

SMITHS
COMBUSTION HEATING EQUIPMENT

SPARE PARTS LIST

RAILCAR.CO.UK

S. SMITH & SONS (ENGLAND) LTD. . WITNEY . OXON

COMBUSTION HEATERS IN USE ON BRITISH RAILWAYS

ALL ARE 24V MODELS

DESIGNATION		MK I	MK IA	MK II	MK II	MK IIA	MK IIA	MK IIA/R	MK IIB	MK IIB	MK IIB/R
HEAT OUTPUT IN THOUSANDS OF B.T.H.U.'s PER HOUR		50	50	40	50	40	50	40	40	50	40
RIGHT HAND	WITHOUT HARNESS	CBH 1124	CBH 1264	CBH 1304	CBH 1224	CBH 1746	CBH 1524	NIL	CBH 1748	CBH 1724	CBH 2224
	WITH HARNESS	NIL	NIL	CBH 1624	CBH 1700	CBH 1747	NIL	CBH 2357	CBH 1811	CBH 2091	CBH 2230
LEFT HAND	WITHOUT HARNESS	NIL	NIL	CBH 1304/1	CBH 1224/1	CBH 1746/1	NIL	NIL	CBH 1748/1	CBH 1724/1	CBH 2224/1
	WITH HARNESS	NIL	NIL	CBH 1624/1	CBH 1700/1	CBH 1747/1	NIL	CBH 2357/1	CBH 1811/1	NIL	CBH 2230/1

Note 1. Heaters CBH 2305 and CBH 2305/1 are supplied to B. R. Swindon. These are models CBH 2224 and CBH 2224/1 fitted with special wiring harness assembly.

Note 2. Heaters CBH 1264/MS1 are also in use on British Railways. These are heaters CBH 1124 and CBH 1264 converted to Downward Facing Exhaust.

Note 3. When /R is used after the designation it signifies that the heater is wired for Fully Automatic Control.

SPARE PARTS LISTS FOR COMBUSTION HEATING EQUIPMENT

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SMITH COMBUSTION HEATER AND CONTROL EQUIPMENT

SPARE PARTS LIST

Introduction

This publication has been prepared to provide an up to date spare parts list for all combustion heating equipment supplied for installation on British Railways diesel railcars. This list will provide a comprehensive illustrated reference for all railway staffs using this equipment.

With each component is given a part number and code number and to avoid mistakes these numbers should be included in orders sent to the supplier.

As much detail has been incorporated in these lists as is possible. It will be seen that, where convenient, descriptions have been included of spare parts such as nuts, bolts and washers so that, if required, alternative suppliers can be used.

The layout of this publication has been designed to show as clearly as possible the construction of assembly units. The illustrated drawings provide a ready visual aid. Additionally the order in which components are listed has been compiled to indicate the breakdown of assemblies. Where components are part of assemblies or sub-assemblies their position is indented from the left column of that of the final assembly.

Prices of components are not shown in this publication but a separate price list for all components in this booklet is issued and may be obtained on request.

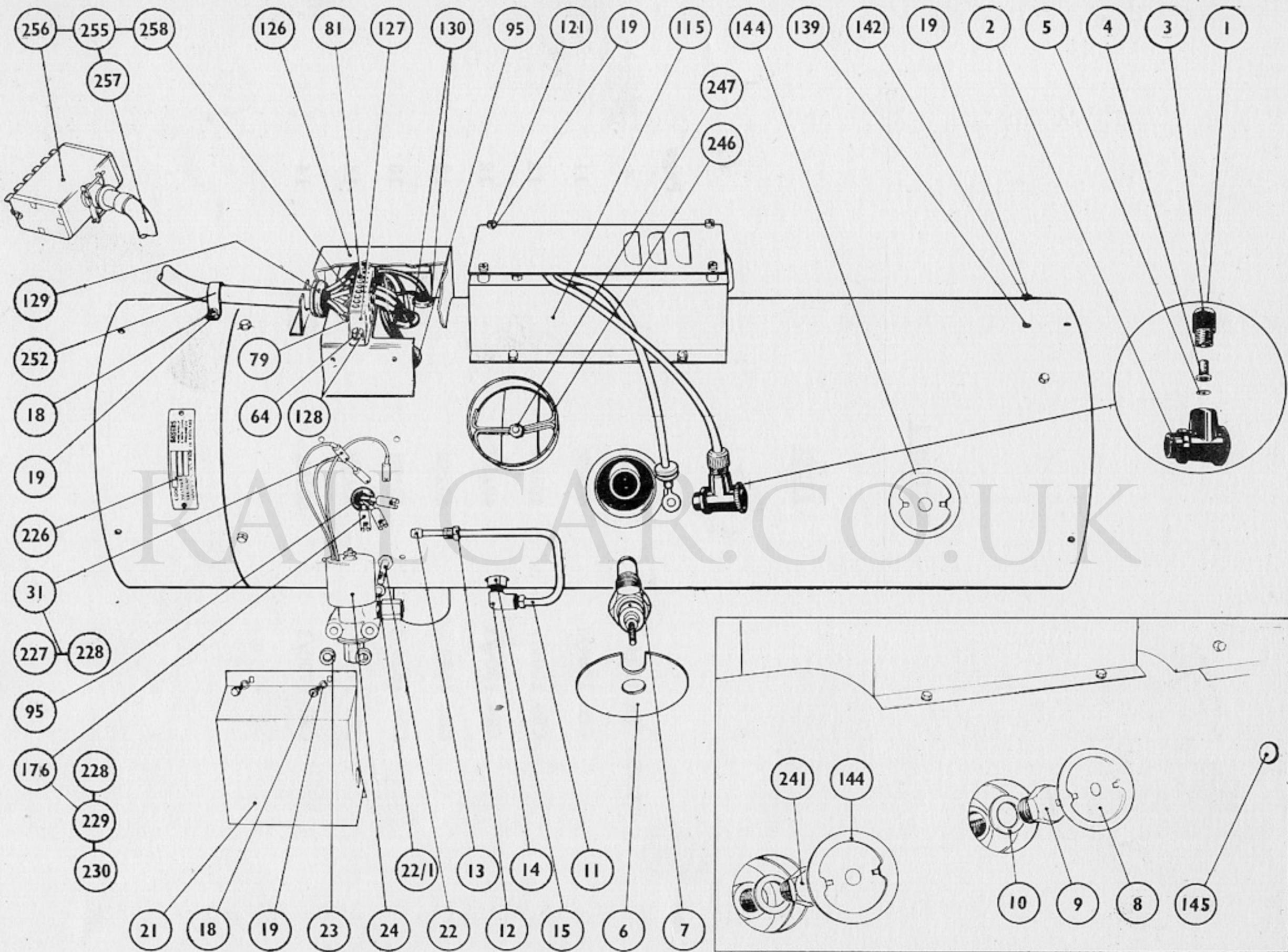
To avoid any delays in the supply of components the greatest care should be taken to ensure that orders are addressed correctly. Delays frequently occur which could be avoided through orders being incorrectly addressed. The address shown on the cover of this publication only should be used.

February, 1960.

SECTION I

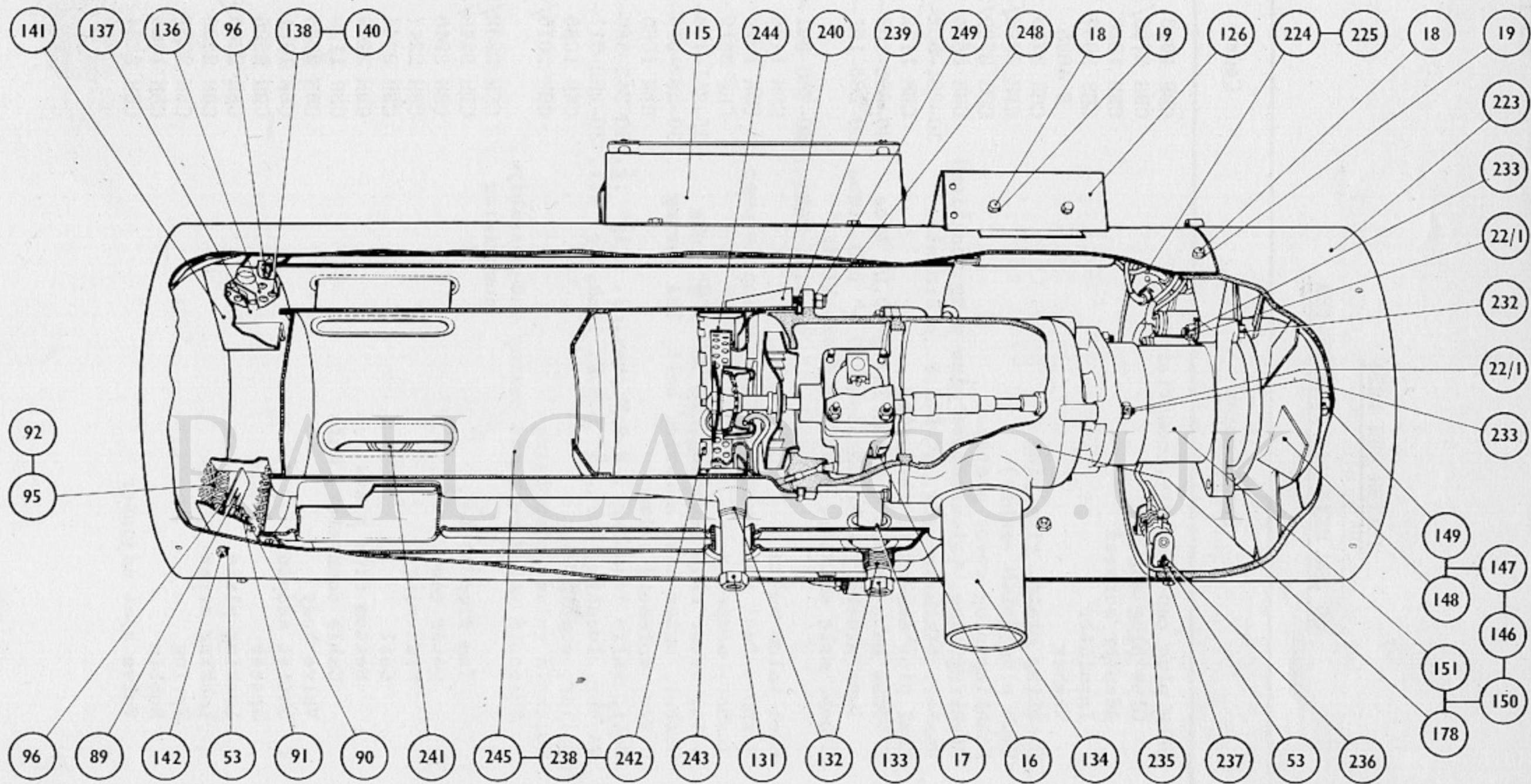
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MARK II HEATER

PLATE No. I



MARK II HEATER

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
1	1	Glow plug cap assembly, comprising	CBH 1693
2	1	Glow plug cap	CHS 3768/1
3	1	Adaptor screwed	CBH 1325
4	1	Insulator	CHS 3957
5	1	Washer	B 4025
6	1	Blanking plate, glow plug	CHS 3769
7	1	Glow plug, (with washer)	CBH 2374/1
8	1	Blanking plug cover plate	CHS 3780/1
9	1	Blanking plug, (alternative glow plug position)	CHS 3684
10	1	Washer, blanking plug, $\frac{1}{2}$ " B.S.P. plain stl.	30-281-552-01
11	1	Fuel pipe assembly, including	CBH 1172
12	1	Tube nut, Benton & Stone Z17 $\frac{1}{4}$ " O.D. tube	80-286-103-43
13	1	Tube sleeve, Benton & Stone Z3 $\frac{1}{4}$ " O.D. tube	80-286-101-43
14	1	Elbow, male adaptor, Benton & Stone Y104, $\frac{1}{4}$ " O.D. tube	80-286-241-43
15	1	Fuel inlet union	CBH 1154
16	2	Washer, fuel inlet union, fibre, union to pump	CBH 1014
17	2	Washer, neoprene	CHS 3619
18	2	Bolt, outer case securing, 10 UNF x $\frac{3}{8}$ " long	30-251-166-11
19	2	Washer, outer case securing bolt, 2BA spring	30-282-014-11
21	1	Cover, solenoid valve	CBH 1085
22	1	Bolt, valve locating $\frac{1}{4}$ B.S.F. hex.hd. x $1\frac{5}{8}$ " lg.	30-242-386-11
22/1	1	Washer, locating bolt, $\frac{1}{4}$ " B.S.F. lock.s.c. stl.	30-282-017-11
23	1	Collar, spacing	CBH 1086
24	3	Solenoid valve, comprising	CBH 1075/1
25	3	Solenoid valve coil and casing sub-assembly, comprising	CBH 2232/D
26	3	Top flux plate	CBH 2248/24
27	3	Outer case	CBH 2246
28	3	Flux ring	CBH 2247
29	3	Coil	CBH 2244
30	3	Bottom flux plate	CBH 2249
31	3	Cable connector, male	CBH 1120
32	3	Valve body	CBH 2236
33	3	Outlet adaptor	CBH 1321
34	3	Spacer	CBH 2296
35	3	Locking plate	CBH 2235
36	3	Locking screw	CBH 2238
37	3	Spring	CBH 2237
38	3	Bobbin	CBH 1364
39	3	Valve seat adjuster	CBH 2234

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
40	3	'0' ring, Gaco reference R.114	30-781-278-61
41	3	Sealing washer	CBH 2253
42	3	Filter adaptor	CBH 2233
43	3	'0' ring	30-781-210-61
44	3	Nut, valve body securing, 2BA hex.hd.cad.	30-271-015-11
45	3	Washer, body nut securing, 2BA spring stl.	30-282-114-11
53	2	Washer, retaining spring, 4BA spring stl.	30-282-012-11
64	1	Washer, terminal moulding, 2BA shakeproof	30-283-015-34
79	1	Terminal	CBH 1161
81	1	Screw, terminal, No.10 UNF x 5/16" lg.ch.hd.br.	30-253-703-18
*89	2	Thermostat, flame detection	40-617-802
90	2	Nut, thermostat securing, 5BA	30-271-012-11
91	2	Washer, thermostat securing nut, 5BA lock	30-282-011-11
92	2	Cover, thermostat	CBH 1119
95	1	Grommet, white, P.B. Cow reference 8A.C5042	30-781-351
96	2	Terminal tag, 4BA Ross Courtney reference 350	30-867-313-25
97	6	Resistor box assembly, including	CBH 1327
98	6	Lid	CBH 1138
99	6	Screw, lid securing, No.10 UNF x 5/8" lg.ch.hd.	30-253-206-11
100	6	Case	CBH 1332
101	6	Tag, terminal	CHS 3958
102	6	Resistor 0.395 ohm	CBH 1114
103	6	Connecting strip	CBH 1099
104	6	Resistor 0.316 ohm	CBH 1113
105	6	Screw, resistor securing, No.10, 32 UNF x 3/4" lg. ch.hd. brass	30-253-707-18
106	6	Nut, resistor securing, No.10, 32 UNF brass precision hex.hd.	30-276-637-18
107	6	Washer, securing nut, No.10 UNF, plain large brass	30-281-085-18
108	6	Adaptor	CHS 3957
109	6	Resistor, variable, 0.22 ohm	CBH 1115
110	6	Strip, insulation	CBH 1204
111	6	Screw, insulator securing, No.10 UNF x 1/2" lg. ch.hd. stl.	30-253-205-11
112	6	Relay, Waymouth reference R.S.9	CBH 1318
113	6	Screw, relay securing, 4BA x 1/4" lg. ch.hd. stl.	30-232-120-11

* Replace with thermostat CBH 2043, Part No. 50 and harness CBH 2048/1, Part No. 78.

