

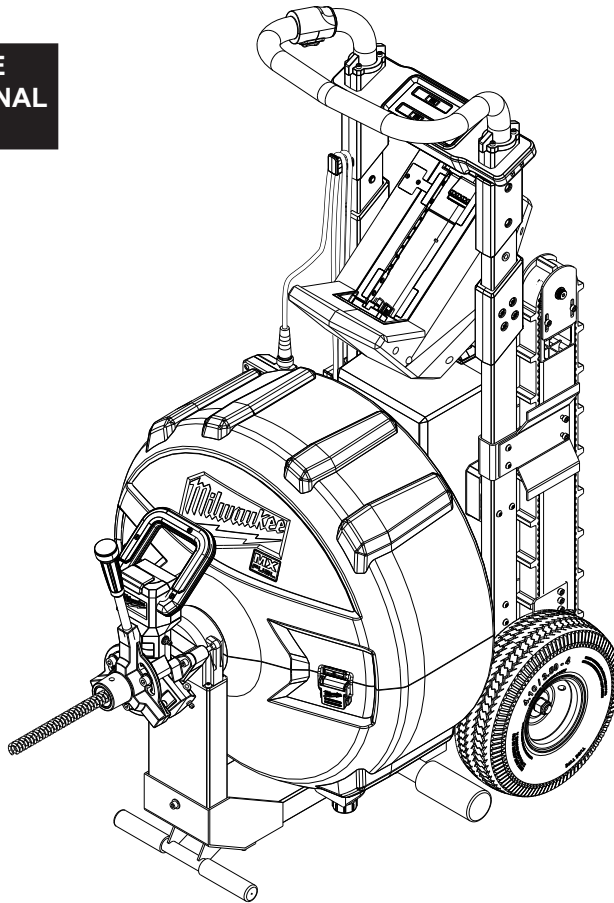


## SERVICE PARTS LIST

BULLETIN NO.  
54-00-9010

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN	DATE
<b>MX FUEL™ Drum Machine (Powered)</b>			Feb. 2022
CATALOG NO. <b>MXF501</b>	STARTING SERIAL NO. <b>K33A</b>	WIRING INSTRUCTION	

SEE PAGE THREE FOR THE REPLACEMENT OF EXTERNAL SERVICE COMPONENTS



**Due to the complexities of One-Key™ electronics and/or Hydraulic/Pneumatic construction in this tool, contact the following for service related questions and issues:**  
**e-Service at: [www.milwaukeetool.com/e-service](http://www.milwaukeetool.com/e-service)**

or

questions, please call 1.800.SAWDUST (1.800.729.3878)

or

Visit [www.milwaukeetool.com](http://www.milwaukeetool.com) to find your closest Milwaukee authorized Hydraulic repair center

or

Return it to a MILWAUKEE *factory* Service Center location, freight prepaid and insured. A copy of the proof of purchase should be included with the return product.

If you have questions please contact Milwaukee Product Service at:  
**Product Technical Support via phone at: 262.783.8642**

or

**Via email at: [METProductSupport@milwaukeetool.com](mailto:METProductSupport@milwaukeetool.com)**

**Disassembly is not recommended and could void the warranty.**

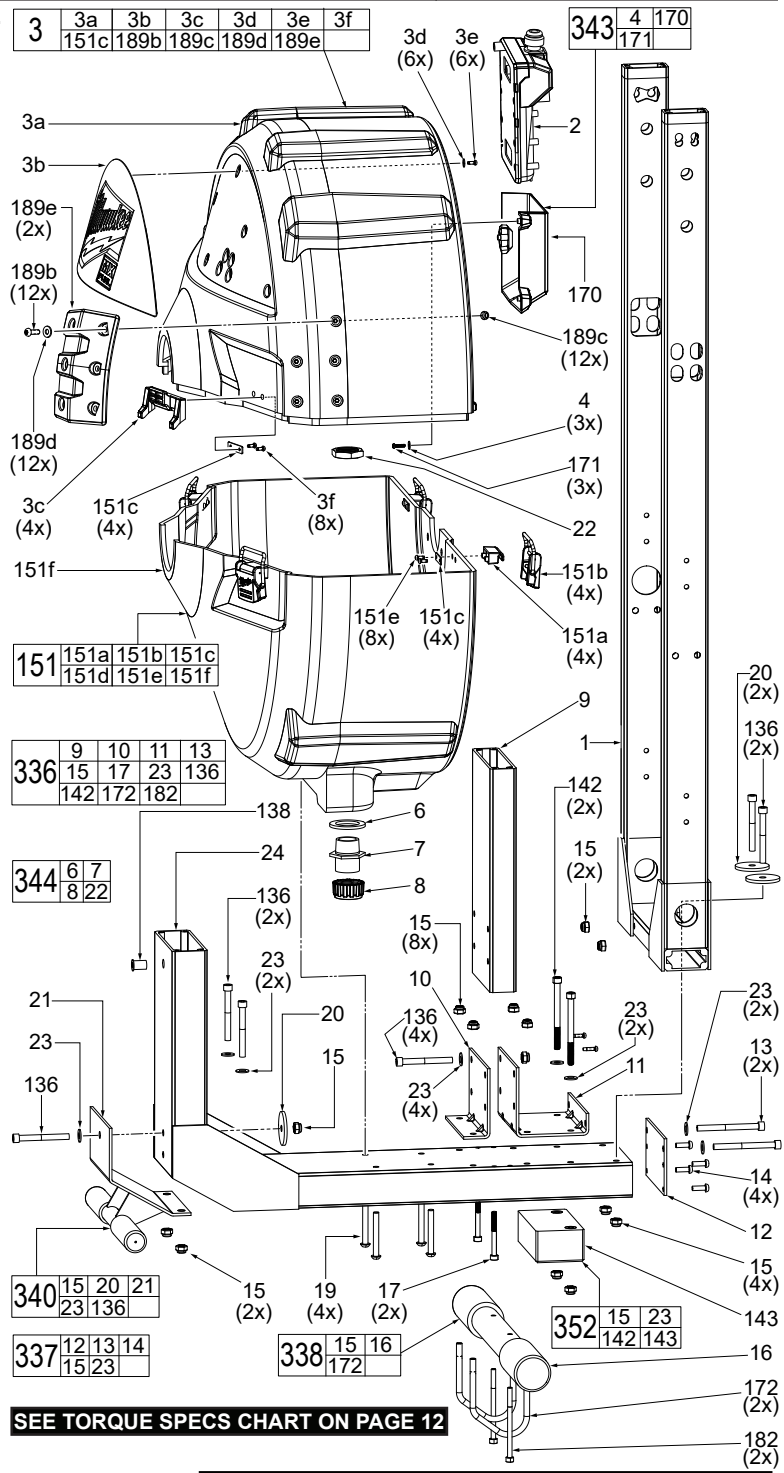


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<b>MX FUEL™ Drum Machine (Powered)</b>							Feb. 2022
<b>CATALOG NO.</b>	<b>MXF501</b>	<b>STARTING SERIAL NO.</b>	<b>K33A</b>			<b>WIRING INSTRUCTION</b> <b>See Pages 10 thru 12</b>	

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	43-40-0013	Frame U Weldment	(1)
2	14-02-0015	Foot Pedal Assembly	(1)
3	31-15-0191	Top Drum Housing Assy. with Bumper	(1)
3a	-----	Outer Drum-Top	(1)
3b	-----	Logo Plate	(1)
3c	44-20-0078	Latch Hook	(4)
3d	-----	Washer	(6)
3e	-----	M3 x 8mm Delta PT Screw	(6)
3f	-----	M3 x 10mm Delta PT Screw	(8)
4	-----	Flat Washer	(3)
6	-----	Drain Plug Gasket	(1)
7	-----	Drain Plug Body	(1)
8	42-52-0033	Drain Plug Cap	(1)
9	42-20-0655	Frame Base Center	(1)
10	-----	L Bracket	(1)
11	-----	Rear Bracket	(1)
12	-----	Rear Flat Bracket	(1)
13	05-74-2005	1/4-20 x 2-3/4" Socket Cap Mach. Scr.	(2)
14	06-82-0164	M5 x 15mm Pan Hd. T-25 Mach. Scr.	(4)
15	06-57-6075	Hex Lock Nut with Nylon Insert	(17)
16	-----	Kickstand Tube	(1)
17	06-14-0296	M5 x 50mm Socket Cap Mach. Screw	(2)
19	06-82-9216	M6 x 50mm Pan Hd. T-27 Mach. Screw	(4)
20	45-04-1160	Fender Washer	(3)
21	-----	Front Handle Weldment	(1)
22	-----	3/4" NPT Locknut	(1)
23	45-88-8840	Washer	(11)
24	43-40-0011	Frame L Weldment	(1)
136	05-74-2010	1/4-20 x 2-1/4" Socket Cap Mach. Scr.	(9)
138	05-55-0975	Rivet Nut	(1)
142	06-14-0180	1/4-20 x 3" Socket Cap Mach. Scr.	(2)
143	-----	Tilt Block	(1)
151	43-11-0055	Drum Housing Bottom Assembly	(1)
151a	-----	Bottom Latch Hook	(4)
151b	-----	Latch	(4)
151c	-----	Latch Plate	(8)
151e	-----	M3 x 10 Delta PT Screw	(8)
151f	-----	Outer Drum-Bottom	(1)
170	-----	Foot Pedal Holder	(1)
171	05-78-0044	M3 x 12mm Pan Hd. Taptite T-10 Screw	(3)
172	42-32-0845	U Bolt	(2)
182	45-04-1155	M5 x 80mm Socket Cap Mach. Scr.	(2)
189b	06-82-0164	M5 Pan Hd. T-25 Screw	(12)
189c	05-55-0022	M5 Hex Nut	(12)
189d	45-88-8875	Flat Washer	(12)
189e	42-38-0093	Drum Bumper	(2)
336	43-40-0033	Center Frame Kit	(1)
337	43-40-0036	Rear Frame Bracket Kit	(1)
338	31-70-0010	Rear Kickstand Kit	(1)
340	14-34-0126	Front Handle Kit	(1)
343	14-02-0030	Foot Pedal Storage Kit	(1)
344	44-68-0041	Drain Plug Kit	(1)
352	44-28-0061	Tilt Block Kit	(1)
354	47-53-5002	Loading Wheel Assembly (Accessory)	(1)
354a	-----	Wheel	(2)
354b	-----	Lock Nut	(2)
354c	-----	Loading Wheel Axle	(1)
354d	-----	Detent Pin	(2)
354e	-----	Loading Wheel Tube Weldment	(2)
354f	-----	Tube Plug	(2)
355	47-53-5001	Cable Pilot Tube Assembly (Accessory)	(1)

