

PARTS ORDERING INSTRUCTIONS AND PARTS LIST

FURNISH COMPLETE INFORMATION WHEN ORDERING PARTS — When ordering parts for your boiler, be sure to include on your order the boiler serial number shown on the name plate attached to the front head. Your order should state the Cleaver-Brooks part number and the name and description of the part required. State the quantity desired, and specify method of shipment. Indicate date material is required. If repair parts are required for accessory equipment, such as an electric motor, pump, etc., which may not be shown, be sure to give the complete name plate data from the item for which the parts are required.

WHERE TO ORDER PARTS — Repair or replacement parts should be ordered from your Cleaver-Brooks representative.

RETURNING PARTS FOR REPAIR — Parts to be repaired should be directed to your Cleaver-Brooks

representative. A purchase order or a letter authorizing repairs and giving complete details should be mailed to your representative. Prior to returning, please remove fittings or accessories from the component, properly drain and clean part to comply with shipping regulations and include inside of the package a packing slip identifying the part with your company's name.

If you desire to return parts for reasons other than repair or exchange, please contact your representative stating reasons for the return and await permission and directions prior to returning the material.

Many controls and other components can be factory-rebuilt (FR) or have a trade-in value. These items are available on an exchange basis. Consult your Cleaver-Brooks representative.

Be sure to show the serial number of your unit on all parts orders and correspondence.

Cleaver Brooks®
CB PACKAGED BOILER

MODEL SERIAL NO.

MAX. PRESSURE PSI DATE

INPUT BTU/HR GAS GPH OIL

ELECTRICAL REQUIREMENTS

MAIN POWER SUPPLY

VOLTS PH HZ AMP.

MINIMUM CIRCUIT AMPACITY AMP.

MAX. RATING OF CIRCUIT PROTECTION AMP.

BLOWER MOTOR HP

AIR COMPRESSOR MOTOR HP

OIL HEATER KW

CONTROL CIRCUIT

120 VOLTS 1 PH 60 HZ 7 AMP

OIL PUMP MOTOR

VOLTS PH HZ AMP.

CLEAVER-BROOKS DIVISION
AQUA-CHEM, INC.
MILWAUKEE, WISCONSIN, U.S.A.

110 2004

SERIAL NO. →

IT IS RECOMMENDED THAT YOUR LOCAL CLEAVER-BROOKS REPRESENTATIVE BE CONTACTED FOR PROMPT SUPPLY OF REPLACEMENT PARTS.

CB PARTS LIST

NOTE

Blank space under "Usage" indicates usage on all sizes and series covered by this manual.

Part No.	Req.	Description	Usage
GASKETS			
32-901	3	Gasket, Head, Front & Rear	
32-993	1	Gasket, Inner Door to Housing	
32-979	1	Gasket, Burner	
32-980	1	Gasket, Support to Housing	
32-981	1	Gasket, Housing to Furnace	
853-3	1	Gasket, Rubber, 3/8" OD x 88" (Burner Support to Front Head)	
853-152	6	Gasket, Handhole, 3-1/4" x 4-1/2" (Asbestos)	
853-618	1	Gasket, Manhole, 11" x 15" (Asbestos)	
853-394	8'	Gasket, Asbestos Tadpole (Front Baffle)	
853-924	8'	Gasket, Asbestos Rope (Rear Baffle)	
32-2327	1	Gasket, Air Duct Cover	
32-2328	8'	Gasket, Air Hood to Impeller Housing	
853-899	9'	Gasket, Sponge Rubber, 3/4" wide x 1/2"	Air Duct
841-507	16	Fastener, Clip (Fastens Rear Head Gasket)	
841-551	28	Rivet, Split (Front Baffle and Inner Door)	
BURNER PARTS			
251-75	1	Nozzle, Tip and Swirler	400 HP
251-51	1	Nozzle, Tip and Swirler	500 HP
251-68	1	Nozzle, Tip and Swirler	600-800 HP
82-7	1	Spring, Swirler	
275-143	1	Diffuser	
435-71	1	Electrode, Gas Pilot	
904-36	1	Grommet, Rubber, Electrode	
853-1	1	O-Ring, 1-1/4 OD (Electrode Gland Seal)	
851-77	1	Mica, Porthole	
134-50	1	Spider, Diffuser	
90-571	1	Tube, Scanner Sight	
32-497	1	Gasket, Scanner Tube	
134-53	1	Holder, Gas Pilot Electrode	
435-50	2	Electrode	Light Oil Pilot
90-203	1	Tube and Sleeve, Oil to Nozzle	
853-55	1	O-Ring, 5/8" OD	Oil Tube
90-204	1	Tube, Block to Nozzle	
277-75	1	Body, Nozzle	
106-46	1	Manifold Block	
943-206	1	Wrench, Nozzle	
8-902	1	Bracket, Light Oil Pilot Electrode	
899-59	1	Nozzle (Orifice) 7.0 GPH	Light Oil Orifice
277-23	1	Body Nozzle	Light Oil Pilot
251-7	1	Nozzle, Tip and Swirler	Light Oil Pilot
82-34	1	Spring, Swirler	Light Oil Pilot
924-49	1'	Spring, Ignition	Light Oil Pilot
94-179	2	Insulator, Ignition	Light Oil Pilot
40-403	1	Burner Housing	Oil
40-409	1	Burner Housing	Gas and Gas-Oil