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
114	6	Grommet, special	CHS 3998
1	6	Glow plug cap assembly	CBH 1693
*115	6A	Resistor box assembly, for heaters before S.N. 15231 including	CBH 1098
116	6A	Relay R.D.B.	CBH 1106
117	6A	Relay R.D.5	CBH 1107
118	6A	Screw, relay fixing, 4BA ch.hd. x 7/16" lg.	30-232-123-11
119	6A	Washer, relay fixing screw, 4BA shakeproof	30-283-013-34
120	6A	Cover	CBH 1093
121	1	Screw, lid fixing, 2BA ch.hd. x 5/8" lg. ch.hd.	30-232-158-11
*123	1	Terminal block, 4-way, Grelco reference M4	40-718-529
*124	1	Rivet, block fixing, 0.156 dia. x 5/8" lg.	30-221-098-11
*125	1	Spire clip, fixing screw, Simmonds ref. SFP/ 0212/17/8	30-272-064-92
126	1	Cover, main terminal block	CBH 1163
127	1	Moulding, main terminal block	CBH 1151
128	1	Screw, moulding securing, No.10 32 UNF x 5/8" lg. ch.hd.	30-253-206-11
129	1	Grommet, terminal block, Hellerman reference HV.2166	30-781-380
130	1	Grommet, outer wrap, Long & Hambly, reference 1" dia. brown	30-781-311
131	2	Union, fuel drain, long	CHS 3664
132	2	Washer, fuel drain 1/4" B.S.P. copper AGS 1139/B	30-513-110-11
133	2	Union, fuel drain short	CBH 1168
134	2	Tube, combustion air inlet	CBH 1189
136	2	Thermostat, overheat	40-617-801
137	2	Insulating sheet, thermostat	CHS 3911
138	2	Distance piece	CHS 3858
139	1	Screw, No.6 32 UNC csk.hd. x 1" lg.	30-257-121-11
140	2	Nut, No.6 32 UNC locking, Nylock type P	30-277-040-11
141	2	Cover, thermostat	CBH 1118
142	1	Bolt, thermostat cover securing	CBH 1122
*143	1	Bracket, cable, Ross Courtney reference 3110/ 769	30-615-403
144	1	Cover, thermostat hole	CBH 1174
145	1	Plaque button, F.T. Products reference 1363	40-242-101-01
146	2	Combustion unit assembly, comprising	CBH 1170
147	2	Air fan sub-assembly, comprising	CHS 3667/1
148	2	Air fan	CHS 3667

* Replace with resistor box CBH 1327, Part No. 97.

* Use only with resistor box CBH 1327, Part No. 97.

* Use with harness CBH 2048/1, Part No. 78.

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
149	2	Nut, collet	CHS 3662
150	2	Fuel pump and motor unit, comprising	CBH 1167
151	7	Motor, 24 volt 114 watt suppressed, including	CBH 1372
152	7	Cover	CHS 3708
153	7	Plate, rear clamp	CHS 3859
154	7	Plate, front clamp	CBH 1058
155	7	Front housing	CBH 1368
156	7	End housing	CBH 1367
157	7	Fixing stud	CHS 3169
158	7	Armature assembly	CBH 1741
159	7	Brush plate assembly, comprising	CBH 1817/1
160	7	Brush, trailing angle (current motor)	CBH 2359
161	7	Brush, (obsolete motor, before S.N. 0001/57)	CBH 1059
162	7	Spring, brush	CHS 3179
163	7	Post, brush spring	CHS 3178
164	7	Base, brush	CHS 3714
165	7	Box, brush	CBH 1082
166	7	Plate, brush box	CBH 1083
167	7	Post, terminal	CBH 1084
168	7	Screw, pigtail retaining, 6BA x $\frac{1}{4}$ " lg. ch.hd. brass	30-232-288-01
169	7	Washer, brush box, 6BA plain small	30-281-061-01
170	7	Spring	CBH 2395
171	7	Body	CHS 3167
172	7	Stator pack assembly	CBH 2090
173	7	Bearing, journal ball	40-172-021-02
174	7	Nut, journal retaining	30-361-314
175	7	Capacitor, 2 m.f. 50v D.C. 10 amp	40-561-908
31	7	Cable connector, male	CBH 1120
176	7	Cable connector, female	CBH 1121
177	7	Screw, cover retaining, 4BA x $\frac{1}{2}$ " lg. ch.hd.	30-232-124-11
		motors prior to S.N. 0001/57, 6BA x $\frac{1}{2}$ " lg. ch.hd.	30-233-092-11
53	7	Washer, cover retaining spring, 4BA sc. stl.	30-282-012-11
178	8	Fuel pump sub-assembly, fuel pump and casting comprising	CBH 1898

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
63	8	Nut, casting securing, 10 UNF hex.hd.	30-276-037-11
19	8	Washer, forward casting securing nut 2BA spring	30-282-014-11
180	8	Anti-radiation disc (female thread)	CHS 3699
181	8	Adaptor, anti-radiation disc (Use with shaft CBH 2200, part No. 205)	CBH 2201
182	8	Atomiser cup	CHS 3694
183	8	Shim (large) thick	CBH 1818
184	8	Shim (small) thin	CBH 1819
185	8	Fan, combustion air	CHS 3622
186	8	Seal ring	CHS 3628
187	8	Casting, forward	CBH 1144
188	8	Fuel delivery pipe	CBH 1159
189	8	Screw, fuel delivery pipe No.10 UNF x $\frac{3}{8}$ " lg. ch.hd.	30-253-204-11
19	8	Washer, fuel delivery pipe, 2BA spring	30-282-014-11
190	8	'O' ring, Gaco R.101, P 60	30-781-201-61
191	8	Washer, neoprene	CHS 3785
192	8	Pump, basic assembly, comprising	CBH 2083
193	8	Stud, No. 10 UNF x $\frac{7}{8}$ " lg.	CBH 1183
194	8	Pump body and bush assembly, including	CBH 1812
195	8	Connecting nipple	CBH 1838/S
196	8	Pin, air fan locating, Mills, grooved type G.P.5, 0.093 dia. x 0.562 long	30-287-076-11
197	8	Washer, worm thrust	CBH 1017
198	8	Pin, worm locating Mills, grooved type G.P.1 0.062 dia x 0.625 lg.	30-287-016-11
199	8	Worm) Order	CBH 1160
200	8	Wheel) as pair	CHS 3613
201	8	Pin, wheel locating, Mills type G.P.1 0.062 dia x 0.500 lg.	30-287-006-11
202	8	Shaft, eccentric	CBH 1078
203	8	Washer, wheel thrust	CHS 3648
204	8	Gasket, inner	CHS 3600
205	8	Shaft, driving	CBH 2200
206	8	Bearing plate assembly, comprising	CBH 1239
207	8	Gate piece	CBH 1234

HEATER CBH 1224

50 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
208	8	Pin, cross	CBH 1235
209	8	Seal, oil, Gaco Mis 05	40-343-118
210	8	Bearing plate sub-assembly	
		comprising	CBH 1239
211	8	Piston	} Order complete assembly CBH 1239
212	8	Cylinder	
213	8	Bearing plate	
214	8	Gasket, outer	CHS 3599
215	8	Spring, cylinder	CHS 3686
216	8	Washer, cylinder flat	CHS 3874
217	8	Cover, cylinder	CHS 3633
63	8	Nut, cover fixing 10 32 UNF hex.hd. full stl.	30-276-037-11
218	8	Flexible drive assembly	CBH 2297
218/1	8	Pin, drive locating Mills, grooved type G.P.3 0.093 dia x 0.562 lg.	30-287-061-11
219	8	Casting, rear	CBH 1146
220	8	Stud, motor locating $\frac{1}{4}$ " UNF x $1\frac{3}{4}$ " lg. stl.	CBH 1186
221	8	Stud, forward casting, pump locating 10 UNF x $1\frac{1}{4}$ " lg.	CBH 1184
222	8	Washer, sealing	CBH 1077
223	2	Rear steady casting	CBH 1147
224	2	Cable cleat	CHS 3994/1
225	2	Rivet, csk. $\frac{5}{32}$ " x $\frac{3}{8}$ " lg. Tucker ref TAP/K/ 537	30-227-513-01
226	1	Identification label	CBH 2350
31	1	Cable connector, male comprising	CBH 1120
227	1	Plug, $\frac{13}{32}$ " dia. x $\frac{5}{8}$ " lg. Carr reference 75-398/1	40-746-305-01
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
176	1	Cable connector, female, comprising	CBH 1121
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
229	1	Socket, $\frac{13}{32}$ " dia. x $\frac{63}{64}$ " lg. Carr reference 75-397	40-746-306-04
230	1	Spring, Carr reference 75-396/2	40-746-306-02
232	2	Bolt, motor retaining $\frac{3}{4}$ " 28 UNF x $1\frac{1}{2}$ " lg. cad.hex.	30-251-212-11
233	2	Nut, motor retaining hex. $\frac{1}{4}$ " 28 UNF cad. full	30-276-001-11
235	2	Resistor, 1.1 ohm 30 watt	40-521-309-11

HEATER CBH 122450 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
236	2	Screw, resistor fixing No.6 UNC x $\frac{1}{2}$ " lg. csk.hd.	30-257-117-11
237	2	Nut, resistor fixing, No.6 32 UNC hex. full stl.	30-277-022-11
53	2	Washer, resistor fixing, 4BA s.c. spring	30-282-012-11
238	2	Heat exchanger assembly, comprising	CBH 2490
239	2	Bolt, heat exchanger retaining	CBH 2193
240	2	Spire clip, bolt retaining	30-272-061-34
241	1	Plug, F/D thermostat blanking alternative position	CBH 2257
242	2	Flame ring, including	CBH 2452
243	2	Asbestos strip, long	CBH 2453
244	2	Asbestos strip, short	CBH 2454
245	2	Heat exchanger, less flame ring including	CBH 2490/1 CBH 1720
246	1	Tube, exhaust	
247	1	Nut, exhaust tube retaining, $\frac{1}{4}$ " UNF lock brass	30-276-610-11
248	2	Nut, bolt fixing $\frac{1}{4}$ " UNF hex. Nylock type P, Simmonds reference NP/D 086	30-276-066-11
249	2	Washer, bolt fixing, lock d.c. spring $\frac{1}{4}$ " dia.	30-282-244-11
252	1	Bracket, cable, Ross Courtney reference F.C.7770	30-615-402

HEATER CBH 1224/150 ASM MKII 24 VOLT HEATER

This heater is similar to heater code CBH 1224 but is a left hand model.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1

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HEATER CBH 130440 ASM MKII 24 VOLT HEATER

This heater is similar to heater code CBH 1224 but has a decreased heat output.

Part No.	Plate No.	Description	Code
Component codes altered			
146	2	Combustion unit assembly	CBH 1253
150	2	Fuel pump and motor unit	CBH 1252
178	8	Fuel pump sub-assembly	CBH 1820
192	8	Pump, basic assembly	CBH 2082
202	8	Eccentric shaft	CBH 1251

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HEATER CBH 1304/140 ASM MKII 24 VOLT HEATER

This heater is similar to heater code CBH 1224 but is a left hand model and has a decreased heat output.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
146	2	Combustion unit assembly	CBH 1253
150	2	Fuel pump and motor unit	CBH 1252
178	8	Fuel pump sub-assembly	CBH 1820
192	8	Pump, basic assembly	CBH 2082
202	8	Eccentric shaft	CBH 1251

HEATER CBH 162440 ASM MKII 24 VOLT HEATER

This heater is similar to heater code CBH 1224 but has a decreased heat output together with a plug and harness assembly added. The modifications are listed below.

