



NEWS INFORMATION

from
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AUTO-MAGIC CAR WASH

DESCRIPTION OF ST. GEORGE'S GARAGE INSTALLATION

A 160-ft.-long variable-speed conveyor capable of accommodating up to 10 cars simultaneously is the heart of the Auto-Magic installation. This is flanked and spanned by the automatic rinsing, brushing and drying equipment.

Cars entering the laundry are, if they cannot go immediately onto the conveyor, lined up in three staggered ranks beside the conveyor facing in the opposite direction to its travel. From this point all car handling is carried out by Car Wash staff, the driver returning to the waiting room along a screened walkway beside the conveyor.

From the parking area, the car is driven onto an electrically operated turntable at the end of the conveyor belt. Actuated by a single button, the turntable revolves through 120° automatically. This takes 10 seconds and lines the car up with the conveyor.

It is then moved forward and attached to the endless conveyor chain, by a short double-hooked chain passed over a suspension member or bumper bracket. The car's offside wheels run in a guide channel to give lateral control.

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Once on the conveyor the first operation - vacuum cleaning of the interior - is carried out by two men with vacuum nozzles. Suction is supplied through overhead piping and flexible hoses from a remotely positioned 10 h.p. vacuum unit providing 65 in. depression.

The car passes on to the first automatic unit - a pre-soak arch. This has an interior width of 8 ft. 9½ in. and, like the other overhead equipment, can accommodate vehicles up to 7 ft. 1 in. high. Nine jets, each throwing a fan-shaped spray of softened water and detergent solution are directed onto the car from the sides and upper beam of the arch.

The vehicle itself actuates the spray at about 30 gallons per minute by nudging a rubber "flag" immediately ahead of the arch. When displaced, this flag opens a valve in the 1-in. water pipe leading to the jets. The "flag" returns to the 'off' position as the car clears the arch. Thus, spraying only takes place when the car is in the working area.

The pre-soak arch has exterior panelling in laminated plastic sheet, a material which is both attractive and extremely durable under the constant wetting which it receives. All Chem-Therm arch-type units employ this panelling.

After pre-soaking, the car's wheels and tyres are cleaned by two automatic units at either side of the conveyor. These travelling

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wheel washers are sunk into the floor. Each carries two motorised rollers onto which the car wheel runs. Brushes are brought into contact with the spinning tyre by an automatic air cylinder and water and detergent solution is directed onto the tyre wall ahead of these. Simultaneously, detergent impregnated steam jets clean the wheel. This equipment is particularly effective for white-wall tyres, making it possible to clean this type of tyre without an additional charge.

The body brushing unit which follows consists of an arch carrying five rotating brushes, two brushes in tandem at either side and a single roof brush. Side brushes are 3 ft. high, 2 ft. 4 in. in diameter for the bottom 9 in. and 1 ft. 11 in. for the remainder. The roof brush is 4 ft. 6 in. wide and 2 ft. 6 in. in diameter.

Each side brush is mounted on a radius arm controlled by an air cylinder. As the car enters the arch a flag-type sensing device assesses its width and actuates the cylinder to position the brushes at the correct spacing.

A second sensing device starts the $\frac{1}{2}$ h.p. electric motors for the side brushes and the $\frac{5}{4}$ h.p. unit for the upper brush as the vehicle enters the working area. A soft water spray is released at the same time to rinse and lubricate the brushes.

The two brushes at each side are contra-rotating and are spirally wound in opposite directions so that one gives an upward brushing action while the other works downwards. To demonstrate this action, the brushes are coloured to give a 'barber's pole' effect. The actual brush material is a novel plastics type, +-shaped in cross section, which, although very soft and therefore harmless to all types of coach finish, gives a very effective squeegee action.

The spirally wound top brush is also equipped with a sensing device actuating an air cylinder which causes it to follow the exact contour of the car roof.

As the car emerges from the brushing unit it passes between two men with steam guns. The steam is mixed with detergent compound and is used to clean the bumpers, radiator grille and other bright metal. The guns are fed from two gas-fired steam generators mounted in a separate power house.

Steam cleaning is followed by manual swabbing by two men with lambs wool mitts who clean off any parts of the car which have been missed by the main brushes.

Then comes the final rinse by clear softened water from an arch similar to that for the pre-soak operation with identical sensing devices to start and stop the flow. This unit delivers some 30 gallons of water per minute.

On leaving the rinse, the car operates a counting device which records the number of cars passed.

Two men then enter the moving car, one at the back and one at the front, to clean the windows, parcel shelves, dashboard and steering wheel. They stay in the car as it passes under the final automatic unit - a blower for forced drying.

This device - the Chem-Therm B.2 - consists of an arch housing with two 40 h.p. blower units. These feed air through three slots in the side and cross beam of the arch at 14,600 cu. ft. per minute and a velocity of 240 m.p.h. In spite of the high velocities achieved, the blower is relatively quiet in operation due to extensive use of sound-proofing material.

With the major washing operations complete, the car clears the blower and encounters the finishing team - up to eight men stationed along the remaining 60 ft. of the conveyor. They leather off any water left on the body, open the doors and wipe around the door jambs; in fact, generally ensure that the car is completely clean and properly finished.

At the end of the conveyor the car is unhooked from the moving chain and returned to the customer who, in the 5 minutes that the complete operation has occupied, will have been drinking free coffee in the waiting room, with a full view of the car wash line. The draw chain is returned is returned to the start point by a subsidiary conveyor beside the main track.

Working at its full capacity to produce a washed car every 15 seconds, the car wash can employ up to 20 men. As the frequency comes down the number of manual operatives is reduced sharply. In moderately busy periods the St. George's Garage installation will function completely satisfactorily with 8 men.

An additional service, to be introduced later, will offer steam cleaning for engines and engine compartments with re-painting of these items if required.

The ancillaries to the car wash line are not without interest too. Apart from the two steam cleaners mentioned already the power house contains water tanks with a water pump to provide the pressure of 50 p.s.i. required by the rinse units, two water softeners capable of handling 5,000 gallons of water an hour (the requirement of the car wash line under maximum capacity conditions) and a large air compressor.

The glass-fronted waiting room, where each driver is offered a free cup of coffee while he waits, contains a battery of automatic vending machines.

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