

TM9-2320-244-10**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

OPERATOR'S MANUAL**FOR****TRUCK, CARGO:****1-¼ TON, 4 x 4, M715****(FSN 2320-921-6365, FSN 2320-921-6366)****TRUCK, AMBULANCE:****1-¼ TON, 4 x 4, M725****(FSN 2310-921-6369)****HEADQUARTERS, DEPARTMENT OF THE ARMY****JANUARY 1967****OM-1055**

OPERATOR'S MANUAL
FOR

TRUCK, CARGO:

1- $\frac{1}{4}$ TON, 4 x 4, M715
(FSN 2320-921-6365, FSN 2320-921-6366)

TRUCK, AMBULANCE:

1- $\frac{1}{4}$ TON, 4 x 4, M725
(FSN 2310-921-6369)

THIS MANUAL PREPARED BY
KAISER 'Jeep' CORPORATION
FOR THE SOLE USE OF THE
U. S. GOVERNMENT.

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SPECIFICATIONS

Engine	In Line, Overhead camshaft
Type	6
Number of Cylinders	3 1/4"
Bore	4 3/8"
Stroke	230 cu. in.
Piston Displacement	7.5:1
Compression Ratio	145 to 155 psi.
Compression Pressure	132.5 @ 4000 rpm.
Horsepower (Brake)	26.77
Horsepower (SAE)	198 lb.-ft.
Torque (Max. @ 2000 rpm.)	5° BTDC
Ignition Timing	126 in.
Wheelbase	67 in.
Tread (front & rear)	10 in.
Road Clearance	95 in.
Height (over-all)	
Length (over-all)	
w/winch	220.7 in.
w/o winch	209.7 in.
Width (over-all)	85 in.

CAPACITIES

Fuel Tank	
Approximate Capacity	28 Gal.
Crankcase	
Without Filter	5 Qt.
With Filter	6 Qt.
Cooling System	12 Qt.
Steering Gear	As Required
Differential	6 Pt.
Transmission	6 1/2 Pt.
Master Cylinder	1/2 Pt.

SERVICING DATA

Gasoline (MIL-G-3056) Octane No. 85 min.
Refueling Rate (max.) 20 gpm +

APPROXIMATE WEIGHTS

Model Series	Body Style	GVW	Payload
M715 (W/O/W)	Cargo	8400	2500 Cross Country
		8900	3000 Highway
M725	Ambulance	8900	2000

Introduction

This Operator's Manual contains instructions for operation and operator's maintenance for the 1 1/4-Ton 4x4 M715 and M725 series vehicles. Essentially, this manual is a commercial type manual and is being used in order to provide timely field support for the vehicle. Several important features about this vehicle and related equipment are enumerated in order to provide information not normally included in a commercial type operator's manual.

Instructions on lubrication, prescribed lubricants, and intervals are contained in this manual.

Note: The shifting instruction and publication data plate contains a reference to the Official Department of the Army Lubrication Order Number. Pending publication of this Order refer to the lubrication instructions contained herein.

The basic issue items list (BIIL), which lists accessories, attachments, component assemblies, tools, and repair parts accompanying the equipment, is provided in Appendix I. This list also specifies the Troop Installed items, which when authorized are to be used with this vehicle.

Equipment Serviceability Criteria (ESC) applicable to this series vehicle is contained in TM 9-2320-244 ESC/1 and TM 9-2320-244-ESC/2, for the 1 1/4-Ton Cargo Truck and 1 1/4-Ton Ambulance, respectively.

Vehicle identification markings are to be applied each time the vehicle is painted or markings become illegible. Refer to TB 745-93-1 for color and marking of military vehicles. Refer to TM 9-213 for painting instructions for field use. Spot painting and marking (stenciling) of tactical vehicles will be performed under the control of organizational maintenance personnel. For basic principles and field camouflage refer to FM 5-20.

Refer to TM 9-2320-244-24 for domestic shipping instructions, including necessary loading and blocking specifications.

Maintenance Allocation

The maintenance responsibilities for this vehicle are prescribed in the maintenance allocation chart (MAC), which is included in TM 9-2320-244-24. In all cases when the nature of the required repair is beyond the scope of the operator or crew the supporting unit should be informed in order that trained personnel with suitable tools and equipment may be provided, or other instructions issued.

Forms, Records, and Reports

Authorized Forms. The forms applicable to this vehicle and instructions on their use are listed in TM 38-750.

Field Report of Accident. Injury to personnel or damage to the vehicle must be reported to the supporting unit so that reports as prescribed in AR 383-40 can be prepared.

Equipment Improvement Recommendations (EIR). Deficiencies detected in this vehicle should be reported using the Equipment Improvement Recommendation section of DA Form 2407 as prescribed in TM 38-750.

Recommended Changes to Publication. The direct reporting of errors, omissions and recommendations for improving this equipment manual by the individual user, is authorized and encouraged. DA Form 2028 will be used for reporting these improvements. This form may be completed using pen or typewriter. DA Forms 2028 will be completed by the individual using the manual and forwarded direct to: Commanding General, US Army Tank-Automotive Center, ATTN: SMOTA-MT, Warren, Michigan 48090.

Service on Receipt

Upon receipt of a new, used, or reconditioned vehicle, the following services must be performed. Refer to DA Forms 2408-2, 2408-3, and 2408-14 in the vehicle log book to determine the services and corrective maintenance performed to the vehicle. Refer to TB ORD 392 for vehicles in storage over 30 days.

Lubricate vehicle in accordance with instruction in this manual, excluding gear cases and engine. Check processing tag for gear case and engine oil. If tag states that oil is suitable for 500 miles of operation and is of the proper viscosity for local climate, check level but do not change oil.

Schedule second (next) "S" PM Service on DD Form 314. Preventive Maintenance Schedule and Record and arrange for an oil change after 500 miles of operation.

Fording Equipment

This vehicle is equipped with waterproofed components and is capable of fording hard bottom, shallow, fresh or salt water crossings to a depth of 30 inches. With a special kit which is available, the vehicle is capable of being forded to a depth of 60 inches. After fording, perform necessary cleaning and lubrication services to eliminate water from wheel bearing and gear cases. Refer to TM 9-238 for after fording maintenance. Refer to SB 9-155 for authorization criteria.

GETTING ACQUAINTED WITH YOUR VEHICLE

This operator's manual is divided into four sections. Each contains important information about the M715 cargo truck and M725 ambulance.

The first section pertains to serial number locations, instruments and their functions, and the location and operation of the various switches and controls.

The second section describes the proper vehicle operation, including the all-important break-in period.

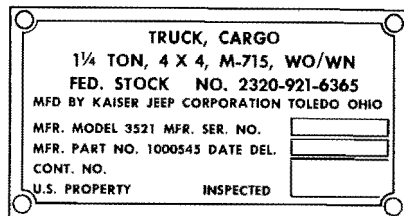
The third section covers recommended lubrication procedures as well as a preventive maintenance schedule.

The fourth section explains the functions of the various systems and components of the vehicle and describes minor adjustments, services and maintenance procedures.

Proper service at each recommended frequency is of vital importance to assure dependable operation of the vehicle.

VEHICLE SERIAL NUMBER

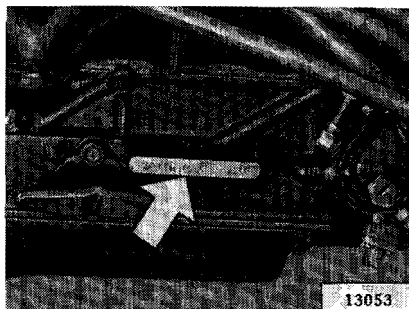
The vehicle serial number is stamped on a metal plate located at the center of the dashpanel.



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FIG. 1—VEHICLE SERIAL NUMBER

Engine Serial Number



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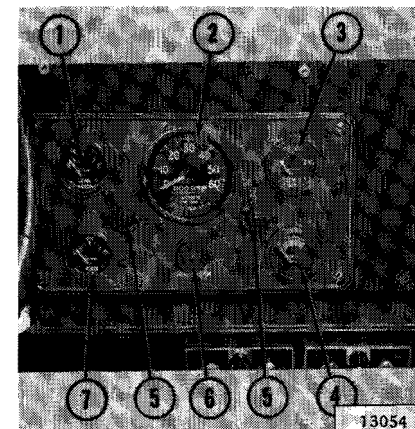
FIG. 2—ENGINE SERIAL NUMBER

The engine serial number is stamped on the lower right front of the cylinder block just behind the ignitor.

INSTRUMENTS

GENERAL

The operational instruments are conveniently grouped where they can be easily seen on the instrument panel. Each of the gauges indicates a critical function of the vehicle and warns of impending trouble in advance. Knowing the function of these gauges and observing them occasionally while driving or while the engine is running can enable you to prevent service problems that could result in expensive repairs.



13054

FIG. 3—INSTRUMENT CLUSTER

- 1—Fuel Gauge
- 2—Speedometer
- 3—Temperature Gauge
- 4—Battery-Generator Indicator
- 5—Instrument Cluster Light
- 6—High Beam Indicator
- 7—Oil Pressure Gauge

Speedometer

The speedometer sweep hand indicates vehicle speed in miles per hour. The odometer registers

accumulated mileage travelled. The right-hand numeral of the odometer indicates tenths of a mile.

Oil Pressure Gauge

This gauge indicates the engine oil pressure when the engine is running. When the engine is started cold, the oil pressure may rise sharply, then recede to normal after the engine has warmed up. At idle speed the minimum indicated pres-

sure should be 12 psi. At road speeds, the pressure gauge should indicate a minimum of 30 psi. If the indicated oil pressure is lower than these recommended minimums, stop the engine and investigate the cause of this low oil pressure.

Battery Generator Indicator

The battery-generator indicator located on the instrument cluster is marked BATTERY-GENERATOR. This gauge indicates the charging activity of the charging system. The gauge should indicate GENERATOR (pointer in green arc) when the engine is started, and continue to indicate charging activity as the engine speed is in-

creased, depending on the amount of electrical power being used. When the battery is supplying normal current, the pointer should indicate BATTERY (yellow arc). An abnormal discharge reading (pointer in red arc), with the engine running at normal speed, indicates a deficiency in the charging system.

Fuel Gauge

This gauge indicates how much fuel is in the fuel tank. The pointer drops to E (empty) when the ignition switch is turned off. It may take a moment for the gauge to

Temperature Gauge

The temperature gauge registers the temperature of the solution in the cooling system in degrees Fahrenheit. Operating temperature is normally between 170° F. and 190° F. Should the gauge register considerably higher, stop the engine and determine the cause. Excessively low operating temperatures

High Beam Indicator

The high beam indicator light, located just below the speedometer, will glow when the headlights are on high beam and warn you that the headlights may be shining into the eyes of oncoming drivers. When

indicate when the ignition switch is again turned on. It is normal for the pointer to fluctuate at times when the vehicle is driven over rough terrain.

may indicate a faulty cooling system.

Caution: Always remove the radiator cap slowly to avoid possible injury from escaping steam or hot water. Never add water when the engine is overheated; allow the engine to cool first.

the dimmer switch, located near the driver's left foot, is pushed once, the headlights switch back to low beam and the indicator light will go off.

SWITCHES AND CONTROLS

Ignition Switch

The ignition switch located to the left of the instrument cluster, is a two-position ON-OFF lever-

Starter Switch

The starter switch, located to the right of the accelerator pedal, is easily accessible to the driver's

Light Switch

The light switch, located to the right of the steering column, provides selective control of the various lighting circuits by means of two switches; main switch and auxiliary switch. An unlock switch limits free movements of the main switch.

The main switch has five positions: **BO DRIVE**, **BO MARKER**, **OFF**, **STOPLIGHT**, and **SERV-ICE DRIVE**. To move the main

type. This switch must be in the ON position to operate any of the electrical instruments or switches.

right foot. Pressure applied to this switch actuates the starter motor.

switch to any position except **BO MARKER**, the unlock switch must first be moved to the "UNLOCK" position.

The auxiliary switch has four positions: **PARK**, **OFF**, **DIM**, and **PANEL BRT**. Movement of this switch is not restricted by the unlock switch, but circuits under its control are dependent on the position of the main switch.

Dimmer Switch

The dimmer switch, accessible to the driver's left foot, is used to raise

or lower the headlight beams.

Turn Signal Indicator

The turn signal lever is located on the left of the steering column. The UP position of the lever indicates a right turn; the DOWN position, a left turn. A light in the in-

dicator housing will flash if the lever is in either position. When the turn is completed, move the indicator lever back to the centered position.

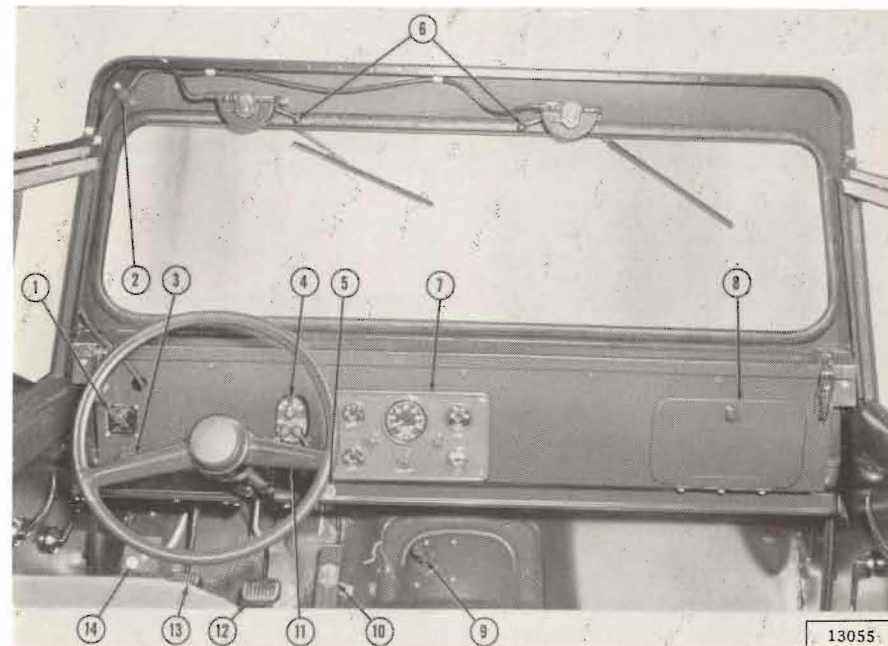


FIG. 4—SWITCHES AND CONTROLS

- | | |
|-------------------------------------|----------------------------|
| 1—Deep Water Forcing Control Handle | 8—Glove Box |
| 2—Windshield Wiper Control | 9—Starter Switch |
| 3—Turn Signal Indicator Lever | 10—Accelerator Pedal |
| 4—Light Switch | 11—Ignition Switch |
| 5—Choke Control Knob | 12—Brake Pedal |
| 6—Windshield Wiper Control (Manual) | 13—Clutch Pedal |
| 7—Instrument Cluster | 14—Headlight Dimmer Switch |

Windshield Wipers

The windshield wiper control is located at the top left of upper windshield frame. The wipers may also be hand operated by means of

a lever, located on each wiper motor, in the event of vacuum failure.

Choke Control

The manually operated choke control, located on the lower edge of the instrument panel to the right of the steering column, is used to

assist in starting the engine during cold weather. (See Cold Weather Operation.)

Parking Brake Controls

To apply the parking brake, pull back control lever. It will automatically lock in place. To release, press down on release button on the top of the lever and push brake lever forward.

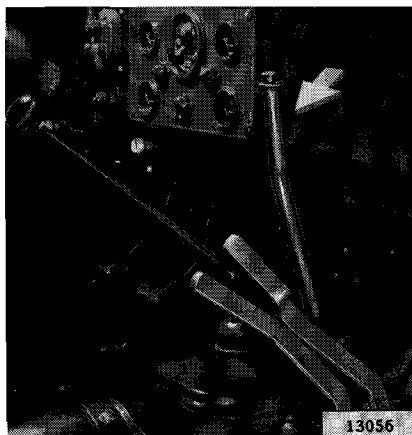


FIG. 5—PARKING BRAKE CONTROL

Winterization Equipment

The M715 series vehicles may be equipped with special purposes winterization equipment. A hot water type personnel heater for the cab is optional in temperatures down to -25°F . A fuel burning personnel heater (reference heater operating instructions plate for operation of heater) and a power plant heater is designed for operation of the vehicle in temperatures down to -40°F . A cab hard top closure kit is also available. Winterization equipment is authorized under criteria of SB 9-16.

