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HORNE T105A/106A/107A/108A THERMOSTATIC SHOWER PANEL FOR SURFACE MOUNTING WITH DUAL CONTROLS INSTALLATION, OPERATING & MAINTENANCE INSTRUCTIONS

Note that these instructions feature the T108A (and T1Y8A) shower panel. The T105A, T106A and T107A feature the same TSV1-3 thermostatic valve but differ in the water outlet fittings. All comments relating to the T108A also apply to the other shower panels mentioned above and their variants.

Approvals

The TSV1-3 Thermostatic Shower valve has been independently tested by WRc-NSF and approved to all the requirements of NHS Model Engineering Specifications D08 Thermostatic Mixing Valves (Healthcare Premises) to the following designations and for the following applications:

HP-S	Shower with supply pressures of 1 – 5 bar and unrestricted flow rate
LP-SE	Shower with supply pressures of 0.2 – 1 bar and unrestricted flow rate

Supply Water Pressure requirements

The minimum water pressure required to achieve a spray at the spray head is a dynamic head of 2m (3 psi, 0.2 bar) at the spray head. Note that for very low head installations, both hot and cold water supplies must be at the same pressure.

Note that dynamic head is measured with the water running.

Where the TSV1-3 panel is fed by supplies with differing pressures, a pressure-reducing valve (PRV) may be required on the inlet with the higher pressure. If the lower inlet pressure is low enough (typically 0.5 to 1Bar dynamic) that the flow-regulator in the outlet fitting (see pages 10,11,12) can be removed, then a PRV should not be required. If the lower of the 2 supply pressures is higher than around 1Bar, then a flow-regulator will likely be required to restrict flow. If the flow-regulator is installed, and the supply pressures are substantially unbalanced, then a PRV could also be needed to prevent pulsing of the flow. Although thermostatic performance is unaffected by this, the flow pulsing is often considered undesirable.

Note that output flow-rate is always determined by the lower of the two inlet pressures.

	High Pressure	**Low Pressure**
Maximum Static Pressure	10 bar	10 bar
Flow Pressure, Hot & Cold	1 to 5 bar	0.2 – 1 bar
Hot Water Supply Temperature	52 – 65°C	52 – 65°C
Cold Water Supply Temperature	5 – 20°C	5 – 20°C
Minimum Temperature Differential	5K	5K

Temperature Adjustment Range

The mixed water temperature can be adjusted from cool through to a top limit (which can be preset during installation – factory set to approx. 41°C - with full anti-scald protection throughout the range).

Water and Energy Conservation

The TSV1 range shower panels are fitted at the factory with flow regulators at the shower outlet to reduce the flow rate and conserve water and energy. The drawings at the end of this document provide information for accessing the flow restrictors/regulators for removal or replacement.

Every HORNE TSV1-3 is supplied with an integral WRAS approved single check valve and integral large surface area strainer. The Shower Panel terminates in 15mm copper pipes for hot and cold supplies. The hot pipe is on the left, and cold on the right, when viewed from the user's perspective.

INSTALLATION

The surface mounting enclosure is supplied with fixings to attach it to a wall. However, consideration should be given to the type of wall fittings required, as different substrates will require different fittings.

Recommended Mounting Heights

T105, T107, T108 Panels	Bottom of panel should be 1.0 metre from finished floor level*.
T106 Panel (swivel-head, shown p13)	Bottom of panel should be 1.1 metres from finished floor level.

* For accessible and Changing Places installations, please refer to Building Regulations Doc M and BS8300 for appropriate guidance.

1) *Position the Pre-Plumbed Enclosure*

Identify a suitable position for the Enclosure and mark a line on the wall level with the top of the casing. Mark a point on the wall which is on the required centreline for the Casing 15mm below the line of the top of the casing for the support screw (See Fig. 1).

2) *Install the Support Screw*

Drill a hole in the wall and insert an appropriate wall-fixing and screw, leaving the head of the screw 11-13mm from the wall surface. Note that a stainless-steel screw is supplied for this (corrosion resistant).

3) *Hang the Enclosure on the Support Screw*

Release the top cover of the pre-plumbed enclosure by removing the four screws. Hang the pre-plumbed enclosure on the support screw by the larger hole in the middle of the back strap and let this take the weight of the enclosure. See Fig. 2.

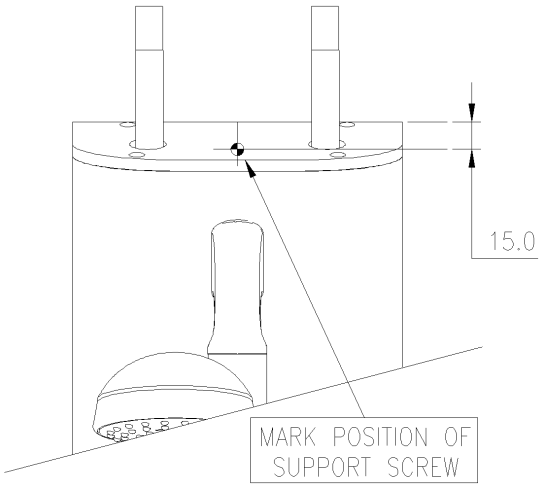


Fig.1

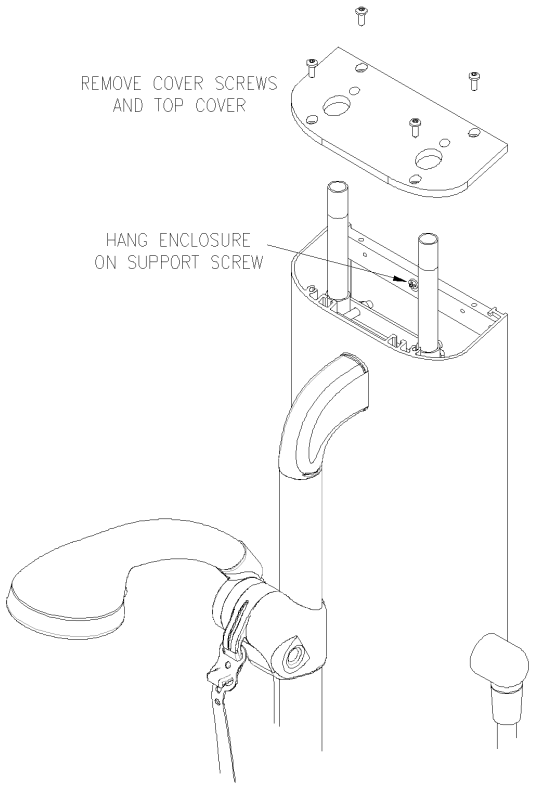


Fig. 2

4) *Mark out the 4 Support Holes*

Ensure that the enclosure is hanging true and then mark out the holes for the 2 upper support screws. Remove the bottom cover of the pre-plumbed enclosure and mark out the 2 lower support screws (See Fig. 3).

5) *Drill Support Holes*

Carefully remove the pre-plumbed enclosure from the temporary support screw and, being careful not to scratch the enclosure or its covers, lay it down where it will not be damaged. Drill the 4 holes and install the wall plugs.

6) *Attach the Pre-Plumbed Enclosure to the Wall*

Carefully re-hang the pre-plumbed enclosure on the temporary screw. Put the four supplied screw bushes in the mounting holes in the panel and then attach the panel firmly to the wall by the four supplied stainless steel screws. A bead of silicon mastic can be used, if required, to cover any gaps behind the panel on uneven walls. Do not mastic the lower End Cap to the wall. See Fig. 4.

