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CHRYSLER CORPORATION'S POWER PLANT OPERATOR'S MANUAL

OPERATION

STARTING

NOTE: The starter should not be operated for longer than one minute intervals. A waiting period of at least two minutes between such intervals should be observed to protect the starter from over-heating.

1. Apply the parking brake.
2. Make sure the gearshift selector is in NEUTRAL or PARK position, then proceed as follows:

Engine Cold

Depress accelerator pedal to the floor and release. Turn ignition key to start position and release when the engine starts.

Engine Warm

Hold the accelerator pedal part way down while starting.

Extremely Cold Weather (Below Zero)

Depress the accelerator pedal to the floor and release. Then hold pedal part way down while starting. If temperature falls below -20°F. , start engine only in Neutral. Do not start in Park position.

Flooded Engine

Depress the accelerator pedal fully, and hold to the floor until engine starts.

ELECTRIC CHOKE EQUIPPED

CAUTION: If the ignition switch is left in the "ON" position without immediately starting the engine, the choke will begin to open, resulting in "hard" starting. In cases of this type, "pump" the accelerator pedal several times to aid starting.

ASSIST STARTING

Assist starting cannot be accomplished by pushing or towing. Use a booster battery or jumper cables from the battery of another vehicle. The negative cable on the booster battery must be attached only to the negative (-) post, and positive (+) to positive. Each post is stamped on top and identified on the battery case. This precaution will prevent possible damage to the vehicle's electrical system.

TOWING

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

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

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

TRANSMISSION

When ready to drive, move the selector lever from "P" or "N" to the desired drive position.

GEAR RANGES

"P" PARKING

Supplement parking brake by locking the transmission. Engine can be started in this range. Never use "P" while the Motor Home is in motion. For added safety, apply parking brake while in this range.

When parking on an incline the following procedure should be employed:

Place the transmission gear selector in the "Neutral" position, apply brake firmly, and then move the gear selector to "Park" position.

"R" REVERSE

Use only when the vehicle has been stopped completely.

"N" NEUTRAL

Shift to neutral when standing for prolonged periods with the engine running to avoid overheating the transmission. 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.

CAUTION: To prevent excessive engine speed do not exceed 55 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 MOTOR HOME

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

CAUTION: Avoid racing the engine or spinning the wheels. Prolonged efforts to free a stuck Motor Home may cause overheating, or result in damage to the transmission or rear axle.

PASSING ACCELERATION

To obtain rapid 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.

HILLS AND GRADES

Whenever you are attempting to accelerate and the engine speed is decreasing, manually downshift the transmission to obtain rapid acceleration. After the desired speed has been reached manually shift the transmission into "Drive" range.

HOLDING ON AN UPGRADE

Hold 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 and transmission 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.

DOWN SHIFTING

Before starting down a steep or long grade, it is advisable to manually shift to the same gear you would use if driving up the hill for "engine braking" to hold the Motor Home speed down.

ENGINE

In order to obtain the best possible performance over a long period of time, it is necessary that the engine be treated with reasonable care and perform the maintenance and other services specified herein.

ALTERNATOR

The alternator is provided with prelubricated bearings, which require no periodic lubrication.

CARBURETOR

Automatic Choke Shaft

To prevent the choke sticking from gum deposits on the shaft, inject Chrysler Carburetor Cleaner onto the shaft where it passes through the air horn. Move the choke blade gently back and forth to distribute the solvent. This service should be performed every six months.

Linkage

No lubrication required.

CARBURETOR ADJUSTMENTS

The carburetor is designed and carefully calibrated to the proper mixture for most economical and efficient performance at all speeds while keeping air pollution to a minimum.

If adjustments become necessary they should be made only by an authorized dealer.

FUEL FILTER

Your Motor Home is equipped with a paper element type fuel filter to remove sediment or water that may enter the fuel tank. The paper element type throw away fuel filter should be replaced every 24,000 miles.

OIL

(See Chart Page 11)

The type of service for which an engine oil is intended is usually designated by the letters SE or CC (Service Class E or C). These are service classifications established by the API (American Petroleum Institute). This system does not replace, but rather supplements the SAE grade number of the oil which indicates the viscosity or consistency of the oil recommended.