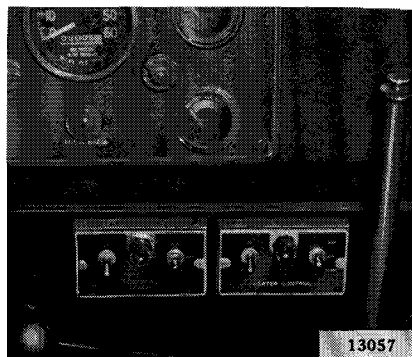


FIG. 6—HEATER CONTROLS

Fire Extinguisher — Ambulance

The fire extinguisher is mounted in the cab at the driver's position. The fire extinguisher should be re-

filled after every use. If unused for long periods of time it should be checked periodically.

Deep Water Fording System

A deep water fording system is available for installation on the vehicle. The only control applicable to the operator is the fording control handle. Pull the handle out before fording and push back in

after leaving the water. Also install bell housing plug which is stored in the glove box. Remove plug after fording is completed. Plug should also be installed when driving in wet areas.

Seat Adjustment

The seat adjustment control handle, located on the left side of the driver's seat, is lifted to unlock the seat for adjustment. The handle is locked by pushing down until it engages one of the adjustment notches in the seat.

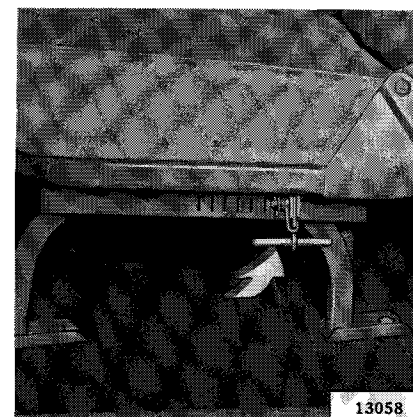


FIG. 7—SEAT ADJUSTMENT

Hood Latch

Two hood latches, located on the front corners of the hood, are engaged to lock the hood in position. To unlock the latches, lift latches until they are clear of their catches and turn slightly. The hood may now be raised.

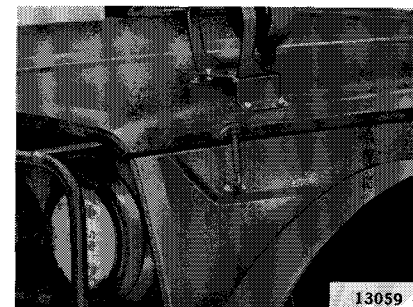


FIG. 8—HOOD LATCH

Power Ventilator Controls — Ambulance M725

Two ventilator blowers are provide to draw hot air or odors from the patient compartment. Each blower motor is controlled by a switch. Openings in the blower ducts are controlled by the ventilator blower control valve handles.

To operate either blower, turn the blower switch to the ON posi-

tion. Turn the ventilator blower control valve handles 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.

Surgical Lamp — Ambulance M725

The surgical lamp is provided with a toggle switch to turn the lamp on or off. To direct the light beam, loosen the knurled thumb screw that secures the lamp in the

shell and swing the lamp in the desired direction. When the lamp is not in use, position it in the shell and tighten the thumb screw.

Dome Lamp — Ambulance M725

The dome lamp, located in the top of vehicle, is controlled by an

ON-OFF toggle switch.

Spot Lamp — Ambulance M725

The spot lamp is mounted on the roof of the driver's compartment. Controls are operated by the driver.

To operate, turn the vehicle light switch to the **SERVICE DRIVE**

position and push the spotlight switch forward. The spotlight can be elevated and rotated by the control handle.

Personnel Heater — Ambulance M725

The personnel heater for the patient compartment of the M725 ambulance is controlled by a heater control box located on the inside wall of the compartment. Temperature is regulated by a thermostat.

Specific instructions for operat-

ing the heater and thermostat are provided on the operating instruction plate. To deflect the stream of heated air from the heater outlet, move the heat deflector handle to the desired position.

OPERATION

Proper Break-in

By taking reasonable precautions during the first few miles of driving and by giving the vehicle an opportunity to properly "break-in", operation and life of the working parts will be greatly improved.

The drive train parts are precision fitted and close limits are maintained throughout. Therefore certain precautions should be observed to "break-in" the engine.

For the first 50 miles avoid opening the throttle fully while accelerating or hill climbing.

Keep under 50 miles per hour for the first 250 miles. Avoid full throttle accelerations.

Occasionally lift your foot off

the accelerator, if driving at steady speeds, to improve engine lubrication during break-in.

After 250 miles, short periods at increasingly higher speeds are permissible. Step up speeds gradually as mileage accumulates — operation at low speeds contributes little, if anything, to effective break-in.

The crankcase should be drained at 500 miles and refilled with engine oil of the viscosity recommended in the Lubrication Section. The oil filter should also be replaced at 500 miles.

During the first 1000 miles of operation be alert for any indications of over-heating in any component of the vehicle.

Carbon Monoxide

Carbon monoxide is a deadly gas. It has no odor, taste or color. It is in the exhaust fumes of all gasoline engines. Never start an engine

in a closed garage. Always open the doors wide before starting the engine. Keep them open as long as the engine is running.

Making the Vehicle Ready

- Check the coolant level in the radiator.
- Put gasoline in the fuel tank.
- Check the oil level. (See Lubrication Section)

- Give the vehicle a complete lubrication, covering all the items in the Lubrication Section.
- See that all tires have the proper pressure.

Starting the Engine

- Shift the transmission into **NEUTRAL**.
- Pull that choke control out halfway.
- Turn the ignition switch on and depress the starter switch until the engine starts. If the engine fails to start in 30 seconds, release the starter switch and wait about one minute before attempting to start

the engine again.

- If the engine fails to start in two or three attempts, consult the Emergency Chart.
- Set the choke control at the best position to keep the engine running for warmup. Push the choke all the way in as soon as the engine reaches operating temperature.

Driving the Vehicle

- Release hand brake, if set.
- Depress clutch pedal.
- Move transmission gear shift lever to the first position. (Note that front axle and transfer case shift levers are not used when the vehicle is driven on the highway in two-wheel drive.)
- Depress foot accelerator pedal gradually and at the same time slowly release clutch pedal.
- Allow the vehicle to gain momentum (two or three vehicle lengths), then release the accelerator and depress clutch pedal at the same moment.
- Move shift lever promptly to the next higher speed position. Depress foot accelerator pedal gradually and at the same time slowly release the clutch pedal.
- Shift to each of the next higher speeds in the same manner, releasing the accelerator and depressing

Changing to Lower Speed

(**Caution:** Never attempt to shift to a lower gear with the vehicle traveling at a high rate of speed).

- Depress clutch pedal.
- Move gearshift lever quickly into the next lower speed, increasing the engine speed slightly if traveling on level road, and release

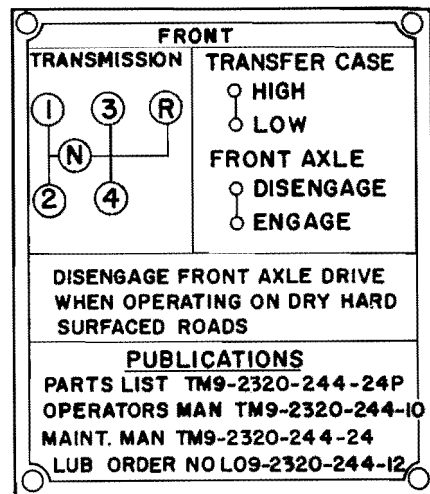
Reversing the Vehicle

- With the vehicle at a standstill, depress the clutch pedal.
- Shift the gearshift lever into the reverse position and slowly

Towing the Vehicle

The vehicle may be towed forward in the normal manner without damage to the 4-wheel-drive mechanism. The gears in both the transmission and transfer case must be in their neutral positions.

Should it be necessary, however, to lift the rear wheels and tow the



13060

FIG. 9—SHIFT PATTERN

the clutch pedal before moving the shift lever.

clutch pedal.

- It will be found advisable to make this change when the engine is placed under heavy pull or when dropping down to a very low speed, as when traveling up a steep grade, in sand, or in congested traffic.

release clutch pedal while regulating the vehicle speed with the foot accelerator.

vehicle in reverse, be sure to remove the front axle shaft driving flanges to prevent the front differential from rotating.

Should the driving flanges be removed, a cover should be improvised to prevent dirt from entering the wheel bearings.

OPERATION UNDER UNUSUAL CONDITIONS

Refer to TM 21-300 and TM 21-305 for special driving instruc-

tions under unusual conditions.

Extreme Cold Weather Operation

Refer to FM 31-70 and FM 31-71 for description of operation in extreme cold. Refer to TM 9-207 for operation and maintenance of automotive materiel in extreme cold (0°F. to -40°F.). Correct specific gravity reading of batteries exposed to extreme cold as outlined in TM 9-207. Also refer to TB ORD 651 for instructions on use of antifreeze solutions and cleaning compounds in engine cooling systems.

For overnight or extended parking in temperatures at -40°F. or lower, overfill tires to 60 lbs. (size 9:00 x 16) to reduce flat spots. Reduce pressure to normal before operating vehicle.

If power plant heater is not available, remove batteries and store in a warm place. It is not necessary to drain subzero type engine oil, since it will remain fluid although unheated.

Extreme Hot Weather Operation

Continuous operation at high speeds or under long hard pulls on steep grades, or soft terrain may cause the engine to overheat. Be alert for overheating and halt the vehicle for cooling off whenever necessary and tactical situation permits. Make frequent inspections and servicing of the cooling system, engine oil filter, and carburetor air cleaner. If engine is consistently overheating, look for dust, sand, insects, or other obstructions in the radiator fins. Blow out any accumulations with compressed air or water under pressure.

Flush cooling system, if necessary. Avoid use of water containing alkali or other substances that may cause scale and rust formation. Use soft water whenever possible. Add corrosion-inhibitor compound to the coolant.

In torrid zones check electrolyte level of batteries daily and replenish, if necessary, with pure distilled water. If distilled water is not available, use rain or drinking water. Refer to TM 9-6140-200-15 for dilution of electrolyte when batteries are to be used in torrid climates.

Operating on Unusual Terrain

Obtain tire chains for operation on snow or ice-covered terrain or in deep mud.

Lower tire pressure to travel over sand, ice, mud, and snow if tire chains are not available.

Caution: Do not lower tire pressure to extent that damage will result to tire. Restore to correct recommended tire pressure after emergency.

EMERGENCY CHART

No adjustment should be made, or any parts tampered with, until the cause of the trouble is ascertained; otherwise, adjustments

which are properly made may be altered. The trouble should first be analyzed.

Starting Motor Will Not Turn Engine

	See Paragraph	Page
Batteries discharged.....	Batteries	47
Battery connections dirty or loose.....	Batteries	47
Battery cables defective.....	Batteries	47
Battery cable connections loose at ground starter switch.....	Starting Motor	51
Wire connections loose at starter switch, starting motor voltage regulator, or ignition switch.....	Starting Motor	51
Starting motor inoperative.....	Starting Motor	51

Engine Fails to Start

No fuel.....	Fuel Gauge	10
No fuel to carburetor.....	Fuel System	40
Cylinder or manifold flooded.....	Fuel System	40
Engine needs choking.....	Starting the Engine	15
Plugged exhaust system.....	Exhaust System	42

Engine Stops

Lack of fuel.....	Fuel Gauge	10
Lack of oil.....	Engine Lubrication	25
Disconnected ignition wire.....	Ignition Wiring	49
Carburetor flooding.....	Fuel System	40
	Carburetor	40
Engine overheated.....	Cooling System	42
Distributor breaker points dirty or pitted.....	Ignitor	49
Vapor lock.....	Fuel System	40

Engine Misses at All Speeds

Faulty ignition wiring.....	Ignition Wiring	49
Fouled spark plugs.....	Spark Plugs	50
Spark plug points improperly set.....	Spark Plugs	50
Spark plug porcelains dirty.....	Spark Plugs	50
Distributor faulty.....	Ignitor	49
Water in fuel.....	Fuel Tank	42
Engine overheated.....	Cooling System	42

Popping Back Through Carburetor

	See Paragraph	Page
Dirt in carburetor.....	Carburetor	40
Water in fuel.....	Fuel Tank	42
Incorrect ignition timing.....	Ignition Timing	50
Spark plug wires connected to incorrect plugs.....	Ignition Wiring	49
Inlet valves holding open.....	Engine Compression	37

Engine Overheating

Low engine oil level.....	Engine Lubrication	25
Low coolant level.....	Radiator Pressure Cap	43
Fan belt slipping.....	Fan Belt	45
Clogged radiator core.....	Radiator	43
Faulty thermostat.....	Thermostat	44
Improper ignition timing.....	Ignition Timing	50

Engine Misses at Low Speeds

Intermittent flow of fuel.....	Fuel system	40
Poor ignition.....	Ignitor	49
	Spark Plugs	50
	Ignition Wiring	49
Distributor point improperly adjusted or making poor contact.....	Ignitor	49
Incorrect timing.....	Ignition Timing	50
Spark plug point improperly set.....	Spark Plugs	50
Poor compression.....	Engine Compression	37
Air leak at carburetor gasket.....	Carburetor	40

Loss of Power

Ignition improperly timed.....	Ignition Timing	50
Lack of fuel.....	Fuel System	40
	Fuel Pump	42
Carburetor flooding.....	Fuel System	40
	Fuel Pump	42
Dragging brakes.....	Brake Adjustment	55
Engine overheated.....	Cooling System	42
Poor Compression.....	Engine Compression	37
Improper valve timing.....	Adjust Valve Lash	37
Clutch slipping.....	Clutch	53
Exhaust system obstructed.....	Exhaust System	42

4-WHEEL DRIVE

GENERAL

What is 4-Wheel Drive?

All four wheels can exert driving force to the ground. A conventional vehicle is driven by the two rear wheels alone. The front wheels are merely pushed along by the rear

How 4-Wheel Drive Works

Engine power is transmitted to all four wheels by using "live" front and rear axles. The front axle is driven by a drive shaft and differential in the same manner as the rear axle. Power from the engine is delivered to the transmission and transfer case, which in turn

Transfer Case

The transfer case front axle drive lever gives you your choice of 2-wheel or 4-wheel drive. In the forward position you are in 2-wheel drive. Move the lever to the rear position for 4-wheel operation.

The 4-wheel-drive auxiliary range shift lever has two positions: low, and high. The rear position

wheels. A 4-wheel drive vehicle is propelled by all four wheels; the rear wheels are pushing and the front wheels are pulling. This gives four points of power and traction.

drive both the front and rear wheels. The transfer case operates like a second transmission. It gives you your choice of either 2- or 4-wheel drive and an auxiliary range low gear. With auxiliary range low gear you have eight forward gear combinations.

(low) gives you low-range 4-wheel drive for the toughest going. The forward position (high) gives you high range 4-wheel drive for less difficult situations. Positioning of the shift levers prevents shifting into low range, 2-wheel drive. This feature protects the rear axle from overload.



13061

How to Shift Gears

To shift from 2-wheel drive to 4-wheel drive, let up on the accelerator if the vehicle is moving, and shift the front axle drive lever to the rear position. This puts you in 4-wheel drive high range and you operate the vehicle in the conventional manner. The auxiliary range lever must be in high position for all 2-wheel drive operations.

To shift from 4-wheel drive high range to 4-wheel drive low range, bring the vehicle to a virtual standstill. Never attempt to shift into low range with the vehicle moving more than 4 to 5 mph. Depress the clutch and move the auxiliary range lever to the rear (low) position. Release the clutch and proceed in the usual fashion. Your vehicle will move at a slower ground speed with higher engine rpm. because of the lower gear. You can now select any of the standard transmission gears to meet your power requirements.



13063

To shift from 4-wheel drive to 2-wheel drive, let up on the accelerator if the vehicle is moving and move the front-axle-drive lever to the forward position. The auxiliary range lever must be in high (forward) position before the front axle drive can be disengaged



13062

To shift from 4-wheel drive low to 4-wheel drive high, depress the clutch and move the auxiliary-range lever to the forward (high) position. This can be done only at low vehicle speeds. Engage the clutch and proceed in 4-wheel drive high range.



13064

When to Use 4-Wheel Drive

Use 4-wheel drive to provide additional traction and lower gearing for difficult terrain and to provide low speed pulling power. You should only use 4-wheel drive when greater traction and power are required than can be provided by the standard transmission low gear.

