Carrier - 1C1 & 1C7, H.U. Wireless - 1C2 & 1C8, H.U. Ambulance - 1C3, 1C5 & 1C6, H.U. Computor - 1C9, H.U. Machinery "Z.L." - 1C10, and the H.U. Staff Car - 1C11.



Constructional Drawing of Conventional House Type - 1C7 - Body

Dimensions:

Overall length of body	136-7/8"
Overall width of body	75-1/4"
Overall height of body	57-7/8"
Inside length of body proper	90"
Inside width of body proper	68"
Inside height of body proper	45"

Weights:

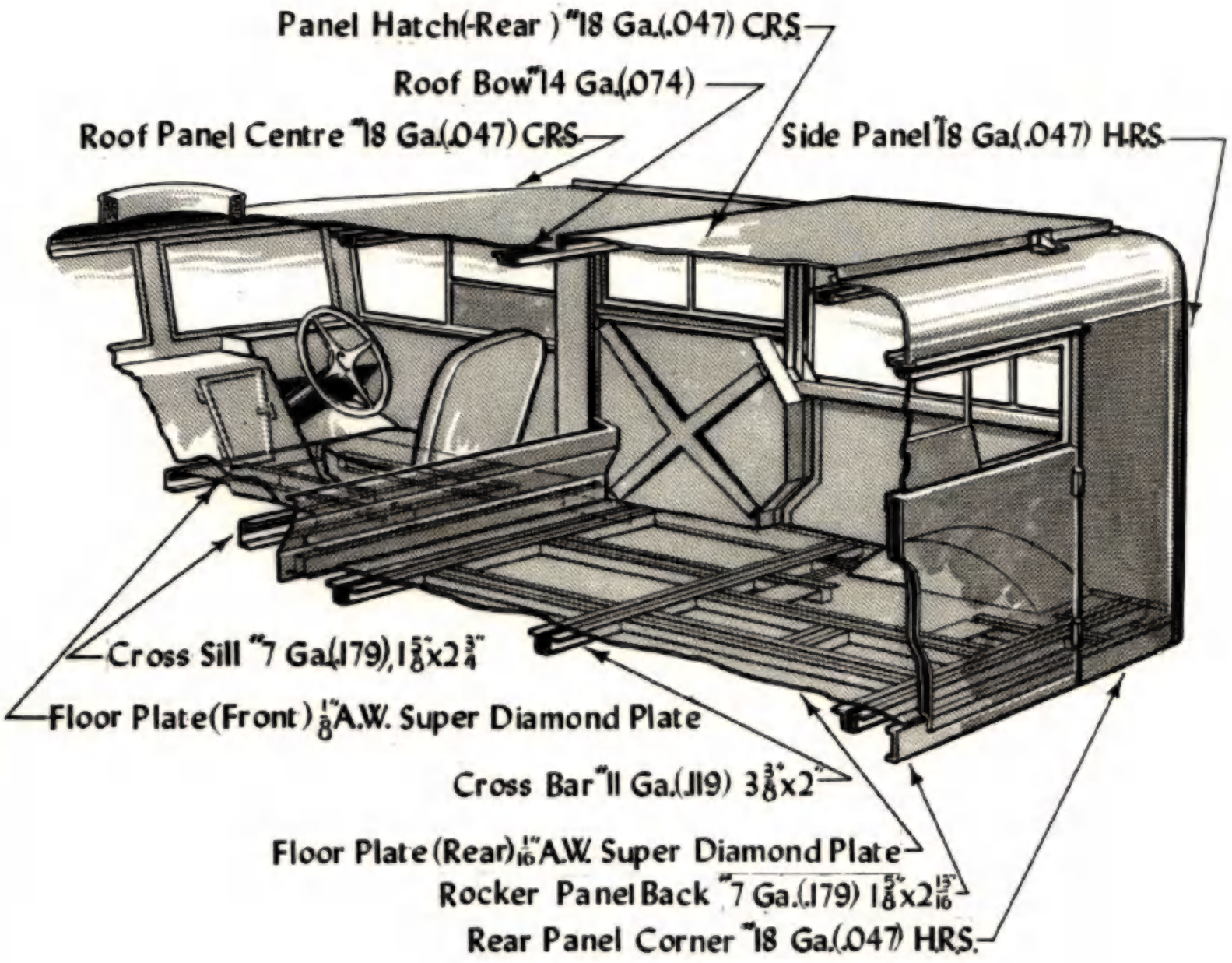
For weights of body as adapted to various roles, see individual pages in Volumes V and VI.

References:

All drawings were made up by General Motors Corp.. For other references, see individual pages in Volumes V and VI.

Description of Body

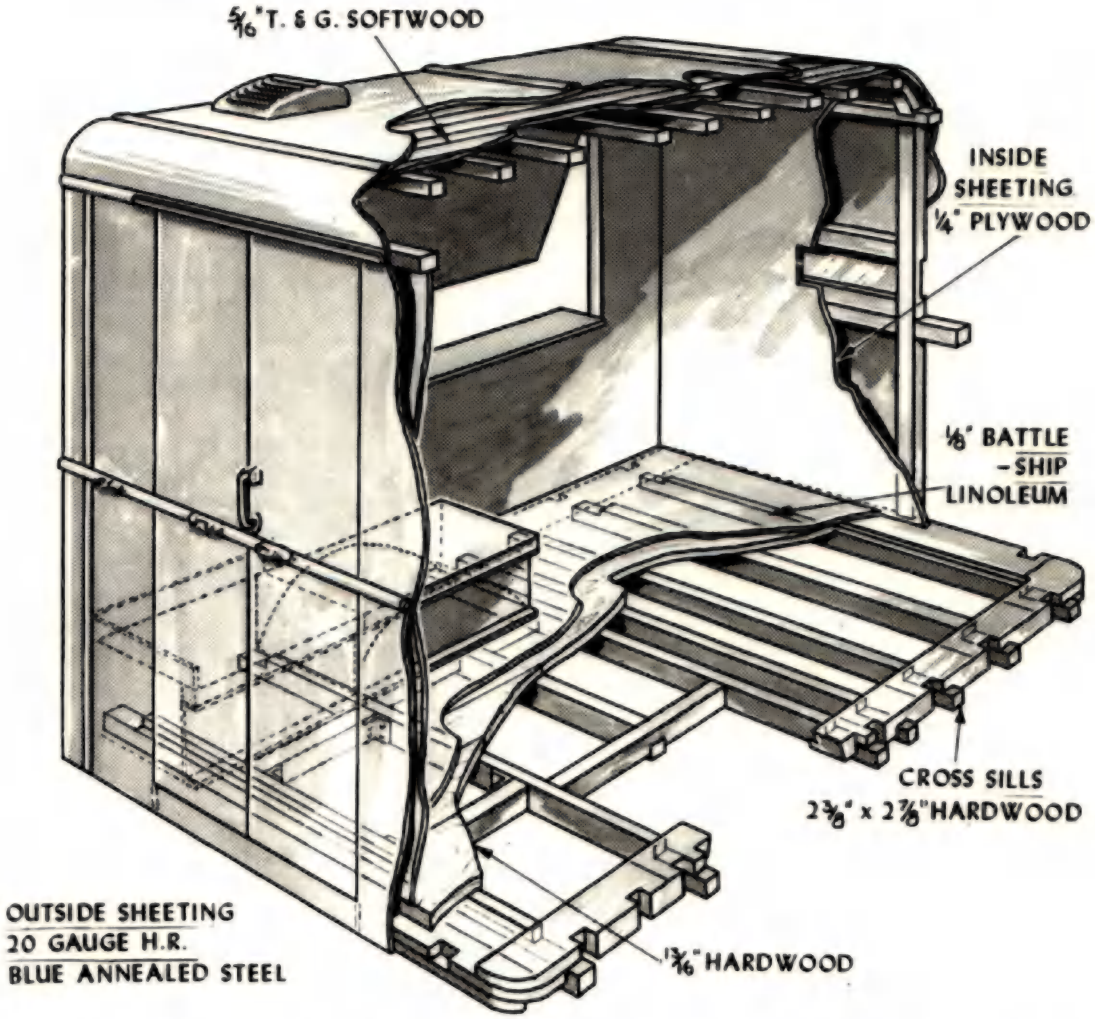
This basic body is an all steel welded bus type body with doors at sides and rear. Windows are equipped with "Monsanto" frame type curtains or sliding safety glass. A hip ring is provided over the mate's seat in the driver's compartment while a sliding roof section is provided in the body proper. The construction lends itself readily to insulation and various types of interior lining, while the design is flexible enough to allow for almost any type of adaptation.


Panel Hatch(-Rear) "18 Ga.(.047) CRS.
Roof Bow "14 Ga.(.074)
Roof Panel Centre "18 Ga.(.047) CRS.
Side Panel "18 Ga.(.047) HRS.
Cross Sill "7 Ga.(.179) 1 5/8"x2 3/4"
Floor Plate(Front) 1/8" A.W. Super Diamond Plate
Cross Bar "11 Ga.(.119) 3 3/8"x2"
Floor Plate (Rear) 1/16" A.W. Super Diamond Plate
Rocker Panel Back "7 Ga.(.179) 1 5/8"x2 13/16"
Rear Panel Corner "18 Ga.(.047) HRS.

3 TON HOUSE TYPE BODIES

The 8 ft., 10 ft., and 12 ft. Conventional Wood and Steel construction House type Bodies were produced in quantity and were adapted to several roles. These bodies were mounted on 15-Cwt. C.M.P. 4 x 4 - 101" W.B. chassis, 30 cwt. C.M.P. 4 x 4 - 134" W.B. chassis and 3-ton C.M.P. 4 x 4 - 158" W.B. chassis. They were used in the following vehicles :-

the 15 Cwt. 4 x 4 Wireless - 2F1, 2G1 and 2G2, the 30-Cwt. 4 x 4 Ambulance - 3F1, the 30-Cwt. 4 x 4 Wireless - 3J1 and 3J2, the 3-ton 4 x 4 Mobile Canteel - 5N1, the 3-ton 6 x 4 Workshop - 6A1, 6B1 and 6B2, the 3-ton 6 x 4 Stores - 6D1, the 3-ton 6 x 4 Disinfestor - 6D2.



CONSTRUCTIONAL DRAWING OF CONVENTIONAL HOUSE TYPE-5N1-BODY

Dimensions

For dimensions of bodies, see individual vehicle pages in Volumes V and VI.

Weights

For weights of bodies, see individual vehicle pages in Volumes V and VI.

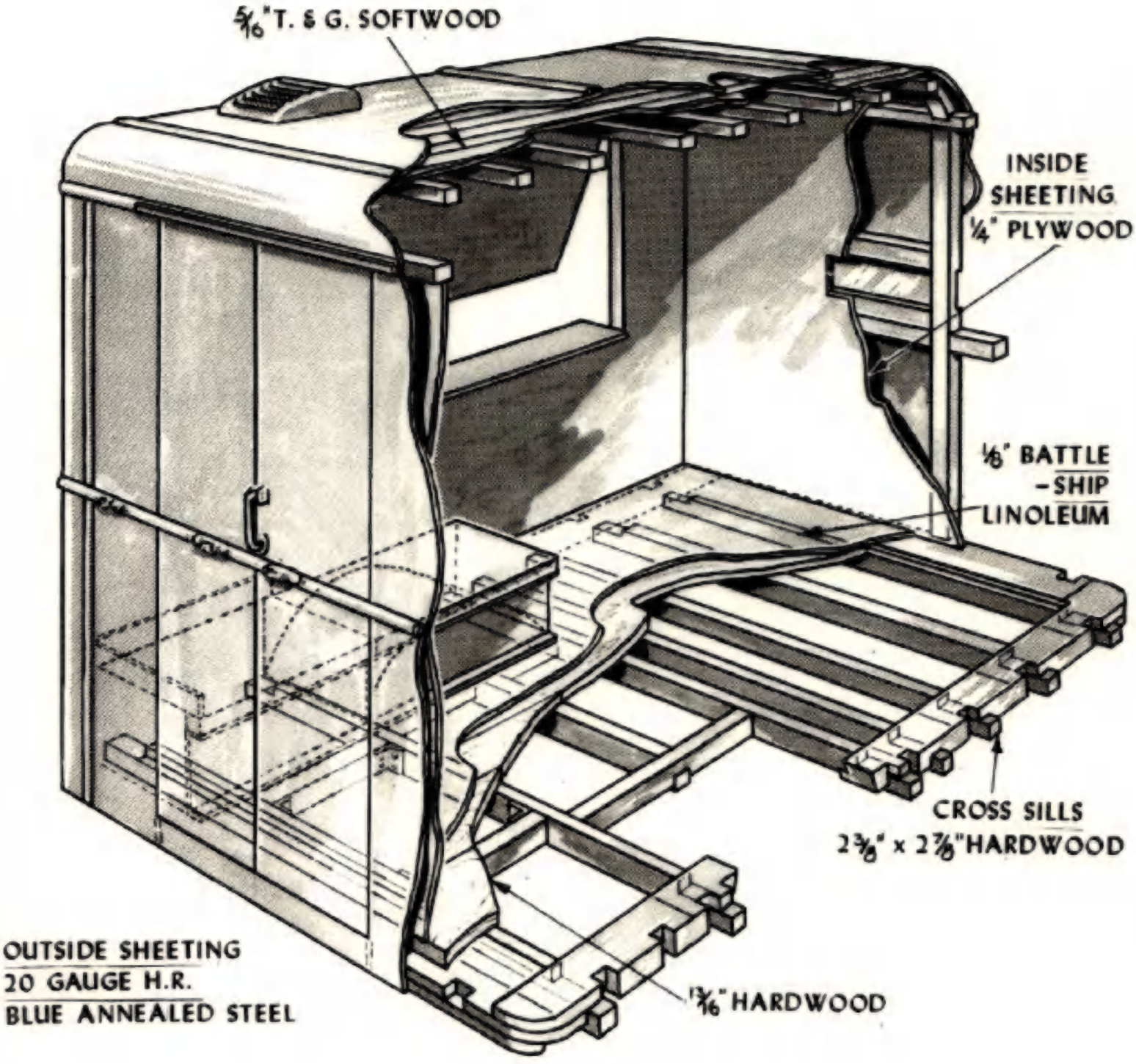
References

For references pertaining to these bodies, see individual vehicle pages in Volumes V and VI.

Description of Body:

This body consisted of a hardwood, jointed framework, sheathed on the outside with 20 ga. H.R.B.A. steel plates, and on the inside with 1/4" fir-ply. In some bodies, the inside sheathing was of 3/16 tempered Masonite which lends itself readily to that type of construction. Battleship linoleum was glued to the floor which was of 13/16" hardwood or 12 ga. H.R.B.A. steel plate. The roof of the body was of 5/16 tongued and grooved boards, metal sheeted or covered with waterproof treated canvas. Hardwood wear strips were, at times, screwed over the canvas as protection should it be necessary for personnel to mount to the roof. Doors, either sliding or hinged, were of wood framing with steel sheeting on the outside and firply on the inside. Windows were of the "Pullman" type, with wire mesh screens and blackout blinds or shutters. Various types of lighting and ventilation systems were installed, i.e., 6-volt, 12-volt, and 110 volt, with condulets for outside source of supply where necessary.

The substructure was of either hardwood or H.R.B.A. formed steel cross members and longitudinal sills, and mounting to the chassis frame was by "U" or "J" bolts, both methods proving satisfactory.


5/16" T. & G. SOFTWOOD
INSIDE SHEETING
1/4" PLYWOOD
1/8" BATTLE -SHIP LINOLEUM
CROSS SILLS
2 3/8" x 2 7/8" HARDWOOD
OUTSIDE SHEETING
20 GAUGE H.R.
BLUE ANNEALED STEEL
13/16" HARDWOOD

HOUSE TYPE - LINDSAY CONSTRUCTION

Lindsay construction as applied to motor truck bodies, consists of prefabricated components comprising the four walls and ceiling, including doors where they occur. It is a patented design of the "Dry Zero Corporation" of Chicago and New York, U.S.A..

The basic framing is the popular winged channel or top hat section, running vertically and horizontally, and joined together with specially stamped fittings. Framing members are arranged and spaced to accomodate openings for windows, etc., as specified. Curved portions of a section similar to the frame channel form the roof coves.

All channels comprising the framework are assembled with the wings or flanges to the outside, to accomodate the prefabricated panels. The entire framework bolts to the substructure.

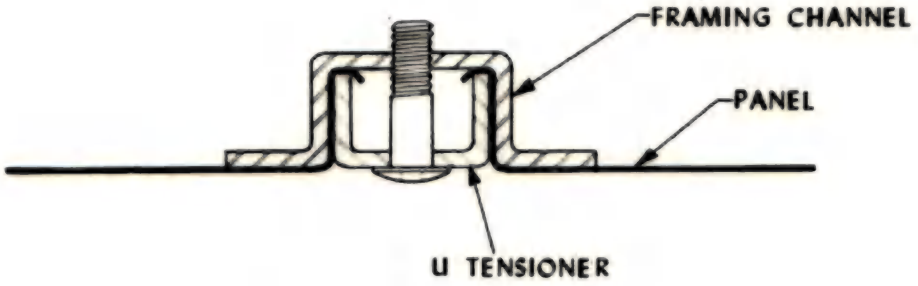
The panels are made of 26 gauge H.R.B.A. steel sheet, rectangular in shape, with all four edges formed with a double flange, one inward, the other outward.

The panel sizes are made to fit the framework, and are held in place by a plain channel, called a "U" tensioner.

The "U" tensioner is held in place by specially designed screws which pass through the web of the "U" tensioner and screw into tapped holes in the web of the framing channel.

The "U" tensioner is installed with its legs fitted into the framing channel after the panels have been placed. When the "U" tensioner is screwed into place, its legs apply a pressure to the outward flanges of the panels, thus drawing them down tightly and having a four directional tension on the panel, resulting in a light construction of maximum strength. The joints are sealed, after assembly, with a mastic paste.

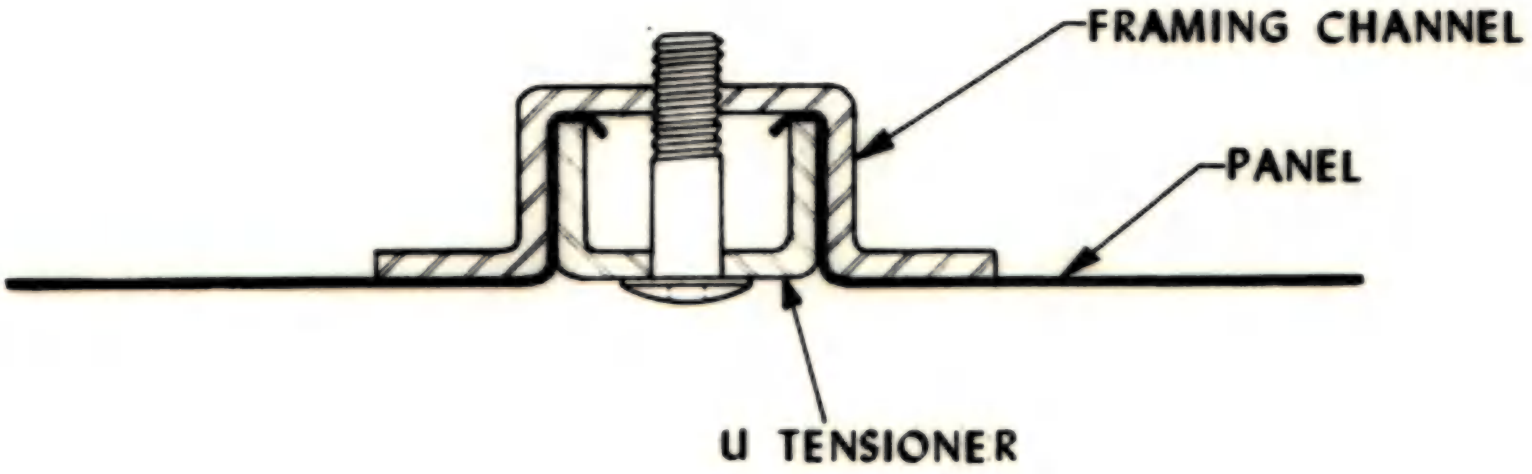
The advantages offered by this construction are its strength and light weight, its ease of assembly and repair, and its adaptability to different designs. The design also lends itself readily to inside finishes.

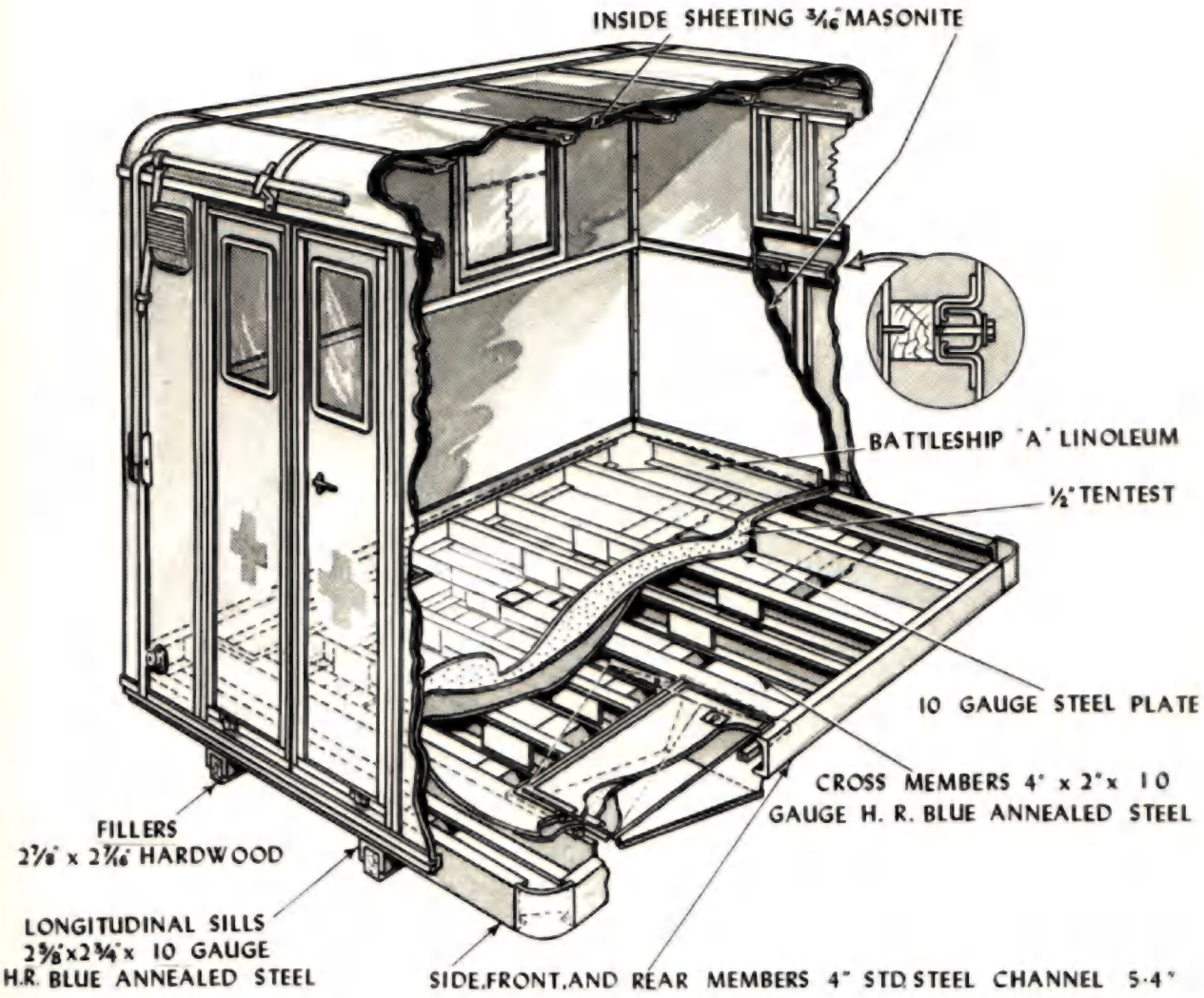


SECTION VIEW SHOWING FITTING OF PANELS TO FRAMEWORK

Bodies of Lindsay construction can be assembled to almost any dimensions which may be desired, and can be mounted on Modified Conventional or C.M.P. chassis. Lindsay bodies have been used in the following vehicles:-

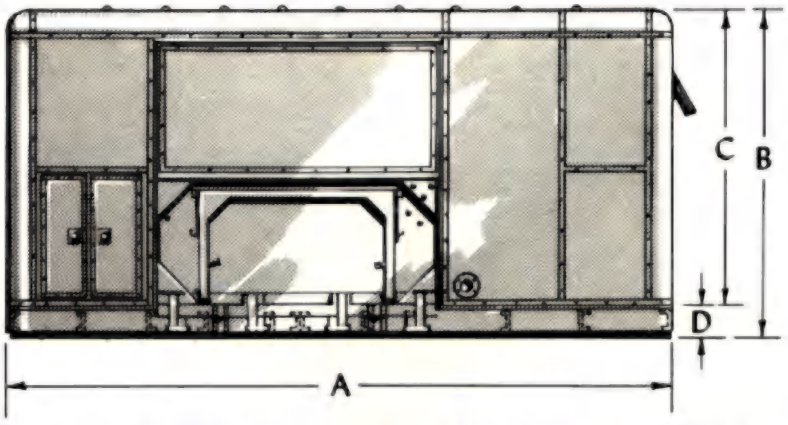
30-Cwt. C.M.P. 4 x 4 - 134" W.B. Office, 3-Ton C.M.P. 4 x 4 - 158" W.B. Dental, 3-Ton C.M.P. 4 x 4 - 158" W.B. Machinery "D1-1", 3-Ton C.M.P. 4 x 4 - 158" W.B. Ambulance, 3-TON C.M.P. 4 x 4 - 158" W.B. Machinery "3" Mk. II, 3-Ton C.M.P. 4 x 4 - 158" W.B. Machinery "CZ" Mk. II., 3-Ton C.M.P. 4 x 4 - 158" W.B. Machinery "F" Mk. II., 3-Ton C.M.P. 4 x 4 - 158" W.B. Machinery "Z" Mk. II., 3-Ton C.M.P. 4 x 4 - 158" W.B. Office, 3-Ton C.M.P. 4 x 4 - 158" W.B. Signals CZ Mk. IV., 3-Ton C.M.P. 6 x 4 - 160-1/2" W.B. Workshop, and Stores, 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "A", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "B", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "C", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "D", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "F", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "Z", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "CZ", 3-Ton C.M.P. 6 x 6 - 160" W.B. Machinery "R.E. 7-1/2", 3-Ton C.M.P. 6 x 6 - 160" W.B. Artillery Armament Repair (for U.S.S.R.), 3-Ton C.M.P. 6 x 6 - 160" W.B. R.C.A.F. Maintenance.


FRAMING CHANNEL
PANEL
U TENSIONER

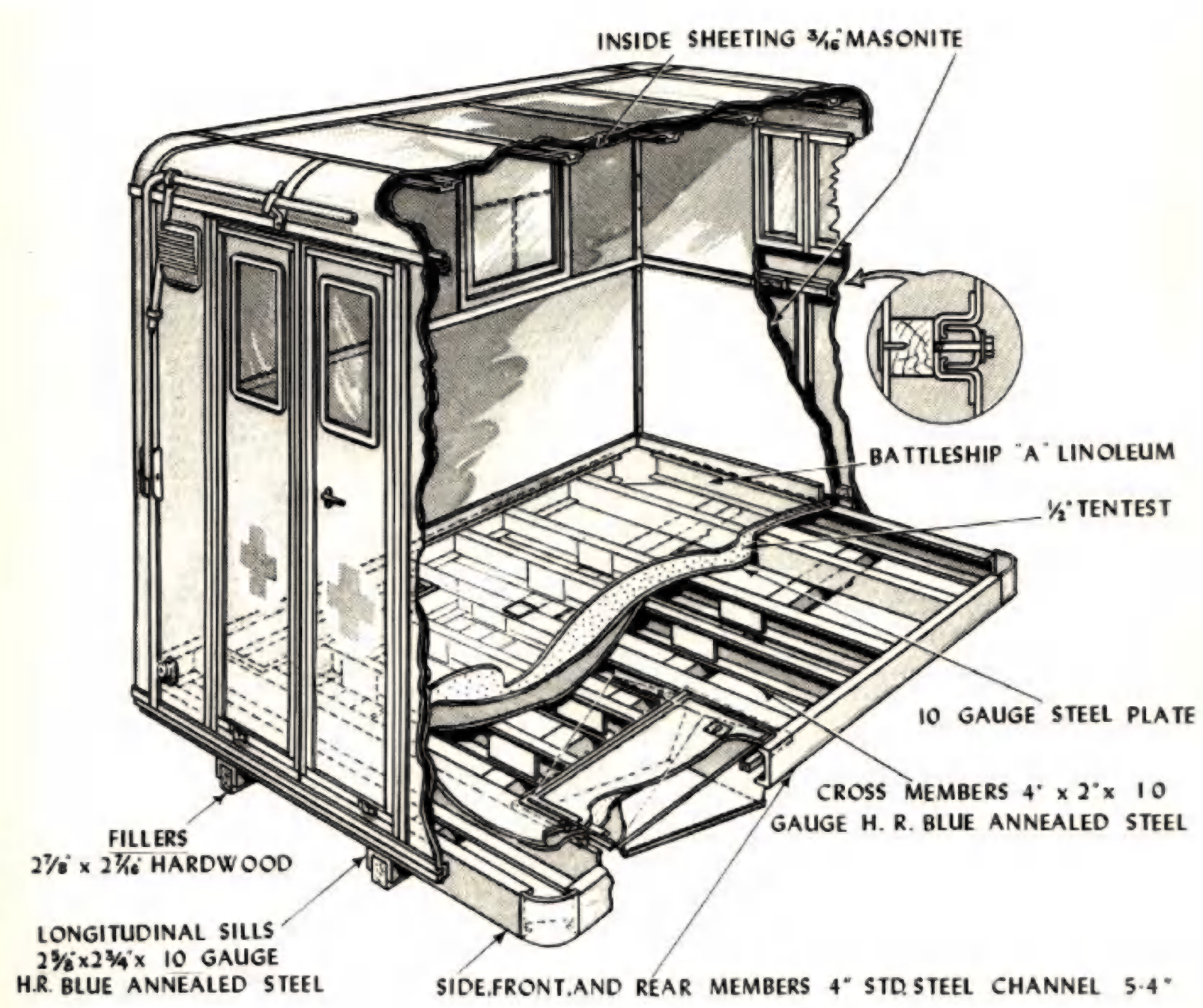


CONSTRUCTIONAL DRAWING OF LINDSAY HOUSE TYPE 5JI BODY

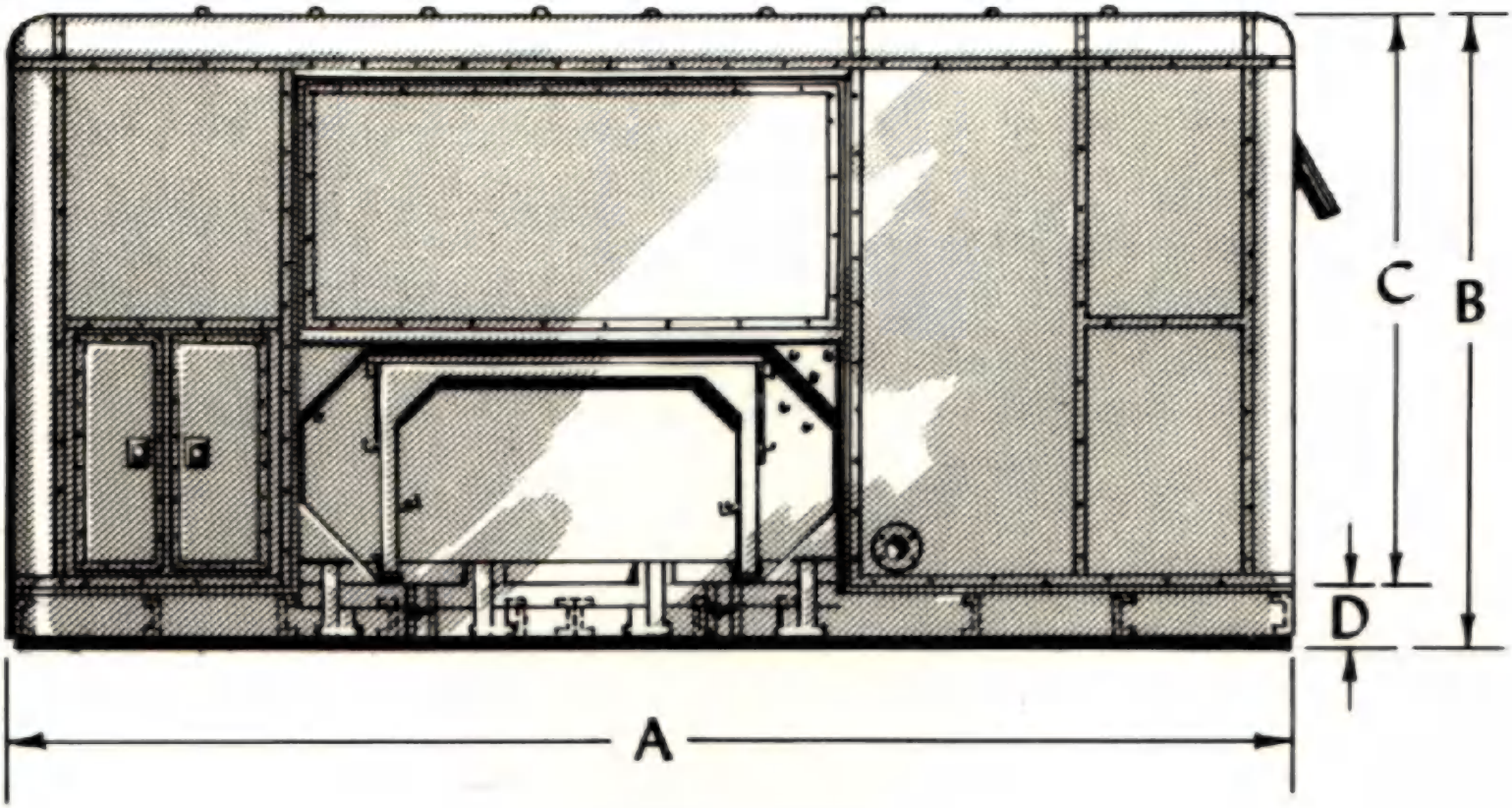
TYPICAL LINDSAY WORKSHOP BODY



DIMENSIONS	A	B	C	D			WIDTH
OVERALL	183"	89"		8 1 8"			103 3 4"
INSIDE	182 3 4"		75"				101 1 2"


INSIDE SHEETING 3/16" MASONITE
BATTLESHIP "A" LINOLEUM
½" TENTEST
10 GAUGE STEEL PLATE
CROSS MEMBERS 4" x 2" x 10 GAUGE H. R. BLUE ANNEALED STEEL
FILLERS 2⅞" x 2⅞" HARDWOOD
LONGITUDINAL SILLS 2⅝" x 2¾" x 10 GAUGE H.R. BLUE ANNEALED STEEL
SIDE, FRONT, AND REAR MEMBERS 4" STD. STEEL CHANNEL 5-4"

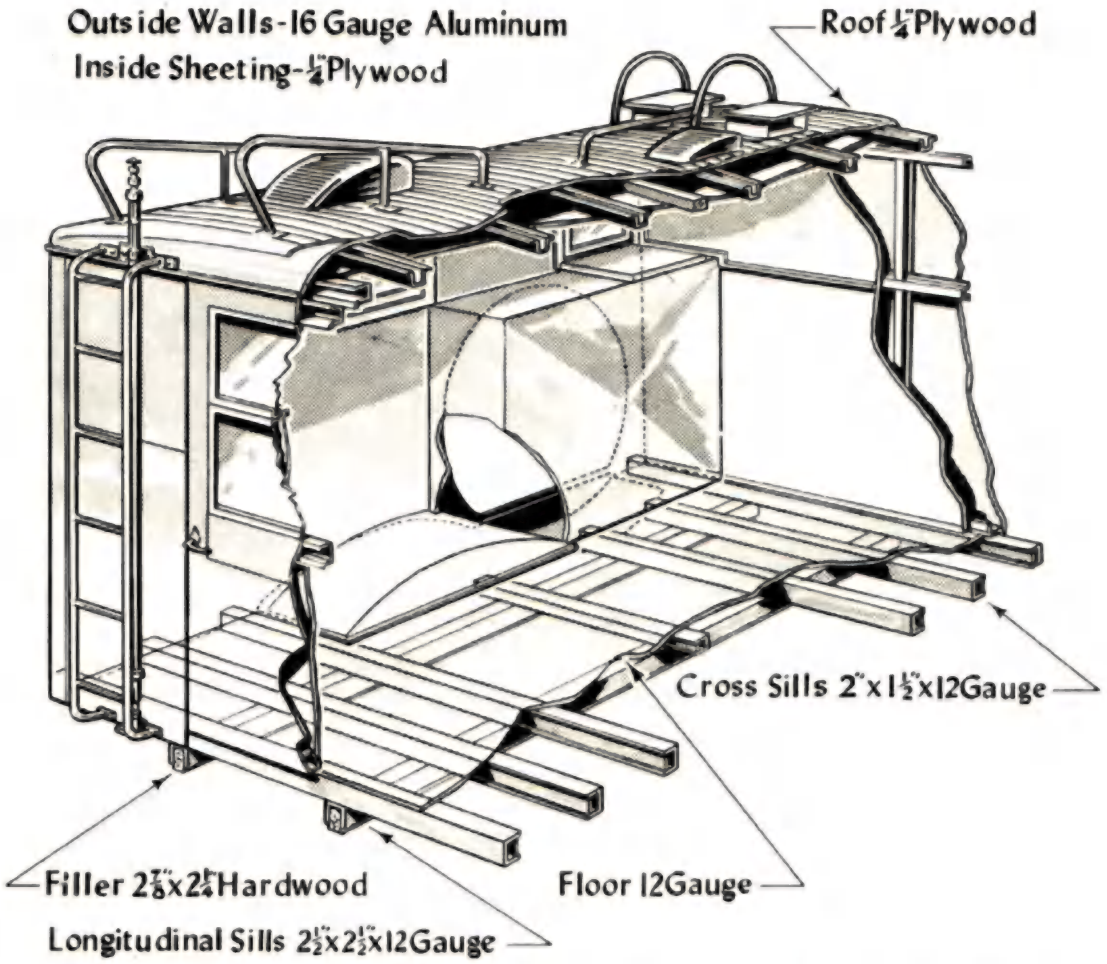
TYPICAL LINDSAY WORKSHOP BODY



BASIC BODIES (CONTINUED)

HOUSE TYPE, ALUMINUM BODIES

In an effort to lighten the construction of house type bodies where heavy installations of equipment were necessary, two types of Aluminum House type Bodies were produced. These were the 15-cwt. Wireless - 2K1 and 2K2 - mounted on 15 Cwt. C.M.P. 4 x 4 - 101" W.B. chassis and the 13'6" Wireless - 55D3, 55D4, 55D5, 55D6, 55D7 and 55D8 - mounted on 3-ton C.M.P. 4 x 4 - 158" W.B. chassis, with extended frames.



CONSTRUCTIONAL DRAWING OF ALUMINUM HOUSE TYPE BODY

Dimensions, Weights and References:

For data concerning the above, refer to the individual vehicle pages in Volume V.

Description of Body

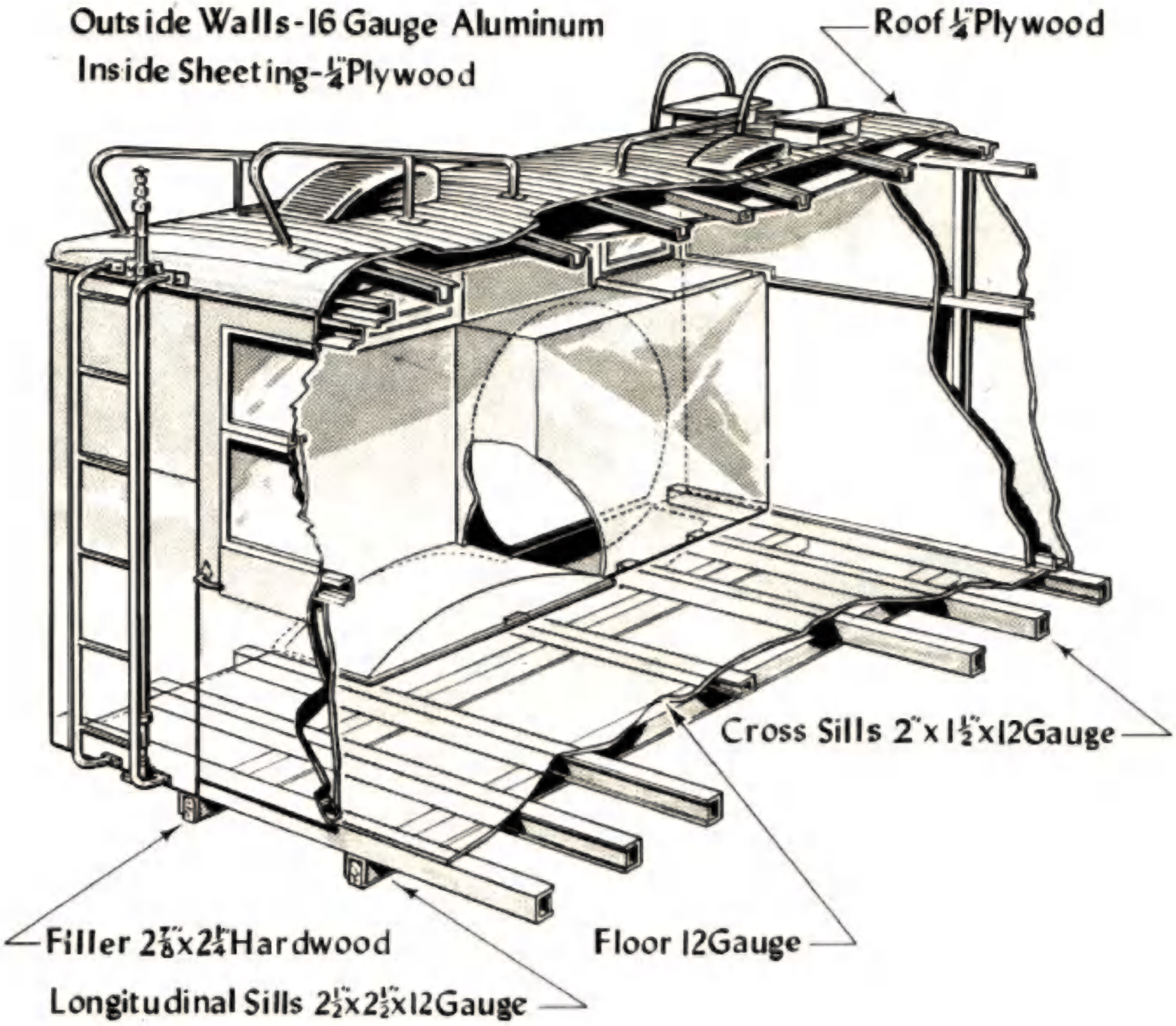
The body consisted of a 16 ga. or 18 ga. H.R.B.A. steel flanged channel framework, gussetted at the corners, with outside sheathing of 16 ga. 1/2 H. aluminum sheets. The aluminum sheets were rivetted to the flanges of the framework channels. The interior was sheathed with 1/4 fir-ply or 3/16 Masonite which was screwed by means of metal screws to the web of the framework channel. The substructure consisted of 12 ga. H.R.B.A. steel formed channel cross sills, and longitudinal sills, with hardwood or B.C. fir fillers to provide compression. The floor was of 12 ga. H.R.B.A. steel plate covered with 1/8" Dektred.

Sliding doors were provided at each side of the body with a hinged door at the rear. Sliding steps of tubular design were installed at each entrance, and were housed in the substructure when not in use. Windows were of the "Pullman" type with wire mesh screens and blackout blinds or panels and were installed in both sides of the body, as well as in the doors.

Built in lighting fixtures and ventilators were provided, and the body was wired for 6-volt or 12-volt and 110-volt systems, with conduits for outside source of power when necessary. A cabinet for single or multiple auxilliary charging plants for the Wireless equipment was installed at the rear of the body, with sliding doors and/or panels set in the outside walls for ventilation and cooling. A Johnson "Chore Horse" auxilliary charging plant for the lighting and ventilating systems was housed in a steel cabinet and suspended from the substructure.

Canvas penthouses with poles also were provided and housed on the roof of the vehicle when not in use.

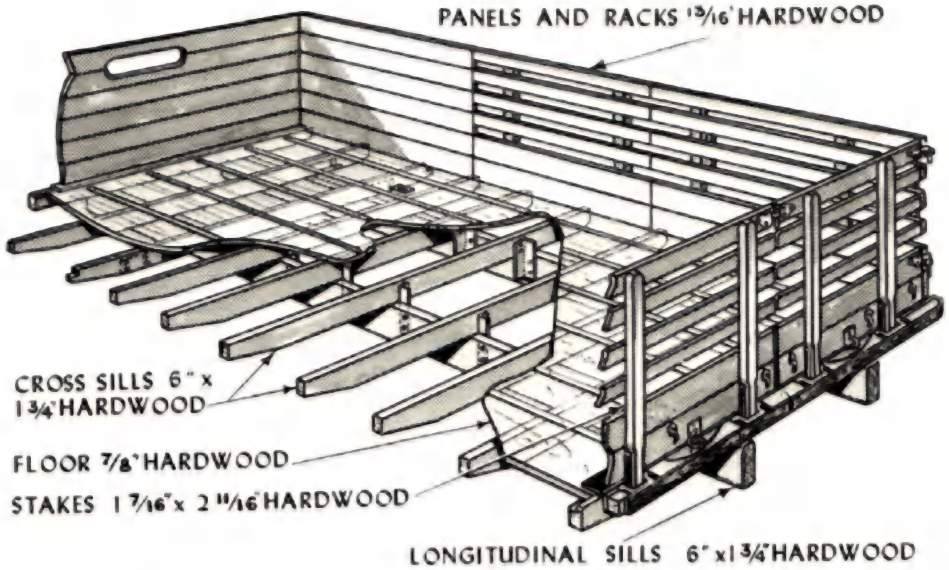
Access to the roof was gained by a tubular ladder attached to the rear of the body.


Outside Walls - 16 Gauge Aluminum
Inside Sheeting - ¼" Plywood
Roof ¼" Plywood
Cross Sills 2" x 1½" x 12 Gauge
Filler 2⅞" x 2¼" Hardwood
Floor 12 Gauge
Longitudinal Sills 2½" x 2½" x 12 Gauge

BASIC BODIES (CONTINUED)

PLATFORM, STAKES & RACKS

Several sizes of Platform, stake and rack bodies were produced in quantity. These were 12 ft., 14 ft., and 18 ft. Bodies, mounted on 2-ton and 3-ton Modified Conventional chassis, as well as 3-ton, 5-ton and 10-ton semi-Trailer Bodies - 18 ft. and 19 ft. in length, the semi-Trailer bodies having either flat or two section drop floors. In addition, both open and closed rack types of bodies were produced.



CONSTRUCTIONAL DRAWING OF STAKE & RACK BASIC BODY

Dimensions, Weights and References:

For data re above, refer to individual vehicle pages in Volumes V and VII.

Description of Body:

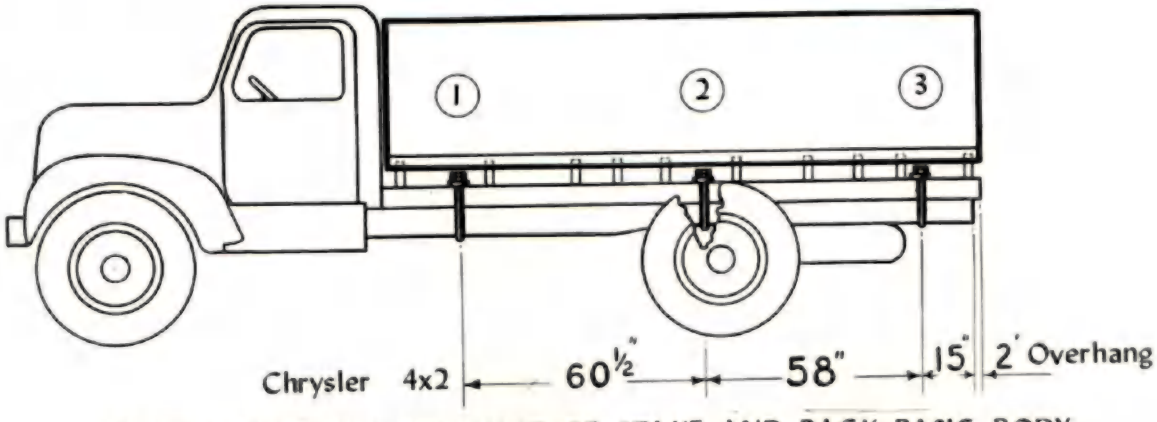
This basic body has a platform of 7/8" hardwood boards - random widths - the individual boards being spaced maximum 5/32", minimum 3/32" to prevent arching of the floor due to possible swelling of the boards by weather action. Steel wear strips were screwed to the upper side of the floor. The cross sills were of 1-3/4" hardwood, with 1-3/4" hardwood longitudinal sills, the entire substructure being bolted together. A steel box section rub rail was provided, into which were set the stake pockets, thus providing maximum protection to the stakes.

The stakes were of hardwood, finished to 1-7/16" x 2-11/16, to which were bolted the racks, all bolts being staggered to prevent splitting of the stakes.

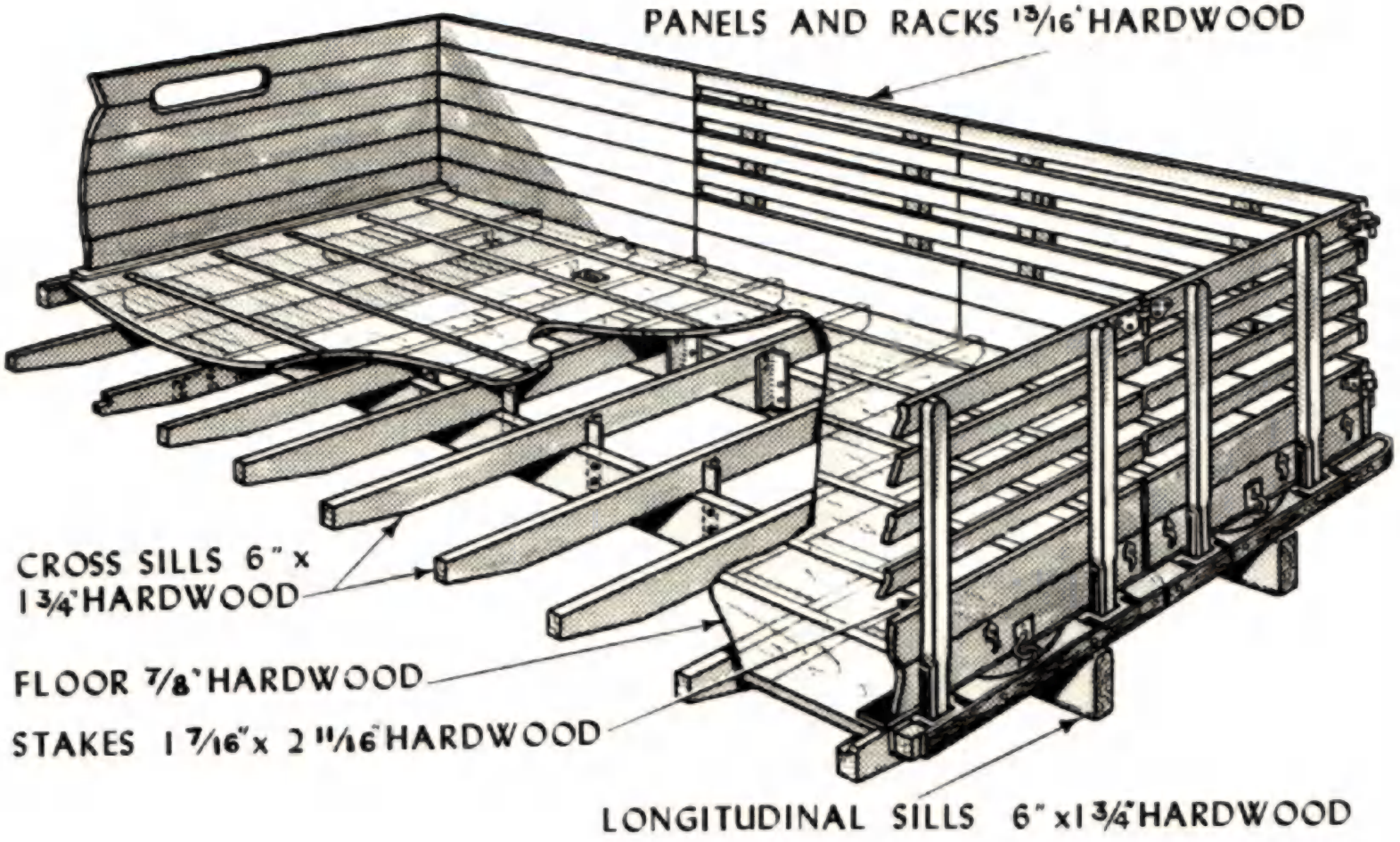
The racks were built of 13/16" hardwood boards, the boards of the closed type being spaced maximum 5/32", minimum 3/32" to prevent corrugation of the racks. "C" type hold down brackets also were provided. In all cases, the tailgate racks were designed to swing outward, while one side rack on each side also was hinged to swing, to facilitate loading.

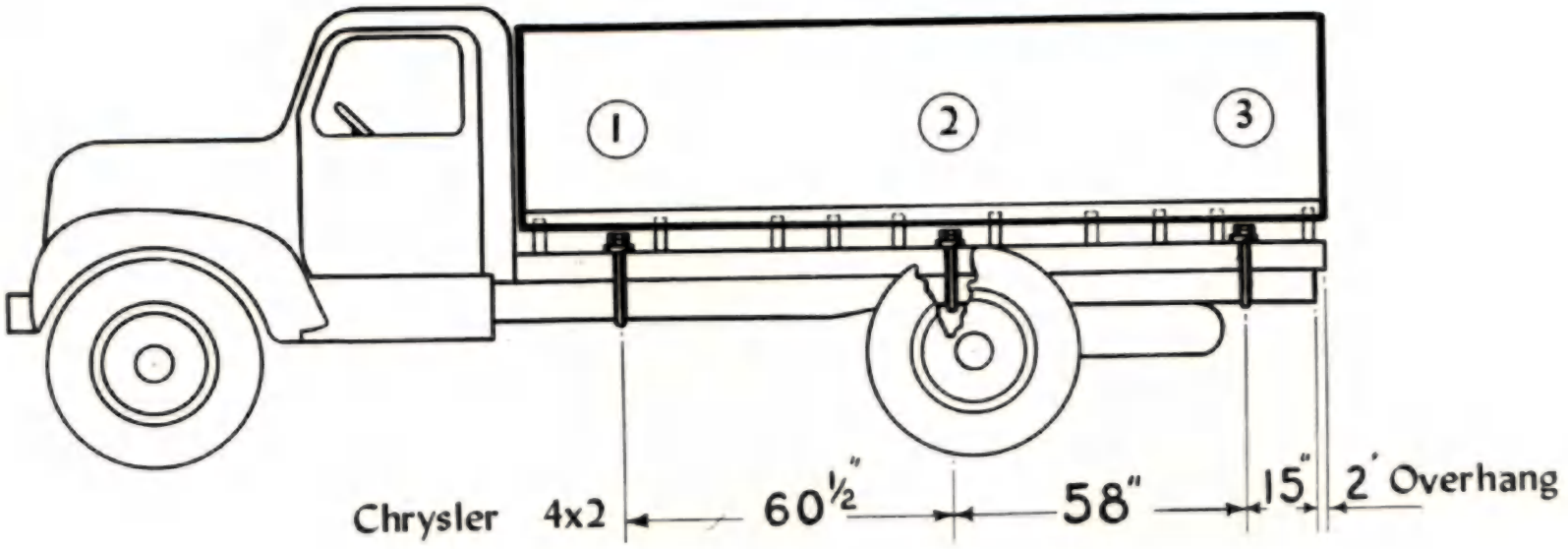
Tool boxes and Jerrican carriers were suspended from the substructure, and standard iron pipe superstructure and wrap-around tarpaulin also were provided.

On the semi-Trailers, a steel bulkhead was provided, but on the lorries, a full width rack was provided.



TYPICAL MOUNTING DRAWING OF STAKE AND RACK BASIC BODY


PANELS AND RACKS 13/16" HARDWOOD
CROSS SILLS 6" x 1 3/4" HARDWOOD
FLOOR 7/8" HARDWOOD
STAKES 1 7/16" x 2 11/16" HARDWOOD
LONGITUDINAL SILLS 6" x 1 3/4" HARDWOOD


1
2
3
Chrysler 4x2
60½"
58"
15"
2" Overhang

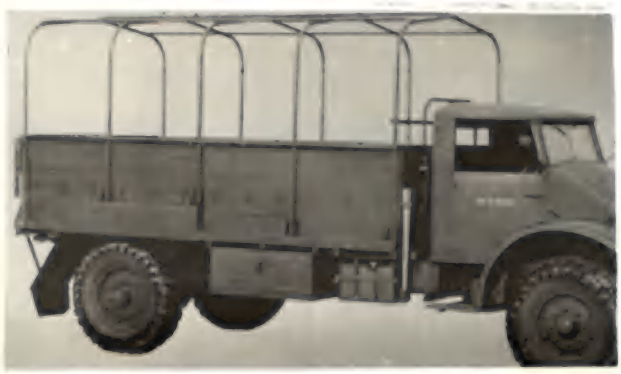
BASIC BODIES (CONTINUED)

SUPERSTRUCTURES & TARPAULINS

All General Service load carrying vehicles were equipped with tarpaulins for protection of the load from weather, and following the general commercial practice of providing a superstructure over which the tarpaulin was hung, it was decided to incorporate a similar set up for military vehicles. However, the ridge pole commercial design - usually constructed of wood - had many disadvantages from a military operational standpoint, and a design of bows with longitudinal members, of open seam tubular steel construction, was completed. On the 15-cwt. bodies, three (3) hoop sticks with five (5) longitudinal members were installed, the hoops being seated in pipe sockets on the sides of the body.

