NATURAL GAS CONVERSION KIT

When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require.
Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.

For the very latest copy of literature for specification and maintenance practices visit our website www.idealboilers.com where you can download the relevant information in PDF format.

March 2015
UIN 211609 A02

Table 1 - General Data

Boiler		Combi 30 / + Combi 30 / Combi 24 / Combi ES 30 / Independent C30 / Independent + C30	Heat 24 / System IE 24	Heat 30 / + Heat 30 System 30 / + System 30 / System IE 30 / Independent System 30	Code Combi ES38
Gas supply		2H - G20 - 20mbar			
Gas Supply Connection		15mm copper compression			
Injector Size	(mm)	(24kW) 4.15 (30kW) 4.65	4.15	4.65	4.9
Inlet Connection	DHW	15mm copper compression	n/a	n/a	15mm copper compression
Outlet Connection	DHW	15mm copper compression	n/a	n/a	15mm copper compression
Flow Connection	CH	22mm copper compression			
Return Connection	CH	22mm copper compression			
Flue Terminal Diameter	mm (in)	100 (4)			
Average Flue Temp-Mass Flow Rate		(24kW) 63°C - 10g/s (30kW) 68°C - 12g/s	63°C - 10g/s	69°C - 13g/s	73°C - 13g/s
Maximum Working Pressure (Sealed Systems)	bar (lb/in²)	2.5 (36.3)			
Maximum Domestic Hot Water Inlet Pressure	bar (lb/in²)	10.0 (145)	n/a	n/a	10.0 (145)
Minimum Domestic Hot Water Inlet Pressure*	bar (lb/in²)	(24kW) 0.8 (11.6) (30kW) 1.3 (18.9)	n/a	n/a	1.6 (23.2)
Electrical Supply		230 V ~ 50 Hz.			
Power Consumption	W	(24kW) 146 (30kW) 152	(Heat 24kW) 46 (System IE 24kW) 146	(Heat 30kW) 48 (System 30kW) 152	177
Fuse Rating		External : 3A Internal : T4H HRC L250 V			
Water content CH	litre (gal)	1.2 (0.26)			
DHW	litre (gal)	0.5 (0.11)	n/a	n/a	1.0 (0.22)

**Required for maximum flow rate. Boiler operates down to 2 l/min DHW delivery*
*** In areas of low water pressure the DHW restrictor can be removed*

Table 2 - Performance Data - Central Heating

			Combi 30 / + Combi 30 / Combi 24 / Combi ES 30 / Independent C30 / Independent + C30			Heat 24 / System IE 24		Heat 30 / + Heat 30 System 30 / + System 30 / System IE 30 / Independent System 30		Code Combi ES38	
Boiler Input :			**Min** (24)	**Min** (30)	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Boiler Input 'Q'	Nett CV	kW	4.9	6.1	24.3	4.9	24.3	6.1	30.4	7.1	24.3
		(Btu/h)	(16,600)	(20,700)	(82,900)	(16,600)	(82,900)	(20,700)	(103,600)	(24,200)	(82,900)
	Gross CV	kW	5.4	6.7	27.0	5.4	27.0	6.7	33.7	7.9	27.0
		(Btu/h)	(18,400)	(23,000)	(92,000)	(18,400)	(92,000)	(23,000)	(115,000)	(26,900)	(92,000)
Gas Consumption		m^3/h	0.500	0.623	2.512	0.500	2.512	0.627	3.135	0.730	2.512
		(ft^3/h)	(17.8)	(22)	(89.0)	(17.8)	(89.0)	(22.0)	(111.0)	(25.9)	(89.0)
Boiler Output:	Non Condensing	KW	4.8	6.1	24.2	4.8	24.2	6.1	30.3	7.1	24.2
	70°C Mean Water temp.	(Btu/h)	(16,500)	(20,700)	(82,600)	(16,500)	(82,600)	(20,700)	(103,300)	(24,100)	(82,600)
	Condensing	kW	5.1	6.4	25.6	5.1	25.6	6.4	31.0	7.5	25.6
	40°C Mean Water temp.	(Btu/h)	(17,500)	(21,800)	(87,400)	(17,500)	(87,400)	(21,800)	(105,800)	(25,500)	(87,400)
Seasonal efficiency*	SEDBUK 2005		91.0%	91.1%	-	91.0%		91.1%		91.0%	
Seasonal efficiency*	SEDBUK 2009		89%		-	89.5%		89.6%		88.9%	
NOx Classification			CLASS 5								

* The value is used in the UK Government's Standard Assessment Procedure (SAP) for energy rating of dwellings. The test data from which it has been calculated have been certified by a notified body.