Part No.	Req.	Description	Usage
ELECTRICAL CONTROLS AND COMPONENTS			
832-107	1	Transformer, Ignition, 115 V/60 Hz 6,000 Sec. V	Gas Pilot
832-118	1	Transformer, Ignition, 115 V/60 Hz 10,000 Sec. V.	L.O. Pilot
817-16	1	Control, Pressure, 2-15 lb, MH L404A	L.P.
817-110	1	Control, Pressure, 10-150 lb, MH L404A	Power to 150 lb
817-111	1	Control, Pressure, 20-300 lb, MH L404A	Power Over 150 lb
817-415	1	Control, Pressure, 2-15 lb, MH L404C	L.P.
817-109	1	Control, Pressure, 10-150 lb, MH L404C	Power to 150 lb
817-900	1	Control, Pressure, 20-300 lb, MH L404C	Power to 250 lb
836-45	1	Switch, Mercury, for L404A and L404C	
817-251	1	Control, Pressure, 0-15 lb, MH L91A	L.P.
817-204	1	Control, Pressure, 5-150 lb, MH L91A	Power to 150 lb
817-234	1	Control, Pressure, 10-300 lb, MH L91A	Power Over 150 lb
832-764	1	Coil, Potentiometer for L91A	
817-400	1	Control, Temperature, 100-240 degrees F, L4008A	Hot Water
817-1050	1	Control, Temperature, High Limit, L4008E	Hot Water
817-1244	1	Control, Temperature, 160-260 degrees F, T991A	Hot Water
817-399	1	Well	For L4008A & E
817-378	1	Well	For T991A
828-27	3	Clip	For 817-399
904-60	3	Grommet	And 817-378 Wells
894-2812	1	Motor, Modulating, M954C	
894-2834	1	Motor, Modulating, M954B	
832-235	1	Transformer, Damper Motor, 115/25V, 60 Cycles	
836-209	1	Potentiometer, MH 30112	
836-471	1	Switch, Burner, DPST	
836-474	1	Switch, Manual-Auto, DPDT	
836-223	1	Switch, Oil-Gas Selector	
817-436	1	Switch, Air Pressure MHC645A1	Combustion Air
836-418	1	Switch, Air Pressure, Dietz 161 P15	Atomizing Air
292-66	1	Ignition Cable Assembly, 20"	
295-94	1	Ignition Cable Assembly, 23"	
292-95	1	Ignition Cable Assembly, 25"	
836-320	1	Thermoswitch, Fenwall	
832-311	1	Condenser, .005 MFD	
836-65	1	Thermostat, 100-240 degrees F, WR 11B05	
836-72	1	Thermostat, 100-240 degrees F, WR 11B18	
836-89	1	Switch, Micro, YZLN,RH	Burner Interlock
881-226	2	Neon Lamp, Clear	
881-225	2	Neon Lamp, Red	
817-774	1	Switch, Gas Pressure, C645A 3-21" WC	400-HP LGPS
817-1935	1	Switch, Gas Pressure, C645B 5-35" WC	400-HP HGPS
817-751	1	Switch, Gas Pressure, C437E 1/2-5 lbs.	500-800 HP LGPS
817-752	1	Switch, Gas Pressure, C437D 1/2-5 lbs.	500-800 HP HGPS
PROGRAMMING CONTROLS AND COMPONENTS			
833-2200	1	Control, Programmer, CB-20	
833-2201	1	Control, Programmer, CB-40	
833-2204	1	Amplifier, Infra-red, R7248A1020	For CB-20 & CB-40
833-2205	1	Amplifier, Infra-red (Ampli-check) R7248B	
817-1801	1	Cell, Lead Sulfide (Infra-red) 104662D	
817-1742	1	Flame Detector, Assembly C7015A	Includes Cell, Cable, Lens, Etc.

