S T A N B R I D G E L I M I T E D

(MANUAL NO. 15)

PRELIMINARY INFORMATION
AND
INSTALLATION PROCEDURES

for

WASHER/DISINFECTORS

ALL MODELS

- **To be given to Installation Engineers b<u>efore</u> work starts.**

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STANBRIDGE INSTALLATION PROCEDURES

SECTION A – INTRODUCTION & DELIVERY

INTRODUCTION Manual No.15 (Installation) Only

This small Installation Manual consists of extracts from the main Instruction Manual sent out with each machine packed immediately beneath the outer machine packing.

It enables all vital information relating to installation to be considered well in advance of actual delivery.

Ideally, Stanbridge would like the opportunity to quote for the installation following a Free of Charge Site Survey but should the machine be installed by your own staff, please ensure that the recommended procedures are followed.

When your machine is delivered, the Instruction Manual with it contains details of components, servicing, spares, commissioning, CE Declaration, Service Log Sheets, etc. It also contains the Application Form for commissioning referred to under Item F.q.

DELIVERY

(Copied, for reference, from the Packing Contents List).

For safety in transport this machine is screwed to a wooden pallet, covered with “Bubble Wrap” plastic padding, boxed with strong corrugated card and then strapped overall.

A copy of the machines operating manual is placed immediately under the lid of the outer carton and Sections B and F should be read before attempting to install the machine, and Section G before switching on the power.

Two keys from the key switch and instructions for the installation of the float valve restrictors are taped to the rear bar of the machine.

SECTION B

WARNING and GUARANTEE

B.1 WARNING

Please read these notes, also installation and commissioning details before attempting to run the machine. Particularly do not apply any electrical power until all detailed instructions have been met.

There is often considerable delay before putting equipment to work, which can, in certain circumstances, cause problems beyond our control.

It is important that lids and tank covers are left in place except when essential to remove them, otherwise there could be a problem of foreign particles (scale, builders' dirt, etc.) dropping into the water tanks, valves, pump and steam generator. This may result in a strip-down of the machine.

Care must be taken to ensure that plumbers' waste, pipe and thread swarf, sealing compound, filings, etc. do not enter the system. Pipe-work should be flushed through and siphoned to waste before start-up.

Pump rotor jamming, and weeping valves are common faults, occurring particularly in the first few weeks because these precautions are neglected.

FAILURE TO OBSERVE THESE RUDIMENTARY PRECAUTIONS

WILL NULLIFY THE GUARANTEE

Water start-up rules must be observed to ensure adequate priming to protect pump and electrical elements.

Make sure you know the water hardness and scale problems of your supply. The consequence of water scaling and ingress of foreign particles cannot be held as our responsibility.

B.2 GUARANTEE

All Stanbridge products are thoroughly checked before leaving our Works. Each machine is subjected to actual operational tests, during which a large number of complete cycles are undertaken whilst the machine is 'in situ' in our own in-house sluice room.

Should any component fail due to faulty manufacture or workmanship within twelve months of the despatch date from our factory, the faulty component must be returned to us for inspection, and a replacement will be sent to you Free of Charge to the original delivery address.

Normal freight or postal services will be used for despatch. Any extraordinary method of despatch, e.g. Data Post, Securicor or AirFreight will be charged for.

Wherever possible we will endeavour to provide a fitting service, if required, but the cost of labour is not included, and we reserve the right to make discretionary charge to cover transport and time.

SECTION F

INSTALLATION PROCEDURE

1. If a **DUO** machine has been ordered this will consist of two identical machines bolted together. All services and access as listed below will apply to each machine except that between items 3e and 3f there will be an additional step of:- bolt the two machines together using the nuts, bolts, spacers etc. provided.

   NOTE: Electrical rating for the DUO machine is 30 AMP.