Table 3 - Combi/+Combi/Code Combi ES Performance Data - DHW

Maximum DHW Input :		**24**	**30**	**38**
Nett CV	kW	24.3	30.4	35.4
	(Btu/h)	(82,900)	(103,600)	(120,900)
Gross CV	kW	27.0	33.7	39.3
	(Btu/h)	(92,000)	(115,000)	(134,200)
Gas Consumption	m^3/h	2.512	3.135	3.660
	(ft^3/h)	(89)	(111)	(129)
(Maximum DHW Output	kW	24.2	30.3	38.2
	(Btu/h)	(82,600)	(103,300)	(130,300)
DHW Flow Rate at 35°C temp. rise.	l/min	9.9	12.4	15.7
	(gpm)	(2.2)	(2.8)	(3.5)
DHW Specific Rate	l/min	11.5	14.5	18.3
	(gpm)	(2.5)	(3.2)	(4.0)

To obtain the gas consumption at a different calorific value:

- ***a. For l/s** - divide the gross heat input (kW) by the gross C.V. of the gas (MJ/m^3)*
- ***b. For ft^3/h** - divide the gross heat input (Btu/h) by the gross C.V. of the gas (Btu/ft^3)*

This Kit converts the boiler for use on Natural Gas and is suitable only for the boilers listed below:

Logic Combi 30 P ..... G.C. No. 47-348-57
Logic + Combi 30 P ..... G.C. No. 47-348-66
Independent C 30 P ..... G.C. No. 47-348-69
Logic + Combi 30 P ..... G.C. No. 47-348-66
Logic System IE 24 P .....G.C. No. 41-750-46
Logic Heat 24 P.....G.C. No. 41-409-95
Logic Combi 24 P .....G.C. No. 47-348-56
Logic Code Combi ES38 P..... G.C. No. 47-349-06
Logic Heat 30 P..... G.C. No. 41-409-96
Logic + Heat 30 P..... G.C. No. 41-750-22

Logic System 30 P..... G.C. No. 41-750-27
Logic + System 30 P..... G.C. No. 41-750-32
Logic System IE 30 P ..... G.C. No. 41-750-47
Logic Combi E 30 P..... G.C. No. 47-348-89
Independent System 30 P ..... G.C. No. 41-750-51
Independent + C 3 0P..... G.C. No. 47-348-86
Logic Combi ES P..... G.C. No. 47-349-02

FOR INSTALLATION OF THE BOILER REFER TO THE INSTALLATION & SERVICING INSTRUCTIONS SUPPLIED WITH THE BOILER.

Key to symbols

GB = United Kingdom **IE =** Ireland (Countries of destination)

PMS = Maximum operating pressure of water

$\mathbf{C_{13}}$ $\mathbf{C_{33}}$ $\mathbf{C_{53}}$ = A room sealed appliance designed for connection via ducts to a horizontal or vertical terminal, which admits fresh air to the burner and discharges the products of combustion to the outside through orifices which, in this case, are concentric. The fan is up stream of the combustion chamber.

$\mathbf{II_{2H3P}}$**(20/37) =** An appliance designed for use on 2nd Family gas, Group H only.

GAS SUPPLY

The local gas supplier should be consulted, at the installation planning stage, in order to establish the availability of an adequate supply of gas. An existing service pipe must NOT be used without prior consultation with the local gas supplier.

The boiler MUST be installed on a gas supply with a governed meter only.

