

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

TM 9-2800-1
TO 19-75A-89

MILITARY VEHICLES

(ORDNANCE CORPS RESPONSIBILITY)

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
FEBRUARY 1953

Section I. INTRODUCTION

1. Scope

a. This manual covers the Army military vehicles for which the Ordnance Corps has the responsibility of storage and issue. Chassis that the Ordnance Corps supplies to other technical services for mounting bodies and special equipment peculiar to those services are also included.

b. A halftone illustration and dimensioned line sketch of each vehicle is shown, followed by tabulated data. These data include classification, purpose, characteristics, and performance of each vehicle. Data and illustrations have been obtained from the most reliable sources available at time of publication. These sources include vehicle manufacturers and responsible agencies of the Ordnance Corps. Further information is given in the technical manuals and supply catalogs listed for each vehicle.

c. Section II contains the vehicles arranged alphabetically. Within the alphabetical arrangement, the transport vehicles are listed by increasing capacities and the combat vehicles are listed by increasing caliber of the major armament. In the index, however, the vehicles are grouped by types.

d. Matériel which has been declared obsolete since publication of the superseded edition, 27 October 1947, has not been included in the revision.

e. The appendix contains a list of references to other pertinent publications.

2. Explanation of Terminology

a. *Classification.* Vehicles are classified from the standpoint of suitability for use as follows:

- (1) *Standard.* Standard vehicles are the most advanced and satisfactory that have been adopted, and are those which are preferred for procurement.
- (2) *Substitute standard.* Substitute standard vehicles are those that do not have as satisfactory military characteristics as standard vehicles, but are usable substitutes for standard vehicles and, when necessary, may be procured to supplement the supply of standard vehicles.

(3) *Limited standard.* Limited standard vehicles are those that do not have as satisfactory military characteristics as standard vehicles, but are usable substitutes for standard vehicles, and are either in use or available for issue to meet supply demands. Complete vehicles will not be procured, but component parts, even though they may be limited-procurement articles, may be procured if necessary to maintain these vehicles in serviceable condition throughout a reasonable life expectancy.

(4) *Nonclassified.* Vehicles to which no classification is assigned.

b. Technical Data.

- (1) *Wheels.* Where such data as "6 x 4" and "4 x 4" appear in vehicular nomenclature, the first figure indicates total number of wheels, and the second figure indicates number of driving wheels. Dual wheels are considered as one wheel.
- (2) *Net weight.* Weight of fully equipped vehicle in operating condition with fuel, lubricants, and water, but without crew or payload, unless otherwise specified.

Note. It is emphasized that weights given in this manual are for tactical use only, and are not intended as official shipping weights for use in shipment by commercial carriers, due to variations between vehicles, variations resulting from changes in stowage, etc. Official vehicular shipping weights are contained in TB9-OSSC-G.

- (3) *Payload.* Weight of cargo or passengers, including crew, which may be safely imposed on vehicle.
- (4) *On-highway payload.*

(a) Permissible payload for a tactical transport vehicle operated on highways only is based upon the maximum load capacity of the vehicle's tires.

Caution: Payload and maximum gross weight for unrestricted operation will not exceed those shown on the vehicle data plate.

- (b) Tactical vehicles for which the permissible on-highway loading is not given in this manual, nor on the vehicle data plate, will be reported by the using organization to the Office, Chief of Ordnance for determination of allowable loading.
- (5) *Gross weight or fighting weight.* Weight of vehicle fully equipped and serviced for operation, including crew, plus maximum allowable payload of cargo or passengers.
- (6) *Shipping dimensions.* Minimum dimensions to which a completely assembled vehicle may be reduced by lowering cab, top, or windshield, removing body bows, gun mounts, etc.
- (7) *Ground clearance.* Minimum clearance under lowest point of chassis.
- (8) *Computed grade ability.* The grade (slope), measured in percent, that a vehicle will ascend with given load and in specified gear or range, as calculated by standard formula. Percent of grade is defined as the ratio between the vertical rise and the horizontal distance traveled, expressed in percent. Examples of grades measured in terms of degree of angle and percent follow:
- | Degree of angle | Percent of grade |
|-----------------|------------------|
| 0----- | 0 |
| 10----- | 17. 633 |
| 30----- | 57. 735 |
| 45----- | 100 |
- (9) *Turning radius.* Radius of minimum circle withing which vehicle can negotiate a complete turn.
- (10) *Fording depth.* Depth of water through which vehicle can be successfully operated at slowest speed.
- (11) *Cruising range.* Average distance vehicle will travel on one filling of fuel at rated fuel consumption.
- (12) *Communications equipment.* The type numbers of communications equipment listed for combat vehicles have the following meanings:

AN/ARC-3	Radio Set
AN/GRC-3	Radio Set
AN/GRC-4	Radio Set
AN/GRC-5	Radio Set
AN/GRC-6	Radio Set
AN/GRC-7	Radio Set
AN/GRC-8	Radio Set
AN/GRC-9	Radio Set
AN/GRR-5	Radio Set
AN/PRC-9	Radio Set
AN/UIC-1	Auxiliary Interphone Equipment
AN/VIA-1	Auxiliary Interphone Equipment
AN/VRC-3	Radio Set
AN/VRC-5	Radio Set
AN/VRC-7	Radio Set
AN/VRC-8	Radio Set
AN/VRC-9	Radio Set
AN/VRC-10	Radio Set
AN/VRC-13	Radio Set
AN/VRC-14	Radio Set
AN/VRC-15	Radio Set
AN/VRQ-1	Radio Set
AN/VRQ-2	Radio Set
AN/VRQ-3	Radio Set
BC-667	Interphone Amplifier
NAVY TCS	Radio Set
RC-99	Interphone Equipment
RC-298	Interphone Extension Kit
SCR-52B	Radio Set
SCR-193S	Radio Set
SCR-193T	Radio Set
SCR-245	Radio Set
SCR-499	Radio Set
SCR-506	Radio Set
SCR-507	Radio Set
SCR-508	Radio Set
SCR-510	Radio Set
SCR-528	Radio Set
SCR-542	Radio Set
SCR-593	Radio Set
SCR-608	Radio Set
SCR-608B	Radio Set
SCR-610	Radio Set
SCR-619	Radio Set
SCR-628	Radio Set
SCR-694C	Radio Set

3. Definition of Vehicles

Vehicles are defined in AR 700-105. These definitions cover *vehicles* and *motor vehicles*, which are divided into *tactical* and *administrative vehicles*. Further groupings are *general-purpose vehicles*, *special-equipment vehicles*, *special-purpose vehicles*, *combat vehicles*, *trailers*, and *semitrailers*.

4. Responsibility

For each type of vehicle stored and issued by each technical service and the Air Force, the technical service responsible for design and development; preparation of specifications; purchase and inspection (including spare parts); storage and issue of spare parts for organizational, field, and depot maintenance; and performance of depot maintenance is given in SR 700-110-1 (AFR 65-17).

5. Excessive Weights and Dimensions

The weights and dimensions of some vehicles included in this manual exceed the permissible limits given in AR 700-105. SR 700-105-10 lists these vehicles and explains wherein they exceed the limitations.

6. Winterization and Deep-Water Fording Kits

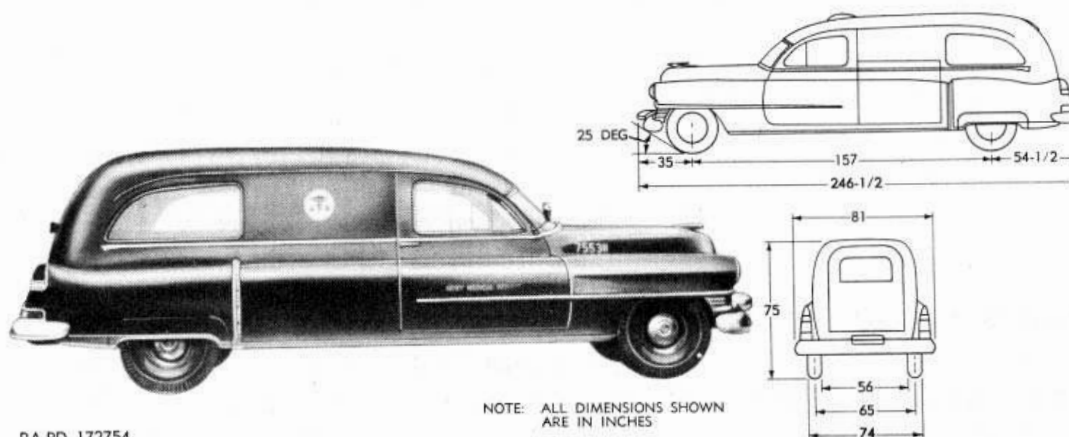
a. Winterization kits available for vehicles are listed in SB 9-16.

b. Deep-water fording kits available for vehicles are listed in TM 9-2853.

