

YOUR

1950

*Studebaker*

COMMANDER







# OWNER'S GUIDE

FOR YOUR NEW

1950

★ ★

*Studebaker*

## C O N T E N T S

Instruments and Controls . . . . .	7
Run-in Period . . . . .	15
Operating the Car . . . . .	16
Lubrication . . . . .	27
If you must change a tire . . . . .	30
Maintenance and Care of Car . . . . .	32
Service and Adjustments . . . . .	40
Seasonal Services . . . . .	44
Technical Reference Data . . . . .	45
Index . . . . .	48

## A WORD TO THE OWNER

YOU ARE UNDOUBTEDLY AS PROUD of your new Studebaker as we who designed and built it. You will want it to give you first class performance at all times under all conditions of weather and roads. And you'll want to keep its sparkling, shining, new car appearance.

To that end we have assembled in this book information which we believe will guide you. We have included the main answers to the questions of What you have, How it is operated, and How it is cared for.

We have not attempted to make a repair or adjustment manual of this Guide, for such a book would be of little value or interest to the average owner. We have included, however, some technical service information so that you will be able to give this book to any mechanic for emergency service or adjustment if such ever becomes necessary when you are away from the vicinity of an authorized Studebaker dealer.

Such an occasion rarely arises, for you have the assurance of a friendly, nation-wide dealer service organization. In addition, Studebaker regional offices and factory parts depots are conveniently located in leading cities throughout the country.

Always look for the Studebaker authorized service sign. It means specialized and experienced attention to your car, and a continuing interest in your satisfactory use of it.

**THE STUDEBAKER CORPORATION**

**SOUTH BEND 27, INDIANA**





## BE SURE TO READ YOUR DEALER SERVICE POLICY

*With your new Studebaker you received a Dealer Service Policy from your Studebaker dealer. Please read it carefully.*

*Under its terms you, as the owner of a new Studebaker, are entitled to receive from your dealer two thorough check-ups during the warranty period, which are important to the efficient operation of your car. These services will be performed gratis only by the dealer from whom you purchased the car and advance arrangements should be made with him if these services are to become due while you are touring or after a change of residence.*

*Any Studebaker dealer in the U. S. or Canada is authorized to replace, without charge for material or labor, any parts found to be defective under the terms of the Studebaker Factory Warranty.*

*Always keep your Dealer Service Policy with the car during the warranty period. It will be necessary to present the Policy in order to obtain the parts replacement privileges under the Warranty from other than the Studebaker dealer from whom you bought the car.*

### DEALER SERVICE POLICY

FOR

*Studebaker  
Owners*

OWNER'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

DELIVERY DATE \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

THIS POLICY ISSUED FOR \_\_\_\_\_

STUDEBAKER PASSENGER CAR SERIAL NO. \_\_\_\_\_



## **STUDEBAKER FACTORY WARRANTY**

WE WARRANT EACH NEW MOTOR VEHICLE sold by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at Studebaker factories any part or parts thereof, including all equipment or trade accessories (except tires) supplied by Studebaker as standard or optional equipment, which shall, within ninety (90) days after making delivery of such vehicle to the original purchaser or before such vehicle has been driven four thousand (4,000) miles, whichever event shall first occur, be returned to us with transportation charges prepaid and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties, express or implied, and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale or use of our motor vehicles.

This warranty shall not apply to any motor vehicle which shall have been repaired or altered outside of Studebaker factories in any way so as, in our judgement, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any commercial motor vehicle sold by us which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

### **THE STUDEBAKER CORPORATION**

**SOUTH BEND 27, INDIANA**

*We reserve the right to make changes in design or to make additions to or improvements upon our products without incurring any obligations to install the same on vehicles previously built.*

### **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 Studebaker dealer will be pleased to handle details of battery warranty service for you.

### **RADIO WARRANTY**

A PHILCO RADIO warranty registration tag is attached to each radio when it is shipped from the factory. If your car is equipped with a radio, your dealer will fill in the tag properly and attach it to the radio. This tag is necessary to obtain radio warranty service from your Studebaker dealer.



## LOCATION OF VEHICLE NUMBERS

### SERIAL NUMBER \_\_\_\_\_

The serial number of your car is stamped on a plate attached to the left front door lock pillar post. Record it in the space provided.

### ENGINE NUMBER \_\_\_\_\_

The engine number is stamped on a machined pad at the upper left front of the cylinder block. Record it in the space provided.

### BODY NUMBER \_\_\_\_\_

The body number is stamped on a plate attached to the dash under the hood. Record it in the space provided.

### KEY NUMBERS

*Ignition and front door:* \_\_\_\_\_

This number is stamped on a metal tag furnished with the keys. Record it in the space provided.

*Package Compartment and Luggage Compartment Doors:* \_\_\_\_\_

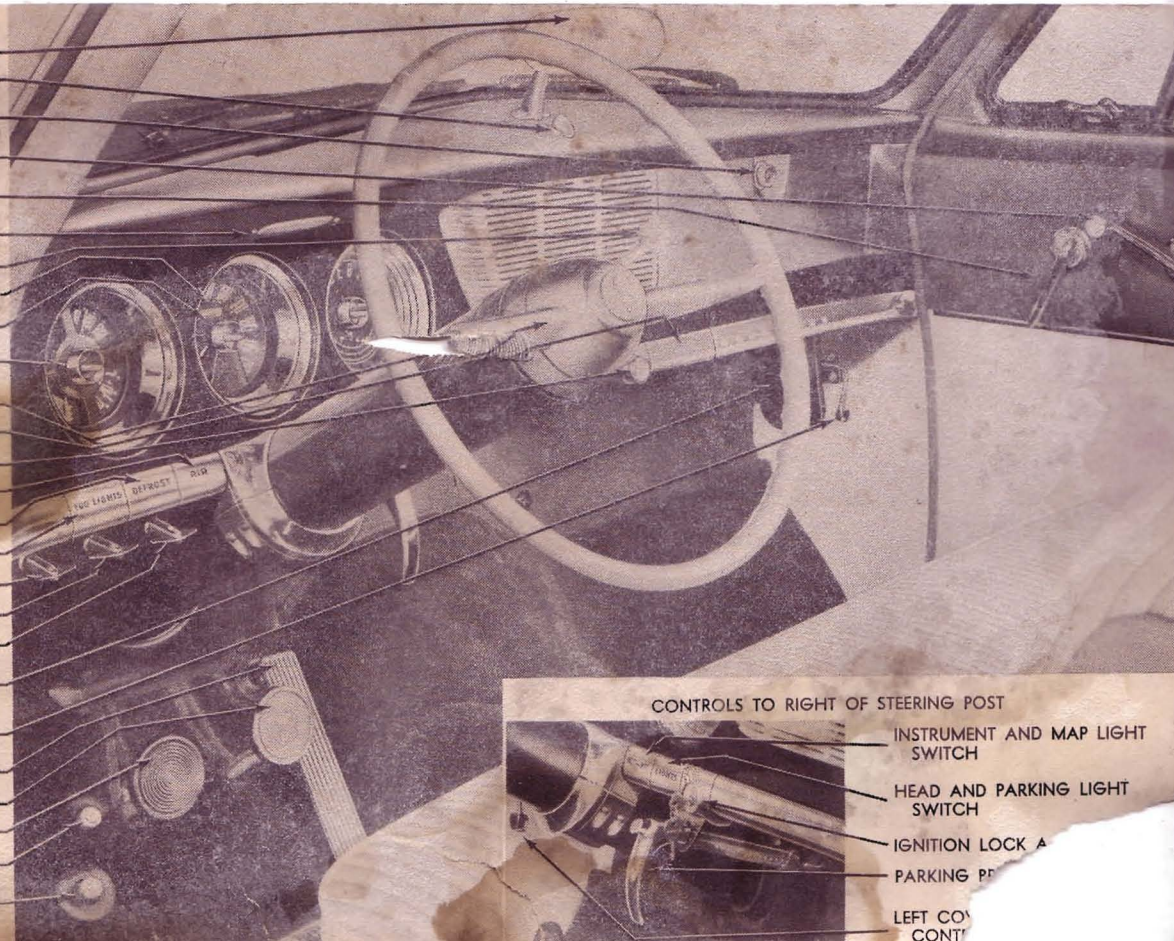
This number is stamped on the compartment key or on the lock housing. Record it in the space provided.

**PAINT AND TRIM:** When ordering paint materials be sure the body and serial numbers above as well as the paint symbol printed on the sticker attached to the underside of the package compartment accompany your order.

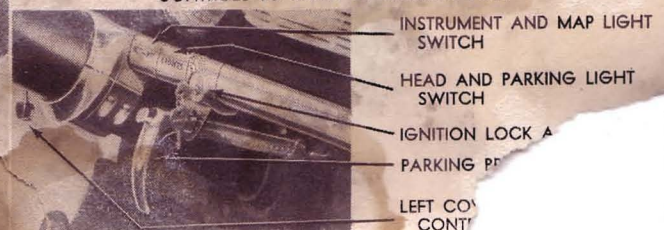
When trim materials are needed, it is important that the serial and body numbers which you have recorded above be furnished.



REAR VIEW MIRROR \_\_\_\_\_  
 WINDSHIELD WIPER CONTROL \_\_\_\_\_  
 PACKAGE COMPARTMENT  
 DOOR AND LOCK \_\_\_\_\_  
 DOOR WINDOW REGULATOR \_\_\_\_\_  
 DOOR REMOTE CONTROL  
 HANDLE \_\_\_\_\_  
 MAP LIGHT \_\_\_\_\_  
 GEARSHIFT LEVER \_\_\_\_\_  
 BRIGHT LIGHT SIGNAL \_\_\_\_\_  
 SPEEDOMETER AND ODOMETER \_\_\_\_\_  
 GAGES (HEAT—OIL—FUEL—  
 AMPERES) \_\_\_\_\_  
 HORN PUSH BAR \_\_\_\_\_  
 ASH TRAY \_\_\_\_\_  
 CIGAR LIGHTER \_\_\_\_\_  
 CLIMATIZER AIR CONTROL \_\_\_\_\_  
 DEFROSTER CONTROL \_\_\_\_\_  
 FOG LIGHT SWITCH \_\_\_\_\_  
 CLIMATIZER WATER CONTROL \_\_\_\_\_  
 HOOD LOCK RELEASE \_\_\_\_\_  
 OVERDRIVE CONTROL \_\_\_\_\_  
 COWL VENTILATOR INNER  
 DOOR \_\_\_\_\_  
 COWL VENTILATOR OUTER  
 DOOR HANDLE \_\_\_\_\_  
 ACCELERATOR PEDAL \_\_\_\_\_  
 BRAKE PEDAL \_\_\_\_\_  
 CLUTCH PEDAL \_\_\_\_\_  
 STARTER SWITCH BUTTON \_\_\_\_\_  
 HEADLIGHT BEAM CONTROL  
 SWITCH \_\_\_\_\_



CONTROLS TO RIGHT OF STEERING POST



INSTRUMENT AND MAP LIGHT  
 SWITCH \_\_\_\_\_  
 HEAD AND PARKING LIGHT  
 SWITCH \_\_\_\_\_  
 IGNITION LOCK A  
 PARKING PE \_\_\_\_\_  
 LEFT COY  
 CONTY \_\_\_\_\_



## INSTRUMENTS AND CONTROLS

*The driver of a new car should become familiar with the functions of the instruments and controls illustrated on the opposite page before operating the car. Their functions are described below. Standard equipment varies on different models. The illustration includes standard and extra equipment.*

**IGNITION SWITCH** The ignition switch is operated by means of a key which, when turned to the right, supplies current to the ignition system and accessories. Turned to the left, the key completes the electrical circuit to the gasoline gage, radio, and other accessories but not to the ignition. *The ignition key should always be removed when you leave the car.*

**STARTER SWITCH** The starter is controlled by a button on the toeboard located directly beneath the clutch pedal. By completely depressing the clutch pedal, the electrical circuit through the starter switch is completed. Do not operate starter when the engine is running.

