THE MILITARY JEEP

Model MB – GPW

An illustrated guide to its features and evolution, 1941–1945

By Lawrence Nabholtz

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The word "JEEP" was in common usage as early as 1938. It is a trademark of The Chrysler Corporation. Its use in this text is for the sole purpose of identifying a vehicle built in 1941 through 1945.

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CONTENTS

Terminology

In relation to months of the year:

Early — Jan., Feb., Mar., Apr.
Mid — May, June, July, Aug.
Late — Sept., Oct., Nov., Dec.

In relation to changes in parts

Early — Parts used at start of production
Std. — Parts used in the majority of vehicles
Late — Parts used late in production

A reference like this 803 p14 means TM9 803 page 14
1803A TM9 1803A

All photographs used in this book are from the files of the U.S. Army Signal Corps
Many of these photographs are available in 8x10 glossy print.
Request price list from the author.

Chronology

1940	Nov.	Contracts issued for 1500 pilot models each to Ford, Willys and Bantam.
1941	Feb.	Ford delivers first of 1500.
	Mar.	Bantam delivers first of 1500.
	May	Ford delivers last of 1500.
	June	Bantam delivers last of 1500.
		Willys delivers first of 1500, serial numbers 78401–79900.
	July	QMC indicates interest in 16,000 of Willys design to be produced by Ford on a negotiated contract. OPM refuses QMC proposal and directs that competitive bids be received from all firms involved. Willys is low bidder. QMC prefers to award contracts to Ford because of slow delivery on Willys contract. OPM again refuses. Late bid by Checker Mfg. Company is rejected since they had not produced their own pilot model. William S. Knudsen, the Director of OPM, directs that contract go to Willys with an option to increase by 50%.
	Aug.	Ford proposes that it be given the contract for the additional 8000. These would be model GP. OPM rejects the proposal.
		Willys delivers last of 1500.
	Sept.	Willys builds an additional 50 pilot models, serial numbers 85501-85550.
	Oct.	Willys offers to assist an additional source for the standard design (MB) by sharing engineering drawings, patents, etc. The only condition was that this other source could only furnish vehicles to the U.S. Government.
	Nov.	Willys advised that Ford would be the other source.
		MB enters production.
1942	Feb.	GPW enters production.
	Aug.	QMC policy will be that all future contracts to either Ford or Willys will be in such quantities that both companies will be in a 50/50 position as regards deliveries.

QMC – Quartermaster Corps
OPM – Office of Production Management

William S. Knudsen – With Ford 1910–1921, with GM 1922–1940. President of GM 1937–1940. With U.S. Government as head of OPM 1940. In Jan. 1942 received a direct commission as Lt. General. First person to receive that rank as a direct commission and foreign-born as well. His pay went from $1 a year to $9,872 a year!

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100,000 – 118,600	Nov. '41 – Jan. '42	W 1
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208,025 – 289,911	Feb. '43 – Dec. '43	W 4
289,912 – 402,407	Dec. '43 – Dec. '44	W 5
402,408 – 456-407	Dec. '44 – July '45	W 6
456,408 – 459,851	July '45 – Aug. '45	W 7

MB Serial Numbers

	1941	1942	1943	1944	1945
Jan.		116xxx	207xxx	301xxx	412xxx
Feb.		122xxx	214xxx	310xxx	421xxx
Mar.		132xxx	221xxx	319xxx	430xxx
Apr.		140xxx	230xxx	327xxx	438xxx
May		147xxx	238xxx	337xxx	445xxx
June		155xxx	246xxx	346xxx	450xxx
July		163xxx	254xxx	356xxx	455xxx
Aug.		171xxx	262xxx	365xxx	459851
Sept.		179xxx	270xxx	374xxx	
Oct.		186xxx	278xxx	383xxx	
Nov.	102xxx	195xxx	286xxx	392xxx	
Dec.	108598	200022	293232	402334	

Approximate ending serial numbers

These are frame numbers; engine numbers do not match. Generally, engine numbers are higher due to the large quantity of MB engines being used in other applications.

MB Registration Numbers

	1941	1942	1943	1944	1945
Jan.		2047xxx	20256xxx	20466xxx	20670xxx
Feb.		2050xxx	20263xxx	20475xxx	20679xxx
Mar.		2073xxx	20298626	20484xxx	20688xxx
Apr.		2078xxx	20320xxx	20492xxx	20700716
May		20209xxx	20328356	20502xxx	20708xxx
June		20217xxx	20336xxx	20510xxx	20715xxx
July		20225xxx	20344xxx	20614xxx	20720xxx
Aug.		20229xxx	20352xxx	20623xxx	20770xxx
Sept.		20234xxx	20360xxx	20632xxx	
Oct.		20239xxx	20443317	20641xxx	
Nov.	2031575	20243xxx	20450xxx	20651310	
Dec.	2036xxx	20248783	20458966	20660xxx	

Approximate range of numbers in use each month

Registration numbers do not match serial numbers in 1942 due to the quantity of vehicles being produced for other countries which did not have registration numbers.

Numbers in blue drab through early 1945, later in white.

Ford and Willys used different stencil forms. Compare the 0's.

Photo 1 **Nov. '41 MB** prior to 103546 Contract W 1

*see contents

* Body: ACM type 1
* Radiator guard: Early type

  Steering wheel: Early type A535 (black)
* Hood: Early type with early underhood air deflector A2977

  Hood blocks: Early type A2922 (green rubber)
* Frame: Early type with welded assembly battery support A1138
* Windshield: Early type (short)

  Windshield to hood catch: Early type A2989
* Fenders: Early MB type with holes for side air deflectors
* Springs: Std. type – 8 leaf front, 9 leaf rear with wrap-around rebound clips

  Registration number: W prefix indicates War Dept. vehicle

Change points

For the first recorded change in MB see Transfer Assy. in contents.

103001 through 113045 did not have A5337 capacitor on generator due to part shortage. See Publications TSB D-3.

103317 steering arm studs changed from A1714 (straight) to A5504 (tapered). See TSB E-11.

103468 carburetor base, throttle shaft and hand throttle changed to std. type used through end of production.

Photo 2 **Dec. '41 MB** 103546 to 118600 Contract W 1

*see contents

* Wheels: Early type – Goodyear tires
* Windshield: Std. type

  Windshield to hood catch: Std. type A3197
* Body: Fuel tank stone guard with square corners
  Rear ax clamp with two screw holes. Four holes after mid-'42.
  Top bow pivot A2901 with thumbscrew A2473 (5/16 NF thread)
  Doorway strap eyebolt – vertical–MB positioning
  Right side fire extinguisher – bodies without glove box
  Cast brass buckles for body straps. Stamped steel after early '42
* Hood: Std. type. Note screw heads at front for air deflector.

Rear axle shaft: Early type with end portion cut away to match hub

Seat cushions: Early type with jute padding – zippers in all cushions

Light switch knobs: Pot metal

Choke–throttle knobs: brass – labeled in white

Reflectors: Round rim Corcoran-Brown

Blackout lamp units: C-B

Change points

103576 wood spacer A3248 added between fuel tank shield and rear floor

106763 rear brake hose rerouted from frame bracket 638809 to crossmember and rear brake lines revised A5224,5225,5226

108430 BO marker light base changed to A5806 using external tooth lockwasher for better grounding

104433 PAL lock nut replaced lockwasher on fuel tank straps

104726 revised rear spring rebound clips – see Springs

MB Hardware

Hex head bolts have various head markings depending on the manufacturer.

Among those in use in '41 through '43 were TR, A/TR, C/TR, AA, TR/20

In '44 and '45 the usual marking is EC.

Photo 3 **Feb. '42 MB** 118601 to 146774 Contract W 2
Early '42 GPW is similar but with Ford in rear panel and Ford tires

*see contents

* Wheels: Std. type after 120700

* Body: Fuel tank stone guard with rounded corners
Windshield to dash clamp – cast bronze A2227
Rubber tail light grommet A627 (not painted)
Early type fire extinguisher bracket A616 (1 band clamp) mounted left side – bodies with glove box
Bracket added to rear seat for tire pump mid-'42

Registration number: W prefix eliminated early '42

Steering wheel: Early type OD plastic

Spare wheel support: Std. type A2359 with lock A1319

* Frame: Std. type with one-piece battery support A5181 after 120700

Reflectors and BO lamp units: C-B

Change points

120700 locking glove box. Door A3434
exhaust pipe guard A5415 added to underframe skid plate
Later combined in one-piece unit

124309 std. air cleaner A5621

125809 std. radiator guard A3615

134356 glove box lock cylinder removed
rear wheel brake cylinder changed from 7/8 to 3/4 A6110

137760 speedometer with luminous dial and revised markings A5734

137909 std. latching glove box. Door A3835

137916 filter group with removable cover A5980

143507 oval muffler A6118

146774 torque spring added A6066

The smallest production quantity of MB's was built at the start of this contract. Early radiator guard, no glove box, body with rounded corners in the tank stone guard, and early wheels. Approximately 2100.

MB119514 was built for Canada
MB132030 was built for China, both vehicles now in England.


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Photo 4 **June '43 MB** Typical of MB after mid-'42 Contract W 3&4

*see contents

* Hood: Std. type
  Note row of screw heads between hood blocks for std. type air deflector used with std. radiator guard

  Hood blocks: Std. type A4683, wood with insert after 218345
* Exhaust: Oval muffler
* Body: Note four bolts just above muffler for radio terminal box A8114
* Radiator guard: Std. type
* Windshield: Std. type with stamped steel dash clamps A2227 after early '42
  Wipers, individual hand type A2586
* Fenders: Std. MB type without holes for side air deflectors
* Reflectors: Round rim C-B BO lamp units C-B
* Springs: Std. type

Change points

There were many changes in mid-'42 due to material shortages. See Critican Materials.

163750 BO drive light on left fender A4118 A6142

158372 trailer socket and pintle eye bolts A6019 A6393

164554 changes in windshield – top fasteners A4120

165582 spare gas can support A4123

170307 torque spring pivot bolt lock strap A6326

174739 fuel tank with extension and large filler cap A6618

193040 brackets under rear seat for tire pump. See note.

