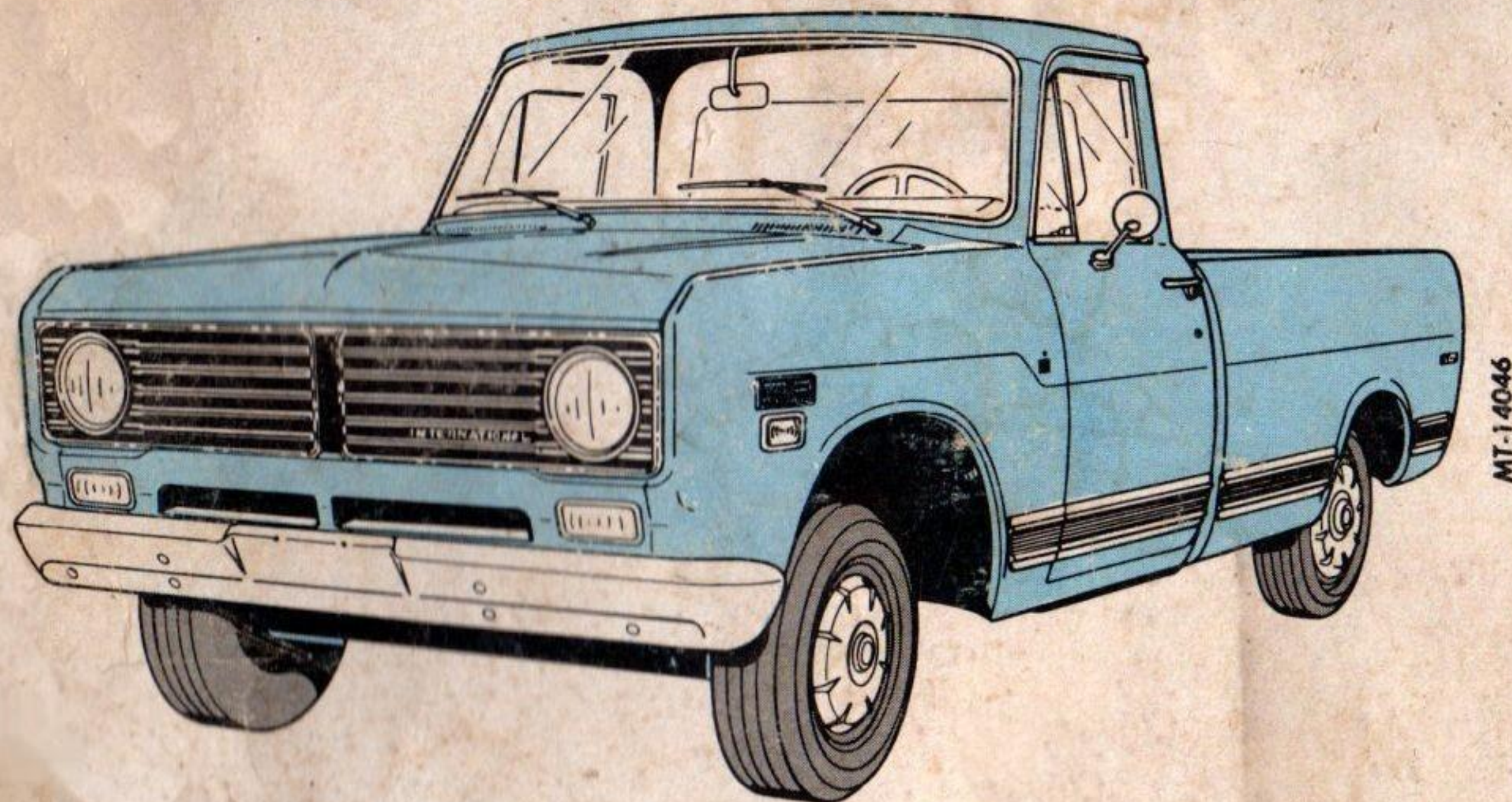


INTERNATIONAL®

Operator's Manual

O P E R A T I O N
M A I N T E N A N C E
L U B R I C A T I O N



IMPORTANT

You were presented with an "Owners Service Policy" by the dealership from whom you purchased your new International vehicle.

Should the occasion arise where warranty service is required it will be necessary that you present to the servicing dealer this "Owners Service Policy" to verify warranty qualification.

For this reason it is important that this policy be kept with the vehicle at all times.

MODELS

1972

1010, 1110

1210, 1310, 1510

1110 4x4, 1210 4x4

1310 4x4

MODEL WB	443023	0131
FRAME AND BUMPER	01000	0002
AXLE FRT	02070	0110
SPRING FRONT ASM	03010	0109
SPRING RR WITH AUX AND MTG	03210	0143
SPRING PARKING	04000	0134
BRAKE AIR BRAKE	04031	0228
CONTROL AIR W/BAV	04001	0228
CONN SEMI TRAIL AIR	04022	0040
VALVE HAND CONT. AIR	05020	0023
STEERING GEAR	06135	0130
DRIVE LINE	07000	0200
EXHAUST SYSTEM HORIZONTAL	08005	0210
ELECTRICAL SYSTEM VOLT	08561	0071
SIGNAL DIR DBL FACE FRONT	09000	0055
SHEET METAL RUNNING BDS.	10000	0010
SPEEDOMETER, TOOLS MISC.	11120	0001
CLUTCH CONTROL 12 INCH	12050	0020
ENGINE W/12 IN CLCH	13070	0060
TRANSMISSION		0025
AXLE REAR		0025
GEAR RATIO 6/5, 9/041 1 SC		
TANK SIDE MTD. 31 GAL LT.		
TANK REGULAR		
CAB REGULAR		
HEATER RE CIRCULATING		
WHEEL CAST FRT 20 W/700T		
WHEEL CAST 12P TIRES FRT		
WHEEL CAST DUAL RR		
WHEEL CAST 12P TIRE		
PAINT CHART		

CODE CARD

MT-2330B

These code numbers positively identify units used in building your vehicle. You can be sure of getting the right replacement parts if you take the copy in the **PARCEL COMPARTMENT** with you when you go after parts. Be sure to replace it so it will be in the parcel compartment the next time parts are needed.

DO NOT REMOVE THE CODE CARD

ATTACHED TO THE VEHICLE.

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EXHAUST EMISSION CONTROL SYSTEM

This vehicle is equipped to control emission levels in accordance with U. S. government regulations. Throughout this manual there are references to the various items which are most important to the operation of the emission control system. Periodic maintenance of the emission control system is necessary in order to assure satisfactory emission levels and engine performance.

A WORD TO THE OWNER AND OPERATOR

Every effort has been made to assure that your new vehicle has been engineered and manufactured to provide continued trouble-free service. Materials selected to manufacture the many parts which make up the vehicle undergo exhaustive test and research to make certain that acceptable, safe service life is realized.

There is, however, an area in which the vehicle owner plays an important part and which determines in a large measure the extent of continued, safe, trouble-free service to be realized from the owner's investment in the vehicle. This has to do with the responsibility which rests with the owner in seeing that the vehicle receives proper care through following the periodic lubricating procedures and arranging for regular inspection intervals to assure that parts that normally deteriorate are replaced or repaired. In addition, it would be good practice to ask your IH dealer or Service Center to make an inspection of the running gear of your vehicle at least once a year. The lubrication intervals present a good opportunity to inspect the vehicle, and we suggest that the following points be checked at these intervals.

Axles, Body and Chassis Components: Check to assure that axle mounting U-bolt nuts, body mounting brackets and chassis components (attaching or mounting bolts and nuts) are securely tightened.

Brakes and Brake Linings: Brake linkages, controls and the condition of brake linings should be part of the periodic inspection. Have your vehicle's brake system inspected at least once each year. Where vehicles are used in severe service or in considerable stop-and-go service, more frequent inspections should be scheduled.

Engine Exhaust System: Mufflers, exhaust pipes, etc. All joints tight. No leaks in the system.

Electrical: Loose, weathered, cracked or broken wires replaced to safeguard against breakdown on the road or possible shorts.

Pipes, Hoses: Leakage, water or hydraulic lines. Check pipes and hose routing. They should not be pushed over against hot exhaust pipes or near the exhaust. Replace cracked, weathered or deteriorated hoses.

Linkages: Clutch, transmission and brake rods, clevis pins and lock pins should be in good repair and secure. Control linkages properly adjusted.

Rubber Parts: Rubber is subject to deterioration wherever it is used. Brake cylinder parts, should be considered for periodic replacement based upon the severity and length of service. Usually careful inspection by experienced mechanics will disclose the need for attention.

Steering: Check tie-rod and drag-link end clamp bolts. They must be tight. Ask your service mechanic to examine the steering mechanism. Minor adjustments could head off future problems.

Wheels, Rims, Tires: Check condition of and tighten wheel and rim mounting bolts and nuts. Examine condition of tires. Cut or broken tire casings should be replaced. Keep tires inflated properly.

A good, general vehicle check by an experience serviceman will give you assurance that your vehicle is still in a safe condition, ready to work for you.

TO THE OPERATOR

The purpose of this manual is to familiarize you with the controls of your vehicle and to provide sufficient information to enable you to perform minor routine services necessary for continued efficient operation. To protect your equipment, study this manual before you start to operate the vehicle.

When you need parts, always give the unit code number, vehicle model and chassis serial number, and the serial number of the unit for which the parts are required. We suggest that you write these serial numbers in the spaces provided below so that you have them at hand when parts are required. Request the salesman to assist you in obtaining these serial numbers when the vehicle is delivered to you.

VEHICLE
MODEL

(Stamped on plate, cab door inner panel, left side.)

ENGINE
SERIAL
NUMBER

(6 cylinder engines stamped on crankcase right side, near distributor; 8 cylinder engines right bank, upper front.)

TRANSFER CASE

(From specification card.)

If you need major information not given in this manual, or if you require services of a trained serviceman, we urge you to use the extensive facilities offered by IH dealers and branches in your locality. IH dealers and branches keep abreast of the best methods of servicing IH equipment, and have up-to-date facilities for providing prompt, first-class service. They carry ample stocks of essential International service parts.

CHASSIS SERIAL NUMBER

(Stamped on frame left side rail, front.)

TRANSMISSION NUMBER

(From specification card.)

FRONT AXLE NUMBER

(From specification card.)

REAR AXLE NUMBER

(From specification card.)

SPECIFICATIONS

ENGINE

IH Model	6-258	V-304	V-345	V-392
No. of Cylinders	6	8	8	8
Bore	3.75"	3-7/8"	3-7/8"	4-1/8"
Stroke	3.89"	3-7/32"	3-21/32"	3-21/32"
Piston Displacement (Cu. In.)	258	304	345	392
Idle (No Load) R.P.M. Std. Trans.	700	700	700	700
Auto. Trans. (In Drive Range)	550	550	550	550
Maximum Recommended Speed R.P.M.	4,000	3,900	3,800	3,600
Compression Ratio	8.01 to 1	8.19 to 1	8.05 to 1	8.02 to 1
Firing Order	1-5-3-6-2-4	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2
Engine Weight (Dry) (Less Accessories) Lbs.	442	617.6	640.6	655.8
Horsepower (A.M.A.)	33.75	48.1	48.1	54.4

(A.M.A. horsepower rating is based on the bore of the engine and is no index to actual engine power. It is required in some states for licensing purposes.)

Valve tappet clearance (intake and exhaust) (hot) . .

Hydraulic tappets - no adjustment needed.

ELECTRICAL

Electrical System - 12 Volts	Negative Ground
Spark Plug Gap	6 Cylinder .035" V-8 .030"
Distributor Contact Point Gap	.016"
Distributor Cam Angle Dwell	6 Cylinder 31°-34° V-8 28°-32°
Ignition Initial Timing	T. D. C.

Specifications subject to change without notice.

OPERATION

BREAK-IN

Your vehicle engine and drive line components must be properly broken in before maximum performance is demanded. A new engine, given an opportunity to wear-fit its parts by following the proper break-in procedure, will give smoother and quieter operation with greater economy and longer life.

For the first 250 miles hold the vehicle speed below 45 miles per hour. Do not overspeed the engine to high RPM, and avoid lugging the engine at any time. Always operate at reduced speeds until engine is thoroughly warmed up.

Prolonged constant speed operation should be avoided, as parts tend to better adjust themselves if various speeds are used during the first 1,000 miles.

"After the vehicle has been driven 250 miles, occasional acceleration up to the governed or maximum recommended engine RPM is permissible and desirable. Sustained high speed driving must be avoided until the vehicle has been driven at least 1,000 miles. The engine in your International must not be operated beyond the maximum recommended RPM at any time.

"During this break-in period, avoid full throttle starts and, if possible, abrupt stops. Gentle braking during the first few hundred miles of operation will result in longer brake life and better future performance. Avoid hard stops especially during the first 250 miles of operation, since brake misuse during this period could sharply reduce future brake efficiency."

Your new engine is filled at the factory with heavy duty break-in oil. This break-in oil and Oil Filter Element should be changed at 1,000 miles. Refill the engine with oil of the proper viscosity as outlined under Lubrication Instructions in this manual.

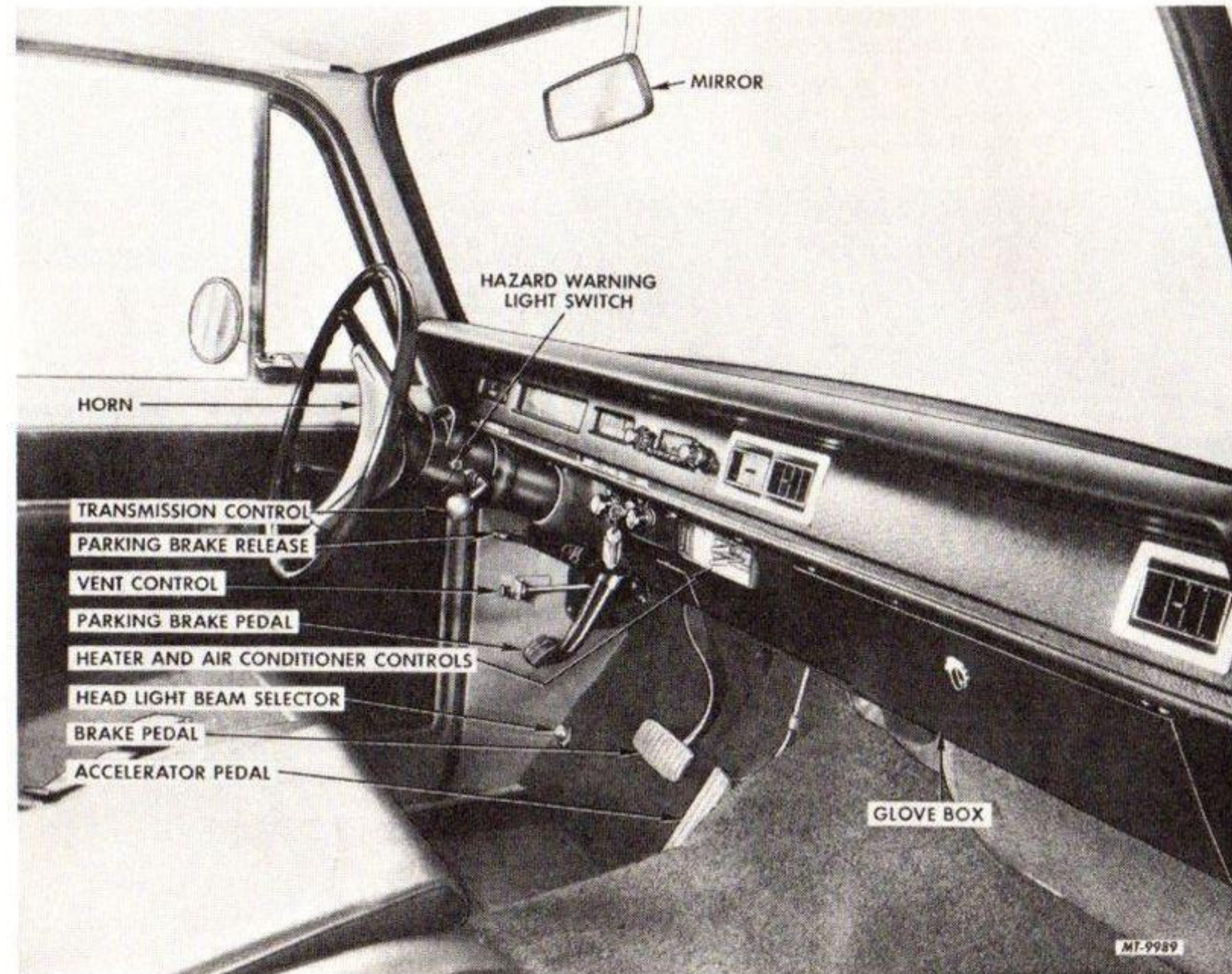
SEAT ADJUSTMENT

Position yourself behind the steering wheel and push the seat adjustment lever toward the center of cab to release the locking mechanism. Then move the seat forward or backward to desired position.

Adjusting bolts are provided at each side of the seat back frame for tilting the seat back either forward or backward. To adjust the back cushion, loosen the bolts, then move seat back to desired position. Tighten the adjusting bolts.

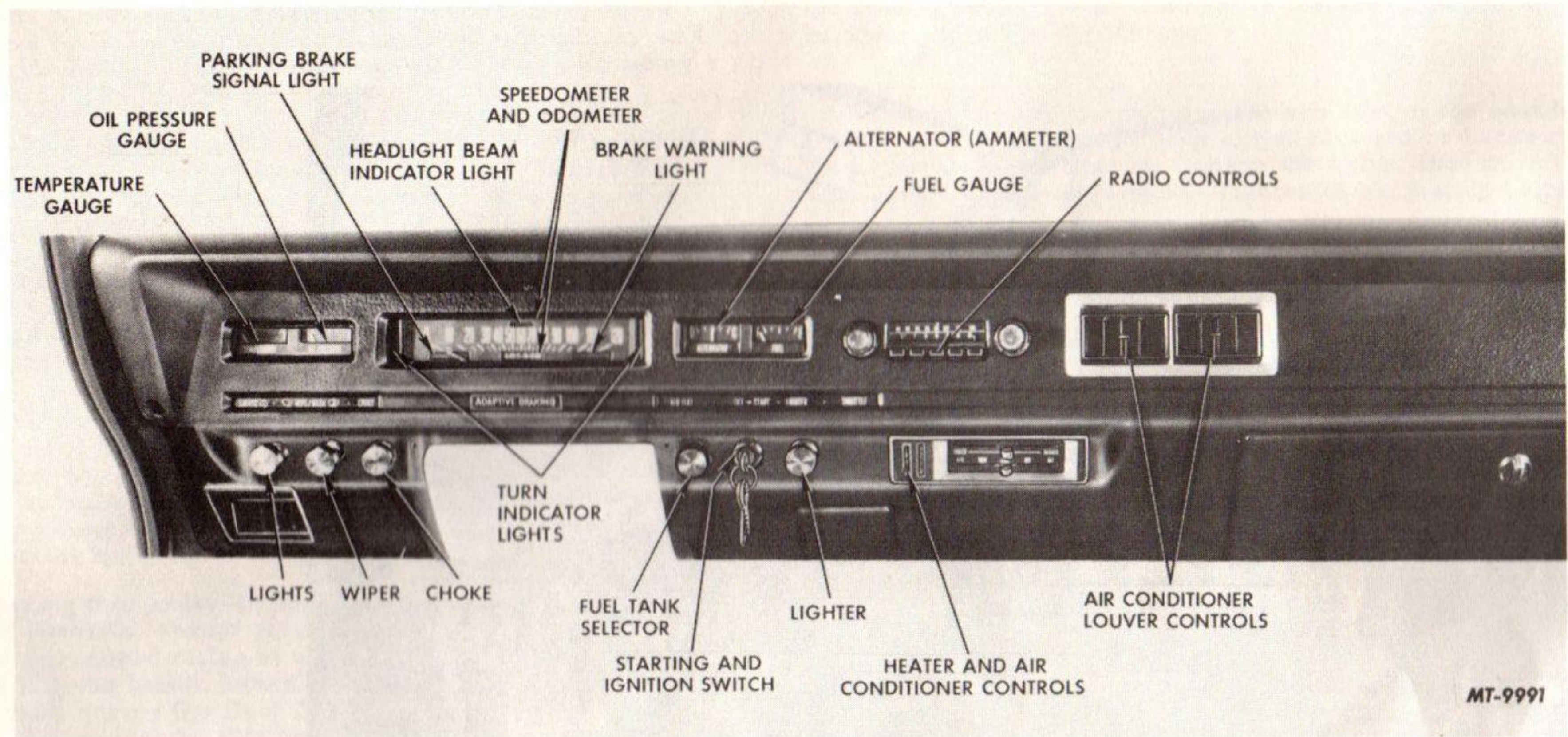


OPERATION



Cab Interior View

OPERATION



Instrument Panel

OPERATION

SEAT BELTS

Use of Seat Belts. Seat belts should be worn at all times. Before fastening a front seat belt, always adjust the driver's seat to the position in which you will drive. Seat belts should be worn across the pelvic region (hip bone) and adjusted snugly. Never adjust a seat belt across the abdomen.



Lever Type

To lengthen the belt, tip the buckle end downward, as shown, and pull the buckle until the belt ends can be joined.



Push Button Type

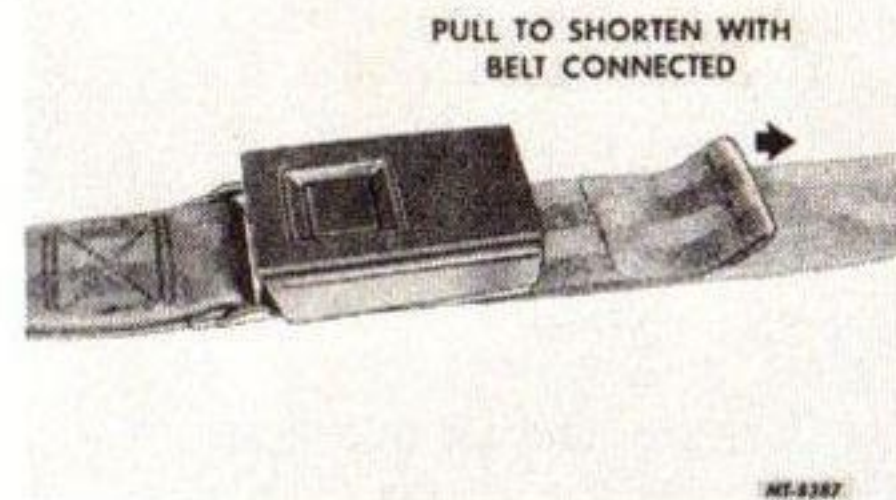


Lever Type

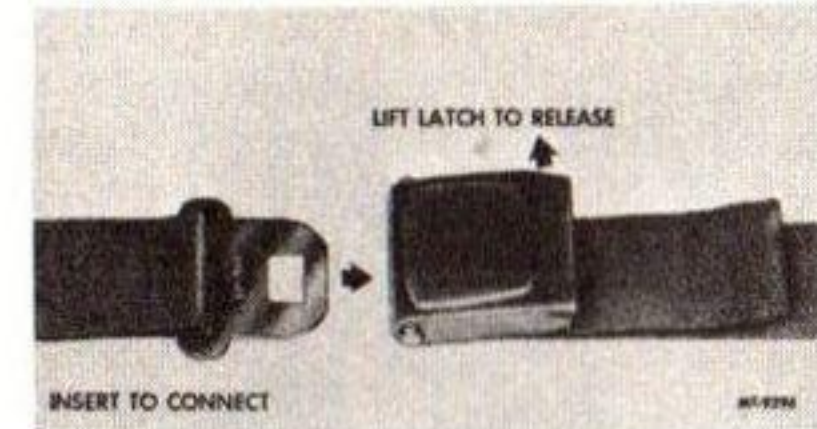
Insert tongue into open end of buckle and snap together. The belt can be shortened after it is connected by pulling on the loose end until the belt is snug and comfortable.

Lever Type Latch. Lift the buckle release latch to remove the seat belt.

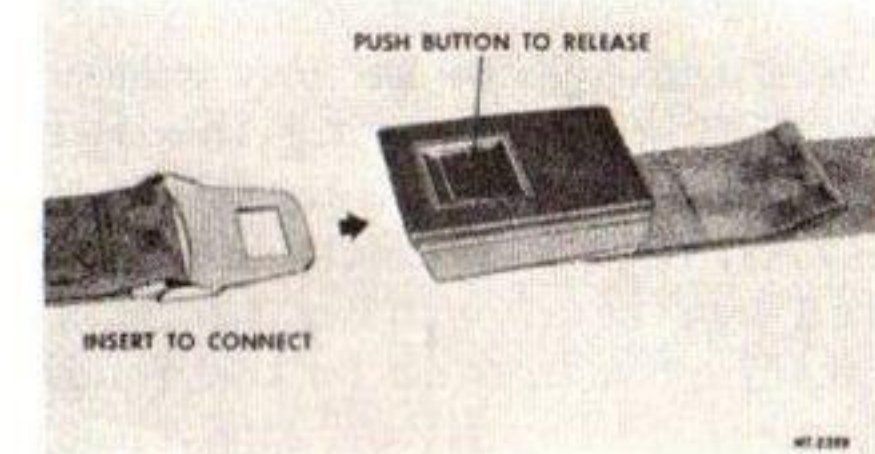
Push Button Type Latch. Push in on the button release latch to remove the seat belt.



Push Button Type



Lever Type



Push Button Type

Always pull the belt completely out of the retractor before adjusting and fastening the other half of the belt unit.

Care of Belts. Belts should receive the same care as the finest fabric. Clean with mild soap; do not use cleaning solvents or abrasives.

CAUTION: Do not bleach or re-dye color of webbing as same may cause a severe loss of tensile strength.

Keep belts flat to avoid twisting and roping when not being used. Do not place heavy or sharp objects on belts.

The entire belt assembly should be inspected periodically for corrosion, wear, fraying or weak spots. The belt mounting bolts should be tight at all times. Any belt severely strained in an accident should be replaced immediately. All belts should be replaced at least every five years.

SHOULDER BELTS

When adjusting shoulder belt, for proper slack, place fist on chest under strap. Shoulder belt should not be tight across body.

Buckle shoulder belt in same manner as regular seat belt.

CAUTION: Shoulder belt should never be worn without regular lap seat belt.

SUN VISOR

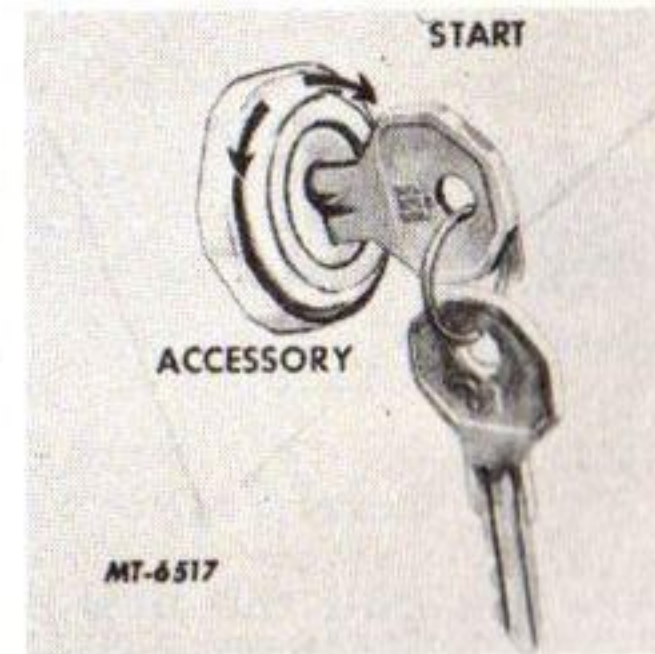
To shade the operator's eyes from the direct rays of the sun, the visor can be positioned at the door window as well as at the windshield. The sun visor features an adjustment which permits the visor to be moved lengthwise on the pivot rod.

OPERATION

STARTING IGNITION SWITCH AND KEYS

Turning key to the extreme RIGHT, overcoming the spring tension (transmission in neutral), STARTS THE ENGINE. Releasing the key from spring tension and leaving it turned to the RIGHT leaves the ignition and all electrical units "ON".

With the key turned to the LEFT, all electrical units controlled by the switch are "ON" (except the engine ignition).



IMPORTANT: To avoid possible damage to the starting mechanism, release the key from the spring tension as soon as the engine starts. Never turn the key to the "starting" position while the engine is running. If the engine does not start promptly, DO NOT OVERTAX THE STARTING MOTOR OR THE BATTERY. Do not use the starting motor longer than 30 seconds at a time.

Wait at least 15 seconds between attempts to start the engine to prevent heat (generated in the starting motor) from scorching the starting motor commutator.

TEMPERATURE GAUGE

The temperature gauge indicates the temperature of the coolant in the cooling system. The gauge operates only when the ignition switch is turned to the "on" position, or is turned to the left to operate the accessories. If the indicator suddenly rises to the "hot" position, the engine should be stopped and the cause of overheating determined.

SPEEDOMETER AND ODOMETER

The speedometer indicates the vehicle speed in miles (or kilometers, if so adapted) per hour. The odometer records the total of number of miles travelled. The units operate through a flexible cable from the transmission.

AMMETER

The ammeter indicates the rate of charge or flow of electric current supplied by the alternator to the battery, or the rate of discharge from the battery. At low engine speeds the ammeter indicator may show a negative or discharge reading. When the battery is fully charged, a very slight charge is indicated during normal vehicle operation.

FUEL GAUGE

The fuel gauge is electrically operated and indicates the level of the gasoline in the tank. The gauge registers only when the ignition is "on" or the key is turned to the "accessory" position.

OIL PRESSURE GAUGE

The engine oil pressure gauge indicates the oil pressure being maintained in the engine.

The gauge is marked "L" to indicate low and "H" to indicate high oil pressure.

A low reading is normal at idling speeds with a warm engine.

If the gauge fluctuates or does not register when the engine is operating, stop the engine immediately and correct cause.