**AMMETER** When the engine is not running and any of the electrical circuits are in use, the ammeter will register a discharge (-). With the engine running at a reasonable speed, even though all electrical circuits are in use, the ammeter will register a charge (+) until the battery is completely charged, after which the needle should swing back and remain around the zero mark. Any abnormal fluctuation of the ammeter needle in either direction is a signal to the driver to have the electrical system checked and serviced by his authorized Studebaker dealer.

**HEAT INDICATOR** The temperature of the coolant in the engine cooling system is shown by the electric heat indicator which, under normal conditions, should register approximately 170° F. (76,7° C.). In summer, and on hot, long drives this may normally be a little higher.

If the gage registers an abrupt or continuous rise to

212° F. (100° C.), stop the car immediately and investigate. Check the water level, fan belt, hose connections, and look for water leaks. Continued use at 212° F. (100° C.) will cause serious damage and unnecessary expense.

The gage registers only when the ignition key is turned either to the right or left.

Check the water level frequently.

**GASOLINE GAGE** The gasoline gage registers when the ignition key is turned either to the right or left. If you wish to know the quantity of fuel in the tank when the engine is not running, turn the ignition key to the left. It takes about 30 seconds for the gage to register after the ignition key is turned.

**OIL PRESSURE GAGE** The oil pressure gage indicates the working pressure of the oil as it circulates within the engine. Normally, the gage will register between 20 and 40 pounds (1,4 and 2,8 kgs.) at 40 miles (64 km.) per hour. *This gage does not indicate the amount of oil in the crankcase.*

If this gage should fluctuate rapidly or drop to zero, STOP the car immediately and check the cause. Continued operation of the car under these conditions will probably cause serious damage.

**LOCKS AND KEYS** Two sets of keys are furnished with the car. One key operates the front door external locks and the ignition switch. The other key operates locks on the package compartment door and the luggage compartment lid.

To prevent unauthorized persons from purchasing a duplicate ignition key, the key number does not appear on the key or on the face of the lock, but is stamped on a small metal tag supplied with the keys. The compartment key number is stamped on the key or on the lock housing. Both key numbers should be recorded on page 5 of this



annual and elsewhere among the owner's permanent possessions, after which the metal tag should be destroyed.

Duplicate keys may be ordered by key number from the nearest authorized Studebaker dealer. If the key numbers are not known, the order must be accompanied by the car serial number.

Front door lock controls are designed so that either front door, locked from the inside, may be opened from the outside with the key. This is an advantage in parking lots when close parking blocks one door.

If an inside front door handle is set to "lock" position with the door open and the door is then closed, the lock releases; Studebaker front doors must be key-locked in such circumstances. The key will always unlock either of the front doors from the outside no matter whether it has been locked from the inside with the door lock control or locked from the outside with the key.

The next three paragraphs explain the operation of the door locks.

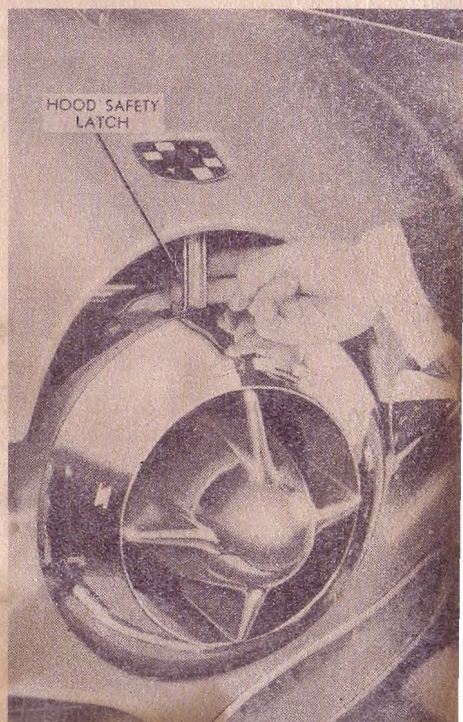
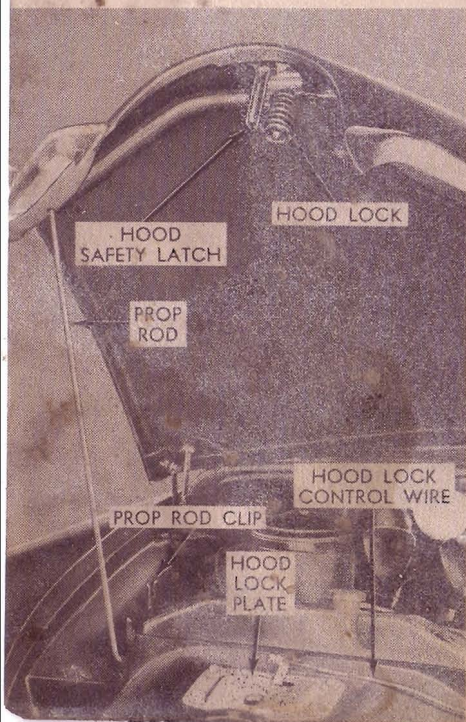
1. Front door inside handles, when pushed up from the normal position to lock the door from the inside, will spring back to the normal position although the lock will remain set.
2. The front doors are locked from the outside by making *one-quarter* turn with the key. Turn the key clockwise on left front doors and counterclockwise on right front doors. Return the key to the vertical position to remove it from the lock. To unlock the front doors follow the same procedure except turn the key one-quarter turn in the opposite direction to that used to lock the door.
3. To lock either rear door of sedans, simply move the inside door handle upward, whether the door is open or closed. The door will remain locked until the inside rear door handle is moved downward to the full open position.



**HOOD LOCK** The hood lock safeguards your battery, carburetor, and other under-the-hood equipment against theft and tampering as long as the car doors are locked. The hood control (marked "H") is the middle one of the three controls located on the driver's side of the car just below the lower end of the instrument panel. To unlock the hood, pull the control until the automatic hood lock is released. To raise the hood, release the safety latch as illustrated. As a safety measure, after raising the hood, remove the end of the hood prop from its bracket and place it in the hole provided on the underside of the hood at the front.

Care should always be taken in raising or lowering the hood. Never try to force the hood lock or safety latch. This might affect adjustments which would result in an improperly operating part.

Lower the hood firmly so that the automatic hood latch and the safety latch are fastened securely.





**LIGHT CONTROL SWITCH** A pull type switch control is located on the driver's side of the lower instrument board to operate the tail lights, parking lights, and headlights.

**PARKING AND TAIL LIGHTS** Pull light switch control to the first position for parking and tail lights.

**HEADLIGHTS AND TAIL LIGHTS** Pull the light switch control as far out as possible (second position) to operate the headlights and tail lights.

**HEADLIGHT BEAM CONTROL SWITCH** The foot-operated switch to the left of the clutch pedal operates the headlight beam. Pressing down on the switch will change the headlights from country to traffic beam, and vice versa as traffic conditions require. When the country beam is in use the red tell-tale light in the speedometer face will be lighted. Use the traffic beam when approaching oncoming traffic and in city driving.

**INSTRUMENT AND MAP LIGHTS** The instruments are lighted with non-glare *black light*. The lights are controlled by a pull type switch located next to the headlight switch. Pull the control to the first position for instrument lights. Pull the control to the second position for the map light when front doors are closed. The map light is on whenever either front door is open.

**DOMES LIGHT** The dome light goes on in 2-door models when either door is opened. In 4-door models the dome light goes on when either of the rear doors is opened. When the doors are closed, the dome light may be operated by the switch just to the rear of the right front door.

There is no dome light on convertible models.

**LICENSE PLATE LIGHT** The light for the rear license plate is located in the center of the luggage compartment handle. The light operates whenever the headlights are turned on.

**STOP LIGHTS** They light whenever the brake pedal



is depressed, making a distinct red light shine to warn following vehicles.

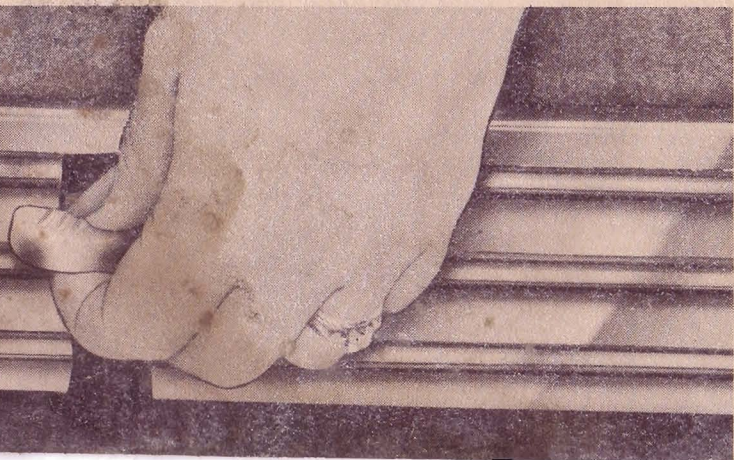
**LUGGAGE COMPARTMENT LIGHT** This light goes on when tail lights are lighted and the luggage compartment lid is opened. *The luggage compartment light is available at slight extra cost on Champion Deluxe models.*

**PACKAGE COMPARTMENT** To open the package compartment door after unlocking, turn the rotary knob to the right and open door. A light (extra cost on Champion models) goes on when the door is opened.

**ASH RECEIVER** To remove the tray for cleaning, push down on the retainer while pulling outward on the tray.

**FRONT SEAT ADJUSTMENT** The front seat is easily adjusted forward or backward by raising the control lever at the driver's side of the seat (as shown in the illustration) which unlocks the mechanism and permits the seat to be shifted to the desired position.

In addition to this quickly adjusted shift, there are three basic positions in which the seat can be bolted by your authorized Studebaker dealer to accommodate the leg length of the owner. From any of these basic positions, the front seat adjustment mechanism will give you the full adjustment range.





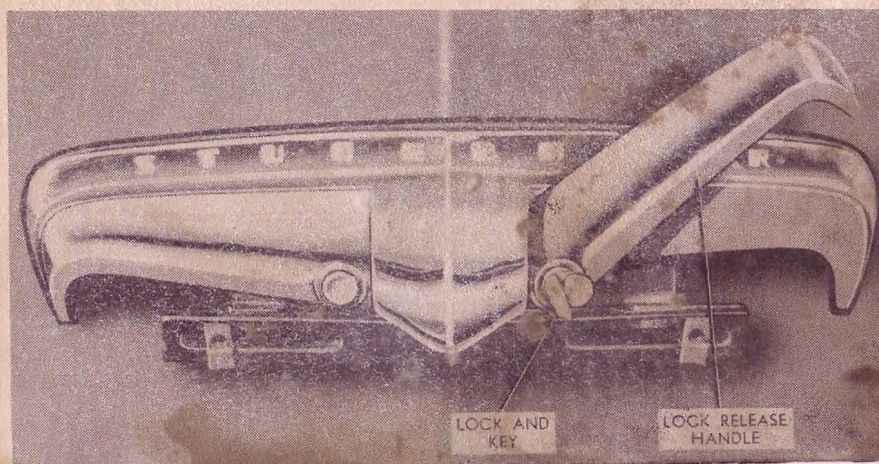
**CLUTCH PEDAL** The clutch pedal disengages the clutch when depressed, engages it when released. The clutch pedal, depressed to the floorboard, also operates the starter button located directly under the pedal.

