



PARTS MANUAL

BROASTER® E-SERIES 24

PRESSURE FRYER

Be sure ALL installers read, understand, and have access to this manual at all times.



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FOR YOUR SAFETY

Do not use or store gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

⚠ WARNING Improper installation, adjustments, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

For the sake of safety and clarity, the following words used in this manual are defined as follows:

⚠ DANGER Indicates an imminently hazardous situation which, if not avoided, could result in serious injury or death.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor injury, property damage or both.

All adjustments and repairs shall be made by an authorized Broaster Company representative.

If there is a power failure, turn the power switch OFF. DO NOT attempt to operate unit during a power failure.

⚠ WARNING Failure to read and understand this manual completely could result in serious injury or death. Be sure ALL operators read, understand and have access to this manual at all times.

⚠ WARNING Rags or paper containing cooking oil can catch fire if exposed to heat. Laundering will not remove the oil. Dispose of all oil-soiled papers and rags in a trash container that is in a ventilated area away from all cooking equipment or other heat sources such as direct sunlight.

⚠ WARNING DO NOT operate the unit without the filter pan in its proper position and the piping securely connected.

⚠ WARNING Make sure Pressure Relief Valve port in the cover and Pressure Transducer port in the cooking well are clear of any oil or grease buildup.

Gas Fryers:

Post, in prominent locations, instructions to be followed in the event that the user smells gas. This information can be obtained from your local gas supplier.

⚠ WARNING The installation shall be made with a restraining device that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 • CSA 6.16, and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 • CSA 6.9. Adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement. The restraining device shall be attached to the appliance according to the manufacturer's instructions.



Failure to restrain the fryer could allow it to move or tip, causing hot oil to splash or spill out, or a possible break in the gas line causing an explosive condition. Always lock front castors. Other means of restraint may be the manner of installation, such as connection to a battery of appliances, installing the fryer in an alcove, by a restraining cable to the back of the fryer or separate means, such as adequate ties.



The installation must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/ NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1, as applicable, including;

- i) The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).**
- ii) The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).**



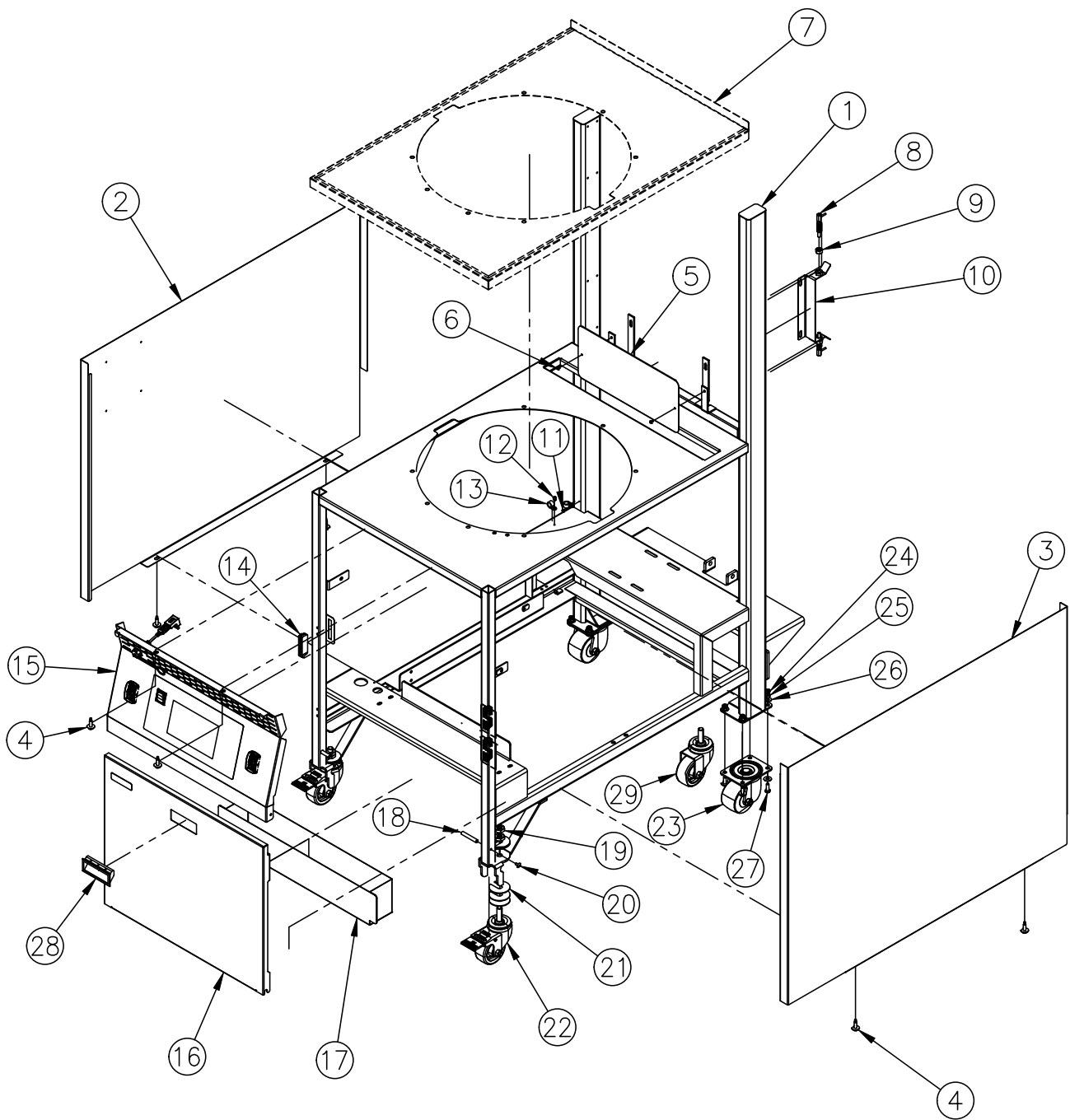
The appliance, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.

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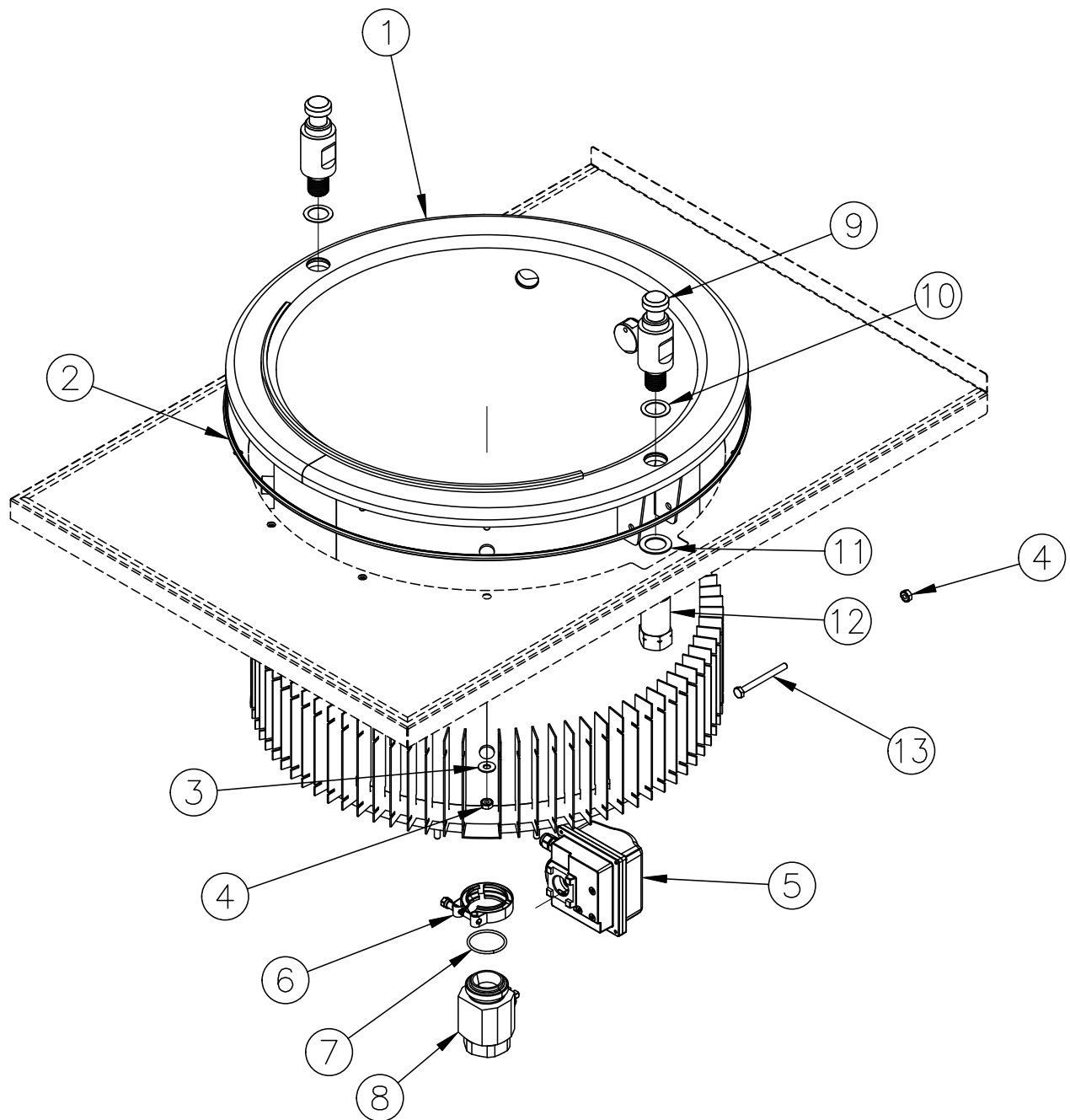
1 - OUTER PANELS