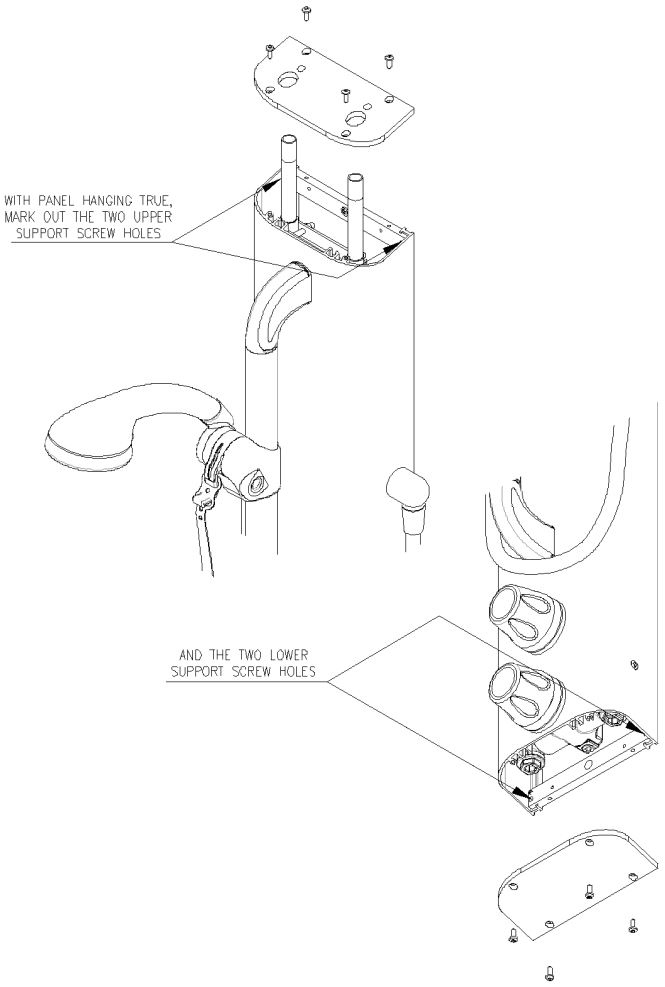


Fig. 3

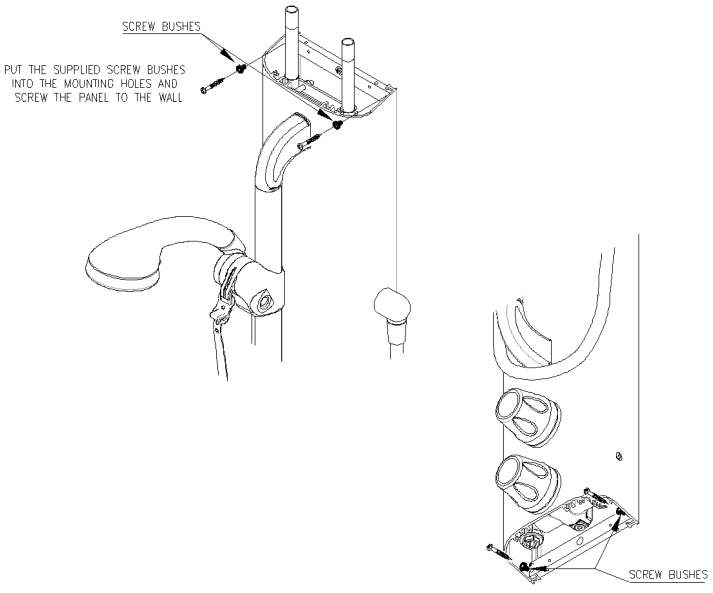


Fig. 4

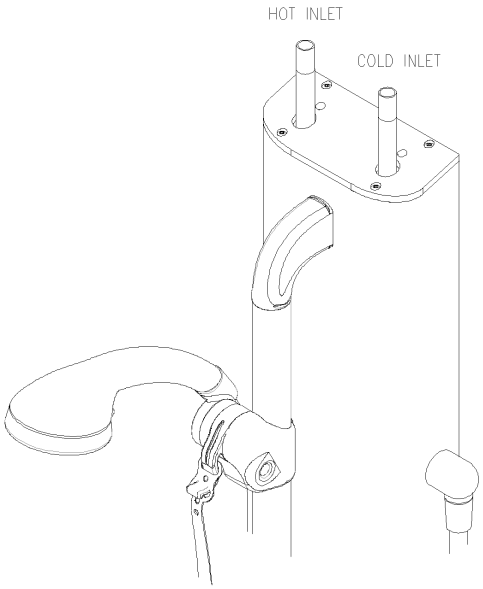


Fig. 5

N.B. It is important to use the supplied screw bushes.

7) Connect the Supply Pipes

N.B. Ensure that the top cover of the pre-plumbed enclosure is replaced prior to connecting up the supply pipes. The fitting of isolation valves is required as close as practicable to the water supplies inlets of the shower panel.

Connect the hot water supply to the left hand inlet, and cold water to the right-hand inlet (See Fig. 5).

DO NOT OPEN THE WATER SUPPLIES AT THIS STAGE AS THEY HAVE NOT BEEN FLUSHED OUT TO REMOVE THE DEBRIS IN THE PIPEWORK. SUCH DEBRIS CAN DAMAGE THE THERMOSTATIC VALVE.

8) Flush the Pipework

Flush out the pipework in accordance with Water Bylaws 2014 (Scotland) and BS 6700 (England & Wales). The use of a Horne flushing kit is strongly recommended, because this connects directly to the water inlets to the mixing valve. Access to the flushing points is gained from underneath the casing through the lower end cap. Isolate the water supplies and also the low-level servicing valves located on the side of the panel (see Fig. 6) using the supplied 4mm hex key. Remove the strainer cap with the strainer basket and screw in the flushing adapter. Place the end of the flushing hose in an appropriate drain or container and turn on the supply to flush as required. After flushing, remove the flushing adapter and replace the strainer cap. Repeat for both hot and cold supplies. See Fig. 6 and 7.

NOTE THAT IF THERE IS ANY DANGER OF FREEZING THEN THE PIPES AND TSV1-3 MUST BE DRAINED TO AVOID DAMAGE.