When Not to Use 4-Wheel Drive

For normal driving on hard-surfaced roads, 4-wheel drive should not be used. The additional tractive effort it provides is not needed under such conditions. Prolonged use of 4-wheel drive on hard-surfaced roads may occasionally cause temporary difficulty in shifting out of 4-wheel drive. This condition is

caused a buildup of torsional stress in the drive train and results from normal variations in tire diameters under different load conditions. To relieve this buildup, simply drive the vehicle in reverse for several feet or drive off the hard surface momentarily to allow the tire to slip.

Use 4-wheel drive off the road when you need it. Use it in snow. Use it to get heavy trailers rolling and for pulling heavy equipment. Use it on ice, hills, mud, sand, and wherever normal 2-wheel drive traction won't do the job.

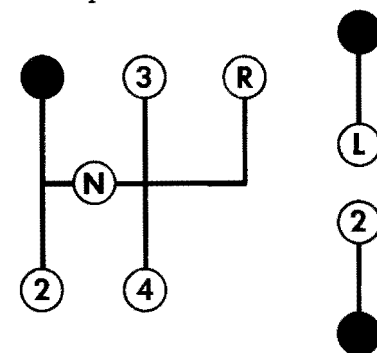
caused a buildup of torsional stress in the drive train and results from normal variations in tire diameters under different load conditions. To relieve this buildup, simply drive the vehicle in reverse for several feet or drive off the hard surface momentarily to allow the tire to slip.

DRIVING TECHNIQUES IN 4-WHEEL DRIVE

Through Mud, Snow, and Sand

Shift to 4-wheel drive, high range, first gear when going through mud, snow, and sand without a load. Auxiliary low range is not necessary in such conditions unless a load is being pulled by the vehicle or unless it is desired to proceed more slowly because of changing road conditions. Don't shift into any lower gear than is necessary to maintain headway. Try to keep a constant engine speed. Over-revving the engine will cause the wheels to start spinning and traction will be lost. The pressures may be reduced to 10 psi. front,

15 psi. rear, with maximum speed of 5 mph.



13065

CAUTION — Through Sand, Mud, or Water

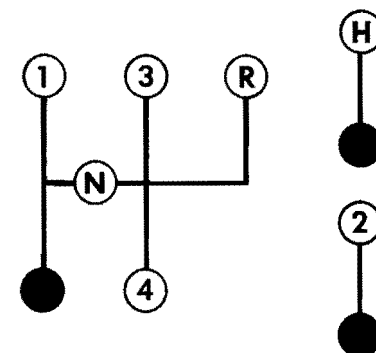
The vehicle may on occasion be driven up to the hubs in sand, mud, or water. As soon as possible thereafter, clean the brakedrums to pre-

vent any abrasive material that may have entered from wearing the brake linings.

Uphill

Shift to 4-wheel drive, low range, second gear. Drop down to first gear only when it is apparent that the steepness of the ascent requires the lower gear to maintain headway.

Apply power smoothly. Don't lose traction by over-revving the engine. In certain conditions, headway can be maintained by using a mild pumping action on the accelerator. This action produces engine speeds slightly above and below the vehicle speed and gives increased "bite".



13066

Getting Over the Hump

"Creep" the vehicle up the last few feet. If the wheels start to slip with only a few feet of the ascent remaining, headway may be maintained by swinging the front wheels

sharply left and right. This will provide a fresh "bite" into the surface and will usually result in enough traction to complete the climb.

If you Stall

If the vehicle stalls or loses headway when climbing a steep hill, make a fast shift to reverse or first gear. Don't depress the clutch. Engine compression usually will hold the vehicle on the hill. Don't try to back down with the clutch released and only the brakes holding the vehicle. By shifting into reverse you can start the engine without depressing the clutch. Let the vehicle move backwards with the starter. When the engine starts you can control your downward speed with the accelerator.

Downhill

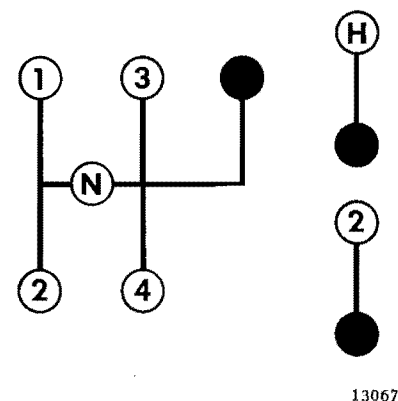
Shift to 4-wheel drive, low range, first gear. Don't use the clutch! Don't use the brakes! Your 4-wheel drive vehicle can proceed in safety down a grade which could not be negotiated safely by a conventional 2-wheel-drive vehicle. Shift to low range, first gear and let the vehicle go slowly down the hill with all four wheels turning against engine compression. This will permit you to control the vehicle's speed and direction.

WARNING: Across Slopes

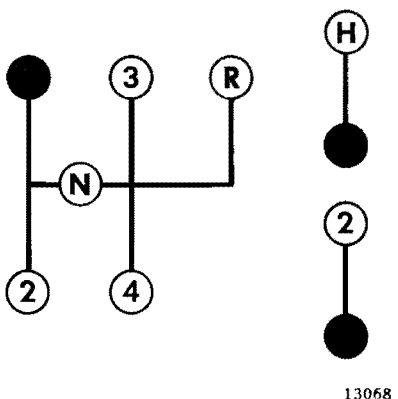
Avoid this situation! Your vehicle will seldom encounter a hill which it cannot negotiate directly. However, natural obstacles may make it necessary to travel diagonally up or down the hill. The danger lies in losing traction and slipping sideways with the pos-

Safety and 4-Wheel Drive

Your vehicle has sufficient power and traction to take you safely through conditions which would be hazardous or impossible for conventional vehicles. 4-wheel drive is a powerful, useful tool that will perform many difficult tasks, but it must be used with common sense



13067



13068

sibility of tipping.

When necessary, choose as mild an angle as possible, keep moving, and make your turns quickly.

WE REPEAT—DON'T TRAVEL DIAGONALLY ACROSS A HILL UNLESS ABSOLUTELY NECESSARY.

and caution. Don't take unnecessary risks and don't attempt the impossible.

Knowledge of your vehicle and its abilities are your best insurance. Know your vehicle; use it wisely and you will enjoy safe, economical, and faithful service.

LUBRICATION

GENERAL

Regular application of high-grade lubricants when operating your vehicle is of vital importance because of the diversified type of service it performs. The amount of trouble-free service you receive will be in proportion to the care given. The type of service performed determines the frequency of lubri-

cation.

The following pages give the location and frequency of lubrication, and the grade and quality of lubricant required.

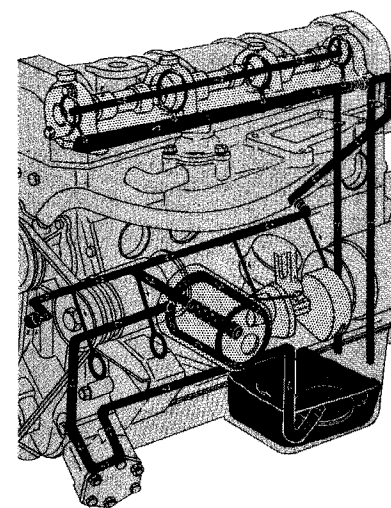
Because of the importance of lubrication, detailed recommendations are given in the following paragraphs.

Engine Lubrication

The engine is lubricated through a full pressure lubrication system. A progressing tooth gear pump circulates the oil.

The oil is drawn into the circulating system through a fixed intake screen.

The quantity of oil in the crankcase is measured by a bayonet-type oil level indicator located on the left side of the engine. The oil filler cap is located at the top-left-front of the engine. Maintain the engine oil level between the "Add Oil" and "Full" marks on the indicator. It is not necessary or desirable to add oil when the level is above the "add 1 qt." mark.



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FIG. 10—ENGINE LUBRICATION

Lubrication Chart

The lubrication chart on page 26 is prepared as a guide to the

Fuel Filter

The in-line fuel filter is designed to filter out harmful particles which may cause fuel stoppage in the fuel line or carburetor. The filter should

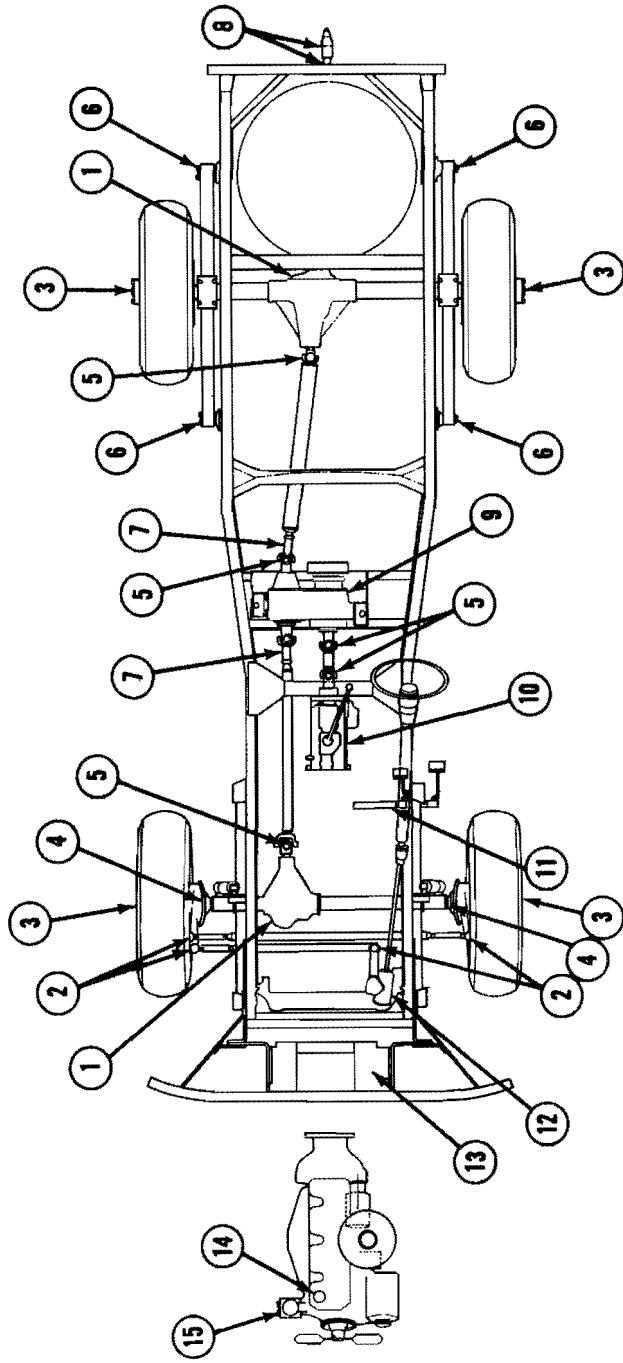
location of some of the major lubrication points.

be removed and cleaned each 6,000 miles. The screen in the filler neck should also be cleaned.

Chassis Lubrication

All chassis lubricating points have standard grease fittings and should be serviced at periodic intervals. Refer to the Lubrication

Chart and Preventive Maintenance Schedule for specific lubrication points and lubrication time intervals.



13070

FIG. 11—LUBRICATION CHART

CHART NO.	ITEM TO BE LUBRICATED	MAINTENANCE OPERATION INTERVAL	QUANTITY	LUBRICANT		
				Type	Grade	Winter
1.	Differentials:					
	Front.....	Weekly — Check 12,000 Miles — Drain & Fill	6 pts.	MIL-L-2105	SAE 90	SAE 80
	Rear.....	Weekly — Check 12,000 Miles — Drain & Fill	6 ½ pts.	MIL-L-2105	SAE 90	SAE 80
2.	Steering Linkage (Tie Rod and Drag Link Sockets).....	1000 Miles	As Required	MIL-G-10924	—	—
3.	Wheel Bearings:					
	Front.....	12,000 Miles — Repack	As Required	MIL-G-10924	—	—
	Rear.....	12,000 Miles — Repack	As Required	MIL-G-10924	—	—
4.	Front Axle Universal Joint.....	1000 Miles — Refill 12,000 Miles — Change	1 ¼ pts./joint	MIL-G-10924	—	—
5.	Propeller Shaft Universal Joints.....	1000 Miles	As Required	MIL-G-10924	—	—
6.	Spring Shackles and Pivots — Rear.....	1000 Miles	As Required	MIL-G-10924	—	—
7.	Propeller Shaft Slip Joints.....	1000 Miles	As Required	MIL-G-10924	—	—
8.	Pintle.....	1000 Miles	As Required	MIL-G-10924	—	—
9.	Transfer Case.....	Weekly — Check 12,000 Miles — Drain & Fill	3 pts.	MIL-L-2105	SAE 90	SAE 80
10.	Transmission.....	Weekly — Check 12,000 Miles — Drain & Fill	6 ½ pts.	MIL-L-2105	SAE 90	SAE 80
11.	Clutch Release Cross Shaft.....	1000 Miles	As Required	MIL-G-10924	—	—
12.	Steering Gear.....	Monthly — Check 12,000 Miles — Drain & Fill	1 pt.	MIL-L-2105	SAE 90	SAE 80
13.	Winch Worm Case.....	Weekly — Check Drain & Refill Annually	2 pts.	MIL-L-2105	SAE 90	SAE 80
14.	Engine.....	6000 Miles — Drain & Refill	*5 qts.	Engine Oil	**	**
15.	Ignitor.....	6000 Miles	As Required	Lithium Grease	Soft	Soft

* When oil filter is changed at the same time, add one quart.

** Above 32°F
OE-3040°F to -10°F
OE-10W0°F to -50°F
OES

Spring Shackles and Pivot Bolts

Rear spring shackles and spring pivot bolts are shown as No. 6 on the Lubrication Chart. Lubri-

cate each fitting with a pressure gun every 1000 miles.

Oil Filter

Replace the oil filter at the end of the first 500 miles. Thereafter replace the element each 6000 miles.

Remove the oil filter by turning counterclockwise. Wipe the gasket area of the base clean. To install a new filter, lightly coat gasket area with engine oil, screw on the

filter unit until gasket contacts the engine, and then turn one-half turn more. **HAND-tighten** only; do not use tools.

Start engine. Accelerate engine slightly and check oil pressure gauge to be sure normal oil pressure is indicated. Check the filter area for leaks.

Air Cleaner

The dry-type air cleaner is a plastic treated fiber tye. Dust particles in the air entering the air cleaner are deposited on the pleated paper. This accumulated dust can choke off the air supply to the carburetor if the element is not cleaned at regular intervals.

Care of the air cleaner is extremely vital to the life of the engine. Pay particular attention to the amount of dust and dirt in the air taken into the engine through the air cleaner. When dust is not noticeable in the air, service the air cleaner each 6000 miles. Whenever the air is noticeably

dusty (for example when the vehicle is driven on secondary roads or through fields) then service the air cleaner more frequently. Under extreme continually dusty and dirty conditions where the vehicle operates in clouds of dust and dirt, service the air cleaner daily.

To service the unit, first remove the element by removing the three clamps from the bottom cover. Then tap the element to remove accumulated dust. Reinstall the unit.

Replace the element each 12,000 miles.

Ignitor

The ignitor is composed of the distributor and ignition coil. Apply 5 drops of engine oil to the felt in top of cam. Apply one drop of light

oil to breaker arm pivot pin, operate arm once or twice and remove excess oil. Apply light film of grease to breaker cam.

Steering Gear

Check the lubricant level in the steering gear housing monthly to be sure that the lubricant is at the

filler plug opening level. Add lubricant as required.

Replace filler plug.

Propeller Shafts

The propeller shaft universal joints and slip joints are equipped with lubrication fittings. Lubricate

U-joints until lubricant is visible coming out each of the four bearing seals.

Front Axle Steering Knuckles

The front axle steering knuckles are enclosed in housings which are filled with lubricant. Check each 1000 miles to be sure the housings are filled to plug level. Each 12,000

miles the axle shafts and universal joints should be removed and thoroughly cleaned and the housings filled with fresh lubricant.

Wheel Bearings

The wheel bearings should be removed, thoroughly cleaned,

checked and repacked every 12,000 miles.

Brake Master Cylinder

Check the fluid level in the brake master cylinder every 1000 miles. Clean the top of the filler cap and housing area. Replenish the brake fluid to a level $\frac{1}{2}$ " below

the top of the fill hole. Use brake fluid conforming to specification VV-B-680. Replace and tighten filler cap.

