maintenance manual

STUDEBAKER MODELS US6 AND US6x4

Contract No. W-398-QM-13761

MODEL	TYPE OF VEHICLE	U.S. REGISTRATION NUMBERS
US6	- - 2½ Ton Cargo, 162" Wheelbase - - - -	4375223 To 4389222 (Incl.)
US6x4	- - 2½-5 Ton Cargo, 162" Wheelbase - - -	

Contract No. DA-W-398-QM-519

US6x4	- - 2½-5 Ton Cargo, 162" Wheelbase - - -	4350059 To 4354058 (Incl.)

STUDEBAKER

BUILT FOR THE UNITED STATES ARMY
By The Studebaker Corporation
South Bend, Indiana

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By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff.

Official:
J. A. ULIO,
Major General,
The Adjutant General.

MAINTENANCE MANUAL

TM 10-1565

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Studebaker Model US6 (6x6) with Cargo Body.
Model US6x4 (6x4) Differs from the Vehicle Illustrated in that No Driving Front Axle is Used.

GENERAL DATA

ENGINE
- Type .... L-Head
- Model .... JXD
- Horsepower — S. A. E. 38.4
- Displacement — (cubic inches) 320
- Bore — (inches) 4
- Stroke — (inches) 4-1/4
- Number of Cylinders 6
- Governed Speed — (engine r.p.m.) 2750

CAPACITIES
- Fuel Tank — (gallons) 40
  - Location .... Left Hand Frame Side Rail
- Engine Crankcase — refill — (qts.) 6
- Oil Bath Air Cleaner — (qt.) 1
- Cooling System — (qts.) 21
- Transmission — (pts. or lbs.) 9
- Transfer Case — (pts. or lbs.) 7
- Front Axle Differential — US6 Model only — (pts. or lbs.) 7
- Front Axle Universal Joint and Knuckle Bearings — US6 Model only — each side (pt. or lb.) 1
- Propeller Shaft Center Bearing (Midship Shaft Pillow Block) — (pt. or lb.) 5/8
- Rear Axle Differential — (pts. or lbs.) 7
- Steering Gear Housing — (pts. or lbs.) 1-1/2
- Rear Spring Seat Bearings — (pt. or lb.) 1/2

DIMENSIONS
- Turning Radius — right — (ft. — in.) .... 34' 8"
- Turning Radius — left — (ft. — in.) .... 35' 1-1/2"
- Height Over-all, US6 Model — without bows, top of cab (in.) 87
- Height Over-all, US6x4 Model — without bows, top of cab (in.) 86
- Height Over-all — with bows (in.) 106-1/16
- Width Over-all — (in.) 88
- Length Over-all — (in.) 250-5/8
- Wheelbase — (in.) 162
- Road Clearance, minimum — (in.) 10
- Angle of Approach, US6 Model .... 55-1/2°
- Angle of Approach, US6x4 Model .... 52°
- Angle of Departure, US6 Model .... 44°
- Angle of Departure, US6x4 Model .... 44°

INTRODUCTION

This maintenance manual has been prepared for exclusive use with Models US6 and US6x4 Studebaker cargo vehicles.

The text is presented by sections in accordance with the Functional Group Code arrangement shown on the title page. Each section is designated by a code number and begins with page No. 1. Whenever practicable, the section is subdivided into general description and repair information. Servicing instructions are given in the following order: trouble shooting and general solutions, adjustments, disassembly, repair, lubrication, reassembly, and specifications.

Where tools other than those supplied in the vehicle tool set or common mechanics tools are required, the tool names and Federal Stock Numbers are listed at the end of the section.

PUBLICATION NUMBERS

The TM numbers of the Maintenance Manual and Parts List applicable to the vehicle are shown on a plate which is located on the top of the instrument panel within the driver's compartment.

SERIAL NUMBER

A serial number identification plate is located on the left frame side rail just ahead of the shock absorber.