Part No.	Req.	Description	Usage
833-2209	1	Purge Extender - (Plug-in Module)	For CB-40
		<i>The following are used on special order or preceded the above.</i>	
833-1964	1	Control, Programmer, CB-2-1A	For CB-2-1A & CB-4-1A
833-1965	1	Control, Programmer, CB-4-1A	
833-1967	1	Amplifier, Infra-red, R7258A	
833-1921	1	Control, Programmer, CB-3	
833-1814	1	Control, Programmer, 6080C	
832-160	1	Cell, Lead Sulfide, Fireye	
817-139	1	Flame Detector, Assembly, Fireye	
832-747	1	Tube, Electron, 12AX7	
832-748	1	Tube, Electron, 12BH7A	
		<i>The following are factory rebuilt controls available on a trade-in exchange basis only.</i>	
833-2222	1	Control, CB-20 (FR)	
833-2223	1	Control, CB-40 (FR)	
833-2045	1	Control, CB-2-1A (FR)	
833-2046	1	Control, CB-4-1A (FR)	
833-1883	1	Control, 6080C (FR)	
833-1936	1	Control, CB-3 (FR)	
833-2224	1	Amplifier, R7248A (FR)	
833-2047	1	Amplifier, R7258A (FR)	
833-2225	1	Purge Extender (FR)	
BLOWER MOTOR AND DRIVE PARTS			
894-2626	1	Motor, 10 HP, 200/3/60/3600	400 HP
894-2627	1	Motor, 10 HP, 230/460/3/60/3600	400 HP
894-2628	1	Motor, 10 HP, 575/3/60/3600	400 HP
894-2630	1	Motor, 15 HP, 200/3/60/3600	500 HP
894-2631	1	Motor, 15 HP, 230/460/3/60/3600	500 HP
894-2632	1	Motor, 15 HP, 575/3/60/3600	500 HP
894-2634	1	Motor, 20 HP, 200/3/60/3600	600 HP
894-2635	1	Motor, 20 HP, 230/460/3/60/3600	600 HP
894-2636	1	Motor, 20 HP, 575/3/60/3600	600 HP
894-2638	1	Motor, 30 HP, 200/3/60/3600	700 HP
894-2639	1	Motor, 30 HP, 230/460/3/60/3600	700 HP
894-2640	1	Motor, 30 HP, 575/3/60/3600	700 HP
894-3193	1	Motor, 50 HP, 200/3/60/3600	800 HP
894-3173	1	Motor, 50 HP, 230/460/3/60/3600	800 HP
894-3194	1	Motor, 50 HP, 575/3/60/3600	800 HP
		NOTE: Above are normally used motors. Check name plate prior to ordering and if different than above, furnish complete data.	
192-170	1	Impeller, 17"	400 HP
192-171	1	Impeller, 19"	500 HP
192-172	1	Impeller, 21"	600 HP
192-173	1	Impeller, 23"	700 HP
192-219	1	Impeller, 26-3/4"	800 HP
		NOTE: Above are standard impellers. Variations may occur depending on motor selection and altitude.	