The hoops were in sections with collars to join the several sections. However, reports from the field showed that this design definitely was weak because breakages at the collars were numerous. It was decided, therefore, to eliminate the collars and form the hoop sticks in one piece. At the same time, standard iron pipe was substituted for the open seam tube. This design proved to be effective.

In 1942, in an effort to conserve billet steel, the longitudinal members were fabricated of reclaimed, or rail, steel pipe. This material proved to be adequate. However, because of the bending operations necessary in the forming of the hoops, and because of the high "Brinell" reading of rail stock, it was not possible to form the hoop sticks from rail stock, and standard iron pipe was retained for these members.



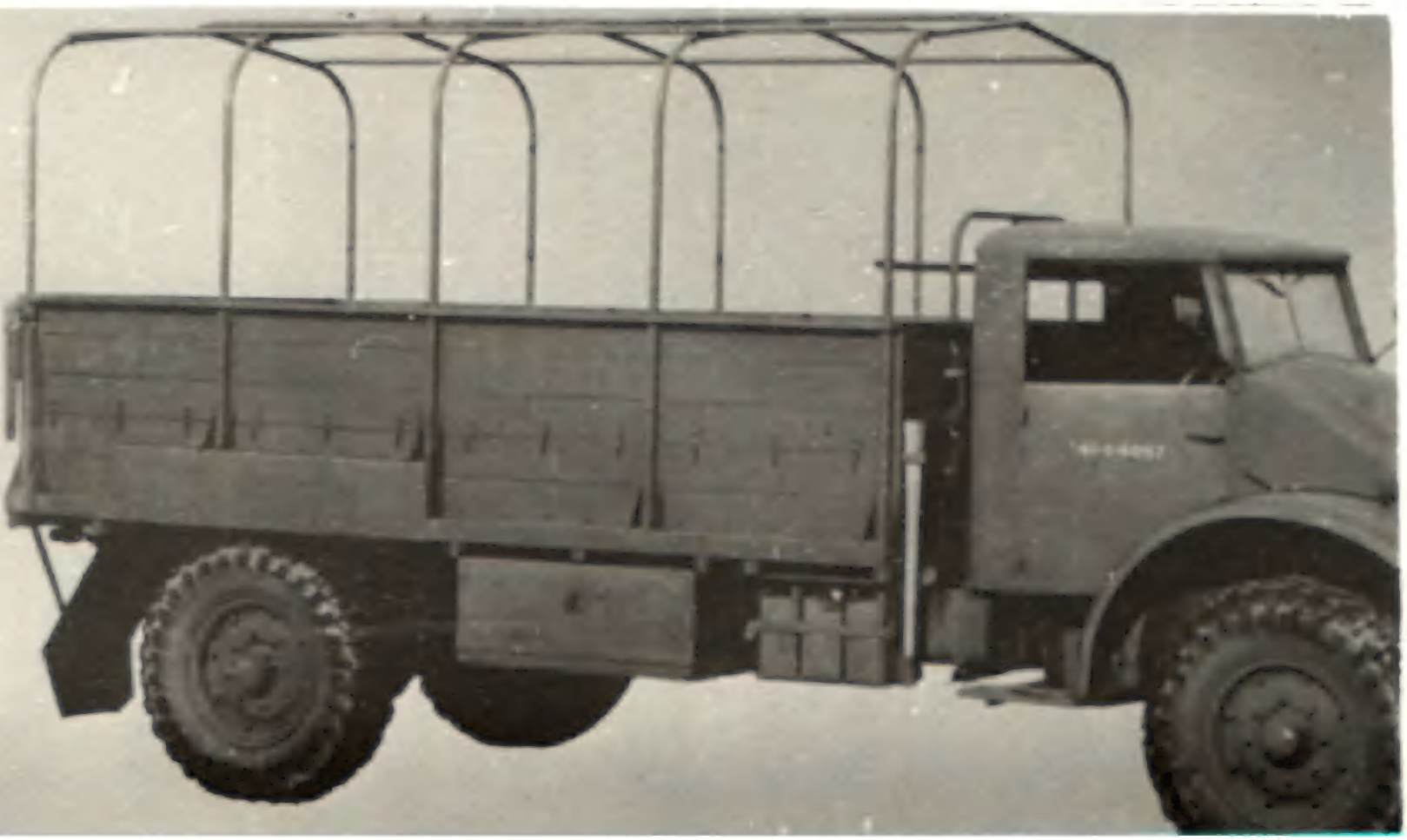
The question of silhouette had occupied the designer's attention for some time, and in an effort to, at least, reduce this problem to a minimum, a two (2) position superstructure was designed. Iron pipe sleeves were attached to the bows by means of chassis, with pins which fitted through holes in the sleeves and through the bows. In this manner, the superstructure was held in the "high" position by the sleeves which rested on top of the body top rail. When the pins were released from the sleeves and bows, the entire superstructure dropped 18" to the low position.

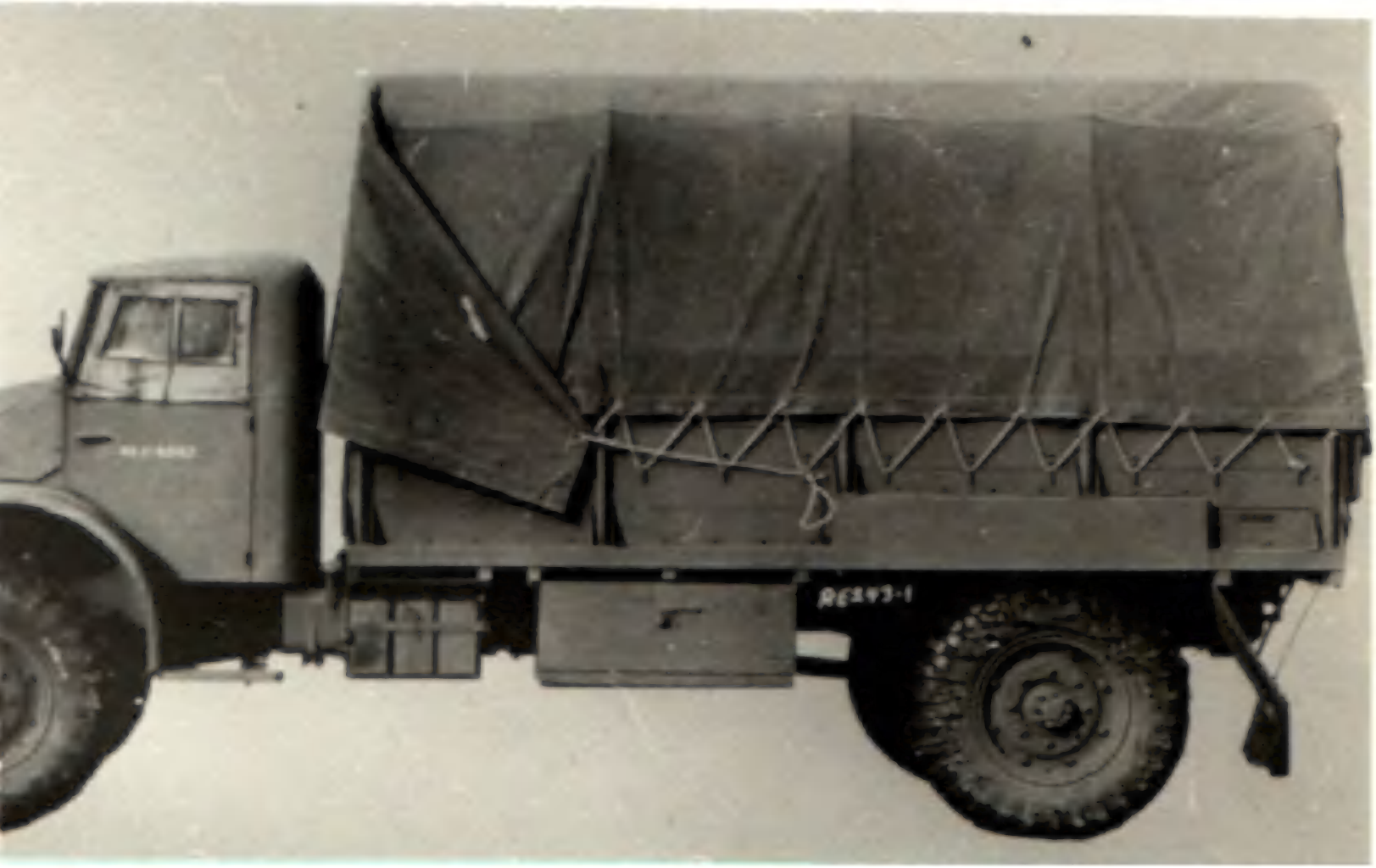
However, 16 ga. steel tubing was later substituted for the standard iron pipe, in order to reduce weight, and the pipe sleeves were eliminated. Cold rolled steel pins were substituted for the mild steel used heretofore. This latter phase was not put into production due to the termination of hostilities. It was, however, tested over the Proving Ground Course, with satisfactory results - See Experimental Engineering Report No. E-619.

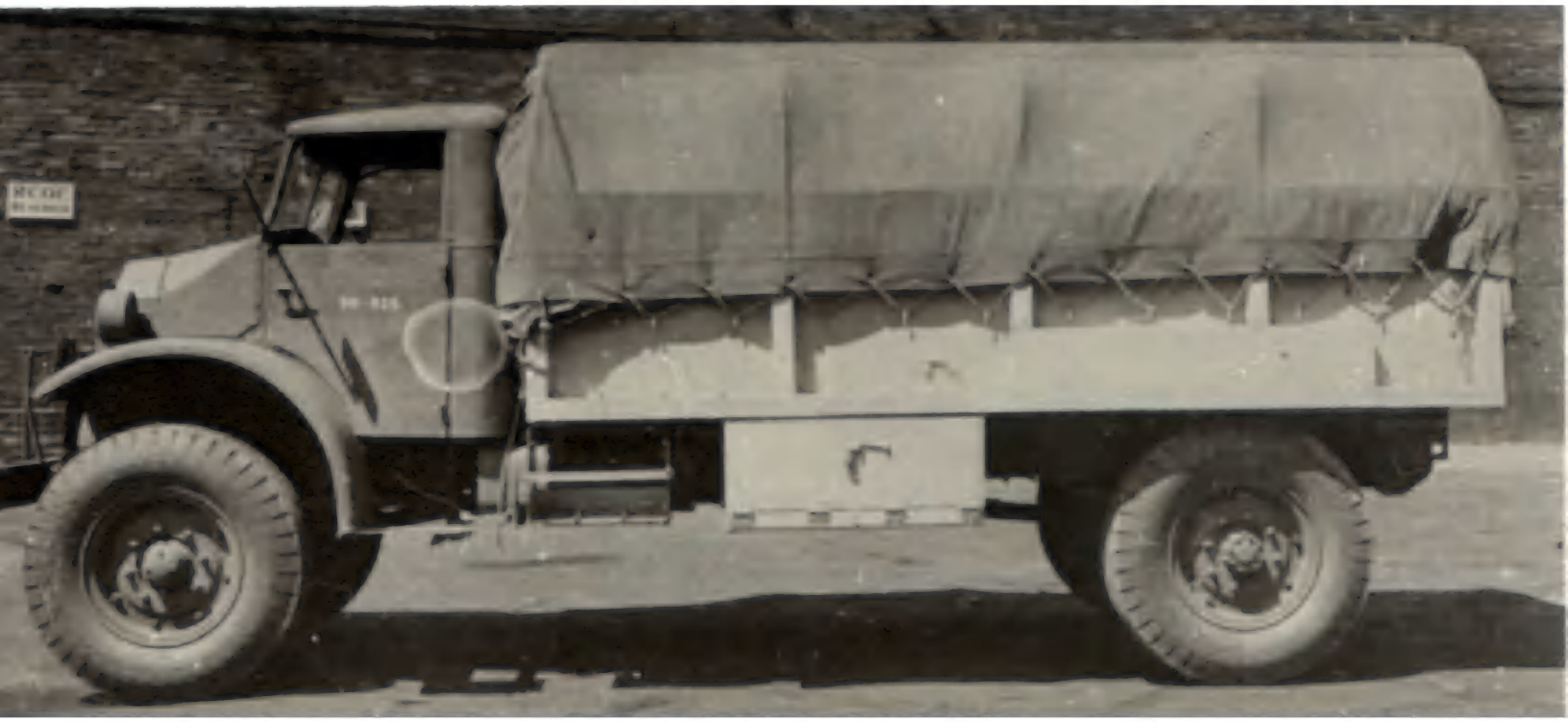
The tarpaulins were rectangular in shape, constructed from #8 duck, waterproofed, flameproofed and rotproofed, with wear patches at each corner and wear strips where the tarpaulin laid along the longitudinal members of the superstructure.

A triple hem was specified along all four sides of the tarpaulin, and saw-tooth grommets installed in the hems. Two (2) ropes - 3/8" diameter - were fastened to two opposite corners, and threaded through the grommets, thus forming loops which, in turn, were hooked to the lashing hooks or cleats on the vehicle body.

When the two (2) position superstructure was put in production, a canvas flap, complete with grommets, was installed along two (2) sides of the tarpaulin - 18" above the outside hems - so that, when in the low position, the tarpaulin could be lashed tightly to the existing hooks on the body. Both superstructure and tarpaulin were adequate.




RE293-1



BASIC BODIES (CONTINUED)

PENTHOUSES & MARQUEES

From time to time canvas extensions to vehicles were required in order to accomodate personnel who might be added to the establishment of a particular vehicle, or to allow the personnel of the vehicle to work outside the vehicle.

10 ft. and 12 ft. penthouses, and the three-ton Marquee, were built for 3-ton G.S. type lorries, although only the 12 ft. penthouse and the Marquee were produced in quantity. In addition, penthouses were provided with the following vehicles :-

H.U. 4 x 4 Computor, H.U. 4 x 4 Wireless, 15-cwt. 4 x 4 Office, 15-cwt. 4 x 4 House type Wireless, 30-cwt. 4 x 4 House type Wireless, 3-ton 4 x 4 Dental, 3-ton 4 x 4 House type Wireless, 3-ton 4 x 4 Machinery "130", 3-ton 4 x 4 Machinery "B.C.", 3-ton 4 x 4 Machinery "A" Mk. II, 3-ton 4 x 4 Machinery "M" Mk. II, 3-ton 4 x 4 Office, 3-ton 6 x 6 Machinery "A", 3-ton 6 x 6 Machinery "B", 3-ton 6 x 6 Machinery "C", 3-ton 6 x 6 Machinery "D", 3-ton 6 x 6 Machinery "R.E. 7-1/2", 3-ton 6 x 6 Artillery Armament Repair (U.S.S.R.), 3-ton 6 x 6 Machinery - R.C.A.F. Maintenance.

12 FT PENTHOUSE ON 3 TON G.S. LORRY

References:

D.M. & S. Specification Nos...C.A.-80, C.A.-117, C.A.-136
D.M. & S. Schedule of Drawings - 12 ft. Penthouse..S-16710
D.M. & S. Schedule of Drawings - 3-ton Marquee....S-311520
Pilot Model Approval Nos..... Nil

Description of Penthouse:

Penthouses, sometimes with extensions, were fabricated of #8 duck, waterproofed, flameproofed and rot-proofed. They were equipped, for the most part, with superstructures, the latter being of standard iron pipe construction, fitting together by means of collars or hooks and slots.

Triple hems were specified at all edges and spur tooth grommets were installed in the hems. Wear patches were installed at all corners, and wear strips were sewn into the cover at all points where the canvas came in contact with the superstructure and was liable to wear because of rubbing. Side walls were equipped with oiled duck windows, and five (5) wire mesh screens, with roll-up flaps, were provided in each section, to provide ventilation. Snaps and "D"s were used to secure all openings, and blackout flaps or covers were installed in the penthouse at all such points.

H.U. Computor with Penthouse erected.

3-ton Wireless with Penthouse erected.

12 FT PENTHOUSE ON 3 TON G.S. LORRY

CABS

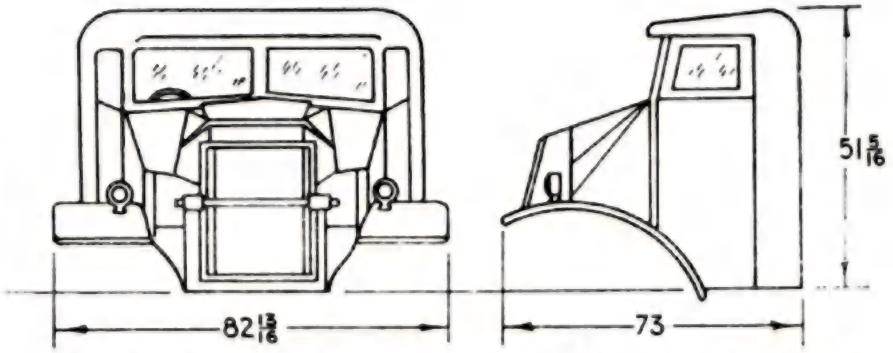
In the initial stage of C.M.P. development, the British design of cab was followed as closely as Canadian components and manufacturing facilities would permit. In this manner, both good and bad features were incorporated in the design. However, it is questionable if the particular British cab which we were given as a model was representative of the best U.K. design.

As the first C.M.P. vehicles were received in the field, complaints regarding the cab became numerous. The cabs provided insufficient room for the driver's feet; they were hot. In fact, they were generally unpopular. Certain changes were made to alleviate these conditions, but it was obvious that an entirely satisfactory cab could not be provided without making radical changes. Furthermore, such changes would inevitably violate certain military stipulations, one of which was the overall height.

In 1940, a design was developed in Canada which, at the expense of slight silhouette height, provided a cab which was received enthusiastically by the users, and which was maintained for the remainder of the war. Speed, of course, had been the prime requisite; therefore, naturally, it was not perfect. One complaint which followed was inaccessibility of entine, but this was largely overcome by subsequent modifications. However, the designers were, at all times, satisfied that the cab was too heavy, and this point never was remedied because production facilities were too fully absorbed to permit the changes which would be necessary to correct this factor.

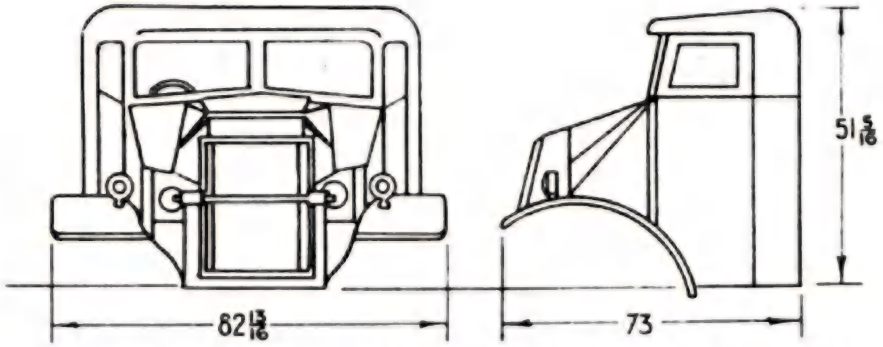
The present cab actually came through three (3) stages, as is illustrated below.

FIRST DESIGN



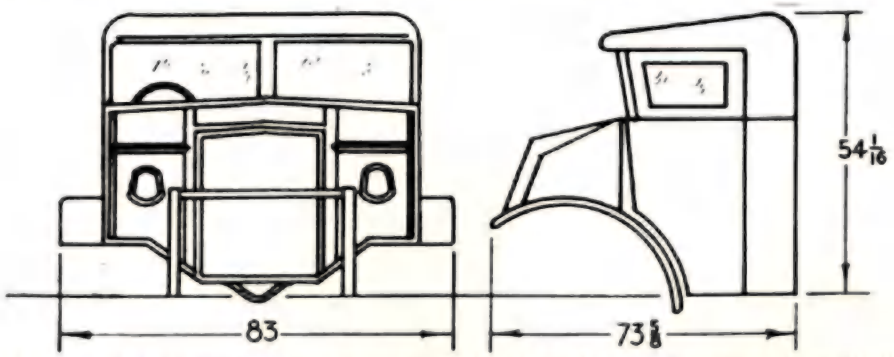
Steel cab, all enclosed. Side curtains of doors have "Monsanto" transparent inserts. Width at rear door post - 47". Footroom 12".

SECOND DESIGN



Steel cab, all enclosed. Top is removable at half cab, as shown in illustration. Full opening windshield. Side curtains of doors have "Monsanto" transparent inserts. Ventilators at front on each side of radiator grille. Door hook arrangement allows the door to be left partly open. Removable engine panels. Width at rear door post - 47". Footroom 12".

PRESENT DESIGN



Steel cab, all enclosed. Top is removable at half cab. Reversed slope windshield is full opening. Side curtains of doors are demountable and have "Monsanto" inserts. Ventilators inside cowl. Width at rear door post - 68". Footroom 16".

Further pictures of the development and improvements to the C.M.P. cab are shown on Pages 27B, 27C and 27D of this volume.

CABS (CONT'D)

During 1943, a pilot model C.M.P. hinged cab was produced by one of the directorates of D.N.D. and turned over to A.E.D.B. for further development. The cab was hinged at the radiator guard bar, and, by the removal of a few bolts, it could be swung clear of the engine. It was considered that, by such means, service operations to vehicles could be speeded up.

However, due to the time required in order to put into production a major change of this nature, it was decided to make a comprehensive study of vehicle "Service" tasks, a comparison being made between the lapsed time for a given operation on a vehicle equipped with a standard C.M.P. cab, and one equipped with the hinged cab.

As a result of these time studies, a number of minor changes were incorporated into the front end sheet metal and cab components, and because of these changes, it was found possible to perform almost all "Service" tasks on a vehicle equipped with the improved standard C.M.P. cab, in less time than with the vehicle equipped with the hinged cab.

The changes, therefore, were made to the standard cab without loss of time or scheduled units, and with very little change in toolage or cost. Further, as the time service element of the hinged cab actually had been bettered, the development of the hinged cab was abandoned.

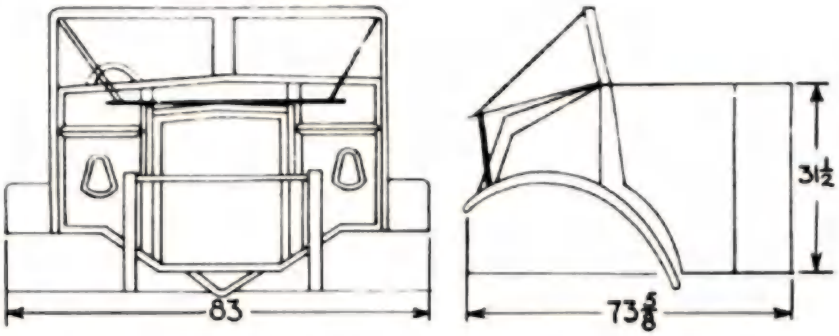
For complete details of the above, reference is made to Experimental Engineering Report No. E-427 and D.M. & S. File No. 73-M-2.

It is worthy of mention at this time that, while the hinged cab development was abandoned, action was taken, as a result of the project, which effected a marked improvement to both standard C.M.P. cab and front end sheet metal. It is gratifying, therefore, to note that the improvements were a direct result of the close co-operation between Users and Design, in that the service difficulties in the field were brought to the designers' attention in this manner.

* * * *

In addition to the standard C.M.P. cab, a half cab with soft top was developed for the 6 Pdr. Portee, as illustrated below.

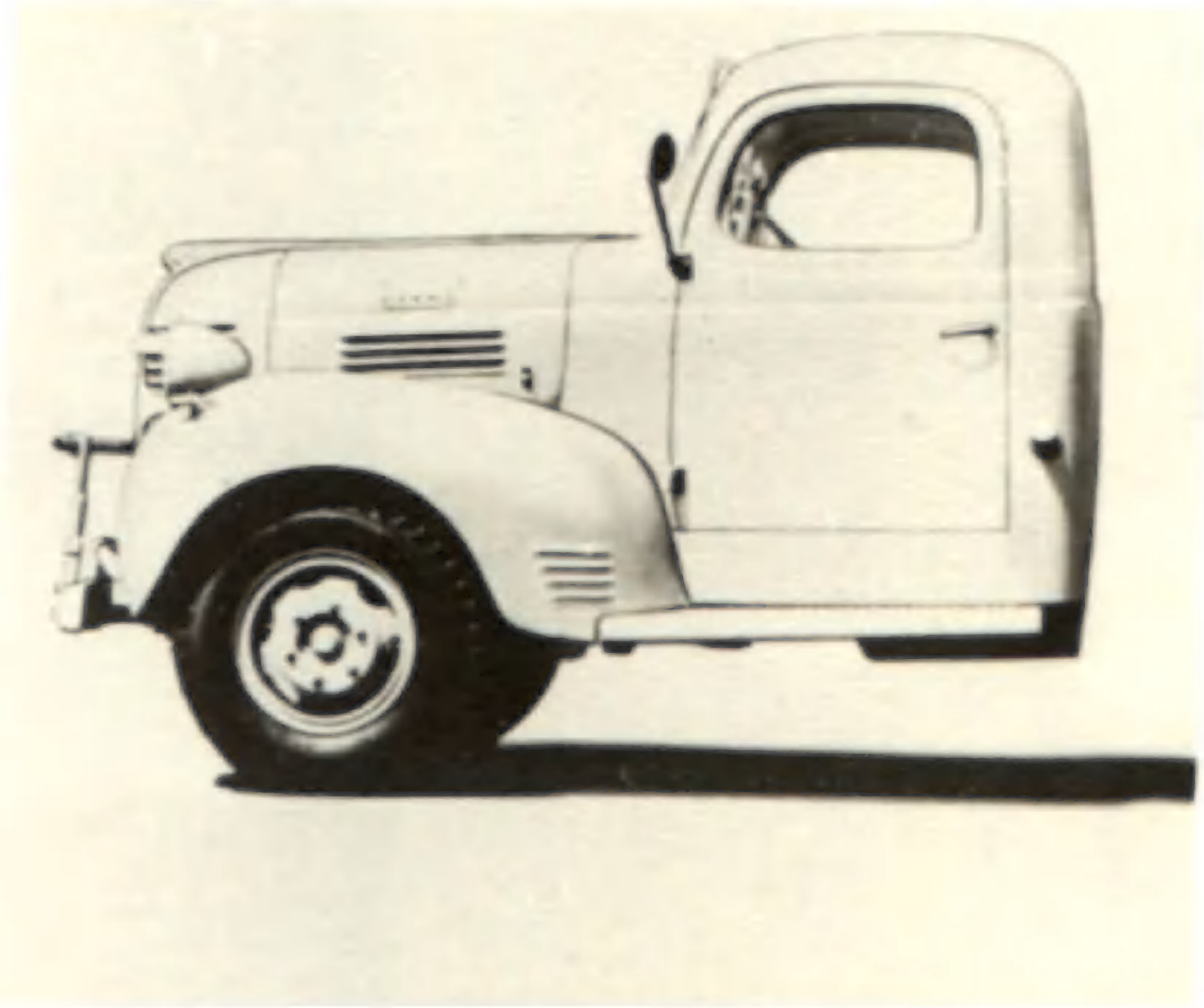
CAB FOR 6 PDR PORTEE



Steel top removed at half cab. Equipped with a canvas top and side curtains. A blast shield extends from the windshield to the radiator. Width at rear door post - 68". Foot-room 16".

* * * *

Further, a large number of 4 x 2 Modified Conventional vehicles were equipped with standard commercial type cabs, personnel items such as rifle clips, machette sheaths and fire extinguishers being added.



BASIC BODIES (CONTINUED)

CABS (CONT'D)

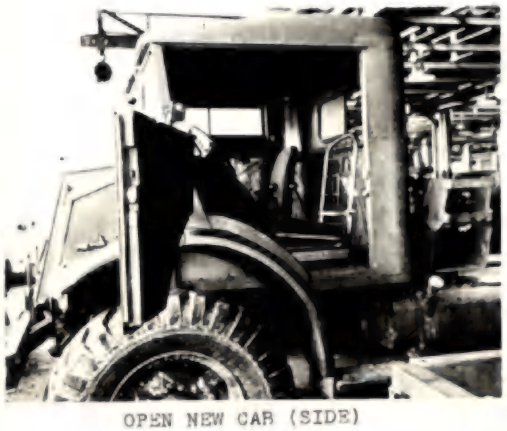
DEVELOPMENT AND IMPROVEMENT.

OLD CAB

OLD CAB OPEN HOOD

NEW CAB

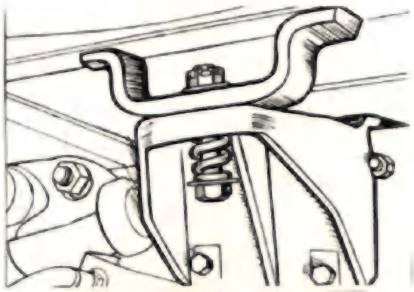
FOOTWELL - NEW CAB



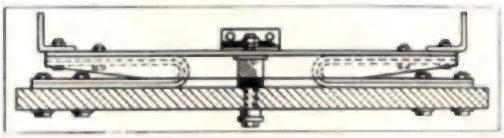
OPEN NEW CAB (SIDE)

NEW FRONT

INTERIOR GENERAL - NEW CAB

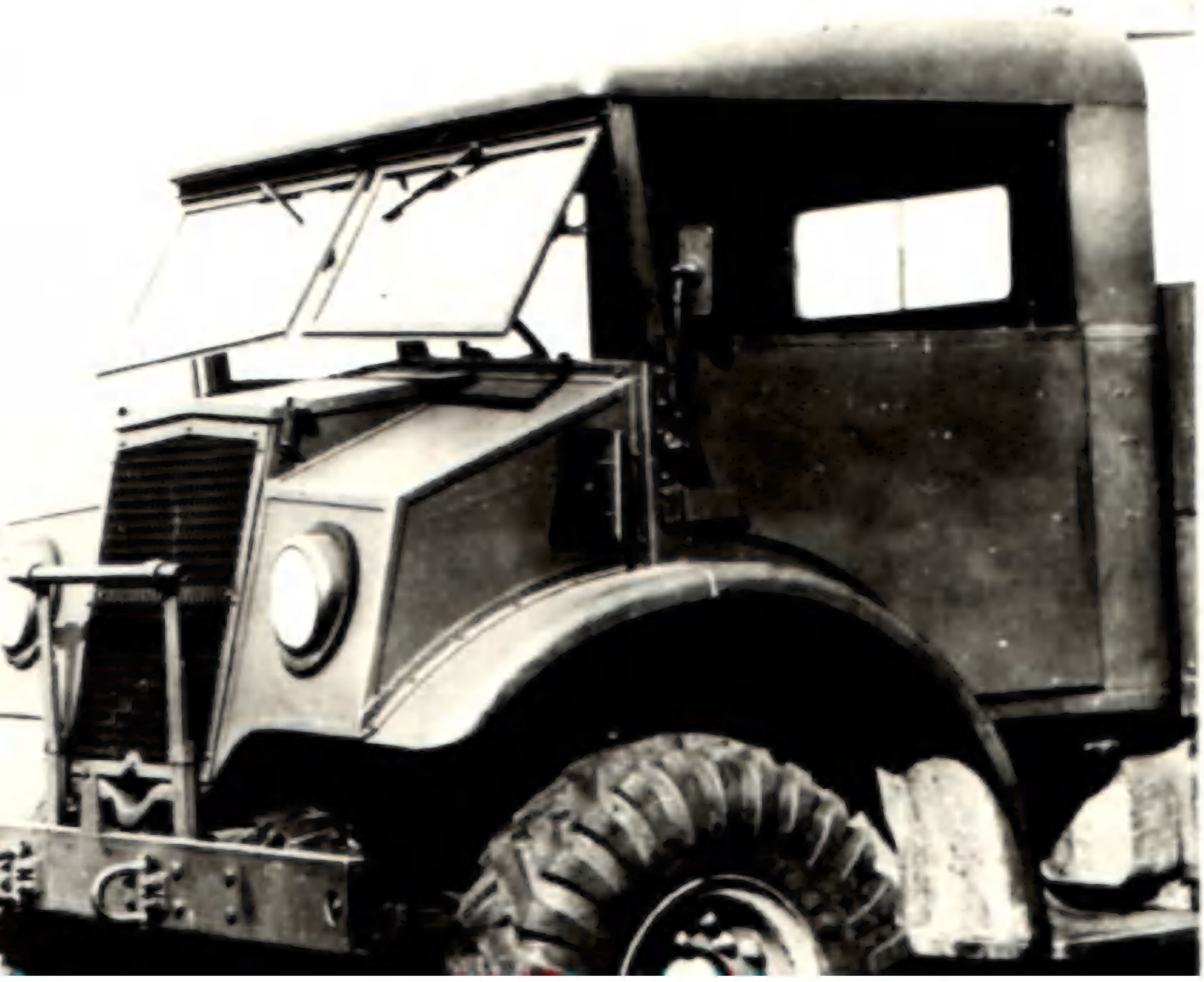


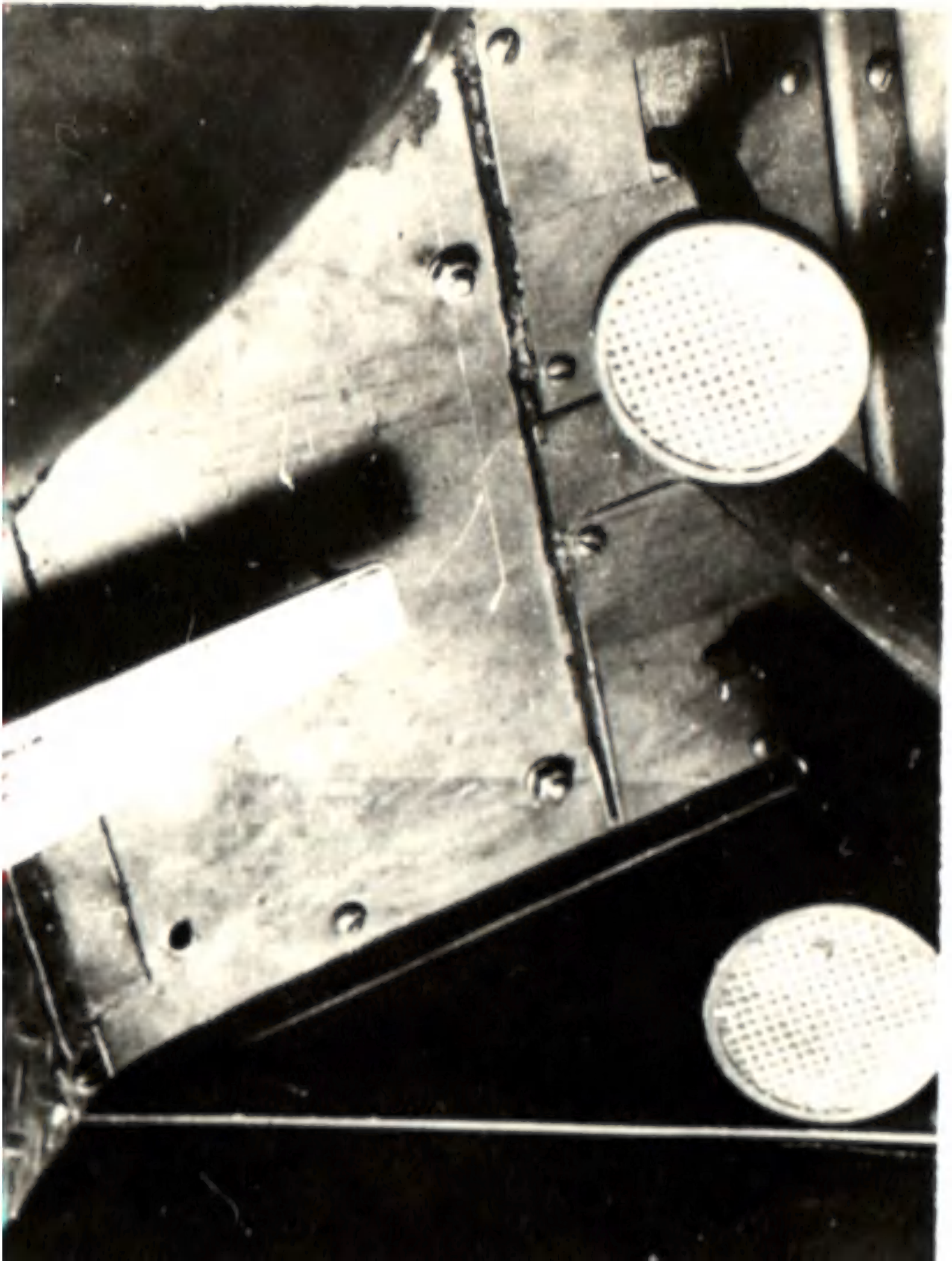
CAB FRONT-SIDE MOUNTING

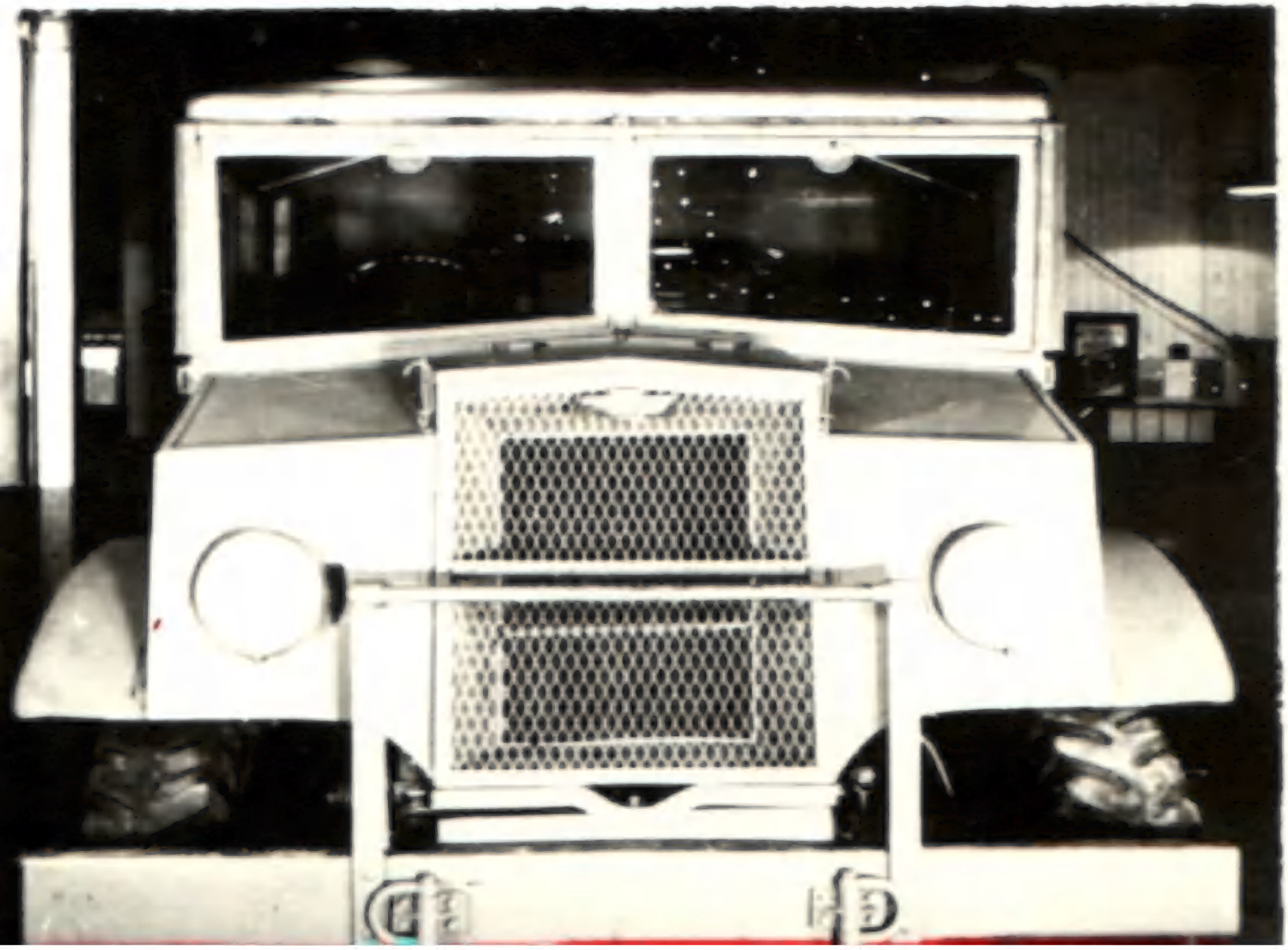


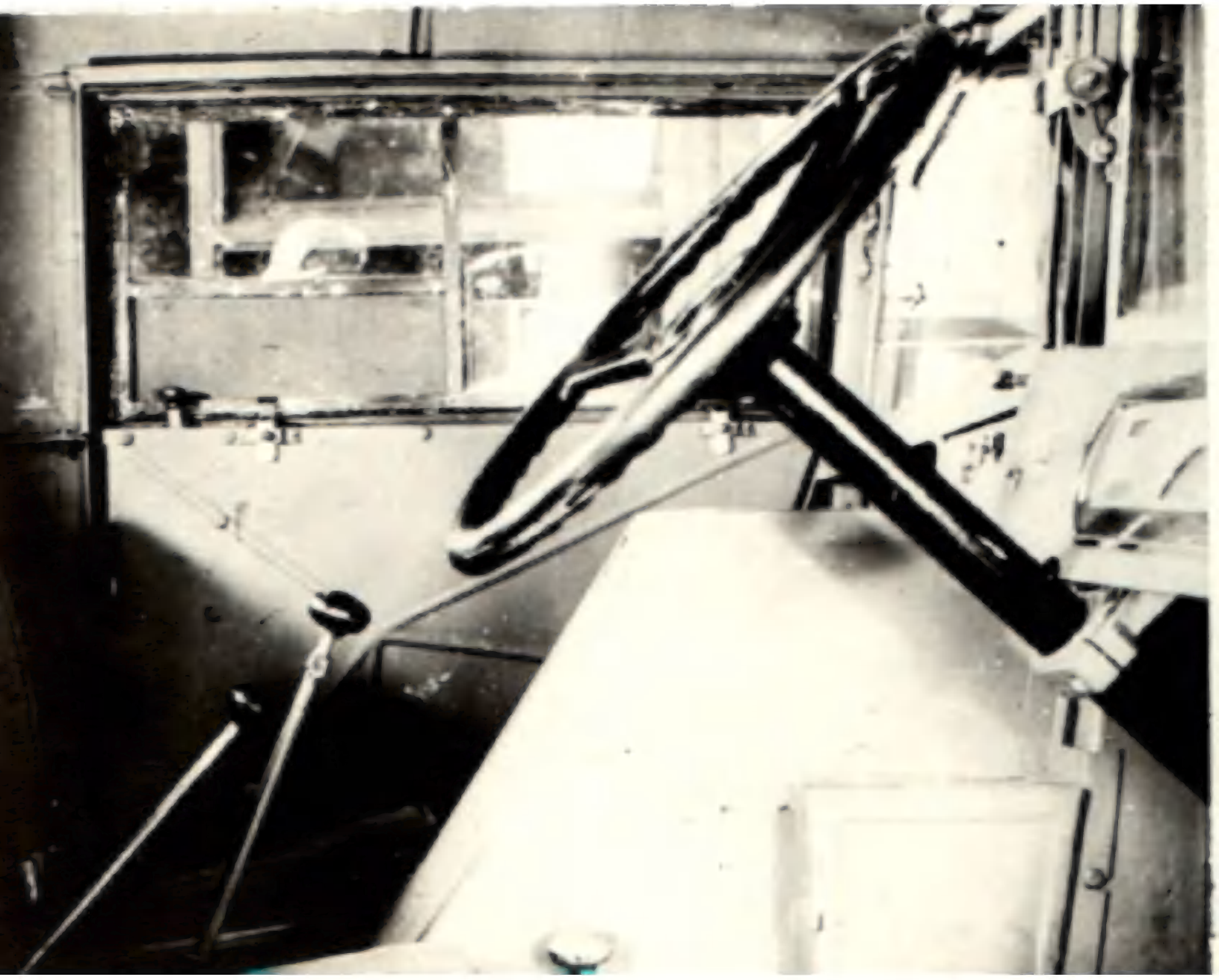
CAB REAR MOUNTING

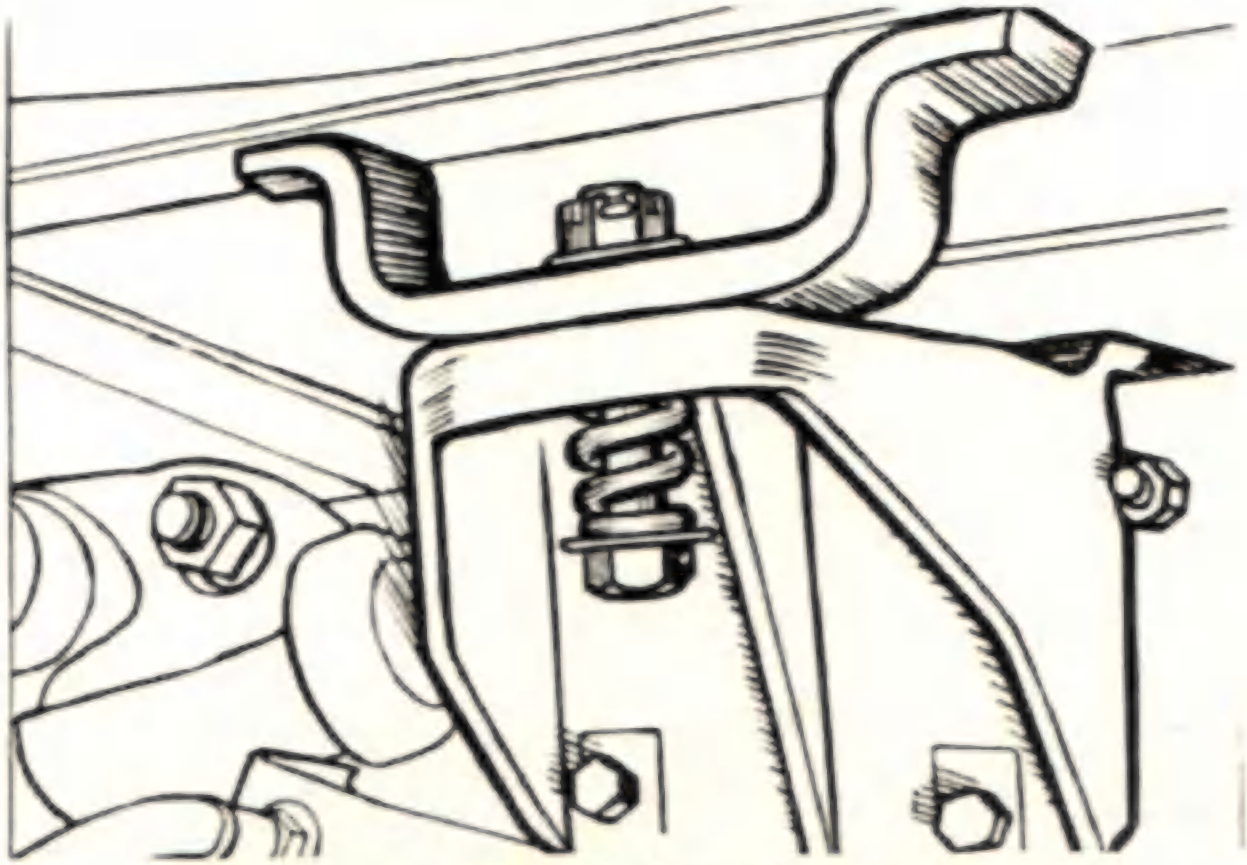
OLD CAB



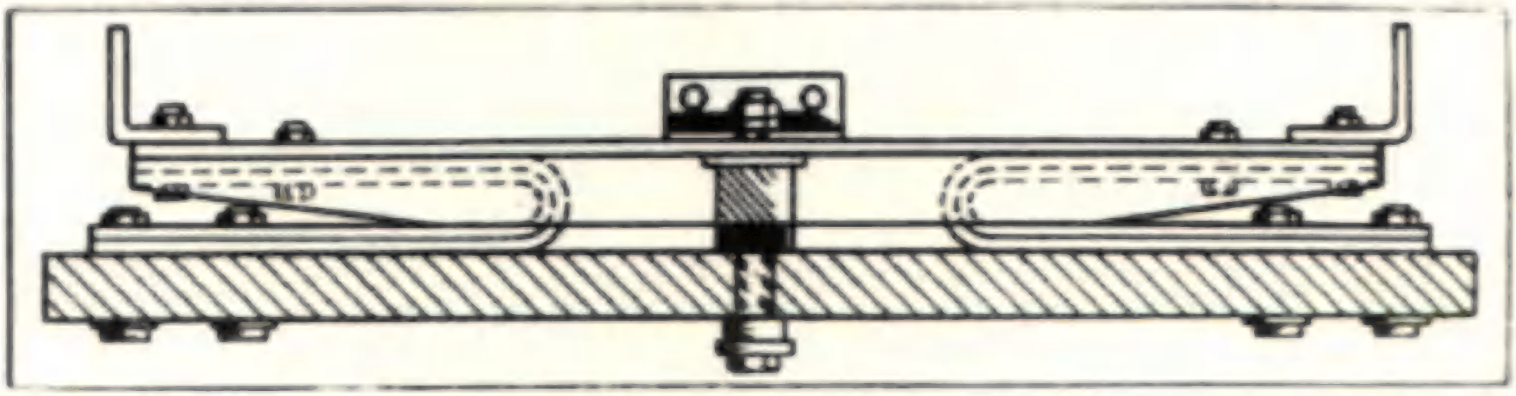








CAB FRONT-SIDE MOUNTING



CAB REAR MOUNTING

BASIC BODIES (CONTINUED)

CABS (CONT'D)

Illustrations 1 to 5, inclusive, show progressive disassembly of front end sheet metal following changes which were made to improve access to engine, with new cab.

Illustrations 6 to 8, inclusive, show an improved engine housing which, however, did not go into production due to cessation of hostilities.

Stage One.

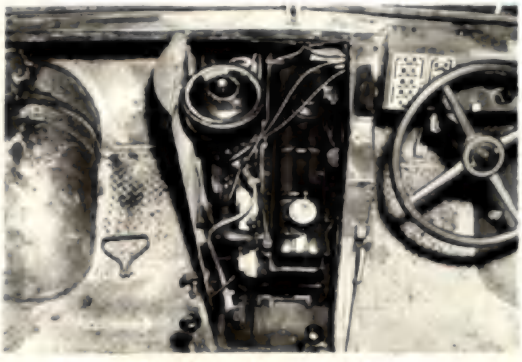
Stage Two.

Stage Three.

Stage Four.

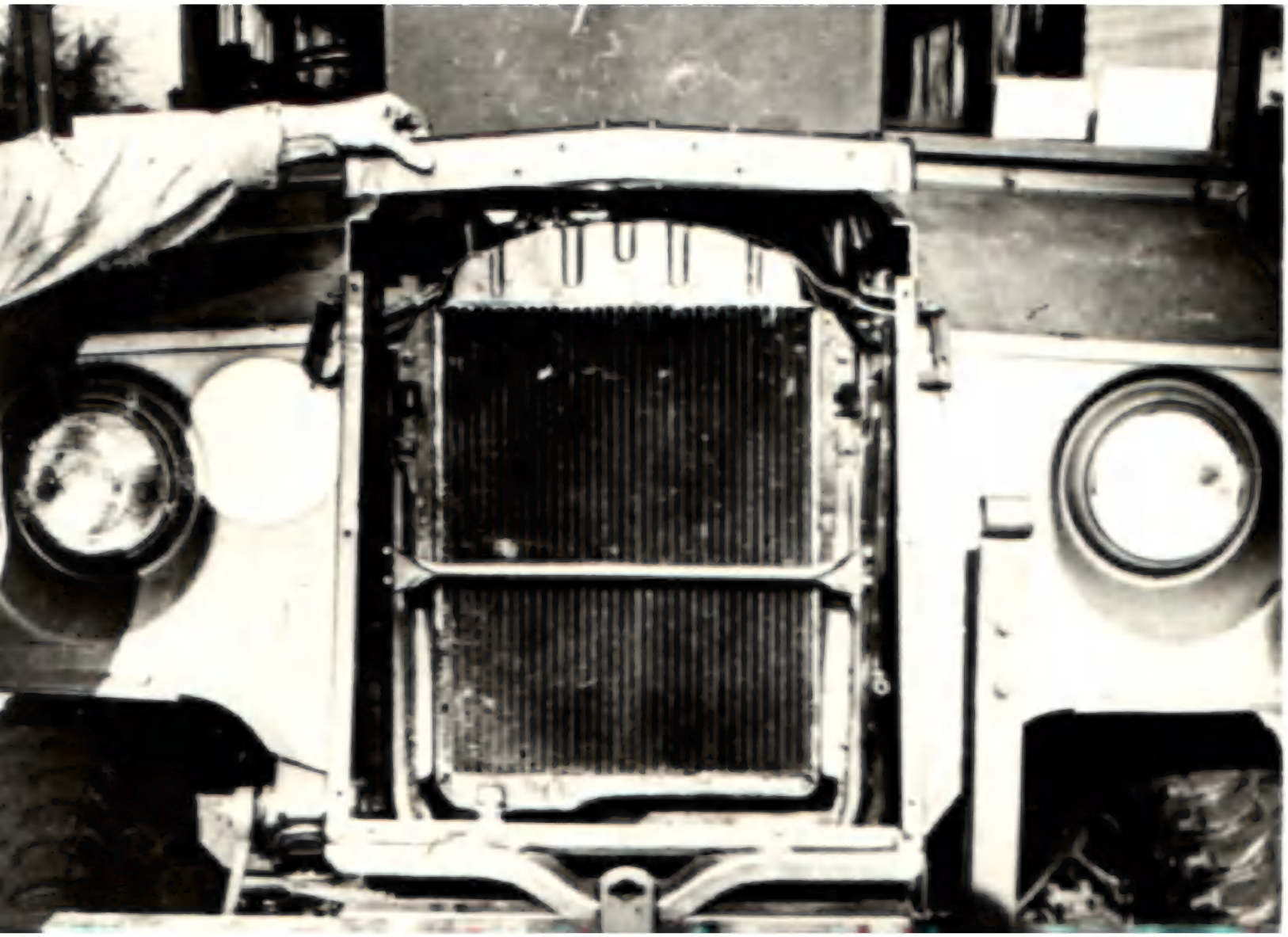
Stage Five.

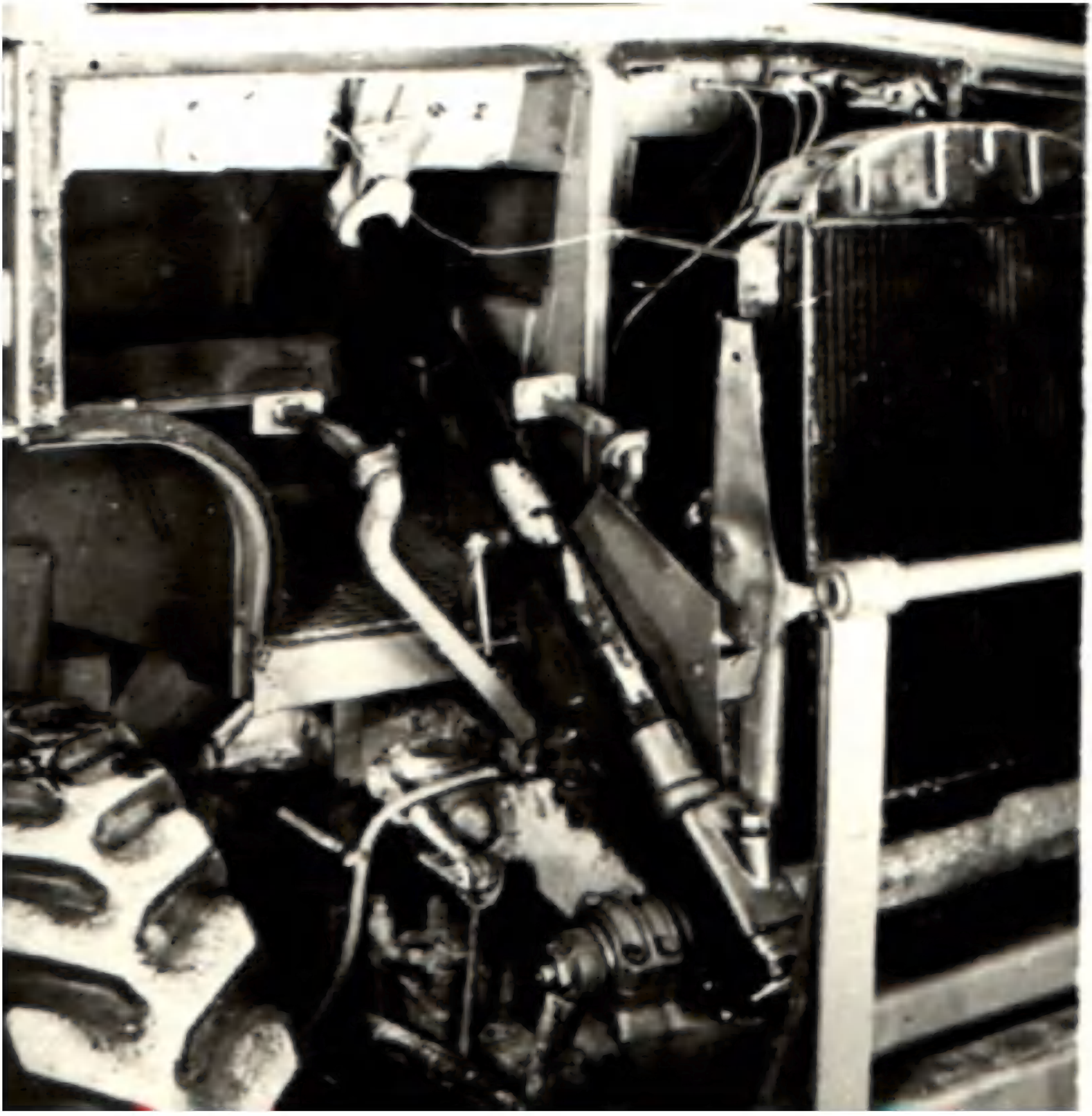
Complete installation.