Transmission

Check the oil level every week by removing the fill plug located on the right side of the transmission housing. Lubricant should be

level with fill hole. Add lubricant as required and replace fill plug. Drain and refill every 12,000 miles.

Transfer Case

Check the oil level every week by removing the fill plug located on the left side of the transfer case. Lubricant should be level with the

fill hole. Add lubricant as required and replace fill plug. Drain and refill every 12,000 miles.

Differentials

Check the level in the differential housings every week. Lubricant should be level with the filler plug

openings. Add lubricant as required and replace filler plug. Drain and fill each 12,000 miles.

Body

At each 6000 miles use a greaseless lubricant sparingly on the door lock striker plates. At each 12,000 miles lubricate the following: door

and window weatherstrips; door latch rotors; door, tailgate, and hood hinge pivots.

PARTS REQUIRING NO LUBRICATION

Springs

The vehicle springs should not be lubricated. At assembly the leaves are coated with a long-lasting special lubricant designed to last the life of the springs. Spraying with the usual mixture of oil

and kerosene has a tendency to wash this lubricant from between the leaves, making it necessary to relubricate often to eliminate squeaking.

Water Pump and Clutch

The water pump and clutch release bearings are prelubricated for

life when manufactured and cannot be relubricated.

Starting Motor

The starting motor bearings are lubricated at assembly to last be-

tween normal rebuild periods.

Alternator

The alternator bearings, lubricated at assembly require no fur-

ther lubrication.

Shock Absorbers

Hydraulic direct-action shock absorbers are permanently sealed and require no periodic lubrication serv-

ice. Shock absorber mounting bushings are not to be lubricated.

PREVENTIVE MAINTENANCE SCHEDULE

In order to maintain your vehicle in top condition, the following operations should be performed at the vehicle mileage shown in addition to the services recommended in the lubrication chart.

When vehicles are driven primarily in abnormally dusty or wet

and dirty areas, it becomes increasingly important to perform these services more frequently. Under these conditions, no definite interval can be recommended because of the great variety of uses and conditions of use.

Maintenance Operations (1,000 Miles)

Check Brake Fluid Level
Check Cooling System

Check Batteries

Maintenance Operations (6,000 Miles)

Check Lights & Controls
Lubricate Door Latch Striker Plates
Replace Engine Oil Filter
Clean and Inspect Air Cleaner
Service Fuel Filter

Tune Engine
Rotate Tires
Adjust Clutch
Adjust Fan Belts
Clean Exterior of Radiator

Maintenance Operations (12,000 Miles)

Clean Positive Crankcase Ventilating Valve and Breather
Clean Body & Door Drain Holes
Lubricate Door & Window Weatherstrips
Lubricate Door Latch Rotors
Lubricate Tailgate Hinges
Lubricate Door Hood Hinge Pivots
Align Headlights
Check Brake Linings

Check Exhaust System for Leaks
Check Rear Axle U-Bolt Torque
Check Shock Absorber Mountings and Bushings
Check Front and Rear Spring Bushings
Change Spark Plugs
Check Charging and Starting Circuits
Replace Air Cleaner Element

PREVENTIVE-MAINTENANCE SERVICES

General

The purpose of preventive-maintenance services is to detect first signs of electrical and mechanical failures of assemblies in the vehicle, and to insure that appropriate corrective action is taken before expensive and time consuming repairs or replacements are required. The

Responsibility

Operators and crew chiefs are charged with personal responsibility for assigned vehicles. Squad, section, and platoon leaders are charged with supervisory responsibility for vehicles pertaining to their commands. Unit and organi-

system of preventive-maintenance services is based on frequent inspections and services accomplished by operators, company battalion, or regimental maintenance personnel under active supervision by all commanders and leaders.

zation commanders are required to insure that vehicles issued or assigned to their commands are properly maintained in a serviceable condition, and that they are properly cared for and used.

Intervals

The mileage that a vehicle travels is the principal criterion for the frequency of preventive-maintenance service. Operation under adverse conditions, such as extreme temperature, dust, or mud, may require preventive-maintenance services to be performed more fre-

quently. Reduce intervals between preventive-maintenance services when environmental conditions indicate the need. Do not extend intervals between preventive-maintenance services, except when authorized to do so.

General Procedures for all Services and Inspections

a. The following general procedures apply to operator's preventive-maintenance services and to all inspections, and are just as important as the specific procedures.

b. Inspections to see if items are in good condition, correctly assembled or stored, secure, not excessively worn, not leaking, and adequately lubricated apply to most items in the preventive-maintenance and inspection procedures. Any or all of these checks that are pertinent to any item (including

supporting, attaching, or connecting members) will be performed automatically, as general procedures, in addition to any specific procedures given.

(1) Inspection for good condition is usually visual inspection to determine if the unit is safe or serviceable. Good condition is explained further as meaning: Not bent or twisted, not chafed or burned, not broken or cracked, not bare or frayed, not dented or collapsed, not torn or cut, not deteriorated.

(2) Inspection of a unit to see if it is correctly assembled or stored is usually a visual inspection to see if the unit is in its normal position in the vehicle and if all its parts are present and in their correct relative position.

(3) Excessively worn is understood to mean worn beyond serviceable limits or likely to fail, if not replaced before the next scheduled inspection. Excessive wear of mating parts or linkage connections is usually evidenced by too much play (lash or lost motion). It includes illegibility as applied to markings, data and caution plates, and printed matter.

c. Where the instruction "tighten" appears in the procedures, it means tighten with a wrench, even if the item appears to be secure.

d. Such expressions as "adjust if necessary" or "replace if necessary" are not used in the specific procedures. It is understood that whenever inspection reveals the need of adjustments, repairs, or replacements, the necessary action will be taken.

e. Any special cleaning instructions required for specific mechanisms or parts are contained in the pertinent section. General instructions are as follows:

- (1) Use drycleaning solvent or mineral spirits paint thinner to clean or wash grease or oil from all parts of the vehicle.
- (2) A solution of one part grease-cleaning compound to four parts of drycleaning solvent or mineral spirits paint thinner may be used for dissolving grease and oil from engine block, chassis, and other parts. Use cold water to rinse off any solution which remains after cleaning.

(3) After the parts are cleaned, rinse and dry them thoroughly. Apply a light grade of oil to all polished metal surfaces to prevent rusting.

(4) When authorized to install new parts, remove any preservative materials such as rust-preventive compound, protective grease etc; prepare parts as required (oil seals etc.); and for those parts requiring lubrication, apply the lubricant prescribed in the lubrication order.

f. *General precautions in cleaning are as follows:*

- (1) Drycleaning solvent or mineral spirits thinner is flammable and should not be used near an open flame. Fire extinguishers should be provided when this material is used. Use only in well ventilated places. Battery ground should be disconnected and taped.
- (2) This cleaner evaporates quickly and has a drying effect on the skin. If used without gloves, it may cause cracks in the skin and, in the case on some individuals, a mild irritation or inflammation.
- (3) Avoid getting petroleum products, such as drycleaning solvent or mineral spirits paint thinner, engine fuels, or lubricants on rubber parts as they will deteriorate the rubber.
- (4) The use of diesel fuel oil, gasoline or benzene (benzol) for cleaning is prohibited.

g. Nameplates, caution plates, and instruction plates made of steel, rust rapidly. When plates are found in a rusty condition, they should be thoroughly cleaned and heavily coated with an application of clear lacquer.

Daily Preventive-Maintenance Service

Each vehicle will be inspected and serviced by its assigned operator and crew each day that it is operated. The service is divided into three parts:

a. Before-Operation Service. This service is performed on the vehicle to ascertain whether the vehicle is ready for operation and if conditions affecting the vehicle's readiness have changed since the last after-operation service.

b. During-Operation Service. This service consists of detecting any unsatisfactory performance. While

driving, the driver or crew should be alert for any unusual noises or odors, abnormal instrument readings, steering irregularities, or any other indications of malfunction of the vehicle. Every operation should be considered a test and any unusual or unsatisfactory performance noted.

c. After-Operation Service. This is the basic daily service for tactical vehicles. It consists of correcting, so far as possible, any operating deficiencies. Thus the vehicle is prepared to operate at a moment's notice.

Specific Procedures for Operator

Follow the procedures listed in table I, preventive-maintenance

checks and services, in the numerical order given.

Table I. Preventive Maintenance Check and Service
Operator's Daily Schedule

Interval and sequence No.			Items to be inspected	Procedure
Before operation	During operation	After operation		
1	Oil and coolant	Check oil and coolant levels. Check spare containers for contents.
2	Water pump, fan belts, and pulleys.	Inspect pulleys and fan for alignment and belt for tension. Inspect water pump for leaks.
3	Engine compartment	Inspect engine compartment for indications of fuel, engine oil, and water leaks. Look under the vehicle for indications of leaking gear oil or brake fluid.
*4	Batteries and electrical wiring.	Remove battery filler caps and check electrolyte level. Inspect, clean, and tighten terminals as required. Inspect battery cables, electrical wiring, conduits, connectors and shielding.
5	20	Tires	Note any apparent loss of air. Remove penetrating objects such as nails or glass. Note unusual wear or missing valve caps. NOTE: If necessary, inflate tires for cross-country or highway driving and for mud, sand, or snow operations, as specified.

*Operations on batteries to be performed weekly.

Table I. Preventive Maintenance Check and Service — Continued
Operator's Daily Schedule

Interval and sequence No.			Items to be inspected	Procedure
Before operation	During operation	After operation		
6	.....	.....	Fire extinguisher	Visually inspect fire extinguisher (on vehicles so equipped) and vehicle publications. Note if fire extinguisher is charged and sealed.
7	.....	.....	Tools and equipment	Inspect vehicular tools and equipment for general conditions and proper stowage.
8	.....	21	Vehicle body	General condition of body to include check for tampering or damage that may have occurred since last inspection. Inspect doors, windows, pintle, reflectors and lifting shackles.
9	.....	.....	Cab, doors, glass, top and frame, curtains and fasteners, seats and paint.	Inspect cab or body mountings, including springs. Test operation of doors, windows, hood hinges and fasteners. Observe seat mountings and upholstery. Inspect the litter racks and operation of personnel heater (Ambulance Truck M-725). Generally inspect body, glass, panels, tops, fenders, running boards, tailgate, chains, stakes, bows, paulins, and radiator and lamp guards. Examine condition of paint and legibility of markings and identification and caution plates.
10	17	.....	Lights, horn, blowers, and heater.	If tactical situation permits, operate horn and windshield wipers. Inspect rear view mirrors. Check operation of exterior lights and light switches. Note whether the headlights appear to be properly aimed. Note condition of all lights and reflectors. Test the spotlight switch and handle for proper operation (Ambulance Truck M-725). Test operation of surgical light, dome light, blowers and heater (Ambulance Truck M-725).
11	18	.....	Service brake pedal and hand brake lever.	Check service brake for proper pedal travel and hand brake for proper adjustment. (Correct service brake free travel is $\frac{1}{2}$ -inch). See references for hand-brake adjustments.
12	.....	.....	Starter and starter switch.	With the ignition off, note if the starter switch, requires more than normal pressure, and if the starter engages smoothly without unusual noise and turns the engine with adequate cranking speed. With ignition switch on, start engine.
13	19	.....	Engine: idle, acceleration, power, noise.	CAUTION: If there is excessively low or no indications of engine oil pressure after a time lapse (10 seconds max.) stop engine and determine cause. In warming up engine, observe if the choke control operates satisfactorily. Note if idling speed is correct. Listen for any

Continued next page

Table I. Preventive Maintenance Check and Service — Continued
Operator's Daily Schedule

Interval and sequence No.			Items to be inspected	Procedure
Before operation	During operation	After operation		
14	Exhaust pipe and muffler.	unusual noises at idle and higher speeds. When operating the vehicle, note if it has normal power and acceleration in each speed range. Listen for any unusual noises when the engine is under load. NOTE: Investigate and correct any operating deficiencies as they occur, if beyond the scope of the driver, report them to individuals in authority immediately.
		22	Temperature of brake drums, hubs, axles, transmission, transfer, differential.	During engine warm up, listen for excessive or unusual noises and look for exhaust leaks. Immediately after the road test, feel these units cautiously. WARNING: Full floating hypoid axles operate quite hot. If lubricant levels are correct and no unusual noises were observed during road test, assume axles are functioning properly. Do not touch hypoid axle with bare hand after vehicle has been operated a considerable distance, serious burns may result. An overheated wheel hub and brake drum indicates an improperly adjusted, defective or dry wheel bearing or a dragging brake. An abnormally cool condition indicates an inoperative brake. An overheated gear case indicates lack of lubrication, adjustment, or defective parts.
		23	Radiator and cap.	Inspect radiator core for clogging with foreign matter or if fins are bent. Check gasket in the pressure cap. Observe coolant level and examine for contamination. In cold weather, test coolant with hydrometer to see if it contains sufficient antifreeze. WARNING: If it is necessary to add coolant to the radiator while engine is overheated, idle engine and add coolant slowly. Use extreme care in removing pressure cap as serious burns may result.
		24	Winch cable	Clean and oil winch cable in accordance with the current lubrication order.
15	Lubricate	Lubricate daily items specified on lubrication order.
16	25	Clean	Wash vehicle, clean inside of cab, glass, and mirror. Clean engine and engine compartment as required.
17	26	Fuel	Fill fuel tank as necessary.

MAINTENANCE

Periodic Inspection

Proper maintenance demands that a thorough service inspection and lubrication be given each 1000 miles of operation. Such an inspection consists of a careful road test and examination to locate and analyze any small faults that may have developed. The prompt correction

of minor faults thus discovered will go far toward reducing maintenance and delays in operation.

The following paragraphs outline methods of making minor adjustments and also suggestions covering preventive maintenance.

Engine Tune-Up

An engine tune-up should be performed each 6000 miles to ensure best possible performance and dependability at all times.

Proper tune-up procedure should include the following:

Clean and tighten the battery cable terminals, battery ground cable and engine ground strap.

Remove and clean spark plugs. Adjust electrode gap to .030".

Remove ignitor cover and inspect distributor points. Adjust the points to .020".

Check the ignition timing.

Visually check all fuel lines.

Check valve rocker arm clearance.

Remove and clean the ventilator valve, hose and fittings.

Start the engine and allow it to run until operating temperature is reached. Set the throttle adjusting screw so the engine will idle at 590 to 600 rpm.

Adjust the carburetor low-speed idle screw so the engine will idle smoothly.

Engine Compression

Correct engine compression is necessary for proper operation of the engine. Poor compression can result in loss of engine power and misfiring of the engine at low

speeds. Poor compression can result from a faulty cylinder head gasket, one or more improperly fitted pistons or piston rings, or improper seating of the valves.

Engine Mountings

The rubber engine mountings, which are attached to the frame side rails, prevent fore-and-aft motion of the engine, yet allow free sidewise and vertical oscillation

which neutralizes vibrations at the source. Keep the mountings tight. A loose engine mount may cause vibration.