For the best performance and engine protection, the Chrysler Corporation recommends the owner select:

An oil which conforms to the requirements of the API classification — "For Service SE or CC" (Service Class E or C), an oil of the proper SAE number in accordance with recommendations for the anticipated temperature.

Chrysler Corporation does not recommend the use of any lubricant which does not have both an SAE designation and an API service classification.

SEVERE OPERATING CONDITIONS REQUIRE SPECIAL MAINTENANCE ATTENTION—WINTER DRIVING

If the Motor Home is driven for short distances of only a few miles at a time and at low speeds, moisture will condense in the crankcase and form a sludge. Under conditions of this kind, the engine does not become sufficiently warm to expel the condensation through the crankcase ventilation system. Consequently, the engine oil should be changed approximately every 1,000 miles. Under extreme conditions oil should be changed more often than every 1,000 miles.

As an alternative to this frequent change period, the use of special engine heating equipment will do much toward expelling the condensation through the crankcase ventilating system. If a normal engine temperature is maintained by using a winterfront, or other equipment, the change period may be extended to the normally recommended oil change.

DUSTY CONDITIONS

Driving through dust laden air greatly increases the problems of keeping abrasive materials out of the engine. Under these conditions, special attention should be given to the carburetor air cleaner and the crankcase ventilation system. Make sure these units are clean at all times. This will tend to reduce to a minimum the amount of abrasive material that may enter the engine.

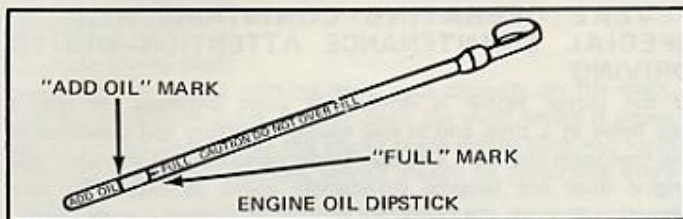
As a further precaution in preventing excessive wear and possible failure of parts under these dusty conditions, the crankcase oil and the oil filter cartridge should be changed more frequently. The frequency will depend upon the severity of dust conditions; therefore, no definite recommendations can be made.

When changing the oil filter, add 1 additional quart. All engines are filled at the factory with a high-quality oil. If necessary to add oil during the break-in period use a high-quality engine oil of the proper viscosity grade according to the anticipated temperature shown in the following table:

LOWEST ANTICIPATED TEMPERATURE	RECOMMENDED VISCOSITY GRADE
Above +32°F	SAE 30, SAE 40, SAE 10W-30, SAE 10W-40, SAE 10W-50
As low as +10°F	SAE 20W-20 or SAE 10W-30, SAE 10W-40, SAE 10W-50
As low as -10°F	SAE 10W-30, SAE 10W-50 SAE 10W, 5W-20 or 5W-30
Below -10°F	SAE 5W-20 or 5W-30

Including the break-in period, oil changes should be made for normal service, every 3 months or 4,000 miles.

For service which is principally short trip driving and frequent and prolonged idling, oil changes are recommended every 2 months or 2,000 miles.



OIL FILTER

Replace oil filter every second oil change. After replacing oil filter, operate engine for five minutes and check for leaks. In dusty areas or under severe operating conditions, change the filter more frequently.

POWER STEERING PUMP

Check Fluid level in reservoir (when fluid is at operating temperature) every 2,000 miles. Replenish to bottom of the filter neck with Chrysler Power Steering Fluid.

CAUTION: Before removing reservoir cover, wipe outside of cover and case so that no dirt can fall into reservoir, NEVER ADD GEAR OIL OR AUTOMATIC TRANSMISSION FLUID.

STARTING MOTOR

Do not lubricate.

THERMOSTATS

If necessary to replace the thermostat, make certain the same type and heat range thermostat is installed. The 185° thermostat is the only one recommended.

If the thermostat does not close completely when cold, the engine will warm-up slowly. A thermostat that will not open can cause overheating and may result in damage to the engine.

WATER PUMP

1 fitting—Multi-Purpose Grease NLGI Grade 2EP every 10,000 miles. Do not use high pressure gun.

