

1932 Book #9

**INSTRUCTIONS**  
**FOR THE**  
**CARE AND OPERATION**  
*of*  
**PONTIAC**  
**Motor Cars**



**Oakland Motor Car Company**  
**Pontiac, Michigan**

## SPECIFICATIONS AND LICENSE DATA

	PONTIAC 8	PONTIAC 6
Type of Engine.....	90° V-8	6 cylinder L head
Cylinder Bore.....	3 <sup>7</sup> / <sub>16</sub> inches	3 <sup>5</sup> / <sub>16</sub> inches
Cylinder Stroke.....	3 <sup>3</sup> / <sub>8</sub> inches	3 <sup>7</sup> / <sub>8</sub> inches
Piston Displacement.....	251 cubic inches	200 cubic inches
N.A.C.C. Horse Power Rating..	37.8	26.33

## SHIPPING WEIGHTS

	PONTIAC 8	PONTIAC 6
Convertible Coupe.....	.....	.....
Standard Coupe.....	.....	.....
Sport Coupe.....	.....	.....
Sedan (2-Door).....	.....	.....
Standard Sedan (4-Door).....	.....	.....
Custom Sedan (4-Door).....	.....	.....

## CAPACITY CHART

	PONTIAC 8	PONTIAC 6
Engine Oil.....	7 Quarts	6 Quarts
Transmission Oil.....	4 Pints	4 Pints
Rear Axle Oil.....	3 Pints	3 Pints
Cooling System.....	25 Quarts	14 Quarts
Gasoline Tank.....	20 Gallons	15 Gallons
Free Wheeling Case.....	1/2 Pint	1/2 Pint

INSTRUCTIONS  
FOR THE  
CARE AND OPERATION  
OF  
**PONTIAC**  
Motor Cars



FIRST EDITION



OAKLAND MOTOR CAR COMPANY

Division of General Motors Corporation  
PONTIAC, MICHIGAN

At the time of delivery of a new car, the Dealer will present the Owner with the Pontiac Owner's Service Policy and an Identification Card. He will at that time explain in detail the Pontiac Owner's Service Policy. Every Owner should make certain that he receives his copy of this policy and the Identification Card. It is of utmost importance that the Owner familiarize himself thoroughly with the Pontiac Owner's Service Policy.

Every Owner should read and thoroughly understand the "Manufacturer's Warranty."

### Manufacturer's Warranty

It is expressly agreed that there are no warranties, expressed or implied made by the Dealer or the Manufacturer on the Pontiac motor vehicles, chassis or parts furnished hereunder except as follows:

This is to certify that we, Oakland Motor Car Company, Pontiac, Michigan, U. S. A.

WARRANT each new passenger automobile manufactured 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 our factory any part or parts thereof, including all equipment or trade accessories (except tires) supplied by the Car Manufacturer, which shall, within ninety (90) days after making delivery of such vehicle to the original purchaser or before such vehicle has been driven 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 expressed 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 liability in connection with the sale of our vehicles.

This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an Authorized Oakland Motor Car Company Service Station in any way so as, in the judgment of the Manufacturer to affect its stability, or reliability, nor which has been subject to misuse, negligence or accident.

IN WITNESS WHEREOF we have caused this Warranty to be signed by our duly authorized officers.

OAKLAND MOTOR CAR COMPANY,  
Pontiac, Mich.

The Dealer agrees to install any part or parts furnished under the Manufacturer's Warranty above without charge to the owner of such motor vehicle.

This warranty does not apply to used cars.

## PRECAUTION NECESSARY FIRST 2000 MILES

The most critical period in the life of the motor is the first 2000 miles of operation. Permanent injury may be done through failure to observe the simple but fundamental rules concerning the working of all new machinery.

When a new Pontiac car is delivered, the bearings in transmission, axles, and universal joint, as well as the pistons in the engine are "tight," and it is expected that the first 2000 miles of operation will result in these bearings assuming a high glass-like polish.

To insure running in of all bearings and other working parts do not exceed 35 miles per hour until 200 miles has been completed at that speed, after which the speed should be increased as follows:

- Up to 400 miles, not to exceed 40 miles per hour.
- Up to 600 miles, not to exceed 45 miles per hour.
- Up to 800 miles, not to exceed 50 miles per hour.
- Up to 1000 miles, not to exceed 55 miles per hour.

The speed should not be increased the next 5 miles per hour interval until a full 200 miles have been driven at the previous recommended speed. For example do not drive 50 miles per hour until the car has been driven 200 miles at 45 miles per hour. After 1000 miles the car may be driven at somewhat higher speeds for very short distances, providing that in each instance the engine has been thoroughly warmed up by driving at slower speeds for a period of not less than 15 minutes. **SUSTAINED HIGH SPEEDS SHOULD NOT BE ATTEMPTED DURING THE FIRST 2000 MILES, AND AFTER THIS MILEAGE ONLY AFTER THE ENGINE IS WARMED UP.**

Continuing to drive a new car at a speed of 35 miles per hour or less after the 200 mile period does not break in the engine for high speed driving. Consequently nothing is gained by extending the 35 mile driving speed beyond 200 miles. Best results will be obtained after the first 200 miles by driving as much as possible near the upper maximum speed. For example between 200 and 400 miles drive as much as possible between 35 and 40 miles per hour but never over 40 miles per hour. Between 400 and 600 miles drive as much as possible between 40 and 45 miles per hour. The procedure outlined above should be followed until the car is brought up to the maximum speed at which it is to be driven.