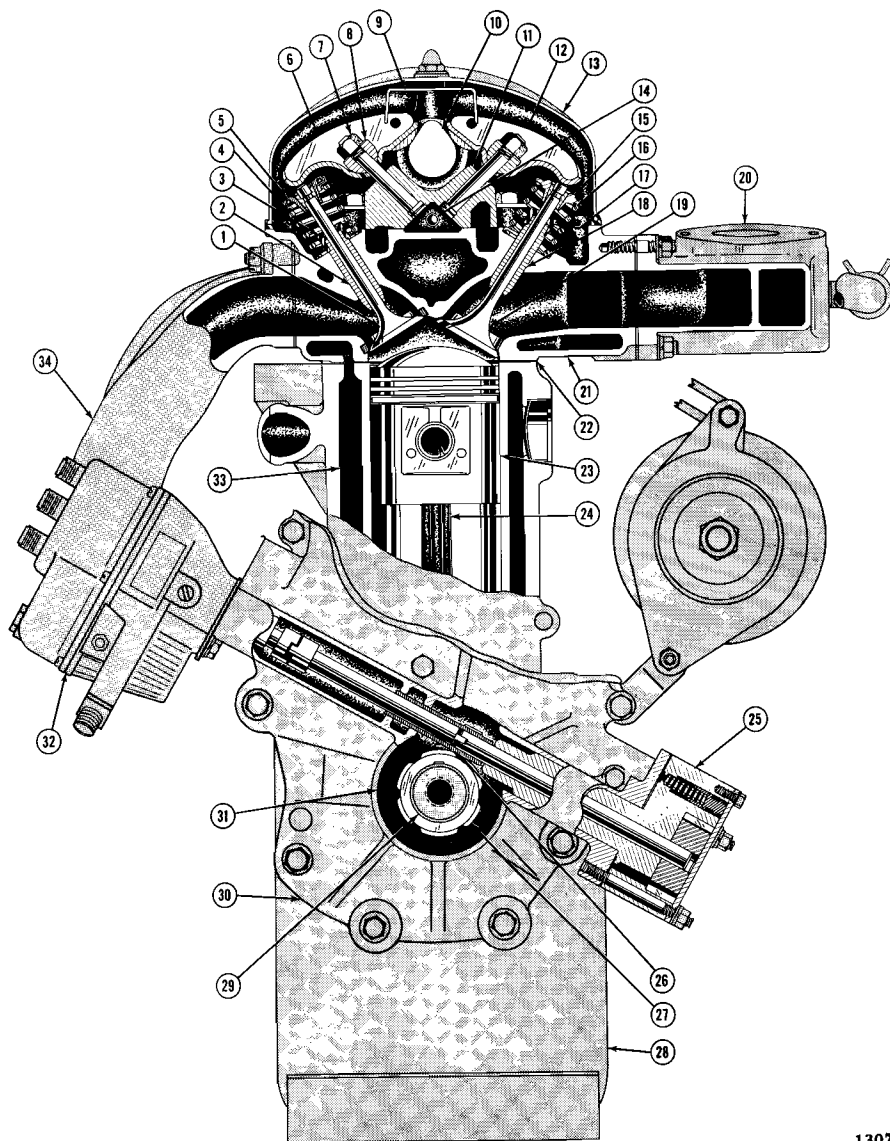


FIG. 12—ENGINE SECTIONAL VIEW

- | | |
|---------------------------------|--------------------------------|
| 1—Exhaust Valve | 18—Intake Valve Guide |
| 2—Exhaust Valve Guide | 19—Intake Valve |
| 3—Valve Guide Seal | 20—Intake Manifold |
| 4—Valve Spring | 21—Cylinder Head |
| 5—Exhaust Valve Rotator | 22—Cylinder Head Gasket |
| 6—Exhaust Rocker Arm | 23—Piston |
| 7—Rocker Arm Stud | 24—Connecting Rod |
| 8—Rocker Arm Ball | 25—Oil Pump |
| 9—Rocker Arm Guide | 26—Oil Pump Driven Gear |
| 10—Camshaft | 27—Oil Pump Drive Gear |
| 11—Cam Bearing Support Deck | 28—Oil Pan |
| 12—Intake Rocker Arm | 29—Crankshaft |
| 13—Rocker Arm Cover | 30—Timing Chain Cover |
| 14—Lubrication Pipe | 31—Timing Chain Cover Oil Seal |
| 15—Intake Valve Spring Retainer | 32—Ignitor |
| 16—Valve Spring | 33—Cylinder Block |
| 17—Valve Guide Seal | 34—Exhaust Manifold |

Valve Rocker Arm Clearance

The valve rocker arm clearance should be set as follows:

Intake Valves.....008"
Exhaust Valves.....008"

Positive Crankcase Ventilation

The crankcase ventilating system provides thorough, positive ventilation which removes the products of combustion from the crankcase. An improperly operating ventilating system can contribute to rough idling, power loss, and the formation of sludge and varnish in the engine. This valve is easily removable for cleaning purposes. Clean by dipping into solvent and

blowing compressed air through the small end; this is the end that normally tends to accumulate deposits. Remove and clean the hose and fittings. Check the oil filler cap gasket to make sure it is providing a tight seal of the system. The positive crankcase ventilating system should be serviced at every engine tune-up.

13071

FUEL SYSTEM

The fuel system consists of the fuel tank, fuel lines, fuel filter, fuel pump, carburetor and air cleaner.

Care and maintenance of the air cleaner are covered in the lubrication section.

The most important maintenance checks are to keep the system clean and free of water, and to periodically inspect for leaks.

Should the engine fail to start when cranked by the starting motor, the trouble may be in the fuel system. To locate the trouble, first check the fuel gauge to be sure the fuel tank is not empty. If the fuel tank is not empty, check further to see if fuel is reaching the carburetor. Disconnect the fuel line at the carburetor. Place a container under the open line and briefly crank the engine with the starting motor. If fuel spurts from the end of the line, the fuel lines are clean and the fuel pump is operating properly.

If no fuel leaves the disconnected fuel line, the trouble is in the fuel line, fuel filter, or fuel pump. Clean the fuel pump filtering screen and sediment chamber. (See Fuel Pump.) Check fuel lines for kinks or sharp bends. Check fuel filter in line between pump and carburetor.

If fuel is reaching the carburetor the cylinders or manifold may be flooded with fuel. Flooding may usually be detected by a strong odor of fuel at the tail pipe or engine. Flooding is often the result

of excessive use of the choke control while attempting to start the engine, or repeated operation of the accelerator pedal before attempting to start the engine. To eliminate flooding push the choke control all the way in, hold the accelerator pedal all the way down, and crank the engine with the starting motor.

Should a hot engine stop, the trouble may be caused by vapor lock. Vapor lock is the vaporization of the fuel before it enters the carburetor. Allow the engine to cool, then restart it.

Should the vehicle be stored for an extended period, the fuel system should first be completely drained and the engine started and allowed to run until the carburetor is emptied. This will avoid oxidation of the fuel, resulting in the formation of gum in the units of the system.

Gum formation is similar to hard varnish and can cause trouble. It may cause the fuel pump valves or the carburetor float valve to become stuck, or possibly block the filter screen. Gum formation can be dissolved by acetone or a good commercial fuel system solvent.

In extreme cases, it will be necessary to disassemble and clean the fuel system, however, one pint of acetone placed in the fuel tank with about one gallon of gasoline will usually dissolve any deposits as it passes through the system with the fuel.

proper fuel and air mixtures at all engine speeds.

The chief cause of faulty car-

buretor operation is the accumulation of dirt and water. Usually poor engine performance is not caused by the carburetors. *Do not disturb the carburetor until it is proven that the trouble is not elsewhere.* There are two adjustments on the carburetor, one for idle mixture and the other for idle speed. To make the idle speed adjustment (curb idle), proceed as follows:

- Run engine until it reaches normal operating temperature.
- Push choke all the way in.
- Turn on headlights.
- Adjust the idle mixture screw to obtain the highest rpm. While making the adjustment, carefully watch the tachometer and notice that the speed can be decreased by turning the screw in either direction from the setting that gave the highest rpm. reading.
- From the highest idle speed setting, turn the idle mixture screw clockwise (leaner) until the speed starts to drop. Turn the screw in the opposite direction (counterclockwise) just far enough to recover the speed that was lost. Since the correct speed was originally set by adjusting the speed screw, the speed obtained after finding the leanest smooth idle setting will probably be too fast.

- Readjust the speed screw to obtain correct idle speed.

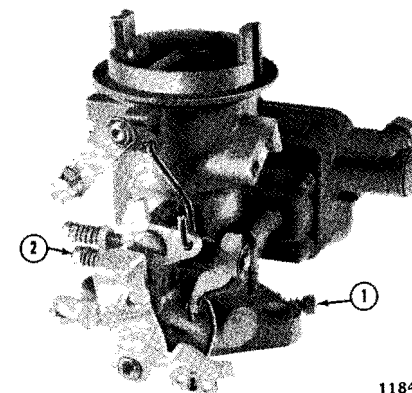
To set the fast idle speed, connect a tachometer, then proceed as follows:

- Adjust the choke wire to provide maximum operation of the choke lever when the choke knob is pushed in or pulled out. With the engine shut off and the choke con-

trol pushed all the way in (choke plate open) adjust fast idle screw to obtain .030" between the end of the screw and the cam.

Lack of gasoline in the carburetor may be caused by the following conditions:

- Gasoline tank empty.
- Leaking tube or connections.
- Bent or kinked tubing.
- Sediment chamber cover on fuel pump loose.
- Clogged (or frozen) fuel lines.
- Dirty fuel filter.
- Carburetor inlet valve stuck.



11843

FIG. 13—CARBURETOR

- 1—Idle Mixture Screw
2—Idle Speed Screw

Should the carburetor flood, check to make certain that the needle valve is seating properly and that the float is not stuck.

An air leak in the carburetor gasket can cause the engine to misfire at low speeds. Replace faulty gaskets. Make sure carburetor attaching bolts are tight.

Carburetor

The carburetor is the single downdraft type. It is a precision instrument designed to deliver the

Fuel Pump

The fuel pump is a double action diaphragm-type operated from an eccentric on the camshaft.

Should trouble develop, check all fuel hose connections for leaks with the engine running. Tighten any loose connections. Inspect for leaks at pump diaphragm flange. Tighten cover screws alternately and securely.

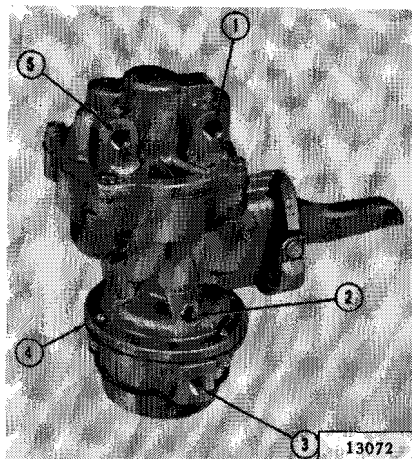


FIG. 14—FUEL PUMP

- 1—Vacuum Outlet
- 2—Vent Plug Connection
- 3—Fuel Outlet
- 4—Fuel Inlet
- 5—Vacuum Inlet

Fuel Tank

Care should be used, when filling the tank, that no foreign matter or water enters the tank. Once each season, at a time when the fuel

supply is low in the tank, remove the drain plug in the bottom to drain out sediment and water which will have accumulated.

Fuel Screen

The fuel filler neck has a cone-shaped mesh fuel screen. This screen resists the passage of foreign matter into the fuel tank. Once

each spring and fall remove the filter from the filler neck and clean the sediment from the filter.

EXHAUST SYSTEM

The exhaust system consists of the exhaust pipe, muffler, tail pipe, and support straps. Periodically check the system for dents, rust, and loose or broken support straps. A severe dent in any part of the

system can cause loss of engine power. Complete stoppage of the system, caused by a severe dent, or by a plugged tail pipe, can make the engine inoperative.

COOLING SYSTEM

General

The purpose of the cooling system is to maintain the most efficient engine operating temperature

under all weather and all driving conditions. The coolant in the water passages of the cylinder head

and cylinder block absorbs heat generated in the engine. The water pump circulates the coolant through the radiator, where the coolant is cooled by the air stream from the fan. The radiator pressure cap, in addition to providing a seal for the radiator filler neck opening, also controls the pressure in the system. The thermostat controls engine temperature by controlling the flow of coolant.

Maintenance information on the cooling system components is given in the following pages.

Radiator

Radiator maintenance consists of keeping the exterior of the radiator core clean, the interior free from rust and scale, and the radiator free from leaks. The exterior of the radiator core should be cleaned and the radiator inspected for leaks each 1000 miles of normal service. If the vehicle is subjected to considerable off-the-road operation, this should be performed more frequent.

Radiator Hoses

Examine radiator hoses spring and fall for possible need of replacement or tightening. Hoses that are collapsed, cracked, or indicate a soft condition on the inside should be replaced.

When installing a hose, clean pipe connections and apply a thin

Radiator Pressure Cap

The pressure cap helps to prevent coolant evaporation. It should never be replaced by a nonpressure type. The pressure cap, which maintains pressure in the cooling system (13 lbs.), makes the engine more efficient by permitting a slightly higher operating temperature. Vacuum in the radiator is

Should the temperature gauge indicate that the engine is hot, stop the engine and investigate. Make the following checks in the order given by referring to the appropriate paragraphs.

- Check oil level in engine crank-case.
- Check coolant level.
- Check for slipping fan belt.
- Check for a clogged radiator.
- Check for a faulty thermostat.
- Check ignition timing.

Cleaning should be performed by blowing out with air stream or water stream directed from the rear of the radiator. Visual inspection is not sufficient as the accumulation of small foreign particles on the core surfaces can restrict cooling without completely closing the core openings. Examine the radiator carefully for leaks before and after cleaning.

layer of nonhardening sealing compound. Hose clamps should be properly located over the connections to provide secure fastening. (The pressurized cooling system can blow off improperly installed hoses.)

relieved by a valve in the cap which operates at $\frac{1}{2}$ to 1 psi. vacuum.

To remove the radiator pressure cap when the engine coolant temperature is high or boiling, place a cloth over the cap and turn counterclockwise about $\frac{1}{4}$ turn until the first (pressure release)

stop is reached. Keep the cap in this position until all pressure is released. Then, push cap down and turn still further until cap can be removed.

To install, place the cap in position and turn it clockwise as far as it will go.

If necessary to replace the pressure cap, the replacement cap should have the same pressure rating as the original cap. Using a cap with a higher rating may cause cooling system leakage, or a cap with a lower rating can result in excessive overflow loss of coolant.

Draining & Filling the Cooling System

Remove the pressure cap and open both drains to completely drain the cooling system. A drain cock is located at the bottom of the radiator, and a drain plug on the left side of the cylinder block behind the starter. To fill the cooling system, remove the pressure cap and fill the tank from the top. Replace the cap and run the engine approximately one minute.

Thermostat

The cooling system is designed to provide adequate cooling under most adverse conditions. However, it is necessary to employ some device to provide quick warming and to prevent overcooling during normal operation. Automatic control of engine operating temperature is provided by a coolant flow control thermostat installed in the thermostat housing on top of the front end of the intake manifold. The thermostat is a heat-operated valve. It should always be in work-

Water Pump

The water pump is mounted on the timing chain cover and is driven by V-belts. The water pump bear-

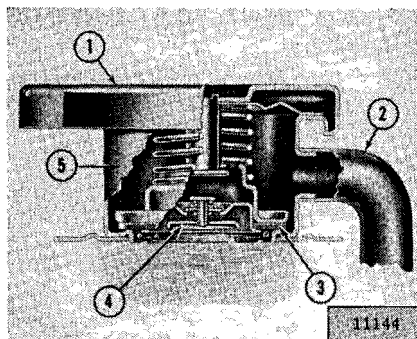


FIG. 15—RADIATOR PRESSURE CAP

Remove the cap and recheck the coolant level. Add coolant if necessary to bring the level to the top of the tank. If the cooling system is filled when the engine is cold, recheck the coolant level after the engine has reached operating temperature. This will ensure that the thermostat has opened, allowing complete cooling system circulation.

ing order and the vehicle should never be driven without one installed, as there would then be no control of engine temperature. The temperature at which the thermostat opens is preset and cannot be altered. If the thermostat is faulty, it must be replaced. Should sudden heating of the cooling system occur, the thermostat should be checked first. As a check, remove the thermostat and if overheating is eliminated, install a new one of the same type and rating.

ing acts as the cooling fan bearing, as the cooling fan is mounted on the water pump drive pulley and

shaft. The impeller of the water pump fits into a recess in the timing chain cover. It discharges coolant into the cylinder block through

Fan Belts

The fan and alternator are driven by three matched V-belts. The drive of a V-belt is on the sides of the V. Fan belts too tight will cause rapid wear of the alternator and water pump bearings. If loose, they may slip, preventing the water pump or the alternator from operating properly.

Inspect the fan belts for serviceability and proper tension.

If necessary to replace one belt, then all three belts must be re-

Cold Weather Precautions

In regions where winter temperatures can be expected to drop below 32° F. precautions must be taken to prevent freezing of the coolant. Without the protection of sufficient anti-freeze solution added, water in the cooling system will freeze and expand, possibly bursting the radiator and the cylinder block.

It is important that the cooling

a port in the timing chain cover.

The water pump is serviced only as a unit. If defective, the entire unit should be replaced.

placed as they are a matched set.

To replace the fan belts, loosen the clamp bolt on the alternator brace and swing the alternator toward the engine until sufficient clearance is obtained to install the new belts. Position the new belts over the fan pulley, over the crankshaft pulley, then over the alternator pulley. Pull the alternator away from the engine until the belt tension is firm. Tighten the clamp bolt and check the belt tension.

system be made leakproof before installing any anti-freeze solution. Be sure that hose connections are tight and that the hoses are in good condition. Should there be doubt regarding the condition of either, replace them.