7. Different Voltages

The commercial-type vehicles and the older tactical vehicles have 6-volt electrical systems. Many of the newer tactical vehicles have 24-volt electrical systems. There are also some vehicles with 12-volt electrical systems. Damage is almost certain to result from connecting the electrical systems of two or more vehicles, such as trucks and trailers, having different voltages. Therefore, using organizations are cautioned against connecting the electrical systems of vehicles having different voltages, unless one vehicle has been modified to accommodate the voltage of the other.

Section II. ORDNANCE CORPS MILITARY VEHICLES
AMBULANCE, METROPOLITAN, 3/4-TON, 4-LITTER
(Cadillac-Miller, Model 50-86 and Cadillac-Superior, Model 51-86, 1951)



Vehicle illustrated: Model 51-86.
Classification: Standard.

Purpose: To transport sick and wounded personnel.

GENERAL DATA

Crew.....2; Passengers (including crew) 12
Weight (lb).....Net 5,720
 Payload.....1,500
 Gross.....7,220
Rear-axle gear ratio.....4.27:1
Axle load (lb):
 Empty.....front 2,740; rear 2,980
 Loaded.....front 3,000; rear 4,220
Tires:
 Ply 6; Size 8.90 x 15.....Pressure (psi) front 24, rear 30
 Tread, center-to-center, front.....(in.) 59
Shipping dimensions, uncrated.....(cu ft) 867; (sq ft) 139
Ground clearance.....(in.) 9
Electrical system.....(volts) 6
 No. of batteries.....1
 Type of ground.....negative
Fuel octane rating.....80
Capacities:
 Fuel.....(gal) 20
 Cooling system (qt).....w/o heater 18; w/heater 19
 Crankcase, refill.....(qt) 5
 Transmission.....(qt) 3¾
 Rear axle.....(qt) 2¼
Brakes:
 Manufacturer; Bendix.....Type; hydraulic
 Parking brake, type.....rear-wheel
Transmission for ward speeds.....3
 Gear ratio.....High 1:1; Low 2.393:1

PERFORMANCE

Computed grade ability in lowest gear, loaded.....(percent) 25
Turning radius.....(ft) 29
Fording depth.....(in.) 9¾
Fuel consumption, loaded.....(mpg) 8
Cruising range, loaded.....(mi) 160
Allowable speed, recommended.....(mph) 65

ENGINE

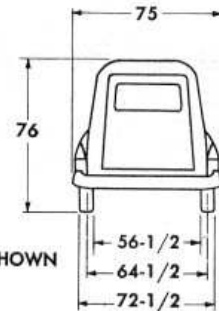
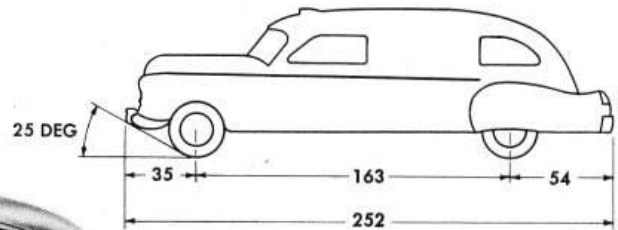
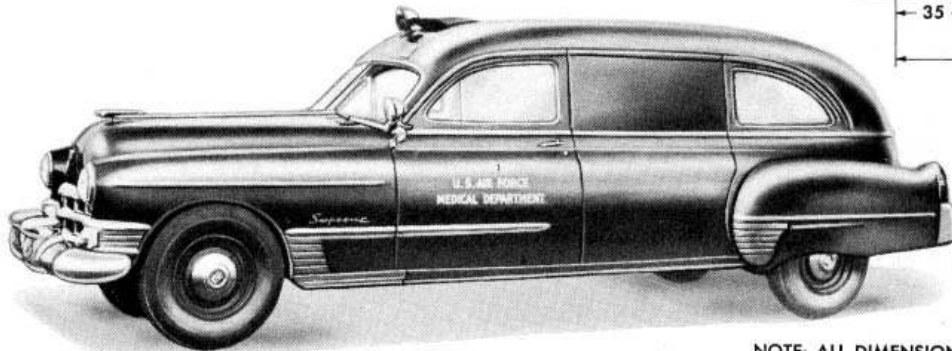
Manufacturer: Cadillac.....Model 1951
Type.....4-cycle, valve-in-head; No. of cylinders (90-deg V) 8
Displacement.....(cu in.) 331
Bore.....(in.) 3¼
Stroke.....(in.) 3¾
Compression ratio.....7.5:1
Governed speed.....not governed
Brake horsepower (max w/std accessories).....141 at (rpm) 3,400
Torque (max w/std accessories).....297 lb-ft at (rpm) 1,800