**STEERING POST GEARSHIFT** The steering post gearshift is operated in the conventional manner, and provides three speeds forward and one speed reverse.

**LUGGAGE COMPARTMENT LID AND LOCK** The luggage compartment lid is controlled by a lock and handle which form the right "wing" of the rear emblem incorporating the license plate light and rear license plate bracket. The luggage compartment lock is operated with the same key which operates the package compartment lock.

To open the luggage compartment, unlock the handle with the key, press down slightly with the left hand on the left "wing" of the emblem and at the same time raise the right "wing" approximately 45°, as shown in the illustration. The lid can now be raised. Counterbalanced hinge springs keep the lid in the open position for your convenience in removing luggage, spare wheel, etc.

To close the luggage compartment, *place the handle in its straight horizontal position.* This is important to secure the latch when the lid is lowered. Lock the handle and remove the key. Lower lid firmly to be sure it has latched. The tight rubber weatherseals have a spring action which will tend to hold lid in a slightly raised position unless it is firmly closed.





**BRAKE CONTROLS** Braking pressure is applied to all four wheels in proportion to the amount of foot pressure applied to the brake pedal.

The parking brake lever operates independently of the hydraulic brake system, applying brake pressure to the rear wheels only. To set the parking brake, *depress brake pedal and pull back on parking brake handle*. To release the parking brake, depress brake pedal, pull back slightly on the handle, press the release button with the thumb, and let the handle move forward.

**WINDSHIELD WIPER AND WASHER CONTROL** The windshield wiper control knob, located at the top center of the instrument board, must be turned clockwise to operate the wiper blades. Speed of the wiper action can be governed by this control.

The windshield washer (on cars so equipped) is operated by turning the windshield wiper control counterclockwise and then turning the control clockwise to obtain water flow and wiper operation. Washer automatically shuts itself off when the cycle has been completed.

*Windshield Washer is available at extra cost.*

**SEAT CUSHION AUXILIARY SPRINGS** To vary the front seat cushion resiliency for the driver or front passenger, Select-O-Seat cushion springs are available as an accessory. These springs may be installed in sets of four and are supplied in two degrees of resiliency, firm or extra-firm. One set may be installed in the driver's side or one set in the passenger's side of the front seat or in both sides of the seat cushion. Your Studebaker dealer will be happy to discuss Select-O-Seat springs with you and install them as you wish.

*Select-O-Seat Springs are available at extra cost.*





## RUN-IN PERIOD

### The First 1000 Miles (1609 km.)

All new motors require a run-in period to insure long life with maximum performance and economy. Follow the procedure outlined in the next paragraphs.

**CARBURETOR SPEED CONTROL** Your car is equipped with a carburetor speed control which limits its maximum speed during the run-in period. This speed control should remain on the car until your Studebaker dealer removes it at 500 miles (805 km.).

**500 TO 1000 MILES (805 TO 1609 KM.)** When the car is operated at steady speeds above 40 miles (64,4 km.) per hour, release the accelerator occasionally for a few seconds. This will aid in properly breaking in a new engine.

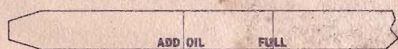
Your car speed during this period should not exceed 50 miles (80,5 km.) per hour.

### Engine Oil During Run-In

The use of special run-in oils is not necessary. Use only engine oils produced by reputable oil companies.

Change oil at first 500 miles (805 km.) and first 1500 miles (2414 km.). After 1500 miles (2414 km.) the oil should be changed

regularly, the frequency depending on the condition of the oil as affected by operating and atmospheric conditions.



OIL LEVEL GAGE

It is a good practice to have the oil level checked whenever gasoline is purchased. If the oil line on the oil level gage is down to the Add Oil mark, oil should be added to bring it up to the Full mark. *Do not overfill.*

The viscosity, or weight, of the oil to be used depends entirely upon prevailing temperatures. See page 29.



## OPERATING THE CAR

### Starting the Engine

Before starting the engine be sure the gearshift lever is in neutral position. Depress the accelerator to the toeboard once only and then immediately release it. This permits the automatic choke to come into full operation. This operation is essential to easy starting. Turn the ignition key to the right. Then depress the clutch pedal to the toeboard to operate the starter.

If engine should not start after a few revolutions, completely depress accelerator and, holding it in this position, operate starter.

**STARTING A HOT ENGINE** It is easier to start a hot engine if the accelerator is held approximately halfway to the floorboard until the engine starts. Release the accelerator as soon as the engine starts.

**WARMING UP THE ENGINE** A gasoline engine performs best when it reaches an operating temperature of approximately 170° F. (76,7° C.). In cold weather the engine temperature should be raised by allowing the engine to idle slowly before driving the car.

Do not drive the car until oil pressure registers on the gage. If it registers above 40 lbs. (2,8 kgs.), drive slowly until pressure returns to normal, or approximately 40 lbs. (2,8 kgs.).

After starting, the high idle system may cause the engine to "race". If so, depress and immediately release the accelerator.

### CAUTION

*CARBON MONOXIDE is a lethal gas, odorless, tasteless, and colorless, found in the exhaust fumes of all engines. Never start the engine in a closed garage. Always open garage doors wide before starting and keep them open as long as the engine is operating.*



## Push or Tow Starting

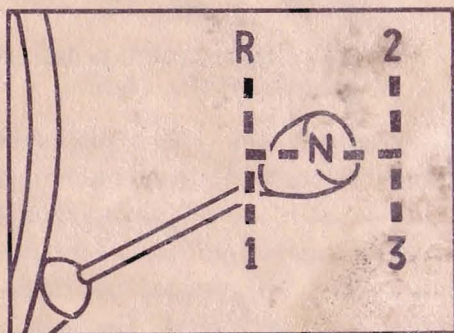
Should the battery fail to supply enough current to start the engine with the starter, place the transmission in conventional high gear and either push or tow the car until the engine starts. *OD handle (on cars so equipped) must be in Out position.* Be sure ignition is On and parking brake released.

## Shifting the Gears

To shift the gears in either the conventional or overdrive ratios with the steering post gearshift lever, follow this procedure:

### TO SET CAR INTO MOTION

1. Start engine and with clutch pedal still depressed, place gearshift lever in low (first) gear position (see illustration.)



2. Release parking brake.
3. Release the clutch pedal gradually and at the same time slowly accelerate.

### TO SHIFT FROM LOW TO SECOND GEAR

1. At approximately 10 miles (16 km.) per hour, release accelerator and depress clutch pedal.
2. Place gearshift lever in second (intermediate) gear position (see illustration.)
3. Release the clutch pedal gradually and at the same time slowly accelerate.

### TO SHIFT INTO HIGH (THIRD) GEAR

1. At approximately 18 miles (29 km.) per hour, release accelerator and depress clutch pedal.
2. Shift lever into high (third) gear position (see illustration on page 17).
3. Release the clutch pedal gradually and at the same time slowly accelerate. Without overdrive, this is the highest or cruising gear ratio.

### TO SHIFT INTO REVERSE GEAR

1. *Bring the car to a complete stop.*
2. Depress clutch pedal.
3. Place lever in reverse gear position (see illustration on page 17).
4. Release the clutch pedal gradually and at the same time slowly accelerate.

**SHIFTING TIPS** To avoid excessive wear on the clutch, transmission, and drive mechanisms, never try to jump gears (that is, do not shift from low to high, or start out in second and avoid using low) and never shift from any gear — even the neutral position — 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.

### Transmission Overdrive

The automatic overdrive operates only when the control handle, marked OD, is in its full forward position. It engages automatically when the accelerator is released momentarily at or above the overdrive cut-in speed of 30 to 35 miles (50 to 55 km.) per hour.



If, while in overdrive, it is desired to gain more power for passing cars in traffic or on grades, push the accelerator to the floorboard. This cuts out the overdrive and it will remain inoperative until the accelerator is again released. At that time the overdrive again engages automatically.

The overdrive handle can be pulled out, thereby locking the transmission in the conventional position. This should be done for descending steep, mountainous grades, or *when pushing or towing the car to start the engine*. The circumstances under which this change can be made safely are as follows:

1. To change the transmission from overdrive to the locked-in conventional position while the car is standing still, merely pull out the OD control handle.
2. To change the transmission from overdrive to the locked-in conventional position when driving below the overdrive cut-in speed of approximately 30-35 m.p.h. (50-55 km.) accelerate the engine and at the same time pull out the OD control handle.
3. To change the transmission from overdrive to the locked-in conventional position when driving in overdrive, completely depress the accelerator past the wide-open throttle position and as soon as the transmission is in conventional, pull out the OD control handle.

If the OD control handle is in the locked-in conventional position (pulled out) it can be placed in the overdrive position while the car is standing still. To make this change when the car is moving at any forward speed, accelerate slightly and push the control handle fully forward.

*Overdrive is available at extra cost.*



## **Automatic Hill Holder**

The automatic Hill Holder retains the same degree of braking effort on an upgrade as that applied by the driver in stopping *as long as the clutch pedal is depressed*. The Hill Holder does not operate on level or descending surfaces. However, the clutch pedal must be depressed before releasing the brake pedal. This permits the right foot to be removed from the brake pedal to operate the accelerator when ready to resume forward motion. Releasing the clutch pedal releases the action of the Hill Holder.

To use the Hill Holder when stopping on an upgrade, depress the clutch pedal and then apply foot brakes. The right foot may now be removed from the brake pedal. To release Hill Holder action, release the clutch pedal.

*Hill Holder is special equipment for the Champion available at extra cost.*

## **Studebaker Climatizer and Defroster**

The Studebaker Climatizer is a fresh air heating and ventilating system. Fresh air passes through an air duct and then through the Climatizer heater core. The warmed air is discharged forward and rearward from below the front seat and spreads uniformly through the car interior.

The Climatizer heat output is thermostatically controlled so that you may select the degree of heating desired and be assured of its remaining constant until you reset the control. The control (marked "W") sets a thermostat which in turn controls the flow of water through the heater coils. The further outward you pull the control, the warmer will be the hot air output of the Climatizer.

When the engine cooling water is cold and the control handle is in the closed position, the thermostat permits a full flow of water into the heater core until the temperature at the thermostat unit (just above the accelerator pedal)

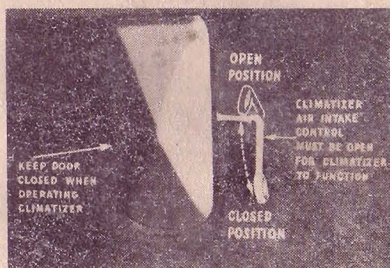


reaches approximately 70° F. (21° C.). As the water gets warmer, the thermostat will maintain that temperature. If you desire more heat in the car, pull out on the "W" control. After using the Climatizer a few times you will find the position of the control which gives you the heat in the car which best suits your comfort and further regulation of the control will be unnecessary.

