

maintenance operation, but may be performed in an emergency by the using organization, provided approval for performing these replacements is obtained from the supporting ordnance officer. A replacement assembly, any tools needed for the operation which are not carried by the using organization, any necessary special instructions regarding associated accessories, etc., may be obtained from the supporting ordnance maintenance unit.

### 3. Forms, Records, and Reports

*a. General.* Responsibility for the proper execution of forms, records, and reports rests upon the officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for their compilation, maintenance, and use. Records, reports, and authorized forms are normally utilized to indicate the type, quantity, and condition of materiel to be inspected, to be repaired, or to be used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of materiel in the hands of troops and for delivery of materiel requiring further repair to ordnance shops in arsenals, depots, etc. The forms, records, and reports establish the work required, the progress of the work within the shops, and the status of the materiel upon completion of its repair.

*b. Authorized Forms.* The forms generally applicable to units operating and maintaining these vehicles are listed in the appendix.

For a current and complete listing of all forms, refer to DA Pam 310-20. For instructions on use of these forms, refer to FM 9-10.

*c. Field Report of Accidents.* The reports necessary to comply with the requirements of the Army safety program are prescribed in detail in the SR 385-10-40 series of special regulations. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.

*d. Report of Unsatisfactory Equipment or Materials.* Any suggestions for improvement in design and maintenance of equipment and spare parts, safety and efficiency of operation, or pertaining to the application of prescribed petroleum fuels, lubricants, and/or preserving materials, or technical inaccuracies noted in Department of the Army publications, will be reported through technical channels, as prescribed in SR 700-45-5, to the Chief of Ordnance, Washington 25, D. C., ATTN: ORDFM, using DA Form 468, Unsatisfactory Equipment Report. Such suggestions are encouraged in order that other organizations may benefit.

*Note.* Do not report all failures that occur. Report only REPEATED or RECURRENT failures or malfunctions which indicate unsatisfactory design or material. However, reports will always be made in the event that exceptionally costly equipment is involved. See also SR 700-45-5 and printed instructions on DA Form 468.

## Section II. DESCRIPTION AND DATA

### 4. Description

*a.* This manual covers the  $\frac{3}{4}$ -ton 4 x 4 cargo truck M37 (fig. 1),  $\frac{3}{4}$ -ton 4 x 4 command truck M42 (fig. 2),  $\frac{3}{4}$ -ton 4 x 4 ambulance truck M43 (fig. 3), and  $\frac{3}{4}$ -ton 4 x 4 telephone installation light maintenance and cable splicing truck V-41 ( )/GT (fig. 4).

*b.* All models are equipped with a liquid cooled, six-cylinder, "L" headtype gasoline engine, located at the front of the vehicle. Power is transmitted through the clutch and the four-speed transmission. A short propeller shaft connects the transmission to the two-range transfer unit. Power is then transmitted to both front and rear axles by propeller shafts.

*c.* Front and rear springs are of the semielliptic-type. Hydraulic-type shock absorbers are used to control flexing of both front and rear springs.

*d.* The steering gear is the worm- and sector-type.

*e.* A 24-volt electrical system supplies current for starting, ignition, lights, and horn. The electrical system is completely waterproofed. The lighting system includes service headlights, blackout driving light, marker lights, service and blackout tail and stop lights, and instrument panel lights.

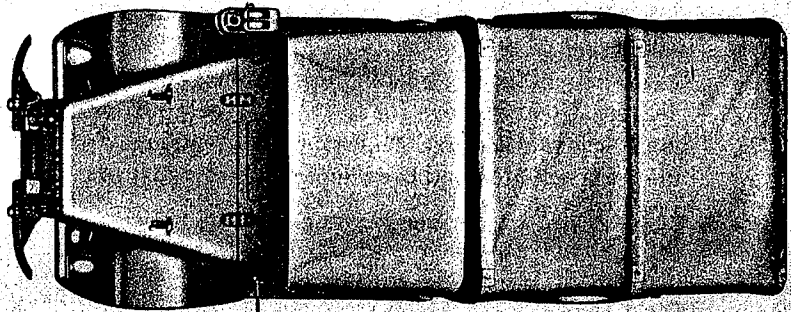
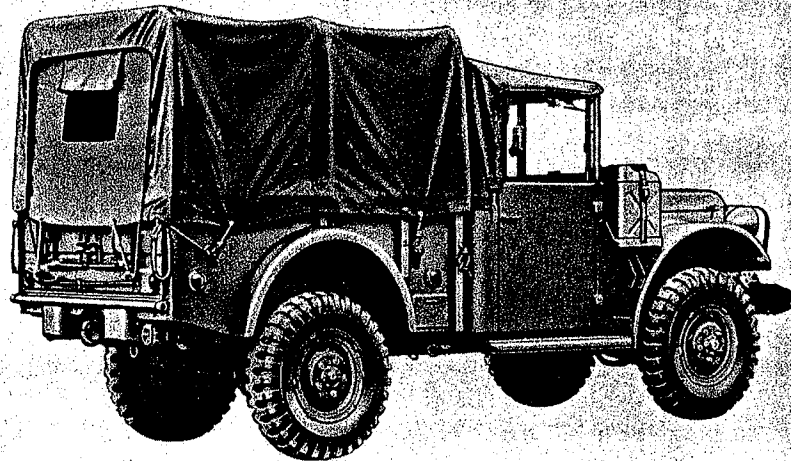
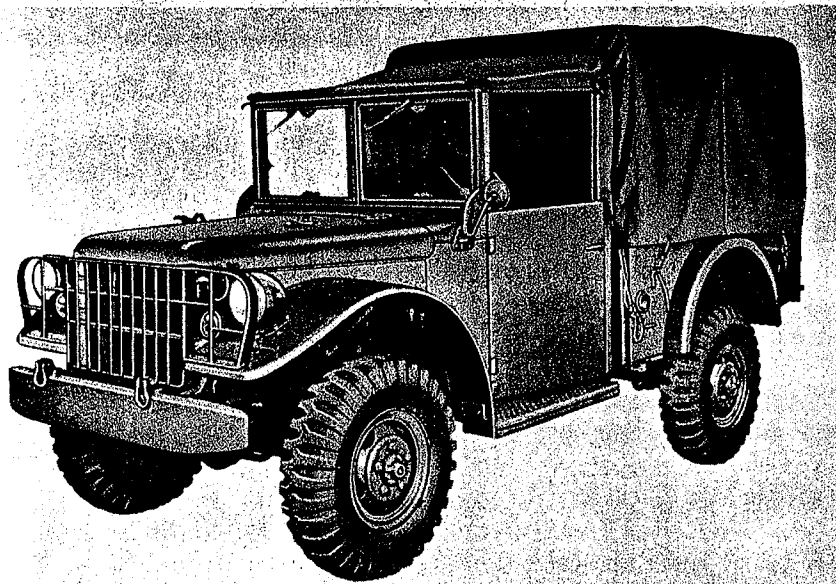
### 5. Differences Between Models