ADDITIONAL DATA

Rear axle, type.....hypoid, semi-floating
Transmission, type.....synchromesh

AMBULANCE, METROPOLITAN, 3/4-TON, 4-LITTER

(Cadillac-Superior, Models 62, 1942; V-8, 1948; and 4986, 1949)



NOTE: ALL DIMENSIONS SHOWN
ARE IN INCHES

RA PD 137751

Vehicle illustrated: Model 4986, 1949.
Classification: Standard.

Purpose: To transport sick and wounded personnel.

GENERAL DATA

Crew..... 2; Passengers (including crew) 12
Weight (lb)..... Net 5,530; Payload 1,500; Gross 7,030
Rear-axle gear ratio..... 3.77:1
Axle load (lb):
 Empty..... front 2,660; rear 2,870
 Loaded..... front 2,920; rear 4,110
Tires:
 Ply 6; Size 8.90 x 15; Pressure (psi)..... front 24; rear 30
 Tread, center-to-center, front..... (in.) 59
Shipping dimensions, uncrated..... (cu ft) 836; (sq ft) 132
Ground clearance..... (in.) 9
Electrical system..... (volts) 6
 No. of batteries..... 1
 Type of ground..... negative
Fuel octane rating..... 88
Capacities:
 Fuel..... (gal) 20
 Cooling system (qt)..... w/o heater 18; w/heater 19
 Crankcase, refill..... (qt) 5
 Transmission..... (qt) 1 1/4
 Rear axle..... (qt) 2 1/2
Brakes:
 Manufacturer; Bendix..... Type; hydraulic
 Parking brake, type..... rear-wheel
Transmission forward speeds..... 3
 Gear ratio..... High 1:1; low 2.39:1

PERFORMANCE

Computed grade ability in lowest gear, loaded..... (percent) 25
Turning radius..... (ft) 28 1/2
Fording depth..... (in.) 9 3/4
Fuel consumption, loaded..... (mpg) 8
Cruising range, loaded..... (mi) 160
Allowable speed, recommended..... (mph) 65

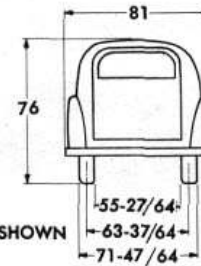
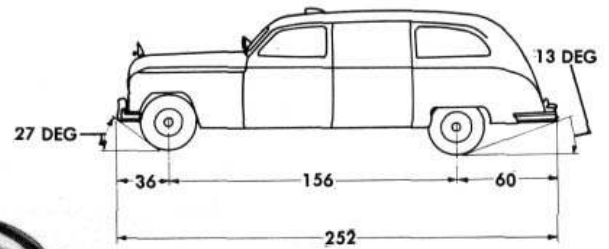
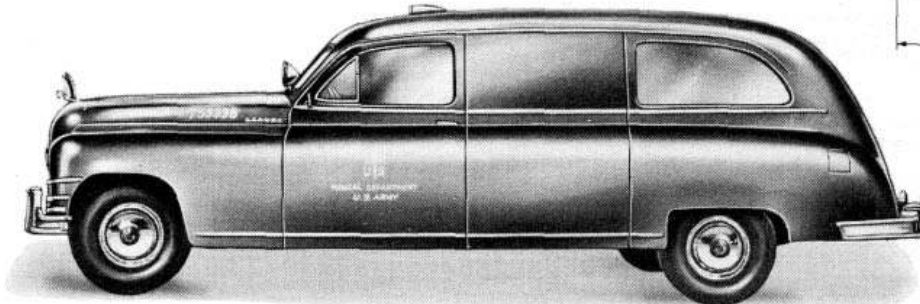
ENGINE