## WARRANTY PERIOD INSPECTION AND ADJUSTMENT POLICY

The Dealer from whom the car was purchased will give the owner, without charge, two inspections and adjustments. The first to take place at the end of the first 500 miles of operation, and the second at the end of 1500 miles, providing this mileage is attained before the expiration of the 90-day period. In case this mileage is not attained during the 90-day period, the second inspection and adjustment will be given at or just before the expiration of the 90-day period. These inspections and adjustments will be given gratis only by the dealer who sells the owner the car. The items of gratis inspection and adjustment are:

### 500-Mile Inspection and Adjustment

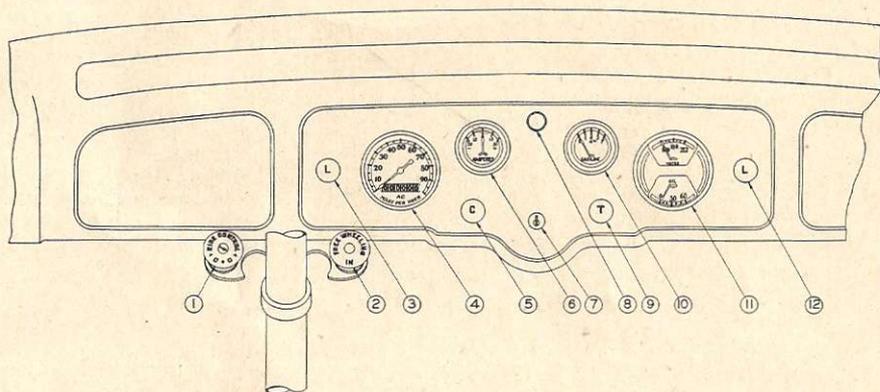
1. Road test car
2. Check and reset distributor points
3. Check and adjust the timing
4. Adjust tappets
5. Adjust carburetor
6. Check and adjust spark plug gaps
7. Examine oil in engine and adjust oil pressure
8. Check and adjust brakes
9. Test and fill battery
10. Check oil in transmission and rear axle  
—fill to proper level

### 1500-Mile Inspection and Adjustment

1. Road test car
2. Check and align front wheels
3. Check and adjust timing
4. Check and reset distributor points
5. Adjust tappets
6. Adjust carburetor
7. Check and adjust fan belt tension
8. Check and adjust brakes
9. Give general tightening
10. Check all light bulbs and replace where necessary
11. Check water in radiator and fill
12. Check and adjust steering
13. Check tire inflation and inflate
14. Test and fill battery
15. Examine oil in engine
16. Check oil in transmission and rear axle  
—fill to proper level

The oil required to change oil in the engine together with complete lubrication of chassis and body, are maintenance operations which should be performed at this time.

These will be charged for at dealer's regular Flat Rate Prices.



### INSTRUMENT PANEL

- (1) Ride Control. (2) Free Wheeling Control. (3) Lighting Switch. (4) Speedometer.  
 (5) Choke Control. (6) Ammeter. (7) Ignition Lock. (8) Instrument Lamp.  
 (9) Throttle Control. (10) Gasoline Gauge. (11) Oil Pressure Gauge  
 and Thermogauge. (12) Instrument Lamp Switch.

## CONTROLS, INSTRUMENTS AND EQUIPMENT

One of the first things the driver of a new Pontiac should do is to familiarize himself with the instruments and controls used in the handling of the car. Since a new car may vary in some more or less important detail of operation from any the owner may have driven, it is desirable that the experienced motorist, as well as the new driver, should read this chapter.

### Locks

Locks and keys are provided for the right front door and rear deck on coupes. To lock the car when parking it is necessary to lock the left front and both rear doors by pushing up on the inside door handles and then lock the right front door with the key from the outside. As a protection while operating the car, all doors can be locked from the inside by pushing up on the inside door handle.

The ignition switch is provided with a key lock built into the ignition coil in such a way that it is impossible to short circuit the switch without short circuiting the coil also. The same key fits the ignition lock and right front door.

The lock numbers are stamped on each key, but not on the face of the lock. The owner should make a record of the key numbers as soon as he takes delivery of his car, so that in the event of the keys being lost, duplicate keys can easily be obtained from a Pontiac Dealer. Space is provided in the back of this book for recording key numbers.

### Choke and Throttle Control

When starting a cold engine the choke and throttle controls should be pulled all the way out. After the motor starts the throttle should be regulated so that the motor is kept turning at a fast idling speed but should not be permitted to "race". The choke should be left pulled out until the motor begins to "roll" due to excessively rich mixture at which time it should be pushed in to some midway point which gives good performance without "spitting" or backfiring. After the motor is warmed up the choke and throttle may be pushed completely in. Do not pump the choke control, as this not only retards the warming up of the engine but also causes crankcase dilution.

**The throttle should be opened when starting a warm motor but it is not necessary to use the choke.**

### Brakes

There are two separate brake controls on a Pontiac car. Foot brakes, controlled by the right foot pedal, operate on all four wheels and should be used for all ordinary driving. The hand brakes, operated by the lever to the right of the gear shift handle, work on all four wheels independently of the brake pedal. This provides a parking or emergency brake of double the power and safety ordinarily used.

At the end of the first 500 miles and thereafter whenever it is necessary, the brakes should be adjusted at a Pontiac Service Station. Due to the vital importance of proper brake operation and the necessity for experience in making brake adjustments, it is most strongly recommended that these be attempted only by competent Pontiac mechanics.

The lining used in the Pontiac internal expanding brakes is a low friction lining constructed of asbestos, molded to fit the brake bands, and containing special protective ingredients. Because of the very powerful self-energizing feature of the brake construction, very severe action of the brakes would result were a high friction lining, such as common woven lining, used. Therefore, do not be persuaded to use any other than the genuine Pontiac brake band and lining. **It is imperative that no other brake band and lining be used.**

### Lighting Switches

The headlights, parking lights, and tail lights are operated by the button "L" to the left of the center of instrument panel. When this button is pushed all the way into the panel the lights are off. The indicator lights and tail lamp are turned on by pulling the button half way out. Pulling the button all the way out turns the head and tail lights on.

The foot switch on the extreme left of the toe board acts as a control switch, throwing the head light beam up or down. Pressing down on the foot button switches the lights up or down, or vice versa. It is not necessary to hold the button down for either position, as the switch snaps from one position to the other alternately each time the button is depressed.

The instrument lamp switch is the button marked "L" to the right of center. When the instrument lamp switch is pulled partially out the lighting is direct. When the switch is pulled completely out the instruments are lighted indirectly.

### Oil Pressure Gauge

The oil pressure gauge on the dash shows the pressure under which the oil is being forced to the engine bearings. It does not show the quantity of oil in the engine.

