



MARKET FORGE

F-P, F-L, FT-P AND FT-L SERIES 2/3 JACKETED DIRECT STEAM TILTING & STATIONARY KETTLES PARTS AND SERVICE MANUAL

EFFECTIVE NOVEMBER 2, 2015

Superseding All Previous Parts Lists.

The Company reserves the right to make substitution in the event that items specified are not available.

ERRORS: Descriptive and/or typographic errors are subject to correction.

MARKET FORGE

Telephone: (802) 658-6600 Fax: (802) 860-3732 www.marketforge.com

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SAFETY VALVE MAINTENANCE AND TESTING



CAUTION

Under normal operating conditions a “try lever test” should be performed every two months. Under severe service conditions, or if corrosion and/or deposits are noticed within the valve body, testing must be performed more often. A “try lever test” should also be performed at the end of any non-service period.



CAUTION

Hot, high pressure fluid may be discharged from body drain and vent during “try lever” test. Care must be taken to avoid any bodily contact.



CAUTION

High sound levels may be experienced during “try lever” test. Wear proper safety equipment and exercise extreme care! Test at, or near, half of the operating pressure by holding the test lever fully open for at least two seconds to flush the valve seat free of sediment and debris. Then release lever and permit the valve to snap shut.

If lift lever does not activate, or there is no evidence of discharge, turn off equipment immediately and contact a licensed contractor or qualified service personnel.

TROUBLESHOOTING

DRAW-OFF VALVE LEAKS

If a leak occurs through the valve stem, replace the “O” ring. If the leak can be attributed to faulty sealing occurring between the stem disc and valve seat, then quite often this problem can be corrected by cleaning off the dried on food residue with an extremely fine emery cloth or the rubber vulcanized stem piece has been damaged and must be replaced.



NOTICE

Draw-off valve has a vulcanized rubber coated stem for better sealing. Do not over tighten. This may cause the rubber to pull away from stem and permanently damage it.

EXTREMELY SLOW COOKING TIME

If the cooking time is abnormally slow then the difficulty may be due to insufficient steam pressure and/or volume. First determine that pressure on incoming steam line at kettle is within 5 PSI of rated kettle pressure. Note that pressures approaching the rated kettle pressure are liable to set off the safety relief valve. If required pressure is available to kettle, then possibly volume of steam is not sufficient. Minimum 3/4" pipe size is required to the kettle but if the steam generating source is at a great distance from the kettle, larger pipe will be required. Finally, the core of the steam supply pipe may have debris or scalants that impede steam flow and will require disassembly and inspection.

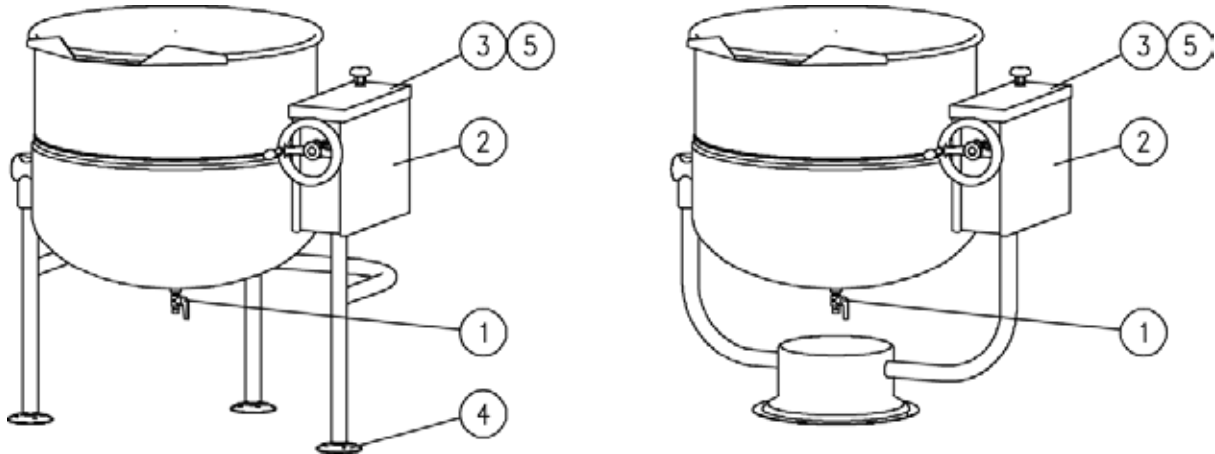
AIR VENTING

It is recommended that the “optional” steam trap assembly be installed. This should be plumbed to the exit end of the kettle. The thermostatic trap is a mechanical device that closes on high temperature and opens when the temperature drops, allowing the water which formed from condensate to exhaust but retain the steam under pressure.