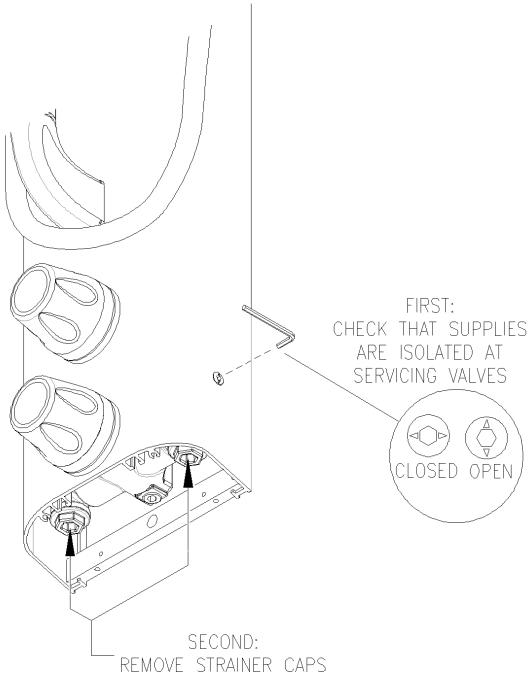


Fig. 6

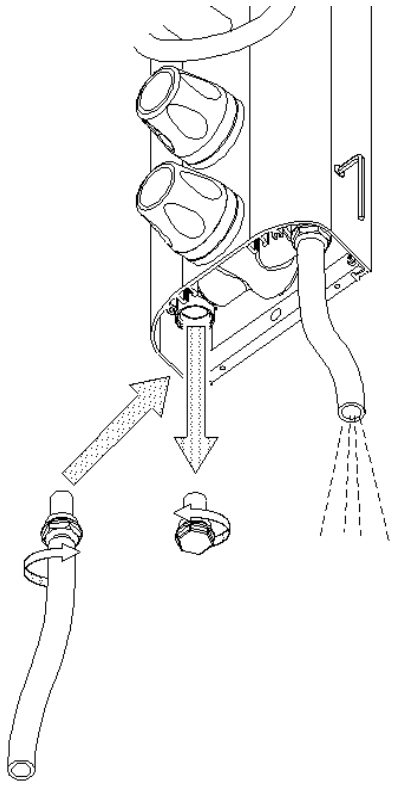


Fig. 7

9) Test for Leaks in Pipework

Ensure that the TSV1-3 on/off control is closed (i.e. turned fully clockwise) and open the supplies. Open the servicing valves on the TSV1 Casing (See Fig. 6). Turn on the supplies and adjust the temperature control and check for any water leaks upstream of the TSV1-3 valve. Make good any leaks found. The valve is now ready for commissioning.

Note that if the controls, enclosure and shower accessories require cleaning then care must be taken not the scratch them in the process. Wash off any surface dust with the shower spray before cleaning with soapy water.

DO NOT USE ANY ABRASIVE CLEANERS OR SOLVENTS OR THE SURFACES MAY BE DAMAGED.

Backflow Prevention

The hot and cold inlets to the TSV1-3 valve are fitted with single in-line WRAS Approved DN15 Check Valves.

Supplementary Installation Instructions for T10XB Variants.

TSV1 Panel Mounted Shower Valves are available in versions with flexible braided stainless steel inlet hoses rather than top entry isolating valves. The hoses used are PEX (cross-linked polyethylene). They are not EPDM lined. These versions have Product Reference codes with the suffix **B**, e.g. **T108B**.

The main difference, from an installation point of view, is that the water supplies may have to be connected before the pre-plumbed enclosure is attached to the wall. Accordingly, point 7 on the attached installation instructions (Connect the Supply Pipes) should be performed before point 6 (Attach the Pre-Plumbed Enclosure to the Wall) unless alternative access is available to the connections, e.g. via an access panel.

Note that the braided hose inlets are colour coded with BLUE for the Cold Water Supply and RED for the Hot Water Supply.

Care should be taken to ensure that the weight of the pre-plumbed enclosure is taken by the mounting screws and NOT by the hoses.

COMMISSIONING

It is essential to commission the valve in order to establish a reference point for future in-service tests. Ensure that the pipework has been flushed out before commissioning the TSV1-3. (See installation instructions.)

Ensure that the NHS designation of the valve matches the intended application, that both hot and cold water supplies are open and at, or near, their design temperatures and pressures, that they are within the requirements of the valve as outlined on page 1, and within guidance information on the control of legionella, etc. **NB Ensure that the servicing valves are also open** (see Para 8).

Set the temperature control to the maximum temperature setting (i.e. rotate the control anticlockwise until it stops).

Fully open the on/off control by turning it anticlockwise. For installations with a fixed shower head, putting a burst polythene bag over the shower head will help to catch and deflect the spray during commissioning.

Allow the shower to run at maximum temperature setting until the water temperature has stabilised. Should the temperature rise, or drop, in an uncontrolled fashion, then the hot and cold supplies are probably reversed. Correct this before proceeding.
The TSV1-3 is set in the factory to provide a maximum outlet temperature of approximately 41°C, but this should be checked on site to ensure that the setting has not been altered, and to ensure user safety. If necessary, reset the maximum outlet temperature to 41°C.

If the maximum temperature requires adjustment, remove the temperature control cap using a small plastic spudger or blade and adjust the small slotted screw in the centre of the spindle. Adjust the screw anticlockwise to increase the temperature, clockwise to decrease the temperature. See Fig. 8.

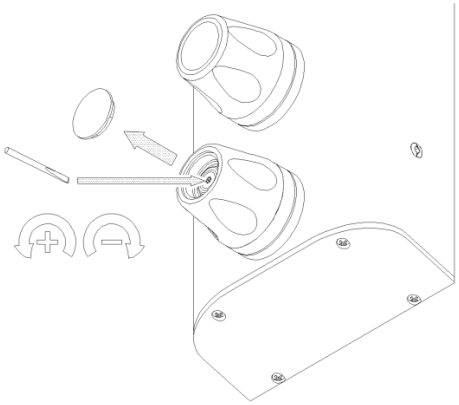


Fig. 8

After setting the maximum temperature, turn the shower on and off a few times and check that the maximum setting is correct.

Note that the final stabilised Mixed Water Temperature should not exceed 43°C to comply with D08. Record the commissioning information, including equipment used, on the attached commissioning sheet to permit the in-service performance of the valve to be assessed at a later date.

Finally, check the thermal shut-off facility of the TSV1-3 by performing a thermal shut off test (often called a cold supply isolation test). With the shower running, close the cold (i.e. right hand) servicing valve. The Servicing Valve is closed when the arrows are in the horizontal position, and open when they are in the vertical position. See Fig. 6. The flow from the shower head should immediately stop or reduce to a trickle, in which case the mixed water temperature rise should be less than 2°C above the set temperature. In either case, there is no scalding risk. If the temperature rises above this then it is likely that there is contamination in the TSV1-3 that is preventing it from shutting off the hot supply. Restore the supply and note the final stabilised temperature, which should not exceed 43°C.

Refer to the maintenance section of this booklet or phone the factory for advice, if necessary.

MAINTENANCE

Maintenance of the TSV1-3 shower valve is essential to ensure the product continues to perform to specification after installation, and continues to afford scald protection. Record all maintenance carried out on the attached commissioning and maintenance record.

When cleaning the external levers or control knobs, never use cleaners containing abrasives or solvents as they may damage the chrome plating. Use only a soft cloth and soap.

The frequency of routine maintenance of the TSV1-3 internals (i.e. cleaning, descaling etc) depends largely on the condition of the water supplies, and local knowledge will dictate suitable intervals. In addition to this the following precautions should be observed.

Initially check the strainer baskets for debris every three months and clean if required. This period can be increased if appropriate once the general condition and cleanliness of the water is established.

Perform a thermal shut-off test every three months, and check the maximum temperature setting. See the last paragraph in the Commissioning Instructions for details of the thermal shut-off test and re-adjustment of the maximum temperature setting, if required.

If the maximum water temperature rises by more than 2K (2°C) from the commissioned setting then ensure that the strainers are clean and that the isolating valves are fully open. Test the Check Valves as described below. If these tests do not highlight the reason for the temperature rise then follow the procedure below for investigating failure of the thermal shut-off test.