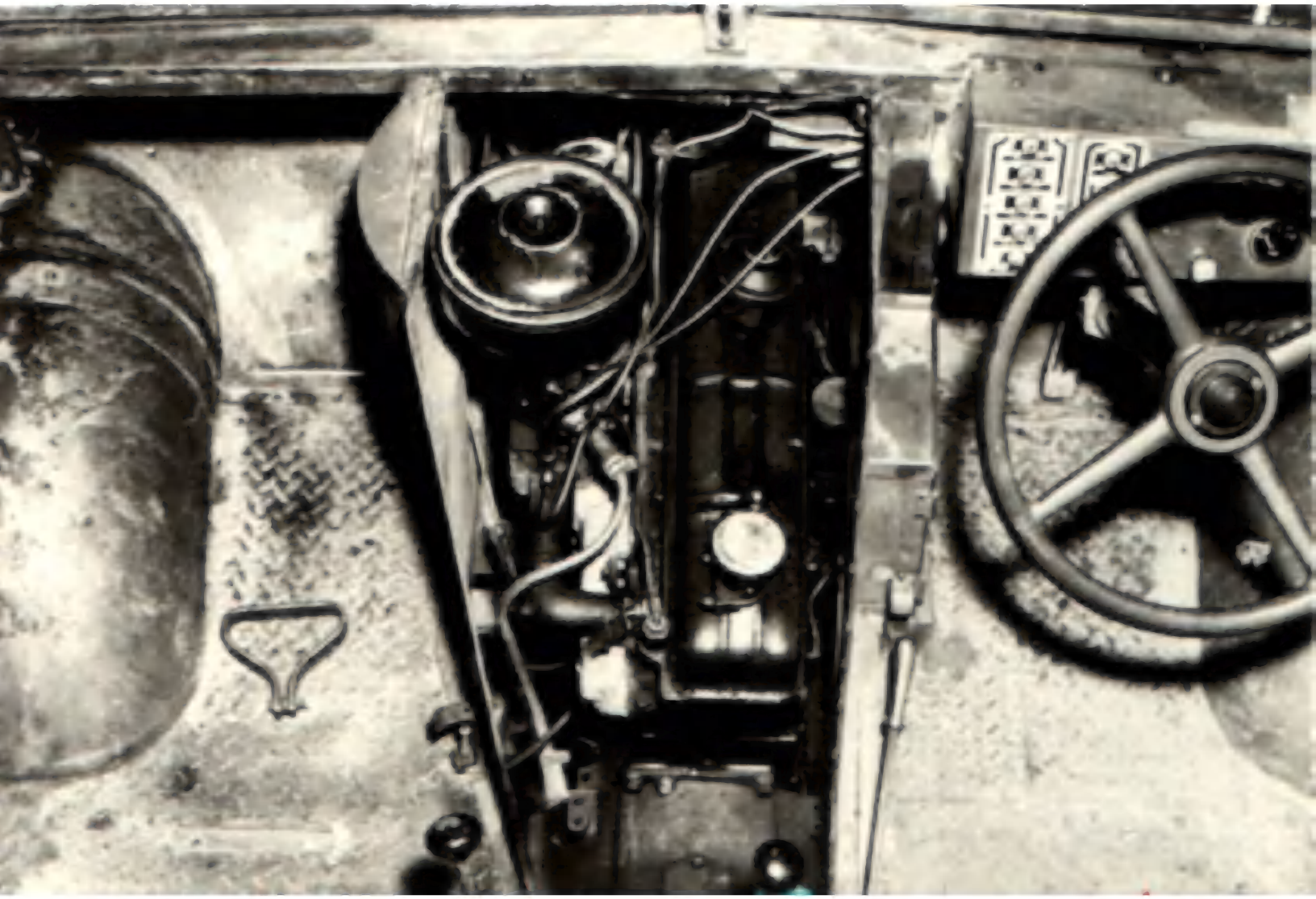


Front panel removed.

Outside view of individual panels.







BASIC BODIES (CONTINUED)

CABS (CONT'D)

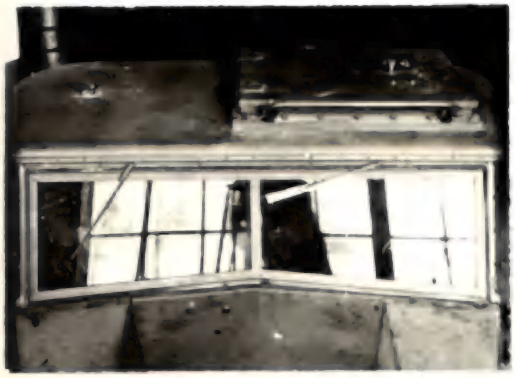
ROOF HATCHES AND HIP RINGS.

LATEST CAB - WITHOUT HATCH

LATEST CAB - OLD HATCH

LATEST CAB - OLD HATCH

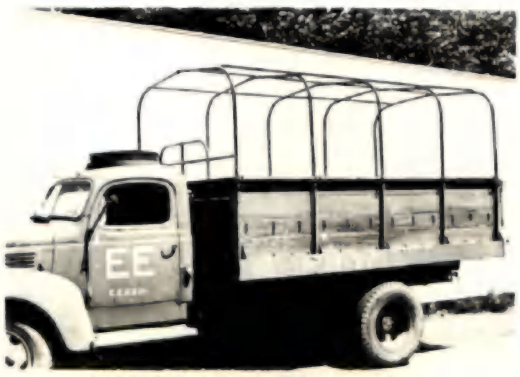
OLD HATCH - OPEN



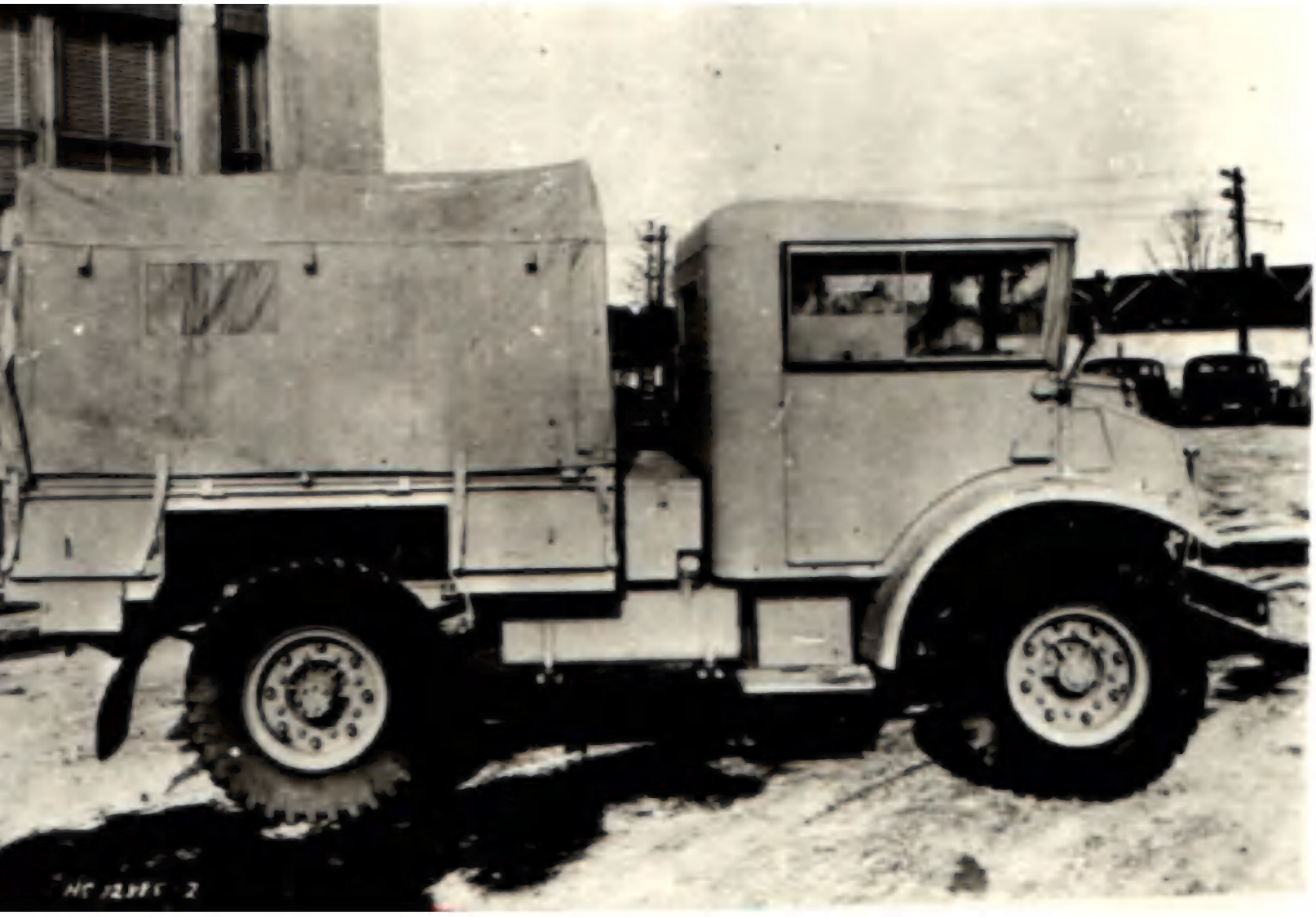
OLD HATCH

OLD HATCH

HIP RING



MODIFIED CONVENTIONAL CAB - HIP RING

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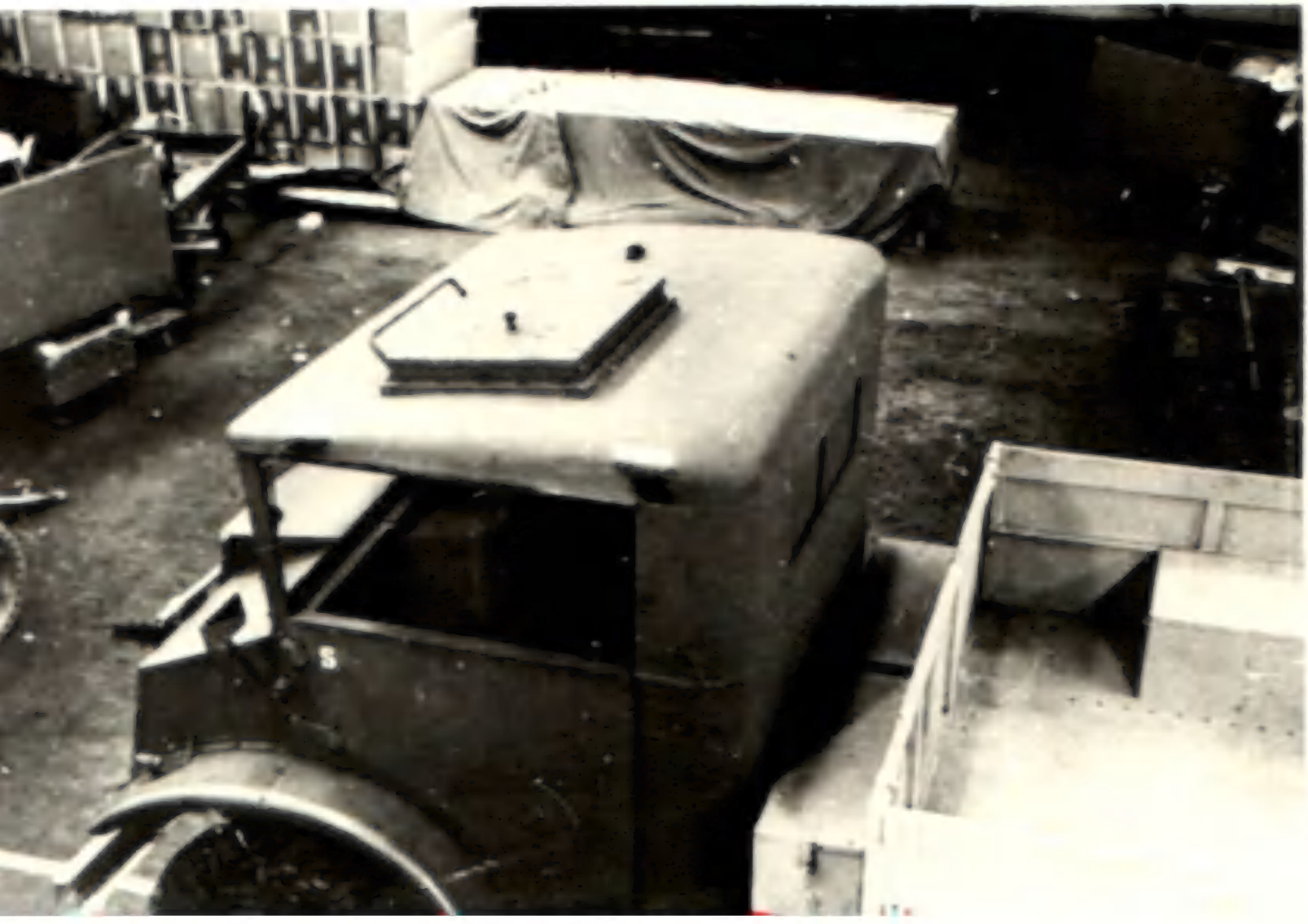
D

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GENERAL SERVICE LORRIES

GENERAL SERVICE LORRIES

General Service Lorries, or Load Carriers, which were used principally for the transportation of supplies and equipment of all kinds, were divided, primarily, into two classes:-

(a) 4 x 4 - C.M.P. Lorries.

(b) 4 x 2 - Modified Conventional, and C.M.P. Lorries.

These vehicles, further, were divided into three classes:-

(1) 15 Cwt. payload capacity - 101" & 128" W.B. chassis

(2) 30 Cwt. payload capacity - 134" W.B. chassis

(3) 3 Ton payload capacity - 158" & 160" W.B. chassis

Finally, the bodies of these vehicles were constructed in three types:-

(1) All welded, all steel construction

(2) Bolted, composite wood and steel construction

(3) Bolted, all steel construction

However, during the first few months of the war, before the general design of the bodies was finalized, a number of wooden bodies were produced. The first of these was the 15 Cwt. G.S. wood, with hinged sides, Code 2A1. This was followed by the 30 Cwt. 10 ft. G.S. wood, Q.M.G. type - Code 3B1, and finally, by the 3 Ton - 12 ft. wood, Q.M.G. type - Code 5B1. At the same time, counterparts of the three bodies were produced in all steel construction. The 15 Cwt. G.S. steel body with hinged sides - Code 2B1, the 30 Cwt. 10 ft. G.S. steel, Q.M.G. type - Code 3C1, and the 3 Ton - 12 ft. G.S. steel Q.M.G. type - Code 5C1. In addition, the 30 Cwt. 10 ft. G.S. steel, M.G.O. type, with full length wheel houses - Code 3A1 - and the 3 Ton - 12 ft. steel M.G.O. type, with full length wheel houses - Code 5A1 - also were produced, but only in very small quantities.

None of these types of bodies were completely satisfactory, either from a service point of view or from a quantity production standpoint. The hinged side feature of the bodies detracted in no small measure from the overall strength, and ability to withstand abuse which was caused by the abnormal twist and weave of cross-country travel. Furthermore, the tremendous amount of fitting and piecemeal assembly in manufacture precluded the adoption of the assembly line method of quantity production, which meant, of course, that costs were increased and production of finished bodies was considerably slowed down.

These adverse features were quickly recognized, and it was decided to standardize on one general design for all three capacities - 15 Cwt., 30 Cwt. and 3 Ton. The "Budd" type, gussetted construction, modified to suit the Body Manufacturers' equipment and methods of production, was adopted.

★ ★ ★ ★

15 CWT. G.S. LORRIES

The first body produced was the 15 Cwt. G.S. all welded, all steel - Code 2C1. The substructure of the body consisted of five (5) cross sills fabricated of 10 ga. H.R.B.A. formed steel channels, 3" x 2" x 2", welded to two (2) 10 ga. H.R.B.A. formed steel channels, 3-3/4" x 2" x 2". The cross sills were laid on their flanges and welded to the longitudinal sills which were inverted. Hard wood longitudinal sill fillers were provided. The floor sheet was of 10 ga. H.R.B.A. steel plate, welded to the substructure. Side panels, front panel and tailgate were of 14 ga. H.R.B.A. sheet steel and were stiffened by means of box like gussets. A standard iron pipe superstructure and tailored tarpaulin were provided, and the spare tire was mounted on the tool box between the cab and the body. A complete constructional drawing and description of the 2C1 body may be found on page 4 of this volume.

Several variations of this body were produced, as follows:-

(a) 2C4 - same as 2C1, with spare tire carrier deleted

(b) 2C5 - same as 2C1, with light machine gun mounts added

(c) 2C6 - same as 2C4, with light machine gun mounts added

All the above bodies were produced in quantity for both D.N.D. and Ministry of Supply accounts and were mounted on Ford and General Motors 4 x 4 and 4 x 2 - 101" W.B. chassis and Chrysler 4 x 2 - 128" W.B. chassis.

★ ★ ★ ★

When steel for Motor Transport bodies was restricted, in 1942, a composite wood and steel body - Code 2D1 - was designed. The substructure, side and front panels were fixed; in other words, the body was completely assembled before shipment. However, as shipping, by that time, was in very short supply, it was decided to redesign the composite wood and steel body in order to make it complete knock down and shipped C.K.D. pack, thus saving shipping space. The C.K.D. composite body carried body Code 2H1, and a complete constructional drawing with description of this body may be found on page 8 of this volume. A full description of the vehicle with 2H1 body may be found on page 33 of this volume.

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In 1944, steel became more plentiful and the supply of lumber was becoming increasingly critical. It was decided, therefore, to design the 15 Cwt. G.S. body in steel, yet retain the C.K.D. feature for shipping purposes. This body carried Code 2J1, and a complete constructional drawing and description of the body may be found on page 12 of this volume. A full description of the vehicle with 2J1 body may be found on page 34 of this volume.

This body was also produced in a welded design, using the same toolage, the only difference being that the parts and panels were welded together instead of being bolted. This was the 2J4 body, and a full description of the vehicle with 2J4 body may be found on page 35 of this volume.

Folding seats were added to the 2J basic body to convert the vehicle to a Personnel carrying role, and this body carried Code 2J5. (See Personnel Carrying Vehicles section, page 55 of this volume).

* * * *

In July, 1944, an urgent requirement was raised by Ministry of Supply for additional production of 15-cwt. 4 x 4 G.S. vehicles. At the time Ford and General Motors were producing 4 x 4's to the limit for which they were tooled. Chrysler production was producing only 4 x 2's, and an investigation indicated that this company might be in a good position to produce the U.S. Army 3/4 ton Dodge 4 x 4 in Canada. The studies finally resulted in an order for 10,000 Canadian-produced 3/4 ton vehicles. The chief difference between the Canadian Dodge and the original U.S. vehicle was the use of a Canadian-produced engine which differed from that used in U.S. production. See page 46, Vol. IV for details of the chassis. Another somewhat major change was made after production started. This consisted of narrowing the body by an amount sufficient to permit the body to be remounted on the chassis after both these components had entered a Dakota C47 aircraft, thus saving the weight of lashing equipment for the body.

The original body was allotted Code No. 2M1A. It was 83-1/4" in width. The revised body had a width of 77-1/4", and was given Code No. 2M2A. The change was effective on a production-tooling-basis at job No. 5001, but Chrysler re-worked a number of body components on some earlier production, thus making the change effective at job No. 3201. For further detail of complete vehicle see page 36 of this volume, and for chassis details see page 46 of Volume IV.

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At the request of Ministry of Supply a design was developed for a 15-cwt. airportable vehicle. This proceeded to the extent of the building of two pilots by General Motors. The cessation of hostilities eliminated the necessity for any production. The chassis development is covered in Volume IV. Two experimental bodies were produced, both in aluminum. The first was produced with 24" sides. The later requirement, that the body must be remounted on the chassis after entry into the aircraft, caused a new pilot body to be made. The sides of this new pilot were reduced to 12" in height, and a removable "lazy-back", or slatted seat back, was provided to make provision for the specified cubic space within the body. This latter body was allotted Code No. 2N2A. Further details may be found on page 18 of this volume.

* * * *

30 CWT. G.S. LORRIES

A special 104" G.S. bolted body - Code 4L1 - was designed for Ministry of Supply account for mounting on a 30-cwt. chassis with half cab. However, only the pilot body was built and the design was changed to an all welded body - Code 4B1 - retaining the over-all and inside dimensions of the 4L1 body. Details of this vehicle with 4B1 body may be found on page 37 of this volume.

* * * *

The "Budd" type - 10-ft. G.S. body - Code 4A1 - designed for mounting on 30 cwt. C.M.P. 4 x 4 - 134" W.B. was an all welded, all steel, gussetted design. The substructure consisted of cross sills and longitudinal sills of 10 ga. H.R.B.A. steel, with 10 ga. steel floor plate. The body panels were of 14 ga. H.R.B.A. steel sheet, stiffened by means of box-like gussets, and the tailgate was of 12 ga. H.R.B.A. steel, also stiffened by means of gussets. The design was the same as the 12 ft. all welded "Budd" type body - Code 5F1 - a constructional drawing and description of which may be found on pages 6 and 7 of this volume.

The 4J1 - 10 ft. "Budd" type body was a complete knock down construction (C.K.D. pack), and was the same design as the 4A1 body, except that the panels were flanged to allow for bolting. Details of the 30-cwt. vehicle with 4J1 body may be found on page 38 of this volume.

This body also was produced in welded form, using the same toolage and retaining the same overall and inside dimensions as the 4J1 body. However, the parts and panels were welded together instead of being bolted. Details of this vehicle with 4J4 body may be found on page 39 of this volume.

* * * *

3 TON - 4 X 4 - G.S. LORRIES

A 10 ft. all welded, all steel, "Budd" type body was produced for Research Enterprises Ltd. - (R.E.L.) - and carried body Code 4R1. This body was used for carrying Diesel equipment, and details of the vehicle may be found on page 40 of this volume. The same body, without mountings for the Diesel equipment, was also produced for R.E.L. and carried Code 4R2. Both bodies were mounted on 3-1/2 ton Four Wheel Drive - H.A.R.-156" W.B. chassis, equipped with 9.00 x 20 tires, and winch.

* * * *

In the 3 ton - 4 x 4 - classification, the first body was the 5D1. This was a 12 ft. all welded, all steel body, with 20" fixed sides, wheelhouse 32" in length and hinged tailgate. The cross sills and longitudinal sills were of 10 ga. H.R.B.A. formed steel channels, with 10 ga. H.R.B.A. steel floor plate. The side panels, front panel and tailgate were of 12 ga. H.R.B.A. steel sheet, stiffened by means of box-like gussets. A superstructure and tarpaulin were provided.

With the change to pneumatic tires, and the necessity for carrying a spare tire - this being mounted between the cab and the body - it was necessary to move the body back on the chassis, with the result that the body extended 14" over the end of the chassis frame side members. It also was necessary to move back the wheelhouses in order to give the necessary wheel clearance. However, realizing that there still were a considerable number of chassis in the field, equipped with

run flat tires, and therefore no necessity for a spare tire, it was decided to increase the length of the wheelhouses from 32" to 54" so that the body could be mounted either flush with the rear end of the chassis frame, or with 14" overhang. At the same time, the height of the sides was increased to 30". This was the 5F1 body, and was of all welded, all steel construction, the same as the 5D1 body. Modifications were made to the 5F1 substructure by the addition of cross sills for the 5F2 body, for R.E.L., and a second modification - the addition of L.M.G. mounts - was given Code 5F4.

* * * *

The first 12 ft. composite wood and steel body was the 5G1. This body had a wood substructure with wood floor, and wood panels encased in a steel framework. It was not designed for C.K.D. pack. However, only the pilot model was built, because it was decided to design the composite bodies in C.K.D. form. The 5P1 body, therefore, was produced - being C.K.D. - a complete constructional drawing and details of which may be found on page 10 of this volume. Details of the vehicle with 5P1 body may be found on page 41 of this volume.

* * * *

The C.K.D. all steel body - bolted - was produced in 1943, and carried body code 5W1. A complete constructional drawing and description of this body may be found on page 14 of this volume, while details of the vehicle with 5W1 body may be found on page 45 of this volume. In 1944, a modification was made to the 5W1 body, in that the parts and panels were welded instead of being bolted together. The toolage for the 5W1 was retained, as were all dimensions, and this body carried body code 5W4.

When air portability became a feature, a further modification was made to the 5W1 body, so that it could be loaded in assembled form, in a Dakota C47 aircraft. The entire body was split transversely at the first cross sill forward of the wheel house, but all other features of the 5W1 body were retained. This was the 5W1A body, and a complete constructional drawing and description of the body may be found on pages 14 and 15 of this volume. Details of the vehicle with 5W1A body may be found on page 46 of this volume.

The 5W1 body also was split longitudinally, i.e., down the centre of the body from front to rear. The cross sills were provided with steel inserts at the joints in the centre. This was known as the 5W8A body. However, Ministry of Supply expressed a preference for the transverse split body, which coincided, to a large extent, with the airportable design adopted in the U.K., and the 5W8A longitudinally split body was not put into production.

* * * *

3 TON 4 X 2 G.S. LORRIES

12 ft. G.S. bodies were built for mounting on 3-ton 4 x 2 chassis, these being for Ministry of Supply account. The 5E1 body was an all welded, all steel body, with 30" fixed sides. The spare tire was mounted beneath the left front of the body, and was supplied by the chassis manufacturer. The substructure was of 8 ga. and 10 ga. H.R.B.A. formed steel, the side and front panels and the tailgate being of 10 ga. H.R.B.A. steel.

This body was not satisfactory, and modifications were made. The substructure was changed to 10 ga. H.R.B.A. steel, and the side panels, front panel and tailgate, to 14 ga.. The spare tire carrier was built into the right front corner of the body substructure. This was the 5E3 body, and a complete constructional drawing with description may be found on pages 5 and 6 of this volume.

* * * *

Flat floor bodies also were produced in composite wood and steel, C.K.D. design, these being the 5Q1 for General Motors chassis and the 5R1 for Ford and Chrysler chassis. Constructional drawings and descriptions of these bodies may be found on pages 9 and 11 of this volume. Details of the vehicle may be found on page 42 of this volume.

* * * *

The 5U1 and 5U4 bodies were flat floor, all steel bodies, the 5U1 being bolted, and the 5U4 of welded construction. Constructional drawing of these bodies may be found on page 13 of this volume, while details of the vehicles may be found on pages 43 and 44 of this volume.

The 5V1 and 5V4 were all steel bodies, with wheelhouses 4" in depth, and were counterparts, in steel, of the 5Q1 bodies - the 5V1 body being bolted, while the 5V4 was welded. Overall dimensions and weights were the same as the 5U1 and 5U4 bodies, respectively.

* * * *

Because of the haste necessary to meet commitments, complete analysis of weight in the design of bodies was not possible; therefore the designers were forced to err on the side of over weight rather than sacrifice any strength features which, in the long run, was the most important factor.

This was fully recognized by the design group, particularly as the excessive weight affected the following:-

(1) Overloading of chassis, which, in turn, cut down the performance of the vehicle, and reduced tire life.

(2) Abnormal amount of steel used.

(3) Investigations in various theatres of operations showed that General Service bodies invariably out-lasted the chassis.

As soon as time permitted, therefore, an intensive study was given to lightening the bodies. Unfortunately, the full results were not obtained at the termination of hostilities. However, the following is the result of these efforts at the time of this report.

In order to lighten the 12 ft. G.S. body the 5W1A was designed in light weight steel. The substructure was of 14 ga. H.R.B.A. formed steel channels, with 14 ga. floor plate. Wear strips were corrugated into the floor plate, the corrugations also acting as stiffeners. The side panels and tailgate were of 16 ga. H.R.B.A. steel, the tailgate being of corrugated design, the corrugations running laterally across the gate. The gussets of the panels were square and nipples were welded to the top of the gussets for the superstructure, in place of the standard iron pipe sockets as used before. Only the pilot model was built, and it is presently being tested by V.P.E. under project E-625.

GENERAL SERVICE LORRIES (Cont'd)

The 55G series High Strength Steel bodies - "Tilbury", "Winnipeg" and "Brantford" carried codes 55G1, 55G2 and 55G3, respectively, and are described on pages 16 and 17 of this volume.

The transversely split G.S. body mounted on G.M. - 6x6 chassis - 6F2A - and the longitudinally split body - 6F1A - were produced in pilot form only, and are presently being tested by V.P.E. under projects DVSA6-515 & AEDB-E621. The 6F2A is described on page 49 of this volume.

NOTE:

A special report is being released regarding the development work on light weight bodies, and should be referred to in connection with this chapter.

* * * *

MISCELLANEOUS

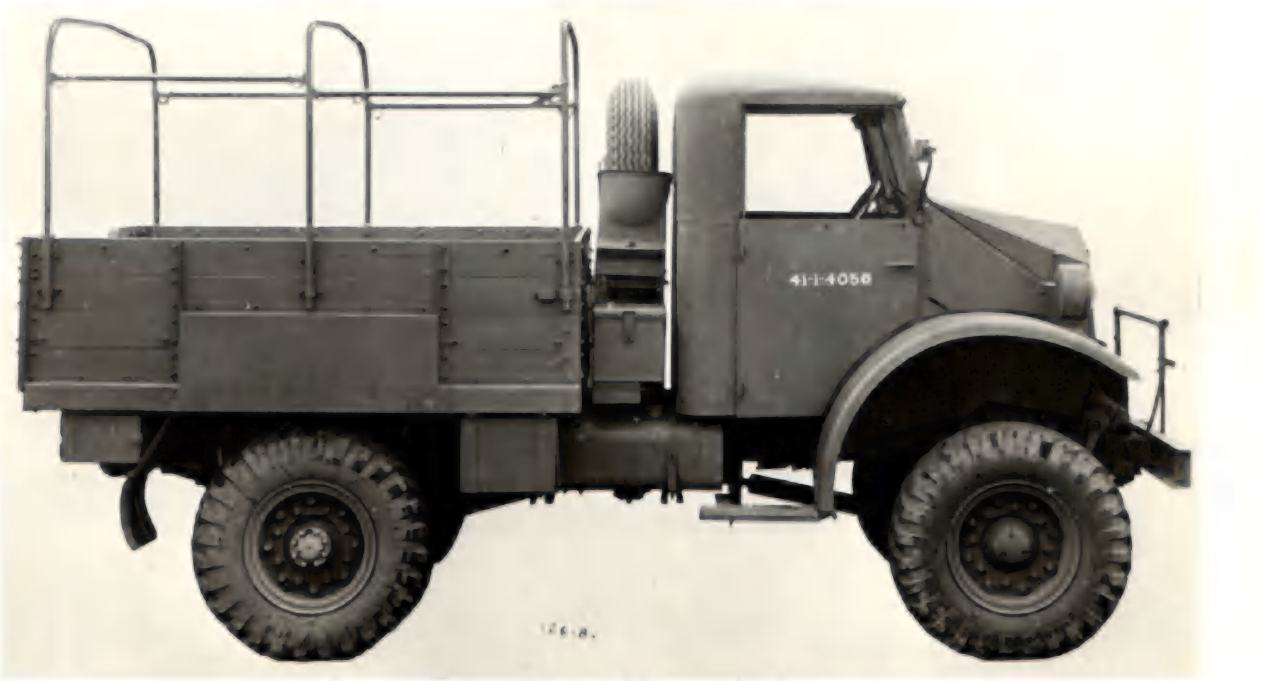
In addition to the bodies described in the foregoing chapters, a number of miscellaneous General Service bodies were built throughout the years of the war. These included commercial type stake and rack bodies - 12 ft. and 14 ft. - Codes 5X1, 5Y1 and 5Y2 - as described on page 24 of this volume, and details of the vehicles as per pages 47 and 48 of this volume.

A number of Machinery Lorries were converted to G.S. role by removing the equipment from the body and adding the standard G.S. type superstructures, tarpaulins, toolboxes and jerrican carriers. These were given body code 55B1.

A number of Bridging Equipment bodies - 8A1 - also were converted to G.S. role by the addition of standard G.S. type superstructure, tarpaulin and tool boxes, and were given body code 8A2.

A 14 ft. flat floor, all welded, all steel body for mounting on F.W.D. 4 x 4 - S.U. model - was designed for R.E.L.. This body was given Code 9B1, but only the pilot model was produced due to the termination of hostilities.

15 CWT - G.S. - COMPOSITE - K.D. BODY



Function:

This vehicle is used by All Arms and Services, as a General Service Load Carrier for stores and supplies, both over highway and cross-country.

Dimensions:

Overall length of vehicle	.....	171"
" width " "	.....	88"
" height " "	.....	97"
Inside length of body	.....	77-3/4"
" width " "	.....	81"
" height " "	.....	21-1/8"

Weights:

Curb weight of vehicle	7336 lbs.
Driver and mate	480 lbs.
Payload	2240 lbs.
Gross weight of vehicle	10056 lbs.
Maximum allowable weight	10000 lbs.

References:

D.M. & S. Schedule of drawings....	S-3840
D.M. & S. File No.	73-V-4
A.E.D.B. Photo File No.	E-4
Vehicle Code No.	F & C 15A-G.S
Body Code No.	2H1
Pilot Model Approval No.	Nil
Maintenance Manual No.....	MB-F1 & C2

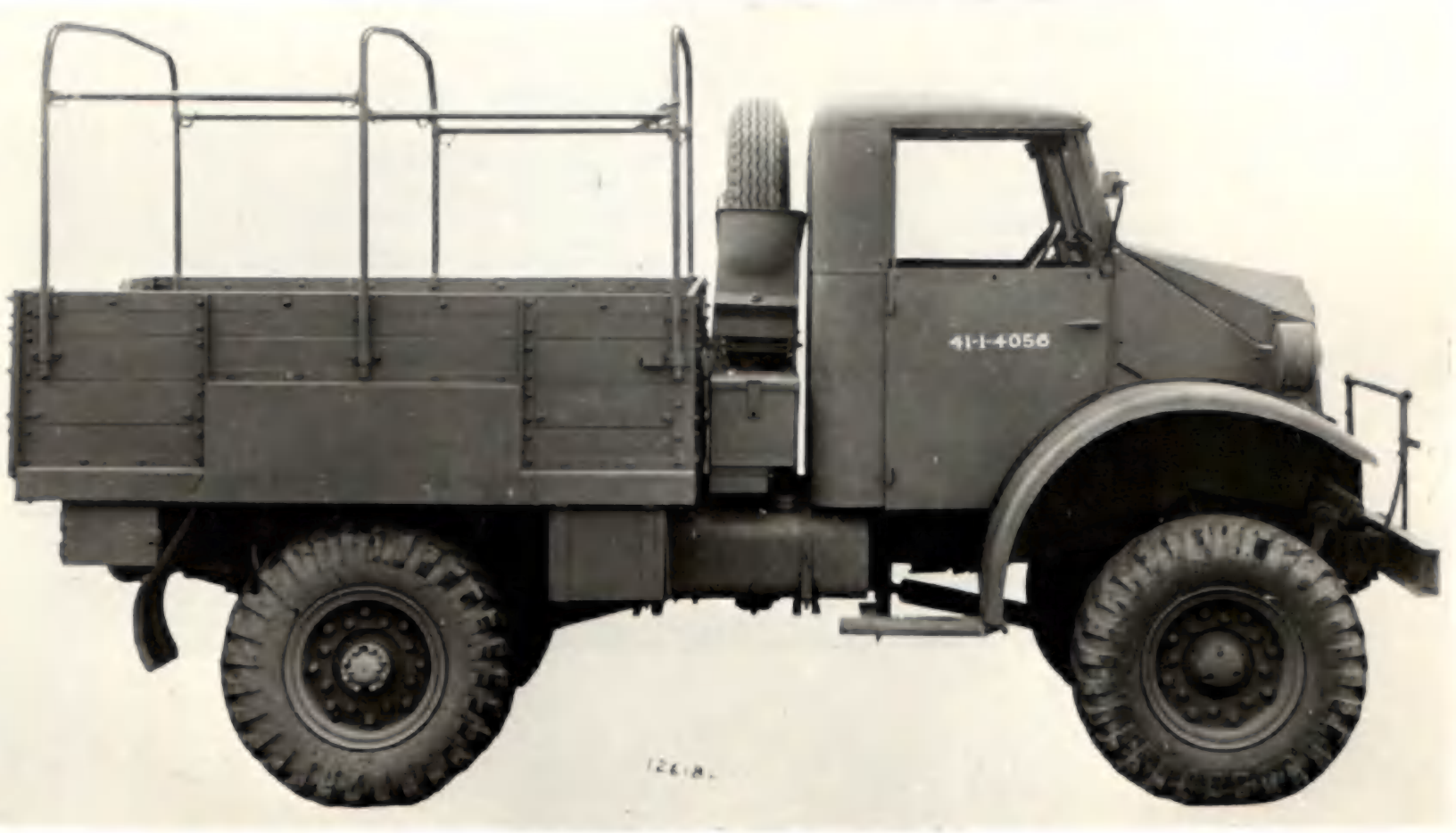
Sources:- Chassis - Ford & General Motors
Body - S.B.M.A.

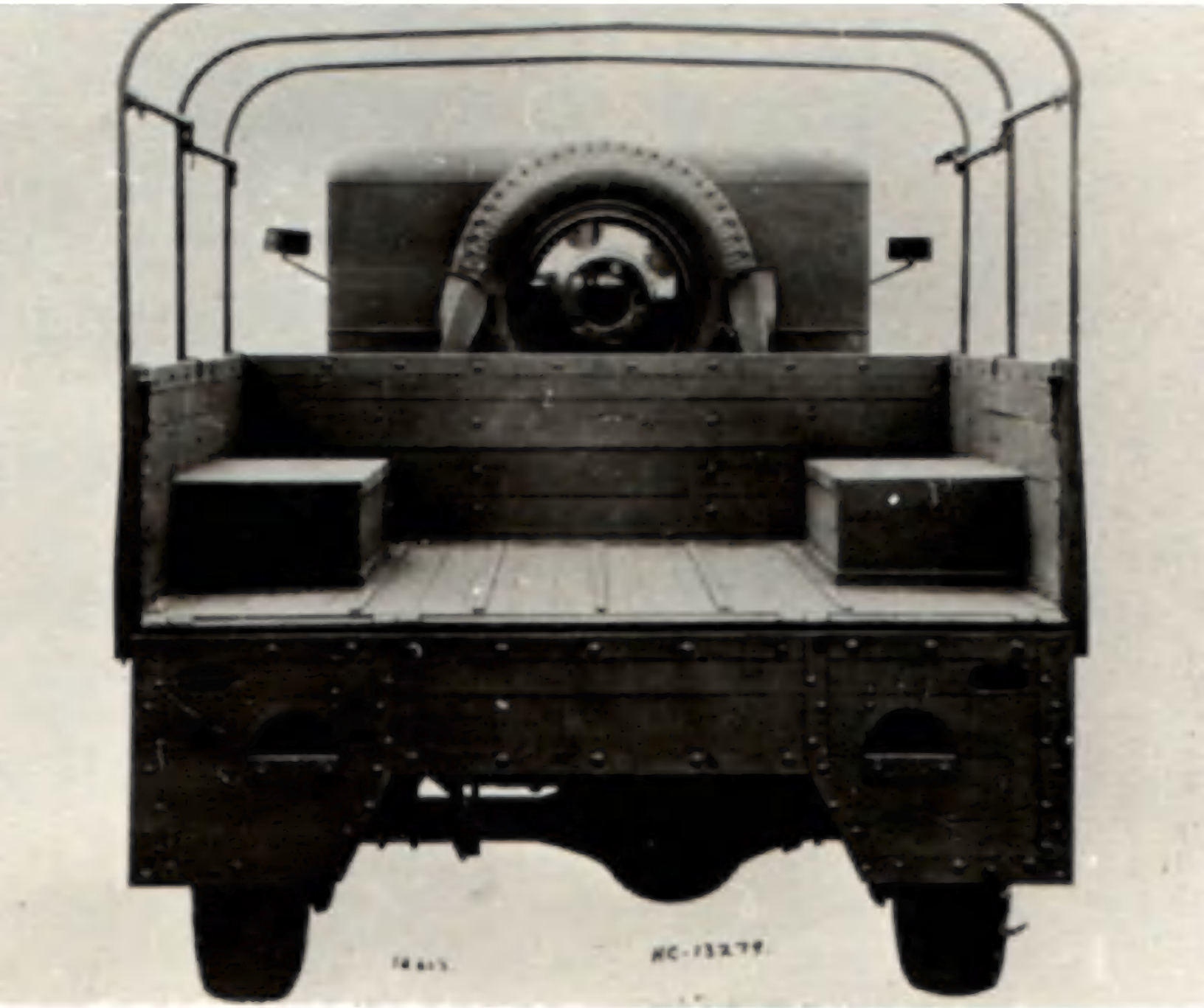
Chassis:

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

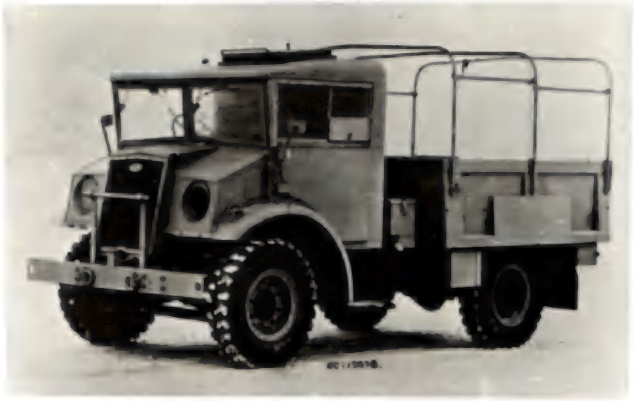
Body:

The body for this vehicle is a 15-cwt. composite wood and steel - K.D. construction, as described on Page 8 of this volume. Superstructure and tarpaulin are provided, as well as Jerrican carriers, oil can carrier and splash shields. The spare tire is mounted on the tool box, between the cab and the body.


41-1-4056


MC-13279

15 CWT - G.S. - STEEL - BOLTED BODY



Function:

This vehicle is used by all Arms and Services as a General Service Load Carrier, for stores and supplies, both over highway and cross-country.

Dimensions:

Overall length of vehicle	171"
" width " "	88"
" height " "	97"
Inside length of body	78¾"
Inside width of body	81"
Inside height of body	22"

Weights:

Curb weight of vehicle	7225 lbs.
Driver and mate	480 lbs.
Payload	2240 lbs.
Gross weight of vehicle	9945 lbs.
Maximum allowable weight	10000 lbs.

References:

D.M. & S. Schedule of drawings..S-30600
D.M. & S. File No..... 73-V-4
A.E.D.B. Photo File No..... E-4
Vehicle Code No. ..... F & C 15A-G.S.-2
Body Code No. 2J1
Pilot Model Approval No. N11
Maintenance Manual No. .....MB-F1 & C2
Sources:- Chassis - Ford & General Motors
Body - S.B.M.A.

Chassis:

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

Body:

The body for this vehicle is a 15-cwt. bolted, all steel - K.D. construction, as described on Page 12 of this volume. Superstructure and tarpaulin are provided, as well as Jerrycan carriers, oil can carrier and splash shields. The spare tire is mounted on the tool box between the cab and the body.


MC-13378.

15 CWT - G.S. - STEEL - WELDED BODY

Function:

This vehicle is used as a General Service Load Carrier, by all Arms and Services.

Dimensions:

All dimensions are same as 15 cwt. G.S. Steel - Bolted - 2J1 - see page 34, this volume.

Weights:

All weights are same as 15 cwt. G.S. Steel - Bolted - 2J1 - see page 34, this volume.

Chassis:

The chassis is a 15 cwt. C.M.P. 4 x 4 - 101" W.B. - Code 15A with 9.00 x 16 tires.

References:

D.M. & S. Schedule of drawings..S-340640
D.M. & S. File No. 73-V-4
A.E.D.B. Photo File No..... E-4
Vehicle Code No. .....F & C 15A-G.S -3
Body Code No. 2J4
Pilot Model Approval No. ..... Nil
Maintenance Manual No. .... MB-F1 & C2
Sources:- Chassis - Ford & General Motors
Body - S.B.M.A.

Body:

The body is the same as 2J1 body - described on page 34, this volume, except that the flanges of the parts and panels are welded together instead of being bolted. All the equipment is the same as the 2J1 body.


5

3/4 TON - DODGE - G.S. BODY - APT

Function:

This vehicle was produced as a General Service Load Carrier, and was designed as an air portable vehicle to be loaded in Dakota C 47 aircraft.

Dimensions:

Overall length of vehicle	182"
Overall width of vehicle	77"
Overall height of vehicle	84"
Inside length of body	72"
Inside width of body	76 1/4"
Inside height of body	25 1/4"

Weights:

Curb weight of vehicle	5960 lbs.
Driver and mate	400 lbs.
Payload	1680 lbs.
Gross weight of vehicle	8040 lbs.
Maximum allowable weight	8000 lbs.

Chassis:

The chassis for this vehicle is a Dodge 3/4 ton - 4 x 4 - 98" W.B. - Code D 3/4 ton APT - equipped with 9.00 x 16 U.S. mud and snow - non directional tread, and winch.

NOTE: Only the chassis after the first 5000 vehicles were wadeproofed. For wade proofing data, refer to report "Sea Wading Trials, Comox, B.C.", dated August, 1945, and page 37 of Volume IV of this series.

References:

D. M. & S. Specification No.	O.A.137
D. M. & S. Schedule of drawings	S-342753
D. M. & S. File No.	73-T-106
A.E.D.B. Photo File No.	E-23
Vehicle Code No.	D 3/4 APT-G.S.-1
Body Code No.	2M2A
Pilot Model Approval No.	N11
Experimental Engineering Report..	E-614
Maintenance Manual No.	3/4 APT-D1

Sources:- Chassis and Body-Chrysler Corp.

Note:- Detail drawings prepared by Chrysler Corp.

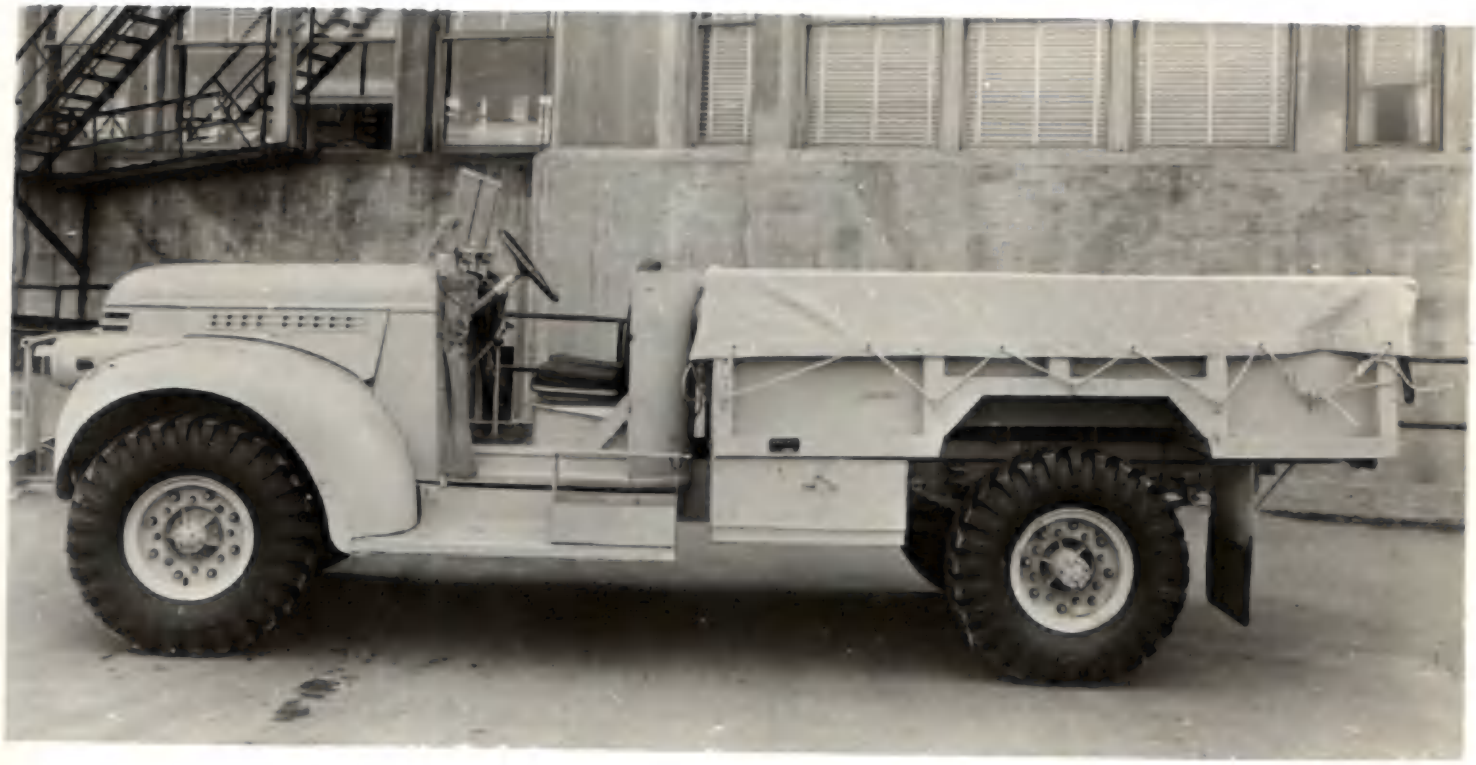
Description of Body:

The body, basically, was U.S. design, modified for air-portability by Chrysler Corp. Windsor, Ont. The substructure consists of seven (7) 3/16" H.R.B.A. steel channel cross sills. The floor is of hardwood, finished to 13/16" with steel wear or skid strips, while the side panels and tailgate are of 16 ga. H.R.B.A. steel. Full length wheel houses extend from front to rear of body, while tool lockers are set into the wheelhouses.

The superstructure consists of three (3) bows, while the tarpaulin extends over the driver's compartment to form the cab roof. Two (2) Jerrycans are mounted on the right running board, while the spare tire is mounted on the left running board. A shovel and pick axe are mounted by means of straps to the outside of the tailgate.


368M
N 5497

30 CWT G.S. - 104" SPECIAL, WELDED BODY



Function:

This vehicle was produced for Ministry of Supply account, to be used as an ammunition carrier for Middle East theatre of war.

Dimensions:

Overall length of vehicle	219"
" width " "	80"
" height " "	58½"
Inside length of vehicle	103¾"
" width " "	72"
" height " "	24"

Weights:

Curb weight of vehicle	6450 lbs.
Driver and mate	480 lbs.
Payload	3000 lbs.
Gross weight of vehicle	9930 lbs.
Maximum allowable weight	10000 lbs.

References:

D.M.&S. Schedule of Drawings	S-11545
D.M.&S. File No.	73-B-26-8
A.E.D.B. Photo File No.	E-6
Vehicle Code No.	30424-C-G.S.-1
Body Code No.	4B1
Pilot Model Approval No.	Nil
Maintenance Manual No.	Nil

Source: Chassis - General Motors.
Body - Gotfredson Limited.

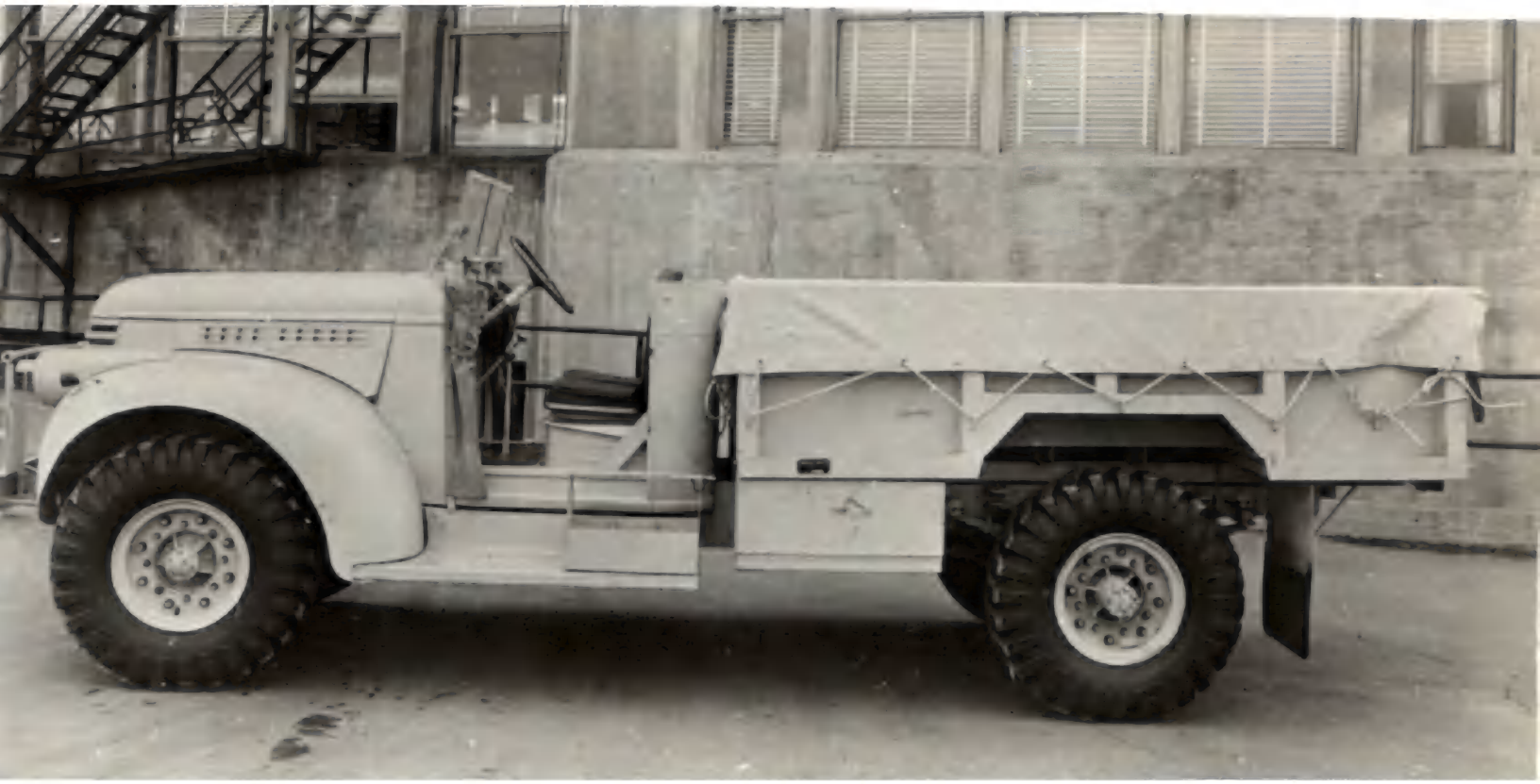
Chassis:

The chassis for this vehicle is a G.M.C. 30 Cwt. Conventional 4x2 - 134½" W.B. chassis - Code 30424 - equipped with 10.50 x 16 Run Flat tires.

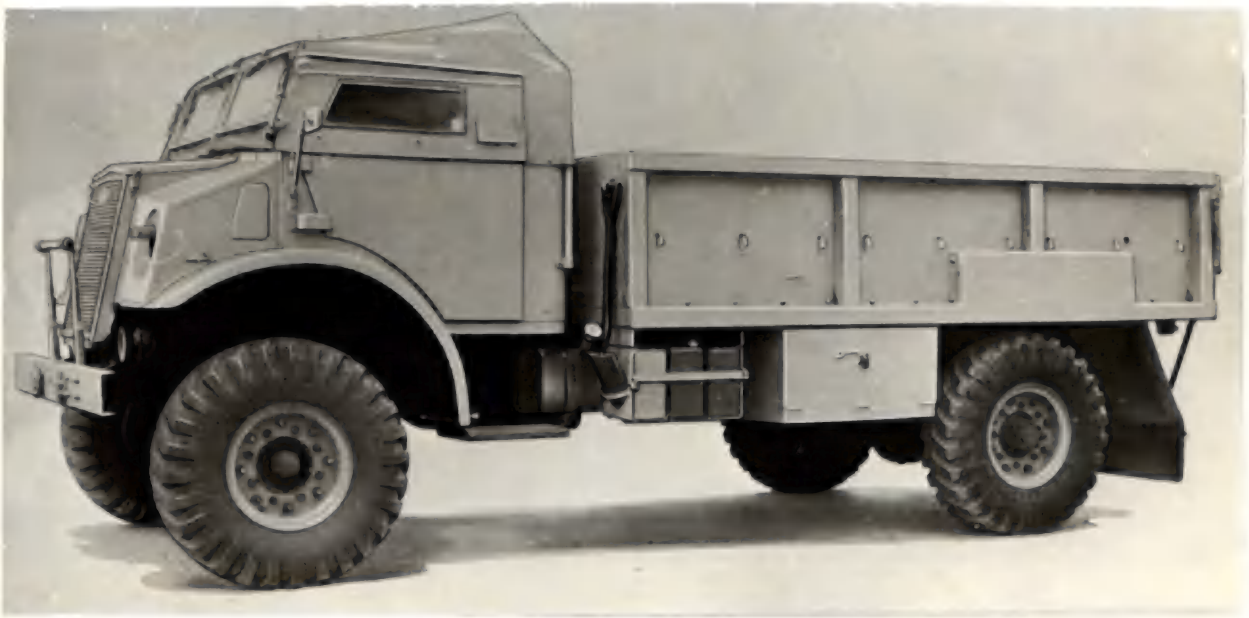
Description of Body:

The body, basically, is an all welded, all steel, General Service type, with substructure comprising cross sills and longitudinal sills of 10 ga. H.R.B.A. formed steel channels. The floor sheet is of 10 ga. H.R.B.A. steel plate, welded to the substructure. The side panels, front panel and tailgate are of welded, gussetted design. The tailgate swinging from the bottom and is equipped with hold fast hooks and chains. No superstructure is provided, but the body is equipped with a flat tarpaulin which is lashed to hooks on the body. Standard tool boxes also are provided, suspended from the substructure, while Jerrican carriers are mounted on the chassis running boards.