Manufacturer: Cadillac..... Model 1949
Type: Valve-in-head, 4-cycle..... No. of cylinders (90-deg V) 8
Displacement..... (cu in.) 331
Bore..... (in.) 3 1/8
Stroke..... (in.) 3 3/8
Compression ratio..... 7.50:1
Governed speed..... not governed
Brake horsepower (max w/std accessories)..... 141 at (rpm) 3,400
Torque (max w/std accessories)..... 297 lb-ft at (rpm) 1,800

ADDITIONAL DATA

Transmission, type..... synchromesh
Rear axle, type..... hypoid, semi-floating

AMBULANCE, METROPOLITAN, 3/4-TON, 4-LITTER **(Packard-Henney, Models 4294 HDA, 1942 and 2213-9, 1949)**



NOTE: ALL DIMENSIONS SHOWN
ARE IN INCHES

RA PD 137743

Vehicle illustrated: Model 2213-9, 1949.
Classification: Standard.

Purpose: To transport sick and wounded personnel.

GENERAL DATA

Crew.....2; Passengers (including crew) 12
 Weight (lb).....Net 6,223; Payload 1,500; Gross 7,723
 Rear-axle gear ratio.....4.54:1
 Axle load (lb):
 Empty.....front 3,295; rear 2,928
 Loaded.....front 3,540; rear 4,183
 Tires:
 Ply 6; Size 7.50 x 16; Pressure (psi).....front 30, rear 40
 Tread, center-to-center, front.....(in.) 59 1/2
 Shipping dimensions, uncrated.....(cu ft) 900; (sq ft) 142
 Vehicle dimensions:
 Ground clearance.....(in.) 9
 Loading height, empty.....(in.) 24 1/2
 Electrical system.....(volts) 6
 No. of batteries.....1
 Type of ground.....positive
 Fuel octane rating.....80
 Capacities:
 Fuel.....(gal) 20
 Cooling system (qt).....w/o heater 19; w/heater 19 1/2
 Crankcase, refill.....(qt) 7
 Transmission.....(qt) 1
 Rear axle.....(qt) 3
 Brakes:
 Manufacturer: Packard.....Type: hydraulic
 Parking brake, type.....rear-wheel
 Transmission forward speeds.....3
 Gear ratio.....High 1:1; Low 2.43:1

PERFORMANCE

Computed grade ability in lowest gear, loaded.....(percent) 28
 Turning radius.....(ft) 28
 Fording depth.....(in.) 9
 Fuel consumption, loaded.....(mpg) 10
 Cruising range, loaded.....(mi) 200
 Allowable speed, governed.....(mph) 60

ENGINE

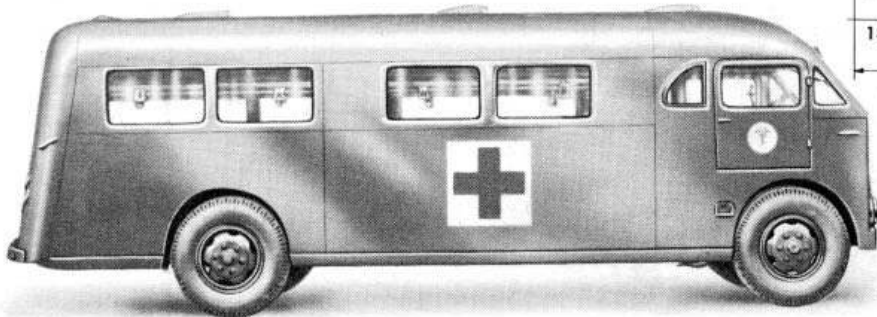
Manufacturer: Packard.....Model 2213
 Type.....L-head, 4-cycle; No. of cylinders (in line) 8
 Displacement.....(cu. in.) 356
 Bore.....(in.) 3 1/2
 Stroke.....(in.) 4 5/8
 Compression ratio.....7.00:1
 Governed speed.....(rpm) 3,600
 Brake horsepower (max w/std accessories).....144 at (rpm) 3,600
 Torque (max).....282 lb-ft at (rpm) 2,000