Immediately after adding anti-freeze, run the engine a few moments to thoroughly mix the solution.

ELECTRICAL SYSTEM

General

The major electrical systems are the starting system, ignition system, charging system, lighting system and electrical instruments.

The starting system cranks the engine. The starting switch energizes the starting motor solenoid. The solenoid is an electrical switch for the starting motor which automatically "kicks-out" when the engine starts. The starting motor drives the engine flywheel.

The ignition system furnishes the

spark to the combustion chamber to ignite the fuel mixture. The ignition switch opens and closes the circuit. The ignitor, composed of the ignition coil and distributor, combines the functions of these two components into a single unit. The ignition coil produces high secondary voltage while the distributor makes and breaks the primary circuit and distributes the high tension current in the secondary circuit. Spark plugs provide the spark to

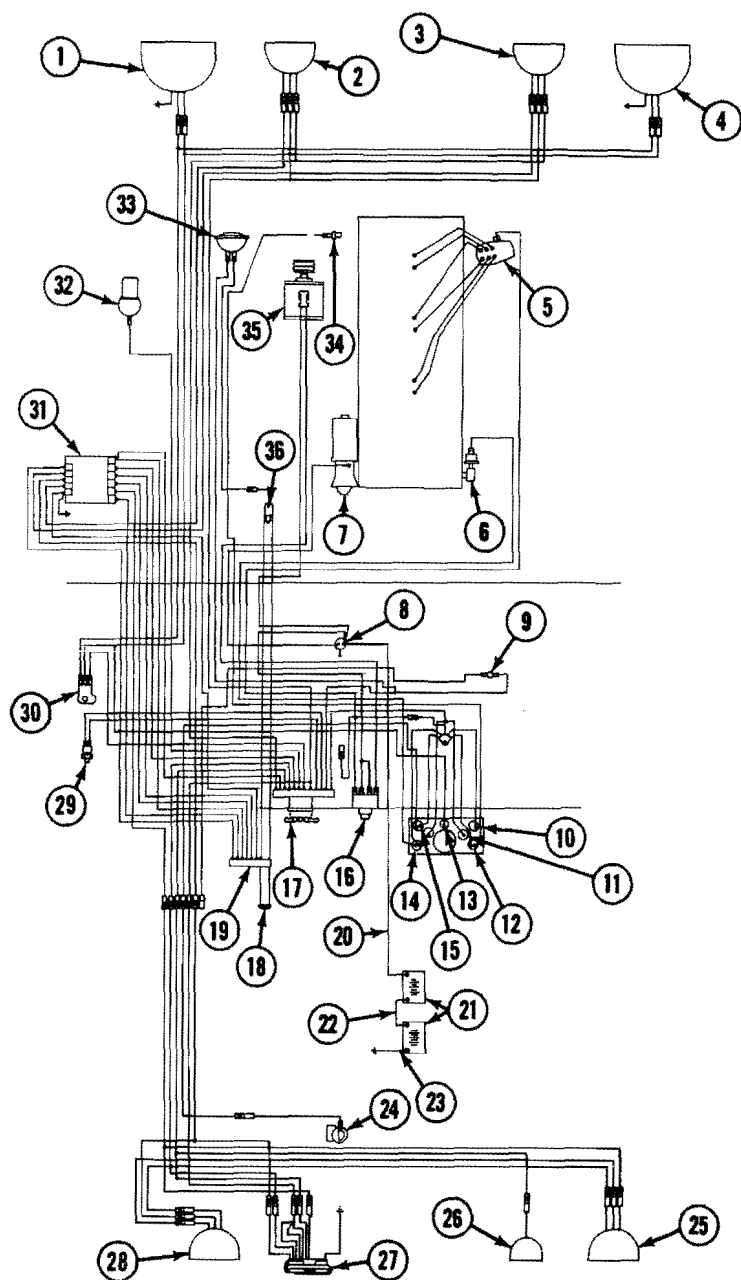


FIG. 16—WIRING DIAGRAM

13073

REFERENCES FOR FIG. 16—WIRING DIAGRAM

- | | |
|--------------------------------|--|
| 1—Left Headlamp | 19—Directional Signal Switch |
| 2—Left Blackout Marker Lamp | 20—Positive Cable To Starter Switch |
| 3—Right Blackout Marker Lamp | 21—Batteries |
| 4—Right Headlamp | 22—Battery Jumper Positive to Negative |
| 5—Ignitor | 23—Negative Cable To Ground |
| 6—Oil Pressure Sending Unit | 24—Fuel Gauge Tank Unit |
| 7—Starting Motor | 25—Right Taillamp |
| 8—Foot Starter Switch | 26—Right Blackout and Stop Lamp |
| 9—Circuit Breaker | 27—Intervehicular Receptacle |
| 10—Battery-Generator Indicator | 28—Left Taillamp |
| 11—Panel Light | 29—Stoplight Switch |
| 12—Temperature Gauge | 30—Foot Dimmer Switch |
| 13—Hi-Beam Indicator | 31—Distribution Box |
| 14—Oil Pressure Gauge | 32—Blackout Driving Lamp |
| 15—Fuel Level Gauge | 33—Horn |
| 16—Ignition Switch | 34—Temperature Sending Unit |
| 17—Light Switch | 35—Alternator |
| 18—Horn Button | 36—Horn Switch |

the combustion chamber. The high tension wiring is an important part of this system.

The charging system consists of the alternator, ignition switch, battery generator indicator, and two 12-volt batteries hooked up in series to produce a 24-volt system. The batteries furnish current for starting the engine or operating at idle speed. The alternator furnishes current (both to operate the other

systems and to recharge the batteries) at higher speeds. The voltage regulator controls the output of the alternator.

The lighting system consists of switches, lamp bulbs and their sockets and wiring. The wiring for the lighting system is shown in the wiring diagram. The lighting circuit is protected by an overload circuit breaker.

Batteries

CAUTION: DUE TO THE CHARACTERISTICS OF AN ALTERNATOR, CHARGING CIRCUIT SERVICING CAN BE DANGEROUS TO THE VEHICLE'S ELECTRICAL SYSTEM, THE ALTERNATOR ITSELF, AND EVEN THE INDIVIDUAL, IF LEFT IN THE HANDS OF THE INEXPERIENCED WORKER. PARTICULARLY IMPORTANT IS THE POLARITY OF THE ALTERNATOR AND BATTERY: THAT THESE POLARITIES MATCH-UP, AND THAT ANY BOOSTER BATTERY OR BATTERY CHARGER ATTACHED TO THE VEHICLE'S BATTERY BE ATTACHED POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE; OTHERWISE, THERE IS A DANGER OF BURNING OUT THE DIODES IN THE ALTERNATOR OR THE WIRING.

The batteries, located between the driver's and passenger's seats are secured in place by a two-piece holddown frame and four mounting bolts.

Keep the battery terminals and cables clean and tight. A light coat of chassis lubricant applied at the terminals will reduce corrosion. Occasional cleansing around the terminals with soda solution or ammonia will prevent accumulation of corrosive deposits. Do not allow grease, soda or ammonia to get into the battery cells. Keep the cell caps in place and sealed during the cleaning.

Check the batteries every 1000 miles with a hydrometer and at the same time check the electrolyte level in each cell; add distilled water to maintain the solution level $\frac{3}{8}$ " above the plates. Avoid overfilling and do not fail to replace the filler caps and tighten securely.

If the plates are exposed for any length of time, they can be seriously damaged; therefore, it is important to add enough water to keep the plates covered.

A hydrometer reading of 1.260 indicates that the battery is fully charged. Should the reading fall below 1.225, it will be necessary to recharge the battery or else use the lights and batteries sparingly until the batteries have had the opportunity to build up again.

Should the engine not turn over when the ignition is turned on and the starter is depressed, the batteries may be discharged. If so, lights will be dim and the horn will have a weak tone or none at all.

The engine also will not turn over if the battery cables are broken or defective or if the cable connections at the starting motor

Engine Ground Strap

The rubber engine mountings partially insulate the engine from the frame. To assure a positive electrical connection, a ground strap is provided from rear of transmission area to left frame side rail.

Alternator

The alternator produces a charging current whenever the engine is operating, which should be sufficient to continuously charge the battery under normal electrical loads. The alternator has sealed bearings that require no lubrication, and will seldom need service except for an occasional check of the charging circuit.

CAUTION: DUE TO THE CHARACTERISTICS OF AN ALTERNATOR, CHARGING CIRCUIT SERVICING CAN BE DANGER-

solenoid or at ground are loose. Defective cables must be replaced; loose connections cleaned and tightened.

Warning: Do not allow flames or sparks to be brought near the vent openings of the batteries since hydrogen gas, produced in the course of the batteries normal operation in the vehicle, may be present in the batteries and might explode. The liquid in the batteries is a solution of sulphuric acid which, if accidentally spilled on the skin or splattered in the eyes should, as a first-aid measure, be flushed away promptly with quantities of clear water only. Seek medical aid if discomfort continues. If acid is spilled on the clothes, wet it thoroughly with a weak solution of ammonia, or with sodium bicarbonate or baking soda dissolved in water.

The two attaching screws must be kept tight and the connections clean. A loose or poor connection may result in hard engine starting, low alternator charging rate, or sluggish operation of the starting motor.

POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE; OTHERWISE, THERE IS A

Warning: Do not allow flames or sparks to be brought near the vent openings of the batteries since hydrogen gas, produced in the course of the batteries normal operation in the vehicle, may be present in the batteries and might explode. The liquid in the batteries is a solution of sulphuric acid which, if accidentally spilled on the skin or splattered in the eyes should, as a first-aid measure, be flushed away promptly with quantities of clear water only. Seek medical aid if discomfort continues. If acid is spilled on the clothes, wet it thoroughly with a weak solution of ammonia, or with sodium bicarbonate or baking soda dissolved in water.

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POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE; OTHERWISE, THERE IS A

Ignition Wiring

The ignition wiring includes the spark plug cables and wires between the distributor and ignition coil. The connections should be kept clean and tight. As the spark plug cables are completely water-

Ignitor

The ignitor is composed of the ignition coil and distributor assembly contained in a common housing to ensure the waterproof requirements of the electrical system. The distributor portion of the ignitor delivers the spark to the proper cylinder at the right time. It is operated by a coupling on the oil pump shaft. A mechanical breaker, built in the distributor, opens and closes the primary circuit. The spark advance is controlled by built-in centrifugal weights.

The distributor cap should be kept clean for efficient operation. It should be inspected periodically for cracks, carbon runners, evidence of arcing and badly corroded high tension terminals. If any of these conditions exist, the cap should be replaced.

Inspect the distributor rotor for cracks or evidence of excessive burning at the end of the metal strip. After a rotor has had normal use, the end of the metal strip will become burned. If burning is found on top of the rotor, it indicates the rotor is too short and should be replaced. Usually when this condition is found, the distributor cap segment will be burned on the horizontal face and the cap should also be replaced.

DANGER OF BURNING OUT THE DIODES IN THE ALTERNATOR OR THE WIRING.

proof and the distributor to coil wires are encased in the waterproof ignitor along with the distributor and coil, no maintenance should be required.

Correct distributor point gap is very important. Dirty, burned or pitted points may cause misfiring. Points set too close together or too far apart can also cause the engine to misfire. The distributor points are cleaned and adjusted as part of a good engine tune-up. If their condition is questioned, separate the points and inspect them for being pitted or badly burned. Clean the points with a breaker point file. If the points do not clean up with a few strokes of the file they should be replaced.

Should new contact points be installed they should be aligned so as to make contact at the center of the contact surfaces. Bend the stationary contact bracket to secure correct alignment and then check the gap and timing.

To check the distributor point gap, crank the engine to place the movable point cam follower on the peak of cam and check the point opening, using a feeler gauge. Correct adjustment is .020". If necessary to adjust the points, loosen the stationary point lock screw and turn the eccentric screw as necessary. Tighten lock screw and recheck point opening. Install rotor, reassemble distributor cap and make sure all terminals of primary wire at ignition coil and distributor are clean and tight.

Ignition Timing

Remove all the spark plugs except No. 1. Rotate the crankshaft until No. 1 piston is coming up on the compression stroke which can be determined by resistance in the cylinder.

Remove the spark plug and continue to turn the engine slowly until the notch on the fan drive pulley lines up with the "5 BTC" mark on the timing gear cover. This places the piston in the correct position to set the ignition. Remove the ignitor cover and loosen the locking clamp. Rotate the ignitor assembly until the distributor rotor arm points to No. 1 terminal in the distributor cap and the distributor points just start to break. To advance the timing, turn the ignitor in a clockwise direction; to retard it, turn in a counterclockwise direction. Tighten the clamp screw firmly but do not overtighten it.

The engine firing order is 1-5-3-6-2-4.

After setting the timing, revolve the crankshaft two complete turns to make sure all backlash is elimin-

ated. Again check the timing to the "5° BTC" mark.

Ignition must be accurately set to obtain maximum engine efficiency. The above information is given only to enable the operator to place the vehicle back in service should trouble develop. At the first opportunity, have the setting checked with a neon timing lamp. This lamp can also be used to check the automatic spark advance operation by accelerating the engine.

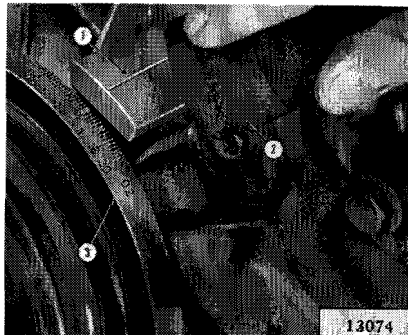


FIG. 17—TIMING MARKS

- 1—Timing Pointer
- 2—Timing Light
- 3—Vibration Damper

Spark Plugs

Spark plugs in any vehicle are expendable. They require occasional examination, adjustment, cleaning, and eventual replacement. Old spark plugs reduce engine efficiency and economy. Replace them when inspection indicates the old plugs cannot be reconditioned.

Keep spark plug electrodes, terminals and porcelains clean. Fouled spark plugs can cause the engine to misfire. Dirty porcelains can cause hard engine starting, especially in damp weather. If porcelain is cracked, install a new plug.

The spark plug electrode gap should be set at .030". Too wide

a gap will cause misfiring, especially at high speeds, while too small

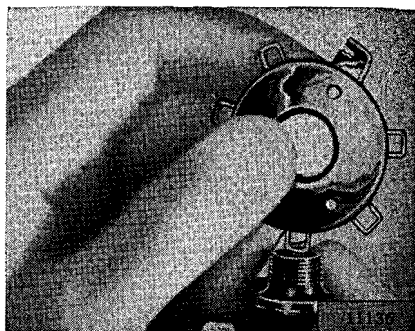


FIG. 18—SETTING SPARK PLUG GAP

a gap will cause poor idling. Uniform gap setting assures smooth engine operation.

Starting Motor

The starting motor is equipped with sealed-type bearings and requires no lubrication. The starting circuit should be checked periodically. The starting circuit includes the starter switch and wires to the battery, voltage regulator, and ignition switch. All connections should be clean and tight. Insulation on the wires should not be worn or damaged.

It is recommended that spark plugs be replaced every 12,000 miles.

If the starting motor will not turn the engine, although the light and horn operate properly, check the starting switch. A "click" from the starter when the starter is depressed, indicates that wiring in the starter circuit is properly installed. If the wiring is clean and tightly installed, the trouble is probably in the starter itself.

LIGHTING SYSTEM

General

The lighting system wiring is shown in the wiring diagram. The lighting circuit is protected by an overload circuit breaker built into the switch and no replaceable fuse is required. It clicks on and off in

the event of a short circuit in the wiring.

The upper and lower headlight beams are controlled by a foot switch located on the toe board at the left of the clutch pedal.

Main Light Switch

Should it be necessary to replace the main light switch, refer to the wiring diagram for the correct wiring information.