200679 cover for trailer socket in left tool locker A4592

200741 rear panel gussets A4606, 4607

202023 keyless ignition switch A6811

208437 positive crankcase ventilation

208452 added flanges on radiator to secure jute air deflectors

217543 radio terminal box

Note: Rear seat tire pump bracket A4516 was altered to add a tab with hole for securing the tire pump air gun and chain.

Photo 5 **June '43 MB** Typical of MB after mid-'42 Contract W 3&4
'43 GPW is similar but with GPW type frame rear cross member. Compare with photo 10.

*see contents

* Body: MB type top with glossy binding tape on edges. Compare with photo 12 (GPW type tape)
Std. type spare wheel support A2359 (three studs)
Gas can bracket A4123 and upper support A4130 after 165582
Tail light grommet eliminated in mid-'42
Early type bow pivot and thumbscrew
Note doorway curtain sockets A3051 in black oxide pressed in body after painting
ACM type I body through end of '43

Round axle shaft end

Not visible is trailer socket or std. type pintle hook A593 (cast)

Willys Part Numbers

Part numbers began with A101-102 for the tail lights of MA and ran up to around A18000. The size of the number gives you a good clue as to when that part was introduced. Large numbers indicate later production, but small numbers do not necessarily indicate early production. Some blocks seem to have been held out for use later. MA parts ran up to about A2800. Many MB body parts were in the 3000-4000 range. Some 5000 block parts were early changes in the MB. Numbers were up to 7000 by Aug. '42, 8000 in early '43, 12000 by late '43, 15000 by mid-'44. Many of these numbers covered parts of other Willys military vehicles including the ½ ton and the 6x6. And many numbers covered parts painted Forest Green for USMC vehicles. Four- and five-digit numbers are hardware items. Six-digit number parts are common to Willys commercial vehicles.

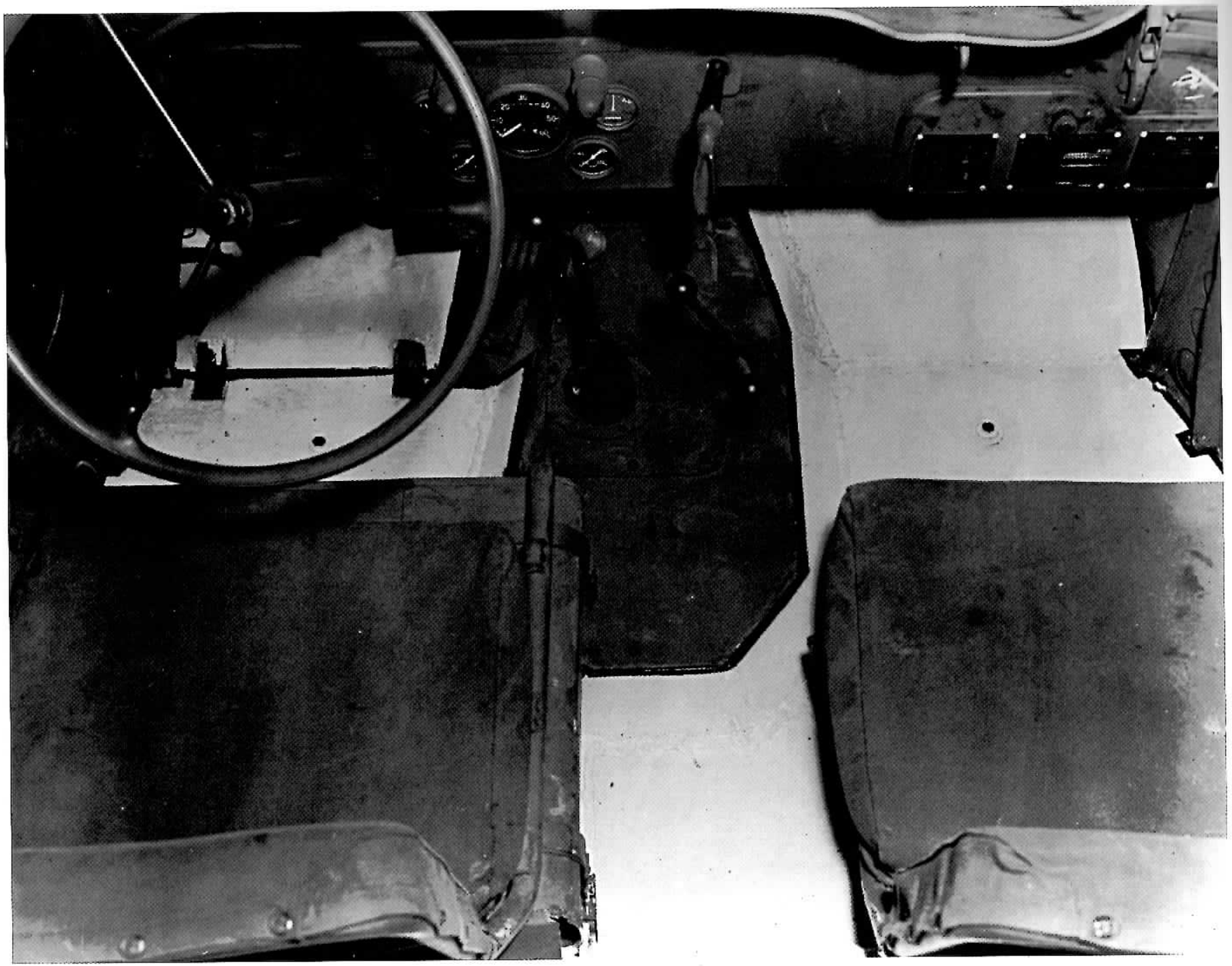

Photo 6 **Dec. 14, '43** MB292437 Typical of MB early '43 to mid-'44 Contract W 5
Compare with photo 16 for GPW of same year

*see contents

* Pedal pads: Std. type (cast)
* Windshield: Late type – brackets for rifle holder after Sept. '43
  Note stamped steel dash clamps after early '42

AutoLite gauges – speedometer with short hand and counterbalance

Plastic choke and throttle knobs after mid-'42

Plastic light switch knobs

Knobs labeled in white

Fire extinguisher bracket: Std. type, two band clamps A8429

Seat cushions: Spring type cushion and backrest after mid-'43 A11729-30

Leather floor boots after mid-'42. See Critical Materials.

Steering wheel: Std. type A6858 after late '42

Light switch: Pull type A1332

Glove box seal: Std. type A3943 cemented to backside of door

Note cad plated screws (unpainted) for glove box plates

Round head screw under choke knob is for ignition switch capacitor A8884 used with type II suppression which began with this contract

Serial number plate: This is the style in use before the one shown in 803 p14. Shows summer-winter for oil grades but the publications section is similar to that shown for the Ford plate on p14.

Body reflectors

MB All with round rim Corcoran-Brown through late '44, later with Yankee

GPW '41–'42 with round rim Guide stamped with script "F", '43 with oval rim Guide, '44–'45 with oval rim Arrow

MB attached with NF screws, GPW with NC screws.

Photo 7 **May '44 MB** Typical of MB mid-'44 through early '45 Contract W 5

*see contents

* Windshield: Wipers hand tandem type A11433
* Hood: Late GPW type with grease gun bracket
  Note repositioning hood-body bond straps A11766

  Top bow pivots: Late type A3719 using windshield pivot thumbscrew A2214
* Springs: 10 leaf front, 11 leaf rear after Oct. '44

  Parking brake: Late type, internal expanding after mid-'44
* Body: ACM type II

  Rotary light switch after June '44

  Reflectors: Round rim C-B

Other Uses for the Willys Engine

MB engines were used in a number of other applications: in air compressors, generators, arc welders, and as the power unit for an eight-man multi-gauge railway maintenance car by Kalamazoo Car Co. These used the MB radiator, electrical units, gauges and fuel tank. They remained in service at military depots until the 1970's.

Among the more unusual uses was the American Marsh Civil Defense fire pump. Designated WILLYS self-contained water pumping unit. Model MB OCD, 500GPM at 250 psi. Serial numbers began MB OCD 10001. These units did not have a radiator. They used a heat exchanger with the water that was being pumped. But they had a fan. This provided draft for the crankcase ventilation. They were unique also in that they were built with .010 undersize crankshafts. This was a way to use cranks that had flaws or errors when ground to standard.