#### *a. Chassis.*

- (1) *Wheel base.* Wheel base of the cargo truck M37 and the command truck M42 is 112 inches; wheel base of the ambulance truck M43 and the telephone maintenance truck V-41 is 126 inches.
- (2) *Rear propeller shafts.* The rear propeller shaft in the ambulance truck M43 and the telephone maintenance truck V-41 is longer than that used in the cargo truck M37 and command truck M42.
- (3) *Springs.* Front springs for the cargo truck M37, the command truck M42, and the ambulance truck M43 have 7 leaves; front springs for the telephone maintenance truck V-41 have 8 leaves. Rear springs for the cargo truck M37 and the command truck M42 have 11 leaves; rear springs for the ambulance truck M43 and the telephone maintenance truck V-41 have 13 leaves.

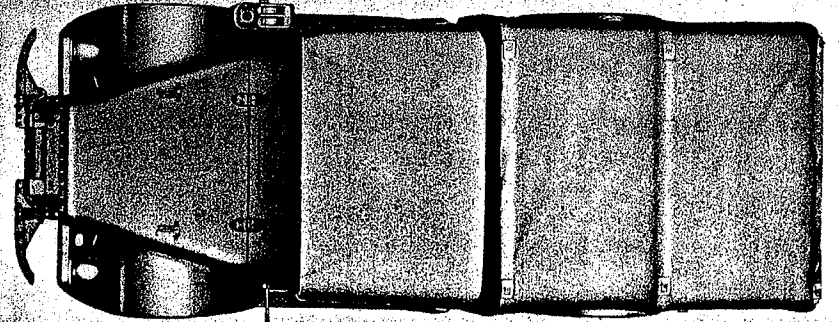
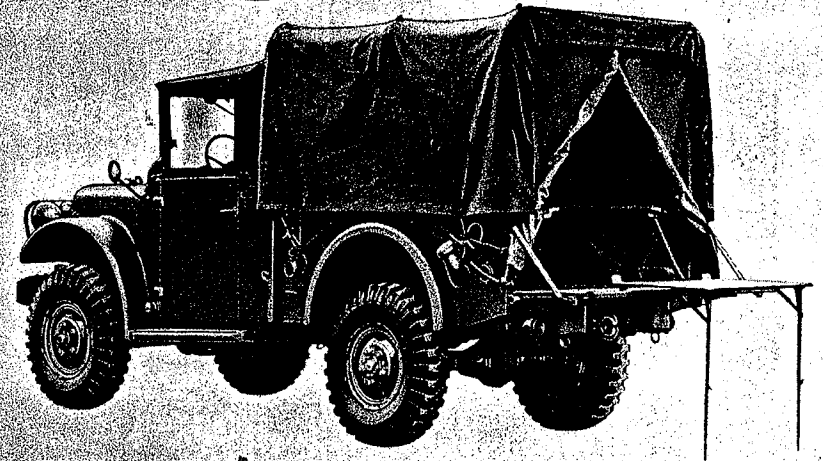
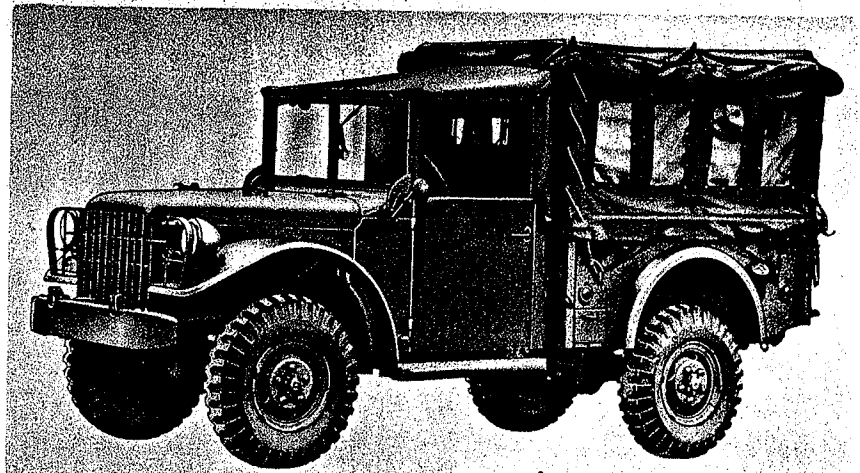
#### *b. Cab and Bodies.*

- (1) *Cab.* The cargo truck M37, command truck M42, and telephone maintenance truck V-41 are equipped with a steel cab with soft top which is separated from the body.
- (2) *Bodies.*