TRANSMISSION

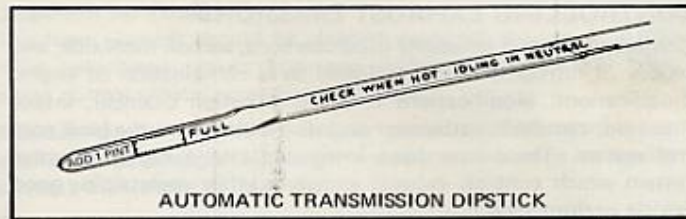
AUTOMATIC TRANSMISSION

Check the fluid level every engine oil change. This check should be made when the engine and transmission are at normal operating temperatures.

With parking brake engaged and engine idling, move the gear selector to each gear position momentarily, ending with the "N" (Neutral) position.

With the engine idling and the transmission in Neutral, the fluid level on the indicator should be between the FULL mark and the ADD 1 PINT mark when the transmission is HOT.

NOTE: USE ONLY FLUIDS OF THE TYPE LABELED "DEXRON" AUTOMATIC TRANSMISSION FLUID.



Chrysler Parts DEXRON Automatic Transmission Fluid is a material of this type and is recommended.

In normal service, fluid and filter should be changed initially at 32,000 miles and every 20,000 miles thereafter. If service is severe and includes prolonged operation with heavy loading, especially in hot weather or off-highway operation the fluid should be replaced every 20,000 miles or sooner. If necessary, band adjustments should be made at each fluid change.

SPECIAL ADDITIVES

Chrysler Corporation does not recommend the addition of any fluids to the transmission. Exceptions to this policy are the uses of special dyes to aid in detecting fluid leaks, and the use of Chrysler Automatic Transmission Sealer.

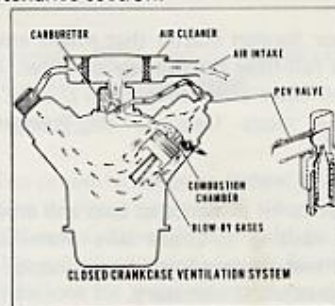
CONTROLLING VEHICLE EMISSIONS

There has been considerable attention given to the part trucks play in air pollution. Most people think of the problem in terms of controlling the exhaust emissions of the internal combustion engine. Actually, vehicles equipped with a gasoline-burning internal combustion engine have three potential sources of air pollution: engine crankcase vapors, vapor loss from the fuel system, and engine exhaust emissions.

CONTROLLING CRANKCASE VAPORS

Systems to control crankcase vapors have been on the job for over ten years now, preventing blow-by gases from escaping to atmosphere. This positive crankcase ventilation system depends on the PCV valve to control the flow of emissions from the crankcase to the combustion chamber where they are burned.

The crankcase ventilation system must be kept clean for good engine performance and durability. Periodic service is required as indicated in maintenance section.



CONTROLLING EXHAUST EMISSIONS

Control of exhaust emissions (hydrocarbons, carbon monoxide, and oxides of nitrogen) is accomplished by a combination of engine modifications. Modifications to the combustion chamber, intake manifold, camshaft, carburetor and distributor form the basis control system. These have been integrated into a highly effective system which controls exhaust emissions while maintaining good vehicle performance.

Complete effectiveness of the system, depends on engine idle speed, ignition timing, and idle mixture being set according to the specifications shown on the engine. These adjustments should be checked after the first 12,000 miles.

REQUIRED MAINTENANCE — VEHICLE EMISSION CONTROL SYSTEM —

The maintenance services that follow must be performed at the recommended times and mileages to assure the continued proper functioning of the emission control system. These, and all other recommended maintenance services included in this Manual should be performed to provide best vehicle performance and reliability. More frequent maintenance may be needed for vehicles in severe dust conditions. Inspection and service should also be performed anytime a malfunction is suspected.

EVERY THREE MONTHS OR 4,000 MILES

Change Engine Oil

Regular oil changes are required for proper engine operation. See page 5 for complete oil requirements.

EVERY SIX MONTHS

Carburetor Choke Shaft

It is necessary for the carburetor choke shaft to operate freely. The carburetor choke shaft should be serviced with the recommended solvent (available at your dealer) to prevent sticking from gum deposits.

Fast Idle Cam and Pivot Pin

It is necessary for the fast idle cam and pivot pin to operate freely. To insure free operation have the recommended solvent (available at your dealer) applied to the fast idle cam and pivot pin to remove dirt, oil or other deposits that could cause sticking or erratic motion.