ITEM#	PART#	DESCRIPTION	QTY
1	20321	FRAME- ES24	1
2	20401	PANEL- SIDE LH, ES24	1
3	20400	PANEL- SIDE RH, ES24	1
4	17994	SCREW 1/4-20 X 7/8 DOG PT, PLT	6
5	21370	TANK WELD- MUFFLER, ES24	1
6	07971	SCREW RD HD #6-32 X .250	2
7	20363	COUNTERTOP, FORMED, ES24	1
8	21754	PLUNGER-SPRING, T LOCK, 3/8-16	2
9	10949	NUT HEX 3/8-16 SS	2
10	21755	WELD, LOCKING MECH, EXH STACK	1
11	07092	SCREW RD HD #6-32 X .375	2
12	21995	SCREW TC RD HD #6-32 X .375	5
13	70302	CLAMP- NYLON 1/2"	7
14	21694	MAGNET- COND, FRAME, ES24	3
15	20290	PANEL- CONTROL ASSY, ES24	1
16	21048	PANEL WELD- CONDENSATE ES24	1
17	17348	PAN WELD- CONDENSATE	1
18	17196	PIN- PIVOT	2
19	20709	NUT-HEX-THIN 1/2"-13, BLK-OX	4
20	08275	SCREW TR HD #10-32 X .375 SS	2
21	21937	WASHER- CASTER LEVELING, ES	12
22	20036	CASTER- FRONT, 3" W BRAKE, ES	2
23	21932	CASTER- SWIVEL	2
24	20600	NUT JAM 1/4-20	8
25	06169	NUT HEX 1/4-20 SS	8
26	01596	WASHER- FL 1/4" X .75OD ZP	16
27	01580	SCREW HX HD 1/4-20 X .750	8
28	20500	PULL- FLUSH MOUNT, DOOR ES	1
29	20042	CASTER- REAR, SWIVEL 3 IN, ES	2



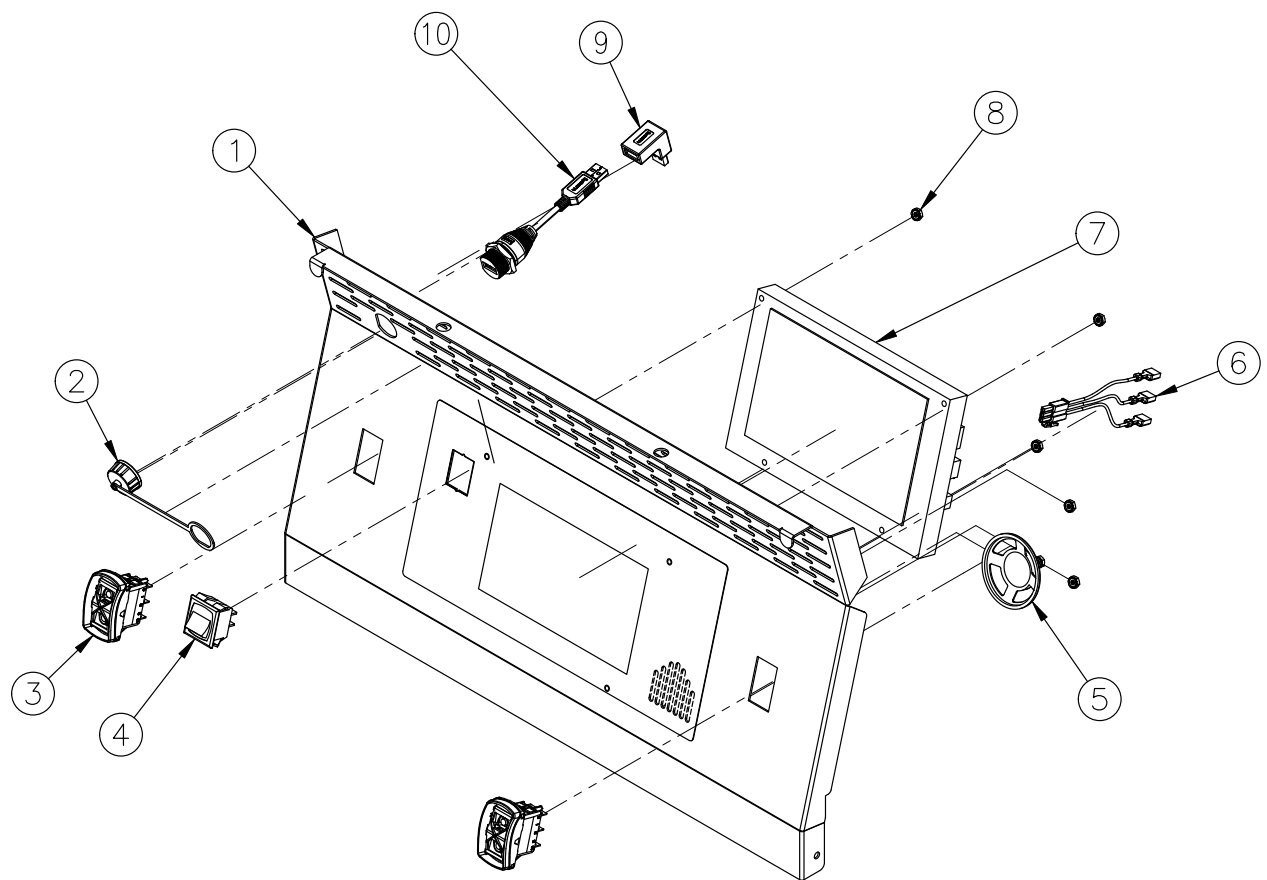
2 - COOKING WELL GROUP

ITEM#	PART#	DESCRIPTION	QTY
1	20312	ASM, COOKING WELL, ES24G	1
2	15515	GASKET- POT RIM, 24/ES24	1
3	01596	WASHER- FL 1/4" X .75OD ZP	7
4	00552	NUT KEPS 1/4-20	9
5	21547	ACTUATOR-VALVE, SMART 24VAC	1
6	21379	CLAMP-T BOLT, VALVE ES	1
7	21383	O-RING, DRAIN VALVE, SILICONE	1
8	21377	VALVE,1.5 T X 1.0 P/2WAY 24VDC	1
9	21519	COLUMN-LATCH, ES24	2
10	21967	RUBBER SEAL, LATCH COLUMN	2
11	21984	WASHER, LATCH COLUMN, 0.900ID	2
12	21962	COUPLING NUT, 7/8-14, MACHINED	2
13	13274	SCREW HX HD 1/4-20 X 2.750 SS	2



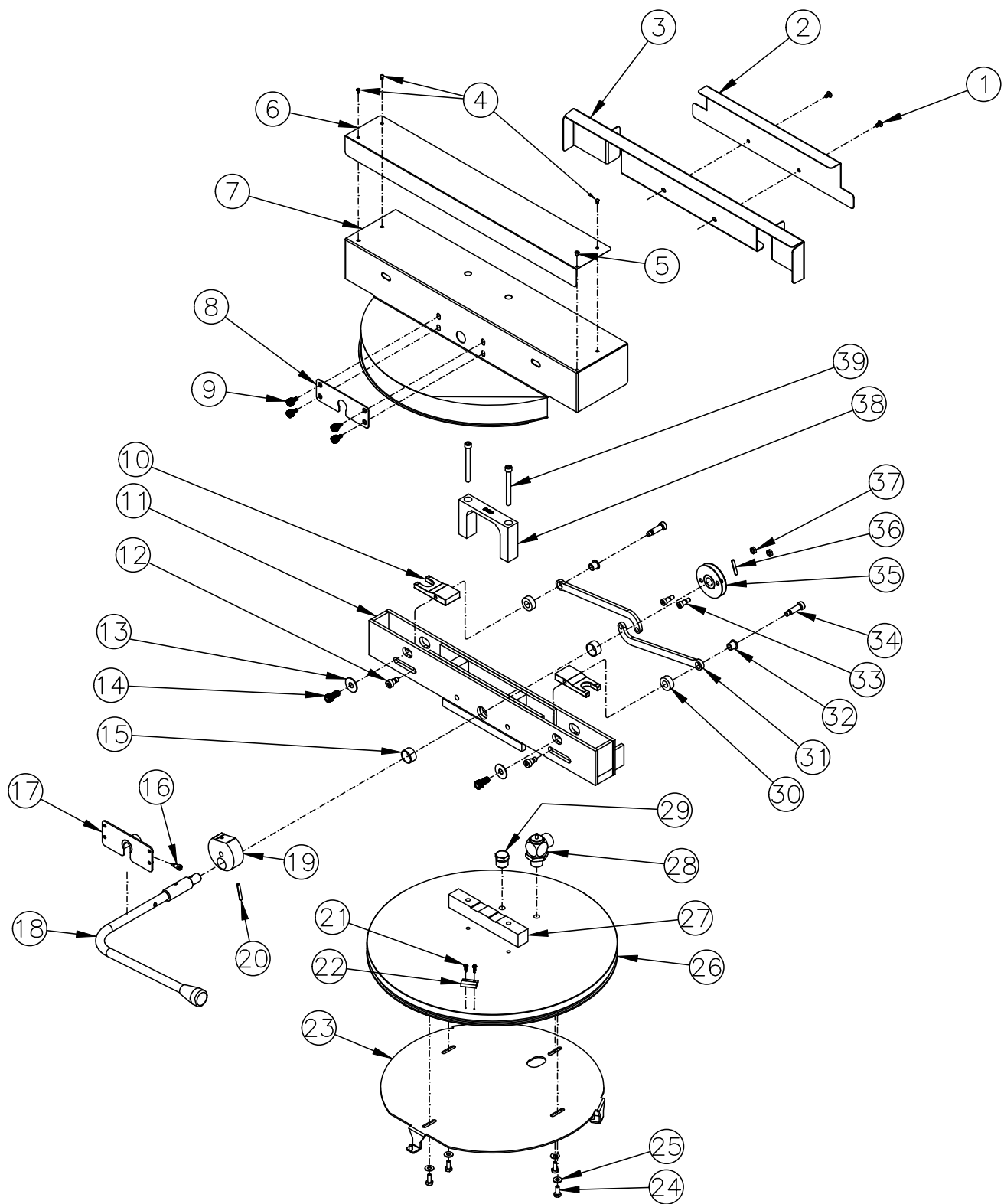
3 - CONTROL PANELS

ITEM#	PART#	DESCRIPTION	QTY
1	20288	PANEL-CONTROL, PEMED, ES24	1
2	17230	COVER- USB CABLE	1
3	21404	SWITCH-LIFT, DPST 10A, ES24	2
4	17684	SWITCH- ROCKER, DPST, 250V 5A	1
5	21423	SPEAKER, W_WIRE	1
6	20723	CONNECTOR-3P, TE-AMP	1
7	20580	BOARD-CONTROL EXPND, SER ES	1
8	00388	NUT KEPS #6-32, Z PLTD	7
9	20720	ADAPTER-USB, ES	1
10	20035	USB-EXTEND, ES	1