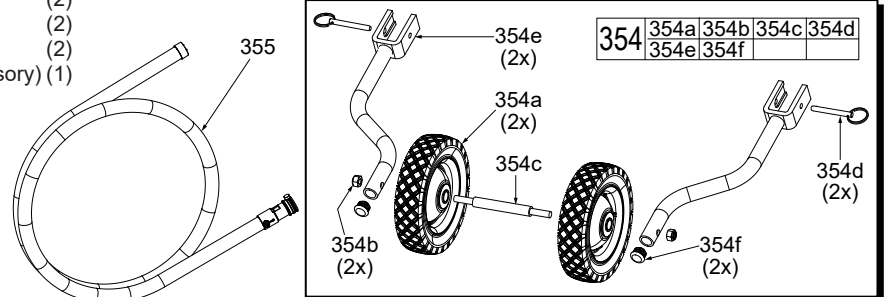


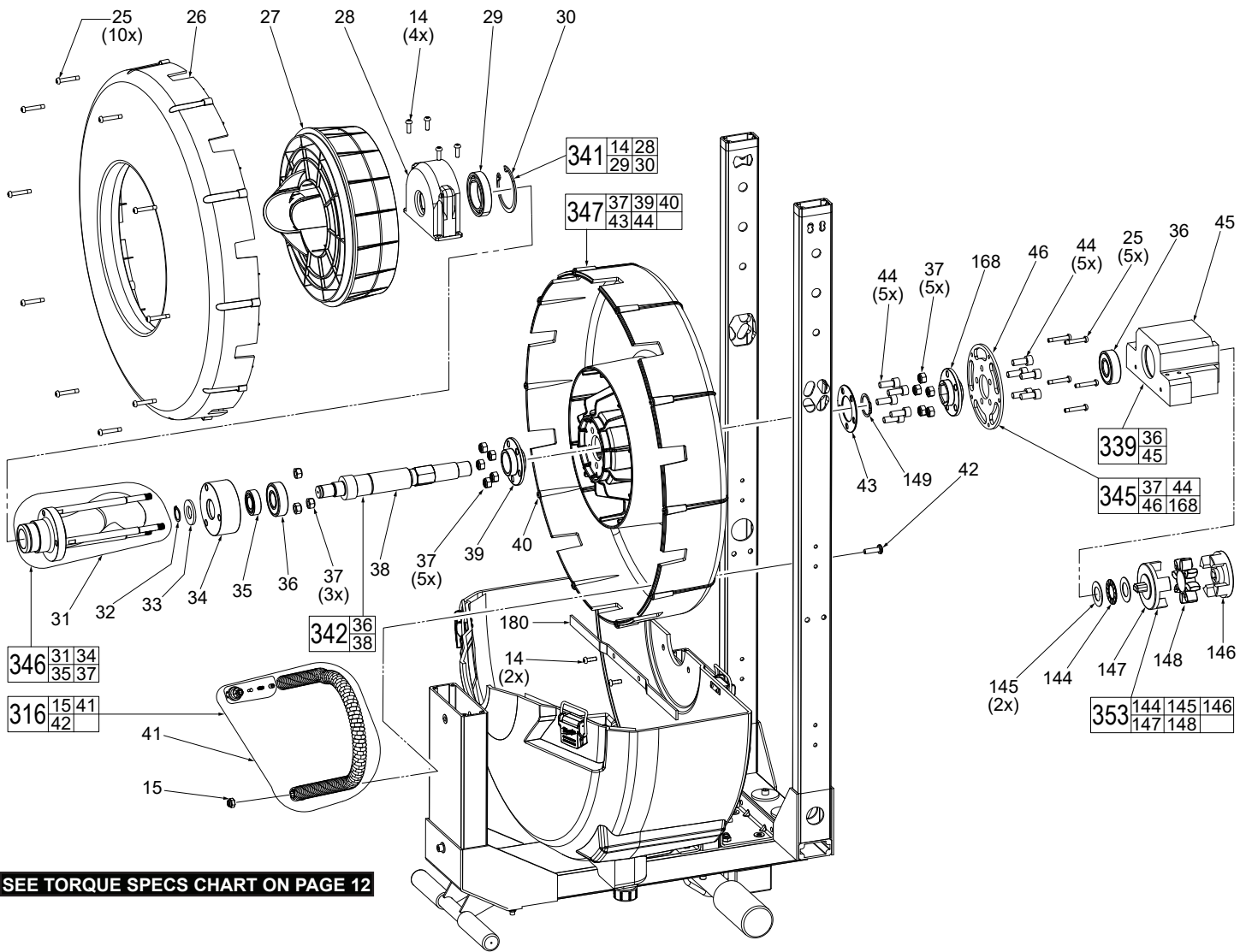
**SEE TORQUE SPECS CHART ON PAGE 12**

**EXAMPLE:**  

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 Component Parts (Small #) Are Included When Ordering The Assembly (Large #).





**SEE TORQUE SPECS CHART ON PAGE 12**

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
14	06-82-0164	M5 x 15mm Pan Hd. T-25 Mach. Scr.	(6)
15	06-57-6075	Hex Lock Nut with Nylon Insert	(1)
25	06-82-9635	Delta Pan Hd. PT Torx Screw	(15)
26	43-74-0067	IM Drum Front	(1)
27	31-55-0036	IM Drum Center	(1)
28	-----	Pillow Block Mount	(1)
29	-----	Ball Bearing	(1)
30	34-80-1405	Internal Retaining Ring	(1)
31	-----	Feed Tube Weldment	(1)
32	34-60-0009	External Retaining Ring	(1)
33	45-88-8865	Drum Shaft Washer	(1)
34	-----	Feed Tube Mount Rear	(1)
35	-----	Ball Bearing	(1)
36	02-40-0025	Ball Bearing	(2)
37	-----	M8 Lock Nut	(13)
38	-----	Drum Inner Shaft	(1)
39	-----	Drum Bushing	(1)
40	43-74-0069	IM Drum Back	(1)
41	-----	Sew Machine Anchor Cable	(1)
42	45-04-1165	1/4-20 x 7/8" Pan Hd. Mach. Screw	(1)
43	-----	Drum Shaft Stamping	(1)
44	05-74-1065	M8 x 20mm Cap Hd Hex Drive Screw	(10)
45	-----	C Coupler AL Mount	(1)
46	-----	Large Drum Washer	(1)
144	-----	Thrust Bearing	(1)
145	-----	Washer	(1)
146	42-90-0105	Output Shaft Coupler	(1)
147	42-90-0106	Drum Shaft Coupler	(1)
148	23-74-2095	CJ Spider	(1)
149	05-92-0070	External Retaining Ring	(1)
168	-----	Hex Bushing	(1)
180	02-40-0026	Drum Support Bar	(1)

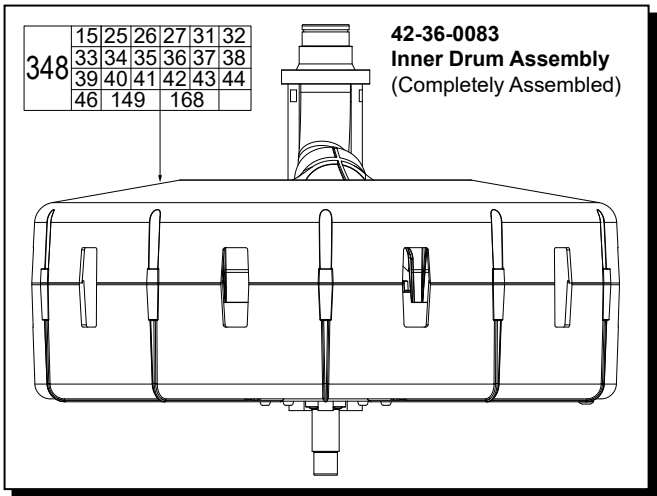
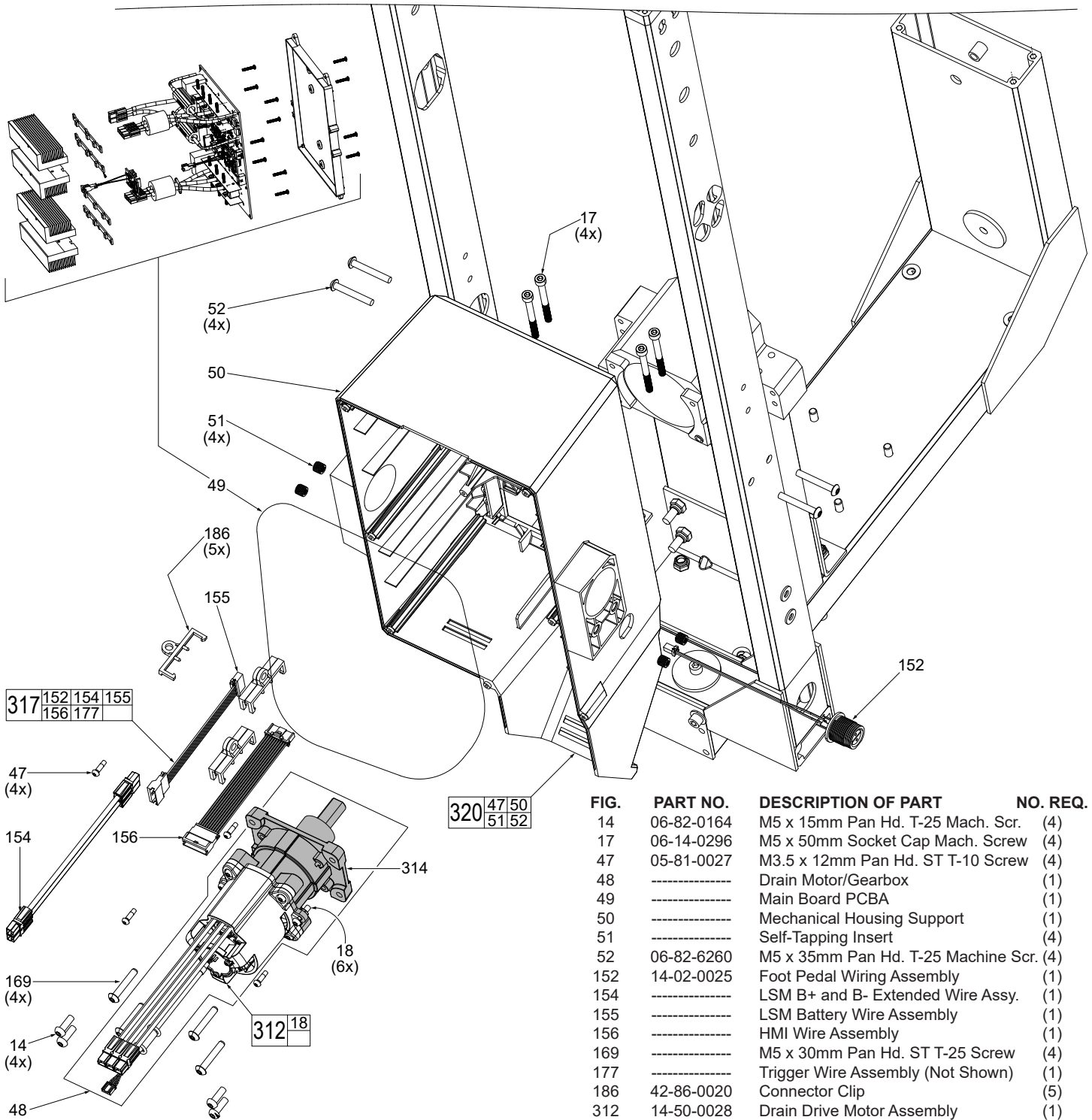