Change Oil Filter

Particles of dirt or foreign matter that might enter the engine oil are removed by a full-flow throwaway oil filter. It is required that you change the oil filter every second oil change. Severe operating conditions require more frequent oil changes and oil filter replacement.

Drive Belts

Inspect all drive belts for evidence of cuts and cracks and replace if necessary. Check routing to make sure there is no interference between the belt and other engine components. Check belts for proper tension and adjust if necessary.

Carburetor Air Filter

The filter element should be cleaned every six months or 8,000 miles, whichever occurs first, and replaced every 24,000 miles under normal vehicle operating conditions.

Remove cleaner assembly, remove paper element, remove air cleaner outer wrapper and wash wrapper in kerosene or similar solvent; then shake or blot dry.

When a polyurethane (sponge-like plastic material) outer wrapper is used, the wrapper, after being washed and blotted dry, should be saturated with SAE 10W-30 oil.

Squeeze polyurethane wrapper tightly in an absorbent towel or cloth (such as a shop cloth) to remove excess oil, leaving the wrapper moist. Clean filter element by flowing out dirt gently with compressed air hose. Direct air from inside out, and keep nozzle two inches away from element to avoid damaging. If the filter element is saturated with oil for more than 1/2 its circumference, replace the filter element and wrapper assembly and check the rest of the crankcase ventilating system for proper functioning.

Do not tap or immerse paper element in liquid. Wash the cleaner cover and body with cleaning solvent, and wipe dry. Replace paper element and wrapper and secure firmly. Replace cleaner assembly on engine. Vehicles operating in dusty areas will require more frequent attention.

EVERY 12,000 MILES OR 12 MONTHS

Crankcase Inlet Air Cleaner

The crankcase inlet air cleaner must be kept clean and lubricated. Have the crankcase inlet air cleaner removed and washed thoroughly in kerosene, or similar solvent. Lubricate or wet the filter by inverting the, crankcase inlet air cleaner and filling with SAE-30 engine oil. Position the air cleaner to allow excess oil to drain thoroughly through the vent nipple located on the top of the air cleaner.

Crankcase PCV Valves

Proper operation of this system depends on freedom from sticking or plugging due to deposits. As vehicle mileage builds up, the crankcase PCV valve and passages may accumulate deposits. At 12,000 miles or 12 months, have the crankcase PCV valve and passages checked for proper operation. If valve is plugged or sticking, replace with a new valve - DO NOT ATTEMPT TO CLEAN THE OLD PCV VALVE!

Idle Adjustment

Check and adjust timing, RPM, and air-fuel mixture according to specifications outlined on the Engine label.

EVERY 18,000 MILES

Spark Plug

Spark Plugs must fire properly to assure proper engine performance and emission control. In most cases spark plugs will operate satisfactorily for 18,000 miles. New plugs should be installed at this mileage or earlier if any indication of plug misfiring occurs. Be sure to check the specifications for the proper type spark plug.

EVERY 24,000 MILES OR 24 MONTHS

Crankcase PCV Valve

Replace with new valve. DO NOT ATTEMPT TO CLEAN THE OLD VALVE.

EMISSION CONTROL SYSTEMS MAINTENANCE

The required maintenance items are shown in the maintenance chart on page 11.

If you take your vehicle to your authorized dealer at the appropriate time, he will perform these maintenance services. Retain all receipts to verify that these services were performed at the time or mileage intervals specified.


ELECTRONIC IGNITION SYSTEM

The advantages of the electronic ignition system - lower tune-up costs and lower emissions throughout the life of a Chrysler Corporation vehicle - are due to the elimination of the breaker points. In the electronic ignition system, electronic circuitry performs the functions which in a conventional system are performed by the mechanical breaker points. The benefits are twofold. First, the magnetic pickup and electronic circuitry do not wear out. This reduces maintenance costs because there is no longer a need to change breaker points or condenser. Second, electronic circuitry can control ignition timing and dwell angle more accurately over the range of performance demanded from today's vehicles than can mechanical breaker points, resulting in better exhaust emission control.