If the TSV1-3 fails the thermal shut-off test then remove the temperature control knob and the thermostatic cover (see Installation section for details) and check the internal surfaces for scaling. If the TSV1-3 body requires de-scaling then it should be removed from the casing to do this. All rubber parts must be removed prior to de-scaling. Do not forget the Slide Valve Seal located inside the TSV1-3 body, which should always be replaced with a new seal after removal. Maintenance kits are available which contain "O" rings and/or the Thermostatic Element. Smear all "O" rings with silicon oil prior to installing them. Torque the TSV1-3 cover to 40 Nm (54 lbft). This is to prevent the user from inadvertently unscrewing the cover during temperature adjustment. Do not over tighten the cover.

Replace the "O" rings every three years (Maintenance kit with spare "O" rings available). Smear silicon oil on all "O" rings prior to installation. Lightly smear the outside diameter of the slide valve with silicon oil prior to installation.

Replace the Thermostat Element and slide valve assembly at least once every 6 years in all TSV1-3 valves, or more often if problems are experienced or in installations where the water is aggressive.
The multi-turn On/Off mechanism uses a ½" washer, which should be replaced when it leaks. Remove the cosmetic trim and unscrew the on/off assembly. The washer is retained by a small nut. Do not over tighten this nut (torque to 2.5 Nm). Ensure the on/off assembly is torqued down to 25 Nm (34 lbft) to prevent the user from inadvertently unscrewing the assembly during flow control. Do not over tighten the assembly.

The Check Valves prevent crossflow between hot and cold water supplies under unequal pressure conditions, and are designed for long life with no maintenance. Their function can be tested as follows:

To test the Check Valve on the hot side, shut off the hot supply and ensure the cold supply is open. Be prepared for leakage of trapped water from the pipe and remove the strainer basket on the hot side. Any continuing leakage evident from the strainer body is likely to be coming through the hot supply Check Valve (N.B. Ensure the hot isolating valve shuts off tightly, or it may cause leakage here).

To test the Check Valve on the cold side, shut off the cold supply and ensure the hot supply is open. Be prepared for leakage of trapped water from the pipe and remove the strainer basket on the cold side. Any continuing leakage evident from the strainer body is likely to be coming through the cold supply Check Valve (N.B. Ensure the cold isolating valve shuts off tight, or it may cause leakage here).

If either Check Valve is leaking then the inlet elbow (complete with Check Valve and strainer basket) should be replaced. It is not possible to satisfactorily remove the Check Valve itself from the inlet elbow and this should not be attempted. The shower valve body must be removed from the pre-plumbed enclosure in order to remove the inlet elbows. See Fig. 9 for the location of the parts.

Care should be taken not to lose any of the parts from the drive coupling on the Servicing Valves.

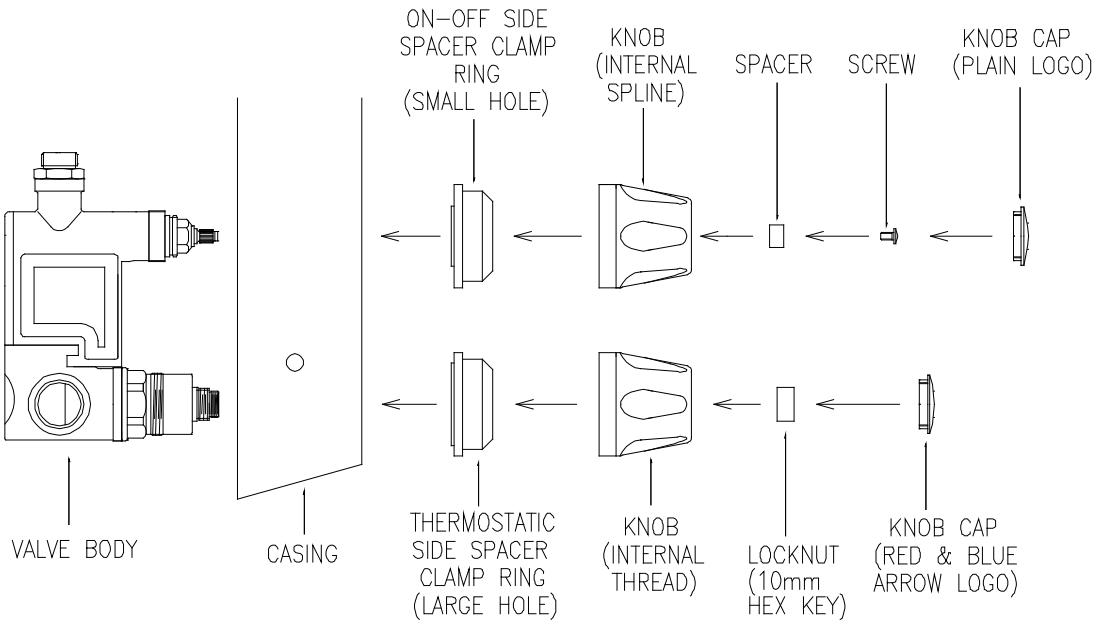


Fig. 9.

To remove the spray plates from the fixed shower head, rotate the lock rings to 30 degrees anticlockwise to release the bayonet fitting and then ease out the spray plates by the lock ring. Note that for the fixed showerhead, a tool is supplied with the showerhead to engage the lock ring as shown in Fig. 10.

Fig. 10.

See attached drawing 8341 for parts lists for ordering spares.

IN-SERVICE TESTING

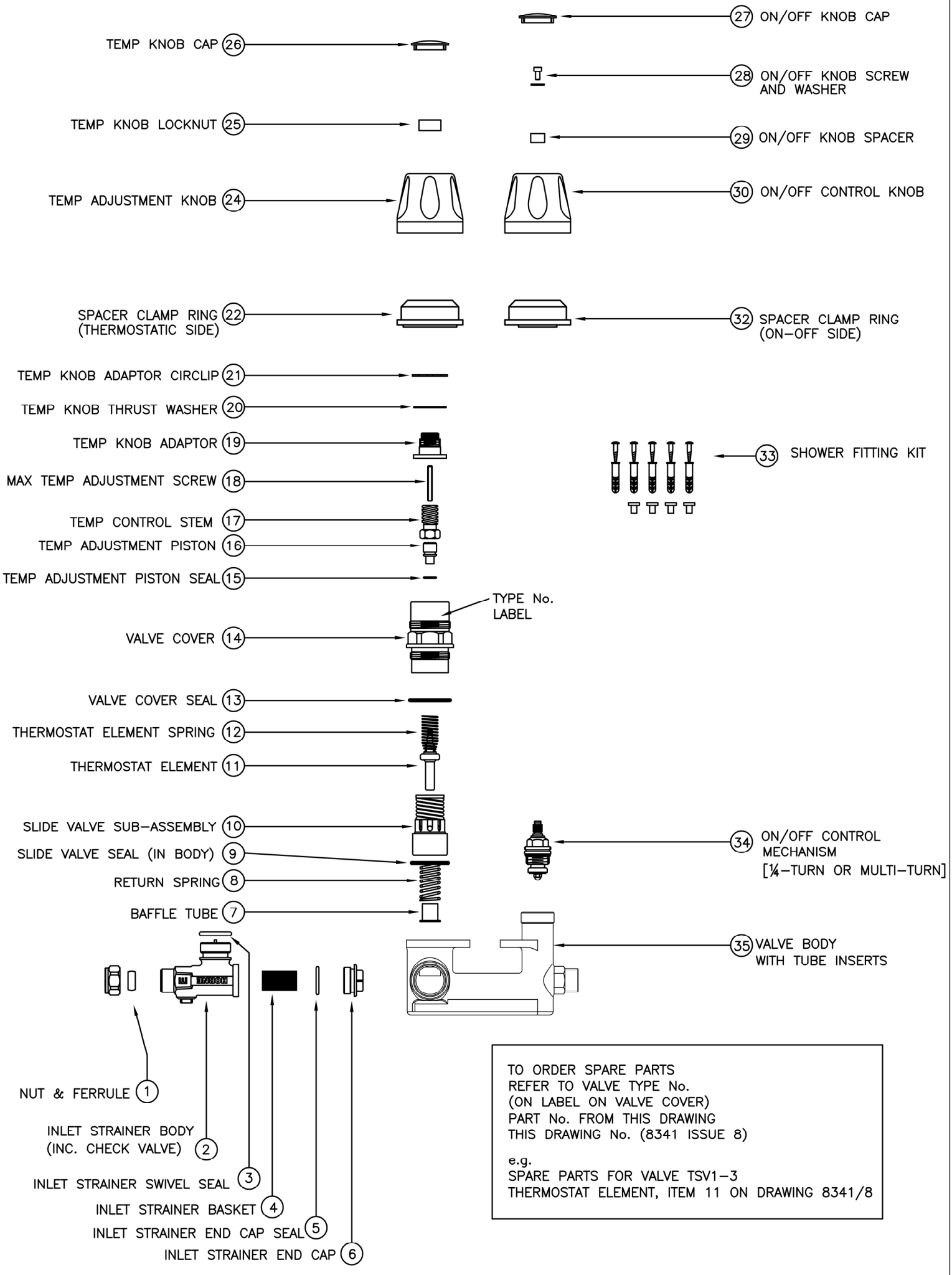
Periodic testing should be carried out to check whether or not any deterioration has occurred in the performance of the TSV1-3. The results of these tests, and the equipment used, should be recorded on the Commissioning, Maintenance and In-Service Testing Sheet at the back of these instructions. Fill in all the parameters requested on the sheet.

