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CHECKER MOTORS

SUPERBA OWNER'S MANUAL

or start out from a standstill in second gear and avoid using low. Never shift from any gear, even neutral, into reverse until the car's motion is stopped. Also, never make a gear shift until the clutch pedal is depressed, disengaging the clutch. Make it a habit to pause for an instant in neutral as the gearshift lever passes from one gear ratio to another.

After shifting, the clutch should be fully engaged before the engine is accelerated. Slipping the clutch creates heat and reduces the life of the clutch facing.

At no time should the clutch pedal be ridden by resting your foot on the pedal while driving. In time, this practice could damage the clutch throw-out bearing.

DRIV-ER-MATIC TRANSMISSION If your car is equipped with a Driv-er-matic transmission, the selector lever has the following four positions: (N) neutral and starting, (D) drive, (L) low, (R) reverse.

For convenience, the selector lever slides smoothly between N, D, and L positions; and, for safety, must be raised to engage R.

NOTE: To prevent damage to the transmission, do not move selector to "R" (Reverse) position while car is in motion.

"N" NEUTRAL This position is used for starting and also allows engine to idle for prolonged periods. There is no motion through the transmission in this position.

"D" – DRIVE RANGE All normal forward driving is done with the selector lever in this position. The transmission shifts automatically from low to intermediate to high whenever it is best to do so from the standpoints of economy and performance. Also in this range the transmission automatically down shifts at speeds varying with throttle movement.

"L" – LOW RANGE This range is used for going up steep grades or driving through deep sand, mud, or snow. Low range is also used for descending steep grades in order to take advantage of the additional braking effort obtained from the engine.

It is recommended that the downshift from "D" to "L" range for additional braking is not done while car speed is in excess of 40 M.P.H.

The change from "D" to "L" position should only be made on dry roads when traction is good. It is not recommended to change to "L" on slippery roads since this change could induce a skid.

This range may also be used for increased acceleration from a standing start but will remain in this ratio until selector lever is manually moved from "L" to "D". The selector lever may be moved from "L" to "D" at any time regardless of engine or car speed.

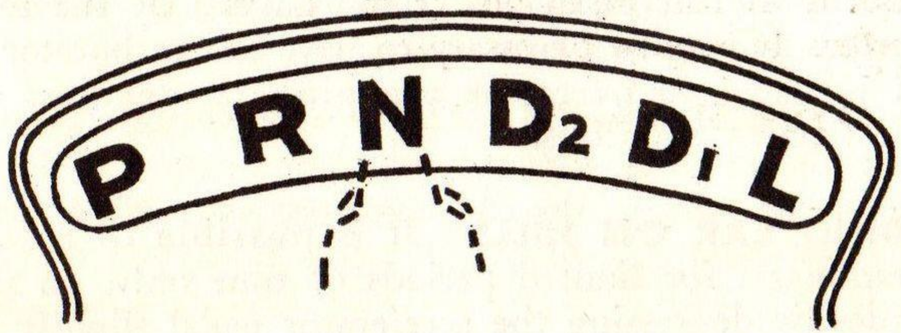
"R" – REVERSE RANGE The reverse position is used to reverse the car. As mentioned previously the selector should be moved to the "R" position only when the car is at a standstill. However, in mud, sand, and snow, the car may be rocked back and forth by holding a light steady

pressure on the accelerator pedal and moving the selector lever between the "R" and "L" positions.

KICKDOWN When driving in the "D" position at speeds under 40 M.P.H. and maximum acceleration is desired to pass a slow moving vehicle or to negotiate a steep grade, the transmission can be down shifted from high to intermediate by fully depressing the accelerator pedal completely to the floor. When the pressure is released on the pedal, the transmission will automatically shift to high gear.

NOTE: Additional information for the Driv-er-matic transmission pertaining to the care and maintenance, pushing and towing instructions, and etc., will be found on pages 10 and 11.

DUAL RANGE TRANSMISSION If your car is equipped with the Dual Range Automatic transmission, the selector lever has the following six positions: (P) parking lock and starting, (R) reverse, (N) neutral and starting, (D_2) limited driving range, (D_1) complete driving range, (L) low.



For convenience, the selector lever slides smoothly between N, D_2, and D_1 positions; and, for safety must be raised to engage park, reverse, and low positions.

NOTE: At no time should "P" (Park) or "R" (Reverse) positions be engaged when car is moving. Internal damage to transmission would result.

"P" — PARK This position is used as a transmission parking lock to safely and positively lock the rear wheels when the car is stopped. Starting the engine in park position is a decided convenience when on a grade or to avoid "creep" on cold days.

The selector lever must be raised slightly when moving into or out of park position.

Do not move selector lever to park position while car is moving.

"R" — REVERSE The reverse position is used to reverse the car. As noted previously the selector lever should be moved to the "R" position only when the car is at a standstill. However, in mud, sand, and snow, the car may be rocked back and forth by holding a light steady pressure on the accelerator pedal and moving the selector lever alternately between Reverse and Drive 2 or Drive 1. The selector lever must be raised slightly when moving into or out of reverse position.

"D2" — DRIVE RANGE This drive range provides a 2nd or intermediate gear start thereby reducing engine speed

during initial acceleration. It will be a great benefit in driving on slippery or icy pavement, and also in certain traffic conditions.

"D1" – DRIVE RANGE This position is recommended for most normal forward driving. It provides a complete driving range with a 1st gear shift for increased power and acceleration in congested traffic or mountainous terrain. The transmission shifts automatically from low to intermediate to high whenever it is best to do so from the standpoints of economy and performance. Also in this range the transmission automatically downshifts at speeds varying with throttle movement. The selector lever may be moved between D_2 and D_1 while traveling at any car speed.

"L" – LOW RANGE The low range is provided for use in deep sand, mud, and snow, ascending or descending steep grades, or where traffic conditions require first gear.

For braking in descending steep grades, the change from either of the two "D" range positions can be made at any car speed by manually moving the selector lever to "L" (Low) position after releasing the accelerator pedal. When the selector lever is moved to "L" range at speeds above approximately 20 M.P.H., an immediate downshift to second speed will occur. A shift into first gear will follow as the car speed is further reduced.

CAUTION: The change from either of the two "D" positions to "L" should only be made on dry roads when traction is good. It is not recommended to change to "L" on slippery roads since this change could induce a skid. On slippery roads, safety demands that the car speed be reduced by judicious use of your brakes.

FORCED DOWNSHIFT When driving in either "D" position at speeds under approximately 58 M.P.H. and maximum acceleration is desired to pass a slow moving vehicle or to negotiate a steep grade, the transmission can be down shifted from high to intermediate by fully depressing the accelerator pedal completely to the floor. When the pressure is released on the pedal, the transmission will automatically shift to high gear.

INFORMATION – CARE AND MAINTENANCE The following information is applicable to both the Driv-ermatic and Dual Range Automatic Transmissions.

IDLING AND CREEPING As the engine breaks in and friction decreases, the idle speed tends to increase. At these higher idle speeds, the car will tend to "creep" because of the increased power transmitted by the torque converter. It may be necessary to have the carburetor idle speed adjusted to overcome creeping tendencies, until engine friction stabilizes.

HOLDING CAR ON HILLS It is possible to hold the car stationary, for limited periods of time only, on slight upgrades by depressing the accelerator pedal slightly with

the selector lever moved to "D_1", "D_2", or "L" ranges. For longer periods or on steep hills, this practice is not recommended.

PUSHING TO START ENGINE Should it be necessary to start the engine by pushing or towing, move the selector lever to "N" (Neutral) position with the ignition in the off position. When the car attains a speed of 25-30 M.P.H., turn the ignition switch on and move the selector lever to the "D" or "D_1" (Drive) position depending on type of automatic transmission.

NOTE: It is recommended that the be car be pushed rather than towed, because the car will attain considerable speed as soon as the engine starts unless the brakes are applied immediately.

CAUTION: If it becomes necessary to tow or push the car for distances greater than usually required to start a normally operating engine, a speed of 20 M.P.H. should not be exceeded. Towing the car at a higher speed should be done with the rear wheels lifted off the ground or with the rear driveshaft disconnected.

FLUID LEVEL CHECK PROCEDURE Check transmission fluid level at 1,000 mile intervals, using the following procedure:

Apply the parking brake then place the transmission selector lever in the "N" (Neutral) position. Run the engine above idle speed until normal operating temperature is reached, then at idle speed, move the selector through all positions to make sure that the fluid is distributed throughout the transmission. Return the selector lever to "N" (Neutral) with Driv-er-matic transmission and to "D_2" with the Dual Range transmission with engine still running at idle speed in both cases.

The filler dipstick is located in the engine compartment on the right side extreme rear. Clean all dirt from the transmission fluid level dipstick cap before removing dipstick. Remove the dipstick from the tube, wipe clean, and reinsert. Then remove again and check oil level. If necessary, add enough fluid to raise the fluid level to the full mark on the dipstick. Avoid using non-authorized oils which may cause trouble. It is wise to check the sealed cans for the approved symbol "AQ-ATF". This symbol is embossed in the can itself, and means "Armour Qualification — Automatic Transmission Fluid, Type A".

Add oil through the dipstick tube. The quantity of fluid required to raise the fluid level from the first mark to the second mark on the dipstick is approximately 1 pint.

The transmission fluid should be changed and the bands should be adjusted at 15,000 mile intervals.

CAUTION — DO NOT OVERFILL.

MAINTENANCE AND LUBE CHART

TIRES Your new Superba is equipped with tubeless tires as standard equipment. The tubeless tire has a built-in liner which takes the place of the tube. Tubeless tires eliminate the internal friction with the resulting heat as experienced in tire casings with tubes. Tubeless tires also eliminate the possibilities of flats by pinching, chafing, and valve shearing. In the tubeless tire, the air is held within the tire by the seal made by the bead of the tire against the wheel rim flange.

It is advisable to inspect tubeless tires periodically for the presence of nails or other foreign objects. Punctures tend to produce only slow leaks rather than fast leaks that result in a flat soon after the puncture of a conventional tire. The material vulcanized to the casing, being relaxed, will cling around the puncturing object. It is even possible that a puncture will result in no discernible loss of air at all. If a nail or puncturing object is found, remove only when the tire can be properly repaired immediately thereafter.