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
316	40-50-0353	Anchor Cable Kit	(1)
339	42-28-0031	Rear Pillow Block Assembly	(1)
341	42-28-0038	Front Pillow Block Kit	(1)
342	23-16-0028	Drum Shaft Assembly	(1)
345	42-36-0081	Drum Bracket Assembly	(1)
346	31-12-0092	Feed Tube Weldment Assembly	(1)
347	31-55-0037	Rear Inner Drum Assembly	(1)
348	42-36-0083	Inner Drum Assembly	(1)
353	44-40-0026	Drum Coupling Kit	(1)



317 152 154 155  
156 177

320 47 50  
51 52

312 18

**SEE TORQUE SPECS CHART ON PAGE 12**

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
14	06-82-0164	M5 x 15mm Pan Hd. T-25 Mach. Scr.	(4)
17	06-14-0296	M5 x 50mm Socket Cap Mach. Screw	(4)
47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Screw	(4)
48	-----	Drain Motor/Gearbox	(1)
49	-----	Main Board PCBA	(1)
50	-----	Mechanical Housing Support	(1)
51	-----	Self-Tapping Insert	(4)
52	06-82-6260	M5 x 35mm Pan Hd. T-25 Machine Scr.	(4)
152	14-02-0025	Foot Pedal Wiring Assembly	(1)
154	-----	LSM B+ and B- Extended Wire Assy.	(1)
155	-----	LSM Battery Wire Assembly	(1)
156	-----	HMI Wire Assembly	(1)
169	-----	M5 x 30mm Pan Hd. ST T-25 Screw	(4)
177	-----	Trigger Wire Assembly (Not Shown)	(1)
186	42-86-0020	Connector Clip	(5)
312	14-50-0028	Drain Drive Motor Assembly	(1)
314	45-76-0027	Drain Gearbox Assembly	(1)
317	14-46-0178	Wiring Service Kit	(1)
320	14-34-0108	Mechanical Housing Kit	(1)



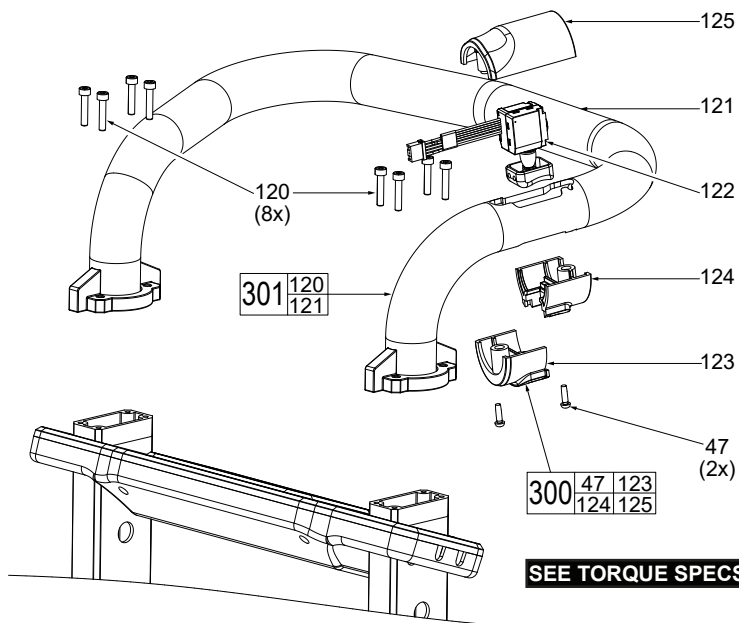


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Scr.	(2)
120	05-74-2020	M4 x 20mm Socket Cap Hd. Screw	(8)
121	-----	Handle Bar Weldment	(1)
122	45-72-0155	LSM Trigger	(1)
123	-----	Trigger Support Front-Narrow	(1)
124	-----	Trigger Support Rear-Narrow	(1)
125	-----	Trigger Cover-Narrow	(1)
300	31-55-0016	Trigger Cover Kit	(1)
301	45-60-0021	Handle Bar Powered Kit	(1)

**SEE TORQUE SPECS CHART ON PAGE 12**

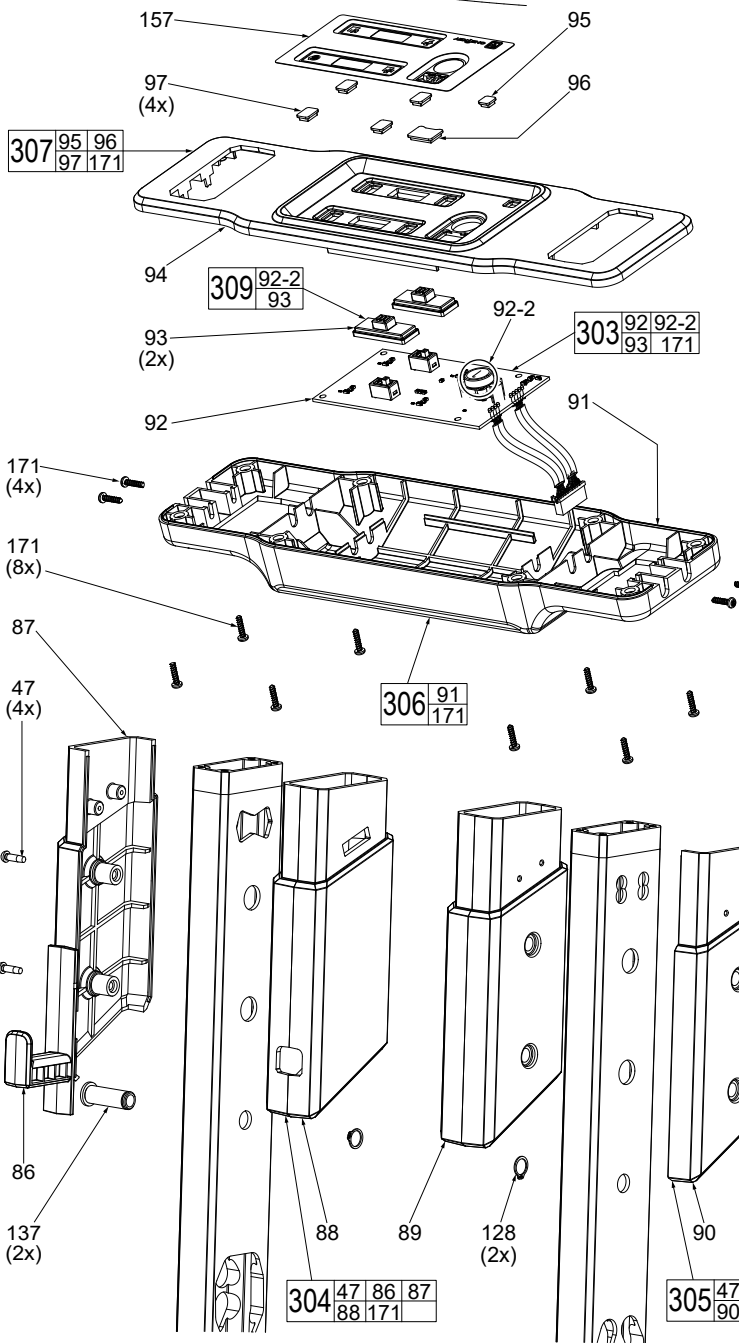
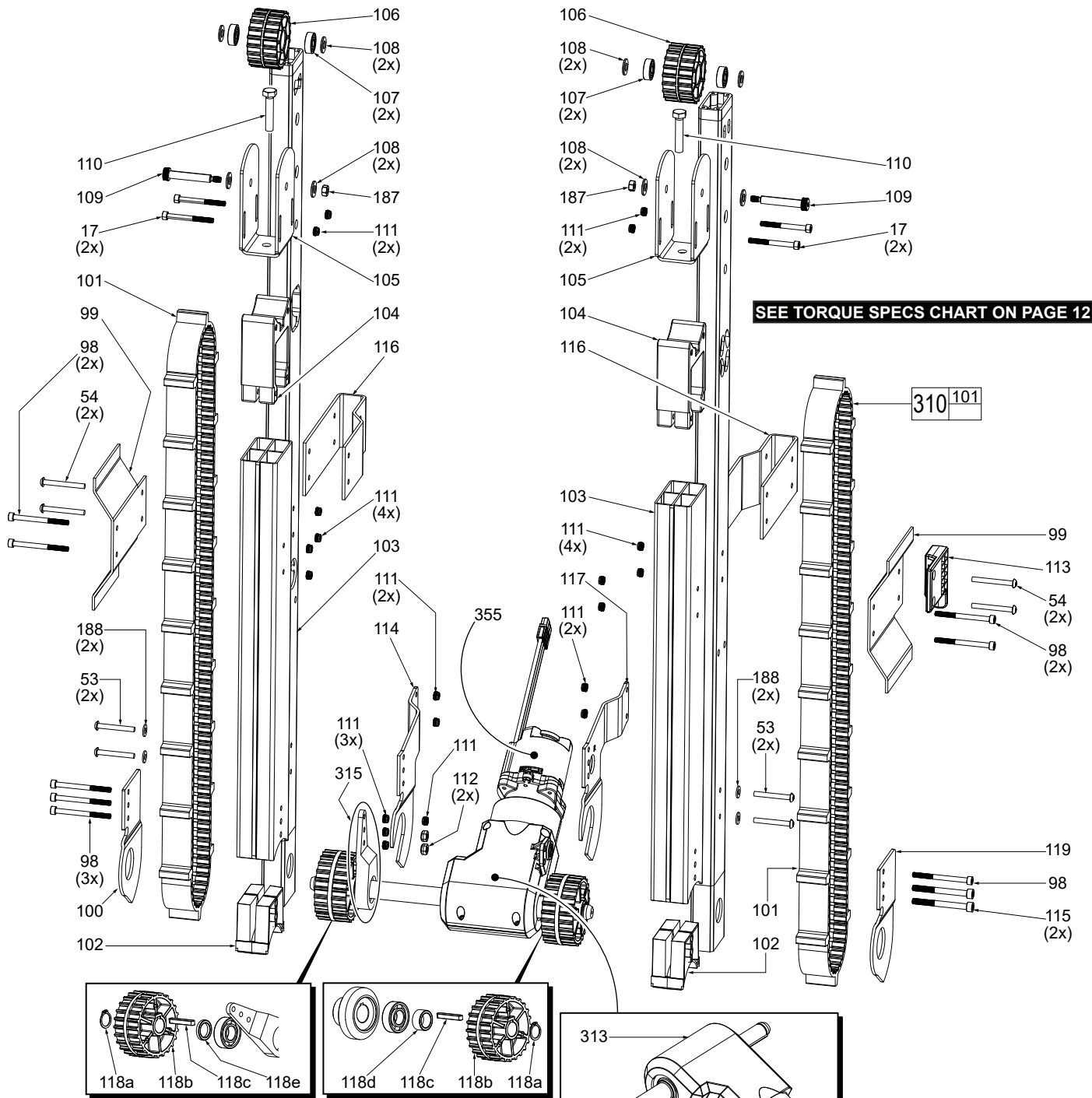


