## OPERATING PROCEDURES

**WARNING**
**CARBON MONOXIDE POISONING**
**CAN BE DEADLY**

CARBON MONOXIDE IS A COLORLESS, ODORLESS, DEADLY POISONOUS GAS WHICH, WHEN BREATHED, DEPRIVES THE BODY OF OXYGEN AND CAUSES SUFFOCATION. EXPOSURE TO AIR CONTAMINATED WITH CARBON MONOXIDE PRODUCES SYMPTOMS OF HEADACHE, DIZZINESS, LOSS OF MUSCULAR CONTROL, APPARENT DROWSINESS, COMA. PERMANENT BRAIN DAMAGE OR DEATH CAN RESULT FROM SEVERE EXPOSURE.

IT OCCURS IN THE EXHAUST FUMES OF FUEL-BURNING INTERNAL COMBUSTION ENGINES AND BECOMES DANGEROUSLY CONCENTRATED UNDER CONDITIONS OF INADEQUATE VENTILATION. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED TO INSURE THE SAFETY OF PERSONNEL WHENEVER THE ENGINE IS OPERATED FOR MAINTENANCE PURPOSES OR NORMAL USE.

(1) DO NOT operate engine of vehicle in an enclosed area unless it is ADEQUATELY VENTILATED.

(2) DO NOT idle engine for long periods without maintaining ADEQUATE VENTILATION in personnel compartment.

(3) DO NOT drive vehicle with floor plates removed unless necessary for maintenance purposes.

(4) BE ALERT at all times during vehicle operation for exhaust odors. THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS ADEQUATE VENTILATION.

### Proper Break In

Precision engineering and manufacturing have simplified break in period. Follow these rules to properly break in this vehicle:

(1) During the first 100 miles drive at varying speeds up to 40 mph.
(2) During the next 400 miles drive at increasingly higher speeds.
(3) During the first 200 miles avoid abrupt stops if possible. This will result in longer brake life and better future performance.

(4) During the first 500 miles avoid driving at full throttle or at top speeds and avoid steady speeds. Avoid shifting into gear after starting a cold engine without a warmup of at least 10 seconds in warm weather and 20 seconds in cold weather. Fast starts and quick stops should be avoided.

## STARTING AND WARMUP

### In Any Weather

Place transmission control lever in the P (park) position. Depress the accelerator pedal half way or more and release. This will preset the automatic choke.

Place key in ignition lock and turn to extreme right (START) position and release as soon as engine starts. Let the engine idle for the period specified (see below) before shifting into gear. To aid warm up, drive at moderate speeds for the first few minutes. Do not "race" a cold engine under any circumstances.

### Above Freezing

After starting the engine, let it warm up for about 10 seconds then reduce engine speed by a light tap on the accelerator. You are now ready to drive your vehicle.

### Below Freezing

Once the engine has started, allow it to warm up for at least 20 seconds. It may be necessary to raise engine speed with the accelerator to keep the engine running during warm up. You need not tap the accelerator to reduce engine speed prior to shifting unless the speed is excessively high. In that event, tap the accelerator lightly to reduce speed, then shift.

### Idling

Avoid excessively long idling periods. It is not the best way to warm up an engine and wastes gasoline. Warm up is accomplished more quickly and efficiently by driving at low-to-moderate speeds for a short time.

### Hard Starting

If the engine is warm or hot, and will not start in the normal manner, depress accelerator about halfway, and hold it there while starting. If the engine will not start in a reasonable length of time, the carburetor may be flooded. Wait a few moments before again attempting a start. Then,



holding the accelerator pedal fully depressed, turn the ignition key and resume starting operation. To prevent flooding, do not pump the accelerator pedal.

Check all instruments for proper operation.

**CAUTION:** Do not attempt to operate vehicle if any of the following conditions exist:

(1) If the brake warning light comes on when the brake pedal is depressed.
(2) If the ammeter indicates a discharge condition after the engine is accelerated above idle speed.
(3) If the oil pressure gauge indicates a low or fluctuating pressure.
(4) If the temperature gauge indicates high engine temperature.

## PLACING THE VEHICLE IN MOTION

### Using Automatic Operation of Shift-Command Transmission.

Drive. After engine is started and warmed up properly, depress brake pedal and release hand (parking) brake. Move the transmission control lever, which has been in P (park) or N (neutral) position, to D (drive) position. Remove foot from brake pedal and apply pressure gradually to accelerator pedal. As you accelerate, the transmission will automatically shift from 1st to 2nd gear, and then to Drive (3rd gear) as speed increases.

Automatic Downshift. Quicker power and acceleration can be obtained at speeds ranging between approximately 25 and 55 MPH by depressing the accelerator "hard to the floor." This will quickly shift the transmission from Drive to 2nd. At speeds below 20 MPH, depressing the accelerator "hard to the floor" will cause the transmission to shift from Drive to 1st (rather than 2nd). Releasing the accelerator momentarily at speeds above 25 MPH permits the transmission to shift back to normal Drive (3rd gear).