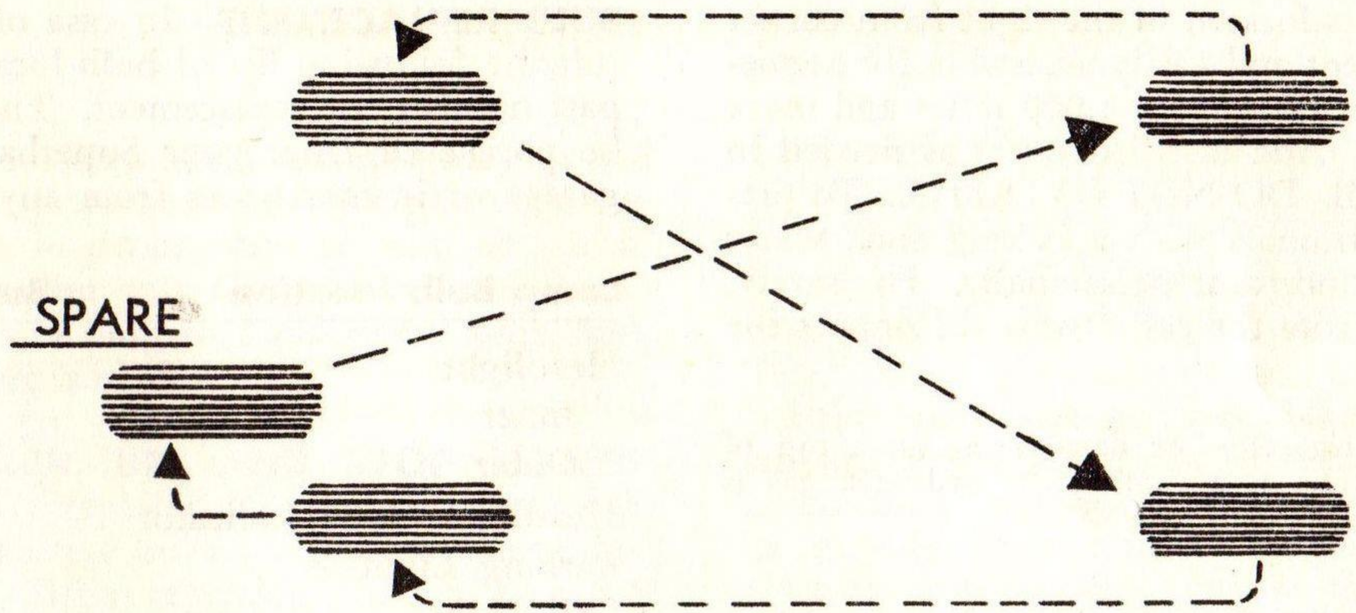
Repairs are not difficult; however, special material and equipment are required. Depending on the nature of the puncture, some repairs can be made without removing the tire from the wheel, but a repair kit is necessary. If the tire must be removed, ordinary tire irons should not be used because of the risk of damaging the bead; a bead breaker must be used. Therefore, it is not advisable to attempt to remove the tire yourself. In general, most tire dealers and service stations, are acquainted with the repair procedure and have the necessary equipment.

If it becomes necessary to change a wheel, the following procedure is recommended:

1. Set parking brake and if car is on a steep grade, block front or rear of wheel.
2. Loosen wheel nuts — clockwise if on left side and counter-clockwise if on right side.
3. Put small lever on jack in "Up" position, place base of jack so that the jack lifting pad will contact the underside of the bumper adjacent to the bumper guard.
4. After raising car, remove wheel, install spare wheel and tighten nuts finger tight.
5. Place small lever in "Down" position and lower car. Fully tighten wheel nuts.

Make frequent periodic checks to maintain the recommended air pressure for your tires. Too hard or too soft tires lead to uneven tread wear. They also give a poor ride and invite damage to the tire casing.

Avoiding sudden starts and stops, curbs, sharp objects and slowing down on curves and corners will result in greater tire life and motoring pleasure.



The wheels and tires are balanced by the manufacturer and to maintain maximum tire life, the wheels and tires should be balanced and rotated in accordance with the diagram directly below every 5,000 miles. It is not necessary to remove tires from the wheels.

TIRE WARRANTY The tires that came with your car are guaranteed by the tire manufacturer, or his agent, according to the standard tire manufacturers warranty.

WHEEL ALIGNMENT If at anytime undue tire wear is experienced, the front wheel alignment should be checked. The following is the correct setting for this alignment.

Caster	1° to 2°	Positive
Camber	½° to 1½°	Positive
Toe-In	1/16″ to 1/8″	

SPARK PLUGS For maximum engine performance, improved gasoline mileage, and easy starting, spark plugs should be cleaned and adjusted every 5,000 miles. After cleaning, file the spark plug electrodes square, adjust gap to .030, and re-install with 30 ft. lbs. torque on L-Head engine using 14 MM plugs and 34 ft. lbs. torque on Valve-in-Head engine using 16 MM plugs.

To maintain peak engine efficiency, new spark plugs should be installed every 10,000 miles.

BATTERY The battery is located in the right front corner of the engine compartment and easily accessible for servicing. Check water level at least every 1,000 miles and more frequent in hot weather. Add distilled water as needed to maintain level in each cell. DO NOT OVERFILL. To prevent corrosion, clean terminals with a baking soda water solution, and coat with lubricant occasionally. For safety, when removing battery from the car, always disconnect the ground terminal first.

CAUTION: Keep lighted cigarettes or flame away from top of open battery cells as a combustible hydrogen gas is always present.

ELECTRICAL SYSTEM The Superba is equipped with a 12 volt electrical system. The electrical circuits are protected with three circuit breakers. Any malfunction in the electrical system will cause the circuit breaker to give intermittent service in that circuit. The circuit breakers are located as follows:

1. The headlights and tail lamp circuit breaker is located on the headlight switch under the dash.
2. The horn circuit breaker is located on the left front inner fender, above the horns.
3. The circuit breaker for all accessories, except radio, is located under the hood on the cowl adjacent to the brake master cylinder.

NOTE: The fuse for the radio is built in the power line from the ignition switch to the radio.

BULB REPLACEMENT In case of lamp bulb failure, consult the following list of bulb locations and manufacturer's part number for replacement. The replacement bulbs may be purchased from your Superba dealer, any automotive garage or in most cases from any gasoline service station.

Lamp Bulb location		Bulb Manufacturer's No.
Headlight		
Inner	12 Volt	4001
Outer	12 Volt	4002
Headlight Beam Indicator	12 Volt	57
Parking Light	12 Volt	1034
Tail Light	12 Volt	1034
Stop Light	12 Volt	1034
Direction Signal		
Front	12 Volt	1034
Rear	12 Volt	1034
Indicator	12 Volt	57
License Plate Light	12 Volt	1034
Instrument	12 Volt	57
Back-Up Light	12 Volt	1073 *
Dome Light	12 Volt	1003
Radio Light	12 Volt	57 *
Glove Compartment	12 Volt	57
Parking Brake Light	12 Volt	57 *

* Optional

Following are the procedures for installing the light bulbs listed on page at left:

HEADLIGHTS This is a sealed beam unit and may be replaced without disturbing the beam of the light. With a screwdriver, remove screws from door of trim ring and from inner retaining ring on only the unit to be replaced. Remove ring and unit and plug in replacement unit, and replace the retaining ring and door.

PARKING, TAIL, BACK-UP, AND STOP LIGHTS These bulbs may be easily replaced by removing lens with a screwdriver. Turn defective bulb one half turn counter-clockwise and pull out. After replacing bulb, replace the lens taking precaution to put gasket in place before tightening the screws.

LICENSE LAMP Remove the three screws from the housing assembly, remove housing and replace bulb.

DOME LIGHTS The lens is a snap-out type. Pinch in center to remove and replace bulb. Lens will snap back in place with a slight hand pressure.

INSTRUMENT PANEL LIGHTS The light socket for the instrument panel is of the snap-out type which can easily be removed and replaced with a slight hand pressure.

DISTRIBUTOR The distributor should be checked and serviced every 10,000 miles. It is important to keep the contact breaker points clean, set to the correct gap and parallel to each other.

To clean the points, first remove the distributor cover, then turn the crankshaft until the points are closed. Lift out distributor rotor. Remove terminal nut to release the end of the contact-breaker spring, then lift the nylon rocker off its pivot post. Remove screws from fixed contact plate and lift out.

Points that show a grayish color, are only slightly pitted and are within .002 of the correct gap, need not be replaced or adjusted. If they are pitted or purple, it is due to dirt or mal-adjustment and the points may be dressed to eliminate the pitting. If, however, the contacts are burned or show "hills and craters", a defective condenser is indicated. In this case, it is advisable to fit new points and to change the condenser. The function of a condenser is to prevent excessive arcing at the contacts. Correct condenser capacity is necessary to insure good performance and to protect the life of the breaker contacts.

To dress the contacts, use a fine "India" or "Carborundum" stone, but take care to keep the faces flat. When finished, thoroughly clean off all traces of stone dust and refit the contact plate and secure with screws. Refit the rocker, applying a drop of clean oil to the pivot post, and secure the contact breaker spring with the terminal lock nut.

CAUTION: BE SURE THAT THE DISTRIBUTOR CONTACTS ARE CLEAN AND DRY.

SETTING THE POINTS Make sure that the contact breaker gauge is clean. When setting contacts be sure they are aligned and that they make contact near the center. Turn the crankshaft until the rocker is on the peak of one of the cam lobes, then loosen the contact plate securing screws and move plate about its axis until gauge (set at .020) is a good sliding fit between the contact points. Tighten the two securing screws and re-check the setting; re-adjust if necessary.

CAUTION: Do not bend the breaker arm to make proper alignment of points. Adjust stationary contact.

Smear a very light film of cam grease or vaseline on lobes, refit rotor and cover. Add 3 to 5 drops of medium engine oil to oiler on the outside of the base.

COIL The coil requires no routine attention other than checking the terminal security.