The temperatures required for the cooking process to function adequately must be greater than the boiling point of the liquid food product, that is, water. The greater the steam pressure used, the higher the temperature and the quicker the cooking process. For example, steam pressurized at 30 p.s.i. reaches a temperature of 274 degrees Fahrenheit (135 degrees Celsius). Since air is an unsuitable media through which heat may be transferred, the air should be exhausted from the jacket by opening the pressure relief valve until the air has been completely replaced by pressurized steam.

In the initial stages of the cooking process when the steam comes in contact with the cold kettle bowl surface, it condenses and forms a large amount of water. The condensate water must be removed from the kettle jacket in order for the kettle to function adequately. The ball valve located at the base of the kettle jacket may be opened to remove the water. It may be necessary to repeat this procedure several times depending on the number of batches being cooked as each batch will create condensate. If the kettle appears to be slow in heating, this would indicate that there is water in the jacket. Open ball valve and drain. Close valve and commence operation of kettle.

KETTLES

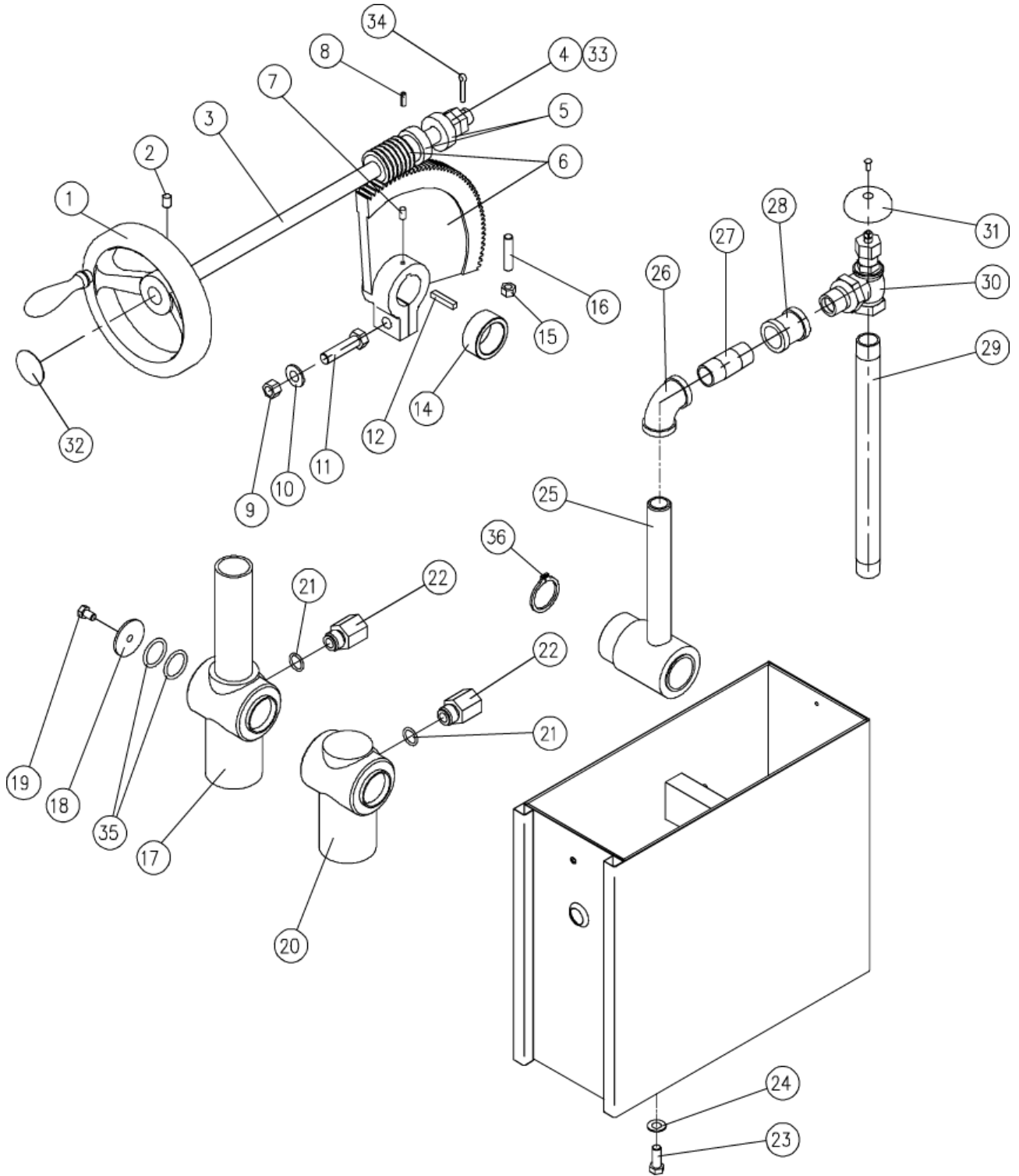


ITEM	PART NO.	DESCRIPTION	QTY
1	97-5156	BALL VALVE	1
2	97-6491	TILT CONSOLE	1
3	97-6492	CONSOLE COVER	1
4	97-5032	ADJUSTABLE FLANGED FOOT	3
5	97-6739	SCREW, 10-32 x 1/2"	1
*6	97-5592/5045	RELIEF VALVE, 35 PSI	1
**6	97-5009	RELIEF VALVE, 50 PSI (OPTIONAL)	1
*7	97-6368	DOWN TUBE FOR RELIEF VALVE	1

* NOT SHOWN.