ENGINE SPECIFICATIONS	8 Cyl., 4 bbl. Carburetor 440 Cu. In.
Bore	4.32"
Stroke	3.75"
Compression Ratio	8.12:1
Oil Filter	Full Flow Spin On
Thermostat	185°
Fuel	See fuel usage this page
Ignition Timing (Refer to the "Emission Control Information" label in the engine compartment or Service Manual for Timing, RPM and Fuel Mixture Specifications.	
Spark Plug Gap, and Number	.035"
Champion	BL9Y
Firing Order	1-8-4-3-6-5-7-2

REFILL CAPACITIES	U.S. MEASURE	IMPERIAL MEASURE
ENGINE OIL (qts.)	6*	5*
*Add 1 qt. for filter change (½ imp. qt.)		
TRANSMISSION (pts.)	19	15½

FUEL USAGE

This engine is designed to operate on normal usage gasoline containing at least 0.5 grams of lead per gallon, or equivalent additive, and having a minimum octane rating of 91 (research method) or an anti-knock index with a minimum numerical value of  (Gasoline Classification Method).

Required Maintenance Services For Proper Vehicle Performance and Emission Control

The following maintenance services must be performed to assure proper vehicle performance and emission control.

SERVICE	TIME OR MILEAGE INTERVAL (Follow the interval which occurs first. Mileage in thousands)																									
	4	8	12	16	18	20	24	28	32	36	40	44	48	52	54	56	60	OR	OR	OR	OR	OR	OR	OR	OR	
ENGINE OIL—change	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	OR	•	•	•	•	•	•	•	•
ENGINE OIL FILTER—change	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	OR	•	•	•	•	•	•	•	•
CARBURETOR CHOKE SHAFT — lubricate																		OR								
FAST IDLE CAM AND PIVOT PIN — lubricate																		OR								
CHECK DRIVE BELTS—adjust or replace if necessary																		OR								
CARBURETOR AIR FILTER — clean (replace every 2 years)																		OR								
ENGINE IDLE SPEED, IGNITION TIMING and IDLE MIXTURE — check, and adjust as required																		OR								
PCV VALVE — check operation (replace every 2 years)																		OR								
CRANKCASE INLET AIR CLEANER — clean																		OR								
SPARK PLUGS — replace — INSPECT IGNITION CABLES																		OR								
																		OR								

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain receipts for all vehicle emission services to protect your emission warranty.

EMISSION CONTROL SYSTEMS WARRANTY

Chrysler warrants for five years or 50,000 miles, whichever occurs first, that this engine, when used in a heavy duty vehicle, is designed, built, and equipped so as to conform at time of sale with applicable regulations issued under the National Emission Standards Act, as amended, and contained no defects in material and workmanship which would cause it to fail to conform with such regulations, if maintained and used by the owner in accordance with written instructions issued by Chrysler to assure proper functioning of emission control devices and systems on the engine.

Any part of the emission control system of this engine found defective under the conditions of this warranty will be repaired or replaced, at Chrysler's option, without charge at an authorized Chrysler-Plymouth or Dodge dealership.

To obtain this service the owner must submit written receipts or other adequate evidence for services obtained that will verify the engine has been maintained according to the written instructions issued by Chrysler to assure proper functioning of emission control devices and systems on the engine.

Replacement of maintenance parts, such as, spark plugs, ignition points, crankcase vent valve, filters, hoses and belts, are not covered by this warranty unless, in Chrysler's judgment, they are deemed defective in material or workmanship. This warranty will not apply to any engine in a vehicle on which the odometer mileage has been altered so that the engine's actual mileage cannot be determined or to repairs required as a result of abuse.

This warranty is the only warranty in addition to the standard Chrysler Corporation warranty in the warranty booklet or owner's manual applicable to the engine and is expressly in lieu of any warranty or conditions implied in law pertaining to emissions or emission control system. The remedies under this warranty shall be the only remedies available to the owner of the engine or any other person, and neither Chrysler Corporation, Chrysler Motors Corporation, nor the authorized selling dealer assumes any other obligation or responsibility with respect to the condition of the engine, and neither assumes nor authorizes anyone to assume for any of them, any additional liability.

This warranty applies only to engines manufactured, sold, and operated in the United States, Canada, Puerto Rico, the Virgin Islands, Guam, and American Samoa. Vehicles manufactured, sold or operated elsewhere shall be entitled to service of emission control systems on the basis of the warranty applicable to such other country.