IGNITION TIMING Ignition setting should be done with the aid of a stroboscope while the engine is running at operating temperature and with the vacuum regulator disconnected from the distributor. Loosen distributor clamping screw. Connect the stroboscope with the low tension cables to battery voltage and high tension cable to No. 1 cylinder plug.

Clean damper pulley on front of crankshaft so the timing marks are visible. Chalk mark the zero or top dead center position. Run the engine at approximately 400 R.P.M. and direct the light beam onto the damper pulley markings. When the chalk mark at top center remains steady opposite indicator, rotate distributor until the following readings are taken opposite indicator:

Valve-in-Head engine . . . . . 3½° B.T.D.C.
"L" Head engine . . . . . 4½° B.T.D.C.

Tighten clamping screw on distributor and re-connect vacuum regulator.

COOLING SYSTEM The cooling system in the Superba is of the pressure type. This means that the water is under pressure when operating with a pressure cap on the radiator. The pressure cap is designed with a spring pressure of approximately four pounds to hold the sealing portion of the cap tight against the top of the filler neck. Under this pressure, created by the cap, water is prevented from boiling at its normal boiling point.

An engine operates more efficiently at high temperatures, gasoline economy is better and sludge formation is minimized, therefore, be guided by the heat indicator. As long as it stays within the operating range, the cooling system is functioning properly and the radiator cap should be left alone. The cooling system then will retain its maximum temperature control and the engine will continue to operate at its greatest efficiency.

When it becomes necessary to drain the cooling system completely in the spring and fall the pressure cap on the

radiator should be removed first. Then the drain valves on the bottom of the radiator and on side of engine block are opened. When adding anti-freeze use the capacities given on page 33 and follow the manufacturer's recommendation given on the container.

Use anti-freeze for one season only. Drain and discard in the spring and install new anti-freeze in the fall. All good quality anti-freeze have a rust inhibitor included in them. A rust preventive should be used to protect your cooling system during the summer.

CAUTION: When removing the radiator pressure cap, rotate the cap to the left very slowly. If a hissing noise is heard, stop and allow pressure to decrease before removing cap completely.

NOTE: A 180° F thermostat is installed in production for improved heater operation and engine performance. Permanent type anti-freeze should be used in conjunction with the heat range of this thermostat. When alcohol or methanol type anti-freeze is used, a lower heat range thermostat should be used. Before adding any anti-freeze the system should be cleaned and inspected for leaks. (A 170° F thermostat is standard with "L" Head engine unless otherwise specified).

THERMOSTAT A thermostat valve is incorporated in the water outlet casting and functions as follows. On starting from cold the valve is shut, thus closing the outlet from the pump to the radiator. Water impelled by the pump into the engine water jacket is returned to the inlet side of the pump to be re-circulated. The water is thus heated rapidly. As the water temperature approaches 170°, the valve starts to open thus permitting a restricted flow of water to the radiator until at normal running temperature the valve is fully open and the normal circulation takes place.

FAN BELT ADJUSTMENT The fan belt forms a triangulated drive from the crankshaft pulley, operating the fan which is mounted on the water pump, and the generator mounted on the left-hand side of the cylinder block.

Keep belt within tension limits given. Too tight a belt will place undue strain upon the fan, water pump bearings and generator; too loose a belt will cause the fan, water pump, and generator to operate inefficiently leading possibly to over-heating the engine and discharge of the battery. The belt is tensioned correctly if it can be deflected inwards by hand approximately $\frac{3}{8}$" to $\frac{1}{2}$" between the fan pulley and generator.

To adjust the fan belt tension, loosen the generator adjusting arm lock bolt nut and the two lower support bolts, and pry the generator outward. When the correct belt tension is obtained, tighten the two lower support bolts and the adjusting arm lock bolt nut, and recheck the belt adjustment.

FUEL AND VACUUM BOOSTER PUMP The fuel and vacuum booster pump is located on the front right hand side of the engine. The vacuum booster pump does not

Welcome

WE ARE both proud and pleased that you have selected a Checker Motors Product for your new car. We sincerely hope our relationship will be a pleasant one. Your new car will afford you easy entry and exit, roomy interior without center floor hump, peak performance and top fuel economy. All these things add to your motoring pleasure.

The purpose of this Owners Manual is to help you become familiar with all instruments and controls plus the use of Optional Equipment such as Automatic Transmission, Power Steering, Power Brakes and etc.

We suggest you use this Manual as a guide to help you get all the performance, economy, and dependable service that you may expect from your new car. This Manual also contains many hints on driving and maintenance that will assure efficient, safe economical operation and substantially add to your car's life.

The Warranty on your car is printed in full on the inside back cover of this Owner's Manual.

require any periodical service, functioning only to supply a constant vacuum source to the engine manifold and windshield wipers.

The fuel pump should be cleaned periodically to prevent contaminated gasoline from being pumped into the carburetor. In order to clean, loosen bolt at bottom of pump, move bail to one side, and lift out glass bowl with ceramic filter. Wipe glass bowl and air pressure clean the ceramic filter. Also clean upper part of filter where the gasket is fitted. After having cleaned and reassembled the filter make sure that the gasket seals properly.

OIL FILLER CAP The oil filler cap is fitted with a breather filter for ventilating the crankcase. After removing, wash in gasoline or cleaning fluid to remove all dirt and dust. Re-oil filament with engine oil and re-assemble. This service should be done at frequent intervals depending on driving conditions.

AIR CLEANER The engine in your Superba is equipped with a new type dry air cleaner. It is a positive type — which means that all air entering the carburetor must first pass thru the filter element in the air cleaner.

When the filter becomes overloaded with dirt or dust, it restricts the flow of air to the engine, resulting in loss of power and sluggish acceleration. A black exhaust smoke or choked reaction of the carburetor will give ample warning that the filter element should be cleaned or replaced.

To obtain the full benefits of the dry-type air cleaner, the following service procedures should be applied:

1. Under normal driving conditions the filter element should be inspected every 5,000 miles. Under extreme dusty conditions units require inspection at more frequent intervals.
2. Accumulation of dust or dirt can be removed by blowing off the inside of the filter element with a low pressure stream of air or gently tapping the element against a solid object.
3. Special caution should be used in preventing oil to come in contact with the paper filter, as oil on the paper surface will not only clog the element, but also act as a binder for dust which is drawn into the cleaner.
4. Replace paper filter every 15,000 miles.

CARBURETOR MAINTENANCE As long as your car accelerates and idles properly, no maintenance is required on the carburetor.

The idle system has a large effect on gasoline mileage as it supplies gasoline to the engine up to speeds of about 25 miles per hour. An over-rich idle mixture can cause a waste of gasoline and poor gas mileage. There are two ways an over-rich idle mixture can occur:

1. Setting of the idle needle: After the proper break-in of the engine in your new Superba, it is important to set the idle needle to the leanest mixture which will give a smooth idle. Turning the needle in gives a leaner mixture; backing it out, causes a richer mixture. Therefore, when adjusting the idle, turn the needle in until the engine becomes slightly rough. Then back off just enough to get a smooth-running engine.

2. Idle system becomes clogged: A positive check for this condition is to make an adjustment of the idle needle. If the engine does not respond, see your nearest authorized carburetor mechanic.

BODY DRAIN HOLES To eliminate the possibility of water accumulation in door assemblies, it is suggested that the 3 drain holes in each door, be cleared and cleaned of any restriction at least once each month. These drain holes, in shape of half moon, are located at the bottom of the doors where the outer panel is joined to the door frame.

Inserting a screwdriver or similar flat object into holes will clear all road dirt which often restricts draining off water after car is washed or driven in rainy weather.

It is advisable at the same time to clear the drain holes in the sill or rocker panel and in the spare tire well.

FUEL Cars built by Checker Motors Corp. are famous for the economy of operation and have a wide-spread reputation for the mileage they can get from each gallon of gasoline. The kind of gasoline you may use in your new Superba has much to do with its performance, economy, and service.

The engine in your Superba is designed to operate on regular-grade gasoline. Octane value in excess of this requirement will not improve performance. A good quality regular grade gasoline is satisfactory for the Superba. Buy it from a dealer who sells in enough volume to keep his gasoline fresh. Do not buy from a source where the gasoline may have deteriorated or been contaminated. Regular gasoline with octane rating of 80-85 is sufficient for top performance and economy.

LUBRICATION

LUBRICANTS The primary function of a lubricant, either grease or oil, is to prevent metal to metal contact of moving surfaces; for example: pistons and cylinder walls, timing chain and sprockets or rod bearings and crankshaft journals. However, many other properties are required of a satisfactory lubricant which are discussed in the following topics.

ENGINE Besides lubricating the engine, an oil must hold corrosive top cylinder wear to a minimum and maintain a clean engine. It should not be corrosive to bearings. The viscosity should be low enough so that engine power is not wasted in churning up heavy oil with a resulting loss in gas mileage. It must not leave heavy carbon deposits in the combustion chamber. Heavy carbon deposits increase octane requirements of the engine and may result in a further loss of gas mileage.

An important function of oil is to cool bearings and journals. It must flow readily at the minimum atmospheric

temperature which exists where the oil is to be used. The oil placed in the crankcase at the factory should be used for the first 1,000 miles. After this initial 1,000 mile period, the oil should be changed at 3,000 to 4,000 mile intervals under average driving conditions.

When driving under dusty conditions, or when the car is operated for only short periods during cold weather (freezing temperatures or lower), the oil should be changed at more frequent intervals.

Engine oil numbers recommended for the Superba engine for various climatic conditions are as follows:

Temperatures Expected	S.A.E. Number Recommended	Acceptable Multigrade
32°F to 110°F	20W	10W - 30
0°F to 32°F	10W	10W - 20
0°F and lower	5W	5W - 20

NOTE: Petroleum base oils which are identified as "for service MS or DG" are recommended for the Superba engine.

The engine dip stick is located on the left side of the engine. Check engine oil level at each gas stop. Be sure the level of your oil is somewhere between the two scribed marks. Do not add oil unless level is on second mark or below. The two marks on the dip stick represents one quart difference in oil level. DO NOT OVERFILL.