** SELECT AS REQUIRED.

TILT CONSOLE EXPLODED VIEW



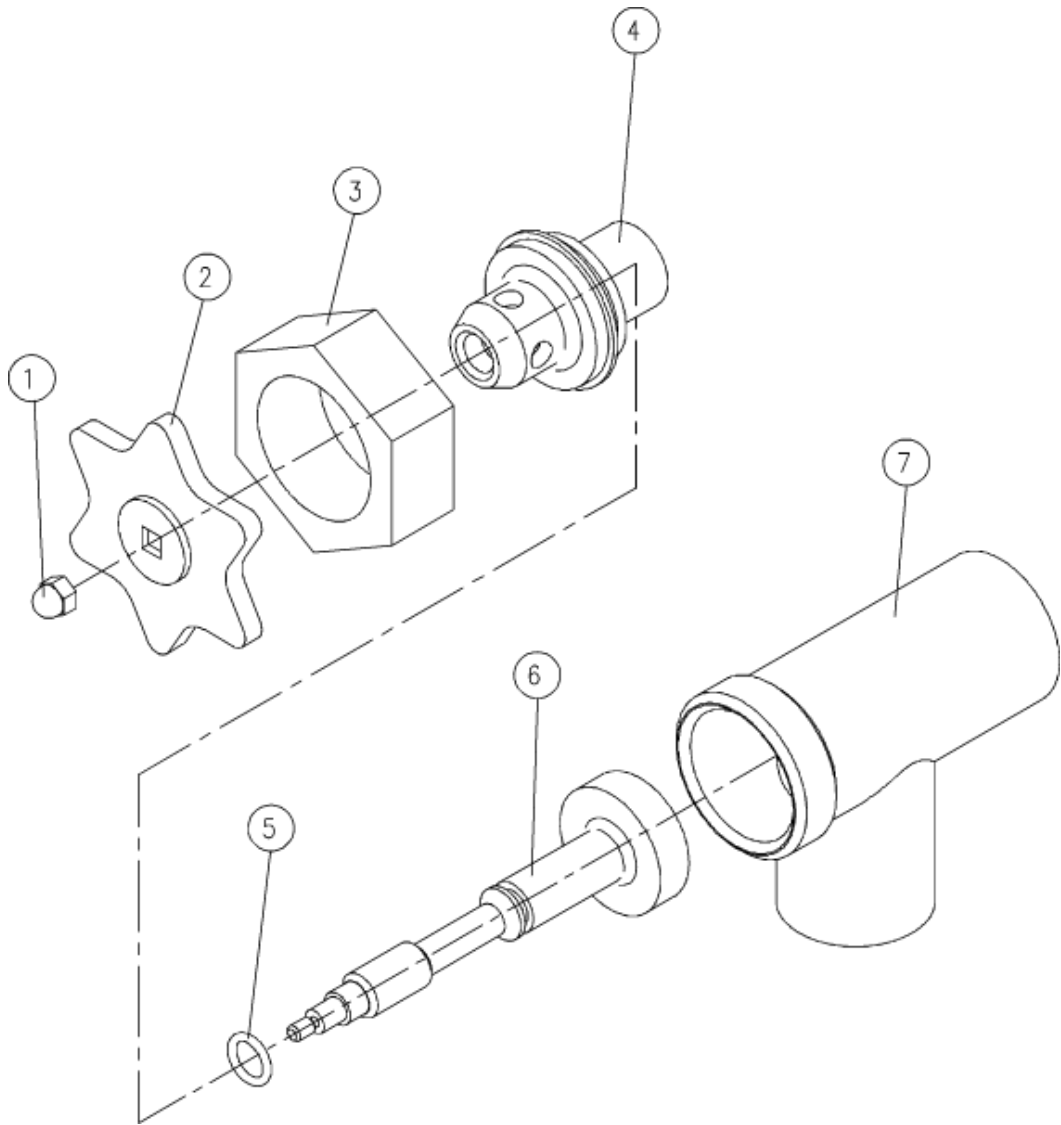
TILT CONSOLE EXPLODED VIEW

ITEM	PART NO.	DESCRIPTION	QTY
1	97-5090/5713	HANDWHEEL	1
2	97-5091	SET SCREW, 3/8 – 16 x 1/2"	1
3	97-5092	TILT SHAFT	1
4	97-5096	JAM NUT, 3/4 - 16 UNF	2
5	97-5909	THRUST BEARING	2
6	97-5882	SEGMENT GEAR & WORM GEAR KIT (7 THRU 12)	1
7	97-5416	SET SCREW, 1/4 – 20 x 1/2"	1
8	97-5093	TENSION PIN, 3/16" OD x 1-1/4" L	1
9	97-7248	NUT, 1/2 – 13 UNC	1
10	97-7247	LOCK WASHER, 1/2"	1
11	97-7246	BOLT, 1/2 – 13 UNC x 2"	1
12	97-6493	KEY, 1/4"	1
*13	97-6405	"O" RING LUBRICATION	1
14	97-5099	SPACER	1
15	97-5584	NUT, 3/8 – 16 UNC	1
16	97-5583	SET SCREW, 3/8 – 16 UNC x 1 – 3/4"	1