If you wish to obtain maximum heat flow in extremely cold weather, pull the handle to its full "out" position. This will lock the valve open until you push the handle forward.

## Climatizer Operation

1. Open outside right air intake at cowl. Be sure the inside ventilator door on right kickpad is closed. Also close left cowl ventilator.



INSIDE VENTILATOR DOOR AND OUTSIDE AIR INTAKE CONTROL

2. Pull hot water control handle (marked "W") outward to the position which gives the temperature desired by the car occupants. The further outward the handle is pulled, the hotter the air will become.
3. If maximum air circulation is desired, pull the Fresh Air motor control outward to its first position. Pulling the control out to the second position decreases the air flow.
4. Open one or more ventilator windows slightly to increase fresh air flow and help keep haze from forming on the windows.

**DEFROSTER OPERATION** Pull the defroster control on instrument panel outward to the first position for maximum hot air flow through the defroster ducts; pulling control to the second position reduces the air flow.

*Climatizer and defroster are special equipment available at extra cost.*

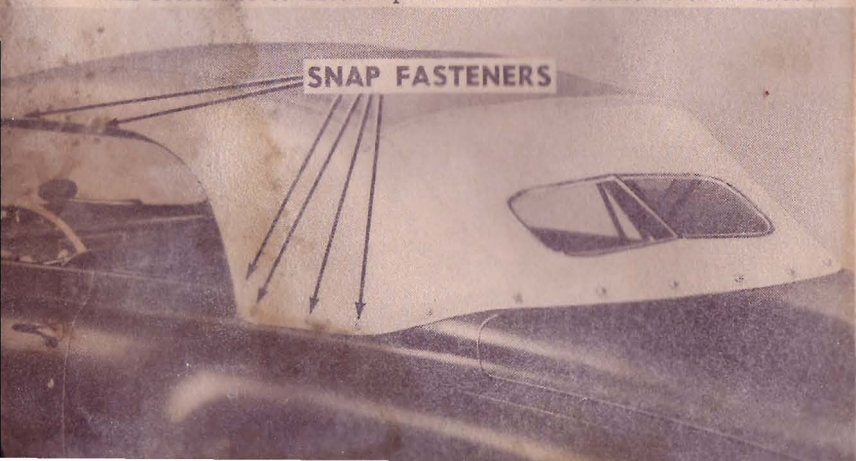
## Operation of the Convertible Top

The mechanically operated top of the Studebaker convertible models is raised and lowered by an electric motor and prelubricated driving arms and gears. The mechanism is controlled by a lever located at the left of the three control handles at the lower edge of the instrument panel on the driver's side of the car. Moving the lever to the left raises the top, and to the right, lowers it. When the lever is released from either of these positions, it automatically returns to the central position, stopping the electric motor.

*Always let the motor operate the top — never try to force the top up or down by hand.*

## Top Operation Motor Circuit Breaker

The electric motor is guarded against short circuit and overload by a 30-ampere circuit breaker. Should a short circuit or overload occur in the top operating system, the circuit breaker will automatically interrupt the circuit and will continue to interrupt it until the cause is eliminated.





If the circuit breaker interrupts the current flow for any reason, see your Studebaker dealer.

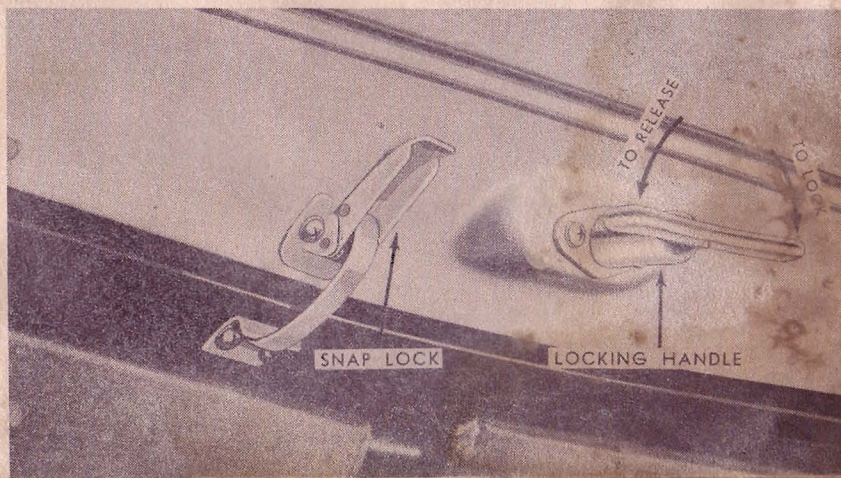
#### TO LOWER THE TOP — STOP THE CAR

1. Unsnap the fasteners on both sides of the top cover at the points indicated in the illustration on the page opposite. Snap the top cover boot in place on the rear of the seat back. Remove any packages or other material from the top well behind the seat.
2. Pull both sun visors down and release the snap lock at the left of the locking handle on the header. Turn the top locking handle at the center of the header fully to the left (counterclockwise). Lift the top free of the pilots.
3. Move the control switch lever to the right and hold it in this position until the top rests on the rear deck of the car; then release the lever.
4. Cover the top with the boot and snap all boot fasteners in place.

#### TO RAISE THE TOP — STOP THE CAR

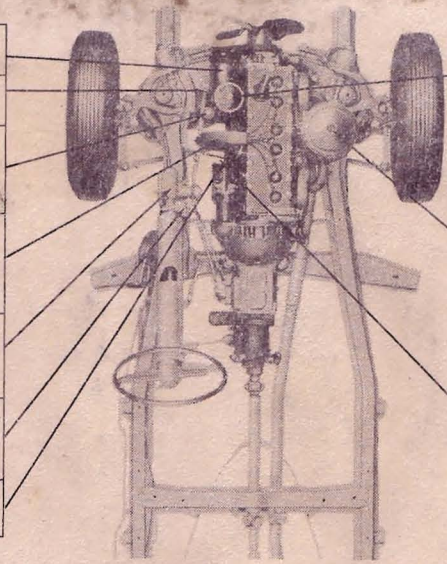
1. Unsnap the boot fasteners along the rear deck and side panels. Uncover the top and let the boot hang over the rear seat back.
2. After pulling down both sun visors, move the top

*(Continued on page 26)*



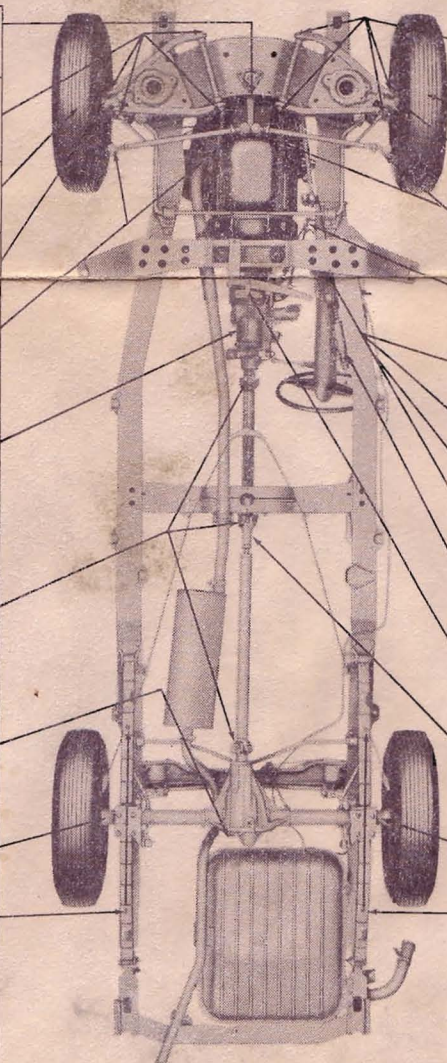


★	GENERATOR - 2 Oilers - SAE No. 20 Engine Oil
★	STEERING REACH ROD - 2 Fittings - Chassis Lubricant.
★	OIL FILLER TUBE CAP - Service Every 1,000 Miles or Daily if Dust Conditions are Severe. Wash the Element in Kerosene and Allow to Dry Thoroughly. Apply Light Engine Oil to Element.
★	DISTRIBUTOR - SAE 20 Engine Oil on Felt Under Rotor and on Felt Between Breaker and Support Plates; Also One Drop on Breaker Lever Point; Small Amount of Petroleum Jelly on Cam. At Every 25,000 Miles Remove Plug and Fill Reservoir with SAE No. 20 Engine Oil.
★	STEERING GEAR - Special Lubricant as approved by Ross Gear and Tool Company of Lafayette, Indiana.
★	GEARSHIFT CONTROL CASE - Remove Plug - Pack Case with Chassis Lubricant - Reinstall Plug.
★	STARTER MOTOR - 1 Oiler - SAE No. 20 Engine Oil.



	OIL FILTER - Under Normal Conditions, the Oil Filter Cartridge Should be Replaced after Five to Six Thousand Miles of Operation. Where Severe Dust and Dirt Conditions Prevail, it will be Necessary to Replace the Oil Filter Cartridge at Correspondingly Lower Mileages.	★
	CARBURETOR AIR CLEANER - Service Every 1,000 Miles. Where Dust Conditions Prevail, it May be Necessary to Service the Unit Daily, or More Often Under Severe Dust Conditions.  To Service the "Oil Bath" Type, Remove Cleaner, Wash Filter Element in Kerosene and Drain Thoroughly. Clean Oil Reservoir and Refill to Indicated Level. Use SAE 50 Engine Oil for above +32° F. and SAE 20 Engine Oil for below +32° F. Do Not Use an Oil Lighter than SAE 20.  To Service the "Oil Coated Filter" Type, Remove the Filter Element, Wash in Kerosene and Shake Out Until Dry. Resoil the Element Thoroughly With Fresh Clean Oil. Allow the Excess Oil to Drain Off, and Reinstall Element.	★
	ENGINE OIL LEVEL GAGE - Check Oil Level. Add or Change Oil as Required. Crankcase Capacity - 8 U. S. Quarts. Lowest Temp. Anticipated Oil Viscosity +32° F. SAE 30 +10° F. SAE 20 -10° F. SAE 10-10W or 10W	★

★	STEERING BELL CRANK SHAFT - 1 Fitting - Chassis Lubricant.
★	UPPER AND LOWER CONTROL ARM BUSHINGS - 4 Fittings each Arm - Chassis Lubricant.
★	FRONT WHEEL BEARINGS - Wheel Bearing Lubricant.
★	STEERING KNUCKLE - 1 Fitting - Chassis Lubricant.
★	TIE ROD BALL JOINTS - 2 Fittings - Chassis Lubricant.
★	TRANSMISSION - Conventional and Overdrive CHECK LEVEL DRAIN AND FLUSH LUBRICANT - High Grade Mineral Oil Gear Lubricant (Regular Type Gear Lubricant) of SAE No. 90 Viscosity or SAE No. 40 Engine Oil for Both Summer and Winter. Gear Lubricants Containing Any Extreme Pressure Ingredients, Such as Lead, Sulphur, or Chlorine Compounds Must Not Be Used.
★	UNIVERSAL JOINTS - 3 Fittings - Chassis Lubricant
★	REAR AXLE - CHECK LEVEL DRAIN AND FLUSH LUBRICANT - Use Studebaker Hypoid Lubricant or Any SAE No. 90 Hypoid Lubricant (Multi-Purpose Gear Lubricant) Manufactured by a Reputable Oil Company. Do Not at Any Time Mix Various Brands of Hypoid Lubricants.
★	REAR AXLE SHAFT BEARING - Wheel Bearing Lubricant
★	SPRING LEAVES - 2 Fittings - Graphite Spring Lubricant
1,000 Miles (1.609 Km.)	
5,000 Miles (8.046 Km.)	
10,000 Miles (16.090 Km.)	