Oil pressure should be adjusted with the motor warm. At a car speed of 20-25 miles per hour, the gauge should show 20-25 pounds pressure. After the first 500 miles the oil pressure regulator should be readjusted at a Pontiac Service Station.

Should the gauge show no pressure or a very sudden drop when the engine is running, the engine should be stopped immediately and the cause determined. Great damage may be done to an engine in a very short time if it is run without oil pressure.

### **Ammeter**

The ammeter registers the flow of current into or out of the battery, except that taken by the starter. With all lights off, the ammeter should show charge at all car speeds above ten miles per hour when not in free wheeling position. A discharge reading while the engine is stopped and the lights off indicates a short circuit which should be located and remedied.

If the ammeter shows zero or discharge with the lights off when the car is traveling at ten miles per hour or more and is not free wheeling, the engine should be stopped and the generator and wiring inspected, as serious damage may be done to the generator otherwise.

### **Fuel Gauge**

The electric fuel gauge registers the number of gallons of fuel in the supply tank at the rear of the car when the ignition is turned on.

### **Caution**

The exhaust fumes from a gasoline engine contain carbon monoxide, a deadly poisonous gas. As this gas is both colorless and odorless, its presence cannot be noticed. Therefore, never run the motor in a closed garage as you may be overcome by the gas. **OPEN THE GARAGE DOORS AND CAR WINDOWS BEFORE STARTING THE MOTOR.**

### **Ride Control**

In order to assure comfortable riding over all types of roads the Pontiac cars are equipped with "Ride Control" which enables the driver to adjust the shock absorbers to meet the road conditions over which the car is being driven.

If the car is riding over smooth roads at moderate speeds the Ride Control should be set at "O" (open valve) position. If the car is driven over rough roads or at high speed the Control should be set at "C" (closed valve) position. On rough roads at very low speeds the Control should be set at the "O" (open valve) position.

Each driver should check to find the position which suits his particular type of driving. In general this will be found somewhere in the middle range, varying according to the load in the back seat.

### **Free Wheeling**

The Pontiac Free Wheeling unit is an over running clutch by means of which it is possible to permit the car to coast without being retarded by the compression of the motor. This device also enables the driver to shift into low, intermediate or high gears without using the clutch providing the car is moving faster than the motor is turning over.

The Free Wheeling unit may be locked in or out by the control on the instrument board.

When the Free Wheeling control is pulled out the Free Wheeling unit is inoperative. Whenever the Free Wheeling control is pushed in the car is in Free Wheeling position.

The gear shifting is done in the conventional manner by using the clutch pedal whenever the Free Wheeling unit is inoperative.

If the car is in Free Wheeling position the gears may be shifted by releasing the foot

accelerator and moving the gear shift lever into any desired position. Thus it is possible, without using the clutch pedal, to shift into any forward gear as long as the car is in motion.

The Free Wheeling unit operates on all gears except reverse where it is automatically locked out.

If the Free Wheeling unit has been locked out and the driver desires to Free Wheel, it is only necessary to depress the clutch, press on the inner button of Free Wheeling Control, push Free Wheeling Control in and engage the clutch.

In order to lock out Free Wheeling, at any speed, and in any gear, it is necessary to follow this procedure:

1. Speed motor up until it is pulling the car.
2. Depress clutch pedal and pull out Free Wheeling Control.
3. Engage clutch.

The Free Wheeling unit should be locked out ( Free Wheeling Control pulled out ) when parking during cold weather, and in order to eliminate the possibility of the motor stalling while driving before the engine reaches operating temperature, it is advisable not to Free Wheel until the motor is thoroughly warmed up.

The Free Wheeling unit should be locked out when descending steep hills or when driving on wet or slippery roads.

### **Gasoline and Other Fuels**

Many states and large cities now have laws or ordinances covering the specifications for gasoline. One of these requirements is that gasoline shall not contain anything which will corrode polished copper. Gasoline which passes this requirement should be harmless so far as affecting an engine is concerned.

It is a fact, however, that some gasoline substitutes, such as benzols and certain blended fuels, may contain sulphur in sufficient quantities to form sulphurous or sulphuric acid when burned in an automobile engine. This acid collects in the crankcase and attacks the bearing surfaces of the timing chain, valve lifters, piston pins, and other metal parts. An engine subjected to this acid will quickly develop chain slack and worn bearings.

Since there is no simple test which will show whether or not any harmful compounds are present in the fuel before it is used, the safest course is to purchase only such fuels as experience has shown to be harmless. The Oakland Motor Car Company cannot hold itself responsible for damage done to engines resulting from the use of harmful fuels.

Our experience with Ethyl Gasoline indicates that it is a satisfactory fuel for Pontiac engines.

## LUBRICATION

### Engine Oil

For the correct engine lubrication a high grade, well refined oil of proper body is essential. Do not use cheap or little known lubricants. In order to designate the body of oil more definitely than has been possible in the past, a series of numbers has been adopted by the Society of Automobile Engineers. These numbers classify the oil according to the body only. The oil company supplying the oil is responsible for the quality of its product.

The following table shows the oil recommended for different climatic conditions:

AIR TEMPERATURE	GRADE OF OIL OR MIXTURE
"Hot Weather" Above 90 degrees	S.A.E. 40
"Summer" 50 to 90 degrees	S.A.E. 30
"Winter—Mild" 15 degrees to 50 degrees	S.A.E. 20
"Winter—Cold" -15 degrees to +15 degrees	S.A.E. 10 or { 90% S.A.E. 20 10% Kerosene
"Very Cold" Below -15 degrees	{ 90% S.A.E. 10 { 80% S.A.E. 20 10% Kerosene or { 20% Kerosene

In order to assure easy starting in the winter time it is essential that the oil used be not heavier than the oil recommended in above chart.

If occasion arises where it is necessary to choose between two grades of oil, use the lighter grade of the two oils.

### Changing Oil in Crankcase

It is necessary to change the lubricating oil in an engine because, in the normal operation of the engine, the oil is being constantly diluted with unburned fuel, condensed water vapor and acid from the exhaust gases in addition to carbon and road dust which is always accumulating in the motor.