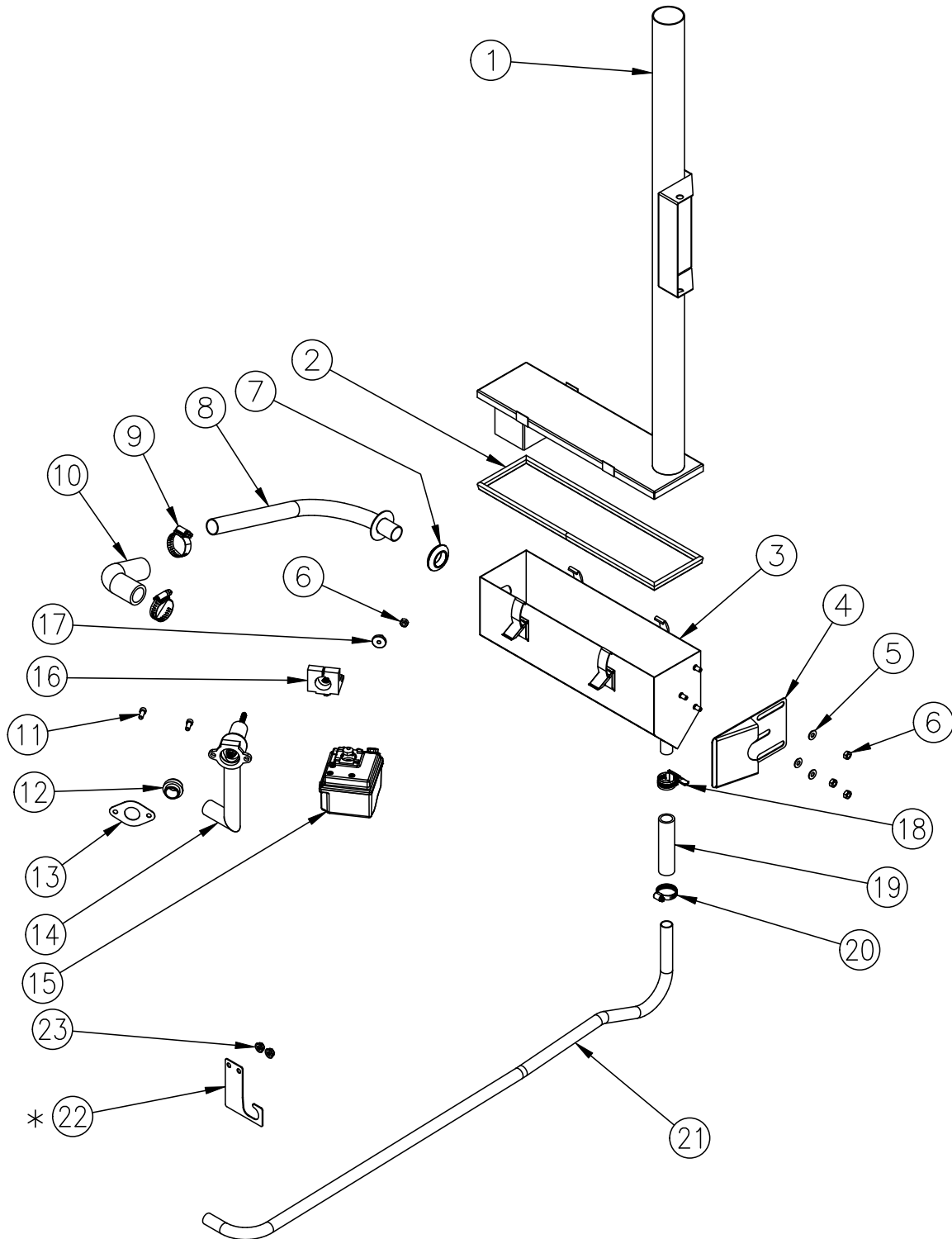
4 - COVER AND YOKE GROUP

ITEM#	PART#	DESCRIPTION	QTY
1	08275	SCREW TR HD #10-32 X .375	2
2	22187	CATCH-SPLASH SHIELD, ES24	1
3	22071	PANEL-BACK, SPLASH SHIELD ES24, FORMED	1
4	07971	SCREW RD HD #6-32 X .250	3
5	10044	RIVET POP 1/8 DIA X .265 LG	1
6	21230	PLATE-DANGER, FORMED, ES24	1
7	21786	SHIELD - SPLASH. WELDED	1
8	22019	PLATE-WASHER MACHINED, SPLASH SHIELD, ES24	1
9	21971	SCREW, 10-32 X 0.41, SNAP IN	4
10	21510	BLOCK-SLIDER, COVER	2
11	21496	YOKE BAR WELD, ES24	1
12	21804	SCREW SOCHD SHLDR 3/8-1.0, 5/16-24	2
13	20175	WASHER- FL 3/8 X 1.13	2
14	22206	SCREW SOCHD 3/8-16 X 3/4	2
15	15473	BEARING- YOKE BAR	2
16	21801	SCREW SOCHD SHLDR 1/4-3/8	1
17	22016	PLATE-TWIST COLLAR, SPLASH SHIELD, ES24	1
18	21506	HANDLE ASM, ES24	1
19	15491	CAM	1
20	15598	PIN- GROOVED	1
21	21898	SCREW-#4 X .50 HH SELF TAP STL	2
22	20073	MAGNET, REED ES	1
23	20394	HANGER WELD, WIRE RACK	1
24	16398	SCREW HX HD 1/4-20 X .625	4
25	15275	WASHER- FL 1/4", EXH VALVE	4
26	20406	COVER, COOKING WELL, ES24	1
27	15492	SPACER- COVER	1
28	09734	VALVE- PRESSURE RELIEF, 15PSI	1
29	20713	PLUG, 1/2NPT, EXTHX	1
30	21521	SPACER- .501 ID	2
31	21507	LINK-HANDLE, ES24	2
32	21512	BEARING - FLANGE, 3/8 X 1/2	2
33	21511	SCREW-SHOULDER, 1/4-20 X 3/8	2
34	21513	SCREW - SHLDR, 5/16-24 X 1" LG	2
35	21500	CLEVIS-WELD, HANDLE ES24	1
36	21520	PIN-GROOVED, .1875 DIA X 1.125	1
37	20600	NUT JAM 1/4-20	2
38	15656	LIFTER BOX, COVER	1
39	04943	SCR SOC HD CS 5/16-18 X 3 NYLOC	2



