

COMPLETE OUTLINE OF TANK CLEANING

- I. - First of all as much fluid as possible is removed through the eductor. A scale reading is then taken. The tank is then washed twice with gasoline. This may be done in one of two ways. One way is to remove the piston in the check valve and pump gasoline directly into the tank. The other method is to pump the gasoline through the gasoline line leading to the tank car and back through the fluid line from the tank car directly into the tank through the stand-pipe. The latter is the better method. The tank need only be filled to about half to three quarters of its total capacity. These two washings and emptyings may take as long as six hours. Scale readings are taken before and after each washing.
- II. - Before any work can be done on the tank and before the platform can be mounted, the steam or electric connections must be removed. Any variation in the scale reading is noted.
- III. - As soon as the power lines are removed the platform can be mounted. This can be done before or after the fluid is removed or before, between, or after the gasoline washings. The power lines must be removed to allow the canvas tank cover to be placed around the manhole. Scale readings are taken before and after all the parts of the platform are laid or mounted on the tank. By placing all the parts of the platform on the tank before mounting and thus getting the scale readings, the tank can be sucked out or washed while the platform is being mounted. Mounting the platform requires two men.
- IV. - After the platform has been mounted a block is attached to one of the beams and the chain hoist raised and fixed securely in position. This job requires two men.
- V. - If the turbine or electric motor is still mounted it is dismantled and lowered to the floor by means of the chain block. The weight of the turbine or motor is determined by scale readings. It takes two men to carry out this job efficiently.

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VI. - When the motor has been removed the bolts securing the agitator are removed, leaving three or four to keep fumes from escaping. The "night gown" or oil-cloth "sleeve" is placed around the manhole and the chain from the chain block hook attached to the agitator.

VII. - As soon as the air blower is set up and the air hose brought into the building, air masks are donned by all three men. The eductor is started to suck through the vent line. Two men are needed on the platform and one on the floor. The remainder of the bolts are removed from the agitator and the oil-cloth tied securely. One man operates the chain hoist, raising the agitator, while the other keeps it free. It is raised until it is free of the manhole and then, while one man holds the agitator in position the other doubles the oil-cloth up under the agitator and ties it. A length of rope is then looped around the agitator and the end passed to the man on the floor who pulls the agitator clear of the platform and tank as it is lowered. *Take from the building* It is laid on the floor and the air masks are removed. In the interim a canvas cover is placed over the manhole cover on the tank. With aid of a refinery man in proper uniform the agitator is carried to a truck or burning ground. At the burning ground the agitator is saturated with kerosene, ignited, and later buried.

VIII. - After weighing the tank minus the agitator the brass scrapers are placed on the tank and another scale reading is taken. At this time what hoses have not been hooked up by the third man, while the platform was being mounted and the turbine dismounted, etc., are connected. These include the vent pipe, water, steam, steam exhaust, water exhaust, suction, and delivery hoses. Attaching the vent pipe and suction hoses are two-man jobs. The kerosene pump is placed in a kerosene drum and the hose with the nozzle is attached. The drop light is also placed in the tank. Again consideration is taken for this addition of weight. Everything is now set to start the actual cleaning of the tank. The turbine on the Nash pump is started and the speed adjusted to 1750 r.p.m.

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into the building

- After the agitator has been removed no one goes on top of the tank without a gas mask and proper white uniforms. The building is roped off and no one is allowed inside the ropes. These restrictions are maintained until the tank has had its cover bolted on and all the fluid and sludge has been drained from the catch tank on the truck and the drums bunged.
- X. - If the sludge in the storage tank is fairly thin, or if a considerable amount of gasoline remains in the tank after the washings, no kerosene is added until some of the sludge has been sucked out. If, however, the sludge is dry kerosene is pumped in under considerable pressure by means of the hand pump operated by the third man outside the building. The kerosene is directed through a small diameter nozzle so as to wash down as much sludge and scale from the sides of the tank as possible.
- XI. - During the cleaning operations two men work on top of the tank, wearing air masks, The third man is outside of the building to operate the pumps.
- XII. - Before sucking is started the sludge is slurried with kerosene or, in some cases, with the residual gasoline. After the sludge has been slurried and broken up, one man manipulates the suction hose, which is supported by the chain hoist and can thus be easily raised or lowered, while the other man brings the sludge from the ends to the center by means of the scrapers. When most of the sludge is removed more kerosene is added to again wash down the sides. About three washings with kerosene are sufficient. Scale readings are taken before and after each addition of kerosene. Approximately eighty-five pounds of kerosene are used for each washing.
- XIII. - After the tank has been cleaned as well as possible, leaving only a thin caking high up on the sides and stalactites on top, the scrapers are removed, spraying them with a stream of kerosene as they are withdrawn. They are then wiped with waste and taken outside. What little kerosene was used to wash the scrapers and suction pipe is sucked up out of the tank and the suction hose raised by the

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chain hoist until it is almost out of the manhole. Three buckets of clean kerosene are sucked through the suction hose to cleanse it. The suction hose is then removed from the tank, disconnected, and blanked off. A scale reading is taken.

XIV. - The gasket surface of the manhole is scraped smooth and clean and covered with gasket compound. The gasket is then laid on and also painted with the cement. The manhole cover is raised to the platform by means of the chain hoist, placed over the manhole, and bolted down. A scale reading is recorded to determine the weight of the cover. The platform is dismantled and removed from the tank as soon as the chain hoist and block have been taken down. The tank is swept or washed off and then the final scale reading is taken. The tank is now ready for use, though scales should be checked by a Howe scale man first.

XV. - Drums are rolled into position so that they may be filled from the catch tank of the truck. Two men equipped with air masks are required for this operation, one to handle the delivery nozzle and the other to operate the shut off valve. The drums are filled by gravity flow. They are then bunged tightly, using two bungs with new gaskets. The drums are weighed on a platform scale, where such a scale is available. All drums should be weighed on arrival at plant. All old stencils, labels, and decals are obliterated and the drums restenciled, and "poison" and "inflammable" labels pasted on.

XVI. - All hoses and pipes are now disconnected, blanked off and coiled. The truck outlets are also blanked off. The tools are collected and cleaned. All equipment is now cleaned and loaded on the truck. This equipment includes rope, hose, motors, pumps, platform, buckets, pipe, tools, and other miscellaneous apparatus. The truck is closed up and is ready to start on the next assignment.

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