# STANLEY DEALER BULLETIN

This Bulletin carries important information—instructions that you will have to consult often. Note that it is dated and numbered. You should file this Bulletin as soon as received in the binder provided for that purpose. Each Bulletin sent you will be numbered consecutively and should be filed in the binder in order. Bulletins will be issued as often as we have occasion to place before you new important facts on any subject growing out of our relations with you as our dealer representative.

#### STANLEY MOTOR CARRIAGE CO.

NEWTON, MASS.

4/17/23

DATE

SUBJECT

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NO.

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#### TO CLEAN THE BOILER

To get from a boiler the results the factory builds into itthat is, continued efficiency and long life--it is necessary
to keep it clean. This is a simple and direct process and
should be done at least as often as every 1000 miles--more
often than that if conditions of use require it.

A summary of the steps "To Clean the Boiler" is on the attached sheet.

The foreign matter in a boiler consists usually of two elements First, the lubricating oil returned through the condenser from the engine; this rises when the car is at rest. Second, sediment of dirt or other mineral matter from the water, sometimes mixed with oil; this will deposit on the bottom, and in time will harden.

Blowing the surface blow-off valve will assure removing the oil provided there is upwards of 300 lbs. pressure on the boiler and the water level is above the top of the surface blow-off valve stand-pipe, inside the boiler; which can be assured by running the car a few minutes with the hand by-pass valve closed after the high point of the boiler water level regulator has been reached.

The deposit on the bottom of the boiler can be removed by a thorough cleaning out with kerosene as described below.

A favorable time for cleaning is after a run, which will have agitated the sediment, and after standing long enough to permit the oil to rise.

Before pumping the kerosene into the boiler, it is wellnto flush the condenser and water tank with kerosene or warm water to rid them of returned cylinder oil. Three gallons of clean kerosene should then be pumped into the boiler (which will still contain considerable steam pressure and water) by running the car on jacks with the hand by-pass closed. Then, with the main burner and pilot extinguished, the front and rear bottom blow-off valves on the boiler and the blow-off valve on the indicator should be opened and left open until the water ceases to flow out of them and the kerosene begins to show, whereupon they should be closed.

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The kerosene will now be on the bottom of the boiler which will still retain considerable heat; and it is most desirable to let the car stand in this condition for an interval to give the kerosene time to attack and lossen the sediment, if there be any.

Next, fill the boiler with water (preferably warm) through the front bottom blow-off valve, first having opened the sur face blow-off valve and the throttle and steam chest drain valves. Let the water continue to run in until clean water flows out from the surface blow-off valve; then close it, and let the water flow until clean water comes out of the steam chest drain valve.

This will result in a good clean boiler full of clean water; and your car is now ready for steaming up in the regular way.

If this is not done as frequently as necessary (and we believe it should always be done every 1000 miles at the most) then the sediment or deposit on the bottom of the boiler may harden and the boiler will thus be subject to the full force of the burner without the protection of the water, the welding will be burned, and a leak will result. Furthermore, the efficiency of the boiler is greatly reduced by such a deposit.

The length of life of a boiler, moreover, may be directly affected by such a deposit since the overheating of the tubes has the result of devitalizing them which makes them more susceptible to corrosion with consequent pitting through. Such devitalizing may result from an overheating which may not be sufficient to cause a leak.

Careful examination and records of many boilers covering several years past indicate that unsatisfactory life almost invariably results from gross abuse, such as burning, or inexcusable neglect, such as permitting deposits to form. On the other hand, examination of many boilers which have given five, six, and seven years of service indicate that they have been cleaned out with sufficient regularity to meet their conditions of use, and have been carefully protected against burning.

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#### Summary of Steps to Clean the Boiler

- 1. With upwards of 300 lbs. on the boiler, and the main burner and pilot shut off, open the surface blow-off valve until dry, blue steam appears.
- 2. Remove water tank plug and clean out tank by pouring kerosene or water (preferably warm) through condenser then replace plug and pout three gallons of clean kerosene into tank.
- 3. Pump this kerosene into boiler by running car on jacks with hand by-pass closed.
- 4. Open front and rear bottom blow-off valves; also close top shut-off valve and open blow-off valve on indicator. Leave them open until water is all out and kerosene begins to come; then close them.
- 5. Let car stand as long as convenient, to give kerosene time to loosen sediment, if any, on bottom of boiler.
- 6. Open surface blow-off valve and also the throttle and steam chest drain valves; fill boiler with water (preferably warm) until it runs out of the open valves.
- 7. The car is now ready for steaming up in the regular way.