*** 17	97-5179	OUTBORE BEARING COMPLETE w/EXTENTION (USED ON SPRING ASSIST COVER ONLY)	1
18	97-5368	STAINLESS STEEL WASHER	1
19	97-5883	BOLT	1
20	97-5177	OUTBORE BEARING	1
21	97-5366	"O" RING	1
22	97-5367	BRASS FITTING	1
23	97-7324	BOILT, 3/8 – 16 UNC x 1"	4
24	97-7325	LOCK WASHER, 3/8"	4
25	97-5171	BLOCK BEARING	1
26	97-5877	90° ELBOW, 3/4"	1
27	97-5878	NIPPLE, 3/4 x 2-1/2" L	1
28	97-5879	COUPLING, 3/4 x 2-1/2" L	1
29	97-6495	PIPE-STEAM SUPPLY, 3/4" x 12-1/2" L	1
30	97-5030/5362	CONTROL VALVE, 3/4"	1
31	97-5306	CONTROL VALVE KNOB	1
32	97-6494	DECAL – TILT	1
33	97-5820	WASHER, 3/4" ID x 1-1/4" OD	1
34	97-7214	COTTER PIN, STAINLESS STEEL, 3/16" x 1" L	1
35	97-5110	"O" RING	4
36	97-5546	RETAINING RING	1

* NOT SHOWN.