5 - PRESSURE AND EXHAUST SYSTEM

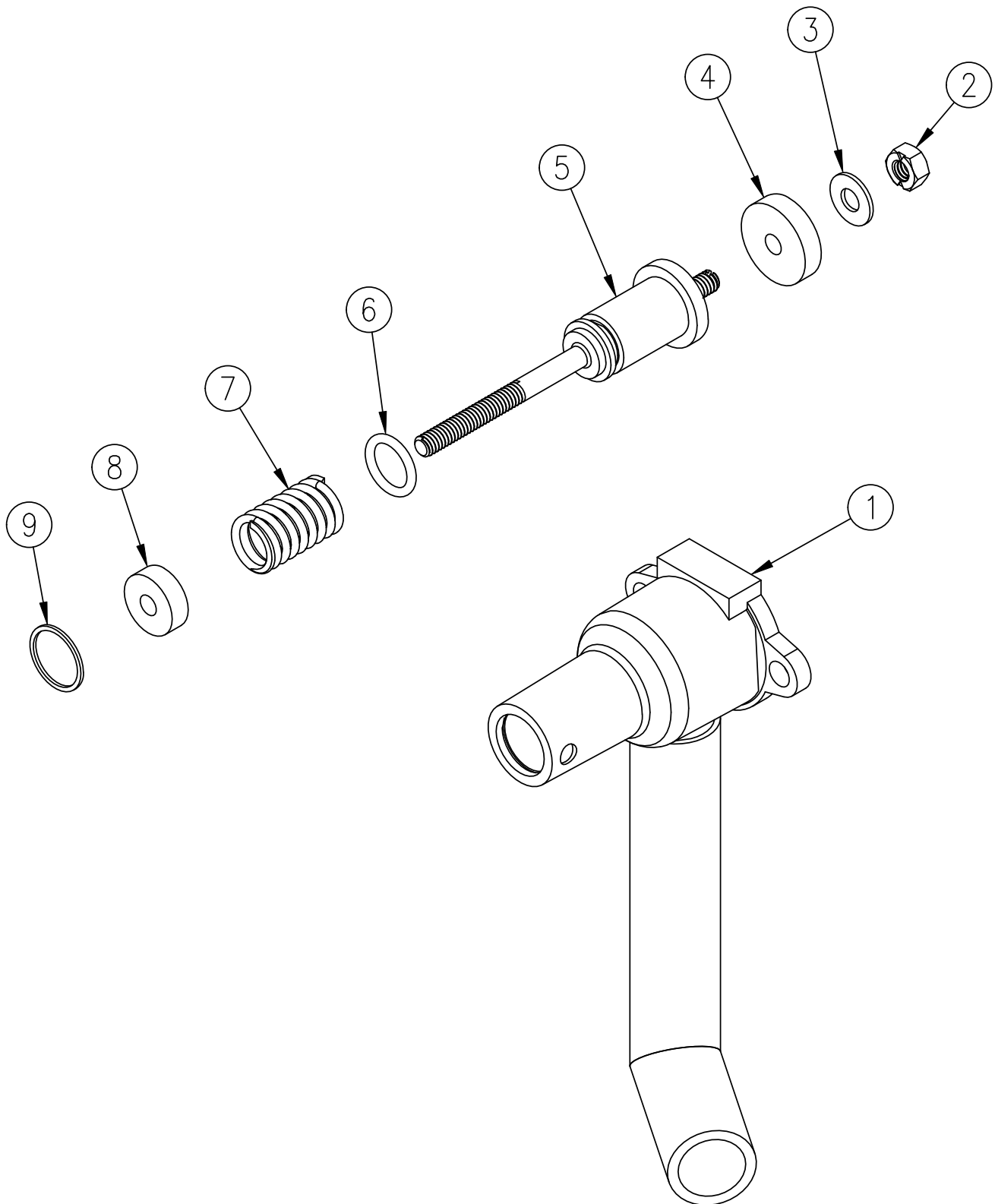
ITEM#	PART#	DESCRIPTION	QTY
1	21847	COVER WELD-MUFFLER, ES24	1
2	15730	GASKET- MUFFLER	1
3	21845	TANK WELD-MUFFLER, ES24	1
4	21951	MUFFLER WEDGE WELD	1
5	15275	WASHER- FL 1/4", EXH VALVE, SS	3
6	06169	NUT HEX 1/4-20 SS	5
7	10049	GROMMET 1" ID X 1 3/4" OD	1
8	21943	SMART EXHAUST TUBE WELD	1
9	21838	WORM CLAMP	2
10	21077	ELBOW 1 IN ID, RUBBER	1
11	09639	SCREW SOCHD CAP 1/4-20 X .625	2
12	09621	SEAT- VALVE, EXHAUST	1
13	17622	GASKET- EXH VLV HOUSING	1
14	20244	VALVE-EXHAUST ASSY, ES24	1
15	21553	ACTUATOR, SMART EXH, 24VDC	1
16	21542	MOUNT-ACTUATOR, EXHAUST, ES	1
17	20421	SMART EXHAUST CAM FOLLOWER	1
18	21853	WORM CLAMP W THUMB SCREW	1
19	21834	SILICONE SLEEVE, COND, ES24	1
20	21839	WORM CLAMP, CONDENSATE	1
21	20266	TUBE CONDENSATE, ES24	1
22	21756	BRKT, COND PIPE SUPPORT	1
23	00552	NUT KEPS 1/4-20	2



* SERIAL NUMBER
SPECIFIC PARTS

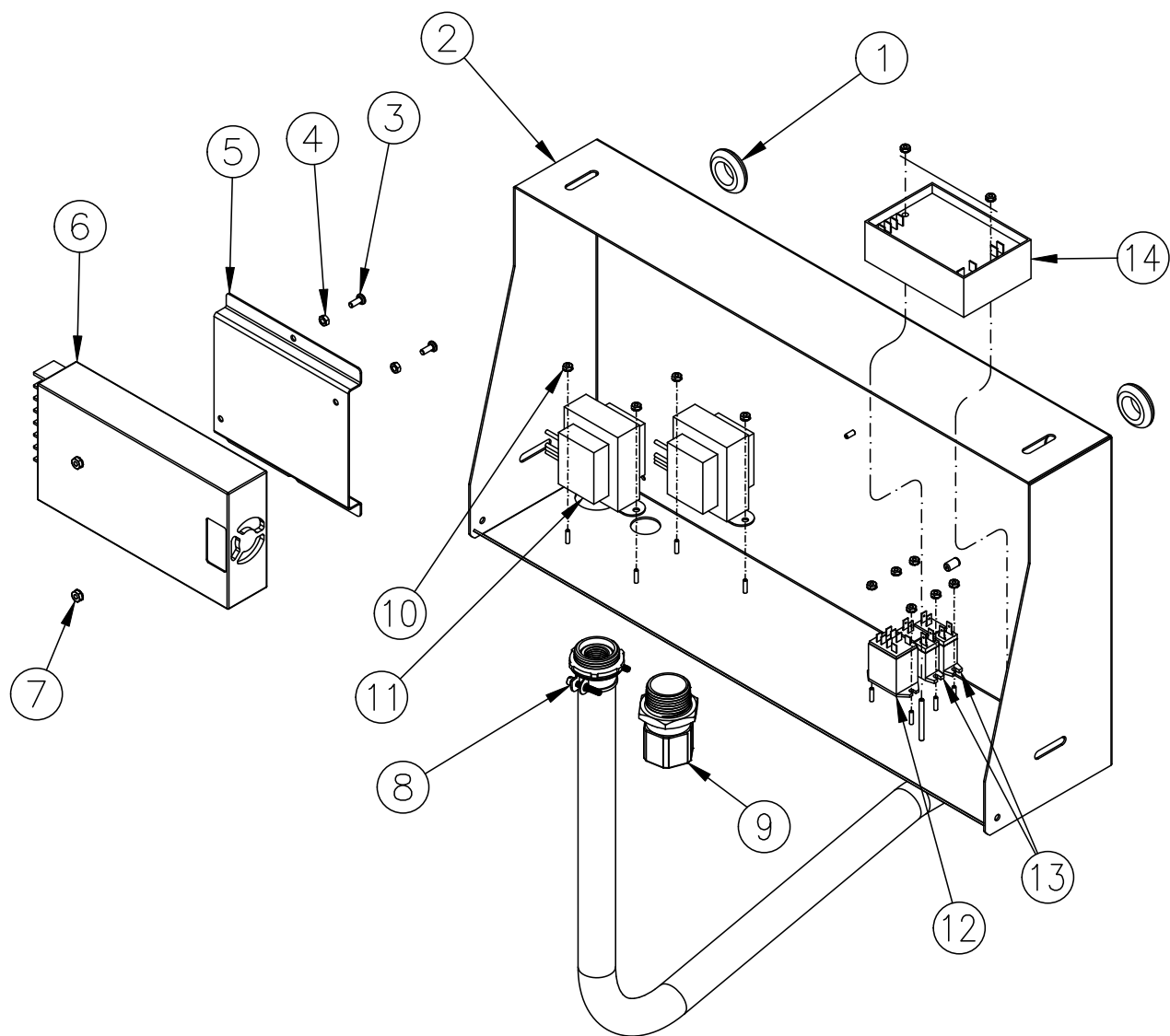
6 - PRESSURE REGULATING VALVE

ITEM#	PART#	DESCRIPTION	QTY
1	20224	HOUSING-EXH VALVE, MACHINED 24	1
2	15274	LOCKNUT-TOPLOCK, 1/4-20	1
3	15275	WASHER- FL 1/4", EXH VALVE, SS	1
4	09632	DISC- PRESSURE, EXH VALVE	1
5	20570	PISTON-EXH VALVE ASM, SMART ES	1
6	14444	O RING- PISTON, EXH VALVE	1
7	09630	SPRING- EXH VALVE	1
8	09625	BEARING- OUTER	1
9	09634	RING- RETAINING, INT	1