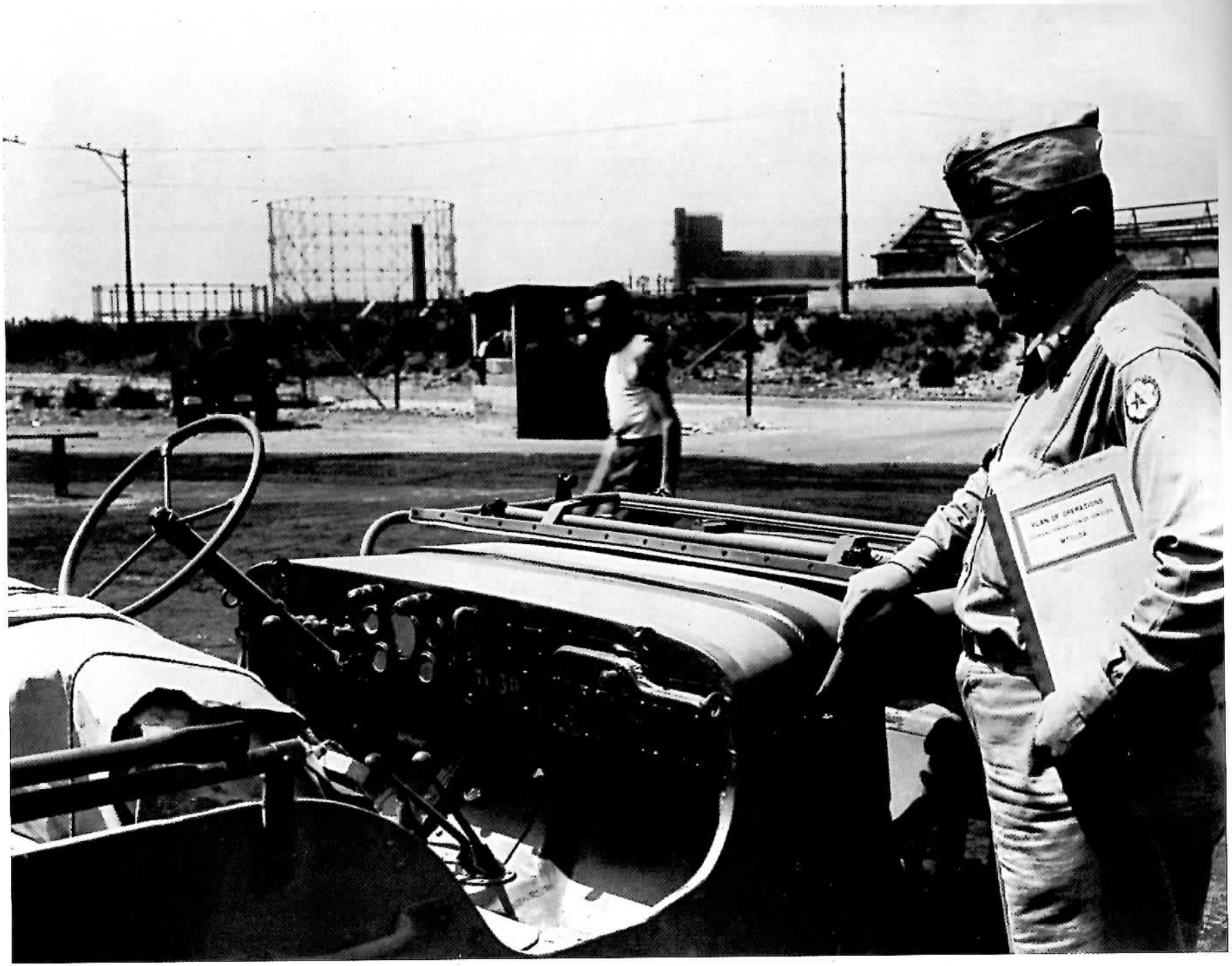

Photo 8 **Nov. '44 MB** Typical of MB mid-'44 through '45 Contract W 5&6
Compare with photo 6

*see contents

* Windshield: Late type with brackets for rifle holder
* Pedal pads: Late type stamped steel. Clutch A8440, brake A8477

  Rotary light switch A11866
* Body: Note special nut WO6196 for safety strap anchor bolt. This is the lower nut at front handrail bracket. Used on all MB's
  Four screw heads surrounding the TP30 stencil are for the Gas Casualties Kit bracket on rear of panel. See Chemical Warfare.
  Small plate above this is the shipping data plate
* Hardware: Most hex head bolts have EC markings after late '43

Late '44 though '45 GPW panel is similar with these differences:
GPW glove box plates are riveted
Rotary light switch escutcheon plate is metal on MB, GPW plastic
Choke and throttle knobs are metal. See photo 16

Radio Interference Suppression

Type I

This type is described in TM10 maintenance manuals using bond straps, shielded wiring, a filter group mounted on firewall and a filter A1287 mounted on the regulator. The early filter group A1517 had a panel that could be opened for access to the connections. When the glove box was added, the filter group was moved slightly left and replaced by A5980 which had a removeable cover at 137916.

Type II

This type as described in TM9 803 page 221 replaced the filter group with capacitors in several locations. Internal-external bonding washers were used on body bolts. Shielding was removed from wiring on left fender. Shielding was added to regulator harness. The bond strap A5037 from starter to generator was replaced by A7826 which extended to front engine support.

MB changed to type II in late '43. GPW changed in late '44.

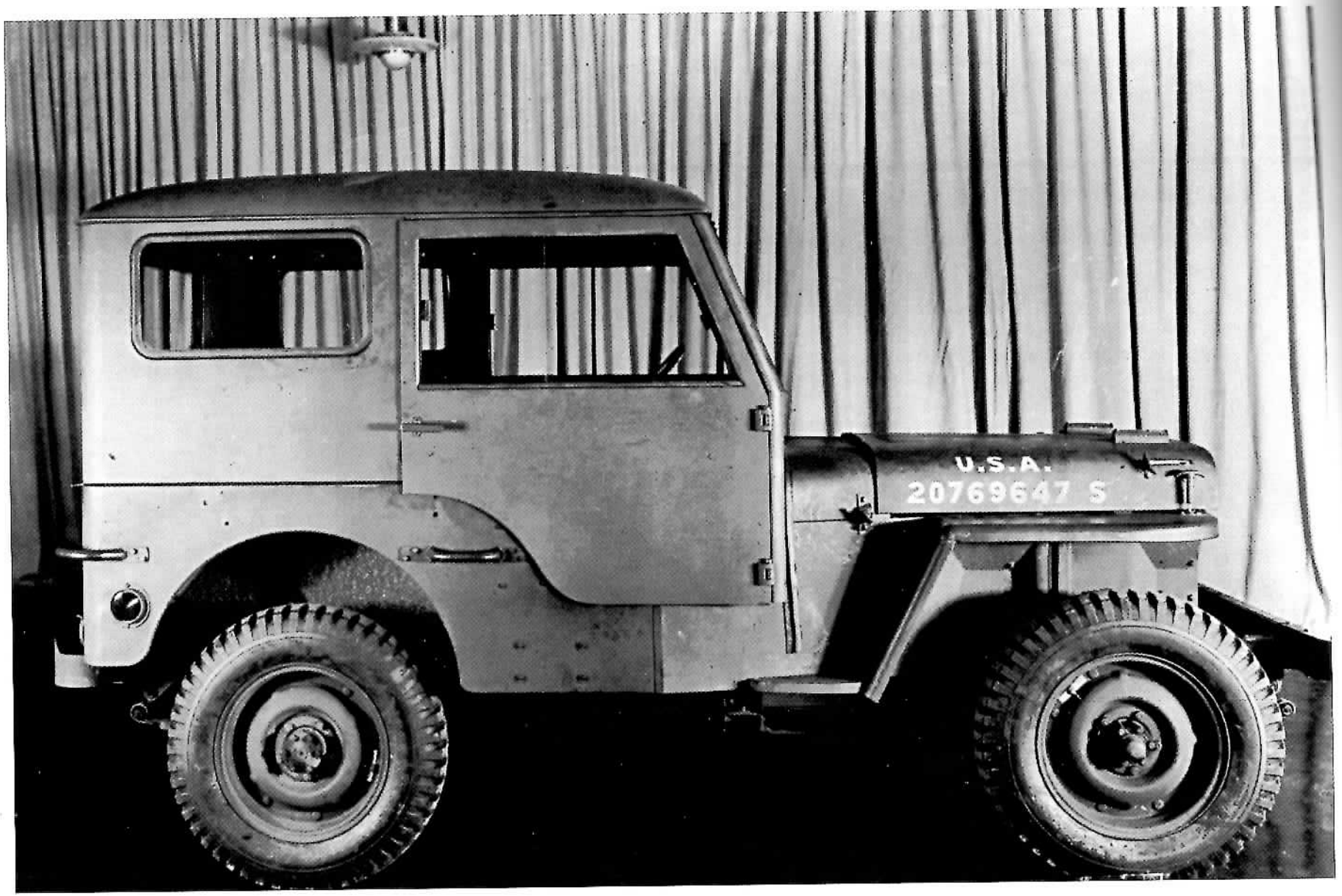
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Photo 9 **'45 MB with proposed winter enclosure** Contract W 7
Photo taken in Willys factory showroom of one of the last MB's produced

*see contents

* Fenders: GPW type. Some late MB's were built with GPW fenders.
* Exhaust: Late type – deep mud

  Registration number: White with S moved to hood. Typical MB stencil form with small closed "O"

  Reflectors: Round rim Yankee

  BO lamp units Yankee

  Parking brake: Late type – internal expanding
* Hood: Late type GPW

  Fuel filter removed from firewall. Ceramic filter unit in fuel tank
* Body: ACM type II with left cowl hole for vacuum line
  Note white painted wheel warning plates and screwdriver type valve caps A5986 with valve stem sleeve (protector) A5987
  Much of the hardware on '44 and '45 MB's is marked "EC"

Exhaust System

• Muffler:	Early type	A1146	Round
	Std. type	A6118	Oval after 143507
	Late type	A9090	Deep mud after 401550
• Pipe:	Early type	A1296	With bond strap and separate flange 630526
	Std. type	A8101	Without bond strap
		A10199	With welded flange after mid-'43
		A9150,9142	With deep mud system

Waterfording exhaust – For early type see Modifications


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Photo 10 **'45 MB** Rear panel typical of MB after mid-'44 Contract W 7
'44–'45 GPW is similar but with cast pintle hook and oval rim reflectors

*see contents

* Frame: Late MB type with planned CJ 2A rear crossmember without PTO holes

Spare wheel support: Late type (2 studs) A10525 with clamp disc A11799
Disc not shown. Disc is installed properly with its broad outer surface against wheel.

Note hood block moved two inches to left to clear vacuum wiper arm

Chemical Warfare

It was expected that chemical warfare would be used against our forces as a last resort towards the end of WWII. This would probably be in the form of airborne vesicant agents. Vehicles sprayed with a vesicant could not be operated until they had been decontaminated with a neutralizing solution.

The Chemical Warfare Service developed a decontaminating apparatus using the case of a 1½ quart carbon-tet fire extinguisher. The Medical Department developed a Gas Casualties First Aid kit containing supplies to treat personnel. The kit was packaged in the standard WWII first aid kit box.

Both of these had to be instantly available when needed. And to be protected from contact with airborne agents. The decontaminator was located under the passenger seat. The first aid kit was secured in a bracket behind and sheltered by the instrument panel. After mid-'44 provision for both items was made in MB and GPW. See photo 8.

Contract Index

Serial Numbers	Date of Delivery	Contract	
1 – 15,000	Feb. '42 – Apr. '42	F 1	
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78,147 – 101,304	Nov. '42 – Mar. '43	F 3	
101,305 – 179,758	Mar. '43 – Jan. '44	F 4	
179,759 – 226,205	Jan. '44 – Oct. '44	F 4	1st Extension
226,206 – 252,741	Oct. '44 – Feb. '45		2nd Extension
252,742 – 277,878	Feb. '45 – July '45	F 5	

GPW Serial Numbers

	1942	1943	1944	1945
Jan.		95xxx	177xxx	250xxx
Feb.	22xx	100xxx	185xxx	254xxx
Mar.	11xxx	105xxx	191xxx	260xxx
Apr.	22xxx	111xxx	196xxx	266xxx
May	31xxxx	120xxx	202xxx	270xxx
June	42xxx	125xxx	208xxx	274xxx
July	52xxx	132xxx	214xxx	277896
Aug.	61xxx	140xxx	220xxx	
Sept.	69xxx	147xxx	225xxx	
Oct.	76xxx	155xxx	231xxx	
Nov.	82xxx	162xxx	237xxx	
Dec.	90xxx	170xxx	243xxx	

Approximate ending serial number for each month.