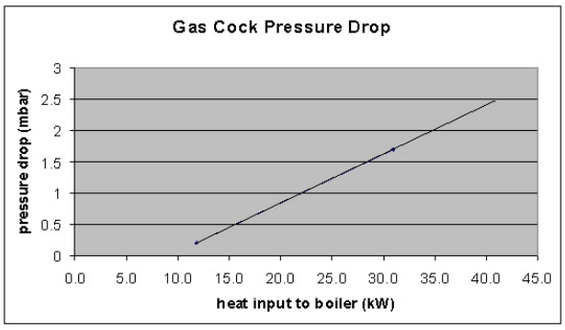
A gas meter can only be connected by the local gas supplier or by a Gas Safe Registered Engineer. In IE by a Registered Gas Installer (RGII).

An existing meter should be checked, preferably by the gas supplier, to ensure that the meter is adequate to deal with the rate of gas supply required.

It is the responsibility of the Gas Installer to size the gas installation pipework in accordance with BS6891:2005. Whilst the principle of the 1:1 gas valve ensures the Logic range is able to deliver it's full output at inlet pressures as low as 14mb, other gas appliances in the property may not be as tolerant. When operating pressures are found to be below the minimum meter outlet of 19mb these should be checked to ensure this is adequate for correct and safe operation.

Allowing for the acceptable pressure loss of 1mb across the installation pipework, it can be assumed that a minimum permitted operating pressure of 18mb will be delivered to the inlet of the appliance. (Reference BS 6400-1 Clause 6.2 Pressure Absorption).

The external gas cock could further reduce the operating pressure when measured at its test point. The pressure drop is relative to the heat input to the boiler (kW), refer to graph below.



IMPORTANT.

Installation pipes must be fitted in accordance with BS.6891. In IE refer to IS.813:2002.

The complete installation MUST be tested for gas tightness and purged as described in the above code.

KIT CONTENTS

A. Gas Valve

B. Injector Assembly

C. Boiler Chip Card (BCC)

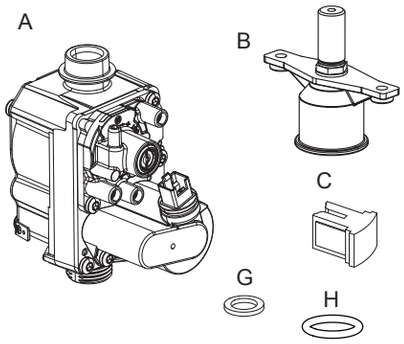
D. Data Plate Label

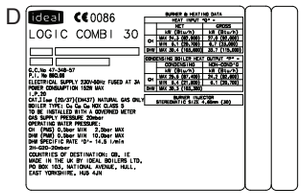
E. Data Plate Overlay Label

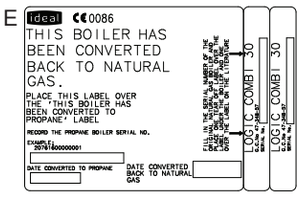
F. These Instructions (Conversion Kit)