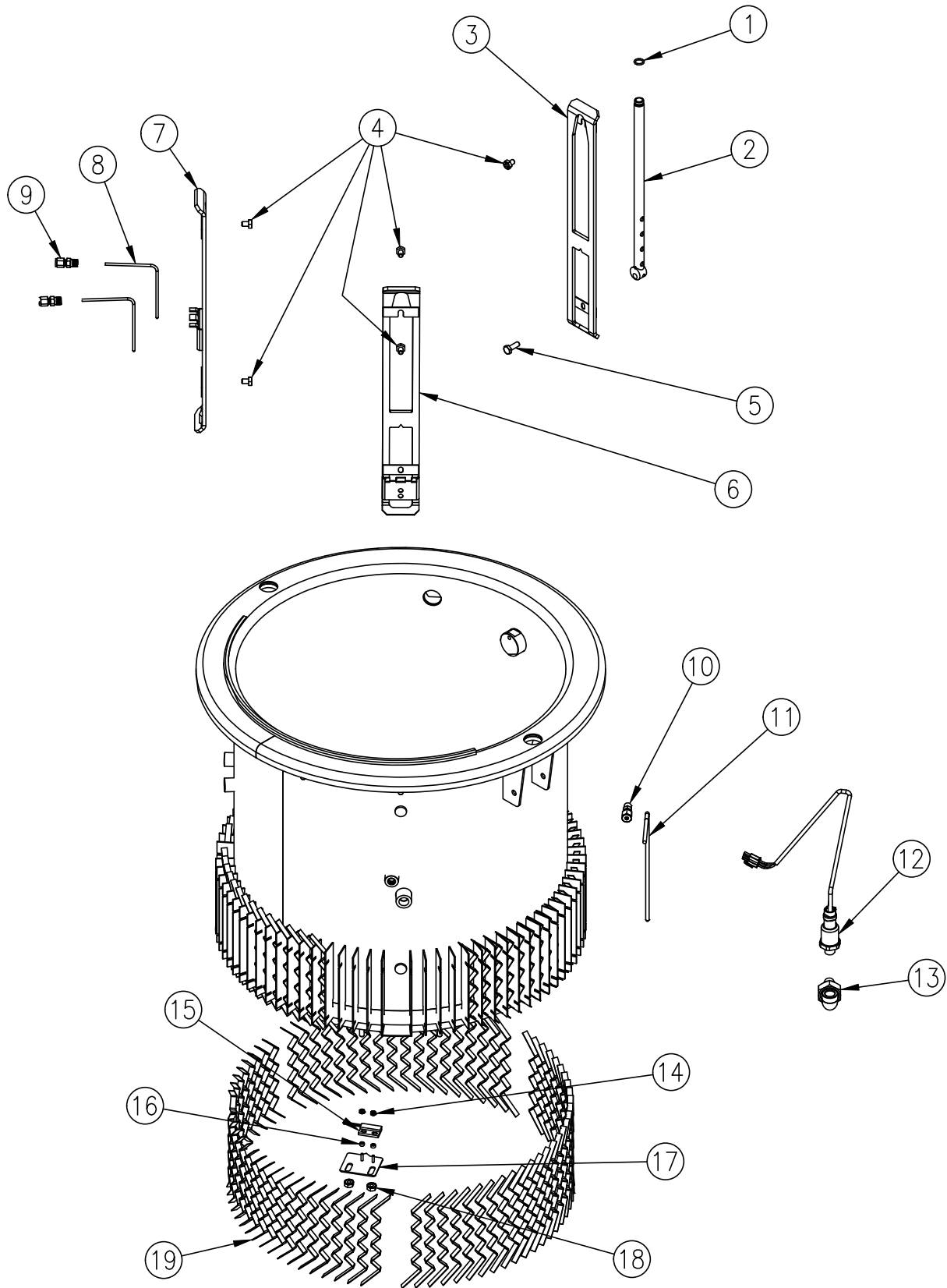
7 - POWER INPUT BOX

ITEM#	PART#	DESCRIPTION	QTY
1	20031	BUSHING, 1.06HOLE X .75ID	2
2	21527	BOX-CONTROL, WELD, ES24	1
3	21771	BOLT-SHOULDER, 5/8-11 X 5/8 LG	2
4	21772	NUT HX M4x 0.7mm ZP CLASS 8	2
5	21767	HEAT SINK, CONTROL ES24	1
6	21759	POWER SUPPLY 24VDC, ES24	1
7	00388	NUT KEPS #6-32, Z PLTD	2
8	21544	WIRE HARNESS, ESG	1
9	16739	GRIP-CORD, 1/2 NPT, .200/.472	1
10	07601	NUT KEPS #4-40	12
11	17216	TRANSFORMER- 40VA 120/240X24	2
12	21583	RELAY, 24V DC INPUT, DPDT	1
13	17217	RELAY- 24VAC, SPST-NO	2
14	18025	CONTROL- HI LIMIT, 120VAC	1



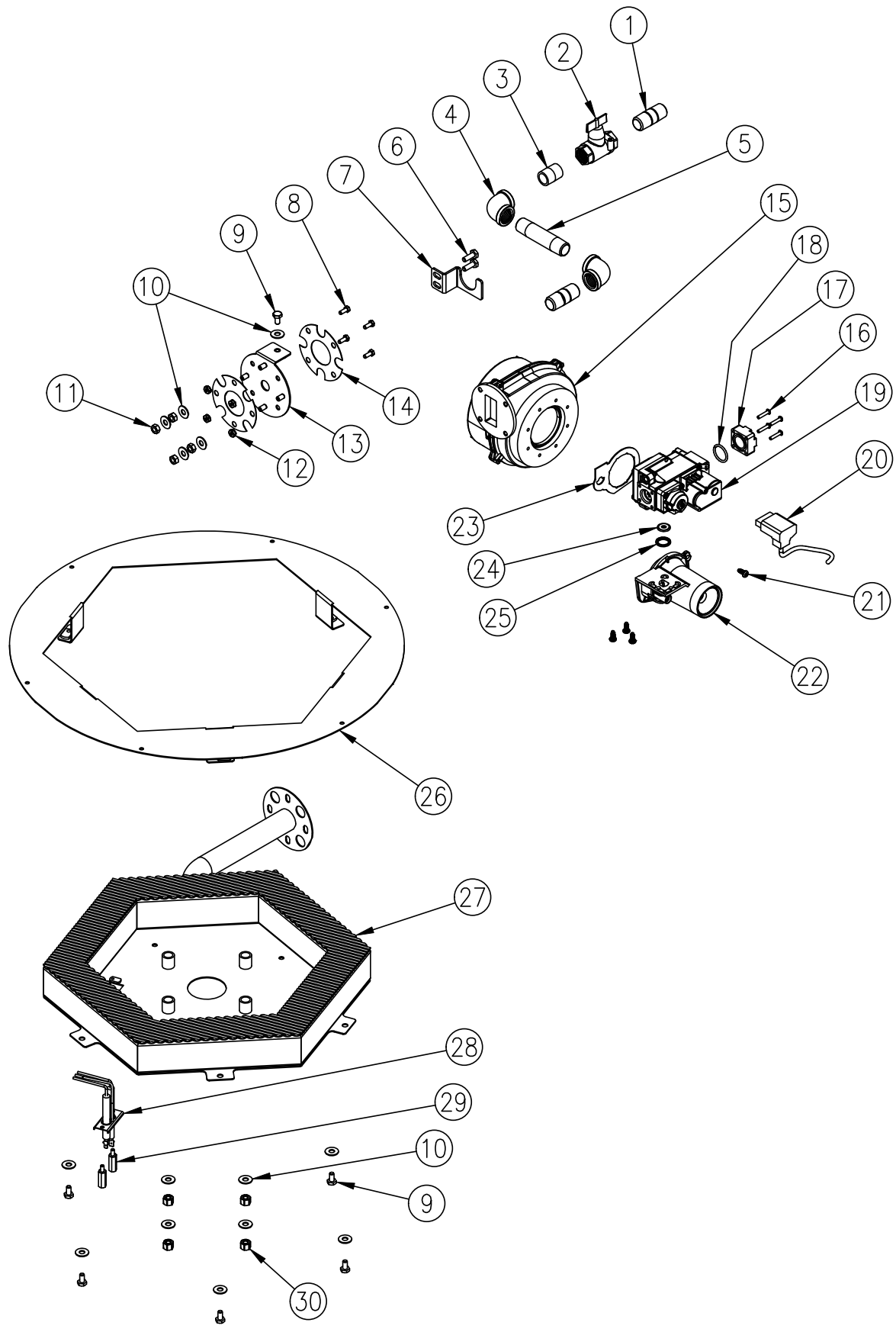
8 - COOKING WELL PARTS

ITEM#	PART#	DESCRIPTION	QTY
1	20282	O RING-FILL, 5/16" OIL RETURN	1
2	21588	TUBE-FILL, WELD, ES24	1
3	21566	GUARD, FILL WELD	1
4	00399	SCREW SS HX HD 1/4-20 X .375	5
5	04562	SCREW HX HD 1/4-20 X .750 SS	1
6	21563	GUARD-PRES TRAN, WELD ES24	1
7	21867	GUARD-PROBE, WELD ES24	1
8	21648	PROBE, LIQUID LEVEL ES	2
9	21777	MALE CONNECTOR - .125 SHEATH	2
10	11743	CONNECTOR- MALE	1
11	21647	PROBE, VAT ES	1
12	20396	PRESSURE TRANSDUCER, ES	1
13	20774	ELBOW, UNION 1/4 NPT SS	1
14	07601	NUT KEPS #4-40	2
15	17291	REED SWITCH ASSY- FILTER PAN	1
16	20218	SPACER, STL	2
17	21478	BRKT-REED SWITCH WELD, ES24	1
18	00552	NUT KEPS 1/4-20	2
19	20062	DEFLECTOR-AIR FLO, ES	146