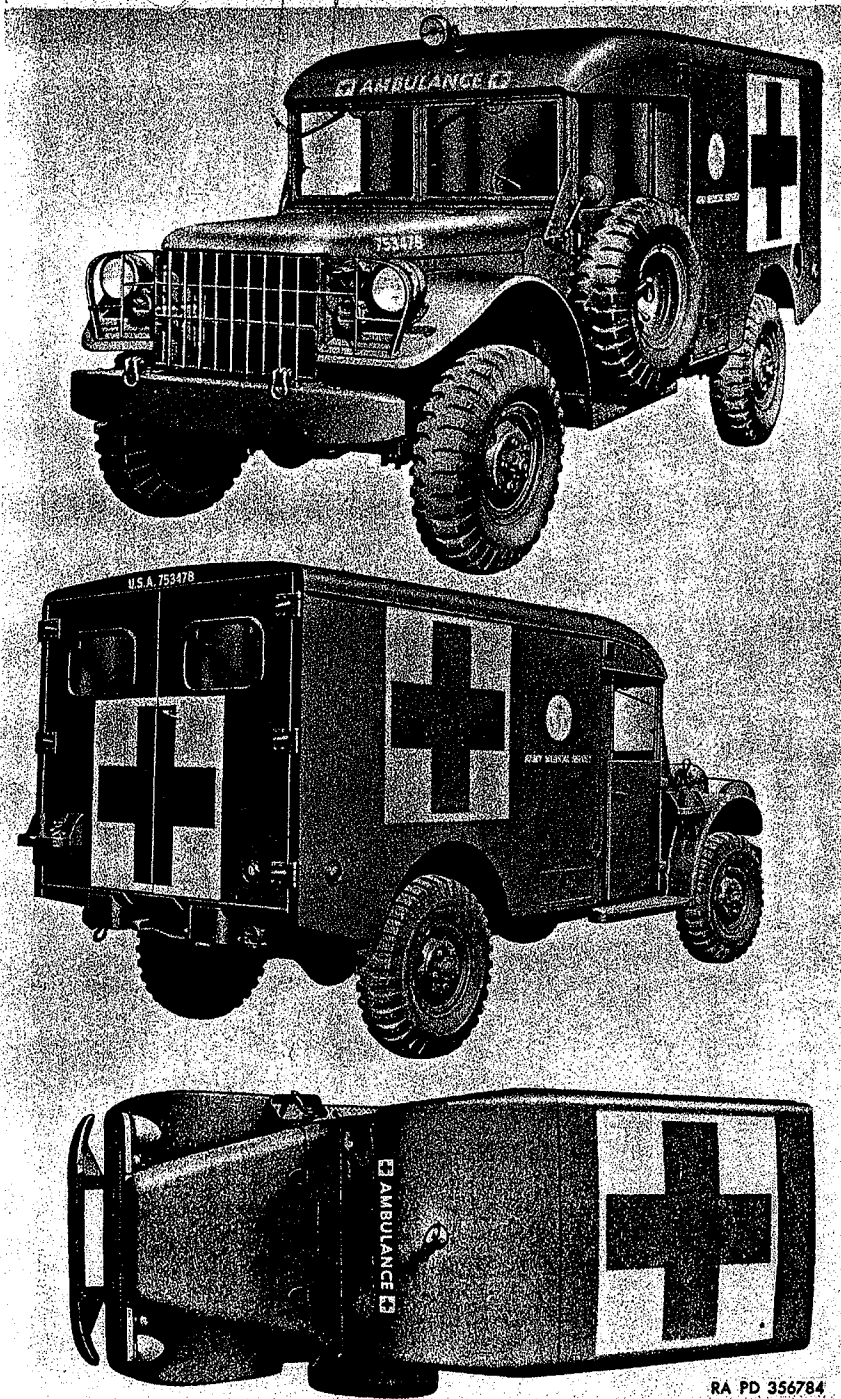
RA PD 356782

Figure 1. 3/4-ton 4 x 4 cargo truck M37.



RA PD 356783

Figure 2. 3/4-ton 4 x 4 command truck M42.



RA PD 356784

Figure 3.  $\frac{3}{4}$ -ton 4 x 4 ambulance truck M43.

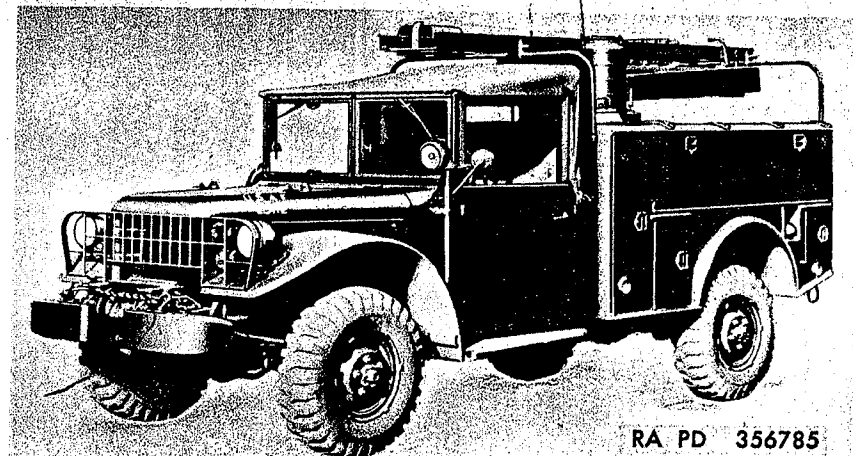


Figure 4.  $\frac{3}{4}$ -ton 4 x 4 telephone installation light maintenance and cable splicing truck V-41 ( )/GT.

- (a) *Cargo truck M37.* The cargo truck M37 (fig. 1) has an open-type steel body with folding troop seats, removable front rack, seat back, and supports. The spare wheel is mounted on a bracket attached to the front panel. An auxiliary seat, attached to the front panel at the right of the spare wheel locking bracket (fig. 5), is usable when the spare wheel is removed. A roof paulin, supported by bows, covers the cargo compartment. Canvas front and rear end curtains are provided with windows.
- (b) *Command truck M42* (fig. 2). The command truck M42 is slightly different from the cargo truck M37 ((a) above). This difference is made by the installation of a conversion kit consisting of body side curtains with windows, a split-type rear end curtain, map light, and folding table.
- (c) *Ambulance truck M43.* The ambulance truck M43 (fig. 3) has a panel-type closed steel body consisting of the driver's compartment and the patient's compartment with a connecting partition door. The spare wheel is mounted on a carrier at the left side of the driver's compartment (fig. 6). A spotlight is mounted on the roof of the driver's compartment.
- (d) *Telephone maintenance truck V-41.* The telephone maintenance truck V-41 (fig. 4) has an all steel body which incorporates compartments for stowage of tools and supplies. The spare wheel is located in the right side front compartment of the body (fig. 7). A spotlight is mounted on a support at the left front fender.

2. Personnel Heater Data Plate (Ambulance Truck M43) (fig. 11). This plate provides identification information of the personnel heater.

## 8. Tabulated Data

### a. General Data.

<b>Capacities:</b>	
Cooling system	17 qt
Crankcase (refill)	5 qt
(When replacing oil filter or filter element, add 1 qt.)	
<b>Differential (each):</b>	
Fill	3 qt
Refill	2½ qt
Fuel tank	24 gal
Steering gear	1 pt
Transfer	5 pt
<b>Transmission:</b>	
With power-take-off (through engine No. T245-3955)	10½ pt
(after engine No. T245-3955)	7 pt
Without power-take-off (through engine No. T245-3955)	9 pt
(after engine No. T245-3955)	6 pt
Winch clutch housing	1 qt
Winch worm housing	1 qt
Crew	2
Cylinders (in line)	6
<b>Dimensions:</b>	
<b>Height:</b>	
Cargo truck M37	7 ft 2½ in.
Command truck M42	7 ft 2½ in.
Ambulance truck M43	7 ft 7½ in.
Telephone maintenance truck V-41	7 ft 9½ in.
<b>Length:</b>	
Cargo truck M37, w/o winch	15 ft 4¾ in.
Cargo truck M37, w/winch	15 ft 9¾ in.
Command truck M42, w/o winch	15 ft 4¾ in.
Command truck M42, w/winch	15 ft 9¾ in.
Ambulance truck M43	16 ft 6¾ in.
Telephone maintenance truck V-41	16 ft 6¾ in.
Width (all models)	6 ft 1½ in.
Electrical system (all models)	24 volt
Engine	Dodge Model T245
Ground clearance	10¾ in.
<b>Loading height (fully loaded):</b>	
Cargo truck M37	29¾ in.
Command truck M42	29¾ in.
Ambulance truck M43	30¾ in.
Telephone maintenance truck V-41	30¾ in.
Number of batteries	2
<b>Passengers (including crew):</b>	
Cargo truck M37	2
Command truck M42	2 to 8
Ambulance truck M43:	
With 4 litter patients	6
With 6 seated patients	8
Telephone maintenance truck V-41	2