An open top half cab with side curtains in place of doors, is provided, the back panel of the cab being cut away at the belt



3 TON G.S. - STEEL - K.D. BODY



Function:

This vehicle is used by base units as a general purpose Load Carrier for supplies and stores.

Dimensions:

Overall length of vehicle	204"
" width " "	90"
" height " "	87"
Inside length of body	120"
" width " "	80"
" height " "	24"

Weights:

Curb weight of vehicle	7845 lbs.
Driver and mate	480 lbs.
Payload	3000 lbs.
Gross weight of vehicle	11325 lbs.
Maximum allowable weight	11500 lbs.

References:

D.M.&S. Schedule of Drawings	S-35442
D.M.&S. File No.	73-B-5
A.E.D.B. Photo File No.	E-6
Vehicle Code No.	F 60424-M-G.S.-1
Body Code No.	4J1
Pilot Model Approval No.	Nil
Maintenance Manual No.	SE 29B

Sources:- Chassis - Ford & General Motors
Body - S.B.M.A.

Chassis:

The chassis for this vehicle is a 30 cwt. C.M.P., 4x4 - 134" W.B. - Code F. or C. 30 - with soft top cab and equipped with 10.50 x 16 tires, Run Flat.

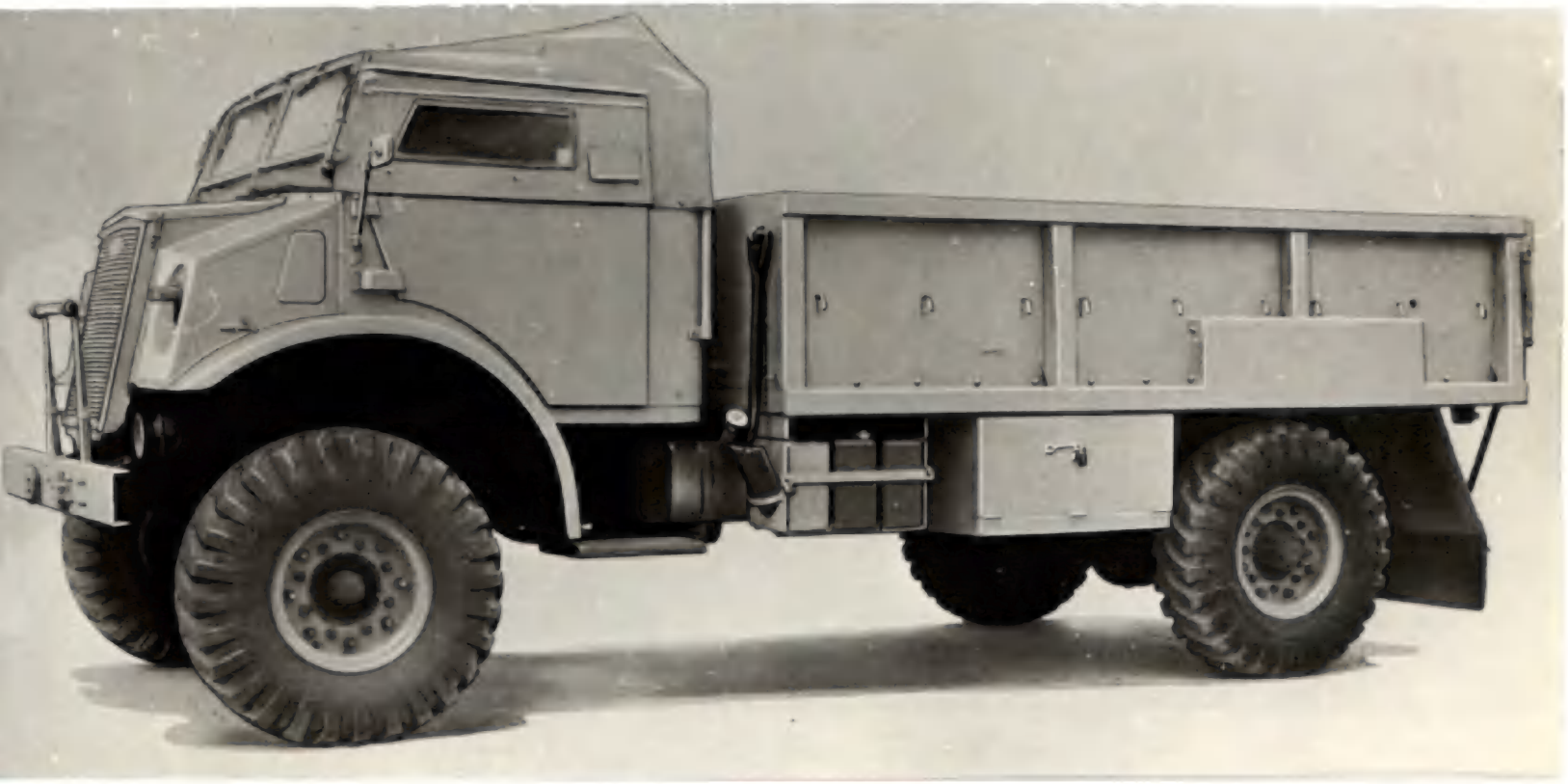
Description of Body:

The body is an all steel, bolted K.D. construction, with substructure comprising eight (8) 10 ga. H.R.B.A. formed steel channel cross sills and two (2) 10 ga. H.R.B.A. formed steel longitudinal sills. Hardwood fillers are provided for the longitudinal sills. The cross sills are laid on their flanges, while the longitudinal sills are inverted. The floor sheet is of 10 ga. H.R.B.A. steel plate, with skid or wear stripe welded to the upper side. Wheel houses are bolted to the floor sheet and side panels. The side panels and front panel are of 14 ga. H.R.B.A. formed steel, stiffened by means of box like formed gussets. The tailgate is of 12 ga. H.R.B.A. formed steel, stiffened by means of box like gussets and is hinged at the bottom. Tailgate chains are provided.

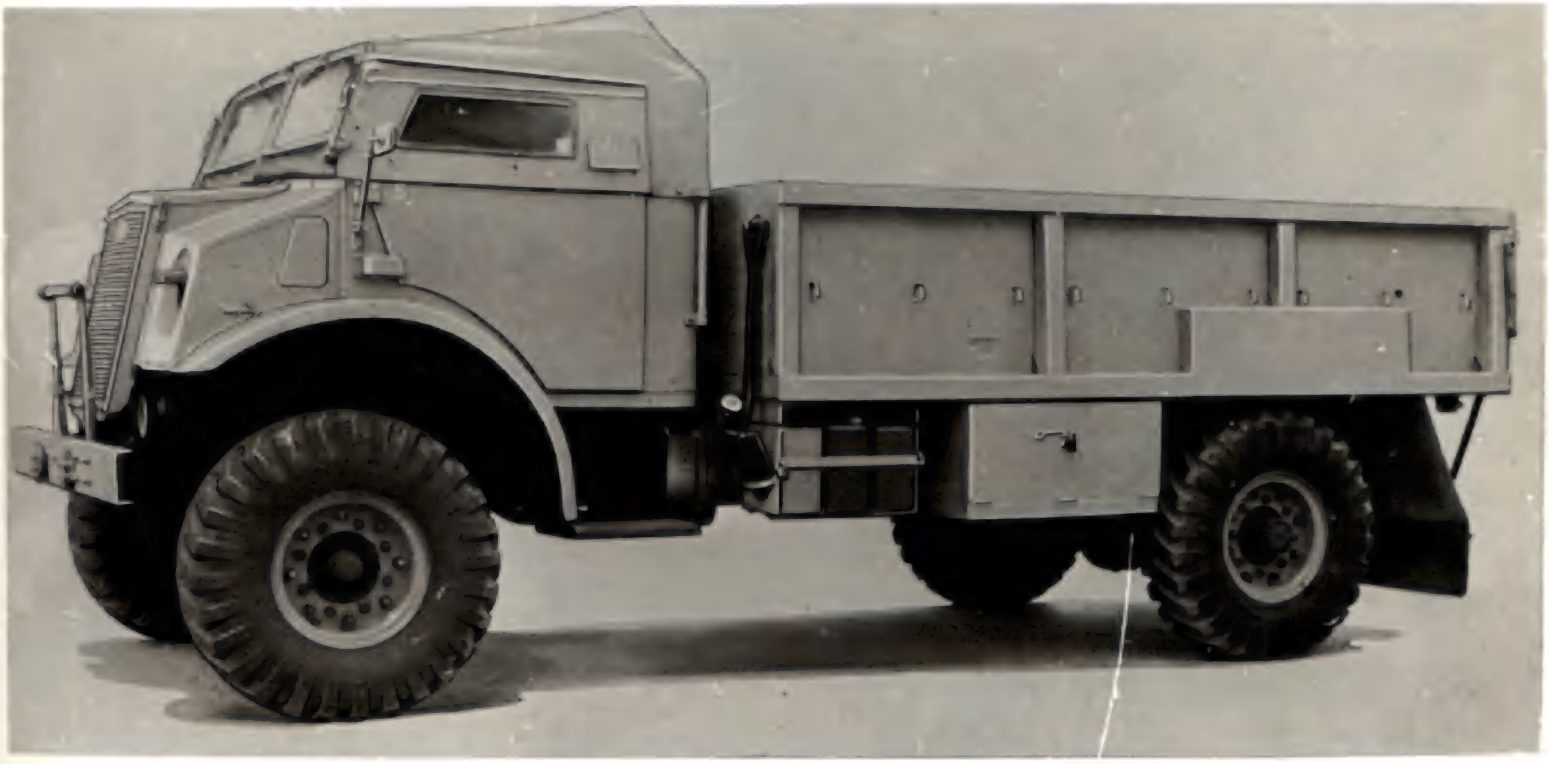
Flat tarpaulin without superstructure is provided, together with toolboxes and jerrican carriers.

NOTE:

This vehicle is designed on a 3 ton payload chassis, but the 10.50 x 16 Run Flat tires restrict the payload to 3000 lbs.



3 TON G.S.-STEEL-WELDED BODY



Function:

This is a General Service Load Carrier with 10 Ft. welded steel body, and is interchangeable with 10 Ft. bolted steel body - 3 Ton G. S. Lorry - as described in Page 38, this volume.

Dimensions:

The dimensions of this vehicle are the same as shown on Page 38, this volume.

Weights:

The weights of this vehicle are the same as snown on Page 38, this volume.

References:

D.M.&S. Schedule of Drawings.....S-340630
D.M.&S. File No. 73-B-5
A.E.D.B. Photo File No. E-6
Vehicle Code No. ..... F 60424-M-G.S.-1
Body Code No. 4J4
Pilot Model Approval No. .....Nil
Maintenance Manual No. .....SE 29B
Sources: Chassis - Ford and General Motors
Body - S.B.M.A.

Chassis:

The chassis for this vehicle is a 3 Ton C.M.P., 4x4 - 134" W.B. - Code F60424 - with soft top cab, and equipped with 10.50 x 16 tires, Run Flats.

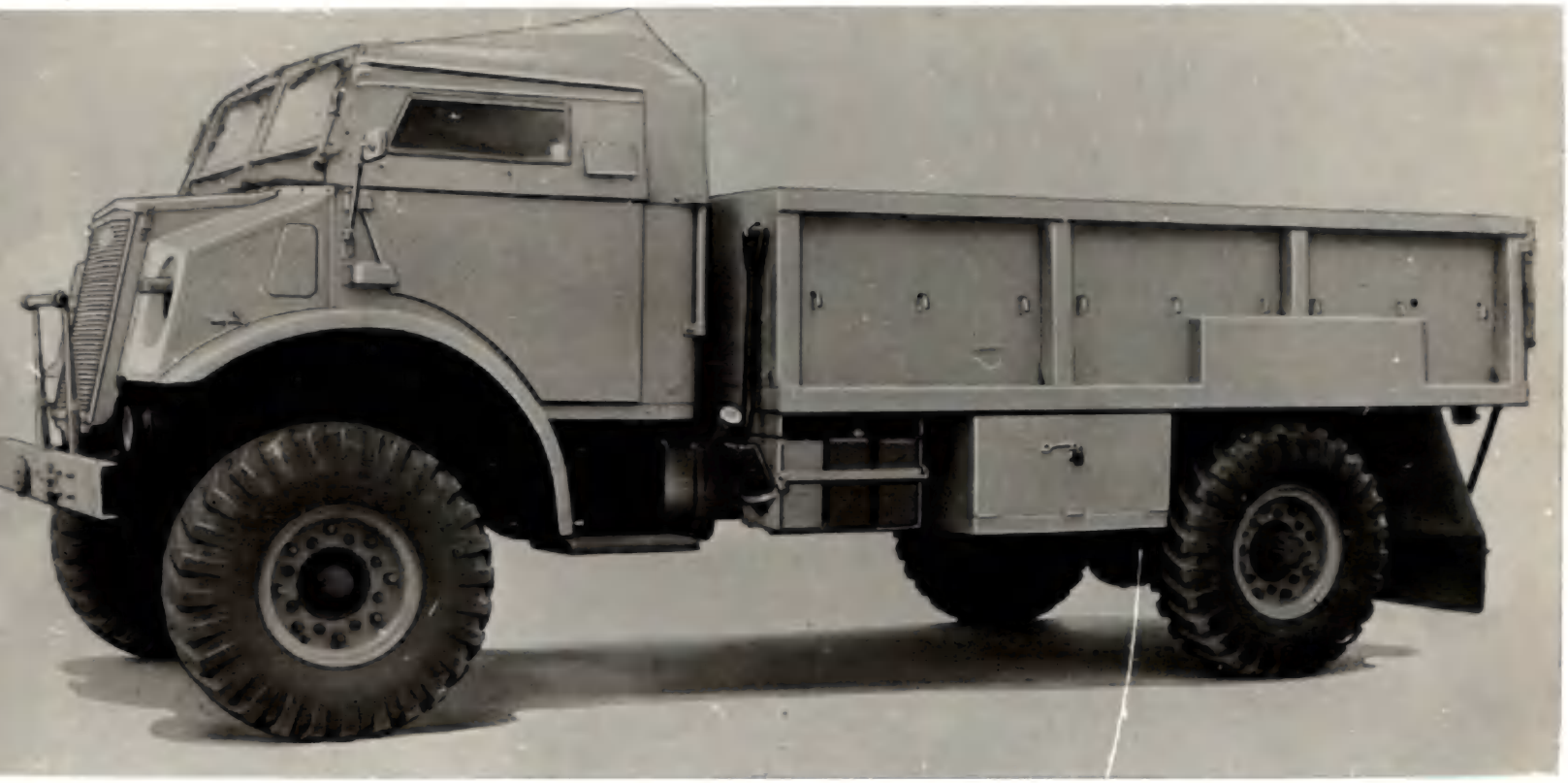
Description of Body:

The body is the same as the 4J1 body as described on Page 38, this volume, except that it is an all welded construction. The flanges of the parts and panels are welded instead of being bolted together. The body is not K.D. and cannot be shipped in K.D. pack.

Flat tarpaulin, and two (2) tool boxes and Jerrycan carriers are the same as on the 4J1 body.

NOTE:

This vehicle is designed on a 3 ton payload chassis, but the 10.50 x 16 Run Flat tires restrict the payload to 3000 lbs.



3 TON G.S. -FOR DIESEL (R.E.L)

Function:

The purpose of this vehicle was to house and carry a Diesel engine and its equipment. It was designed for, and equipped by Research Enterprises Ltd. (R.E.L.) for Ministry of Supply and D.N.D. accounts.

Dimensions:

Overall length of vehicle.....	256"
" width " "	88"
" height " "	124"
Inside length of body	120"
" width " "	80"
" height " "	30"

Weights:

Curb weight of vehicle....	10,000 lbs.
Payload	6,720 lbs.
Gross Weight of vehicle...	16,720 lbs.
Maximum allowable weight..	20,000 lbs.

References:

D. M. & S. Schedule of Drawings.....	S-341150
D. M. & S. File No.	73-V-25-2
A.E.D.B. Photo File No.	Nil.
Vehicle Code No.	Nil.
Body Code No.	4R1
Pilot Model Approval No.	Nil.
Maintenance Manual No.	HAR-FWD-3

Sources: Chassis - Four Wheel Drive Company Limited.
Body - Brantford Coach and Body Limited.

Chassis:

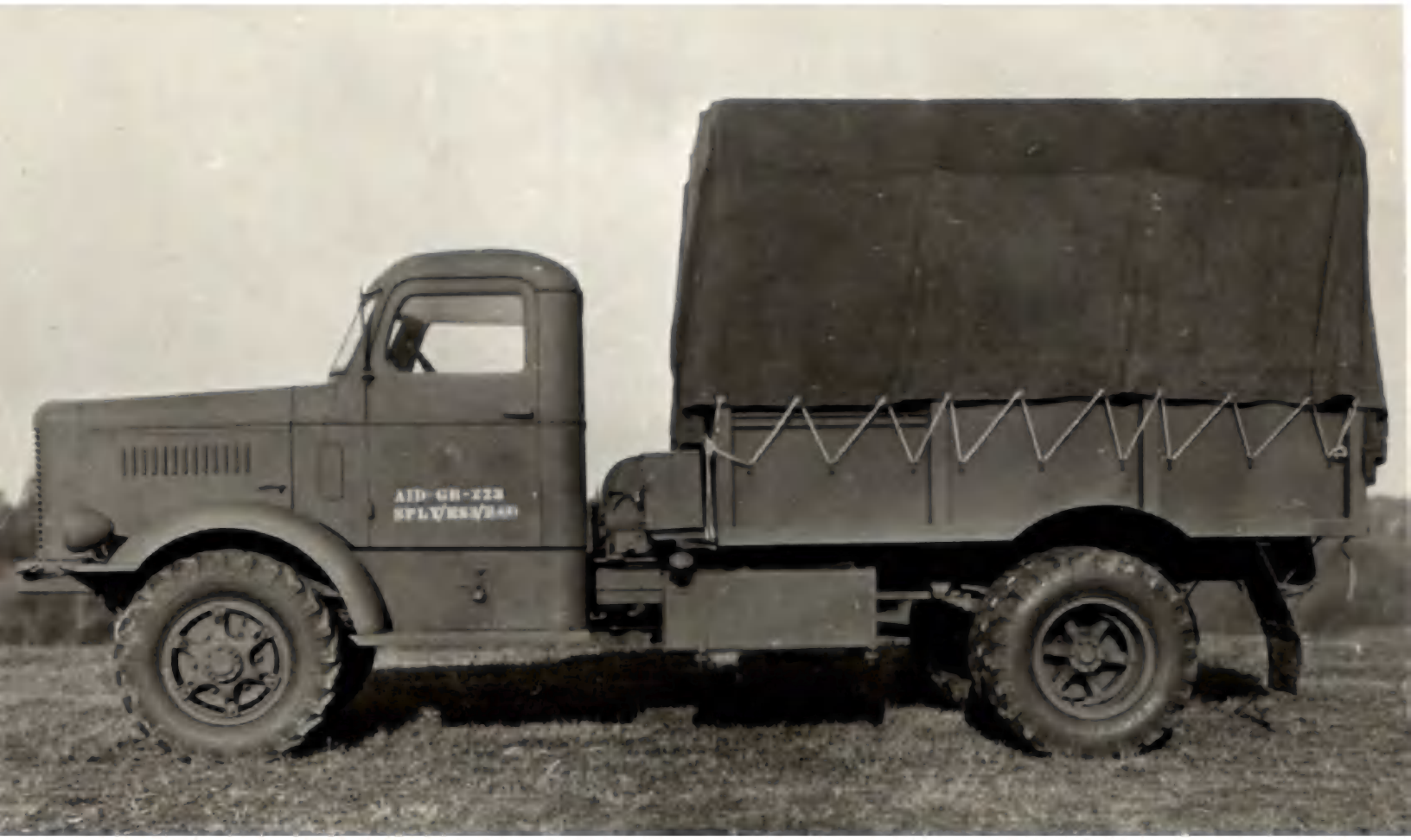
The chassis for this vehicle is a 3-1/2 ton Four Wheel Drive - H.A.R. - 4 x 4 - 156" W.B. - equipped with winch and 9.00 x 20 dual tires.

Description of Body:

The body for this vehicle is a 10 ft. all welded, all steel "Budd" type, gussetted construction. The substructure comprises seven (7) 10 ga. H.R.B.A. formed steel cross sills and two (2) 10 ga. H.R.B.A. formed steel longitudinal sills, the cross sills being laid on their flanges while the longitudinal sills are inverted. Hardwood fillers are provided for the longitudinal sills. The floor sheet is of 10 ga. H.R.B.A. steel plate, angle irons being attached to the floor for mounting the Diesel engine.

The side panels, front panel and tailgate are of gussetted design, the tailgate being hinged at the bottom. Hold fast hooks and chains are provided. At the bottom of the front panel, in the centre, is a door which opens to allow passage of the winch cable.

The spare tire is mounted inside the body, at the front of the left side panel. Iron pipe superstructure and tarpaulin, are provided. The toolbox is suspended from the right side of the superstructure, while Jerrican carriers are mounted between the cab and the body.


AID-GR-223

3 TON G.S. - COMPOSITE BODY - WITH 54" WHEEL HOUSE

Function:

This vehicle is used by all Arms and Services as a General Load Carrying Vehicle for stores and supplies, both on highway and cross country.

Dimensions:

Overall length of vehicle	243"
" width " "	91"
" height " "	120"
Inside length of body	143¼"
" width " "	78¾"
" height " "	30"

Weights:

Curb weight of vehicle	9950 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	17150 lbs.
Maximum allowable weight	16000 lbs.

Chassis:

The chassis for this vehicle is a 3 ton C.M.P., 4x4 - 158" W.B. - Code 60L - and is equipped with 10.50 x 20 tires.

References:

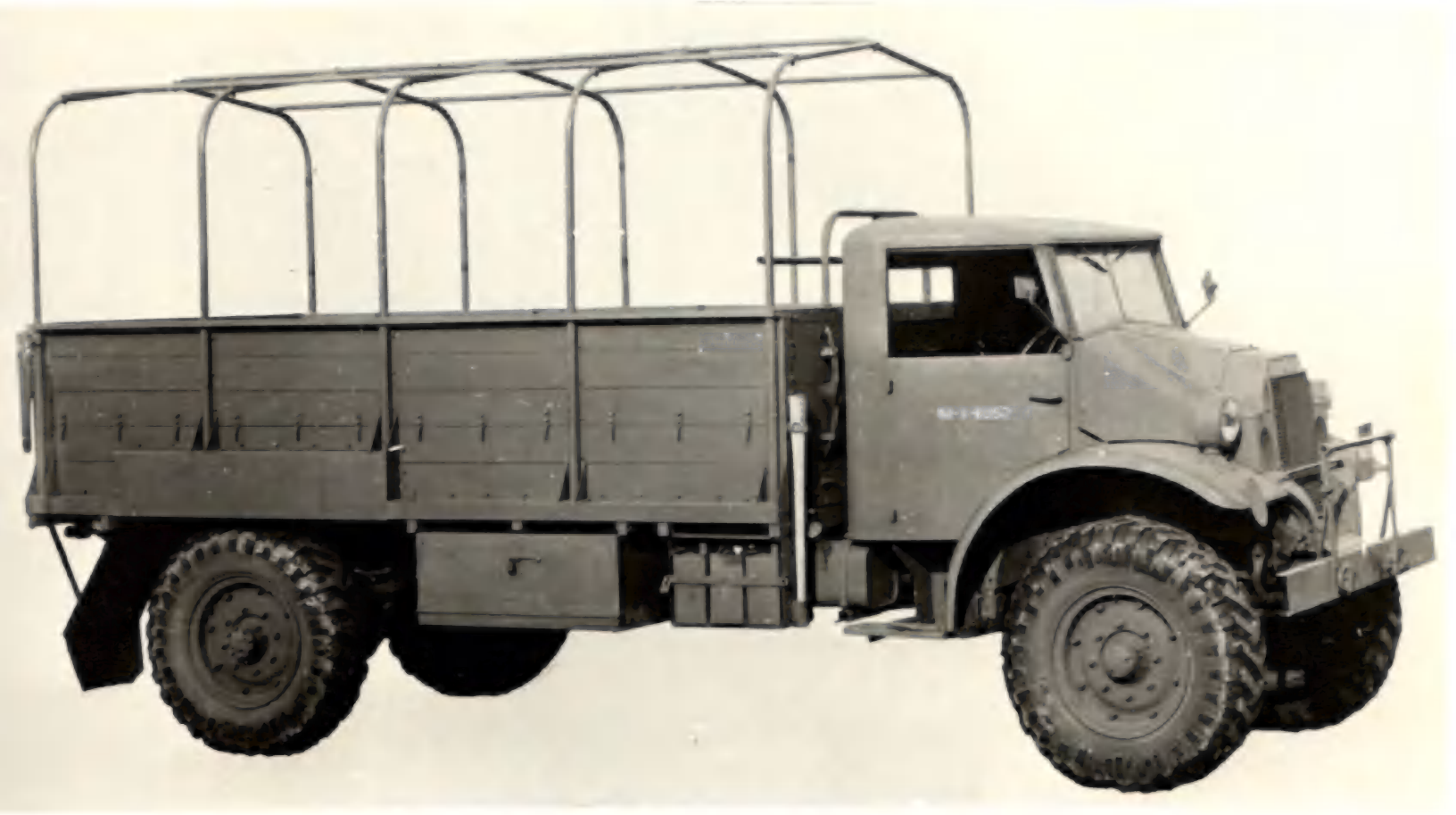
D.M.&S. Schedule of Drawings	S-3724
D.M.&S. File No.	73-B-24-3
A.E.D.B. Photo File No.	E-7
Vehicle Code No.	60L-G.S.-6
Body Code No.	5P1
Pilot Model Approval No.	F-32
Maintenance Manual No.	MB-C1 & 2. MB-F1
Sources: Chassis	Ford & General Motors,
Body	S.B.M.A.

Description of Body:

The body for this vehicle is a composite wood and steel bolted construction, as described in detail on Page 10 of this volume. The body can be completely knocked down (C.K.D. pack) to facilitate shipping.

Jerrican carriers are mounted, one each at the forward end of the vehicle, suspended from the substructure, and a tool box is mounted immediately behind each Jerrican carrier.

Standard iron pipe superstructure and wrap-around tarpaulin are provided and the spare tire is carried between the cab and the body.



3 TON G.S. - COMPOSITE BODY - FLAT FLOOR & 4" DEPTH WHEEL HOUSE

Function:

This vehicle is used as a General Service Load Carrier, operating over highway only. Two (2) types of bodies were used, the complete flat floor being mounted on Ford & Chrysler 4x2 Modified Conventional chassis, and the flat floor with 4" depth wheelhouse being mounted on General Motors 4x2 Modified Conventional chassis.

Dimensions:

Overall length of vehicle	.....	261"
" width " "	.....	88"
" height " "	.....	127"
Inside length of body	.....	143 3/8"
" width " "	.....	78 1/2"
" height " "	.....	30"

Weights:

Curb weight of vehicle	7385 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	14585 lbs.
Maximum allowable weight	14500 lbs.

Chassis:

The chassis for this vehicle are Ford, Chrysler & General Motors Modified Conventional 4x2 - 158" & 160" W.B. - equipped with 10.50 x 16 tires.

References:

D.M.&S. Schedule of Drawings.....S-35551, S-16501
D.M.&S. File No. .....73-B-24-2&5.
A.E.D.B. Photo File No. E-6
Vehicle Code No. .....T110L-4 & 5
Body Code No. .....5R1 & 5Q1
Pilot Model Approval No. .....Nil
Experimental Engineering Report.....E-60
Maintenance Manual No. WM-3699
Sources: Chassis - Ford, General Motors, Chrysler.
Body - S.B.M.A.

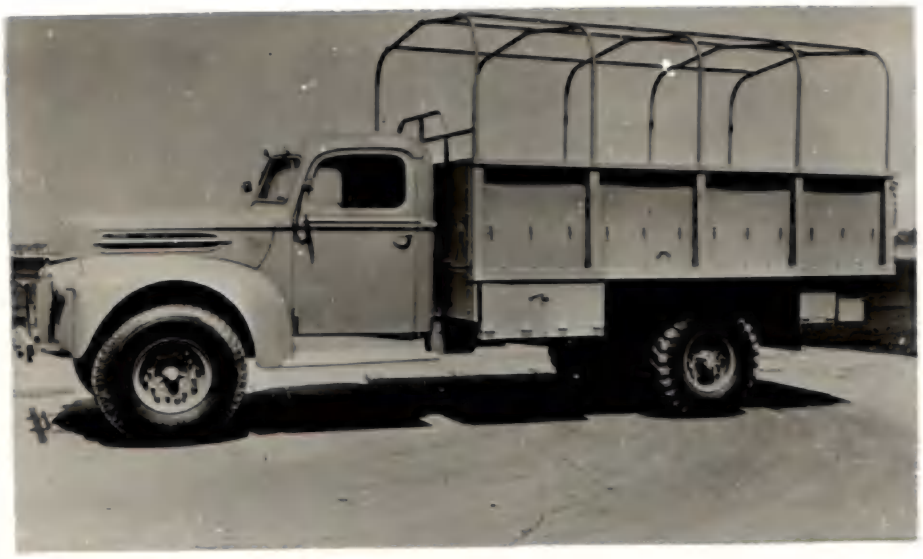
Description of Body:

The bodies for this vehicle are flat floor, bolted, composite wood and steel construction, completely knock down (C.K.D. pack) as described in detail on Page 9 of this volume.

A tool box is mounted on the left front corner of the body, suspended from the substructure, while the spare tire is mounted at the right front corner of the substructure. Jerrican carriers are suspended from the left and right rear corners of the substructure.

Standard iron pipe superstructure and wrap-around tarpaulin, and iron pipe grille also are provided.

3 TON G.S. - STEEL - BOLTED BODY - FLAT FLOOR



Function:

This vehicle is used as a General Service Load Carrier, over highway only. It is not used as a cross country vehicle.

Dimensions:

Overall	length	of vehicle	258½"
"	width	" "	90½"
"	height	" "	124 "
Inside	length	of body	143¾"
"	width	" "	80 "
"	height	" "	30 "

Weights:

Curb weight of vehicle	7295 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	14495 lbs.
Maximum allowable weight	14500 lbs.

Chassis:

The chassis for these vehicles are Ford and Chrysler Modified Conventional 4x2 - 158" & 160" W.B., and are equipped with 10.50 x 16 tires.

References:

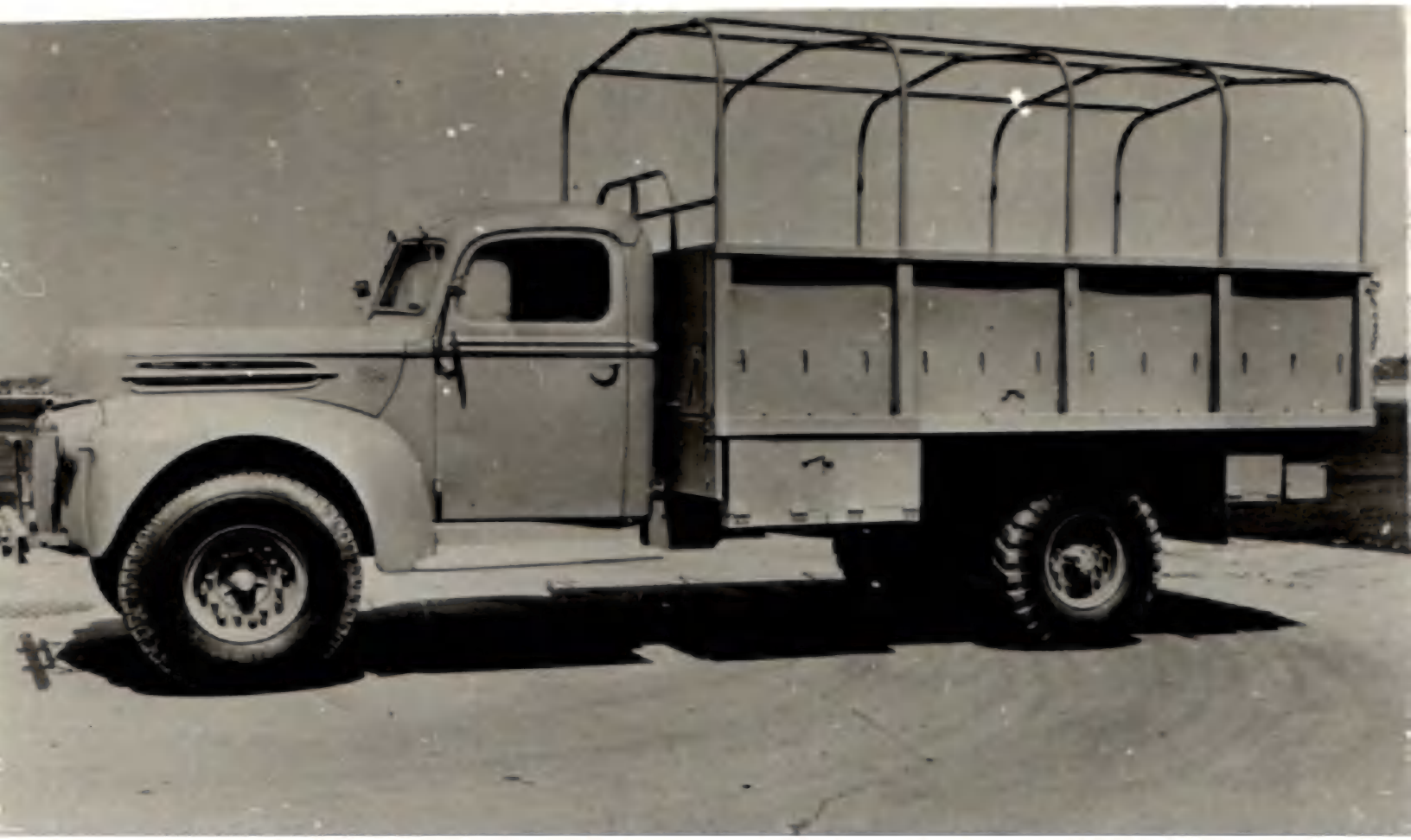
D.M.&S. Schedule of Drawings.....S-16400
D.M.&S. File No. 73-B-26
A.E.D.B. Photo File No. .....E-6 & 8
Vehicle Code No. 60420-C-G.S.-1
Body Code No. 5U1
Pilot Model Approval No. F-107
Maintenance Manual No. WM-3699
Sources: Chassis - Ford and Chrysler.
Body - S.B.M.A.

Description of Body:

The body for this vehicle is an all steel, bolted, flat floor construction, completely knock down (C.K.D.) as described in detail on Page 13 of this volume.

A tool box is suspended from the left front corner of the substructure, while tool lockers and Jerrican carriers are suspended from the left and right rear corners of the substructure. The spare tire is housed in the right front corner of the substructure.

Standard iron pipe superstructure and wrap-around tarpaulin, and pipe grille also are provided.



3 TON G.S. - STEEL - WELDED BODY - FLAT FLOOR

Function:

This vehicle is used as a General Load Carrier over highway only. It is not used for cross country work.

Dimensions:

Overall	length	of vehicle	258½"
"	width	" "	90½"
"	height	" "	124 "
Inside	length	of body	143¾"
"	width	" "	80 "
"	height	" "	30 "

Weights:

Curb weight of vehicle	7295 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	14495 lbs.
Maximum allowable weight	14500 lbs.

Chassis:

The chassis for these vehicles are Ford and Chrysler Modified Conventional 4x2 - 158" & 160" W.B., equipped with 10.50 x 16 tires.

References:

D.M.&S. Schedule of Drawings.....S-340600
D.M.&S. File No. 73-B-26-2
A.E.D.B. Photo File No. .....E-6 & 8
Vehicle Code No. 60420-C-G.S.-1
Body Code No. 5U4
Pilot Model Approval No. .....Nil
Maintenance Manual No. WM-3699
Sources: Chassis - Ford and Chrysler
Body - S.B.M.A.

Description of Body:

The body for this vehicle is the same in all details as the 5U1 body - see Page 43, this volume, and as described in detail on Page 13 of this volume, except that the parts and panels are welded instead of being bolted together. The body therefore cannot be shipped C.K.D.

Standard iron pipe superstructure and wrap-around tarpaulin, and grille are provided as with the 5U1 body, as well as tool box, chain lockers and Jerrican carriers.

The spare tire carrier is housed and carried in the right front corner of the substructure.

3 TON G.S. - STEEL - BOLTED BODY - WITH 54" WHEEL HOUSE

Function:

This vehicle is used as a General Service Load Carrier, for the transport of stores and supplies over both highway and cross-country.

Dimensions:

Overall length of vehicle.....	243"
" width " "	91"
" height of "	120"
Inside length of body.....	143-3/4"
" width " "	80"
" height " "	30"

Weights:

Curb weight of vehicle	9850 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle 17050	lbs.
Maximum allowable weight.....16000	lbs.

Chassis:

The chassis for this vehicle is a 3 ton C.M.P., 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 20 tires.

NOTE: The reader is referred to pages 16 & 17 of this volume, describing development of lighter bodies. These lighter bodies are such that gross vehicle weight practically equals the maximum allowable.

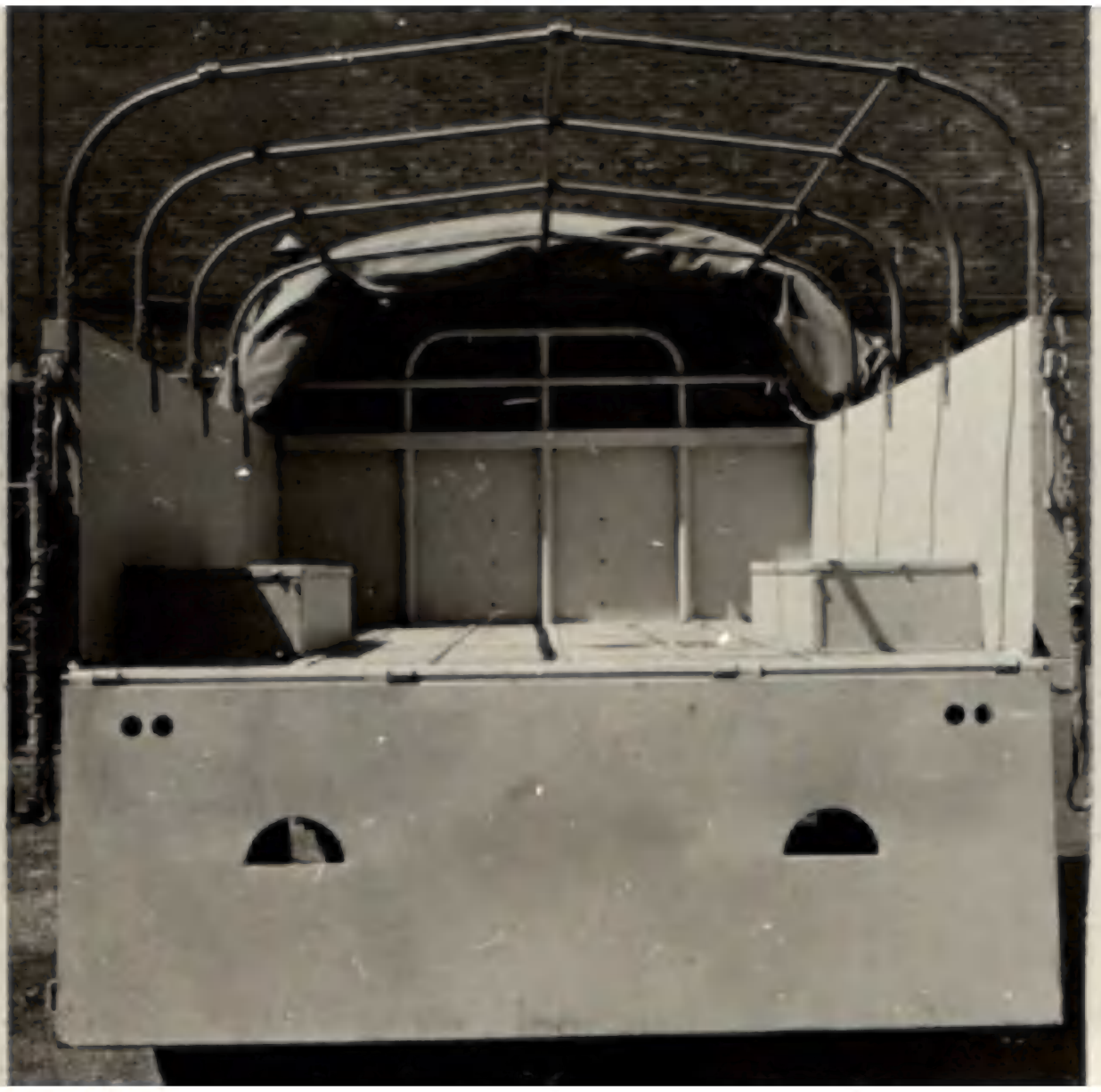
References:

D.M. & S. Schedule of Drawings...	S-35024
D.M. & S. File No. 73-B-26-1	
A.E.D.B. Photo File No.	E-12
Vehicle Code No. 60448-M-G.S-6	
Body Code No.....	5W1
Pilot Model Approval No.	P 108
Experimental Engineering Report E-297, 508	
Maintenance Manual..... MB-F1 & C2	
Sources: Chassis - Ford and General Motors	
Body - S. B. M. A.	

Description of Body:

The body for this vehicle is a 12 ft. all steel C.K.D., bolted, gussetted construction with 54" wheelhouses, as described in detail on Page 14 of this volume. The body is mounted with 14" overhang on the 158" W.B. short frame, and flush with the rear of the chassis on the long frame.

Standard iron pipe superstructure and wrap-around tarpaulin are provided, together with pipe grille and splash plates. Jarrican carriers are suspended from the substructure at the front corners of the body, with tool boxes immediately behind. The spare tire is mounted between the cab and the body.



3 TON G.S. - STEEL - BOLTED BODY - WITH 54" WHEEL HOUSE - APT.

Function:

This vehicle is used as a General Service Load Carrier over highway and cross-country. The body is designed in two (2) main sections - split transversely - so that it can be carried in a Dakota C47 aircraft.

Dimensions:

All dimensions of the vehicle and body are the same as 3 ton G.S. bolted steel - 5W1 body - described on Page 45 of this volume.

Weights:

Curb weight of vehicle	9900 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	17100 lbs.
Maximum allowable weight	16000 lbs.

Chassis:

The chassis for this vehicle is a 3 ton C.M.P., 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 20 tires.

See page 35 of Vol. IV for airportable features.

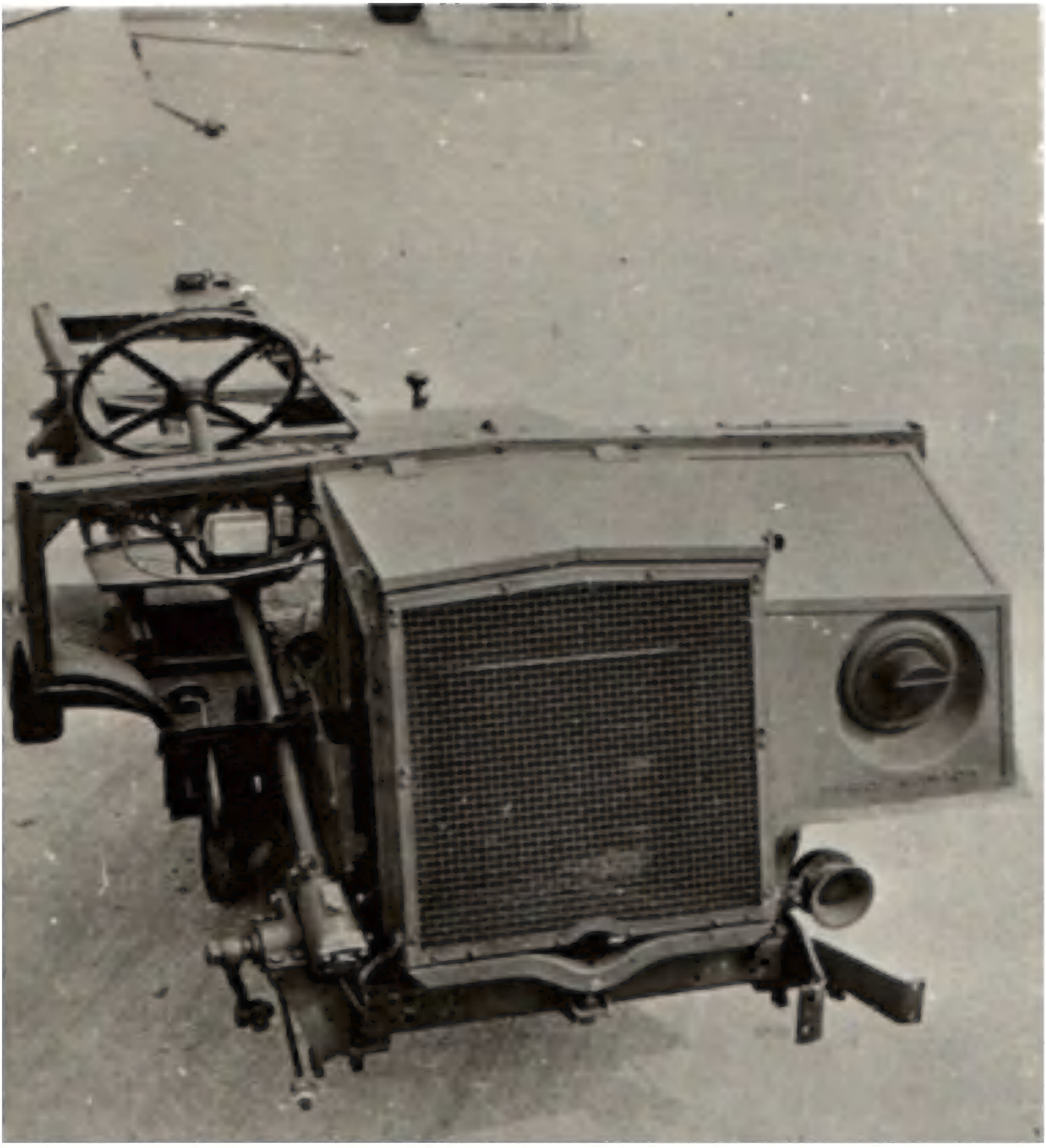
References:

D.M. & S. Schedule of Drawings.	S-344000
D.M. & S. File No.	73-V-44
A.E.D.B. Photo File No.	E-23 D
Vehicle Code No.	60448-M-G.S-6
Body Code No.	5W1A
Pilot Model Approval No.	F-259
Experimental Engineering Report	E-545
Maintenance Manual No.	MB-F1 & C2
Sources: Chassis	Ford & General Motors
Body	S. B. M. A.

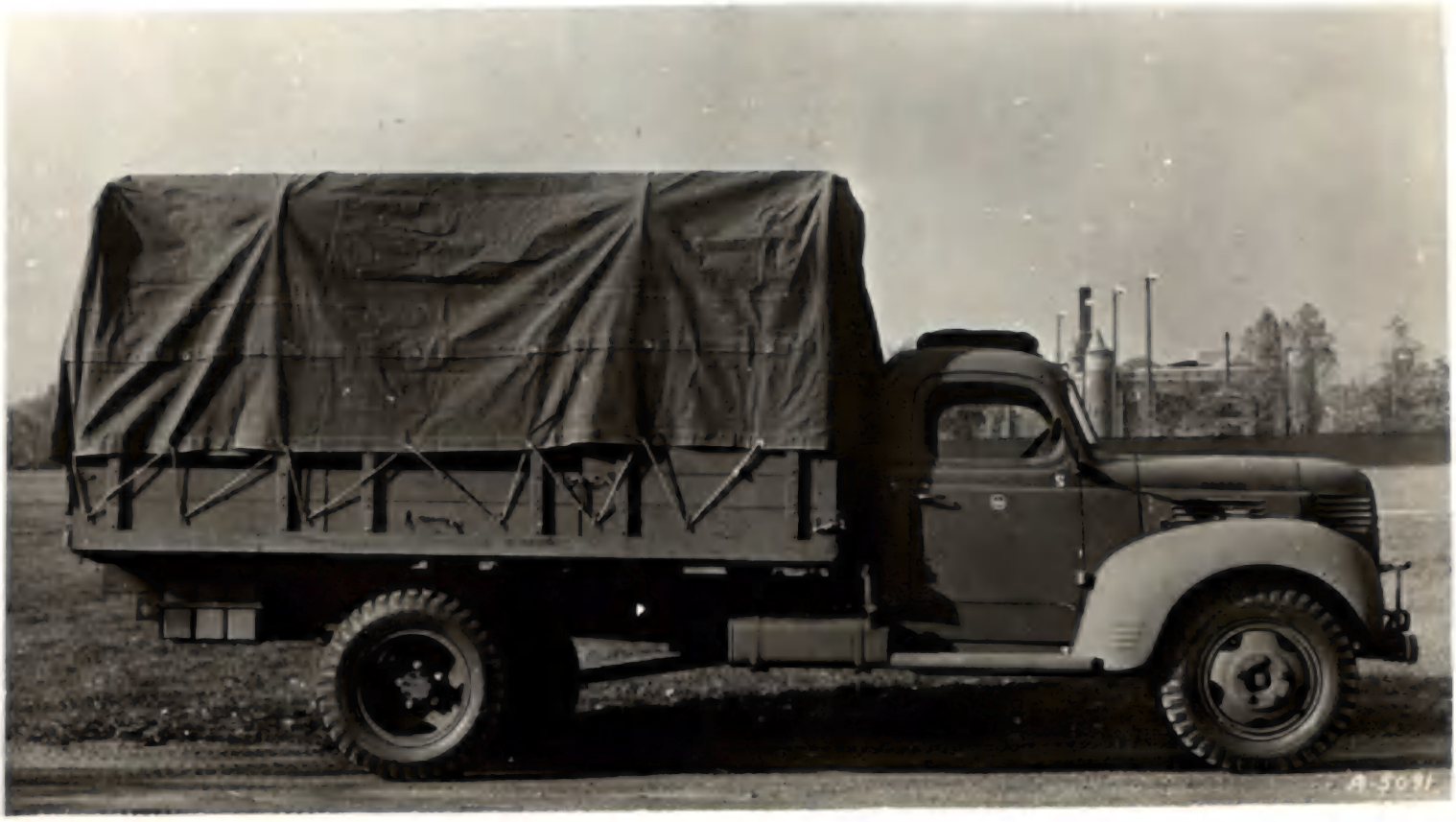
Description of Body:

The body of this vehicle is the 5W1 body - see Page 45 of this volume - modified for Airportability in that it is split transversely at the first cross sill forward of the wheelhouses, and as described in detail on Page 15 of this volume.

Standard iron pipe superstructure and wrap-around tarpaulin, together with pipe grille are provided as well as tool boxes and Jerrican carriers. The spare tire is mounted between the cab and the body.



3 TON STAKE - WITH 12' OPEN RACKS



Function:

This vehicle is used as a General Purpose Load Carrier for light stores or supplies over highway only.

Dimensions:

Overall length of vehicle	251-1/2"
" width " "	90"
" height " "	108-1/4"
Inside length of body	144-3/8"
" width " "	78-3/4"
" height " "	36"

Weights:

Curb weight of vehicle	6,835 lbs.
Payload	7,120 lbs.
Gross weight of vehicle	13,955 lbs.
Maximum allowable weight	14,000 lbs.

Chassis:

The chassis for this vehicle is a 3 ton Dodge Modified Conventional 4 x 2 - 160" W.B. - Code 60420-C - equipped with 7.50 x 20 tires.

References:

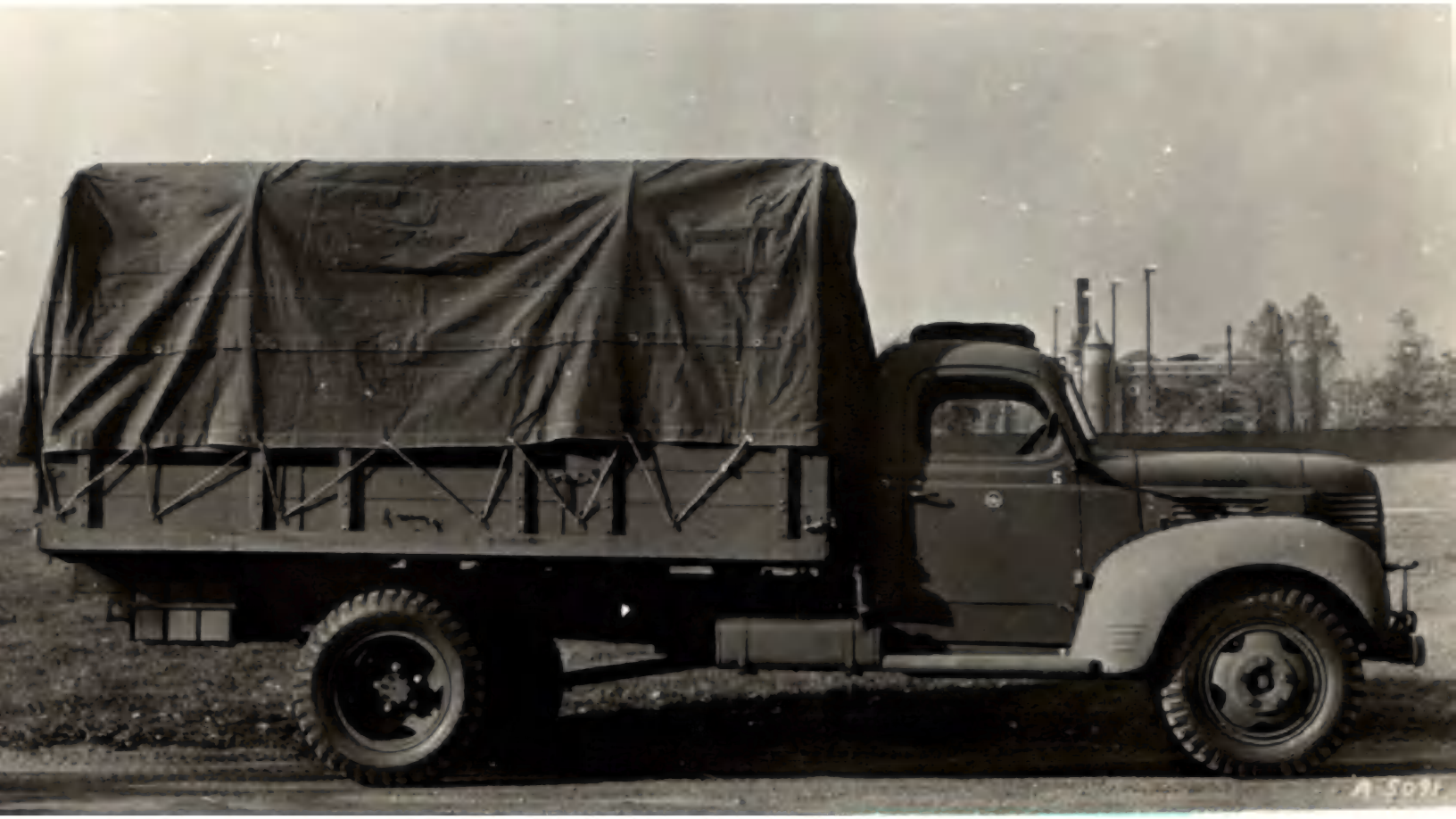
D.M. & S. Schedule of Drawings	S-33600
D.M. & S. File No.	73-B-30
A.E.D.B. Photo File No.	E-6
Vehicle Code No.	60420-C-LOAD-1
Body Code No.	5X1
Pilot Model Approval No.	Nil
Maintenance Manual No.	WM-3699

Sources: Chassis - Chrysler (Dodge).
Body - S. B.M. A.

Description of Body:

The body of this vehicle is a standard commercial stake, platform and open rack body as described in detail on Page 24 of this volume.

Standard iron pipe superstructure and wrap-around tarpaulin are provided. Jerrican carriers are suspended from the right front of the substructure, while a toolbox is suspended from the left front of the substructure. The spare tire is carried beneath the chassis at the rear of the vehicle.



3 TON STAKE WITH 14' OPEN RACKS

Function:

This vehicle was used as a General Purpose Load Carrier for stores and supplies, over highway only.

Dimensions:

Overall length of vehicle....	285"
" width " "	85-1/2"
" height " "	124-3/4"
Inside length of body.....	168"
" width " "	79-1/2"
" height " "	36"

Weights:

Curb weight of vehicle.....	7,995 lbs.
Payload.....	6,720 lbs.
Gross weight of vehicle....	14,715 lbs.
Maximum Allowable weight...	14,000 lbs.

Chassis:

The chassis of this vehicle is a 3 ton Dodge Modified Conventional 4 x 2 - 178" W.B., equipped with 7.50 x 20 - 10 ply tires (duals).

References:

D.M. & S. Schedule of Drawings...	S-30700
D.M. & S. File No.	73-B-30
A.E.D.B. Photo File No.	E-6
Vehicle Code No.	60428-C-LOAD-3
Body Code No.	5Y1
Pilot Model Approval No.	N11
Maintenance Manual No.	WM-3699

Sources: Chassis - Chrysler Corporation.
Body - S. B. M. A.