Part No.	Plate No.	Description	Code
Components added			
255	1	Harness assembly comprising	CBH 1621
256	1	Plug	40-743-118
257	1	Outer Sleeve	1837 - 261
258	1	Insulating sleeve, 0.562 dia. x 1.250" lg.	30-783-662-15
Component codes altered			
146	2	Combustion unit assembly	CBH 1253
150	2	Fuel pump and motor unit	CBH 1252
178	8	Fuel pump sub-assembly	CBH 1820
192	8	Pump, basic assembly	CBH 2082
202	8	Eccentric shaft	CBH 1251

HEATER CBH 1624/140 ASM MKII 24 VOLT HEATER

This heater is similar to heater code CBH 1224 but is a left hand model, has a decreased heat output together with a plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
146	2	Combustion unit assembly	CBH 1253
150	2	Fuel pump and motor unit	CBH 1252
178	8	Fuel pump sub-assembly	CBH 1820
192	8	Pump, basic assembly	CBH 2082
202	8	Eccentric shaft	CBH 1251
Component codes added			
255	1	Harness assembly including	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve, 0.562 dia. x 1.250" lg.	30-783-662-15

HEATER CBH 170050 ASM MKII 24 VOLT HEATER

This heater is similar to CBH 1224 but has a plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes added			
255	1	Harness assembly including	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve.	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

HEATER CBH 1700/150 ASM MKII 24 VOLT HEATER

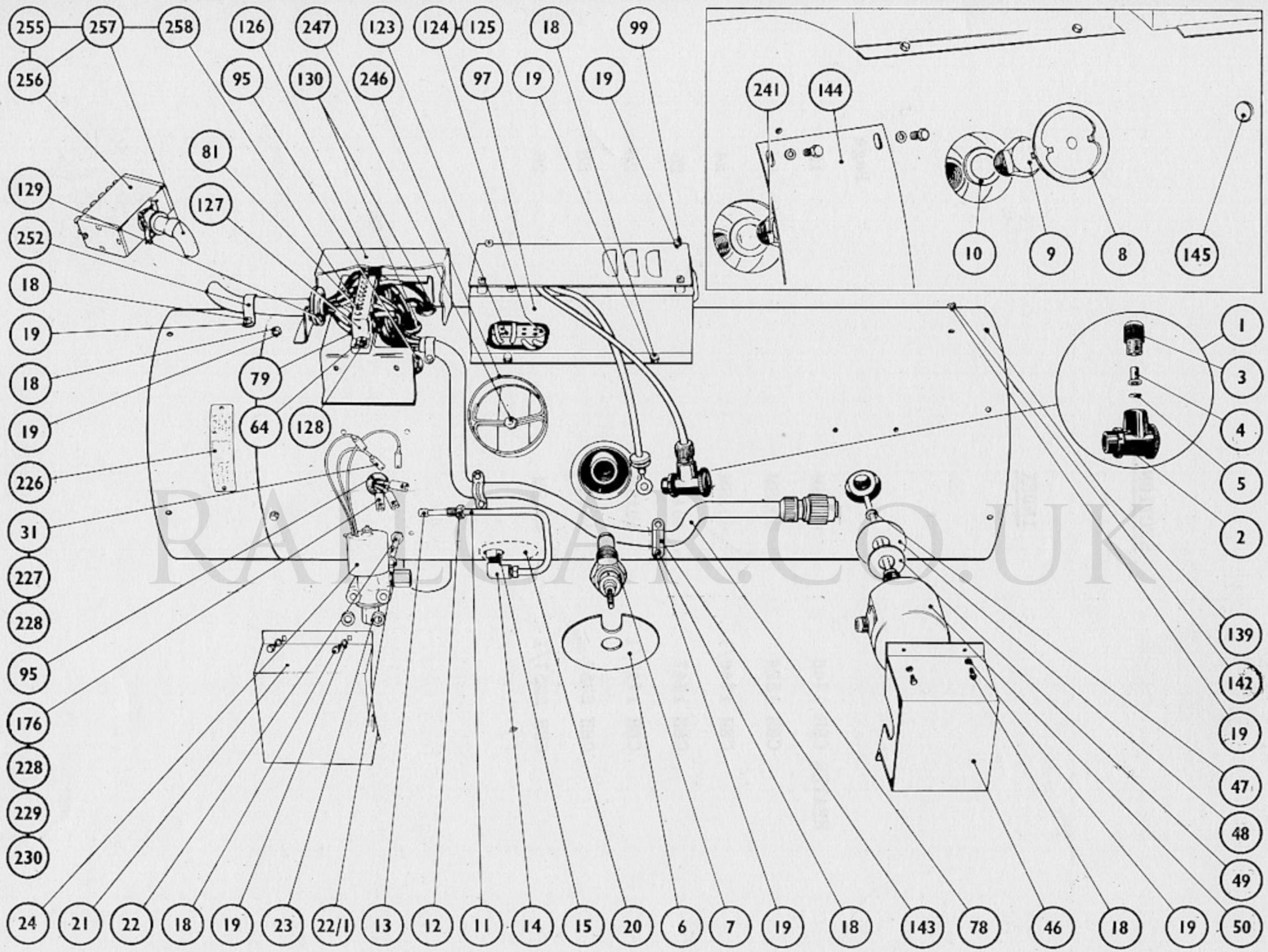
This heater is similar to heater code CBH 1224 but is a left hand model and has a plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
Component codes added			
255	1	Harness assembly, including	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

SECTION II

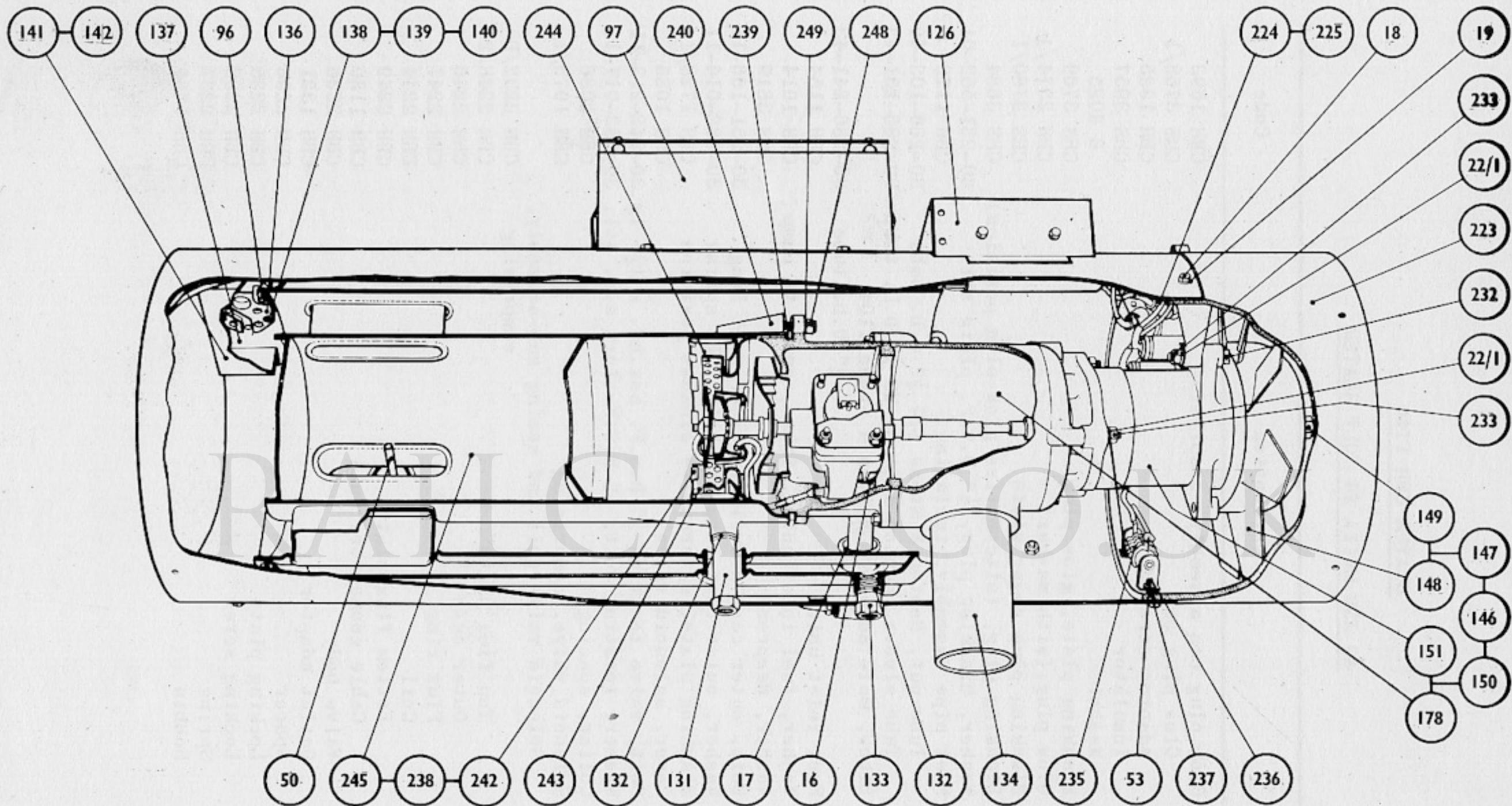
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MARK IIA HEATER

PLATE No. 1



MARK IIA HEATER

PLATE No. 2

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
1	1	Glow plug cap assembly, comprising	CBH 1693
2	1	Glow plug cap	CHS 3768/1
3	1	Adaptor screwed	CBH 1325
4	1	Insulator	CHS 3957
5	1	Washer	B 4025
6	1	Blanking plate, glow plug	CHS 3769
7	1	Glow plug, (with washer)	CBH 2374/1
8	1	Blanking plug cover plate	CHS 3780/1
9	1	Blanking plug, (alternative glow plug position)	CHS 3684
10	1	Washer, blanking plug, $\frac{1}{2}$ " B.S.P. plain stl.	30-281-552-01
11	1	Fuel pipe assembly, including	CBH 1172
12	1	Tube nut, Benton & Stone Z17 $\frac{1}{4}$ " O.D. tube	80-286-103-43
13	1	Tube sleeve, Benton & Stone Z3 $\frac{1}{4}$ " O.D. tube	80-286-101-43
14	1	Elbow, male adaptor, Benton & Stone Y104 $\frac{1}{4}$ " O.D. tube	80-286-241-43
15	1	Fuel inlet union	CBH 1154
16	2	Washer, fuel inlet union, fibre, union to pump	CBH 1014
17	2	Washer, neoprene	CHS 3619
18	2	Bolt, outer case securing, 10 UNF x $\frac{3}{8}$ " long	30-251-166-11
19	2	Washer, outer case securing bolt, 2BA spring	30-282-014-11
20	1	Blanking plate, alternative exhaust position	CBH 1728/1
21	1	Cover, solenoid valve	CBH 1085
22	1	Bolt, valve locating $\frac{1}{4}$ " B.S.F. hex.hd. x $1\frac{3}{4}$ " lg.	30-242-213-11
22/1	1	Washer, locating bolt, $\frac{1}{4}$ " B.S.F. lock s/c. stl.	30-282-017-11
23	1	Collar, spacing	CBH 1086
24	3	Solenoid valve, comprising	CBH 1075/1
25	3	Solenoid valve coil and casing sub-assembly, comprising	CBH 2232/D
26	3	Top flux plate	CBH 2248/24
27	3	Outer case	CBH 2246
28	3	Flux ring	CBH 2247
29	3	Coil	CBH 2244
30	3	Bottom flux plate	CBH 2249
31	3	Cable connector, male	CBH 1120
32	3	Valve body	CBH 2236
33	3	Outlet adaptor	CBH 1321
34	3	Spacer	CBH 2296
35	3	Locking plate	CBH 2235
36	3	Locking screw	CBH 2238
37	3	Spring	CBH 2237
38	3	Bobbin	CBH 1364

HEATER CBH 1746

40 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
39	3	Valve seat adjuster	CBH 2234
40	3	'O' ring, Gaco reference R 114	30-781-278-61
41	3	Sealing washer	CBH 2253
42	3	Filter adaptor	CBH 2233
43	3	'O' ring	30-781-210-61
44	3	Nut, valve body securing, 2BA hex.hd.cad	30-271-015-11
45	3	Washer, body nut securing, 2BA spring stl.	30-282-114-11
46	1	Guard, flame detection thermostat	CBH 1906
47	1	Plate, thermostat cover	CBH 1658
48	1	Ring, thermostat clamping	CBH 1682
49	1	Washer, thermostat clamping ring	CBH 1209
50	4	Thermostat, flame detection, comprising	CBH 2043
51	4	Cover, thermostat	CBH 1419
52	4	Screw, cover fixing, No.6 UNC x $\frac{1}{4}$ " lg.ch.hd. stl.	30-257-214-11
53	4	Washer, cover screw, 4BA s.c. lock spring stl.	30-282-012-11
54	4	Case, thermostat	CBH 2069
55	4	Screw, base plate fixing, No.6 UNC x $\frac{1}{2}$ " lg. csk.hd.stl	30-257-117-11
56	4	Nut, base plate fixing, No.6 UNC hex.hd. full stl.	30-277-022-11
57	4	Plug, 3-pole, fixed, Mod. Accoustics T 3081	40-741-633
58	4	Screw, plug fixing No.6 UNC x $\frac{1}{2}$ " lg. ch.hd. stl.	30-257-217-11
59	4	Ring, sealing	CBH 2068
60	4	Flame detection thermostat sub-assembly comprising	CBH 2067
61	4	Microswitch, Burgess reference CR.75	40-612-512
62	4	Pin, microswitch support	CBH 1418
63	4	Nut, support pin, No.10 32 UNF hex.hd. full stl.	30-276-037-11
64	4	Washer, support pin, 2BA shakeproof	30-283-015-11
65	4	Washer, support pin, 10 UNF, plain stl.	30-281-015-11
66	4	Circlip, Anderton type 1500, No.110	30-581-310
67	4	Leaf spring	CBH 1421
68	4	Screw, spring fixing, 4 UNC x $\frac{5}{16}$ " lg. csk.hd.stl.	30-257-105-11
69	4	Washer, spring fixing, 4 UNC s.c. spring stl.	30-282-010-11

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
70	4	Nut, spring fixing, No.4 UNC hex.hd.stl	30-277-021-11
71	4	Actuating rod	CBH 2063
72	4	Base plate & tube sub-assembly, comprising	CBH 2070
73	4	Tube and sleeve	CBH 2071
74	4	Base plate	CBH 1408
75	4	Tube nut	CBH 1413
76	4	Tube plug	CBH 1414
77	4	Pin, Mills type G.P.3 1/16" x 5/16" lg.	30-287-054-11.
78	5	Thermostat harness assembly, comprising	CBH 2048/1
79	5	Terminal	CBH 1161
80	5	Terminal	CBH 1815
81	5	Screw, terminal, No.10 32 UNF ch.hd. brass x 5/16" long	30-253-703-18
82	5	Harness, comprising	CBH 2048
83	5	Wiring assembly	CBH 2369
84	5	Main shell	CBH 2370
85	5	Coupling nut	CBH 2371
86	5	Sealing ring	CBH 2372
87	5	Circlip	CBH 2373
88	5	Conduit 5/8" O.D. x 21" Kopex, nut & olive	CBH 2497
96	2	Tag, terminal, Ross Courtney reference 350	30-867-313-25
97	6	Resistor box assembly, comprising	CBH 1327
98	6	Lid	CBH 1138
99	1	Screw, lid securing, No.10 32 UNF x 5/8" lg. ch.hd.	30-253-206-11
19	1	Washer, securing screw, 2BA lock spring stl.	30-282-014-11
100	6	Case	CBH 1332
101	6	Tag, terminal	CHS 3958
102	6	Resistor 0.395 ohm	CBH 1114
103	6	Connecting strip	CBH 1099
104	6	Resistor 0.316 ohm	CBH 1113
105	6	Screw, resistor securing, No.10, 32 UNF x 3/4" lg. ch.hd. brass	30-253-707-18
106	6	Nut, resistor securing, No.10, 32 UNF brass precision hex.hd	30-276-637-18
107	6	Washer, securing nut, No.10 UNF, plain large brass	30-281-085-18
108	6	Adaptor	CHS 3957
109	6	Resistor, variable, 0.22 ohm	CBH 1115
110	6	Strip, insulation	CBH 1204