Note that instrumentation to the same specification should be used each time when measurements are taken to ensure consistency of results. Record all the information on the In-Service Testing sheet at the back of these instructions.

A thermal shut-off test, as described under “Maintenance” above, should be carried out. Ensure that the servicing valves are fully opened (see Fig. 6) before performing this test. If mixed water continues to flow and is coming from the showerhead at a temperature of more than 2°C above the maximum mixed water temperature setting then the TSV1-3 is due for maintenance. Any requirement to adjust the Mixed Water Temperature should be recorded, and the strainers checked for cleanliness, and check valves checked.

Note: A thermostatic mixing valve in need of maintenance can be undetectable in normal use and only become apparent when disruption occurs in the hot or cold water supply temperatures or pressures. In service testing should be carried out at a frequency to detect any such deterioration.

The frequency of in-service testing depends upon the condition of the water passing through the TSV1-3. In-service testing must be carried out more frequently in hard water areas than in soft water areas. As a general guide, in-service testing should be carried out at intervals somewhere between 6 months and 12 months. In-service testing should be carried out at least every 12 months and, where the water is hard, the interval may be less than 6 months. Experience of local conditions and the in-service testing record will dictate the required frequency of in-service testing. In the absence of practical experience of this, a first check 6 – 8 weeks after commissioning should be performed. If no problems are detected (and mixed water temp is within 1°C of the commissioning temp) then checking again 12 – 15 weeks after commissioning to help build up a history. The results should be recorded on the attached sheet. Any requirement to reset the mixed water temperature should be noted. If no such adjustments are required, then the next in-service tests can be scheduled for 24 – 28 weeks after commissioning. If small adjustments (1 to 2 K) are required then check the strainers for cleanliness, make sure the isolating valves are fully open and verify the check valves are operating correctly (see Maintenance Section). The next in-service test should be conducted 18 - 21 weeks after commissioning. If larger adjustments are required (>2K), then service work is required and the in-service tests should be repeated 18 – 21 weeks after commissioning. Note that the pressure and temperatures of the supplies must be identical to those during commissioning for the in-service tests to be meaningful.



TO ORDER SPARE PARTS
REFER TO VALVE TYPE No.
(ON LABEL ON VALVE COVER)
PART No. FROM THIS DRAWING
THIS DRAWING No. (8341 ISSUE 8)

e.g.
SPARE PARTS FOR VALVE TSV1-3
THERMOSTAT ELEMENT, ITEM 11 ON DRAWING 8341/8

HORNE ENGINEERING LTD, PO BOX 7, RANKINE STREET, JOHNSTONE, RENFREWSHIRE, SCOTLAND PA5 8BD DRAWING NO 8341/8

TO REMOVE FLOW REGULATOR

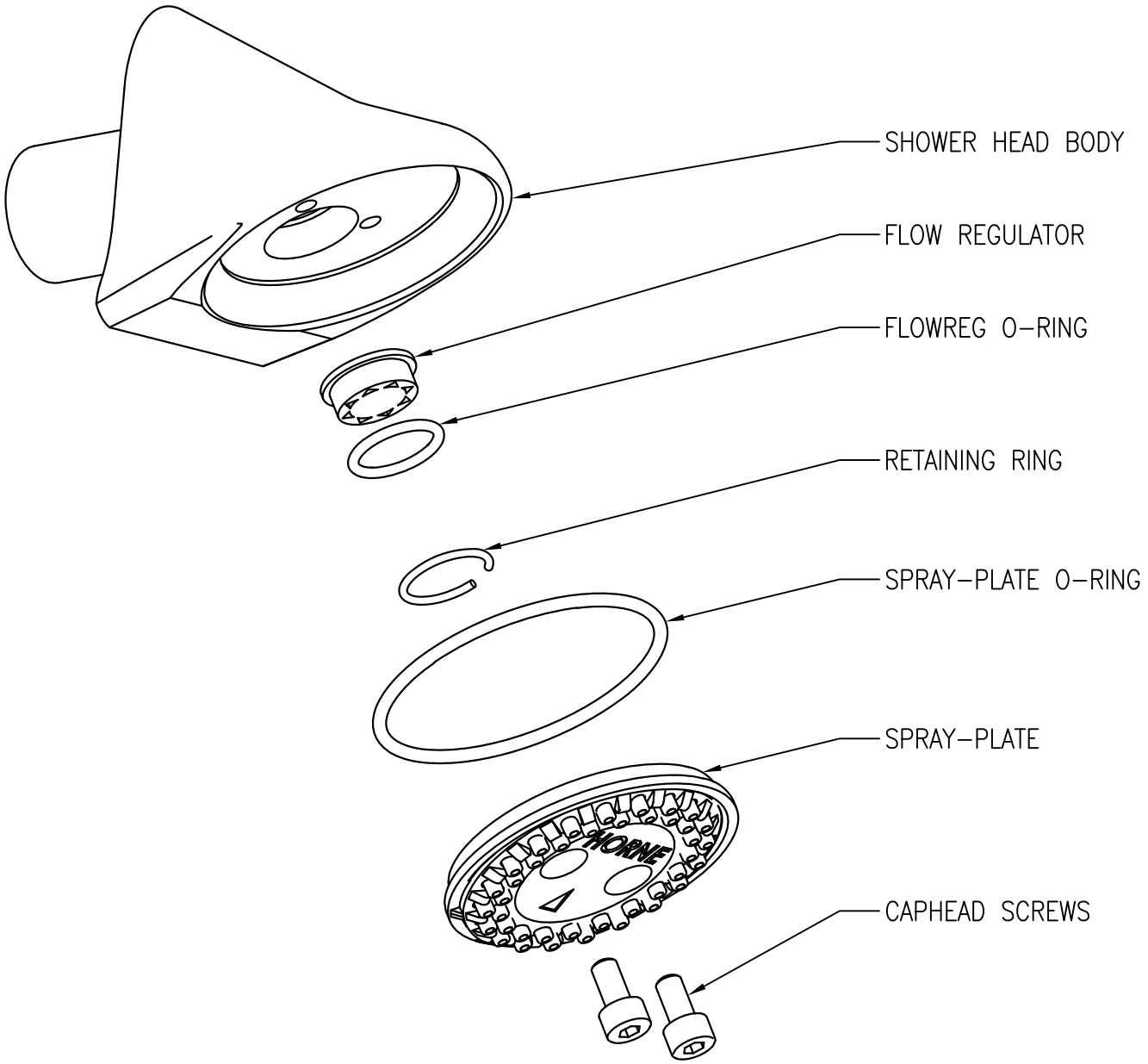
1> REMOVE THE 2 CAPHEAD SCREWS (USING 3MM HEX KEY)
2> PRISE SPRAYPLATE OUT WITH A BLADE OR SIMILAR
3> REMOVE THE RETAINING RING
4> REMOVE FLOW REGULATOR WITH ITS O–RING