ADDITIONAL DATA

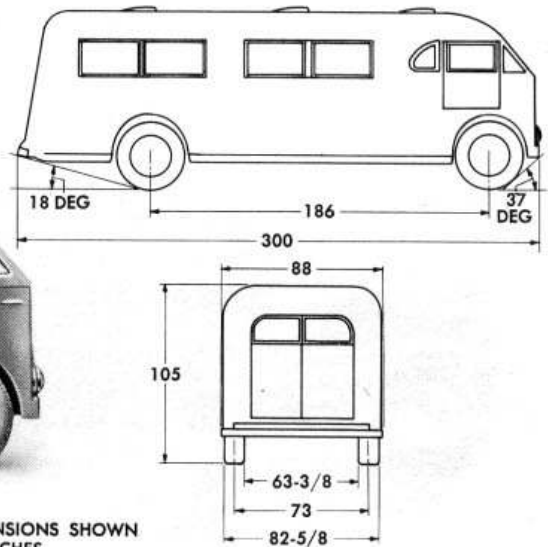
Transmission, type.....synchromesh
 Rear axle, type.....hypoid, semifloating

AMBULANCE, METROPOLITAN, 1½-TON, 12-LITTER, M423

(Linn Coach and Truck Division)



RA PD 137731



NOTE: ALL DIMENSIONS SHOWN
ARE IN INCHES

Classification: Standard.

GENERAL DATA

Crew.....2; Passengers (including crew) 14
Weight (lb)..... Net 6,500; Payload 3,000; Gross 9,500
Front-axle gear ratio.....6.6:1
Axle load (lb):
 Empty.....front 4,000; rear 2,500
 Loaded.....front 5,000; rear 4,500
Tires:
 Ply 10; Size 9.00 x 20..... Pressure (psi) front 60; rear 55
 Tread, center-to-center, front.....(in.) 64¼
Shipping dimensions, uncrated.....(cu ft) 1,530; (sq ft) 180
Ground clearance.....(in.) 10
Electrical system.....(volts) 12
 No. of batteries.....1
 Type of ground.....positive
Fuel octane rating.....70
Capacities:
 Fuel.....(gal) 29
 Cooling system (qt).....w/o heater 17; w/heater 18½
 Crankcase, refill.....(qt) 5
 Transmission.....(qt) 2¾
 Transfer.....(qt) 3
 Front axle.....(qt) 2½
Brakes:
 Manufacturer; Wagner Electric..... Type; hydraulic
 Parking brake, type.....transmission
Transmission forward speeds.....4
 Gear ratio.....High 1:1; Low 6.4:1
Transfer speeds.....1
 Gear ratio.....1:1

Purpose: To transport sick and wounded personnel.

PERFORMANCE

Computed grade ability in lowest gear, loaded.....(percent) 42
Turning radius.....(ft) 32
Fuel consumption, loaded.....(mpg) 8
Cruising range, loaded.....(mi) 232
Allowable speed, governed.....(mph) 50