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
111	6	Screw, insulator securing, No.10, 32 UNF x $\frac{1}{2}$ " lg. ch.hd. stl.	30-253-205-11
112	6	Relay, Weymouth reference R.S.9	CBH 1318
113	6	Screw, relay securing, 4BA x $\frac{1}{4}$ " lg. ch.hd. stl.	30-232-120-11
53	6	Washer, securing screw, 4BA s.c. lock spring stl.	30-282-012-11
95	6	Grommet, white, P.B. Cow reference 8A.C5042	30-781-351
114	6	Grommet, special	CHS 3998
1	6	Glow plug cap assembly	CBH 1693
*115	6A	Resistor box assembly, for heaters before S.N. 15231 including	CBH 1098
116	6A	Relay R.D.B.	CBH 1106
117	6A	Relay R.D.5	CBH 1107
118	6A	Screw, relay fixing, 4BA ch.hd. x 7/16"	30-232-123-11
119	6A	Washer, fixing screw 4BA shakeproof	30-283-013-34
120	6A	Cover	CBH 1093
121	6A	Screw, lid fixing, 2BA ch.hd. x $\frac{5}{8}$ " lg.ch.hd.	30-232-158-11
123	1	Terminal block, 4-way, Grelco reference M4	40-718-529
124	1	Screw, block fixing, No.6 x $\frac{3}{4}$ " lg. P.K. rd.hd.	30-217-020-11
125	1	Spire clip, fixing screw, P.K., SNP/1212/17/9	30-272-007-91
126	1	Cover, main terminal block	CBH 1672
127	1	Moulding, main terminal block	CBH 1151
128	1	Screw, moulding securing, No.10 32 UNF x $\frac{5}{8}$ " lg. ch.hd.	30-253-206-11
129	1	Grommet, terminal block, Hellerman reference HV.2166	30-781-380
130	1	Grommet, outer wrap, Long & Hambly reference 1" dia. brown	30-781-311
131	2	Union, fuel drain long	CHS 3664
132	2	Washer, fuel drain $\frac{1}{4}$ " B.S.P. copper AGS 1139/B	30-513-110-11
133	2	Union, fuel drain short	CBH 1168
134	2	Tube, combustion air inlet	CBH 1189
136	2	Thermostat, overheat	40-617-801
137	2	Insulating sheet, thermostat	CHS 3911
138	2	Distance piece	CHS 3858
139	2	Screw, No.6 UNC csk.hd. x 1" long	30-257-121-11
140	2	Nut, No.6 32 UNC locking, Nylock type P	30-277-040-11
141	2	Cover, thermostat	CBH 1118
142	1	Bolt, thermostat cover securing	CBH 1122
		* Replace with resistor box, CBH 1327, Part No. 97.	
		* Replace with resistor box, CBH 1327, Part No. 97.	

HEATER CBH 1746

40 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
143	1	Bracket, cable, Ross Courtney reference 3110/ 769	30-615-403
144	1	Cover thermostat hole Before heater S.N. 20104/358 use	CBH 2291 CBH 1174
145	1	Plaque button, F. T. Products reference 1363	40-242-101-01
146	2	Combustion unit assembly, comprising	CBH 1253
147	2	Air fan sub-assembly, comprising	CHS 3667/1
148	2	Air fan	CHS 3667
149	2	Nut, collet	CHS 3662
150	2	Fuel pump & motor unit, comprising	CBH 1252
151	7	Motor, 24 volt 114 watt suppressed, including	CBH 1372
152	7	Cover	CHS 3708
153	7	Plate, rear clamp	CHS 3859
154	7	Plate, front clamp	CBH 1058
155	7	Front housing	CBH 1368
156	7	End housing	CBH 1367
157	7	Fixing stud	CHS 3169
158	7	Armature assembly	CBH 1741
159	7	Brush plate assembly, comprising	CBH 1817/1
160	7	Brush, trailing angle (current motor)	CBH 2359
161	7	Brush, (obsolete motor, before S.N. 0001/57)	CBH 1059
162	7	Spring, brush	CHS 3179
163	7	Post, brush spring	CHS 3178
164	7	Base, brush	CHS 3714
165	7	Box, brush	CBH 1082
166	7	Plate, brush box	CBH 1083
167	7	Post, terminal	CBH 1084
168	7	Screw, pigtail retaining, 6BA x $\frac{1}{4}$ " lg. ch.hd. brass	30-232-288-01
169	7	Washer, brush box 6BA plain small	30-281-061-01
170	7	Spring	CBH 2395
171	7	Body	CHS 3167
172	7	Stator pack assembly	CBH 2090
173	7	Bearing, journal ball	40-172-021-02
174	7	Nut, journal retaining	30-361-314
175	7	Capacitor, 2 m.f. 50v D.C. 10 amp	40-561-908
31	7	Cable connector, male	CBH 1120
176	7	Cable connector, female	CBH 1121
177	7	*Screw, cover retaining, 4BA x $\frac{1}{2}$ " lg. ch.hd.	30-232-124-11

*See also next page

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate NNo.	Description	Code
177	7	Motors prior to S.N. 0001/57, 6BA x $\frac{1}{2}$ " lg. ch.hd.	30-233-092-11
53	7	Washer, cover retaining 4BA s.c. lock spring stl.	30-282-012-11
178	8	Fuel pump sub-assembly, fuel pump and casting comprising	CBH 1820
63	8	Nut, casting securing, 10 UNF, hex.hd.	30-276-037-11
19	8	Washer, casting securing nut 2BA spring	30-282-014-11
180	8	Anti-radiation disc (female thread)	CHS 3699
181	8	Adaptor, anti-radiation disc (Use with shaft CBH 2200, part No. 205)	CBH 2201
182	8	Atomiser cup	CHS 3694
183	8	Shim (large) thick	CBH 1818
184	8	Shim (small) thin	CBH 1819
185	8	Fan, combustion air	CHS 3622
186	8	Seal, ring	CHS 3628
187	8	Casting, forward	CBH 1144
188	8	Fuel delivery pipe	CBH 1159
189	8	Screw, fuel delivery pipe No.10 UNF x $\frac{3}{8}$ " lg. ch.hd.	30-253-204-11
19	8	Washer, fuel delivery pipe, 2BA spring	30-282-014-11
190	8	'O' ring, Gaco R.101, P 60	30-781-201-61
191	8	Washer, neoprene	CHS 3785
192	8	Pump, basic assembly, comprising	CBH 2082
193	8	Stud, No.10 UNF x $1\frac{7}{8}$ " lg.	CBH 1183
194	8	Pump body and bush assembly, including	CBH 1812
195	8	Connecting nipple	CBH 1838/S
196	8	Pin, air fan locating, Mills, grooved type G.P.5, 0.093 dia. x 0.562 long	30-287-076-11
197	8	Washer, worm thrust	CBH 1017
198	8	Pin, worm locating Mills, grooved type G.P.1 0.062 dia. x 0.625 lg.	30-287-016-11
199	8	Worm) Order	CBH 1160
200	8	Wheel) as pair	CHS 3613
201	8	Pin, wheel locating, Mills type G.P.1 0.062 dia. x 0.500 lg.	30-287-006-11

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
202	8	Shaft, eccentric	CBH 1251
203	8	Washer, wheel thrust	CHS 3648
204	8	Gasket, inner	CHS 3600
205	8	Shaft, driving	CBH 2200
206	8	Bearing plate assembly, comprising	CBH 1239
207	8	Gate piece	CBH 1234
208	8	Pin, cross	CBH 1235
209	8	Seal, oil, Gaco Mis 05	40-343-118
210	8	Bearing plate sub-assembly, comprising	CBH 1239
211	8	Piston) Order complete assembly CBH 1239
212	8	Cylinder	
213	8	Bearing plate	
214	8	Gasket, outer	CHS 3599
215	8	Spring, cylinder	CHS 3686
216	8	Washer, cylinder flat	CHS 3874
217	8	Cover, cylinder	CHS 3633
63	8	Nut, cover fixing No.10 32 UNF hex. hd. full stl.	30-276-037-11
218	8	Flexible drive assembly	CBH 2297
218/1	8	Pin, drive locating Mills, grooved type G.P.3 0.093 dia. x 0.562 lg.	30-287-061-11
219	8	Casting, rear	CBH 1146
220	8	Stud, motor locating $\frac{1}{4}$ " UNF x $1\frac{3}{4}$ " lg. stl.	CBH 1186
221	8	Stud, forward casting, pump locating 10 UNF x $1\frac{1}{4}$ " lg.	CBH 1184
222	8	Washer, sealing	CBH 1077
223	2	Rear steady casting	CBH 1147
224	2	Cable cleat	CHS 3994/1
225	2	Rivet, csk. $\frac{5}{32}$ " x $\frac{3}{8}$ " lg.	30-227-513-01
226	1	Identification label	CBH 2350
31	1	Cable connector, male comprising	CBH 1120
227	1	Plug, $\frac{13}{32}$ " dia. x $\frac{5}{8}$ " lg. Carr reference 75-398/1	40-746-305-01
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
176	1	Cable connector, female, comprising	CBH 1121
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
229	1	Socket, $\frac{13}{32}$ " dia. x $\frac{63}{64}$ " lg. Carr reference 75-397	40-746-306-04

HEATER CBH 174640 ASM MKIIA 24 VOLT HEATER

Part No.	Plate No.	Description	Code
230	1	Spring, Carr reference 75-396/2	40-746-306-02
232	2	Bolt, motor retaining $\frac{3}{4}$ " 28 UNF x $1\frac{1}{2}$ " lg. cad.hex.	30-251-212-11
233	2	Nut, motor retaining hex. $\frac{1}{4}$ " 28 UNF cad. full	30-276-001-11
235	2	Resistor, 1.1 ohm 30 watt	40-521-309-11
236	2	Screw, resistor fixing No.6 UNC x $\frac{1}{2}$ " lg. csk.hd.	30-257-117-11
237	2	Nut, resistor fixing, No.6 32 UNC hex. full stl.	30-277-022-11
53	2	Washer, resistor fixing, 4BA s.c. spring	30-282-012-11
238	2	Heat exchanger assembly, comprising	CBH 2490
239	2	Bolt, heat exchanger retaining	CBH 2193
240	2	Spire clip, bolt retaining	30-272-061-34
241	1	Plug, F/D thermostat blanking alternative position	CBH 2257
242	2	Flame ring, including	CBH 2452
243	2	Asbestos strip, long	CBH 2453
244	2	Asbestos strip, short	CBH 2454
245	2	Heat exchanger, less flame ring including	CBH 2490/1
246	1	Tube, exhaust	CBH 1720
247	1	Nut, exhaust tube retaining, $\frac{1}{4}$ " UNF lock brass	30-276-610-11
248	2	Nut, bolt fixing $\frac{1}{4}$ " UNF hex. Nylock type P, Simmonds reference NP/D 096	30-276-066-11
249	2	Washer, bolt fixing, lock d.c. spring $\frac{1}{4}$ " dia.	30-282-244-11
252	1	Bracket, cable, Ross Courtney Reference F.C.7770	30-615-402

HEATER CBH 152450 ASM MKIIA 24 VOLT HEATER

This heater is similar to heater code CBH 1746 but has an increased heat output.

Part No.	Plate NNo.	Description	Code
Component codes altered			
146	2	Combustion unit assembly	CBH 1170
150	2	Fuel pump and motor unit	CBH 1167
178	8	Fuel pump and casting assembly	CBH 1898
192	8	Basic pump assembly	CBH 2083
202	8	Eccentric shaft	CBH 1078

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HEATER CBH 1746/140 ASM MKIIA 24 VOLT HEATER

This heater is similar to but the left hand version of the the heater CBH 1746

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1

HEATER CBH 174740 ASM MKIIA 24 VOLT HEATER

This heater is similar to heater code CBH 1746 with the addition of a plug and harness assembly

Part No.	Plate No.	Description	Code
Component codes added			
255	1	Harness assembly including	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

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HEATER CBH 1747/140 ASM MKIIA 24 VOLT HEATER

This heater is similar to heater code CBH 1746 but is a left hand model with the plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
Component codes altered			
255	1	Harness assembly including	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

HEATER CBH 235740 ASM MKIIA/R 24 VOLT HEATER

This heater is similar to heater CBH 1746 with the addition of a plug and harness assembly. It is also wired for Fully Automatic Control.