STEPS <3> AND <4> CAN BE DONE BY TURNING ON THE WATER SUPPLY AND CATCHING THE PARTS IN A BUCKET

TO RE–FIT FLOW REGULATOR

1> INSERT FLOWREG INTO HOLE, FLANGED SIDE UP (FACING THE WATER SUPPLY)
2> PUSH O–RING INTO GAP AROUND FLOWREG
3> INSERT RETAINING RING
4> FIT THE LARGE O–RING ONTO THE SPRAYPLATE AND FIT THE SPRAYPLATE
5> RE–FIT THE CAPHEAD SCREWS

NOTE THAT THE SPRAY PLATE CAN BE FITTED IN 2 DIFFERENT ORIENTATIONS TO ALLOW GREATER OR LESSER 'THROW' OF THE WATER.



MATERIAL : MATERIAL SPECIFICATION

HORNE ENGINEERING LTD.
JOHNSTONE
RENFREWSHIRE

PART :
REMOVAL / REPLACEMENT OF FLOW REGULATOR (VANDAL RESISTANT HEAD)

PRODUCT :
HORNE SHOWER PANELS

SCALE	DO NOT SCALE
DRAWN	MJ (18/11/2013)
CHECKED	
ISSUE	2

DR'G. No. 10393

TO REMOVE FLOW–REGULATOR

1. UNSCREW SPRAY–HEAD FROM ANGLED TUBE

2. REMOVE FLOW REGULATOR AND WASHER

3. REPLACE WASHER

4. REFIT SPRAY–HEAD

TO FIT FLOW–REGULATOR

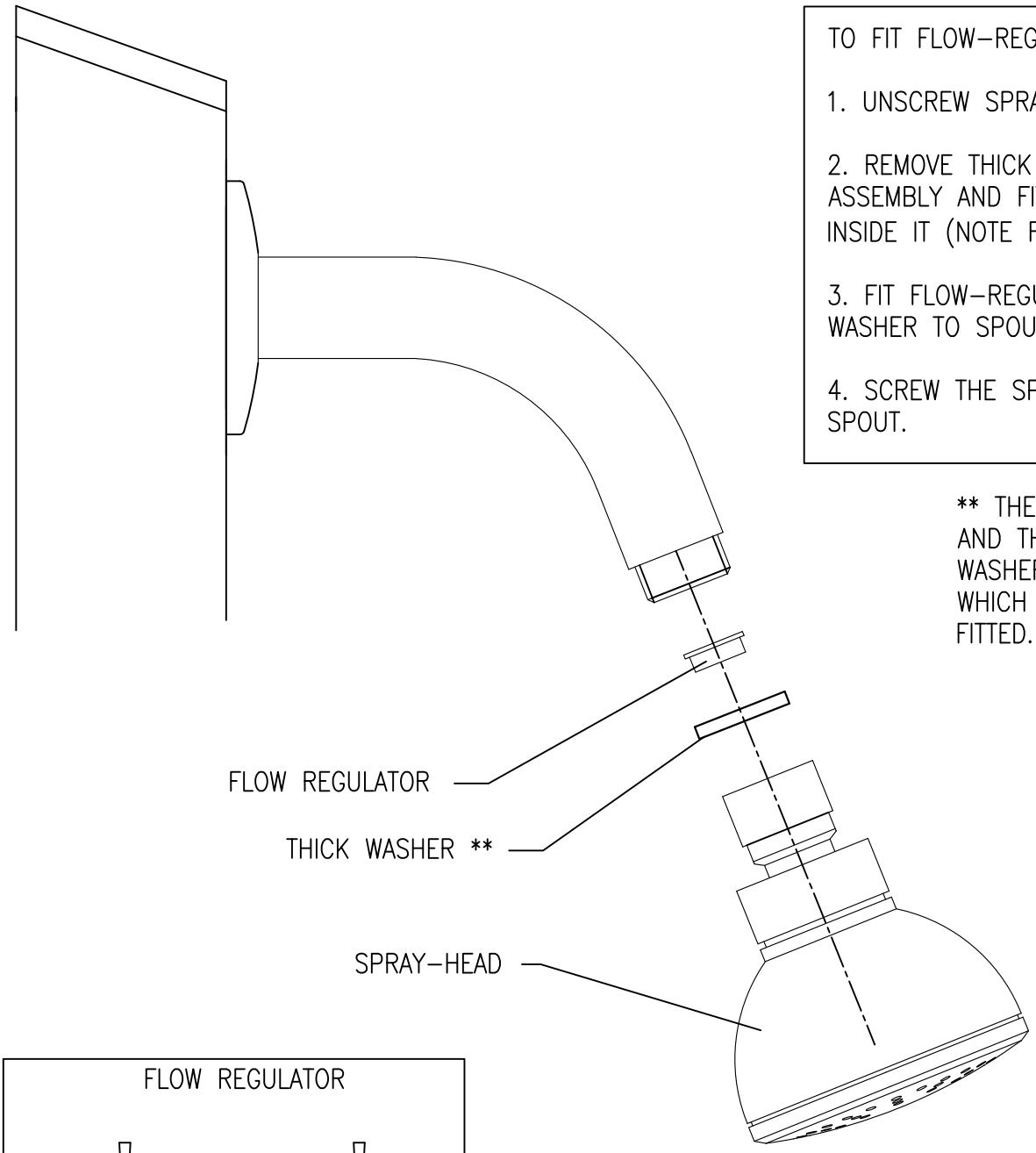
1. UNSCREW SPRAY–HEAD

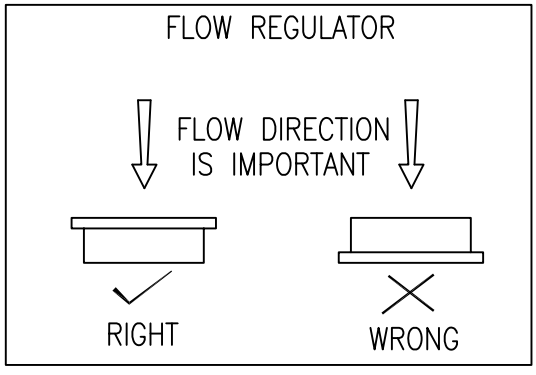
2. REMOVE THICK WASHER FROM ASSEMBLY AND FIT FLOW–REGULATOR INSIDE IT (NOTE FLOW DIRECTION)