Pintle height (all models except ambulance truck M43):

Empty	25½ in.
Loaded	21¾ in.
<b>Weight:</b>	
<b>Gross:</b>	
	<b>Cross-Country Highway</b>
Cargo truck M37 (w/o winch)	7,417 lb 7,917 lb
Cargo truck M37 (w/winch)	7,647 lb 8,147 lb
Command truck M42 (w/o winch)	7,417 lb 7,917 lb
Command truck M42 (w/winch)	7,647 lb 8,147 lb
Ambulance truck M43	8,550 lb
Telephone maintenance truck V-41	8,450 lb 8,950 lb
<b>Net:</b>	
Cargo truck M37 (w/o winch)	5,687 lb
Cargo truck M37 (w/winch)	5,917 lb
Command truck M42 (w/o winch)	5,687 lb
Command truck M42 (w/winch)	5,917 lb
Ambulance truck M43	7,150 lb
Telephone maintenance truck V-41	6,950 lb
<b>Payload (all models except ambulance truck M43):</b>	
Cross-country	1,500 lb
Highway	2,000 lb
Payload (ambulance truck M43)	1,400 lb
<b>Wheel base:</b>	
Cargo truck M37, command truck M42	112 in.
Ambulance truck M43, telephone maintenance truck V-41	126 in.
<b>b. Performance.</b>	
<b>Allowable speed:</b>	
<b>Transfer:</b>	
	<b>1st 2d 3d 4th Reverse</b>
High range	9 18 33 55 7—mph
Low range	4 9 17 28 4—mph
<b>Angle:</b>	
<b>Approach:</b>	
Cargo truck M37, command truck M42 (w/o winch)	44°
Ambulance truck M43, telephone maintenance truck V-41 (w/o winch)	47°
Cargo truck M37, command truck M42, telephone maintenance truck V-41 (w/winch)	38°
Departure	32°
Cruising range (loaded)	225 miles
<b>Engine horsepower (brake hp):</b>	
At 1,600 rpm	57
At 3,400 rpm	94
<b>Fording depth (max.):</b>	
W/o fording kit	42 in.
W/fording kit	84 in.
Fuel consumption (loaded) (aprx.)	9 mpg
Grade ascending ability (max.) limited by traction	68 percent
<b>Recommended towed load (max.):</b>	
Cross-country	4,000 lb
Highway	6,000 lb
Turning circle (diam.) right or left (min.)	50 ft
Winch capacity	7,500 lb

wheels on the ground. Place the transmission gear shift lever in neutral and the transfer control levers in the forward positions (fig. 26). This method of towing requires a driver in the towed vehicle to steer and to operate the brakes. Keep the towing cable taut by applying the brakes as necessary.

- (2) If damage is within the transfer assembly, disconnect both axle propeller shafts at the differentials and secure them to the frame. The vehicle may then be towed with all four wheels on the ground ((1) above).
- (3) If the damage is within the rear axle, remove the rear axle drive shafts (par. 210a). Secure a piece of tin or cardboard over the flange openings to retain the grease in the axle. The vehicle may then be towed with all four wheels on the ground, ((1) above).
- (4) If the damage is within the front axle or the universal drive parts have been damaged, remove the drive flanges (par. 205c). The vehicle may then be towed with all four wheels on the ground, ((1) above).
- (5) If the vehicle must be towed with the front wheels off the ground, make certain that the transfer control levers are in the forward position (fig. 26).
- (6) Avoid towing the vehicle with the rear wheels off the ground, unless other methods are impossible.

#### Section IV. OPERATION OF MATERIEL USED IN CONJUNCTION WITH MAJOR ITEM

##### 55. Winch and Power-Take-Off (On Vehicles So Equipped)

*a. General.* The winch (fig. 27), mounted at the front of the vehicle, is operated by power transmitted through the transmission and power-take-off and the winch drive shaft. The winch clutch shifter handle controls engagement and disengagement of the winch clutch with the winch cable drum. The power-take-off shift lever (fig. 28) controls direction of winch drum rotation when the clutch shifter handle is in the engaged position. A safety brake operates on the winch worm shaft to hold the load.

##### *b. Controls.*

- (1) To operate the winch clutch shifter handle (fig. 27), raise the handle knob to disengage the knob shaft from the clutch indexing plate, move the handle to the engaged or disengaged position, and release the handle knob. The knob shaft spring holds the handle in position on the indexing plate.
- (2) To operate the power-take-off shift lever (fig. 28), raise the lever lock, and move the shift lever to the desired position. The lock is spring-loaded to hold the lever in neutral position and prevent accidental winch drive shaft engagement.

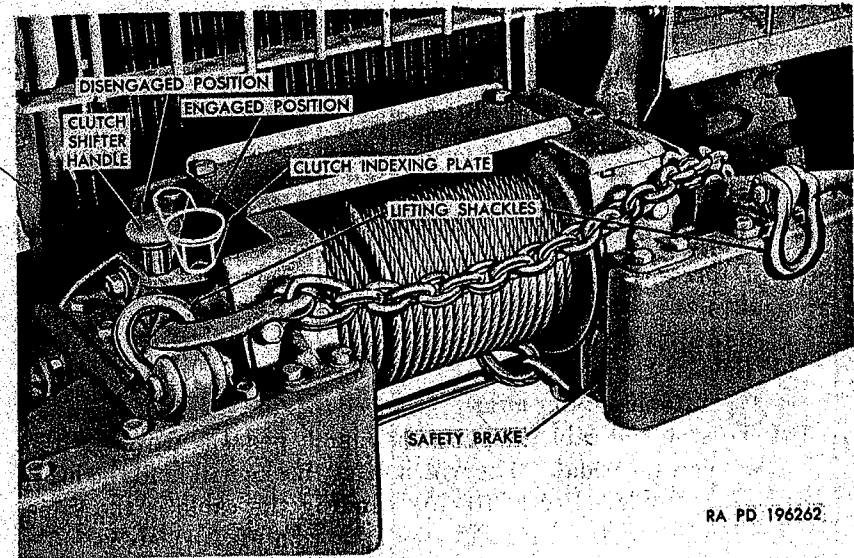


Figure 27. Winch installed.