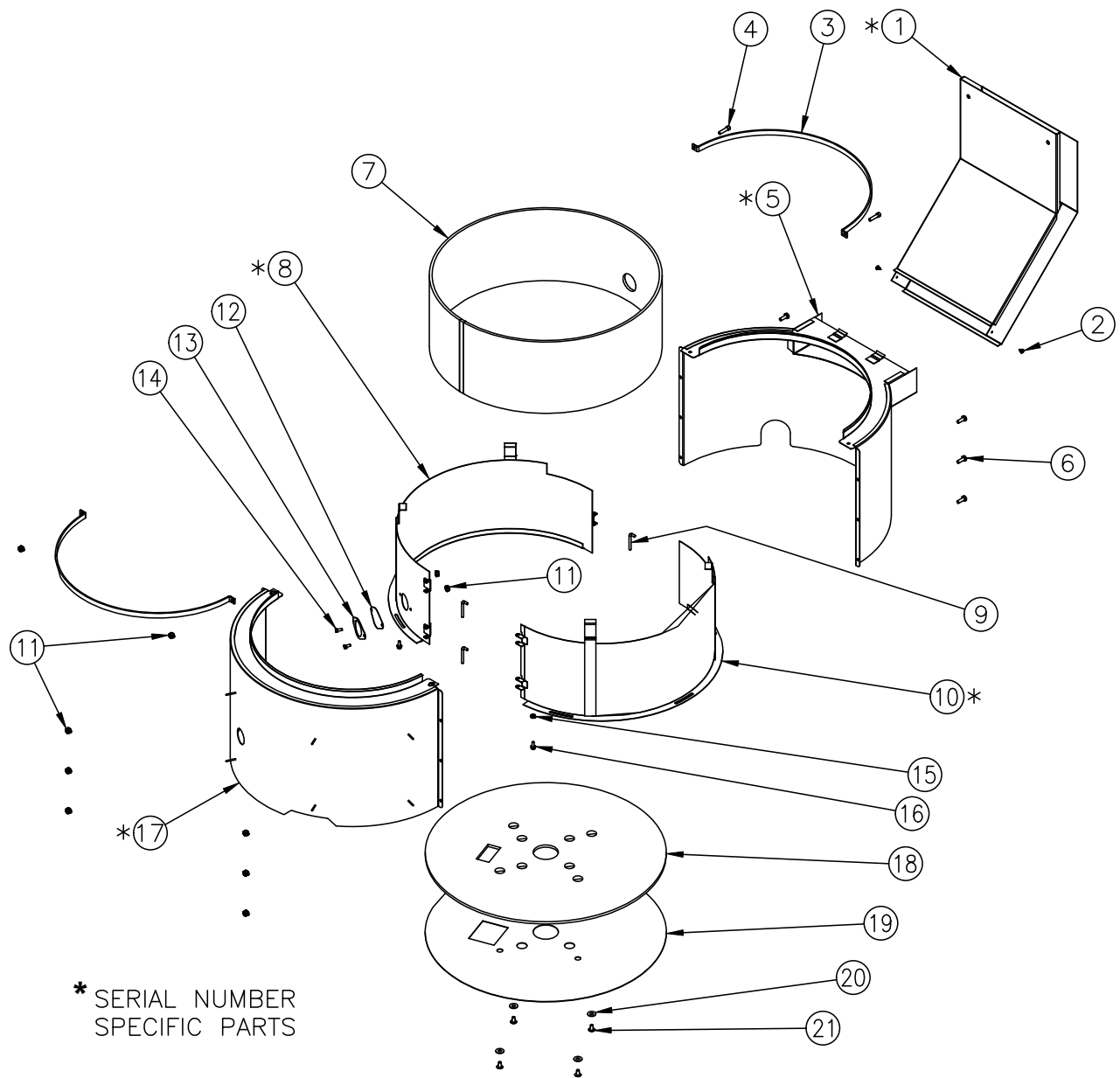
9 - BURNER ASSEMBLY

ITEM#	PART#	DESCRIPTION	QTY
1	01616	NIPPLE 1/2 X 2.00" BLK IRN	2
2	08791	VALVE- SHUTOFF, MANUAL	1
3	00830	NIPPLE 1/2 X CL BLK IRN	1
4	01823	ELBOW, 1/2FPT X 90°	2
5	13618	NIPPLE 1/2 X 3.50" BLK IRN	1
6	01580	SCREW HX HD 1/4-20 X .750	2
7	20278	BRACKET, GAS TRAIN SUPPORT	1
8	09868	SCREW HX HD #10-32 X .500 SS	4
9	04147	SCREW HX HD 3/8-16 X 1.750	6
10	01596	WASHER- FL 1/4" X .75OD ZP	14
11	06169	NUT HEX 1/4-20 SS	4
12	00554	NUT KEPS #10-32	4
13	20990	BRKT-MTG PLT ASM, BURNER ES24G	1
14	20043	GASKET-PLENUM, ES	2
15	20108	BLOWER, BURNER, ES	1
16	21730	SCREW-TORX M4 X 20MM-ZP	4
17	21429	ADAPTER-GAS VALVE, ES	1
18	21431	O-RING, ADAPTER-GAS VALVE, ES	1
19	20107	VALVE-GAS, ES	1
20	20859	CABLE, GAS VALVE, BURNER ES	1
21	21426	SCREW-TORX M5 X 12MM-ZP	4
22	20109	VENTURI, BURNER, ES	1
23	21427	GASKET-CORK, VENTURI ES	1
24	21178	ORIFICE-NAT, 0.211	1
24	21179	ORIFICE-LP, 0.144 (#27) ES	1
24	21180	ORIFICE-BUT, 0.141 (#28) ES	1
25	21425	O-RING, GAS VALVE, ES	1
26	21578	MTG SUPPORT-WELD, BURNER ES24G	1
27	21637	BURNER-WELD, ES24G	1
28	20787	IGNITOR-BURNER, ES	1
29	17630	STANDOFF, 10-32 MALE-FEMALE 1"	2
30	21579	STAND OFF-HEX, 1/4-20 X .375	4



10 - COMBUSTION CHAMBER

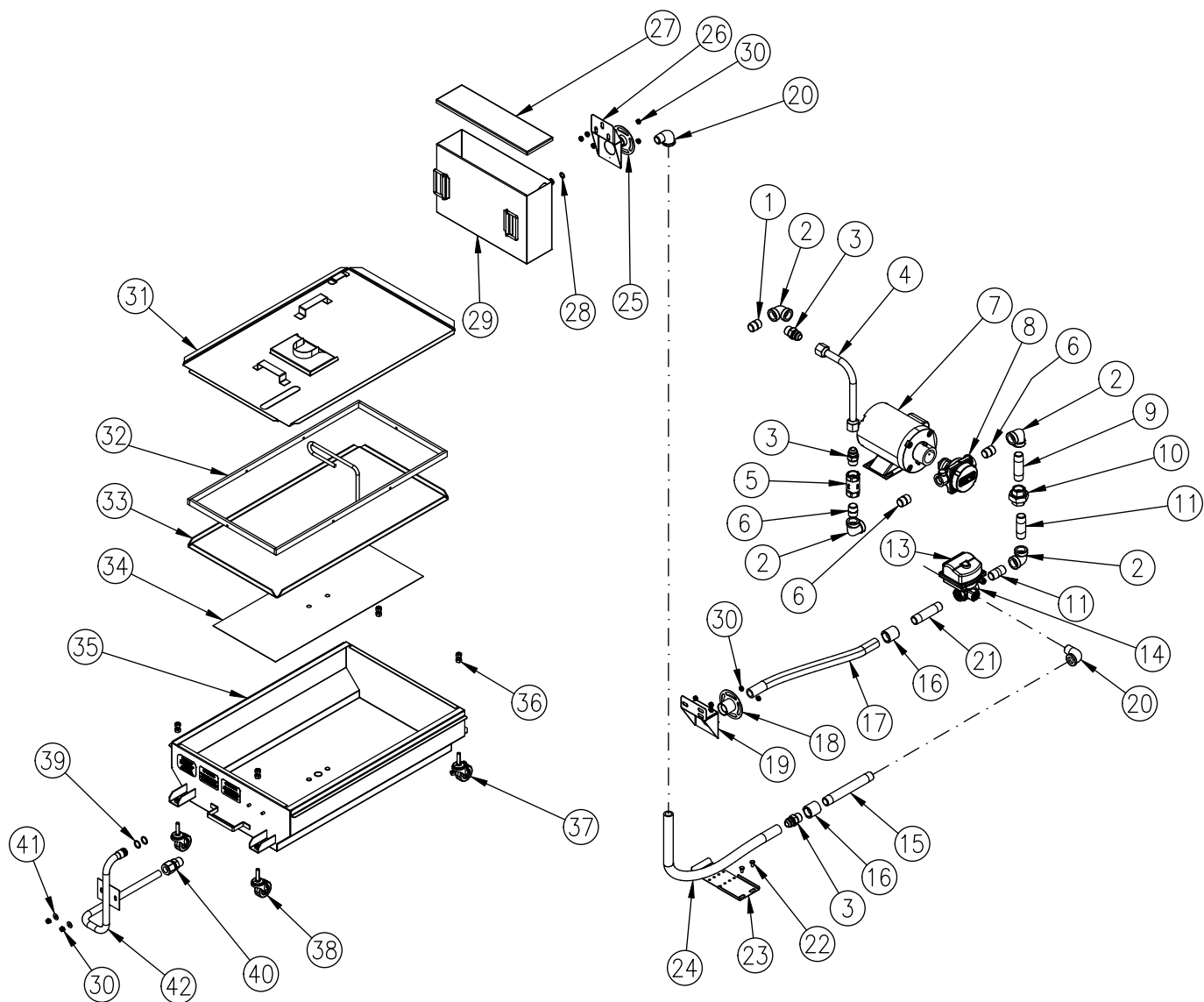
ITEM#	PART#	DESCRIPTION	QTY
1	21633	DUCT WELD-EXHAUST, ES24	1
2	20702	SCREW SM PHL HD #10 X 3/8 SS	2
3	15539	CLAMP- COMBUSTN CHAMBER	2
4	13366	SCREW SOCHD CAP 1/4-20 X 1.000	2
5	21628	WALL WELD- OUTER, REAR, ES24G	1
6	01580	SCREW HX HD 1/4-20 X .750	6
7	20535	INSULATION-COMB CHAMBER, INNER	1
8	21817	LINER-SLIDE LH WELD, CC ES24	1
9	21809	PIN-HINGE, ES24	3
10	21815	LINER-SLIDE RH WELD, CC ES24	1
11	00552	NUT KEPS 1/4-20	10
12	21624	SIGHT GLASS, ES	1
13	21639	MOUNT-SIGHT GLASS, ES24	1
14	09868	SCREW HX HD #10-32 X .500 SS	2
15	10217	NUT KEPS #10-32 SS	6
16	21641	SCREW-FLG HX HD 10-32 X .50	6
17	21623	WALL WELD-OUTER, FRONT ES24G	1
18	20534	BURNER INSULATION, ES24G	1
19	21656	COVER-BURNER, ES24G	1
20	01596	WASHER- FL 1/4" X .75OD ZP	4
21	17809	SCREW TR HD 1/4-20 X .500 SS	4