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Scr.	(4)
86	43-74-0017	Upper Hook	(1)
87	-----	Control Panel Tube Support-Right	(1)
88	-----	Control Panel Tube Cover-Right	(1)
89	-----	Control Panel Tube Cover-Left	(1)
90	-----	Control Panel Tube Support-Left	(1)
91	-----	UI Bottom	(1)
92	-----	LSM HMI Board	(1)
92-2	42-42-0032	Arm Button	(1)
93	-----	Mode Selector Slider	(2)
94	-----	UI Cover	(1)
95	-----	Control Panel	(1)
96	-----	Lens, LED UI One-Key	(1)
97	-----	Lens, LED UI Push Button	(1)
97	-----	Lens, LED UI Slider	(4)
128	-----	Retaining Ring	(2)
137	-----	Loading Wheel Bushing	(2)
157	-----	Powered UI Label	(1)
171	-----	M3 x 12mm Pan Hd. Taptite T-10 Scr.	(12)
303	14-20-0170	UI PCB Powered Kit	(1)
304	42-92-0100	Right UI Frame Cover Kit	(1)
305	42-92-0103	Left UI Cover Kit	(1)
306	14-20-0172	UI Bottom Kit	(1)
307	42-92-0109	UI Cover Powered Kit	(1)
309	31-15-0075	Arm Button/Mode Switch Kit	(1)



SEE TORQUE SPECS CHART ON PAGE 12

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
17	06-14-0296	M5 x 50mm Socket Cap Mach. Screw	(4)
53	06-14-0295	M5 x 40mm Pan Hd. T-25 Mach. Scr.	(4)
54	06-82-9217	M5 x 45mm Pan Hd. T-25 Mach. Scr.	(4)
98	05-74-0325	M5 x 60mm Socket Cap Mach. Scr.	(8)
99	43-54-0011	Tread Guard	(2)
100	45-44-0110	Outer Sprocket Flange-Left	(1)
101	-----	11mm Timing Belt	(2)
102	43-24-0305	Inner Support Extrusion	(2)
103	43-24-0015	Tread Support	(2)
104	42-36-2725	Tensioner Mount	(2)
105	42-36-2720	Pulley Bracket	(2)
106	44-77-0018	Idler Pulley	(2)
107	02-04-5375	Ball Bearing	(4)
108	45-88-0103	Flat Washer	(8)
109	05-74-0330	M6 Shoulder Bolt	(2)
110	05-88-5365	M8 x 40mm Hex Hd. Mach. Screw	(2)
111	05-55-0022	M5 Hex Nut with Nylon Insert	(20)
112	06-57-0625	Hex Nut with Nylon Insert	(2)
113	43-74-0016	Lower Hook	(1)
114	43-34-0019	Tread Frame Flange-Left	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
115	05-74-0335	M6 x 60mm Socket Cap Mach. Scr.	(2)
116	43-34-0018	Tread Frame-Top Flange	(2)
117	43-34-0020	Tread Frame Flange-Right	(1)
118a	34-40-0167	16mm Retaining Ring	(2)
118b	45-44-0012	Driver Sprocket	(2)
118c	06-82-0208	Key	(2)
118d	42-24-0018	Long Bushing	(1)
118e	42-24-0016	Short Bushing	(1)
119	45-44-0105	Outer Sprocket Flange-Right	(1)
187	05-55-0006	M6 Hex Nut	(2)
188	45-88-8875	Flat washer	(4)
310	14-46-0158	Timing Belt Kit	(1)
313	14-29-0047	Tread Gearbox Assembly	(1)
315	43-34-0030	Tread Flange Assembly	(1)
355	14-50-0026	Stair Drive Motor Assembly	(1)

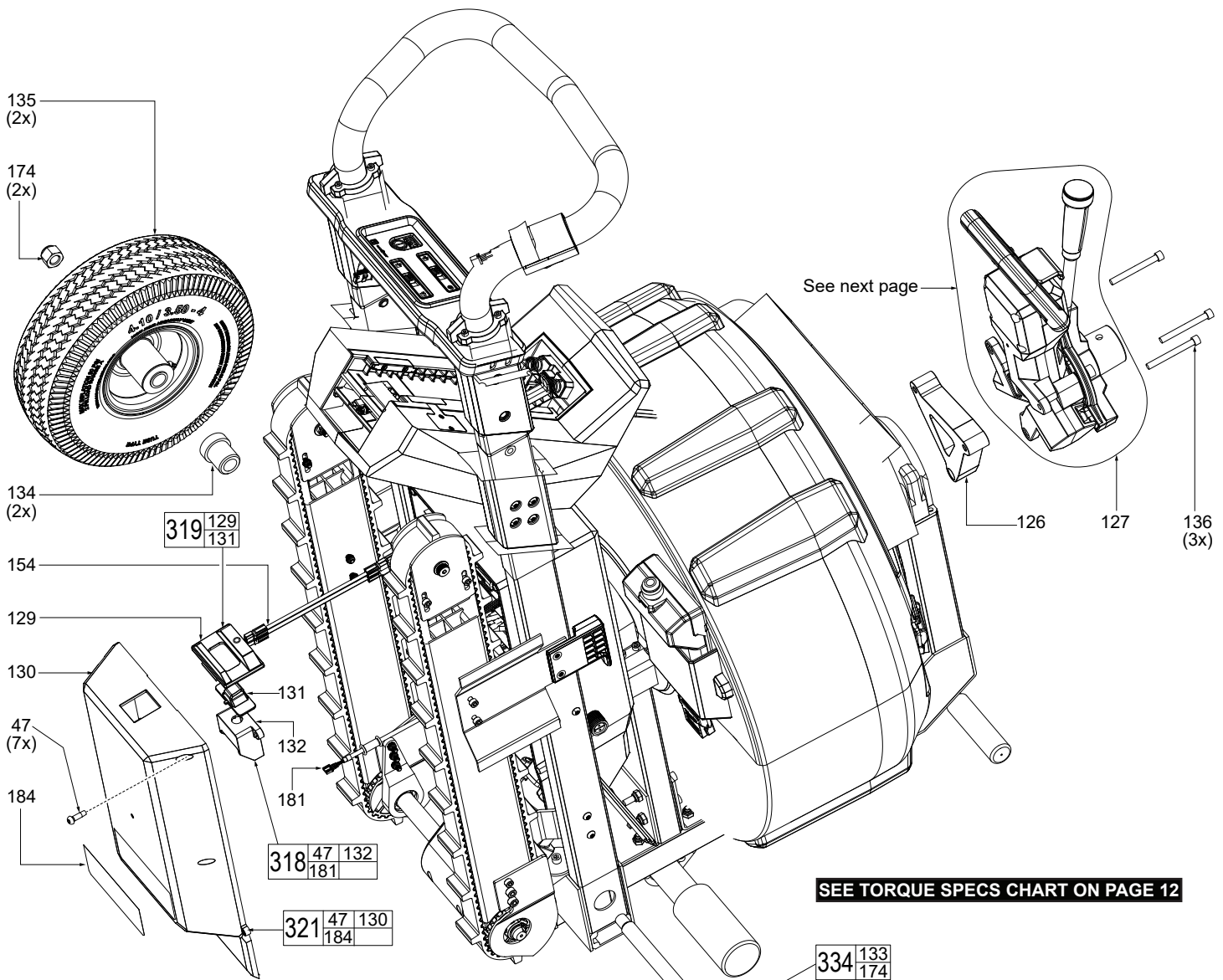


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Scr.	(7)
126	45-36-7095	Autofeed Spacer	(1)
127	-----	VSAFI Assembly	(1)
129	-----	Switch Plate	(1)
130	-----	Mechanical Housing Cover	(1)
131	-----	Switch Slider	(1)
132	-----	Switch Mount	(1)
133	-----	Wheel Axle	(1)
134	-----	Wheel Shaft Bushing	(2)
135	-----	Wheel	(2)
136	05-74-2010	1/4-20 x 2-1/4" Socket Cap Mach. Scr.	(3)
154	23-94-0047	MX LSM B+ and B- Extend Wire Assy.	(1)
174	-----	Hex Nut with Nylon Insert	(2)
181	-----	MX LSM 3-Way Switch Assembly	(1)
184	12-20-0362	Service Nameplate	(1)
318	23-66-0082	Drain switch Mount Kit	(1)
319	23-66-0084	Drain Switch Kit	(1)
321	42-92-0111	Mechanical Cover Kit	(1)
328	31-94-0106	Wheel Bushing Kit (Set of 2)	(1)
334	23-16-0026	Wheel Shaft Kit	(1)
335	45-94-0023	Wheel Kit (Set of 2)	(1)

**SEE TORQUE SPECS CHART ON PAGE 12**

**REFERENCE PAGES 13 AND 14 FOR SERVICE ASSEMBLY AND LUBRICATION INSTRUCTIONS ON THE VSAFI-AUTO FEED SYSTEM. NOTE: SEE SERVICE VIDEO FOR ADDITIONAL AID WHEN REPAIRING THIS TOOL**