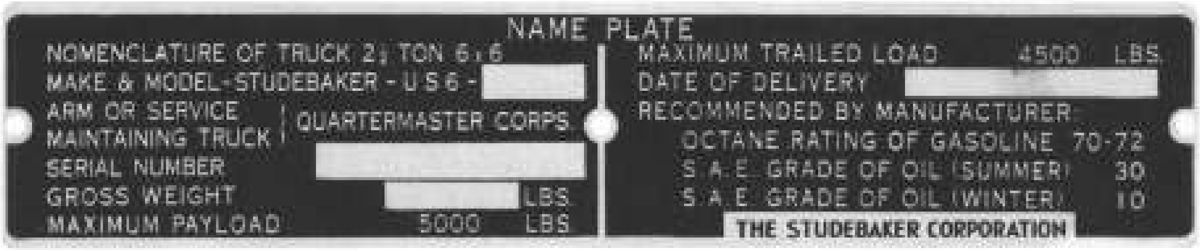
ENGINE NUMBER

The number of the engine used in the vehicle and additional engine specifications appear on a plate which is fastened to the right side of the cylinder block.

CAB NUMBER

The vehicle cab number plate is attached under the hood on the forward right-hand face of the front dash.

NAME PLATE



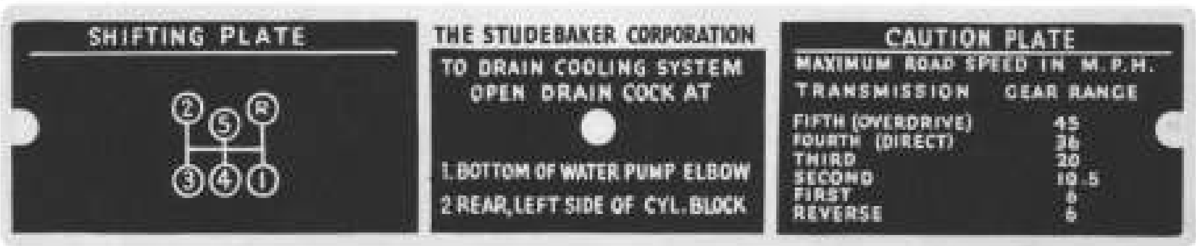
US6 Model Name Plate.

US6x4 Model Name Plate.

The name plate displayed in the driver's compartment carries information pertaining to the identification and loading of the vehicle and recommendations on fuel and engine oil.

SHIFTING AND SPEED CAUTION PLATE

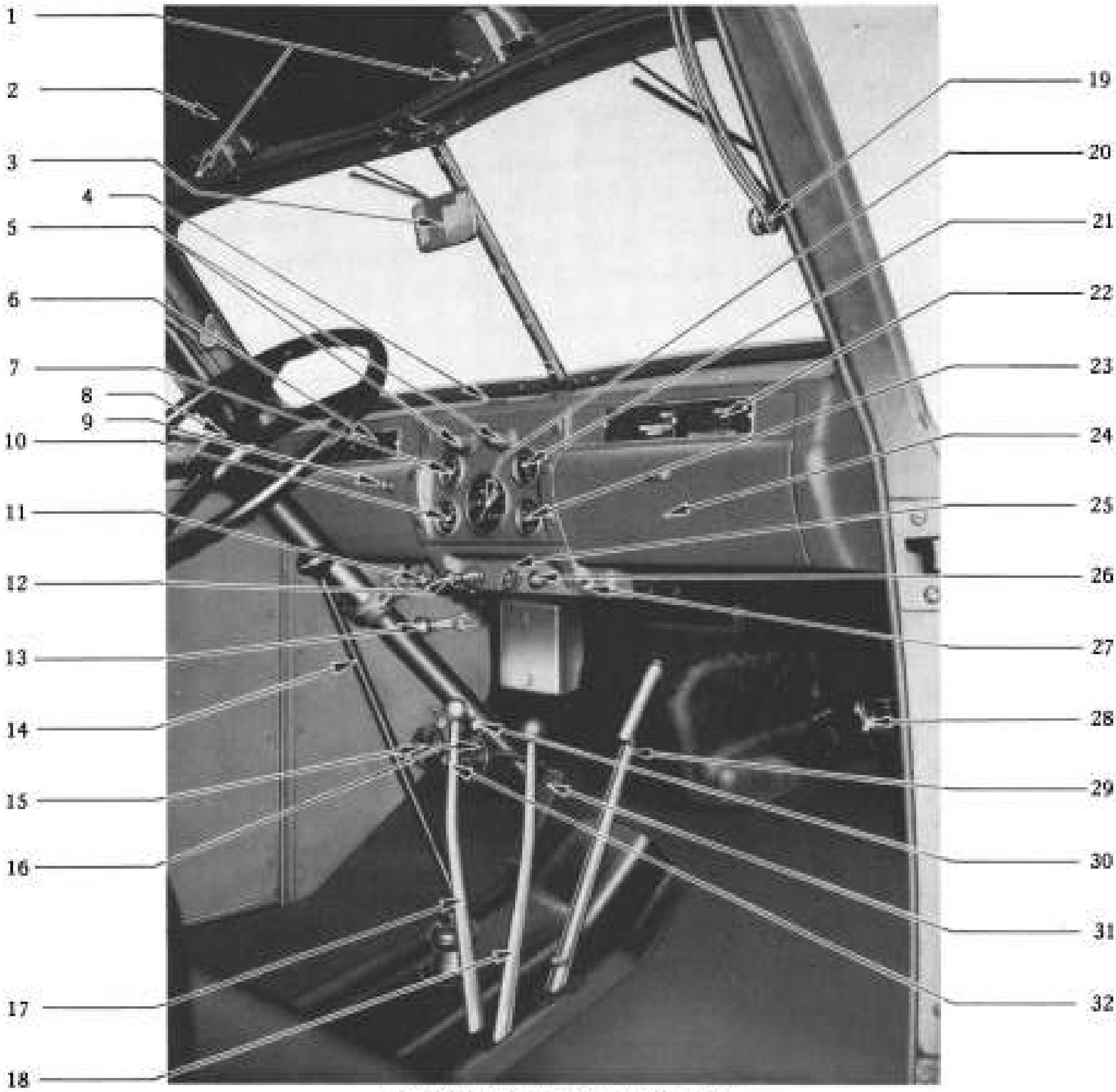
US6 Model Shifting and Caution Plate.