Part No.	Plate No.	Description	Code
Component codes added			
255	1	Harness assembly including	CBH 2222
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

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HEATER CBH 2357/140 ASM MKIIA/R 24 VOLT HEATER

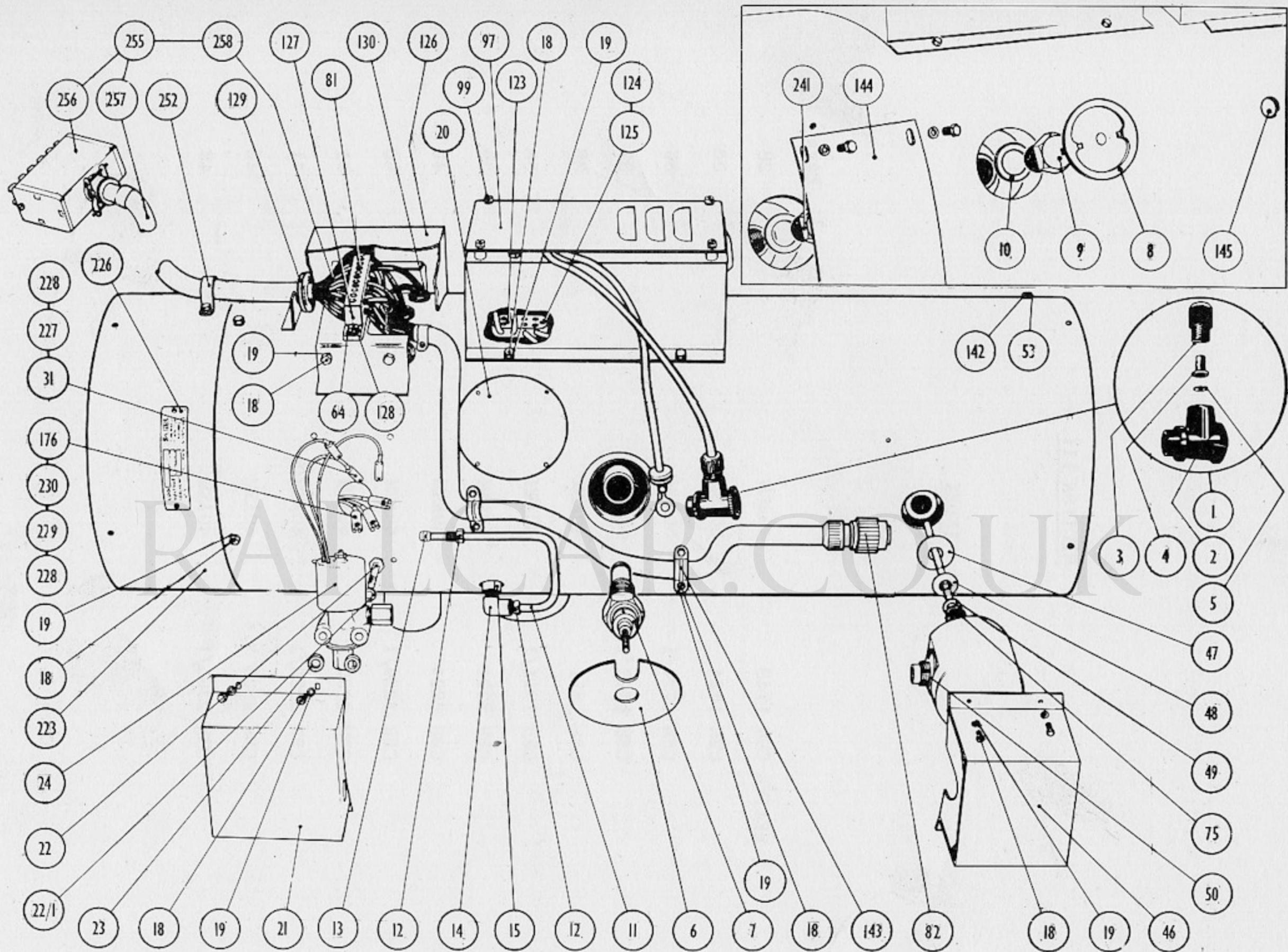
This heater is similar to heater CBH 1746 but is a left hand model fitted with a plug and harness assembly. It is also wired for Fully Automatic Control.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
Component codes added			
255	1	Harness assembly including	CBH 2222
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

SECTION III

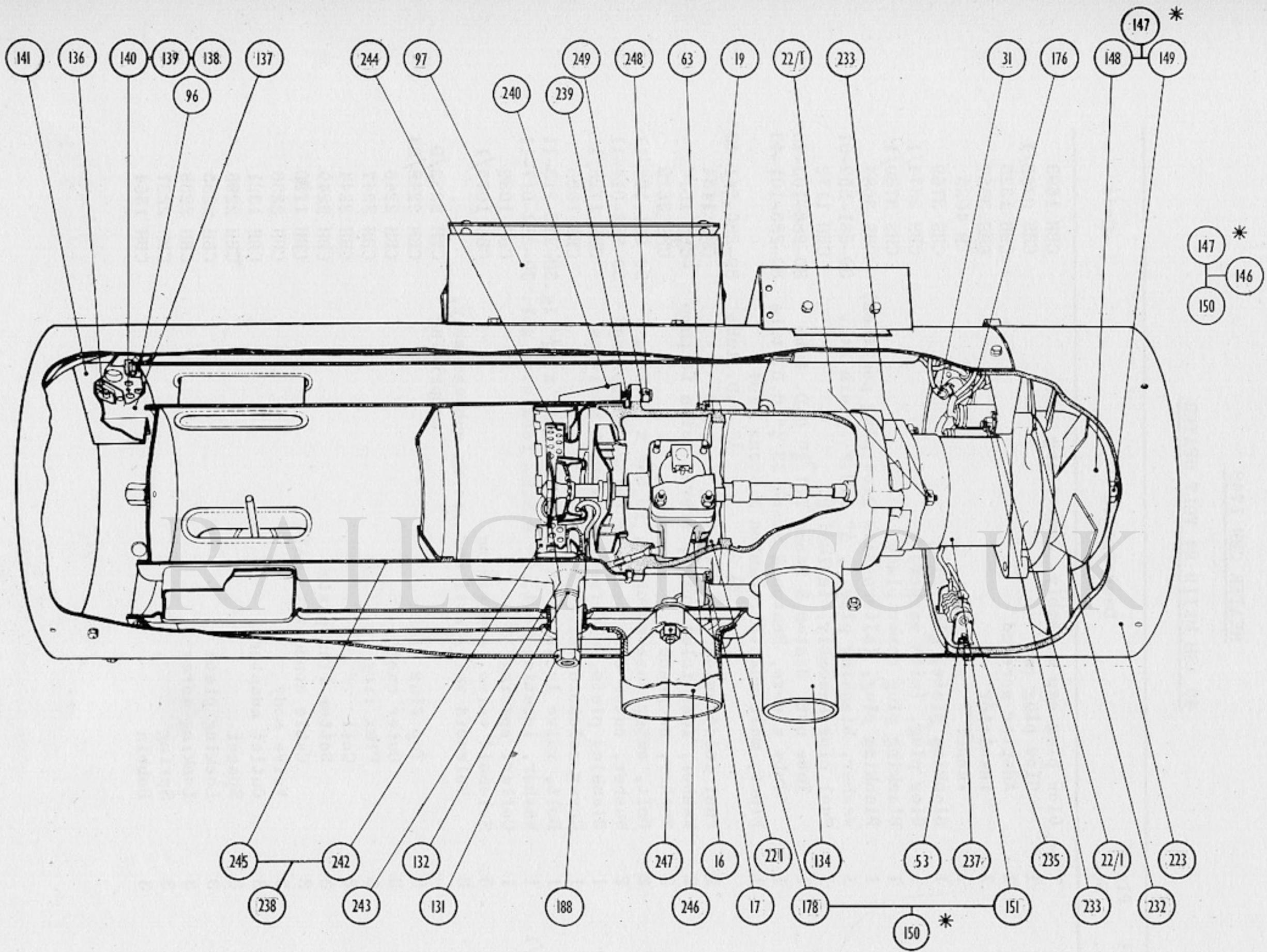
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MARK II B HEATER

PLATE No. I



MARK IIB HEATER

HEATER CBH 1748

40 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
1	1	Glow plug cap assembly, comprising	CBH 1693
2	1	Glow plug cap	CHS 3768/1
3	1	Adaptor screwed	CBH 1325
4	1	Insulator	CHS 3957
5	1	Washer	B 4025
6	1	Blanking plate, glow plug	CHS 3769
7	1	Glow plug, (with washer)	CBH 2374/1
8	1	Blanking plug cover plate	CHS 3780/1
9	1	Blanking plug, (alternative glow plug position)	CHS 3684
10	1	Washer, blanking plug, , $\frac{1}{2}$ " B.S.P. plain stl.	30-281-552-01
11	1	Fuel pipe assembly, including	CBH 1172
12	1	Tube nut, Benton & Stone Z17 $\frac{1}{4}$ " O.D. tube	80-286-103-43
13	1	Tube sleeve, Benton & Stone Z3 $\frac{1}{4}$ " O.D. tube	80-286-101-43
14	1	Elbow, male adaptor, Benton & Stone Y104 $\frac{1}{4}$ " O.D. tube	80-286-241-43
15	1	Fuel inlet union	CBH 1154
16	2	Washer, fuel inlet union, fibre, union to pump	CBH 1014
17	2	Washer, neoprene	CHS 3619
18	2	Bolt, outer case securing, 10 UNF x $\frac{3}{8}$ " long	30-251-166-11
19	2	Washer, outer case securing bolt, 2BA spring	30-282-014-11
20	1	Blanking plate, alternative exhaust position	CBH 1728/1
21	1	Cover, solenoid valve	CBH 1085
22	1	Bolt, valve locating $\frac{1}{4}$ " B.S.F. hex.hd. x $1\frac{3}{4}$ " lg.	30-242-213-11
22/1	1	Washer, locating bolt, $\frac{1}{4}$ " B.S.F. lock s.c. stl.	30-282-017-11
23	1	Collar, spacing	CBH 1086
24	3	Solenoid valve, comprising	CBH 1075/1
25	3	Solenoid valve coil and casing sub-assembly, comprising	CBH 2232/D
26	3	Top flux plate	CBH 2248/24
27	3	Outer case	CBH 2246
28	3	Flux ring	CBH 2247
29	3	Coil	CBH 2244
30	3	Bottom flux plate	CBH 2249
31	3	Cable connector, male	CBH 1120
32	3	Valve body	CBH 2236
33	3	Outlet adaptor	CBH 1321
34	3	Spacer	CBH 2296
35	3	Locking plate	CBH 2235
36	3	Locking screw	CBH 2238
37	3	Spring	CBH 2237
38	3	Bobbin	CBH 1364

HEATER CBH 174840 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
39	3	Valve seat adjuster	CBH 2234
40	3	'O' ring, Gaco reference R 114	30-781-278-61
41	3	Sealing washer	CBH 2253
42	3	Filter adaptor	CBH 2233
43	3	'O' ring	30-781-210-61
44	3	Nut, valve body securing, 2BA hex.hd.cad.	30-271-015-11
45	3	Washer, body nut securing, 2BA spring stl.	30-282-114-11
46	1	Guard, flame detection thermostat	CBH 1906
47	1	Plate, thermostat cover	CBH 1658
48	1	Ring, thermostat clamping ring	CBH 1682
49	1	Washer, thermostat clamping ring	CBH 1209
50	4	Thermostat, flame detection, comprising	CBH 2043
51	4	Cover, thermostat	CBH 1419
52	4	Screw, cover fixing, No.6 UNC x $\frac{1}{4}$ " lg.ch.hd. stl.	30-257-214-11
53	4	Washer, cover screw, No.6 UNC lock spring stl.	30-282-012-11
54	4	Case, thermostat	CBH 2069
55	4	Screw, base plate fixing, No.6 UNC x $\frac{1}{2}$ " lg. csk.hd.stl.	30-257-117-11
56	4	Nut, base plate fixing, No.6 UNC hex.hd. full stl.	30-277-022-11
57	4	Plug, 3-pole, fixed, Mod. Accoustics T 3081	40-741-633
58	4	Screw, plug fixing No.6 UNC x $\frac{1}{2}$ " lg. ch.hd. stl.	30-257-217-11
59	4	Ring, sealing	CBH 2068
60	4	Flame detection thermostat sub-assembly comprising	CBH 2067
61	4	Microswitch, Burgess reference CR.75	40-612-512
62	4	Pin, microswitch support	CBH 1418
63	4	Nut, support pin, No.10 32 UNF hex.hd. full stl.	30-276-037-11
64	4	Washer, support pin, 2BA shakeproof	30-283-015-11
65	4	Washer, support pin, 10 UNF plain stl.	30-281-015-11
66	4	Circlip, Anderton type 1500, No.110	30-581-310
67	4	Leaf spring	CBH 1421
68	4	Screw, spring fixing, 4 UNC x $\frac{5}{16}$ " lg. csk.hd.stl.	30-257-105-11
69	4	Washer, spring fixing, 4UNC s.c. spring stl.	30-282-010-11

HEATER CBH 1740

40 ASM MKII 24 VOLT HEATER

Part No.	Plate No.	Description	Code
70	4	Nut, spring fixing, No.4 UNC hex.hd.stl.	30-277-021-11
71	4	Actuating rod	CBH 2063
72	4	Base plate and tube sub-assembly, comprising	CBH 2070
73	4	Tube and sleeve	CBH 2071
74	4	Base plate	CBH 1408
75	4	Tube nut	CBH 1413
76	4	Tube plug	CBH 1414
77	4	Pin, Mills type G.P.3 1/16" x 5/16" lg.	30-287-054-11
78	5	Thermostat harness assembly, comprising	CBH 2048/1
79	5	Terminal	CBH 1161
80	5	Terminal	CBH 1815
81	5	Screw, terminal, No.10 32 UNF ch.hd. brass x 5/16" long	30-253-703-18
82	5	Harness, comprising	CBH 2048
83	5	Wiring assembly	CBH 2369
84	5	Main shell	CBH 2370
85	5	Coupling nut	CBH 2371
86	5	Sealing ring	CBH 2372
87	5	Circlip	CBH 2373
88	5	Conduit 5/8" O.D. x 21" Kopex, nut & olive	CBH 2497
96	2	Tag, terminal, Ross Courtney ref. 350	30-867-313-25
97	6	Resistor box assembly, comprising	CBH 1327
98	6	Lid	CBH 1138
99	1	Screw, lid securing, No.10, 32 UNF x 5/8" lg. ch.hd.	30-253-206-11
19	1	Washer, securing screw, 2BA lock spring stl.	30-282-014-11
100	6	Case	CBH 1332
101	6	Tag, terminal	CHS 3958
102	6	Resistor 0.395 ohm	CBH 1114
103	6	Connecting strip	CBH 1099
104	6	Resistor 0.316 ohm	CBH 1113
105	6	Screw, resistor securing, No.10, 32 UNF x 3/4" lg. ch.hd. brass	30-253-707-18
106	6	Nut, resistor securing, No.10, 32 UNF brass precision hex.hd.	30-276-637-18
107	6	Washer, securing nut, No.10 UNF, plain large brass	30-281-085-18
108	6	Adaptor	CHS 3957
109	6	Resistor, variable, 0.22 ohm	CBH 1115
110	6	Strip, insulation	CBH 1204