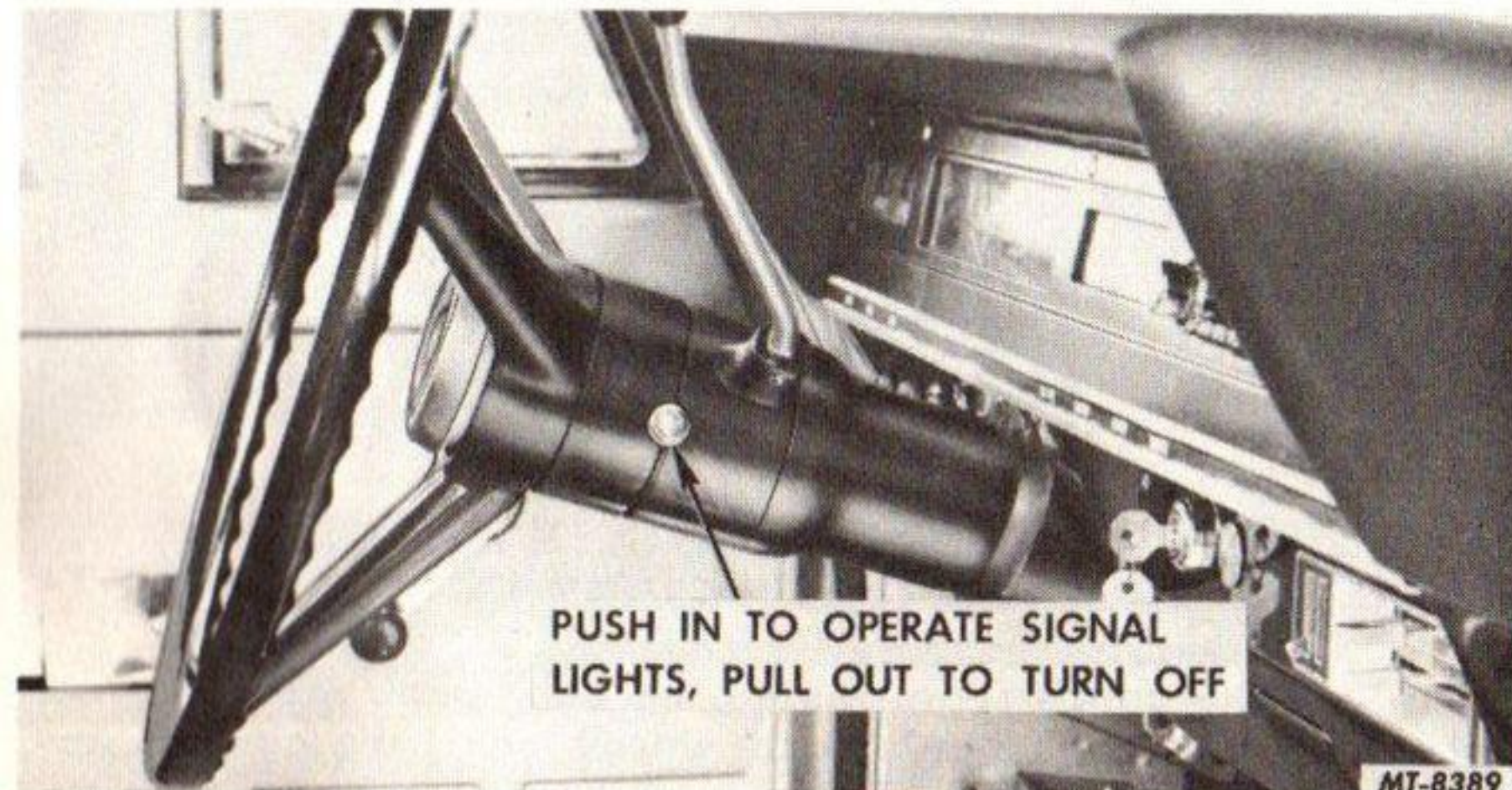
OPERATION

LIGHTING SWITCH

The lighting switch on the instrument panel controls the headlights, parking lights, side marker lights, instrument panel lights, cab interior light and taillights. When the lighting switch is pulled out halfway, the parking side marker and taillights are "on". When the lighting switch is pulled out all the way, the headlights, side marker lights and taillights are "on". To light the instrument panel, turn the light switch control to the left; a built-in rheostat controls the intensity of the panel light from "off" to full "on". To turn the cab interior light on, turn the lighting switch control counterclockwise to the extreme left position.

TRAFFIC HAZARD WARNING LIGHT SWITCH

The traffic hazard warning light switch will flash both front and rear directional signals simultaneously, thus warning oncoming traffic of an emergency. The switch is located on the right side of the steering column. Push switch in to operate signal lights. Pull out to cancel lights. The switch will also cancel



automatically by rotating steering wheel approximately 180°. With switch pushed in, both turn indicator lights on the instrument panel flash, indicating operation of both front and rear directional signal lights.

Hazard warning operation is indicated by simultaneous flashing of both turn signal indicators. Hazard warning system should be used for emergency only in compliance with the laws of the state in which the vehicle is registered.

FUSES

The electrical circuits are protected by fuses which are conveniently grouped in a fuse panel located in the glove compartment.

A "blown" fuse indicates a "short" in the circuit served by the fuse or that the circuit is overloaded. When replacement of a fuse becomes necessary, check the circuit to locate the source of trouble.

Turn signal and hazard flashers are located behind instrument panel above glove box.

HEADLIGHT BEAM SELECTOR

The foot-operated beam selector, convenient to the driver's left foot, is used to control the upper and lower headlight beams. Use of the beam selector permits the driver to lower the headlight beam when approaching or passing vehicles, and to raise the headlight beam for open highway use or whenever necessary. A blue light (located on the speedometer face) glows when the headlights are on "upper" beam.



TURN INDICATOR CONTROL

The turn indicator control is located on the steering column below the steering wheel.

OPERATION

LANE CHANGE

Push turn indicator control upward to first stop for right-lane turn or pull control down to first stop for left-lane turn. Hold control in position until lane change is completed. Control will return to "OFF" position when released.

FULL TURN

To signal for a right turn, push the control up to second stop. For a left turn, pull the control down to second stop. Signal lights on the front and rear of the vehicle and on the instrument panel "blink" on and off when the turn indicator is operating. The indicator control automatically returns to the "off" position and the signal lights go "out" when you complete the turn.

WINDSHIELD WIPER CONTROL (Electric)

Turning the knob to the right starts the electric wipers. The electric wiper has two speeds, "high" and "low".

NOTE: To avoid damage to mechanism of the electric windshield wiper, DO NOT MOVE THE WIPERS BACK AND FORTH BY HAND. Lift the blade outward when cleaning the windshield.

WINDSHIELD WASHERS

To operate the windshield washers, press in on the switch on the instrument panel to spray solution on the windshield. Then, turn on the windshield wipers to clean the windshield.

Keep the fluid reservoir under the hood filled with water at all times. I. H. windshield washer solvent added to water will aid in cutting road film and grease on the windshield and, during cold weather, will prevent freezing of the water in the container.

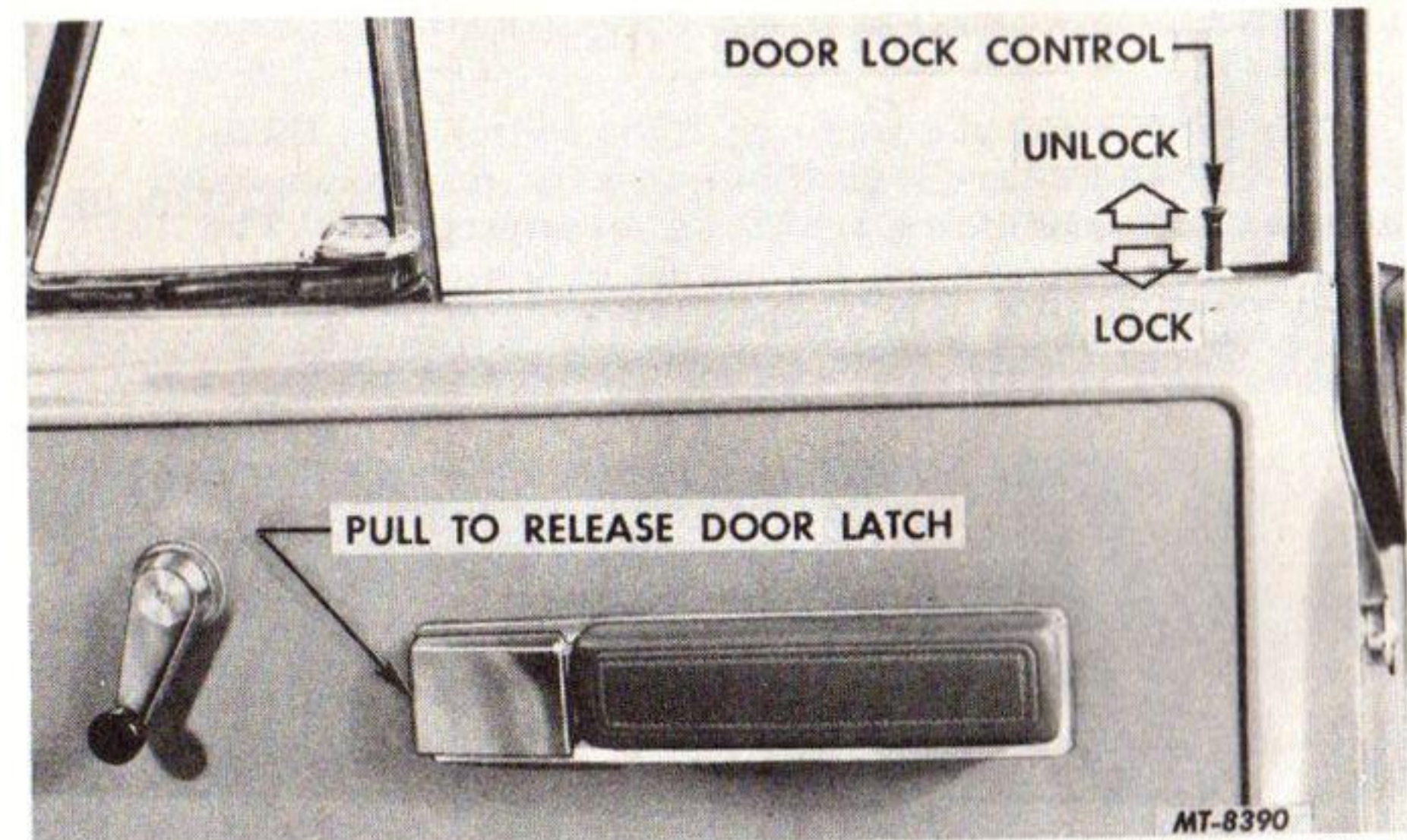
CARBURETOR CHOKE CONTROL

The choke is used to enrich the fuel mixture by restricting the air flow to the carburetor. The distance the choke

control is pulled out regulates the fuel-air mixture and increases the engine speed to a fast idle to prevent stalling during the engine warm-up period. Push the choke in when the engine is warmed up.

CARBURETOR THROTTLE CONTROL (Where Equipped)

The throttle control may be used to open the throttle slightly when starting the engine, or to set the throttle at any position to maintain a constant engine speed.



DOOR CONTROL AND LOCK (Inside and Outside)

To lock the doors from inside the cab, push the door lock control downward. To unlock the doors, pull the control upward.

OPERATION

To open the doors from the outside, push the door control inward. Door checks will hold the door in full open position.

To lock the doors from the outside, front doors must be locked with a key, turn the key clockwise and remove. To unlock, turn the key counterclockwise and remove. Rear doors, push door lock control down and close door.

VENT WINDOW LOCK

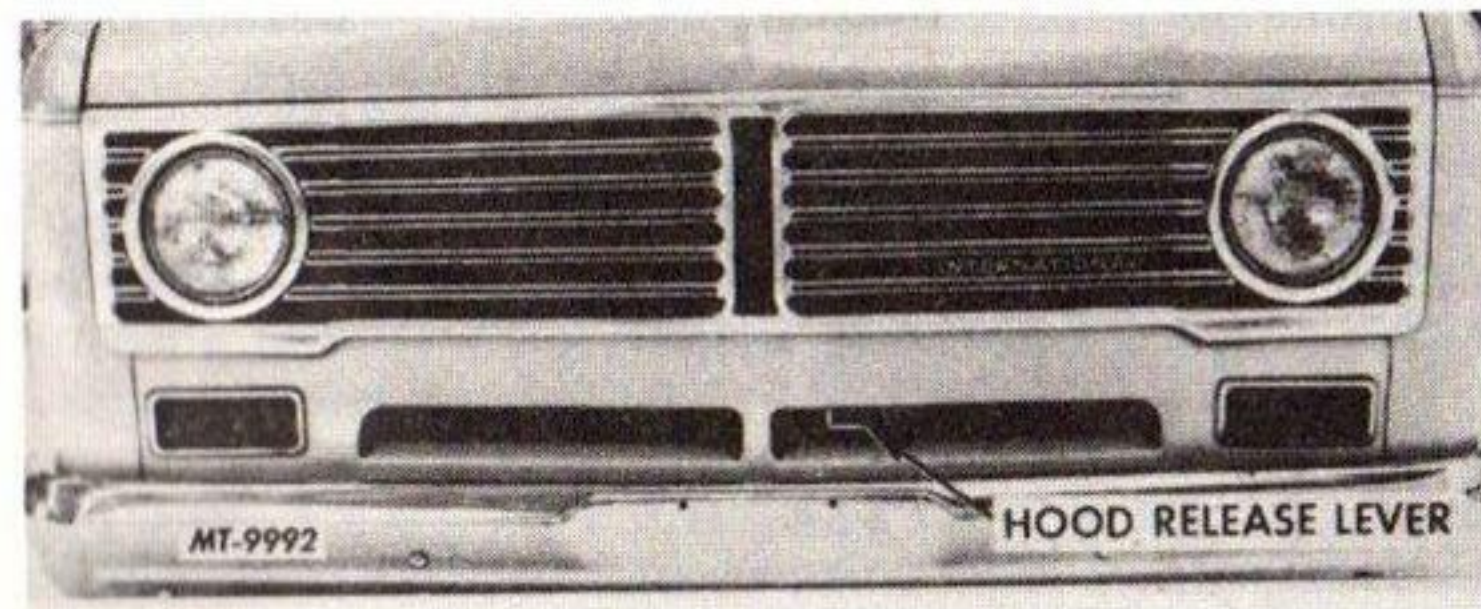
To open the vent windows, turn the lock clockwise and push the window outward to the position desired.

REAR VIEW MIRROR

The rear view mirror contributes to safe operation of the vehicle and can be adjusted to the position desired by the operator.

RAISING THE HOOD

To raise the hood, reach through the left opening of the lower grille panel and pull down on the hood release lever. While holding the release lever in the extreme downward position, raise the hood until the safety latch passes its point of engagement. Spring-loaded hood supports will then assist in raising the hood and holding it open.



To close the hood, lower it to the safety latch position and then push down firmly on the front of the hood to engage the lock.

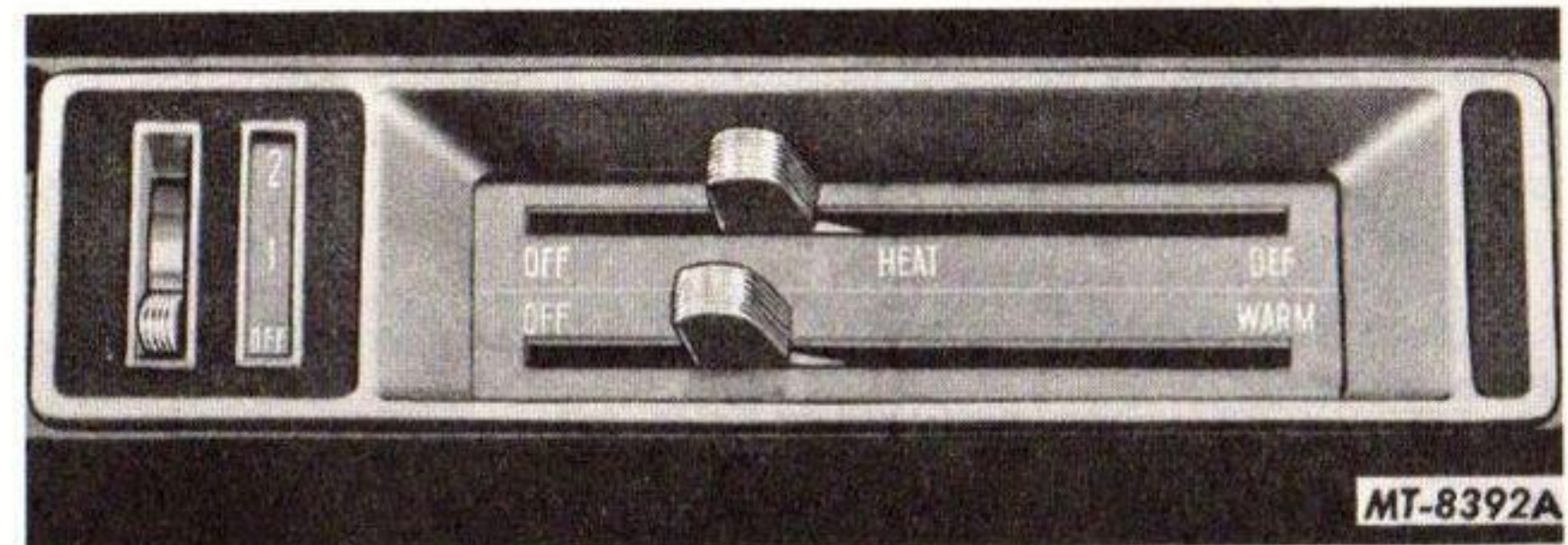
PARKING BRAKE CONTROL

The primary purpose of this brake is to hold the vehicle in a parked position or to assist in bringing it to an emergency stop. The parking brake should not be used to brake the vehicle during normal driving.

The parking brake can be applied by pushing the foot-operated parking brake pedal down as far as it will go. To release the parking brake, pull on the 'BRAKE RELEASE' lever.

AIR VENTS AND HEATER CONTROLS (Fresh Air Heater) WITHOUT AIR CONDITIONER

HEATING - Slide the upper heater control lever to the "HEAT" position and set the lower lever for desired air temperature. "WARM" position will provide maximum heat. Then move the heater blower switch to either "2" or "1" (super capacity heater "3", "2" or "1") to provide the desired air circulation. At normal road speeds, the motion of the vehicle will usually provide ample flow of air through the heater without the use of the heater blower. To supply heat to the center of cab, open the door in heater air duct.



DEFROSTING - Set heater controls as for heating and move defroster control lever to "DEF" position. For fast defrosting, move blower switch control to "2" ("3" for super capacity heater) and temperature control to "WARM". 13

OPERATION

FRESH AIR VENTILATION - To permit fresh air to enter the cab, open the two side vents. Vent control on left side turn counterclockwise to lock in open or closed position.

AIR CONDITIONER OPERATING INSTRUCTIONS

AIR CONDITIONER AND BLOWER CONTROL SWITCH

To start air conditioner (with engine running), move lower control lever to "A/C", upper control lever to "COOLER" and blower switch to "1", "2", or "3".

To stop air conditioner, move lower control lever to "OFF", and blower switch to "O".

For maximum cooling, move blower control switch to "3". If less air is desired, move control switch to "2" or "1".

TEMPERATURE CONTROL

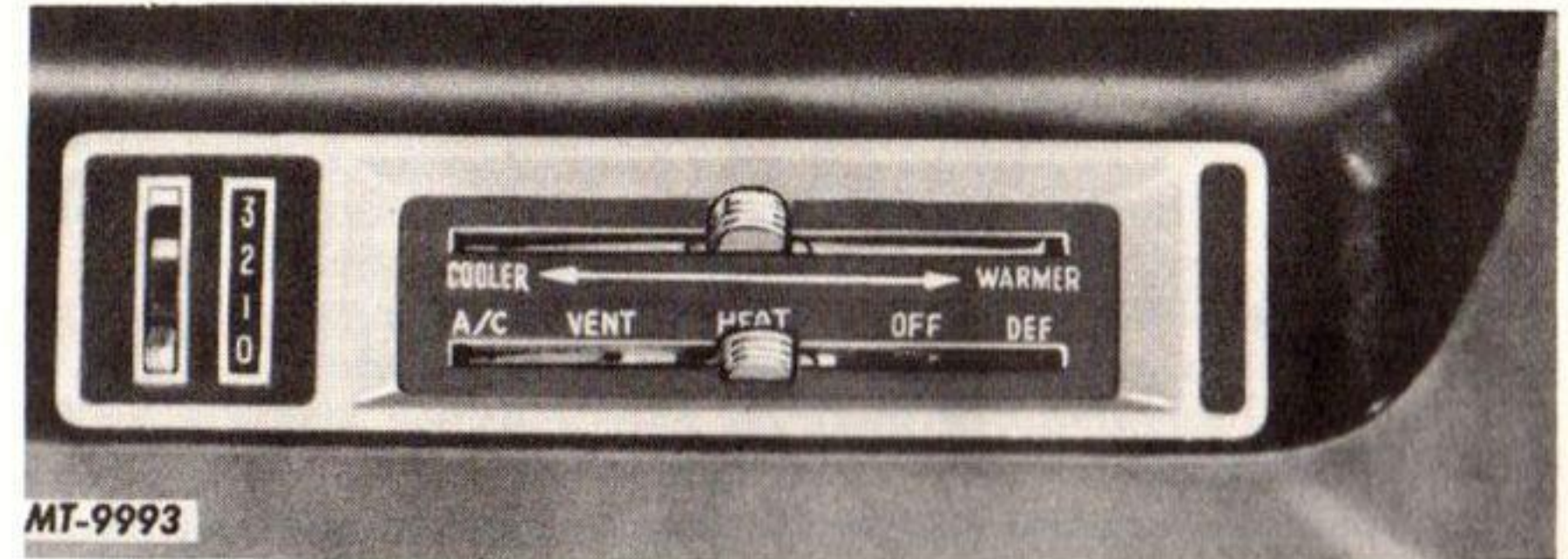
If cooler temperature is desired, move temperature control to extreme left. If warmer temperature is desired, move temperature control to right.

LOUVERS

Adjust the louvers in the cooling unit to direct the cooled air as desired.

AIR VENT

To permit fresh air to enter the vehicle move lower control lever to "VENT".



MISCELLANEOUS OPERATING INSTRUCTIONS

Initial Cooling - Always park in the shade when possible. But if your vehicle has been parked in open sun with the windows up, remove overheated air inside by driving with windows down for one or two city blocks. You can turn on the air conditioner controls at the time you start the vehicle engine. After the short distance with the windows down, roll them up again--all the way--adjust air flow and temperature to your liking.

Stale Air and Smoke - To remove stale air or smoke while air conditioner is operating, you may want to open a fresh-air vent or window vent slightly for a short period of time.

NOTE: Operate your air conditioner cooling system regularly. At least once or twice a month turn on the air conditioner for a few minutes while the engine is running. This periodic operation keeps all the mechanical parts of your air conditioner in good operating condition.

SERVICE CHECK-UPS

Have your IH air conditioner serviced each spring to add refrigerant if needed and check compressor oil level and belt tension. Belt tension should be checked about three times a year. Keep radiator area free of bugs, leaves, etc.

OPERATION

Do not cover the condenser in front of radiator with a screen wire. Small amounts of water draining out of air conditioner is normal and represents condensed moisture which has been removed from the air inside your vehicle. Air conditioning sometimes causes the engine of the vehicle to run slightly warmer than usual.

HEATER CONTROLS (Fresh Air Heater) WITH AIR CONDITIONER

HEATING - To use as a fresh air heater, slide the lower heater control lever to the "HEATER" position and set the upper lever for desired air temperature. "WARMER" position will provide maximum heat. Then move the heater blower switch to either "3", "2" or "1" to provide the desired air circulation. At normal road speeds, the motion of the vehicle will usually provide ample flow of air through the heater without the use of the heater blower. To supply heat to the center of cab, open the door in heater air duct.

DEFROSTING - Set heater controls as for heating and move defroster control lever to "DEF" position. For fast defrosting, move blower switch control to "3" and temperature control to "WARMER".

FUEL TANK

As fuel is consumed, air is drawn through the vent into the fuel tank. Under certain climatic conditions, with a quick drop in temperature and the vehicle inoperative, moisture may accumulate in the fuel tank. Therefore, keep the fuel tank filled, as much as practical, to avoid moisture accumulation.

CAUTION: Never light matches near gasoline, because the air within a radius of several feet is permeated with a highly explosive vapor. Keep the filler spout or nozzle in contact with the metal of the tank to avoid possibility of an electric spark igniting the gas.

FUEL TANK SELECTOR SWITCH AND VALVE CONTROL (Vehicles equipped with dual fuel tanks)

The fuel tank selector switch and valve control is located to the left of the ignition switch on the instrument panel.

To operate, "PULL OUT" control and "TURN" to the "RIGHT"; fuel will be used from the right tank and gauge will indicate fuel level in tank.

"PUSH IN" control and "TURN" to the "LEFT"; fuel will be used from the left tank and gauge will indicate fuel level in tank.

When the ignition switch in "ON" or at the "ACCESSORY" position, the fuel level can be checked in either tank by turning control to "RIGHT" or "LEFT" tank as desired without changing the selector valve.

"The auxiliary fuel tank is equipped with a surge tank system. When this tank is completely filled, the vehicle should be operated off of the auxiliary tank for a short period to lower the fuel level so that the surge tank system functions."

CLUTCH PEDAL

The clutch pedal free travel should be checked at regular intervals. When adjustment is necessary, it is extremely important that the work be properly performed; otherwise, early failure of the clutch will result and a costly clutch overhaul becomes necessary. To avoid needless delay and expense, allow only competent and experienced servicemen to perform these operations. Keep your foot off the clutch pedal except to shift gears or when the vehicle is being brought to a stop.

BRAKE APPLICATION - DUAL BRAKE SYSTEM

With the built-in safety feature of the dual brake system, the operator is assured of reasonable brake control should one or another of the two sections of the dual system fail. In making application with one system failed, the vehicle operator must utilize a longer brake pedal stroke to actuate the remaining brake system. Brake control of the vehicle

OPERATION

will occur somewhere between the mid-position of pedal travel and as the pedal approaches the toe board.

NOTE: Do not restrict brake pedal travel by improper floor mats or other interfering material under the pedal.

Also, a slight increase in pedal effort is required as the remaining section of the system picks up the vehicle load normally controlled when both systems are functioning. Stopping distance may not be as short under the failed condition, since only one section of the dual system is operating.

NOTE: Brake pedal free travel adjustment commonly referred to when single hydraulic brake systems are used does not apply to the dual brake system, since no adjustment of clearance between the brake pedal push rod and master cylinder piston is required. The minor perceptible light pedal movement felt before pressure is exerted results from normal brake pedal linkage clearance.

BRAKE WARNING LIGHT

The brake warning light located on the instrument panel will illuminate when the ignition switch is "on" and the line pressure to the front brakes differs from the rear brakes indicating a malfunction to a degree in either the front or rear brake system.

When the ignition is turned to the START" position, the warning light should illuminate. When the switch is released from the start position, the light should "go out". This is a check to determine that the warning light circuit is functioning properly and should be observed whenever the vehicle engine is being started.

If the light fails to "go out" when the switch is released to the "RUN" position, it indicates a system malfunction and should be investigated before operating the vehicle.

CAUTION: The vehicle should not be operated other than to the nearest service facility, and then only with extreme caution if the warning light is on or inoperative.

IH ADAPTIVE BRAKING SYSTEM (ANTI-SKID)

The IH Adaptive Braking System is an electronically controlled, vacuum power-operated anti-skid system designed for use on the rear axle brakes of any 1010 or 1110 (4x2) model. This feature is an improvement in the brake control system that provides improved vehicle directional control and, on the average, reduced stopping distance during maximum braking applications. The Adaptive Braking System minimizes the rear wheel lockup during maximum braking by automatically releasing and reapplying the brakes. This automatic "pumping" of the brakes will reduce and, in many cases, eliminate rear wheel skid, which is a major cause for loss of vehicle control during braking. This improvement will be provided on all road surfaces, driving situations, and weather conditions down to 5 mph.

Despite this distinct improvement in braking, the driver should continue to exercise caution in all hazardous driving situations — particularly under extreme surface variations which severely affect vehicle braking and directional control. Some examples are split coefficient surfaces (slippery on one side and good traction on the other), slippery roads with a high crown, deep snow or other loose material on roadway or any extremely slippery surface which does not afford sufficient traction to maintain control even when the brakes are not applied.

OPERATION

The Adaptive Braking System feature comes into operation and improves vehicle directional stability only during maximum braking conditions. This is accomplished by the automatic rapid release and re-application of the rear brake system. This cycling continues until the vehicle is slowed to approximately 5 mph or until the brakes are released by the driver.

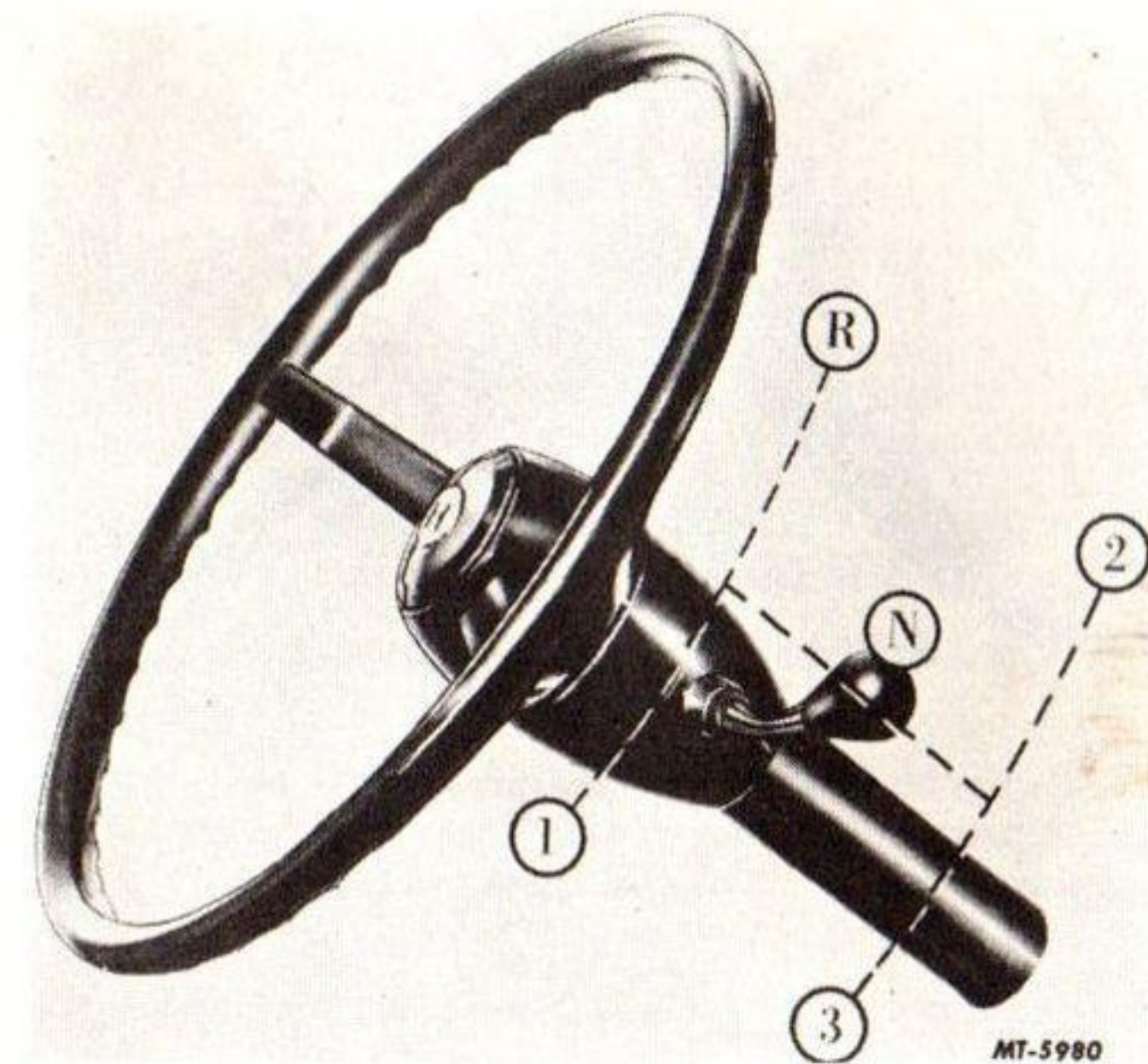
The control circuit solenoid is operated through one cycle each time the ignition key is turned to the "on" position. This cycle is to insure that the system is functioning properly and should not be cause for concern.