	UPPER AND LOWER CONTROL ARM BUSHINGS - 4 Fittings each Arm - Chassis Lubricant	★
	FRONT WHEEL BEARINGS - Wheel Bearing Lubricant	★
	STEERING KNUCKLE - 1 Fitting - Chassis Lubricant	★
	TIE ROD BALL JOINTS - 2 Fittings - Chassis Lubricant	★
	GEARSHIFT RODS - Engine Oil	★
	CLUTCH OPERATING SHAFT BRACKET BEARING - Engine Oil	★
	CLUTCH AND BRAKE PEDALS - 1 Fitting - Chassis Lubricant	★
	CLUTCH PEDAL LINKAGE - 2 Clevis Pins - Engine Oil	★
	CLUTCH RELEASE SHAFT - 1 Fitting - Chassis Lubricant	★
	HILL HOLDER LINKAGE - Spray - Engine Oil	★
	PARKING BRAKE LINKAGE - Spray - Engine Oil	★
	PROPELLER SHAFT SPLINES - 1 Fitting - Chassis Lubricant	★
	REAR AXLE SHAFT BEARING - Wheel Bearing Lubricant	★
	SPRING LEAVES - 2 Fittings - Graphite Spring Lubricant	★
1,000 Miles (1.609 Km.)		
5,000 Miles (8.046 Km.)		
10,000 Miles (16.090 Km.)		

The Lubrication Points Established Are For Average Use and Should Be Changed to Suit Individual Operating Conditions



operating lever to the left and hold it in this position until the top header is approximately one foot above the windshield pilots; then release the lever.

3. Grasp the top locking handle firmly with the right hand and guide the top down over the windshield pilots while the left hand holds the top operating lever at its "Raise" position. When the header rests on the windshield, release the control lever. Lock the snap lock at the left of the locking handle on the header. Lock the top securely to the windshield by turning the top locking handle clockwise two or three complete turns. Test the lock by attempting to lift the top free of the pilots.
4. Snap the fasteners in place along the top side rails and side panels on both sides of the top. There are 6 of these fasteners on each side. Let the boot fold down into the top compartment or unsnap the boot from the rear seat back and place it in the boot bag provided.



### **Package Compartment Card**

You should refer to this card frequently. The erasable record will be found handy.

Its location on the back of the package compartment door provides a constant reminder.

Ask your service man to write, in the appropriate spaces, the mileage and date at which the different services are performed.

## LUBRICATION

### Periodic Inspections

It is well for reasons of economy and to forestall unexpected need of service to have your car inspected once a month or at 1000 mile (1609 km.) lubrication periods. An ideal time to have many of the parts or units inspected is while the car is on the lubrication hoist in the raised position.

### Lubrication and Related Operations

Proper lubrication is good assurance that your car will continue to perform with increasing satisfaction. Only high quality lubricants should be used on your car.

Your Studebaker dealer knows every lubrication requirement for your car. Take it to him for periodic lubrication. The recommendations given in the following paragraphs are, in many ways, the most important in the entire booklet. If a lubrication service must, of necessity, be performed by a non-Studebaker serviceman, be sure he understands the requirements mentioned in this section and on the chart on pages 24 and 25.

**UNIVERSAL JOINTS** Lubricate with light weight chassis lubricant at 1000 mile (1609 km.) intervals. Only a low pressure (hand) gun should be used to lubricate these bearings.

**TRANSMISSION LUBRICANT** The transmission should be filled to the level of the filler plug hole with S.A.E. 90 mineral oil gear lubricant or S.A.E. 40 engine oil, both summer and winter. On cars equipped with overdrive transmission the main case and the overdrive case should be filled separately. For transmission capacities see table on page 47.

**REAR AXLE LUBRICANT** Use Studebaker hypoid lubricant or any S.A.E. 90 hypoid lubricant (multi-purpose type gear lubricant) for summer and winter. *Do not mix various*



*brands of hypoid lubricants.* Use light engine oil for flushing. *Do not use kerosene.*

**REAR SPRING LUBRICANT** Rear springs should always be lubricated with a good quality graphite spring lubricant, specially compounded for this purpose.

**CRANKCASE OIL LEVEL** The oil in the crankcase is checked by withdrawing the oil level gage on the left side of the engine. The oil filler pipe cap contains a filtering element to clean the air of any impurities before it enters the crankcase. This filter is easily cleaned by removing the cap and immersing it in kerosene. Allow filter cap to dry thoroughly. Then dip cap in a good grade of engine oil so that filtering element is thoroughly oil coated. Drain off excess oil and replace cap. It's a good idea to have the oil level checked when purchasing gasoline.

Never allow oil level shown on oil level gage to fall below the ADD OIL mark. Do not overfill. See drawing page 15.

**ENGINE OIL FILTER** The Fram oil filter (on cars so equipped) assists in removing dirt and foreign matter from the oil and is provided with a replaceable filter element.

Under normal conditions the Fram Filter cartridge should be replaced after approximately every 5000 miles (8046 km.) of operation. Severe dust conditions may warrant replacing the cartridge at correspondingly lower mileages.

When it is necessary to replace the cartridge, care should be taken to see that a new cover gasket is installed and that the cover is securely tightened. The cover should also be checked occasionally to make sure that it remains tight.

**ENGINE OIL RENEWAL** Engine oil should be changed at the end of the first 500 miles (805 km.) and again after the first 1500 miles (2414 km.) of operation. After this period the oil should be changed regularly, the frequency



depending on the condition of the oil as affected by operating and atmospheric conditions.

**ENGINE OIL VISCOSITY** "Engine oil viscosity" is a term which indicates, broadly, the "body" of the oil to be used in your engine, although other scientific considerations enter into assigning viscosity numbers to oil.

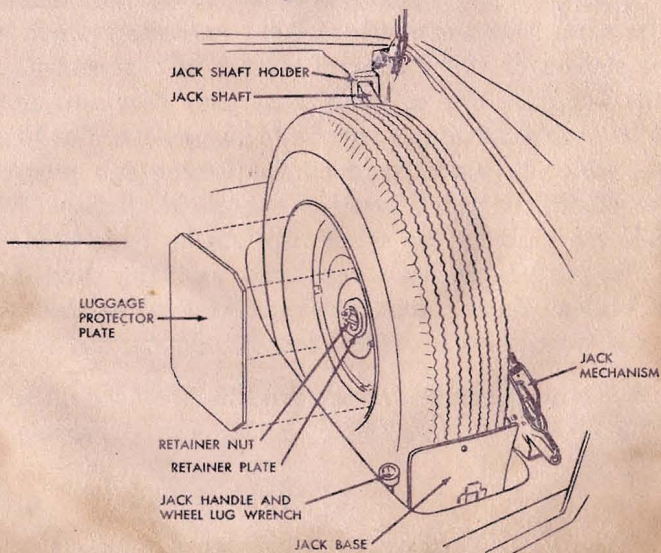
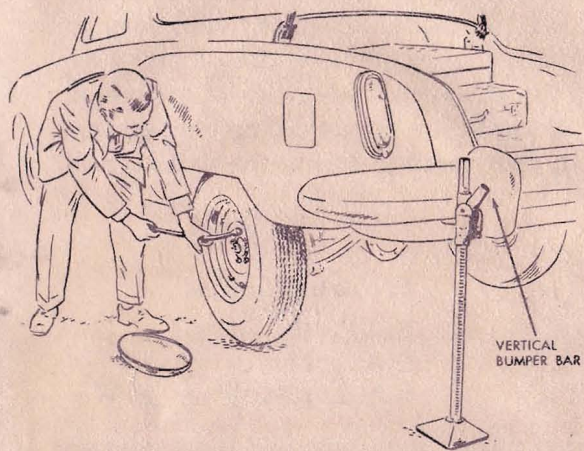
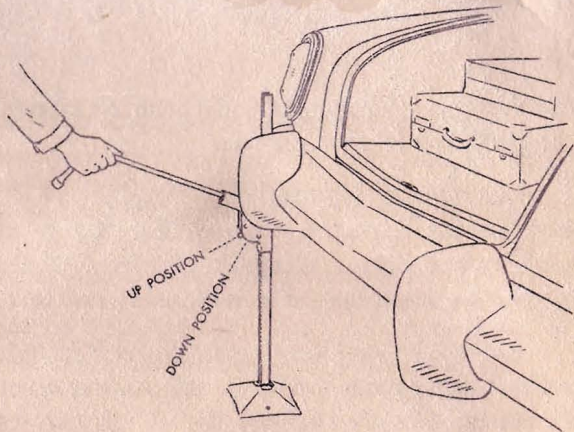
Generally speaking, you use a thin oil in winter because it flows more freely in cold temperatures than a thick oil. Since, as stated above, the oil in your car's crankcase, if of good quality, will be useful for many hundreds of miles, it is impractical to change oil more often than necessary. Therefore, we list below the viscosities of engine oil recommended for your car at lowest prevailing temperature generally expected in your locality during the various seasons of the year.

LOWEST TEMPERATURE ANTICIPATED	OIL RECOMMENDATION
+32° F. (0° C.)	S.A.E. 30
+10° F. (-12.2° C.)	S.A.E. 20
-10° F. (-23.3° C.)	S.A.E. 10-10W or 10 W

Most of the higher priced motor oils sold today contain chemical detergents which hold extremely small particles of carbon or other foreign matter in suspension. Many of the particles are so small that they flow through the oil filters with the oil and remain in suspension. For this reason, oil which is perfectly good for lubrication purposes may be discolored when seen on the oil level gage. With such oils the need for an oil change should be governed by the mileage the oil has been used and the dust conditions prevalent during that mileage. As long as the oil retains a "slick" quality and good body, it is generally satisfactory.

Under average driving conditions oil should be changed at 2500 to 3000 mile (4023 to 4828 km.) intervals.





## If you must change a tire . . .

1. Before using jack, set parking brake by depressing brake pedal and pulling outward on parking brake handle. On steep grades, it may be advisable to block the front or rear wheels as an extra precaution against rolling.
2. Open luggage compartment, remove luggage protector plate and unscrew single lug nut to free spare wheel and tire. Remove jack base, jack handle, spare wheel and tire, and bumper jack.
3. Place jack base so that jack lip will contact underside of bumper at outer edge of the vertical bumper bar on the flat tire side of the car. Also place base so that it will be about one inch inward from the outer edge of the bumper.
4. Put the jack mechanism lever in the UP position. Place lip of jack in contact with the underside of the bumper against the outer edge of the vertical bumper bar.
5. Use chisel end of jack handle to remove hub cover. Then place chisel end of jack in the jack mechanism and jack up the car. NOTE—If tire to be changed is on a front wheel, jack up only a few notches to be sure jack is secure, then start wheel lug nuts loose before continuing the jacking up process. On rear wheels, the parking brake will hold the wheel so that the nuts can be loosened after the car has been jacked up.
6. Raise car with jack until wheel is free of the road and can rotate full circle. This is important to be sure you have enough clearance to install spare.
7. On wheels on the left side of the car, the wheel lug nuts are left-hand threaded. To remove them, use the hexagonal wrench end of the jack handle and turn the nuts clockwise. On wheels on the right side of the car, the nuts are removed by turning them counterclockwise. Nuts are installed by turning them in the direction opposite to that used in removing them.
8. Lower jack by first placing jack mechanism lever in its DOWN position and work the jack with the handle in the same manner as when raising car.
9. Replace tools and spare in this order: Jack shaft and mechanism go into the holder provided at the right of the spare wheel well. Jack mechanism must fit snug against bulge of tire to prevent rattling. Next install the spare wheel and tire, being sure the hinged bolt comes through the wheel hub hole. Place retainer plate over bolt and screw on the retainer nut. Place luggage protector plate in wheel rim felloe. Wedge jack handle and jack base between tire and well. Put luggage compartment lid handle in closed position, *lock handle and remove key*, and close lid.