2. For a '**Toilet Seat Raiser'** washer/disinfector the following variations apply:-to 3e add - check that the utensil cage rotates freely. The note under 3f is deleted and instead - run a commercial dishwasher/washing machine flexible drain hose to a suitable discharge point (approximate 25mm dia) from the machine

3. a) Remove "Bubble Wrap" packing.

   b) Remove the four or five screws from the front panel and lift clear of the machine. The foot-operating pedal will remain on the machine. Remove the screws at the rear edge of the side panels, remove panels and place all panels and screws in a safe area to avoid loss or damage.

   c) Unscrew machine from pallet and place in approximate position.

   d) Open the machine chamber by pushing the solenoid core situated just off centre to the right behind the machine instrument strip. Remove any loose parts from inside the chamber.

   e) The cage for holding pans etc., may be tied to the washing jets with a plastic cable tie to avoid damage in transit. Cut cable tie and allow cage to hang from the eyebolts inside the chamber. Some cages are fixed.

   f) Place and level the machine in its correct position and connect machine to the waste pipe by any approved method

   Note
   As supplied the machine Chamber terminates with either a 3 or 4" stainless steel tube which is then fitted with an 82mm plastic trap by means of a heavy duty rubber coupling. The trap terminates with a spigot of 82mm dia. The actual trap ('P' or 'S') and its position will have been determined at the Selection and Ordering stage of the contract.

   h) Firmly screw the machine to the floor or wall using the holes provided in the base or back of the frame

   i) Run and connect water supply. Machine will have a single break tank for the Compact range or hot and cold break tanks for other models. Tanks conform to Type 'A' air gap requirements of the Water Bylaws and can therefore be connected to a "mains" supply. The float valves fitted will operate over a wide range of pressures up to 200 p.s.i. but must have a minimum flow of 0.2 lt/sec (2.7gall/min). If the flow is less it will not affect the running of the machine per cycle but will increase the waiting time between cycles. Water feeds should be run in 15mm pipe (22mm in low-pressure areas or if machine is connected to pipes feeding other equipment i.e. baths etc.) to a Stop Cock or Service Valve in an obvious and easily accessible position within one metre of the machine. Continue from the service valve to the float valve in 15mm pipe or suitable flexible hose. The float valves are plastic and have a ½ B.S.P. thread fitting but connector must be made using a "tap connection" with a flat rubber washer in it. Fuller details of the float valve fixing and the use of flow restrictors are contained on Component Sheet H1.

NOTE 1:
The service valves are required by the Water Bylaws so that the equipment can be isolated. It is essential that all piping is flushed clear before connecting to the float valve. Where there are two tanks they will be identified by a red washer for Hot and Blue for cold.

NOTE 2:
On some CS/3 machines, particularly High Dome, a single tank fitted with two float valves is supplied to increase water flow i.e., using both hot and cold supplies. See information sheet No. 72.

NOTE 3:
Hand Spray - if this is fitted, usually on top loading machines, it is connected to a "shut off" valve on the front edge of the machine. The internal connection is dependant on the water supply as follows:

1. If the machine is fed from the mains water, the spray must have its own supply from a "dedicated" roof tank, minimum height of 4 metres.

2. If the machine is fed from a "dedicated" roof tank the spray supply can be "teed" off from the pipe feeding the cold internal break tank.

j. Run and connect overflows. Each break tank has an overflow hole of 27mm diameter designed to take a ¾" BSP overflow fitting. The fitting is to be fastened in the tank with a "back nut" and pipe run continued in solvent welded pipe and fittings. Overflow pipework must, of course, run continuously downward. Flexible piping must not be used, it is not permitted to join overflows together and they must not connect direct into other pipework. i.e. each overflow end must be visible

k. If a dosing unit is fitted uncoil the plastic tube connected to the dosing pump in the bottom of the machine and using it as a guide, fit the dosing fluid container onto the floor in a safe position where it can easily be seen or on to an adjacent wall in a suitable position.

m. Fit the 15 AMP switched, fused spur within one metre of the machine and **remove** the fuse. Wire supply to the spur and connect machine into the spur.

n. Turn on water and check for leaks, when satisfactory adjust float valves so that water level is just below the overflow level. Depress the float valve float so that tanks fill and check overflows.