OIL FILTER — OPTIONAL The partial-flow oil filter is mounted on the left side of the engine. The throw-away filter unit can be removed from the adapter by hand. The replacement unit is turned until the gasket contacts the seat and then tightened an additional half-turn.

The oil filter unit should be changed at the initial drain period, and every 4,000 miles thereafter. An additional quart of oil is required at this time.

TRANSMISSION — STANDARD Besides lubricating the transmission, the gear oil must also have the following properties. It must be non-corrosive to all metals in the transmission. It must not foam when in use. It must not form gum or resins which would cause sticking of internal parts of the transmission. It must help cool gears and other moving parts.

A good grade of multi-purpose or all-purpose gear oil will be satisfactory for the manual shift transmission. We suggest the SAE #90 grade for winter and summer. In extremely cold climates SAE #80 grade should be used.

TRANSMISSION — AUTOMATIC The lubricant used in an an automatic transmission must perform many other duties besides the basic one of preventing metal to metal contact. It must have the correct viscosity over a wide range of temperatures, from freezing or below to possibly 200° F and above. It cannot become so heavy when cold that the pump is overloaded and it will not flow through the various passages and valves in the transmission. It

cannot thin out so much when hot that sufficient pressure cannot be maintained to actuate the various valves.

Any light oil will NOT perform satisfactorily in the automatic transmission.

See page 11 for complete instructions in checking oil level, type of oil to use, and the method of adding it to the automatic transmission.

REAR AXLE DIFFERENTIAL Since the differential employs a hypoid gear, it requires a lubricant with greater "extreme pressure" properties than a straight mineral oil can supply. These "extreme pressure" qualities are supplied by additives which the refiner blends in the base oil. It must not be corrosive to metal or oxidize to form gum or resins.

The pour point must be lower than any prevailing atmospheric temperatures. Again we call attention to the loss of gas mileage caused by high viscosity lubricants.

We suggest a multi-purpose gear lube, both summer and winter, of SAE #90 grade to be used in the rear axle differential.

POWR-LOK REAR AXLE The "powr-lok" differential (optional) is so designed to produce sufficient traction from either rear wheel when the opposite wheel tends to rotate at a greater speed; such as being on ice, sand or mud. The positive drive feature is possible by means of friction drive plates on either side of the differential. This shifting of the driving torque from one wheel to the other is done automatically whenever required.

When driving straight ahead the "powr-lok" axle keeps the car more stable by preventing one wheel from spinning if poor traction is encountered. This provides a new measure of added control and safety under all driving conditions.

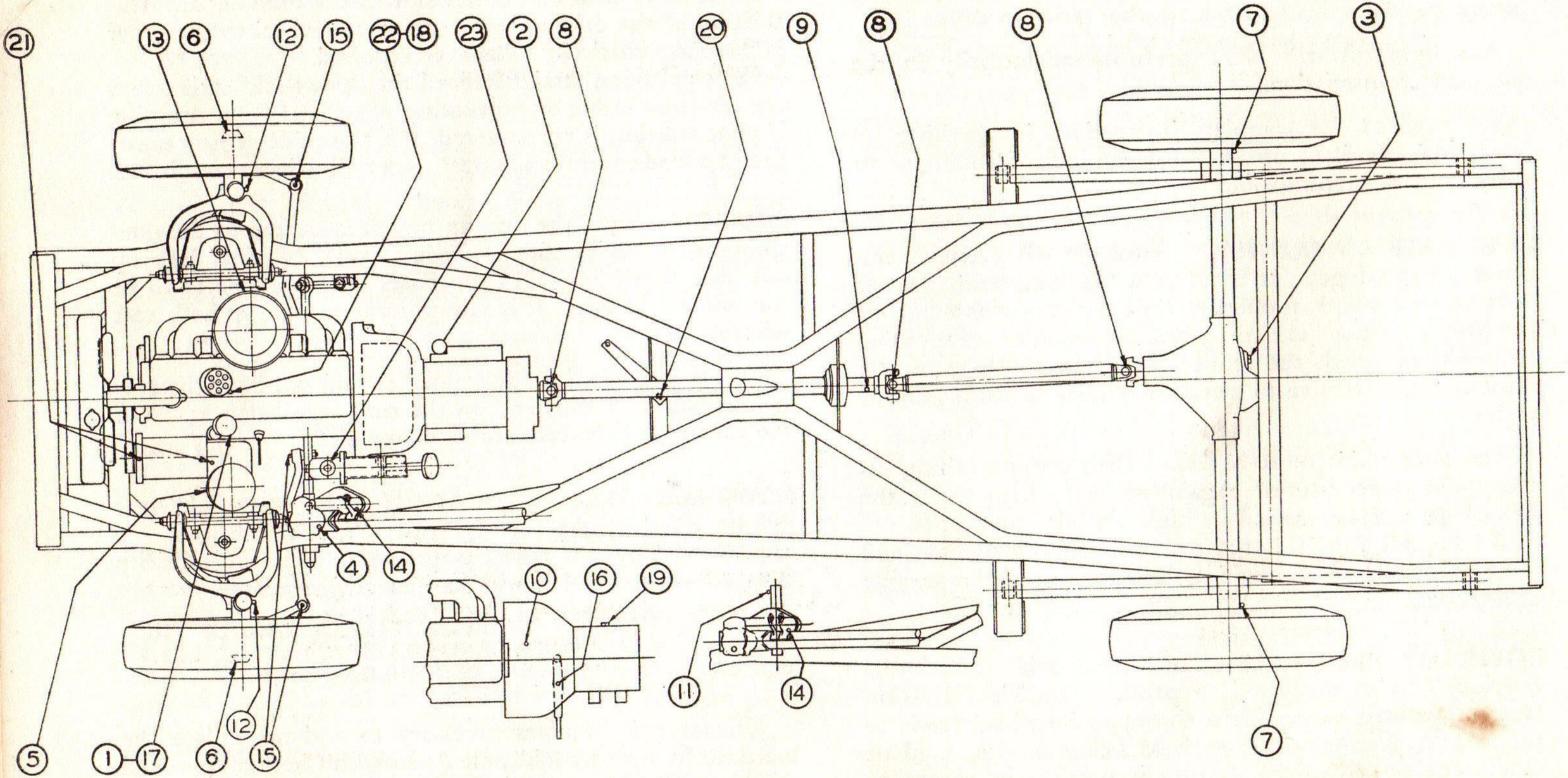
CAUTION Since the driving torque is shifted to the non-spinning wheel in the "powr-lok" axle, NEVER jack up one rear wheel for ANY purposes if the engine is to be run and car in gear. It is always safer to jack up both rear wheels.

Cars equipped with "powr-lok" should not have the rear wheels balanced with an "on the car" type balancer. "Off the car" type balancers are recommended.

POWR-LOK AXLE LUBRICATION The "powr-lok" rear axle is filled at the factory with a special lubricant. It requires a lubricant that has greater oiliness or lubricity than the differential lubricants generally available.

NOTE: UNDER NO CIRCUMSTANCES, SHOULD THE STANDARD GRADE LUBRICANT BE USED IN REAR AXLE ASSEMBLIES EQUIPPED WITH POWR-LOK UNITS.

Whenever it becomes necessary to add or replace the lubricant in a "powr-lok" axle do so with Checker approved lubricant MI-113, or equivalent.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3000 = 4000 - Engine
2000 - Chassis

LUBRICATION CHART

No.	Unit	No. of Places	Lubricant	Total Capacity	Check Periods	Remarks
1	Engine	1	See Page 20	5 Qts. to Refill	Each Fuel Stop	Drain and Refill Every 3,000 Miles
2	Transmission—Automatic	1	Type A — Transmission Fluid	10 Qts. to Refill	Every 1,000 Miles	Drain and Refill Every 15,000 Miles
3	Differential—Except Powr-Lok	1	E. P. Hypoid Gear Lube S.A.E. #90	3 Lbs. to Refill	Every 1,000 Miles	Change Every Every 15,000 Miles
3a	Differential—Power-Lok	1	API-GL-4 Type For Use in the Powr-Lok Differential	3 Lbs. to Refill	Every 1,000 Miles	Change Every Every 15,000 Miles
4	Steering Gear	1	E. P. Hypoid Gear Lube S.A.E. #90	12 Ozs. to Refill	Every 2,000 Miles	Oil Plug in Housing Cover
5	Power Steering Pump	1	Type A — Suffix A Transmission Fluid	2 Qts. to Refill	Every 2,000 Miles	Add Fluid to Cover Element in Reservoir
6	Wheel Bearing—Front	2	Rust Inhibited — All-Purpose Grease	Each ¼ Lb. Approx.	Every 10,000 Miles	Remove Wheel, Clean and Repack
7	Wheel Bearing—Rear	2	Rust Inhibited — All-Purpose Grease	As Required	Every 10,000 Miles	Pressure Fitting — Do Not Overload
8	Universal	3	Mineral Base Oil — S.A.E. #140	As Required	Every 1,000 Miles	Pressure Fittings
9	Slip Joint—Propeller Shaft	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting
10	Bearing—Clutch Throwout (Standard)	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting — Thru Hole in Pan Underneath
11	Cross Shaft—Clutch Throwout (Standard)	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting
12	Steering Knuckle Ball Joint	4	Aluminum Soap Base Grease	As Required	Every 2,000 Miles	Relieve Load and Swing Wheels While Lubricating
13	Air Cleaner—Dry Type	1	CAUTION: Keep Oil From Element	None	Every 4,000 Miles	Remove: Clean Cartridge by Tapping Gently
14	Gear Shifter	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting in Lever
15	Steering Linkage	5	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fittings
16	Clutch Throwout Yoke (Standard)	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting — Lightly
17	Oil Breather Cap	1	Engine Oil	As Required	Every 2,000 Miles	Wash in Kerosene and Refill
18	Distributor Rotor—Felt	1	Engine Oil	2 or 3 Drops	Every 2,000 Miles	Oil Sparingly
19	Transmission Manual Shift (Standard)	1	Mineral Base Gear Oil S.A.E. 90 Winter	2½ Lbs. to Refill	Every 1,000 Miles	Change Every 15,000 Miles
20	Parking Brake Lever	1	Rust Inhibited — All-Purpose Grease	As Required	Every 2,000 Miles	Pressure Fitting
21	Generator	2	Engine Oil	Few Drops	Every 2,000 Miles	Oil Cup on Each End — With Oil Can
22	Distributor	1	Engine Oil	Few Drops	Every 2,000 Miles	Oil Cup on Side — With Oil Can
23	Master Cylinder	1	Brake Fluid S.A.E. 70 R3 Specification	Keep Filled	Every 2,000 Miles	Under Hood
	MISC. HINGES, ACCEL. LINKAGE PINS, BRAKE AND CLUTCH CONTROL PINS, ETC.		Machine Oil	Few Drops	Every 2,000 Miles	With Oil Can

FRONT WHEEL BEARINGS The front wheel bearings are packed at the factory with rust inhibited all purpose grease. When it becomes necessary after approximately 20,000 miles to repack the bearings they must be thoroughly cleaned before fresh grease is applied. A lithium base grease or a sodium base grease may be used to repack the bearings; however, it is definitely not good practice to mix them when repacking the wheel bearings.