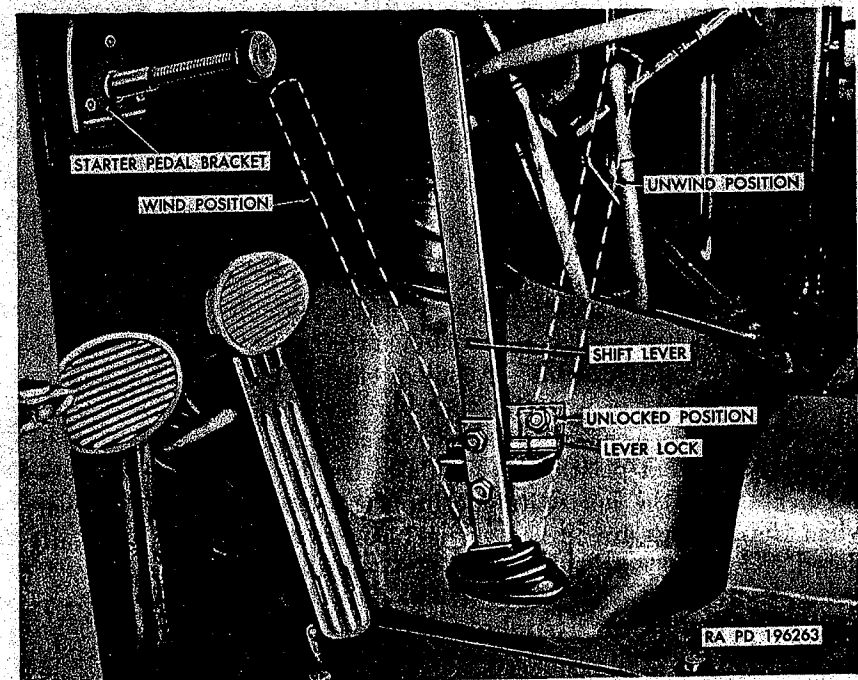


Figure 28. Power-take-off shift lever positions.

*c. Unwinding Cable.* To unwind winch cable, move the winch clutch shifter handle to the disengaged position, and pull cable from the drum until the required length of cable has been unreeled.

*d. Unwinding Cable Under Load.*

- (1) Start the engine and run at idle speed or slightly faster until normal operating temperature is reached.
- (2) Place the winch clutch shifter handle in the engaged position (b(1) above).
- (3) Apply the hand brake lever (S, fig. 12).
- (4) Depress the clutch pedal (DD, fig. 12) and move the power-take-off shift lever to the unwind (rear) position (b(2) above).
- (5) Release the clutch pedal and depress the accelerator pedal. Operate the engine at an even speed to wind the cable.
- (6) To stop the cable, depress the clutch pedal and release the accelerator pedal. The winch safety brake will hold the load.

*e. Winding Cable.* Procedure for winding the cable is the same as for unwinding under load, with the exception of d(4) above. To wind the cable, place the power-take-off shift lever in the wind (forward) position. If all the cable has been unreeled from the drum, guide the cable as it winds to keep the first layer of coils as close together as possible, thus preventing the next layer from pressing in between the coils of the preceding layer.

**Caution:** Do not wind the cable too far, as serious damage may result if it is wound beyond the thimble that attaches the chain to the cable.

Clean and lubricate the drum and cable. Refer to lubrication order (figs. 33 and 34).

## 56. Ventilator Blowers (Ambulance Truck M43)

*a. General.* Two ventilator blowers are provided to draw hot air or odors from the patient compartment. Each blower motor is controlled by a switch (fig. 10). Openings in the blower ducts are controlled by the ventilator blower control valve handles (F, fig. 22).

*b. Operation.* To operate either blower, turn the blower switch (fig. 10) on. Turn the ventilator blower control valve handles (F, fig. 22) to the desired position to regulate the valve. When the valve handles are in the horizontal positions the valves are fully open; when the handles are in the vertical position, the valves are fully closed.

## 57. Personnel Heater (Ambulance Truck M43)

*a. General.* Personnel heater operation in the patient compartment is controlled by the heater control. Compartment temperature is regulated by the personnel heater thermostat (fig. 10).

*b. Operation.* Specific instructions for operating the heater and thermostat are provided on the personnel heater operating instruction plate (fig. 10). To deflect the stream of warm air from the heater outlet, move the heat deflector handle (N, fig. 22).

## 58. Ladder Rack Lock Control (Telephone Maintenance Truck V-41)

The ladder rack lock control (fig. 29) secures ladders and other equipment on the rack. To open the lock, move the control forward. To close the lock, move the control toward the rear.

## 59. Pole Rack Lock Control (Telephone Maintenance Truck V-41)

The pole rack lock control secures pike poles during transit. To open the rack, pull the control outward as shown in figure 29. To close the rack, move the control down.

## 60. Water Cask Fasteners (Telephone Maintenance Truck V-41)

Two spring-loaded water cask fasteners secure the water cask (fig. 29) in position. To engage or disengage the fasteners, pull against spring tension and hook or unhook from the fastener catches.

## 61. PR Reel (Telephone Maintenance Truck V-41)

*Note.* The key letters noted in parentheses are in figure 30.

*a. General.* The PR reel (C) is supported in a frame mounted on three support brackets (A, E, and F) in the truck body. The expansion lock pin (B) secures the outer section of the reel in one of four positions on the reel shaft to accommodate different sizes of cable or varying loads on the reel. Reel braking is controlled by the brake wing nut (D). The support bracket lock lever (G) locks the reel frame in the support brackets.

*b. Removal.* Move the support bracket lock lever (G) upward to the unlocked position. Lift the PR reel (C) from the brackets.

*c. Installation.* With the support bracket lock lever (G) in the unlocked position, mount the PR reel (C) in the three support brackets. Pull the lock lever down to the locked position.

## 62. Fire Extinguisher

fig. 31

*a. Location.* The fire extinguisher is mounted in a bracket on the right cowl inside panel of the cab (cargo truck M37, command truck M42, and telephone maintenance truck V41) or to the rear of the right door inside the driver's compartment (ambulance truck M43).