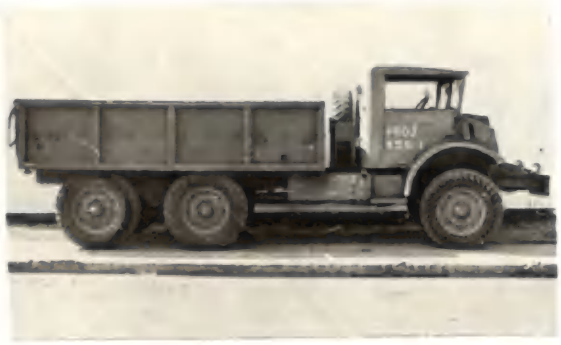
Description of Body:

The body for this vehicle is a 14 ft. flat floor Stake and Rack body with solid and semi-open racks (four racks to each side), as described in detail on Page 24 of this volume.

A tool box is mounted beneath the left front of the body, with a one gallon oil can bolted to the rear panel of the tool box. Two (2) Jerrican carriers are mounted beneath the right front of the body.

Superstructure and wrap-around tarpaulin are provided, and the spare tire is carried beneath the chassis frame at the rear.

3 TON 6 x 6 G.S. - STEEL BODY - TRANSVERSE SPLIT - APT



Underside of substructure - Body split at "arrow".

Function:

This vehicle is used as a General Service Load Carrier, over highway and cross-country, the body being split transversely at the fifth cross sill from the rear so that it can be loaded in a Dakota C47 aircraft, for air-portability.

Dimensions:

Overall length of vehicle	257-1/2"
" width " "	88"
" height " "	113"
Inside length of body	144"
" width " "	80"
" height " "	30"

Weights:

Curb weight of vehicle	13290 lbs.
Driver and mate	480 lbs.
Payload	6720 lbs.
Gross weight of vehicle	20490 lbs.
Maximum allowable weight	21000 lbs.

References:

D.M. & S. Schedule of Drawings..	S-345700
D.M. & S. File No.	73-B-26-7
A.E.D.B. Photo File No.	E-14
Vehicle Code No.	Nil
Body Code No.	6F2A
Pilot Model Approval No.	Nil
V.P.E. Test Report No.	E-621

Sources: Chassis - General Motors
Body - Cusson Freres

NOTE: This vehicle reached pilot stage only. Hostilities ceased before further action was taken.

Chassis:

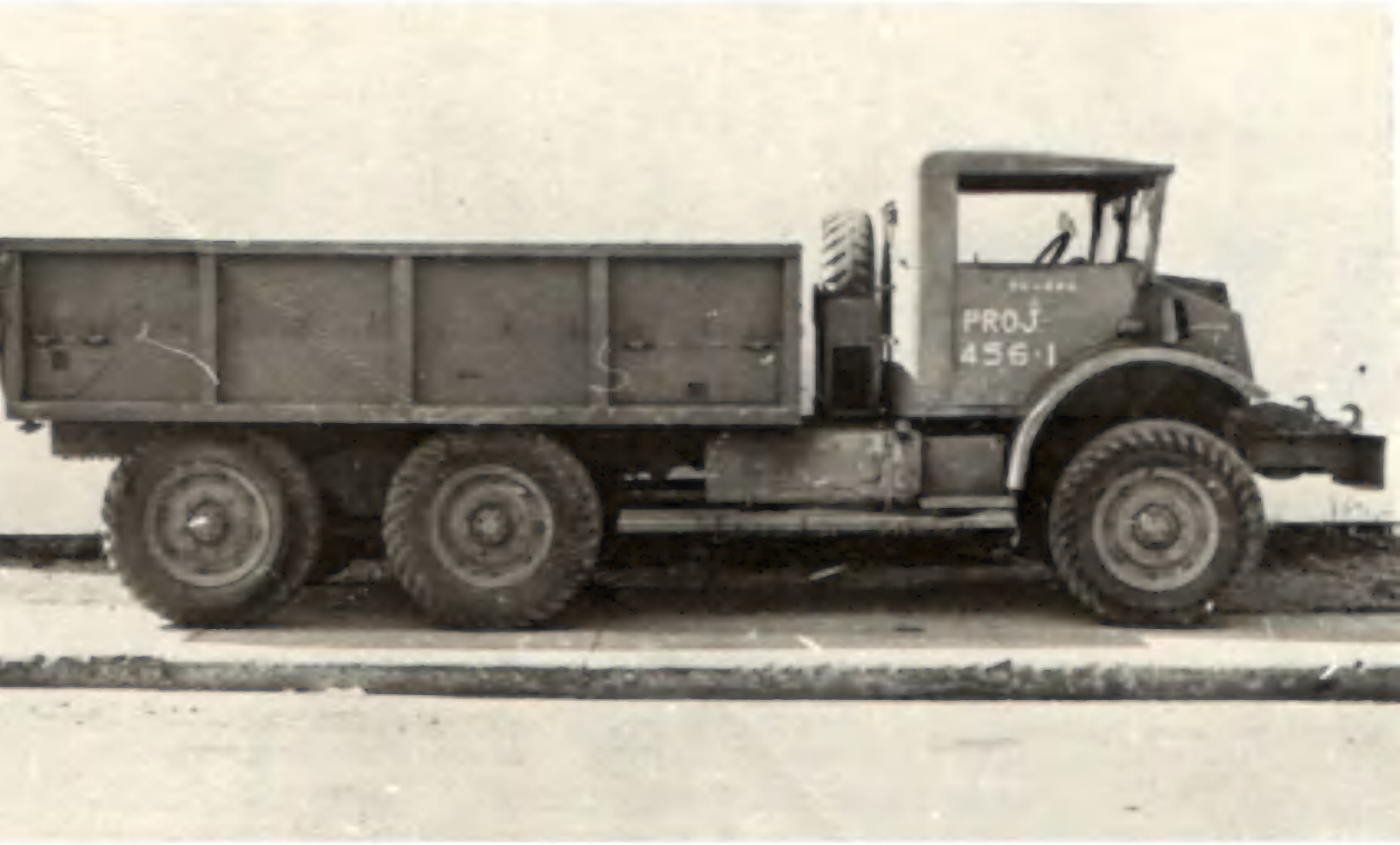
The chassis of this vehicle is a G.M. 3 Ton C.M.P. 6 x 6 - 150" W.B. - with Chrysler 323.5 cu.in engine and transmission - and equipped with 10.50 x 20 tires.

Description of Body:

The body of this vehicle is a 12 ft. light weight steel, G.S. gussetted construction, with full length wheel-houses, the body being split transversely at the fifth cross sill from the rear.

The substructure consists of eleven (11) cross sills of 14 ga. H.R.B.A. formed steel channels, the fifth and sixth cross sills being back to back, and dimpled - male and female - where the body is split. These two cross sills are bolted together when the body is assembled. The floor plate is of 16 ga. H.R.B.A. steel sheet with wear strips embossed into the plate. The side panels and front panels are of 18 ga. H.R.B.A. steel and are stiffened by means of box-like gussets. Steel insert channels are provided at the break in the rub rail of the side panels, which also act as stiffeners. The side panels and wheelhouses are bolted together, and to the substructure. The forward ends of the wheelhouses are divided into tool lockers and the rear ends into Jerrican carriers, doors being set in the side panels for entry to the lockers. The tailgate is of 18 ga. H.R.B.A. steel and is corrugated to give added strength.

A standard iron pipe superstructure and wrap-around tarpaulin, and pipe grille also are provided.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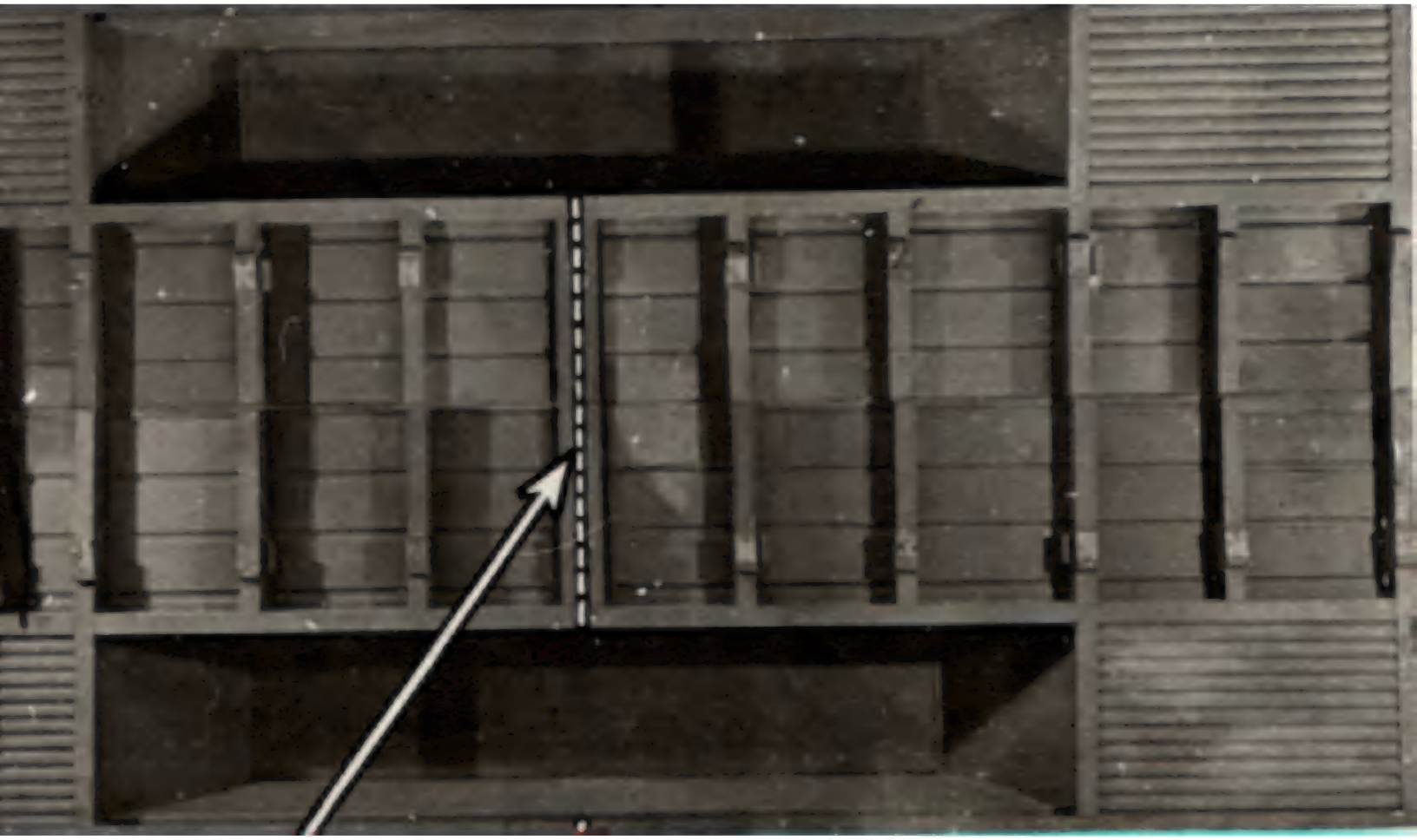


DUMP LORRIES

DUMP LORRIES

STANDARD TYPE DUMPS:

These Lorries are provided in two capacities:

2-1/2 to 3 cu. yd. - with 7 ft. body
3 to 3-1/2 " " - " 9 ft. body

Both bodies were designed to mount on chassis of 3-ton capacity, and were limited to a maximum load of 6000 lbs.

The first of the smaller models, classified in the body code as 4F series, was built by four different contractors to their own former commercial standards and design, due to the lack of drawings at that time. Consequently, the component parts were not interchangeable between different contractors, and a difficult service problem resulted. These bodies - hoist included - were known as 4F1.

In order to simplify the service problem, therefore, a standard design was established and produced. This body, known as the "Universal" dump, carried body code 4F2, and superseded the 4F1.

The larger type, known as the 4C series, was first produced by one contractor only, and was called the 4C1.

This body has since been redesigned to standardize as many parts as possible with the 4F2 body, and the second design carries body code 4C2, superseding the 4C1.

Further variations of this body are:-

The 4F3 - which is identical to the 4F2, but with superstructure and tarpaulin added.

The 4F4 - which is a 4F2 body modified to mount on a Ford chassis rather than a Dodge.

All models are all steel bodies, of the end tipping type, with lever controlled double acting tailgates. It will be noted that 4C2 bodies are designed with a square corner between the sides and floor. This was requested by, and provided for, Engineering units who wished to place gasoline cans, or something similar, in the body to form seats for carrying personnel.

* * * *

G.S. TYPE MODIFIED FOR DUMP:

A requirement was raised by D.N.D. for 14 G.S. type 12-ft. bodies, modified into Dump bodies, to be used in a Garbage Collection role.

An all steel body - S.W. - was used for the basic design, with a hinged baffle plate running laterally across the centre of the body, dividing the body into two (2) compartments.

It was proposed that ashes would be loaded in the front compartment, with light garbage in the rear compartment. In this manner, the garbage could be dumped in the regular manner, while the ashes would be spread over roads.

The design was adequate, and a lorry was sent to each of fourteen Canadian military camps across Canada. This body was known as the 5W6.

* * * *

USERS' COMMENTS

Judging from the comments made by the users, in comparison to the number of bodies produced, it is felt that both 4F2 and 4C2 designs have proven themselves more than satisfactory.

The most outstanding component of the entire design, from a point of criticism, would appear to be the pump drive shaft on the 4F series.

With the 4F1 body, three of the four contractors mentioned provided a shaft with two universal joints, while one of the four provided a three joint shaft. Experience proved that the two joint shaft did not provide sufficient flexibility, and resulted in a considerable number of breakages. Hence, in designing the 4F2 body, a three joint shaft was used, substantiated by a more adequate steady bearing.

The universal joints themselves attracted considerable criticism. Since numerous breakages were apparent, it was the general consensus of opinion that the joints were not substantial enough to carry the load. Investigation revealed that a number of joints had been produced and supplied by the contractor with a trunnion block of grey iron. This was immediately changed to a steel forging.

Further difficulties were encountered due to the lack of assembling instructions, when shafts were being installed backwards and sliding joints reversed, resulting in shafts falling out of place.

A number of cases where 4F2 bodies have failed to lower without some assistance were brought to our attention. This was rectified by the provision of a more generous clearance between piston and cylinder and the addition of a return spring.

To date, no complaints have been received on the larger or 4C series Dump body.

9 FT. UNIVERSAL DUMP LORRY

Function

To carry aggregate and dump it where required.

Dimensions

Overall length of vehicle.....214"
" width " " ..... 85"
" height " " .....119"

Inside length of body .....114"
" width " " ..... 72"
" height of body to underside of superstructure. 58-1/2"

Capacity.....3 to 3-1/2 cu. yds.

Weights

Curb weight of vehicle.....	9850 lbs.
Payload	6485 lbs.
Gross weight of vehicle ...	16335 lbs.

References

D.M.& S. Specification No....	O.A. 262
D.M.& S. Drawing Schedule ...	S 39416
D.M.& S. File No.	73-V-6-2
A.E.D.B. Photographic File ..	E-13
Body Code	4C2
Pilot Model Approval	220 F
Maintenance Manual No.	SB 24
Experimental Engineering Test Reports	E 357
	E 358
	E 361
	E 407
	E 437

Sources:-
Chassis - General Motors Corp.
Body - W.D. Beath & Sons Ltd..

Chassis

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

Description of Body

All steel, end tipping type, arc welded throughout. Substructure constructed of steel channel, with steel floor. Sides are straight with square corners at bottom.

Tailgate is the double-acting type, lever controlled from right side, and is equipped with a non-clogging latch. Combined spreader and drop chains are provided for the tailgate.

A tool box 24 x 20 x 15 is mounted on each side of the chassis frame side rain.

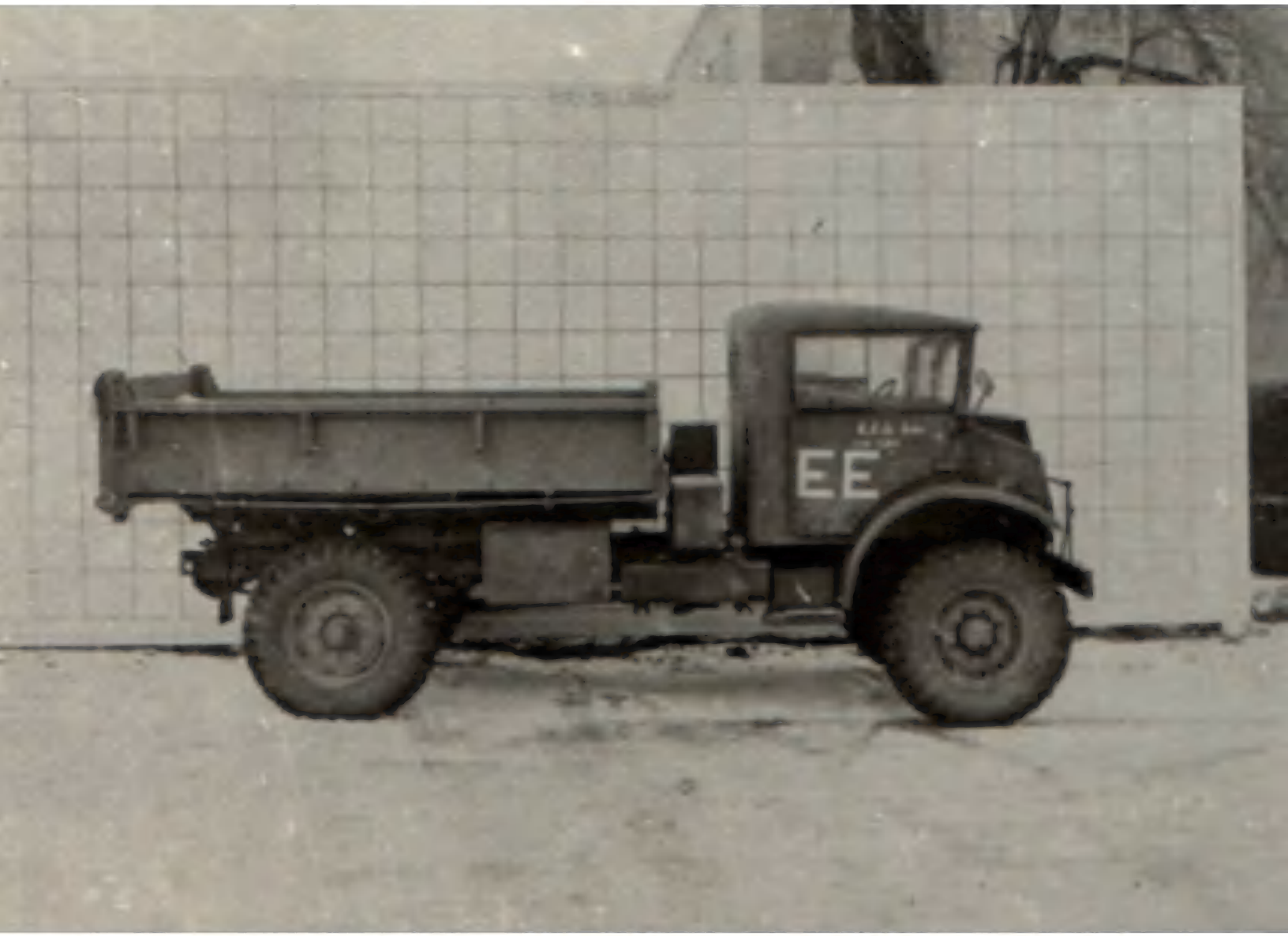
Spare wheel is carried in carrier between cab and body.

Superstructure and tarpaulin are provided.

Description of Hoist

The hydraulic hoist consists of a cylinder, the forward end of which is mounted to a cross member which is free to oscillate in trunnions in the side members of the hoist frame. This cylinder contains the piston and piston rod. The latter, protruding from the rear end of the cylinder, is equipped with a cross head on which is mounted a lifting arm and a roller on each side. The lifting arms are mounted at the rear, approximately six inches forward of the body hinges The rollers operate in cams which are mounted on the underside of the body.

A gear type pump, which is driven by the vehicle transfer case through a drive shaft, provides the hydraulic pressure. A universal joint is provided at each end of the shaft. The universal joint at the pump end has a sliding feature to compensate for the length differences occurring as the body is raised and lowered. The pump is controlled by a valve operated from a lever in the vehicle cab, through a bell crank and connecting rods. This control lever has three positions, "raising" and "lowering" at the extreme positions, and "holding" position mid-way between these two. Attached to the same mounting bracket as the control lever is the power take-off lever, which has two positions, "engaged" and "disengaged".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7 FT. DUMP LORRY

Function

To carry aggregate and dump it where required.

Dimensions

Overall length of vehicle			205"
" width "	"		85"
" height "	"		84"
Inside length of body			84"
" width "	"		72"
" height "	"		19-1/4"
Capacity			2-1/2 to 3 cu. yds.

Weights

Curb weight of vehicle	7640 lbs.
Payload	6380 lbs.
Gross weight of vehicle	14020 lbs.

References

D.M.& S. Specification No.	O.A. 263
D.M.& S. Drawing Schedule	S 36160
A.E.D.B. Photographic File	E-13
D.M.& S. File No.	73-V-6-1
Body Code No	4F2
Pilot Model Approval No.	146F
Maintenance Manual	SB-9
Experimental Engineering Report	165

Sources:-
Steel Body Manufacturers' Assoc..

Chassis

The body and hoist is designed for mounting on a 3-ton 4 x 2 Conventional 136" or 134" W.B. right hand drive chassis model - D-60-S, with 7.50x20 tires, dual rears.

Description of Body

All steel, end tipping type, arc welded throughout. Sub-frame constructed of steel channel with steel floor. Sides are straight and radiused at the bottom.

Description of Body (Cont'd.)

Tailgate is the double acting type, lever controlled from right side, and is equipped with a non-clogging latch.

Combined spreader and drop chains are provided for the tailgate.

A tool box 20 x 12 x 10 is mounted on the left hand chassis frame side rail.

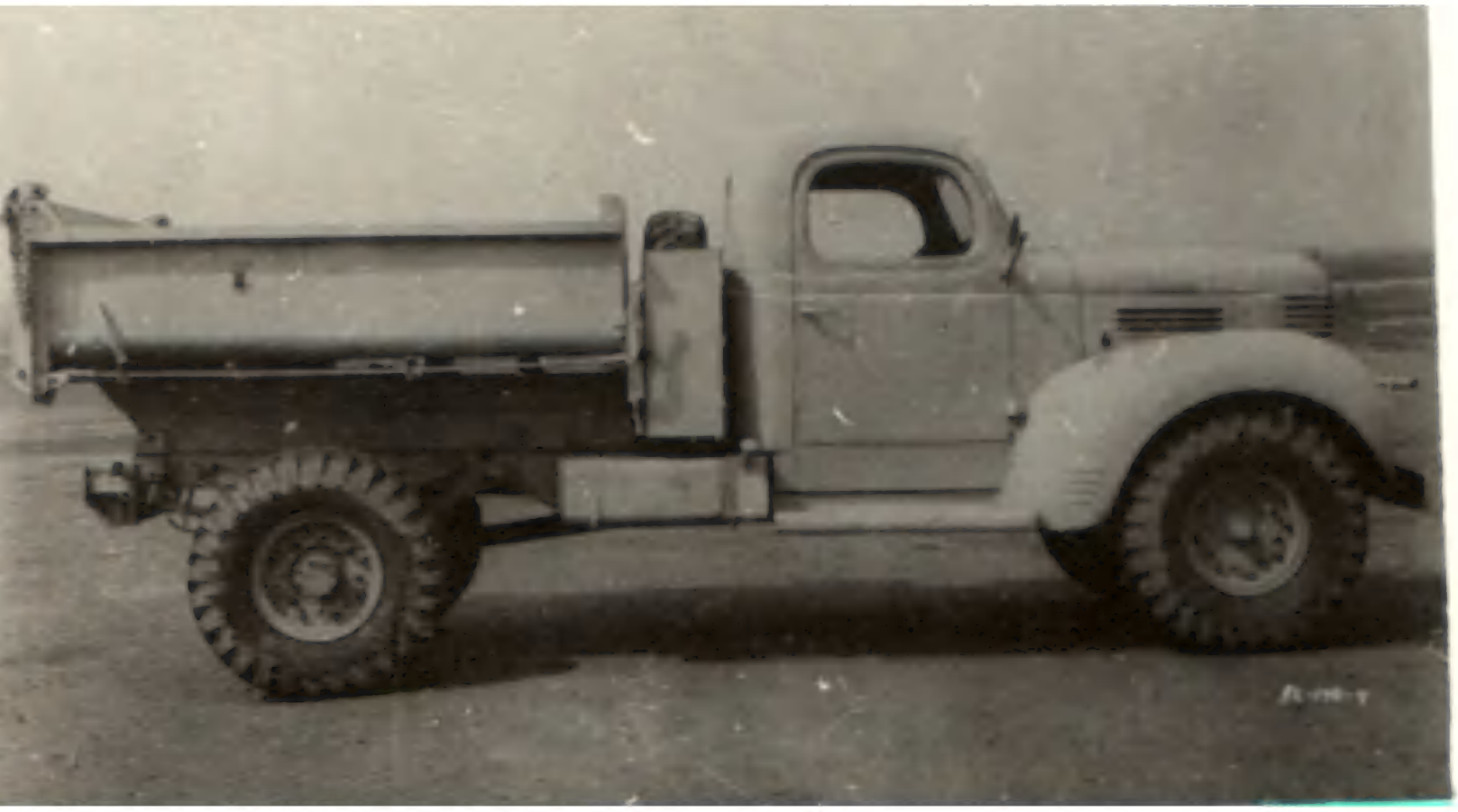
Spare wheel is carried in carrier between cab and body.

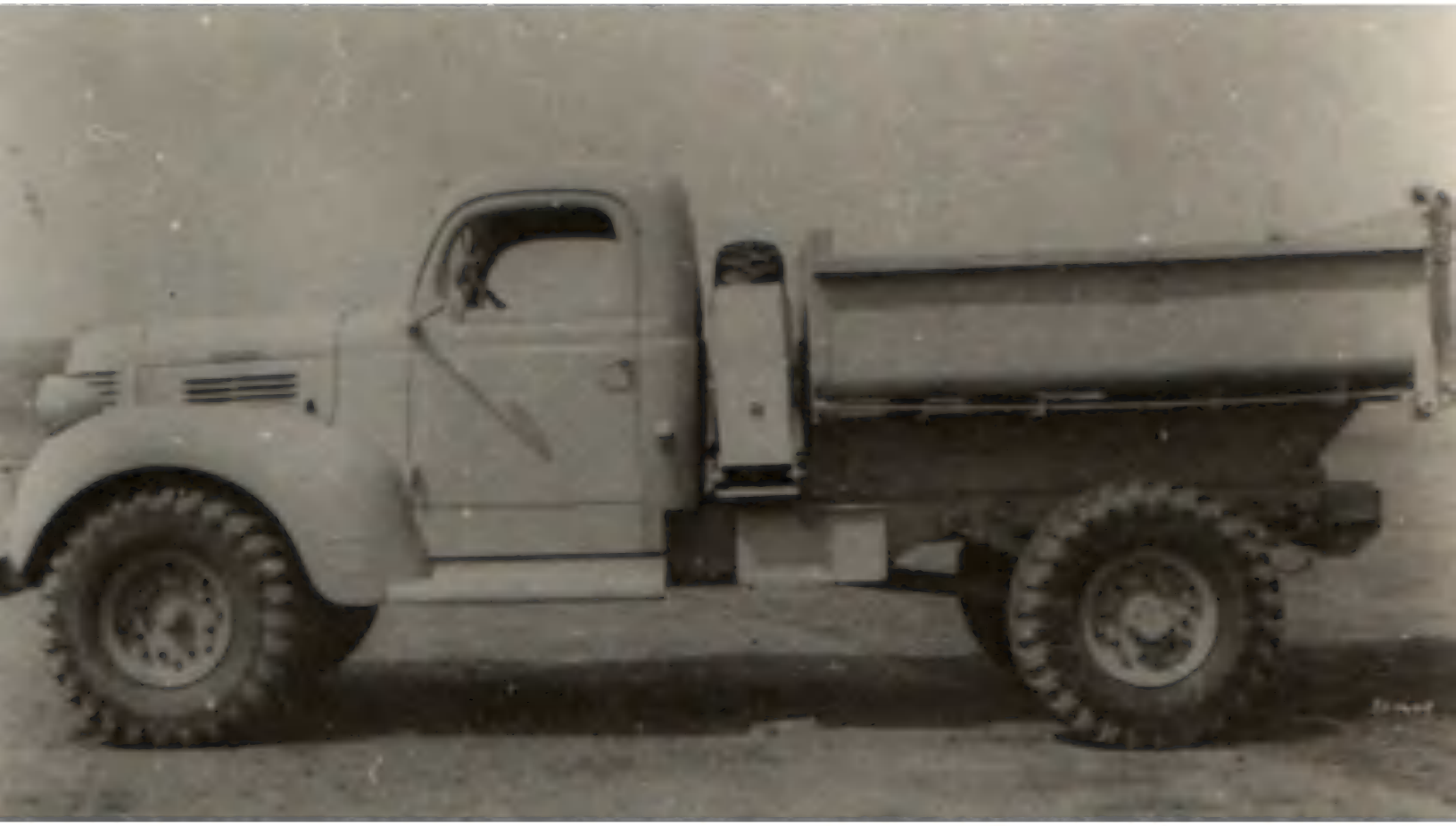
Spare fuel, oil and water are carried between cab and body.

Description of Hoist

The hydraulic hoist consists of a cylinder, the forward end of which is mounted to a cross member which is free to oscillate in trunnions in the side members of the hoist frame. This cylinder contains a piston and piston rod. The latter, protruding from the rear end of the cylinder, is equipped with a cross head which is fastened to the sub-frame of the body. A gear type pump, driven from the power take-off through a universally jointed shaft, provides the hydraulic pressure in the cylinder. The pump is controlled by a valve lever on the pump which is connected through rods and a bell crank to the hand lever in the cab of the vehicle. The control lever has three positions, - "raise", "hold", and "lower".

The control lever is mounted to the same bracket as the power take-off control, which has two positions only - engaged and disengaged.





12 FT. - G.S. TYPE DUMP LORRY

Function

This vehicle is a converted General Service vehicle, modified as a Dump Lorry in the role of Garbage Lorry, for Canadian Military Camps in Canada.

Dimensions

Overall length of vehicle.....	244"
" width " "	90"
" height from ground to top of body	78-1/2"
Inside length of body.....	144'
" width " "	80"
" height " "	30"

Weights

Curb weight of vehicle	11050 lbs.
Payload	4000 lbs.
Gross weight of vehicle	15050 lbs.
Maximum allowable weight	16000 lbs.

References:

D.M.& S. Schedule of Drawings.....	S 344690
D.M.& S. File No.	73-V-6-3
A.E.D.B. Photograph File No.	E 13
Vehicle Code No.	Nil
Body Code No.	5-W-6
Pilot Model Approval No.	Nil
Maintenance Manual No.	MB-C2

Source:- Chassis - General Motors Corp.
Body - Cusson Bros. Ltd.

Chassis

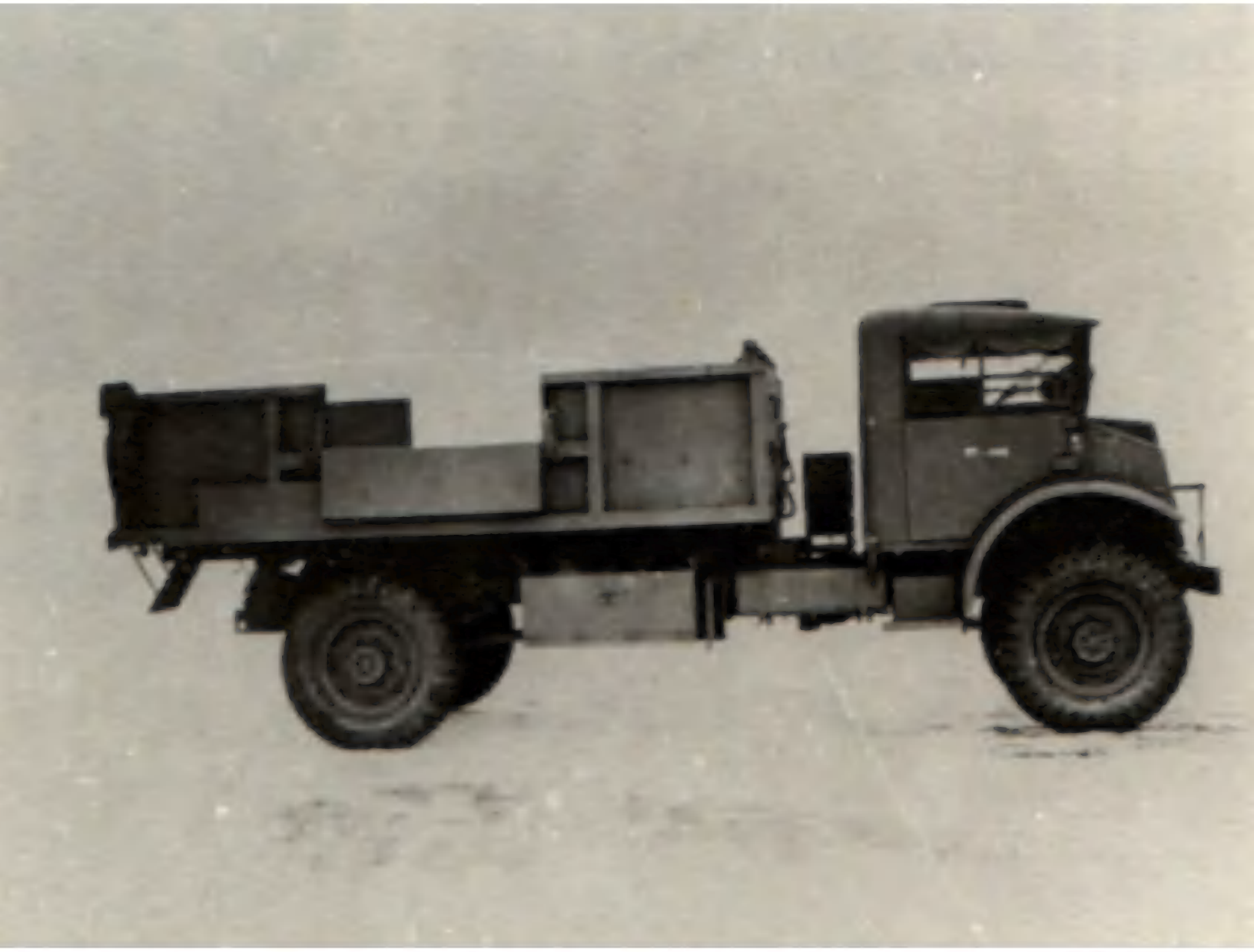
The chassis for this vehicle is a 3-ton, C.M.P., 4 x 4 - 158" W.B. - Code C60L - equipped with 10.50 x 20 tires, and Power-Take-Off.

Description of Body

The basic body is a 12-ft. all steel General Service Body - Code 5-W. The longitudinal sills were changed from 10 ga. formed channel, to rolled structural channel. The depth of the substructure was increased to 13" minimum, and the wheelhouses eliminated, thus giving a flat floor, of steel.

The tailgate was changed so that it hinged at the top, and a hinged panel was installed at the centre of each side panel, designed to hinge outward and drop down. A baffle plate 15" x 8", running laterally, the width of the body, was installed at the centre line of the body, 72" from the front. The baffle plate was hinged at the top with a locking device at the bottom to hold in position when required. A flat tarpaulin, 82" wide, mounted on a roller, over the front panel, was installed. A crank handle to wind up the cover was provided. A power-take-off, together with Gar Wood hydraulic hoist and frame, also was provided.

PERSONNEL CARRYING LORRIES



PERSONNEL CARRYING VEHICLES

Vehicles for the movement of troops were divided generally into two (2) classes:-

(a) the adaptation of General Service lorries to a personnel carrying role, these being the 8 cwt., 15., and 3-ton G.S. bodies, and

(b) vehicles designed for the particular purpose of transporting troops, these being the 15 ft. Personnel Carrier and the 190" Troop Carrying Vehicles, (T.C.V.), which were mounted on 6 x 4 and 6 x 6 chassis.

In addition, the Heavy Utility vehicle which was designed as a covered General Service vehicle, was, among other roles, adapted to the purpose of carrying personnel.

It might be added that, generally speaking, the General Service adaptations and the Heavy Utility Personnel were used both at home and in theatres of War, while the specially designed Troop Carrying Vehicles were used for the most part, in Canada.

★ ★ ★ ★

The first adaptation to a G.S. vehicle was the 8 cwt. van type lorry; folding D.N.D. seats being bolted to the floor of the body. This was the 1A1 body. When wheel houses were incorporated into the body, cushions were laid on top of the wheelhouses, and the folding seats eliminated. In this manner, the personnel carrying capacity of the vehicle was increased. This was the 1B1 body.

★ ★ ★ ★

The Heavy Utility Personnel carrier was produced by General Motors of Canada Limited. The vehicle had a wheelbase of 101" and was equipped with run flat tires. The cab and body were one structure, a canvas curtain dividing the driver's compartment from the body proper. The passengers' section had two side doors, one at each left and right side, with an emergency door in the rear. A cushioned three-quarter length seat was placed laterally in the body between the two side doors while two (2) D.N.D. type folding seats were installed at the back of the body, all the seats facing forward. Luggage racks and rifle clips also were installed in the body, while the roof was equipped with a sliding panel for observation. This was the 1C1. When run flat tires were changed to pneumatics and it became necessary to carry a spare tire, the right side door was eliminated and a recess cut into the right side panel to carry the fifth tire. This was the 1 C 7 body. A further modification - 1 C 11 - Heavy Utility Staff Car, was later made to this vehicle to provide a Commander's personal vehicle, complete with facilities for necessary limited office work which would be carried out by a Staff Officer.

This vehicle was designed for rugged performance. Smooth riding and comfort therefore, were subordinated to ability to "take it". As a result strong criticism was received, especially when it was allotted for use as a staff vehicle. In consequence a new design was created - see Heavy Utility Staff Car on page 58.

However, an extract from Vehicle Review No. 13, dated February 1945, issued by Canadian Military Headquarters, is of interest:

"User comments on the HU Personnel vehicle in Italy and NWE recommend the retention of this vehicle in service until some completely new design is developed.

"This vehicle has proved satisfactory for use as an office lorry. They can be effectively blacked-out and are suitable for long winter trips. Jeeps are recommended for short trips and reconnaissance.

"HU Personnels can be used as ambulances although the ride is rough. Their cross-country performance is good; equal to any other wheeled vehicle. They hold the road well under snow and icy conditions."

★ ★ ★ ★

When the 15-cwt. General Service lorries - Body Code 2 C, 2 H and 2 J - became increasingly available, each in turn was adapted to a personnel carrying role by the addition of readily removable seats. These consisted of, in brief, two (2) D.N.D. type folding seats, in an assembly, bolted over each wheelhouse, with two (2) single D.N.D. type folding seats bolted to the floor at the rear of the body, thus seating six (6) personnel in the body of the vehicle. The forward part of the body was used for carrying the men's kits.

★ ★ ★ ★

The 3-ton General Service vehicles, with their 12-ft. bodies, were very adaptable to a troop carrying role. The conventional 4 x 2 vehicle, with flat floor bodies - Code 5 E, 5 R and 5 U - as well as the C.M.P. type 4 x 4 vehicles with wheelhouse bodies - Codes 5 P, 5 P and 5 W - were converted in the same manner. A full length, bench type seat, with back rest, suspended from the upper rail of each side panel, was installed in the body. A full length centre seat, bolted to the floor and, at the front end, to the front body panel, also was provided, while the same seating arrangements were provided for the 5 Q and 5 V series bodies which had a wheelhouse 4" in depth and were mounted on 3-ton chassis. In all, 24 men could be transported comfortably in the 12-ft. body adaptation.

All 3-ton, 12 ft. bodies adapted to personnel carrying role carried the symbol "5"; e.g., 5E5, 5P5, 5P5, 5U5, 5V5, etc., and they proved to be adequate and satisfactory in the field.

★ ★ ★ ★

Three vehicles were designed particularly as troop carriers. The first vehicle, of which only 33 units were produced, consisted of a 15-ft. Platform and rack type body - Code 5 Z 1 - mounted on a Dodge Conventional 2-ton, 190" W.B. chassis, with dual rear wheels. Twenty (20) D.N.D. type folding seats were installed in the body, with steel boxes beneath the seat frames, where kits or other dunnage could be stowed. Entry to the body was gained through a rear door, with sliding steps which were housed in the substructure. Two heaters also were provided, with air ducts down each side of the body.

★ ★ ★ ★

Two types of extra long troop carrying vehicles also were produced, these being the 190" bodies - Codes 6 Z 1 and 6 Z 2 - which were mounted on Ford 6 x 4 chassis and General Motors 6 x 6 chassis. The bodies were identical except that it was necessary to provide a wheelhouse with those bodies which were mounted on the 6 x 6 chassis.

PERSONNEL CARRYING VEHICLES (CONTINUED)

The bodies consisted of platforms with side racks, with entrances at both the left and right sides, at the front. A third entrance was provided at the rear of the body. Each entrance had a ladder, the side ladders being fixed, while the rear ladder was of the sliding type, being stowed in the substructure when not in use. Standard iron pipe superstructures with fixed light fixtures, together with tarpaulins, completed the picture.

Inside the bodies were benches running down each side, across the front and longitudinally down the centre of the body, the complete arrangement seating thirty (30) men comfortably, complete with packs and kits. Two (2) hot water heaters were installed in the front of each body and provided adequate heat.

These vehicles were used chiefly in Canada for transporting troops to and from Camps, and proved to be completely satisfactory.

* * * *

For emergency work and quick delivery, particularly in Canada, a number of standard passenger vehicles also were used, chief of which were station wagons and sedans. The bodies of these vehicles were of standard commercial design and no modifications were found necessary.

Users' Comments

From reports received from the field, it is apparent that the troop carrying vehicles stood up well to the demands which were made on them. No requests for changes or modifications in design due to failures were received, while reports on riding qualities of the different vehicles have been most favourable, except as noted under Heavy Utility Personnel, in previous paragraphs of this report.

Function

The purpose of this vehicle is to transport a limited number of personnel over highway or cross-country. At the same time, it is readily adaptable for almost any purpose where a personnel utility vehicle is desired.

Dimensions

Overall length of vehicle	163"
" width " "	73"
" height " "	90"
Inside length of body proper ...	88"
" width " " " ...	64"
" height " " " ...	53"

Weights

Curb weight of vehicle	6330 lbs.
Weight of six (6) personnel, including driver @ 240 lbs. each	1440 lbs.
Gross weight of vehicle	7770 lbs.
Maximum allowable weight ...	7500 lbs.

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.....	C8A-PERS-2
Body Code No.	1-C-7
Pilot Model Approval No.	Nil
Maintenance Manual No.	MB-C2
Source:- Chassis & Body -	General Motors of Canada.

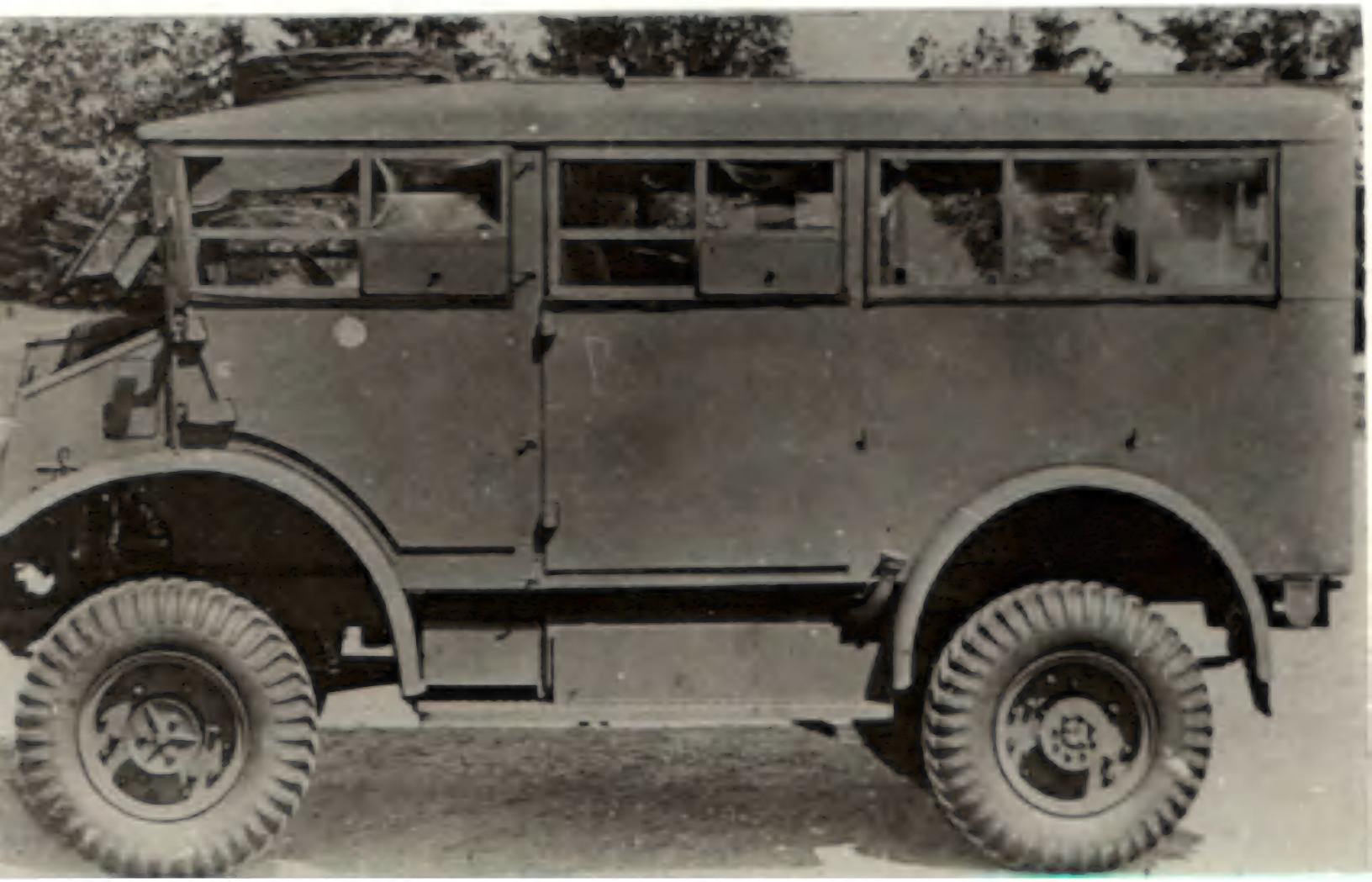
Chassis

The chassis for this vehicle is a C.M.P., H.U., 4 x 4 - 101" W.B. - Code 8A - equipped with 9.25 x 16 tires.

Description of Body

The body for this vehicle is an all steel, all welded, bus type body. Two (2) doors are located on the left side of the vehicle, one on the right side and one at the rear. The driver's compartment has a hip ring type roof hatch over the mate's seat, and the passenger compartment is fitted with a large sliding type roof hatch. The windshield is divided into two (2) halves - right and left- each half individually operated, being hinged at the top, and opening outward from the bottom. They may be adjusted up to a full opening of 90°. The windshields, which are of laminated safety glass, are reverse sloped, so designed to reduce glare, and to prevent piling up of snow, slush, etc.. The other windows in the body are equipped with "Monsanto" frame type curtains.

A curtain is provided to divide the driver's compartment from the body proper. The body proper is fitted with a three-quarter seat (reversible) immediately behind the driver's compartment and two (2) single bucket seats at the rear of the body. Blackout curtains are provided for all windows of the passenger compartment and are arranged to slide backward and forward on a rod. Luggage is stowed in expanded metal racks which are provided over each rear wheel housing.



HEAVY UTILITY STAFF CAR

Function

This vehicle was designed as a Staff Personnel car for the use of a Commander and Adjudant.

Dimensions

Overall length of vehicle	163"
" width " "	79"
" height " "	90"
Inside length of body proper	84"
" width " " "	68"
" height " " "	52"

Weights

Curb weight of vehicle	7030 lbs.
Payload, including four (4) personnel @ 240 lbs. each	1155 lbs.
Gross weight of vehicle	8185 lbs.
Maximum allowable weight	7685 lbs.

References

D.W.& S. Schedule of Drawings	F161-CSK
D.W.& S. File No.	73-V-1
A.E.D.B. Photograph File No.	E-3
Vehicle Code No.	C8A-PERS-3
Body Code No.	1-C-11
Pilot Model Approval No.	Nil
Experimental Engineering Report	E-611
Maintenance Manual No.	MB-C2

Source:- Chassis & Body - General Motors Corporation.

Chassis

The chassis for this vehicle is a C.M.P. H.U., 4 x 4 - 101" W.B. - Code C8A - equipped with 9.25 x 16 tires.

Description of Body

The H.U. Personnel - Code 1-C-7 - was used as the basic body, with modifications as follows:-

The passenger compartment was separated from the driver's compartment by a steel and glass partition, with a sliding glass panel for communication. The windows of the body were of two (2) piece sliding glass - safety type. All windows were equipped with individual blackout blinds. Outside door handles were fitted to all doors. A special tool box was installed at the rear of the body, beneath the rear cross sill. A folding map board was attached to the partition, immediately ahead of the lateral seat which was modified so as to fold forward. Two (2) folding, single bucket seats were installed, one in each rear corner of the body. Two (2) light fixtures were installed in the body side panels, one at each left and right of the Commander's seat. A heater was installed at the right front of the body.

The interior of the body was insulated and lined with pressed paper board while the floor was covered with linoleum.

NOTE:-

This vehicle supersedes the Heavy Utility Personnel Vehicle, described on page 57. The redesign resulted from complaints that the H.U.P. was very rough riding, noisy and finished in too Spartan a manner.

The chassis is provided with longer and wider springs, the transfer case is mounted in rubber, and the use of a propellor type brake provides a fly-wheel action which reduces the noise level of the gears. The body is modified as described under "Description of Body".


SUNSHINE ROOF OPEN
EE
EE


SUNSHINE ROOF CLOSED.
EE
EE


GRID 1 FOOT SQUARE
EE

VIEW FROM COMMANDERS SEAT LOOKING
THROUGH PARTITION AND WINDSHIELD.

15 FT. PERSONNEL CARRIER

Function:

The purpose of this vehicle was to transport personnel, usually with kit and equipment, from Camps or Depots to Medical Centres, or other such central offices, when the use of General Service lorries was not suitable. 33 units were built, for use in Canada only.

Dimensions

Overall length of vehicle.....300"
" width " " ..... 93-5/8"
" height " " .....119"

Inside length of body .....180"
" width " " ..... 88"
" height " " to under-side of superstructure.. 72"

Weights

Curb weight of vehicle ..... 8495 lbs.
Payload - 20 personnel @ 240 lbs. each ..... 4800 lbs.
Gross weight of vehicle .....13295 lbs.
Maximum allowable weight .....13000 lbs.

References

D.W.& S. Schedule of Drawings..S 30200
D.W.& S. File No. 73-V-30-1
A.E.D.B. Photograph File No.. E-14
Vehicle Code No.....40420-C-PERS-1
Body Code No. 5-Z-1
Pilot Model Approval No. F-149
Experimental Engineering Report E-182
Maintenance Manual No. ..... Nil
Source:- Chassis - Chrysler Corporation
Body - Brantford Coach & Body Company Ltd.

Chassis

The chassis for this vehicle is a Dodge Conventional 2-ton, 4 x 2 - 190" W.B. chassis - Code 40420-C - equipped with 7.50 x 20 - 8-ply (dual rear) tires.

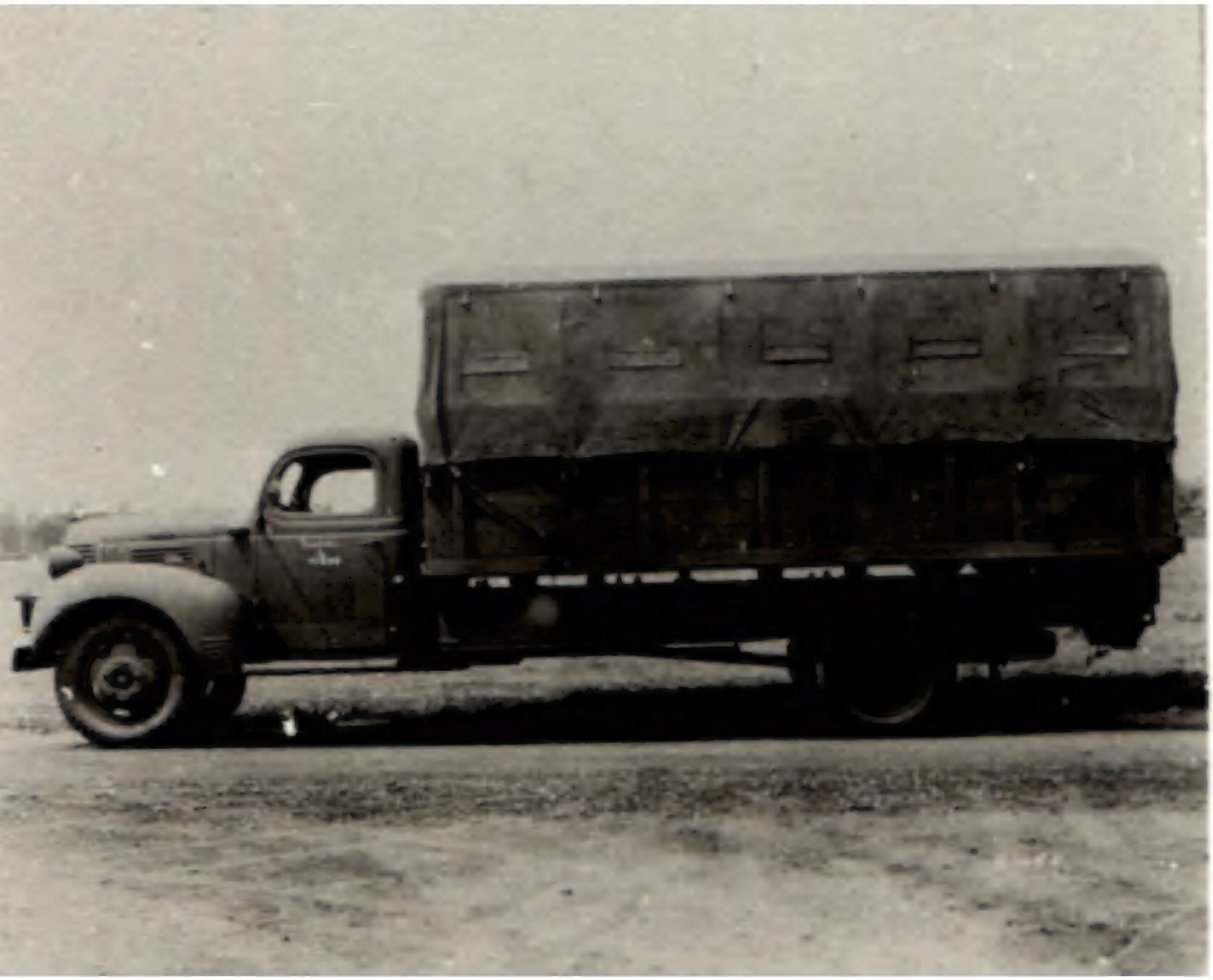
Description of Body

The basic body is a flat floor stake body with solid racks. The floor is of random widths, T. & G. hardwood boards finished to 1-1/4" thickness. The front of the body comprises one full length rack, the two sides are formed by two (2) racks, while the rear is made up of three (3) racks, the centre one being hinged to serve as a gate.

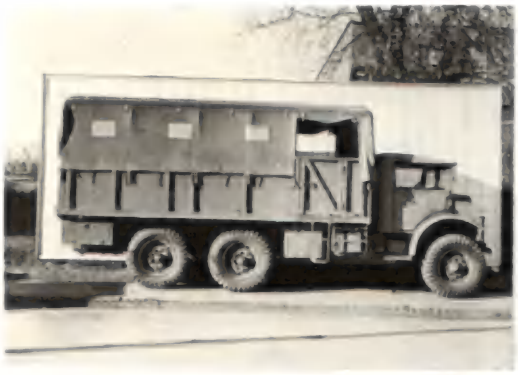
Sliding steps are provided for access to the body at the rear, being housed in the substructure when not in use. Twenty (20) D.N.D. type folding seats are mounted on steel boxes, in four rows, with an aisle down the centre, the bases of the seats being bolted to the lids of the steel boxes. In this manner, by tilting forward the seats, the boxes are opened for stowage of kits.

Two (2) Motorola heaters are mounted at the front of the body, one in each corner, with ducts running the full length of each side of the body.

A standard iron pipe superstructure with tarpaulin also is provided. The sides of the tarpaulin have Monsanto windows framed in steel, and roll up when desired. A small wire mesh screen is installed in the front of the tarpaulin for ventilation. Dome light fixtures are bolted to the superstructure. Communication is established between the body and cab by means of a buzzer. The spare tire is mounted under the chassis, at the rear.



190" TROOP CARRYING VEHICLE



Function

The purpose of this vehicle is to transport troops, in groups of 30, in and around camps.

Dimensions

Overall length of vehicle	279"
" width " "	96"
" height " "	126"
Inside length of body	190"
" width " "	88"
Inside height of body from floor to underside of superstructure	72"

Weights

Curb weight of vehicle	12110 lbs.
Payload - 30 men @ 240 lbs	7200 lbs.
Gross weight of vehicle	19310 lbs.
Maximum allowable weight	18000 lbs.

References

D.M.& S. Schedule of Drawings	S 300750
D.M.& S. File No.	73-B-27
A.E.D.B. Photograph File No.	E-14
Vehicle Code No.	60H-PERS-1
Body Code No.	6-Z-1
Experimental Engineering Report	E-344&5
Pilot Model Approval No.	F-205
Maintenance Manual No.	MB-F1/B

Sources:- Chassis - Ford Motor Co.
Body - Robt. Elder Carriage Works.