A green light located on the instrument panel will flash each time the Adaptive Braking System is called upon to cycle. Failure of the light to flash during brake applications that would normally cause the system to cycle indicates a malfunction in the Adaptive Braking System and should be investigated immediately.

The illumination of the brake warning light indicates a malfunction in either the hydraulic brake system or the Adaptive Braking System. Any indication of malfunction in the braking system requires immediate attention and should only be handled by qualified IH servicemen.

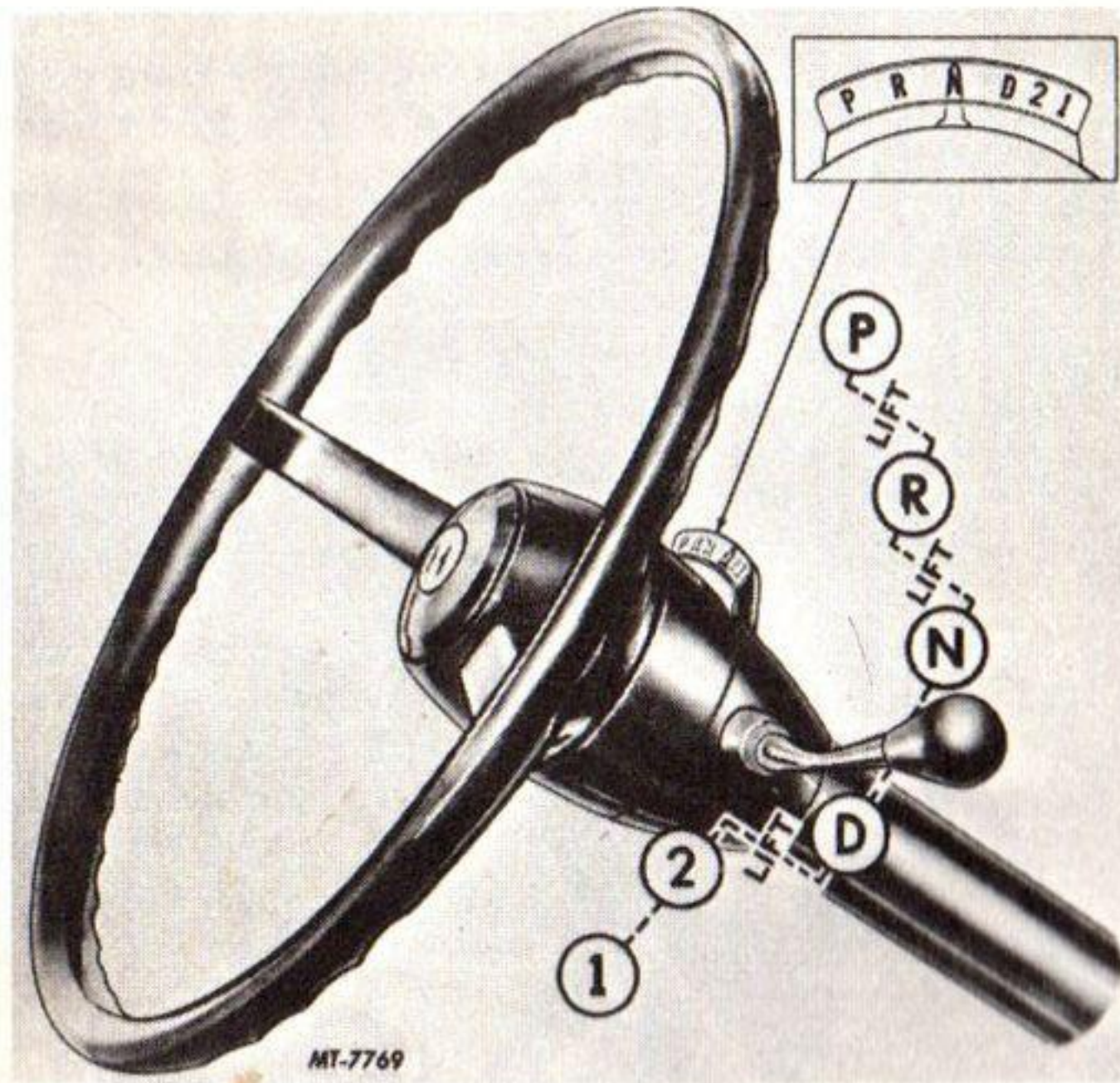
TRANSMISSION CONTROLS

The main transmission control, convenient to the driver's right hand, is used to select the various gear ratios or speeds provided within the transmission.

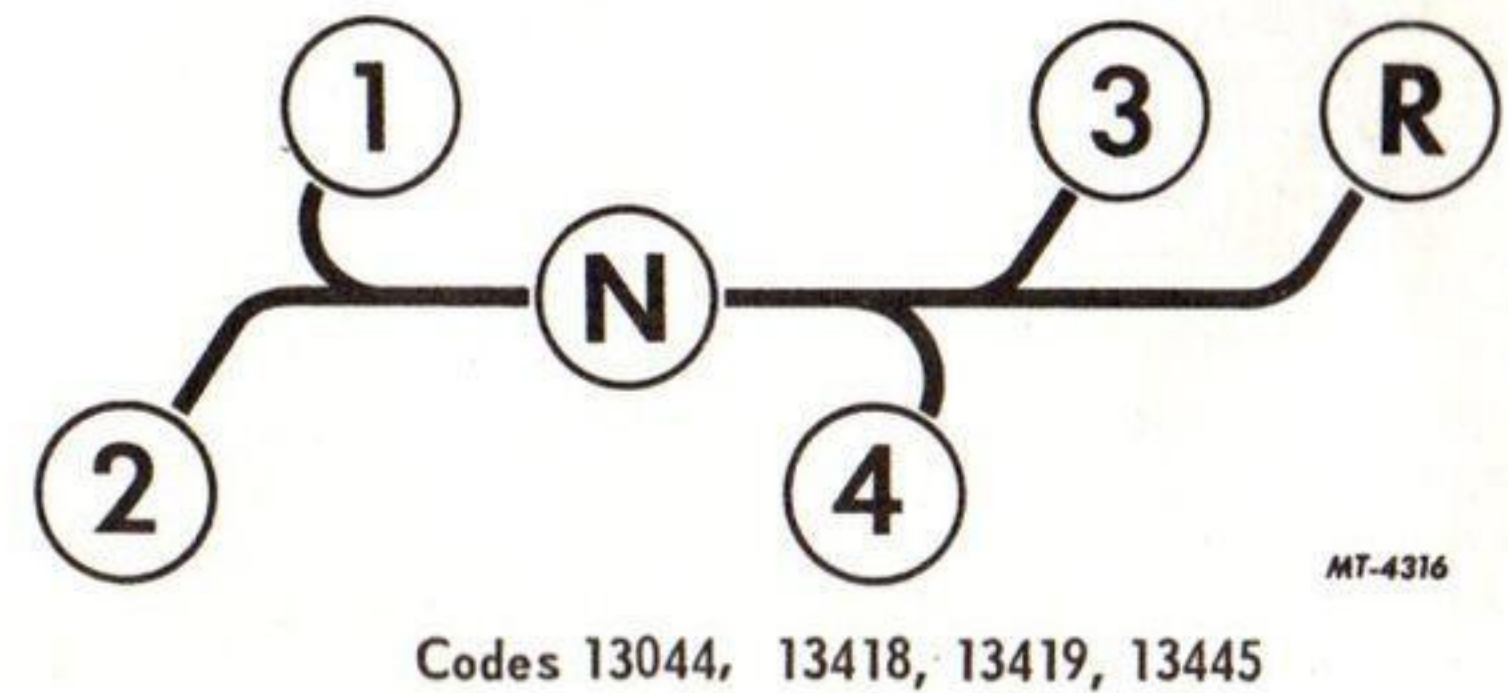
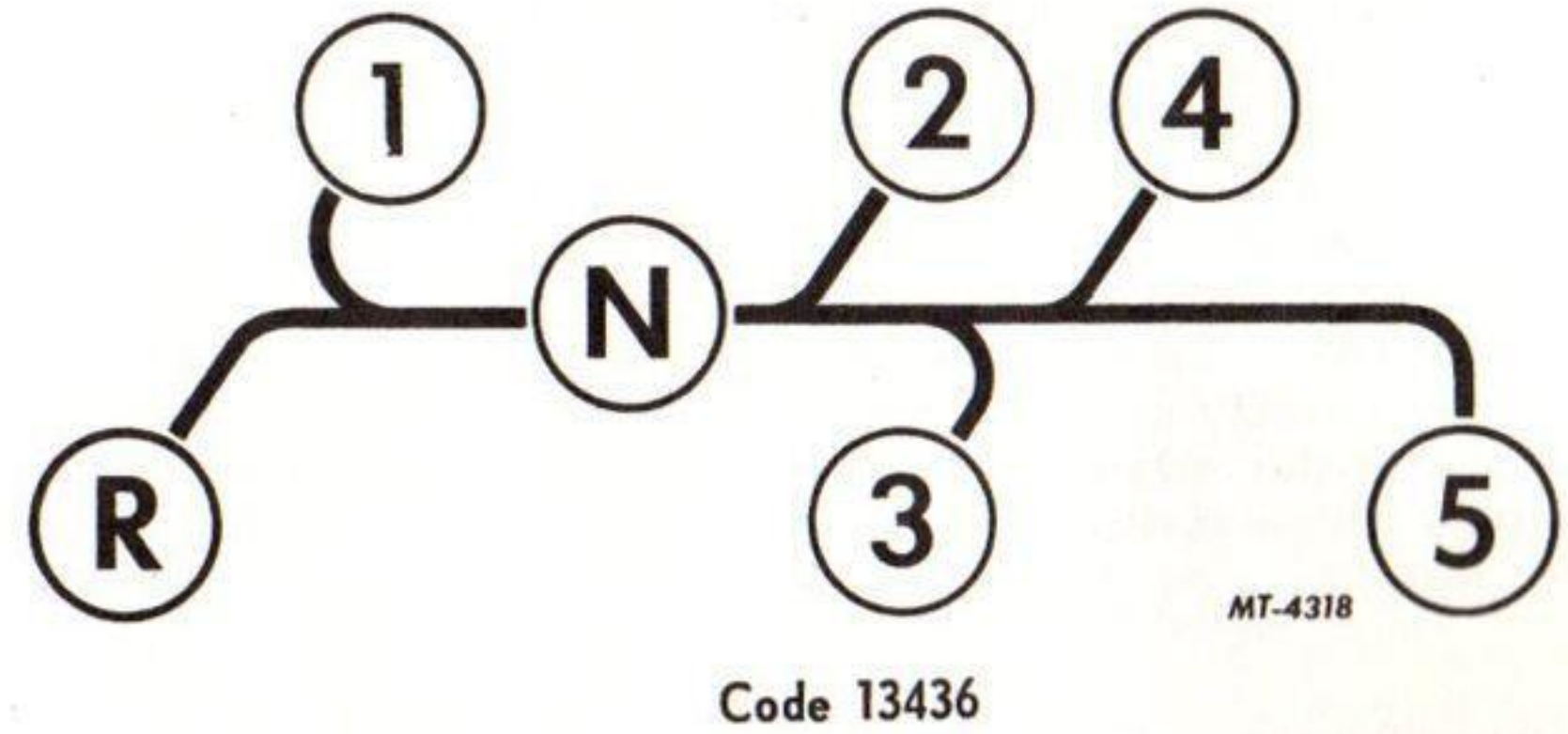
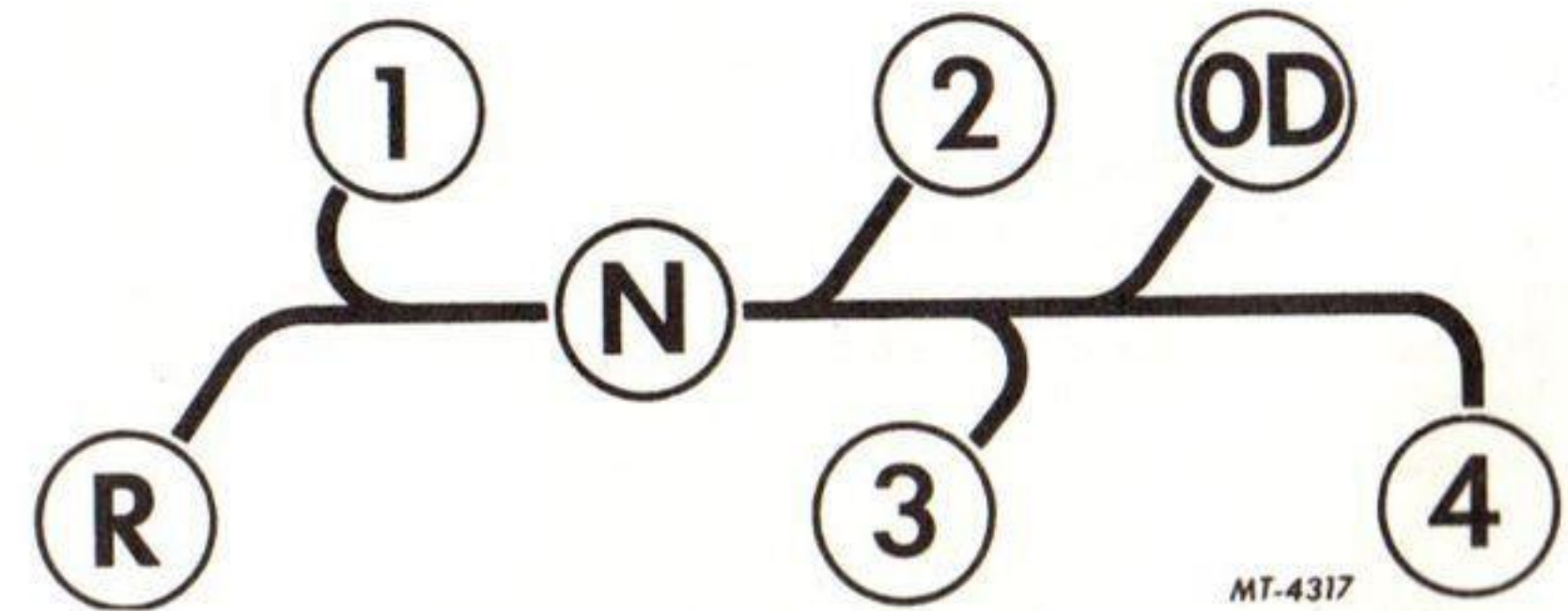
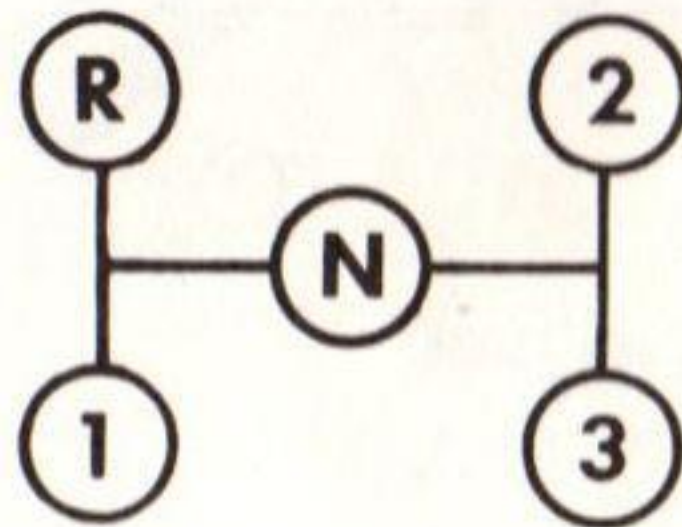


Code 13024

OPERATION



Automatic Transmission



OPERATION

STARTING THE ENGINE – Manual Choke

1. Place the transmission control in the neutral position and apply parking brake.
2. Pull out the throttle control or depress the accelerator sufficiently to "crack" the throttle; the engine will then run at "fast-idle" speed. The throttle control should be gradually pushed in until the proper idling speed is obtained.
3. Pull the choke out one-half the distance. Do not use the choke when the engine is warm. In extremely cold weather, the choke may be pulled out the full distance but must be immediately pushed part way in when the engine starts.

NOTE: The frequent use of the choke control dilutes the crankcase oil. For this reason, we recommend a more frequent complete oil change in winter, using a new oil of good quality.

4. Depress the clutch pedal (manual shift transmission only) and keep it depressed until the engine is running.
5. Turn the ignition switch key to the extreme right and release it the instant the engine starts.

NOTE: Do not run the starting motor for more than approximately 30 seconds at any time. If the engine fails to start or makes a false start, do not turn the ignition switch key again until the engine has come to a complete stop.

6. When the engine starts, the choke must be pushed in as far as possible without disturbing smooth engine operation. Push the choke control all the way in as soon as the engine warms up and operation permits.

Do not start or run an engine in a closed garage.

Exhaust gas from all internal combustion engines contains poisonous carbon monoxide gas which is odorless, tasteless, and colorless. Keep the garage doors wide open when starting and keep your vehicle completely ventilated at all times to avoid drowsiness.

STARTING THE ENGINE – Automatic Choke

Place the transmission control in the neutral position and apply parking brake.

If engine hasn't run for several hours and is cold, press the accelerator pedal once all the way to the floor for a moment and then release it. This sets the automatic choke to give the engine a "rich" fuel mixture for cold starting. If the engine has been stopped for only a short time and is still relatively warm, don't set the choke. Otherwise, you may flood the warm engine with too much gasoline and actually prevent it from starting. Just depress the accelerator pedal about one-fourth of its downward travel and keep it there while starting the engine. Don't pump the accelerator pedal--you'll only flood the engine. If this should happen, however, the engine will usually start if the pedal is pushed and held all the way to the floor while operating the starter.

Depress the clutch pedal (manual shift transmission only) and keep it depressed until the engine is running.

Turn the ignition switch key to the extreme right and release it the instant the engine starts.

NOTE: Do not run the starting motor for more than approximately 30 seconds at any time. If the engine fails to start or makes a false start, do not turn the ignition switch key again until the engine has come to a complete stop.

After a cold engine starts to warm up and is running smoothly, tap accelerator pedal sharply with your foot to reduce fast idle speed.

DRIVING THE VEHICLE (Manual Shift transmission)

1. Always check the hydraulic brake system by depressing the brake pedal before attempting to drive the vehicle. This will familiarize you with the brake pedal action and indicates whether sufficient pedal reserve exists.

2. Depress the clutch pedal.

OPERATION

3. Shift the transmission into first gear position.
4. Release the parking brake.
5. Depress the accelerator pedal to speed up the engine sufficiently to pick up the load. Release the clutch pedal slowly and further depress the accelerator pedal to prevent the engine from stalling while the vehicle moves forward.
6. As the speed increases to approximately 15 mph, release the accelerator and at the same time depress the clutch pedal; then shift the transmission into second gear. Release the clutch slowly and depress the accelerator as described above. As the vehicle speed increases to approximately 25 mph, release the accelerator and at the same time depress the clutch pedal and shift the transmission into third gear. Release the clutch pedal and accelerate the vehicle to desired speed.

CAUTION: Maximum recommended engine speed must not be exceeded. Road speed at which gear shifts are made will be lower with some optional transmissions and high numerical axle ratios to avoid excessive engine speeds.

Driving Downhill

A safety rule followed by all experience drivers when driving downhill, is to use the brakes and transmission gear combinations to keep the vehicle under control. Before entering the downhill grade, apply the brakes to reduce speed and shift the transmission into a lower gear. This will provide additional braking effort from the engine.

When shifting from a higher gear to a lower gear with the vehicle in motion, the engine and vehicle speed must be synchronized to permit lower gear engagement. This is accomplished by "Double Clutching" as follows:

1. Depress the clutch pedal.
2. Place the transmission control in neutral.
3. Engage the clutch and at the same time increase the engine speed.
4. Depress the clutch pedal.
5. Shift the transmission to the desired lower range

6. Synchronize the engine speed with the vehicle speed as the clutch is engaged.

After entering the downhill grade, reduce the vehicle speed with the brakes from time to time as required, to prevent engine speeds exceeding maximum engine r.p.m. Use hard "on-off" brake application to "snub down" the vehicle to keep it well under control.

With the vehicle driving the engine, it is possible for the engine speed to reach far in excess of the maximum recommended r.p.m., causing serious damage to the engine. In otherwords, on a downhill grade the vehicle should never be driving the engine any faster than the engine would normally be operating in the same gear pulling the load.

TWO-SPEED REAR AXLE SWITCH

A switch attached to the transmission control or on the instrument panel permits selection of either the high or low axle ratio. When the switch control is pushed in, the rear axle is in low (power) ratio. When the switch control is pulled out, the rear axle is in high (speed) ratio.

Shifting the Two-Speed Rear Axle

Shifting into the low speed ratio:

- a. On level grades or at high truck speeds:
 1. Keep the accelerator pedal depressed and push the control in.
 2. To complete the shift, release the accelerator pedal and then depress the accelerator again as quickly as possible. Do not operate the clutch.
- b. On upgrades or at slow truck speeds:
 1. Keep the accelerator depressed and push the switch control in.
 2. To complete the shift, keep the accelerator depressed and disengage and reengage the clutch as quickly as possible.

OPERATION

c. On downgrades against the engine:

1. Release the accelerator pedal and push the switch control in.

2. To complete the shift, press down on the accelerator pedal enough to synchronize the gears, then immediately release the accelerator. Do not operate the clutch.

Shifting into the high speed ratio:

a. On downgrades against the engine:

1. Release the accelerator pedal and pull the switch control out.

2. To complete the shift, disengage and reengage the clutch with the accelerator pedal released.

b. At any time except on downgrades against the engine:

1. Keep the accelerator pedal depressed and pull the switch control out.

2. Gradually release the accelerator to complete the shift. Do not depress the accelerator until the shift is completed.

Split Shifting

To shift to the next higher gear in the transmission and at the same time from the high to the low speed axle, shift the transmission in the usual way and push the switch control in just before engaging the clutch.

To shift to the next lower gear in the transmission and at the same time from the low to the high speed axle, pull the switch control out and release the accelerator, then complete the transmission shift in the usual way.

Always park and start in low range.

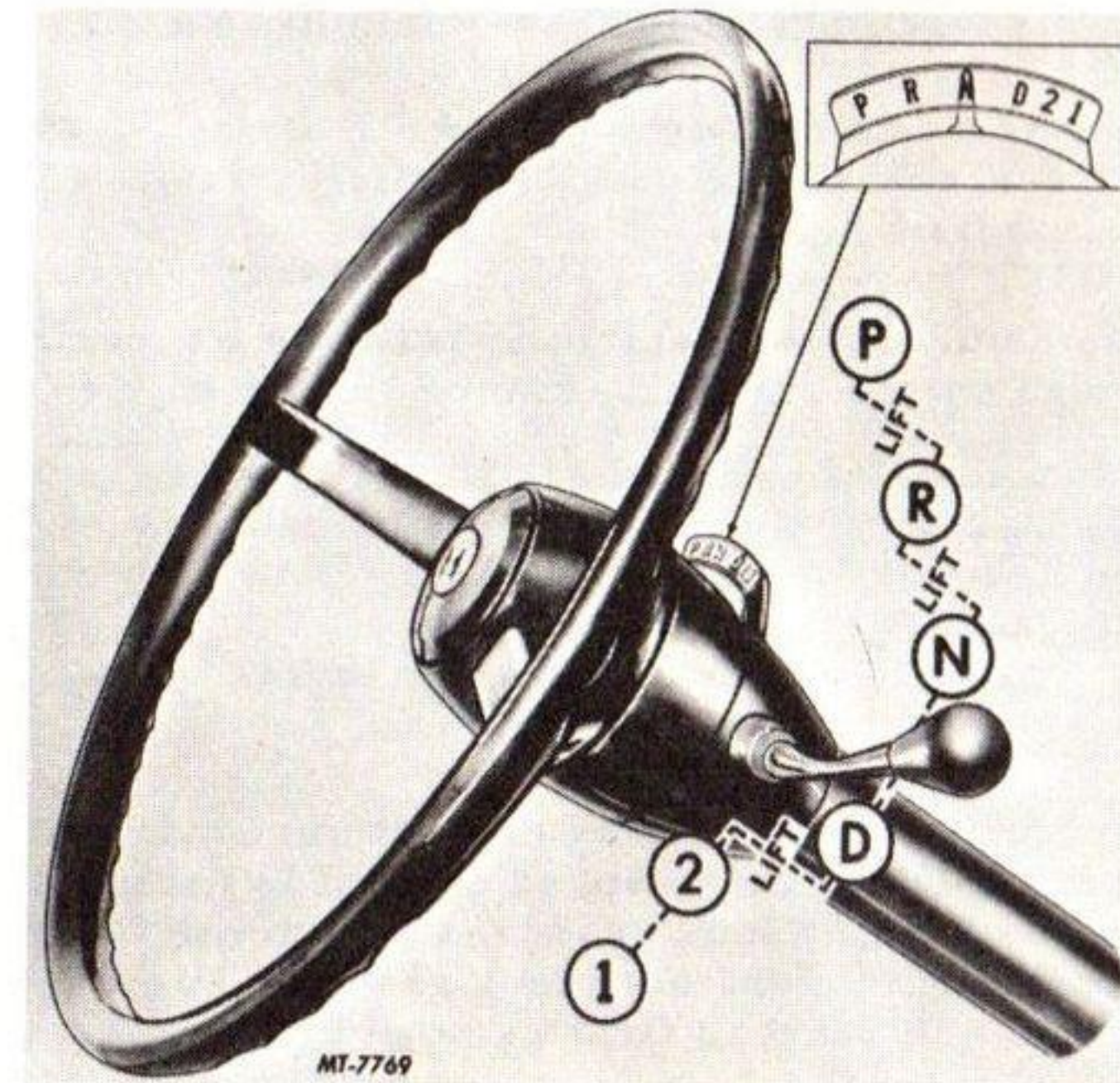
ENGINE SHUTDOWN

A basic rule of good engine operation concerns the importance of idling the engine from three to five minutes before shutting down. This few minutes idling allows the lubricating oil and water to carry heat away from the iron masses.

The larger the engine, the greater the need for this idling period and of course, the length of the idling period should somewhat follow the size of the engine in order to overcome gasoline percolation in the carburetor and to avoid seals or like features of an engine being damaged by rising heat.

DRIVING THE VEHICLE (Automatic Transmission)

Operation of the automatic transmission is controlled by a selector lever mounted on the steering column. The position of the lever is clearly shown by a range indicator. When the instrument panel lights are turned on the quadrant is illuminated. The selector lever has the following six positions:



OPERATION

This transmission features the added flexibility of manually selecting and holding either second or low-gear ratio in addition to the fully automatic drive range. This flexibility permits the driver to select the most suitable forward drive gear range for matching road and load conditions.

"P" Parking

Supplements parking brake by locking the transmission. Engine can be started in this range. Never use "P" while vehicle is in motion. Apply parking brake while in this range.

"R" Reverse

Use this range only when the vehicle has been stopped completely.

"N" Neutral

Shift to neutral when vehicle is standing for prolonged periods with engine running. Engine can be started in this range.

"D" Drive

For most city and highway driving.

"2" Second

For driving slowly in heavy city traffic or on mountain roads where more precise speed control is desirable. Use it also when climbing long grades, and for "engine braking" when descending moderately steep grades. From a standing start vehicle will start in first gear and shift to second gear.

CAUTION: To prevent excessive engine speed do not exceed 45 miles per hour in this range.

"1" First

For driving up very steep hills and for "engine braking" at low speeds (25 miles per hour or less) when going down hill.

CAUTION: To prevent excessive engine speed do not exceed 25 miles per hour in this range.

Rocking the Vehicle

If vehicle becomes stuck in snow, sand, or mud it can often be moved by a rocking motion. Move the gear selector rhythmically between "Drive" and "Reverse", while applying slight pressure to the accelerator.

CAUTION: Avoid racing the engine or spinning the wheels. Prolonged efforts to free a stuck vehicle may result in overheating and transmission failure.

Passing Acceleration

To obtain quick acceleration at speeds below 30 mph depress the accelerator briskly to the floor. This shifts the transmission to a lower gear. It will shift up again when foot pressure is released.

Any time an engine lugging condition is encountered, particularly true on camper models or vehicles towing a trailer, manually downshift the transmission to obtain rapid acceleration. After the desired speed has been reached manually shift the transmission into "Drive" range.

OPERATION

Holding on an Upgrade

The vehicle should be held on an upgrade only by using the foot brake or parking brake and park position. Using a driving gear to hold on an upgrade can cause the engine to become overheated. Do not idle the engine for more than one minute with transmission in gear. Longer periods of idling, while in gear, can cause overheating of the engine.

EMERGENCY STARTING

Vehicles equipped with automatic transmission cannot be started by pushing. To start the vehicle when the battery is discharged, use an auxiliary battery with jumper cables. Be sure to observe correct polarity (positive cable to positive terminal and negative cable to negative terminal) when connecting auxiliary battery to prevent possible damage to the electrical system.

TOWING THE VEHICLE (Automatic Transmission)

Vehicle can be towed for short distances at speeds not exceeding 30 mph with the transmission in NEUTRAL.

Do not tow the vehicle with the transmission in any one of the driving ranges.

For distance towing (over 15 miles) or if the transmission is not operating properly, remove the propeller shaft or tow with the rear end hoisted.

TOWING INSTRUCTIONS (T-24 Transmission)

When towing a vehicle equipped with a T-24 transmission, the rear end must be picked up or the propeller shaft removed. Towing the vehicle with the propeller shaft connected and the transmission in neutral results in operation of the mainshaft assembly without the countershaft in motion to carry the lubricant to the synchronizing unit, mainshaft bearing, and gears, causing premature transmission failure.