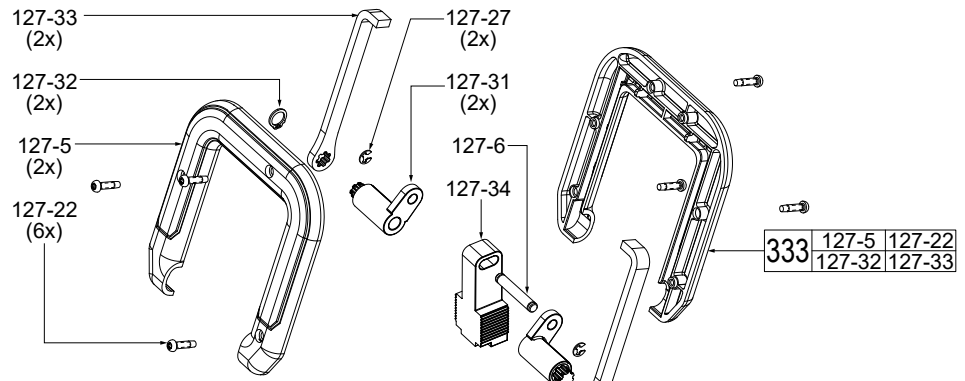
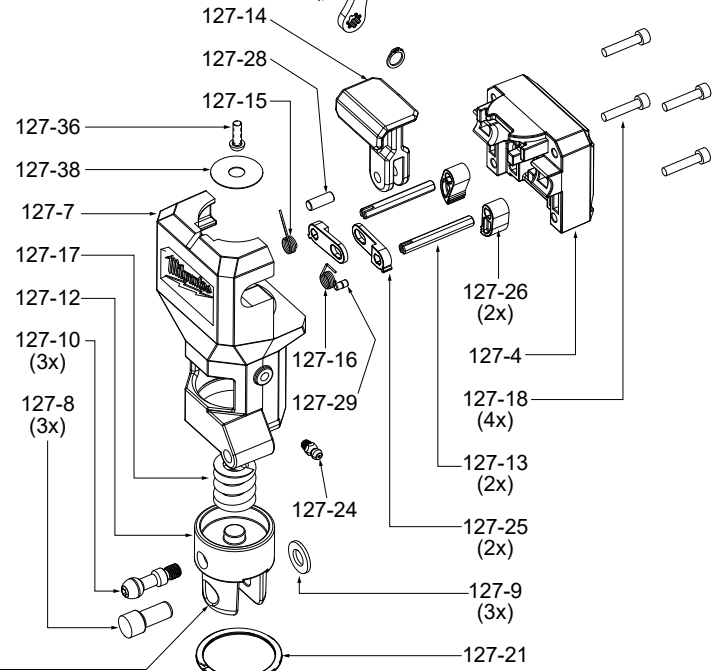


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
127-1	-----	Bearing Carrier	(2)
127-2	-----	Feed Direction Plate	(1)
127-3	-----	Carrier Housing	(2)
127-4	-----	Rear Ratchet Plate	(1)
127-5	-----	Ratchet Handle Bar	(2)
127-6	-----	Ratchet Linkage Pin	(1)
127-7	-----	Ratchet Lever Carrier Housing	(1)
127-8	-----	Bearing Pin	(3)
127-9	-----	AF Bearing Spacer	(3)
127-10	-----	Carrier Direction Screw	(3)
127-11	-----	12mm Flanged Bushing	(3)
127-12	-----	Ratchet Bearing Carrier	(1)
127-13	-----	Pawl Shaft	(2)
127-14	-----	Pawl Release Switch	(1)
127-15	-----	Pawl Release Spring-Right	(1)
127-16	-----	Pawl Release Spring-Left	(1)
127-17	-----	Ratchet Return Spring	(1)
127-18	-----	M5 Screw	(4)
127-19	-----	Feed Bearing Return Spring (Not Shown)	(1)
127-20	-----	Flanged Sleeve Bearing	(1)
127-21	-----	Return Spring Retainer	(1)
127-22	-----	M4 Pan Hd. ST T-20 Scr.	(6)



350	127-8	127-9	127-10
	127-12	127-21	

332	127-4	127-6	127-7	127-8	127-9	127-10
	127-12	127-13	127-14	127-15	127-16	127-17
	127-18	127-19	127-21	127-24	127-25	127-26
	127-27	127-28	127-29	127-31	127-32	127-33
	127-34	127-35	127-36	127-37	127-38	

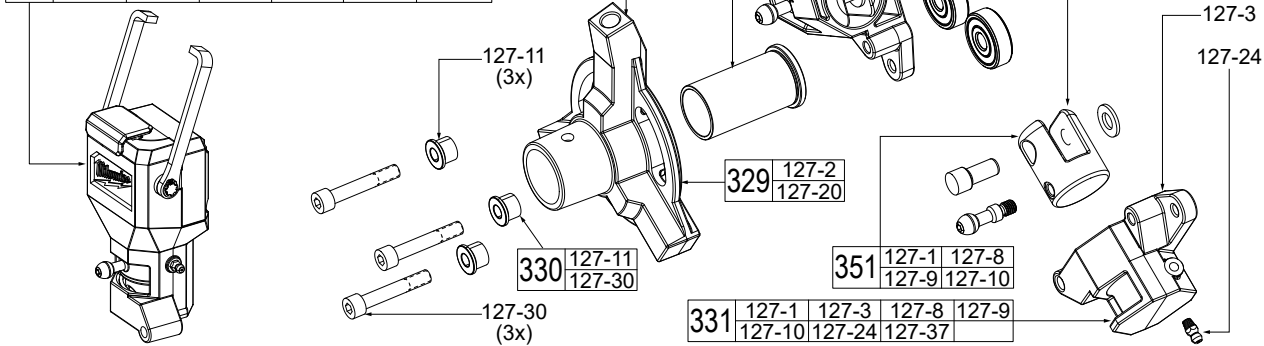
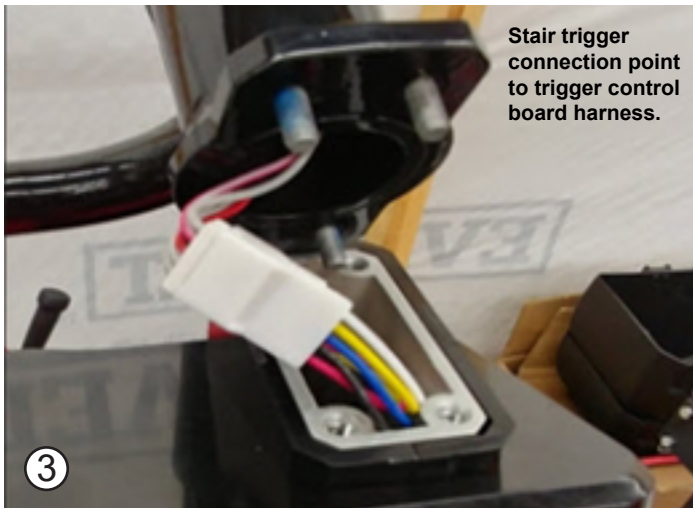
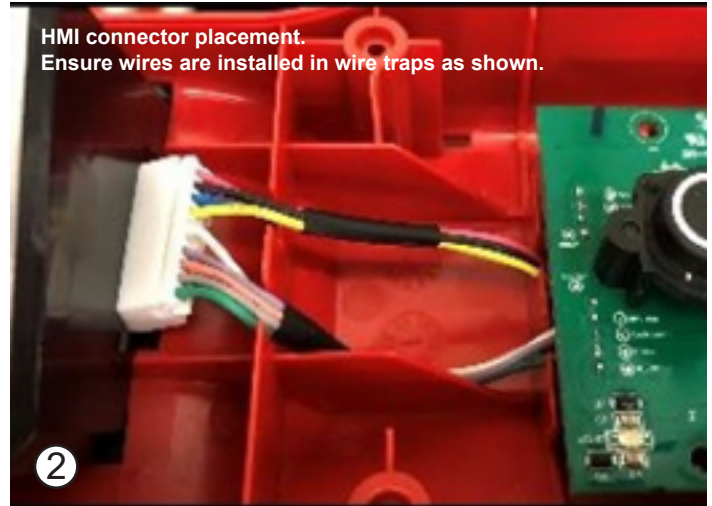


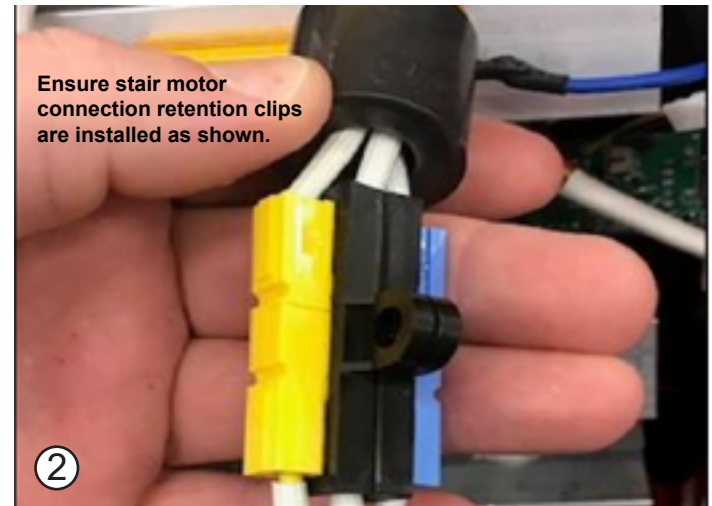
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
127-23	43-62-0066	Feed Handle	(1)
127-24	-----	Self-Tapping Grease Fitting	(3)
127-25	-----	Pawl Release Linkage	(2)
127-26	-----	Ratchet Pawl	(2)
127-27	-----	E Retaining Ring	(2)
127-28	-----	Carrier Lever Pin	(1)
127-29	-----	Guide Pin	(1)
127-30	-----	M8 Screw	(3)
127-31	-----	Ratchet Fulcrum	(2)
127-32	-----	Retaining Ring	(2)
127-33	-----	Ratchet Lever	(2)
127-34	-----	Upper Ratchet Gear	(1)
127-35	-----	Lower Ratchet Gear (Not Shown)	(1)
127-36	-----	M5 Pan Hd. T-25 Mach. Scr.	(1)
127-37	-----	Ball Bearing	(3)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
127-38	-----	Thrust Washer	(1)
329	42-46-0015	Feed Direction Kit	(1)
330	42-46-0010	Feed Mounting Kit	(1)
331	42-46-0020	Lower Feed Assembly	(1)
332	42-46-0025	Upper Feed Assembly	(1)
333	14-34-0040	Feed Ratchet Handle Kit	(1)
350	31-12-0041	Upper Bearing Carrier Service Kit	(1)
351	31-12-0043	Lower Bearing Carrier Service Kit	(1)