Part No.	Req.	Description	Usage
WATER CONTROL PARTS			
817-85	1	Control Head Mechanism, MCD&M 150 HD	L.P. Only
817-99	1	Control Head Mechanism, MCD&M 150 M - HD	Power to 150 lb
817-389	1	Control Head Mechanism, MCD&M 194 M - HD	Power Over 150 lb
836-44	1	Switch, Mercury, 3 Wire, Auto Reset, SA-150-124	L.P.
836-93	1	Switch, Mercury, 3 Wire, Manual Reset, SA-150M-124	Power to 150 lb
836-46	1	Switch, Mercury, 2 Wire, SA-150-125	
853-268	1	Gasket, Float Housing, 150-14	
851-44	1	Glass, Gauge, 5/8" x 10-3/4"	Power to 150 lb
851-199	1	Glass, Gauge, 5/8" x 9-1/2"	Power Over 150 lb
853-115	2	Gasket, Gauge Glass, 5/8"	
825-352	1	Set, Gauge Glass Valves	
825-92	3	Trycock, Column, 1/2"	Power to 200 lb
825-154	3	Trycock, Column, 1/2"	Power Over 200 lb
NOTE: Above are standard controls and parts. Exceptions may exist depending on job variations. Consult local service agency or Cleaver-Brooks Parts Department, for information or exceptions and also for exchange policy on MCD&M control heads.			
GAUGES AND THERMOMETERS			
850-3	1	Gauge, 2-1/2", 0-60 lb.	
850-61	1	Gauge, 2-1/2", 0-100 lb.	
850-237	1	Gauge, 2-1/2", 0-150 lb.	
850-109	1	Gauge, Gas Pressure, 0-20 oz. & 0-35"	CB 400
850-580	1	Gauge, Gas Pressure, 0-60"	CB 500
850-1093	1	Gauge, Gas Pressure, 0-100"	CB 600-800
850-264	1	Gauge, 8-1/2", 0-30 lb, 0-30"	L.P.
850-104	1	Gauge, 8-1/2", 0-300 lb	Power
850-391	1	Gauge, 3-1/2", 0-100 lb	Oil Controller
937-145	1	Thermometer, Stack, 5", 200-700 degrees	Hot Water
937-27	1	Thermometer, 100-300 degrees F, 6"	Oil Temperature
937-49	1	Thermometer, 2", 50-300 degrees F	
GAS VALVES AND COMPONENTS			
940-278	1	Valve, Solenoid, 1/2", 115/60, K3A	Gas Pilot
832-208	1	Coil, Solenoid, 115 V.	For 940-278
918-93	1	Regulator, Gas, 1/2", R400S	Gas Pilot
940-648	1	Valve, Gas, 4" Flanged, H118AN	
945-102	1	Actuator, 115 Volt, H30A	
949-186	1	Valve, Gas, 4" Flanged, H118AN	} Has Proof of Closure Switch
945-152	1	Actuator, 115 Volt, H30A	
853-403	2	Gasket, 4" Flange	
940-165	1	Valve, Gas Butterfly, 4"	Main Vent Valve (FIA)
948-55	1	Valve, Solenoid, 2" N.O. 821583	For 948-55
832-895	1	Coil, Solenoid, 115V	For 948-55
880-115	1	Kit, Spare Parts	Main Vent Valve (and FIA Pilot)
948-2	1	Valve, Solenoid, 3/4" N.O. 8030B83	For 948-2
832-721	1	Coil, Solenoid, 115V	For 948-2
880-116	1	Kit, Spare Parts	
LINKAGE PARTS			
2-149	1	Arm, Modulating Motor	
10-91	1	Bushing, Modulating Motor Shaft	

Part No.	Req.	Description	Usage
883-17	5	Ball Joint	
10-288	5	Bushing, Ball Joint	
2-160	2	Arm, Jack Shaft	
313-9	1	Cam	
82-111	1	Spring, Cam	
24-41	1	Stem, Gas Valve Cam Linkage	
82-1	1	Spring, Gas Stem	
287-24	1	Arm, Gas Butterfly Linkage	
287-5	1	Arm, Gas Butterfly Actuating	
82-27	2	Spring, Over-Ride	
882-15	2	Arm, Spring Holding	
2-43	1	Arm, Burner Damper	
AIR PUMP AND LUBE PARTS			
505-98	1	Pump, Air, 5"	
843-82	1	Cleaner, Air	
853-879	1	O-Ring, Lube Tank Cover	
919-124	3	Pad, Steel Wool No. 3 coarse.	
529-11	1	Strainer	
171-28	1	Basket, Strainer	
32-350	1	Gasket, Cover	
32-351	1	Gasket, Cover Bolt	
171-114	1	Basket, Oil Inlet Filter	
819-20	1	Coupling, Flexible	
819-56	1	Insert, Flexible Coupling, L-100	
850-647	1	Gauge, Oil Level	
880-102	1	Kit, Glass and O-Rings	
894-2755	1	Motor, 5 HP, 200/3/60/1750	
894-2756	1	Motor, 5 HP, 230/460/3/60/1750	
894-2757	1	Motor, 5 HP, 575/3/60/1750	
861-346	1	Hose, Air	
813-146	1	Fan, Cooling	
813-124	1	Hub, Fan	
FUEL OIL COMPONENTS			
948-155	1	Valve, Solenoid, 1/2", 8266B77L	
832-1066	1	Coil, Solenoid, 115 V	
880-107	1	Kit, Spare Parts	
948-153	1	Valve, Solenoid, 1/4", 8262B202	
832-721	1	Coil, Solenoid, 115 V	
880-77	1	Kit, Spare Parts	
949-183	1	Valve, Motorized, 1/2", HOV1A302T168	
847-1715	2	Swivel Joint, 1/2"	
861-226	1	Hose, Oil, 1/2" x 34"	
861-371	1	Hose, Air, 3/4" x 39"	
940-995	1	Valve, Relief, 3/4", K200A	
940-2296	1	Valve, Relief, 3/4", VJ4	
899-51	1	Nozzle, Back Pressure Orifice, 24 GPH	
899-80	1	Nozzle, Air Purge Orifice, 6 GPH	
843-81	1	Strainer, 3/4", .005" CUNO GU	
853-309	1	Gasket, Cover	
843-13	1	Cartridge, Replacement	
843-244	1	Strainer, 1", .008" CUNO EGU	
853-310	1	Gasket, Cover	
843-245	1	Cartridge, Replacement	
923-47	1	Strainer, Oil, 2" Morrison	
853-316	1	Gasket, Morrison Strainer	
930-8	1	Basket, 10 Mesh, Morrison	
			For 948-155 For 948-155 Light Oil Pilot/Air Purge For 948-153 For 948-153 FM Light Oil Heavy Oil Light Oil Heavy Oil Light Oil For 843-81 For 843-81 Heavy Oil For 843-244 For 843-244 Suction Line Heavy Oil