## MAINTENANCE AND CARE OF CAR

### Storage Battery

The storage battery is located under the hood on the left side. The carrier clamp bolt wing nuts should be kept finger tight but not so tight as to crack the battery case.



Place cap on safety-vent forming air lock in breather-chamber.



Fill well with distilled water. Air lock prevents solution rising above bottom of well.



Remove cap from safety-vent and solution drops to correct level. Replace cap in filler hole.

Have the following three items checked frequently:

1. Water level — maintain at the proper height with distilled water.
2. The specific gravity of the battery solution.
3. Battery connections — should be clean and tight.

**CHARGING PRECAUTIONS** It is advisable to observe the following precautions when charging a battery at home or elsewhere. During the charging and for a short time immediately thereafter, the chemical reaction in the battery gives off hydrogen gas in sufficient quantities as to be explosive. When working near a battery being charged, or just after it has been charged, it is important that no flame or spark have an opportunity to ignite the hydrogen gas. To prevent possibility of a static electricity spark's causing such an explosion with the battery in the car, it is well to ground the car electrically by means of a metal bar or chain running from the car's frame or bumper to the ground. When the charging or recently charged battery is out of the car, it should be placed where it will not be exposed to flame, spark, or static electricity.



## **Minimize Oil Dilution and Sludge**

The crankcase is provided with a cross ventilation system to reduce harmful dilution of the engine oil by water and fuel. Crankcase dilution is aggravated by low speed driving with frequent stops and starts because the engine does not warm up to the normal operating temperature. The driver can materially assist in preventing this condition by observing the following suggestions:

1. After starting, give the engine time to warm up before driving.
2. Keep the engine in good mechanical condition. See that the compression is good and that the ignition and carburetion systems are kept in peak condition.
3. Clean the crankcase at least once a year, preferably when winter oil is changed for summer weight oil.
4. Use the proper grade of a reputable engine oil.
5. Use a good grade of fresh gasoline.
6. Check thermostat operation.

Operating an engine at subnormal temperatures causes a much more rapid dilution of the crankcase oil than is experienced at normal temperatures.

## **Rust and Corrosion Inhibitor**

Because of the chemical reaction between metal and the lime or other minerals in water, one U.S. pint (.833 Imperial pt., 0.47 liters) of an approved inhibitor such as Studebaker Cooling System Rust Inhibitor or Resistor should be added to the cooling system of every new car and replenished as-needed throughout the life of the car. This will help protect the entire cooling system (radiator, cylinder block, cylinder head, and water pump) from any chemical cor-rosions, rust, or calcification within the radiator core which may restrict the passages. This does not, however, dispense with the need of flushing the cooling system seasonally,



spring and fall. Following each draining a pint of the inhibitor should be used unless it is included in the new coolant.

Many anti-freeze compounds do contain a rust inhibitor. Ask your dealer whether the anti-freeze you use during the winter is of this kind. If so, it will not be necessary to install a rust inhibitor in the cooling system while such an anti-freeze is in use.

## **Gasoline Economy**

The kind of gasoline you use in your new Studebaker is an important factor in performance, economy, and service.

It is important to purchase your gasoline from a dealer selling the product of a reputable refinery in sufficient volume to assure fresh, clean gasoline which hasn't accumulated moisture, dirt and tank settleings from lying dormant for relatively long periods.

**SPEED** Drive at a moderate and constant speed.

**IDLING** Shut off the engine while parked, even for a few minutes, such as waiting for long freight trains at railroad crossings. Idling, except to warm up a cold engine, is sheer waste.

**STOPPING** Come to a gradual stop whenever possible. This saves fuel, brake lining, and tires.

**ACCELERATING** If peak economy is to be obtained, acceleration must be gradual. Rapid acceleration wastes gasoline.

**TIRES** Keep your tires properly inflated.

**LUBRICATION** Keep both the engine and chassis well lubricated at all times. This reduces friction to a minimum.

**MECHANICAL CONDITION** Periodic "tuning" of the engine by your Studebaker dealer's service department will insure maximum mechanical efficiency necessary to good gasoline mileage.



## **Tire Inflation and Care**

Inflate and check tires to recommended pressures given on page 47 with the tires cold (at atmospheric temperatures), and not after a long run.

If your tires are checked immediately after a long run, do not permit the attendant to reduce the pressures by letting out air. Wait until the tires have had a chance to cool before checking pressures.

You can ensure more even wear of all tires by having your Studebaker dealer criss-cross them according to the latest factory recommendations at approximately 4000 mile (6437 km.) intervals. Have tires and wheels checked for need of balance after each criss-crossing.

## **Octane Selector**

The engine is equipped with an octane selector which permits the advance or retard of the ignition timing to give economy of fuel consumption and noiseless combustion relative to the type of gasoline used. The selector should be adjusted by your Studebaker dealer.

## **Carburetor Air Cleaner**

Two types of air cleaner are available for Studebaker cars. One is of the "oil wetted" type for cars operated a greater part of the time over pavement and roads which are comparatively free from dust. The other is known as the "oil bath" type and is available at extra cost as an accessory for cars operated where dust conditions are severe.

Dust particles, although microscopically small, are highly abrasive and tend to score and cut the smooth glass-like surfaces of working parts — increasing the rate of wear. The proper type of air cleaner installed on your car, properly maintained and serviced, will increase the

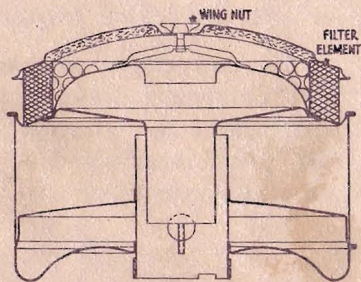


life of the engine, and aid in maintaining its normal efficiency.

Because local conditions alone determine the frequency of air cleaner service, it will be necessary to ask your dealer how often this should be performed.

#### TO SERVICE THE OIL WETTED AIR CLEANER:

1. Remove the filter element, clean with kerosene, and blow dry with compressed air.
2. When thoroughly dry submerge in a good grade of engine oil and allow excess oil to drain before reinstalling the element in the cleaner.

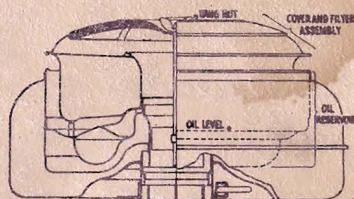


OIL WETTED AIR CLEANER

3. Replace filter element and wipe off all excess oil.

#### TO SERVICE THE OIL BATH AIR CLEANER:

1. Remove the filter element, clean in kerosene, and allow to dry thoroughly.
2. Clean the oil reservoir.
3. Pour one pint of new engine oil into the reservoir. S.A.E. 50 for above 32° F. (0° C.) and S.A.E. 20 for below 32° F. (0° C.) is recommended for this purpose. Do not use an oil lighter than S.A.E. 20 in the cleaner at any time.
4. Reassemble element and filter unit and install on car.

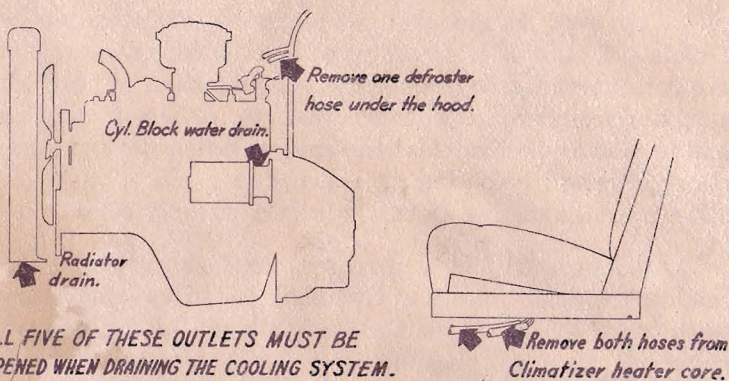


OIL BATH AIR CLEANER



## Draining the Cooling System

To drain the cooling system, drain the radiator, block, and, if car is so equipped, Climatizer and defroster.



## Anti-Freeze Solutions

Either the alcohol-base or ethylene-glycol base anti-freeze is recommended for use in your Studebaker. Be sure the brand you select contains a rust inhibitor. Do not use an anti-freeze preparation which contains salt, sugar, calcium chloride, soda, or petroleum base compounds.

Reputable anti-freeze companies supply their dealers with charts showing the amount of anti-freeze to use for protection to various anticipated temperatures, depending upon cooling system capacity. If your car is equipped with a Climatizer, add one U. S. quart (0.84 Imp. qt.; 0,95 liter) to the radiator capacity given on page 47.

## Care of Car Finish

The high luster, hard-baked enamel finish of your new Studebaker is best retained by an application of ap-



proved Studebaker Cleaner and Polish or Cleaner and Wax after each washing. The enamel, however, should not be subjected to an application of wax of any kind during the first 60 days so that sufficient time may be provided for the finish to become fully hardened.

Approved Studebaker appearance maintenance materials are available from your Studebaker dealer. These are recommended to remove the accumulation of road scum and dullness resulting from weather or road conditions and to restore the luster of the enamel finish. Do not become alarmed when polishing or waxing if a slight amount of color appears on the cloth. This is a natural condition.

Alcohol, anti-freeze mixtures containing alcohol, and calcium chloride or other chemical mixtures used to melt snow and ice or to settle dust should be flushed with water as soon as possible in order to avoid damage to the enamel finish and chromium parts.

## **Washing the Car**

When washing the car, first saturate all foreign substances on the finish with cold water. Then use a clean sponge and running water for the removal of dirt. Dry the body with a clean, damp chamois skin, using a straight horizontal or vertical motion, rather than a circular motion. It is important that a different sponge and chamois skin be used on the body from that used on the chassis.

Chromium and nickel plated finishes are of a perishable nature and will deteriorate if not properly cared for. These parts should be kept clean and free from dirt and foreign matter. For cleaning chromium plated parts use either clear water and a clean cloth or Studebaker Chromium Cleaner, available from Studebaker dealers. To protect the finish after the parts are cleaned, rub with a clean cloth that has been dampened with oil, or apply a coating of wax.



## Care of Cloth Upholstery

Clean upholstery means not only a better looking automobile but gives longer wear and affords greater comfort and enjoyment.

The use of a vacuum cleaner and a thorough brushing of the upholstery and headlining (with the nap or pile) will usually brighten the interior noticeably. Remove the cushions from the car and brush to remove foreign particles from the fabric.

Studebaker Fabric Cleaner (available through Studebaker dealers) is effective in removing all types of stains and does not harm the upholstery.