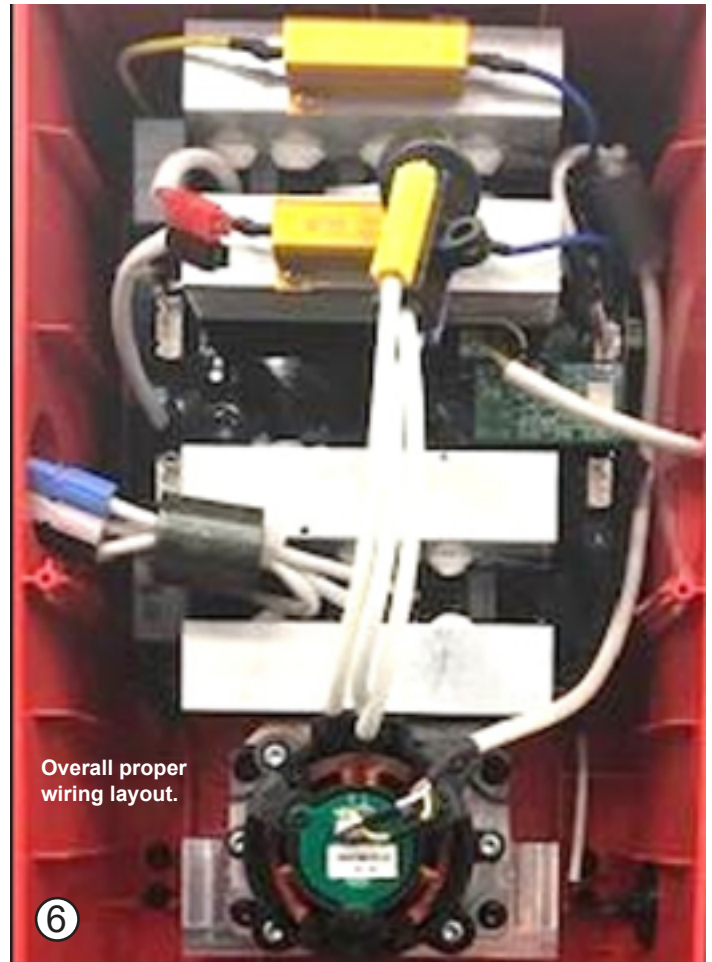
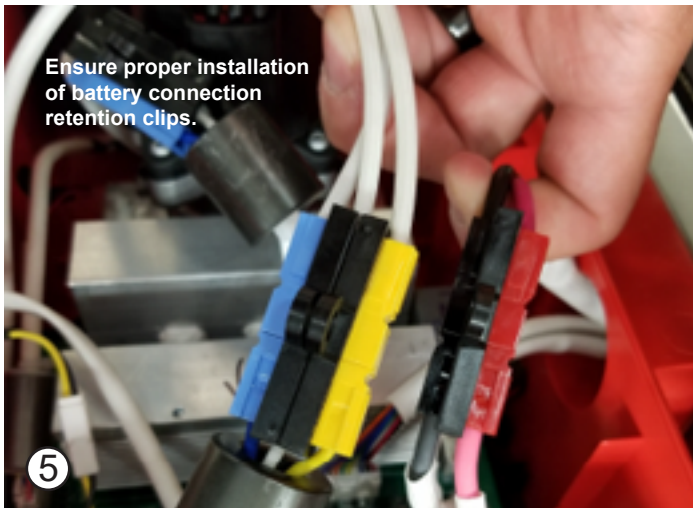
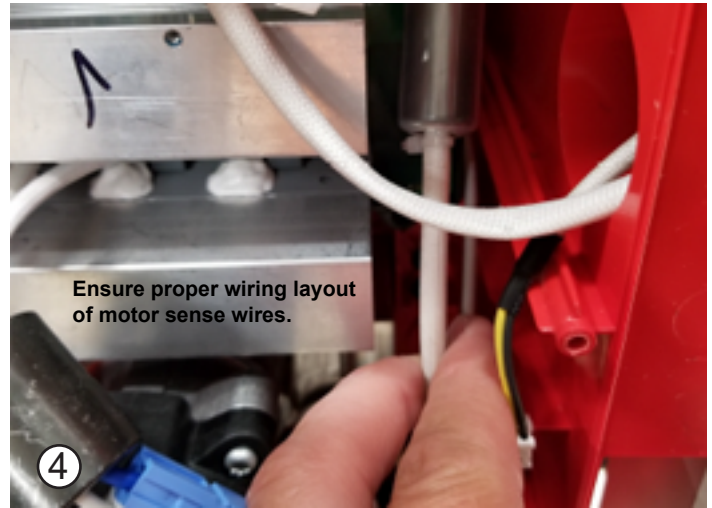
## HMI Wiring



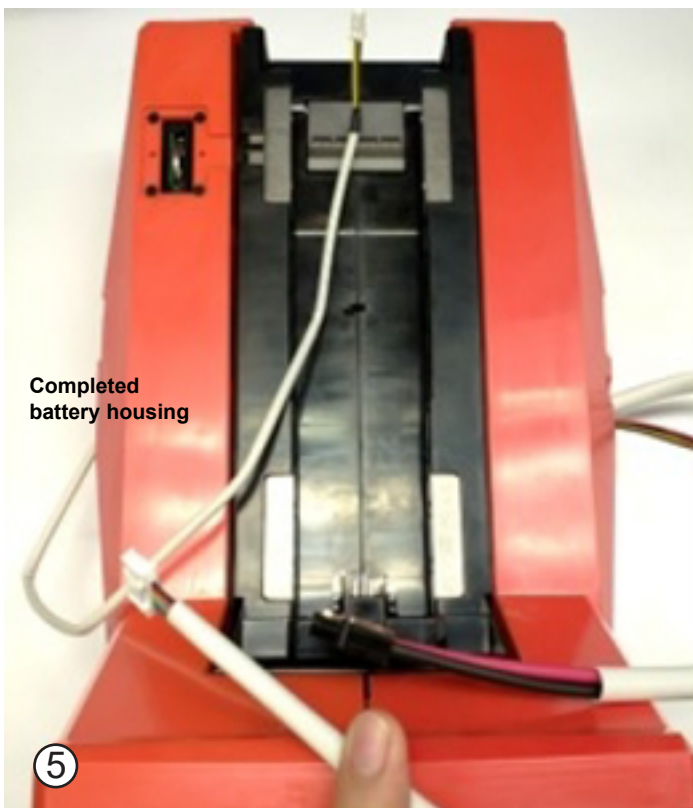
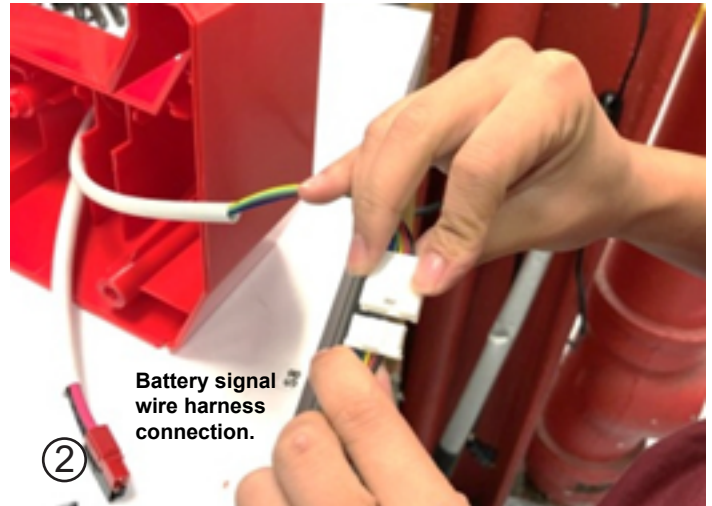
## Mechanical Housing Wiring



## Mechanical Housing Wiring - Continued



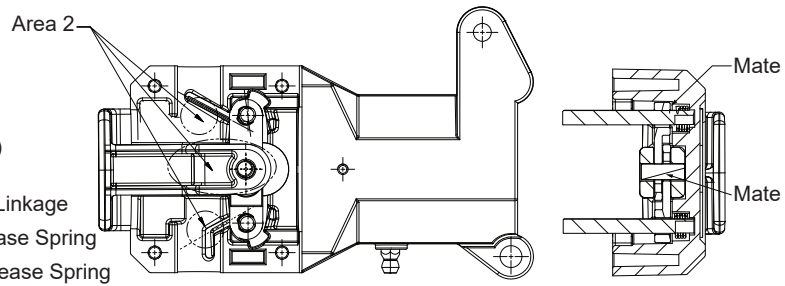
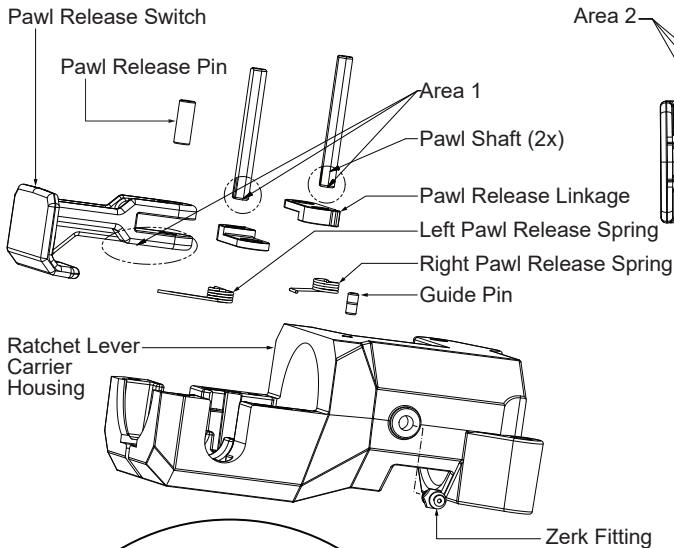
## Battery Housing Wiring