*** SPECIFY MODEL.

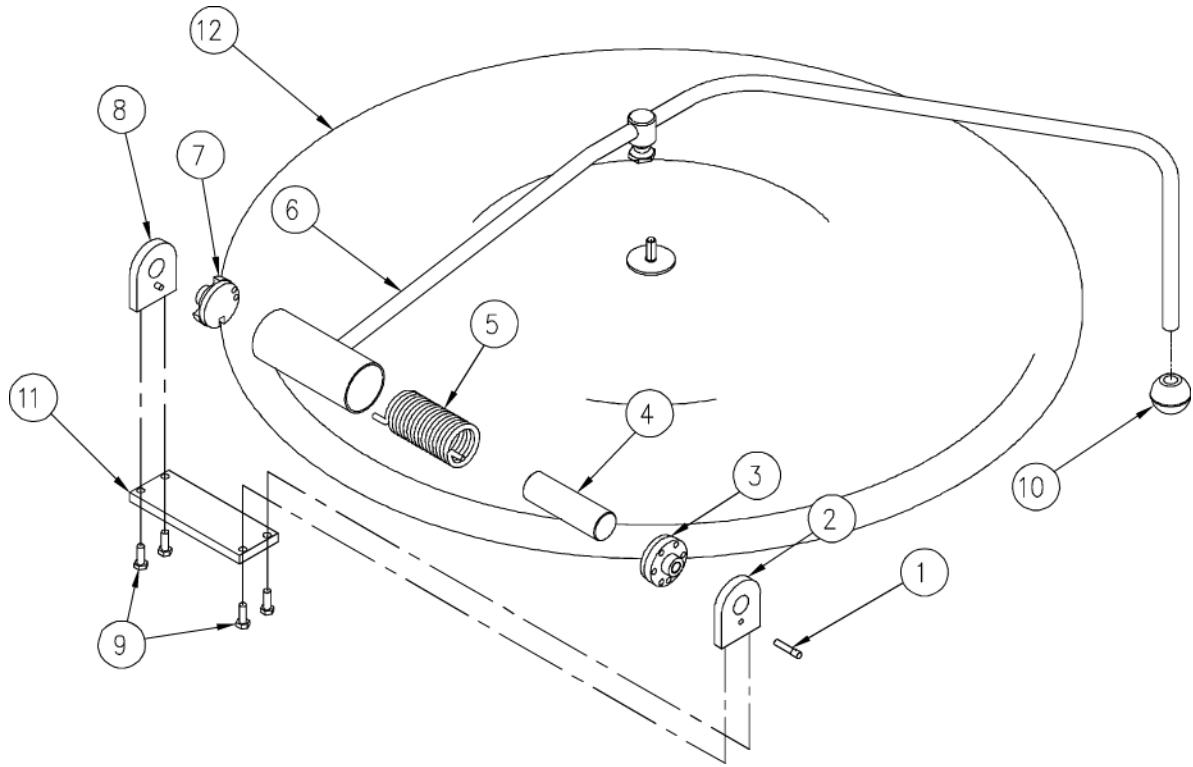
DRAW OFF VALVE



DRAW OFF VALVE

ITEM	PART NO.	DESCRIPTION	QTY
	97-5062	1-1/2" DRAW OFF VALVE ASSEMBLY	1
1	98-6155	ACORN NUT 10-24 UNC	1
2	97-5566	HANDLE, STAINLESS STEEL	1
3	97-5068	GLAND NUT	1
4	97-507	BONNET	1
5	97-50771	"O" RING	1
6	97-5074	STEM ASSEMBLY	1
7	97-6496	VALVE BODY	1
	97-5063	2" DRAW OFF VALVE ASSEMBLY	1
1	98-6155	ACORN NUT 10-24 UNC	1
2	97-5566	HANDLE, STAINLESS STEEL	1
3	97-5069	GLAND NUT	1
4	97-5072	BONNET	1
5	97-5078	"O" RING	1
6	97-5075A	STEM ASSEMBLY	1
7	98-6156	VALVE BODY	1
	97-5605	3" DRAW OFF VALVE ASSEMBLY	1
1	97-5066	ACORN NUT 10-24 UNC	1
2	97-5067	HANDLE, STAINLESS STEEL	1
3	97-5068	GLAND NUT	1
4	97-5073	BONNET	1
5	97-5079	"O" RING	1
6	97-5076	STEM ASSEMBLY	1
7	97-6497	VALVE BODY	1