CAUTION: Be sure the propeller shaft has been properly reinstalled.

TRAC-LOK DIFFERENTIAL

The axle Trac-Lok differential permits the axle to transmit the major driving force to the wheel with better traction.

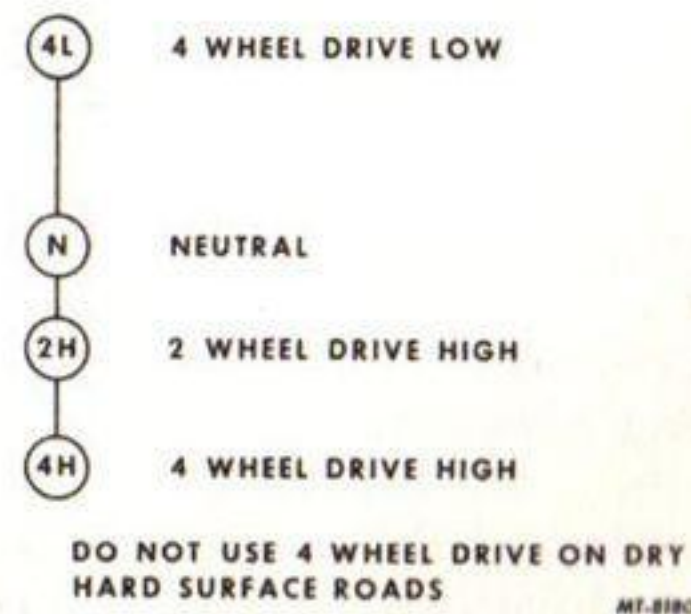
NOTE: When starting with one wheel on an excessively slippery surface, slight application of the brakes may be necessary to help energize the Trac-Lok differential to gain maximum traction. Release brake when traction is regained.

CAUTION: If your vehicle is equipped with a Trac-Lok differential, power will be transmitted to the opposite wheel should one of the wheels slip. Both wheels must be raised free of the ground should it be necessary to operate one wheel with the vehicle stationary, otherwise the wheel that is not raised will pull the vehicle off its supports.

OPERATION

FRONT AXLE AND TRANSFER CASE CONTROL (4x4 Vehicles)

The front axle and transfer case single lever control engages or disengages the front axle and also selects the high or low speed range of the transfer case. When the front axle is engaged, a "RED" light on the instrument panel will glow to alert the operator. The four positions of the control are as follows:



FOUR-WHEEL DRIVE LOW: Control is in extreme forward position. The front and rear axles are engaged and the transfer case is in low range.

Provides four-wheel drive for transporting heavy loads over rough terrain or when driving up steep grades, through mud, sand, snow, and on ice.

NOTE: To avoid excessive torque loads on the rear axle, **DO NOT** drive vehicle in low range of transfer case with locking hubs set in "FREE" position.

NEUTRAL: Control is in center position.

Both axles disengaged for operation of power take-off with vehicle stationary.

NOTE: Do not run the transfer case in neutral for extended periods of time when power take-off is disengaged.

TWO-WHEEL DRIVE HIGH: Control is slightly forward of extreme rear position. Rear axle engaged, transfer case in high range. Front axle disengaged. The control may be left in this position for **NORMAL OPERATION**.

FOUR-WHEEL DRIVE HIGH: Control is in extreme rear position. Front and rear axles engaged, transfer case in high range. Remember to engage locking hubs if so equipped.

Provides four-wheel drive for unimproved roads or driving conditions that require more traction than normal two-wheel drive operation can provide.

FRONT AXLE ENGAGEMENT (4x4 Vehicles) (Manual Shift Transmission)

The front axle can be engaged with the vehicle in motion by pulling the control back to four-wheel drive high position. It is not necessary to stop the vehicle or to disengage the clutch when engaging the front axle.

If difficulty is encountered in engaging the front axle when the vehicle is not in motion, it means the splines on the engaging clutch are not matched. Using forcing action or kicking the control will not make it engage but may damage the control linkage. Shift the transmission into low gear and roll the vehicle forward, keeping pressure on the control. When the splines are matched, it will engage.

NOTE: Do not keep the front axle engaged when operating on **DRY, HARD** surfaced roads.

OPERATION

FRONT AXLE DISENGAGEMENT (4x4 Vehicles) (Manual Shift Transmission)

To disengage the front axle with the vehicle in motion, it is necessary to relieve the torque build-up between the front and rear axle by either slacking off on the accelerator and/or releasing the clutch while pressure is applied to the front axle control.

In some instances it may be necessary to stop the vehicle and move it slightly in the reverse direction before disengagement of the front axle can be completed.

TRANSFER CASE "HIGH" TO "LOW" SPEED SHIFTING (4x4 Vehicles) (Manual Shift Transmission)

The shift from "high" to "low" speed range can be made with the vehicle in motion whenever load or road conditions require additional power. The shift can be accomplished whenever the engine speed is equalized with that of the transfer case; however, shifting to the low speed range while the vehicle is in motion is recommended only in the lower speeds of the transmission. The following procedure, known as "double-clutching", should be used when shifting the transfer case from "high" to "low" range to prevent gear clash:

1. Ease off on the accelerator and disengage the clutch.
2. Move the transfer case control from "high" to "neutral" position and engage the clutch. At the same time, accelerate the engine sufficiently to bring about an equalization of engine speed and transfer case gear speed.
3. Disengage the clutch, ease off on the accelerator, and, without applying excessive pressure, push the transfer case control forward to "low" speed position.
4. Engage the clutch and depress the accelerator sufficiently to pick up the load.

TRANSFER CASE "LOW" TO "HIGH" SPEED SHIFTING (4x4 Vehicles) (Manual Shift Transmission)

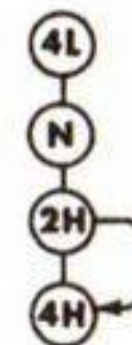
The transfer case can be shifted from "low" to "high" speed at any time regardless of vehicle speed provided the engine speed is equalized with that of the transfer case. The following procedure, known as "double-clutching", should be used when shifting the transfer case from "low" to "high" speed position.

1. Ease off on the accelerator and disengage the clutch.
2. Move the transfer case control from "low" to "neutral" position.
3. Engage and disengage the clutch. Move the control to "high" speed position.
4. Engage the clutch and depress the accelerator.

TRANSFER CASE SHIFTING INSTRUCTIONS (4x4 Vehicles) (Automatic Transmission)

To familiarize the operator with the proper procedures for shifting the transfer case on 4x4 vehicles equipped with automatic transmission, the following instructions are provided. These instructions differ somewhat from those used when shifting a transfer case used in conjunction with a manual shift transmission.

N TO 4L OR 2H: Service brakes and parking brakes should be applied when the transmission and transfer case have been left in the Neutral Position with the engine running. It may be necessary (to avoid gear clash) to shift the transmission, pausing in Reverse, and then into Park Position prior to engaging the transfer case lever. It may be necessary to maintain pressure on transfer case shift lever and shift transmission out of Park to complete engagement.



OPERATION

2WD HIGH TO 4WD HIGH: This shift may be made at any vehicle speed. Maintaining vehicle speed, pull the transfer case shift lever from 2WD high position to the 4WD high position.

4WD HIGH TO 4WD LOW:

1. Stop the vehicle leaving the transmission in "D" (drive range) and apply the parking brake and service brakes.

2. Move transfer case shift lever from 4WD high position, then apply forward pressure to the shift lever, pushing straight toward neutral.

3. Keeping constant pressure on the transfer case shift lever, move the transmission selector with the left hand from "D" (drive range) through "N" (neutral) to "R" (reverse) pausing then shift to "P" (park) and back to "D" (drive) in a constant slow movement. It may be necessary to repeat the transmission selector lever action a few times before the shift is completed.

4WD LOW TO 4WD HIGH:

1. Stop the vehicle leaving the transmission in "D" (drive range) and apply the parking brake and service brakes.

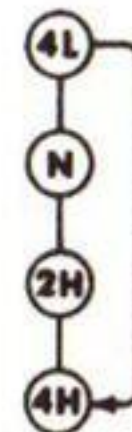
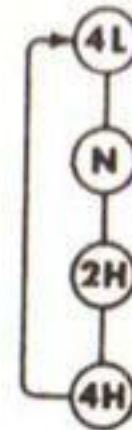
2. Move the transfer case shift lever from 4WD low position by applying pressure to the shift lever, pulling straight toward neutral.

3. Keeping constant pressure on the transfer case shift lever, move the transmission selector with the left hand from "D" (drive range) through "N" (neutral) to "R" (reverse) pausing then shift to "P" (park) and back to "D" (drive) in a constant slow movement. It may be necessary to repeat the transmission selector lever action a few times before the shift is completed.

4WD HIGH TO 2WD HIGH:

This shift may be made at any vehicle speed providing you ease off on the accelerator pedal and push the transfer case shift lever straight forward from the 4WD high position to the 2WD high position.

NOTE: DO NOT USE 4-WHEEL DRIVE ON DRY HARD SURFACE ROAD. WHEN PARKING VEHICLE, LEAVE TRANSFER CASE IN GEAR, PLACE SELECTOR LEVER IN "P" (PARK) POSITION AND APPLY PARKING BRAKE.



OPERATION

REAR AXLE - 4x4 Vehicles

Operation of rear wheels with rear wheels raised from ground.

PRECAUTIONARY INSTRUCTIONS

Should it be necessary to operate the rear wheels (with engine power) with the vehicle stationary and the rear wheels raised from the ground, first disengage the front axle, otherwise the driving front axle will pull the vehicle off its support

SUBMERGED OR FORDING OPERATION

Vehicle used in off-the-road operations that encounter submersion of various chassis components in mud and water should be inspected at frequent intervals for contamination of the lubricant. Should inspection reveal that water or mud has entered the engine, transmission, transfer case or axles, drain, flush, and refill with new lubricant.

Check the wheel bearings and wheel hubs, clean and re-pack if necessary.

A complete chassis lubrication is also recommended to force out any water or dirt that is present.

The front axle universal joints on 4x4 vehicles should be inspected and, if contamination of the lubricant is found, the universal joints should be removed and both the joints and housing cleaned and refilled.

WINCH

The power-take-off control to operate the winch is located on the cab floor convenient to the driver's right hand.

A control lever located on the right side of the winch is used to engage and disengage the winch drum.

To operate the winch:

1. Move drum clutch control lever toward winch drum to disengage drum.

OPERATION

2. Pull on end of wire cable until required length has been unreeled. Take care not to kink cable.

CAUTION: Always wear gloves when handling wire cable. Never let cable run through hands. Broken wires can cause painful injuries.

3. Move drum clutch control lever away from winch drum to engage clutch.

4. Disengage the engine clutch and pull the power-take-off control up to wind the cable. On vehicles equipped with a power-take-off having a forward and reverse gear, pull control up to "R" position to wind the cable or push control down to "F" position to unwind the cable. Use the engine and clutch to apply power as required.

To rewind cable:

Operate winch placing a light load on wire cable to insure a tight and neat wind on drum. Make sure each layer of cable is evenly wound on drum.

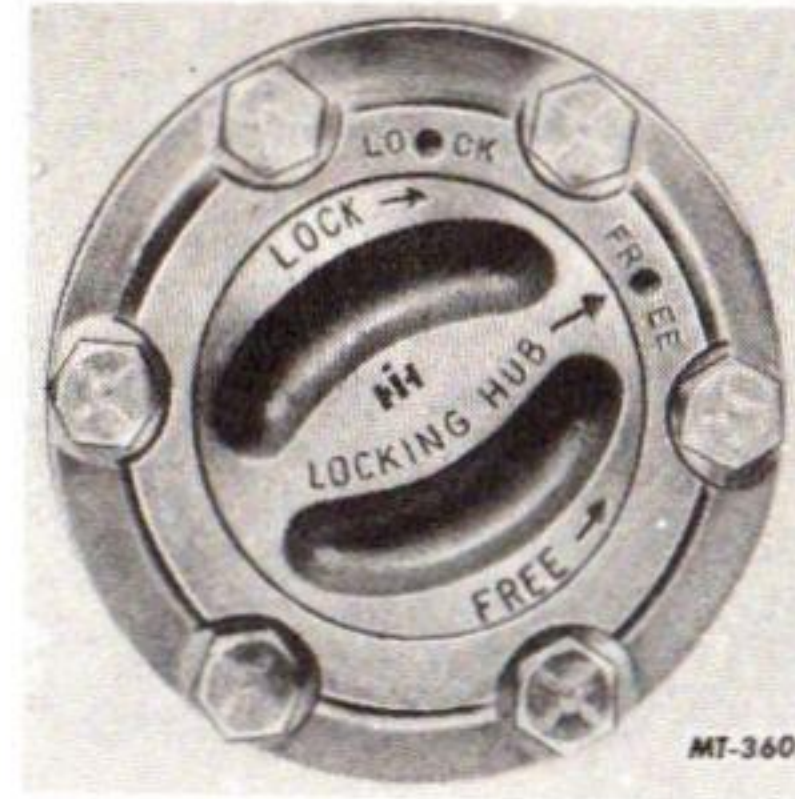
FRONT WHEEL LOCKING HUBS (4x4 Vehicles)

Locking hubs provide a means of controlling the engagement of the front wheels with the front drive axle. When engaged, full power is transmitted to both wheels. Disengagement with front axle not driving allows the front wheels to "Free Wheel," and the axle shafts and differential gears to remain idle, saving unnecessary wear.

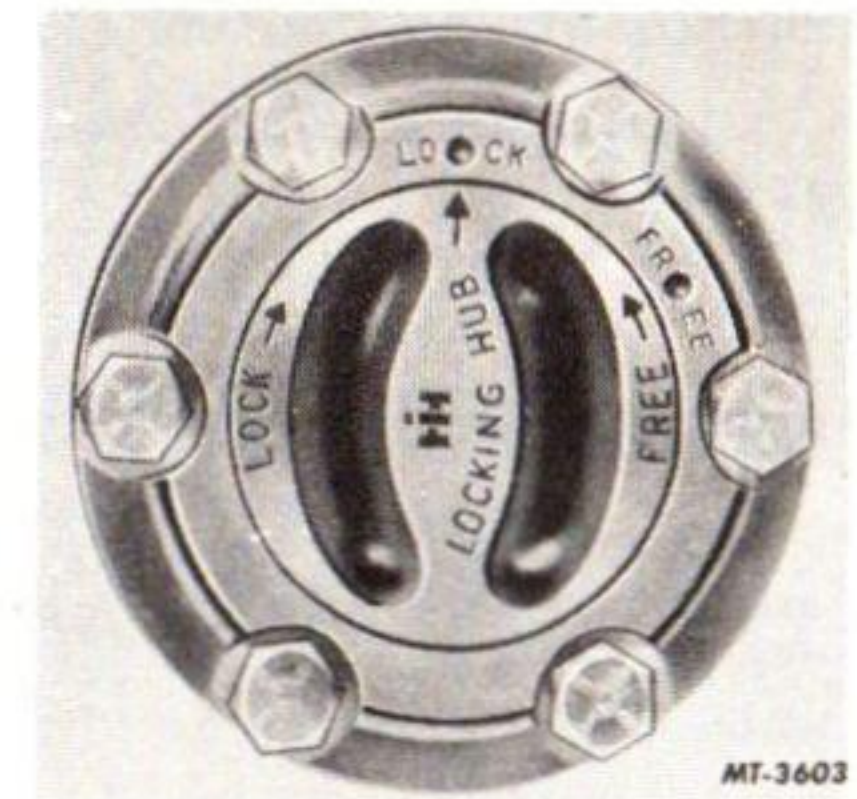
NOTE: For the first 200 miles operate your new vehicle with the locking hubs in "lock" position to assist in initial break-in of the front driving axle.

CAUTION: DO NOT DRIVE unless controls on both hubs are set properly and both are set the same!

BE SURE THAT BOTH HUBS are in either "FREE" position (TURN COUNTERCLOCKWISE TO FREE) or "LOCK"



Free Position



Lock Position

position (TURN CLOCKWISE TO LOCK). Arrow in center of control must always point directly to one of the dots on the rim of the hub. Controls "SEAT" when in position! You can feel the control "SEAT" itself when it is properly set. If arrow does not point to one of the dots, it will not seat. Both hubs must always be set the same!

USE FINGERS ONLY TO TURN CONTROLS. If controls do not turn freely with your fingers, move vehicle slightly either way in two-wheel drive, standard gear range, and try again. DO NOT FORCE CONTROLS WITH TOOLS.

WHEN TO USE "FREE" OR "LOCK" POSITION: Use "FREE" for all driving that does not require four-wheel drive power and traction.

USE "LOCK" whenever four-wheel drive is used.

NOTE: To avoid excessive torque loads on the rear axle, DO NOT drive vehicle in low range of transfer case with locking hubs set in "FREE" position.

OPERATION

Trailers and Trailer Towing

If you have ordered your pick-up with specific trailer towing specifications having selected engines, transmissions, axles and trailer hitch you will be assured of reliable and satisfactory performance. Many pick-up users are already aware of the wealth of information and trailer towing lore generated by years of actual experience on the road. For those who are new at this enjoyable experience we are providing some interesting tips and rules that have proven to be the required procedures for minimum trouble and maximum pleasure.

TIPS ON PULLING TRAILERS

1. Remember first and foremost that when pulling a trailer you're operating an entirely different kind of vehicle. The handling, steering, braking, accelerating and riding characteristics of the towing unit will be altered. So before you head out for a long trip, be sure you operate the combination for some time around home, long enough to become familiar with its new characteristics.

2. Always use your pick-up and trailer brakes together, making sure to have the correct "balance" between vehicle and trailer. Do not tap into the vehicle's hydraulic brake system to supply a trailer hydraulic brake system. When a hydraulic actuated electric trailer brake controller is installed, it is mandatory to take the hydraulic pressure for controller actuation from the line which controls the vehicle's rear wheel brakes.

3. Even with trailer brakes operating properly, the distance required to bring the rig to a stop will be considerably increased. Be sure you make allowance for the greater stopping distance requirements by starting to brake well in advance.

4. Don't abuse your brakes by making them do all the work. Use the engine to provide braking assistance by shift-

ing to a lower gear when descending grades, and letting the compression of the engine help slow down the vehicle.

5. Remember that you will need more room to pass safely, because the length of the combination is greater and because more power is being consumed to pull the trailer and therefore is not available as reserve for passing.

6. Anticipate road conditions and traffic well in advance. Remember that you are now a slower, more cumbersome vehicle, and be particularly courteous in your driving.

7. Do not try to maintain the high road speeds you might be accustomed to when you're not pulling a trailer. The road grade, rolling resistance and air resistance horsepower requirements for the trailer combination are considerably higher than for the towing unit alone. Settle for a cruising road speed of about 50 m.p.h.

8. On a hot summer day, while climbing a grade, you may find that the water temperature gauge starts moving up, even with the optional increased capacity cooling. This is to be expected because the engine is producing more heat under these conditions. However, minimize overheating by shifting to a lower gear if the gauge gets close to the "hot" mark. Downshifting allows the engine to run faster, running the water pump at a high r.p.m. and making the cooling system more efficient. A 50-50 solution of IH permanent anti-freeze and water raises the boiling point of the coolant approximately 15°. It is to your advantage to keep permanent anti-freeze in the cooling system year around.

9. Load the trailer carefully, balancing the load as evenly as possible. Ideally the load should be balanced left to right, and arranged fore and aft so as to place about 10% of the total trailer weight on the trailer hitch. In practice this may be difficult to determine, but in any case use good judgment in distributing the trailer load to assure good trailer riding and following characteristics. As a rule of thumb, the level

OPERATION

of the towing vehicle is the same after proper adjustments of the equalizer bars as it was prior to the trailer hook-up.

10. Remember that with a load equalizing hitch you transfer trailer tongue weight (load) from the rear wheels of the towing vehicle to the front wheels of the towing vehicle and the trailer axle. Mal-adjustment of the equalizing bars can unload the towing vehicle rear axle to the extent that the rear wheels of the towing vehicle can lose traction on ascending or descending a sharp breaking ramp. Be guided by the instructions and recommendations supplied with the equalizing attachments.

11. Be sure the trailer brakes and lights are in good working order and properly connected before starting out on the road.

12. Avoid "jackrabbit" starts and "crash" stops. This kind of operation puts particularly severe strains on all driveline components, and may be the cause of troublesome road failure. Start slowly, in low gear, and accelerate smoothly. Brake gradually, using a lower gear on downgrades.

13. Practice backing your trailer before you leave on a trip. A simple rule in learning how to back right into the spot you want is to turn the wheel in the direction opposite to the way you want the rear of the trailer to turn.

14. Signal your intentions to turn or change lanes well in advance of the maneuver. Then be sure you have enough room to change lanes or pull in or out of traffic.

If you follow these rules . . . and use a generous measure of good old-fashioned common sense . . . the pleasure and satisfaction you get from your travel-trailer tour will be greatly increased. And to assure maximum satisfaction . . . contact your IH Dealer or Branch for more detailed information covering various types of trailers and trailer towing.

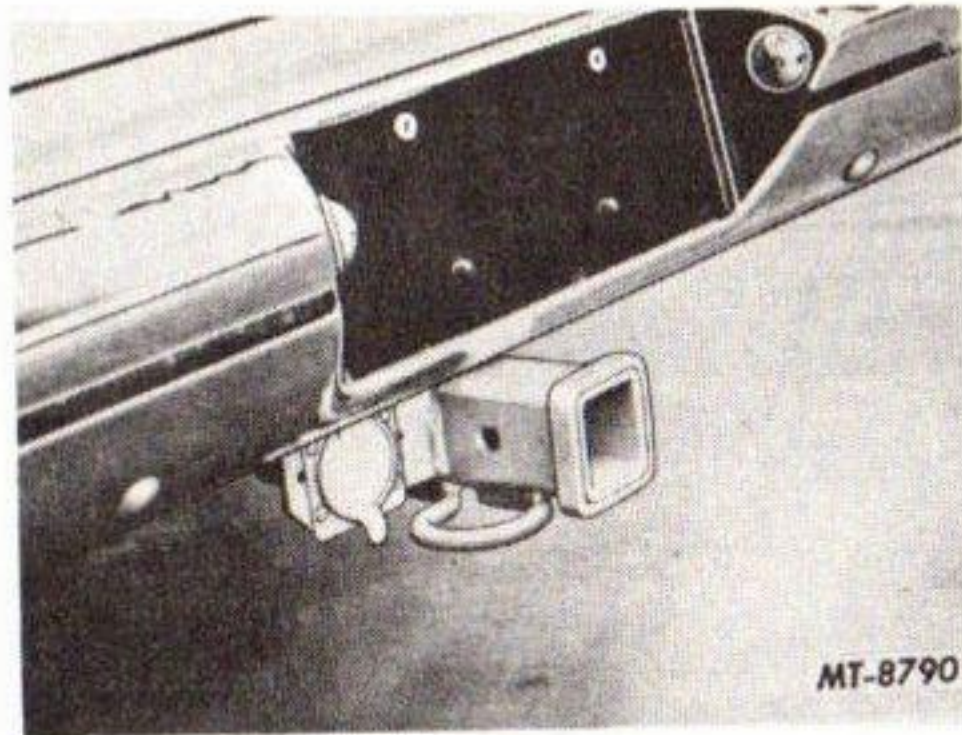
WEIGHT LIMITS – MAXIMUM

	<u>1010, 1110</u>	<u>1210</u>
Unbraked Trailer	2,000 lbs.	2,000 lbs.
Gross Combination Weight with Unbraked Trailer	7,000 lbs.	9,000 lbs.
Braked Trailer	5,000 lbs.	6,000 lbs.
Gross Combination Weight with Braked Trailer	10,500 lbs.	13,000 lbs.

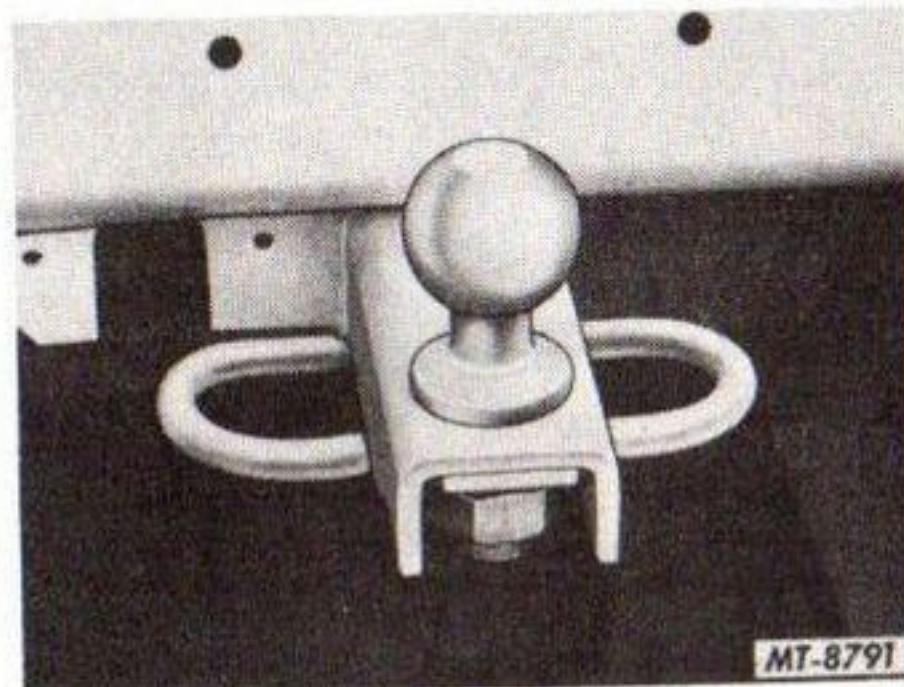
Trailers weighing more than 2,000 lbs. must have brakes on all wheels.

Power brakes are required on pick-ups used for trailer towing.

OPERATION



Draw-bar for equalizer type hitch



Ball-type hitch for small light weight trailers

Trailer Hitches

The pick-up can be ordered with a factory installed hitch. These hitches are available from your regular dealer or from the IH Branch Service Center. Two hitches are available: the conventional ball type hitch or the equalizing type hitch. The selection of hitches is dependent upon the size or weight of trailer or hitch load. The IH Branch or your dealer can guide you in the selection of the proper hitch and its installation.

Equalizing Type Hitch. Recommended for trailers where extended mileage is driven and the trailer weight exceeds 2,000 lbs. The square tubular draw-bar attached to the Travelall frame is designed to receive a close fitting equalizer type hitch. Provision for a hitch lock pin is made in the draw-bar. This type hitch is recommended for all travel trailers.

Conventional Ball Type Hitch. For use when towing the smaller camper trailers, boat trailer and light utility trailers.

CAUTION: Do not use axle mounted hitches.

MAINTENANCE

OPERATOR'S MAINTENANCE

The following pages cover minor servicing and maintenance instructions which should be performed to assure efficient operation of the vehicle.

PAINT, BRIGHT METAL AND UPHOLSTERY MAINTENANCE

Frequent and regular washing, will lengthen the life of your new vehicle's painted finish and bright metal trim.

Washing. Wash your vehicle often with warm or cold water to remove dirt and preserve the original luster of the paint. Never wash the vehicle in the direct rays of the hot sun nor when the sheet metal is hot to the touch, as this may cause streaks on the finish. Do not use hot water or strong soaps or detergents or wipe off dirt when the surface is dry as this will scratch the paint.

Avoid waxing or polishing new vehicles.

With the paint materials used on present production IH vehicles, it is definitely harmful to the life of the paint to use any kind of polish on a new truck. Polishes and combination cleaner and polish waxes all contain abrasives which cut through the skin of the enamel film, thus exposing the pigment to ultra-violet attack which accelerates chalking and dulling of the paint.

In those cases where the vehicle paint has chalked or dulled from age or weather conditions, then a cleaner and polish could be used.

Bright Metal Care. Bright metal such as anodized aluminum, chrome and stainless steel require the same washing as painted surfaces. A non-abrasive chrome cleaner may be used sparingly to clean the bright metal. Do not use steel wool. Use of automobile wax or polish on bright metal usually will restore the original brightness.

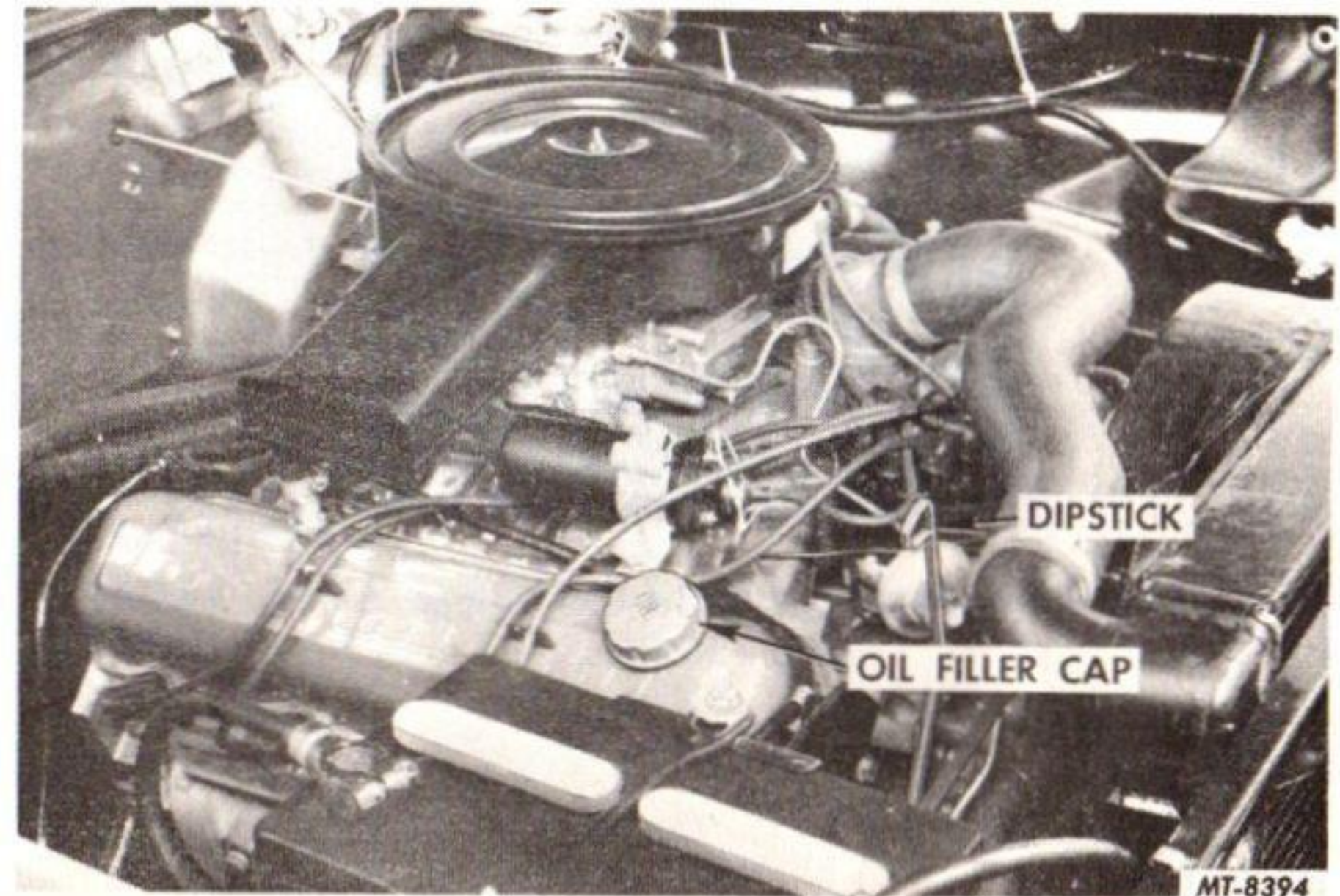
Upholstery Care. Use a whisk broom and vacuum cleaner to remove loose dust and dirt from the upholstery and floor. Vinyl and woven plastic upholstery can be washed with warm water and mild soap, wipe dry. If commercial cleaners are used, follow instructions supplied with cleaner.