HEATER CBH 174840 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
111	6	Screw, insulator securing, No.10, 32 UNF x $\frac{1}{2}$ " lg. ch.hd. stl.	30-253-205-11
112	6	Relay, Waymouth reference R.S.9	CBH 1318
113	6	Screw, relay securing, 4BA x $\frac{1}{4}$ " lg. ch.hd. stl.	30-232-120-11
53	6	Washer, securing screw, 4BA s.c. lock spring stl.	30-282-012-11
95	6	Grommet, white P.B. Cow reference 8A.C5042	30-781-351
114	6	Grommet, special	CHS 3998
1	6	Glow plug cap assembly	CBH 1693
123	1	Terminal block, 4-way, Grelco reference M4	40-718-529
124	1	Screw, block fixing, No.6 x $\frac{3}{4}$ " lg. P.K. rd.hd.	30-217-020-11
125	1	Spire clip, fixing screw, P.K., SNP/1212/17/9	30-272-007-91
126	1	Cover, main terminal block	CBH 1672
127	1	Moulding, main terminal block	CBH 1151
128	1	Screw, moulding securing, No.10 32 UNF x $\frac{5}{8}$ " lg. ch.hd.	30-253-206-11
129	1	Grommet, terminal block, Hellerman reference HV.2166	30-781-380
130	1	Grommet, outer wrap, Long & Hambly reference 1" dia. brown	30-781-311
131	2	Union, fuel drain long	CHS 3664
132	2	Washer, fuel drain $\frac{1}{4}$ " B.S.P. copper AGS 1139/B	30-513-110-11
134	2	Tube, combustion air inlet	CBH 1189
136	2	Thermostat, overheat	40-617-801
137	2	Insulating sheet, thermostat	CHS 3911
138	2	Distance piece	CHS 3858
139	2	Screw, No.6 UNC csk.hd. x 1" long	30-257-121-11
140	2	Nut, No.6 32 UNC locking, Nylock type P	30-277-040-11
141	2	Cover, thermostat	CBH 1118
142	1	Bolt, thermostat cover securing	CBH 1122
143	1	Bracket, cable, Ross Courtney reference 3110/769	30-615-403
144	1	Cover, thermostat hole	CBH 2291
145	1	Plaque button, F. T. Products reference 1363	40-242-101-01
146	2	Combustion unit assembly, comprising	CBH 1253
147	2	Air fan sub-assembly comprising	CHS 3667/1
148	2	Air fan	CHS 3667
149	2	Nut, collet	CHS 3662
150	2	Fuel pump & motor unit, comprising	CBH 1252

HEATER CBH 174840 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
151	7	Motor, 24 volt 114 watt, suppressed, including	CBH 1372
152	7	Cover	CHS 3708
153	7	Plate, rear clamp	CHS 3859
154	7	Plate, front clamp	CBH 1058
155	7	Front housing	CBH 1368
156	7	End housing	CBH 1367
157	7	Fixing stud	CHS 3169
158	7	Armature assembly	CBH 1741
159	7	Brush plate assembly, comprising	CBH 1817/1
160	7	Brush, trailing angle (current motor)	CBH 2359
161	7	Brush, (obsolete motor, before S.N. 0001/57)	CBH 1059
162	7	Spring, brush	CHS 3179
163	7	Post, brush spring	CHS 3178
164	7	Base, brush	CHS 3714
165	7	Box, brush	CBH 1082
166	7	Plate, brush box	CBH 1083
167	7	Post, terminal	CBH 1084
168	7	Screw, pigtail retaining, 6BA x $\frac{1}{4}$ " lg. ch.hd. brass	30-232-288-01
169	7	Washer, brush box 6BA plain small	30-281-061-01
170	7	Spring	CBH 2395
171	7	Body	CHS 3167
172	7	Stator pack assembly	CBH 2090
173	7	Bearing, journal ball	40-172-021-02
174	7	Nut, journal retaining	30-361-314
175	7	Capacitor, 2 m.f. 50v D.C. 10 amp	40-561-908
31	7	Cable connector, male	CBH 1120
176	7	Cable connector, female	CBH 1121
177	7	Screw, cover retaining, 4BA x $\frac{1}{2}$ " lg. ch.hd.	30-232-124-11
		Motors prior to S.N. 0001/57, 6BA x $\frac{1}{2}$ " lg. ch.hd.	30-233-092-11
53	7	Washer, cover retaining 4BA s.c. spring	30-282-012-11
178	8	Fuel pump sub-assembly, fuel pump and casting, comprising	CBH 1820
63	8	Nut, casting securing, 10 UNF, hex.hd.	30-276-037-11
19	8	Washer, casting securing nut 2BA spring	30-282-014-11

HEATER CBH 1748

40 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
180	8	Anti-radiation disc (female thread)	CHS 3699
181	8	Adaptor, anti-radiation disc (Use with shaft CBH 2200, part No. 205)	CBH 2201
182	8	Atomiser cup	CHS 3694
183	8	Shim (large) thick	CBH 1818
184	8	Shim (small) thin	CBH 1819
185	8	Fan, combustion air	CHS 3622
186	8	Seal, ring	CHS 3628
187	8	Casting, forward	CBH 1144
188	8	Fuel delivery pipe	CBH 1159
189	8	Screw, fuel delivery pipe No. 10 UNF x $\frac{3}{8}$ " lg. ch.hd.	30-253-204-11
19	8	Washer, fuel delivery pipe, 2BA spring	30-282-014-11
190	8	'O' ring, Gaco R.101, P 60	30-781-201-61
191	8	Washer, neoprene	CHS 3785
192	8	Pump, basic assembly, comprising	CBH 2082
193	8	Stud, No.10 UNF x $1\frac{7}{8}$ " lg.	CBH 1183
194	8	Pump body and bush assembly, including	CBH 1812
195	8	Connecting nipple	CBH 1838/S
196	8	Pin, air fan locating, Mills, grooved type G.P.5, 0.093 dia. x 0.562 long	30-287-076-11
197	8	Washer, worm thrust	CBH 1017
198	8	Pin, worm locating Mills, grooved type G.P.1 0.062 dia. x 0.625 lg.	30-287-016-11
199	8	Worm) Order	CBH 1160
200	8	Wheel) as pair	CHS 3613
201	8	Pin, wheel locating, Mills type G.P.1 0.062 dia. x 0.500 lg.	30-287-006-11
202	8	Shaft, eccentric	CBH 1251
203	8	Washer, wheel thrust	CHS 3648
204	8	Gasket, inner	CHS 3600
205	8	Shaft, driving	CBH 2200
206	8	Bearing plate assembly, comprising	CBH 1239
207	8	Gate piece	CBH 1234
208	8	Pin, cross	CBH 1235
209	8	Seal, oil, Gaco Mis 05	40-343-118

HEATER CBH 1748

40 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
210	8	Bearing plate sub-assembly, comprising	CBH 1239
211	8	Piston)	Order complete assembly CBH 1239
212	8	Cylinder)	
213	8	Bearing plate)	
214	8	Gasket, outer	CHS 3599
215	8	Spring, cylinder	CHS 3686
216	8	Washer, cylinder flat	CHS 3874
217	8	Cover, cylinder	CHS 3633
63	8	Nut, cover fixing No.10 32 UNF hex. hd. full stl.	30-276-037-11
218	8	Flexible drive assembly	CBH 2297
218/1	8	Pin, drive locating Mills, grooved type G.P.3 0.093 dia. x 0.562 lg.	30-287-061-11
219	8	Casting, rear	CBH 1146
220	8	Stud, motor locating $\frac{1}{4}$ " UNF x $1\frac{3}{4}$ " lg. stl.	CBH 1186
221	8	Stud, forward casting, pump locating 10 UNF x $1\frac{1}{4}$ " lg.	CBH 1184
222	8	Washer, sealing	CBH 1077
223	2	Rear steady casting	CBH 1147
224	2	Cable cleat	CHS 3994/1
225	2	Rivet, csk. $\frac{5}{32}$ " x $\frac{3}{8}$ " lg.	30-227-513-01
226	1	Identification label	CBH 2350
31	1	Cable connector, male comprising	CBH 1120
227	1	Plug, $\frac{13}{32}$ " dia. x $\frac{5}{8}$ " lg. Carr reference 75-398/1	40-746-305-01
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
176	1	Cable connector, female, comprising	CBH 1121
228	1	Contact, Carr reference 75-396/3A	40-746-305-02
229	1	Socket, $\frac{13}{32}$ " dia. x $\frac{63}{64}$ " lg. Carr reference 75-397	40-746-306-04
230	1	Spring, Carr reference 75-396/2	40-746-306-02
232	2	Bolt, motor retaining $\frac{3}{4}$ " 28 UNF x $1\frac{1}{2}$ " lg. cad.s	30-251-212-11
233	2	Nut, motor retaining hex. $\frac{1}{4}$ " 28 UNF cad. full	30-276-001-11
235	2	Resistor, 1.1 ohm 30 watt	40-521-309-11
236	2	Screw, resistor fixing No.6 UNC x $\frac{1}{2}$ " lg. csk.hd.	30-257-117-11

HEATER CBH 174840 ASM MKIIB 24 VOLT HEATER

Part No.	Plate No.	Description	Code
237	2	Nut, resistor fixing, No.6 32 UNC hex full stl.	30-277-022-11
53	2	Washer, resistor fixing, 4BA s.c. spring	30-282-012-11
238	2	Heat exchanger assembly, comprising	CBH 2029
239	2	Bolt, heat exchanger retaining	CBH 2193
240	2	Spire clip, bolt retaining	30-272-061-34
241	1	Plug, F/D thermostat blanking alternative position	CBH 2257
242	2	Flame ring, including	CBH 2452
243	2	Asbestos strip, long	CBY 2453
244	2	Asbestos strip, short	CBH 2454
245	2	Heat exchanger, less flame ring including	CBH 2029/1
246	2	Tube, exhaust	CBH 1720
247	2	Nut, exhaust tube retaining, $\frac{1}{4}$ " UNF lock brass	30-276-610-11
248	2	Nut, bolt fixing $\frac{1}{4}$ " UNF hex. Nylock type P, Simmonds reference NP/D 096	30-276-066-11
249	2	Washer, bolt fixing, lock d.c. spring $\frac{1}{4}$ " dia.	30-282-244-11
252	1	Bracket, cable, Ross Courtney reference F.C.7770	30-615-402

HEATER CBH 172450 ASM MKIIB 24 VOLT HEATER

This heater is similar to heater code CBH 1748 but has an increased heat output.

Part No.	Plate No.	Description	Code
Component codes altered			
146	2	Combustion unit assembly	CBH 1167
150	2	Fuel pump and motor unit	CBH 1820
178	8	Fuel pump and casting assembly	CBH 2082
192	8	Basic pump assembly	CBH 1078
202	8	Eccentric shaft	

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HEATER CBH 1724/150 ASM MKIIB 24 VOLT HEATER

This heater is similar to heater code CBH 1748 but it is a left hand model and has an increased heat output.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
146	2	Combustion unit assembly	CBH 1167
150	2	Fuel pump and motor unit	CBH 1898
178	8	Fuel pump and casting assembly	CBH 2083
192	8	Basic pump assembly	CBH 1078
202	8	Eccentric shaft	

HEATER CBH 1748/140 ASM MKIIB 24 VOLT HEATER

This heater is similar to heater code CBH 1748 but is a left hand model.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1

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HEATER CBH 181140 ASM MKIIB 24 VOLT HEATER

This heater is similar to heater code CBH 1748 with the addition of a plug and harness assembly.

Part No.	Plate No.	Description	Code
Component codes added.			
255	1	Harness assembly comprising	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

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HEATER CBH 1811/140 ASM MKIIB 24 VOLT HEATER

This heater is similar to heater code CBH 1748 but is a left hand model with the plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
Component codes added			
255	1	Harness assembly comprising	CBH 1621
256	1	Plug	40-743-118
257	1	Outer sleeve	1837 - 261
258	1	Insulating sleeve 0.562" dia. x 1.250" lg.	30-783-662-15

HEATER CBH 209150 ASM MKIIB 24 VOLT HEATER

This heater is similar to CBH 1748 but has an increased heat output together with a plug and harness assembly added.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
146	2	Combustion unit assembly	
150	2	Fuel pump and motor assembly	CBH 1167
178	8	Fuel pump and casting unit	CBH 1898
192	8	Basic pump assembly	CBH 2083
202	8	Eccentric shaft	CBH 1078
Component codes added			
255	1	Harness assembly comprising	CBH 1621
256	1	Plug	40-743-118
257	1	Insulating sleeve	30-783-662-15
258	1	Harness	1837 - 261

HEATER CBH 222440 ASM MKIIB/R 24 VOLT HEATER

This heater is similar to heater CBH 1748 but is wired for Fully Automatic Control.

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HEATER CBH 2224/140 ASM MKIIB/R 24 VOLT HEATER

This heater is similar to heater CBH 1748 but is a left hand model wired for Fully Automatic Control.

Part No.	Plate No.	Description	Code
Component codes added			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1

HEATER CBH 223040 ASM MKIIB/R 24 VOLT HEATER

This heater is similar to CBH 1748 with the addition of a plug and harness assembly. It is also wired for Fully Automatic Control.

Part No.	Plate No.	Description	
Component codes added			
255	1	Harness assembly comprising	CBH 2222
256	1	Plug	40-743-118
257	1	Insulating sleeve	30-783-662-15
258	1	Harness	1837-261
129	1	Grommet	30-781-380

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HEATER CBH 2230/140 ASM MKIIB/R 24 VOLT HEATER

This heater is similar to heater code CBH 1748 but is a left hand model with the plug and harness assembly added and is wired for Fully Automatic Control.

Part No.	Plate No.	Description	Code
Component codes altered			
11	1	Fuel pipe assembly	CBH 1737
21	1	Solenoid valve cover	CBH 1085/1
Component codes added			
255	1	Harness assembly comprising	CBH 2222
256	1	Plug	40-743-118
257	1	Insulating sleeve	30-783-662-15
258	1	Harness	1837 - 261
259	1	Grommet	30-781-380

HEATER CBH 230540 ASM MKII B/R 24 VOLT HEATER

This heater is similar to heater CBH 1748 but is wired for Fully Automatic Control. It has the addition of a special harness assembly and is used only on B. R. Swindon diesel railcars.