CHASSIS LUBRICATION We recommend a rust inhibited multi-purpose grease for general chassis parts of the running gear. These parts should be lubricated at 1,000-mile intervals as shown by the lubrication chart on page 23.

If the car is operated in dusty, wet or slushy weather, and particular in mud, it is good practice to lubricate the running gear more frequently. Lubricate immediately after operation under such adverse conditions, to flush out the water and foreign matter with fresh lubricant.

LUBRICATION OF BODY PARTS Use a straight mineral oil to lubricate all body and hardware units such as door locks, hinges, linkage control pins, etc.

Engine oil with detergent additives could be used if care was taken not to spill any over painted surfaces, particularly while lubricating door handles. This will eventually cause a discoloration in the paint finish.

PARKING BRAKE AND RELEASE The parking brake is applied by depressing pedal with rubber pad under the extreme left hand end of the instrument panel. It is released by applying upward pressure to the trigger handle (marked brake) located directly above the pedal.

When the parking brakes are applied and the ignition is on, a red warning light (optional) will light indicating the brakes are applied.

SERVICE BRAKES The Superba brakes utilize two brake shoes which hang loosely on hold-down pins and spring clips and rest against pads formed on the brake backing plate. The shoe anchor, located at the shoe toes, serves only as a stop. Shoe toes rest against the surfaces of an anchor block pivoted on a fixed anchor pin. Individual shoe return springs, each hooked between the anchor pin and the underside of one shoe table, hold the shoes against the anchor. Depending upon the direction of drum rotation, either the primary or secondary shoe is free to move away from anchor when the brake is applied. The anchor is a self-centering type, permitting inward or outward shoe movement to center the shoes in accordance with drum surface pressures exerted on the lining. Opposite the anchor, brake shoes are linked by means of a floating star wheel adjuster and a single retracting spring hooked between the shoe webs so that it engages and locks the adjuster star wheel. The star wheel adjuster link is used to expand the brake shoes into the drum, thus adjusting the lining clearance. It also transmits the actuating force from one shoe to the other. This servo action causes the brake shoes to function as a single unit in which the total force developed on one shoe is compounded in the action

of the second shoe. The single wheel cylinder is mounted on the brake backing plate under the anchor pin at the shoes toes. The brake shoes are epanxded through push rods.

The rear wheel brakes incorporate a cable-operated parking brake working independently of the hydraulic service brake, but utilizing the same brake shoes. The shoes are expanded by a toggle lever, pinned to the rear (secondary) shoe, and a link, suspended between this lever and the opposite shoe. The cable, operated through an equalizer, passes through the backing plate and is connected to the free end of the lever.

BRAKE LINING ADJUSTMENT

1. Remove adjustment slot cover on brake backing plate.
2. Insert tool through access slot and engage star wheel adjuster. Using slot edge as fulcrum, move tool to rotate star wheel until the brake drum is locked.
3. Back off star wheel until drum turns freely (10-15 notches).
4. After adjusting all four wheel brakes, adjust parking brake. Depress parking brake pedal approximately ½ inch and remove all slack from cable at clevis located between frame X-Member near center of car. Be careful not to place cable under strain sufficient to pull brake shoes away from anchors. After cable adjustment, apply parking brake to check travel and then release brake to make sure that sufficient slack remains in cable so that BRAKE WILL NOT DRAG.

For maximum brake application efficiency, it is recommended that the free pedal play, measured at the brake pedal, should not exceed ⅜ inch. Excessive free play will reduce the usable stroke of the piston in the master cylinder. To adjust free play of brake pedal, loosen locknut on the eccentric bolt at push rod and rotate bolt to obtain proper free play. Tighten locknut.

Fluid level in the master cylinder should be checked every 2,000 miles.

SELF-ADJUSTING BRAKES (OPTIONAL) The self-adjusting brake is offered as optional equipment on the A-9 and A-9L models only. This type brake has an extremely hard brake lining for heavy-duty use such as taxicabs where lining life is of utmost importance.

Due to the firm pedal required when brakes are applied it is suggested that a hydro-vac power unit be considered with the use of the self-adjusting "VA" type brake.

CLUTCH The clutch is a single plate dry disc type requiring no adjustment for wear as is necessary in other type clutches. An individual adjustment is provided for locating each lever in manufacturing, but the adjusting nut is locked in place and should not be disturbed, unless the clutch must be dismantled for replacement of parts.

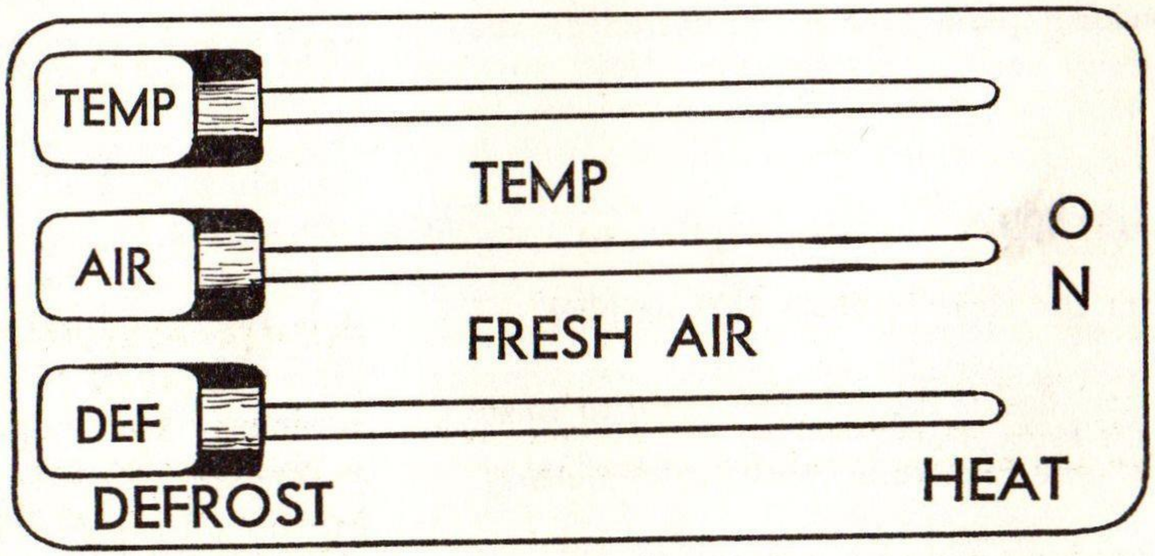
Periodic clutch pedal adjustments must be made to maintain sufficient pedal travel to fully disengage clutch. The

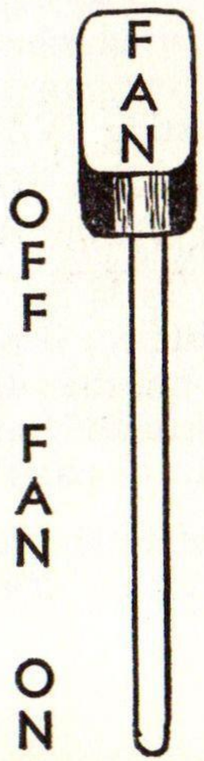
pedal should have from 1″ to 1⅜″ free play before effecting the clutch movement. Clutch facing wear decreases the amount of free play and this must be restored by adjusting the pedal to prevent clutch slipping.

Adjustment for free pedal play is made by varying the length of the throwout lever rod. Lengthening this rod reduces the pedal free play and shortening it, increases the play.

OPTIONAL EQUIPMENT

HEATER-DEFROSTER One compact unit provides effective all-year control of temperatures, volume, velocity, and distribution of outside air. The heater and defroster operate as a single unit with one blower. The amount of air and the direction of flow are controlled by the toggle switches as shown and outlined below.





1. To operate heater, move the upper lever marked "temp" to the "on" position or to the right. Sliding knob to extreme right will produce maximum heat.

2. Generally it will be most desirable to have incoming outside air. The center knob controls the amount of outside air that enters the heater. With the knob marked "air" at the left position, outside air is shut off. Slide knob to the right for maximum outside air to pass through heater core. Under certain speeds of the car and continuous driving this may be all the heat thats needed. Using the outside air prevents the fogging of the windows under certain atmospheric conditions.

3. The heat is directed into the car in two ways. If there is need for defrosting, the third lever marked "def" is placed to the left which directs the maximum hot air flow to the windshield. If the "def" lever is moved to the "on" or right position marked "heat" maximum hot air is directed into the car. Proportioning the travel of the "def" lever divides the air flow between the windshield and the car.

4. The vertical lever marked "fan" provides forced draft under the conditions described above for extreme cold conditions. It is a three speed switch. Moving the knob down increases the speed of the heater blower.

The WINDOW VENT PANES are also a part of your ventilation system. They can be adjusted to any position to suit weather conditions and provide circulation of outside air in the car.

NOTE: Under adverse weather conditions, window defogging or windshield de-icing may be improved by opening a door window approximately 1/8 inch and opening the vent panes slightly.