ENGINE

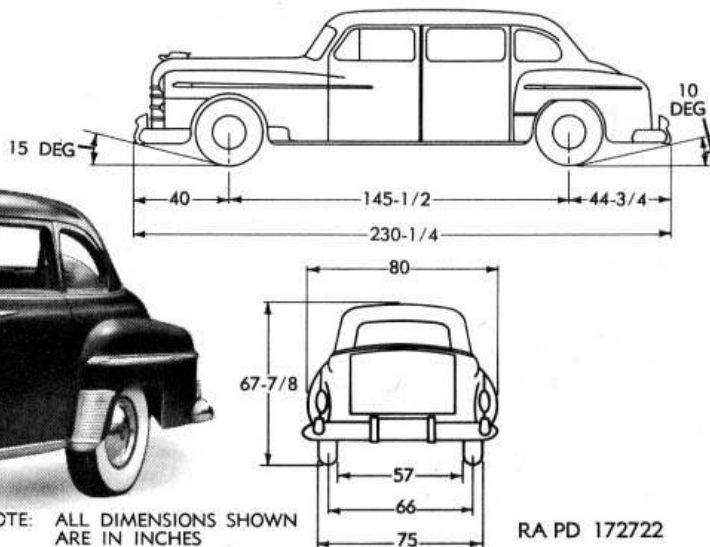
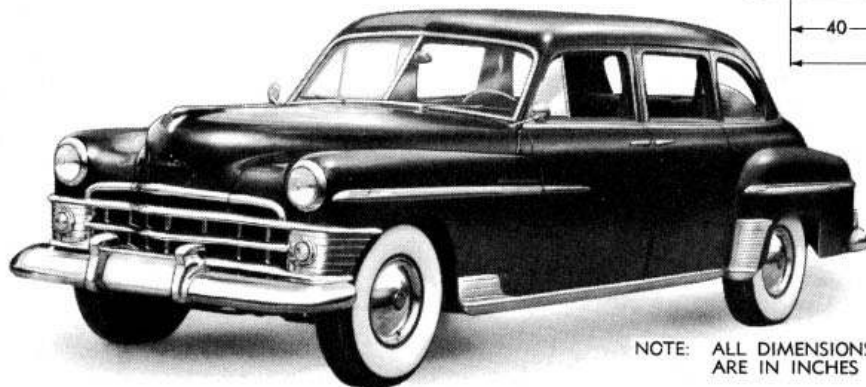
Manufacturer: Dodge.....Model T-214
Type: L-head, 4-cycle.....No. of cylinders (in line) 6
Displacement.....(cu in.) 230.2
Bore.....(in.) 3¼
Stroke.....(in.) 4½
Compression ratio.....6.7:1
Governed speed.....(rpm) 3,200
Brake horsepower (max w/std accessories).....94 at (rpm) 3,500
Torque (max).....175 lb-ft at (rpm) 1,300

ADDITIONAL DATA

Front-wheel drive only
Floodlight over rear door

AUTOMOBILE, LIMOUSINE, HEAVY, 7-PASSENGER, 4 x 2

(Chrysler, Crown Imperial)



NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

RA PD 172722

Classification: Nonclassified.

Purpose: To transport personnel.

GENERAL DATA

Crew.....1; Passengers (including crew) 7
Weight (lb).....Net 5,491
 Payload.....1,225
 Gross.....6,716
Rear-axle gear ratio.....3.58:1
Axle load (lb):
 Empty.....front 2,880; rear 2,611
 Loaded.....front 3,190; rear 3,526
Tires:
 Ply 6; Size 8.90 x 15; Pressure.....(psi) 24
 Tread, center-to-center, front.....(in.) 57½
Shipping dimensions, uncrated:.....(cu ft) 725;(sq ft) 128
Ground clearance.....(in.) 6¾
Electrical system.....(volts) 6
 No. of batteries.....1
 Type of ground.....positive
Fuel octane rating.....72
Capacities:
 Fuel.....(gal) 20
 Cooling system.....(qt) 21
 Crankcase, refill.....(qt) 5
 Transmission.....(qt) 1½
 Rear axle.....(qt) 2½
Brakes:
 Manufacturer; Chrysler.....Type; hydraulic
 Parking brake, type.....transmission
Transmission for ward speeds.....4
 Gear ratio: High 1:1.....Low 3.57:1

PERFORMANCE

Computed grade ability in lowest gear, loaded.....(percent) 32
Fuel consumption, loaded.....(mpg) 14
Cruising range, loaded.....(mi) 280
Allowable speed, recommended.....(mph) 70