Engine and frame numbers matching.

GPW Registration Numbers

	1942	1943	1944	1945
Jan.		20190xxx	20436xxx	20596672
Feb.	2054778	20195xxx	20443xxx	20602xxx
Mar.	2057xxx	20364863	20530xxx	20723xxx
Apr.	2069xxx	20369xxx	20543xxx	20729xxx
May	20100000	20378375	20549xxx	20735401
June	20120xxx	20384xxx	20554xxx	20740xxx
July	20136097	20390xxx	20560xxx	20744xxx
Aug.	20143xxx	20398xxx	20566xxx	
Sept.	20151xxx	20406xxx	20572xxx	
Oct.	20159xxx	20413xxx	20578xxx	
Nov.	20163xxx	20421xxx	20584xxx	
Dec.	20185869	20428xxx	20590xxx	

Approximate range of numbers in use for each month

Photo 11 **Apr. '42 GPW** Typical of GPW through mid-'42 Contract F 1

*see contents

* Radiator guard: Early GPW type – without top center depression
* Hood: Std. GPW type. Rubber hood blocks
* Frame: Early MB type. Note front crossmember
* Body: Early Ford without raised bead to rear of tool locker
  Ford and registration number on rear panel

  Steering wheel: Early type, black through this contract
* Windshield: Std. type with bronze cast dash clamps through this contract
* Wheels: Std. split type
* Tires: Ford The right front is an early Firestone GROUND GRIP

What Does GPW Mean?

Ford gave their WWII products a model code that began with the letter G indicating a Government contract. For vehicles the next letter indicated the type of vehicle. The letter P meant "80" wheelbase reconnaissance car. P was selected since the original pilot model from Ford was known as the PYGMY within the Company. The W meant standardized War Department design.

On early GPW's the clutch-brake pedal shaft was brass plated on the wearing surface.


2062042
D 4

Photo 12 **Apr. '42 GPW** Contract F 1

*see contents

* Radiator guard: Early GPW type
* Hood: Std. GPW
* Wheels: Std. split type. Ford tires with Goodyear tread
* Exhaust: Round muffler through mid-'42

  Round rear axle shaft end
* Fenders: GPW type. Note three holes in vertical row ahead of bulge around battery
* Springs: Std. GPW type with bolted rebound clips

  Top with Ford type binding tape on edges. Compare with photo 5 for MB type tape.

  Registration number: Blue drab – GPW stencil form, note the open "O" as compared to MB form. Photo 4

  Reflectors: Round rim GUIDE overstamped with script F

  S on cowl indicates radio noise suppression

  Early '42 GPW had most of the rubber body parts listed for MB in Critical Materials

The Ford Part Numbering System

The Ford system began in the 1930's with each major part of a vehicle having a basic number. Front axle parts in range of 3000–3999. Rear axle parts 4000–4999. To this was added a prefix which was the model code for that vehicle. A for model A. 29T for a '42 truck. A letter suffix indicated a change in the part or an over/under size part.

There are a number of parts on GPW that came from other Ford products. Starter switch 9N11450 from the Ford tractor. Knob B45482, cup and rubber washer B45465–B45480, windshield adjusting arm parts from model B. The tie rod dust seal 78 3332 was from the 1937 Ford car. When that part was changed to felt it became 78 3332 A2. The 2 indicated a change in material. The early fire extinguisher bracket was GPW17103. The std. type was G8T17103 as first used on the G8T military cargo truck.

GPW part numbers found their place in the Ford parts system with the radiator cap. For some years after WWII, the cap was shown in the Ford car and truck parts lists.

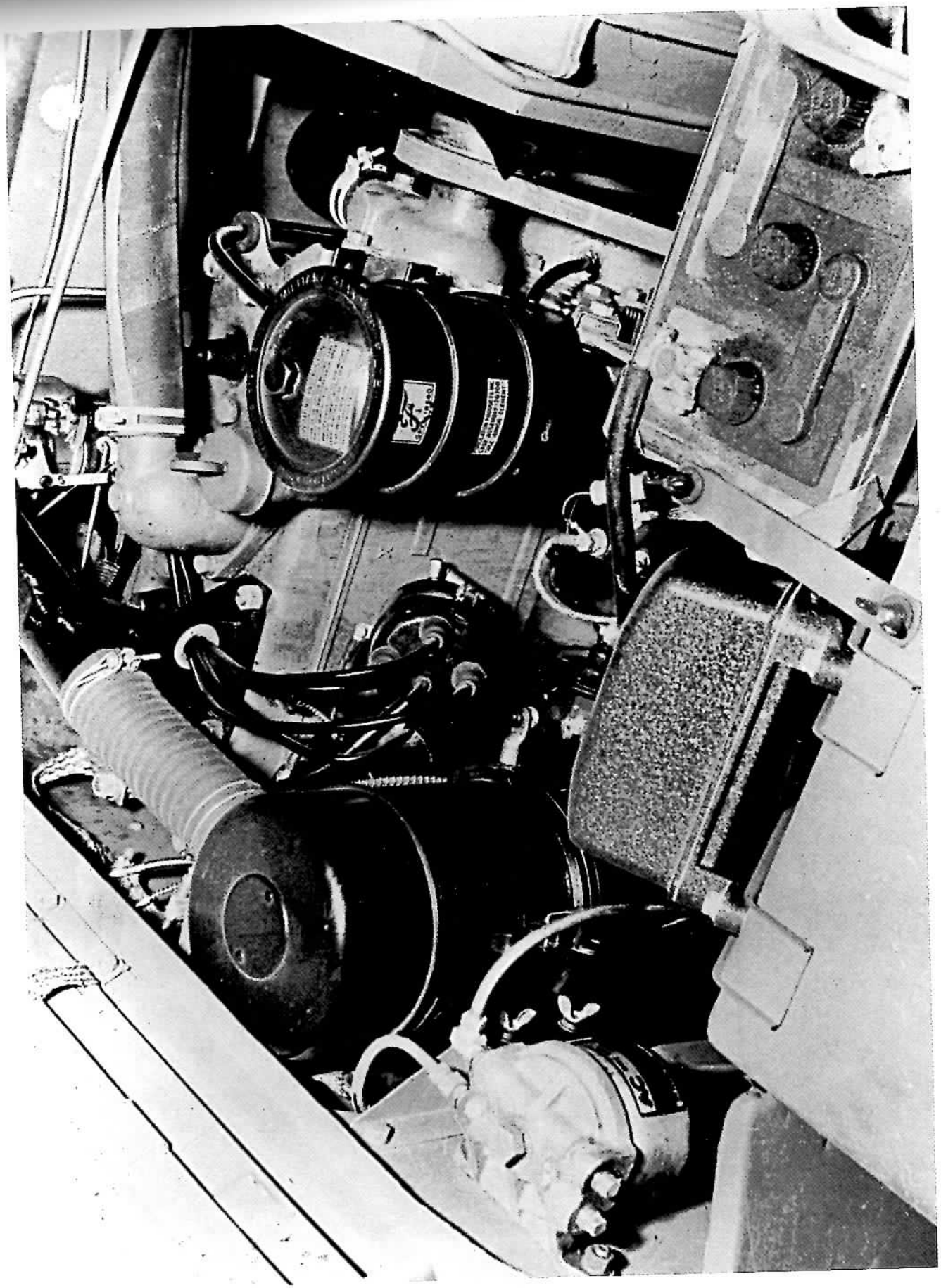


Photo 13 **Engine of '42 GPW prior to Positive Crankcase Ventilation**

*see contents

* Hood: GPW construction, note joint in rear reinforcing channel
Early type (short) hood to body bond strap
Special screw and internal tooth lockwasher at hood hinge 355275 S7 (cad plate). This area was painted after assembly.
Note overspray on air cleaner and tube.

Underhood colors:

Engine, including clutch housing and transmission: Ford Tractor gray

Air cleaner, oil filter, and electric units: black

Air cleaner tube and bracket: Generally black, sometimes OD

Fan: black

Fuel filter bowl: Cad plate

Note spark plug insulators 11A12425. Not used after late '42 on GPW

Cad plated hex nuts for body-engine bond strap and oil filter bracket, head bolt positions #10 and #12.

Rectangular plate on starter head band indicates Ford made unit

Not visible in this photo but same type plate on generator

Note careful (round) masking for headlight harness wiring. Later GPW masking was done with torn-off pieces of masking tape.

Early Purolator oil filters drained inboard

Early type fan belt (Dayton Rubber) had embossed identification

Cad plated bolts and washers for regulator mounting

Inline suppressor in coil wire. Changed to right angle type in mid-'42

Autolite distributor, std. type not dustproof

Felt grommet in oil filter bracket. Some early GPW had rubber grommets in this location and in firewall. See Critical Materals.

Rubber radiator hoses


USAR 5808
2 0155612
A
A

Photo 14 **Oct. '42 GPW** Contract F 2

*see contents

* Frame: GPW type. Note tooling hole outboard of bumperette

Steering wheel: Early type in OD plastic

Reflectors: Round rim GUIDE overstamped with script F

Note tail light grommets used through end of this contract

* Springs: GPW type with bolted rebound clips

Rear reflectors repositioned but trailer sockets not installed on GPW on this contract

Gas can support has been removed on this vehicle

Registration number not factory applied in this location after mid-'42

* Tires: Ford through early '43

GPW Hardware

Ford used an interesting mix of the standard and the special in the fasteners for GPW parts. In the common hex head bolts there were the regular type (part numbers beginning 20xxx) and an unusual pointed type (part numbers beginning 24xxx). The pointed type were used for fenders to cowl, fender brace to frame, steering column to dash, oil filter to bracket, front engine supports to frame, clutch and brake pads to pedal arm, air cleaner brackets, fuel filter, fuel tank straps, thermostat housing, regulator to fender, starter, transmission to clutch housing, and firewall mounted filter group, among other locations. The pointed type were generally used with a caged nut or tapping block or where installation was difficult as the column to dash clamp.

