Morris Gauge
morrisgauge.com
888-202-9206
818 SW 3rd #117
Portland, OR 97204-2405
Full mechanical and cosmetic restoration.

GASOLINE GAUGES

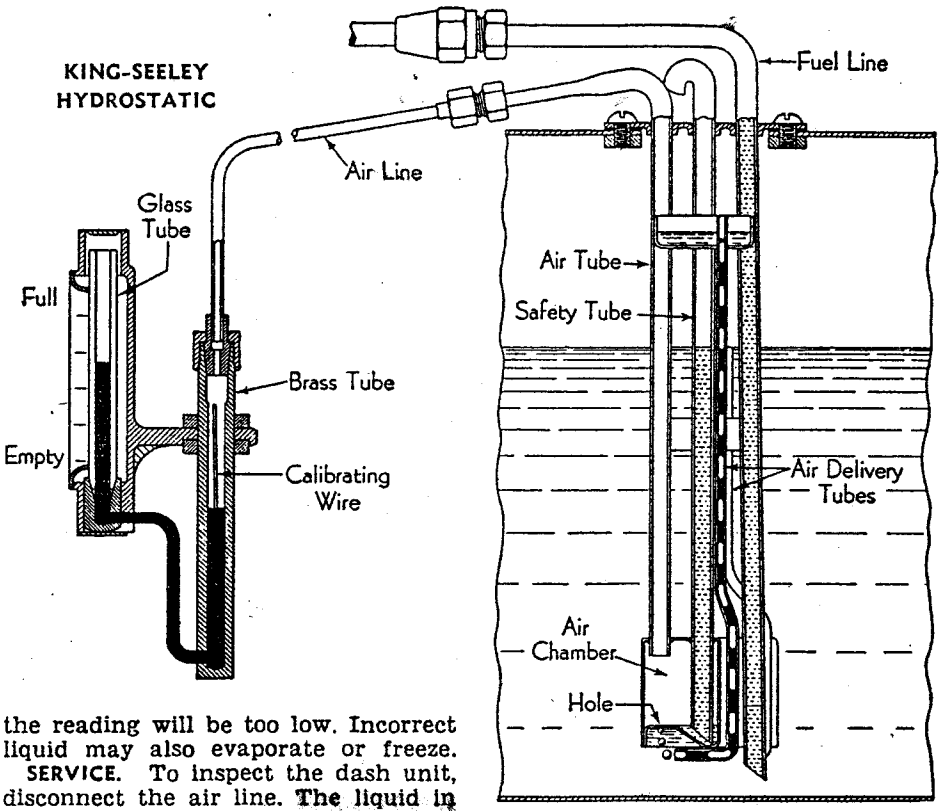
KING-SEELEY
HYDROSTATIC

Auburn, 1935-36
Austin, 1935
Ford, 1935
Lincoln, 1935
Pierce Arrow, 1935
Reo, 1935-36

This gauge consists of a dash unit and tank unit connected by an air line. The dash unit is a U-tube containing a heavy red liquid. The front half of the U-tube is glass and gives the tank reading while the back half is brass and is connected to the air line. With the air line disconnected, liquid in both sides of the U-tube balance and the liquid in the glass side registers with the lowest line on the dash unit scale. The tank unit consists in general of five tubes. One supplies fuel to the engine, one is connected to the air line leading to the dash unit, one is a safety tube or air vent to protect the gauge from excessive air pressure and the other two are air tubes which supply air to the air chamber and keep it filled with air. When the cup on an air supply tube is above the level of the gasoline it is constantly being filled as the gasoline splashes around while the car is in motion. The gasoline runs down the air supply tube and in so doing draws with it a few bubbles of air. At the bottom of the tube this air bubbles out and rises under the air chamber. The air, being lighter than gasoline, rises and enters the air chamber through the hole at the bottom and pushes out any gasoline which may be there. When the air chamber is filled with air, these bubbles pass off and are not used.

In operating condition, the air line, air tube and air chamber are filled with air. Gasoline tries to rise to the same level in the air tube as it is in the tank. This is not possible because of the air trapped between the air chamber and the liquid in the U-tube. However, the effort of the gasoline to get into the air chamber presses on the trapped air and this pressure transmitted to the liquid in the U-tube forces the liquid down in the brass tube and up in the glass tube, where it registers on the scale.

From this it is apparent that if there are any leaks or obstructions in the lines the air pressure cannot act on the liquid and the reading of the gauge will remain stationary. It is also important that the correct liquid is used for if it is too light the reading will be too high and if it is too heavy



the reading will be too low. Incorrect liquid may also evaporate or freeze.

SERVICE. To inspect the dash unit, disconnect the air line. **The liquid in the glass part of the U-tube should register with zero on the gauge.** Inspect the glass tube, brass tube and small connecting tube for damage and if broken, the complete dash unit must be replaced. **If it is too high, remove excess liquid from the top of the brass tube with a pipe cleaner, toothpick or match.** Do not remove any wires that may be in the brass tube as it will destroy the accuracy of the gauge. If the liquid level in the glass tube is too low, **add the correct liquid at the top of the brass tube with a medicine dropper.** To test the dash unit, move the thumb or finger rapidly up and down against the top of the brass tube. This action will supply air pressure to the liquid causing it to rise in the glass tube. Entrap the air by holding the thumb tightly over the top of the brass tube. If the liquid holds its reading the unit is okeh.

When inspecting the air line, make sure that it is dry first. To do this remove the gasoline tank filler cap. Attach a hand tire pump to the end of the air line at the dash unit end and give at least 50 continuous, full strokes. When pumping make sure that air is going through the line and that it is not clogged. Now disconnect the air line at the tank unit and inspect the connections for roughness, dirt and flaws. If necessary smooth up the cones with fine emery cloth. Plug one end of the air line and suck with the mouth on the other end. If the suction created will hold the tongue for one minute the line does not leak. If the air line now leaks or is plugged it should be replaced.

Before checking the tank unit inspect the air vent and if it is plugged in any way, clear it. It is necessary to remove the tank unit from the gasoline tank to check it any further. Inspect the hole at the bottom of the air chamber and if it is clogged, open it up. If the tank unit is broken or leaks, replace it.

To determine whether or not the gauge is now working properly, connect the air line to the dash and tank units, making sure that the joints are tight. Disconnect the fuel line at the fuel pump. With the gasoline tank filler cap in place, blow back into the gasoline tank with the mouth. This will supply air to the tank unit and bring the liquid in the dash unit up to its proper reading. If the reading obtained holds for half an hour the trouble has been corrected. If the reading does not hold, the trouble is in the tank unit or the inspection of dash unit or air line was not thorough.