LUBRICATION

Have the vehicle properly lubricated at regular intervals according to the lubrication instructions and diagrams shown in this manual.

ENGINE OIL

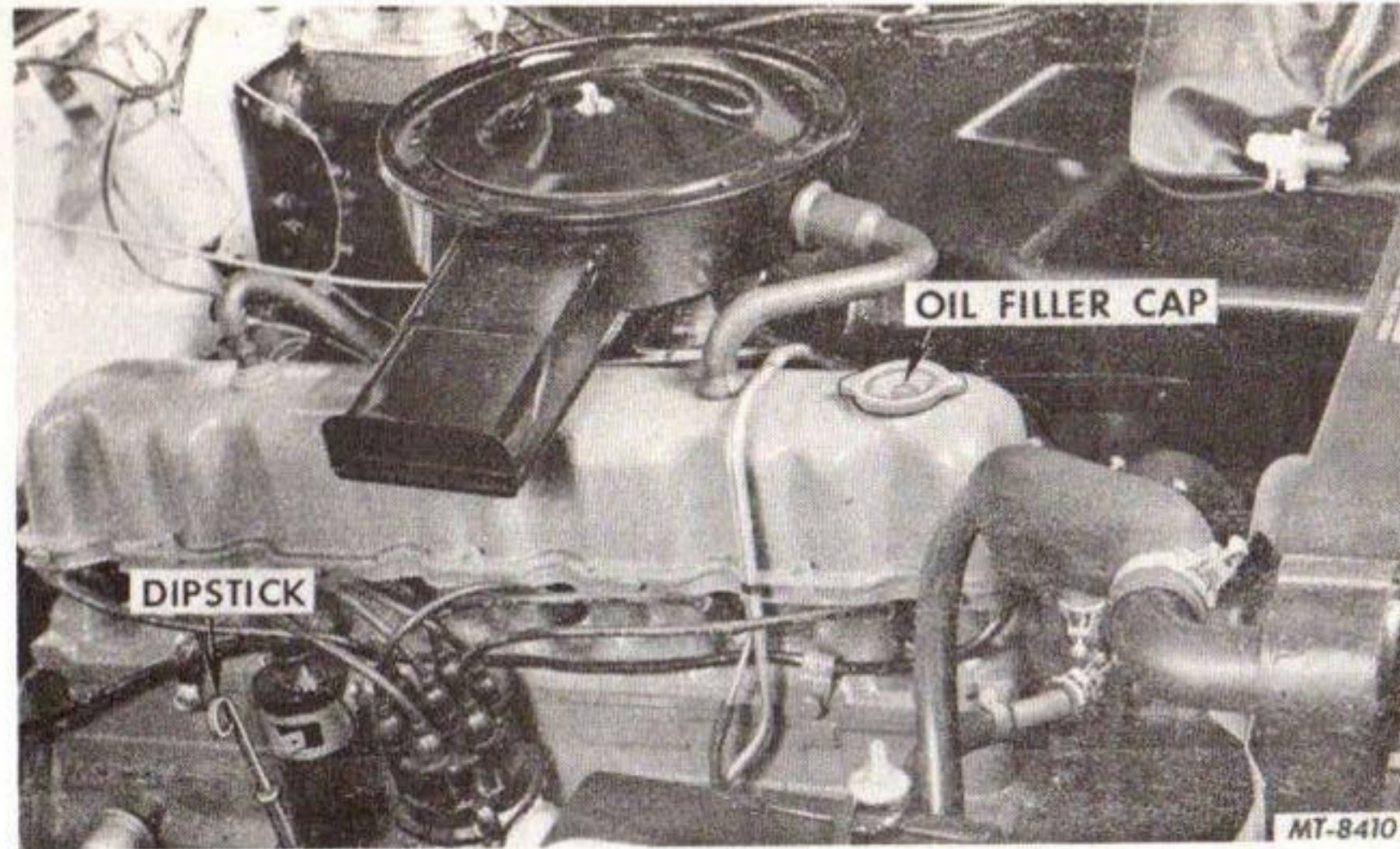
IMPORTANT: Be sure the oil level in the crankcase is between the "ADD" and "FULL" marks on the oil dipstick (located on the right side of the engine on 6 cylinder engines and on the right side front on 8 cylinder engines).



MT-8394

V-8 Engine Illustrated

MAINTENANCE



6-Cylinder Engine Illustrated

The best time to check oil level is before operating the engine or as the last step in a fuel stop. This will allow the oil accumulation in the engine to drain back into the oil pan.

When checking the oil level, the dipstick must be withdrawn and wiped clean, then inserted all the way and again withdrawn for a true reading.

Never check the oil level with the engine running as an inaccurate reading will be obtained.

For best performance and maximum protection of your engine use only "MS Sequence Tested Oils" ("SC" or "SD").

NOTE: Non-detergent and other low quality oils are specifically not recommended. The use of proper engine oils and oil change intervals are your best assurance of continued reliability and performance from your engine.

Refer to lubrication instructions for recommended oil change interval and SAE grade for expected temperature range.

OIL FILTER-ENGINE (Full Flow)

The frequency of the oil filter change depends entirely upon the type of vehicle operation, road conditions, mechanical condition of engine, and quality or type of oil being used. Filter life cannot be determined by mileage or hours of operation alone, as operating conditions vary.

Should changing the oil filter be neglected, the filter will cease to function. This will shorten the life of future elements and new oil until such time as the engine is again clean.

MAINTENANCE

Procedure for servicing the spin-on type oil filter is as follows:

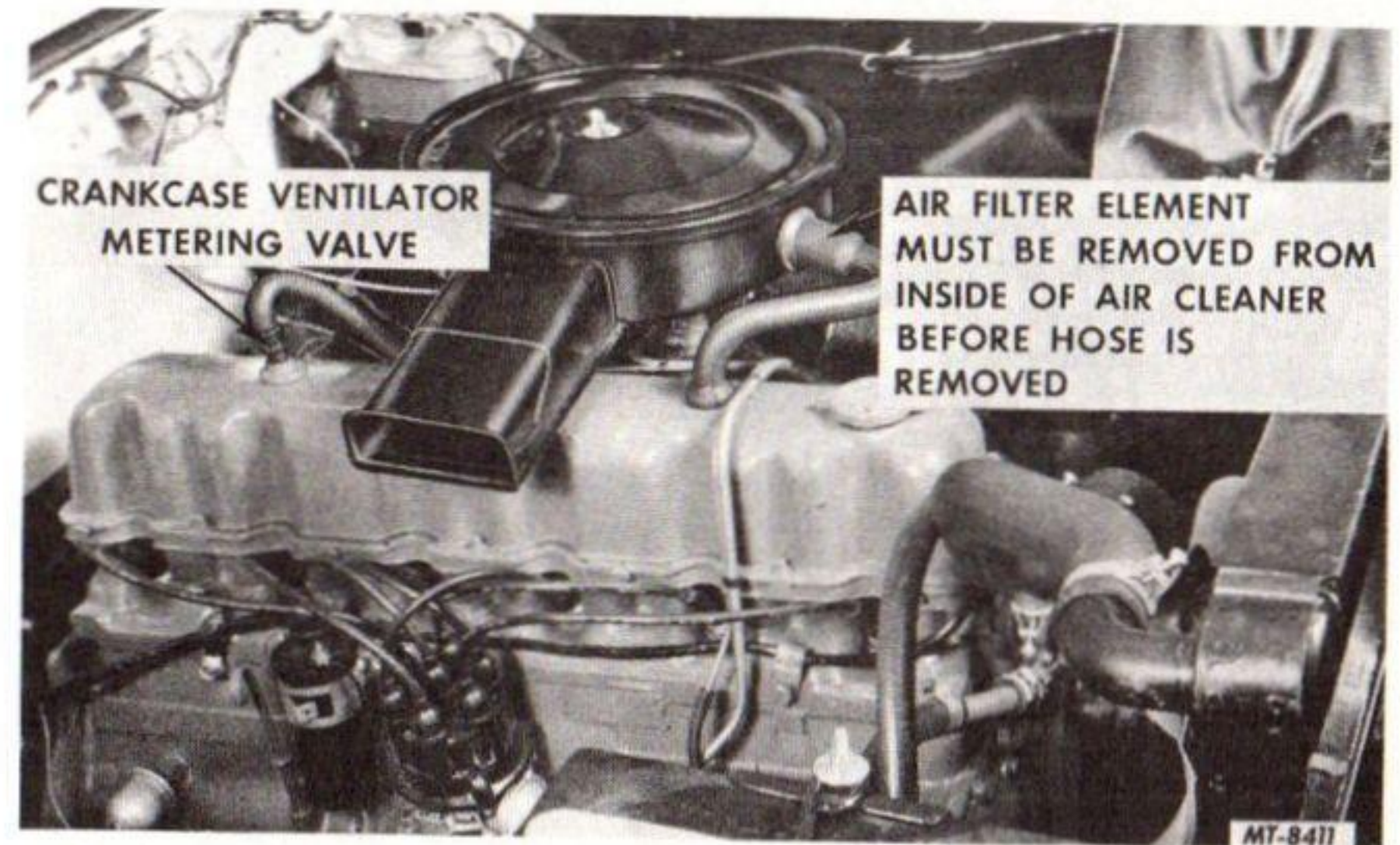
1. Remove oil filter assembly by turning counterclockwise with the hands or a suitable tool. Clean filter mounting pad.
2. Coat the gasket on the new filter with a film of grease.
3. Place the new filter in position on the center tube. Hand-tighten $1/2$ to $3/4$ of a turn after gasket first contacts base of mounting pad.
4. Start engine and run for at least five minutes to warm oil and check for leaks. Also check engine oil level



"Spin-On" Type Oil Filter
V-8 Engine Illustrated

CRANKCASE VENTILATION

The engine crankcase positive ventilator system provides dust free air from the engine air cleaner to the engine crankcase at all engine speeds thus retarding the accumulation of harmful substances in the engine. To maintain crankcase ventilation at maximum efficiency, service the air cleaner as outlined under lubrication instructions.

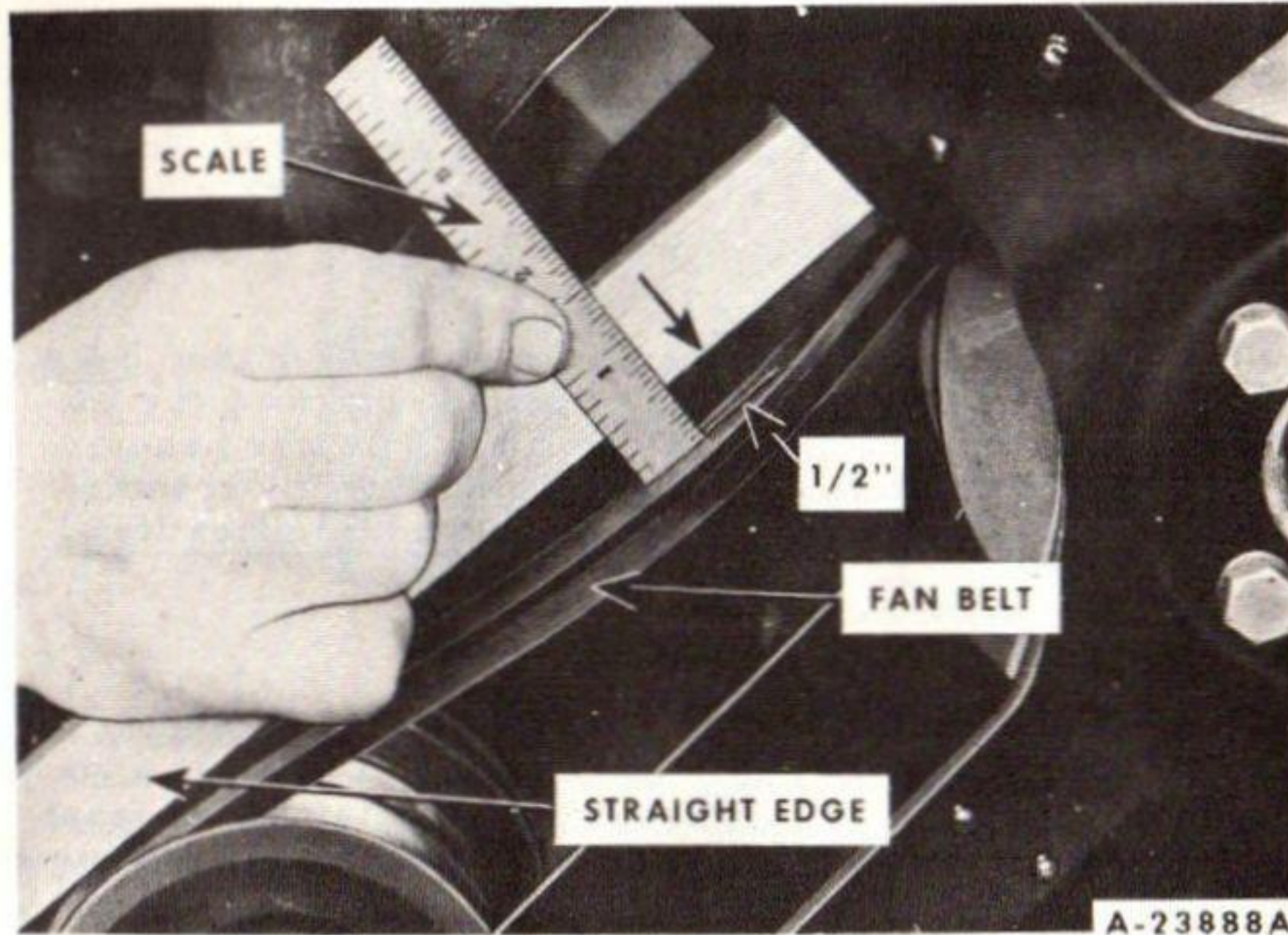


6-Cylinder Engine Illustrated

Have your IH Branch or Dealer service the crankcase ventilator metering valve, air filter element or flame arrester (in hose between air cleaner and cylinder head cover) at regularly established periods (approximately every 12,000 miles clean or replace).

MAINTENANCE

FAN BELT ADJUSTMENT



The tension of the fan belt should be checked periodically. Proper tension is obtained when the belt can be depressed approximately 1/2 inch halfway between the fan pulley and alternator.

To adjust the belt, loosen the alternator mounting and brace cap screws, then move the alternator in or out as required. After the adjustment has been made, be sure to tighten the cap screws.

NOTE: When tightening the alternator belt tension, apply pressure only to the laminations centered between the end frames.

GASOLINE EVAPORATION CONTROL SYSTEM 1010, 1110, 1110 4x4 Models

The above model vehicles are equipped with a Gasoline Evaporation Control System. This system is designed to minimize the escape of fuel vapors to the atmosphere. Included in the system are a special fuel tank, expansion tank (liquid-vapor separator), non-vented gasoline cap and a carbon filled vapor storage canister. Fuel vapors which would otherwise escape to the atmosphere are directed into the carbon filled canister. The carbon absorbs the vapors and stores them. The vapor is removed from the canister during periods of engine operation as manifold vacuum draws the vapors into the engine and burns them.

The Gasoline Evaporation Control System requires only periodic canister filter servicing. Remove filter element from canister every 12,000 miles, replace with new element.

NOTE: In case the non-vented type fuel tank cap becomes lost, it must be replaced with a new cap of the same type. Do not substitute with a vented type cap.

CAUTION: On vehicles having dual fuel tanks do not remove the filler caps of both fuel tanks during refueling. When filling one tank the filler cap of the opposite tank must be left in position on the filler neck. Removal of both filler caps during refueling could result in fuel leakage through the vapor storage canister due to overfilling of the fuel tanks.

MAINTENANCE

FUEL PUMP AND FILTER

Periodically check the fuel pump sediment bowl for accumulation of water, dirt, and other foreign elements. To replace the fuel filter element, loosen the clamp screw at the bottom of the fuel pump bowl. Remove the bowl and filter element. Clean filter bowl and install new filter element.

The interval for replacement of the filter element is dependent upon the type of operation and cleanliness of the fuel used.

When reinstalling the fuel filter bowl, make sure the gasket and spring are in place and that the clamp screw is tight. DO NOT USE A WRENCH OR PLIERS TO TIGHTEN THE CLAMP SCREW. A leak at the gasket will cause erratic action of the fuel pump and thus retard delivery of fuel to the carburetor.

ENGINE IDLE - CARBURETOR ADJUSTMENT

The engine idling speed can be increased by turning the carburetor throttle stop screw "inward", or decreased by turning the throttle stop screw "outward". Refer to specifications.

AIR CLEANER (Dry Type) WITH MODULATED AIR TEMPERATURE CONTROL (Engine)

The dry type air cleaner utilizes a special paper element which is sealed at the outlet end so that all air drawn into the engine must enter through the element. There is no oil reservoir used in this type of filter, hence the reference to "dry type".

Connections between the filter and engine must be kept tight to prevent entry of dirt laden air.

See the lubrication instructions for servicing the filter.

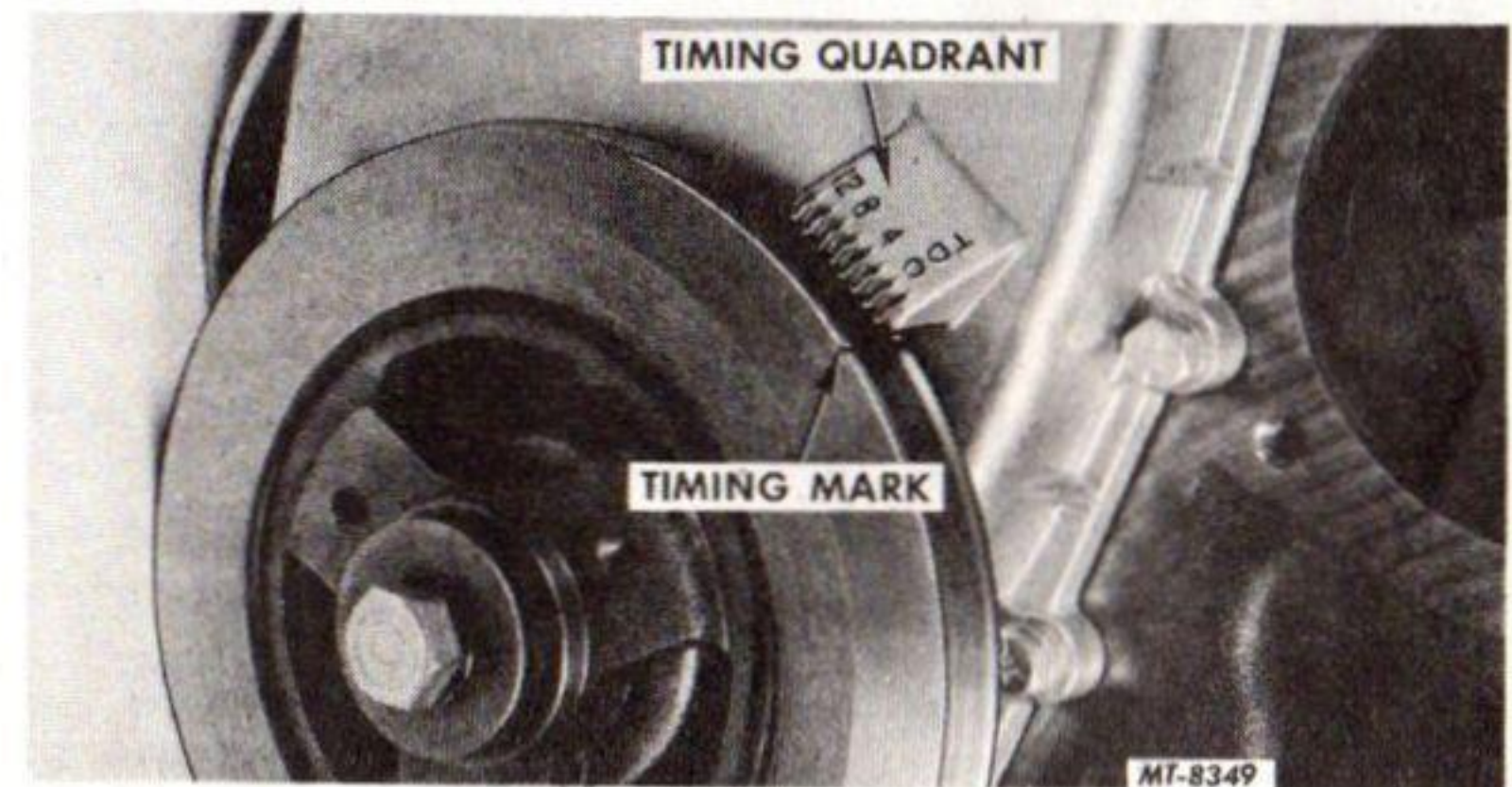
IGNITION TIMING

To assure satisfactory emission levels together with most efficient engine operation, ignition timing should be checked at regular intervals. Attach timing light to No. 1 spark plug on 6-cylinder engines and No. 8 spark plug on 8-cylinder engines. Refer to specifications for proper initial setting.

NOTE: Unusual operating conditions or fuel octane below those generally encountered may require retarding the initial timing to eliminate detonation. If retarding is necessary, it should be done progressively and not to exceed 5° ATDC. Do not advance initial timing above specifications.

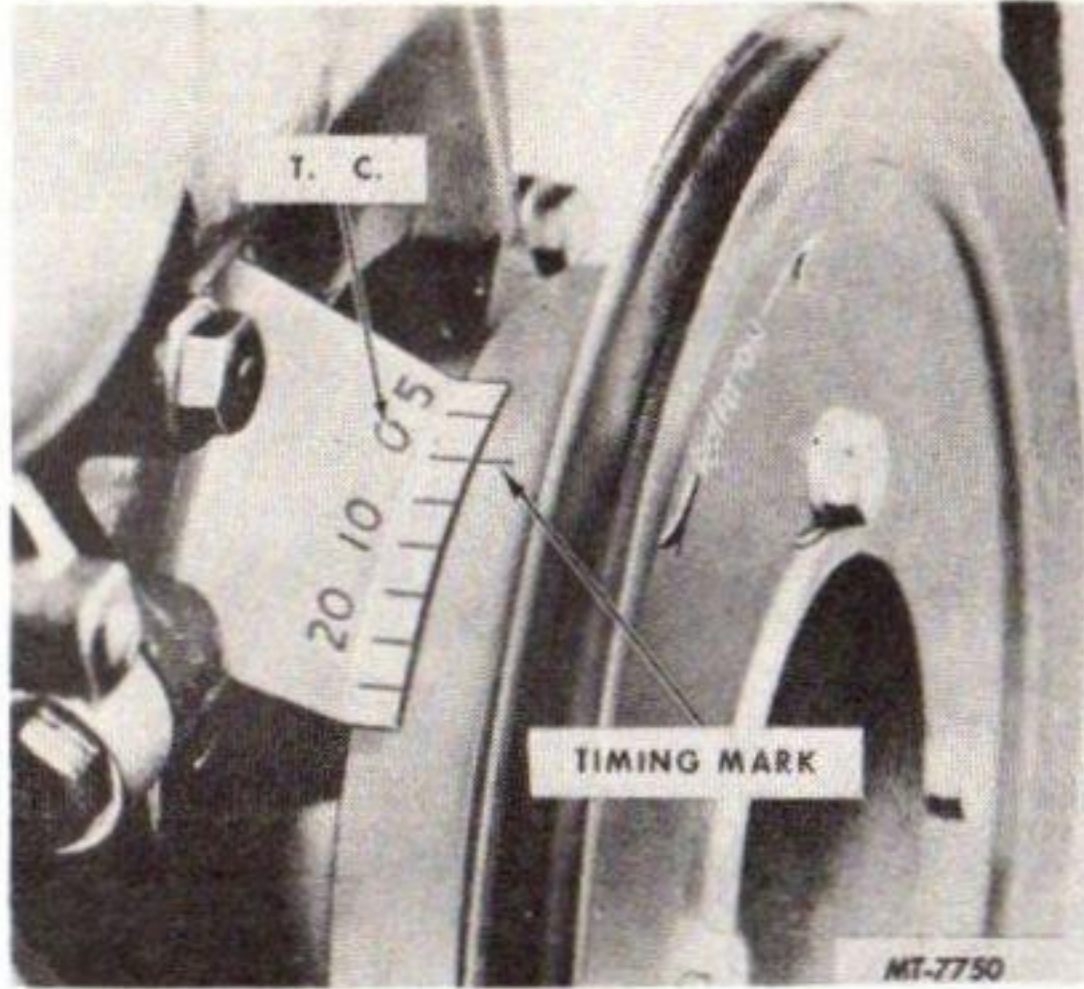
FUEL REQUIREMENTS

Your vehicle engine is designed to operate efficiently in normal operation on "Regular" grade fuels of at least 91 octane (research method). "Low lead" fuels containing at least 0.5 gm. lead, or the equivalent additive, per gallon may be used.



For Six Cylinder Engines

MAINTENANCE



For V-8 Engines

Continuous use of gasoline which is completely free of lead, or other lubricating additives such as phosphorous, is not recommended. Prolonged use of such fuel can cause excessive exhaust valve seat wear resulting in loss of emission control, poor performance and possible engine failure.

Use of a fuel which is too low in anti-knock quality will result in "spark knock." Since the anti-knock quality of all "Regular" grade gasolines is not the same and factors such as altitude, terrain and air temperature affect operating efficiency, knocking may result even though you are using the grade of fuel recommended for your engine. If persistent knocking is encountered, it may be necessary to change to a higher grade of gasoline, and if knocking continues, consult your authorized IH Dealer.

In any case, continuous or excessive knocking may result in engine damage and constitutes misuse of the engine.

BRAKE TANDEM MASTER CYLINDER

The hydraulic brake fluid must be maintained at a level 1/2 inch below top of filler openings. Use only "SUPER HEAVY DUTY" brake fluid, which will meet or exceed the

S. A. E. J-1703 Specification. IH "SUPER HEAVY DUTY" brake fluid, which meets the S. A. E. J-1703 Specification, is available at all IH Branches and Dealers. Do not fill the tandem master cylinder to the top of the reservoirs. Refer to the lubrication instructions.

NOTE: On disc-braked vehicles the section of the master cylinder reservoir which supplies the the disc brakes will require more frequent addition of brake fluid than the section which supplies the drum brakes.

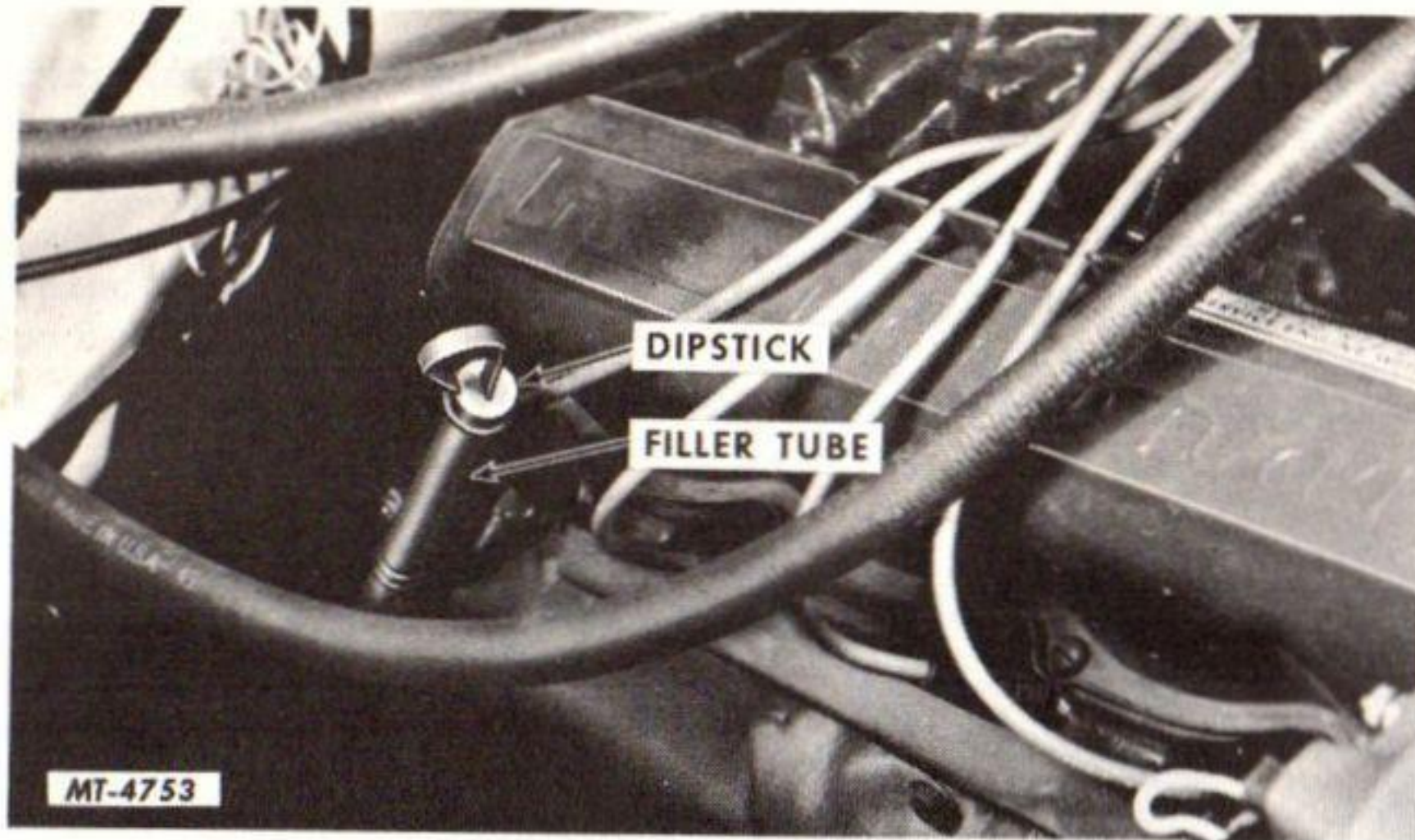


CHECKING THE TRANSMISSION FLUID LEVEL (Automatic Transmission)

Check the transmission fluid level at 3,000-4,000 mile intervals, using the following procedures:

Apply the parking brake, then place the transmission selector lever in the "N" (neutral) position. Run the engine at idle speed for about four minutes. When the engine and transmission have reached their normal operating temperatures, move the selector lever through all the positions to make sure that the fluid is distributed throughout the transmission. Return the selector lever to "N" neutral position.