GPW Special Hardware – part numbers beginning 35xxxx

354112 #10 32x5/16 round head screw and external tooth lockwasher assembly.
Wiring lugs to junction blocks.

355165 #10 24x3/8 round head screw.
Tool locker hinge, glove box, extinguisher bracket, glove box striker.

355275 1/4 20x.75 recessed head hex bolt and internal lockwasher assembly.
Hood hinge.

355344 1/4 20x5/8 recessed head hex bolt and external tooth lockwasher
Master cylinder and transmission cover. See photo 16.

355403 5/16 18x1 1/16 recessed head hex bolt and external tooth lockwasher.
Driver and passenger seat to floor. Also oil pan. See photo 16.

355552 3/8 24x3/4 hex head bolt. Special heat treat as indicated by the sharp script F.
Front brake backing plate to knuckle.

GPW hardware had a black oxide coating as indicated by the suffix "S2".

Photo 15 **May '43 GPW** Typical of GPW after mid-'42 Contract F 3&4

*see contents

* Radiator guard: Std. GPW type with depressed area at top center
* Hood: Std. GPW type showing the three-piece construction at rear channel.
  Note the masked areas at front over smeared solder for grounding

Firestone tires. Compare with photo 12.

GPW type front bumper. Identified by the two tooling holes
Similar tooling holes in GPW rear crossmember

Vehicle tool bag can be seen at left end of bumper. See Tools in contents

Just visible is wood block filler in bumper

Fram oil filter identified by cone shape cover – outboard drain

Metal tube in top radiator hose generally black, sometimes OD

Insulators not installed on spark plugs on GPW after late '42

Braided wire shielding for headlight and BO drive light wiring on left fender. Part of type I suppression

Round braided battery ground cable showing at right headlight

Note steel strap on right shock absorber, holding it compressed

This is the early type crating in which many vehicle parts were removed to reduce crate size. These parts were removed: Air cleaner and tube, and radiator brace rod. To allow clearance for crate crossing bracing the hood was removed and moved forward. Note the impression of radiator guard antisqueak on the hood and that the hood center seam has worn through the antisqueak on the radiator guard.

After late '42, reflectors were oval rim GUIDE not stamped F.

In mid-'43 some GPW's were built with radio terminal boxes, some were not

The maximum production rate for GPW was reached in Apr. through July '42 at which time Willys was producing for other nations including Russia, China and Canada.

Photo 16 **May '43 GPW** Typical of GPW mid-'42 through mid-'44 Contract F 3&4
Compare with photo 6 for MB of same year

*see contents

* Body: Std. type GPW. Some built in late '43 had ACM type I bodies
  Seat cushions: Std. GPW with padded cushion and backrest
  Fire extinguisher bracket: Std. type with two band clamps
  Doorway strap eyebolt: Horizontal (GPW positioning)

* Windshield: Std. type with stamped steel dash clamps

Gauges: Generally Stewart-Warner. This GPW appears to have Autolite temperature and oil pressure gauges

Ignition switch: Std. GPW type with lever marked IGN and retaining nut with ridged edge

Choke and throttle: Std. GPW type with metal knobs (same as '41–'42 MB)

Light switch knobs: Plastic after mid-'42

All knobs labeled in white

Note special screws for master cylinder cover and front seats. One of the seat screws can be seen on the floor in front of driver seat.

Knock-out slug above panel light switch is for installation of winter starting hand primer kit. See Modifications

Some items from vehicle tool kit are visible: adjustable wrench on fuel tank, open end wrench, base of tire pump and GPW type lug wrench

GPW Wheels and Tires

All GPW's were built with the split wheel. See photo 15.

From Feb. '42 through early '43 Ford tires were used. These have the Goodyear tread. See photo 12. Sidewalls with FORD in script and FORD MOTOR COMPANY DEARBORN MICH – INFLATE TO 30 LBS in block letters.

After early '43 with Firestone GROUND GRIP. See photo 15.

Some GPW with Goodrich tires.


USA
20743226 S

Photo 17 **July '45 GPW** Contract F 5

*see contents

* Body: ACM type II with left cowl hole for vacuum line to wipers
  See photo 8 for similar instrument panel
  Seat cushions: Backrest padded as on earlier GPW's, spring units in cushion. No zippers in cushion.
  See photo 10 for rear panel
* Frame:Late GPW type with added brackets for deep mud muffler
  Just visible is the brake drum of internal expanding parking brake
* Windshield: Late type with two vacuum wipers
* Fenders: GPW type
* Hood: Late GPW type with grease gun bracket and holder for lubrication guide
  Note the additional catch at rear of hood. GPW hoods had a tendency to break up at the joints in rear channel, causing a rattle.

Registration number: Vehicle has been repainted; this is not a factory stencil

Shop-made doors and curtains. This is not factory type A11793

GPW wiring harnesses can be identified by the open lugs at light switch end. This made attachment to the switch must faster on assembly.

GPW junction blocks after early '42 were made of a paper-like material. MB blocks were made of phenolic.

Starting in '43 many tubular body parts such as windshield frames, seat frames, and body handles were drilled with vent holes to prevent internal rusting.

Vehicle Tools and Equipment

*indicates black oxide finish

A371 Basic tool kit consists of:
- A372 Tool bag. See photo 15.
- A373 Hammer, Ball Pein 16 oz. See photo 4.
- * A374 Pliers, 6".
- A375 Screwdriver, 6", See photo 4.
- * A376 Crescent wrench 8":. Not included after '43.
- * A377 Adjustable wrench 11". Handle for A692. See photo 16.
- * A596 3/8 – 7/16 open end wrench. Industry number 723.
- * A597 1/2 – 19/32 open end wrench. Industry number 725.
- * A598 9/16 – 11/16 open end wrench. Industry number 727C.
- * A599 5/8 – 25/32 open end wrench. Industry number 728.
- * A600 3/4 – 7/8 open end wrench. Industry number 731A.
- A5130 Wrench brake bleeder screw.
- A1162 Tool package consists of:
- A371 Basic tool kit.
- A213 Grease gun, push type. Alemite #5585. Replaced by A12346.
- A289 Hand crank
- A348 Lug wrench. Handle for A1240
- A379 Oil can
- A616 Extinguisher & bracket (1 band clamp). Replaced by A8429.
- A692 Wheel bearing wrench. See 803 p185.
- A1100 Axle drain plug wrench. GPW17062 fits transfer drain also.
- A1133 Tire chains (4). Replaced by A7687.
- A1240 Jack, ratchet type. Replaced by A12268.
- A1339 Puller, drive flange. See 803 p183.
- * A1492 Bristol wrench, shift fork screw. See 1803B p13.
- A6151 Adapter grease gun, universal joints. Added mid-'42. Replaced by A11765.
- A6351 Tire pump. Base marked US QMC. Mid-'42.
- A6855 Pressure gauge. Mid-'42.
- A6899 Tire pump. Base marked US ORD. Mid-'42. See photo 16.
- A7511 Tire pump with attached air gun. Late '42.
- A7687 Tire chains. Early '43.
- A8429 Extinguisher and bracket (2 band clamp). Early '43. See photo 16.
- A11765 Adapter grease gun, mid-'44. This type locks on grease gun.
- A12268 Jack, screw type, mid-'44.
- A12269 Handle, jack, three-section, folding.
- A12346 Grease gun, lever type, mid-'44. See photo 7.
- 637636 Spark plug wrench.
- 306715 Handle, plug wrench.

Canvas

Top	Early	A2909	though 103545
	Std.	A3216	Hole for gas can strap added mid-'42

Windshield cover

Early	A3073	through 103545
Std.	A3211	

Doorway curtains
A2998 & A2999

Headlight covers
A3070

MB and GPW canvas items can be identified by the different binding tape used on the edges. See photos 5 and 12. Tops and curtains not furnished after mid-'44 due to shortage of canvas.

Spare Parts Kit A7680 — Early '43

A7686	Spare parts bag
A1495 or A9490	Fan belt – folded in three coils to fit in bag
A7681	Package of five screwdriver type valve caps
A7682	Package of five valve cores
A8385	Package of BO marker lamp bulbs
A1074	Upper service sealed unit
A1075	BO tail light lower unit
A1078	BO upper unit
A7683	Cotter pin assortment
A538	Spark plug
A7684	¾" friction tape
A7685	¼ lb. 22 ga. soft iron wire

Critical Materials

Many of the changes that took place in the MB and GPW in mid-'42 were the result of shortages of critical materials. Among the first were brass and bronze parts. The windshield-to-dash clamps were changed to stamped steel. The glove box plates changed to steel on GPW and a zinc-coated steel on MB. Cast brass buckles on top and body straps changed to stamped steel. The brass knobs on choke and throttle were changed to stamped steel on MB and GPW. Later (in '43) knobs on MB were changed to plastic.

These rubber parts were changed or eliminated:

		Replaced by
A1082	Sealing nipple for blackout markers eliminated.	
A729	Sealing sleeve for tail light connectors eliminated	
A627	Tail light – body grommet eliminated	
A2914	Transfer shift levers boot.	A3784 leather
A2921	Accelerator rod boot	A3782 leather
A2915	Transmission shift lever boot	A3783 leather
A2931	Steering column to dash bushing changed to 1½ webbing	Same number
A2503	Tool locker seal changed to jute	A3933 3934
A3528	Glove box seal cemented to body	
	Changed to jute on door	A3943
A1083	Accelerator pedal socket changed to metal	A6851
A2922	Hood block	A3780 wood
	Later changed to wood with webbing	A4683
A641	Clutch-brake pedal seal	spring 650684
	GPW changed to felt	spring pad A6359
		washer A6360
		A6305
A843	Tie rod seal	
	GPW changed to felt washer	
A2492, 2493	Windshield adjusting arm clamping washer and cup	washer A4260
A1218	Upper radiator hose replaced by hose and tube	A6374
A5164	Lower radiator hose replaced by hose and tube	6363109
Firewall grommets on GPW changed to felt		
GPW fuel tank gauge protector changed to metal		G8T9284

Shortages of ball bearings in mid-'43 made these changes in generators:
A5992 with two ball bearings changed to
A10048 with one ball bearing and one bushing

Critical Materials (continued)

In mid-'44 there was a shortage of casting and forging capacity. These parts were changed. Ford had their own facilities so this did not affect them.