### Using Manual Operation of Shift-Command Transmission.

Shift-Command can be operated manually, if desired, for greater controllability to meet certain driving situations.

Manual Upshift. After the engine is started and warmed up properly, depress brake pedal and release hand (parking) brake. Move the transmission control lever, which has been in P (park) or a (neutral) position, to 1 (first gear drive range) or 2 (second gear drive range). With the transmission control lever in the 1 position, the transmission will remain in 1st gear (and will not upshift) until the selector is moved to 2nd, which may be done at any desired speed. By shifting into drive, the transmission functions in the normal automatic 3rd-gear drive range.

When the vehicle is started with transmission control lever in the 2 position, the transmission will remain in second gear until the control lever is moved to the D or 1 range.

Manual Downshift. Manual downshift is also permissible with Shift Command. As with automatic downshift, the routine is similar, but the function varies slightly. Moving the selector from Drive to 2, quicker power and acceleration is obtained at any speed. Moving the selector from 2 to 1, 1st gear meshes at approximately 25 MPH with closed throttle, and at higher speeds with open throttle. When the selector is moved from Drive to 1, the transmission shifts into 2nd gear at any speed, while 1st gear comes into action at 30 MPH with closed throttle, and at higher speeds with open throttle.

## SHIFT-COMMAND PRECAUTIONS

Do not coast in neutral.
Do not drive in 1st or 2nd gears at sustained high speeds.
Do not place the selector in park or reverse with vehicle in motion.
Do not downshift suddenly, particularly on slippery roads. The resulting engine braking action may cause a skid.
Do not race the engine while shifting from neutral or park to any driving gear.
Do not race the engine with the brakes on and the vehicle in gear. This can overheat and damage the transmission. The same situation prevails if the vehicle is held on an uphill incline by depressing the accelerator while the vehicle is in gear for any length of time.

If the engine idles faster after the break-in period, adjust idle speed to specifications to help minimize creeping.

## STOPPING THE VEHICLE

Release pressure from accelerator pedal and allow engine and vehicle speed to decrease.

Apply pressure to brake pedal gently, but with sufficient pressure to bring vehicle to complete stop at the pre-determined point.

**CAUTION:** Always be alert while driving vehicle and attempt to anticipate any unusual conditions which could affect safe driving operations. Avoid panic stops. Always allow ample distance between vehicles for stopping. Bring vehicle to a gradual stop to prolong life of service brakes.

**WARNING:** When parking or leaving the vehicle unattended, place transmission shift lever in P (park) position and apply hand (parking) brake.

**CAUTION:** The vehicle must be completely stopped before engaging P (park). Internal damage to the transmission could result from moving the shift control lever into the P (park) position while the vehicle is moving.

## REVERSING THE VEHICLE

**CAUTION:** Never attempt to shift into R (reverse) if vehicle is moving.

**WARNING:** Make certain area to side and rear of vehicle is clear of personnel and obstructions before attempting to back vehicle as serious injury to personnel and damage to vehicle could result.

(1) Place transmission shift lever in R (reverse) position.
(2) Apply slight pressure on accelerator pedal.
(3) Back vehicle slowly.

### Rocking Vehicle

A gentle "rocking" action will help free the vehicle from deep snow, mud, or sand by moving the transmission control lever from D (drive) to R (reverse) in repeating pattern while depressing accelerator moderately. Do not race engine, avoid spinning tires, and limit rocking time.

### Holding Vehicle On An Upgrade

When stopped on an upgrade, apply brakes. Never hold the vehicle by accelerating engine with the transmission in gear. This could cause damage to the transmission.

### Cold Weather Operation

Cold weather affects vehicles much as it affects people; they need protection. In addition to normal maintenance service, special care in cleaning and lubrication must be observed. Proper cleaning and lubrication not only insure proper operation and function, but also guard against excessive wear of working parts and deterioration of the vehicle. Generally, extreme cold weather will cause lubricants to thicken or congeal, freeze batteries or prevent them from furnishing sufficient current for cold weather starting, prevent fuels from vaporizing and properly combining with air to form a combustible mixture for starting, and will cause various construction materials to become hard, brittle, and easily damaged or broken.

BE CAUTIOUS. When starting or driving the vehicle after a shutdown for long periods the thickened lubricants may cause failure of parts. Tires may be frozen to the ground or frozen to the shape of a flat spot while underinflated. Brake shoes may be frozen fast. Each condition should be considered by the operator in order to prevent damage to the vehicle.

WARM UP THOROUGHLY. Let the engine run a few minutes to give the lubricants time to warm up and circulate to all moving parts. After warming up engine, place transmission in 1 (first gear drive range), and drive slowly for a few yards. This should warm up gears and tires to a point where normal operation can begin. Frequently note instrument readings for any indication of malfunction. If any reading consistently deviates from normal, stop vehicle and determine cause.