US6x4 Model Shifting and Caution Plate.

Shift positions of the control levers, cooling system drain cock locations, and maximum vehicle road speeds under varying types of operation are shown on a plate mounted in a prominent location within the cab to serve as a constant reminder to the driver.

INSTRUMENTS AND CONTROLS



Location of Instruments and Controls.

LIST OF INSTRUMENTS AND CONTROLS

1. Windshield wiper controls.
2. Sun visor.
3. Rear vision mirror.
4. Publication identification plate.
5. Instrument dash lamps.
6. Shifting and speed caution plate.
7. Oil pressure gauge.
8. Horn button.
9. Blackout driving lamp switch.
10. Engine heat indicator.
11. Choke control.
12. Main light switch.
13. Cowl ventilator control.
14. Transmission shift lever.
15. Clutch pedal.
16. Brake pedal.
17. Front axle control lever (on US6 Model only).
18. Transfer case shifting lever (on US6 Model only).
19. Windshield adjusting arm and thumb nut.
20. Speedometer.
21. Fuel gauge.
22. Name plate.
23. Ammeter.
24. Package compartment.
25. Ignition switch.
26. Instrument panel light switch.
27. Hand throttle button.
28. Fire extinguisher.
29. Hand brake lever.
30. Starter button.
31. Accelerator pedal.
32. Head lamp foot switch.

OIL PRESSURE GAUGE

The oil pressure gauge indicates the pressure at which oil is being forced through the lubricating system of the engine. At a speed of 35 m.p.h. and with oil of the proper quality and viscosity, a normal reading of 35 pounds should show on the gauge. If the oil pressure should fall to zero during operation of the vehicle, stop the engine immediately and determine the cause of the pressure failure. Report any appreciable difference in oil pressure readings or any erratic action of the indicator.

ENGINE HEAT INDICATOR

The temperature of the water in the engine is indicated by the engine heat indicator. This gauge is calibrated in degrees Fahrenheit. The normal operating range under average conditions should be between 140° F. to 180° F. Should the temperature rise appreciably above 180° F., the engine should be stopped immediately and the cause corrected.

FUEL GAUGE

The fuel gauge indicates the amount of fuel in the tank. Approximately one minute is required for the gauge to show a true reading after the ignition switch is turned to the "on" position. The fuel gauge circuit is protected by a circuit breaker which will automatically open the electrical connection with the battery in the event of trouble in the gauge or its connecting wires.