ENGINE

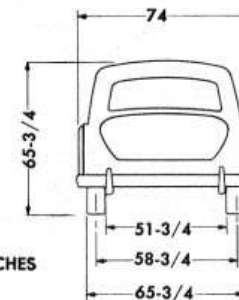
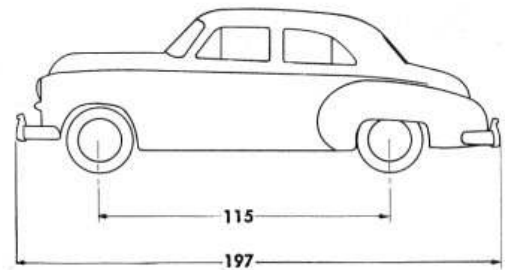
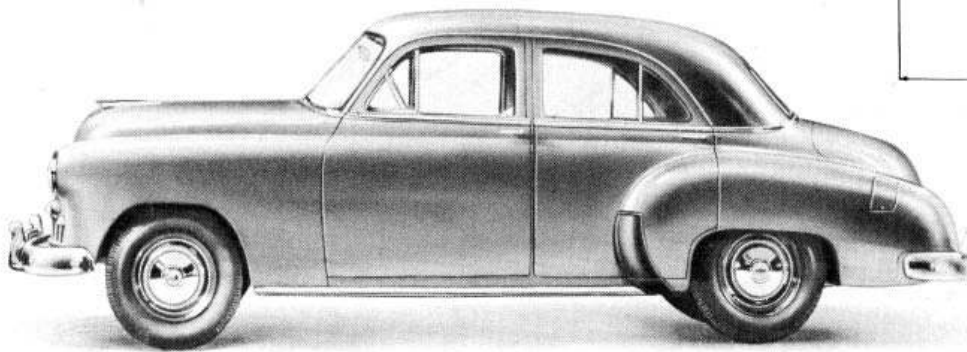
Manufacturer: Chrysler.....Model C-50
Type: 4-cycle, valve-in-head.....No. of cylinders (90-deg V) 8
Displacement.....(cu in.) 331
Bore.....(in.) 3½
Stroke.....(in.) 3½
Compression ratio.....7.5:1
Governed speed.....not governed
Brake horsepower, gross.....180 at (rpm) 4,000
Torque, maximum gross.....312 lb-ft at (rpm) 2,000

ADDITIONAL DATA

Rear axle, type.....hypoid, semifloating
Transmission, type.....hydraulic, prestomatic

AUTOMOBILE, SEDAN, LIGHT, 5-PASSENGER

(Chevrolet, Models KB, 1940; 1503-AG, 1941; 1503-BG, 1942; 1553-GJ, 1949; and 1503-GJ, 1949)



NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

RA PD 137794

Vehicle illustrated: Model 1503-GJ, 1949.
Classification: Standard.

Purpose: To transport personnel.

GENERAL DATA

Crew 1; Passengers (including crew) 5
Weight (lb) Net 3,220; Payload 800; Gross 4,020
Rear-axle gear ratio 4.11:1
Axle load (lb):
 Empty front 1,740; rear 1,480
 Loaded front 2,010; rear 2,010
Tires:
 Ply 4; Size 6.70x15; Pressure (psi) 24
 Tread, center-to-center, front (in.) 57
Shipping dimensions, uncrated (cu ft) 550; (sq ft) 100
Ground clearance (in.) 8½
Electrical system (volts) 6
 No. of batteries 1
 Type of ground negative
Fuel octane rating 72
Capacities:
 Fuel (gal) 16
 Cooling system (qt) w/o heater 15; w/heater 16
 Crankcase, refill (qt) 5
 Transmission (qt) ¾
 Rear axle (qt) 1¾
Brakes:
 Manufacturer; Chevrolet Type; hydraulic
 Parking brake, type rear-wheel
Transmission forward speeds 3
 Gear ratio High 1:1; Low 2.94:1

PERFORMANCE

Computed grade ability in lowest gear, loaded (percent) 35
Turning radius (ft) right 19; left 20
Fording depth (in.) 15
Fuel consumption, loaded (mpg) 14
Cruising range, loaded (mi) 224
Allowable speed, recommended (mph) 70

ENGINE

Manufacturer: Chevrolet Model GAA or GAM 1001 up
Type: Valve-in-head, 4-cycle No. of cylinders (in line) 6
Displacement (cu in.) 216.5
Bore (in.) 3½
Stroke (in.) 3¾
Compression ratio 6.6:1
Governed speed not governed
Brake horsepower (max w/std accessories) 83 at (rpm) 3,200
Torque (max w/std accessories) 168 lb-ft at (rpm) 1,100

ADDITIONAL DATA

Transmission, type synchromesh
Rear axle, type hypoid, semifloating
Differences in data for Models KB, 1940; 1503-AG, 1941; and 1503-BG, 1942 are as follows:
Tires:
 Ply 4; Size 6.00x16; Pressure (psi) front 28; rear 30
 Tread, center-to-center, front (in.) 57¾
Engine Model 2AA or 2AC or BA 1001 up