Chassis

The chassis for this vehicle is a 3-ton, C.M.P., 6 x 4 - 160" W.B. - Code F60H - equipped with 10.50 x 16 tires.

Description of Body

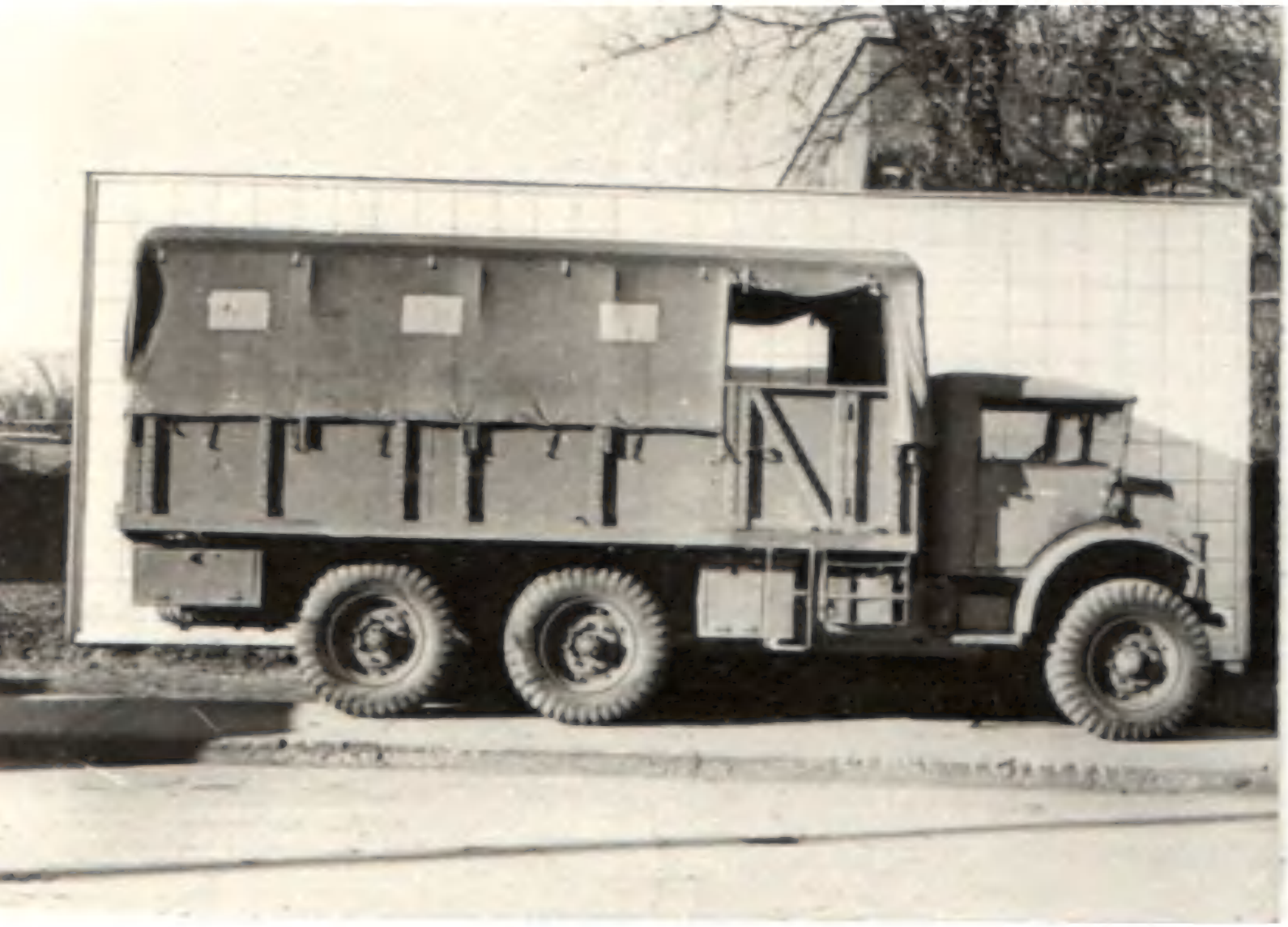
The body for this vehicle is a flat floor, stake body, with solid racks. The floor is of random width hardwood boards finished to 1-1/4" thickness, with metal slip tongues between the floor boards. The front of the body is made up of one full length rack, while each side of the body is made up of four (4) racks, the second rack from the front being hinged and forming an entry door. The rear of the body comprises four (4) racks, the two (2) centre ones being hinged to form entry doors, swinging outward. A steel ladder is bolted to the body beneath each side door, while sliding steps are provided for entrance through the rear doors.

Three (3) full length bench seats are provided in the body, one down each side and the third down the middle of the body, with a fourth bench running laterally across the front of the body. The two (2) side benches are bolted to the side panels and the floor while the front bench is bolted to the front panel.

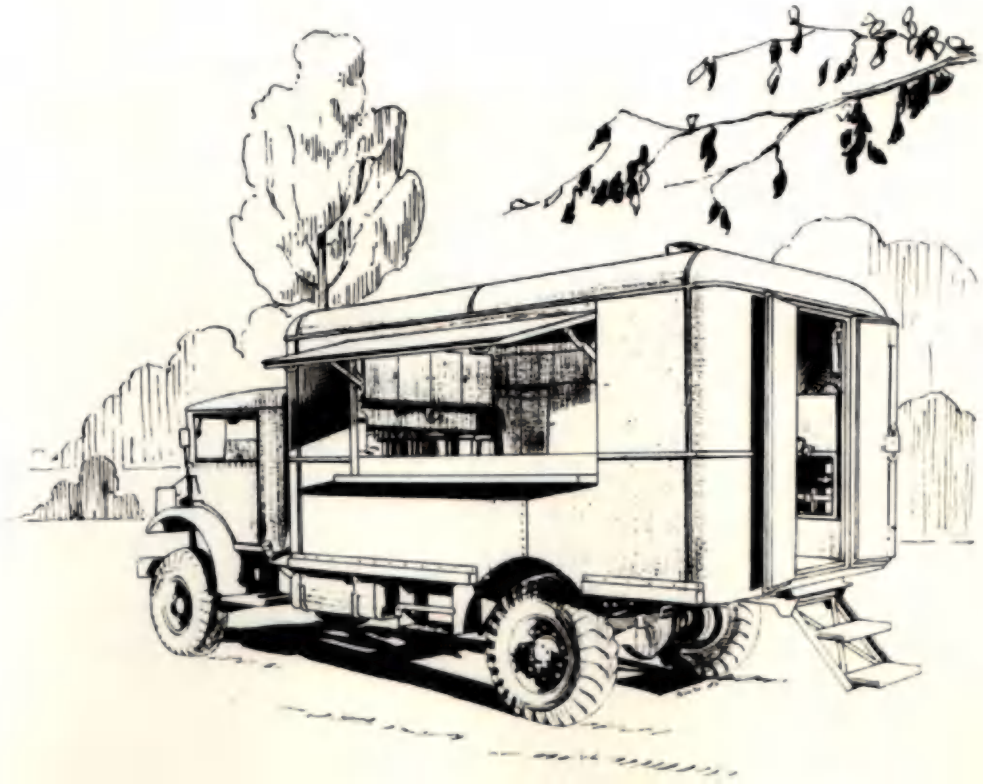
Two (2) hot water heaters are provided at the front of the body.

A standard iron pipe superstructure and tarpaulin complete the body, with "Monsanto" windows in the side curtains of the tarpaulin. Fixed dome lights are attached to the underside of the longitudinal superstructure members.

The spare tire is carried beneath the chassis, at the rear.



PERSONNEL SERVICES LORRIES



PERSONNEL SERVICES LORRIES

The vehicles described in the pages of this chapter were designed for specific duties pertaining to service and the welfare of the personnel. The vehicles range from H.U.Office Lorries to 3-ton Mobile Canteens.

A A A A

Office Lorries

Three types of Office Lorries were designed, these being the Heavy Utility Office (renamed as Heavy Utility Computor Lorry), the 15-cwt. G.S. type Office, and the 30-cwt. and 3-ton Lindsay House type Office.

The H.U. Office Lorry - Code 1C4 - was never produced, but some 200 units were produced as the Computor Lorry. It was an adaptation of the H.U. Personnel Carrier, the cab and body being integral. The canvas curtain dividing the driver's compartment from the body proper was retained, and the three quarter lateral seat at the front of the body was reversed so that it faced the rear of the vehicle. Cupboards were installed along each side, with two (2) folding tables between the front and rear seats. A map reading shelf and lamp was installed in the driver's compartment. This was known as the 1C9 body.

A A A A

The 15-cwt. - Body Code 2C2 - General Service type Office used the all welded, all steel 15-cwt. G.S. body as its basic, and a steel desk, D.N.D. folding seats, steel lockers and a penthouse and extension were built into this body. The pilot model successfully withstood all Proving Ground tests and Pilot Model Approval was issued. However, before production got under way, the 2J basic body was substituted for the 2C body. The same fitments were used, and the 15-cwt. G.S. type Office was known as the 2J2.

A A A A

The first 30-cwt. Office Lorry - Body Code 3D1 - had a 10 ft. conventional steel house type body, and was mounted on a 30-cwt.C.M.P. chassis. However, after being fitted with desks, chairs, filing cabinets, etc., the body was too heavy for the chassis, and it was redesigned in Lindsay structure, retaining, however, the same overall dimensions. It was equipped with lighting, heating and ventilation systems, and the same furniture and fixtures as in the 3D1 body. This body carried Code 3E1. When it became necessary to provide for a spare tire the 3E1 body was mounted on a 3-ton C.M.P. chassis - 158" W.B., and the spare tire was housed between the cab and front of the body.

This vehicle was arcticized for operation in sub-zero temperatures by the addition of an "Evanaire" heater, installed between the cab and body, at the right front, and the floor and walls were insulated with ten test between the inner and outer sheathings. This was the 3E2 body.

A further modification was made by the addition of a superstructure and canvas penthouse at the rear of the body. When the vehicle was in motion, the superstructure folded against the back body panel, while the poles and penthouse were strapped to the tailboard. This was the 3E3 body.

A A A A

When a requirement was raised for a Commander's Caravan, being a senior Officer's personal vehicle, it was decided to adapt a General Service Body, using the 12 ft. bolted steel G.S. basic body - Code 5W. Bunks with extra deep mattresses, cupboards and a combination desk and map board were installed as movable fixtures in the body, while a shower bath and basin were also provided. This was the 5W3 body.

However, the G.S. adaptation was neither comfortable nor did it provide any degree of privacy, so it was decided to redesign the body in Lindsay structure, giving the vehicle a number of refinements that had not been possible in the G.S. adaptation.

The interior of the body was painted - gloss finish - in two (2) tone, and the body divided into two (2) compartments by means of a curtain. In the forward compartment was a sleeping bunk, installed laterally across the front of the body. At the front left and right corners were hot water tanks with a housed heater at the left side of the body, while at the right was a shower bath and pullman tip-up type wash basin. The water pipes were extended through the right side of the body to provide bathing facilities outside the body. Otherwise, the same inside fitments were used as in the 5W3 body.

Two lighting systems were installed - 12 volt and 110-volt - the power for the 12-volt system being provided by an auxilliary charging unit. This was the 5J6 body. However, as hostilities came to an end shortly after the pilot model was completed, no production order for this unit was placed.

A A A A

A number of different designs of Mobile Canteens were built during the years of the War, and were mounted on several types of conventional commercial chassis. Due to the difficulty of servicing these different types of vehicles in the field, it was decided to build a standard canteen body, mounted on a 3-ton C.M.P., 4 x 4 - 158" W.B. chassis.

All the desirable features of previous designs were maintained, and a wood and steel house type body was designed for the C.M.P. chassis. Difficulties were encountered due to the height of the top of the chassis frame from the ground, since it was necessary to provide a serving opening and counter at one side of the vehicle. The chassis frame height made it difficult to maintain a counter that was suitable for workers inside the vehicle, yet still be within convenient reach of anyone standing on the ground. Longitudinal sills were eliminated from the substructure, while the wheelhouses were extended to the rear body panel. The chassis also was equipped with 10.50 x 16 tires. However, these steps were not sufficient, and a drop shelf was added to the outside of the body, being hinged at the bottom, and forming half of the cover of the serving opening. The other half of this cover was hinged at the top.

6-volt and 110-volt lighting systems were provided, power for the 6-volt system being supplied by an auxilliary charging plant. This vehicle, with Body Code 5N1, was very well received.

A A A A

A Mobile Disinfestor - Body Code 6D2 - was built for the disinfestation of clothing in the field, using a 14 ft. Lindsay house type basic body. The inside was insulated with fibre glass, enclosed in metal sheeting. The disinfecting system consisted of an enclosed combustion chamber and piping system to distribute the hot air throughout the body. However, only the pilot model was built as this method is considered obsolete.

Two portable Disinfestors were produced, based on British design, and using steam as a disinfecting agency. Portable field cookers were used to obtain steam. Neither unit was given a body code, as they were designed to mount readily in any General Service vehicle.

A A A A

The tractor used for towing the Mobile Laundry semi-trailer was an F.W.D. 4 x 4 - 144" W.B. unit, and was converted into a stake and rack lorry by the addition of a specially designed folding body. The floor and substructure of the body were hinged so that they folded, in three sections, against a fixed front panel. A hand winch was used for lowering and raising the body.

By the use of the folding body, which carried Body Code 9A1, the tractor, when the laundry unit was parked, could be used for collecting or delivering laundry to neighboring camps, thus giving a complete laundry service. Some 30 of these units were built. For description of Laundry Semi-Trailer, see Volume VII.

Function

This vehicle is used as a computor vehicle by Royal Canadian Artillery survey regiments. However, it also is used as a paymaster's vehicle in field formations and as a small field office by any unit, additional working space being provided by the penthouse.

Dimensions

Overall length of vehicle	163"
" width " "	79"
" height " "	90"
Inside length of body	88"
" width " "	64"
" height " "	52"

Weights

Curb weight of vehicle	6455 lbs.
Payload including 4 personnel	1330 lbs.
Gross weight of vehicle	7785 lbs.
Maximum allowable weight	7500 lbs.

References

D.M.& S. Schedule of Drawings	Nil
D.M.& S. File No.	73-V-1-1
A.E.D.B. Photograph File No.	E-3
Vehicle Code	C8A-PUTR
Body Code	1-C-9
Pilot Model Approval No.	Nil
Experimental Engineering Report	E 254
Maintenance Manual No.	MB-C2

Source:- Chassis & Body - General Motors of Canada.

Chassis

The chassis for this vehicle is a Heavy Utility - C.M.P., 4 x 4 - 101" W.B. - Code 8A - equipped with 9.25 x 16 tires.

Description of Body

The basic body of this vehicle is the Heavy Utility Personnel. The threequarter lateral seat at the front of the body was reversed so that it faced to the rear of the vehicle, and a tool box built in the base.

Two (2) open cupboards were installed, one on each side, to the top of which was installed a hinged table, the two tables meeting in the centre of the body. At the rear of the body a second seat, facing forward, was installed, with a tool box set into the base. Rifle clips were provided at the ends of the cupboards.

Four (4) canvas tarpaulins, forming a penthouse, complete with ropes and stakes, also were provided, together with four (4) extension lamps.

15 CWT. G.S. OFFICE

Function

This vehicle was designed as an adaptation of the 15 cwt. G.S. bolted steel body, to be used as an auxilliary field office. A canvas penthouse and extension, equipped with folding tables and chairs, make it adaptable for almost any type of clerical work.

Dimensions

Overall length of vehicle.....	170-1/2"
" width " "	87"
" height " " to top of superstructure	97"
Inside length of body	78-3/4"
" width " "	81"
" height " " to underside of superstructure...	54"

Weights

Curb weight of vehicle.....	9772 lbs.
Payload including personnel @ 240 lbs. each	1376 lbs.
Gross weight of vehicle .....11148 lbs.	
Maximum allowable weight .....10000 lbs.	

References

D.M.& S. Schedule of Drawings....S	340645
D.M.& S. File No.	73-B-7
A.F.D.P. Photograph File No.	E-4
Vehicle Code No. 15441-M-OFF-1	
Body Code No.	2-J-2
Pilot Model Approval No.	F-79
Maintenance Manual No.	MB-C2

Source: Chassis - General Motors of Canada
Body - W.D. Heath & Sons.

Chassis

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

Description of Body

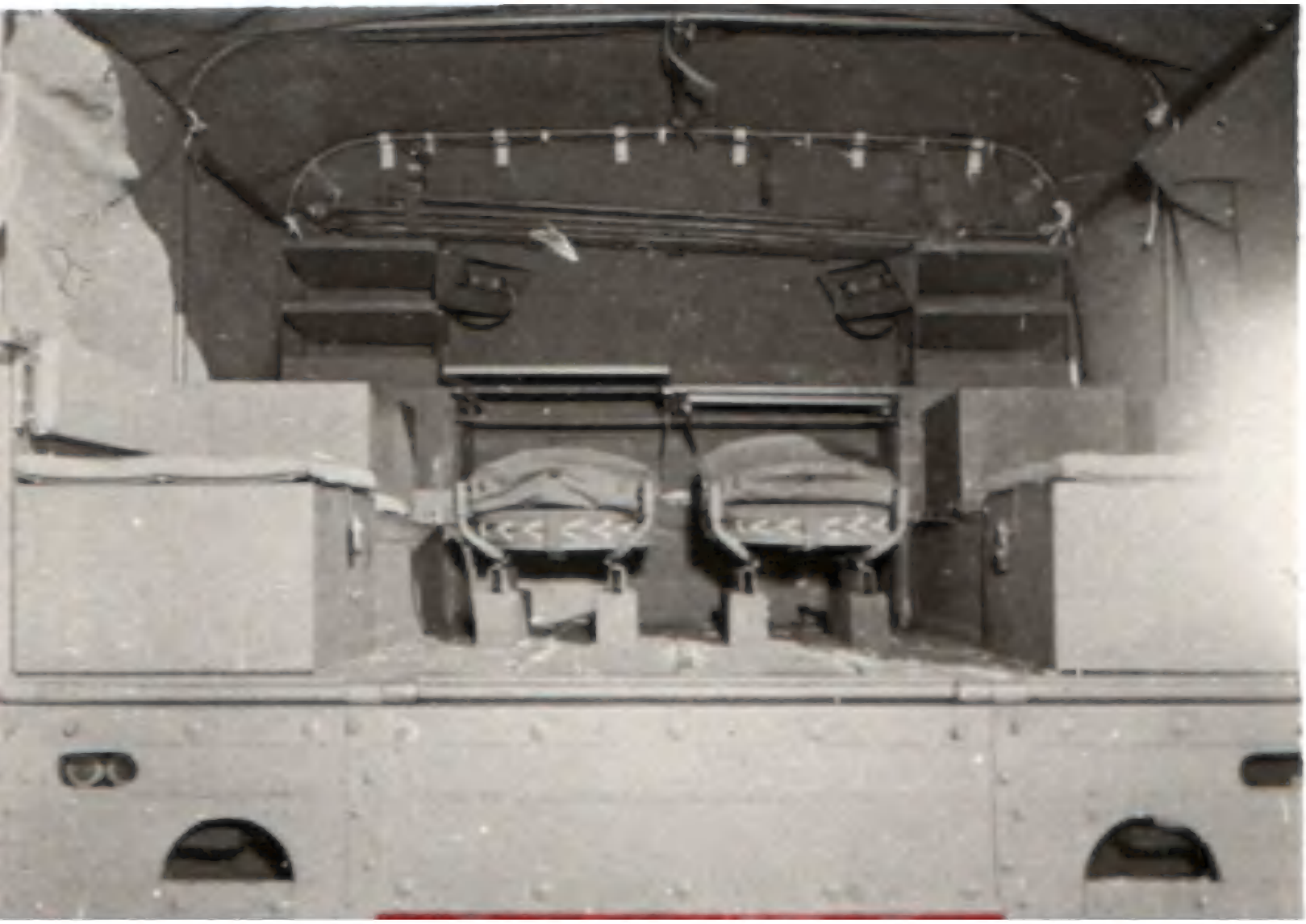
The basic body for this vehicle is the 15 cwt. G.S. bolted steel body. In order to adapt the vehicle as an office lorry, the following fitments were added:-

A series of lockers were installed at each side and at each front corner of the body. A desk with sliding leaves, tip lockers and facilities for mounting two (2) typewriters, was installed laterally across the front of the body. Two (2) D.N.D. type folding seats were supplied. Two (2) steel filing baskets were strapped to the top of the forward lockers. A hurricane lamp tray with canvas cover was attached to the right side locker. A folding table and two (2) folding chairs were stowed on top of the left side locker.

A standard iron pipe superstructure with extension poles also was provided. A tarpaulin of #8 duck, together with penthouse, skirts and penthouse extension, was designed to fit over the superstructure and extension to form a complete marquee which was formed into three complete sections, one to each left and right side of the vehicle, and the third section extending from the rear of the vehicle. The penthouse was equipped with oiled duck windows and black out curtains in each section.

Duck boards were provided for the floor of the penthouse, which were stowed inside the vehicle when not in use, as were the penthouse and extension and penthouse poles.

Lighting was provided by the use of hurricane lamps.



3 TON OFFICE - LINDSAY HOUSE TYPE

Function

This vehicle is used as a field office by units or formations, having tables and seats for four (4) clerks, typewriters, filing cabinets and other office equipment.

Dimensions

Overall length of vehicle.....	228"
" width " "	91"
" height " "	124"
Inside length of body	118"
" width " "	86"
" height " "	77"

Weights

Curb weight of vehicle.....	11920 lbs.
Payload including personnel..	2660 lbs.
Gross weight of vehicle	14580 lbs.
Maximum allowable weight	16000 lbs.

References

D.M.& S. Specification No.....	O.A. 74
D.M.& S. Schedule of Drawings...	S 3000
D.M.& S. File No.	73-V-4
A.E.D.B. Photograph File No. ...	E-7
Vehicle Code No.....C60L-M-OFF-2	
Body Code No.	3-E-1
Pilot Model Approval No.	Nil
Experimental Engineering Report.	E-406
Maintenance Manual No.	MB-C2

Source:- Chassis - General Motors of Canada.
Body - Eastern Steel Products Limited.

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 basic body is a 10 ft. Lindsay construction house type body, with side entrance doors left and right, with sliding steps which are housed in the substructure when the vehicle is in motion. The body is equipped with seven (7) pullman type windows, with blackout blinds encased in steel slides. Four (4) ventilators are installed, one in each corner of the roof. A compartment is built over each wheelhouse and is provided with cushions so as to seat four (4) personnel.

The interior of the body is lined with 3/16 tempered masonite and painted white-gloss finish. The body is fitted with two (2) stationery desks with chairs. A 12-volt light is mounted over each desk. Three (3) steel wall files are provided - two at the front of the body and one at the rear. Thirty two (32) wall files, sixteen (16) on each side at the rear, also are provided. Two (2) telephone blocks, each to accomodate two (2) phones, are located at each desk. A 110-volt waterproof inlet socket is fitted to the outside of the rear body panel in order to supply power for two (2) inside lamp sockets, one at each end of the ceiling, and for two (2) receptacles on the wall beside each desk.

A 12-volt auxilliary charging unit is housed in a steel box, suspended from the left side of the substructure, and is provided to supply power to operate the gasoline heater unit in the body.

A hinged luggage platform is provided at the rear of the body, together with a demountable iron pipe superstructure and penthouse tarpaulin. There is a communication hatch between the body and cab of the vehicle.

3 TON COMMANDER'S HOUSE TYPE CARAVAN

Function

The purpose of this vehicle is to provide living and personal field office quarters for Battalion Commander and senior officers of formation Headquarters.

Dimensions

Overall length of vehicle	240"
" width " "	95"
" height " "	126-1/2"
Inside length of body	142"
" width " "	86"
" height " "	77-1/2"

Weights

Curb weight of vehicle	13330 lbs.
Payload	960 lbs.
Gross weight of vehicle	14290 lbs.
Maximum allowable weight	16000 lbs.

References

D.M.& S. Schedule of Drawings	S 343246
D.M.& S. File No.	73-B-29-1
A.E.D.P. Photograph File	E-7
Vehicle Code No.	Nil
Body Code No.	5-J-6
Pilot Model Approval	Nil
Experimental Engineering Report.	E-579
Maintenance Manual No.	MH-C2

Sources:- Chassis - General Motors of Canada.
Body - Massey Harris Co. Ltd.

Chassis

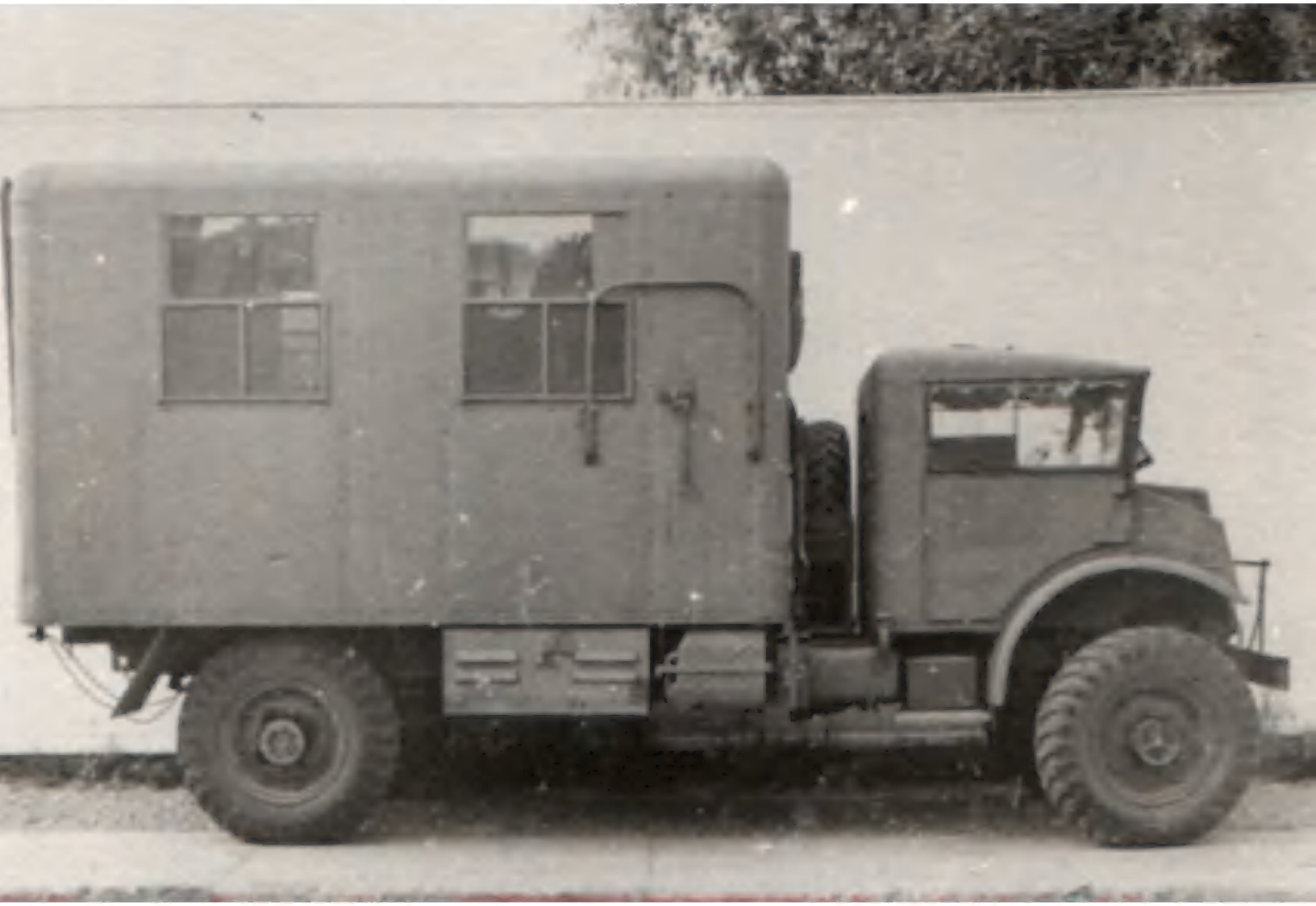
The chassis for this vehicle is a ton C.M.P., 4 x 4 - 158" W.B. - Cod - equipped with 10.50 x 20 tires.

Description of Body

The basic body of this vehicle is a 12' Lindsay House type body, the interior being lined with 1/4" fir ply. The interior of the body is in two (2) sections, divided by a white duck curtain which is suspended on rings from a rod screwed laterally across the body. The living quarters consist of a bunk with mattress, installed across the front of the body, with a uniform wardrobe bolted to the left side and a shower bath and wash basin installation at the right side of the body. A hot water heater is provided at the left side of the body, with two (2) hot water tanks, one at either side, close to the roof.

The working quarters consist of a combination desk and map board at the left side of the body, with a second cupboard installed in the left rear corner of the body. A sleeping bunk is provided at the right side, the base being formed into lockers.

Two (2) lighting systems are provided - 6-volt and 110-volt. Power for the 6-volt system is provided by an auxilliary charging unit and batteries which is housed and suspended from the right side of the substructure. Outside power is required for the 110-volt system, for which a Crouse-Hinds outlet is provided at the left rear of the body - outside. Provision is made for outside shower bath by means of a curtain frame which folds against the right side panel when not in use, and an outside extension of the water system. Auxilliary water storage tanks are carried in the substructure at the front.



3 TON HOUSE TYPE CANTEEN

Function

To carry and dispense hot beverages, miscellaneous confections and sundries to the Armed Forces.

Dimensions

Overall length of vehicle	239"
" width " "	90"
" height " "	112"
Inside length of body	144"
" width " "	83"
" height " "	71"

Weights

Curb weight of vehicle	10260 lbs.
Weight of equipment including 3 personnel	1925 lbs.
Gross weight of vehicle	12185 lbs.
Maximum allowable weight	12500 lbs.

References

D.N.& S. Specification	O.A. 191
D.N.& S. Drawing Schedule	S 300510
D.N.& S. File No.	73-C-9
A.E.D.B. Photographic File	E 25
Vehicle Code No.	60L-CANTN-1
Body Code Number	5-N-1
Pilot Model Approval	P 199
Experimental Engineering Report	E 351
Maintenance Manual No.	MB-C1&2

Sources: Chassis - General Motors of Canada.
Body - Smith Bros. Motor Body Works.

Chassis

The chassis for this vehicle is a 3-ton, C.M.P. 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 16 tires.

Description of Body

12 foot body of standard commercial construction. Wood substructure and framework sheeted outside with steel and inside with plywood. Longitudinal sills are not provided, since it is desirable to keep body as low as possible to facilitate serving. Wheelhouses extend to the rear of the body to support the overhang in the absence of longitudinal sills, the rear portion of the wheelhouses housing the water tanks.

An opening 84" in length is provided on the left side of the body for serving, which is fitted with a serving shelf 10" wide, hinged at the bottom of the opening, and a shelter flap hinged at the top. In the closed position, serving shelf and shelter flap form a cover for the opening.

An entrance is provided at the rear of the body, with double doors and a folding step, which serves as a service platform in the half open position.

Two angle iron stands are provided, one in each rear corner, each supporting a 12-1/2 gallon copper water boiler, with a Coleman stove underneath.

A semi-rotary hand pump is located on the left side at the rear for filling the 12-1/2 gallon water boilers and the sink. Water is pumped from 18 gallon reservoir located in the rear portion of each wheelhouse.

Metal covered cabinets 28" high extend along each side forward of the 12-1/2 gallon boilers. Left hand cabinet contains suitable stowage for cups, milk bottles, safe, etc.. Drawers for cups have wire mesh bottom for drainage. Drip pan with drain is provided.

A Grill is provided in the right front corner, with a Coleman stove. A metal peaked shroud is installed over the grill, containing an outside ventilator.


SONS

Right hand cabinet is fitted with sink, with drain through wheelhouse, and contains cash drawer, cache for garbage can, and miscellaneous drawers for dish towels, etc..

A display cabinet is mounted on the right side above the metal covered cabinet.

A shelf is fitted across the front of the body, which carries seven thermos urns of three gallon capacity, necessary securing straps are provided.

A stock cabinet is fitted across the front of the body above the thermos urns.

Two combination 6 and 110 volt lights are installed above the serving opening for general illumination, and to illuminate the display on the opposite side.

A 110-volt outlet is provided with covered adapter on the outside of the body.

A flexible speaking tube connects the body to the cab.

Two 10-gallon galvanized tanks are mounted under the front corners of the body, with fillers and faucets. These may be used to carry water or a fuel oil supply for the Coleman stoves. Stowage for spare fuel, oil and water is provided behind the 10-gallon tanks, and in front of the rear wheels.

A tool box is located between the body and cab along with the spare wheel.

One fixed window is provided in the front panel of the body in line with the rear window of the chassis cab.

Equipment carried in Body

2 Pyrene fire extinguisher - 1 quart
1 Enamelled Slop Sink, 18"x24"x12" flat edge complete with drain and stopper.
2 Galvanized Tanks, 10 gal. cap. complete with filler neck, cap, faucet and mounting stock.
2 Copper water boilers, 12-1/2 ga. cap. complete with covers, faucet and lifting handles.
1 Semi rotary hand pump 1"
3 Coleman handy gas plant stoves
2 Ambulance Stretchers
1 Oil burning Lantern wick type
360 China mugs
360 Tea spoons
24 Dish Towels
4 Bun Pans 15" x 1"
1 Broom
7 Thermos urns with faucet - 3 gal. cap.
1 Tea Boiler - 2 gal. cap.
1 Coffee Boiler - 2 gal. cap.
2 Stew Kettles - large
1 Can Opener
1 Bread Knife
1 Slicing Knife
1 Cake Turner
2 Basting Spoons - 16"
2 Fry Pans
1 Garbage Can
2 Galvanized pails
1 Claw Hammer
1 Axe, Small
1 Screw driver
1 Whet Stone
1 Pair Pliers
1 Soup Ladle
1 Creamery Can
2 Blankets
2 Water Tanks, galvanized, 18 gal. for mounting in wheel wells rear of rear wheels
2 Stove Stands - approved design
1 Grill Stand - approved design
1 Grill

E.P. 3 Qtr. Front view 3 Ton, 6x6, Mobile Disinfestor. 25/6 605 1945.

E.P. Right side view 3 Ton 6x6 Mobile Disinfestor. 25/6 602 1945.

Function

The function of this vehicle is to provide facilities for the disinfestation of clothing in the field by the hot air method or by use of methyl bromide as a fumigant.

Dimensions

Overall vehicle length.....264"
" " width ..... 86"
" " height .....127"

Overall body length .....168"
" " width ..... 86"
" " height ..... 89"

Ground Clearance.....20"
(at emergency brake)

Weights

	Front	Rear	Total
Curb	5580	11088	16984
Gross	5770	11360	17464
Maximum gross rating	7000	14000	18000

References

A.E.D.P. Drawing Schedule.....345025
Munitions & Supply File 73-D-6
Body Code No. 6D2
Chassis Model .....M-60660 C
Chassis Maintenance Manual.. M660-C1
E.E. Report No. ..... E 608
Sources:- Chassis by G.M., Equipment installation by Gusson Bros, Montreal.

Note:- Pilot model only built and is considered as obsolete.

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' house type body, Code 6D2, with a single rear door. A stowage compartment for the spare tire is located at the front of the body. An entrance ladder, vehicle tool boxes, and a jerrican carrier are also provided. The inside of the body is completely insulated with fibreglass, covered with metal sheeting. Racks and hangers are provided for holding the soiled clothing.

Equipment

The disinfecting system consists of an enclosed combustion chamber, and piping system to distribute the warm air throughout the body. Heat is supplied by a Portable Field Cooker. This unit is mounted, when disinfesting, on a stand attached to the rear of the body with the burner ring projecting into the body combustion chamber. A Chore Horse generating set is permanently mounted on the outside of the body at the rear, and provides current for operating the hot air circulating fans.

Two holders are located at the front of the body near the roof, into which cans of methyl bromide can be placed when it is desired to use this method of fumigating. The holders are fitted to puncture the cans, and carry the vapour into the body.

E.P. 3 Qtr. Front view 3 Ton, 25/6
605 6x6, Mobile Disinfestor. 1945.

E.P. Right side view 3 Ton 6x6 25/6
603 Mobile Disinfestor 1945.

DISINFECTORS, PORTABLE

Two types of Portable Disinfectors used for disinfecting clothes and blankets in the field, were produced in Canada. These were based on British design using steam as the disinfecting agency.

The Disinfector, Portable, No. 3, consists of two metal compartments held together by bolts, and each compartment is divided into a container section and a boiler section. Running through the latter sections is a fire tube connector, or combustion chamber. A water storage tank is fitted on one end of the outfit. The water is fed into the boiler section, and then heated by means of a Portable Field Cooker, inserted into the end of the fire tube. The steam generated is gathered into a pipe passing to a three-way cock which can direct the steam into each container in turn, or both simultaneously. Air in the clothing container section is then displaced by the steam through an outlet pipe, and the disinfecting process proceeds.

The Disinfector, Portable #2, is similar in design except that it has only one compartment. Operation is identical.

Both types are easily disassembled for transporting.

References:

Drawings, #3 Type .....British I.R.E.S. S/M 5223/XIV
" , #2 " .....British I.R.E.S. S/M 5145/III
A.E.D.B. File No. 73-D-5

In addition to the Mobile Unit described above, one portable outfit based on the British type was produced in Canada for training purposes.

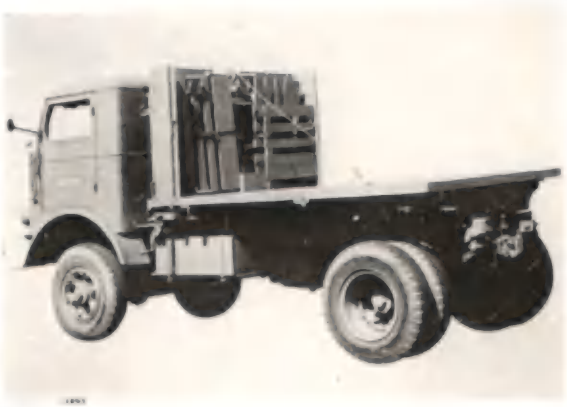
The portable outfit consists of a two-compartment canvas structure, supported on a tubular framework, and a metal combustion chamber with an electrically-driven circulating fan. The combustion chamber and canvas are connected by canvas ducts so that heat can be diverted to either compartment. A portable Field Cooker provides the heat, and a Chore Horse generating set supplies power for the fan.

The complete outfit is designed to be disassembled for easy transporting on any available General Service vehicle.

References:

Munitions and Supply File No. 73-D-3
Drawings (British)..... 2549/49

LAUNDRY TRACTOR, WITH FOLDING BODY



Function

The tractor is used for hauling a Mobile Laundry semi-trailer, and the folding body is designed so that when the semi-trailer is parked and in operation, the tractor can be converted into a lorry for the purpose of picking up and delivering laundry to nearby camps or units.

Dimensions

Overall length of vehicle	.....	233"
" width " "	.....	95"
" height " "	.....	111"
Inside length of body	.....	117-1/4"
" width " "	.....	89-3/8"
" height " "	.....	30"

Weights

Curb weight of vehicle	.....	12000 lbs.
Payload	..... approx.	3000 lbs.
Gross weight of vehicle	.....	15000 lbs.
Maximum allowable weight	.....	15000 lbs.

References

D.M.& S. Schedule of Drawings	.... S 38600
D.M.& S. File No.	..... 73-W-1
R.C.D.S. Photograph File No.	.... F-12
Vehicle Code No.	.....80444-C-TRAC-1
Body Code No.	..... 9-A-1
Pilot Model Approval No.	..... F-31
Maintenance Manual No.	....C-444-FWD 1,2,3

Source:- Chassis - Four Wheel Drive Co., Limited
Body - Wilson Motor Bodies Ltd.

Chassis

The chassis for this vehicle is a Four Wheel Drive Co. 4 x 4 S.U. tractor - 144" W.B. - Code 8044-C, equipped with 9.00x20 tires.

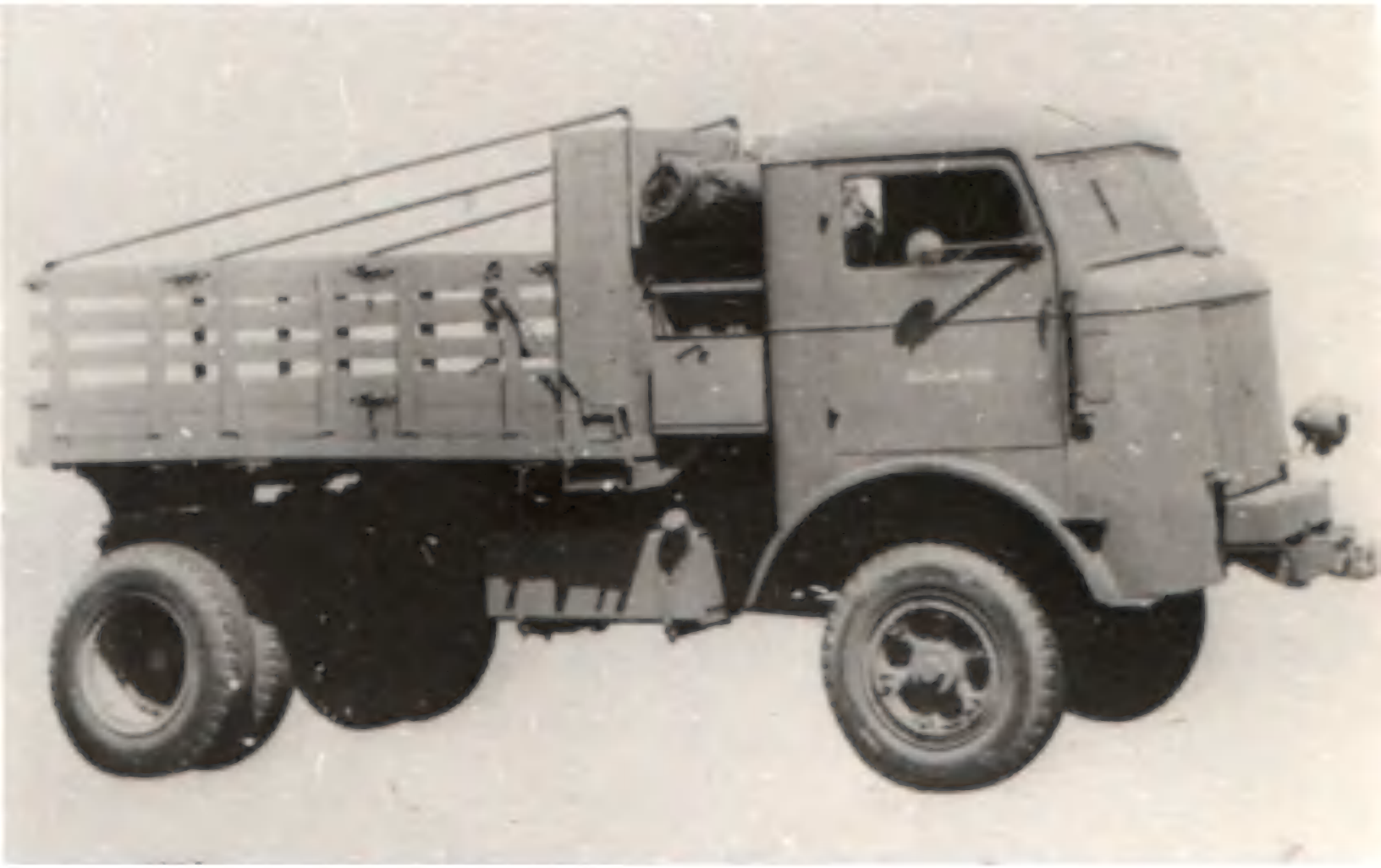
Description of Body

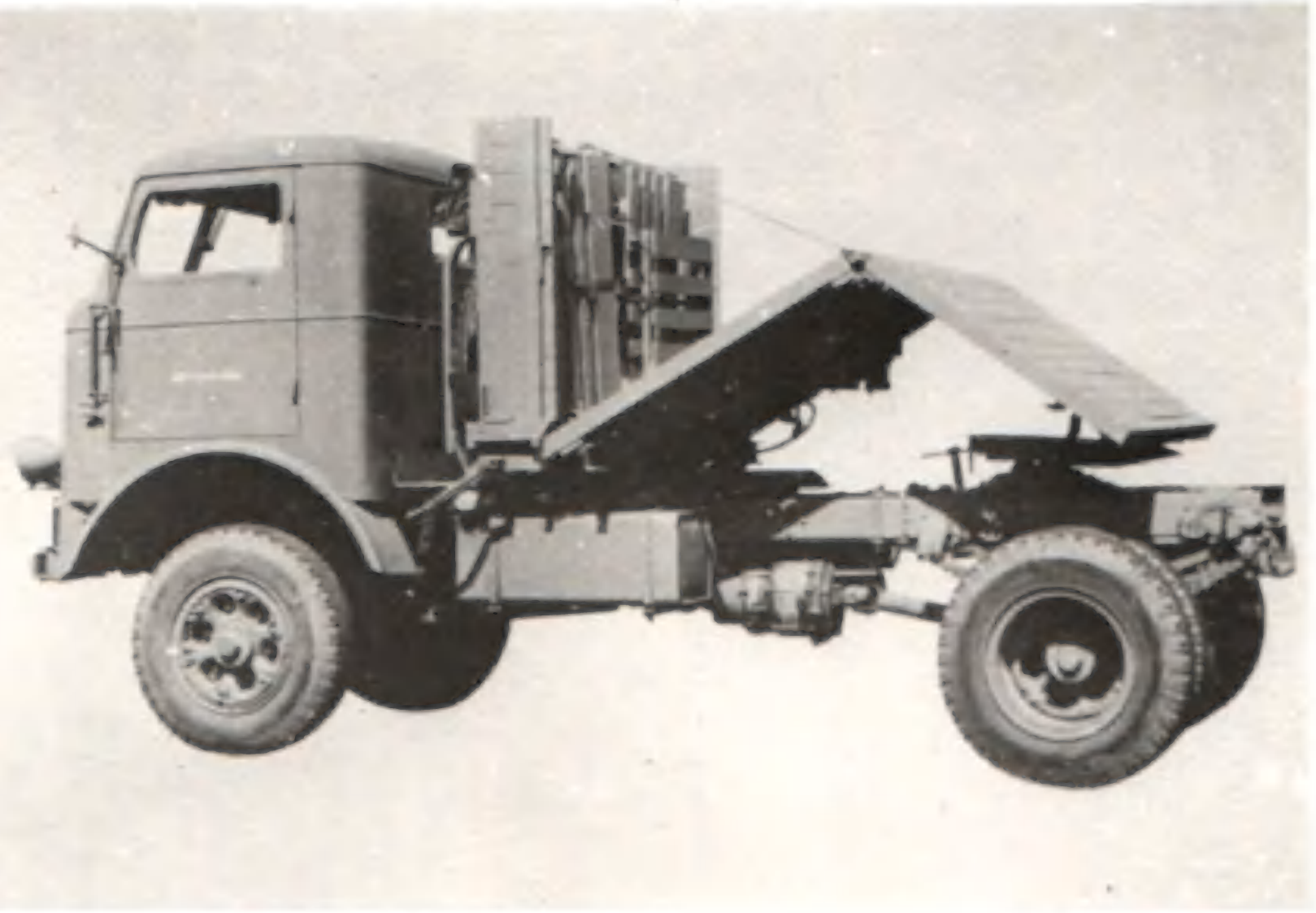
The body of this vehicle consisted of a platform, stakes and racks, with 8 gauge A.E.S.A. steel substructure. The platform was divided into three (3) sections, being cut laterally across the width, first approximately 20" from the front, and second, in the centre of the body. The front panel was solid and fixed to the flooring, with a short fixed side panel of the same height and 15" in length, on either side. The floor and substructure were raised or lowered by means of a hand operated winch, pulley and cable, the winch being mounted at the forward end of the floor and the pulley at the top of the fixed front panel. When towing the Laundry Semi-trailer, the side and rear racks of the folding body were strapped in position to the front panel, the floor being raised and held secure by steel rods attached to the forward fixed side panels.

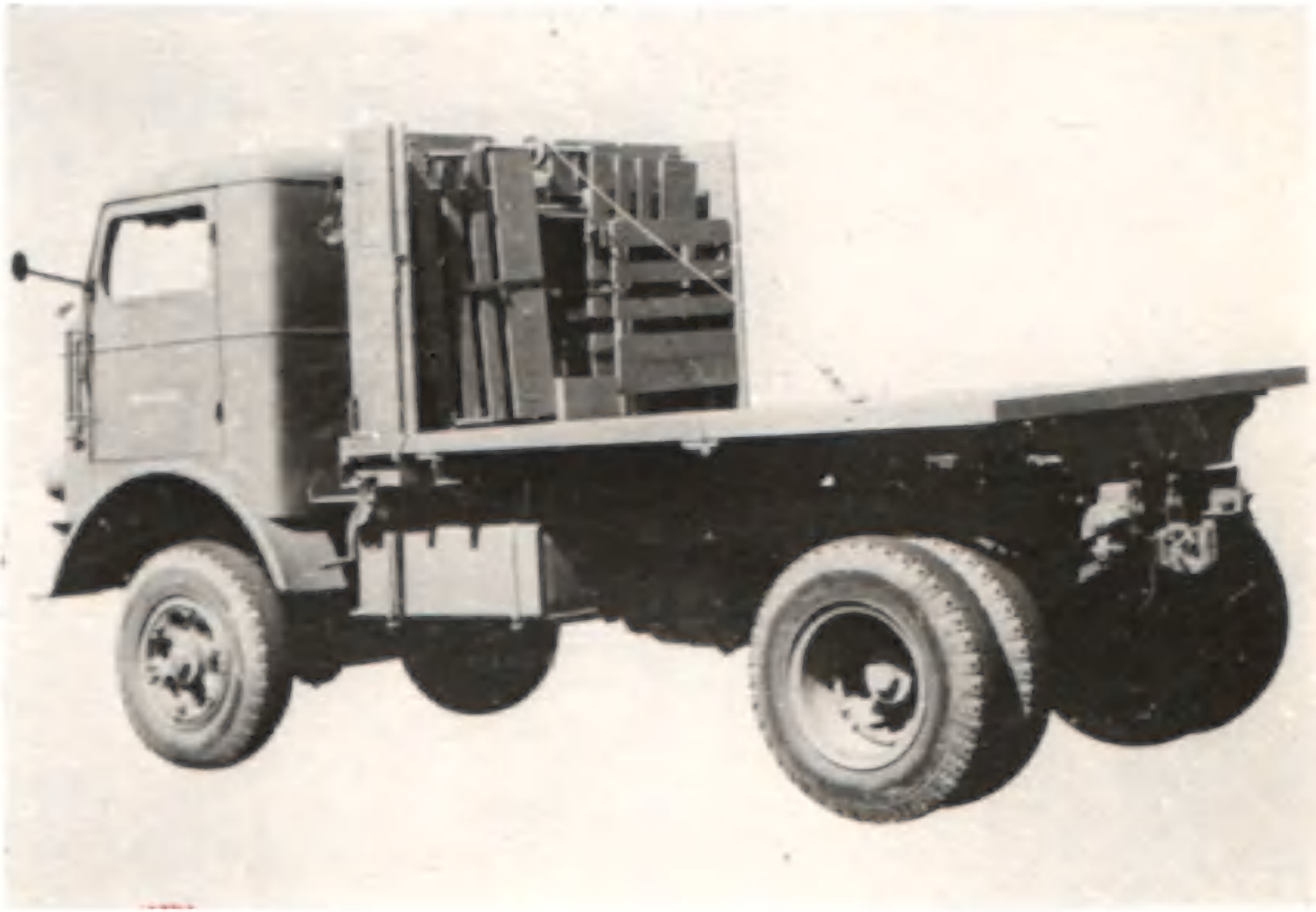
A superstructure consisting of three (3) iron pipe bows inserted into sockets at the top of the front panel and extending to the rear racks, was provided with a flat tarpaulin.

Jerrican carriers and tool box were mounted on the front body panel, between the cab and body.


'28 42.







AMBULANCE & DENTAL LORRIES

AMBULANCE & DENTAL LORRIES

Bodies designed for Ambulance use only, were, as follows:-

1. Heavy Utility Ambulance
2. 3/4 Ton Ambulance
3. 30 Cwt. and 3-ton Ambulance
4. 15 Cwt. Armoured Ambulance - for details of this vehicle see Volume II.

1. The Heavy Utility Ambulance was a bus type pattern - chassis, cab and body being integral- and designed to carry a maximum of four (4)men, with two stretchers on the left side. A medicine locker is installed over each wheel house, the right locker being equipped with a cushion to serve as a seat for two passengers. The chassis is equipped with "Run Flat" tires,and, consequently, no spare wheel is provided. The body is known as the 1C3. However, when run flat tires were superseded by pneumatics, a spare tire was housed in the right side body panel. This was the 1C6 body, but only the pilot model was produced. The 1C3 body, arcticized to withstand sub-zero temperatures, is known as the 1C5 body.

2. The 3/4 Ton Ambulance was a development of the United States Army. It is a four stretcher house type, and has racks on each side of the body which can be folded to form seats. This body was never produced in Canada, but two sample vehicles were purchased and reworked to facilitate the stowage of Canadian equipment. For identification purposes, the body carries Code 2P1.

3. The 30 Cwt, or 3-ton Ambulances were of the house type, and carried four (4) stretchers, one sitting patient and one attendant. This was the standard Ambulance, and approximately 5100 units were produced in Canada during the years of the War. The stretcher racks were of British design, and the rack supporting the upper stretcher on each side can be raised and lowered by means of a hand crank for ease of loading patients. The body was of conventional steel construction, lined with tempered masonite and fitted with sliding sash windows. This body was known as the 3F1, and was designed to mount on a 30 Cwt. 4 x 4, 134"W.B. chassis, with 10.50 x 16 tires, or 3-ton C.M.P. 4 x 4, 158" W.B. chassis with 10.50x20 tires.

The 3F1 body was superseded by the 3G1 which is similar, with respect to general overall dimensions and accomodation, but was of "Lindsay" construction. This body was mounted on a 3-ton 4 x 4 Canadian Military Pattern chassis of 158" W.B., which was equipped with "soft ride" springs.

Other variations of the 3G1 are:-

1. The 3G2 was similar to the 3G1, but was arcticized by the addition of insulation, and the provision of a more adequate heating unit.

2. The 3G3, which was similar to the 3G1,was equipped with a hydraulically operated stretcher raising gear in place of the mechanically operated. However,production of this body was limited to the pilot model only.

3. The 3G4 was a 3G2 Ambulance body converted to serve as a mobile operating theatre, by the addition of a collapsible rack which mounts in the centre of the body to hold a stretcher for the performance of operations, and an adjustable operating lamp. In view of the difficulty encountered at the time, in obtaining Evans heaters as used in 3G2 Ambulances, a 25,000 B.T.U. Hunter Heater was used. Only one body of this kind was produced, since it was a special requirement for the Eskimo Exercise of 1945.

In order to withstand tropic conditions, a 3G1 Ambulance was modified, and was known as the 3G5. All wood and masonite was eliminated from the body which was sheeted inside and outside with steel and insulated with fibre glass. This was done to avoid fungus and mold growth, so prevalent in the tropics. Two of the static ventilators in the roof were replaced with power operated ventilators.

All Ambulances of the 3G series were equipped to carry the same compliment of medical equipment as were set up by the R.C.A.M.C.

* * * *

In addition to the standard Ambulances, mention also should be made of the Medical Officers' Body, which is a modified 12 ft. G.S. Cargo Body. It is equipped with a special spring loaded rack to carry two stretchers, a folding table, supply bins, a folding seat, generator set with batteries, and a folding step to facilitate entry at the rear. The M.O. Body carries Body Code 5P2.

* * * *

Emergency Ambulance conversions were made, in the field, by the addition of equipment of simple design.

The General Service 12 ft. lorries could be adapted to Ambulance role by the use of two (2) harnesses constructed of web straps which hung from the superstructure, each supporting two (2) stretchers. This harness was developed by A.E.D.B., but is recommended for emergency use only.

The 5-cwt., or "Jeep" has been adapted to Ambulance role by mounting stretchers across the front and rear of the vehicle, and by the use of a tubular superstructure. No development of this nature, however, was undertaken by A.E.D.B.

USERS' COMMENTS

The comments from the field regarding the 3-ton C.M.P. Ambulance have been varied, and excerpts from letters and reports are made herewith:-

1. From East Africa Command, dated July 17th,1944 - from B. Hughes, to H.A.Jackson, Nairobi, East Africa :
"No defect reports have been received of rigid ride and,during trials here,this ambulance (3-ton C.M.P. 4 x 4) performed extremely well, and the ride was considered excellent."

2. From Col. M.G. Hallowes, D.D.M. Ministry of Supply, South East Asia, dated April 14, 1945 :
"The Canadian 4 x 4 Ambulance is considered good. It is considered to have an adequate cross-country performance and a fairly comfortable ride."

3. From Report #66 - 1 Canadian Field Research Section, A.D.M. H.Q. Canadian Forces in the Netherlands :
"The C.M.P. 4 x 4 - 4 stretcher Ambulance is considered satisfactory when used for evacuation from ADS level rearward."
"Question:- Should the ride performance of the present 3-ton Ambulance be improved at the expense of cross-country ability by providing more flexible springing and shock absorbers and different tire equipment?
"Answer:- Recommend no detrimental alteration in cross-country ability of these ambulance cars. Experience in Italy, where main axes of advance were often mere lanes over rough, hilly country, proved that their present, cross-country performance is essential. The ride performance might be improved without affecting cross-country ability, although it is quite good at present."

For further comments on Ambulances in general, the reader is referred to the above Canadian Report #66, and to letter from T.T.2, Ministry of Supply, dated September 13th,1944 - D.M.& S. file #73-B-2.

In spite of the above, certain verbal criticism had been received to the effect that the vehicle was hard riding, and that it swayed unduly. The designers themselves, were dissatisfied with the ride and felt that it should be possible to provide a better ride without sacrificing cross-country ability. To this end, considerable experimental work was done, culminating in the Dodge-Lindsay-Ford Ambulance, outlined on Page 77.