G. Washer

H. 'O' Ring

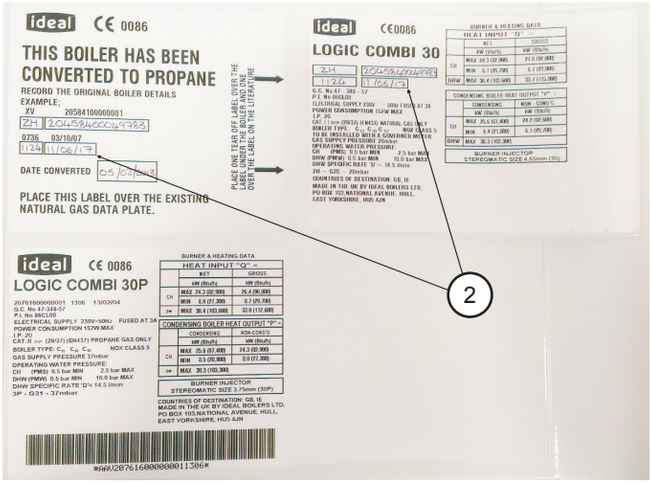


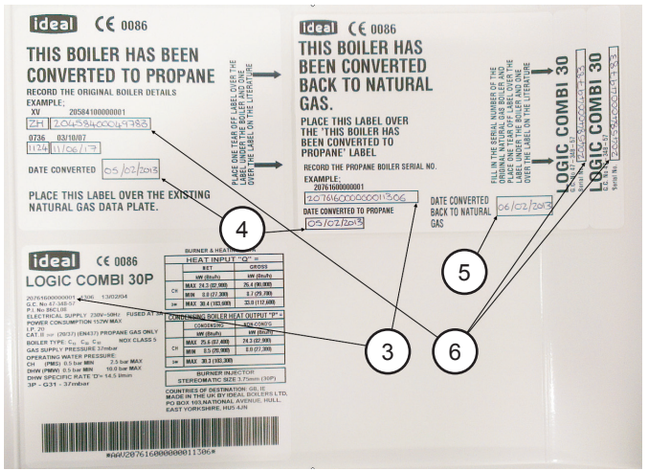




1A TRANSFER OF BOILER DETAILS

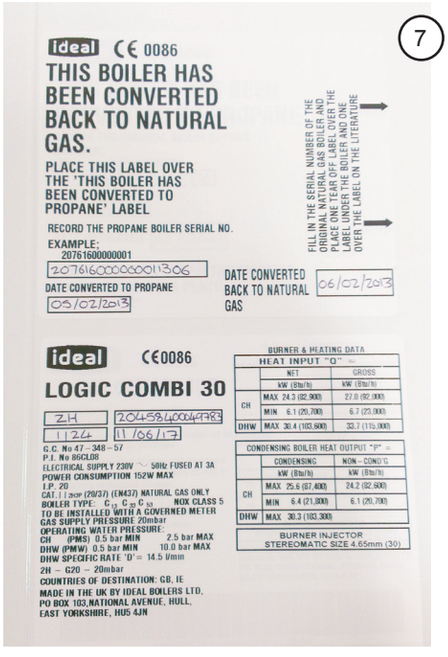
1. Remove boiler front panel (refer to Installation Instructions).
2. Record original boiler details from the propane overlay label onto the new natural Gas data label.
3. Record the propane boiler details onto the new natural gas overlay label.
4. Record the date the appliance was converted to propane.
5. Record the date the appliance is being converted back to natural gas.
6. Record the original boiler serial number onto the 2 tear off strip labels.





1B DATA PLATE REPLACEMENT

7. Once all details have been recorded, adhere the two new labels over the propane labels.
8. Take the tear off strip label and place over the existing label under the boiler.
9. Take the second tear off strip label and place over the existing label on the front cover of the installation guide.