*b. Operation.* Remove the extinguisher from the bracket. Turn the handle counterclockwise to the released position and work with a pumping motion. For best results, direct the discharge toward the base of the flames. To extinguish burning liquid in a container, direct the discharge against the inside of the container just above the burning liquid.

- (7) Insert the cable through the opening in the frame left-side rail, connect the cable to cable 25A, and engage the connector in the clip on the splash shield.

## Section XIV. WINCH AND WINCH DRIVE SHAFT

### 180. Description and Data

#### a. Description.

- (1) The winch (fig. 152), on vehicles so equipped, is mounted at the front of the vehicle and is supported by brackets attached to the frame side rails and the front bumpers. The drive shaft has a universal joint at each end, with a shearpin in the front universal joint which prevents damage to the driving mechanism in the event the winch is overloaded. A safety brake is provided to hold a load in any desired position or in the event the shearpin breaks.
- (2) Organizational maintenance includes adjustment of the safety brake, replacement of the cable, the drive shaft universal joints and shearpin, and the winch.

#### b. Data.

##### Drive shaft:

Make..... Blood Brothers  
 Model..... 4080  
 Universal joints..... cross and trunion

##### Winch:

Cable size.....  $\frac{3}{16}$  inch x 150 feet  
 Capacity..... 7,500 pounds  
 Make..... Braden  
 Model..... LU-4  
 Weight..... 250 pounds

### 181. Safety Brake Adjustment

#### a. Disconnect Drive Shaft.

- (1) If the drive shaft is equipped with a collar, remove the locking wire from the collar setscrew at rear universal joint, loosen the setscrew, and slide the collar forward.
- (2) Remove the locking wire (fig. 153) from the drive shaft shearpin (fig. 153) and remove the shearpin.
- (3) Slide the front universal joint yoke (fig. 153) toward the rear far enough to clear the wormshaft.

#### b. Adjust Safety Brake.

- (1) Remove the outer jamnut (fig. 153) from the brake band end.
- (2) Insert a long punch through the shearpin hole in the wormshaft. Oscillate the shaft with the punch and at the same time tighten the inner jamnut on the brake band end until a

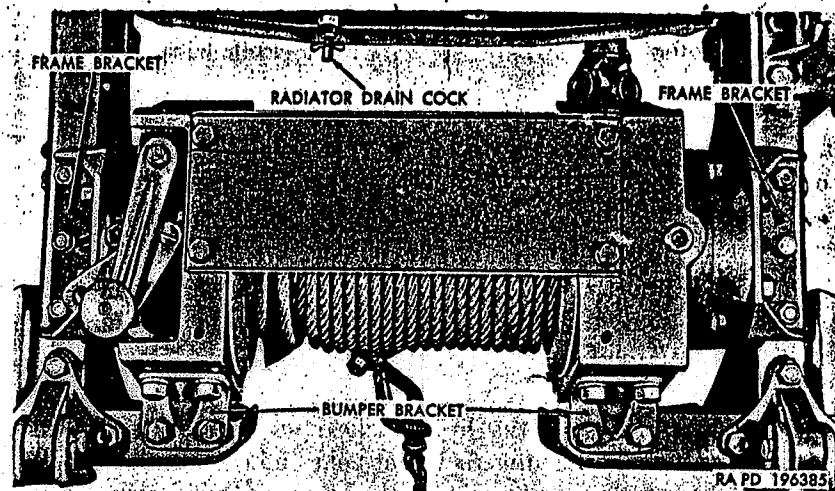


Figure 152. Winch—top view.

noticeable drag is felt when the wormshaft is rotated in one direction.

- (3) Hold the inner jamnut and install the  $\frac{1}{4}$ -20NF outer jamnut. Tighten the outer nut to hold the adjustment.

#### c. Connect Drive Shaft.

- (1) Remove the punch from the shearpin hole in the wormshaft and position the universal joint front yoke on the wormshaft, aligning the shearpin holes. Install the shearpin and secure with locking wire (fig. 153).
- (2) If the drive shaft is equipped with a collar, position the collar to provide  $\frac{5}{8}$ -inch clearance between the collar and the

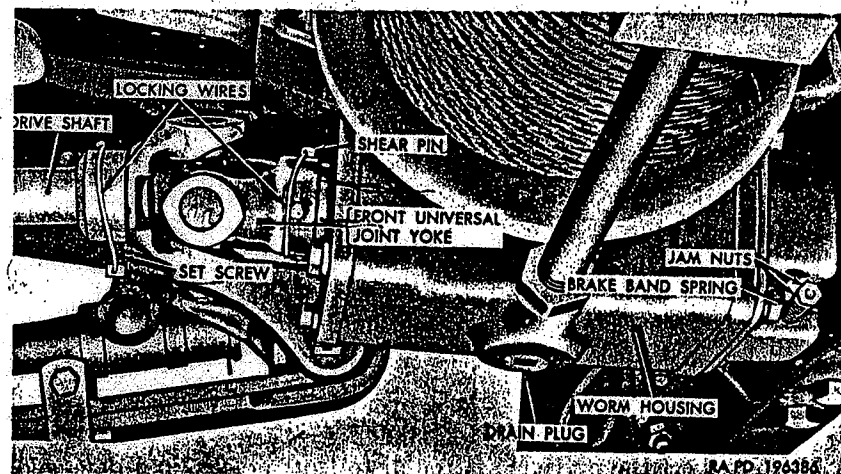


Figure 153. Winch—bottom view.

front end of the drive shaft rear universal joint yoke, tighten the collar setscrew, and secure with locking wire.

## 182. Drive Shaft Shearpin

*a. General.* Since breakage of the shearpin usually occurs as a result of overloading the winch, it is important that the winch load be lessened before attempting to move or support it after replacing the shearpin.

**Caution:** Support the load or make certain that the safety brake is properly adjusted (par. 181b) to hold the winch load while replacing the shearpin.

### *b. Replacement.*

- (1) If the pieces of the broken shearpin cannot be removed cleanly from the universal joint yoke and the wormshaft, disconnect the yoke (par. 181a) and remove the pieces.
- (2) Position the universal joint yoke on the winch wormshaft and connect the drive shaft (par. 181c).