The first Dental Body was designed by the Chief Ordnance Mechanical Engineers Directorate (C.O.M.E.)of Department of National Defence,and is covered by their Drawing 8190. It was a 12 ft. house type body of conventional steel construction of a similar pattern to our current model. Unfortunately, the body with its full compliment of equipment and personnel proved to be too heavy for the chassis, while the overall height of the vehicle - 130" - was considered too great for average bridge clearances. For this reason, the body was not considered satisfactory as a production model. For identification purposes, the body was allocated code - 5H1.

In designing the 5J1 Dental Lorry, the lessons learned in the 5H1 were utilized. Weight was reduced considerably by a lighter under frame, and a body of "Lindsay" construction was used. The overall vehicle height was reduced by lowering the body floor and adding wheelwells, the covers of which could be raised or lowered, thus providing an unbroken flat floor. The ventilators were moved from the roof to the end of the body.

Improvements and additions have been incorporated into the design as production progressed, some at the request of the Dental Corps, some on the initiation of Army Engineering Design Branch. In operation, the Homelite generator,which is carried inside the body when the vehicle moves, is placed on the ground outside the vehicle, in order to avoid exhaust fumes, noise and vibration. In its operating position the generator is connected to the body by a cable, the length of which was originally 25 feet. The noise was found to be excessive at this distance, and it was found by experiment that a 75 ft. length of cable was more suitable and could be used without any troublesome voltage drop.

A number of cases were reported where electric shocks were received from the outlets, and investigation showed that assembly screws were penetrating the insulation of wires. In view of the fact that a check of the circuits through a buzzer did not indicate any defects, the "Inspection Board of the United Kingdom and Canada" instigated a "megger" test, and a minimum allowable resistance to ground was added to the covering specification, at their request.

The 110-volt lights which were mounted in the roof coves drew considerable complaint from the Dental operators,who objected to the spot light effect which was produced and which was not suitably directed, but aimed at the patient's knees.A diffusing lense of opal glass corrected this condition and was supplied in production.

In a high wind, Dental operators were inconvenienced by the sway of the vehicle. This was alleviated by the addition of jacks which stabilized the body when the vehicle was stationary. These jacks are removed and stowed when the vehicle moves. At the request of the user, a black-out switch, coat hooks, camouflage net frame over rear door, fly screens for windows and canvas cover for generator added to the design.

The Dental Lorry was arcticized for operation in temperatures up to -40° Fahrenheit, by the following modifications:

1. Sides, front, rear and roof insulated with ten test, built up of two and one half inch thick ten test spacers between forming an air space. Roof coves are packed with fibre glass.
2. Floor and wheelhouses insulated with 1" thick ten test.
3. Wiring replaced on surface of inside sheeting exposed.
4. Left hand tool box replaced with insulated box containing batteries, 12-volt, Johnson 1.34 H.P. chore-horse generator set and 40,000 B.T.U.Hunter heater. The two portable heaters normally provided with the standard Dental Body are not required.
5. Insulated ducts provided underneath floor to openings for heat outlet and cold air intake.
6. A control box mounted on the left wall operates the chore horse and heater. This arcticized body was known under body code 5J8. The 5J8 bodies were produced primarily for the Eskimo exercise of 1945.

* * * *

At the present time, there is under construction, a new Dental Lorry. The chassis is a 3-ton C.M.P. 4 x 4 - 158" W.B. - extended frame, while the body will carry Code No.5J9. The modifications to the new body are, as follows:-

1. The wheel houses are being moved 14" forward so that the body can be set 14" further back on the frame,thus allowing the spare tire to be mounted between the cab and the front of the body.
2. Newly designed water tanks are to be installed, to permit full drainage and provision made for an immersion type heater.
3. The rear steps are to be of tubular design.
4. The present front shelf is to be replaced by two cupboards.
5. All ventilators (4) are to be power-driven:
   (a) intake-type at bottom of front panel,
   (b) exhaust type at top of front panel,
   (c) two (2) exhaust types at rear of body.
6. Front windows removed and replaced by steel sheathing.
7. Rear door opening to be provided with screen doors.
8. One 10" 110-volt circulating fan to be supplied.
9. Body to be insulated with Rock Wool.
10. Evans heater to be installed on front of body.
11. Communication hatch eliminated and replaced by two-way buzzer system.

Function

To transport personnel requiring medical attention and to administer emergency treatment.

Dimensions

Overall length of vehicle	177"
" width " "	80"
" height " "	90"
Inside length of body	90"
" width " "	68"
" height " "	45"

Weights

Curb weight of vehicle	6160 lbs.
Payload	1090 lbs.
Gross weight of vehicle	7250 lbs.
Maximum allowable weight	7500 lbs.

References

D.M.& S. Schedule of Drawings	Nil
D.M.& S. File No.	73-V-1
A.E.D.B. Photograph file	E-3
Vehicle Code No.	C-H.U-44l-M-AMB-1
Body Code Number	1-C-3
Pilot Model Approval No.	60
Maintenance Manual No.	MB-C2

Source:- Chassis and Body - General Motors of Canada Ltd.

Chassis

The chassis for this vehicle is a Chevrolet Heavy Utility C.M.P. 4 x 4 - 101" W.B. chassis, equipped with 9.25 x 16 tires.

Description of Body

This is an all steel, welded, four door, bus type body with additional door at rear, and includes the driving compartment.

Two doors are provided on each side, the forward entrance for the driver and mate, while the rear side doors and the rear door provide access to the passenger compartment. All doors are equipped with "Monsanto" windows fitted with blackout curtains.

The roof over the passenger compartment is equipped with a slide covered opening. A rectangular roof hatch was provided over the mate's seat until July 1st, 1944, at which time it was changed to a hip ring. A rack is provided on the left side of the rear compartment to carry two stretchers, one above the other.

Two medical boxes are provided, one on each side, the medical box on the right side being fitted with a cushion to serve as a seat for two passengers.

An illuminating light is provided on the roof of the passenger's compartment. Provision is made to carry spare fuel, oil and water.

Later models have interior panels and roof "flocked" to prevent condensation and to deaden excessive road noise.

A - A - A

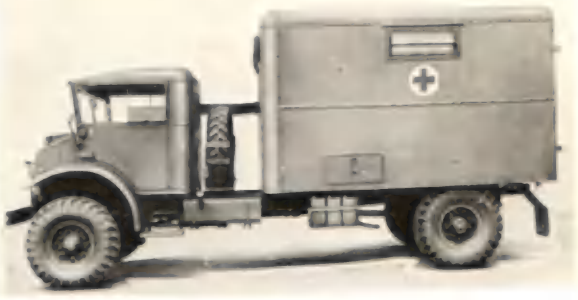
HEAVY UTILITY AMBULANCE - BODY CODE NO. 1 C 5

This vehicle is the same as the 1 C 3 H.U. Ambulance, but is arcticized by the addition of heaters and insulation to the body walls, roof and floor.

HEAVY UTILITY AMBULANCE - BODY CODE NO. 1 C 6

This vehicle is the same as the 1 C 3 H.U. Ambulance except that right side door has been replaced by a spare wheel carrier.

3 TON LINDSAY HOUSE TYPE AMBULANCE



Function

To transport wounded and sick personnel, and to administer emergency treatment while en route.

Dimensions

Overall length of vehicle.....	228-1/2"
" width " "	91-1/2"
" height " "	110"
Inside length of body	119-1/2"
" width " "	85"
" height " "	67-1/2"

Weights

Curb weight of vehicle	10840 lbs.
Payload	1600 lbs.
Gross weight of vehicle	12440 lbs.
Maximum allowable weight ...	12600 lbs.

References

D.M.& S. Schedule of Drawings..	S 18530
D.M.& S. File No.	73-B-2
A.E.D.B. Photograph File No....	E-10
Vehicle Code No.	602L-AMB-2
Body Code	3-C-1
Pilot Model Approval No.	F-24
Experimental Engineering Report	E 424
Maintenance Manual No.....	SB-23

Sources:- Chassis - General Motors of Canada, Ford Motor Company.
Body - Eastern Steel Products Limited
Massey Harris Co. Ltd.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 16 tires and special springs.

Description of Body

The body for this vehicle is a 10 ft. house type body of Lindsay construction. The interior is lined with 3/16 tempered masonite. The sub-frame is of steel channels, welded to longitudinal channels and steel floor covered with linoleum. Wheel houses extend full length to form stowage compartments fore and aft of the wheel well.

Two rear doors are fitted, hinged at the outside edge of the body, with folding steps Sliding windows are provided in each rear door, in each side panel and in front panel. All windows are fitted with blackout blinds.

A communication hatch is provided, between the body and the cab.

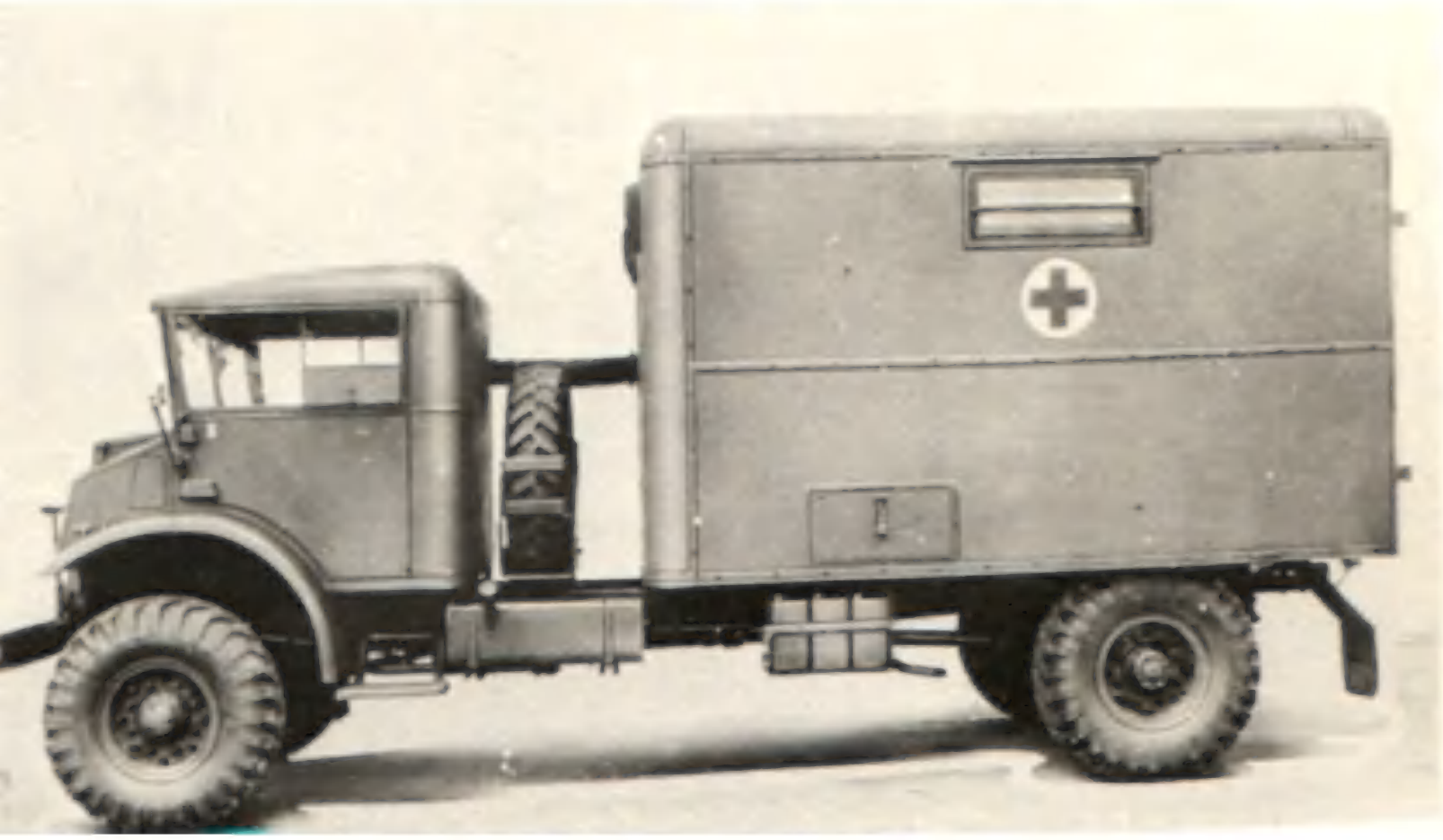
Provision is made for carrying four stretcher patients; two are carried on top of the wheelhouses and the other two on racks directly above. A mechanically operated raising gear, operated by a crank through a worm and wheel which turns a spur gear on a rack, makes it possible to lower the upper stretcher rack for ease of loading patients. In this low position each upper rack can be used as a seat for four sitting patients. Seat cushions and back rest are provided for this purpose.

A blanket cabinet is located in the left corner forward of the stretcher rack, on top of which is mounted a tank for drinking water. A seat for a sitting patient is fitted in the right front corner.

At the front of the body two (2) hot-water heaters are installed on the floor, connected to the vehicle cooling system. A housing for these heaters provides a seat for the attendant, the backrest for which is mounted on a slide covering the communication opening to the cab. Four (4) static type ventilators are provided in the roof and two in the front panel. A ventilating fan is fitted near the roof of the body on the front panel above the water tank.

Two flush type hooks are provided in the ceiling for administering blood serum. Special stowage brackets are provided for two (2) Thomas knee splints. Special containers are provided for blood serum bottles with giving sets, and oxygen therapy equipment.

Two (2) illuminating lamps are provided on the ceiling operated by one switch. In the lighting circuit is installed a blackout switch which turns the light off if the rear doors are opened.



Hand straps are mounted on the ceiling for the convenience of the patients in the upper stretchers.

Hold down straps are also provided to secure stretchers to the racks.

The body is marked on the outside with conventional Geneva crosses.

Medical Equipment Carried in Body

8	blankets
8	towels
4	stretchers

Medical Equipment Carried in Body (Cont'd.)

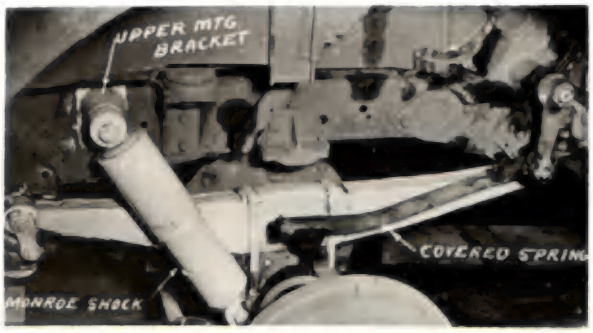
1	bed pan
1	urinal
1	emesis basin
1	First Aid Kit
1	oxygen cylinder
4	blood serum bottles
4	giving sets for blood administration.
1	set oxygen therapy equipment
2	Thomas knee splints
2	McKusker foot pieces

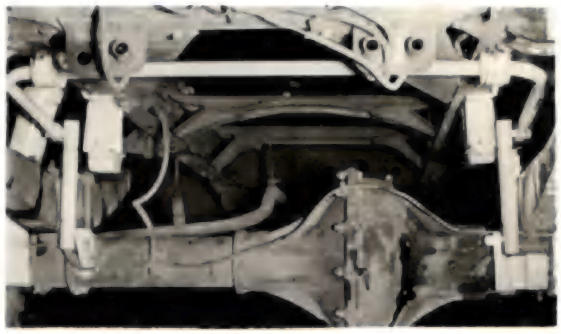
3-TON LINDSAY - DODGE - FORD AMBULANCE

Several experiments in design were conducted in an effort to improve the riding qualities of 3-ton Lindsay Ambulance, and the Lindsay-Dodge-Ford Ambulance represents the latest design modifications to both chassis and body.

Modifications to Chassis

New, soft riding, fully enclosed springs were provided for both front and rear, each spring being equipped with inclined, telescopic, double acting shock absorbers, the rear of which were suspended above the chassis frame level, to "cradle" the suspension. In addition, the side roll was minimized by the addition of a stabilizer, or sway bar.





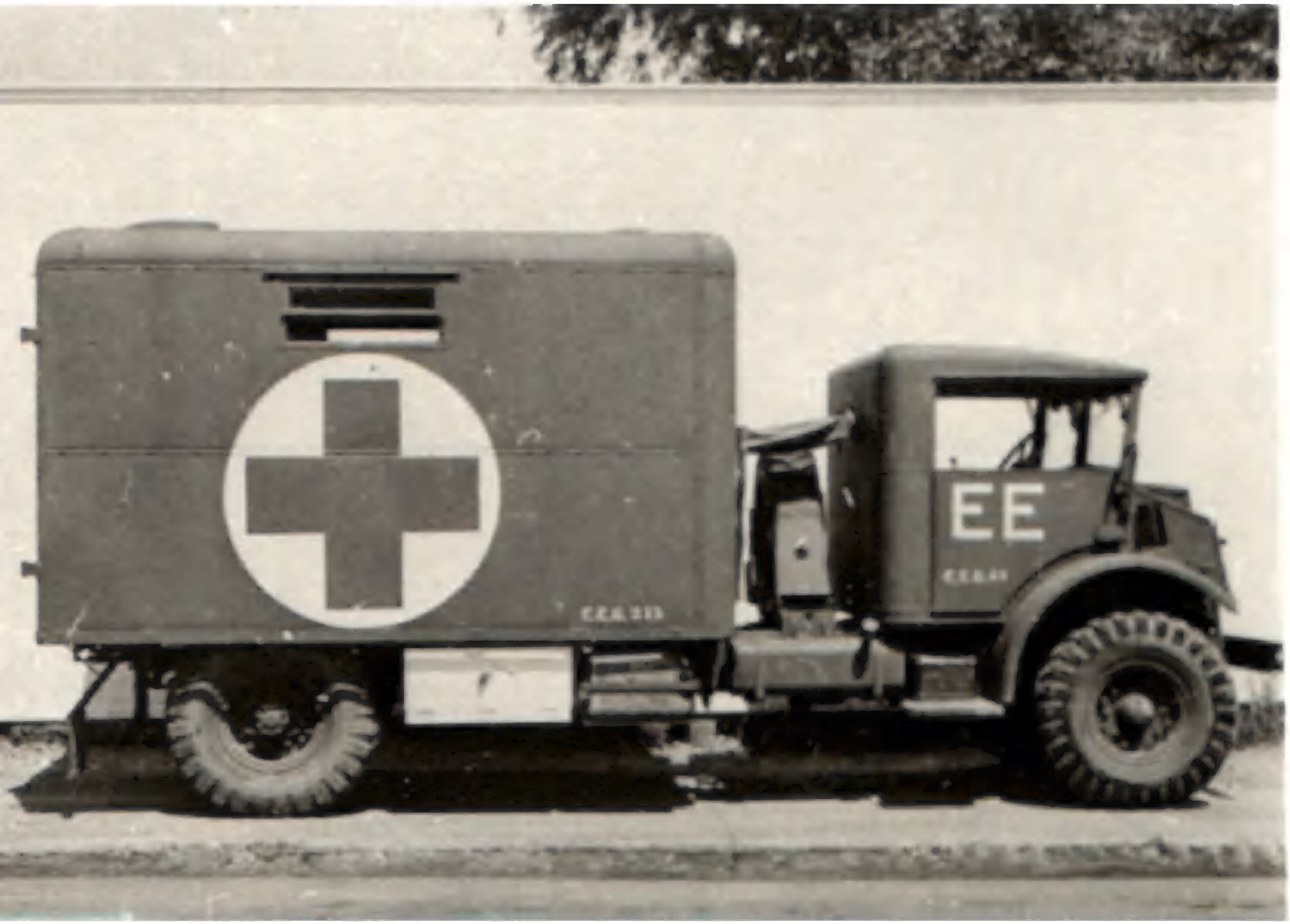
Modifications to Body

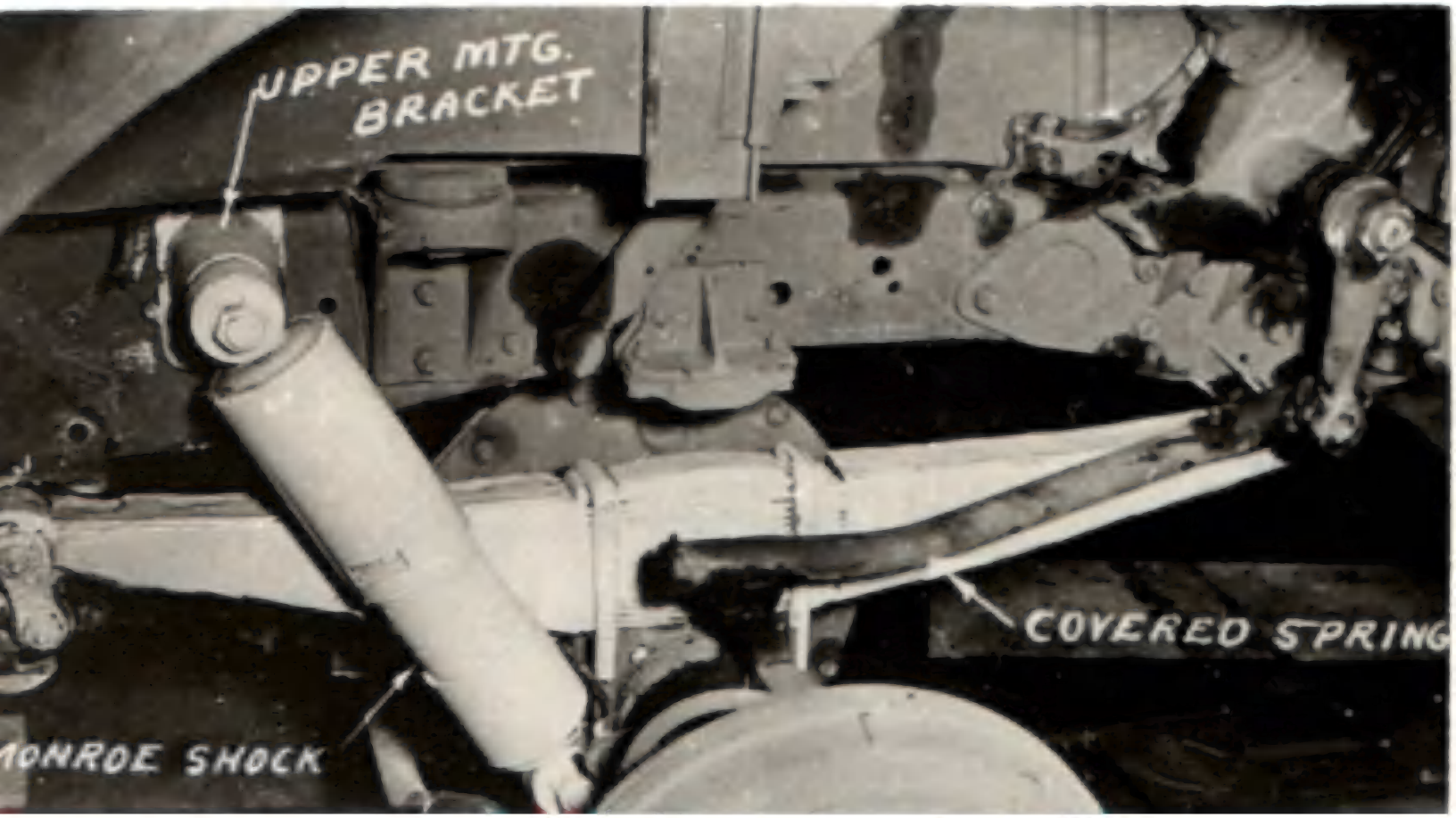
In addition to improving the ride characteristics of the chassis, as described above, the centre of gravity of the entire vehicle was lowered. This latter modification was accomplished by (1) using a body of lower overall height, (2) lowering body on chassis, (3) using lighter equipment inside. The last mentioned improvement was attained by using the U.S. Army Dodge type stretcher support, which pivotted, rather than raised and lowered as on the standard 3-ton Lindsay Ambulance.

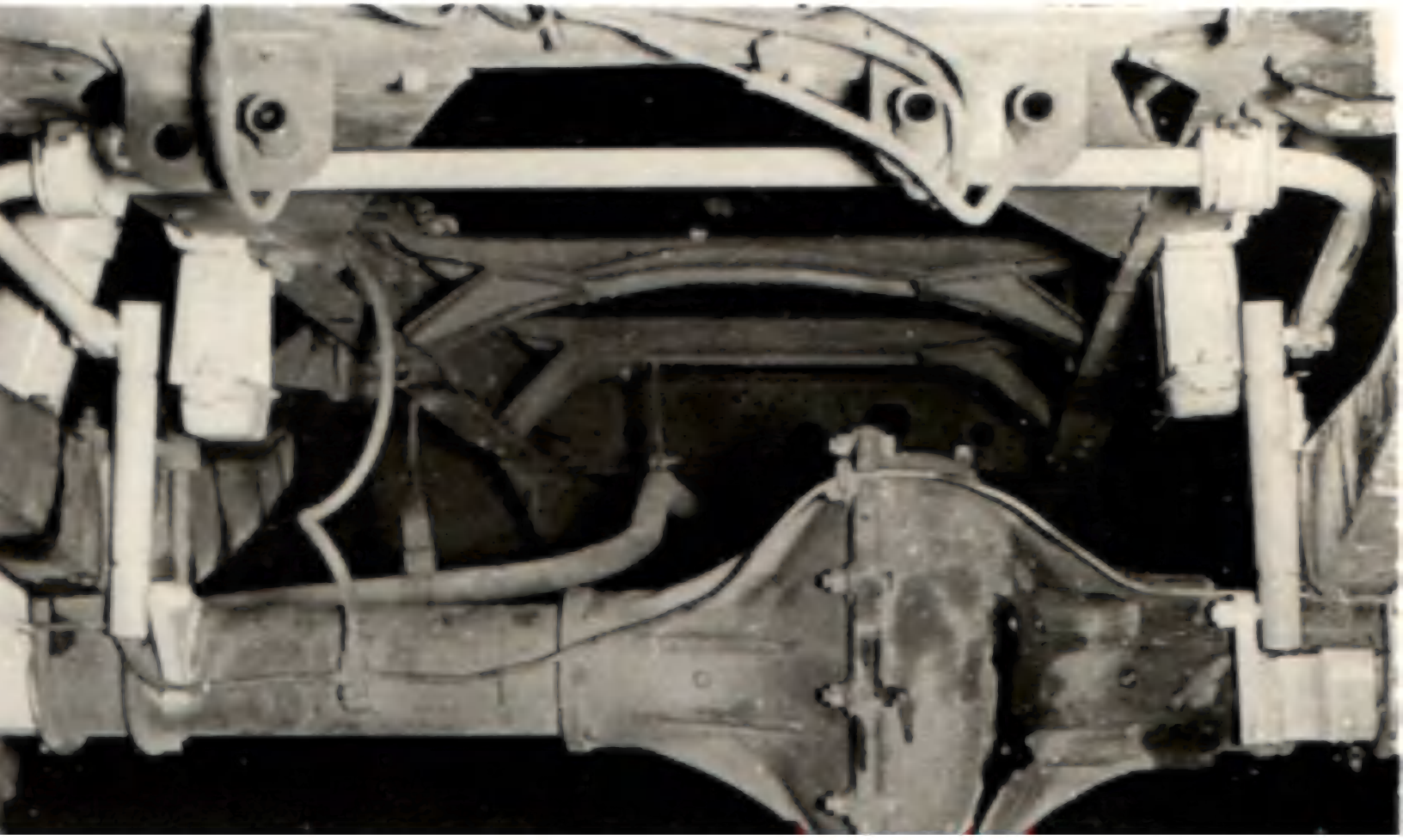
References:

Body Code No.	3-G-6
D.M. & S. Schedule of drawings	S 345900
Experimental Engineering Report Nos.	E 609 & E 618

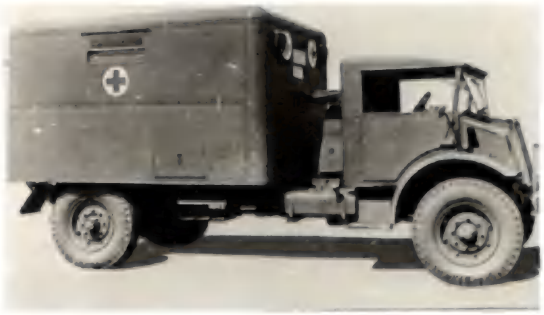
Note:- The modifications in design, as outlined above, were not incorporated into production. However, it is recommended that this design be the starting point for any further study on four stretcher Ambulances.

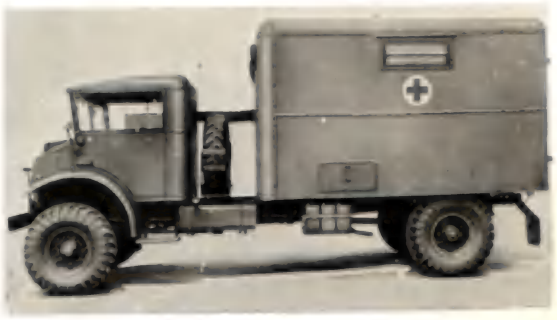

EE


UPPER MTG.
BRACKET
COVERED SPRING
MONROE SHOCK



3 TON LINDSAY HOUSE TYPE AMBULANCE - FOR TROPICAL OPERATIONS





Function

To transport personnel requiring medical attention and to administer emergency treatment.

Dimensions

Overall length of vehicle.....233"
" width " " ..... 94-1/2"
" height " " .....110"

Inside length of body .....119-1/2"
" width " " ..... 85"
" height " " ..... 67-1/2"

Weights

Curb weight of vehicle.....11030 lbs.
Payload ..... 1920 lbs.
Gross weight of vehicle .....12950 lbs.
Maximum allowable weight ....12000 lbs.

References

D.M.& S. Schedule of drawings..S 312565
D.M.& S. File No. 73-B-2-4
A.E.D.B. Photograph File ..... Nil
Vehicle Code No.....60L-AMB-3
Body Code No. 3-G-5
Pilot Model Approval ..... P 256
Maintenance Manual No. SB-41
Experimental Engineering Report E 603
Sources:- Chassis - General Motors of Canada, Ford Motor Company.
Body - Eastern Steel Products Limited.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 16 tires.

Description of Body

This body is basically a 3G1 body modified to withstand the conditions prevalent in tropical climates such as mould, fungus growth, and termite attack.

For this reason all wood components have been deleted from the body with the exception of the substructure longitudinal fillers which have been treated with copper naphthenate solution to withstand the tropical conditions.

The substructure is identical to that of the 3G1.

The body is of Lindsay construction, the same as the 3G1, the outside sheeting being primed and painted on both sides.

The windows are identical to those of the 3G1 and are located in the same positions. The inside sheeting is galvanized steel primed and painted on both sides. The sides and front walls, ceiling and rear doors are insulated with semi-rigid fibre glass, 2" thick.

The stretcher raising mechanism is the same as provided on 3G1 body, but with a substitution of corrugated steel sheet in place of the wooden slats supporting the seat cushions.

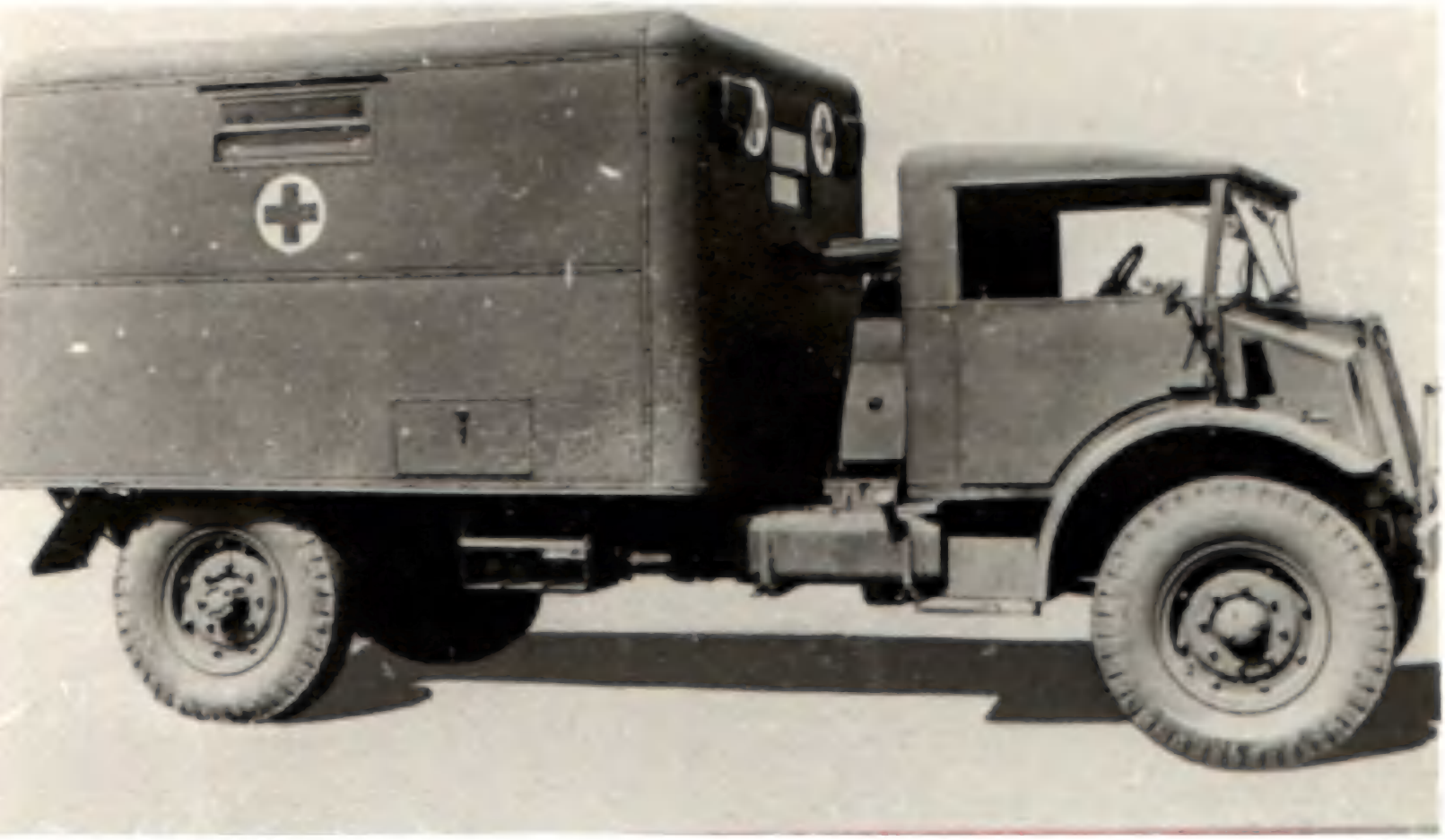
Seat cushions and straps are treated with a copper naphthenate solution to withstand tropical conditions.

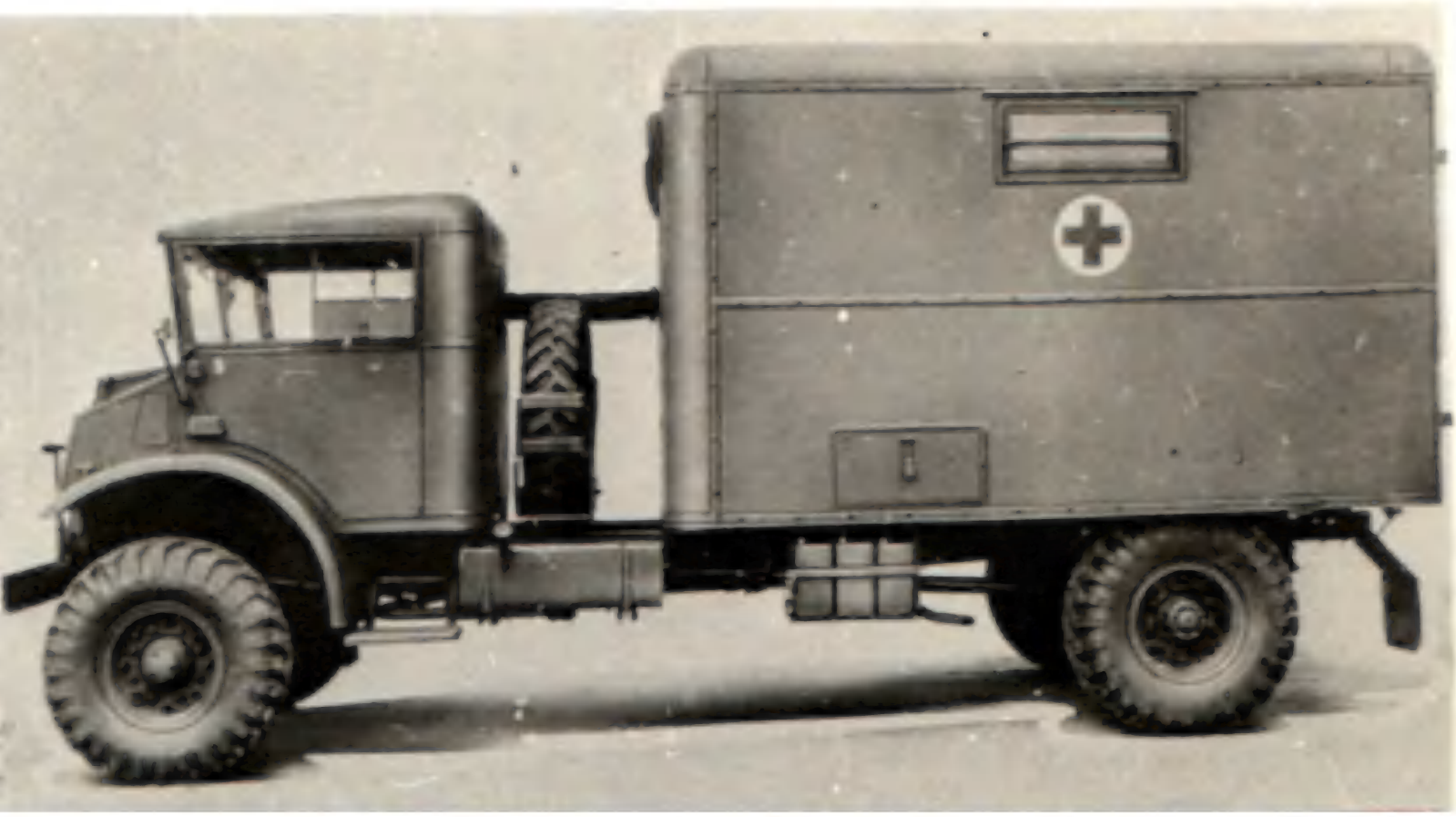
Two of the static roof ventilators are replaced with power driven exhaust ventilators. Ventilator motors and switches are tropic proofed. Heaters as used in the 3G1 ambulance are replaced by a stowage box.

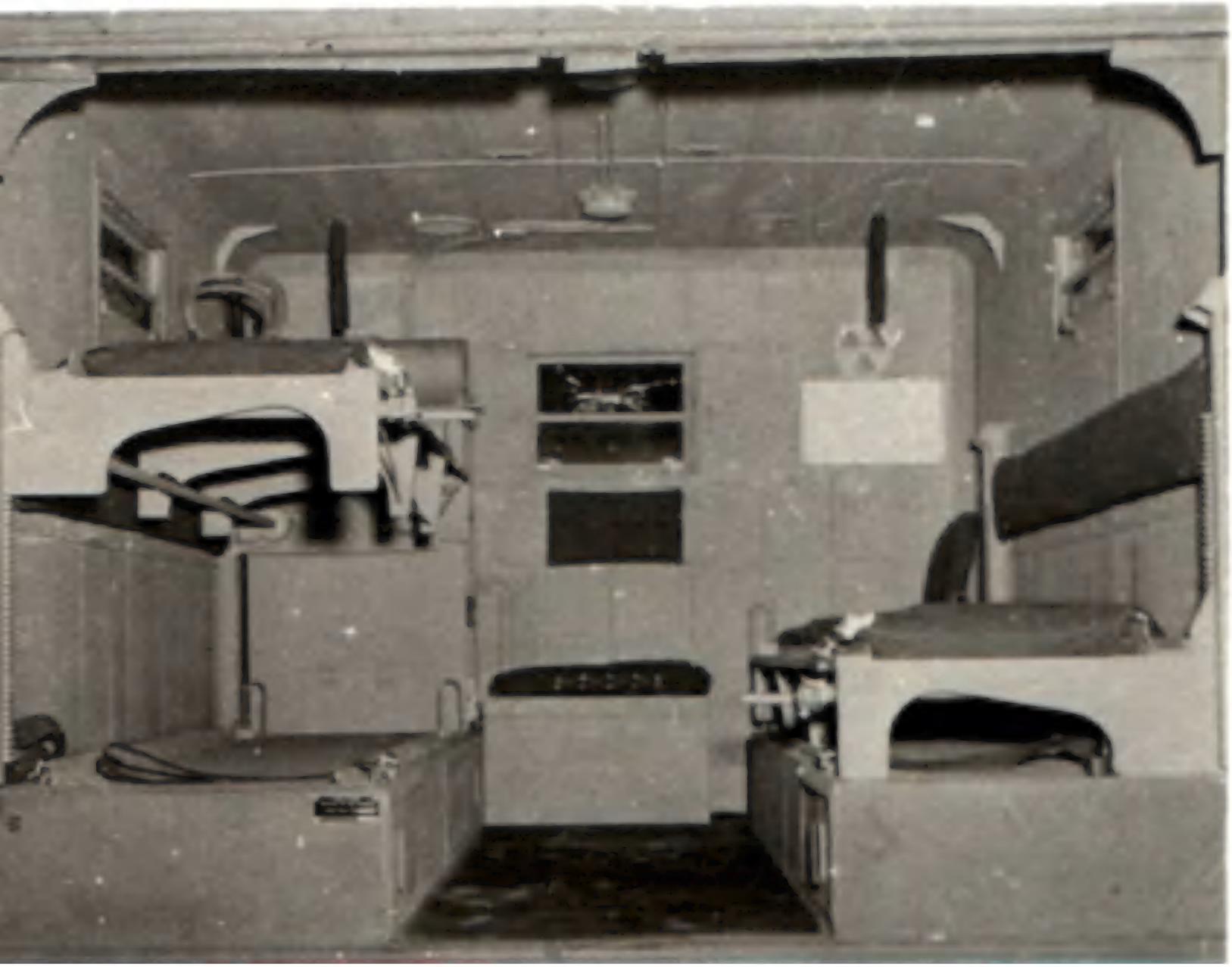
Electric wiring is of Type S cab tire cable, Neoprene jacketted, No. 14 two conductor, exposed on inside face of inside sheeting. All other components are identical to those as supplied with the 3G1 ambulance body.

Medical Equipment carried in body

8 blankets
8 towels
4 stretchers
1 bed pan
1 urinal
1 emesis basin
1 First Aid kit
1 oxygen cylinder
4 blood serum bottles
4 giving sets for blood administration.
1 set oxygen therapy equipment
2 Thomas knee splints
2 McKusker foot pieces







2 TON COMMERCIAL HOUSE TYPE AMBULANCE

Function

The purpose of this vehicle is to transport wounded or sick personnel, and it is designed to carry four (4) stretcher patients and one (1) attendant, or eight (8) sitting patients and one (1) attendant.

Dimensions

Overall length of vehicle	198"
" width " "	82-1/2"
" height " "	73-1/2"
Inside length of body.....	104-1/2"
" width " "	73"
" height " "	56-3/4"

Weights

Curb weight of vehicle.....	4190 lbs.
Payload	2360 lbs.
Gross weight of vehicle	6550 lbs.
Maximum allowable weight.....	10500 lbs.

References

D.M.& S. Specification No.....	O.A. 266
C.M.T. Schedule of Drawings...	CMT-15
D.M.& S. File No.	73-B-2
A.E.D.B. Photograph File No...	E-10
Vehicle Code No.....	Nil
Body Code No.....	3-L-1
Pilot Model Approval No.	Nil
Maintenance Manual No.	Nil

Source:- Chassis - Ford Motor Co.
Body - Canadian Top & Body Corp.

Chassis

The chassis for this vehicle is a 2-ton Ford Conventional 4 x 2 - 158" W.B.chassis equipped with 7.00 x 20 (dual rears) tires.

Description of Body

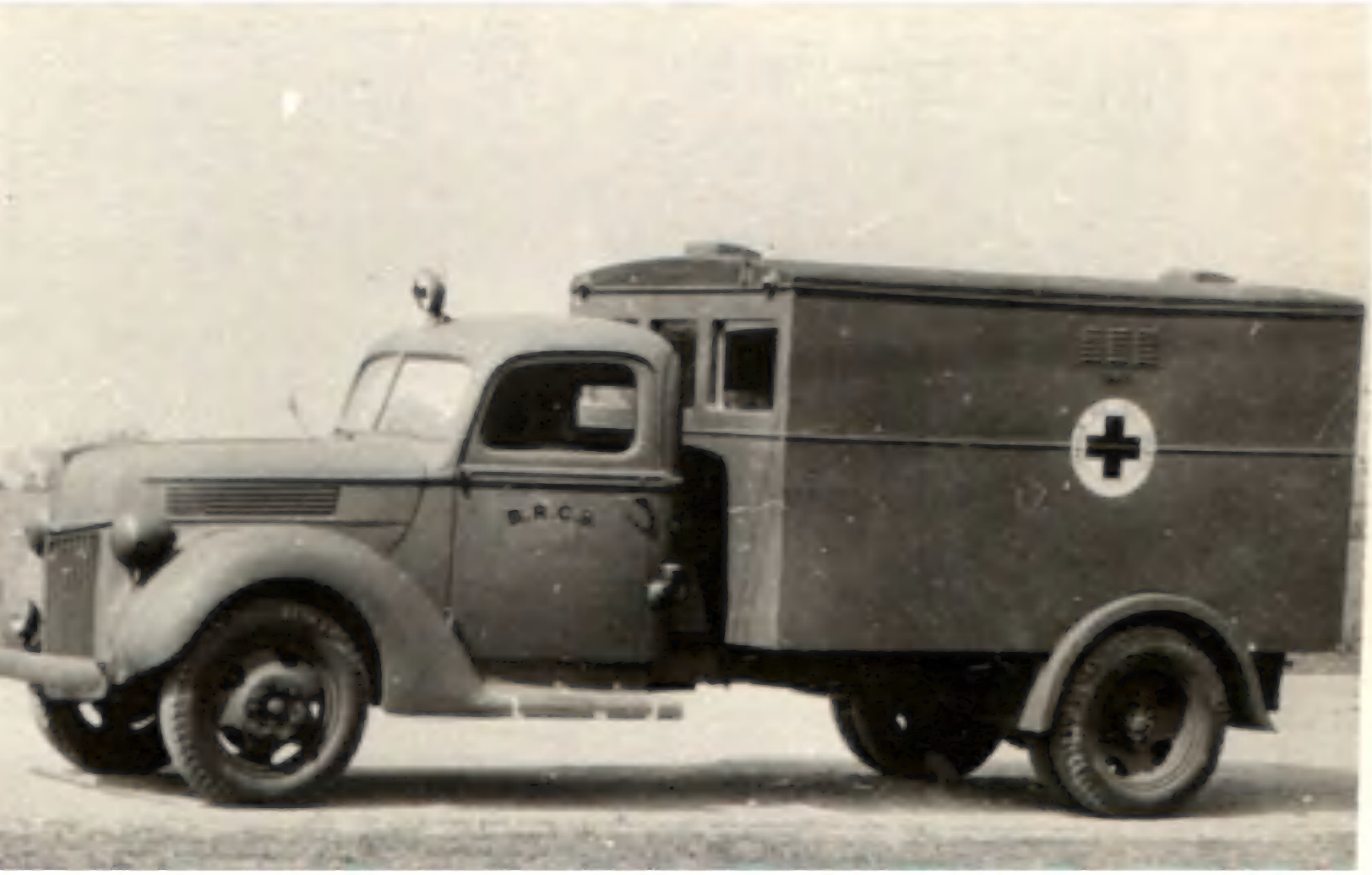
The body of this vehicle is a Composite house type Ambulance body, consisting of a hardwood framework, sheeted on the sides, front and rear, with 20 ga. H.R.E.A.steel, and on the inside with 1/4" tempered masonite. The roof is of 1/4" T. & G. basswood boards nailed to wooden rafters, and covered with a layer of felt padding and 8 oz. treated duck. The floor consists of 7/8" T. & G. hardwood boards screwed to the cross sills and covered with 3/16" rubber matting. The cross sills are bolted directly to and through the chassis frame with Belata belting installed between the cross sills and chassis frame at all points of contact.

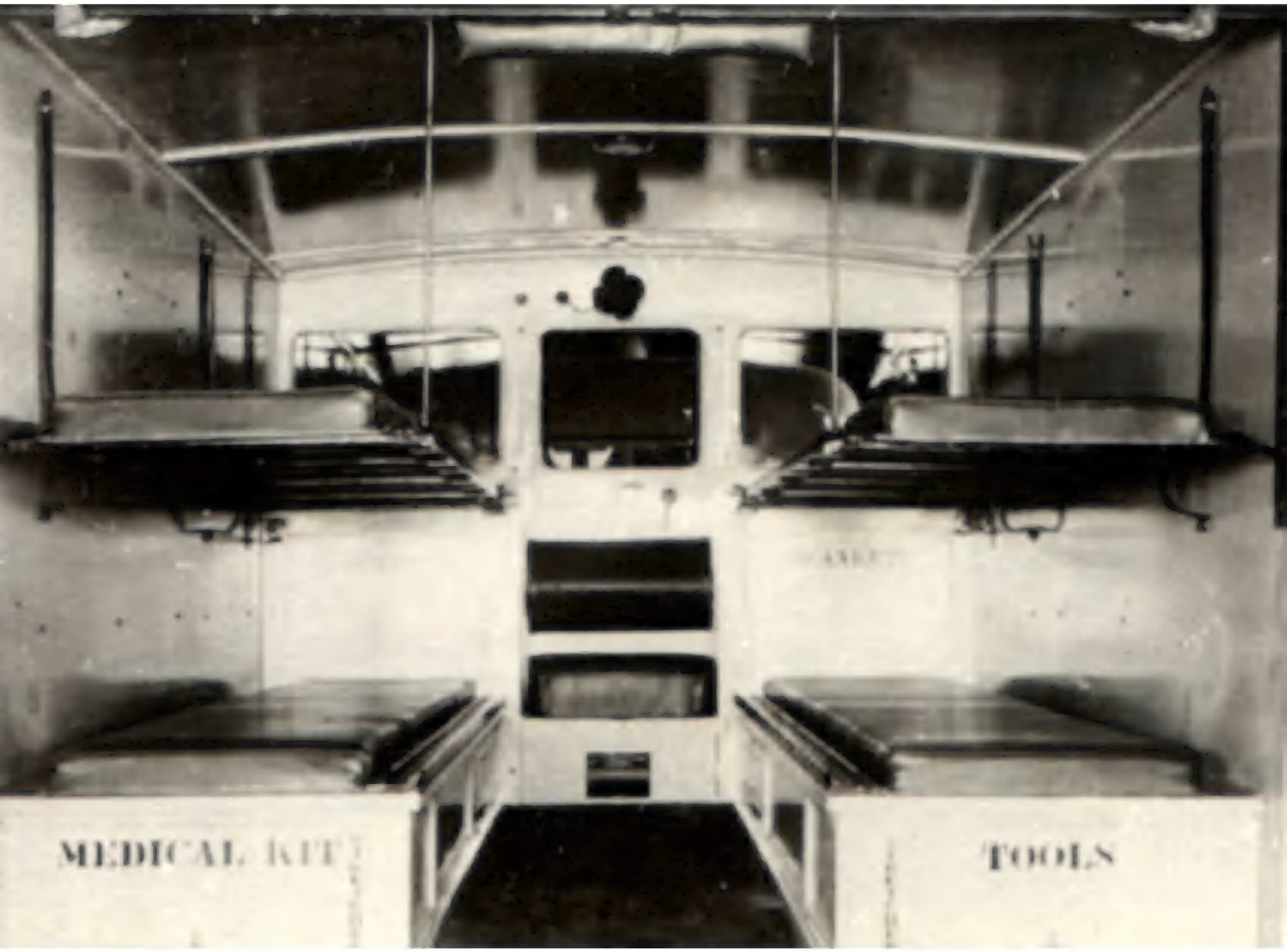
The front panel of the body is equipped with three (3) windows of shatterproof glass, the centre window being of the adjustable type. Each side panel is equipped with a screened ventilator near the roof.

Two doors at the rear of the body provide full width entrance, the doors being hinged to the outside edge of the body. Each door is provided with a shatterproof glass window, and sliding steps are provided for entrance. Two (2) static type ventilators are provided in the roof.

A longitudinal seat is provided along each side of the body, each seat being designed to accomodate a standard stretcher, while stowage space is provided beneath each seat, with a metal door at the rear end. A cabinet is provided between the forward end of each seat and the front panel, while an attendant's seat is provided between the cabinets.

Heat is provided by means of a "rear compartment or re-circulator", which is mounted beneath the attendant's seat and connected to a gasoline heater mounted under the dash in the cab. A dome light is installed in the centre of the ceiling and a 6-volt circulating fan, with rubber blades, is installed in the centre of the front panel.


B.R.C.S.


MEDICAL KIT
TOOLS

DENTAL LORRIES

Function

To be used for Dental Services in the field, accommodation - two Dental Operators and two patients.

Dimensions

Overall length of vehicle.....	238"
" width " "	91"
" height " "	125"
Inside length of body	139"
" width " "	85"
" height " "	77"

Weights

Curb weight of vehicle	10750 lbs.
Payload	2945 lbs.
Gross weight of vehicle	13695 lbs.
Maximum allowable weight ...	16000 lbs.

References

D.M.& S. Specification No.....	C.A. 88
D.M.& S. Drawing Schedule No...	S 18900
D.M.& S. File No.	73-B-6
A.E.D.B. Photograph File No....	E-7
Vehicle Code No.	60L-DENT-2
Body Code No.	5-J-1
Pilot Model Approval No.	P-208
Experimental Engineering Report	E-377
Maintenance Manual No.	MR-C2

Sources:- Chassis - General Motors of Canada.
Ford Motor Company
Body - Brantford Coach and Body.

Chassis

The chassis for this vehicle is a 3-ton C.M.P. 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 20 tires.

Description of Body

12 ft. house type body of Lindsay construction. Interior is lined with tempered masonite. Sub-frame is made of steel channels and steel floor, which is covered with layer of 1/2" thick ten test and battleship linoleum. Wheel wells are designed to drop when vehicle is not moving, in order to provide a flat floor.

Double doors, with two stationary windows, are provided at rear, with folding steps to facilitate entry.

Two pinned windows equipped with quadrants are provided in front panel, while two sliding windows are provided in each side panel. All windows are equipped with removable screens outside.

A kit rack is fitted across front end of the body, and two (2) 12-gallon water tanks are mounted in the forward corners of the body.

One power driven ventilator is installed in the left side of the front panel, and a second in the right side of the rear panel. One static type ventilator is installed in the right side of the front panel, and a second in the left side of the rear panel.

Two tip-up seats are mounted on the rear wall, one on each side of the rear door, and an anchorage is provided on the right wall for an X-Ray bracket.

Four lights, 100-watt, 110-volt, with diffusing lenses and built-in switches, are mounted two on each side wall. Four 6-volt, 16 candle power lights with built-in switches are mounted two on each side wall. A glow light also is provided. A black-out switch, operated by the rear doors, extinguishes all lights except the glow light.

A 110-volt receptacle is provided in the back of the body, while two 110-volt, double, and four single outlets are installed in the cove inside the body.

A 2.5 kilowatt generator complete with 75 ft. of cable is supplied to provide 110 volt current, and two 600 watt, 110-volt, 60 cycle portable heaters are provided with each body.

A frame is provided on the rear of the body to accomodate a camouflage net. Sway jacks are provided to stabilize the body when the vehicle is stationary, and the jacks are stowed in the body when vehicle is in motion.

Stowage is also provided for a pick and shovel.


GENERATOR

3 TON M.O. VEHICLE

Function

This vehicle is an adaptation of a General Service lorry, and its purpose is to provide an auxilliary emergency Operating Theatre under the control of a Medical Officer.

Dimensions

Overall length of vehicle.....238"
" width " " ..... 88"
" height " " .....115"

Inside length of body .....143"
" width " " ..... 79"
" height " " ..... 70-1/2"

Weights

Curb weight of vehicle.....10235 lbs.
Payload, including driver, mate, Medical Officer, attendant and six (6) patients, 240 lbs.each.... 3115 lbs.
Gross weight of vehicle ....13350 lbs.
Maximum allowable weight ...16000 lbs.

References

D.M.& S. Schedule of Drawings..S 33724
D.M.& S. File No. 73-V-31
A.E.D.B. Photograph File No.... E-12
Vehicle Code No. N11
Body Code No. 5-P-2
Pilot Model Approval No. ..... F 161
Experimental Engineering Report E 228
Maintenance Manual No. MB-F1
MB-C1&2

Sources:- Chassis - General Motors of Canada, Ford Motor Company.
Body - Frost & Wood Co. Ltd.

Chassis:

The chassis for this vehicle is a 3-ton G.M.P. - 4 x 4 - 158" W.B. - Code 60L - equipped with 10.50 x 20 tires.