MAINTENANCE



Raise the hood, then clean all dirt from the transmission fluid level dipstick cap before removing the dipstick. Pull the dipstick out of the tube, wipe it clean, then insert it back in the tube. Be sure that the dipstick is pushed down all the way. Remove the dipstick and check the fluid level. If necessary, add enough "DEXRON®" Automatic Transmission Fluid, to raise the fluid level to the "F" (full) mark on the dipstick. Add oil through the dipstick tube.

Fluid Change and Band Adjustment Period (Automatic Transmission)

Light to Moderate Service

Automatic transmission fluid should be changed and bands adjusted at 32,000 mile intervals.

Severe Service or Trailer Towing Operations

Automatic transmission fluid should be changed and bands adjusted at 20,000 mile intervals.

SPARK PLUGS

To maintain efficient engine performance, the spark plugs should be checked, cleaned and regapped every 6,000 miles and replaced every 12,000 miles.

Certain operations, engine condition and fuel grades will alter the cleaning and regapping interval.

To change the spark plug gap, bend the outer electrode; never bend the center electrode. Be accurate - use a round wire gauge to check the electrode gap. Check the gap of new spark plugs before installation and tighten to specified torque.



IH Branches and Dealers are equipped with spark plug cleaning and testing equipment which renders dependable service.

POWER STEERING PUMP OIL RESERVOIR

The power steering pump is located on the left side of the engine, upper front. Keep reservoir filled to oil level mark on filler neck. DO NOT OVERFILL. Check oil level with engine at normal operating temperature.

BELT TENSION (Power Steering Pump)

The power steering pump belt must be re-tightened after the first 1,000 miles of operation.

Inspect and maintain the belt tension periodically. Pump belt tension is obtained by loosening the pump mounting bracket bolts and moving the pump upward and outward. The proper belt tension is obtained when the belt can be depressed approximately 3/8-inch halfway between the two pulleys. Tighten the bolts that were loosened when making belt adjustment.

MAINTENANCE

ALTERNATOR - Self Rectifying Precautions Regarding Alternators

Before connecting a fast charger, booster battery or installing a new battery extreme caution must be used to make sure that the ground polarities of the fast charger, booster battery or alternator (when installing a battery) are matched to the ground polarity of the vehicle battery. Improper usage of fast charger, hook-up of booster battery or installing battery can cause damage to the electrical system or to the alternator.

CAUTION: Do not attempt to polarize the alternator.

RADIATOR CAP

The radiator cap is the pressure-sealing type. Its purpose is to maintain the cooling system under slight pressure, increasing the boiling point of the cooling solution and preventing loss of the solution due to evaporation or overflow.

CAUTION: When removing the pressure type cap from the radiator perform the operation in two steps. Loosen the cap slowly to its first notch position, then pause a moment. This will avoid possible scalding by hot water or steam. Then continue to turn the cap to the left until you can remove it.

RADIATOR COOLANT LEVEL (Cooling System without Reservoir)

Do not fill the radiator completely full. The coolant level should be approximately one inch below bottom of the filler neck when engine is warm. If the engine is cold, the coolant level should be four inches below bottom of filler neck to allow for coolant expansion.

If the coolant in the radiator should get extremely low and the engine very hot, let the engine cool for approximately 15 minutes before adding coolant; then, with the engine running, add coolant slowly. Adding a larger quantity of cold water or coolant to a hot engine may crack the cylinder head or crankcase.

ANTI-FREEZE

The cooling system of your new vehicle is filled at the factory with I. H. Permanent-Type Anti-Freeze and will protect the cooling system down to 20° F below zero.

This factory-fill coolant solution is formulated to withstand one full year of normal operation without draining.

Be sure to check the anti-freeze protection level before cold weather. I. H. Permanent-Type Anti-Freeze may be added undiluted if protection below - 20° F is required.

MAINTENANCE

FILLING THE COOLING SYSTEM (Cooling System without Reservoir)

To eliminate air being trapped within the engine or heater, the following procedure should be followed when filling the engine coolant system.

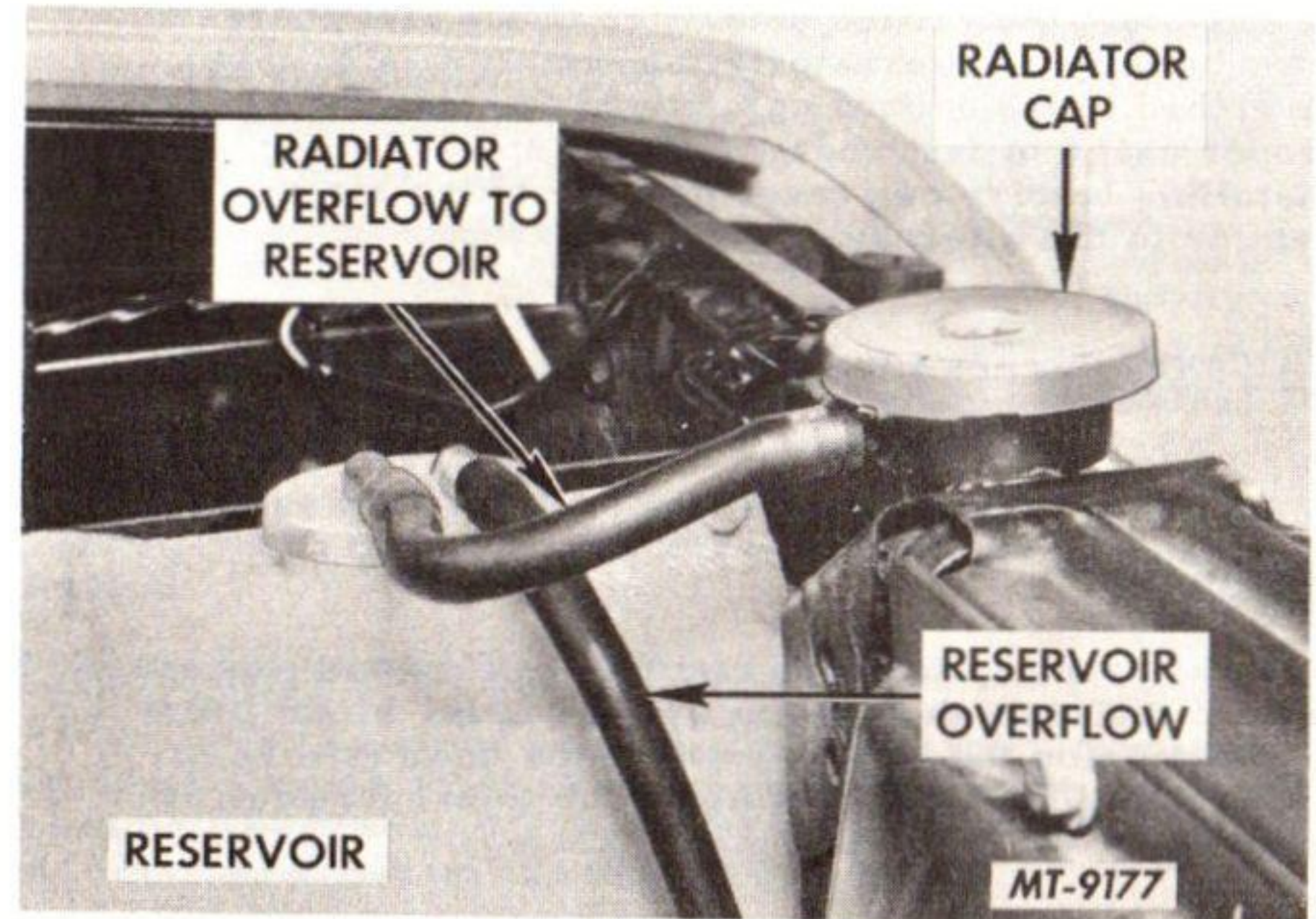
1. Fill cooling system until coolant reaches bottom of radiator filler opening. Install radiator cap.
2. Set parking brake and start engine.
3. Allow engine to operate at a fast idle (approx. 2,000 RPM) until the engine reaches its normal operating temperature.
4. After engine reaches its normal operating temperature, trapped air will be expelled from system.
5. With engine still running, add sufficient coolant to bring level to approximately one inch below bottom of filler neck.

FILLING THE COOLING SYSTEM (Cooling System with Reservoir)

Vehicles with coolant reservoir require specific procedures when filling the cooling system.

1. Fill radiator to the bottom of the filler neck, then fill the reservoir to the "FULL" line with antifreeze mix.
2. Run engine to normal operating temperature to allow normal expansion of coolant. Coolant level in radiator and reservoir will stabilize as the engine warms up to normal operating temperature.

The special radiator cap should not be removed for checking radiator coolant level. Add coolant at the reservoir only. Keep coolant level in the reservoir above the "ADD" line at all times.



Typical Reservoir Installation

THERMOSTAT

Your new vehicle is equipped at the factory with a high temperature thermostat.

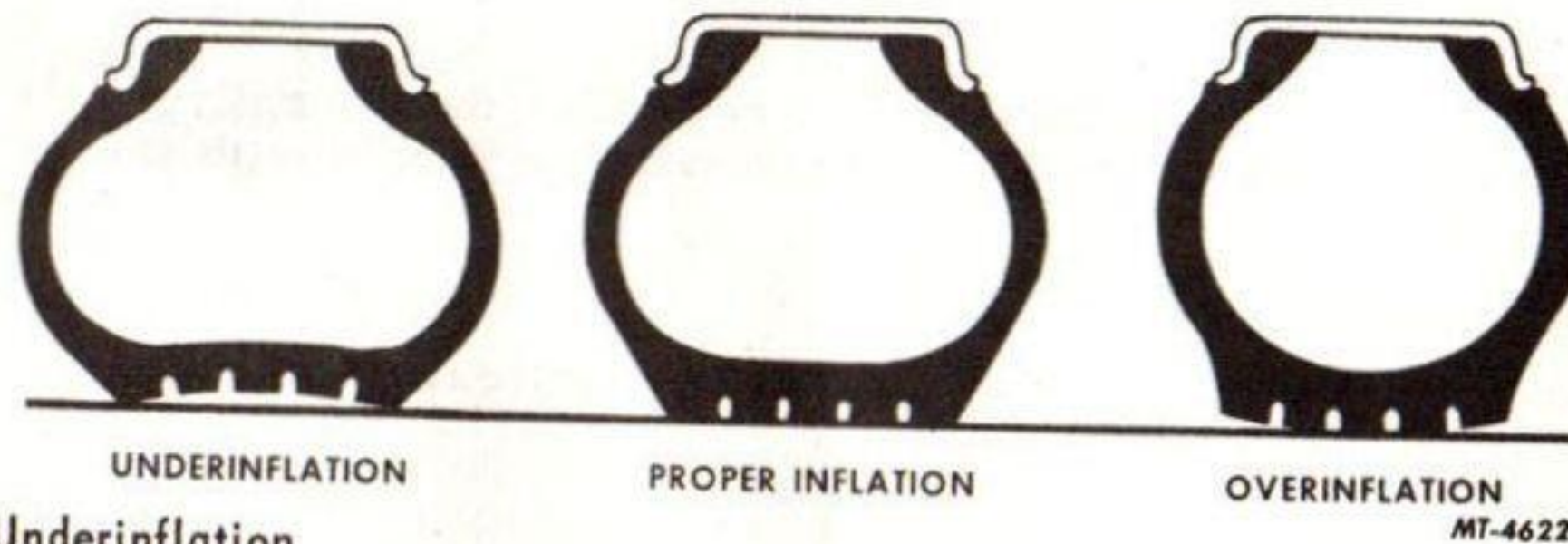
Permanent type antifreeze must be used with high temperature thermostats.

TIRES

Inflation pressure should be checked when tires are cool, using an accurate tire pressure gauge. Check pressures at regular intervals.

Bleeding the air from hot tires is dangerous and should not be attempted. While the pressure will be reduced, an increase in temperature of the tire will take place as soon as driving is resumed and tire failure will result.

NOTE: On 4x4 vehicles, tires of the same size and specifications must be installed on both front and rear driving axles of the vehicle. If different size tires are used when vehicle is operated with both the front and rear axles engaged, a torque build-up between the axles, caused by the different diameter tires, will result in excessive tire wear and strain on the entire drive unit.



Underinflation

Too little air pressure increases deflection, causes the tread to wipe and scuff over the road, results in extra strain on the tire, and increases the chances for bruising.

Proper Inflation

Maintaining the proper air pressure provides maximum road contact and results in increased tire life.

Overinflation

Overinflation reduces tire deflection and tire contact area, causing the tire to ride on the crown, and results in rapid wear in the center of the tread.

MAINTENANCE

Tire and Wheel Balance

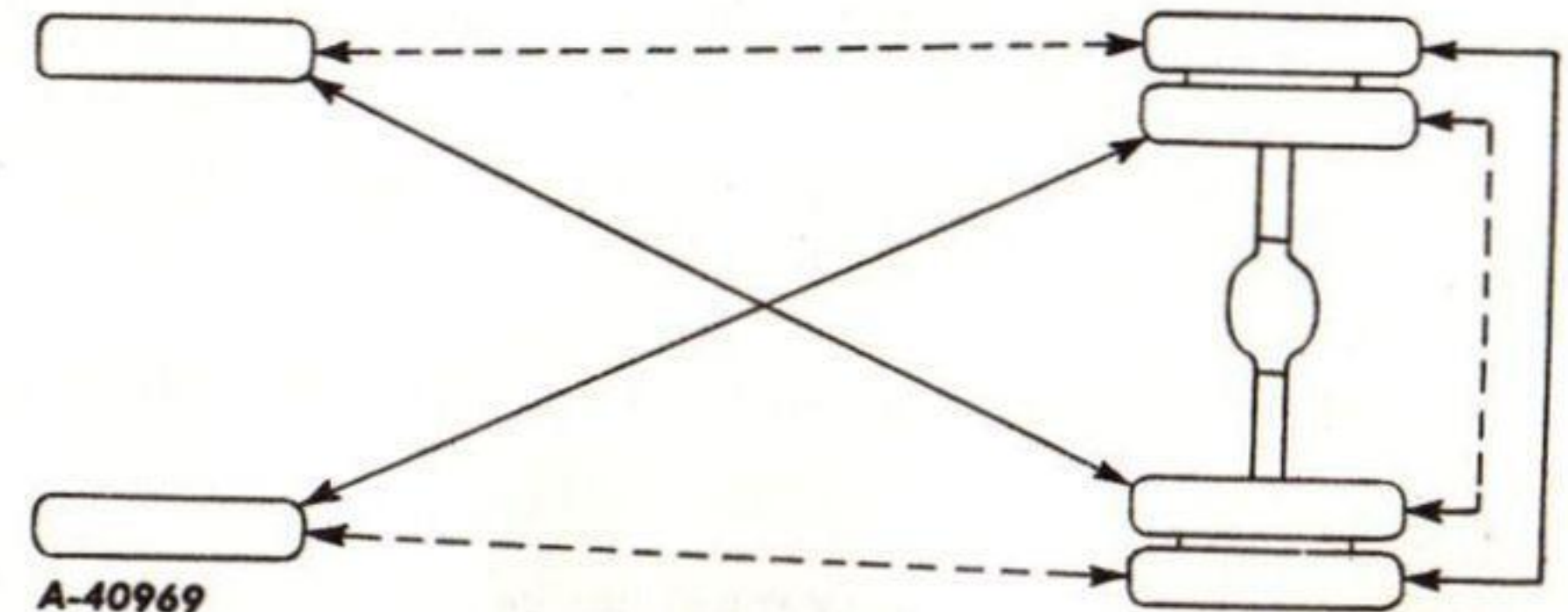
Front wheel shimmy, wandering, and cupped tires are caused by an out-of-balance condition of one or both front tires. If the tires are changed because of a flat tire or to equalize wear, it is advised that they be checked for balance before operating the vehicle.

Tire Matching Dual Tires

Use care in matching dual tires. Tires which differ more than 1/4-inch in diameter or 3/4-inch in circumference should not be mounted on the same dual wheel. Should it become necessary to mount two tires of unequal size on the same dual wheel, place the larger or less worn tire on the outside.

Tire Switching Sequence

Tires should be cross switched at regular intervals to attain maximum tire life. Suggested methods of interchanging tires on vehicles with dual rear wheels are shown in the diagram. If the inside duals show the most wear, change tires according to the solid lines. If the outside duals show the most wear, change according to the broken lines. New tires should be installed on the front wheels.



MAINTENANCE

PASSENGER CAR TYPE TIRE INFLATION AND LOAD LIMIT CHART

Tire Identification		Tire Load Limits at Various Cold Inflation Pressures										
Size	Load Range	20	22	24	26	28	30	32	34	36	38	40
G78-15	B	1250	1310	1380	1440	1500	1560	1620				
G78-15	D	1250	1310	1380	1440	1500	1560	1620	1680	1730	1780	1830
H78-15	B	1360	1440	1510	1580	1650	1710	1770				
H78-15	D	1360	1440	1510	1580	1650	1710	1770	1830	1890	1950	2010

Load Range B Replaces 4 Ply Rating.

Load Range D Replaces 8 Ply Rating.

Special Tires

If tires other than those listed in this manual are installed, be sure to determine from your tire dealer the operating limits of load, speed and inflation. These limits are never to be exceeded. Make sure these tires are compatible with the rims to be used.

Sand Tires

All sand tires are speed limited. Depending on application or load the speed limit will vary with a particular sand tire. Check with your tire dealer for the proper load, speed and inflation limits for your application.

High Speed Driving

For all passenger car type tires maximum cold inflation pressure of load range B tires is 32 PSI and load range D tires 40 PSI. For sustained (1 hour or more) high speed driving over 75 MPH cold inflation pressure must be increased 4 PSI, but not to exceed the maximum of 32 PSI for load range B tires and 40 PSI for load range D tires.

For all light truck tires operated at sustained high speed driving over 65 MPH, cold inflation pressures must be increased 10 PSI above those specified by the table.

Snow Tires

Snow tires should be operated at the "maximum vehicle capacity" pressure and should not be driven at sustained speeds over 75 MPH.

Trailer - Towing

Maximum vehicle capacity must not be exceeded when adding trailer tongue load.

MAINTENANCE

TRUCK TYPE TIRE INFLATION AND LOAD LIMIT CHART

TIRES USED AS SINGLES

Tire Identification		Tire Load Limits at Various Inflation Pressures												
Size	Load Range	30	35	40	45	50	55	60	65	70	75	80	85	90
6.50-16 LT	C		1390	1500	1610									
7.00-15 LT	C		1480	1610	1720									
7.00-15 LT	D		1480	1610	1720	1830	1940	2040						
7.00-16 LT	C		1560	1680	1800									
7.00-16 LT	D		1560	1680	1800	1910	2030	2130						
7.50-16 LT	C		1770	1930	2060									
7.50-16 LT	D		1770	1930	2060	2190	2310	2440						
7.50-16 LT	E		1770	1930	2060	2190	2310	2440	2560	2670	2780			
7.50-17	D					2110	2270	2410	2540	2680	2800			
7.50-20	D					2360	2530	2680	2840	2990	3140			
7.50-20	E					2360	2530	2680	2840	2990	3140	3270	3410	3530
8.00-16.5	C	1360	1490	1610	1730									
8.00-16.5	D	1360	1490	1610	1730	1840	1945	2045						
8.00-16.5	E	1360	1490	1610	1730	1840	1945	2045	2145	2240	2330			
8.75-16.5	C	1570	1720	1850	1990									
8.75-16.5	D	1570	1720	1850	1990	2110	2240	2350						
8.75-16.5	E	1570	1720	1850	1990	2110	2240	2350	2470	2570	2680			
9.50-16.5	C	1860	2030	2190	2350									
9.50-16.5	D	1860	2030	2190	2350	2500	2650	2780						

Load Range C Replaces 6 Ply Rating.
Load Range D Replaces 8 Ply Rating.

Load Range E Replaces 10 Ply Rating.
LT - Light Truck Type Tire.

INSTALLING TIRES ON MULTIPIECE RIMS

CAUTION: Tires used on multipiece rims should be assembled and inflated only by experienced, qualified personnel. Bodily injury may be incurred with improper assembly or inflation techniques.

MAINTENANCE

TRUCK TYPE TIRE INFLATION AND LOAD LIMIT CHART

TIRES USED AS DUALS

Tire Identification		Tire Load Limits at Various Inflation Pressures										
Size	Load Range	30	35	40	45	50	55	60	65	70	75	80
7.50-16 LT	C		1565	1690	1815							
7.50-16 LT	D		1565	1690	1815	1930	2040	2140				
7.50-16 LT	E		1565	1690	1815	1930	2040	2140	2245	2345	2440	
7.50-17	D			1850	1990	2110	2230	2350	2460			
7.50-20	D			2070	2220	2350	2490	2620	2750			
7.50-20	E			2070	2220	2350	2490	2620	2750	2870	2990	3100
8.00-16.5	C	1195	1310	1415	1520							
8.00-16.5	D	1195	1310	1415	1520	1620	1710	1800				
8.00-16.5	E	1195	1310	1415	1520	1620	1710	1800	1885	1970	2050	

Load Range C Replaces 6 Ply Rating.
Load Range D Replaces 8 Ply Rating.

Load Range E Replaces 10 Ply Rating.
LT - Light Truck Type Tire.

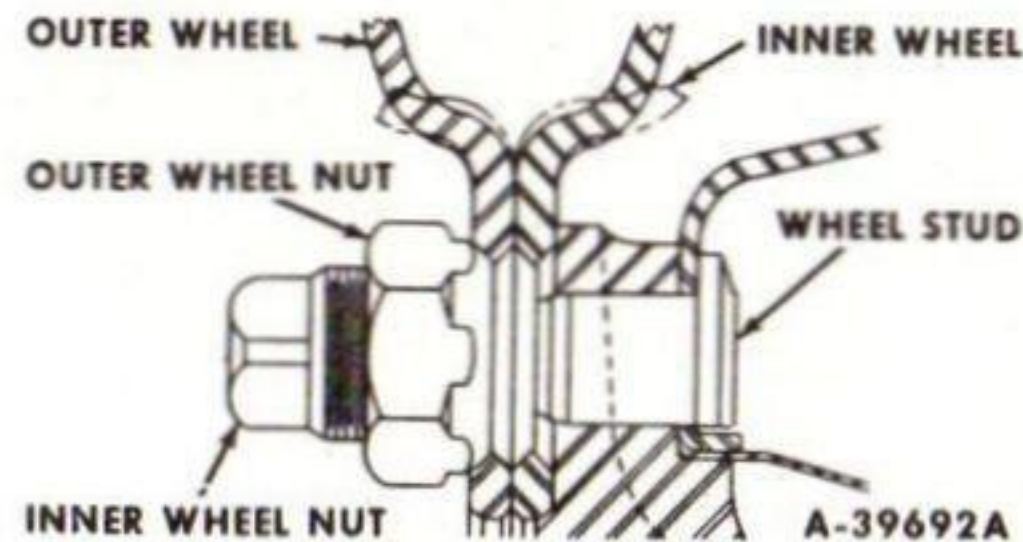
WHEEL NUT TORQUE

Stud Size	Torque Foot Pounds
1/2-20 Light Duty (Passenger Car Type)	70-90
5/8-18 Light Duty (Passenger Car Type)	125-140
5/8-18 Medium-Duty (In and Out Coined Mounting)	175-225
3/4-16 Heavy-Duty	450-500
1-1/8-16 Heavy-Duty	450-500

MAINTENANCE

WHEEL MOUNTING NUTS

1. Mounting faces of the hub, wheel, and nut must be free from dirt or excess paint. Mounting faces which have been damaged from wear or abuse must be repaired or replaced.
2. Stud and nut threads should be clean and free of foreign material before installation. Do not lubricate threads.
3. Tighten the wheel nuts alternately. Refer to torque chart for stud size and torque.
4. On 1510 dual wheels, the outer nut should be backed off before attempting to tighten the inner nut.
5. When installing 1310 dual wheels, make sure they are mounted properly. If the vehicle is equipped with dual rear wheels having in-and-out coined holes they must be correctly indexed. To do this, match the coined in holes of one wheel with the coined out holes of the other wheel, mount wheels with stud pilot holes in alignment. Do not install the wheels with the coined out edges of the holes contacting each other. This practice would cause excessive



1510 Dual Wheel Illustrated

clearance to occur between the wheels after tightening. The contacting edges of the holes would wear, resulting in loss of wheel stud nut torque.

On new vehicles or any time wheels have been changed, check wheel nut torque after 50-100 miles. At regular vehicle inspection periods, the wheel nut torque should be rechecked. Refer to Torque Chart for nut size and torque.

TREAD WEAR INDICATORS (PASSENGER CAR TYPE TIRES ONLY)

If your vehicle is originally equipped with passenger car type tires, these tires incorporate a built-in tread wear indicator to help determine when the tire should be replaced. The indicator appears as a 1/2 inch wide solid band across the tread. This means that there is 1/16 inch of tread left. It is recommended that the tire be replaced due to tread wear when this indicator appears.

FRONT WHEEL ALIGNMENT

To guard against excessive tire wear, have the front wheel alignment inspected occasionally by your IH Branch or Dealer for toe-in, camber, and axle caster.

BATTERY

The battery is located under the hood in the engine compartment. Keep the battery fully charged and check the solution level at least every 15 days during hot weather and 30 days in cold weather.

MAINTENANCE

The solution in each cell should be 3/8-inch above the separator plates, or to the indicator level. When the solution is below this level, add distilled water, using a clean syringe. Acid or electrolyte should never be added except by skilled battery personnel.

Under no circumstances add any special battery "dopes", solutions, or powders.

Test the specific gravity of the electrolyte in each cell with a hydrometer at least once a month. A hydrometer reading of 1.260 at 80°F. indicates a full charge. Never allow the battery to fall below 1.225 which indicates half charged. A discharged battery will freeze at 20°F. above zero. A fully charged battery will withstand temperatures as low as 80°F. below zero.

Battery cable terminals must be clean and tight. Use hot water and common baking soda for removing terminal corrosion and for cleaning the top of the battery. Brighten the contact surface with steel wool, apply a light coat of vaseline or chassis lubricant, and reassemble. Be sure the terminals are clamped tightly and that the battery is clamped securely in the battery box.

When working around the terminals and battery, use extra care to avoid shorting. A good practice is to insulate pliers and screwdrivers used with this system. DO NOT CHECK BATTERY CONDITION BY SHORTING (FLASHING) ACROSS TERMINALS.

CAUTION: Hydrogen gas is produced in the normal operation of the battery. Therefore, to prevent a fire or dangerous explosion, it is imperative that flames or sparks

(that could be caused by the use of jumper cables) be kept away from the vent openings of the battery.

COOLING SYSTEM CLEANING

Once a year or more often, depending upon the type of coolant used, the cooling system should be drained and thoroughly flushed. This is particularly important before using antifreeze.

Unless the water in the cooling system is treated with a corrosion preventive, rust and scale will eventually clog up passages in the radiator and water jackets. This condition is aggravated in some localities by formation of insoluble salts from the water used.

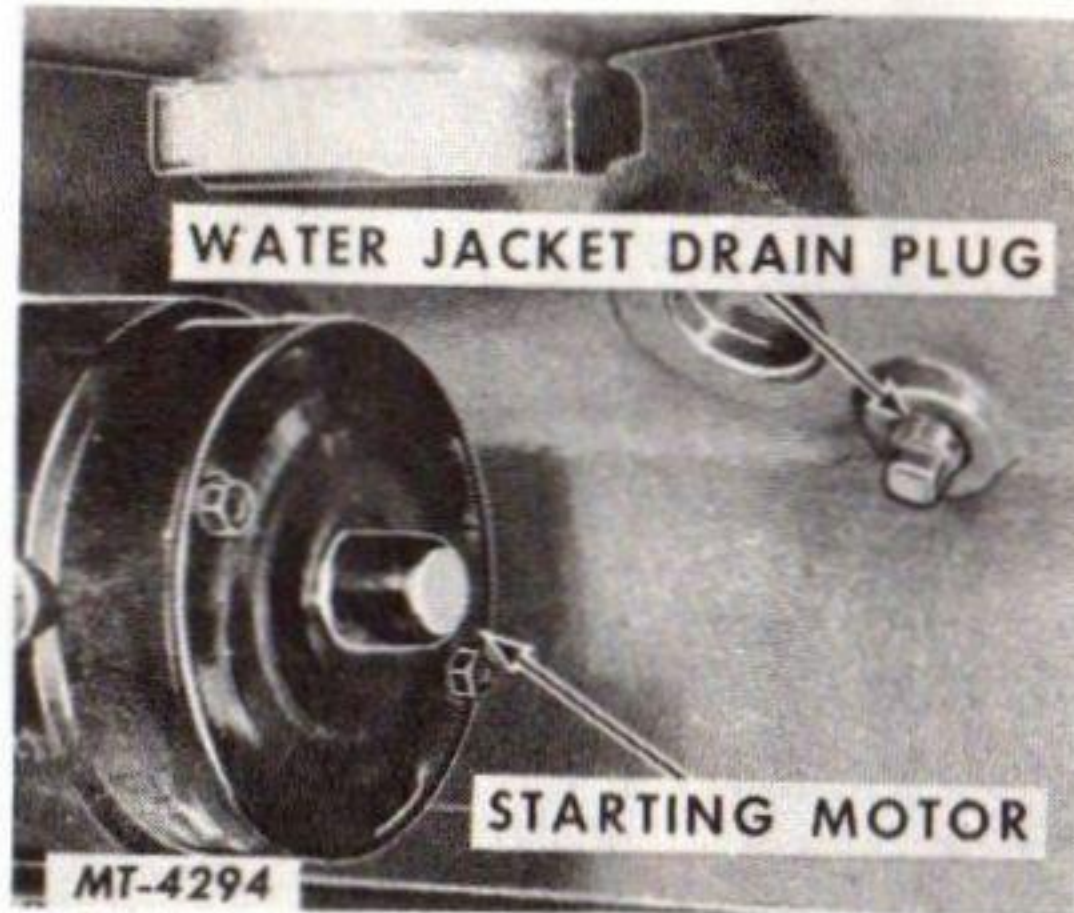
IH cleaning solutions are available which have proven very successful in removing accumulation of rust, scale, sludge, and grease. This solution should be used according to the recommendation on container.