Part No.	Plate No.	Description	Code
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Component codes added

Harness assembly comprising	CBH 2304
Kopex union	CBH 2293
Kopex sleeve	CBH 2190/1
12 way socket	CBH 2189
Waterproof cover	CBH 2187
Fouling pin	CBH 2099
Rubber seal	CBH 2060
Locknut	80-267-303-51
Insulating sleeve	30-783-461-15
2BA spring washer	30-298-211-03

HEATER CBH 2305/140 ASM MKII B/R 24 VOLT HEATER

This heater is similar to heater CBH 1748 but is a left hand model wired for Fully Automatic Control. It is fitted with a special harness assembly used only on B. R. Swindon diesel railcars.

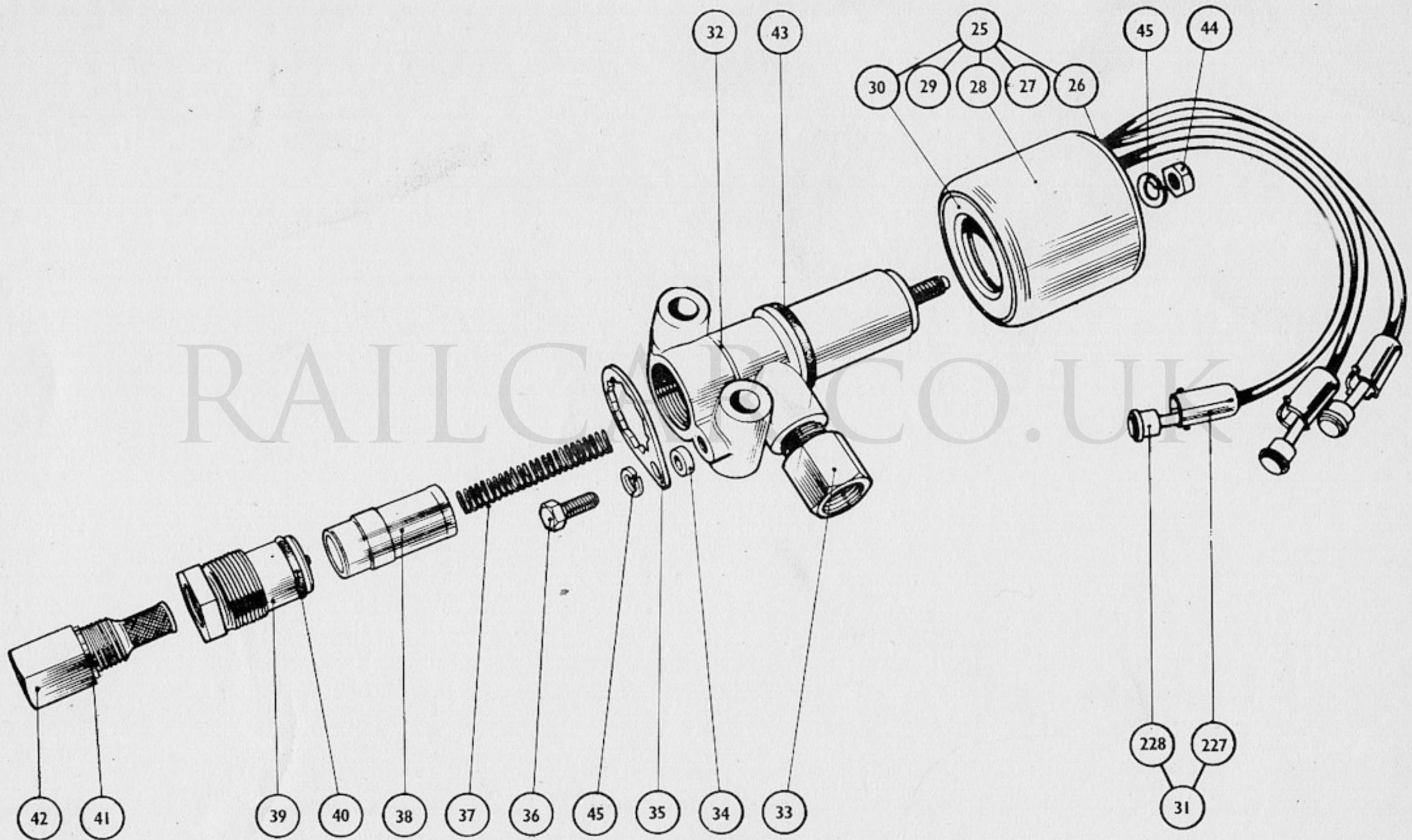
Part No.	Plate No.	Description	Code
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Component codes altered

Fuel pipe assembly	CBH 1737
Solenoid valve cover	CBH 1085/1

Component codes added

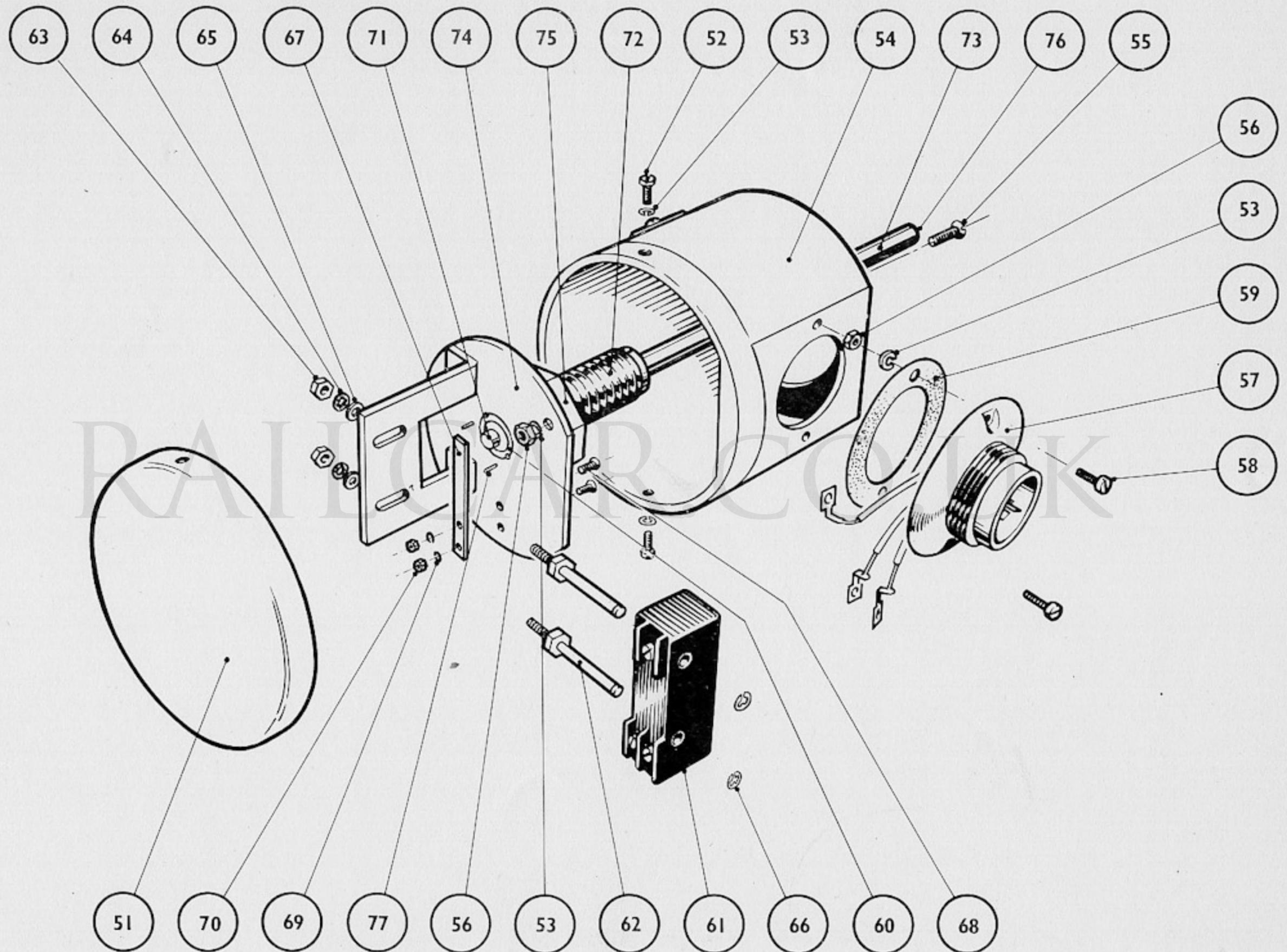
Harness assembly comprising	CBH 2304
Kopex union	CBH 2293
Kopex sleeve	CBH 2190/1
12 way socket	CBH 2189
Waterproof cover	CBH 2187
Fouling pin	CBH 2099
Rubber seal	CBH 2060
Locknut	80-267-303-51
Insulating sleeve	30-783-461-15
2BA spring washer	30-298-211-03