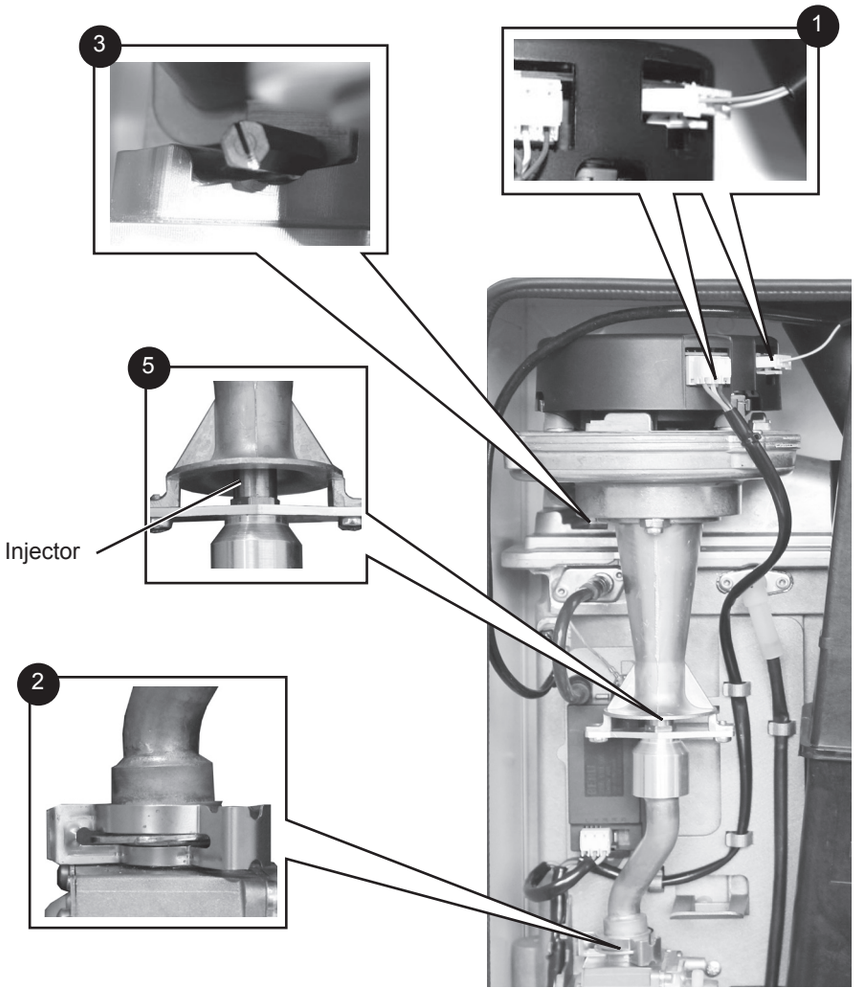
8

2 BURNER INJECTOR REPLACEMENT

For removal of front panel refer to Installation Instructions.

1. Disconnect the electrical leads from the fan.
2. Remove the clip from the gas control valve outlet and ease the pipe upwards rotate and then ease down to remove.
3. Remove the extended nut on the fan mounting bracket.
4. Lift off fan and venturi assembly.
5. Undo the two M4 screws and release the nozzle assembly.
6. Inspect the injector for blockage or damage.
7. Inspect fan outlet sealing gasket and replace if necessary.

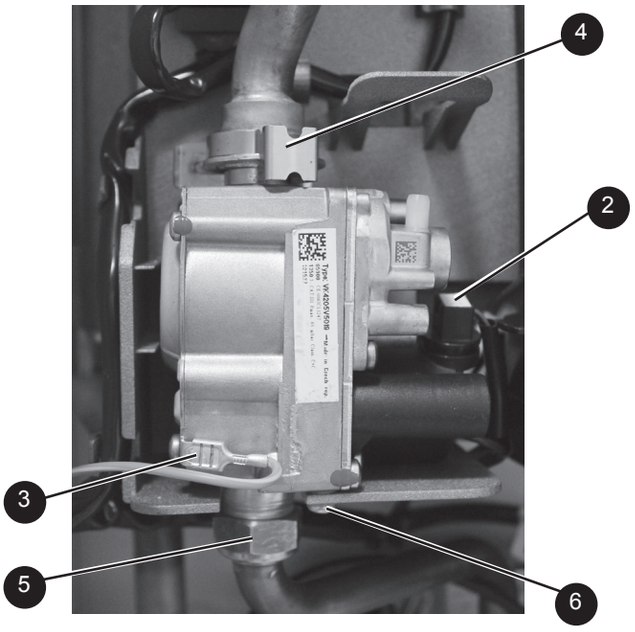
Ensure all gas valve connections are gas tight.



3 GAS CONTROL VALVE REPLACEMENT

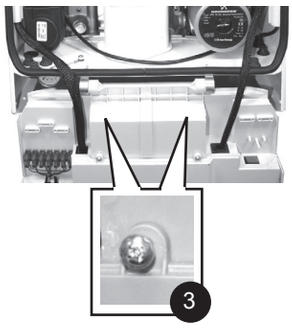
1. For removal of front panel refer to Installation Instructions.
2. Unplug the electrical lead connection from the gas control valve.
3. Disconnect the earth wire.
4. Remove the outlet gas valve clip and slide the pipe upwards
5. Undo the gas inlet pipe union at the inlet to the gas valve.
6. Undo the single screw fixing the gas valve to the mounting bracket and withdraw the valve forwards.
7. Fit the new gas control valve ensuring that the O ring and sealing washer are in place and reconnect gas and electrical connections.

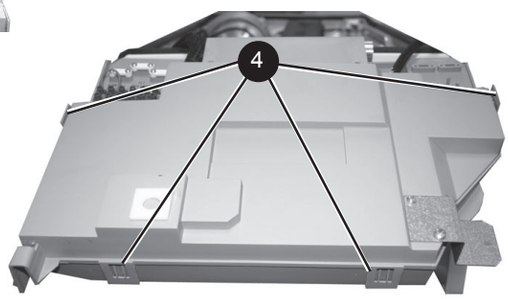
Ensure all gas valve connections are gas tight.