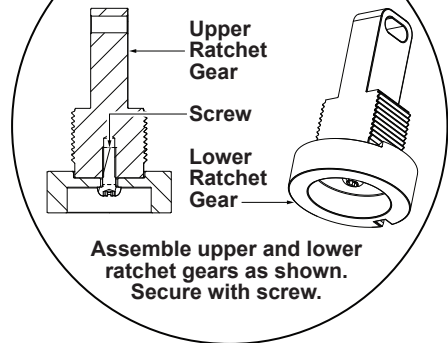
## SCREW TORQUE SPECIFICATIONS

	FIG.	PART NO.	DESCRIPTION OF FASTENER	WHERE USED	SEAT TORQUE	
					(IN/LBS)	(KG/CM)
PAGE 1	13	05-74-2005	1/4-20 x 2-3/4" Socket Cap Machine Screw	Rear Flat Bracket	75-80	86-92
	14	06-82-0164	M5 x 15mm Pan Hd. T-25 Machine Screw	Rear Flat Bracket	27-32	31-36
	15	06-57-6075	Hex Lock Nut with Nylon Insert	Frame L Weldment	75-80	86-92
	17	06-14-0296	M5 x 50mm Socket Cap Machine Screw	Frame L Weldment	27-32	31-36
	19	06-82-9216	M6 x 50mm Pan Hd. T-27 Machine Screw	Frame L Weldment	11-13	12-15
	22	-----	3/4" NPT Locknut	Outer Drum Bottom	80-85	92-98
	136	05-74-2010	1/4-20 x 2-1/4" Socket Cap Machine Screw	Frame U Weldment/Front Handle Kit	75-80	86-92
	142	06-14-0180	1/4-20 x 3" Socket Cap Machine Screw	Rear Bracket	75-80	86-92
	151e	-----	M3 x 10 Delta PT Screw	Outer Drum Bottom	8-9	9-10
	182	45-04-1155	M5 x 80mm Socket Cap Mach. Screw	Rear Kickstand Kit	27-32	31-36
354b	-----	Lock Nut	Loading Wheel Assembly	100-110	115-126	
PAGE 2	14	06-82-0164	M5 x 15mm Pan Hd. T-25 Machine Screw	Pillow Block Mount	27-32	31-36
	25	06-82-9635	Delta Pan Hd. PT Torx Screw	IM Drum Front	21-23	24-26
	25	06-82-9635	Delta Pan Hd. PT Torx Screw	Large Drum Washer	27-32	31-36
	37	-----	M8 Lock Nut	Drum Bushing/Feed Tub Mount Rear	75-80	86-92
	42	45-04-1165	1/4-20 x 7/8" Pan Hd. Machine Screw	Anchor Cable Kit	21-23	24-26
	44	05-74-1065	M8 x 20mm Cap Hd Hex Drive Screw	Rear Inner Drum Assembly	75-80	86-92
PAGE 3	14	06-82-0164	M5 x 15mm Pan Hd. T-25 Machine Screw	Mechanical Housing Kit	27-32	31-36
	17	06-14-0296	M5 x 50mm Socket Cap Machine Screw	See page 3	13-16	15-18
	47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Screw	Mechanical Housing Kit	7-9	8-10
	51	-----	Self-Tapping Insert	Mechanical Housing Kit	15-17	17-19
	52	06-82-6260	M5 x 35mm Pan Hd. T-25 Machine Screw	See page 3	20-25	23-29
	169	-----	M5 x 30mm Pan Hd. ST T-25 Screw	Drain Drive Motor Assembly	37-42	42-48
	183	-----	M3.5 Pan Hd. ST T-10 Screw	Mechanical Housing Door	4-6	5-7
PAGE 4	51	-----	Self Tapping Inserts	Angled Battery Interface	23-25	26-29
	54	06-82-9217	M5 x 45mm Pan Hd. T-25 Machine Screw	Outer Battery Handle Mount	13-15	15-17
	57	05-88-0087	M5 x 115mm Pan Hd. T-20 PT Screw	Battery Housing Kit	17-20	19-23
	58	06-82-0029	M5 x 16mm Pan Hd. T-25 ST Screw	Batter Housing Kit/Pivot Bushings	17-20	19-23
	64	-----	M3 x 16mm ST Tamperproof Screw	Front Metal Rails	6-8	7-9
	78	-----	M3 x 10mm Pan Hd. T-10 ST TP Screw	Interface-Left	6-8	7-9
	81	-----	M2.6 x 6mm ST FH Phillips Screw	Coin Cell Cover	6-8	7-9
PAGE 5	47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Screw	Control Panel Tube	6-9	7-10
	120	05-74-2020	M4 x 20mm Socket Cap Hd. Screw	Handle Bar (Non-Powered)	26-28	30-32
	171	05-78-0044	M3 x 12mm Pan Hd. Taptite T-10 Screw	UI Bottom Kit	7-9	8-10
PAGE 6	17	06-14-0296	M5 x 50mm Socket Cap Mach. Screw	Pulley Bracket	24-27	27-31
	53	06-14-0295	M5 x 40mm Pan Hd. T-25 Mach. Screw	Tread Support	27-32	31-36
	54	06-82-9217	M5 x 45mm Pan Hd. T-25 Mach. Screw	Tread Guard	24-27	27-31
	98	05-74-0325	M5 x 60mm Socket Cap Mach. Screw	Outer Sprocket Flange-Right and Left	27-32	31-36
	109	05-74-0330	M6 Shoulder Bolt	Tread Guard	24-27	27-31
	115	05-74-0335	M6 x 60mm Socket Cap Mach. Screw	Outer Sprocket Flange-Right	75-80	86-92
	187	05-55-0006	M6 Hex Nut	Pulley Bracket/Shoulder Bolt	21-23	24-26
PAGE 7	47	05-81-0027	M3.5 x 12mm Pan Hd. ST T-10 Screw	Mechanical Housing Cover	8-10	9-11
	136	05-74-2010	1/4-20 x 2-1/4" Socket Cap Mach. Screw	VSAFI Assembly	40-50	46-57
	174	-----	Hex Nut with Nylon Insert	Wheel	100-110	115-126
PAGE 8	127-10	-----	Carrier Direction Screw	Ratchet Bearing Carrier	15-20Nm	153-204
	127-18	-----	M5 Screw	Rear Ratchet Plate	25-30	29-34
	127-22	-----	M4 Pan Hd. ST T-20 Screw	Ratchet Handle Bar	13-15	15-17
	127-23	43-62-0066	Feed Handle	Feed Direction Plate		
	127-24	-----	Self-Tapping Grease Fitting	Ratchet Lever Carrier Housing	28-32	32-36
	127-30	-----	M8 Screw	Feed Direction Plate	15-20Nm	153-204
	127-36	-----	M5 Pan Hd. T-25 Mach. Screw	Upper Ratchet Gear	25-30	29-34

**STEP 1  
RATCHET LEVER CARRIER HOUSING ASSEMBLY**

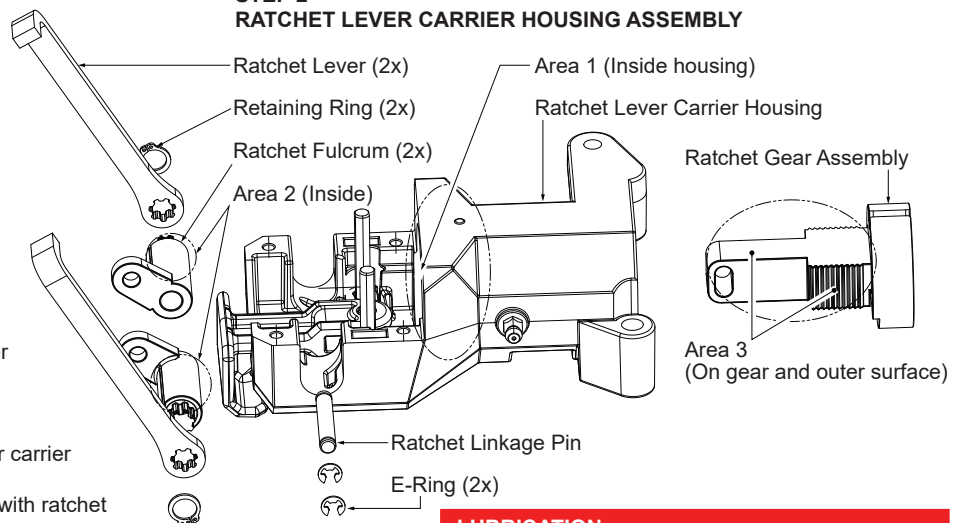


1. Press guide pin into housing, 250-350kg. Pin cannot overstep surface.
2. Install zerk fitting into housing.
3. Place pawl release springs into ratchet lever carrier housing.
4. Assemble pawl shafts into pawl release linkages. Apply 1g grease to shaft of Area 1 and place into ratchet lever carrier housing.
5. Apply 1g grease to pawl release switch of Area 1.
6. Install pawl release switch into housing.
7. Place pawl release pin into hole of switch and two pawl release linkages.
8. Apply 2g grease to Area 2.



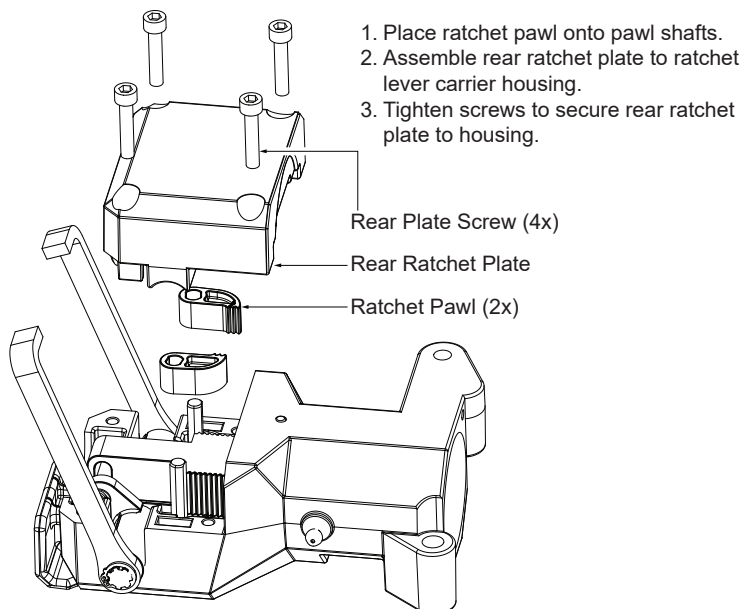
1. Place 1g grease to assembled ratchet lever carrier housing, Area 1.
2. Apply 1g grease to Area 3 of upper ratchet gear.
3. Press ratchet levers onto ratchet fulcrums.
4. Assemble ratchet gear assembly into ratchet lever carrier housing assembly.
5. Connect ratchet gear assembly and ratchet lever with ratchet linkage pin and retaining rings.
6. Add 1g grease to Area 2, inside ratchet fulcrums.

**STEP 2  
RATCHET LEVER CARRIER HOUSING ASSEMBLY**



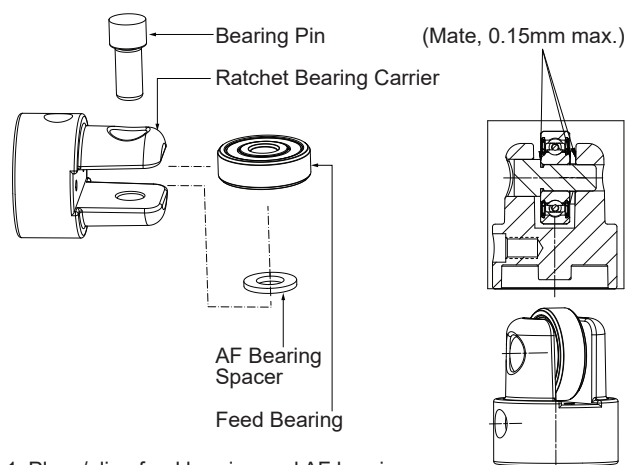
**LUBRICATION**  
Type 'T' Grease, No. 49-08-4260 (6oz. tube)  
Red Loctite 277, No. 44-22-0050

**STEP 3  
RATCHET LEVER CARRIER HOUSING ASSEMBLY**



1. Place ratchet pawl onto pawl shafts.
2. Assemble rear ratchet plate to ratchet lever carrier housing.
3. Tighten screws to secure rear ratchet plate to housing.