The rapidity with which these non-lubricating elements accumulate increases as the temperature drops. The crankcase ventilator and thermostatic water control greatly reduce dilution of the crankcase oil due to condensation of water vapor. However, these elements will always be present to some extent and can only be completely removed by draining the crankcase and refilling with fresh, clean oil.

Taking into consideration the fact that Pontiacs are provided with an air cleaner, crankcase ventilator and thermostatic temperature control, the following recommendations are given: Drain the engine crankcase after the first 500 miles of driving and refill with 6 quarts of fresh oil in the Pontiac 6 and 7 in the Pontiac V-8. Thereafter, it should be drained and refilled when an inspection shows the oil to be thinned to a point where it no longer possesses good lubricating qualities. This point will vary due to the type of driving, the experience of the driver and the climatic conditions to which the car is subjected.

In the winter time or in city driving, frequent inspections should be made and the oil changed when it is found to be necessary, regardless of mileage. Between oil changes, oil should be kept to the proper level in the engine as shown by the gauge on the side of the crankcase. Inspect daily and add enough new oil to bring the oil level with the full mark.

It is always advisable to change oil in the motor while the motor is hot. The benefit of changing oil in the crankcase is to a large extent lost if the oil is changed while the motor is cold.

It is recommended that the oil pan be removed and thoroughly cleaned at least every 10,000 miles.

### Clutch

The only attention the clutch requires is to lubricate the clutch release bearing every thousand miles and check the clutch pedal clearance. Set stop screw to give  $\frac{3}{4}$ " clearance between pedal and toe board. Set adjusting link to give  $\frac{7}{8}$ " free movement of clutch pedal before starting to release clutch.

### Transmission and Free Wheeling Case

The gears run in a bath of oil which should be inspected at frequent intervals. Twice a year (spring and fall) flush out the old oil and refill with new transmission oil which meets the S.A.E. No. 110 Free Wheeling specifications in summer (S.A.E. No. 90 Free Wheeling in winter). **Caution: Do not use "Extreme Pressure" Lubricants that contain lead soap, chlorine or free sulphur.**

### Rear Axle

The rear axle housing should be kept filled to the level of the oil filler hole with heavy oil, grade S.A.E. No. 160. In extremely cold weather ( $0^{\circ}$  F. or under) this heavy oil should be thinned with 5% kerosene or refilled with S.A.E. No. 90. As this mixture is too thin for ordinary weather conditions, it should be drained out and replaced with regular transmission oil as soon as warm weather is liable to be encountered.

### Oil for Steering Gear

The steering gear should be lubricated with S.A.E. No. 160. If difficult steering is encountered in extreme cold weather the S.A.E. No. 160 should be thinned with 10% kerosene.

In addition to these instructions, the Oakland Motor Car Company has prepared the enclosed complete lubrication chart, which shows explicitly every point which requires lubrication and the period at which it is to be given attention. This chart, tacked up in your garage, will prove invaluable in properly lubricating your car.

Owing to the ever increasing tendency of car owners to send their cars to Pontiac Service Stations for periodic oiling and greasing, no grease gun has been included in the tool kit. For those owners who by nature of their operating conditions require a grease gun, one may be secured at no expense by making a written request for same, on the card for this purpose which is enclosed in the tool kit.

### General Inspection and Tightening

In addition to the regular lubrication as shown on the Lubrication Chart, the car should be thoroughly inspected at frequent intervals, at which time it should be tightened all over and any adjustments made which may be necessary. This will help to prevent squeaks, rattles and minor difficulties to which all cars are subject and will greatly increase the life of the car and the satisfaction to be derived from it.

We recommend that at intervals of not more than 2,500 miles, and more frequently when the car is new, the car be taken to a Pontiac Service Station to be checked and any necessary adjustments made.

### Correct Tire Pressure

The minimum pressure which can be safely carried in the tires on a Pontiac without damage to casing is 35 pounds. This applies to both front and rear tires of all models. The pressure should be 40 pounds in the front tires if the car is being driven at high speed. Air pressure is affected comparatively little by heat and should not be diminished because of hot weather.

**Maintenance of the Proper Inflation Pressure Is by Far the Most Important Element of Tire Care.**

## ANTI-FREEZE IN COOLING SYSTEM

The following information is given to enable the individual owner to more intelligently select the anti-freezing solution best suited to meet his own conditions.

The available commercial materials for preparing anti-freezing solutions for automobile radiators are denatured alcohol, methanol (synthetic wood alcohol), distilled glycerine and ethylene glycol.

Denatured alcohol and methanol solutions are, at present, the most generally used anti-freezing solutions.

There are two principal objections to denatured alcohol and methanol. These materials are lost by evaporation, especially on heavy runs and unless the solution in the radiator is tested periodically and sufficient anti-freeze added to replace the loss by evaporation, the motor or radiator or both are likely to be damaged by freezing. The cross flow type of radiator used on the Pontiac reduces this hazard but for safety it is advisable to occasionally test the radiator solution. The car finish is damaged by contact with denatured alcohol or methanol solutions or vapor, and any material accidentally spilled on the finish should be flushed off immediately with a large quantity of water.

The following table shows the capacity of the cooling systems and the amount of alcohol or methanol required to prevent freezing:

	COOLING CAPACITY IN QUARTS	AIR TEMPERATURE	QUARTS OF ALCOHOL OR METHANOL TO PREVENT FREEZING
Pontiac Eight	25 Qts.	+10	7 $\frac{3}{4}$
		0	9 $\frac{1}{4}$
		-10	11
		-20	12 $\frac{1}{2}$
		-30	15 $\frac{3}{4}$
Pontiac Six	14 Qts.	+10	4 $\frac{1}{2}$
		0	5 $\frac{1}{2}$
		-10	6 $\frac{1}{4}$
		-20	7
		-30	8 $\frac{3}{4}$

Distilled glycerine and ethylene glycol solutions are more expensive than alcohol, but as they are not lost by evaporation, only water need be added to replace evaporation losses. Any solution lost mechanically, such as leakage, foaming, etc., must be replaced by additional new anti-freezing solution. These solutions, under ordinary conditions, are not injurious to the car finish.