Part No.	Req.	Description	Usage
923-290	1	Basket, 40 Mesh, Morrison <i>The following 6 items are applicable to 400, 500, 600 HP boilers that had the oil valve and air purge valve built into the fuel oil controller.</i>	Light Oil
940-1491	1	Valve, Solenoid, Oil	400-600 Series For 940-1491 For 940-1491 400-600 Series For 940-1514 For 940-1514
832-297	1	Coil, Solenoid, 115 V	
880-73	1	Kit, Repair, Solenoid Valve	
940-1514	1	Valve, Solenoid, Air Purge	
832-721	1	Coil, Solenoid, 115 V	
880-77	1	Kit, Repair, Solenoid Valve	
REPLACEMENT PARTS FUEL OIL CONTROLLER (SEE FIGURES 1-5 and 1-6)			
313-9	1	Cam (Includes Spring and Setscrews)	400 HP 500-700 HP 800 HP
82-111	1	Spring, Cam	
24-46	1	Stem, Metering Valve, No. 6	
24-44	1	Stem, Metering Valve, No. 7	
24-51	1	Stem, Metering Valve, No. 8	
82-1	1	Spring, Stem	
908-113	1	Kit, Packing, Metering Stem	
850-391	1	Gauge, 3-1/2", 0-100 lbs. (Back Connection)	
937-49	1	Thermometer, 2", 50-300 degrees	
945-104	1	Diaphragm, Set of 2	
32-1296	1	Gasket, Diaphragm	Controller Reducing Valve
880-75	1	Kit, Repair Parts (Includes Two Items Above)	
194-80	1	Diaphragm, Assembly	
32-1291	1	Gasket, Diaphragm	Controller Back Pressure Valve
880-76	1	Kit, Repair Parts (Includes Two Items Above)	
48-201	1	Orifice, Metering Valve	
48-205	1	Orifice, Metering Valve	
82-72	1	Spring, Orifice Retainer	
32-1248	1	Gasket, Orifice Spring Cover	
66-113	1	Packing, Manual Valve Stem	
REFRACTORY			
94-344	35	Tile, Throat	400-500 HP High Pressure 400-500 HP Low Pressure 600-800 HP High Pressure 600-800 HP Low Pressure
94-205	33	Tile, Furnace Liner	
94-205	35	Tile, Furnace Liner	
94-205	49	Tile, Furnace Liner	
94-205	52	Tile, Furnace Liner	
872-469	1	Shim, Throat Tile, Millboard (1/4" x 7" x 24')	
94-189	19	Tile, Rear Baffle	
872-47	1	Cement, Refractory (50 lb drum)	
872-96	1	Cement, Furnas-Crete (100 lb bag)	
872-162	1	Cement, Vee-Block Mix (50 lb bag)	
872-26	1	Cement, Insulating (Bulk Quantity)	
465-167	1	Door, Front Inner, Insulated	
NOTE: For rear door refractory repairs consult your local service agency or Cleaver-Brooks Parts Department.			