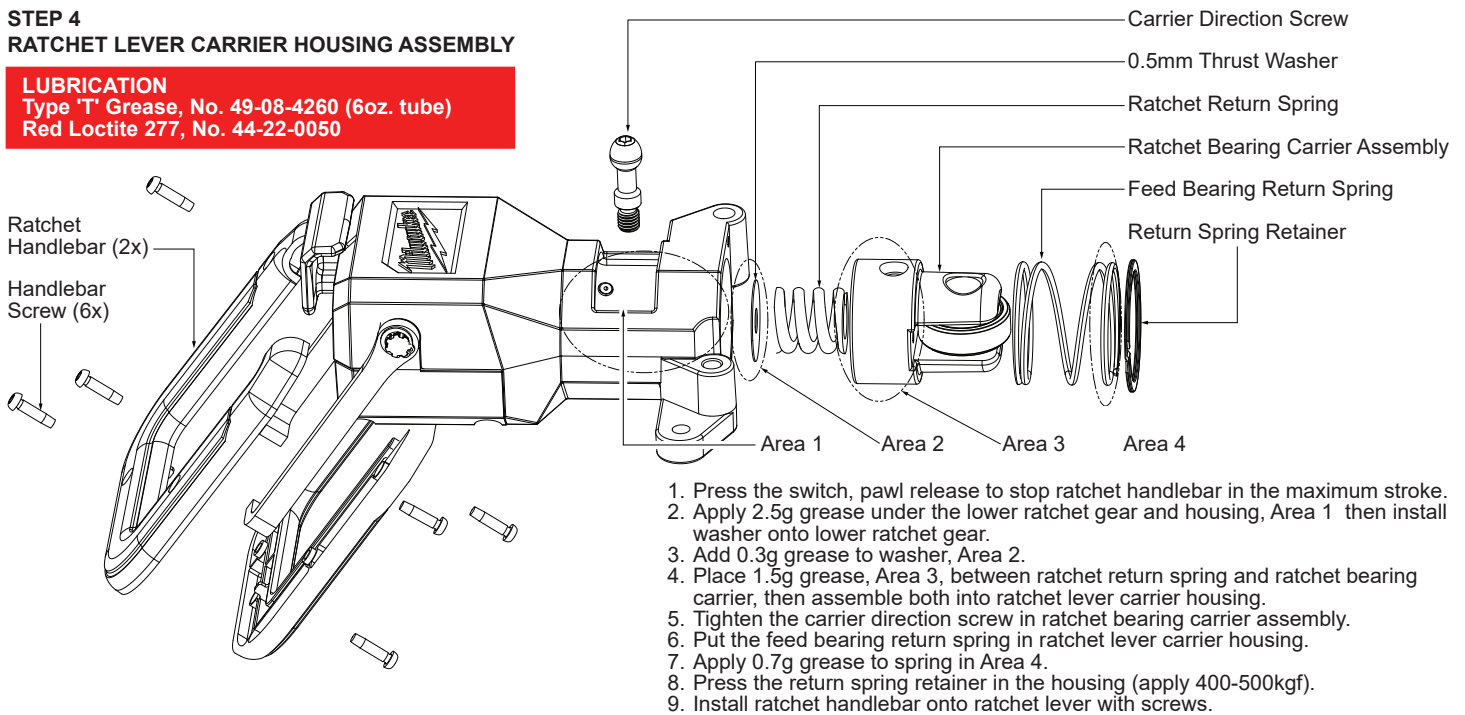
**RATCHET BEARING CARRIER ASSEMBLY**



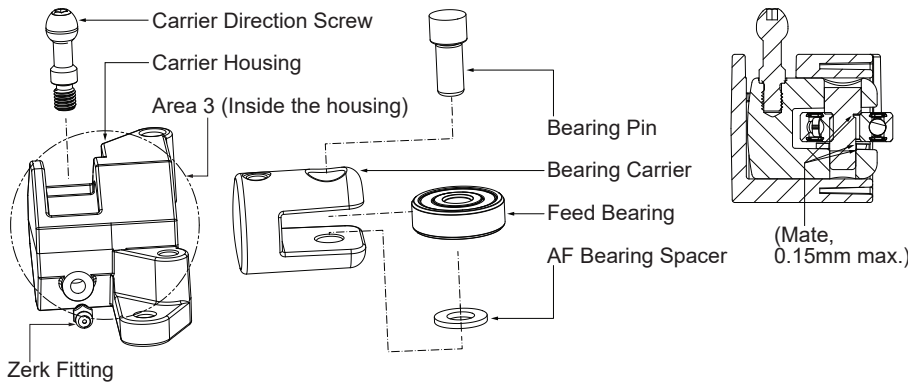
1. Place/align feed bearing and AF bearing spacer over holes of ratchet bearing carrier.
2. Compress bearing pin to secure bearing and spacer.
3. Force of bearing pin into ratchet bearing carrier: 2100-2300kg.

**STEP 4**  
**RATCHET LEVER CARRIER HOUSING ASSEMBLY**

**LUBRICATION**  
 Type 'T' Grease, No. 49-08-4260 (6oz. tube)  
 Red Loctite 277, No. 44-22-0050



1. Press the switch, pawl release to stop ratchet handlebar in the maximum stroke.
2. Apply 2.5g grease under the lower ratchet gear and housing, Area 1 then install washer onto lower ratchet gear.
3. Add 0.3g grease to washer, Area 2.
4. Place 1.5g grease, Area 3, between ratchet return spring and ratchet bearing carrier, then assemble both into ratchet lever carrier housing.
5. Tighten the carrier direction screw in ratchet bearing carrier assembly.
6. Put the feed bearing return spring in ratchet lever carrier housing.
7. Apply 0.7g grease to spring in Area 4.
8. Press the return spring retainer in the housing (apply 400-500kgf).
9. Install ratchet handlebar onto ratchet lever with screws.

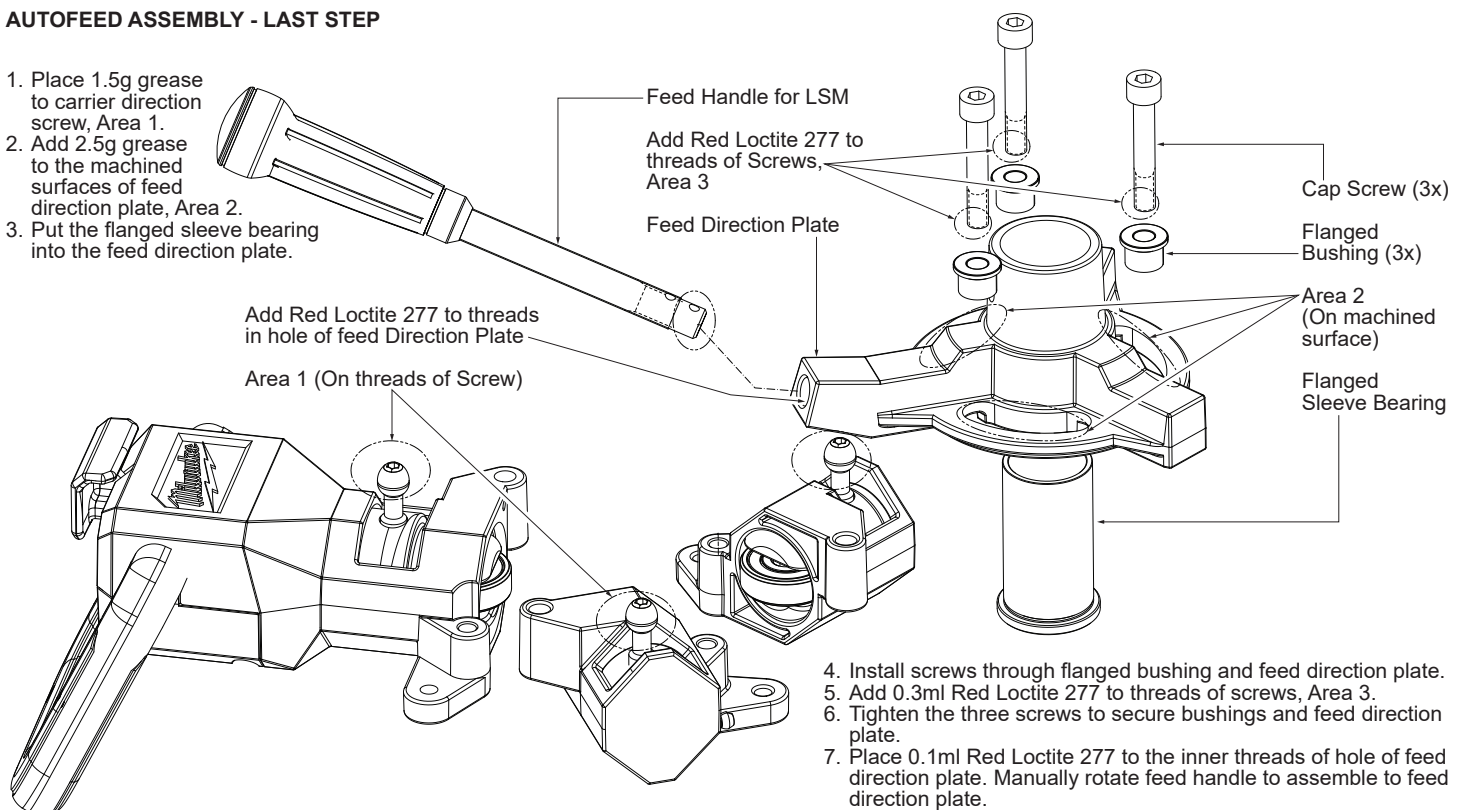


**CARRIER HOUSING ASSEMBLY**

1. Install zerk fitting into carrier housing.
2. Apply 2.0g grease to the assembled carrier housing, Area 3.
3. Place feed bearing and bearing spacer in the middle of bearing carrier.
4. Press bearing pin through feed bearing and AF bearing spacer, then install on bearing carrier.
5. Install bearing carrier assembly in carrier housing. Orient carrier assembly with hole facing up.
6. Tighten carrier direction screw into bearing carrier.
7. Press bearing pin into bearing carrier with 2100-2300kgf.

**AUTOFEED ASSEMBLY - LAST STEP**

1. Place 1.5g grease to carrier direction screw, Area 1.
2. Add 2.5g grease to the machined surfaces of feed direction plate, Area 2.
3. Put the flanged sleeve bearing into the feed direction plate.



4. Install screws through flanged bushing and feed direction plate.
5. Add 0.3ml Red Loctite 277 to threads of screws, Area 3.
6. Tighten the three screws to secure bushings and feed direction plate.
7. Place 0.1ml Red Loctite 277 to the inner threads of hole of feed direction plate. Manually rotate feed handle to assemble to feed direction plate.