The principal objection to glycerine and ethylene glycol are the tendency of these solutions to loosen the scale and iron rust which forms in the water passages of the cylinder block and head, and the difficulty of securing and maintaining tight leakproof connections. It is absolutely necessary to thoroughly clean and flush the entire cooling system before glycerine or ethylene glycol is used. It is also necessary to tighten or replace the cylinder head gaskets, hose connections and pump packing. The cylinder head gaskets must be kept tight to prevent the solution from leaking into the crankcase where it might cause gumming and sticking of the moving parts. The pump packing must be kept tight to prevent air from being drawn into the cooling system, in order to avoid foaming and other difficulties which may result when air is present.

Ethylene glycol, sold in the U. S. for anti-freezing purposes, is chemically treated to overcome the principal difficulties mentioned in the above paragraph, and under normal operating conditions with tight hose connections and cylinder head gaskets should be satisfactory for use in the cooling systems.

Glycerine and ethylene glycol should be used in accordance with the instructions and in the proportions recommended by the anti-freeze manufacturer.

### STORING THE CAR

When it is necessary to store the car for any length of time, the following operations should be performed:

1. Clean the car carefully.
2. Cover all unpainted metal parts with heavy oil to prevent rust and corrosion.
3. Lubricate the car thoroughly.
4. Drain the gasoline system and run the engine till it stops, thus running all gasoline out of carburetor.
5. Drain all water from engine and radiator.
6. Remove spark plugs and insert a small amount of good cylinder oil in each cylinder. Replace the spark plugs, and crank the engine with the electric starter (with the ignition switch off) for about one-half minute, thus coating all interior parts with oil.
7. Remove the battery and store at a battery service station for proper attention during the storage period.
8. The tires may or may not be removed. If they are removed, they should be thoroughly cleaned and placed in a dark, comparatively cool room to prevent deterioration. If they are not removed from the wheels, all four wheels should be jacked up to relieve the car weight from the tires. The air may be then released from the tubes.

## EMERGENCY ADJUSTMENTS

The following instructions are intended to cover emergency situations; however, if the car is taken regularly to an authorized Pontiac dealer, there will be little need for this information:

### 1. Motor stops or will not start:

#### Possible Causes

#### a. Carburetor and Manifolds flooded.

Remedy—Close choke, open throttle and turn motor over several times with starter. If motor then fails to start, wait a few minutes and then turn motor over with starter again.

#### b. Fuel does not reach carburetor.

1. Gas tank empty.
2. Loose gasoline line connections (make sure glass strainer bowl on fuel pump is securely in place).
3. Gasoline line stopped up with sediment.

#### c. Ignition Failure (no spark delivered to spark plugs).

1. Turn on headlights and if lamps do not light inspect battery and battery to frame connections. Also terminals of wire leading from switch on starting motor to ammeter on instrument panel.
2. If headlights are O.K. check coil and distributor cap and crank engine by hand until points in distributor are closed.  
Turn ignition switch on and off and see if ammeter needle fluctuates.
  - a. If the needle does not move, check terminals of wire running from ammeter to the coil and from the coil to the side of the distributor.
  - b. If ammeter needle does fluctuate test high tension wire extending from center of coil to center of distributor cap for proper contact at each end.

### 2. Light Failure:

- a. If lights go out and starting motor does not operate inspect battery connections and battery frame connection.
- b. If lights go out and starting motor does operate check connections of wire from starting motor switch to ammeter.
- c. Check light fuse.

### 3. Fuses:

There are three fuses in the Pontiac electrical system located back of the instrument panel behind the light control button as follows:

Spare Fuse—first fuse behind instrument panel may be used for either a light fuse or horn fuse.

Light Fuse—second fuse from instrument panel and should be checked in case of all lights not burning.

Horn Fuse—third fuse from instrument panel and should be checked in case horn does not function.

#### 4. Lamp Bulbs:

The headlamp bulbs are replaced as follows:

1. Loosen headlamp moulding screw at bottom of headlamp (do not remove screw).
2. Remove headlamp moulding and lens.
3. Replace lamp bulb.

The Stop and Tail lamp bulbs are removed as follows:

1. Remove the two screws which hold lamp moulding in place.
2. Remove tail lamp moulding.
3. Remove tail lamp bulb.

#### 5. Stop and Tail Lamps:

Stop light does not operate unless the ignition switch is turned on and the brakes are applied.

In case of failure of stop light it is advisable to check the operation of the stop light switch which is located on the flywheel housing near the brake pedal.

Depressing the brake pedal should put slack into the chain connecting the stop light switch to the pedal and allow the stop light switch to operate. In case the stop light chain becomes broken the stop light will light whenever the ignition switch is on.

#### 6. Clutch Slipping:

In case the clutch begins to slip it is advisable to check the clearance between clutch pedal and toe board. This clearance, which is adjusted by means of a stop screw on the clutch pedal, should not be less than  $\frac{3}{4}$ ". It is also advisable to adjust the clutch adjusting link to give  $\frac{1}{8}$ " free movement before the clutch starts to release.

## CARE OF SPARK PLUGS

The spark plug originally installed and recommended for the 1932 Pontiac is the A. C. Spark Plug, Type K-12.



This is a metric plug, particularly adapted to give maximum power and efficiency in this engine. Other types will not operate successfully and should not be used.

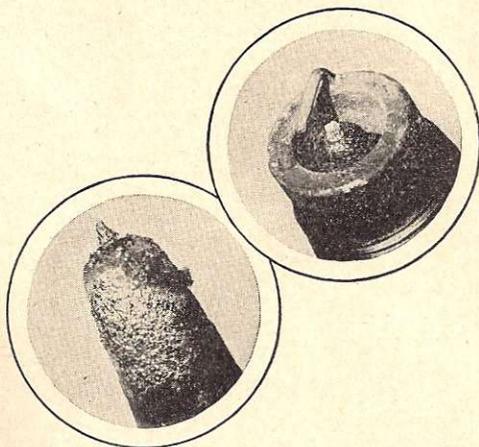
### Sooting or Fouling

There are a number of causes for fouling, some of which are:

1. Using a plug of incorrect size, length or design.
2. Motor operating at a very low temperature.
3. Carburetor choker used too much.
4. Over-rich carburetor mixture.
5. Oil pumping.
6. Cold weather driving of short distances only.