NOTE:
Floats must be readjusted during commissioning. (See also P3 below).

o. Check that all internal earth's are secure and that the supply cable earth conductor is securely in place. No external earth bonding is required.

p. Steam Connections. These are dependent on the type of machine as listed here:-

1. Hospital Steam -
This is supplied direct from the hospital steam main to your own reducing valve to take the pressure down to 3-5 p.s.i. it is then to be piped to the steam solenoid valve within the machine. Stanbridge supply stops at the solenoid valve i.e. external steam piping and reducing valves are the customers supply.

2. Hi-Speed Steam -
This is supplied from an internal steam generator using an electrical immersion heater and operates at approximately 10- p.s.i. All connections are internal to the machine. i.e. no additional installation.

3. Free Steam -
This is again supplied from an internal steam generator using an electrical immersion heater but operates at atmospheric pressure. All connections are internal to the machine. **BUT** the float valve will need adjustment during commissioning. For reference, the water level in the generator is maintained by a weir or tundish inside one of the break tanks acting similar to the 'U' tube, the weir or tundish is positioned immediately beneath the float valve discharge so that it is always full. When static of the level of the water in this tank must be set between 3mm and 6mm above the top of the weir to tundish.

q. When satisfied that all of the above actions have been fully carried out application for commissioning and staff instruction may be made by completing the Form (in Manual supplied with the machine) and posting or faxing to Stanbridge. A notice of two weeks is preferred.

When asked to commission we will comment on any installation faults but will not correct them unless requested by Site Official. The Manual Section G gives the scope of commissioning.

SECTION H

COMPONENTS

H.1 **FLOAT VALVE** (PART NO. 056-0181 COMPLETE VALVE)
(PART NO. 050-178 THICK DIAPHRAGM MARKED W.P.E.)
(PART NO. 050-183 THIN DIAPHRAGM MARKED D.P.R.)

This valve is of standard supply but modified by Stanbridge particularly for our machines.

INSTALLATION OR REPLACEMENT OF VALVE

Flush out all pipework and clean tanks and cisterns of dirt and loose particles.
Fit valve body with rubber washer 'B' through tank wall. Hand tighten 'A', ensure valve body is vertical and tighten nut 'A' by three-quarter turn with spanner. Check Diaphragm and restrictor as follows:-

WATER TANK FEED

Less than 25 ft. head	No restrictor	Thin Diaphragm
Between 25-120 ft. head	Restrictor 'D'	EITHER Diaphragm
OVER 120 ft. head	Restrictor 'C'	Thick Diaphragm

MAINS WATER FEED

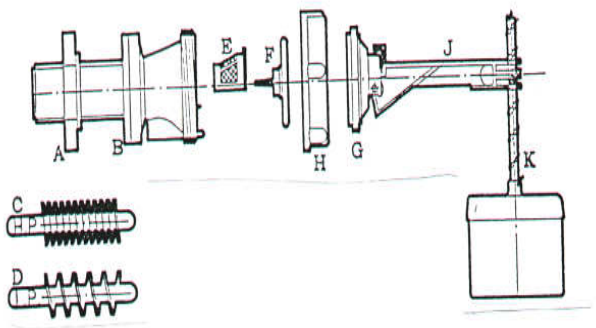
Less than 60 psi	Restrictor 'D'	Thin Diaphragm
Over 60 psi	Restrictor 'C'	Thick Diaphragm

Connect to water supply using a tap connector with a flat rubber sealing washer. Check that nut 'H' is finally HAND tightened and float moves freely, turn on water and adjust float level.
The operation of the valve should be checked periodically during the filling of the cistern, by manually raising the float arm. After an interval of between 4 and 20 seconds (depending on the water pressure) the valve will close. If the valve fails to operate properly check that all air and dirt in both valve and pipe work has been eliminated.

TO CLEAN

Turn off water supply. Unscrew front screw-ring (H) and remove diaphragm (F). Wash carefully in soapy water and then rinse in clear water. If a filter is fitted check that it is pushed firmly into its location slot. Put the diaphragm back into the valve with the central white spike pointing towards the body, locating the small white bush on the outer edge of the diaphragm onto the steel pin fixed to the valve body. Reassemble the front cap, arm and float and hand tighten front screw-ring (H). Turn on water Supply.