Seat and side upholstery can be washed safely with soap and water. Use lukewarm water and a neutral soap. The suds should be good and frothy, not watery. Apply in moderate quantities with a damp cloth, sponge, or soft brush. Remove soap suds with a clean, damp cloth or sponge, then wipe the surface several times with a dry cloth. While the material is still damp, brush it lightly with a whisk broom or brush of medium stiffness. Permit air to circulate freely over the wet upholstery. When dry, brush again to loosen any minute matting. When brushing, always brush fabric with the lay of the pile or nap.

## Cleaning Leather Upholstery

Leather upholstery may be cleaned with a soft sponge and saddle soap. Make a light suds with lukewarm water and saddle soap. This type of soap is especially suitable for cleaning leather and leaves the surface soft and pliable.

Rinse the sponge occasionally in clean water. After completing the cleaning operation, use a clean, soft cloth to polish the surface of the leather.



## Cleaning Rubber Parts

Studebaker Chromium Cleaner (powder type AC-1464) is recommended for cleaning white sidewall tires. Studebaker Black Rubber Finish is recommended for black tires and all black rubber parts.

## Care of the Convertible Fabric Top

Studebaker convertible models are equipped with a two-ply top. The face of the material is made of cotton and rayon rubberized to a cotton back, producing a water-proof material.

Traffic grime and most other soiling may be removed by washing the top with a sudsy mixture of mild soap and warm water. Strong solvents, naphtha, or carbon tetrachloride are not recommended for cleaning this fabric. Some spots can be removed with art gum rubber and suede brush.

Mud splashings can be washed or doused off with cool water.

The life of the top can be materially lengthened if care is taken *to lower the top only when it is dry.*

*Never operate the top when the car is in motion.*





## SERVICE AND ADJUSTMENTS

### Engine Tune-Up

Occasionally your serviceman will recommend an engine tune-up. The frequency of tune-ups depends almost entirely on the amount of driving and the type of driving you do. When you purchase a tune-up, we recommend that you request at least the following operations:

1. Check the manifold heater valve for free operation.
2. Clean and adjust spark plugs; install with new gaskets.
3. Clean carburetor air cleaner.
4. Clean fuel pump bowl and strainer; install with new gasket.
5. Clean inside of distributor cover, cable terminals, and sockets.
6. Tighten cylinder head cap screws to recommended tension.
7. Adjust fan belt.
8. Remove and clean carburetor choke thermostatic control. Replace with new gasket and adjust, if necessary.
9. Check and set ignition timing.
10. Adjust carburetor idle screw with engine at normal operating temperatures.
11. Adjust idle stop screw to produce engine speed corresponding with 8 miles (13 km.) per hour road speed in high gear.



## Adjustments and Other Service

**CARBURETOR ADJUSTMENT FOR HIGH ALTITUDE** The carburetor is carefully calibrated to provide efficient operation. Studebaker dealers are acquainted with the adjustments which are needed for high altitude operation.

**BRAKE ADJUSTMENT** The self-adjusting brakes on your car are self-compensating for lining wear and require no adjustment. They are properly set at the factory.

With each application of the brakes, however, the linings wear and, after a time, new linings should be installed to provide the maximum braking area and to avoid damage to the brake drums. When the lining needs replacement, the self-adjusting feature ceases to operate. When this occurs, the brake pedal free travel will increase and the driver is warned that the brakes need relining. If your brakes do not operate satisfactorily, see your Studebaker dealer.

**CLUTCH PEDAL TRAVEL ADJUSTMENT** Clutch pedal free travel is the distance the pedal moves forward before resistance of the release mechanism is felt. When the free travel is greater than one inch (25,4 mm.) or less than one-half inch (12,7 mm.) adjustment should be made by your Studebaker dealer.

**THE HILL HOLDER** (on cars so equipped) should be checked and adjusted if necessary whenever the clutch pedal travel is adjusted.

**FAN BELT ADJUSTMENT** To insure efficient fan, water pump and generator operation, it is important that the fan belt is not over-tightened. Any readjustment should be performed by a Studebaker dealer.

**FRONT WHEEL CAMBER ADJUSTMENT** Camber adjustment is properly set at the factory  $\frac{1}{2}^{\circ}$  greater on the driver's side of the car than on the other side. Should a front end alignment check reveal need of camber readjust-



it should be set as nearly to  $\frac{3}{4}^{\circ}$  on driver's side and on the other side as possible. In any setting, the driver's side camber should be  $\frac{1}{2}^{\circ}$  more than the other side.

**BODY DRAIN HOLES** All drain holes should be kept open to prevent accumulation of water.

The door drain holes are easily cleared with a pen-knife or other flat instrument which can be inserted in the holes and run back and forth a few times to loosen any congestion.

Body drain holes should be cleared by the serviceman.

See page 44 for minimum seasonal service recommendations.





## MINIMUM SEASONAL SERVICES

Whether you live—and do most of your driving—in the North or in the South, your car will operate during the spring and summer months under totally different conditions from which it did in the fall and winter.

Because of this it is important that careful seasonal conditioning be given your car in the spring, after the colder, slower driving of winter, and again in autumn to prepare for the lower temperatures after six months of faster, hotter driving. Below are the minimum number of items which we recommend be checked each spring and fall.

### FALL

*Cooling System:* Drain and reverse flush cooling and heating systems. Check entire system for leaks. Refill radiator with correct *anti-freeze* solution, including Rust Inhibitor if not contained.

*Crankcase:* Drain and refill crankcase with good oil of correct grade. Change filter cartridge if not recently changed.

*Brakes:* Check for need of service.

*Steering:* Check wheel alignment (camber, toe-in, king pin inclination). Inspect all steering connections.

*Generator:* Check generator output.

*Battery:* Test specific gravity of battery. Check water level. Clean, tighten, and coat terminals with petroleum jelly.

*Cylinder Head:* Tighten cylinder head bolts with tension wrench.

*Lubrication:* Lubricate chassis (unless performed in last 1000 miles) including any periodic lubrication requirements due.

*Fuel System:* Clean fuel pump bowl and reset carburetor adjustment if necessary.

*Starter:* Check efficiency for proper current draw from battery.

### SPRING

*Cooling System:* Drain and reverse flush. Check thermostat. Check condition of radiator hose and fan belt. Refill cooling system and install Rust Inhibitor.

*Crankcase:* Clean inside of engine crankcase. Clean Floto screen. Change engine oil. Install new filter cartridge if not recently changed.

*Brakes:* Check brakes for need of service.

*Steering:* Check wheel alignment (camber, toe-in, king pin inclination). Inspect all steering connections.

*Generator:* Check generator output.

*Battery:* Test specific gravity of battery. Check water level. Clean, tighten, and coat terminals with petroleum jelly.

*Cylinder Head:* Tighten cylinder head bolts with tension wrench.

*Lubrication:* Lubricate chassis (unless performed in last 1000 miles) including any periodic lubrication requirements due.

*Fuel System:* Clean fuel pump bowl and reset carburetor adjustment if necessary.

*Starter:* Check efficiency for proper current draw from battery.

INSPECT CAR FOR ADDITIONAL SERVICES REQUIRED TO IMPROVE PERFORMANCE AND APPEARANCE

*The above Spring and Fall seasonal service requirements will vary with the climatic zones in which your car is being operated.*



## TECHNICAL REFERENCE DATA

If emergency adjustments or repairs must be made at shops other than authorized Studebaker dealerships, ask the repairman to refer to this section of your Owner's Guide to be sure that he understands the several "special-to-Studebaker" measurements and other service data given below.

### IGNITION

Breaker point gap..... .022" (0,559 mm.)  
(Check every 10,000 miles [16,090 km.] )

Breaker arm tension..... 17 to 21 oz. (481,95 to 595,34 grams)

Spark plug gap..... .022" to .027" (0,559 to 0,686 mm.)  
(Champion No. J-7, 14 mm.)

Check after 5000 miles (8046 km.); replace after 10,000 miles (16,090 km.)

Firing order..... 1-5-3-6-2-4  
(No. 1 is the front cylinder).

### VALVES

Tappet clearance (engine cold)..... .016" (0,406 mm.)  
Intake and Exhaust

Angle of valve seat..... 45°

### ENGINE OIL PRESSURE

40 miles (64 km) per hour..... 20 to 40 lbs. (1,4 kgs. to 2,8 kgs.)  
reading on oil gage

Pressure at which relief valve opens..... 40 lbs. (2,8 kgs.)

### SHOCK ABSORBER

Do not adjust over 1/32" (0,79 mm.) at a time

### CIRCUIT BREAKERS AND FUSES

	AMPERES
Circuit Breaker—Head, Parking, Tail, and Instrument Lights.....	30
Circuit Breaker—Convertible Top Motor.....	30
Circuit Breaker—Body and Stop Lights.....	20
Circuit Breaker—Climatizer and Defroster.....	20
Overdrive.....	20
Fog Lights.....	20
Radio.....	14
Electric Directional Signal.....	14
Underhood Light.....	5
Electric Clock.....	3



## BATTERY

Voltage.....	6
Specific Gravity.....	1.280-1.300 fully charged
Willard Number.....	HW-1-100

*Do not overfill. Check water level frequently*

## BRAKES (HYDRAULIC)

Pedal free travel.....	1/8" to 1/4" (3,16 to 6,35 mm.)
------------------------	---------------------------------

*(Before the master cylinder piston starts to move)*

## CLUTCH

Pedal free travel.....	1/2" to 1" (12,7 to 25,4 mm.)
------------------------	-------------------------------

## LAMP BULB SPECIFICATIONS

LOCATION	VOLTAGE AND NUMBER	CANDLE POWER
Headlight	6-8 Sealed Beam No. 4030	
<i>(For Right Hand Drive Use 45-20 Watt Metal Back Sealed Unit)</i>		
Parking	6-8 Mazda No. 63	3
(With Directional Signals)	6-8 Mazda No. 1158	3-21
Tail } Stop }	6-8 Mazda No. 1158	3 21
Instruments } Trunk }	6-8 Mazda No. 55	1-1/2
Dome	6-8 Mazda No. 88L	15
License Plate	6-8 Mazda No. 63	3
Tell-Tale Headlight Beam	6-8 Mazda No. 51	1/2
Directional Signal { Front Rear Tell-Tale	6-8 Mazda No. 1158 6-8 Mazda No. 1129 6-8 Mazda No. 55	21-3 21 1-1/2
Map	6-8 Mazda No. 88L	15
Package Compartment	6-8 Mazda No. 55	1-1/2
Underhood	6-8 Mazda No. 87	15
Fog Lamp	6-8 Mazda No. 4015 clear glass	
Radio	6-8 Mazda No. 44	
Clock	6-8 Mazda No. 55	1-1/2
Cigar Lighter	6-8 Mazda No. 51	1/2
Ash Tray	6-8 Mazda No. 51	1/2

## STEERING

Toe-In.....	1/16" to 1/8" (1,58 mm. to 3,16 mm.)
Caster.....	-1-1/2° to -2-1/2° No Load
Camber.....	0° to +1° No Load

*(See page 42 for camber adjustment)*

King Pin Inclination.....	5-1/4°
---------------------------	--------



## TIRE PRESSURES

7.60 x 15..... (24 lbs. (1,68 kgs) front  
 (20 lbs. (1,41 kgs) rear

*Above pressures are with tires cool (local temperatures)*

## CAPACITIES

	U. S.	IMPERIAL	LITERS
Engine (Crankcase)	6 quarts	5.00 quarts	5,68
Cooling System	13-1/2 quarts	11.25 quarts	12,75
with Climatizer	15 quarts	12.60 quarts	14,10
Transmission—			
Conventional	2.4 pints	2.00 pints	1,14
Transmission—			
Overdrive	3 pints	2.50 pints	1,42
Rear Axle	3 pints	2.50 pints	1,42
Gasoline Tank	18 gallons	15.00 gallons	68,00

## LICENSE DATA

Model Number..... 17A  
 Number of Cylinders..... 6  
 Cylinder Bore..... 3-5/16" (84,14 mm.)  
 Stroke..... 4-3/4" (110,65 mm.)  
 Piston Displacement..... 245.6 cu. in. (4025 cc.)  
 Horsepower (NACC or RAC Rating)..... 26.33  
 Weight—See your dealer. Weight varies by body style and special  
 equipment. Your car's registerable weight is **3490** pounds.