### How to Clean Spark Plugs

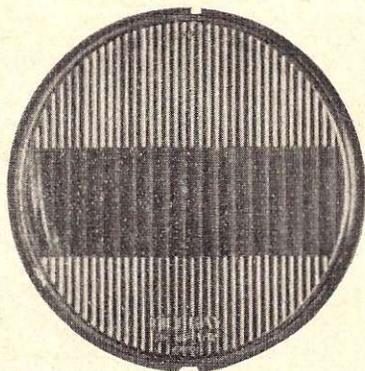
To clean carbon from the porcelain, fill the lower part of plug with alcohol, and allow to stand for a few minutes; take a piece of wire (covered with one thickness of cloth to protect the glaze on porcelain) and rub the carbon from the porcelain—then wipe clean and dry thoroughly before replacing in engine. The gap between points should be .025".



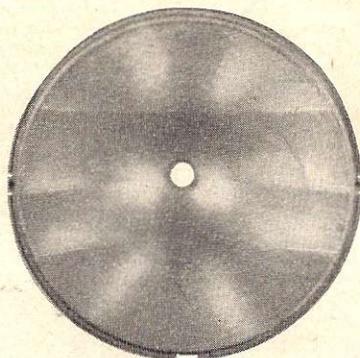
### SPARK PLUGS WEAR OUT

Actual photograph showing accumulated carbon deposits and firing points badly burned away

Worn or broken spark plugs should be replaced as required. Life of spark plugs depends largely upon care and the type of driving to which they are subjected.



TILT RAY LENS



TILT RAY REFLECTOR

### TILT RAY HEADLAMPS



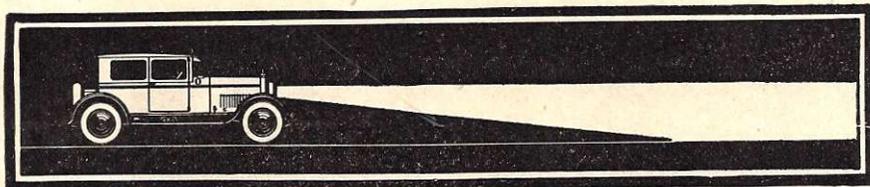
BULB 1110

Fixed-focus Tilt Ray Headlamps are supplied as standard equipment on Pontiac automobiles. Their satisfactory performance depends upon proper adjustment and also upon the use of the particular lenses, reflectors and bulbs for which they are designed. Replacement parts are stocked by Pontiac dealers.

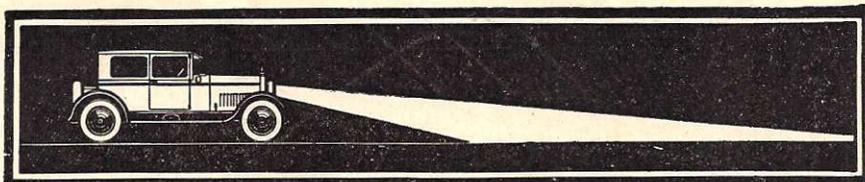
The Tilt Ray lens is covered with cylindrical vertical flutes, arranged horizontally in three zones and designed to spread the light ahead and sideways to best advantage. The reflector area is divided into four horizontal zones designed to properly distribute the light down the road ahead of the car. Bulb No. 1110 is supplied as standard equipment. Replacements may be made either with this bulb, which has two 21 c.p. filament, or, if more light is desired, with bulb No. 1000, which has two 32 c.p. filaments and which is legal in nearly all states. Accurately made bulbs are very important. Bulbs of reputable manufacture are more likely to be satisfactory.

Always use the lower beam on lighted streets, in heavy traffic, and in meeting other cars. The lower beam is designed for such use and is legal in all states.

The fender lamps on Pontiac cars are arranged to burn whenever the lower beam is in use. They show both the driver and the approaching motorist which beam is turned on. They serve as marker lights when a lower beam filament burns out, as warning lights to motorists approaching from one side and also indicate width of car to oncoming drivers.



Upper Beam from properly Adjusted Headlamps



Lower Beam from properly Adjusted Headlamps

## ADJUSTMENTS

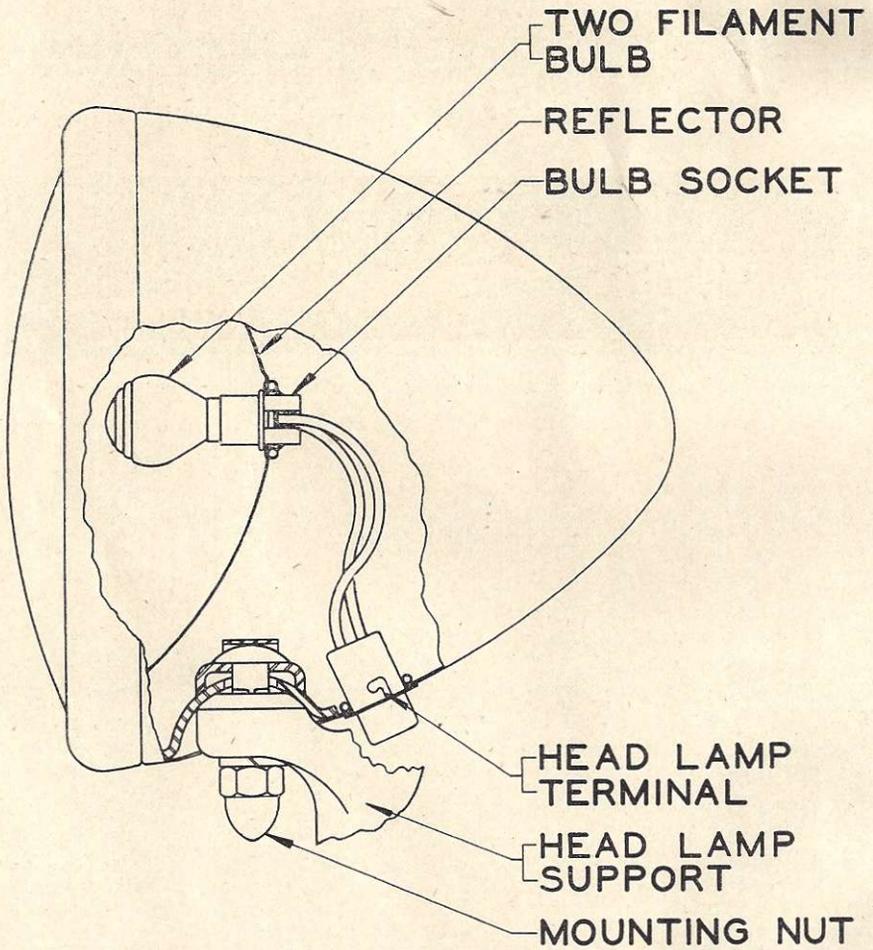
Good headlighting results depend upon proper adjustment. Where state or local regulations are enforced, follow procedure specified. Otherwise make adjustments as follows:—