AMMETER

The ammeter may indicate the amount of current being drawn from the battery; the rate at which current is being supplied to the battery by the generator; or whether the electrical load or supply is predominating. The generator begins charging when the vehicle reaches a speed of from 7 to 10 m. p. h. and shows a positive (+) reading on the ammeter. The charging rate increases with the vehicle speed until a maximum of 40 amperes is reached at 25 m. p. h. At speeds below 7 to 10 m. p. h., or when lights and other electrical units draw more current than the generator supplies, the needle of the ammeter will move to the negative (−) side, indicating the battery is discharging. If the ammeter shows no charge under any conditions or if it habitually registers discharge with no electrical load, the cause should be investigated and corrected.

SPEEDOMETER

The speedometer shows the road speed of the vehicle in miles per hour. The indicator hand is specially treated and finished so that its position may be observed during vehicle operation under conditions of complete darkness. An odometer, incorporated at the top of the speedometer face, registers the number of miles the vehicle has been driven. The trip mileage indicator on the lower portion of the speedometer face may be set back to zero by turning the control stem on the back of the speedometer case.

HAND THROTTLE BUTTON

The hand throttle control button regulates the speed of the engine in starting and is used when engine tests are being made with the vehicle at a standstill. The hand throttle is never used to control the speed of the vehicle in motion; the accelerator pedal is used instead. When starting the engine, the hand throttle button should be pulled out 1/2" or more as required.

CHOKE CONTROL

The choke control regulates fuel mixture and is used to aid in starting when the engine is cold. It is pulled out just far enough to allow the engine to run smoothly during the warm-up, and should be pushed in as soon as possible after the engine is started. Improper use of the choke may harm the engine.

INSTRUMENT PANEL LIGHT SWITCH

The instrument panel light switch controls the instrument panel lights only when the main light switch is in its second stop position. If the main light switch button is moved to its first position or to the "off" position, the instrument panel light will automatically turn out even though its switch remains turned on.

MAIN LIGHT SWITCH

The hand-operated main light switch on the instrument panel provides the "on" and "off" control for all of the vehicle's operating lights except the instrument panel lamps and the blackout driving lamp. With the knob pressed in all the way, all lights are off. When the knob is pulled out to its first stop, the blackout driving lamp and tail lamps are turned on, as well as the trailer tail lamp when a trailer is used; also, the blackout stop lamp and the marker lamps on the front fenders operate. With the switch in this position, the blackout driving lamp will burn if its separate control switch is turned on. With the latch stop depressed, the knob can be pulled out to the second stop to turn on the service lights. In this position, the sealed beam type head lamps are turned on. The upper or lower beam can be selected by operating the foot switch. The stop lamp is available for daytime use when the knob is pulled out to the third position (all the way out).

BLACKOUT DRIVING LAMP SWITCH

This push-pull type switch operates the blackout driving lamp when the main light switch is in its first stop position (refer to "Main Light Switch" explanation). The blackout driving lamp switch is located on the left side of the instrument board, below the shifting and speed caution plate.

HEAD LAMP FOOT SWITCH

A foot-operated switch is located to the left of the clutch pedal for quick selection of the upper or lower headlight beam. Pressing down on the foot switch alternately raises and lowers the beam. The light beam should always be lowered at the approach of another vehicle. The foot switch is effective only when the main light switch is in its first or second stop positions.

IGNITION SWITCH

The ignition may be turned "on" or "off" by means of a lever switch located on the instrument panel. Turning the lever to "on" or "off" closes or opens the primary electrical circuit of the engine ignition system and the gasoline gauge system. The switch must be turned to the "on" position before the engine can be started. Turning the lever to the "off" position will stop the engine and open the gasoline gauge circuit.

STARTING SWITCH

The engine starting motor is operated by pressing the clutch pedal forward to the limit of its travel. As soon as the engine starts running, release the clutch pedal sufficiently to break contact with the starting switch button. The starting switch is so located that its button is directly under the clutch pedal pad. This arrangement reduces the possibility and danger of the vehicle moving unexpectedly if left in gear previously.