NOTE: Do not use chemical mixtures to stop radiator leaks except in an emergency. Never use such solutions instead of needed radiator repair.

When draining the cleaning solution, disconnect the radiator outlet hose, as large particles of sediment will not pass through the drain.

Also open the crankcase drains (left rear side on 6 cylinder engines) (right and left sides on 8 cylinder engines).

MAINTENANCE



Laboratory tests of used oils, by oil suppliers, will assist in determining the advisable oil drain period.

NOTE: The frequent use of the choke thins the oil to such an extent its value as a protecting film between moving parts is destroyed. For this reason, we recommend a more frequent complete oil and oil filter element change in cold weather.

Axle and Transmission

Severe cold weather may make it advisable to change to a lighter grade lubricant in the transmission and in the rear axle differential. A lubricant of lighter viscosity will provide better lubrication to the moving parts.

Cooling System

For cold weather protection, use IH antifreeze which contains an effective rust corrosion preventive.

Before adding the antifreeze, check the following:

1. Inspect all hoses. Tighten all hose clamps. Check for leaks.
2. Inspect the water pump for leaks.
3. Inspect the fan belt and adjust to proper tension. If the belt is worn or oil-soaked, replace it.

COLD WEATHER PREPARATION

If the vehicle is to be operated in temperatures of 32°F. or lower, observe the following precautions:

Engine Oil

The intervals at which engine oil must be changed depend upon the type and quality of oil used, and the type and severity of the operation. Oil changing is closely related to filter element and air cleaner cleaning and changing.

MAINTENANCE

4. Position the vehicle so the engine is level. This will permit all water to drain from the cooling system.

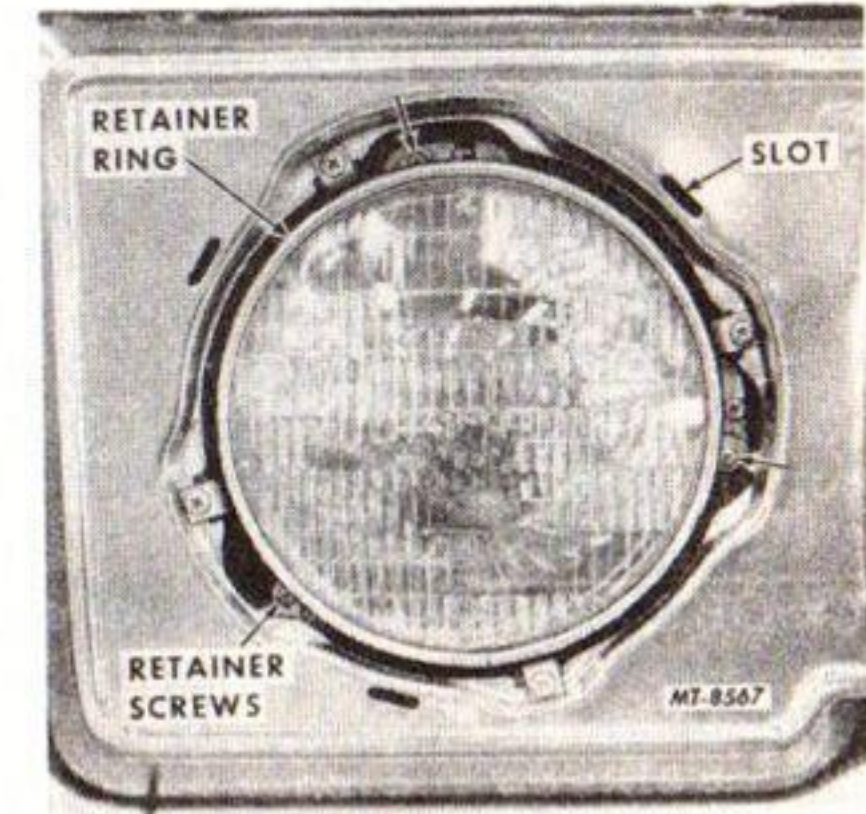
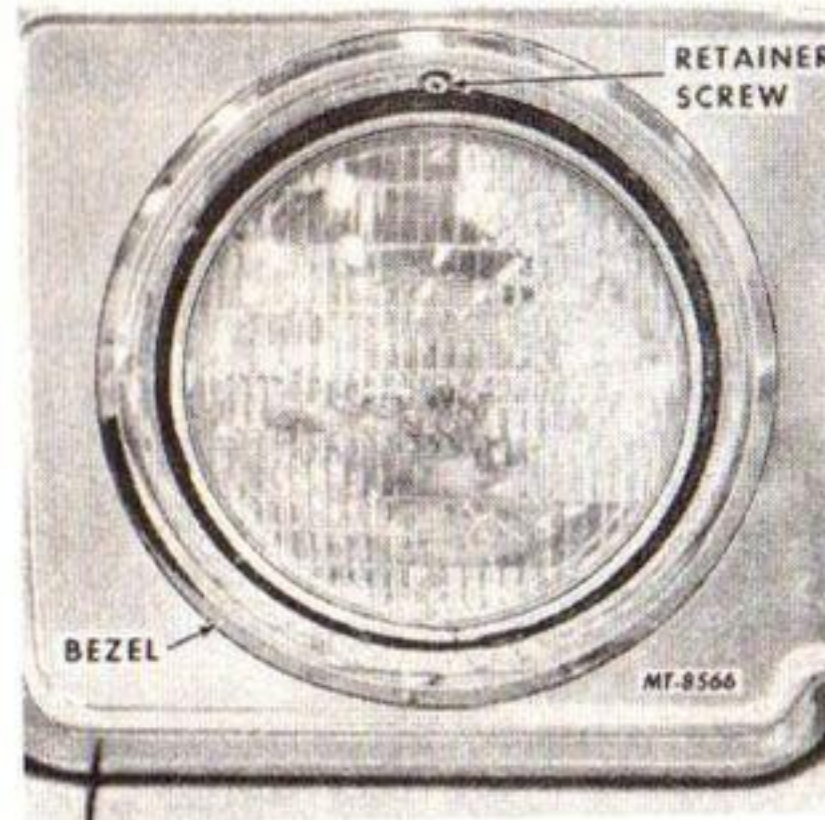
5. Remove the radiator filler cap and open the radiator drain; also open the crankcase water drains and thoroughly drain the cooling system. Then close both drains and use recognized cleaning solutions, following the manufacturer's instructions.

6. Leave the radiator filler cap off and run the engine for about one-half hour or until the engine gets hot. Then disconnect the radiator outlet hose to allow the larger particles of sediment to pass through; also open both drains. Drain and flush thoroughly with clean water. Close both drains and securely fasten the radiator outlet hose.

7. Put the required amount of antifreeze into the cooling system. Add soft or rain water if available and inspect the hose connections for leaks.

HEADLIGHT REMOVAL

1. Remove the headlight rim retaining screws and remove the headlight rim.



2. Remove the retaining ring attaching screws.

NOTE: Do not disturb the horizontal or vertical adjusting screws.

3. Remove the retaining ring and sealed beam unit from the headlight.

4. Disconnect the connector plug from the sealed beam unit and remove the unit. Hold the connector plug firmly to avoid damage to the wiring.

MAINTENANCE



All IH Branches and Dealers include in their service tools, equipment scientifically developed for aiming headlight beams. The use of this equipment will result in maximum illumination for night driving and assure that the headlight aiming does not conflict with existing laws and regulations. It is good practice to avail yourself of this service when a sealed-beam unit has been replaced or the headlight beam pattern does not give adequate illumination.

PARKING LIGHTS

The parking lights are equipped with ordinary filament bulbs. Should it become necessary to replace either a parking light lens or bulb, remove the lens retaining screws, replace the necessary parts and reassemble.

IMPORTANT: All major overhauling or adjustment of the electrical system should be done by an International Branch or Dealer.

HOURLY METER

In certain types of operations, the speedometer (odometer) reading is not an accurate guide for engine or chassis lubrication intervals.

For example: Vehicles equipped with winches, pumps, etc. accumulate periods of unrecorded operation. The same applies to short haul operations involving considerable reverse gear work.

To record proper lubrication or maintenance periods, the installation of an hour meter is recommended.

Hour meters are available from your IH Dealer or Branch.

HYDRAULIC BRAKES SELF-ADJUSTING

The hydraulic brakes are self-adjusting. The automatic brake adjusters are designed to maintain proper clearance between the brake shoe lining and drum or disc during the service life of the lining.

The automatic brake adjuster for drum brakes operates only when the brakes are applied while the vehicle is moving rearward, disc brake adjustment is made automatically with each brake application. It should be noted, however, that the automatic adjustment feature does not eliminate the need for periodic inspection of the brake system (wheel cylinders, master cylinder, lines and hoses, etc.) or the replacement of worn or damaged linings or other parts. If excessive brake pedal travel develops, make several alternating forward and reverse stops with firm brake pedal applications. If this sequence does not restore normal brake pedal travel see your IH Dealer.

Vehicle Storage Instructions

When a vehicle is not to be used for an extended period of time certain precautionary measures must be observed to prevent deterioration of the various units. It is recommended that you contact your dealer who will advise you of measures to be taken when storing vehicles, as well as precautions to be followed when a vehicle is to be returned to service.

LIGHT BULB NUMBER AND LOCATION

<u>Description</u>	<u>Number</u>	<u>Location</u>	<u>Description</u>	<u>Number</u>	<u>Location</u>
Alternator/Fuel Gauge	158	Back of Gauge	License Plate (Without Rear Bumper)	1895	Rear of Vehicle
Auxiliary Fuel	53	Instrument Panel	Lighter	53	Instrument Panel
Back-Up	1156	Rear of Vehicle	Low Vacuum Warning	57	Instrument Panel
Brake Failure	158	Back of Speedometer	Parking Brake	158	Back of Speedometer
Choke	53	Instrument Panel	Parking Light	1157	Front of Vehicle
Clearance & Identification (Rear)	1895	Rear of Vehicle	Side Marker	194	Front and Rear Sides of Body
Clearance & Identification (Cab)	67	Cab Roof	Speedometer Panel	158	Back of Speedometer
Dome	211-1	Roof Headliner	Stop Light	1157	Rear of Vehicle
Drive Selector	53	Steering Column	Tail Light	1157	Rear of Vehicle
Front Axle Warning	57	Instrument Panel	Temperature/Oil Pressure Gauges	1157	Back of Gauge
Head Lamp	6012	Front of Vehicle	Turn Signal Light (Fender Mounted)	1156	Front Fender
Headlight Beam Indicator	158	Back of Speedometer	Turn Signal Light (Front)	1157	Front of Vehicle
Heater/Air Conditioner Control	53	Rear of Control Housing	Turn Signal Light (Rear)	1157	Rear of Vehicle
Ignition Switch	53	Instrument Panel	Vacuum Gauge	53	Rear of Gauge
License Plate (With Rear Bumper)	67	Rear of Vehicle			

LUBRICATION

GENERAL INSTRUCTIONS

Lubrication instructions in this manual show recommended mileage lubrication intervals. These mileages represent requirements for normal services. For severe service or unusual operating conditions, these intervals should be reduced accordingly.

New vehicles are properly lubricated at the factory and before they are delivered. After the vehicle is placed in operation, regular lubrication intervals, based on the type of service and road conditions, should be established. Thorough lubrication at definite intervals will add greatly to the service life of the vehicle and will reduce the overall operating expense.

The interval between lubrication periods, oil changes, etc., depends entirely upon operating conditions. The loads carried, speed, road and weather conditions all have a bearing on the frequency of lubrication periods. In some types of operation, and where operating conditions are extremely severe, the vehicle may require lubrication after every twenty-four hours of operation. The quality and type of lubricant used also has some bearing on establishing lubrication intervals.

In some operations, such as in deep water, mud, or unusually dusty conditions, the interval of inspection and lubrication should be more frequent.

Only lubricants of the best quality, having proper body or viscosity, and supplied by reputable manufacturers, should be used. The use of inferior products might reduce the service life of the vehicle or result in failure of its components.

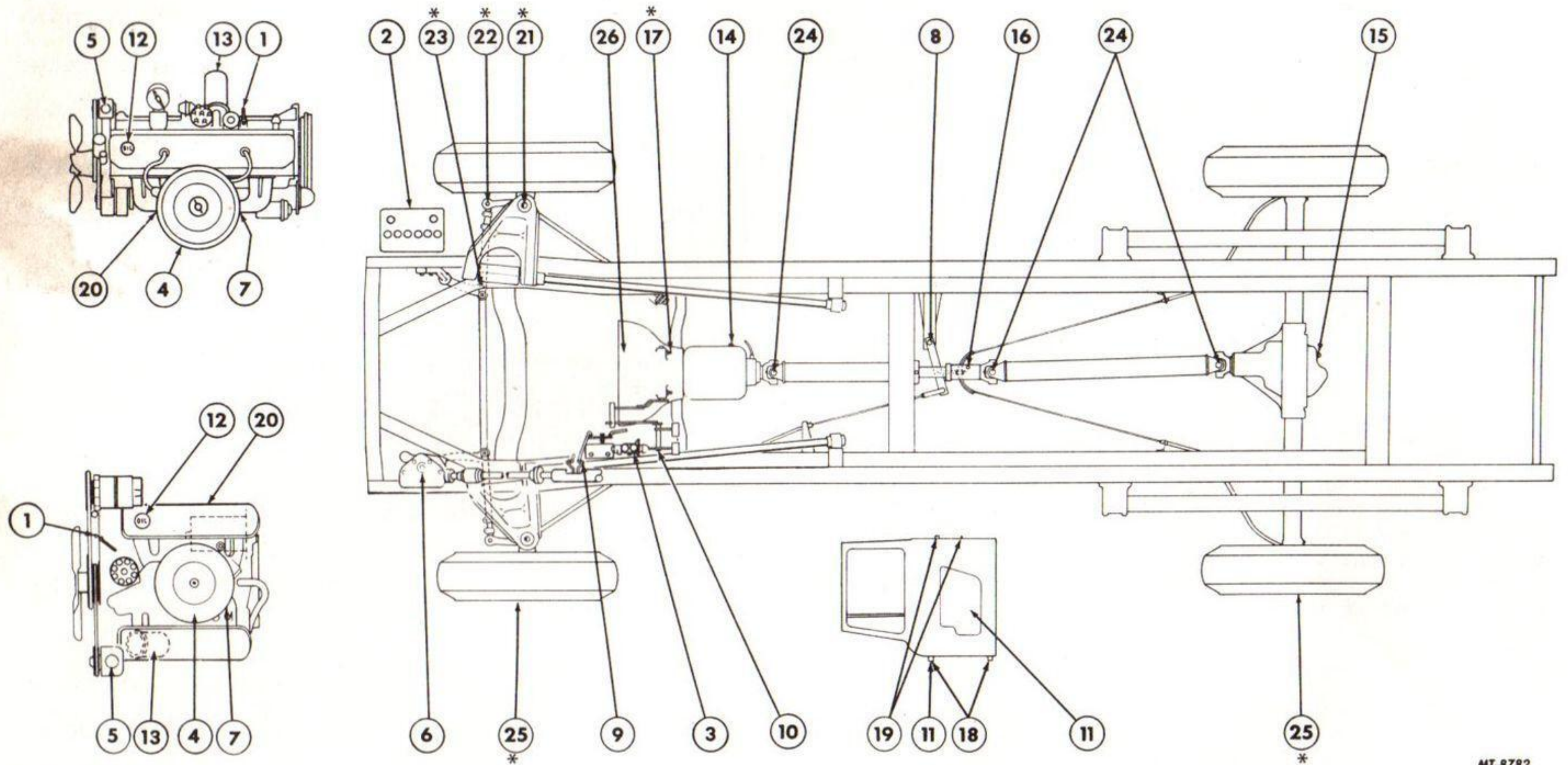
The International Harvester Company Motor Truck Division does not attempt to specify any particular manufacturer's product. High-grade lubricants can be obtained from any reputable oil company.

The lubrication specifications refer only to the viscosity (SAE) and type to be applied. The viscosity numbers have been adopted by the Society of Automotive Engineers to classify lubricants according to "body" or "thickness" and do not cover any other properties.

IMPORTANT: Never add lubricant unless it is the same make and grade as that which is already in use. If the make and grade is unknown or is not available, drain, flush and refill with new lubricant.

LUBRICATION DIAGRAM

1010 SERIES



* BOTH SIDES

MT-8782

LUBRICATION INSTRUCTIONS

1010 SERIES

Daily

1. Engine:

Crankcase oil level must be maintained between "Add" and "Full" marks on dipstick. Select oil viscosity grades from chart below.

TEMPERATURE	OIL VISCOSITY GRADE	MULTI VISCOSITY OIL GRADE
32°F and up	SAE-30	SAE-20W-40
10°F to 32°F	SAE-20W	SAE-10W-30
-10°F to 10°F	SAE-10W	SAE-10W-30
Below -10°F	-----	SAE-5W-20

"Use "MS" Sequence Tested Oils" ("SC" or "SD")

As Required

2. Battery:

Add distilled water to indicator level. Do not overfill.

3. Brake Tandem Master Cylinder:

Fill 1/2" from top of reservoirs. Use super heavy duty brake fluid SAE-J-1703.

4. Air Cleaner (Engine): (Dry Type)

Remove paper element from air cleaner every 4,000 miles. Clean element by tapping gently on a flat surface or with low pressure air. Inspect end seals. DO NOT WASH OR OIL DRY ELEMENT. Trucks operating in dusty areas will require cleaning or replacement of the filter element more often. Replace filter element every 12,000 miles.

Cleaning Polyurethane Band Element (Heavy Duty Air Cleaners):

Remove air cleaner element and remove polyurethane band from paper element, wash in suitable solvent to remove oil and dirt. Squeeze dry, dip in engine oil and squeeze to remove excess oil (do not shake or wring).

LUBRICATION INSTRUCTIONS

1010 SERIES

As Required - Continued

5. Power Steering Pump Reservoir:

Keep reservoir filled to oil level mark with DEXRON® automatic transmission fluid. DO NOT OVERFILL. Check level with engine at normal operating temperature.

6. Steering Gear:

Gear is filled with grease at assembly. If necessary to add lubricant use Lithium 12-Hydroxy Stearate EP Grease. Inject through cover mounting bolt hole over worm shaft.

- 7. Accelerator Linkage:)
- 8. Parking Brake Linkage:)
- 9. Transmission Shift Linkage:)
- 10. Clutch and Brake Pedal Linkage:)

Lubricate linkage, clevis pins, pivot pins and sliding surfaces with Lithium 12-Hydroxy Stearate EP Grease.

11. Window Regulator and Door Check:

Lubricate Regulator Gear Teeth, Pin, Slide and Door Check with Lubricant comparable to "Lubriplate 110". NOTE: Do not lubricate front door check.

Seat adjuster Slides: (Not shown on diagram)

Clean and lubricate with lubricant comparable to "Lubriplate 110".

3,000 to 4,000 Miles

12. Engine Crankcase:

Drain and refill (engine hot). NOTE: More frequent oil changes are required depending upon the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation. Select oil viscosity grades from chart.

13. Oil Filter Engine:

Remove oil filter assembly and replace with new assembly. Operate engine for a few minutes and check filter for leaks.

NOTE: More frequent changes are required depending on the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation.

LUBRICATION INSTRUCTIONS

1010 SERIES

3,000 to 4,000 Miles - Continued

14. Transmission Manual:

Keep filled to plug level. Drain and flush twice each year or every 12,000 miles. Use straight mineral oil SAE-90 for temperatures 0°F and up. Use SAE-80 for temperatures below 0°F.

SPECIAL RECOMMENDATIONS: Where temperature is consistently below 0°F and where parked vehicles are exposed to unusual cold for long periods use SAE-75. Where temperatures are consistently above 90°F (unusually hot), use SAE-140 straight mineral oil.

Transmission (Automatic):

Keep filled to "Full" mark on dipstick with "DEXRON®" automatic transmission fluid. NOTE: Do not overfill. For vehicles used in light to moderate service, the fluid should be changed at 32,000 mile intervals. For vehicles used in severe service or trailer towing operations, the fluid should be changed at 20,000 mile intervals.

15. Rear Axle:

Keep filled to plug level. Drain every 25,000 miles or once each year. Use SP type lubricant, SAE-90 viscosity year around, meeting MIL-L-2105B specification and supplied by a reputable refinery. (SP must not contain zinc.) For abnormally high temperature severe service (hot climate off highway operation where vehicle is in low speed heavy hauling for prolonged periods), use SAE-140. NOTE: Trac-Lok axles add one ounce of IH-LS additive for each pint of SP lubricant used.

16. Propeller Shaft Slip Joint:

Remove plug and install lubricator fitting. Under low pressure, force small amount of Lithium 12-Hydroxy Stearate EP Grease into joint. Excessive pressure and lubrication will damage oil seals. Reinstall plug.

17. Clutch Release Fork Shaft:

Lubricate sparingly with Lithium 12-Hydroxy Stearate EP Grease. Do not over-lubricate as lubricant will reach clutch facings.

18. Door Hinges (Rear Door Only):

Lubricate door hinge pins with light engine oil.

LUBRICATION INSTRUCTIONS

1010 SERIES

3,000 to 4,000 - Continued

19. Door Latch and Striker Plate:

Lubricate with stick lubricant.

20. Manifold Heat Control Valve:

Lubricate shaft liberally with penetrating oil. Valve shaft must operate freely in manifold.

Hood Latch and Linkage:
(Not shown on diagram)

Coat latch liberally with lubricant comparable to "Lubriplate 110" and oil linkage with light engine oil.

12,000 to 20,000 Miles

- 21. Steering Knuckle Ball Joints
(Upper and Lower):
- 22. Steering Link Ends:
- 23. Tie Rod Ends:

) Remove plugs: Lubricate under low pressure every 20,000 miles. Too much
) pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease.
) NOTE: Frequent use of vehicles in off-the-road operations that encounter mud
) and water, lubricate every 12,000 miles.

- 24. Propeller Shaft
Universal Joints:

Joints with plugs or fittings: Lubricate under low pressure every 20,000 miles. Too much pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease. Joints without plugs or fittings: Every 50,000 miles clean and inspect joints, repack with Lithium 12-Hydroxy Stearate EP Grease. NOTE: Frequent use of vehicles in off-the-road operations that encounter mud and water, lubricate or repack joints every 12,000 miles.

Door Lock Cylinders:
(Not shown on diagram)

Twice each year or every 20,000 miles inject 3 or 4 drops of lock oil through keyhole.

LUBRICATION INSTRUCTIONS

1010 SERIES

15,000 to 25,000 Miles

25. Wheel Bearings, Front and Rear:

Clean and inspect wheel bearings and hubs. Repack with Lithium 12-Hydroxy Stearate EP Grease. Adjust bearings. For rear wheel bearings, remove axle shaft to repack bearings. Front wheel bearings of vehicles with disc brakes removal of the disc brake caliper is necessary. NOTE: Do not mix different type lubricants. Be certain to thoroughly clean all old lubricant from bearings and hubs before repacking.

26. Clutch Release Sleeve Fork:

Remove flywheel housing cover (under chassis). Pack lubricant between the release fork and contact pads on the sleeve. Use Lithium 12-Hydroxy Stearate EP Grease. Do not overlubricate. Lubricate every 15,000 to 20,000 miles under normal operating conditions. Under unusual "stop-and-go" driving conditions, lubricate every 10,000 miles.

At Reassembly or Overhaul

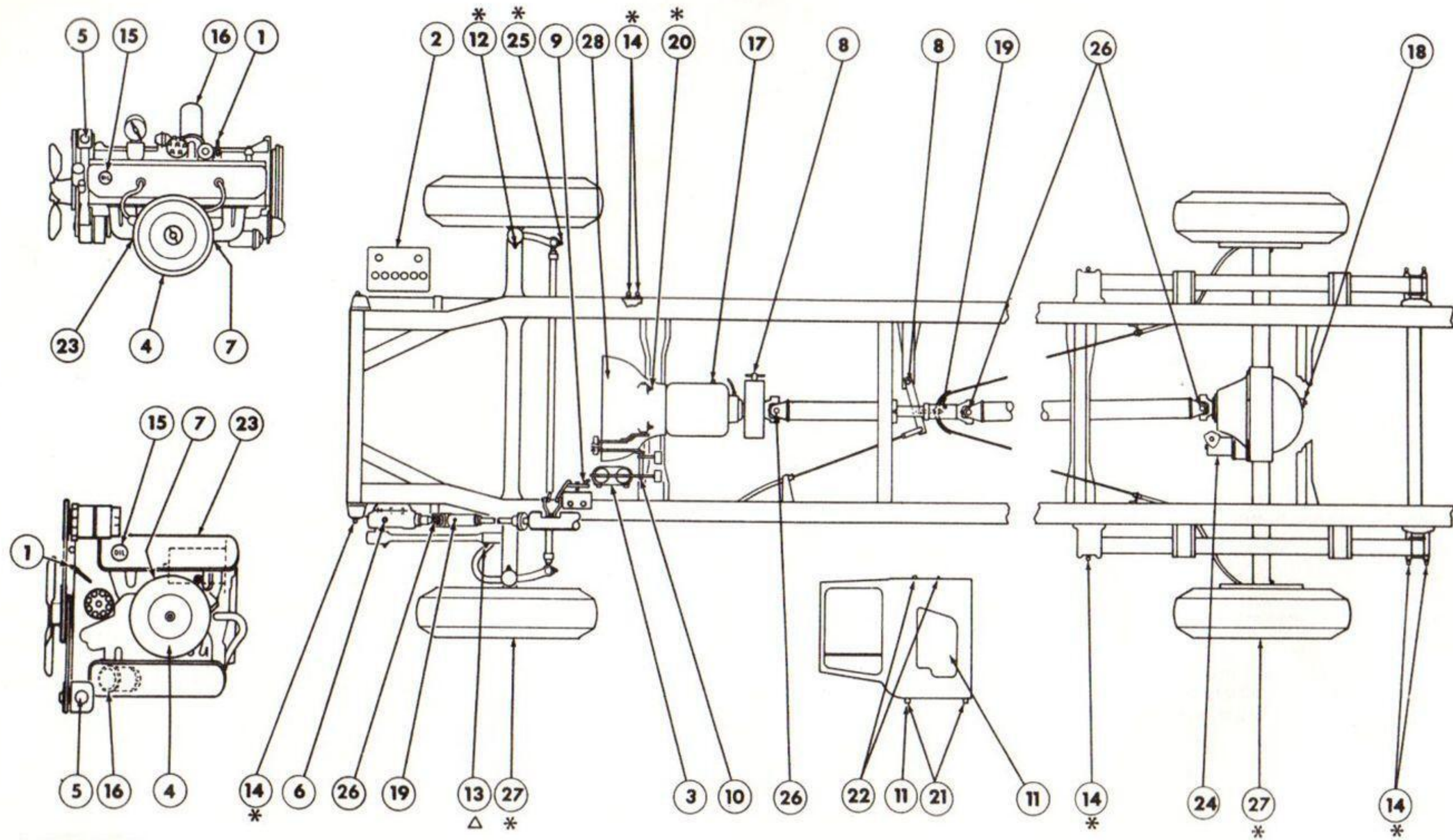
The following items require lubrication only at reassembly or overhaul. No periodic lubrication required (not shown on lubrication diagram).

Alternator, starting motor, speedometer cable, distributor, steering gear flexible coupling (lower).

Lubrication periods provide an excellent opportunity to inspect and check for maintenance service that may be needed. Early attention to minor service needs at this inspection will usually prevent serious breakdown later.

LUBRICATION DIAGRAM

1110, 1210, 1310, 1510 SERIES



MT-9094

LUBRICATION INSTRUCTIONS

1110, 1210, 1310, 1510 SERIES

Daily

1. Engine:

Crankcase oil level must be maintained between "Add" and "Full" marks on dipstick. Select oil viscosity grades from chart below.

TEMPERATURE	OIL VISCOSITY GRADE	MULTI-VISCOSITY OIL GRADE
32°F and up	SAE-30	SAE-20W-40
10°F to 32°F	SAE-20W	SAE-10W-30
-10°F to 10°F	SAE-10W	SAE-10W-30
Below -10°F	-----	SAE- 5W-20

"Use "MS" Sequence Tested Oils" ("SC" or "SD")

As Required

2. Battery:

Add distilled water to indicator level. Do not overfill.

3. Brake Tandem Master Cylinder:

Fill 1/2" from top of reservoirs. Use super heavy duty brake fluid SAE-J-1703.

4. Air Cleaner (Engine): (Dry Type)

Remove paper element from air cleaner every 4,000 miles. Clean element by tapping gently on a flat surface or with low pressure air. Inspect end seals. DO NOT WASH OR OIL DRY ELEMENT. Vehicles operating in dusty areas will require cleaning or replacement of the filter element more often. Replace filter element every 12,000 miles.

LUBRICATION INSTRUCTIONS

1110, 1210, 1310, 1510 SERIES

As Required - Continued

Cleaning Polyurethane Band
Element (Heavy Duty Air Cleaners)

Remove air cleaner element and remove polyurethane band from paper element, wash in suitable solvent to remove oil and dirt. Squeeze dry, dip in engine oil and squeeze to remove excess oil (do not shake or wring).

5. Power Steering Pump Reservoir:

Keep reservoir filled to oil level mark with "DEXRON®" automatic transmission fluid. DO NOT OVERFILL. Check level with engine at normal operating temperature.

6. Steering Gear (1110, 1210, 1310)

Gear is filled with grease at assembly. If necessary to add lubricant use Lithium 12-Hydroxy Stearate EP Grease. Inject through cover mounting bolt hole over worm shaft.

Steering Gear
(1510)

Keep filled to plug level. Use SAE-90 SP type lubricant meeting MIL-L-2105B specification.

7. Accelerator Linkage:

8. Parking Brake Linkage:

9. Transmission Shift Linkage:

10. Clutch and Brake Pedal Linkage:

)
)
)
)

Lubricate linkage, clevis pins, pivot pins and sliding surfaces with Lithium 12-Hydroxy Stearate EP Grease.

11. Window Regulator and Door Check:

Lubricate Regulator Gear Teeth, Pin, Slide and Door Check with lubricant comparable to "Lubriplate 110". NOTE: Do not lubricate front door check.

Seat Adjuster Slides:
(Not shown on diagram)

Clean and lubricate with lubricant comparable to "Lubriplate 110".