PROTECT FROM WIND. Park vehicle in a sheltered spot out of the wind if possible. If shelter is unavailable, park vehicle so that it does not face into the wind.

KEEP VEHICLE CLEAN. Wash vehicle frequently in winter to remove road salt.

### Hot Weather Operation

Continuous operation of the vehicle at high speeds, on long hard pulls, on steep grades, in soft terrain, or in slow moving traffic may cause the engine to overheat. Make frequent inspections of the cooling system. If engine temperature consistently rises above normal, look for obstruction in inlet grille and radiator core. Clean radiator fins with compressed air or water under pressure. Flush cooling system if necessary.

PARK UNDER SHELTER. When practicable, park vehicle under cover to protect it from the sun.

INACTIVE VEHICLE. Vehicles inactive for long periods in hot, humid weather are subject to rapid rusting. Make frequent inspections and clean and lubricate to prevent excessive deterioration.



### Emergency Starting and Towing

Do not try to start this vehicle by pushing or towing. When jumper cables are used for starting a vehicle with a weak or run-down battery, be sure the cables are connected to the proper battery terminals (positive to positive terminal, and negative to negative terminal). This will prevent reverse polarity from damaging the alternator. Also, use PARK or NEUTRAL and set the parking brake when you use jumper cables for starting.

This vehicle may be towed (with all four wheels on the ground) at speeds less than 30 MPH for distances up to 50 miles. The transmission control lever must be at N (neutral). The transmission fluid should be at normal level. Should it be necessary to tow the vehicle more than 50 miles (or if the transmission is inoperative) have the drive shaft disconnected, or tow with the rear wheels off the ground.

## VEHICLE MAINTENANCE

To insure that all important components of the vehicle are checked systematically, two types of preventive maintenance service are specified:

(1) A daily, before operation service which should be performed each day the vehicle is operated. (2) A periodic service—based on mileage and/or time. This service includes inspection, lubrication, and tuneup and should be performed by an experienced technician. These service procedures are covered in the vehicle service manual.

Prompt correction of minor deficiencies will reduce maintenance expense and eliminate costly delays in operations.

### Daily Before Operation Service

LEAKS: Check under vehicle for any indication of oil, coolant, fuel, or brake fluid leaks.

COOLANT LEVEL: Check coolant level on side of recovery reservoir (fig. 23) and add fluid to reservoir if required. DO NOT ADD AT RADIATOR. When filling an empty coolant system, fill radiator completely and reservoir to "COLD" level. Run engine and adjust level to make sure fluid is at "COLD" line.

**WARNING:** Do not remove radiator cap when engine is at or above normal operating temperature. If cap must be removed to repair a hot engine, place a thick cloth over cap and turn counterclockwise to first stop and allow pressure to escape completely before removing cap.

ENGINE OIL LEVEL: Check engine oil level; add oil as required.

**CAUTION:** Avoid operating engine with oil level below ADD mark on gauge (dipstick). The oil level should be maintained in the safety margin, neither above FULL line nor below ADD line.

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

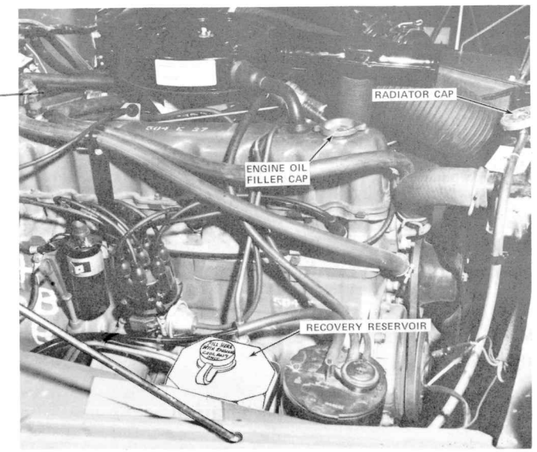


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**Figure 23. Radiator Cap, Recovery Reservoir, and Oil Filler Cap**

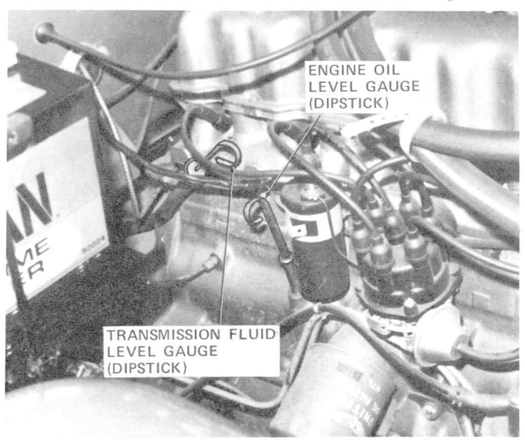


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**Figure 24. Engine Oil and Transmission Fluid Level Gauges**