A1639	Generator pulley	changed to stamping	A9492
636299	Water pump pulley	changed to stamping	same number
A1359	Brake pedal pad	changed to stamping	A8477
A1360	Clutch pedal pad	changed to stamping	A8440
A1386	Brake pedal arm	from forging to casting	A8253
A405	Clutch pedal arm	from forging to casting	A10269
A781	Differential cover	changed to stamping	A10231
A2538	Safety strap snap fastener	changed to stamping	same number
A593	Pintle hook	changed to welded assy.	A10529

Reconditioned Vehicles

By mid-'43 vehicles that had been used for training purposes in the United States were beginning to show their hard use. With most of the new production being sent overseas it was decided to start a program of rebuilding. Initially done by the military depots, the program was later expanded to include some civilian firms. Vehicles were disassembled, worn parts replaced and generally updated. In this activity originality was of no concern so that major units were interchanged resulting in GPW bodies on MB frames, MB engines in GPW's. Vehicles that have been through this program usually have a plate on the dash indicating what firm or depot rebuilt that vehicle.

This program was restarted in '51 and resulted in an unusual engine. Willys developed a replacement engine by modifying the CJ3A engine to fit the MB. These had MB fuel pumps with hand primer. MB generators and the front mounting plate to fit MB frame. This engine is described in post-WWII parts books. Engine numbers started at 1MB 10001 stamped on top surface of block at water pump.

Modifications Devloped by Willys

		Instructions
A6544	Addition of trailer socket	A6358
A6940	Desert cooling system	MWO G503–W1
* A7154	Hand primer – cold weather starting	A6957
* A7155	Addition of positive crankcase ventilation	A6969
* A7156	Engine heater	A8213
A7726	Waterfording exhaust pipe	
A8293	Power take off and 12-volt generator	A8313
A8500	Tandem hitch	A9283
A9232	Capstan winch	A10394
* A11792	External power receptacle	A11851
* A11793	Winter enclosure	A12200
* A11815	Hood blankets	A11833
* A11846	Driver heater	A11865
A11847	Complete winter conversion – includes items marked *	
A17856	Deep water fording conversion	A17645

Modifications developed by Ford

Conversion of entire vehicle electrical system to 12 volts	MWO G503–W7

Engines

MB

* Casting numbers: Block 638632, head 639660. These are the only correct numbers for original engines.
* Serial numbers start at MB100001 stamped on pad at front right side top behind oil filter.
* Casting date is at lower right side rear showing month and year in raised numbers. For example: Engine number 123371 shows date of 2 11. 1942 would be implied from the low engine number.
* Assembly date is steel stamped on the pan gasket surface at rear main bearing cap showing month day and year.
* Head: "WILLYS" added in raised letters in mid-'43, "WILLYS" and "JEEP" in mid-'44.
* Head attached with cap screws up to engine 288835, later with studs and nuts.
* Oil filler tube: A straight pipe 639555 up to engine 114550, later with funnel top A5165 and support A5105. After early '43 with vent tube A6915 to air cleaner tube.
* Intake manifold: Early type had rounded ends. After mid-'42 with pipe plugs at each end. After early '43 with PCV valve.
* Oil pan: Early type with riveted drain plug boss and thin skid plate. A1167.
  After late '42 with thick skid plate and pressed in drain plug boss. A7238.
* Air cleaner tube: Type I Tall, used with early air cleaner
  Type II Short, used with std. air cleaner
  Type III With vent tube for PCV system. Vent tube is angled down to line up with tube on oil filler tube on MB. On GPW the vent tube is horizontal.
* Clutch housing: In early '42 a raised boss with a tapped hole was added to the right side to secure parking brake cable away from front drive shaft.

GPW

* Serial numbers start at GPW 1 stamped on pad behind oil filter. Replacement engines have no number; they were to be stamped with the number of the replaced engine. Casting date through '43 is in a small round impression at lower right rear. Generally very difficult to rear. Later engines have the cast date in raised numbers near the distributor. Changes in GPW engine were made about the same time as for MB.
* GPW engine, clutch housing and transmission were painted '42 Ford tractor gray.

Serial Numbers for Bodies Built by American Central Manufacturing

	1941	1942	1943	1944	1945
Jan.		18xxx	108xxx	8xxx	183xxx
Feb.		24xxx	115xxx	13xxx	200xxx
Mar.		34xxx	122xxx	30xxx	215xxx
Apr.		42xxx	131xxx	45xxx	230xxx
May		49xxx	139xxx	59xxx	238xxx
June		57xxx	147xxx	75xxx	248xxx
July		65xxx	155xxx	91xxx	257xxx
Aug.		73xxx	163xxx	115xxx	262xxx
Sept.		81xxx	171xxx	130xxx	
Oct.		88xxx	179xxx	145xxx	
Nov.	3xxx	97xxx	187xxx	157xxx	
Dec.	10xxx	102xxx	194xxx	168xxx	

Approximate range of body numbers in use each month.

Numbers started over with type II body in early '44.

War time issues of *Fortune* magazine contain interesting ads of American Central. Some with in-plant pictures of body production.

Bodies

MB bodies produced by American Central Manufacturing Company can be identified by the round depression for tool locker latch. Type I used a three-piece construction where the cowl top joined the firewall. Triangular toe board gusset with the body serial number steel stamped on the side of the left gusset. Square corners on the fuel tank stone guard. At 118600 the stone guard was changed to rounded corners and the tool locker lids changed from two hinges each to one long hinge. At 120697 a locking glove box was added with a "U" shaped spring A3437 to hold door shut when not locked. At 134356 the locking feature was removed. At 137909 the standard latching door was introduced adding striker A3818 and removing the spring. The slots for the spring remained on the hinge and body for several years. At 156083 the rubber door gasket A3528 cemented on the body was changed to jute cemented to the backside of the door.

This type I body was used on some GPW's at the end of '43 and early '44. Early in '44 ACM began producing the type II body for both MB and GPW. This body had the front construction of the Ford body with two-piece cowl top-firewall. Rounded toe board gussets with serial number stamped on front flange. Front floor construction was the same as the Ford body. These changes were necessary so that the knocked down body panels from ACM would fit Ford assembly plant body jigs. This body was used on both MB and GPW to end of production. There are a number of variations in the firewalls of this body since Ford and Willys were not making the same changes at the same time. Early in '45 a hole was provided in the left cowl for vacuum line to wipers.

GPW bodies produced by Ford can be identified by the rectangular depression for the tool locker latch. Ford bodies do not have body serial numbers. Bodies built through mid-'42 do not have a raised bead in top surface of rear wheel house to rear of tool locker. Ford bodies were used to late '43.

Body-frame bolts on both makes were coarse thread with PAL locknuts. With type II suppression internal-external bonding washers were used on all body bolts. See 803 p222. Company names removed from rear panels in mid-'42 with change from QMC to ORD responsibility. Rear panel gussets A4606–4607 were welded in production in early '43 and available in kit for bolting in early bodies. See TB 803-1.

Hood

MB hoods can be identified by the two-piece rear channel with short center reinforcing channel and a small square plate at front center. Early hoods A2836 through 103545 are used with early windshield A2796. And early underhood air deflector A2977 with jute seal strip. Std. hood A3225 was used after 103545 with std. windshield A3210 and the same air deflector. After 125809 the seal strip was removed. GPW hoods were used after '43.

- Hood blocks: A2922 (rubber) through late '42
  A3780 (wood) through 218345
  A4683 (wood with webbing) after 218345

GPW hoods can be identified by three-piece rear channel with long center section. These hoods have six dimples at front so that they could be drilled for use on MB's with air deflectors. At mid-'44 plates were added on left side for installation of grease gun bracket. See photo 7. In early '44 the hood to body bond strap A11766 was lengthened to use hood hinge holes 2 & 4 to prevent cracking ends of hinge. In late '44 a holder for the lubrication guide was installed on the left side. For an illustration of the guide see 803 p38,39.

- Hood blocks: Rubber through mid-'42, later with wood and webbing

The std. type block was developed by Ford using a material for the filler strip that had been used on '41 Ford trucks as a cushion for the fuel tank.

Fender

MB fenders identified by single hole for body side step and multi-piece splash shield around battery. Early fenders with three holes in vertical row for side air deflectors. Std. fender without the holes after 125809.

GPW fenders have two holes for side step and one-piece stamping for splash shield. All with the three holes of early MB fenders. GPW fenders were used on some late MB's. See photo 9. For GPW fender on late GPW see photo 17.

Windshield

Early type A2796 used through 103545. This is the short "MA" type. See photo 1.

Std. type A3210 with cast bronze dash clamps A2227 through early '42, later with stamped steel clamps. Rifle holder brackets added in late '43. See photo 8. In early '45 the inner frame was drilled for vacuum wiper motors. The outer frame was drilled for attaching the metal vacuum lines.

Wipers

Through mid-'44 with individual hand wipers A2586, later with hand tandem wipers A11433.

In '45, some MB's and GPW's had two vacuum wipers.

In '43 the Anderson Co. developed a hand wiper with a latch to hold the wiper arm in the up position. These also had a spring on the arm to provide constant blade pressure. Later Anderson developed a connector link for tandem operation.

In '44 TRICO developed a kit consisting of two vacuum wipers and all parts necessary to install. This kit used hoses instead of metal lines.

Top Fasteners

Early type A2924 with push button was changed at 164554 to the std. type A4120.

Glass

GPW with Ford glass showing regular Ford glass logo and date code.

MB used LOF glass with date code.

Radiator Guard

MB	through 125809:	Early type (welded assembly)	A2858
	after 125809:	Std. type (stamped assembly)	A3615

GPW through Mar. '42: Early type stamped assembly without small depression at top center. See photo 12.
after Mar. '42: Std. type with depression.

The std. guard was developed by the American Forge and Socket Co., a Ford supplier. In designing this guard, the company used the outline of the early MB guard. The GPW hood had a center seam with a sharp edge that could cut through the antisqueak on the guard. The depression provided clearance so that either type of hood could be used. See photo 15.