RADIO The push button transistor-powered radio is designed to add to your pleasurable driving. The compact radio and speaker is mounted in the center of the instrument panel for easy accessibility.

Five push buttons are used for station selection. A manual station selector is located on the right of the console. On the left, a dual knob provides an on-off switch and volume control on the inner knob with the bass-treble control on the outer knob.

Before setting the push buttons allow radio to warm up a few minutes. Set tone control and extend antenna. Pull the first selector button on the left outward as far as it will go. Tune in the first station desired at left of dial with manual tuning knob. Then press button firmly inward to lock it in place on the station tuned. Continue setting push buttons in sequence to right until all are adjusted to your favorite stations.

POWER STEERING Power steering greatly reduces the effort required to steer and park your car and functions whenever your engine is operating. If, for any reason, it is necessary to steer your car without the engine operating, you can do so as though there were only the conventional steering gear.

Power steering linkage is identical to standard steering with the exception of the hydraulic pump, valve, and cylinder. The power steering pump, mounted behind the generator on the left side of the "L" Head engine and belt driven on the right side of the Valve-in-head engine, is the

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only component that requires periodical checks. The power steering reservoir, an integral part of the pump, should be checked for proper oil level every 2,000 miles. If it is necessary to add oil, use type "A" automatic transmission fluid.

NOTE: Do not allow dirt to fall into reservoir when cover is removed.

POWER BRAKES The power brakes on your Superba are the newly-introduced disc-reaction treadle-vac type. They are especially designed to retain "pedal feel" for you even though the effort requirement is greatly reduced. This system employs a booster operating on engine vacuum, therefore, make a few trial applications just to accustom yourself to the light touch.

A reserve vacuum tank normally provides 2 to 3 power-assisted brake applications after the engine is stopped. Thereafter, the brakes are controlled hydraulically by your foot pedal as in a car not equipped with power brakes.

To park on steep grades, set the parking brake while depressing the power brake pedal prior to stopping the engine. Do not release park brake until engine is started. Check fluid reservoir every 2,000 miles.

For maximum brake application efficiency, it is recommended that the free pedal play, measured at the brake pedal, should not exceed 1/4 inch. Excessive free play will reduce the usable stroke of the piston rod in the treadle-vac. To adjust free play of brake pedal, loosen locknut on the eccentric bolt at push rod and rotate bolt to obtain proper free play. Tighten locknut.

AIR CONDITIONING The air conditioner is a selectively controlled unit that cools, dries, and circulates the air within the car. It fits snugly up under the instrument panel leaving plenty of leg room. Dial-type controls are conveniently mounted on the driver's side on the control panel, within safe, easy reach. The top dial gives you full control of cooling temperature. A turn of the dial lets you select the temperature you want for real driving comfort. Once the dial is set, the desired temperature is maintained automatically by thermostatic clutch control.

The lower dial is an off-on switch for the entire unit, and also regulates fan speed. The built-in rheostat permits selection of air flow in any volume from "off" to maximum. Selective air-flow control is attained by scientifically pitched, individually adjustable, full-turn louvers providing complete control of air circulation. You can aim the louvers to circulate air to front seat or back seat compartments, or both, providing cool comfort for the driver and all passengers.

Fresh outside air may be mixed with the circulating air within the car at any time by opening one of the vent windows or by opening the fresh air intake.

If the car has been parked in the sun with all the windows closed, the maximum cool-down rate may be reached in a minimum time by opening the windows for a minute when starting to drive to expel the accumulated warm air, then close all windows.

During the winter, it is advisable to operate the air conditioner periodically for short intervals to assure oil circulation and lubrication to protect the working parts. Except for this preventive maintenance, there is no other regular service required.

CAUTION Start the engine before operating the air conditioning system to reduce the battery load and provide easier starting. Your air conditioner is equipped with a magnetic compressor drive clutch which permits a smooth shock-free engagement when the unit is turned on. It is advisable not to turn the air conditioner on at car speeds exceeding 40 M.P.H.

POWER SEAT To adjust the power front seat, an electric motor is provided with a four-way switch located on the lower left side of the seat. Operating the switch will move seat forward, backward, up or down. The seat will move in the direction the toggle switch is actuated and seat movement stops when switch is released.

WINDSHIELD WASHERS For safer driving vision, the windshield washer pump has been conveniently located on the toe board near the headlight dimmer switch. To operate, turn on wipers and depress foot operated pump control on floor board. The fluid for the washer is pumped from a plastic container mounted on the left inner fender under the hood. This container must be periodically filled with water and solvent.

OVERDRIVE The overdrive provides unparalleled fuel economy and smooth, quiet travel at highway speeds. Furthermore, because overdrive-equipped cars have a higher numerical axle ratio than their counterparts with manual transmissions, they provide a somewhat brisker performance.

To place the overdrive in operation, push the control to the full "in" position. This can be done at any speed without releasing the clutch. After that, and until you either reduce speed below about 20 to 30 miles an hour or push the accelerator pedal all the way to the floor board (kickdown position), you will continue to drive in overdrive.

When descending steep hills or in certain traffic conditions you may prefer to drive with the overdrive "locked-out" to take full advantage of the engine braking efforts when the accelerator pedal is released. This practice will result in less wear and heating of the brakes thereby increasing the brake lining life.

You can lock out the overdrive by the following methods:

1. Car standing still: Pull control handle full out.
2. Car moving LESS than 25 miles an hour: Accelerate engine and at the same time pull control handle full out.
3. Car moving MORE than 25 miles an hour: Press accelerator to floor (kickdown). This puts transmission in conventional gear. While in conventional, pull control handle to full out position.

If your car must be pushed or towed to start the engine, you must first lock out the overdrive.

GOOD DRIVING DIVIDENDS

SINCE YOU have chosen a car with built-in economy features, it is a good idea to maintain it in a way that will promote their most efficient use.

ENGINE TUNE-UP Tune engine every 5,000 to 10,000 miles. Carburetor and timing adjustment is important. Have the ignition timing advanced only enough for acceptable acceleration and use the lowest octane gas that will not knock at this setting. Clean spark plugs when needed and check distributor points.

BRAKE ADJUSTMENT Dragging brakes can waste gasoline. Check periodically to see that the wheels turn freely with no binding or dragging.

WHEEL ALIGNMENT Watch your front tires for signs of faulty alignment. It wastes gas and shortens the life of your tires.

TIRE PRESSURES Keep tires inflated at least to the pressure recommended on page 33. You can try inflating them three or four pounds above the cold pressures. If the resulting ride isn't too hard for your comfort, you will save a little gas and get more mileage out of your tires.

DRIVING HABITS How you drive, more than anything else, will determine the gas consumption of your car. Having a car with the most economical combination of engine, transmission and rear axle ratio does not guarantee maximum gasoline mileage. The keys to gas saving are moderate acceleration and constant speed.

1. Accelerate moderately. Gas mileage falls off fast in stop and go city driving. Most gas is consumed in getting the car moving from a standstill; once it is rolling the inertia of its weight takes over and gasoline consumption decreases. So avoid abrupt starts and you will save not only on gas but on tires and general wear and tear of the engine, transmission, drive shaft and rear axle.

2. Shift up to top gear as soon as possible. This is your economy gear, so get to it as quickly as you can with moderate acceleration; stay in it as much as you can. With an automatic transmission, this calls for a light foot and practice. Remember that every time you downshift, you are using a gear ratio that calls for more gas.

3. Keep a constant speed. By anticipating slowing traffic, you can often avoid gas-consuming stops and downshifts. When a traffic light a block or so ahead of you turns red, ease up on accelerator; let the car's momentum carry you to a gradual stop. Whenever you apply the brakes, you waste the gas that was used to get the car rolling.

4. Idle sparingly. Avoid excessively long idle periods — this is not a good way to warm up an engine. Shut off the engine when waiting at a railroad crossing or in a traffic jam. Idling, for whatever purpose, is pure waste of gasoline. In cold weather don't idle the engine when you start; instead drive slowly until it is warm.

CARE OF PAINT Your Superba has a lacquer finish of maximum durability and beauty.

The use of waxes or polishes is generally not recommended for 60 days after application of paint. When polishing your car, it is well to remember that the polishes and cleaners which do the job fastest and easiest are not necessarily the best. A polish containing a large amount of abrasive will do the job quickly but will also remove the paint and may etch or damage bright metal parts. Avoid the use of abrasive liquids, waxes, and power buffing.

The baked lacquer finish should be maintained by frequent washing with water. A small amount of mild detergent may be used, followed by a thorough rinsing. Dry to a high polish with a clean, damp chamois skin.

CAUTION — Never use hot water and avoid washing the car under a hot sun or when the lacquer surfaces are hot.

BRIGHT METAL PARTS The discoloring and destructive forces of salt and calcium chloride used on roads during winter as melting agents are especially destructive to chrome. To prolong the appearance of chromed parts, wash and clean frequently. A paste wax should be used as a protective coating on all bright metal finishes.

CARE OF UPHOLSTERY Wash the fabric and vinyl covering with a good frothy suds of neutral soap and warm water. Remove excess suds and water with a clean cloth or sponge and wipe the surfaces several times with a clean dry cloth. Let air circulate freely over the wet upholstery.

STATION WAGON

THE SUPERBA Station Wagon is a brawny versatile vehicle mounted on a rugged frame ideally suited for station wagons. It is a station wagon with exceptional performance and outstanding fuel economy offering ideal flexibility of passenger and cargo space. With a flick-of-the-wrist movement the 2nd seat folds down into the floor to make a big load space even larger.

In the Superba Station Wagon there is marked emphasis on rugged construction, practical details and service accessibility. The tailgate drops down to become flush with the flat wagon floor thereby making it necessary only to place cargo aboard and slide it in.

A full complement of the most-wanted power options and comfort-conveniences are offered on the Superba Station Wagon such as, power retractable rear window, power 2nd seat which folds into floor, roof-top travel rack and etc.

The rear of the 2nd seat back rest becomes a part of the cargo floor when it is folded down. The folding of the back rest is accomplished in a single movement of the

hand. It is not necessary to struggle with supports, reversal of cushions, adjustment of straps or other apparatus. An optional power device is available to operate from the drivers seat. Just by merely operating a toggle switch mounted on the lower ledge of the instrument to the right of the steering column, you are able to lower and raise the 2nd seat without ever getting out of the drivers seat.