## 183. Drive Shaft and Universal Joints

### *a. Removal.*

- (1) If the drive shaft (fig. 154) is equipped with a collar, remove the locking wire from the collar setscrew, loosen the setscrew, and slide the collar forward.
- (2) Remove the locking wire from the shearpin (fig. 153) and remove the shearpin. Push the shaft and assembled parts to the rear, and remove the front universal joint yoke (fig. 153) from the wormshaft.
- (3) Remove the 10 bolts and lockwashers that secure the winch brackets to the frame side rails and front bumpers, and raise the left side of the winch sufficiently to permit removal of the drive shaft.
- (4) Pull the shaft forward to disengage the splined end of the shaft from the front yoke of the rear universal joint, and remove the shaft. Remove the collar (if so equipped) as the shaft is removed.
- (5) Remove the locking wire from the setscrew in the rear universal joint yoke, loosen the setscrew, and remove the universal joint from the power-take-off. Remove the woodruff key from the power-take-off shaft. Remove the front universal joint from the drive shaft in the same manner.

### *b. Inspection.*

- (1) Clean all parts.
- (2) Inspect the drive shaft for distortion, cracks, and damaged splines.

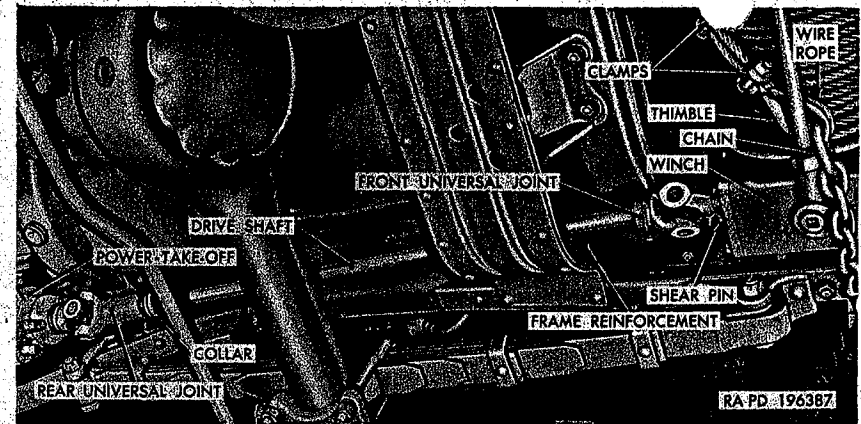


Figure 154. Winch drive shaft and universal joints.

- (3) Inspect both universal joints for wear, binding, and damaged splines (front yoke of rear joint).

*Note.* The front yoke should slide freely on the shaft to insure the safety feature of the shear pin.

- (4) Inspect the power-takeoff drive shaft and the switch wormshaft for corrosion damage and burs. Remove minor scratches or burs with crocus cloth.
- (5) Inspect the collar and all setscrews for cracks and damaged threads.
- (6) Replace parts that are unfit for further service.

### *c. Installation.*

- (1) Install a No. 817 or 127 woodruff key in the keyway at the front end of the drive shaft. Install the rear yoke of the front universal joint on the shaft, aligning the keyway in the yoke with the key. Install the setscrew, tighten, and secure with locking wire (fig. 153).
- (2) Install the rear universal joint on the power-takeoff drive shaft in the manner described in c(1) above.
- (3) Apply a light coating of automotive and artillery grease to the splines of the drive shaft. With the winch raised as in a(3) above, insert the splined end of the shaft through the opening in the frame reinforcement from the front. Install the collar on the shaft (if so equipped), and insert the shaft in the front yoke of the rear universal joint, aligning the journals of both universal joints. Push the shaft and assembled parts toward the rear.
- (4) Lower the winch into position and align the front universal joint front yoke with the wormshaft. Install the yoke on the wormshaft, aligning the shearpin holes. Install the shearpin and secure with locking wire.



- (5) Install all the six 1/2-inch lockwashers and 1/2-20NF x 1 3/8 bolts for the winch frame brackets and four 1/2-inch lockwashers and 1/2-20NF x 1 bolts for the bumper brackets. Tighten the bolts evenly.
- (6) If the drive shaft is equipped with a collar, position the collar to provide 5/8-inch clearance between the collar and the front end of the universal joint yoke, tighten the collar setscrew, and secure with locking wire.

#### 184. Winch Cable

*a. Removal.* Place the winch clutch shifter handle in the DISENGAGED position (fig. 27) and unwind all the cable from the drum. Remove the setscrew that secures the cable to the drum and remove the cable.

*b. Inspection.* Inspect the wire rope for broken strands and rust or corrosion. Inspect the chain for damaged links or hook. Inspect the thimble and two clamps for wear or damage. Replace parts that are unfit for further service.

#### *c. Installation.*

- (1) Install the thimble on the chain, thread the wire rope through the chain link, and fit it on the thimble. Secure the rope with the two clamps and tighten the clamp nuts.
- (2) Clean the winch drum and apply a film of engine oil to the drum surface. Install the rope on the drum by passing it under the winch and around the drum at the rear, so the cable will wind correctly. Attach the end of the wire rope to the drum with the setscrew. Wind the rope under power (par. 55e), applying engine oil to the rope as it winds on the drum.

#### 185. Winch

##### *a. Removal.*

- (1) Disconnect the winch drive shaft (par. 181a).
- (2) Remove the four bolts and lockwashers that secure the winch to bumper brackets (fig. 152) and to the front bumpers.
- (3) Remove the six bolts and lockwashers that secure the winch to frame brackets to the frame side rails, and remove the winch.
- (4) Remove the two bolts and lockwashers that secure each bumper bracket, and remove the brackets. Remove the four nuts and lockwashers that secure each frame bracket and remove the brackets.

##### *b. Installation.*

- (1) Install the two frame brackets on the studs in the winch. Install the four 5/16-inch lockwashers and 5/16-18NF nuts for each bracket. Tighten the nuts.

- (2) Install the two bumper brackets on the front of winch and install two 5/8-inch lockwashers and 5/8-11NC x 1 1/2 bolts for each bracket. Tighten the bolts.
- (3) Position the winch on the frame side rails with the bolt holes in the frame brackets aligned with those in the frame. Install three 1/2-inch lockwashers and 1/2-20NF x 1 3/8 bolts for each bracket. Install two 1/2-inch lockwashers and 1/2-20NF x 1 bolts for each bumper bracket. Tighten all bolts evenly.
- (4) Connect the winch drive shaft front universal joint and install the shearpin (par. 181c).
- (5) Position the collar (if so equipped) (par. 183c(6)).
- (6) Adjust the winch safety brake (par. 181b).