SPRING ASSIST HINGE ASSEMBLY

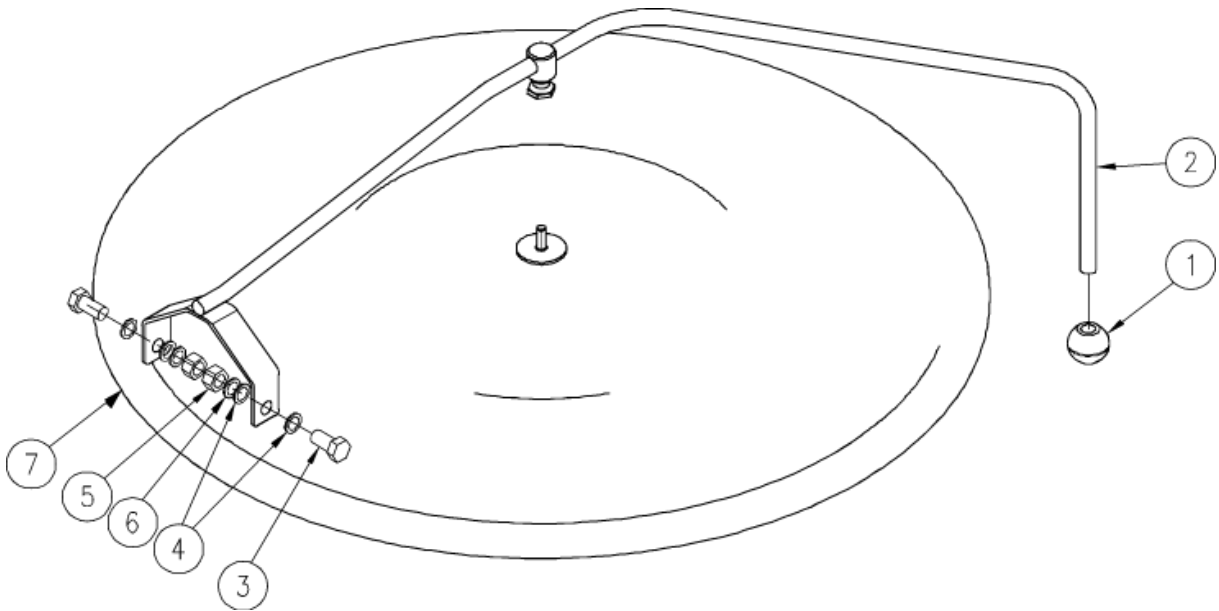


SPRING ASSIST HINGE ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
	97-5464	HINGE ASSEMBLY	1
1	97-5352	LOCK PIN	1
2	97-5343	END LOCK PLATE	1
3	98-5354	STATIONARY DISC	1
4	98-6074/ 97-5355	CORE	1
5	97-5160	SPRING	1
**6	97-5585	HANDLE ASSEMBLY, 20 GALLON KETTLE	1
	97-5586	HANDLE ASSEMBLY, 30 GALLON KETTLE	1
	97-6388	HANDLE ASSEMBLY, 40 GALLON KETTLE	1
	97-5059	HANDLE ASSEMBLY, 60 GALLON KETTLE	1
	97-5587	HANDLE ASSEMBLY, 80 GALLON KETTLE	1
	97-5588	HANDLE ASSEMBLY, 100 GALLON KETTLE	1
7	97-6391/5355	ROTARY DISC	1
8	97-5356	END STOP PLATE	1
9	97-5349	CAP SCREWS, 1/4-20 x 3/4	4
10	97-5008	KNOB	1
11	97-7271	MOUNTING PLATE – TILTING KETTLES ONLY	1
**12	97-5471	COVERS, 20 GALLON KETTLES	1
	97-5723	COVERS, 30 GALLON KETTLES	1
	97-5053	COVERS, 40 GALLON KETTLES	1
	97-5054	COVERS, 60 GALLON KETTLES	1
	97-5594	COVERS, 80 GALLON KETTLES	1
	97-5595	COVERS, 100 GALLON KETTLES	1

** SELECT AS REQUIRED.

HINGE ASSEMBLY (STATIONARY KETTLES)



ITEM	PART NO.	DESCRIPTION	QTY
1	97-5008	KNOB	1
**2	97-5596	HANDLE ASSEMBLY, 20 GALLON KETTLE	1
	97-5597/5722	HANDLE ASSEMBLY, 30 GALLON KETTLE	1
	97-5598	HANDLE ASSEMBLY, 40 GALLON KETTLE	1
3	97-5200	HEX BOLT, 1/2 – 20 UNF x 1" STAINLESS STEEL	2
4	97-7326	FIBRE WASHER	4
5	97-5601	HEX NUT, 1/2 – 20 UNF, STAINLESS STEEL	2
6	97-7200	SPLIT LOCK WASHER, 1/2" STAINLESS STEEL	2
7	97-5471	COVER, 20 GALLON KETTLE	1
	97-5723	COVER, 30 GALLON KETTLE	1
	97-5053	COVER, 40 GALLON KETTLE	1

** SELECT AS REQUIRED