LUBRICATION INSTRUCTIONS

1110, 1210, 1310, 1510 SERIES

1,000 to 2,000 Miles

- | | | |
|------------------------|---|--|
| 12. Steering Knuckles: |) | Lubricate through fittings until old lubricant, dirt and water are expelled.
Use Lithium 12-Hydroxy Stearate EP Grease. |
| 13. Drag Link: |) | |
| 14. Spring Pins: |) | |
| (1510 only) |) | |

3,000 to 4,000 Miles

15. Engine Crankcase: Drain and refill (engine hot). NOTE: More frequent oil changes are required depending upon the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation. Select oil viscosity grades from chart.
16. Oil Filter Engine: Remove oil filter assembly and replace with new assembly. Operate engine for a few minutes and check filter for leaks.
NOTE: More frequent changes are required depending on the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation.
17. Transmission (Manual): Keep filled to plug level. Drain and flush twice each year or every 12,000 miles. Use straight mineral oil SAE-90 for temperatures 0°F and up. Use SAE-80 for temperatures below 0°F.
SPECIAL RECOMMENDATIONS: Where temperature is consistently below 0°F and where parked vehicles are exposed to unusual cold for long periods use SAE-75. Where temperatures are consistently above 90°F (unusually hot), use SAE-140 straight mineral oil.
- Transmission (Automatic): Keep filled to "Full" mark on dipstick with "DEXRON®" Automatic transmission fluid. NOTE: Do not overfill. For vehicles used in light to moderate service, the fluid should be changed at 32,000 mile intervals. For vehicles used in severe service or trailer towing operations, the fluid should be changed at 20,000 mile intervals.

LUBRICATION INSTRUCTIONS

1110, 1210, 1310, 1510 SERIES

3,000 to 4,000 Miles - Continued

18. Rear Axle:

Keep filled to plug level. Drain every 25,000 miles or once each year. Use SP type lubricant, SAE-90 viscosity year around, meeting MIL-L-2105B specification and supplied by a reputable refinery. (SP must not contain zinc.) For abnormally high temperature severe service (hog climate off highway operation where vehicle is in low speed heavy hauling for prolonged periods), use SAE-140. NOTE: Trac-Lok axles add one ounce of IH-LS additive for each pint of SP lubricant used.

**19. Propeller Shaft Slip Joint:
Steering Column Slip
Joint (1510)**

Remove plug and install lubricator fitting. Under low pressure, force small amount of Lithium 12-Hydroxy Stearate EP Grease into joint. Excessive pressure and lubrication will damage oil seals. Reinstall plug.

20. Clutch Release Fork Shaft:

Lubricate through fittings until old lubricant, dirt and water are expelled. Use Lithium 12-Hydroxy Stearate EP Grease. Do not overlubricate clutch release fork shaft as lubricant will reach clutch facings.

21. Door Hinges (Rear Door Only):

Lubricate door hinge pins with light engine oil.

22. Door Latch and Striker Plate:

Lubricate with stick lubricant.

23. Manifold Heat Control Valve:

Lubricate shaft liberally with penetrating oil. Valve shaft must operate freely in manifold.

**Hood Latch and Linkage:
(Not shown on diagram)**

Coat latch liberally with lubricant comparable to "Lubriplate 110" and oil linkage with light engine oil.

**24. Electric Shift Motor
(Two-Speed Axle):**

Keep filled to plug level. Twice each year remove cover drain and flush. Use SAE-10 engine oil for temperatures 0°F. and up. For temperatures below 0°F. use three parts SAE-10 engine oil to one part kerosene. This mixture can safely be used in temperatures up to 32°F.

LUBRICATION INSTRUCTIONS

1110, 1210, 1310, 1510 SERIES

12,000 to 20,000 Miles

25. Tie Rod Ends:

Remove plugs: Lubricate under low pressure every 20,000 miles. Too much pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease
NOTE: Frequent use of vehicles in off-the-road operations that encounter mud and water, lubricate every 12,000 miles.

26. Propeller Shaft Universal Joints: Steering Column Universal Joint (1510):

Joints with plugs or fittings: Lubricate under low pressure every 20,000 miles. Too much pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease. Joints without plugs or fittings: Every 50,000 miles clean and inspect joints, repack with Lithium 12-Hydroxy Stearate EP Grease. NOTE: Frequent use of vehicles in off-the-road operations that encounter mud and water, lubricate or repack joints every 12,000 miles.

Door Lock Cylinders: (Not shown on diagram)

Twice each year or every 20,000 miles inject 3 or 4 drops of lock oil through keyhole.

15,000 to 25,000 Miles

27. Wheel Bearings, Front and Rear:

Clean and inspect wheel bearings and hubs. Repack with Lithium 12-Hydroxy Stearate EP Grease. Adjust bearings. For rear wheel bearings, remove axle shaft to repack bearings. NOTE: Do not mix different type lubricants. Be certain to thoroughly clean all old lubricant from bearings and hubs before repacking.

28. Clutch Release Fork:

Remove flywheel housing cover (under chassis). Pack lubricant between the release fork and contact pads on the sleeve. Use Lithium 12-Hydroxy Stearate EP Grease. Do not over-lubricate. Lubricate every 15,000 to 20,000 miles under normal operating conditions. Under unusual "stop-and-go" driving conditions, lubricate every 10,000 miles.

At Reassembly or Overhaul

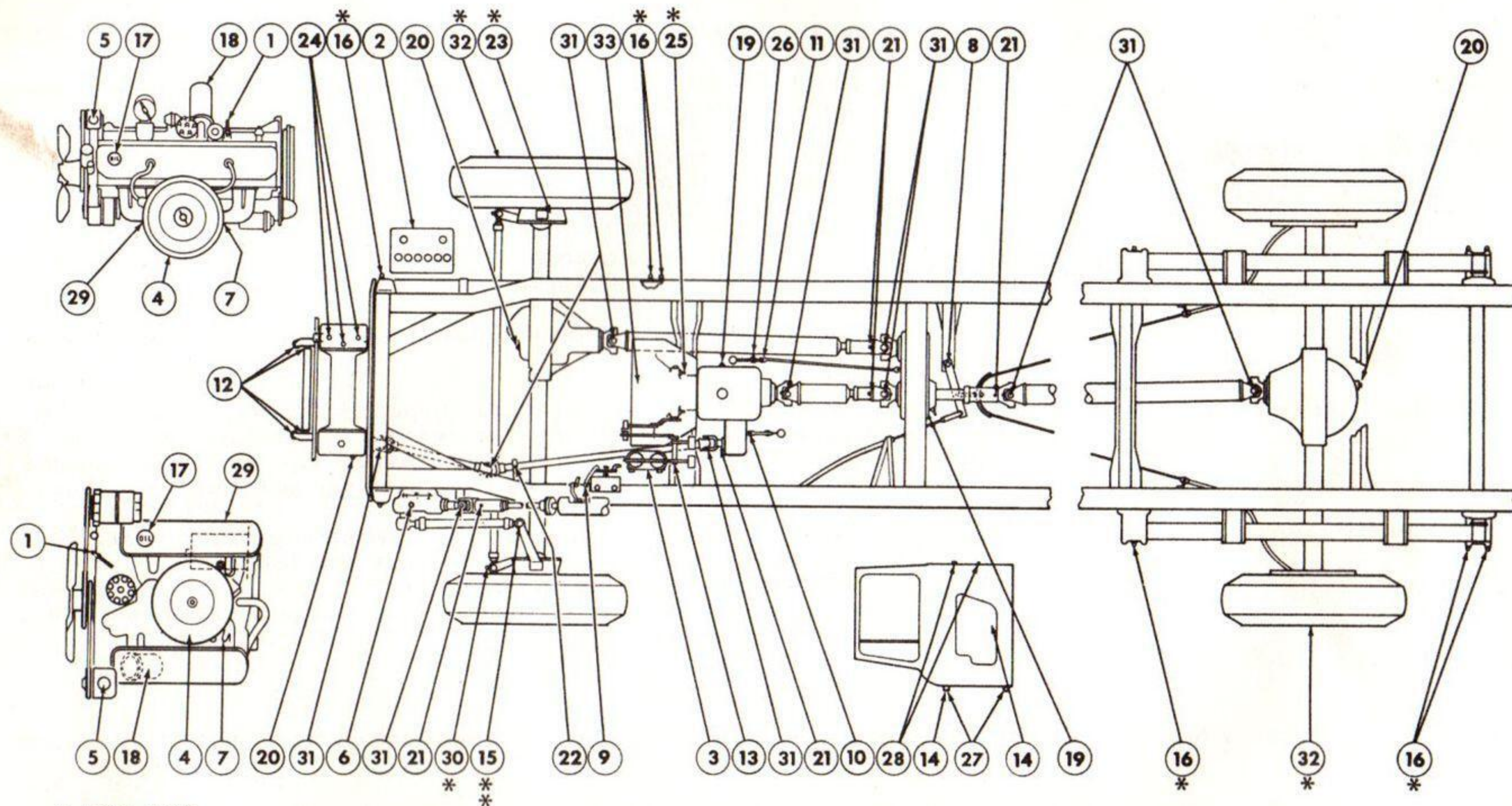
The following items require lubrication only at reassembly or overhaul. No periodic lubrication required (not shown on lubrication diagram).

Alternator, starting motor, speedometer cable, distributor, steering gear flexible coupling (lower).

Lubrication periods provide an excellent opportunity to inspect and check for maintenance service that may be needed. Early attention to minor service needs at this inspection will usually prevent serious breakdown later.

LUBRICATION DIAGRAM

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES



MT-9095

LUBRICATION INSTRUCTIONS

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES

Daily

1. Engine:

Crankcase oil level must be maintained between "Add" and "Full" marks on dipstick. Select oil viscosity grades from chart below.

TEMPERATURE	OIL VISCOSITY GRADE	MULTI-VISCOSITY OIL GRADE
32°F and up	SAE-30	SAE-20W-40
10°F to 32°F	SAE-20W	SAE-10W-30
-10°F to 10°F	SAE-10W	SAE-10W-30
Below -10°F	-----	SAE- 5W-20

"Use "MS" Sequence Tested Oils" ("SC" or "SD")

As Required

2. Battery:

Add distilled water to indicator level. Do not overfill.

3. Brake Tandem Master Cylinder:

Fill 1/2" from top of reservoirs. Use super heavy duty brake fluid SAE-J-1703.

4. Air Cleaner (Engine):

Remove paper element from air cleaner every 4,000 miles. Clean element by tapping gently on a flat surface or with low pressure air. Inspect end seals. DO NOT WASH OR OIL DRY ELEMENT. Trucks operating in dusty areas will require cleaning or replacement of the filter element more often. Replace filter element every 12,000 miles.

LUBRICATION INSTRUCTIONS

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES

As Required - Continued

Cleaning Polyurethane Band Element
(Heavy Duty Air Cleaners):

Remove air cleaner element and remove polyurethane band from paper element, wash in suitable solvent to remove oil and dirt. Squeeze dry, dip in engine oil and squeeze to remove excess oil (do not shake or wring).

5. Power Steering Pump Reservoir:

Keep reservoir filled to oil level mark with "DEXRON®" automatic transmission fluid. DO NOT OVERFILL. Check level with engine at normal operating temperature.

6. Steering Gear: (1110 4x4,
1210 4x4)

Gear is filled with grease at assembly. If necessary to add lubricant, use Lithium 12-Hydroxy Stearate EP Grease. Inject through cover mounting bolt hole over worm shaft.

Steering Gear (1310 4x4):

Keep filled to plug level. Use SAE-90 SP type lubricant meeting MIL-L-2105B specification.

7. Accelerator Linkage:)

8. Parking Brake Linkage:)

9. Transmission Shift Linkage:)

10. Power-Take-Off Shift Linkage:)

11. Transfer Case Shift Linkage:)

12. Winch Rollers:)

13. Clutch Pedal Linkage:)

Lubricate linkage, clevis pins, pivot pins, and sliding surfaces with Lithium 12-Hydroxy Stearate EP Grease.

14. Window Regulator and Door Check:

Lubricate regulator gear teeth, pin, slide and door check with lubricant comparable to "Lubriplate 110". NOTE: Do not lubricate front door check.

Seat Adjuster Slides:
(Not shown on diagram)

Clean and lubricate with lubricant comparable to "Lubriplate 110".

1,000 to 2,000 Miles

15. Drag Link:

16. Spring Pins:
(1310 4x4)

Lubricate through fittings until old lubricant, dirt and water are expelled. Use Lithium 12-Hydroxy Stearate EP Grease.

LUBRICATION INSTRUCTIONS

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES

3,000 to 4,000 Miles

17. Engine Crankcase:

Drain and refill (engine hot). NOTE: More frequent oil changes are required depending upon the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation. Select oil viscosity grades from chart.

18. Oil Filter Engine:

Remove oil filter assembly and replace with new assembly. Operate engine for a few minutes and check filter for leaks.

NOTE: More frequent changes are required depending on the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation.

19. Transmission (Manual): Transfer Case:

Keep filled to plug level. Drain and flush twice each year or every 12,000 miles. Use straight mineral oil SAE-90 for temperatures 0°F and up. Use SAE-80 for temperatures below 0°F. SPECIAL RECOMMENDATIONS: Where temperature is consistently below 0°F and where parked vehicles are exposed to unusual cold for long periods, use SAE-75. Where temperatures are consistently above 90°F (unusually hot), use SAE-140 straight mineral oil.

Transmission (Automatic)

Keep filled to "Full" mark on dipstick with "DEXRON®" automatic transmission fluid. NOTE: Do not overfill. For vehicles used in light to moderate service, the fluid should be changed at 32,000 mile intervals. For vehicles used in severe service or trailer towing operations, the fluid should be changed at 20,000 mile intervals.

20. Front Axle: Rear Axle: Winch:

Keep filled to plug level. Drain every 25,000 miles or once each year. Use SP type lubricant, SAE-90 viscosity year around, meeting MIL-L-2105B specification and supplied by a reputable refiner. (SP must not contain zinc). For abnormally high temperature severe service (hot climate off highway operation where vehicle is in low speed heavy hauling for prolonged periods), use SAE-140. NOTE: Trac-Lok axles add one ounce of IH-LS additive for each pint of SP lubricant used.

LUBRICATION INSTRUCTIONS

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES

3,000 to 4,000 Miles - Continued

21. Propeller Shaft Slip Joint:
Steering Column Slip
Joint (1310 4x4):

Remove plug and install lubricator fitting. Under low pressure, force small amount of Lithium 12-Hydroxy Stearate EP Grease into joint. Excessive pressure and lubrication will damage oil seals. Reinstall plug.

22. Winch Propeller Shaft
Center Bearing:

Lubricate sparingly under low pressure with Lithium 12-Hydroxy Stearate EP Grease. Excessive pressure and lubrication will damage oil seals.

23. Front Axle Drive Joint:

Keep filled to side plug level with SAE-90 SP type lubricant meeting MIL-L-2105-B specifications.

24. Winch:
25. Clutch Release Fork Shaft:
26. Transfer Case Shift Control:

)
)
)

Lubricate through fittings until old lubricant, dirt and water are expelled. Use Lithium 12-Hydroxy Stearate EP Grease. Do not overlubricate clutch release fork shaft as lubricant will reach clutch facings.

27. Door Hinges (Rear Door Only):

Lubricate door hinge pins with light engine oil.

28. Door Latch and Striker Plate.

Lubricate with stick lubricant.

29. Manifold Heat Control Valve:

Lubricate shaft liberally with penetrating oil. Valve shaft must operate freely in manifold.

Hood Latch and Linkage:
(Not shown on diagram)

Coat latch liberally with lubricant comparable with "Lubriplate 110" and oil linkage with light engine oil.

12,000 to 20,000 Miles

30. Tie Rod Ends:

Remove plugs: Lubricate under low pressure every 20,000 miles. Too much pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease. NOTE: Frequent use of vehicles in off-the-road operations that encounter mud and water, lubricate every 12,000 miles.

LUBRICATION INSTRUCTIONS

1110 (4x4), 1210 (4x4), 1310 (4x4) SERIES

12,000 to 20,000 Miles - Continued

31. Propeller Shaft Universal Joints:
Steering Column Universal
Joint (1310 4x4):

Joints with plugs or fittings: Lubricate under low pressure every 20,000 miles. Too much pressure will damage oil seals. Use Lithium 12-Hydroxy Stearate EP Grease. Joints without plugs or fittings: Every 50,000 miles clean and inspect joints, repack with Lithium 12-Hydroxy Stearate EP Grease. NOTE: Frequent use of vehicles in off-the-road operations that encounter mud and water, lubricate or repack joints every 12,000 miles.

Door Lock Cylinders:
(Not shown on diagram)

Twice each year or every 20,000 miles inject 3 or 4 drops of lock oil through keyhole.

15,000 to 25,000 Miles

32. Wheel Bearings, Front and Rear:

Clean and inspect wheel bearings and hubs. Repack with Lithium 12-Hydroxy Stearate EP Grease. Adjust bearings. For rear wheel bearings, remove axle shaft to repack bearings. NOTE: Do not mix different type lubricants. Be certain to thoroughly clean all old lubricant from bearings and hubs before repacking.

33. Clutch Release Fork:

Remove flywheel housing cover (under chassis). Pack lubricant between the release fork and contact pads on the sleeve. Use Lithium 12-Hydroxy Stearate EP Grease. Do not over-lubricate. Lubricate every 15,000 to 20,000 miles under normal operating conditions. Under unusual "stop-and-go" driving conditions, lubricate every 10,000 miles.

At Reassembly or Overhaul

The following items require lubrication only at reassembly or overhaul. No periodic lubrication required (not shown on lubrication diagram).

Alternator, starting motor, speedometer cable, distributor, steering gear flexible coupling (lower).

Lubrication periods provide an excellent opportunity to inspect and check for maintenance service that may be needed. Early attention to minor service needs at this inspection will usually prevent serious breakdown later.

UNIT REFILL CAPACITIES

(U.S. MEASURE)

CRANKCASE

Engine Oil	Six Cylinder Engines	4 Quarts
	V-8 Engines	5 Quarts

NOTE: With Oil Filter Change Add One Extra Quart.

COOLING SYSTEM

	CAPACITY (QUARTS)			
	6 Cyl. Eng.	V-304 Eng.	V-345 Eng.	V-392 Eng.
1010, 1110, 1210, 1310, 1510, 1110 (4x4), 1210 (4x4), 1310 (4x4)	11	19	20	21

NOTE: Capacities listed above are for standard cooling radiators (vehicle equipped with heater requires 1 additional quart). Vehicles with increased capacity radiator add additional coolant to bring level about one inch below the top of the radiator upper tank. Cooling system with reservoir add 2 extra quarts.

STEERING GEAR

Model	Code	
S-55	05055	11 oz.
S-165	05165	1 Lb. 12 oz.
S-281	05281	Power Steering System Approx. 3 Pints
S-282	05282	Power Steering System Approx. 3 Pints

TRANSMISSION

Model	Code		Model	Code	
T-7	13007	6 Pints	T-418	13418	7 Pints
T-24	13024	2-1-2 Pints	T-419	13419	7 Pints
T-44	13044	7 Pints	T-434	13434	12 Pints
T-407	13407	19 Pints	T-436	13436	12 Pints
			T-445	13445	7 Pints

UNIT REFILL CAPACITIES

(U.S. MEASURE)

FRONT AXLE (DRIVING)

Model	Code		
FA-15	02015	Drive Joints (each side) 6 Ounces - Differential	4-1/2 Pints
FA-16	02016	Drive Joints (each side) 6 Ounces - Differential	4-1/2 Pints
FA-18	02018	Drive Joints (each side) 16 Ounces - Differential	4-1/2 Pints
FA-25	02025	Drive Joints (each side) 16 Ounces - Differential	4-1/2 Pints
FA-52	02052	Drive Joints (each side) 16 Ounces - Differential	6-1/2 Pints

REAR AXLE

Model	Code	Description	
RA-15	14015	Single Reduction	6-1/2 Pints
RA-16	14016	Single Reduction	5-1/2 Pints
RA-17	14017	Single Reduction (with Trac-Lok differential)	5-1/2 Pints
RA-18	14018	Single Reduction	3 Pints
RA-20	14020	Single Reduction	6-1/2 Pints
RA-25	14025	Single Reduction	9-1/2 Pints
RA-28	14028	Single Reduction (with Trac-Lok differential)	3 Pints
RA-83	14083	Single Reduction	6 Pints
RA-84	14084	Single Reduction (with Trac-Lok differential)	6 Pints
RA-63	14063	Single Reduction (with Trac-Lok differential)	5-3/4 Pints
RA-126	14126	Two Speed	13 Pints

TRANSFER CASE

Model	Code	
TC-142	13142	5-1/4 Pints

FUEL TANKS

1010, 1110, 1110 4x4

Pickup, Chassis and Cab, Travelette	15 Gallons
Panel Body	20 Gallons
Utility Body	13 Gallons
Optional Auxiliary	15 Gallons

1210, 1310, 1510, 1210 4x4, 1310 4x4

Pickup, Chassis and Cab, Travelette	16 Gallons
Panel Body	21 Gallons
Utility Body	13 Gallons
Optional Auxiliary	16 Gallons



INTERNATIONAL PARTS, SERVICE AND NECESSARIES

Are available at a nearby dealer or Company-owned parts department and service stations.

Branches and Stores in the United States

Aberdeen, S. Dak.	Brooklyn, N. Y.	Decatur, Ill.	Great Falls, Mont.	Lexington, Nebr.
Abilene, Tex.	Bryan, Tex.	Denver, Colo.	Green Bay, Wis.	Liberal, Kans.
Akron, Ohio	Bucyrus, Ohio	Des Moines, Iowa	Greensboro, N. C.	Lincoln Ill.
Albany, N. Y.	Buffalo, N. Y.	De Witt, Ark.	Greenville, N. C.	Lincoln, Nebr.
Albuquerque, N. Mex.	Burlington, Vt.	Dothan, Ala.	Greenville, S. C.	Linden, N. J.
Alexandria, Va.	Burlington, Wis.	Dubuque, Iowa	Harrisburg, Pa.	Little Rock, Ark.
Allentown, Pa.	Camden, N. J.	Duluth, Minn.	Hartford, Conn.	Long Beach, Calif.
Altoona, Pa.	Canton, Ohio	Dunmore, Pa.	Hays, Kans.	Long Island City, N. Y.
Amarillo, Tex.	Carroll, Iowa	East Moline, Ill.	Hillsboro, Tex.	Los Angeles, Calif.
Anaheim, Calif.	Carlisle, Pa.	Eau Claire, Wis.	Holly Hill, S. C.	Louisville, Ky.
Anthony, Kans.	Carrollton, Mo.	El Paso, Tex.	Houston, Tex.	Lovington, N. Mex.
Anthony, N. Mex.	Cedar Rapids, Iowa	Ephrata, Pa.	Hutchinson, Kans.	Lubbock, Tex.
Atlanta, Ga.	Charlotte, N. C.	Erie, Pa.	Indiana, Pa.	Lyons, Kans.
Aurora, Ill.	Cheyenne, Wyo.	Evansville, Ind.	Indianapolis, Ind.	Madison, Wis.
Austin, Minn.	Chicago, Ill.	Fabens, Texas	Iowa Falls, Iowa	Manchester, N. H.
Austin, Tex.	Cincinnati, Ohio	Fargo, N. Dak.	Jackson, Mich.	Manhattan, N. Y.
Baltimore, Md.	Clarksdale, Miss.	Fayetteville, N. C.	Jackson, Miss.	Mankato, Minn.
Bangor, Maine	Cleveland, Ohio	Fergus Falls, Minn.	Janesville, Wis.	Marianna, Fla.
Baton Rouge, La.	Columbia, Mo.	Fort Dodge, Iowa	Jersey City, N. J.	Marshalltown, Iowa
Beaumont, Tex.	Columbus, Ohio	Fort Wayne, Ind.	Kalamazoo, Mich.	Mason City, Iowa
Bedford, Pa.	Corpus Christi, Tex.	Fort Worth, Tex.	Kankakee, Ill.	Mattoon, Ill.
Bel Air, Md.	Council Bluffs, Iowa	Frederick, Okla.	Kansas City, Kans.	Medford, Mass.
Billings, Mont.	Crookston, Minn.	Fremont, Calif.	Kansas City, Mo.	Medford, Okla.
Birmingham, Ala.	Culver City, Cal.	Fresno, Calif.	Knoxville, Tenn.	Medford, Oreg.
Boston, Mass.	Dallas, Tex.	Gary, Ind.	Kokomo, Ind.	Melrose Park, Ill.
Bowling Green, Ky.	Danville, Ill.	Geneva, Ala.	Lafayette, Ind.	Memphis, Tenn.
Bridgeport, Conn.	Davenport, Iowa	Glendale, Calif.	Lansing, Mich.	Miami, Fla.
Brinkley, Ark.	Dayton, Ohio	Grand Forks, N. Dak.	Las Cruces, N. Mex.	
Bronx, N. Y.	Dearborn, Mich.	Grand Island, Nebr.	Lewiston, Idaho	
Brookfield, Wis.	Decatur, Ga.	Grand Rapids, Mich.	Lexington, Ky.	

Branches and Stores in the United States

Continued

Milwaukee, Wis.	Prairie du Chien, Wis.	Sedalia, Mo.	Waco, Tex.	West Springfield, Mass.
Minneapolis, Minn.	Pratt, Kans.	Sidney, Nebr.	Walla Walla, Wash.	Wheeler, Mich.
Montebello, Calif.	Presque Isle, Maine	Sioux City, Iowa	Warren, Minn.	Wichita, Kans.
Nashville, Tenn.	Providence, R. I.	Sioux Falls, S. Dak.	Washington, Iowa	Wichita Falls, Tex.
Newark, N. J.	Quincy, Ill.	South Bend, Ind.	Waterbury, Conn.	Wilmington, Del.
New Orleans, La.	Reading, Pa.	Spencer, Iowa	Waterloo, Iowa	Wilmington, Ohio
North Judson, Ind.	Redding, Calif.	Spokane, Wash.	Watertown, S. Dak.	Wolcott, N. Y.
Norwalk, Calif.	Reno, Nev. (Sparks)	Springfield, Ill.	Wausau, Wis.	Worcester, Mass.
Oakland, Calif.	Richmond, Va.	Springfield, Mo.	Wayne, Nebr.	York, Nebr.
Oklahoma City, Okla.	Riverside, Calif.	Springfield, Ohio	West Haven, Conn.	York, Pa.
Omaha, Nebr.	Roanoke, Va.	Springfield, Tenn.	W. Philadelphia, Pa.	Youngstown, Ohio
Orangeburg, S. C.	Rochester, N. Y.	Statesboro, Ga.	West Sacramento, Calif.	Zumbrota, Minn.
Oreana, Ill.	Rosemead, Calif.	Stockton, Calif.		
Orlando, Fla.	Roswell, N. Mex.	Streator, Ill.		
Ottumwa, Iowa	Roxbury, Mass.	Stuttgart, Ark.		
Paris, Ill.	Saginaw, Mich.	Sunnyside, Wash.		
Parsons, Kans.	St. Joseph, Mo.	Syracuse, N. Y.		
Pasco, Wash.	St. Louis, Mo.	Tacoma, Wash.		
Paterson, N. J.	St. Paul, Minn.	Taft, Tex.		
Peoria, Ill.	St. Petersburg, Fla.	Tampa, Fla.		
Perry, Iowa	Salina, Kans.	Tekamah, Nebr.		
Peru, Ind.	Salt Lake City, Utah	Temple, Tex.		
Philadelphia, Pa.	San Antonio, Tex.	Tifton, Ga.		
Phoenix, Ariz.	San Francisco, Calif.	Topeka, Kans.		
Pittsburgh, Pa.	San Jose, Calif.	Toppenish, Wash.		
Pittsfield, Ill.	San Leandro, Calif.	Trenton, N. J.		
Portland, Maine	Savannah, Ga.	Tulsa, Okla.		
Portland, Oreg.	Schnecksville, Pa.	Tuxedo, Maryland		
Poughkeepsie, N. Y.	Seattle, Wash.	Van Nuys, Calif.		

• Branches and Stores in Canada •

Calgary, Alta.	North Bay, Ont.
Charlottetown, P. E. I.	Ottawa, Ont.
Chatham, Ont.	Prince George, B. C.
Chicoutim, Que.	Quebec, Que.
Edmonton, Alta.	Regina, Sask.
Hamilton, Ont.	St. John, N. B.
Kitchener, Ont.	Saskatoon, Sask.
Lethbridge, Alta.	Scarborough, Ont.
London, Ont.	Toronto, Ont.
Mississauga, Ont.	Vancouver, B. C.
Montreal, Que.	Victoria, B. C.
Newmarket, Ont.	Winnipeg, Man.

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International Truck Sales and Service is maintained in all principal countries of the world.

Export address: International Harvester Export Company, Chicago, Illinois 60611, U. S. A.

Canadian address: International Harvester Company of Canada, Ltd., Hamilton, Ont., Canada

MEMORANDA

Branches and Dealers all Over the World

to give you

DEPENDABLE PARTS AND SERVICE

FOR QUICK AND EFFICIENT REPAIRS

See your nearest IH dealer or branch for genuine IH parts and for quality service. The IH branches and stores in the United States and Canada are listed on the last two pages of this manual. A list of the 5,000 IH dealers in the United States can be had on request (Form No. AD-4915) from IH dealers or branches.

In addition to the International parts stocked by IH dealers and branches, parts are available to them from twelve huge depots which are strategically located throughout the United States.

Service Where You Need It

Through Company-Owned Service Centers and —Dealers Everywhere—

Service Parts

Genuine IH service parts are of the same high quality as those built into International vehicles. Only by purchasing IH identified parts from your IH dealer or branch are you sure in all instances that they are best for your vehicles.

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You can save up to one-third or more of the price of a new part by buying genuine IH ReNEWed parts. IH ReNEWed parts can be purchased with complete confidence from your local IH dealer or branch. All IH ReNEWed parts are rebuilt by IH or for IH by the original

manufacturer of the part. ReNEWed parts carry the same guarantee as brand new service parts.

Necessaries

A complete line of "necessary accessories," thoroughly tested and approved by International engineers, IH Necessaries provide the best in comfort, appearance, service and safety for your International vehicles.

Expert Service

IH servicemen trained in the most up to date service techniques and using the most modern tools and equipment, make International dealer and branch service far best for International vehicles.

IH Parts Depots

IH Parts Depots are strategically located at 12 points in the United States. Ample stocks are maintained at all times to assure prompt shipment to your IH dealer or branch to meet your service requirements.

TRUCK DIVISION

INTERNATIONAL HARVESTER COMPANY

401 NORTH MICHIGAN AVE. CHICAGO, ILLINOIS 60611, U.S.A.