Part No.	Req.	Description	Usage
OIL HEATING EQUIPMENT			
832-509	1	Heater, Electric, 7-1/2 KW, 230 Volt	Steam Boiler
832-510	1	Heater, Electric, 7-1/2 KW, 460 Volt	Steam Boiler
832-520	1	Heater, Electric, 7-1/2 KW, 550 Volt	Steam Boiler
832-981	1	Heater, Electric, 10 KW, 230 Volt	Steam Boiler
832-982	1	Heater, Electric, 10 KW, 460 Volt	Steam Boiler
832-983	1	Heater, Electric, 10 KW, 550 Volt	Steam Boiler
832-940	1	Heater, Electric, 10 KW, 208 Volt	Hot Water Boiler
832-941	1	Heater, Electric, 10 KW, 240 Volt	Hot Water Boiler
832-942	1	Heater, Electric, 10 KW, 480 Volt	Hot Water Boiler
832-943	1	Heater, Electric, 10 KW, 550 Volt	Hot Water Boiler
853-692	1	Gasket, Electric Heater	
32-2394	1	Gasket, O-Ring Backup	
652-24	1	Heater, Steam (Less Electric Heater)	
534-277	1	Tube Bundle, Outer	Steam Heater
191-1356	1	Tube Bundle, Inner	Steam Heater
32-1106	2	Gasket, Tube Sheet, Outer	Steam Heater
32-1105	1	Gasket, Tube Sheet, Inner	Steam Heater
91-45	8	Washer, Copper	Electric Heater
934-59	1	Steam Trap, 3/4"	
817-260	1	Regulator, Steam, 1/2", 11-016	150 PSI Steam
880-93	1	Kit, Repair Parts, for Steam Regulator	
817-330	1	Regulator, Steam, 1/2", Fisher 95H	150-250 PSI Steam
948-222	1	Valve, Solenoid, 1/2", Gen. Cont. S401A	High Pressure Steam
948-65	1	Valve, Solenoid, 3/4", Asco 8210	Low Pressure Steam
832-1123	1	Coil, Solenoid, 115 Volt	For 948-222
832-779	1	Coil, Solenoid, 115 Volt	For 948-65
880-80	1	Kit, Repair Parts, Solenoid Valve	For 940-515
880-94	1	Kit, Repair Parts, Solenoid Valve	For 948-65
OIL PUMPS			
901-204	1	Pump, Tuthill2L-C	No. 2 Oil
901-1340	1	Pump, Viking HL-432	No. 6 Oil
819-198	1	Insert, Coupling Lovejoy L075	
819-203	1	Coupling Half, 7/16", Lovejoy L075	Pump Shaft
819-200	1	Coupling Half, 5/8", Lovejoy L075	Motor Shaft
809-147	1	V-Belt, A46S	
925-155	1	Seal, Mechanical, Viking	For 901-1340
529-11	1	Strainer, Oil	No. 2 Oil
171-28	1	Basket, Strainer	For 529-11
32-350	1	Gasket, Strainer Cover	For 529-11
32-351	1	Gasket, Strainer Bolt	For 529-11
923-47	1	Strainer, Oil, 2", Morrison	No. 6 Oil
930-8	1	Basket, 2" Strainer	For 923-47
853-316	1	Gasket, 2" Strainer	For 923-47
<p>The above are standard pumps. There are many variations and it is not practical to list exceptions or the various motors. When ordering give complete nameplate data.</p>			