### Section XV. CLUTCH

#### 186. Description and Data

##### *a. Description.*

- (1) The clutch (fig. 155) consists of the disk and pressure plate, clutch release bearing, and release fork which is actuated by the clutch pedal. The disk is splined to the transmission

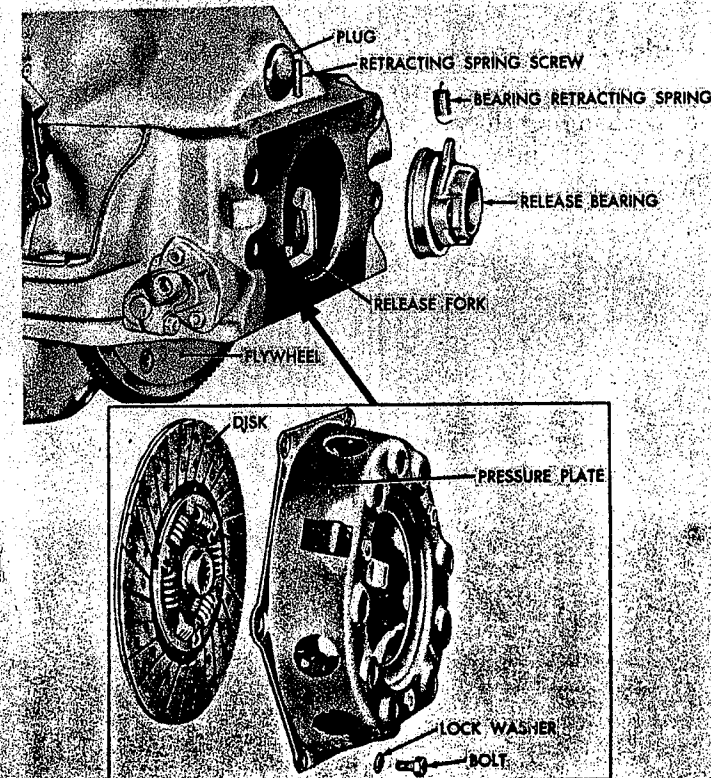


Figure 155. Clutch parts—exploded view.

2. *Personnel Heater Data Plate (Ambulance Truck M43) (fig. 11).*  
This plate provides identification information of the personnel heater.

## Tabulated Data

### a. General Data.

#### Capacities:

Cooling system ..... 17 qt  
Crankcase (refill) ..... 5 qt  
(When replacing oil filter or filter element, add 1 qt.)

#### Differential (each):

Fill ..... 8 qt  
Refill ..... 2½ qt  
Fuel tank ..... 24 gal  
Steering gear ..... 1 pt  
Transfer ..... 5 pt

#### Transmission:

With power-take-off (through engine No. T245-3955) ..... 10½ pt  
(after engine No. T245-3955) ..... 7 pt  
Without power-take-off (through engine No. T245-3955) ..... 9 pt  
(after engine No. T245-3955) ..... 6 pt  
Winch clutch housing ..... 1 qt  
Winch worm housing ..... 1 qt

Oil ..... 2  
Cylinders (in line) ..... 6

#### Dimensions:

##### Height:

Cargo truck M37 ..... 7 ft 2½ in.  
Command truck M42 ..... 7 ft 2½ in.  
Ambulance truck M43 ..... 7 ft 7¾ in.  
Telephone maintenance truck V-41 ..... 7 ft 9½ in.

##### Length:

Cargo truck M37, w/o winch ..... 15 ft 4¾ in.  
Cargo truck M37, w/winch ..... 15 ft 9 in.  
Command truck M42, w/o winch ..... 15 ft 4¾ in.  
Command truck M42, w/winch ..... 15 ft 9 in.  
Ambulance truck M43 ..... 16 ft 6¾ in.  
Telephone maintenance truck V-41 ..... 16 ft 6¾ in.

Width (all models) ..... 6 ft 1½ in.

Electrical system (all models) ..... 24 volt

Engine ..... Dodge Model T245

Ground clearance ..... 10¾ in.

#### Loading height (fully loaded):

Cargo truck M37 ..... 29¾ in.  
Command truck M42 ..... 29¾ in.  
Ambulance truck M43 ..... 30¾ in.  
Telephone maintenance truck V-41 ..... 30½ in.

Number of batteries ..... 2

#### Seating (including crew):

Cargo truck M37 ..... 2  
Command truck M42 ..... 2 to 8  
Ambulance truck M43:  
With 4 litter patients ..... 6  
With 6 seated patients ..... 8  
Telephone maintenance truck V-41 ..... 2

#### Pintle height (all models except ambulance truck M43):

Empty ..... 25½ in.  
Loaded ..... 21¾ in.

#### Weight:

	Cross-	
	Country	Highway
Gross:		
Cargo truck M37 (w/o winch) .....	7,417 lb	7,917 lb
Cargo truck M37 (w/winch) .....	7,647 lb	8,147 lb
Command truck M42 (w/o winch) .....	7,417 lb	7,917 lb
Command truck M42 (w/winch) .....	7,647 lb	8,147 lb
Ambulance truck M43 .....		8,550 lb
Telephone maintenance truck V-41 .....	8,450 lb	8,950 lb

#### Net:

Cargo truck M37 (w/o winch) .....	5,687 lb
Cargo truck M37 (w/winch) .....	5,917 lb
Command truck M42 (w/o winch) .....	5,687 lb
Command truck M42 (w/winch) .....	5,917 lb
Ambulance truck M43 .....	7,150 lb
Telephone maintenance truck V-41 .....	6,950 lb

#### Payload (all models except ambulance truck M43):

Cross-country .....	1,500 lb
Highway .....	2,000 lb
Payload (ambulance truck M43) .....	1,400 lb

#### Wheel base:

Cargo truck M37, command truck M42 .....	112 in.
Ambulance truck M43, telephone maintenance truck V-41 .....	126 in.

### b. Performance.

#### Allowable speed:

Transfer:	1st	2d	3d	4th	Reverse
High range .....	9	18	33	55	7—mph
Low range .....	4	9	17	28	4—mph

#### Angle:

##### Approach:

Cargo truck M37, command truck M42 (w/o winch) .....	44°
Ambulance truck M43, telephone maintenance truck V-41 (w/o winch) .....	47°
Cargo truck M37, command truck M42, telephone maintenance truck V-41 (w/winch) .....	38°

Departure ..... 32°

Cruising range (loaded) ..... 225 miles

#### Engine horsepower (brake hp):

At 1,600 rpm .....	57
At 3,400 rpm .....	94

#### Fording depth (max.):

W/o fording kit .....	42 in.
W/forording kit .....	84 in.

Fuel consumption (loaded) (aprx.) ..... 9 mpg

Grade ascending ability (max.) limited by traction ..... 68 percent

#### Recommended towed load (max.):

Cross-country .....	4,000 lb
Highway .....	6,000 lb

Turning circle (diam.) right or left (min.) ..... 50 ft

Winch capacity ..... 7,500 lb