11 - FILTER SYSTEM

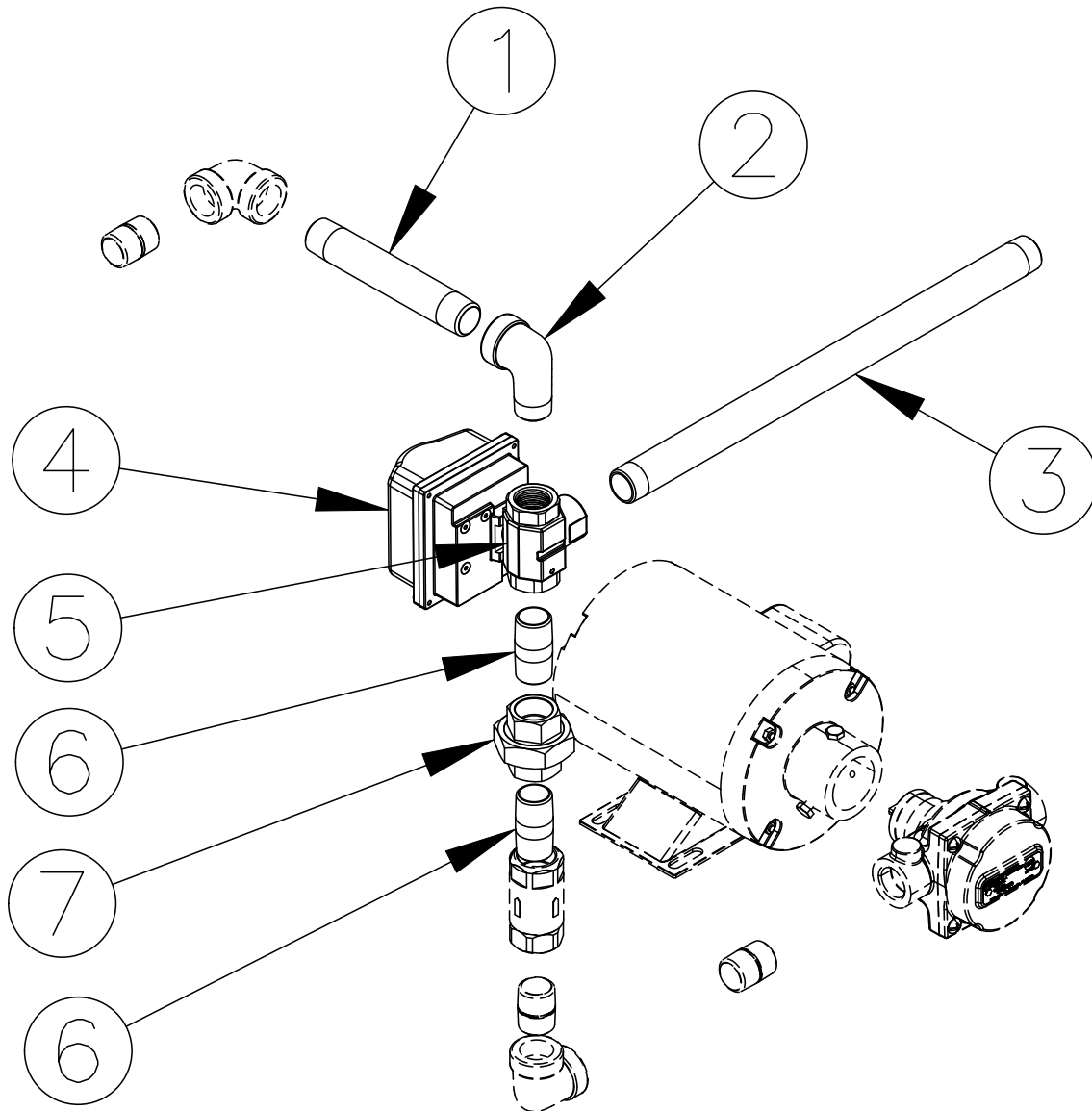
ITEM#	PART#	DESCRIPTION	QTY
1	21420	NIPPLE- 1 3/8 X 3/4 NPT SS	1
2	20906	ELBOW, 3/4 FNPT X 3/4 FNPT	4
3	20590	FITTING-37°FLR 3/4OD X 3/4NPT	3
4	21093	TUBE-OIL RETURN, NO RD ES24	1
5	15578	VALVE- CHECK, 3/4"NPT	1
6	21676	NIPPLE 3/4 X CL BLK IRN	3
7	10883	MOTOR W/MANUAL RESET	1
8	21604	ROLLER PUMP, 8 GPM, 3/4" INLET	1
9	21684	NIPPLE, 3/4NPT X 3.50" BLK IRN	1
10	21686	UNION, 3/4NPT F-F BLK IRN	1
11	21687	NIPPLE, 3/4NPT X 3.00" BLK IRN	1
12	21750	NIPPLE - 3/4 NPT X 2", STEEL	1
13	21380	ACTUATOR- VALVE 3-WAY, 24VDC	1
14	21570	VALVE, 3-WAY, 3/4 NPT	1
15	20243	NIPPLE, 3/4 NPT X 6.00 BLK IRN	2
16	21860	STRAIGHT CONNECTOR 3/4 NPT F-F	1
17	21577	FLEX LINE-FILTER, ES24	1
18	21726	BRKT ASM, FLX LINE, FILTERED	1
19	21727	BRKT-WELD, FLX LINE MNT, FLTRD	1
20	17653	ELBOW 3/4 X 90 ST	2
21	21685	NIPPLE, 3/4NPT X 4.00" BLK IRN	1
22	01336	SCREW HX HD 1/4-20 X 1/2 ZP	2
23	21719	BRKT, FLX LINE SPPRT	1
24	21576	FLEX LINE-TOP OFF, ES24	1
25	21724	BRKT ASM, FLX LINE, TOP-OFF	1
26	21725	BRKT-WELD, FLX LN MNT, TOP-OFF	1
27	20199	COVER-TOP OFF, ES	1
28	09883	O RING- FILTER RETURN FITTING	1
29	20195	TANK, TOP OFF-WELD, ES	1
30	00552	NUT KEPS 1/4-20	12
31	21043	COVER WELD-FILTER, ES24	1
32	21751	HOLDOWN WELD-FILTER, ES24	1
33	15495	FILTER PAPER-ES24/2400	1
34	15526	SCREEN- PUNCHED, FILTER	1
35	21039	PAN-WELD, FILTER ES24	1
36	10949	NUT HEX 3/8-16 SS	8
37	21602	CASTER-2.00, LOCK, FILTER ES	2
38	21575	CASTER-2.00, SWIVEL, FILTER ES	2
39	21192	O RING-FILTER RETURN, ES	2
40	15615	CONN COMP 3/4 OD X 3/4 NPT SS	1
41	01596	WASHER- FL 1/4" X .75OD ZP	2
42	21041	LINE WELD-RISER, ES24	1

FILTER SYSTEM



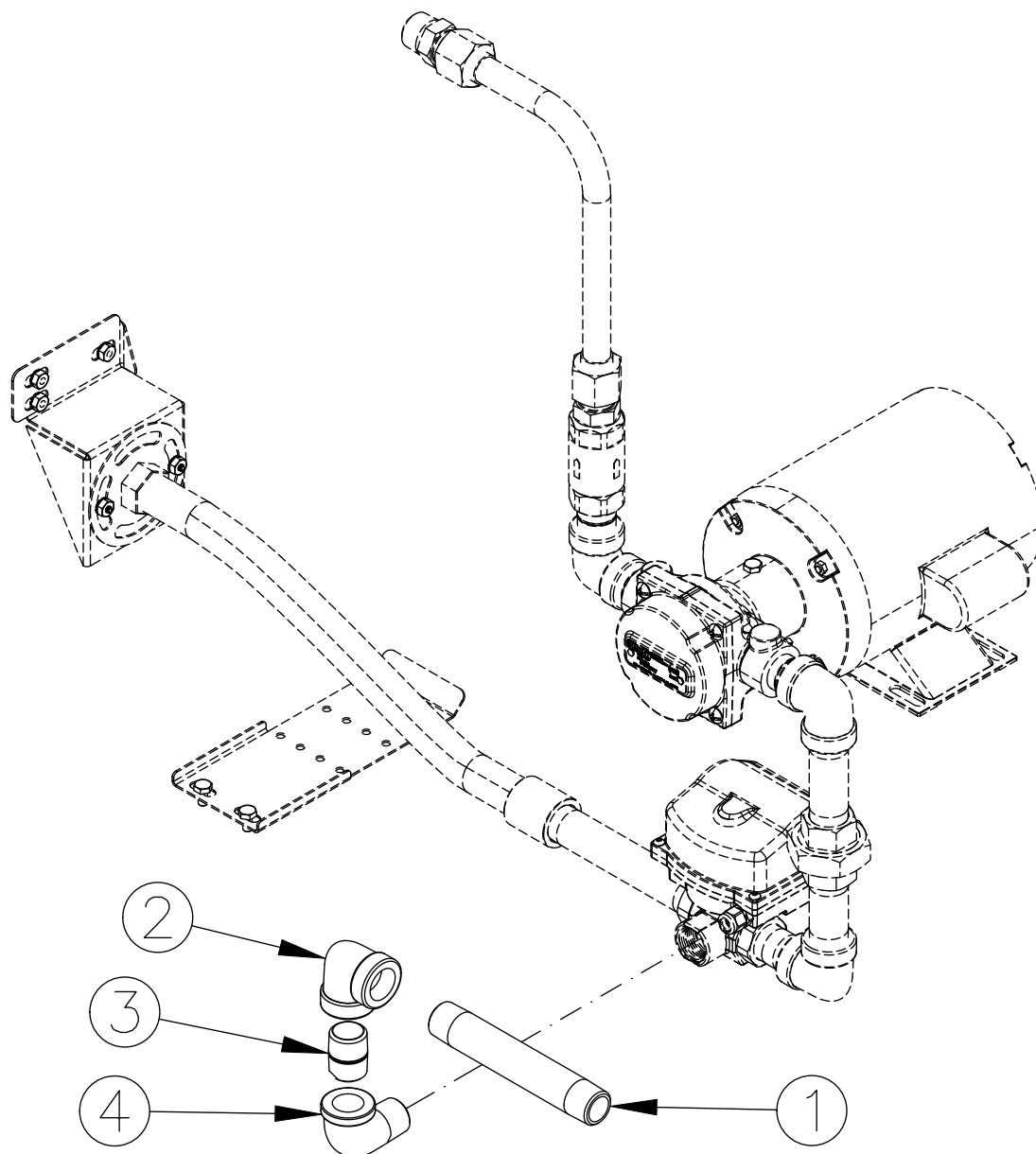
FILTER SYSTEM WITH REAR DISCHARGE

ITEM#	PART#	DESCRIPTION	QTY
1	20223	NIPPLE, 3/4 NPT X 6.00 SS	1
2	21848	ELBOW, 3/4 NPT X 90 F-M, SS	1
3	21862	NIPPLE, 3/4 NPT X 16.00 SS	1
4	21380	ACTUATOR- VALVE 3-WAY, 24VDC	1
5	21570	VALVE, 3-WAY, 3/4 NPT	1
6	20222	NIPPLE, 3/4 NPT X 2.00 SS	2
7	21421	UNION-3/4 NPT SS	1