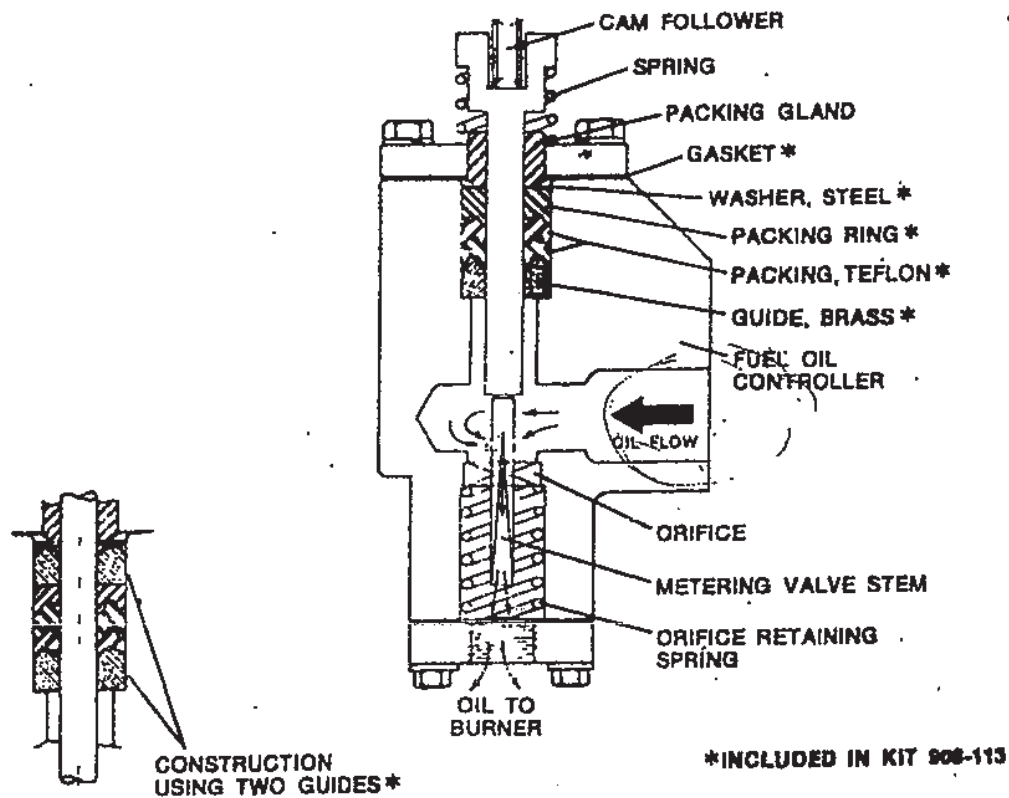
Part No.	Req.	Description	Usage
OIL HEATING EQUIPMENT			
832-509	1	Heater, Electric, 7-1/2 KW, 230 Volt	Steam Boiler
832-510	1	Heater, Electric, 7-1/2 KW, 460 Volt	Steam Boiler
832-520	1	Heater, Electric, 7-1/2 KW, 550 Volt	Steam Boiler
832-981	1	Heater, Electric, 10 KW, 230 Volt	Steam Boiler
832-982	1	Heater, Electric, 10 KW, 460 Volt	Steam Boiler
832-983	1	Heater, Electric, 10 KW, 550 Volt	Steam Boiler
832-940	1	Heater, Electric, 10 KW, 208 Volt	Hot Water Boiler
832-941	1	Heater, Electric, 10 KW, 240 Volt	Hot Water Boiler
832-942	1	Heater, Electric, 10 KW, 480 Volt	Hot Water Boiler
832-943	1	Heater, Electric, 10 KW, 550 Volt	Hot Water Boiler
853-692	1	Gasket, Electric Heater	
32-2394	1	Gasket, O-Ring Backup	
652-24	1	Heater, Steam (Less Electric Heater)	
534-277	1	Tube Bundle, Outer	Steam Heater
191-1356	1	Tube Bundle, Inner	Steam Heater
32-1106	2	Gasket, Tube Sheet, Outer	Steam Heater
32-1105	1	Gasket, Tube Sheet, Inner	Steam Heater
91-45	8	Washer, Copper	Electric Heater
934-59	1	Steam Trap, 3/4"	
817-260	1	Regulator, Steam, 1/2", 11-016	150 PSI Steam
880-93	1	Kit, Repair Parts, for Steam Regulator	
817-330	1	Regulator, Steam, 1/2", Fisher 95H	150-250 PSI Steam
948-222	1	Valve, Solenoid, 1/2", Gen. Cont. S401A	High Pressure Steam
948-65	1	Valve, Solenoid, 3/4", Asco 8210	Low Pressure Steam
832-1123	1	Coil, Solenoid, 115 Volt	For 948-222
832-779	1	Coil, Solenoid, 115 Volt	For 948-65
880-80	1	Kit, Repair Parts, Solenoid Valve	For 940-515
880-94	1	Kit, Repair Parts, Solenoid Valve	For 948-65
OIL PUMPS			
901-204	1	Pump, Tuthill2L-C	No. 2 Oil
901-1340	1	Pump, Viking HL-432	No. 6 Oil
819-198	1	Insert, Coupling Lovejoy L075	
819-203	1	Coupling Half, 7/16", Lovejoy L075	Pump Shaft
819-200	1	Coupling Half, 5/8", Lovejoy L075	Motor Shaft
809-147	1	V-Belt, A46S	
925-155	1	Seal, Mechanical, Viking	For 901-1340
529-11	1	Strainer, Oil	No. 2 Oil
171-28	1	Basket, Strainer	For 529-11
32-350	1	Gasket, Strainer Cover	For 529-11
32-351	1	Gasket, Strainer Bolt	For 529-11
923-47	1	Strainer, Oil, 2", Morrison	No. 6 Oil
930-8	1	Basket, 2" Strainer	For 923-47
853-316	1	Gasket, 2" Strainer	For 923-47
<p>The above are standard pumps. There are many variations and it is not practical to list exceptions or the various motors. When ordering give complete nameplate data.</p>			