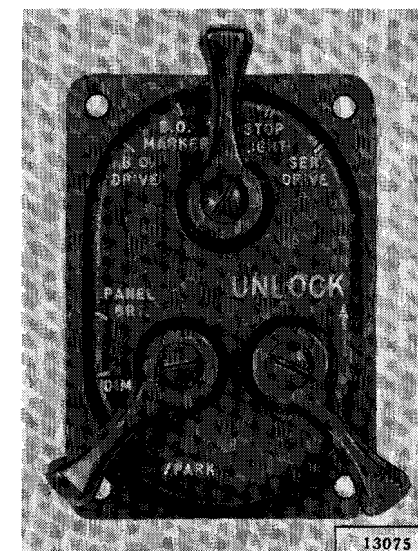


FIG. 19—MAIN LIGHT SWITCH

Headlight Aiming

Correct head lamp aiming is important to provide maximum

road visibility and safety. To aim the head lamps, a darkened area

with a light colored wall is required. The vehicle must be placed on a flat, level surface; square with the wall; and with the head lamps 25 feet from the wall, Fig. 20. Inflate tires to recommended pressure. Rock vehicle from side to side to equalize springs and shock absorbers.

Place a vertical centerline on the wall in line with the center of the vehicle. Place two vertical black lines on the wall, one on each side of the centerline, at a distance equal to the lamp centers. Measure the distance from the floor to the center of each head lamp and place a horizontal black line on the wall corresponding to these measurements.

Cover the lamp not being aimed.

Aim on the lower head lamp beam. The top edge of the high intensity portion of the lower beam should be even with the horizontal line; the left edge should be 2 inches to the right of the lamp centerline.

If the aim is incorrect, remove the head lamp door screw and remove the door. Adjust the vertical and horizontal aiming screws in the mounting ring until the beam is correctly aimed. Always bring the beam into final position by turning the aiming screws clockwise so that the sealed beam unit is held under proper tension when the operation is completed. Replace the head lamp door.

Cover the head lamp just aimed, and follow the same procedure for the opposite lamp.

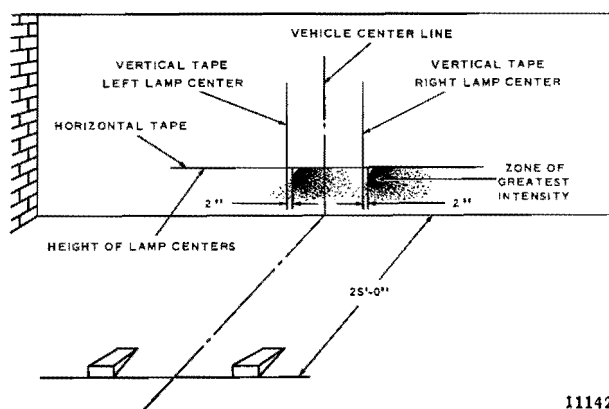


FIG. 20—HEADLIGHT AIMING CHART

Blackout Lights

The blackout lighting system, is controlled by the light switch and furnishes diffused low-intensity light. The system is composed of the following components.

- Blackout headlight located on the left front fender, has sealed beam-type lamp unit.
- Marker lights mounted adjacent to the service drive headlights.

Three lamps in light housing are used for blackout marker, service parking, and signal lights.

- Tail and stoplights mounted at rear of vehicle. Service of the blackout lights is limited to replacement of burned out lamp units. Refer to Lamp Bulb Trade Numbers, page 53, for the proper replacement lamps.

Special Lamps

Maintenance of the surgical lamp, dome lamp and exterior mounted spot lamp is limited to

Lighting System Checks

If head lamps flicker on and off intermittently, the electrical system is overloaded.

If, when signalling a turn, the indicator light comes on but does not flash, a burned-out signal or stop lamp bulb or a malfunctioning flasher is indicated.

Lamp Bulb Trade Number

The following bulb trade numbers should be used for replacements.

Head Lamps.....	4801
Parking Lights.....	1683
Park and Directional Signal.....	1683, 1251
Stop, Tail and Directional Signal.....	1683, 1281
Indicator Lamps:	
Head Lamp Beam.....	1829
Directional Signal.....	313
Instrument Lamp.....	1829
Dome Lamp.....	1691, 623
Fuse Data:	
Heater.....	9 amp.

DRIVING COMPONENTS

The driving components consist of the engine, clutch, transmission, transfer case, propeller shafts, front

and rear axles, brakes, and wheels. Maintenance information is given on the following pages.

Clutch

As the clutch facings wear, the free travel of the clutch pedal (the distance the pedal moves down before any resistance is felt) decreases. The standard free travel is 1". It is important to maintain this clearance to prevent clutch release bearing wear and clutch slippage. No adjustment of the clutch proper is required to compensate for wear of the facings.

The free pedal travel is adjusted at the threaded connection between the clutch control lever and clutch control tube lever. To increase the free travel, loosen the lock nut and screw the adjusting nut forward.

When adjustment is completed, tighten the lock nut securely.

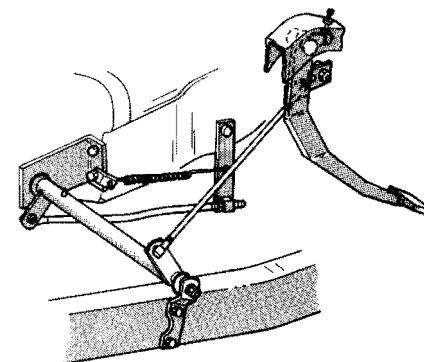


FIG. 21—CLUTCH ADJUSTMENT

Transmission

No adjustment is necessary on the transmission as there is no shift-

Transfer Case

Transfer Case shift rods are adjustable for overall length.

Propeller Shafts

Examine all propeller shafts periodically for foreign matter which may become wrapped around them. Check for dents or a bent shaft and make sure that the universal joint attaching bolts are tight at all times.

The journal trunnion and needle bearings are the only parts subject to wear, and when it becomes

Front Axle

Each 12,000 miles remove the front axle universal joint and shaft assemblies to thoroughly wash out the steering knuckle housings. After cleaning, the universal joint housings must be refilled with good quality lubricant as specified in the Lubrication Section.

The lubricant is retained in the steering knuckle housings by felt oil seals mounted in twin retainers attached to the inner face of the housing. These seals also prevent dirt and grit entering the housings.

Rear Axle

The rear axle requires little attention other than proper lubrication as specified in the Lubrication

ing linkage used.

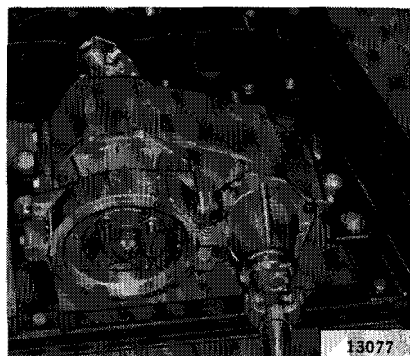


FIG. 22—TRANSFER CASE

necessary to replace these parts, the propeller shafts must be removed from the vehicle to make replacement.

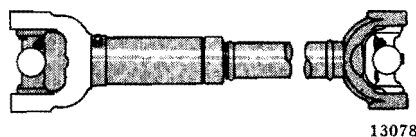


FIG. 23—PROPELLER SHAFT

Inspect the seals regularly and replace them promptly if damaged.

Should the vehicle be stored for any length of time, coat the spherical surfaces of the steering knuckle housings with light grease to prevent rusting.

Keep the breather, mounted in the differential housing cover, free of dirt.

Should water enter the steering knuckle housing, it may be drained by removing the front inboard lower king pin bearing bolt.

Section. The breather should be kept free of dirt.

STEERING SYSTEM

The crossover steering system requires little attention other than proper lubrication and maintaining correct alignment.

Looseness through the steering system will affect alignment. It is impossible to satisfactorily align the front wheels without first adjusting the various connections, including the front wheel bearings.

Correct toe-in of the front wheels is $\frac{3}{32}$ " to $\frac{5}{32}$ " which must be accurately measured for satisfactory front tire wear and steering. Toe-in

is adjusted by lengthening or shortening the steering tie rod.

Periodic inspection and tightening of the steering parts will aid greatly in maintaining alignment. Keep the steering connecting rod ball joints snug but not tight; they must operate freely without lost motion. Keep the steering gear arm tight on the lever shaft and the steering housing bracket tight on the frame.

Do not tighten the steering gear to dampen out steering gear trouble.

BRAKES

The brakes are of the servo type, with star wheel adjustment.

In operation, pressure is applied to the hydraulic fluid in the master cylinder through the foot pedal, forcing the fluid through the lines, and into the wheel cylinders. The pressure forces the pistons outward in the wheel cylinders, expanding the brakeshoes against the drums. As the pedal is further depressed, higher pressure is built up within the hydraulic system, causing the brake shoes to exert greater pressure against the drum.

As the brake pedal is released,

the brake shoe return springs pull the shoes together forcing the fluid out of the cylinders and back into the lines toward the master cylinder.

The hydraulic brake system must be bled whenever a fluid line is disconnected or air enters the system because of low fluid level in the master cylinder reservoir. Air in the system will be indicated by a "spongy" pedal. Air trapped in the system is compressible and does not permit pressure, applied to the brake pedal, to be transmitted solidly to the brake shoes.

Brake Shoe Adjustment

When the brake lining becomes worn the effective brake pedal travel is reduced. The effective travel may be restored by adjusting the brake shoes.

Before adjusting the brake shoes, adjust the free travel of the brake pedal to $\frac{1}{2}$ " by shortening or lengthening the master cylinder eyebolt. Check the spring clip nuts, brake dust shield to axle flange bolts, and wheel bearing adjustments because any looseness in these parts will cause grabby or erratic brake action. Be sure the brake pedal returns the brake pedal

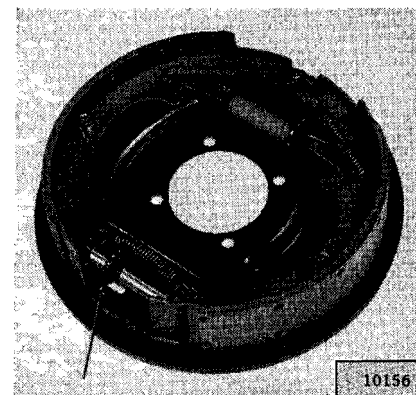


FIG. 24—BRAKE SHOE ADJUSTMENT

freely to the released position.

Brake adjustment is accomplished as follows:

- Remove the adjusting hole rubber plug from the back of the brake backing plate.
- Use brake adjusting tool to turn the star wheel. Raise the handle of the tool of tighten the shoes

Brake Maintenance

No brake can be expected to work well when grease or oil is allowed to leak into the drum from the rear axle. Little braking friction can be obtained between the brakes and drums when the surface is covered with grease and oil. For this reason, take care not to overlubricate wheel bearings, forcing lubricant past seals. Also, check condition of seals if leak is suspected or whenever brake drums are pulled.

Whenever wheels are removed, it is advisable to wash the drums with a suitable solvent so that all

against the drum.

- When the brake shoes are tight against the drum, turn the star wheel in the opposite direction until the vehicle wheel just rotates freely without brake drag (approx. 8 notches).
- Repeat the above procedure on all four wheels.

grease and dirt are removed. Linings with any evidence of grease or oil on them should be replaced. The hydraulic system should be kept free of dirt and moisture. It is advisable to drain the system and flush with pure alcohol once a year.

Use only VV-B-680 Hydraulic Brake Fluid.

Caution: Keep mineral oils, gasoline, or kerosene out of the system, as they cause rubber cups to soften, swell, and distort resulting in failure.

Parking brake drums should be replaced if drum braking surface is worn, rough, scored or damaged.

Brake linings should be replaced if the distance between the lining brake surface and the top of the rivet head is less than $\frac{1}{32}$ inch.

justing bolt lock nuts and adjust so a slight drag is felt on the drum and the upper and lower half of the band have an equal amount of clearance.

The guide bolt controls the lower half of the band; the adjusting bolt controls the upper half.

- Tighten lock nuts.

Parking Brake Adjustment

To adjust the parking brake, the sequence below should be followed:

- Set the parking brake lever in the fully released position.
- Using a feeler gauge, adjust the anchor adjusting screw so that the clearance between the lining and drum is from .015 to .020 inch.
- Loosen the guide bolt and ad-

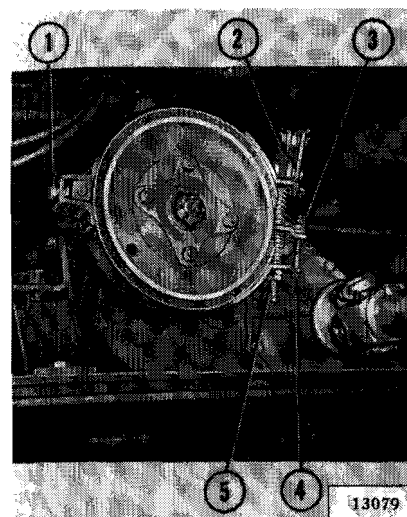


FIG. 25—PARKING BRAKE ADJUSTMENT

- 1—Anchor Adjusting Screw
- 2—Adjusting Bolt
- 3—Guide Bolt Nuts
- 4—Guide Bolt
- 5—Adjusting Bolt Nut

WHEELS AND TIRES

Front Wheel Bearings

These tapered roller bearings are adjustable for wear and satisfactory operation and long life depends upon periodic attention and correct lubrication. Loose bearings may cause excessive wear and will affect front wheel alignment. If the bearing adjustment is too tight, the rollers may break or become overheated.

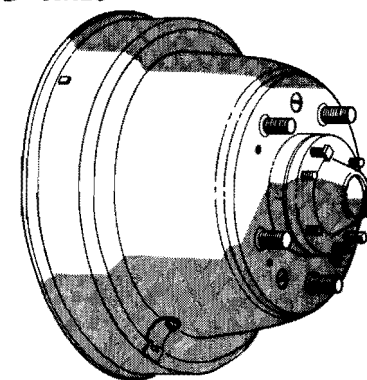


FIG. 26—FRONT WHEEL HUB

Front Wheel Bearing Adjustment

Should the above test indicate adjustment, remove the axle shaft driving flange. Wheel bearing adjustment will then be accessible. Bend the lip of the nut locking washer so that the adjusting nut lock nut and washer can be removed. Rotate the wheel and tighten the adjusting nut until the

wheel binds slightly. Then back off the nut $\frac{1}{8}$ turn, or more if necessary, making sure the wheel turns freely without sidewise shake. Replace the locking washer and lock nut and bend over the locking washer lip. Check the adjustment and the driving flange.

Maintenance of Front Wheel Bearings

To assure long service, lubricate and adjust the front wheel bearings as follows:

The bearings should be given more than a casual cleaning. Use a clean stiff brush and suitable

grease solvent to remove all particles of old lubricant from the bearings and hubs. After the bearings are thoroughly cleaned, inspect them for pitted faces and rollers and check the hub oil seals.

Rear Wheel Bearings

The front and rear axles are both full-floating type with opposed tapered roller bearings. The preceding information concerning

Repack the bearing cones and rollers with the recommended lubricant (see Lubrication Section) and reassemble in the reverse order of dismantling. Adjust them as directed above.

front wheel bearing adjustment and maintenance will therefore apply to both front and rear wheel bearings.

Mounting and Dismounting Wheels

Procedure:

- Set hand brake. Block the wheels if on a grade.
- Remove the spare wheel and tire from under the rear of the vehicle.
- Place jack under spring plate near wheel to be dismounted. Raise the jack until it is in contact with the spring plate, but do not raise the axle.
- Loosen the wheel nuts before raising vehicle.

Tires

Tire pressure, tire rotation, wheel balance, and wheel alignment are the four vital factors that influence the extent of tire life and the ease and safety of vehicle control. Four common tire troubles are:

- Excessive wear around the outer edges resulting from under-inflation.
- Excessive wear in the center of the tread resulting from over-inflation.
- Tire tread worn on one side indicating wheels need realigning.
- Cuplike depressions on one side of the tread indicating wheels need balancing.

The recommended tire pressures are as follows:

25 psi.—Front

45 psi.—Rear

The importance of correct tire inflation cannot be over emphasized. To secure maximum tire life and most efficient vehicle operation, it is imperative that these pressures be maintained for all normal vehicle operation.

Should unusual operating conditions require reduction in pressure, use care that tires are inflated to recommended pressure immediately when normal operation is resumed.

Valve caps should always be used. They should be free of dents and damaged threads. Valve caps protect valve cores by keeping out dust, dirt and moisture.

Cross-switch the tires every 6000 miles. This practice will even out differences in wear and make a set of tires last longer than they would without cross switching. Refer to Fig. 27 for the recommended rotation method for all tires. When a method of tire rotation is selected, it should be used consistently or the full benefits of tire rotation may be lost.