CLUTCH PEDAL

The clutch pedal provides the means of engaging and disengaging the engine from the transmission to permit shifting the transmission and the transfer case on the 6x6 model. Depressing the clutch pedal disengages the engine. The pedal should have 1" free travel before the resistance of the release mechanism can be detected. The clutch pedal also serves as the medium through which the starting switch button is operated.

CAUTION: "Riding the clutch" (resting the foot on the pedal while driving) will cause the clutch disc facings and the clutch release bearing to wear rapidly.

ACCELERATOR PEDAL

The accelerator pedal provides foot pressure control of the engine speed. This pedal should be used at all times to control the speed of the vehicle when in motion.

CAUTION: Never "race" the engine when the vehicle is standing still. Accelerate gradually.

BRAKE PEDAL

The brake pedal is the control for the service brakes. Foot pressure on the pedal displaces fluid in the master cylinder which, in turn, builds up the pressure and transmits it through hydraulic lines to the wheel cylinders to apply the brakes evenly at all wheels. Movement of the brake pedal also accentuates the brake vacuum system operating valve which controls the action of the vacuum power cylinder to augment the hydraulic control power of the brake system.

CAUTION: Driving with the foot on the brake pedal partially applies the brakes and causes rapid wear of the brake linings with possible drum distortion due to overheating.

HAND BRAKE

The hand brake operates a brake band around a drum attached to the front flange of the rearward rear axle propeller shaft at the rear of the transfer case. This brake functions to keep the vehicle stationary when parked or to provide additional stopping power in an emergency. The hand brake is applied by pulling the lever rearward as far as possible and is released by pressing the release button to push the lever forward as far as possible.

CAUTION: Do not move the vehicle with the hand brake applied or partially applied.

TRANMISSION SHIFT LEVER

The transmission shift lever permits the selection of gear ratios or transmission speeds. The transmission has five speeds forward and one reverse. The first speed forward and reverse gear can be engaged only when the lever is pushed all the way to the right.

TRANSFER CASE SHIFTING LEVER
(6x6 Model Only)

The transfer case shifting lever controls the "high" or "low" speed range of the transfer case. When the transfer case is shifted into "low," the front axle control automatically engages the front axle drive.

FRONT AXLE CONTROL LEVER
(6x6 Model Only)

Engagement or disengagement of the front axle drive is controlled by pushing the lever forward to engage the axle and rearward to disengage it.

HORN

The vibrator type horn is mounted on the left side of the dash, under the hood, and the horn button is located in the center of the steering wheel. The horn circuit is protected by a circuit breaker which will open automatically to disconnect the electrical circuit to the battery if the switch, horn, or the connecting wires fail to function properly.

WINDSHIELD WIPERS AND SWITCHES

The vacuum type dual windshield wipers are controlled by separate buttons at each wiper. A wiper may be turned "on" by pulling the control button outward. To stop the windshield wiper, push in the button.

WINDSHIELD ADJUSTING ARMS AND THUMB NUTS

Adjusting arms and knurled thumb nuts are provided to permit opening the windshield to a nearly horizontal position. This is accomplished by loosening the nuts and then pulling downward and pushing forward on the arms at each side. By tightening the nuts, the windshield may be locked in any desired outward position.

COWL VENTILATOR

The cowl ventilator is mounted on the top of the cowl and is controlled by a lever extending downward underneath and near the center of the instrument panel. The ventilator may be opened by pushing downward on the lever handle of the control; the amount the ventilator opens is directly dependent on the extent to which the lever is moved. The ventilator is designed to remain secure in any desired position. It is sealed against the entry of water or dust when closed and screen shielded to prevent the entry of insects when open.

FIRE EXTINGUISHER

A pump-type fire extinguisher is mounted just forward of the right front cab pillar, under the right end of the instrument panel. A positive lock, consisting of a spring-type clamp, must be opened before the extinguisher can be removed. The extinguisher is easily pulled off the mounting bracket after the clamp hand has been flipped open. To operate the extinguisher, turn the handle to the left, then use it like a pump. Best results will be obtained by directing the extinguisher stream at the base of the flames. To extinguish burning liquids, the stream should be directed above the surface of the liquid or against the inside of the container. After the extinguisher has been used, the supply of fluid should be replenished as soon as possible.

KEYS

Two identical keys are furnished with the vehicle to operate the locks on the spare wheel and tool compartment.