Description of Body

The basic body of this vehicle is a 12 ft. G.S. composite or all steel body, complete with standard iron pipe superstructure and wrap-around tarpaulin, with adaptation fixtures, built in, as follows:-

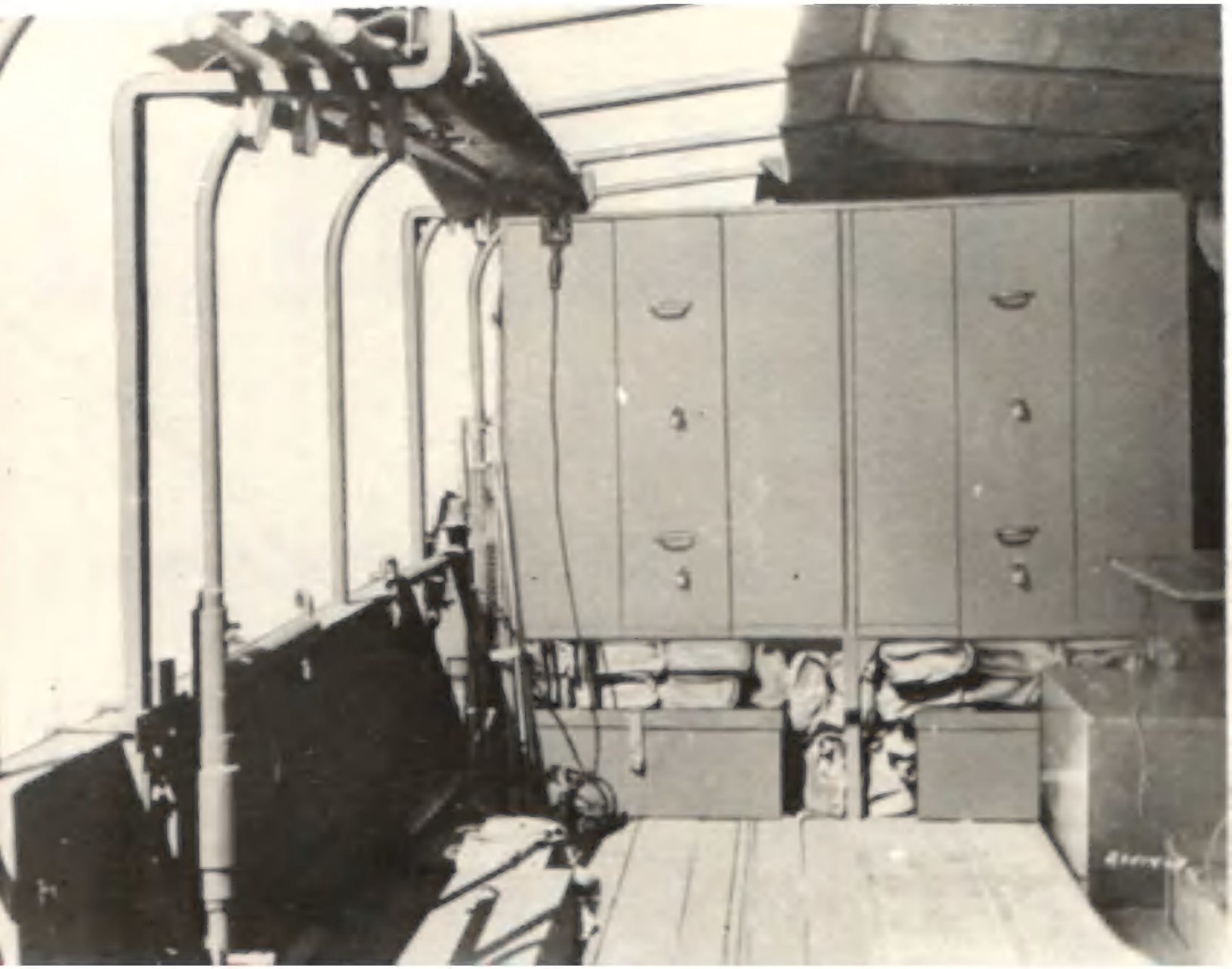
A complete installation of "X" bins was provided at the front of the body, held in position by steel straps bolted to the top rail of the body, and through the front body panel. A "Flint" - spring loaded - two (2) stretcher - gear was installed parallel to the left side panel, bolted to the floor and suspended from the body side panel.

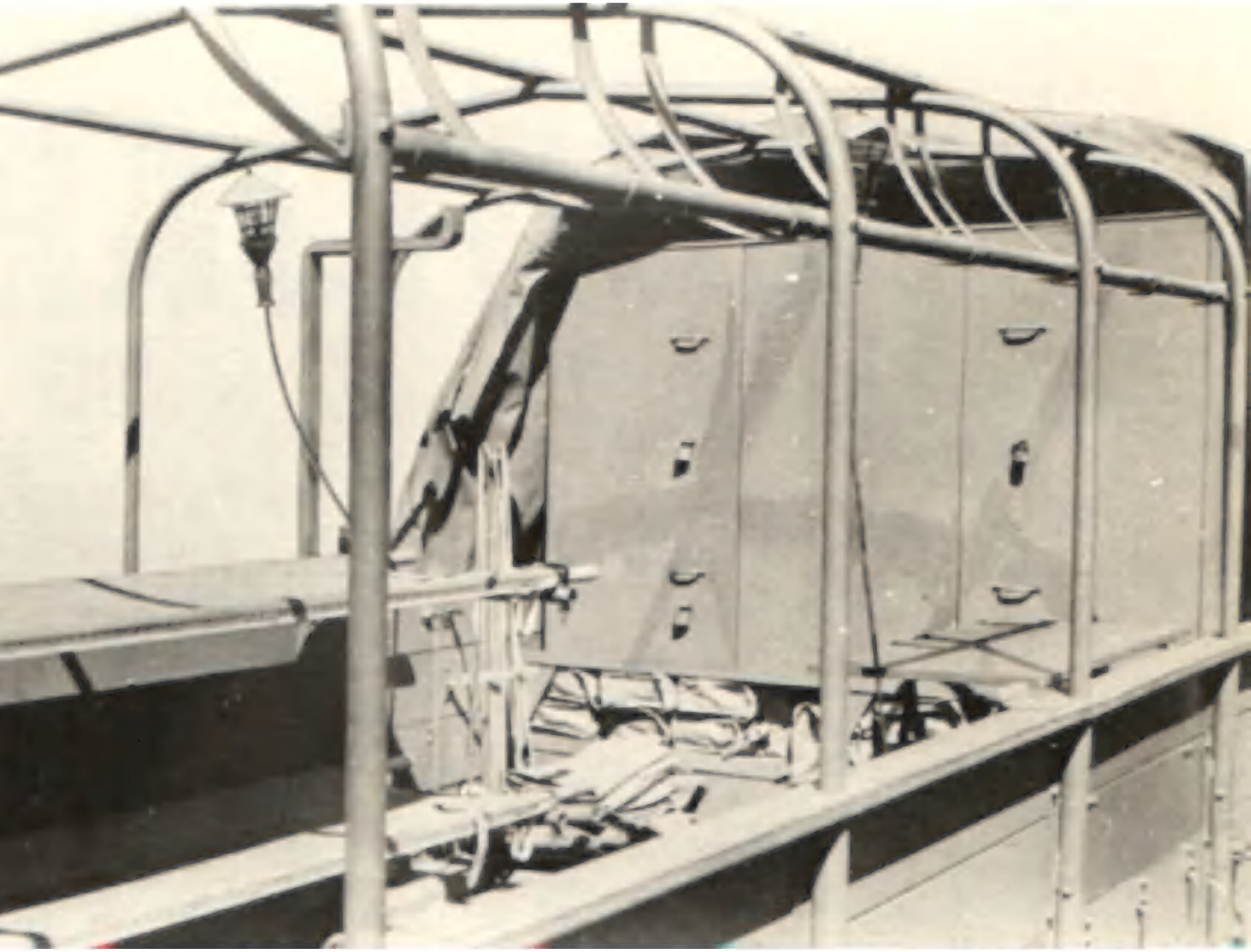
A folding seat for four (4) sitting patients was installed on the right side of the body. A folding table was installed forward of the folding seat, while beneath the table was a rack for two (2) 6-volt auxilliary batteries. A Johnson auxilliary charging plant complete with steel cover, was installed on the left running board.

The right side of the superstructure was fitted with five (5) stowage brackets for stowage of blankets and ground sheet. A double black-out curtain was suspended from the superstructure immediately ahead of the rear of the vehicle tarpaulin.

Communication between the cab and body is established by means of a buzzer system.

A full complement of medical stores, including medical panniers, knee splints, surgical haversacks, transfusion kits, water test kits, blankets and ground sheet were provided, as well as an Officer's bed roll and camp kit.





GUN PORTEES
&
ARTILLERY TRACTORS

GUN PORTEES & ARTILLERY TRACTORS

This classification covers wheeled vehicles built to carry or tow artillery and consists of:-

1. Gun Carriers or Portees - These were built only in the early part of the War.
2. Gun Tractors or Towing Vehicles - The F.A.T. was built in quantity but suffered greatly from lack of power. The L.A.A.T. was quite adequate to its role. The M.A.T. was considered good.
3. Self-Propelled Guns - Only two (2) types of wheeled S.P. gun mounts were produced.

GUN PORTEES

The 2 Pdr. Portee was the first vehicle of its kind which was produced. It was an all welded, all steel body, mounted on a 3-ton C.M.P., 4 x 4 - 101" W.B. chassis, equipped with 10.50 x 20 R.F. tires. The floor was of 11 ga. non-skid steel plate, welded to an all steel substructure, which was cut out to allow fenders to be formed into wheelhouses. A frame to hold two gun wheel ramps was welded to the floor and the front portion of the frame was hinged so that it could be raised and lowered, while a support to hold the gun in position was welded directly to the front portion of the floor. Loading ramps were pivotted on the rear cross sill and when not in use, were raised and held upright by means of two (2) adjustable rods, one on each side of the superstructure. A winch, manually operated from both sides at the same time, was used to load the gun to and from the body, the winch cable being hooked to the gun which was drawn up or lowered down the ramps. When the gun was in position on the body, the cable hook was removed from the gun and attached to the front ramp frame, the two ramp support rods were removed and the front ramps lowered by means of the winch, thus bringing the gun to rest on the front gun support. On each side of the body was a small manually operated drum with crank, ratchet and cable. A special clamp at the end of the cable was attached to the axle of the gun, and the gun was held in position by tightening the cable. The gun trail was held in position by an eccentric locking handle on the gun trail support plate at the rear of the body.

A special superstructure was supplied with this body, being mounted on two (2) pivot pins at the rear, and fastened by means of a pin to the gun wheel ramp frame at the front of the body, thus allowing the superstructure to be raised or lowered in conjunction with the ramp frame. The tarpaulin was designed to cover both the body and the cab, both tarpaulin and cab being supplied by the body manufacturer.

Two (2) - Five (5) compartment boxes were supplied to carry ammunition and tools, while provision was made on the superstructure for the stowage of a Bren gun and tripod, two (2) rifles and two (2) shovels.

A A A A

During the latter part of 1941, a requirement was raised by Ministry of Supply for a portee for the 6 Pdr. gun. The body was to be of composite wood and steel design. A general layout drawing showing the general design of the British portee was received from the United Kingdom and this design, basically, was adopted, with a number of improvements and modifications to suit Canadian manufacturing methods and practice. It was decided to use a 3 ton 4 x 4 - 158" W.B. chassis, with soft top cab and special two (2) piece folding windshield. The body consisted of a reinforced wood platform with angle rails, with ammunition boxes suspended from the substructure. Loading ramps with a double handle winch were provided for loading the gun to the platform, with spring loaded buffer blocks for the gun trails and hold down clamps for the gun wheels at both the front and rear of the body. In this manner, the gun could be loaded to fire either forward, over the cab, or backward, over the rear of the vehicle.

Firing trials were conducted, and it was found necessary to install a special blast shield over the front of the vehicle to protect the engine from damage by the blast of the gun when fired. In addition, the windshield glasses both were shattered and hold down clamps for the windshield were designed to eliminate vibration caused by the blast. Both designs were successful.

The 6 Pdr. Portee, as well as the 2 Pdr. Portee, was for Ministry of Supply account., and after several firing trials, a production order was placed for the 6 Pdr. Portee by Ministry of Supply, being followed by a small order for the Canadian Army. However, the Canadian order later was cancelled.

A A A A

In 1943, a requirement was raised by Ministry of Supply for a 20 M.M. Gun Carrier, the body to be mounted on a 15-cwt. C.M.P. 4 x 4 - 101" W.B. chassis, and a prototype of the British body was received from the U.K., together with a number of photographs, and a general layout drawing. The portee was to be designed so that the gun could be fired either from the vehicle or from the ground.

Improvements and modifications were made, after studying the British prototype, and a pilot portee was built, consisting of a wooden platform and substructure, with ammunition containers set laterally at the front of the platform. A small, round platform was installed between the wheelhouses to accomodate the gun mount. Two lengths of steel tubing were provided, and attached to the rear of the body, thus forming a skid ramp for loading the gun, while a hand operated winch, located beneath the ammunition lockers, was designed to skid the gun mount up and down the ramp. The gun wheels, with stub axles, were stowed on either side of the platform.

Firing trials were conducted, and a production order was placed by Ministry of Supply.

A A A A

GUN TRACTORS

The first Field Artillery Tractor was an all welded, all steel body, mounted on a 3-ton C.M.P., 4 x 4 - 101" W.B. chassis, equipped with Run Flat tires. The body had two (2) entrance doors, one on either side, with seats for personnel, and stowage lockers for ammunition and tools. This was the 7A1 body. However, this later was modified in that a canvas roof was substituted for the steel roof. This was the 7A2 body.

However, with two (2) doors only in the body, it was felt that considerable difficulty was being encountered in the field when rapid entrance and exit of personnel was necessary, and it was decided to repilot the F.A.T., using, basically, the same body as the 7A2, but incorporating four (4) doors - two (2) in each side. This was the 7B1.

When it became necessary to conserve rubber, and "pneumatic" tires were substituted for Run Flat tires, a requirement was raised to supply a spare tire carrier. Due to the short wheelbase, the only available room was on the after deck of the body, and after some deliberation, the spare tire carrier was accomodated in this manner. This was the 7B2.

Reports from the field, however, indicated that the 7B2 - F.A.T. did not fulfill all the requirements that had been anticipated, in that its payload was restricted, due to the design of the body. It was decided, therefore, to pilot a new F.A.T., using the same chassis as heretofore, but considerably modifying the body. The sloping after deck was eliminated, and an all steel, open roof body, with superstructure and tarpaulin, was pilotted, the spare tire being housed in a compartment at the rear of the body. Considerably more stowage space was provided, particularly for ammunition which was either for 17 Pdr. or 25 Pdr. role, and more room was available inside the body for the personnel and their kits. This was the 7B3 body, and proved to be quite satisfactory.

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LIGHT ANTI-AIRCRAFT TRACTOR

The first L.A.A. Tractor was a 10 ft. all welded, all steel body, with superstructure and tarpaulin, mounted on 30-cwt. C.M.P. 4 x 4 - 134" W.B. chassis, equipped with 10.50 x 16 Run Flat tires. The sides of the body were 33" in height and made up in the form of compartments for the stowage of tools, equipment and ammunition, while cushions were provided to fit on top of the compartments, inside the body, to make seats for the personnel. A spare tire for the gun was provided at the front of the body, between the steel lockers. This was the 7D1 body.

When Run Flat tires were replaced by pneumatics, a vehicle spare tire carrier was also installed at the forward end of the body, beside the gun spare tire, on the other side of the forward centre bin. This was known as the 7D2 body. A number of bodies were produced under this code, but the code later was changed to 7J1. There is no difference between the 7D2 and 7J1 bodies.

Reports from the field indicated that the vehicle equipped with 10.50 x 16 tires was overloaded beyond safe measure, and it was decided that chassis should be changed to a 3-ton C.M.P., 4 x 4 - 134" W.B. equipped with 10.50 x 20 tires. This meant that modifications must be made to the wheelhouses of the body to provide the necessary additional clearance for the larger tires. This was done and the body was known as the 7J2 body.

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MEDIUM ARTILLERY TRACTOR

This vehicle was designed for the purpose of towing the 5.5" gun howitzer, and transporting the gun crew and ammunition; the chassis chosen for the role was a Four Wheel Drive Co. 5-ton, 4 x 4 - 144" W.B. with 15-ton, power driven winch.

The vehicle was in operation over a period of four years, and reports from the field indicated that it was standing up adequately under all conditions, despite the fact that its role demanded that it be overloaded by approximately 1100 lbs. over the maximum allowable gross weight of 28000 lbs. However, it must be borne in mind that the overall reduction in this vehicle was 88:1 rather than 103:1, as a result of A.E.D.B. tests and no axle failures have been reported.

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SELF-PROPELLED GUNS

The 40 M.M. Bofors self-propelled gun was pilotted early in 1943, and consisted of a 3-ton C.M.P., 4 x 4 - 134" W.B. chassis, modified to include a power take-off, a special open type cab, a special front axle with 6" joints, reinforced frame and equipped with 10.50 x 16 tires. A Monarch fly ball governor was fitted to control the engine speed when P.T.O. drive is used.

The cab was an open-top type with additional width to accomodate four (4) personnel, two to the left of the driver, and one to the right of the driver. The windshield was hinged at the bottom to permit it to be folded forward in order to allow for a 1-1/2° depression of the gun. A canvas curtain was attached to the lower edge of the windshield to provide protection against weather.

The 40 M.M. C MK. I mounting was bolted to the chassis frame with special bolts which also supported the swivelling outrigger arms, and carried the side levelling jacks which were necessary to stabilize the vehicle when the gun was fired.

Non-skid treads extended from the back of the cab to the rear mounting, while three (3) lockers were provided for stowage of ammunition, gun spare parts, and tools. Provision was made for carrying a spare gun barrel over the left rear wheel.

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USERS' COMMENTS

With the exception of individual comments which have been noted in foregoing paragraphs, the users' reactions to these vehicles have been most favourable. The vehicles have been operated over all types and conditions of terrain without any serious failure, and no drastic change in design has been necessary.

There is under construction at the present time, a new type of Field Artillery Tractor. The chassis is a C.M.P. 6 x 6 - 150" W.B. while the body is basically the same as the Soft Top F.A.T. - Body Code 7B3 except that provision is made to carry the jungle track over the wheel houses.

The change in chassis from 4 x 4 to 6 x 6 is being made for two reasons:- first, to increase the power of the vehicle, and, second, to increase the floatation.

6 PDR. ANTI-TANK PORTEE

Function

The function of this vehicle is to provide fast and ready mobility and manoeuvrability for the 6 Pdr. gun. It is designed so that the gun can be fired from the vehicle, either over the cab or over the rear of the body, or can be quickly dismounted from the vehicle and fired from the ground.

Dimensions

Overall length of vehicle..... 224"
" width " " ..... 90"
" height from ground to top of superstructure.. 129"

Inside length of body ..... 153"
" width " " ..... 96"
" height from floor to underside of superstructure.. 72-1/4"

Weights

Curb weight of vehicle.....11235 lbs.
Gross weight of vehicle including gun, ammunition & 4 personnel 17190 lbs.
Maximum allowable weight .....16000 lbs.

References

D.M.& S. Specification.....O.A. 99
D.M.& S. Schedule of Drawings ...S 33800
D.M.& S. File No. 73-P-18
A.E.D.B. Photograph File No. E-18
Vehicle Code.....60448-M-POTE-1
Body Code 7-H-1
Pilot Model Approval No. 11
Experimental Engineering Report.. E-105
Maintenance Manual No. MB-F1
Sources:- Chassis - Ford Motor Co., General Motors Corp.
Body - Massey Harris Co. Ltd.

Chassis

The chassis for this vehicle is a 3-ton C.M.P., 4 x 4 - 158" W.B. - Code ForC60L, equipped with 10.50 x 20 tires. The cab is canvas covered, with a two (2) piece removable windshield. A hinged blast shield folds over the engine hood to protect the engine from the blast of the gun when firing.

Description of Body

The body of this vehicle is a platform body with steel railing around the two sides. The substructure consists of seven (7) cross sills of B.C.fir or hard wood, finished to 2-1/4" thickness, with two (2) longitudinal sills of B.C.fir or hardwood, finished to 2-1/4" thickness. The floor is of hardwood boards, finished to 1-3/8" thickness and reinforced with 1/8" steel plate. Two (2) spring loaded buffer blocks with hold down gears are provided at the front and rear of the body in order to secure the gun trails, while two (2) wheel chain assemblies are provided to hold the gun wheels in position. The side and front rails are of 1/4" rolled angle. Two (2) removable steel blast shields and two (2) folding seats and two (2) steel chocks are suspended from the top rail of the sides.

Two (2) ammunition lockers are provided at the rear corners of the body, above the floor, while a three (3) partition ammunition container is suspended from each side of the substructure, forward of the rear wheels.

The superstructure is fabricated of 1/4 rolled channel, with rifle clips attached to the longitudinal members. A tailored tarpaulin also is provided.

Two (2) loading ramps are provided at the rear of the body for loading and unloading the gun, and are stowed in the substructure when not in use. A hand-operated winch is located at the left front corner of the body, to raise and lower the gun from the ground to the floor of the vehicle, while skid plates for the gun trails are stowed beside the small ammunition lockers when the vehicle is in motion.

Pick axes and shovels are strapped to the rear of the side rails.


MC 125773

15 CWT. 4 X 4 20 M.M. ANTI-AIRCRAFT

Function

This vehicle is used to carry a 20 M.M. A.A. gun mount. The gun is to be capable of firing while mounted on the back of the vehicle.

Dimensions

Overall vehicle	length	170"
" "	width	88"
" "	height	90"

Weights

	Front	Rear	Total
Curb	4020	3495	7515
Gross	4345	5295	9640

References

A.E.D.B.Drawing Schedule	302200
Body Code No.	2-L-1
Munitions & Supply File No.	73-10-9
Vehicle Code No.	15A-20-MM-AA-1
E.E. Test Report No.	E 384
A.E.D.B.Photographic File	B 12
Maintenance Manual	MB-F1
Spare Parts List	F15A-01

Sources

Chassis by Ford Motor Co., Windsor.
Platform and fittings by Frost and Wood Co., Smith's Falls, Ontario.

Chassis

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

Platform & Fittings

The platform is wood and steel construction with a smaller, round platform between the wheelhouses to accommodate the gun mount platform.

Built above the platform at the forward end are 3 boxes, or lockers, for ammunition stowage. P.O.W. Carrier, toolbox and spare tire are situated between the cab and the platform.

Two lengths of tubing are provided, which are attached to the rear of the platform. This forms a ramp for skidding the gun and mounting on to the platform. A handwinch, situated underneath the ammunition lockers, is used to skid the mount up the ramp.

The gun mount wheels, with stub axles, are stowed one on each side of the platform, underneath the ammunition lockers.


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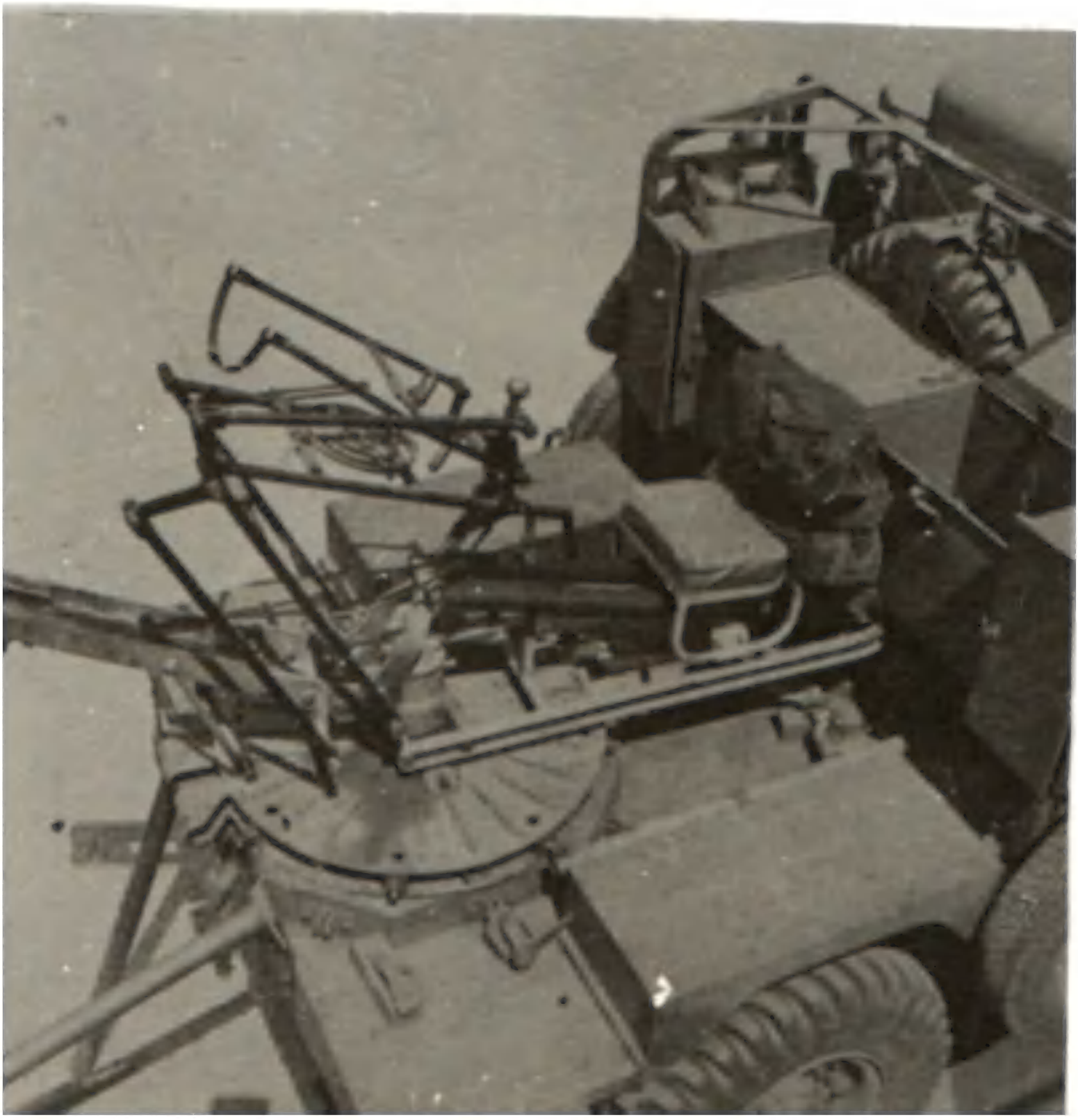


Function

The function of this vehicle is to tow field artillery pieces and carry gun crews over all types of terrain.

Dimensions

Overall vehicle length.....	175"
" " width	90"
" " height	99"

Weights

	Front	Rear	Total
Curb.....	4000	6800	10800
Laden	4560	7900	12460

References

A.E.D.B. Drawing Schedule.....	11579
Body Code No.....	7B2
Vehicle Code No. .....(F or C)GT-FAT-4	
Maintenance Manual MB-F1	
Parts List	SE-39-42
Munitions & Supply File No.....	73-T-4

Sources:- Body by Gotfredson's Ltd., Chassis by General Motors of Canada & Ford Motor Company.

Chassis

The body is designed for mounting on a Ford or G.M. 3-ton 4 x 4, 101" W.B.chassis, with chassis winch - Code FGT and CGT.

The winch is mounted between chassis side rails, and is equipped with front and rear fairleads and 125' of 5/8"cable.

Body & Equipment

The body is of all steel construction and carries a crew of 4 men in addition to the driver and mate. Provision is made on the rear deck of the vehicle for carrying wire, camouflage netting and a spare tire.

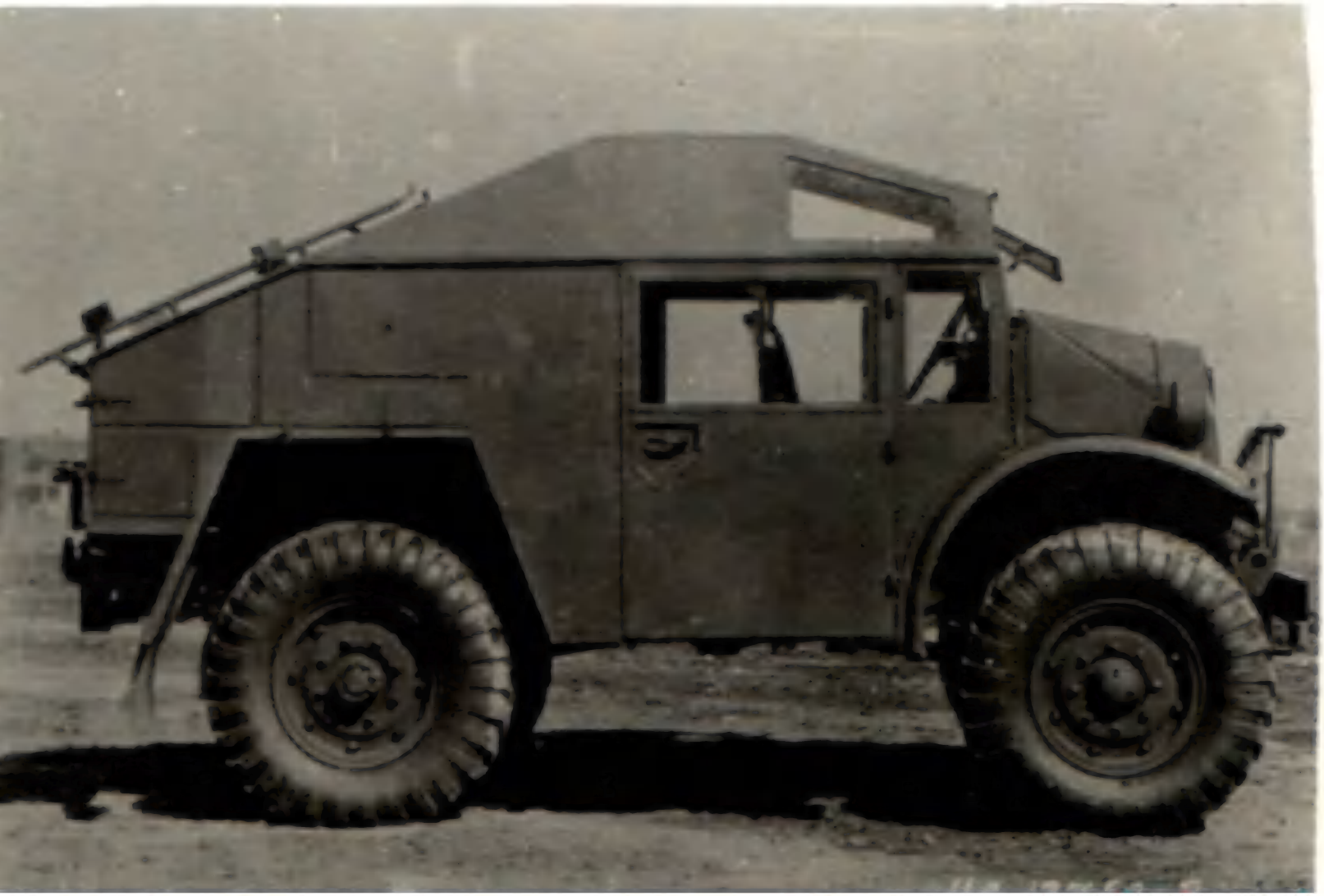
In the rear portion of the body, underneath the deck, several lockers are provided for the stowage of vehicle tools, ammunition, paralleloscope, camouflage poles, rifles and soldiers' kits.

Scotches are provided for use in winching operations.

This is the third type F.A.T. (Body Code 7B2). It is equipped with latest type cab and front end sheet metal. Two (2) doors are provided in each side. It supersedes F.A.T. body 7A2, shown below.

The 7B2 Body, in turn, was superseded by Body 7B3, shown on page 88.

F.A.T. Body Code 7A2



FIELD ARTILLERY TRACTOR (SOFT TOP)

Function

This vehicle is used to tow field artillery pieces and to carry gun crews over all types of terrain.

Dimensions

Overall vehicle length.....169"
" " width ..... 83"
" " height .....104"

Weights

	Front	Rear	Total
Curb	4350	6275	10560
Gross (17 Pr.Role)	4626	9401	14027
" (25 " ")	4359	8717	13076

References

A.E.D.B. Drawing Schedule.....306530
Munitions & Supply File No. .. 73-T-4-2
Vehicle Code No.....(F or C)GT-FAT-5
Body Code No. 7B3
Maintenance Manual MB-F1
Parts List..... FGT-01
Drivers' Handbook.....FGT-HC1
Sources:- Chassis by Ford Motor Co..
Body by Gotfredson's Ltd..

Chassis

The body is designed for mounting on a Ford or G.M. 3-ton 4 x 4, 101" W.B.chassis, with chassis winch, - Code FGT or CGT.

The winch is mounted between chassis siderails; is equipped with front and rear fairleads and 125' of 5/8" cable.

Body

The body is of all steel construction, with an open roof which is covered by a superstructure and tarpaulin.

Compartments are provided on the right and left hand sides of the vehicle,underneath the doors. The tools and battery for the vehicle are carried in these compartments.

Inside the body provision is made for carrying 4 men and the driver and mate, plus their personal equipment.

In the rear of the body stowage is provided for rifles, Bren & Sten guns, camouflage netting, ground anchors and camouflage poles. Stowage of the shovel, pick and sledge hammer is provided for in the spare tire compartment.

The ammunition stowage compartment is at the rear of the vehicle. Access is gained by a tailgate. The ammunition stowage may be varied to suit the 17 or 25 Pdr. role.

NOTE:-

This supersedes all other production F.A.Ts, being the last type released during hostilities.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E.E.G.151


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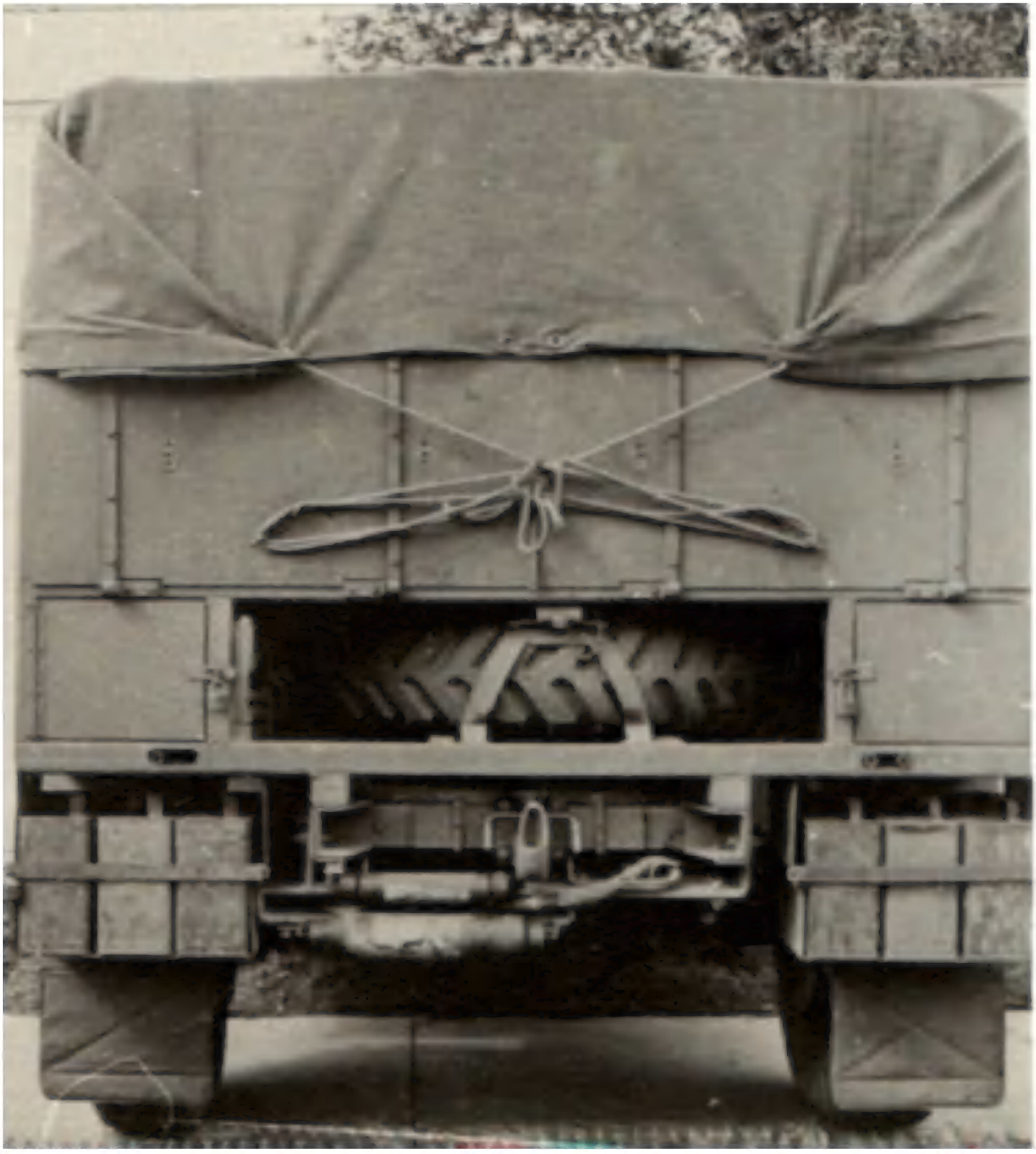
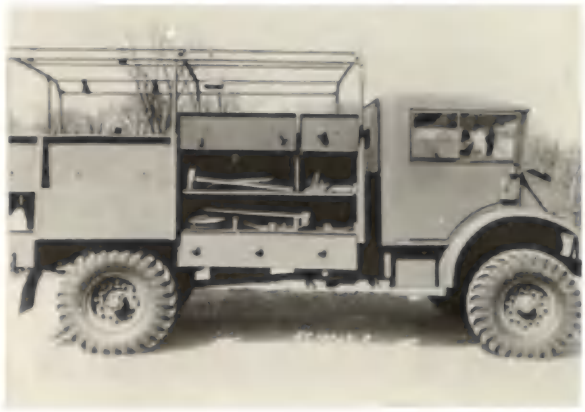


LIGHT ANTI-AIRCRAFT TRACTOR



Function

This vehicle is used to tow the 40 M.M. gun. A spare gun barrel, ammunition, and the crew are carried in the tractor, as well as a spare tire for the gun. The vehicle and gun thus form a complete mobile A.A. unit.

Dimensions

Overall length of vehicle.....	211"
" width " "	88"
" height " " to top of superstructure..	101"
Inside length of body	118-1/2"
" width " "	80-3/8"
" height " " to underside of superstructure..	58-1/4"

Weights

Curb weight of vehicle	10250 lbs.
Gross weight of vehicle including 7 personnel.....	13600 lbs.
Maximum allowable weight	16000 lbs.

References

D.M.& S. Schedule of Drawings...	S 39850
D.M.& S. File No.	73-T-6
A.E.D.B. Photograph File No. ...	E-16
Vehicle Code No.....	60S-LAAT-1
Body Code No.	7-J-2
Pilot Model Approval No.	23
Maintenance Manual No.	MB-F1
	MB-C1

Sources:- Chassis - Ford Motor Company, General Motors Corp.
Body - Steel Body Mfr. Assoc.

Chassis

The chassis for this vehicle is a 3-ton, C.M.P., 4 x 4 - 134" W.B. - Code ForC 60S, and is equipped with 10.50 x 20 tires.

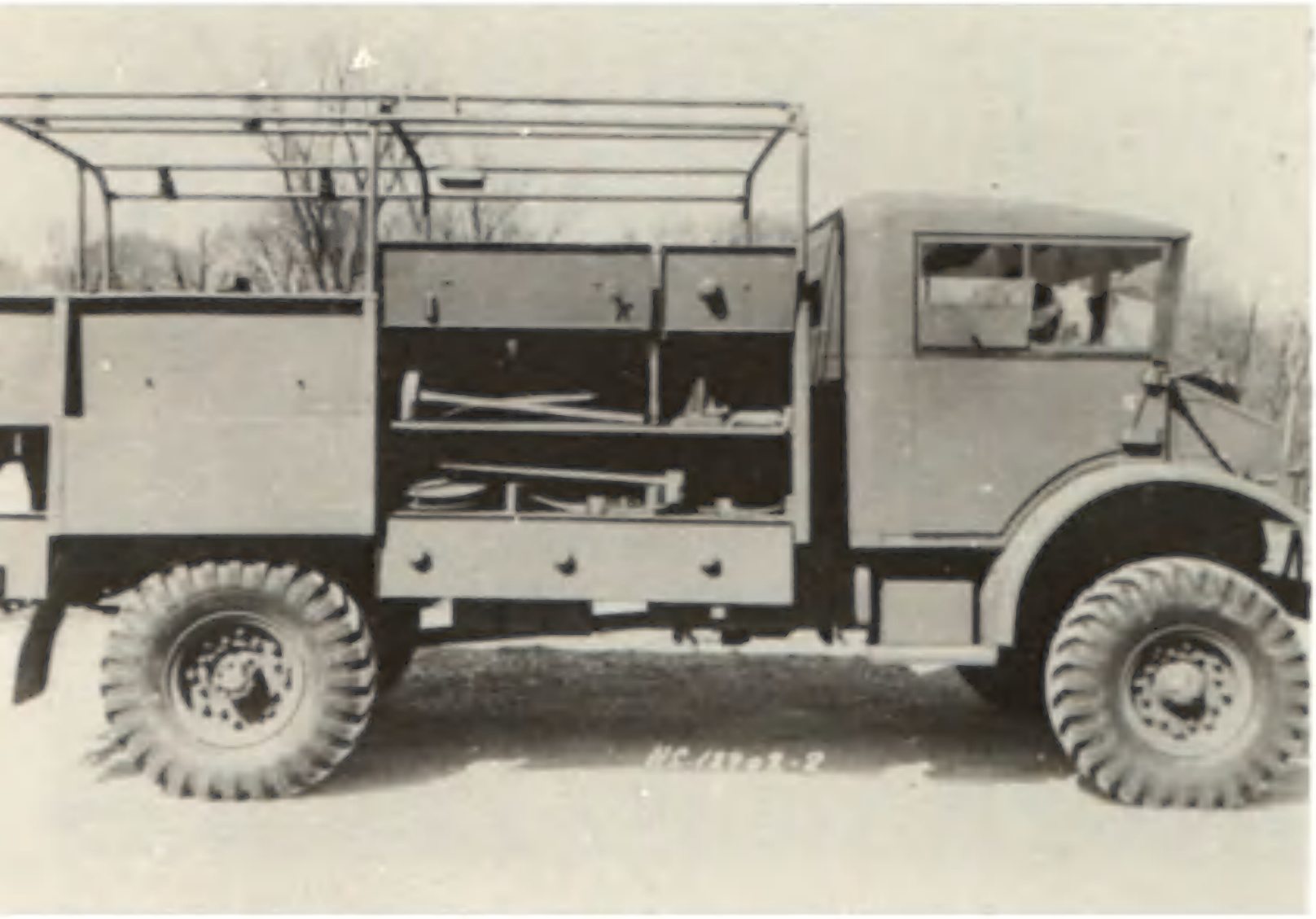
Description of Body

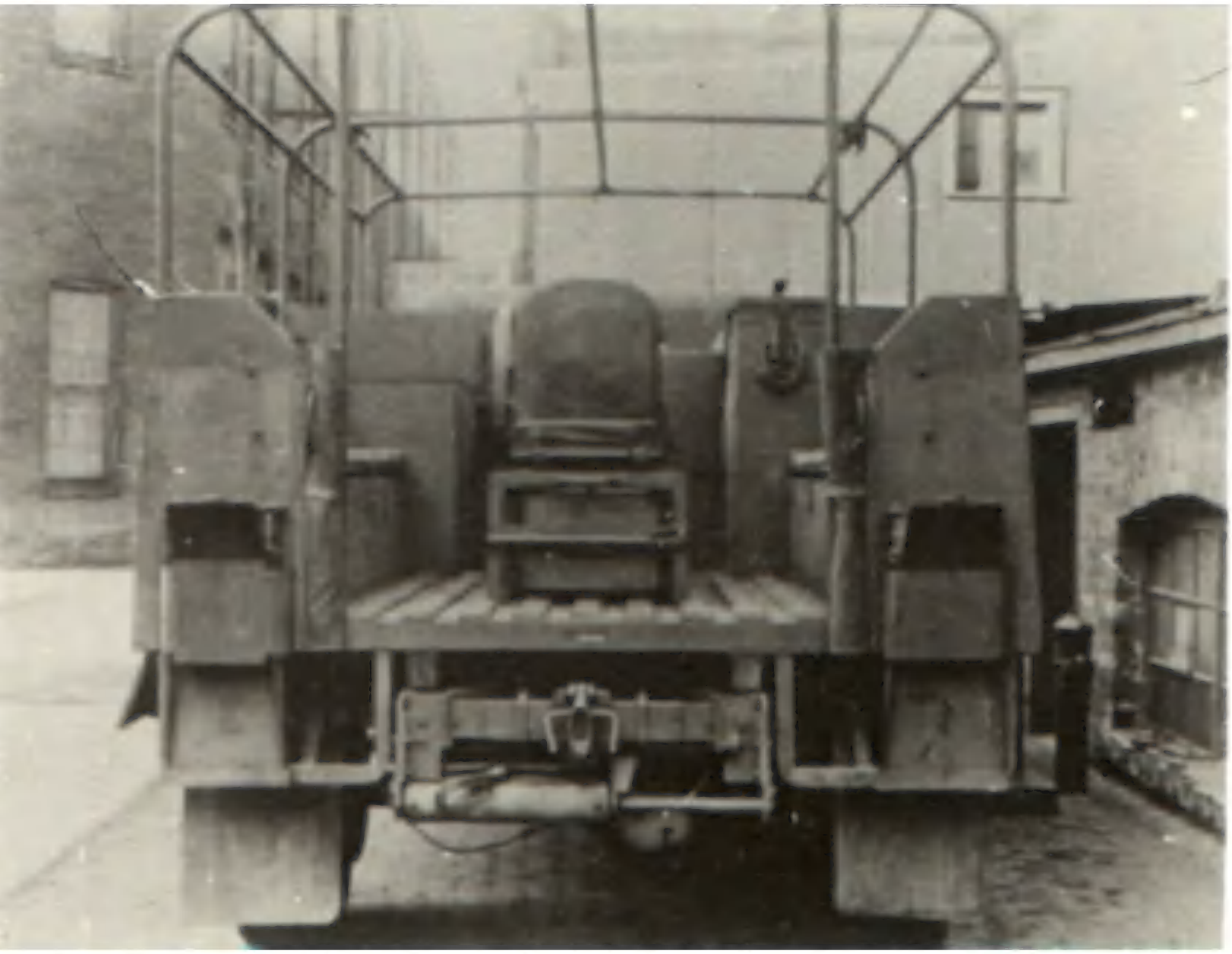
The body for this vehicle is a 10 ft., all-steel G.S. type body. The substructure consists of 10 ga. H.R.B.A. formed steel cross channels and two (2) 10 ga. longitudinal members. The floor sheet is of 10 ga. H.R.B.A. steel plate, and is welded to the substructure. The side panels are of 14 ga. H.R.B.A. steel and each side is formed into four compartments which open from the outside and are used for stowage of ammunition, tools and equipment. Cushions are provided to fit over the tops of the compartments to form seats for six of the personnel while a single folding seat is located in the centre of the body facing toward the rear. The base of the single seat is a framework in which is stowed a spare gun barrel. Immediately behind the centre seat is a box for stowage of extra gun parts, and a dial sight box is located to the right of the centre of the body. Nine (9) open type bins are provided in the forward part of the body for stowage of the kits of the crew, while a tenth bin is provided for general stowage.

The vehicle spare tire and a spare tire for the gun are mounted at the forward end of the body on either side of a large covered compartment which also is used for general stowage.

A P.T.O. winch with rear fairleads also is provided. Two brackets are welded, one on either side of the body at the rear, to act as steps for entrance to and exit from the body, and are designed to hold two (2) scotches.

A standard iron pipe superstructure with tarpaulin also is provided for this body.





MEDIUM ARTILLERY TRACTOR

Function

This vehicle is provided to tow the 5.5" gun howitzer over both highway and cross-country. The gun crew and a limited amount of ammunition for the gun is carried in the vehicle.

Dimensions

Overall length of vehicle..... 265"
" width " " ..... 94"
" height from ground to top of roof ..... 122"

Inside length of body ..... 171-5/8"
" width " " ..... 85-3/4"
" height from floor to underside of roof ..... 64"

Weights

Curb weight of vehicle.....16600 lbs.
Gross weight of vehicle including payload .....29100 lbs.
Maximum allowable weight ....28000 lbs.

References

D.M.& S. Specification No..... O.A. 63
D.M.& S. Schedule of drawings... S-11271
D.M.& S. File No. 73-T-5
A.E.D.B. Photograph File No. ... E-17
Vehicle Code 100444-C-MAT-1
Body Code 7-K-1
Pilot Model Approval No. ..... Nil
Maintenance Manual No.....C444-PWD-2
Sources:- Chassis - Four Wheel Drive Co.,
Body - Wilson Motor Bodies Ltd.

Chassis

The chassis for the vehicle is a 5-ton F.W.D. - S.U., 4 x 4 - 144" W.B., Code 100444-C, equipped with 13.50x20 tires.

Description of Body

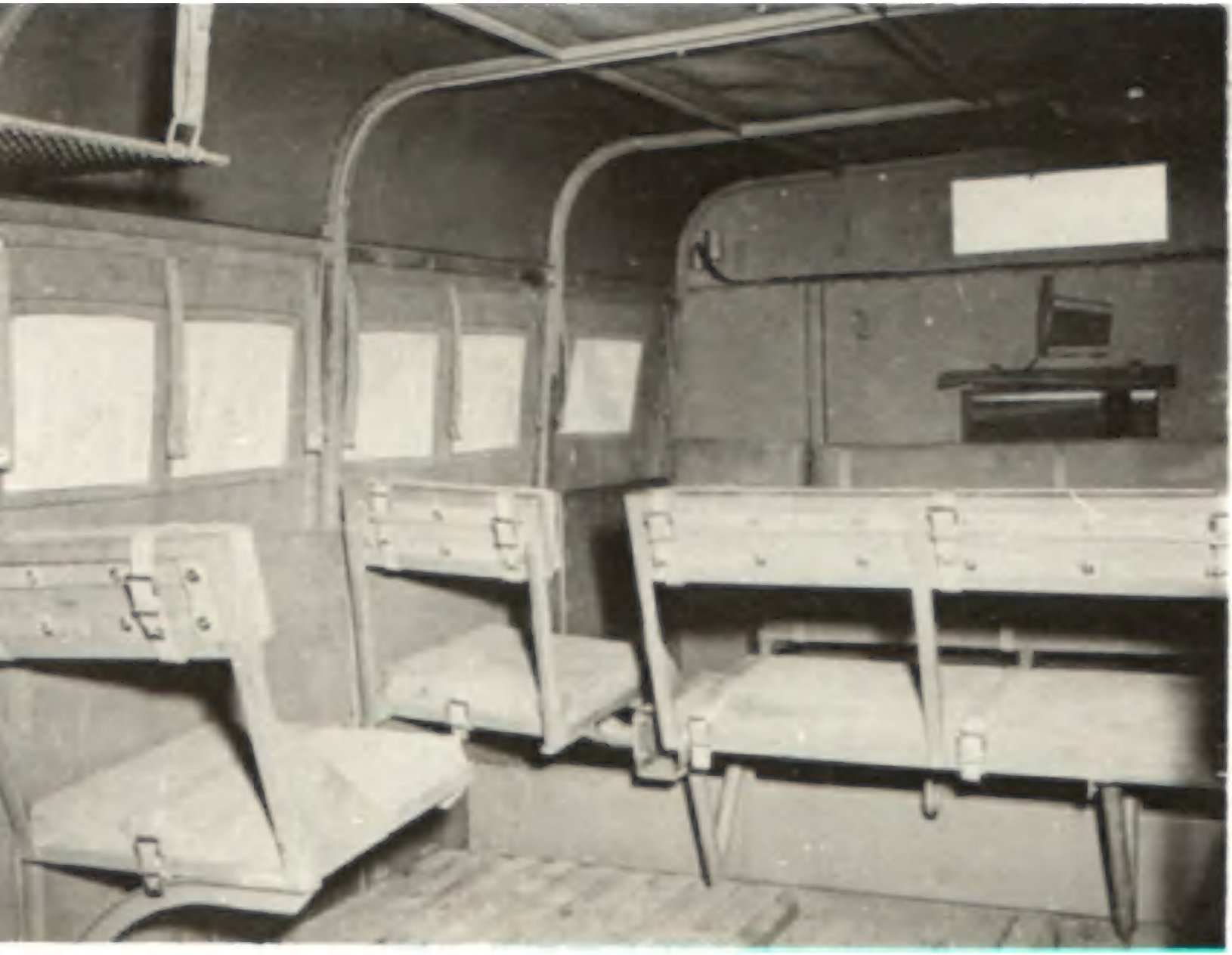
The substructure of the body consists of nine (9) cross sills of #10 ga. formed H.R.B.A. steel channel and two (2) longitudinal sills of 8" standard steel channel at 11.5 lbs., with hardwood sill fillers finished to 2-1/4" x 9/16". The floor plate is of 1/8" non-skid steel sheets, welded to the substructure.

The side panels and tailgate are of 12 ga. H.R.B.A. steel, and are all welded construction. The front panel is in three (3) sections - the lower being of 12 ga., the intermediate of 16 ga. and the top of 20 ga. H.R.B.A. steel. Two (2) openings are provided in the front panel, for observation and communication, and can be closed by means of two (2) sliding panels. The roof panel is of 20 ga. H.R.B.A. steel and extends the full length of the body with an observation hatch at the front. Two (2) hinged doors are provided in the forward part of each side panel, with grab handles welded to the body and a steel ladder under the doors. Roll-up side curtains with monsanto windows are provided for the upper part of the body.

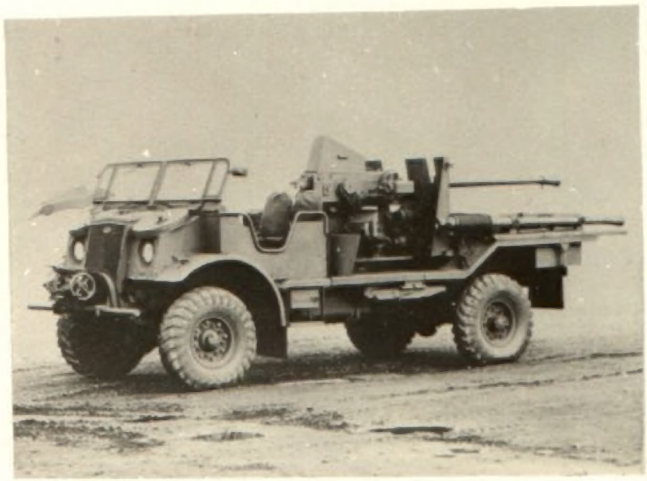
The rear portion of the floor has chamfered runners and chocks to provide stowage for ammunition; and a removable bumper bar extends from side to side. Folding seats, facing forward, are provided for the personnel.

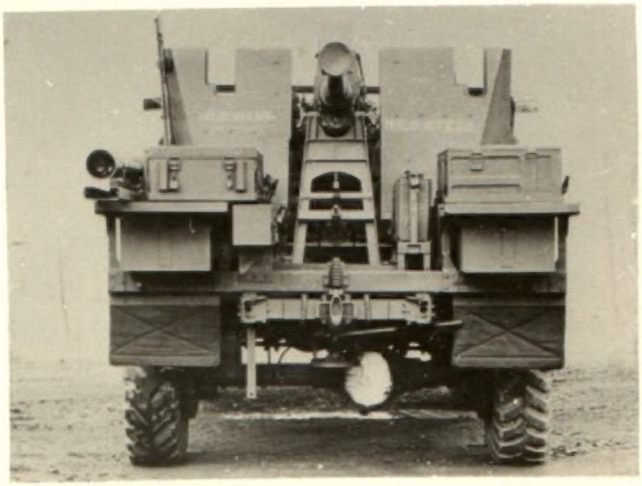
Brackets are located on the front panel for stowage of the saw, axe and machete, while a shielded light is installed in each top corner of the front panel. Four (4) wire luggage carriers are suspended from the roof bows. Pike poles and earth anchors are stowed between the longitudinal sills, and a shovel is stowed beside the left longitudinal sill.

The body is equipped with a 15-ton winch driven from power take-off and 250 ft. of 7/8" cable.



40 M.M. BOFORS SELF PROPELLED MOUNT





Function

This vehicle is used for anti-aircraft work in area or convoy defence, and can also be brought into action against ground targets.

Dimensions

Overall vehicle	length	244"
" "	width	94"
" "	height (with gun sight).....	101"
" "	height (less gun sight).....	92"

Weights

	Front	Rear	Total
Curb	5900	7500	13400
Laden	6850	8750	15600

References

A.E.D.B. Specification O.A.127 & 128
Munitions & Supply File..... 73-9-1
A.E.D.B.Photographic File No. B-3
Vehicle Code No. F60444-S-BOFORS-1
Maintenance Manual MB-B1/B
Spare Parts List F60B-01
Pilot Model Approval No. .... 184 F
E.E. Test Report ..... E 222

Sources

Gun and gun components by Otis Fensom Co., Hamilton..
Chassis supplied by, and mounting worked out by Ford Motor Co., Windsor.

Chassis

The chassis is, basically, a standard C.M.P., 3-ton, 134-1/4" W.B., 4 x 4 unit, with several changes such as a reinforced frame, rear spring lockout mechanism, special cab for accommodating 4 men, chassis jacks and several other changes of a minor nature.

Two men are carried on the gun platform.

Gun, Mounting & Fitments

The gun is known as "Ordnance Q.F., 40 M.M. C.M.K.1, on Mounting S.P. 40 M.M. C.M.K.1". This is mounted on a base which, in turn, is fastened to the chassis frame. A platform is provided extending rearwards from the cab to the gun base.

Electrical energy is provided by a 2.75 K.V.A. Generator, driven off the transfer case P.T.O. for the power elevation and traversing of the gun. Manual control is also possible, and correctional sights, cartwheel sights and an anti-tank telescope sight is provided.

A spare barrel with recuperator spring is provided, mounted over the rear L.H. wheel.

Ammunition boxes, tarpaulin, gun spares and tools and vehicle tools are stowed over the rear mudguards, to the rear of the gun mount.

Base plates and cones for the side jacks are stowed on the cowl and the platform respectively.