Serial Numbers and Instruction Plates

Frame	MB		Inside frame at left front. Long plate with starting number MB100001.
			After late '43, a rectangular plate with serial number and JEEP – WILLYS SCOUT CAR.
	GPW		Steel stamped on top of frame near fuel pump. Numbers began at GPW 1.
			Star symbol at each end of number.
Glove box	MB	Type I	Brass showing QMC as supplying vehicle, summer–winter oil grades, refers to TM10 manuals, speed limit 65 MPH. Used '41 to mid-'42.
		Type II	Coated steel, WILLYS on top line, Ordnance Dept. as supplier mid-'42 to late '43. See photo 6.
		Type III	Changed to above/below 32° for oil grade. Manual reference could be either TM9 or 10. In use during '44.
		Type IV	Similar to III but with WILLYS removed. Make and model shown as WILLYS OVER-LAND MOTORS JEEP DIVISION. In use during '45.
			MB plates attached to glove box with #6 32 round head cad plated screws and PAL stamped nuts. Screws were left unpainted. See photo 5 & 6.
			MB plates were neatly machine stamped.
	GPW	Type I	Brass showing QMC as supplier. Exact copy of type I MB plate with FORD GPW as the make and model. This plate does not have the unpainted border typical of Ford.
		Type II	Steel, Ford on top line. Similar to type II MB. Mid-'42.
		Type III	Steel. See 9 803 p14. Mid-'42 to late '43.
		Type IV	Aluminum, similar to type III but with publication portion the same as WILLYS plate shown on p14. Early '44 to '45.
			GPW plates generally crudely stamped after riveting to glove box. Some data may have been partially stamped before riveting to be completed later.
			In mid-'44 a shipping date plate was added to MB and GPW. See photo 8.

Instrument Panel

Speedometer	A1266	Dial with markings at 10 MPH intervals. '41 – early '42.
	A5734	Luminous dial with 1 MPH intervals after 137760. See photo 6.
	A8180	With added water sealing mid-'44
Fuel	A1268	Reads GAS through early '42 A second style reads FUEL
	A8184	Added water sealing
Ammeter	A1280	+/– 30 amps through early '42
	A5231	+/– 50 amps
	A8186	Added water sealing
Oil	A1269	Through mid-'44
	A8190	Added water sealing
Temp.	A1270	Through mid-'44.
	A8188	Added water sealing
Ignition switch	A2517	Key type – turns 90° off–on through 202023
	A6811	Keyless type – turns 45° off–on

MB instruments made by Autolite. Some speedometers by King-Seeley.

GPW instruments made by Stewart-Warner generally, but some by Autolite. See photo 16. Some '44–'45 GPW with Waltham speedometers.

GPW keyless ignition switch turns 90° off–on after '42.

For changes in dash controls see Critical Materials.

Light switch	A1332	Pull type through mid-'44
	A11866	Rotary type

Escutcheon plate of rotary switch is metal on MB. Made of plastic on GPW.

Pedal Pads

MB	'41 through early '42	Clutch	A434	Rectangular pad same as MA
		Brake	A1359	With rounded end
	'42 through mid-'44	Clutch	A1360	With rounded end
		Brake	A1359	With rounded end
	After mid-'44	Clutch	A8440	Stamped steel. See photo 8.
		Brake	A8477	Stamped steel. See photo 8.

A8440 and 8477 were sprayed with A10456 GRIP-TITE paint, a coarse textured material similar to that used on helmets.

GPW All used cast pads same as A1359, 1360.

Unusual and Overlooked Parts

Quantity Per Vehicle			
2	6196		An oversized 3/8 NC nut used for safety strap anchor bolt. MB only. See photo 8, bottom nut, hand rail bracket
4	A1096	MB	Spark plug insulator cap used on all MB's.
	11A12425	GPW	Only used through '42 on GPW.
10	A1089		#10 washer, 1/4" OD used on all MB junction blocks.
2	34954		#14 ext. tooth countersunk lockwasher used on rear ax clamp. GPW only.
6	78 2814		Brake hose clip. Hand brake cable clip from 1937 Ford car. GPW only. See 1803B p48. MB type is different.
2	356373		Antirattle spring washer for safety strap anchor. GPW only.
2	52891		5/16 PALNUT fuel tank strap bolt replacing lockwasher at 104433. MB only.
4	352760		1/4 shakeproof washer between tail lights and body for grounding. MB only.
2	631105		Coil bracket washer. Shaped like rounded end of coil bracket. MB and GPW.
2	51391		An unusually short 5/16 NC bolt used for hand rail front bracket. MB only.
1	390510		Steering column oil hole. MB only. See 803 p213.
34	52350		5/16 NC thin nut used on MB body handles and other locations.
8	637704		Valve clearance spring. MB and GPW only through early '42.
2	A2639	MB	Top bow pivot antirattle spring washer.
	356522	GPW	Top bow pivot antirattle spring washer.
2	A2483	MB	Windshield adjusting arm pivot antirattle spring washer.

Unusual and Overlooked Parts (Continued)

Quantity Per Vehicle		
2	99W8103311	GPW windshield adjusting arm antirattle washer.
2	A1752	Front axle shaft identification tag. Attached to knuckle oil seals. See 1803B p85.
1	A783	Axle ratio tag attached to axle cover. See 1803A p9.
1	A1763	Protector fuel tank gauge unit. Rubber cover to prevent shorting.
6	GP4533	Lock strap universal joints U bolt nuts. See 1803B p44. GPW only.
1	A281	Thick hose clamp for air horn to carb.
1		Carter carburetor inspection tag. Triangular shaped, stamped 539S and punched by final inspector.

During '43 the Army attempted to settle the question of which was the better built vehicle by a vigorous testing program of two vehicles each from both companies. While the results were inconclusive, some drivers preferred the GPW. The vehicles were:

Serial Number	Regist. Number	Engine Number	Delivery
MB235937	20328257	258246	May 20, '43
MB236421	20328356	258675	May 20, '43
GPW119422	20378375	same as serial	May 20, '43
GPW119510	20378376	same as serial	May 20, '43

Publications

Prior to Aug. '42

Maintenance

	MB		GPW	
TM 10	1207	Aug. '41	TM10 1349	Jan. '42
		Dec. '41		
	1513	Mar. '42		
		Jan. '43		

Parts

TM10	1206	Aug. '41	TM10 1348	Jan. '42
	with 7 changes			Sept. '42
	1512	Mar. '42		Mar. '43
		Sept. '42		
		Jan. '43		
		Aug. '43		
TM10	1186	June '42		

This is a master parts list covering MA and MB

QMC Motor Transport Technical Service Bulletins

Feb. '42	E	11	Steering arm studs
Feb. '42	X	16	Electric defroster
Mar. '42	I	7	Shift levers pivot pin
Apr. '42	D	3	Generator capacitor
May '42	Z	15	Meaning of S in registration number
Sept. '42	G	2	Torque spring
	x	19	GPW oil gauge

After Aug. '42

Maintenance

TM 9	803	Feb. '44	Vehicle pictured is MB
Change 1		May '50	
TM9	1803A	Feb. '44	Vehicle pictured is GPW
	1803B	Apr. '44	Vehicle pictured is GPW

Parts

TM10	1186	July '43	

Change 1 adding parts for trailer to master list

ORD9	G503	Feb. '45	
ORD9	G503	Oct. '49	
		Includes information on gear drive cam engines	

Technical Bulletins

TB	803-1	Apr. '43	Rear panel gussets A4606, 4607
	803-2	June '43	Slots in air cleaner tube
	803-3	Nov. '43	Alignment of air cleaner tube
	803-4	Jan. '44	Transmission oil level

Publications (Continued)

Technical Bulletins	TB	803-5	Sept. '44 — 10 leaf front, 11 leaf rear springs
		803-6	Nov. '44 — Service limits of timing chain
		803-7	Feb. '45 — Valve cover studs
		803-8	Dec. '51 — Brake pedal side play
		803-9	Jan. '52 — Converting 12V starter to 6V
Lubrication guides			Sept. '43, Jan. '44, Apr. '44
Lubrication orders			Dec. '44, July '45, Sept. '48

WD AGO Form 478 and envelope 478-1 (Willys part #A6959). This form was furnished by the factory showing all modifications incorporated in production. For most vehicles these included the BO drive light, rear panel gussets and the trailer socket. The form was to be used to record additional modifications and major units replaced. It was carried in the vehicle.

The ORD9 parts book A6961 and TM9 803 A6960 were furnished by the factory in heavy manila envelopes printed to resemble the manual cover.

Waterfording instructions	TM9	2853	Jan. '44
Radio installations	TM11	2715	Sept. '44
Uncrating instructions	Ford form 3679-1		
	Willys A17462		

Corrections to Publications

TM9	803	Page 222	b 2 b "field" should be "bat"
		Page 152	This is a diagram for MB. GPW uses a separate harness for left tail light.
		Page 151	Sketch is of a Dec. '43 through mid-'44 MB with type II suppression.
			Note the capacitors on coil, regulator, starter switch and ignition switch.
TM9	1803A	Page 47	Relationship of piston T slot and rod oil squirt hole is confused. The oil hole is opposite the T slot. T slot faces camshaft.
TM9	1303B	Page 22	Paragraph h. The spring washer is placed on the pivot pin with the shifter plate on top of the spring.
ORD9	G503	Page 122,123	P–correct part number is A7825, S 635883, T A7824, X A7823.

Transmission

Early versions of both makes had fill and level plugs on the right side. Plugs were moved to the left side in late '42. At this same time the rear bearing was reversed with the shield to the rear. A second A410 slinger was installed behind the bearing. In late '44 the oil level was raised and oil seal A15428 installed in the rear of the case. A portion of the reverse idler shaft and countershaft was cut away on the non-thrust side in an attempt to improve oil flow. Warner Gear became the sole producer during '44. Ford built units have part numbers on left side. Warner units on right side. All Warner built units have a date code on top gasket surface.

Transmission support: Early type A109 is a sandwich construction of rubber between steel plates. Std. type A6156. The steel plates interlock to prevent separation in rough service. Changed in mid-'42.

Transfer

The earliest recorded change in the MB was the addition of a grease fitting for the shift levers pivot pin A972 at vehicle number 101000. Soon after this, the shift levers were changed from the small diameter MA type A968 & 969 to the std. type larger diameter A1505 & 1506. Some GPW's were built with the early shift levers.

GPW transfers are date coded on the top surface of the rear bearing cap. GPW transfer rear covers have a raised bead around the gasket surface. See 1803B p11.

Tires and Wheels

All MB's with Goodyear ALL SERVICE tires.

Wheels: Early type A1799. A heavy duty commercial wheel. '41 to early '42.