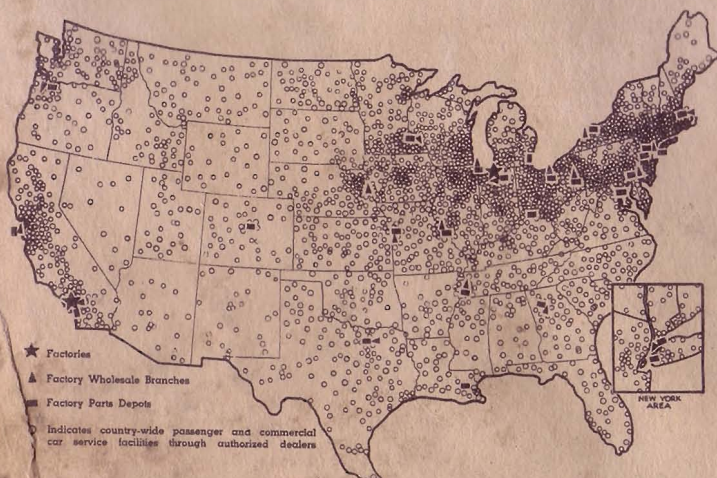


## INDEX

Air Cleaner.....	35	License data.....	47
Ammeter.....	7	License plate light.....	11
Anti-freeze.....	37	Lights, control.....	11
Ash Receiver.....	12	Locks and keys.....	8
Battery.....	32	Lubrication, chart.....	24
Body, drain holes.....	43	related operations.....	27
Body Number.....	5	Luggage compartment, light.....	12
Brakes, adjustment.....	42	Lock and lid.....	13
Brakes, controls.....	14	Maintenance and care of car.....	32
Capacities, table of.....	47	Map light.....	11
Carbon monoxide.....	16	Model number.....	47
Carburetor, adjustment.....	42	Octane selector.....	35
speed control.....	15	Oil, dilution and sludge.....	33
Care of the car.....	32	filter service.....	28
Changing tires.....	30	level.....	28
Circuit breakers.....	45	pressure gage.....	8
Climatizer and defroster.....	20	renewal.....	28
Clutch pedal.....	13	viscosities.....	29
travel adjustment.....	42	Operating the car.....	16
Convertible top, care.....	40	Overdrive, operation.....	18
operation.....	22	Package compartment.....	12
Cooling system, draining.....	37	card.....	26
Dealer Service Policy.....	3	Paint, ordering by symbol.....	
Defroster operation.....	22	Parking brake operation.....	
Dome light.....	11	Parking lights.....	11
Engine, oil.....		Push or tow starting.....	17
recommendations.....	28	Rear axle lubricant.....	27
Run-in period.....	15	Run-in period.....	15
Reference data.....	45	Rust and corrosion inhibitor.....	33
Starting.....	16	Seasonal services.....	44
Fan belt, adjustment.....	42	Seat adjustment.....	12
Fuel economy.....	34	Serial number.....	5
Fuses.....	45	Service and adjustments.....	41
Gasoline gage.....	8	Service policy.....	3
Gearshift, steering post.....	13	Shifting gears.....	17
operation.....	17	Spring lubricant, rear.....	27
Governor.....	15	Starter switch.....	7
Headlights, beam control.....		Starting the engine.....	16
operation.....	11	Steering data.....	46
Heat Indicator.....	7	Stop lights.....	11
Hill-Holder.....	20	Tail lights.....	11
Hood lock.....	10	Technical reference data.....	41
Horsepower.....	47	Tires, care and service.....	35
Ignition, data.....	45	changing.....	30
switch operation.....	7	Transmission lubricant.....	27
Inflation pressures, tires.....	47	Tune-up.....	41
Inspection.....	27	Universal joints, lubrication.....	27
Instrument lights.....	11	Upholstery, care of.....	39
Instruments and controls.....	7	Warming up engine.....	16
Jack, use of.....	30	Warranties.....	4
Keys, numbers.....	5	Washer, windshield.....	14
locks.....	8	Windshield wiper.....	14
Lamp bulbs, specifications.....	43	Word to the owner.....	2



## REGIONAL OFFICES and PARTS DEPOTS

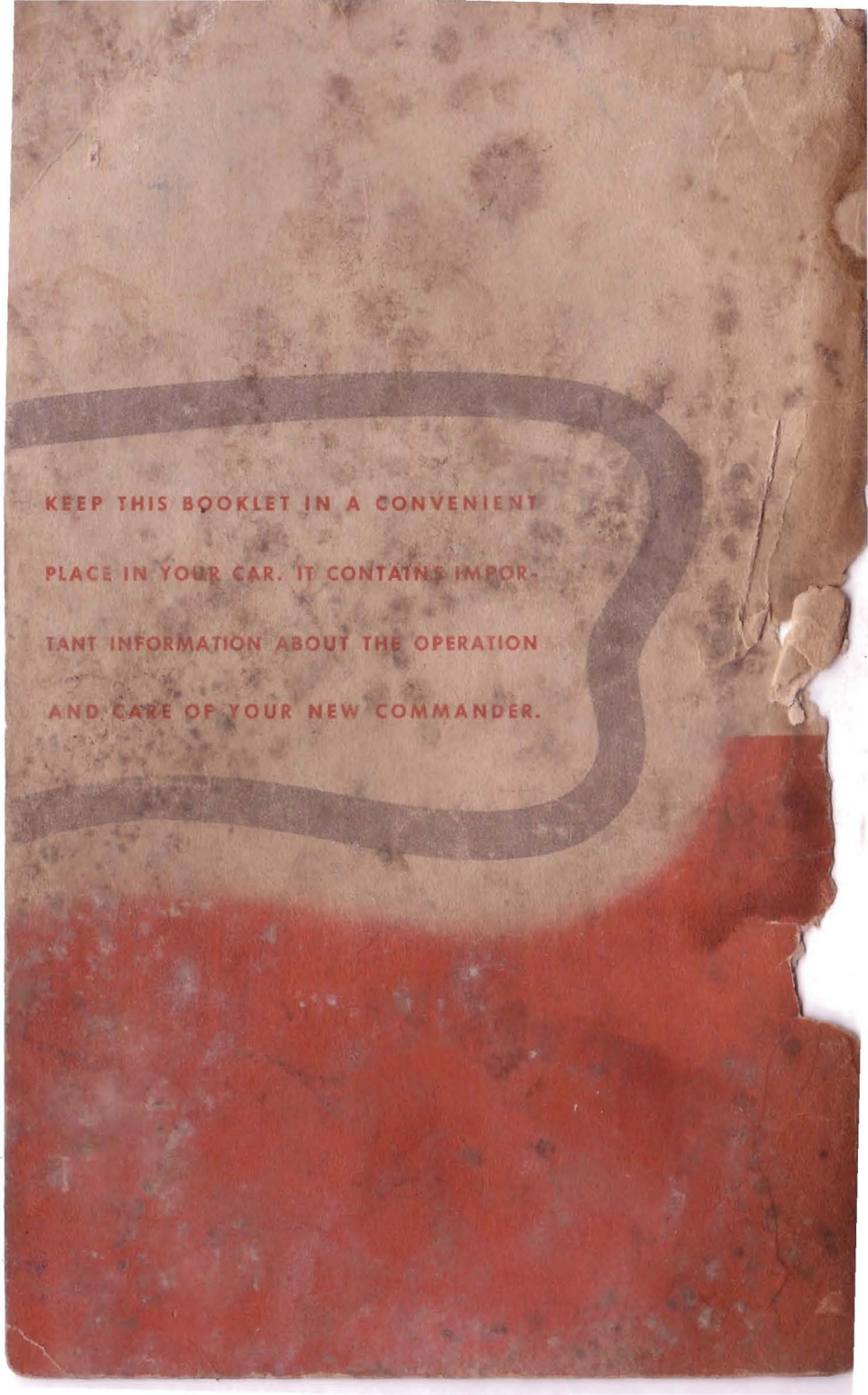


*Studebaker maintains wholesale branches and parts depots throughout the country. Parts depots are situated for delivery of parts to any dealer within 24 hours after receipt of an order.*

### THE ADDRESSES OF OUR BRANCHES AND PARTS DEPOTS ARE:

CITY	BRANCH ADDRESS	PARTS DEPOT ADDRESS
Atlanta, Ga.	910 Rhodes-Haverty Bldg.	3557 E. Ponce de Leon
Boston, Mass.	933-935 Park Square Bldg.	15 Leon St.
Brooklyn, N. Y.		4 Church Ave.
Buffalo, N. Y.	1406 Liberty Bank Bldg.	128 Perry St.
Chicago, Ill.	1206 Field Bldg.	4640 W. 54th St.
Cincinnati, Ohio	711 Union Trust Bldg.	Rossmoyne, Ohio
Cleveland, Ohio	902 Union Commerce Bldg.	10630 Berea Rd.
Dallas, Texas	1924 Cedar Springs	3720 LaFrance St.
Denver, Colo.		2762 Walnut St.
Detroit, Mich.		17385 Ryan St.
Kansas City, Mo.	2706 Power & Light Bldg.	111 E. 10th St., No. K. C.
Memphis, Tenn.	2012-2016 Sterick Bldg.	296-298 Monroe Ave.
Minneapolis, Minn.	Foshay Tower	411 W. 78th St.
Newark N. J.		1020 Broad St.
New Orleans, La.		1644 Religious St.
New York, N. Y.	1751 Broadway	Yonkers, N. Y.
Omaha, Neb.	1401-1410 1st Natl. Bank Bldg.	
Philadelphia, Pa.	401 No. Broad St.	401 No. Broad St.
Pittsburgh, Pa.	Continental Commercial Bldg.	1816 Locust St.
St. Louis, Mo.	1229-1232 Syndicate Trust Bldg.	3508 Lindell Blvd.
South Bend, Ind.	635 S. Main St.	West Eckman St.
Los Angeles, Calif.	4530 Loma Vista Ave.	4707 District Blvd.
Portland, Ore.	2355 N. W. Quimby St.	2355 N. W. Quimby St
San Francisco, Calif.	701 Bryant St.	701 Bryant St.
Washington, D. C.		1461 Okie St., N. E.





KEEP THIS BOOKLET IN A CONVENIENT  
PLACE IN YOUR CAR. IT CONTAINS IMPOR-  
TANT INFORMATION ABOUT THE OPERATION  
AND CARE OF YOUR NEW COMMANDER.