3. FIT FLOW–REGULATOR AND THICK WASHER TO SPOUT

4. SCREW THE SPRAY–HEAD TO THE SPOUT.

** THE EXACT NUMBER AND THICKNESS OF WASHERS WILL DEPEND ON WHICH SWIVEL–HEAD IS FITTED.





MATERIAL : N/A

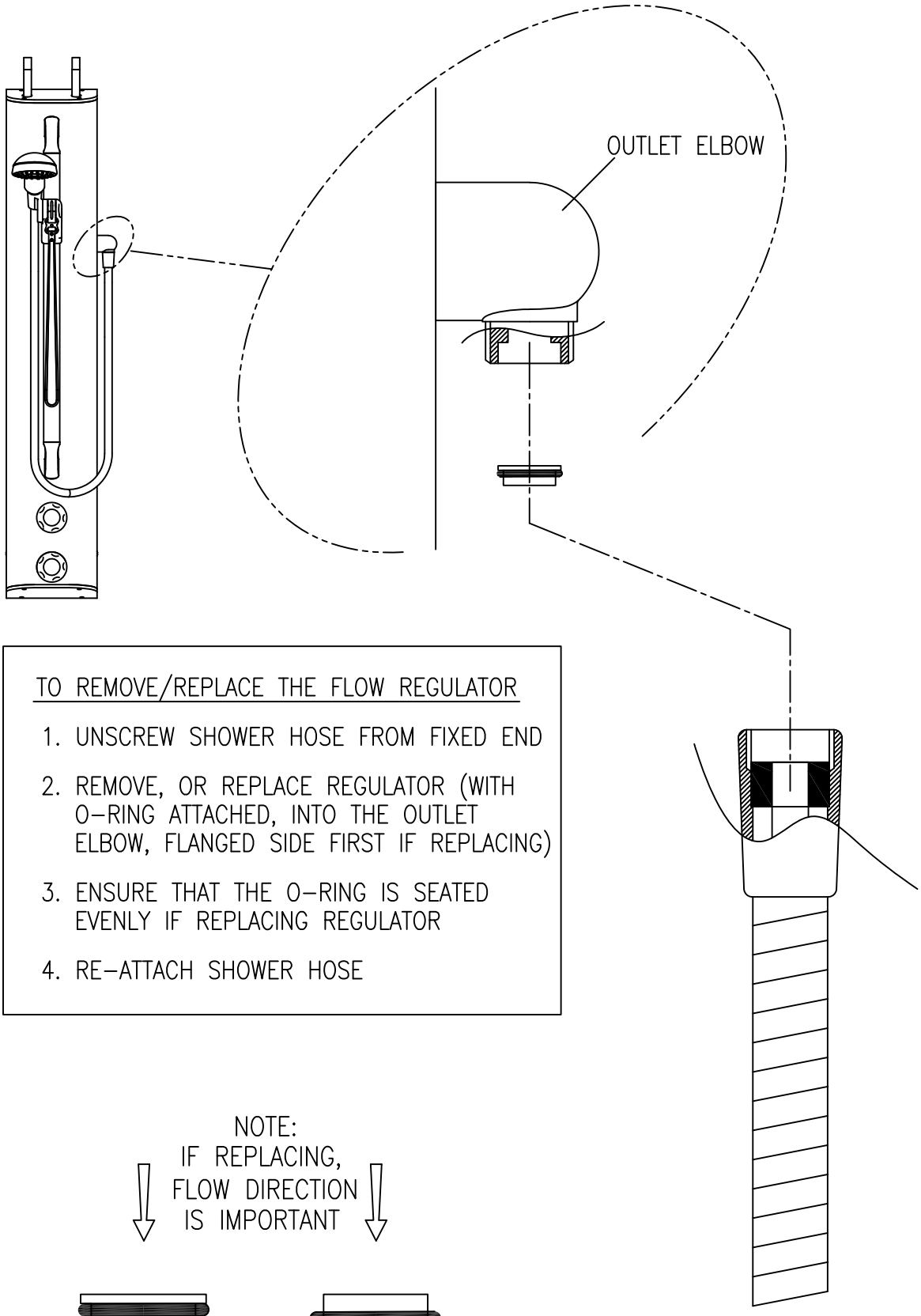
HORNE ENGINEERING LTD.
JOHNSTONE
RENFREWSHIRE

PART :
REMOVAL/REPLACEMENT OF FLOW REGULATOR

PRODUCT :
TSV1–106A/AB

SCALE	DO NOT SCALE
DRAWN	MJ (1/12/2020)
CHECKED	
ISSUE	5

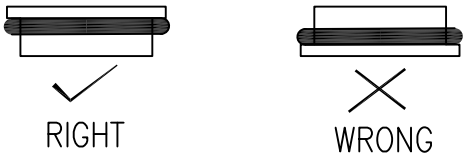
DR'G. No. 9301B



TO REMOVE/REPLACE THE FLOW REGULATOR

1. UNSCREW SHOWER HOSE FROM FIXED END
2. REMOVE, OR REPLACE REGULATOR (WITH O–RING ATTACHED, INTO THE OUTLET ELBOW, FLANGED SIDE FIRST IF REPLACING)
3. ENSURE THAT THE O–RING IS SEATED EVENLY IF REPLACING REGULATOR
4. RE–ATTACH SHOWER HOSE

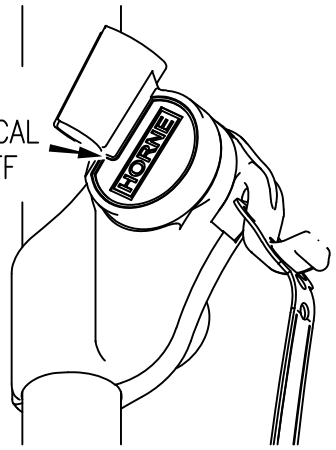
NOTE:
IF REPLACING,
FLOW DIRECTION
IS IMPORTANT

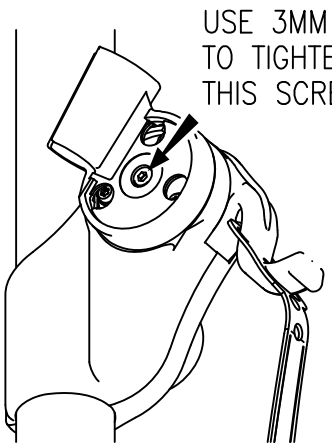


	MATERIAL : N/A			HORNE ENGINEERING LTD. JOHNSTONE RENFREWSHIRE
PART : FLOW REGULATOR REMOVAL/REPLACEMENT INSTRUCTIONS	PRODUCT : HORNE SHOWERS ALL HANDSET MODELS	SCALE	DO NOT SCALE	
		DRAWN	GDP 7/12/05	
		CHECKED		
		ISSUE	3	DR'G. No. 9302B