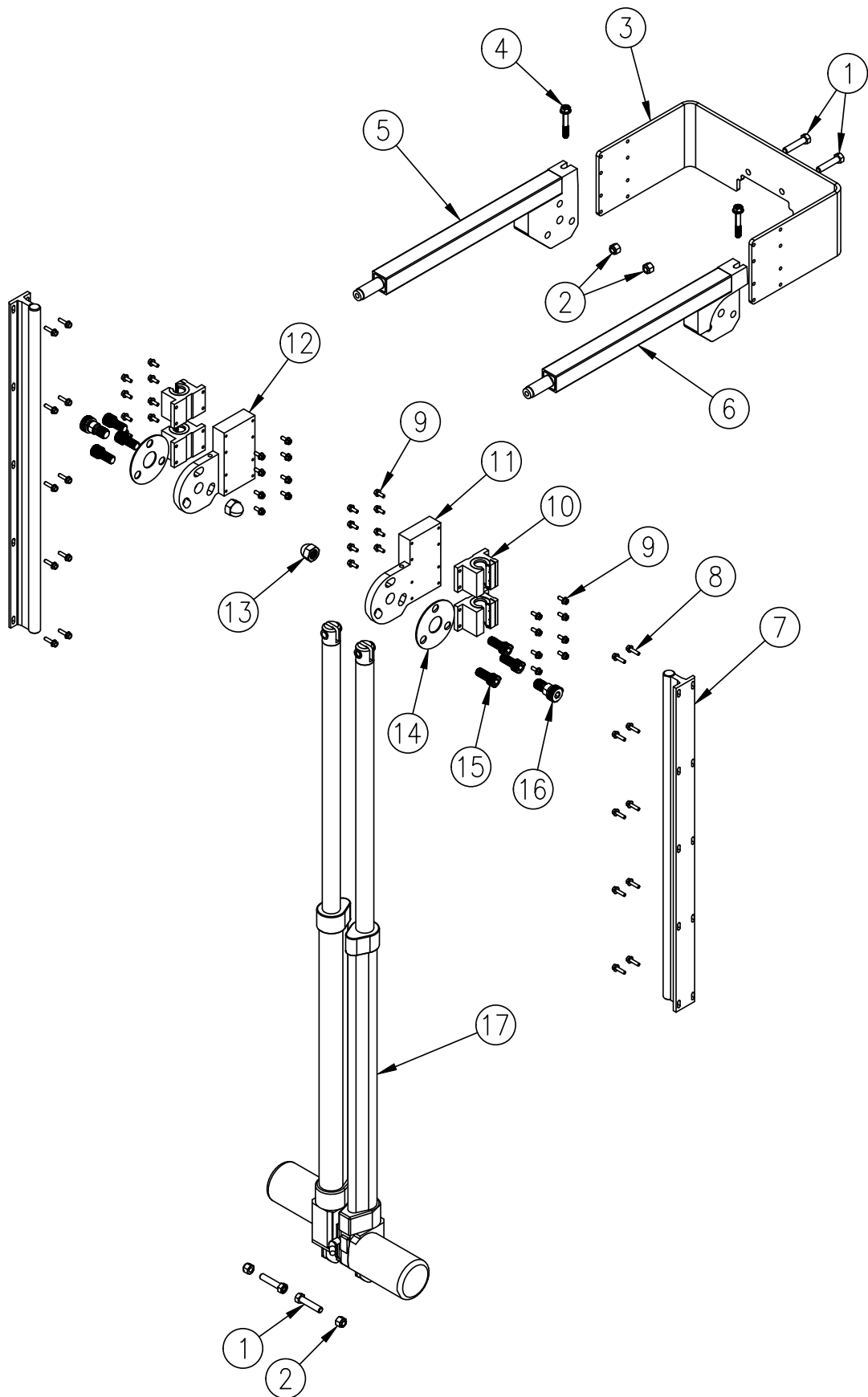
FILTER SYSTEM WITH BULK FILL

ITEM#	PART#	DESCRIPTION	QTY
1	20243	NIPPLE, 3/4 NPT X 6.00	1
2	20906	ELBOW, 3/4 FNPT X 3/4 FNPT	1
3	21676	NIPPLE 3/4 X CL	1
4	17653	ELBOW 3/4 X 90 ST	1



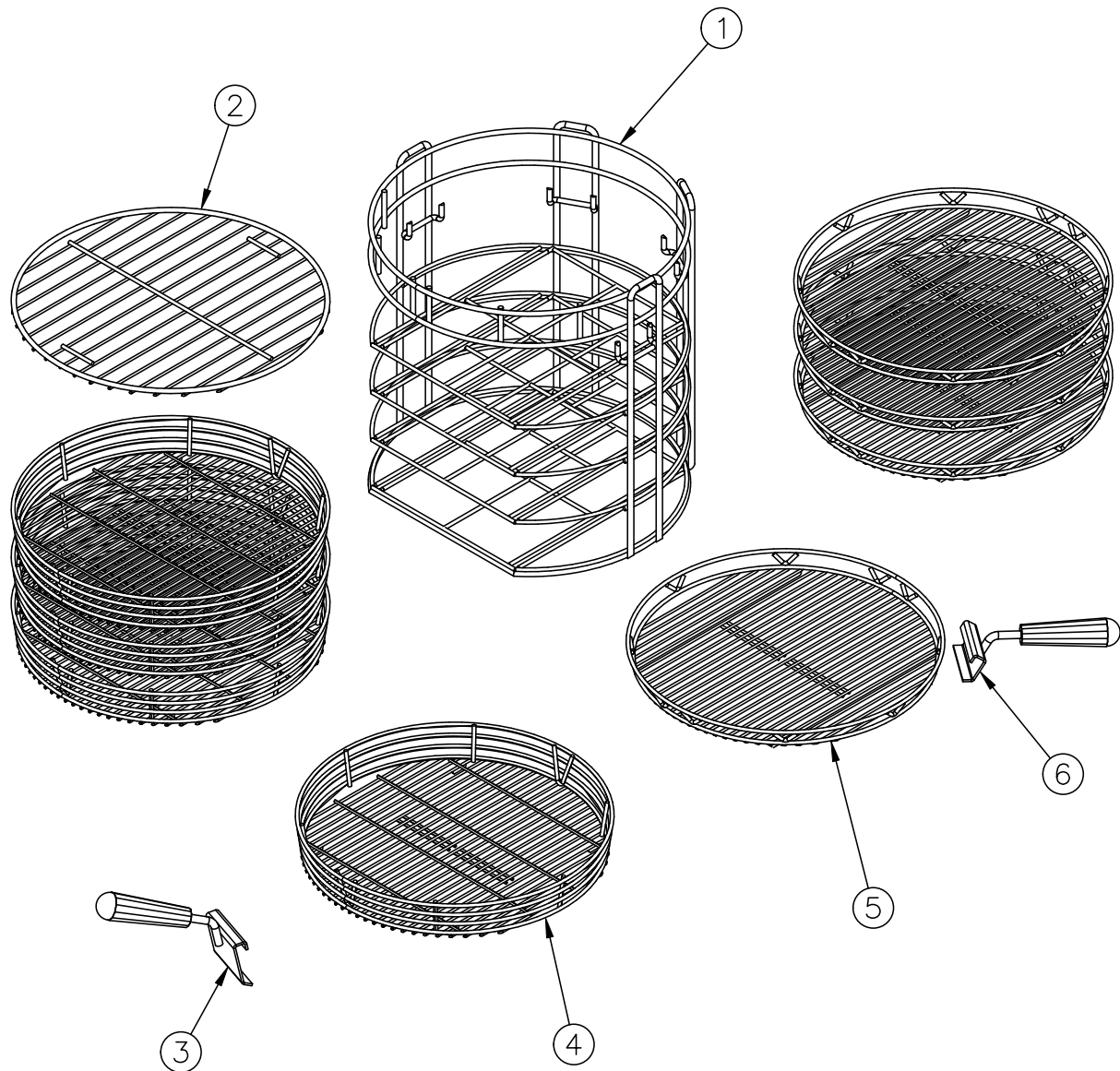
12 - COVER LIFT SYSTEM

ITEM#	PART#	DESCRIPTION	QTY
1	03600	SCREW HX HD 3/8-16 X 1.750	4
2	21138	NUT, 3/8-16, GR 5, ZINC, NYLOX	4
3	21802	MOUNT-DUAL ACTUATOR, ES24	1
4	21780	SCREW-FLANGE HEAD, 5/16-18 SS	2
5	21760	ADJ ARM WELDMENT - LH	1
6	21761	ADJ ARM WELDMENT - RH	1
7	21391	GUIDE-BEARING,COVER LIFT, ES24	2
8	20193	SCREW FLG HX HD 10-32 X .75	20
9	21641	SCREW-FLG HX HD 10-32 X .50	32
10	21392	BEARING-COVER LIFT, ES24	4
11	21764	ARM PIVOT - RH, INNER	1
12	21762	ARM PIVOT - LH, INNER	1
13	21776	NUT-ACORN, 5/8-11, S	2
14	21782	WASHER PLATE	2
15	21781	SHCS-1/2-20 X 1.125	6
16	21779	SHOULDER BOLT, 5/8-11 X .50 LG	2
17	21160	ACTUATOR, LIFT, ES24	2



13 - RACK, HANDLE AND SHELVES

ITEM#	PART#	DESCRIPTION	QTY
1	20391	RACK-WELD, 4-TIER, ES24	1
2	21842	TOP SHELF, ES24	1
3	21601	HANDLE-ASM, 2.00" WIRE SHELF	2
4	20272	SHELF- 2 INCH, ES24	4
5	20277	SHELF- 1 INCH, ES24	4
6	21465	HANDLE, ASM, 1.00", WIRE SHELF	2





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