

SAFETY VALVE CLEANING PROCEDURE

BY

SuperScale Locomotive Company

1. Remove the safety valve from the boiler fitting. Use a penetrating oil like “Kroil” on the screwed together joint.
2. Carefully remove the tiny hex headed screw from the side of the body. This screw tightens into one of the slots of the adjusting ring (blowdown ring) to keep it in place.
3. Now unscrew the body from the base. It will be under spring pressure. Do not tamper with the screw in the top of the body. This adjusts the pressure and does not need to be removed to clean the valve. Use “Kroil” here too.
4. Observe the position of the blowdown ring and remove the spring assembly and the feather valve (or poppet). Don’t move the adjusting ring. Mark it’s position with a felt marker and make sure it remains in the same place during cleaning and reassembly. If it is accidentally moved and not replaced into the same exact previous position, the blowdown will be off, and it will have to be reset on the boiler, under steam, by trial and error. Raising the ring increases the blowdown differential. (counter-clockwise rotation).
5. Place the base, the poppet and the body in warm vinegar for about 15 minutes, then thoroughly rinse off with water.
6. Inspect the guides and the seat of the poppet for foreign matter, and also the seat and bore in the base. If necessary, clean further with a non-metallic article (toothpick) capable of fitting into the seat area of both base and poppet.
7. Now reassemble taking care to get the spindle to enter the hole in the top adjusting screw. Screw the body on tight (finger tight).
8. Replace the small hex screw in the side and screw it in until it seats against the body, taking care that it enters the same slot it has been in before disassembly. Replace the safety valve on the boiler fitting and tighten snugly.

Safe use of Safety Valves

Because of the corrosive and scaling conditions which occur in a boiler, I feel it necessary to make some recommendations concerning the safe use of safety valves.

Although this is written concerning the safety valves sold by SuperScale Locomotive Company, it applies to other makes as well.

1. First and foremost – before leaving the steaming bay, pop both safety valves to insure that both are working properly. This can be easily done with the SuperScale valves by inserting a 1/16” diameter rod into the hole of the adjusting screw and holding down the spindle until the #2 safety valve blows, then release the #1 valve. This method allows testing both valves without the need for hard firing with the resultant heavy water loss. Some boilers do not have the steaming capacity to fire against the #1 safety valve to the point where the #2 valve opens; therefore, this method, when employed, may be the only way to exercise the #2 valve.
2. Be especially suspicious of the safety valves if the locomotive has been laid-up for several weeks or longer. Corrosion can occur in a boiler which the operator has blown down and “properly” prepared for storage.
3. Since the contents of the water we use in our boilers varies widely with location, safety valves may require more frequent maintenance in some areas than in others. At the first sign of a valve malfunction (not popping at the set pressure, failure to reseat cleanly, leakage, stuck open or closed, etc.) it is time to inspect and clean it as outlined by outlined by the maintenance sheet which SuperScale provides with each safety valve (reproduced above).

REMEMBER – A safety valve which is corroded shut is nothing more than a plug!