Place the car on a level floor with a properly shaded garage door, or other light-colored vertical surface, twenty-five feet ahead of the lamps. Draw a horizontal line "AA" about six feet long on the vertical surface at the height of the headlamp centers, as shown in the chart illustrated on the next page. Sight through the center of the rear window and over the center of the radiator cap to locate the point "B" on the horizontal line where the center line of the car meets it. Draw vertical lines "CC" to the right and left of this center point one-half the distance between the headlamp centers.

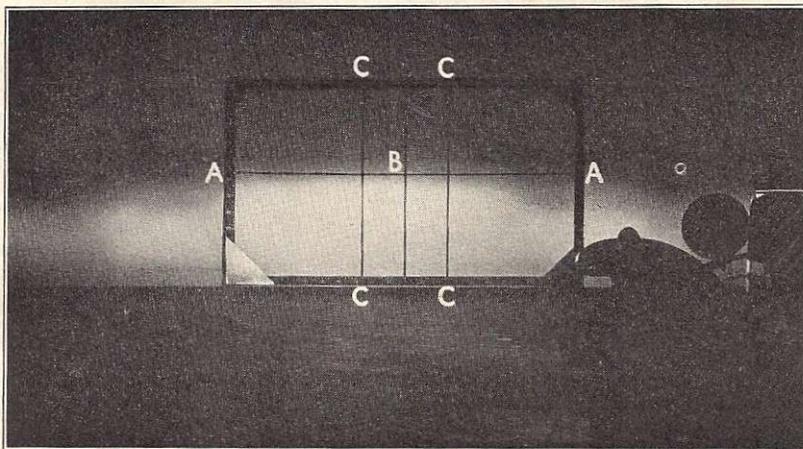
Remove both headlamp doors and clean the lenses inside and out. See that the door lug registers in the notch in the lens.

Wipe any dust from reflecting surface and polish with a soft rag, using a mixture of lamp black and alcohol. Replace the gaskets if they are damaged or do not register properly. If the bulbs show signs of blackening, install new ones. Use accurate bulbs of reputable manufacture. When 32-21 cp. bulbs are installed see that the heavier looking 32 cp. filament is below. Try the lighting switch in all positions and see that all bulbs burn properly. Operate the floor switch to turn off the fender indicator lamps and see that the lower filament in each bulb is burning. Leave the switch in that position.

These headlamps are fixed-focus and need no focusing adjustment. However, where 21-21 cp. or 32-32 cp. bulbs are used, best results will be obtained if the bulb is tried both ways in the socket. Select the position which provides the beam pattern more nearly like that shown in the illustration and with the hot spot as bright and as near the top of the beam as possible. Cover one headlamp while working on the other.



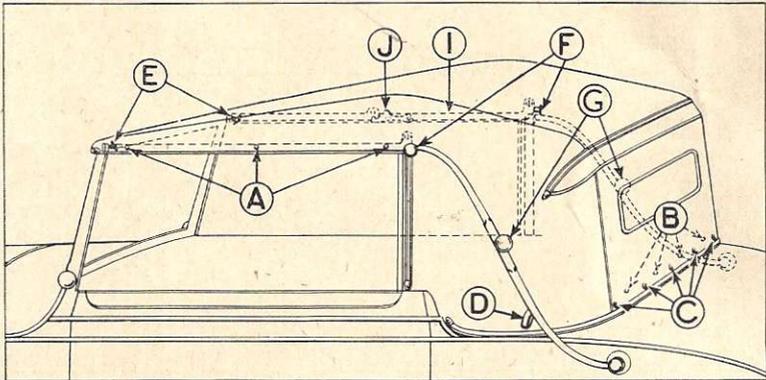
HEADLAMP MOUNTING (Cross section view)



It is very important that headlamp beams be properly aimed. The beams should be adjusted with the lenses in place. Loosen the nut which secures the headlamp to the headlamp support through the universal joint. Cover one headlamp while aiming the other. Rotate the headlamp until the flutes are vertical and the beam is horizontal. Center the beam sideways on the vertical line directly ahead of the lamp. The proper vertical adjustment depends upon the driving habits of the driver. Most drivers will obtain best results if the upper edge of the beam pattern is aimed up to the horizontal line "AA," at the same level as the headlamp centers. Slower drivers will be just as well satisfied and cause less glare to approaching drivers if the upper edge of the beam pattern is aimed four inches below this horizontal line. Tighten the mounting nuts securely, making sure that the headlamps do not shift their position.

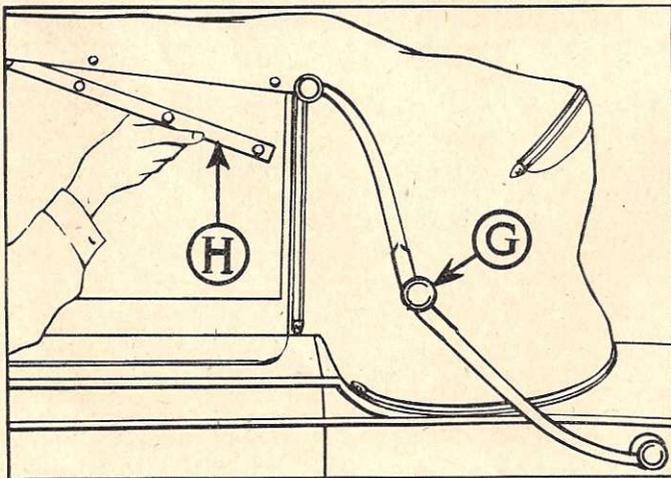
The lower beam needs no further adjustment. Check it, however, by switching from upper to lower beam to make sure that its upper level is ten or twelve inches below that of the upper beam.