The cargo floor is of reinforced steel construction covered with a scratch-resistant durable auto-mat. You will find there is ample space in the cargo area to place standard 4 x 8 feet sections of plywood or other materials flat on the cargo floor. The spare tire compartment is located under the rear of the cargo floor and is accessible through a hinged door that can be held in an open position by a folding support.

The tailgate is so hinged that when open it is continuous with the cargo floor. As a safety precaution the tailgate can not be opened until the retractable rear window is completely lowered into the tailgate.

The tailgate window can be manually operated by the following procedure:

1. Swing out window regulator handle.
2. Move window regulator selector lever to OPEN position.

   NOTE: If selector lever is in LOCK position use key to unlock.
3. Wind window clockwise to full down position.
4. Move window regulator selector lever to fold position and snap handle into closed position. Pull control handle (inside gate) upward, and open tailgate.

To close tailgate, reverse opening procedure. NOTE: If it is desired to leave the tailgate window unlocked, the window regulator selector lever must be left in FOLD position prior to closing the handle.

To raise and lower the tailgate window equipped with the power option you merely actuate the toggle switch mounted on the lower ledge of the instrument panel to the left of the steering column or by inserting the key in the regulator and turning clockwise to lower, and counter-clockwise to raise.

The large cargo compartment windows are of tempered glass mounted in rubber to minimize the possibility of breakage.

SPECIFICATIONS

	A-9 and A-10 SUPERBA	A-9L and A-10L SUPERBA	A-10W STATION WAGON
Wheelbase	120	120	120
Overall Length	199.5	199.5	199.5
Width	76	76	76
Height	62.75	62.75	62.25
Ground Clearance	7.5	7.5	7.5
Tread—Front	60	60	60
Rear	62.5	62.5	62.5
Tires—Std.	6.70 x 15	6.70 x 15	6.70 x 15
Optional	7.10 x 15	7.10 x 15	7.10 x 15
Tire Pressure (Cold)	24 Lbs.	24 Lbs.	24 Lbs.
Engine	OHV	"L" Head	OHV
Comp. Ratio	8.0:1	7.3:1	8.0:1
Displacement	226	226	226
Bore	3-5/16	3-5/16	3-5/16
Stroke	4-3/8	4-3/8	4-3/8
Torque (lb. ft.)	192 @ 1800	180 @ 1400	192 @ 1800
Horsepower (Brake)	122 @ 4000	80 @ 3100	122 @ 4000
Firing Order	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Gasoline Grade	Regular	Regular	Regular
Radiator Cap Pressure	4 Lbs.	4 Lbs.	4 Lbs.
Electrical System	12 V	12 V	12 V

	A-9 and A-10 SUPERBA	A-9L and A-10L SUPERBA	A-10W STATION WAGON
Spark Plug Gap	.030-.033	.028-.030	.030-.033
Distributor Point Gap	.020	.020	.020
Ignition Timing	3½° BTDC	4½° BTDC	3½° BTDC
Cam Angle	39°	39°	39°
Breaker Arm Tension	17-20 Oz.	17-20 Oz.	17-20 Oz.
Tappet Clearance (Hot)			
Intake	.017	.014	.017
Exhaust	.023	.014	.023
Terminal Grounded	Neg.	Neg.	Neg.
Capacities—			
Engine	5 Qts.	5 Qts.	5 Qts.
With oil filter	6 Qts.	6 Qts.	6 Qts.
Fuel Tank	20 Gal.	20 Gal.	20 Gal.
Trans. (Std.)	2.6 Pt.	2.6 Pt.	2.6 Pt.
Trans. (Auto.)	19 Pt.	19 Pt.	19 Pt.
Rear Axle	3 Pt.	3 Pt.	3 Pt.
Wheel Alignment (Front)			
Caster	1°-2° Pos.	1°-2° Pos.	1°-2° Pos.
Camber	½°-1½° Pos.	½°-1½° Pos.	½°-1½° Pos.
Toe-in	1/16"-1/8"	1/16"-1/8"	1/16"-1/8"
Radiator	12 Qt.	12 Qt.	12 Qt.
With Heater	13 Qt.	13 Qt.	13 Qt.

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WARRANTY

"The Manufacturer warrants each new motor vehicle manufactured to be free from defects in material and workmanship under normal use and service, with obligation under this warranty being limited by the manufacturer of parts thereof, including all equipment or trade accessories (except tires) supplied by the Motor Vehicle Manufacturer, and which parts are returned, within ninety (90) days after making delivery of such vehicle to the said purchaser or before such vehicle has been driven four thousand (4,000) miles, whichever shall first occur, returned with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and it neither assumes nor authorized any other person to assume for it liability in connection with the sale of its vehicles.

BATTERY WARRANTY

The Willard Storage Battery Company provides a 90 day Standard Factory Warranty on the battery. They also provide an Adjustment Policy prorated on a sliding scale based on the length of service of the battery. Your Authorized Dealer will be pleased to handle details of Battery Warranty Service for you.

Checker Motors Corporation has reserved the right to make any changes in design or to make additions to or upon its product without incurring any obligations to install the same on motor vehicles previously built.

CHECKER MOTORS CORPORATION

KALAMAZOO, MICHIGAN
U.S.A.

3,424.49

IDENTIFICATION AND LICENSE DATA

KEYS For your convenience, two identical keys are furnished with your new Superba which operate the ignition switch, door locks, trunk lock, and glove compartment lock.

Record key number here CH 778

SERIAL NUMBER The serial number is stamped on an aluminum plate attached to the dash panel under the left hand side of the hood. When you write your dealer about your Superba or about replacement parts for it, you will help speed a reply by giving the serial number of your car.

Record serial number here A10W - 3511 - 48121
manufacture

ENGINE NUMBER The engine serial number is stamped directly under the car serial number.

Record engine number here 2362A

LICENSE DATA A-10 W

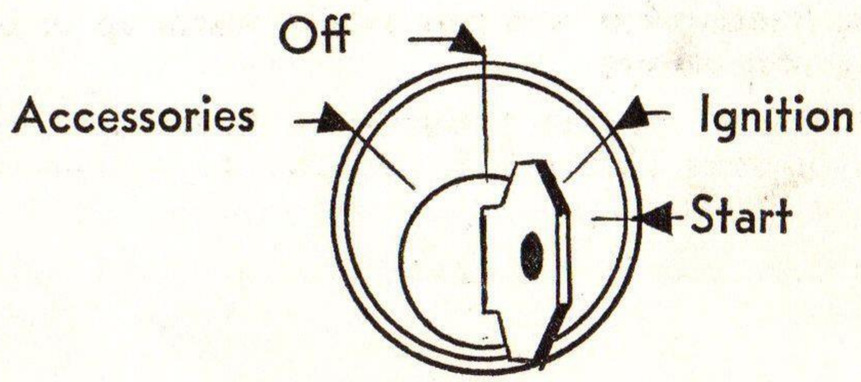
Superba models	A-9 & A-10	A-9L & A-10L
Type engine	Valve-in Head	"L" Head
No. of Cylinders	6	6
Cylinder bore	3-5/16	3-5/16
Stroke	4-3/8	4-3/8
Piston displacement	226 cu. in.	226 cu. in.
Compression ratio	8 to 1	7.3 to 1
Horsepower (Taxable)	26.3	26.3

INFORMATION FOR START AND WARM-UP

IGNITION – STARTER SWITCH Turning the hexagonal-headed ignition key to the first position right completes circuits to the ignition system, instruments, radio and all other accessories wired through the ignition switch. Turning the key to the left completes these same circuits except for ignition.

Turning the ignition key all the way to the right against the spring pressure operates the starter.

The ignition key can be removed from switch only in the off position.



Designed for Comfort and Durability

CHECKER MOTORS

STARTING For safety reasons before starting, be sure the parking brake is applied. If your car is equipped with a Standard Shift Transmission, put the shift lever in neutral and depress the clutch pedal during the starting of the engine. This eliminates churning of the lubricant in the transmission during the starting operation thereby reducing the load on the battery. If your car is equipped with an Automatic Transmission, place the selector in neutral (N) position. In case of a Dual Range Automatic Transmission the selector lever can be placed in either the neutral (N) or park (P) position for starting.

For your safety, there is an interlock between the starting motor and selector lever so the starter will not operate with the selector lever at any of the Drive positions (D, L, or R), Dual Range Drive positions (D_1, D_2, L, or R).

NEW CAR BREAK-IN

THE MANNER in which your new car is driven during its initial mileage has a pronounced effect on its subsequent operation.

The engine in your new car is provided with a highly efficient lubricating system. All moving parts of the engine are closely fit to give maximum performance in low oil consumption and produce good gas economy.

It is advisable to drive your new car moderately for 10 to 15 minutes after starting to allow time for the engine, transmission, and rear axle to warm up to normal driving temperature.

The engine requires progressive break-in at various speeds or steps before it is advisable to operate continuously at all speeds.

A simple new car break-in program is recommended as follows:

1. Drive under 45 miles an hour through the first 500 miles. During this period, vary the driving speeds to allow the internal moving parts to polish up gradually thus extending the life of your engine considerably. Sustained slow speed driving is just as harmful as sustained high speed driving during break-in period.
2. Drive under 55 miles an hour through the second 500 miles using the same precautions as taken during the first 500 miles.
3. Change the engine oil after the first 1000 miles. The original engine oil installed at the factory is Break-in Oil and should be drained at this time and replaced with the viscosity oil recommended in the Lube Chart.

Engine noise and oil consumption can be expected to reduce as break-in progresses and internal friction decreases.

IF THE ENGINE IS COLD — before turning on the ignition press the accelerator pedal down firmly all the way

to the floor board. Let up on pedal about halfway. Do not repeat this action. Never for any reason pump the accelerator pedal. The single movement to the floor board sets the automatic choke mechanism for easy starting when the engine is cold.

Turn the key all the way clockwise and hold in until the engine starts. Then release the key; it will spring back to the ignition position.