Part No.	Req.	Description	Usage
SAFETY VALVES			
		Because of the many variations in pressure settings and sizes, it is impractical to list safety or relief valves. Furnish nameplate data of existing valve when ordering replacement.	
MISCELLANEOUS			
814-7	1	Brush, Flue, 2-3/8"	Rear Door
550-42	1	Window, Observation	
851-26	1	Glass, Pyrex	
853-213	2	Gasket, Sight-Hole	Head Bolts
868-819	27	Capscrew, 7/8" x 6"	
51-162	27	Nut, Headbolt, 7/8"	15 PSI and Hot Water Power Boiler (U.S.) Power Boiler (Canada)
317-60	6	Cover, Handhole, 3-1/4" x 4-1/2"	
104-449	6	Yoke, Handhole	
958-48	6	Yoke, Handhole	
958-49	6	Yoke, Handhole	

IMPORTANT NOTICE

The manufacturer's bulletin for the particular Flame Safe Guard and Programming Control installed on your boiler is supplied along with this operating manual. In the event that a replacement control bulletin is required, the model and form number is listed below. Order from your Cleaver-Brooks representative.

CONTROL MODEL	CLEAVER-BROOKS BULLETIN NO.	MANUFACTURER'S BULLETIN NO.
CB-20	C9-767	—
CB-40	C9-768	—
CB-3	C9-758	—
4580	—	C-60
5022	—	C-14
6080, 6580	—	C-30



OIL METERING VALVE

INSTRUCTIONS FOR REPLACING OIL METERING VALVE PACKING

- A. Shut off the oil flow. Be sure no pressure shows on gauge.
- B. Match mark the cam hub and drive shaft. This will enable replacement of the cam in the original position and result in a minimum of cam adjustment when burner is refired.
- C. Clamp or hold the metering stem in the down position.
- D. Loosen the setscrews in the cam hub and rotate cam to a position where it does not interfere with stem removal; or, remove the cam from the shaft.
- E. Withdraw metering valve stem and spring. Do not drop or mis-handle. Check for nicks or scratches. Ensure that pin holding metering portion is not protruding. Back off the packing gland.
- F. To replace packing, it is necessary to remove the jack shaft support bracket. In most instances, the removal of the two cap screws will permit the bracket to be moved, although it may be necessary to loosen the securing bracket on the opposite end of the shaft.
- G. Remove existing packing rings and guide. (Note that either one (1) or two (2) guides are used depending upon construction.)
- H. Lightly coat the stem with grease or lubricating oil. Place new packing and guide(s) fully onto the stem, in the sequence shown on the reverse. The beveled face of the guide and teflon rings must face upward.
- I. Using the stem as a guide, insert the assembled packing into the cavity; then withdraw the stem.
- J. Replace steel washer and gasket. Put support bracket in place and secure all fastenings.
- K. Replace metering stem and spring. Lightly coat the stem with grease or lubricating oil to facilitate insertion and easy movement. Use care when inserting so that the orifice and the stem are not damaged.
- L. Snug the packing gland, but only sufficiently to place slight tension on the packing. The stem must move freely from the force of the spring:
- M. Work the stem up and down several times to insure that it is free.
- N. Depress the valve stem and replace the cam. Mate the match marks and secure the setscrews. Make sure the cam spring is centered in the roller.
- O. Restore oil flow. Test fire the burner at various firing rates making certain that the metering stem freely follows the cam.
- P. Tighten the packing gland after a period of operation, if required, to maintain proper tension on the packing. Do not overtighten.