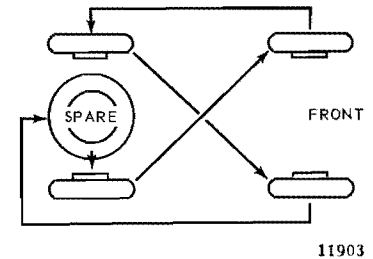


FIG. 27—TIRE ROTATION

Tire Removal

To remove a tire from a semi-drop-center rim, first deflate the tire completely. Then force the tire away from the rim throughout the entire circumference until the lock ring is loosened. Using the slot near the split in the lock ring as a starting point, spring the lock ring off the wheel rim with a suitable tool. Remove the tire from the rim and remove the inner tube. To

install a tire, first drop the tire onto the rim. Then spring the lock ring over the wheel rim with a suitable tool. For safety's sake, test the seating of the lock ring. Do this by first partially inflating the tire, then completely deflating the tire and checking the lock ring for proper seating. Then reinflate the tire to proper pressure.

SUSPENSION

Springs and Shackles

The springs should be periodically examined for broken or shifted leaves, loose or missing rebound clips, angle of the spring shackles and the position of the springs on the axle saddles. Springs with shifted leaves do not have

their normal strength. Missing rebound clips may permit the leaves to fan out or break on rebound. Broken leaves may make the vehicle hard to handle or permit the axle to shift out of line. Keep the spring attaching bolts tight.

Shock Absorbers

The shock absorbers are not adjustable.

Should squeaks occur in the bushings, add a flat washer on the

mounting pins.

DO NOT USE mineral oil to remove squeaks.

BODY

Paint Care

Refer to introduction paragraph for instructions pertaining to paint

care, methods, and material to be used.

Destruction of Material to Prevent Enemy Use

Destruction of the vehicles covered in this manual when subject to capture or abandonment in the combat zone, will be undertaken by the using arm only when, in the judgment of the unit commander concerned, such action is necessary in accordance with orders of, or policy established by, the Army Commander. When authorized, destruction can be accomplished by mechanical means, burning demolition, or gunfire. In general, destruction of essential parts, followed by burning will be sufficient to render the vehicles useless. Adequate destruction requires that all parts essential to the operation of the vehicles be destroyed beyond repair. In order to prevent repair by use of repair parts or cannibalization, destruction will be per-

formed in the priorities established in the NATO Standardization Agreement 2113 (STANAG 2113) and will also include destruction of stocks of repair parts in the same priority as when mounted on the vehicle. Destruction will be performed in the following priority.

- a. Carburetor/Fuel Pump/Distributor.
- b. Engine block and cooling system.
- c. Tires/Suspension.
- d. Mechanical or hydraulic systems.
- e. Differentials.
- f. Frame.

By following the above priorities the same essential parts will be destroyed on all vehicles.

WARRANTY INFORMATION

Kaiser Jeep Corporation guarantees this vehicle and parts thereof against defects in design, material and workmanship for a period of two years from the date of acceptance or 6000 miles, whichever may occur first.

The Government representative will give written notice to Kaiser Jeep Corporation, Government Products Division, Toledo, Ohio of any warranty claim, explaining in detail the type of defect including the vehicle serial number, date of acceptance, and mileage and part identification.

For vehicles and parts thereof located within the 50 States of the United States and the District of Columbia—the Government, at Kaiser Jeep Corporation's expense, will return defective material to

the location designated by Kaiser Jeep Corporation. If not practicable to return the defective supplies, the Government may correct or replace defective supplies in place at Kaiser Jeep Corporation's expense including labor costs providing Kaiser Jeep Corporation is first provided the opportunity to correct in place.

For defective vehicles and parts thereof located outside the 50 States of the United States and the District of Columbia—the Government is responsible for transportation costs to the United States port of entry and return therefrom. Kaiser Jeep Corporation is responsible for transportation costs from the United States port of entry to the Kaiser Jeep Corporation designated destination and return thereto.

Appendix

BASIC ISSUE ITEMS LIST

This appendix lists the basic issue items required for the operator's or user's operation and maintenance of the end item. It is composed of accessories, attachments, component assemblies, tools, supplies, and repair parts. Also included are troop installed items, which are not part of the basic issue items list, but which may be used, when authorized, with the end item and for which stowage locations have been provided on the vehicle.

FSN	Description	Unit of Issue	Quantity Authorized
BASIC ISSUE ITEMS LIST MAJOR COMBINATION			
2320-921-6365	Truck, Cargo: 1 1/4 Ton, 4x4, WO/W (8736737)		
2320-921-6366	Truck, Cargo: 1 1/4 Ton, 4x4, W/W (8736738)		
2310-921-6369	Truck, Ambulance: 1 1/4 Ton, 4x4 W/WO (8736741)		
COMPONENTS OF MAJOR ITEM The listed items below are issued as components of the vehicle W/E. Replacement items will be requisitioned separately under their individual stock numbers. When the vehicle is turned in, all components of the vehicle will also be turned in. The following items are installed in position on the vehicle prior to issue of the vehicle to using troops:			
5140-772-4142	BAG, Tool, Cotton Duck, 10"x20", W/Flap. In tool compt on R.H. or L.H. lower front side of body.....	ea	1
	STRAP, Cotton Webbing, 1"Wd x 18" Long W/Buckle. On upper, inner surface of windshield panel; fastened to footman loops. (for windshield hold-down) 8690465.....	ea	1
	STRAP, Cotton Webbing, 1"Wd x 22" Long, W/Buckle. 1-Behind driver's seat (for cab bows), 2-On L.H. rear side of body (for axe/mattock hdl & mattock hd) 8690467.....	ea	3
	STRAP, Cotton Webbing, 1"Wd x 28" Long W/Buckle. Behind cmdrs seat (for cab bows & door frame. 8690470....	ea	1
	STRAP, Cotton Webbing, 1"Wd x 36" Long W/Buckle. One on L.H. rear side of body (for axe hd/mattock hdl.); one R.H. rear side of body (for shovel). 8690473.....	ea	2
	STRAP, Cotton Webbing, 1"Wd x 39" Long W/Buckle. Behind driver's seat (for door vent glass panel) 8690474....	ea	2
	STRAP, Cotton Webbing, 1"Wd x 42" Long W/Buckle. Behind cmdrs seat (for door vent glass panel) 8690475.....	ea	1
	STRAP, Cotton Webbing, 1"Wd x 45" Long W/Buckle. Behind cmdrs seat (for cab bows, door frame & door vent glass panel) 8690476.....	ea	1
	HANDLE, Jack, Flat Strip, 1/4 x 1/8 x 20", Tapered End. In tool compt on R.H. or L.H. lower front side of body 65909-932124.....	ea	1
	JACK, Mach, Dbl-Screw, 3-Ton, Ratchet Type, 9" Closed, 18" Open (65909-932115) In tool compt on R.H. or L.H. lower front side of body.....	ea	1
	WRENCH, Socket, Wheel Stud Nut, L-Hdl, 10.5" Offset, 1" Hex Opng, 24" Long. In Tool compt on R.H. or L.H. lower front side of body. 65909-925304.....	ea	1
3940-609-8026	EQUIPMENT FOR WINCH EQUIPPED VEHICLES BLOCK, Rigging, Wire Rope, Stl-Shell, Sgl-6 1/4" Sheave, W/Swivel Hook, 1/2" Dia Rope & Under, 5-Ton Safe Work Load, OD Finish. In tool compt on R.H. or L.H. lower front side of body. 8383240.....	ea	1

FSN	Description	Unit of Issue	Quantity Authorized
	CHAIN, Gen Serv, Sgl-Leg, High Test Chain, 1/16-Link x 10-Ft Long, W/2-Grab Hook, Proof Load 11,200 lb (Type I, Grade C, Class 2) In tool compt on R.H. or L.H. lower front side of body.....	ea	1
REPAIR PARTS FOR WINCH EQUIPPED VEHICLES			
5315-012-1223	LINK, Chain Repair, 1/16-Size. In tool bag. 7717022.....	ea	2
	PIN Cotter, Split, 3/4-Long (Used W/Pin-7538740) In tool bag. 96906-MS 24665-134.....	ea	6
5315-753-8740	PIN, Shear, 5/32 x 2 3/8" Long In tool bag. 7538740.....	ea	3
EQUIPMENT FOR SOFT TOP CAB			
	BOW, Paulin Enclosure Top, Tubular On cab, stowed behind seats. 65909-975797.....	ea	2
	FRAME, Cab, Upper, Paulin Enclosure, L.H. side. On cab, stowed behind driver's seat. 65909-975781.....	ea	1
	FRAME, Cab, Upper, Paulin Enclosure, R.H. side. On cab, stowed behind Cmdr's seat. 65909-975782.....	ea	1
	PAULIN, Cab Enclosure Top, W/Rear curtain. On cab, stowed behind seats. 65909-943739.....	ea	1
	WINDOW, Door, Stationary, Portable, L.H. side. On cab, stowed behind driver's seat. 65909-975379.....	ea	1
	WINDOW, Door Stationary, Portable, R.H. side. On cab, stowed behind Cmdr's seat. 65909-975380.....	ea	1
EQUIPMENT FOR CARGO BODY			
	BAR, Stabilizer, Cargo Bows In front sect of cargo body bed. 65909-975800.....	ea	2
	BOW & CORNER Assy, Cargo Body In front sect of cargo body bed. 65909-975777.....	ea	3
	PAULIN, Cargo Body Enclosure, Cotton Duck, 44" x 66", W/Front & Rear Curtain, W/Lacing Rope. In front sect of cargo body bed. 65909-943740.....	ea	1
	STRAP, Safety, Cotton Webbing, Adjustable, 46" to 54" Lg, W/2-Swivel Snap Hook. Fastened across inside of body above tailgate (stowed in tool compt) 8724383.....	ea	1
PUBLICATIONS			
7510-889-3494	BINDER, Equip Log Book, Loose-Leaf, 3-Ring, 7.75" x 10.25" In map compartment.....	ea	1
	FORM, Equip Log Assy (Records) DA Form 2408 In Equip Log Book.....	ea	1
	FORM, Equip Daily-Monthly Log In Equip Log Book. DA Form 2408-1.....	ea	1
	FORM, Equip Lubrication Record In Equip Log Book. DA Form 2408-2.....	ea	1
	FORM, Equip Maint Record (Org) In Equip Log Book. DA Form 2408-3.....	ea	1
	FORM, Equip Modification Record In Equip Log Book. DA Form 2408-5.....	ea	1
	FORM, Equip Maint Record (Support Ech) In Equip Log Book. DA Form 2408-6.....	ea	1
	FORM, Equip Transfer Report. In Equip Log Book. DA Form 2408-7.....	ea	1
	FORM, Equip Acceptance and Registration Record. In Equip Log Book. DA Form 2408-8.....	ea	1
	FORM, Equip Component Register In Equip Log Book. DA Form 2408-10.....	ea	1
	FORM, Uncorrected Fault Record In Equip Log Book. DA Form 2408-14.....	ea	1

Continued next page

FSN	Description	Unit of Issue	Quantity Authorized
	LABEL, Good Driver (Decal) Installed in cab. DA-Label-76.....	ea	1
	MANUAL, Tech (Operator's.) In map compartment. TM-9-2320-244-10.....	ea	1
	ORDER, Lubrication (Pending publication of DA Lubrication Order (LO), refer to operator's manual for lubrication instructions) LO-9-2320-244-10 — In map compartment.....	ea	1
	VEHICULAR REPAIR PARTS		
	Wheel, Tire & Tube (Complete) On Whl carrier under cargo body at rear of veh.	ea	1
	Composed of —		
2640-052-0944	1-Cap, Tire Valve, Std-Bore 96906-MS 15375-1		
2610-051-9266	1-Inner Tube, Pneumatic Tire, Lt-Trk, 9.00 x 16, W/Valve. 96906-MS 35392-10		
2610-540-4719	1-Tire, Pneumatic, New, 9.00 x 16, 8-Ply, Nylon Cord NDMS-Tread, W/Flap. 96906-MS 35388-11		
2640-050-1229	1-Valve Core, Pneumatic Tire, Std-Bore. 96906-MS 51377-1		
	1-Wheel Rim & Disc Assy, 16 x 6.5, W/Side Ring. 65909-943778		
	COMMON TOOLS IN TOOL BAG		
5120-223-7397	PLIERS, Slip-Joint, Str-Nose, Comb Jaw W/Cutter, 8" Long (Nom), Phos Finish (Typ-II, CL-2, Sty-A).....	ea	1
5120-222-8852	SCREWDRIVER, Flat Tip, Gen Purp, Flared Sides, Plastic Hdl, Rd-Blade, 1/4 Wd Tip, 4" Blade 7.75" Long (Nom) 96906-MS 15219-1.....	ea	1
5120-234-8913	SCREWDRIVER, Cross Tip, Str, Phillips, Plastic Hdl, Pt. No. 2, 4" Blade, 7.5" Long (Nom) 96906-MS 15224-5.....	ea	1
5120-449-8083	WRENCH, Adjustable, Open-End, Hv-Duty 1.135: Jaw Opng, 9.5" to 10.5" Long, Phos Finish (Typ-I, CL-I).....	ea	1
5120-708-3302	WRENCH, Drain Plug, Str-Bar, 1/2 Sq Plug, 2.5" Lg, Phos Finish. 41-W-1962-100.....	ea	1
	TROOP INSTALLED ITEMS		
	BRACKET, Fire Extinguisher (Used W/Fire Ext-10916537) 10924916 Mtg space avail on floor at L.H. side of Driver's seat (See Notes 1 and 2).....	ea	1
7240-222-3088	CAN, Gasoline, 5-Gal Military In Brkt-6566675 on L.H. side of cargo body-fwd sect.	ea	1
	CHAIN, Assy, Tire-Pneumatic, Single Type TS, Trk, Tire Size-9.00 x 16 In tool compt on R.H. or L.H. lower front side of body. 96906-MS 500055-13.....	ea	4
4230-720-1618	DECONTAMINATING APPARATUS, Portable, DS2. 1.5 Qt, ABC-M11, W/Brkt. Mtg space avail on R.H. cowl panel-vertical position.....	ea	1
	EXTINGUISHER, Fire, CF3BR, Hand, Charged, 2.75-lb Cap. In Brkt-10924916 (See Notes 1 and 2) 10916537.....	ea	1
	PADLOCK SET, Key Oper, 1.75" Size, Keyed Alike, W/Clevis & Chain, Composed of 2-Padlock & 2-Key 96909-MS 21313-138 - On tool compt on R.H. & L.H. lower front side of body (To be tack welded by user).....	ea	1
1005-589-1271	RIFLE, U.S. Army, 7.62mm, M14. In brkt behind Driver's seat-L.H. corner: for Cmdr's rifle, see rifle mtg kit below. 7267000.....	ea	1
	RIFLE MOUNTING KIT, M14 Rifle, Commander's Weapon — On instr panel at Cmdr's L.H. side.....	ea	1

Note 1: Authorized per AR 385-55

Note 2: Fire Ext & Brkt issued complete under FSN 4210-555-8837.

FSN	Description	Unit of Issue	Quantity Authorized
7240-177-6154	SPOUT, Can, Gasoline, Flex, Cam Type, 2.25" OD x 16" Long — In tool compt on R. H. or L.H. lower front side of body.....	ea	1
2540-980-9277	STRAP, Cargo Tie-down, Nylon Webbing Univ Type, 1.75" Wd, 216" to 218" Lg Ratchet Buckle, W/2-Swivel Snap Hook 10900880 — In tool compt on R.H. or L.H. lower front side of body.....	ea	4
5110-293-2336	AXE, Sgl-Bit, 4.75" Cutting Edge, 4-lb, Hd Wt, 35.50" to 36.50" Long (Typ-I, CL-1, Des-A) Strapped on L.H. rear side of cargo body.....	ea	1
5120-254-6618	HANDLE, Mattock-Pick, RR or Clay Pick, 35.50" to 36.50" Long (Grd-AA) Strapped on L.H. rear side of cargo body.....	ea	1
5120-243-2395	MATTOCK, Pick Type, 5-lb, W/O Handle (Typ-II, CL-F) Strapped on L.H. rear side of cargo body.....	ea	1
5120-293-3336	SHOVEL, Hand, Rd-Point, D-Hndl, Short, Size 2 (Typ-IV, CL-A, Sty-I) Strapped on R.H. rear side of cargo body.....	ea	1

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By Order of the Secretary of the Army:

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General, United States Army,
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KENNETH G. WICKHAM,
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The Adjutant General.

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