If, after a few seconds, the engine does not start, hold the accelerator fully against the floor board and operate the starter. As soon as the engine starts and as it picks up speed, release the accelerator.

The engine is now operating on a high idle or slightly faster than normal and will remain this way until the accelerator is again depressed. This operation provides the correct proportion of gasoline for warmup without flooding the engine with excess fuel and possible fouling of spark plugs.

IF THE ENGINE IS ALREADY WARM — press the accelerator about one-half the way to the floor board and hold it there while you operate the starter. As soon as the engine starts, release the accelerator. If, after a few seconds, the engine does not start, hold the accelerator fully against the floor board and operate the starter. As soon as the engine starts and as it picks up speed, release the accelerator.

CAUTION Never start an engine in a closed garage. CARBON MONOXIDE GAS is in the exhaust fumes of all gasoline engines. Carbon monoxide is a deadly gas with no taste, no odor, no color. Open garage doors wide before starting the engine and keep them open as long as the engine is running.

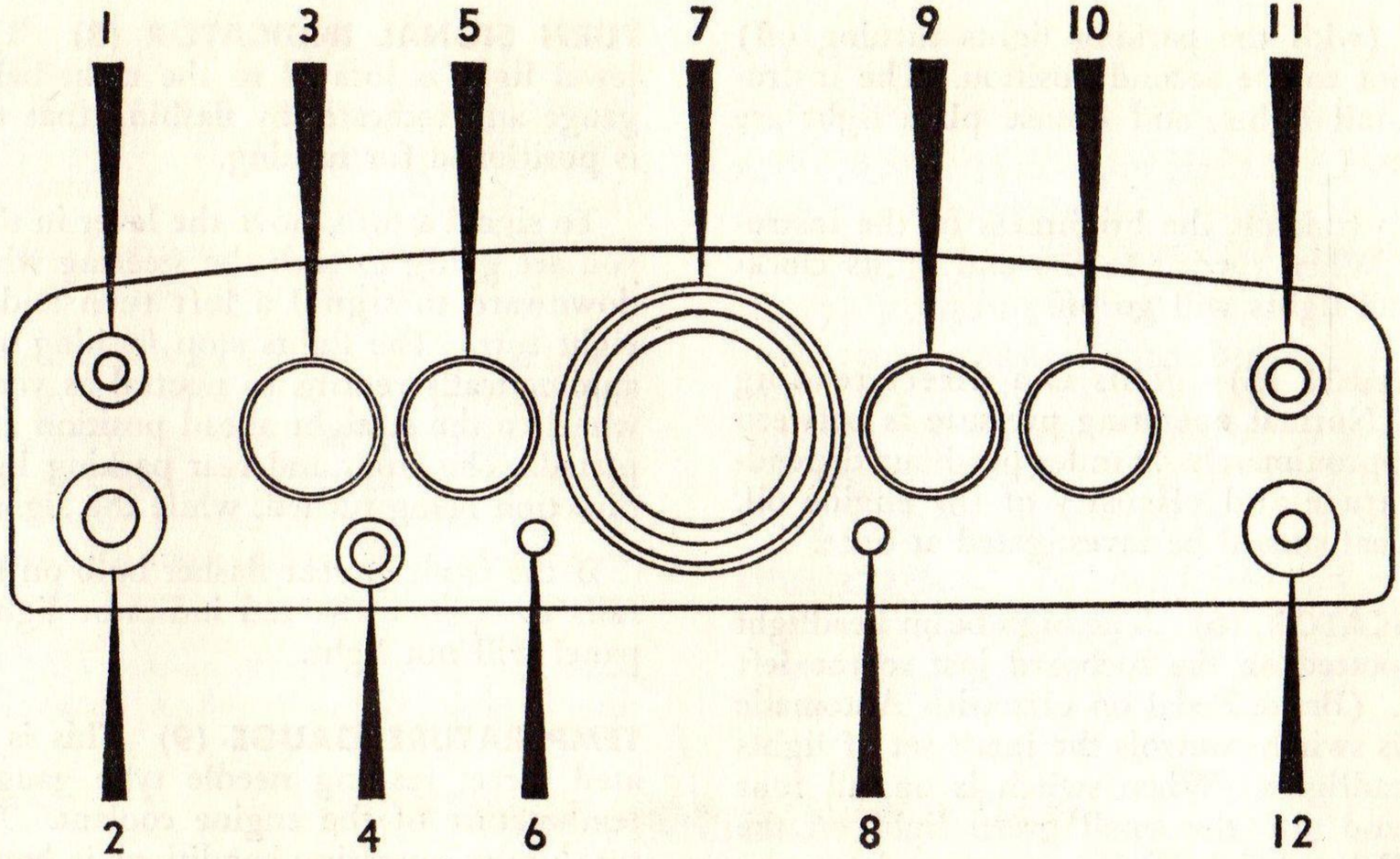
INSTRUMENTS AND CONTROLS

THE INSTRUMENTS and controls for the operation of your car are located so that you can see and use them easily. As you drive you will become familiar with the location, purpose, and operation of each instrument.

FRESH AIR VENT (1) The Fresh Air Vent Control knob, located to the extreme left on the instrument panel, helps control inside ventilation by regulating the amount of outside air entering the car.

The window vent panes are also a part of your ventilation system. They can be adjusted to any position depending on weather condition to provide additional circulation of outside air in the car.

Under adverse weather conditions, window defogging or windshield de-icing may be improved by opening the front door windows approximately 1/4 inch and opening the vent panes slightly.



IGNITION SWITCH (2) The operation of the ignition switch and starter is explained in full on page 2.

AMMETER (3) This is an electrically operated direct reading needle type gauge and indicates whether the battery is charging or discharging. The needle may be in the discharge position when engine is idling or any electrical circuit is in use. When engine is operating at road speeds, the needle will remain in the charge section of gauge until the battery is fully charged. With the battery fully charged, the needle will remain near center of the gauge.

HEADLIGHT SWITCH (4) This is a pull type two-position switch which operates both the headlights and instrument panel lights. The parking lights turn on when the switch knob is pulled out to the first position, and the

headlights turn on (with the parking lights turning off) when it is pulled out to the second position. The instrument panel lights, tail lights, and license plate light are on in both positions.

Turning the knob controls the brightness of the instrument panel lights. When turned to the end of its clockwise travel, the panel lights will go off.

OIL PRESSURE GAUGE (5) This is a direct reading needle type gauge. Normal operating pressure is between 20 and 40 Lbs. at approximately 40 miles per hour depending on the temperature and viscosity of the engine oil. Pressure below normal should be investigated at once.

HIGH BEAM INDICATOR (6) The high beam headlight dimmer switch is located on the toeboard just to the left of the clutch pedal. (Brake Pedal on cars with Automatic Transmission). This switch controls the inner set of lights in the dual unit headlights. When switch is on, all four headlights are on and also the small green light on the instrument panel. When bright lights are on and you are approaching oncoming traffic, press the button on the toeboard to change the headlights to the passing beam. Then press again to restore bright lights. All city driving should be done with the lights on low, or passing beam.

SPEEDOMETER (7) The speedometer hand indicates the miles per hour road speed while the odometer shows total miles traveled.

TURN SIGNAL INDICATOR (8) The turn indicator red jewel light is located to the right below the speedometer gauge and indicates by flashing that the turn signal lever is positioned for turning.

To signal a turn move the lever in the direction in which you are going to turn the steering wheel. Move the lever downward to signal a left turn and upward to signal a right turn. The lights stop flashing and the control lever automatically returns to neutral as you return the steering wheel to the straight ahead position after the turn is completed. The front and rear parking lights will flash in the direction being turned, while the signal is operating.

If the front or rear flasher bulb on either side of the car fails to operate the red indicator light on the instrument panel will not light.

TEMPERATURE GAUGE (9) This is an electrically operated direct reading needle type gauge and indicates the temperature of the engine coolant. The normal temperature under operating conditions is between 170° and 180° depending on outside temperature and thermostat setting. A sudden rise in temperature above normal should be investigated immediately.

GASOLINE GAUGE (10) This is an electrically operated direct reading needle type gauge and indicates the amount of fuel in the gasoline tank. Allow a few seconds for the needle to find its level after turning on the ignition.

WINDSHIELD WIPERS (11) The wipers are vacuum operated and controlled by a knob located to the extreme right on the instrument panel. Rotate knob clockwise for maximum speed of wipers.

CIGAR LIGHTER (12) Depress the lighter and it will automatically heat and snap out, ready for use.

HOOD RELEASE The hood release is located at the upper center section of the grille. Move lever to extreme left and hold in this position as you lift the hood. This releases both the hood lock and the safety catch. The hood is spring-balanced and will remain in an open position with no other assistance. To close, lower hood gently and press down firmly to lock. Do not hold lever while closing.

SEAT ADJUSTMENT To manually adjust the front seat, move control knob located under the left side of seat forward; then slide the seat forward or rearward to the position that suits you best.

ASH TRAY Located in center of instrument panel. To open pull knob forward. To remove ash tray for cleaning, press down on snuffer plate and pull out tray.

GLOVE COMPARTMENT For your added protection the glove compartment is furnished with a lock. The ignition and door key will also open this lock. An automatic compartment light is also furnished for your convenience. We also suggest that you keep this Owner's Guidebook in the glove compartment for future reference.

TRUNK LOCK To unlock, put key in lock and turn it a quarter-turn clockwise or until you hear the latch snap open. The key must be returned to locked position before it can be removed.

TRANSMISSIONS

There are three type transmissions:

1. The Standard 3 forward speed transmission with the manual shift.
2. The Driv-er-matic Automatic transmission designed for economy and low speed operation.
3. The "Dual Range" Automatic transmission designed for maximum performance in normal road or highway driving.

STANDARD TRANSMISSION With the use of the Standard transmission it is necessary to engage and disengage the clutch when manually shifting the transmission. If the clutch pedal exceeds 1-1⅜" free play before effecting the clutch movement, it should be adjusted as to maintain sufficient travel to fully disengage clutch.

To avoid excessive wear on the clutch, transmission, and drive mechanisms, never shift from low directly into high