SOLENOID VALVE CBH 1075/1

PART No. 24

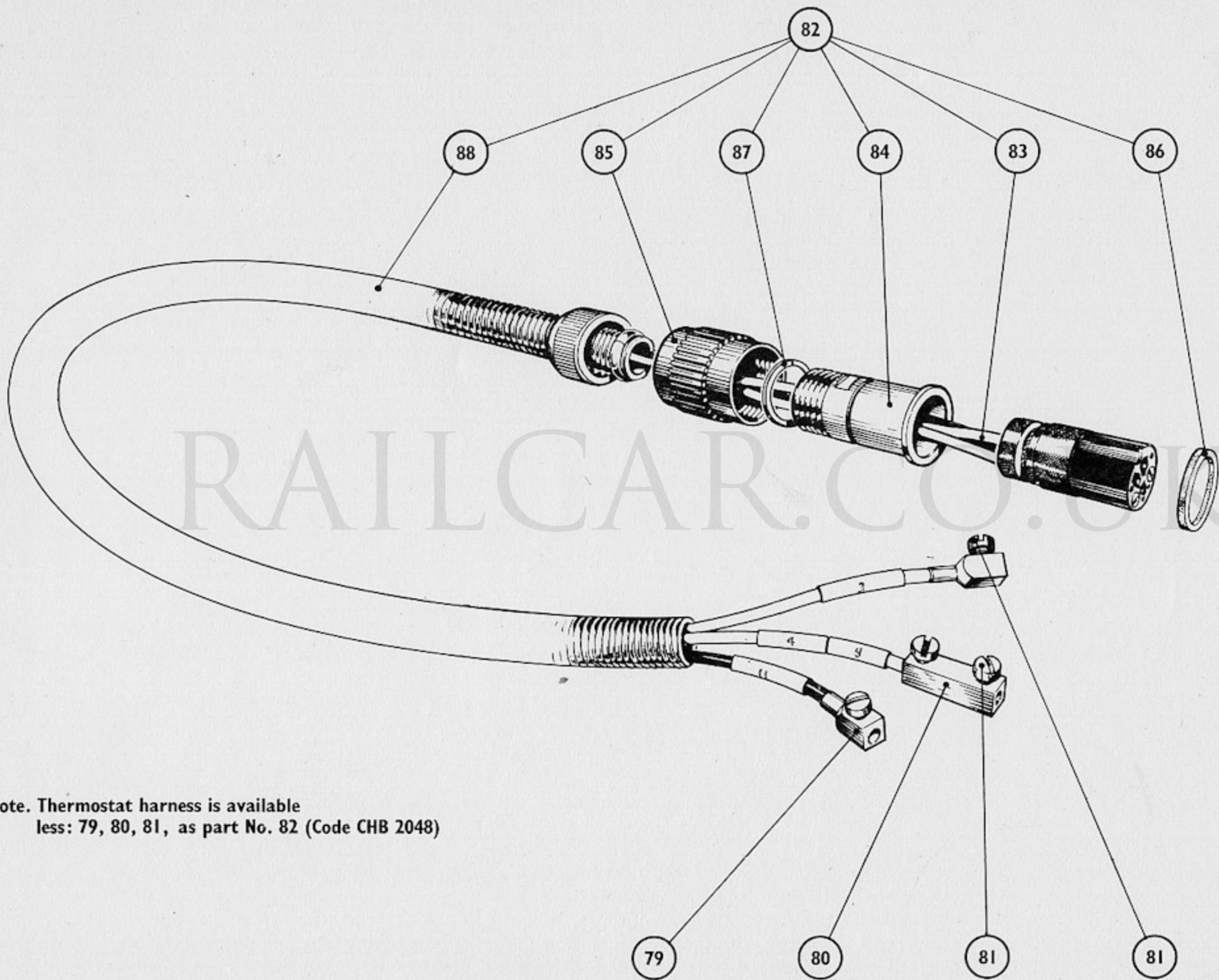
PLATE No. 3



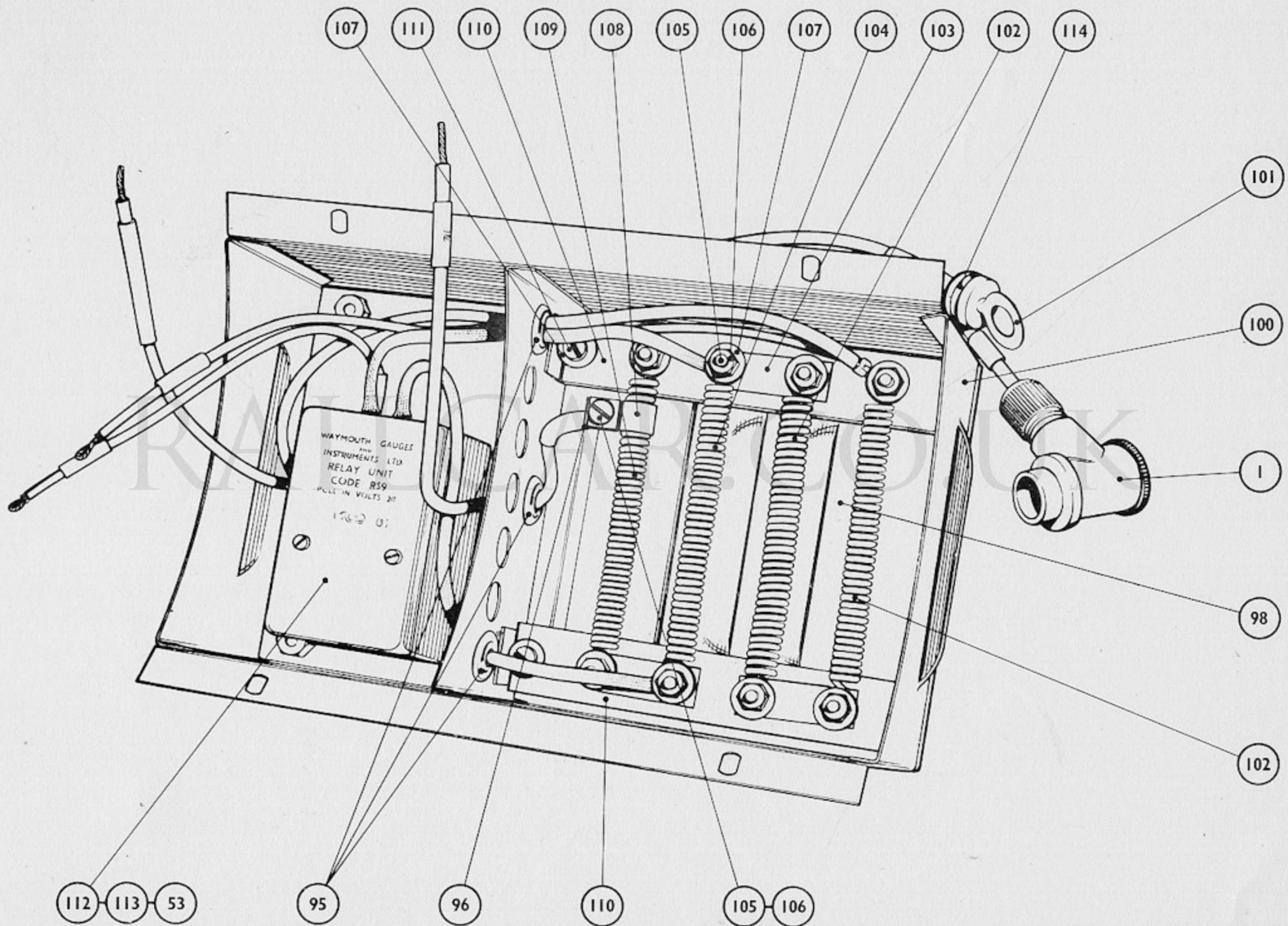
FLAME DETECTION THERMOSTAT CBH 2043

PART No. 50

PLATE No.4



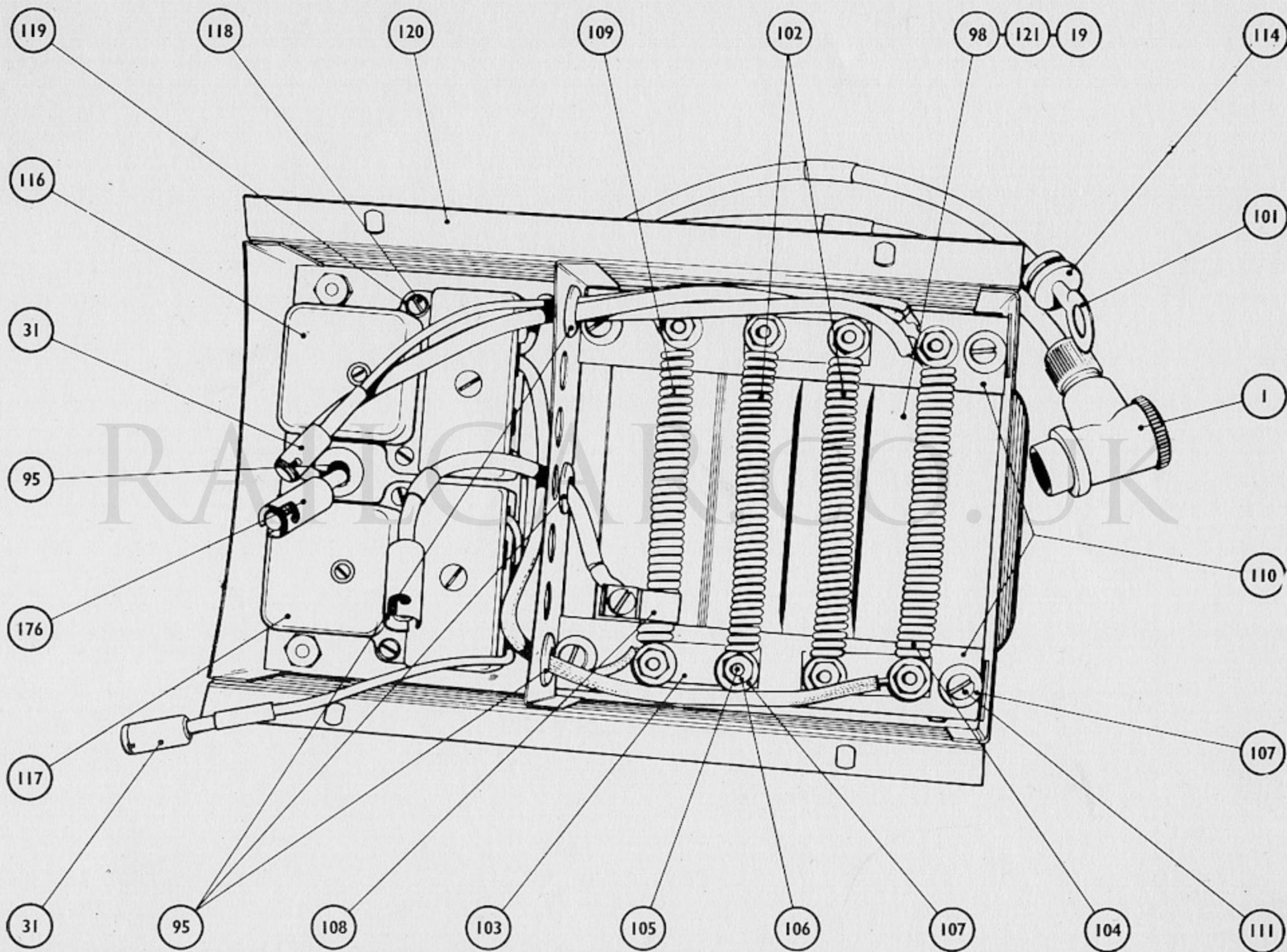
* Note. Thermostat harness is available
less: 79, 80, 81, as part No. 82 (Code CHB 2048)



RESISTOR BOX CBH 1327

PART No. 97

PLATE No. 6

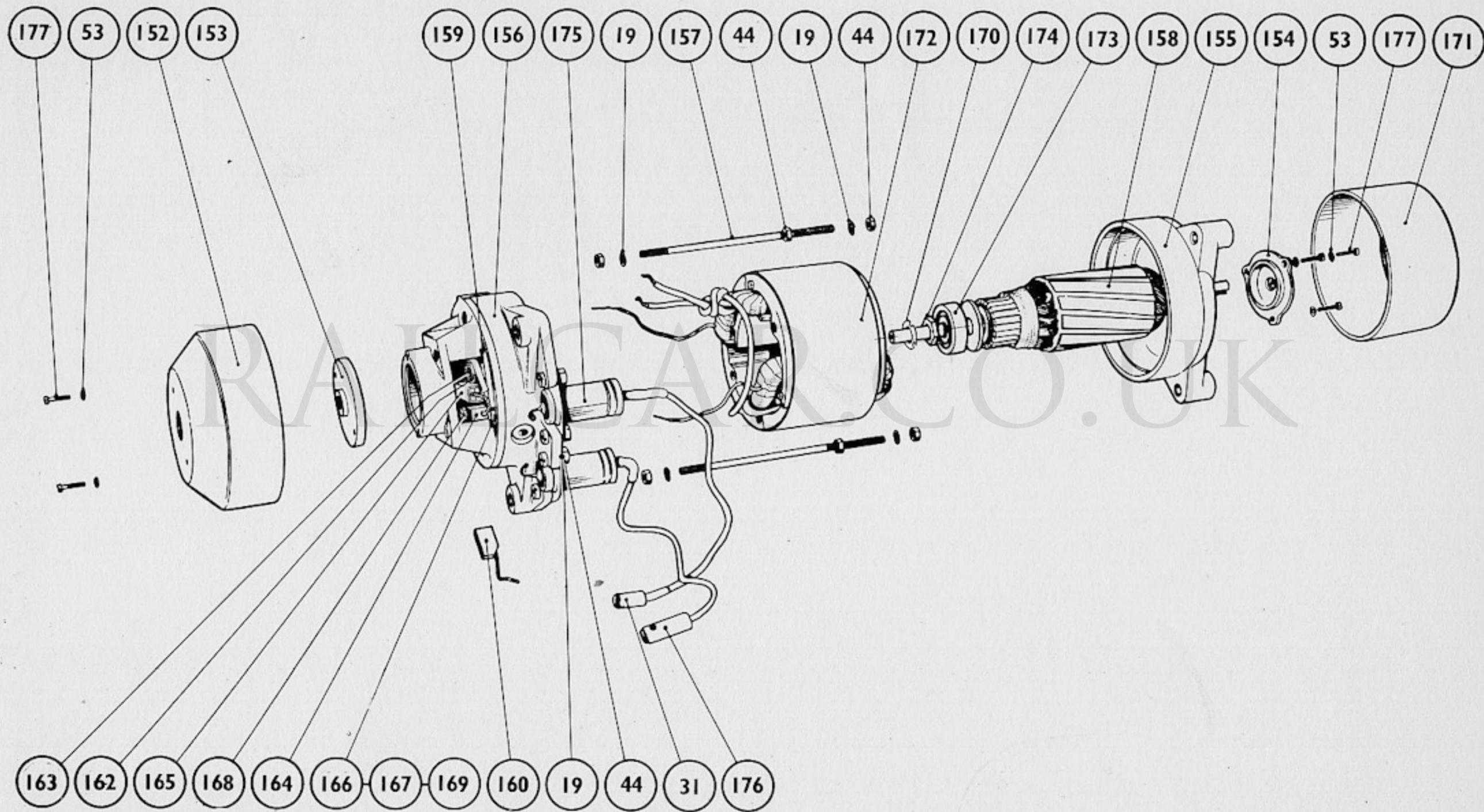


Used on heaters before serial numbers 13231/856
 Replace with box CBH 1327, part number 97

RESISTOR BOX CBH 1098

PART No. 115

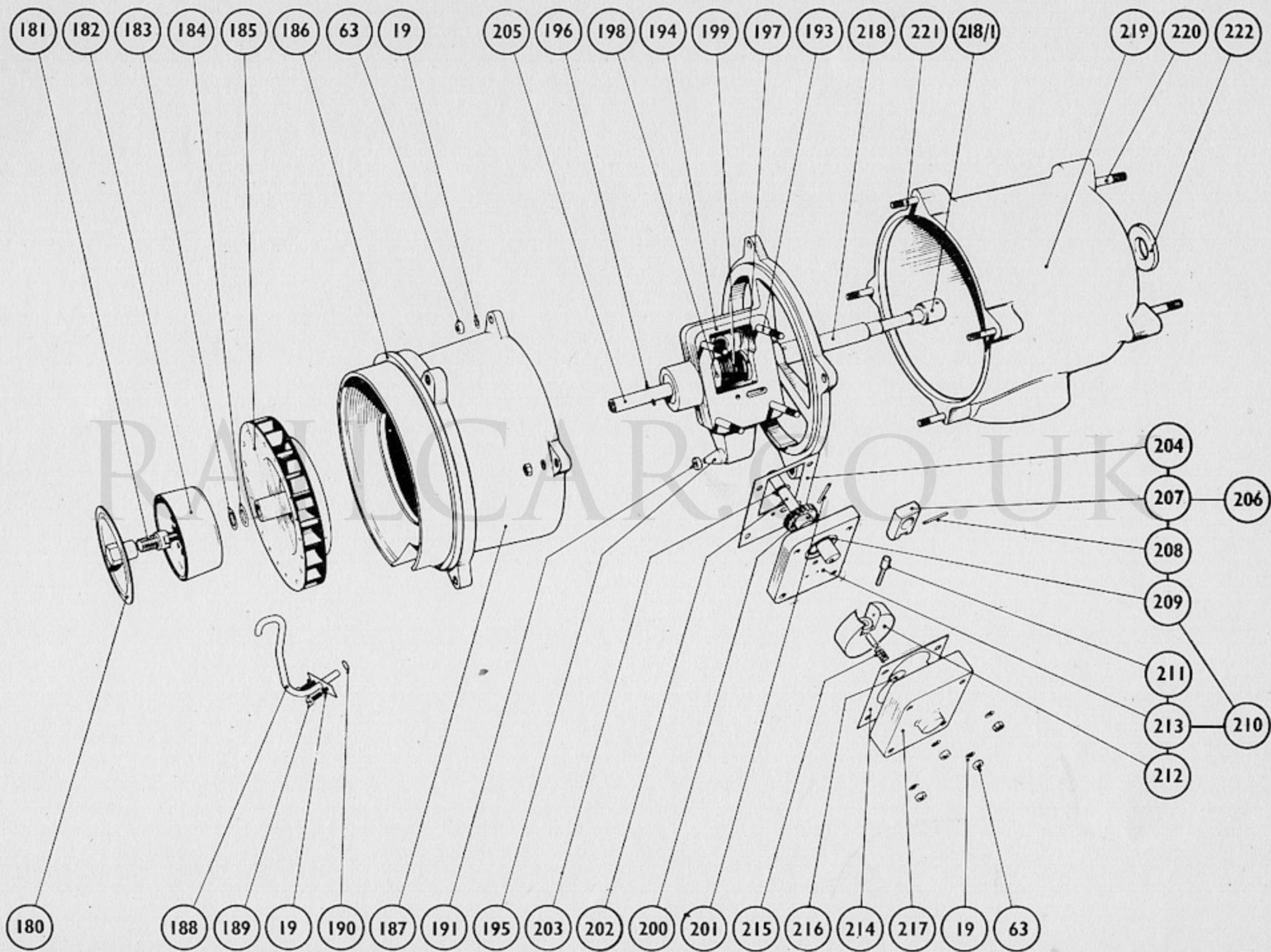
PLATE No. 6A



MOTOR CBH 1372

PART No. 151

PLATE No. 7



FUEL PUMP SUB-ASSEMBLY

PART No. 178

PLATE No. 8