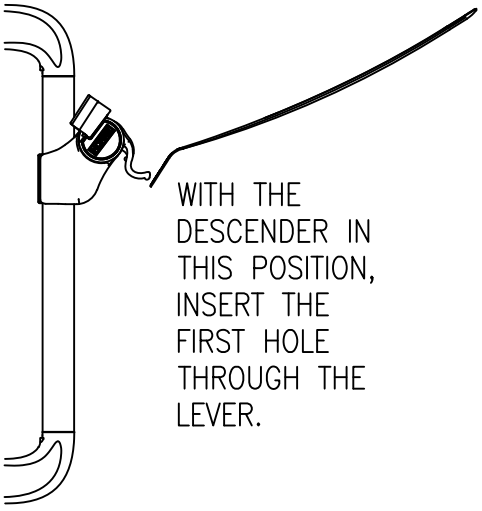
INSTRUCTIONS SPECIFIC TO SHOWER UNITS WITH RISER RAIL

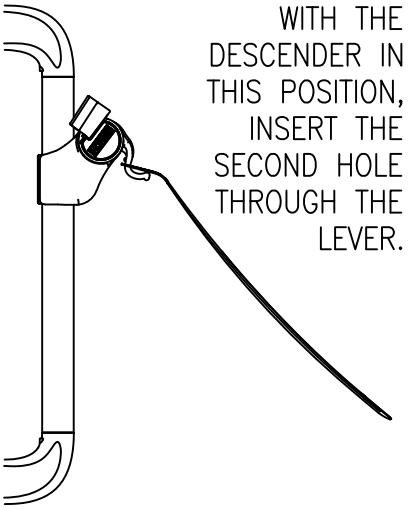
TO ADJUST STIFFNESS OF ROTATING HANDSET HOLDER...

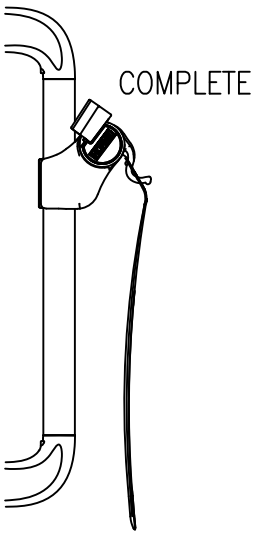




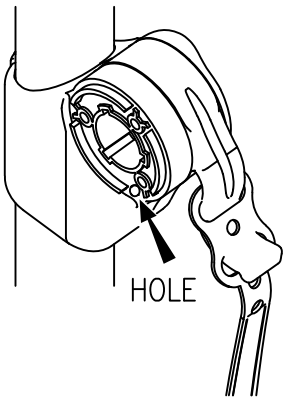
TO FIT THE DESCENDER (FOR ACCESSIBILITY)







TO REMOVE HANDSET HOLDER FROM THE RAIL, FIRST REMOVE DECAL COVER (SEE ABOVE), THEN USE TORX T15 DRIVER TO REMOVE THE 3 SCREWS AND THE ROTATING STIRRUP. REMOVE SCREW–COVER* AND SCREW FROM REVERSE OF HANDSET HOLDER, THEN INSERT A 50MM LONG X 3MM DIAMETER ROD (SCREWDRIVER) INTO THE HOLE AS SHOWN. HANDSET HOLDER WILL THEN SPLIT APART AND CAN BE REMOVED FROM THE RAIL.



* DRILL A SMALL HOLE THOUGH SCREW–COVER TO REMOVE IT.

MAXIMUM LOADINGS FOR THE SHOWER RAIL (WHEN USED AS A GRAB–RAIL):–

LENGTH BETWEEN MOUNTING CENTRES	MAX. LOAD
0.8 M	120Kg
0.675 M	150Kg
0.39M	200Kg
0.29M	200Kg

HORNE ENGINEERING LTD.
JOHNSTONE
RENFREWSHIRE

DR'G. No. 11399

Establishment:					
Type of Valve: Horne TSV1-3 Shower Valve		Date Installed:		Installed by:	
Location of Valve:					

Commissioning Details

Note: Fill in ALL information during commissioning.

Hot Water Supply :	HW Temp °C	HW Pressure	Bar	Instrumentation:	Temp:
Cold Water Supply:	CW Temp °C	CW Pressure	Bar		Pressure:

Mixed Temp at max draw-off:	Mixed Temp: °C	Flowrate at max draw-off:	l/min
Mixed Temp at low draw-off:	Mixed Temp: °C	Flowrate at low draw-off:	l/min
Instrumentation Used:	Temp:	Press:	Flow:
Cold Water Isolation Test	Max Mixed Water Temp during CW Isolation test: °C Mixed Water Temp on restoration of CW Supply: °C Note: MWT should return within 2 degrees of set temp, and be no greater than 43°C after this test.		
Comments:			

In-Service Testing Record

Date:

Hot Water Supply :	HW Temp °C	HW Pressure	Bar	Instrumentation:	Temp:
Cold Water Supply:	CW Temp °C	CW Pressure	Bar		Pressure:

Mixed Temp at max draw-off:	Mixed Temp: °C	Flowrate at max draw-off:	l/min
Mixed Temp at low draw-off:	Mixed Temp: °C	Flowrate at low draw-off:	l/min
Instrumentation Used:	Temp:	Press:	Flow:
Cold Water Isolation Test	Max Mixed Water Temp during CW Isolation test: °C Mixed Water Temp on restoration of CW Supply: °C Note: MWT should return within 2 degrees of set temp, and be no greater than 43°C after this test.		
Comments:			
Recommended Date of Next In-Service Test:			

IN-SERVICE TESTING RECORD

(Note: Photocopy this page)

In-Service Testing Record Date:			Establishment: Type of Valve : TSV1-3 Shower Valve		Location of Valve:
Hot Water Supply :	HW Temp °C		HW Pressure	Bar	Instrumentation: Temp:
Cold Water Supply:	CW Temp °C		CW Pressure	Bar	Pressure:
Mixed Temp at max draw-off:	Mixed Temp: °C		Flowrate at max draw-off: l/min		
Mixed Temp at low draw-off:	Mixed Temp: °C		Flowrate at low draw-off: l/min		
Instrumentation Used:	Temp:		Press:		Flow:
Cold Water Isolation Test	Max Mixed Water Temp during CW Isolation test: °C Mixed Water Temp on restoration of CW Supply: °C Note: MWT should return within 2 degrees of set temp, and be no greater than 43°C after this test.				
Comments:					
Recommended Date of Next In-Service Test:					

In-Service Testing Record Date:			Establishment: Type of Valve : TSV1-3 Shower Valve		Location of Valve:
Hot Water Supply :	HW Temp °C		HW Pressure	Bar	Instrumentation: Temp:
Cold Water Supply:	CW Temp °C		CW Pressure	Bar	Pressure:
Mixed Temp at max draw-off:	Mixed Temp: °C		Flowrate at max draw-off: l/min		
Mixed Temp at low draw-off:	Mixed Temp: °C		Flowrate at low draw-off: l/min		
Instrumentation Used:	Temp:		Press:		Flow:
Cold Water Isolation Test	Max Mixed Water Temp during CW Isolation test: °C Mixed Water Temp on restoration of CW Supply: °C Note: MWT should return within 2 degrees of set temp, and be no greater than 43°C after this test.				
Comments:					
Recommended Date of Next In-Service Test:					

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