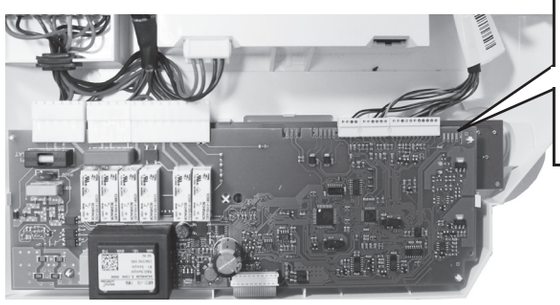
4 BOILER CHIP CARD (BCC) REPLACEMENT

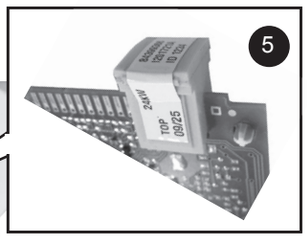
1. For removal of front panel refer to Installation Instructions.
2. Drop down the control pod door.
3. Remove the 2 screws retaining the control box cover.
4. Carefully lift the 4 retaining clips and remove control box cover.





5. Attach the BCC to the PCB.





6. Re-assemble the control pod door in reverse order
7. Re-fit the boiler sealing front panel.
8. **For Logic + Combi boiler only:**
   - **a.** Turn power on
   - **b.** Displays “Appliance Output kW”, “Appliance Type” i.e. “30kW Combi”
   - **c.** Move knob to required setting (standby, summer, winter)

   Note. *If no BCC fitted on a non programmed board, after carrying out items a & b, the appliance will display “Boiler Type Card Fault - Contact Installer”.*

8. **For all other boilers:**
   - **a.** Turn power on
   - **b.** Displays “8” blue light on/off, “first digit input”, “second digit input”, “1st letter appliance type”, i.e. “2”, “4”, “c”
   - **c.** Move knob to required setting (standby, summer, winter)

   Note. *If no BCC fitted on a non programmed board, after carrying out items a & b, the appliance will display “C” and then “2” and repeated. To correct this contact installer.*

9. Check operation of the boiler. Refer to Installation & Servicing Instructions.

Once set up correctly, when a demand is requested “C” will be displayed and the blue light will illuminate when the burner is on.

The following are parts used in the conversion of the Logic range for use on Natural Gas. Their failure or absence is likely to affect safety or performance of this appliance.

For further parts refer to the main NG installation manual.

The full list is held by British Gas Services, Ideal Stelrad Group distributors and merchants.

When ordering spares please quote:

1. Boiler model
2. Appliance G.C. No.
3. Description.
4. Quantity.
5. Product number.

When replacing any part on this appliance use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.

Key No.	G.C. Part No.	Description		Qty./boiler	Product Number
205		Gas Valve Kit	All Models	1	177544
211		Injector & Housing Kit	All 24 Models	1	177865
		Injector & Housing Kit	All 30 Models	1	177547
		Injector & Housing Kit	All 38 Models	1	177548
302a		Boiler Chip Card (BCC)	Logic Combi 24	1	176399
		Boiler Chip Card (BCC)	Logic Combi 30	1	176400
		Boiler Chip Card (BCC)	Independent C 30	1	176400
		Boiler Chip Card (BCC)	Independent + C 30	1	176400
		Boiler Chip Card (BCC)	Logic Heat 24	1	175958
		Boiler Chip Card (BCC)	Logic Heat 30	1	175959
		Boiler Chip Card (BCC)	Logic + Heat 30	1	175959
		Boiler Chip Card (BCC)	Logic System 30	1	175962
		Boiler Chip Card (BCC)	Logic + System 30	1	175962
		Boiler Chip Card (BCC)	Independent System 30	1	175962
		Boiler Chip Card (BCC)	Logic System IE 24	1	175958
		Boiler Chip Card (BCC)	Logic System IE 30	1	175959
		Boiler Chip Card (BCC)	Logic + Combi 30	1	176403
		Boiler Chip Card (BCC)	Logic Combi ES	1	176400
		Boiler Chip Card (BCC)	Logic Code Combi ES38	1	177322

For additional fault finding advice please visit Ideal Boiler's website

www.idealboilers.com

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THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

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