DO NOT attempt to remove small bush or centre assembly from diaphragm.
DO NOT use sharp tools or overtighten any parts of valve assembly as serious damage to precision-made parts may occur.
DO NOT use bleach or disinfectant in the cistern as these may affect the plastic components.



STANBRIDGE LTD.

SERVICE LOG SHEET

FOR MACHINE NO. W…….

DATE	DETAIL	COMPANY & ENGINEER ENGINEER
	DESPATCHED	
	INSTALLED	
	COMMISSIONED	

DATE	DETAIL	SERVICE REPORT NO.	COMPANY & ENGINEER

Continuation sheets available from Stanbridge Ltd.

ISSUE 4

SITE CHECKS TO ENSURE CORRECT INSTALLATION BEFORE COMMISSIONING VISIT

One form, for each machine, must be completed and returned to Stanbridge Limited before a commissioning visit can be progressed. A minimum of 10 days notice is required.

Machine Serial No: **Print Name:**		**Site Address:**
Title/Responsibility:		**Machine Location:**
Additional Information:		**Floor**: **Ward:**

			ACCEPT	NOTES
1.		Is electrical power available.		
2.		Is machine wired to wall outlet. Particularly earth		
3.		Is water pipe work coupled up.		
4.		Are stop cocks for emergency turn off fitted.		
5.		Are stop cocks accessible.		
6.		Are chamber vents (when applicable) properly piped.		
	a.	With acceptable heat durable material.		
	b.	Vented to atmosphere within 20'00 ft.		
7.		Is trap correctly fitted.		
8.		Does drain pipe slope downwards away from machine.		
9.		Is machine adequately fixed.		
10.		Are cladding panels available.		
11.		Can cladding side panels be easily removed.		
12.		Is the machine damaged in anyway.		
13.		Are the float valves hanging vertical and does one discharge directly over Tundish		
14.		Are back nuts properly tightened.		
15.		Has new pipework been flushed.		
16.		Have overflows been fitted.		
17.		Confirm compliance with local Water Provider Inspectorate		

STANBRIDGE

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Date ……

Signed ……

Name in Full……

MANUAL NO. 15

INFORMATION SHEET NO. 72

09

L.1

FAULT FINDING

The following text is designed to help fault finding and repairing of Stanbridge machines and covers the most common of faults on Hi-Speed and Free Steam machines.

Before starting any repairs the electrical supply should be turned off. It is also a good idea to look inside the chamber to make sure it is not blocked.

SYMPTOM	**SOLUTION**
Door will not open	Remove front cover and electrical panel cover and check incoming power supply. Check 5-amp fuse. Press foot pedal and listen for audible click from pressure micro-switch. Check resistor connected to pressure switch. Check door micro-switch.
Machine will not start	Remove front cover and instrument strip and check start switch. Check water level in hot water tank and make sure Torbeck valve is working correctly. Check float switch is working and for scale build up. Check door micro-switch is adjusted correctly. Check timer is in start position.
Machine stuck in cycle (Free Steamer) - Temperature Limiter tripped out.	Remove front panel and electrical panel cover. Reset temperature limiter. Check level in hot water tank and that the Torbeck valve is working correctly. Check water supply pipe to steam generator and steam delivery pipe is free of scale and any other obstruction.
Machine stuck in cycle (Free Steamer)	Remove front panel and electrical panel cover. Check heater relay is working correctly. Check continuity of heater in steam generator and thermal fuse in heater. Check steam generator, water supply and steam delivery pipes for scale build up.
	Note:
	If override key switch is used the steam light will ”blink” until cycle is completed.
Water runs continuously into chamber	Remove front cover, strip the relevant electronic valve; clean and check valve seat and fit repair it, if necessary.
Machine starts - pump does not run	Remove front cover (top loaders) bottom cover (front loaders). Remove fan cover on water pump, turn fan until it rotates freely.