Std. type A5467. A split wheel using a bead lock ring, developed by Firestone.

Warning plates on these wheels were painted white at the factory, sometimes crudely with a brush. Tubes had screw-driver type valve caps and valve stem protection sleeves. See photo 9.

Electrical

Generator	A1246	tag	GEG5001	'41–'42	with oil cups each end
	A5992		GEG5002	'42–'43	sealed bearings
	A10048		GEG5101	'43–'45	1 sealed bearing, 1 bushing
Regulator	A1409		VRY4203A	'42–'44	
			VRY4203G	'44–'45	

Cover gasket changed to rubber for better water sealing. Drain plug added to base.

Spark plug suppressors

	A1284	with straight connector for plug
	A1285	inline type for coil wire
after mid-'42	A6320	with expanded connector for either plug or distributor cap
	A6321	rubber right angle insulator for coil wire at distributor

Distributor	A1240	'41 through mid-'44	
	A9075	mid-'44	dustproof design

Wiring clips were redesigned in mid-'42

A5598	1/4"	a flat strap bent in U shape replacing 78316 (die stamped)
A5449	5/16"	a flat strap bent in U shape replacing 78317
A5450	1/2"	a flat strap bent in U shape replacing 10956

All GPW clips were die stamped

Battery cables MB and GPW with early air cleaner. Cable was fastened with clip 78932 on firewall with same screw as speedometer cable. With std. air cleaner cable was fastened to starter to switch cable with a second 78932 clip. See 803 p151.

Ground cable	A1320	Up to 120700 cable was bolted to frame under battery support.
	635883	After 120700 cable was bolted to front of support.

GPW with Ford frame, cable was bolted to tooling hole in top surface of front crossmember.

Coil	A1424	Used with type I suppression, had bottom ground connection.
	A7792	Used with type II suppression, without bottom connection.

Sparkplug insulator caps

MB	A1096	used on all '41–'45. See 803 p139.
GPW	11A 12425 (plastic)	used through mid-'42.

Fuel System

Fuel tank	'41 to Sept. '42	A1221	Tank with small cap.
	Sept. '42 to early '44	A6897	Tank with large cap and pull-up extension.
	'44 to early '45		Tank had dent in right front side to provide clearance for belt drive PTO of 12 volt generator. See Modifications.
	Early '45	A15507	Tank had ceramic filter unit it tank. Filter was removed from firewall.

Choke and hand throttle

MB had metal knobs with raised letters painted white through '42.
After '42 with plastic knobs, engraved letters filled in white. See photo 6.

GPW had metal knobs for all years. See photo 16.

Fuel pump

Early pump A1220 with vent hole in base
Std. pump A8323 without vent hole, for use on engines with PCV system

Air cleaner

'41 through early '42	Early type A1281	Both makes used this cleaner.
Early '42-'45	Std. type A5621	

Air horn seals and clamps

'41 seal A1451 with clamp A281. A281 also used at carburetor.
'41 after 104310 seal A1451 with clamp A1515. Clamp A281 at carburetor. See 803 p128.
In '43 clamp A281 at carburetor was replaced by A1515 clamp.
In early '45 seal A1451 was replaced by molded rubber seal A17317 and an additional seal at carburetor A17318 with special clamp 53384.

Flexible fuel line

Both makes used aircraft type braided metal flex line through mid-'42

The cast iron base of carburetor was painted in black lacquer. The nitro-cellulose lacquer of that time was not affected by gasoline.

Frame

MB can be identified by the tubular front crossmember.

GPW can be identified by the square front crossmember and from the rear by the large tooling holes outboard of bumperettes. See photo 14.

Early MB through Jan. '42 had a welded assembly battery support with the battery ground cable A1320 bolted under the support.

Std. MB frame had a stamped battery support with the ground cable 635883 bolted to front of support.

MB frames were used on several thousand early GPW. See photo 11.

MB frames through Dec. '41 had an additional bracket 638809 for rear brake hose.

Beginning in late '44 the MB frame used the rear crossmember of the planned CJ but without the holes for rear PTO. About 4" left of center a portion of the lower flange was pressed down in a circular form to clear the rear PTO drive shaft.

Late GPW frames have brackets added for deep mud muffler system.

Springs

'41 to late '44	8 leaf front	9 leaf rear
Late '44–'45	10 leaf front	11 leaf rear

Torque reaction spring added at left front at 146774 A6066

Lock strap for top pivot bolt added at 170307 A6326

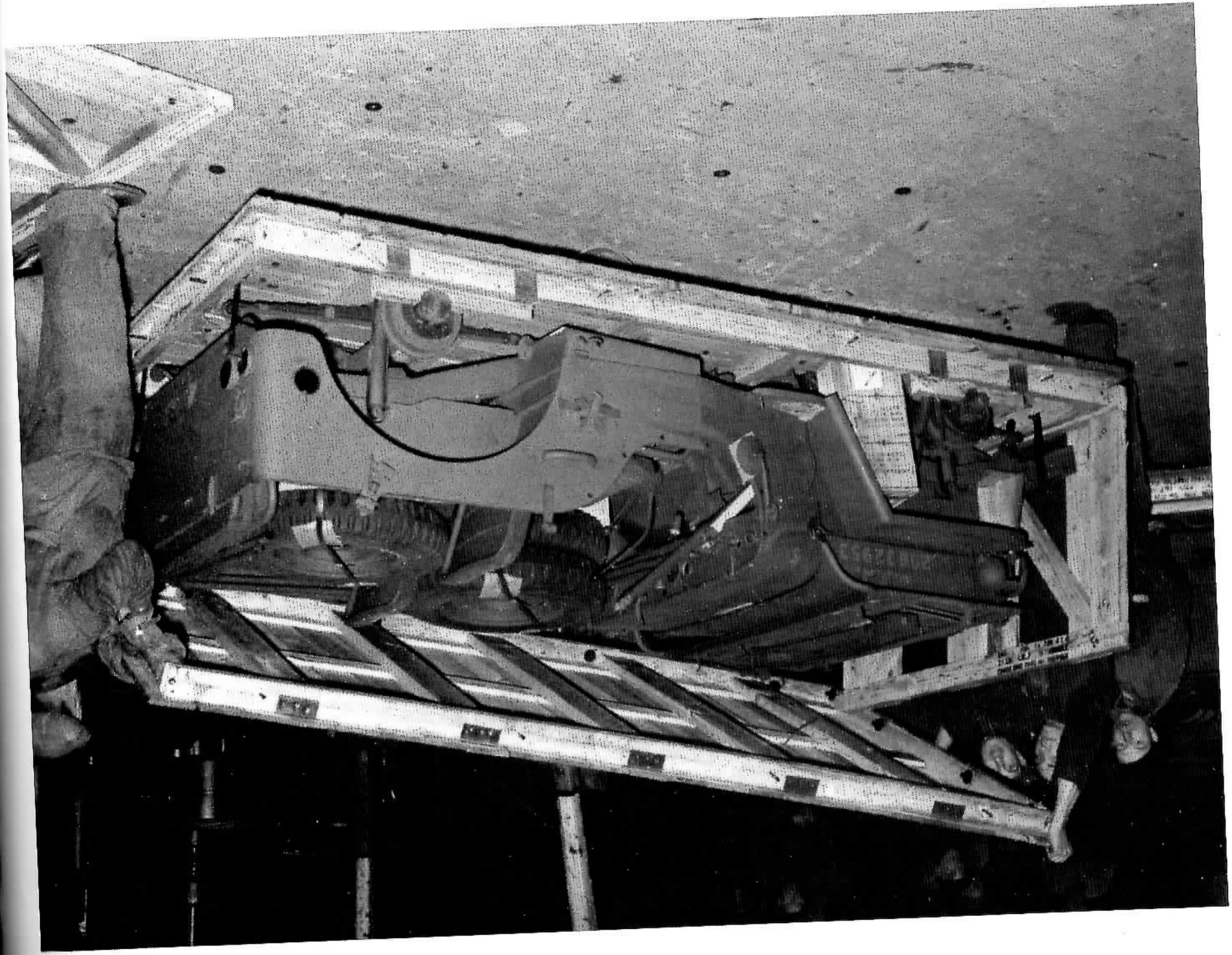
Rebound clips on MB springs are a wrap-around strap. See photo 5.

GPW clips are bolted. See photo 17.

In Dec. '41 the large rebound clip on rear spring was changed from enclosing 6 leaves (MA type) to enclosing 7 leaves (std. MB).

Spring shackle bushings:

Up to Mar. '43	Right hand thread	634432	Pressed in grease fitting
	Left hand	635532	Pressed in grease fitting
After Mar. '43	Right hand	A8256	Threaded grease fitting
	Left hand	A8255	Threaded grease fitting



Crating

Vehicles were partially disassembled and crated for shipment overseas. The disassembly conserved shipping space and the crating protected the vehicle in handling. In early type crating the windshield and hood were removed and the steering column unbolted from the dash and frame. See photos 4 and 16. Vehicles larger than the MB were more completely disassembled. To insure that vehicles were properly assembled, Ordnance Vehicle Assembly Companies were formed. Many of the members of these units were recruited in Detroit. In '44 a returnable crate was developed. This could be reused for another shipment or the crate could be returned knocked down to the factory. In this photo you can see that the vehicle is essentially complete with only the rear panel parts, the wheels and the steering wheel removed. Note the steel straps holding the shock absorbers compressed and the block of wood holding the clutch pedal depressed. This vehicle will be on wheels and operating very shortly! This type crate was open on the sides and end panels. At the same time, depending on the destination, some vehicles were shipped complete as this one in the early style "fully sheathed" crate.

Final Exam

Now that you have studied the photographs and looked through the text, you might like to try your skill at identifying the make and approximate year of the vehicle pictured. There are at least nine clues to the make. And several years can be disregarded. When you make your determination, you can confirm it by using the registration number charts.

Additional Reading

Masters of Mass Production by Christy Borth. An accurate account of the development of the JEEP by Barney Roos of Willys Overland

The JEEP – Its Development and Procurement under the QMC, 1940–1942 by Herbert Rifkind

U.S. Army in WWII — The Technical Services Three volumes on the Ordnance Department. For sale by the Government Printing Office.

Men and Volts at War by John A. Miller. The story of the welder JEEP and other GE products including picture of JEEP.