### INSTRUCTIONS FOR LOWERING TOP ON PONTIAC CONVERTIBLE COUPES

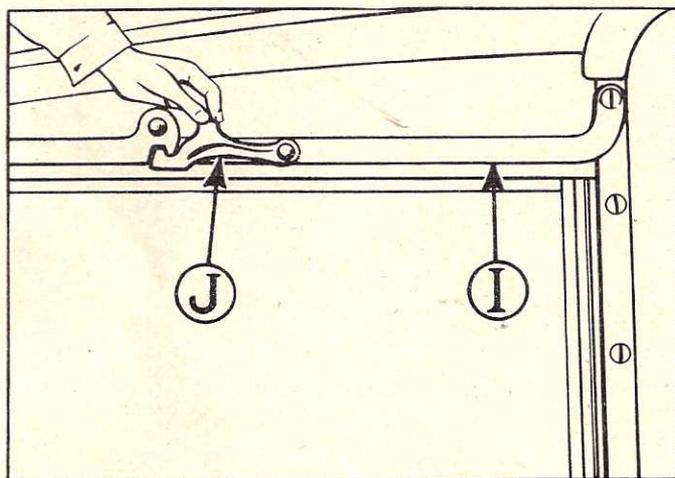


(Figure 1)

1. Release snap fasteners (A) by pulling outward.
2. Release lock fasteners (B) inside back curtain.
3. Release snap fasteners (C) outside back curtain.



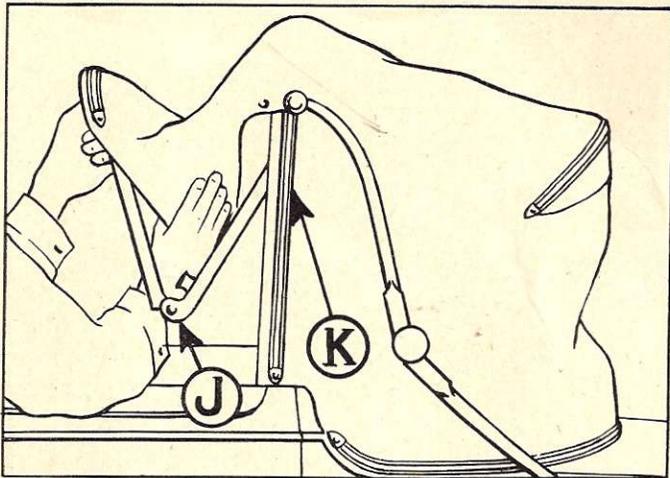
(Figure 2)



(Figure 3)

4. Release tie-down straps (D) at either side of seat-back.
5. Release front thumbscrew (E) from windshield.
6. Remove side roof rail thumbscrew (F).
7. Release folding top brace (G) by collapsing at joint.
8. Remove the side roof rail (H) from over the door. To do this, raise the front roof rail slightly to take the tension off the rear of the side roof rail. Figure 2 shows this position clearly. The side roof rail may then be removed by pulling the rear end down and toward the inside of the body. After the rear end is free the front end may be removed by pulling the side roof rail directly to the rear.
9. Release slat iron (L) by pressing down the spring release (J) (Figure 3).
10. Fold top back at joint near (J) to lock pillar (K), pushing top material inward to free slat iron (Figure 4).
11. Allow entire top to fold down backward, resting on top brackets across rear deck panel.
12. Fasten tie-down straps. Be sure to have rear curtain and top material folded back off of trim rail, in order to expose dust boot fasteners.
13. Smooth off as much as possible so the dust boot will fit properly. (Dust boots are not included as standard equipment, but they may be obtained from any authorized Pontiac dealer at an additional cost.) To raise the top, reverse operations. Care should be taken in raising the top that the side roof rail is placed in its proper position. This rail should be inserted first at front, then the rear fitted to its position by raising the front roof rail in the same manner as in the removal. After the side roof rail is in place, fasten down front and snap top and curtain buttons.

Summer driving does not necessitate replacing the side roof rails each time. They should be placed in the case provided for this purpose and packed under the seat cushion.



(Figure 4)

### CARE AND CLEANING OF TOP FABRIC

1. Always be sure the top is thoroughly dry before collapsing it and folding it down.
2. Avoid getting grease on the material, as it injures the compound used in rubberizing the material.
3. **NEVER USE TOP DRESSING OF ANY SORT**, or cleaning fluids containing oil, gasoline, naptha, or engine, as these will disintegrate the rubberizing compound and ruin the fabric.
4. For removing soil spots, use only a piece of clean art gum rubber, or gum cleaner (such as a good wall paper cleaner), which will rub off most spots. **DO NOT USE FLUID CLEANERS.** Ivory soap and water can also be used with a scrubbing brush, making sure that all traces of soap are washed off, after cleaning.

## SAFETY PRECAUTIONS

In order to obtain the maximum amount of safety while driving your automobile, the brakes, steering, lights, horn and windshield wiper should be inspected regularly.

To assure yourself that these inspections will be made regularly you should have your Pontiac dealer do the lubrication work on your car so that he will be able to inspect these safety devices at regular intervals.

These inspections will be performed, free of charge, by any authorized Pontiac Service Station. Any adjustments which are necessary will be charged at regular flat rate prices.

## SERIAL AND MOTOR NUMBERS

### CAR SERIAL NUMBER.....

The serial or vehicle number will be found on a brass plate fastened to the frame side member just below the left front fender.

### ENGINE NUMBER.....

The engine number on the Pontiac 8 will be found stamped on the top of the cylinder block just forward of the front branch of the left intake manifold.

The engine number on the Pontiac 6 will be found stamped on the cylinder block on the left side just above the generator.

## KEY NUMBERS

DOOR.....

IGNITION.....

DECK.....

SPARE TIRE.....