



SW3243
MANURE
SPREADER
PARTS BOOK

Part #87721 HSMFG073123 Rev. #03 Starting Ser. #422MSW4001

STRONG HERITAGE - STRONG PEOPLE - STRONGER FUTURE



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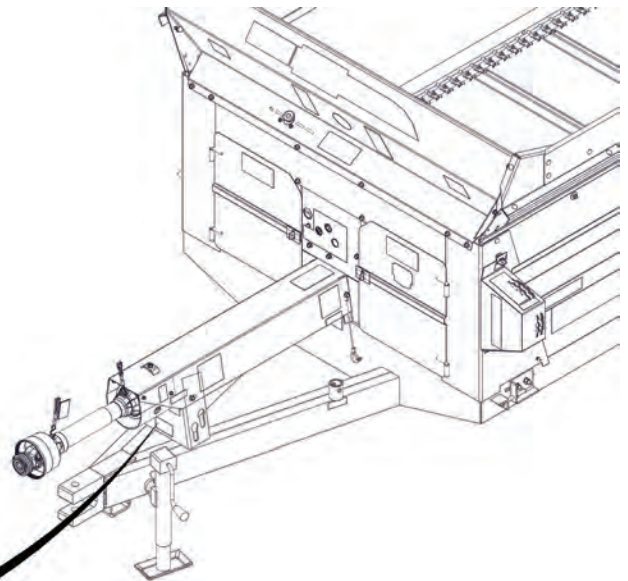
INSTRUCTIONS FOR ORDERING PARTS

All service parts should be ordered through your authorized H&S dealer. Your Dealership will be able to give you faster service if you will provide them with the following:

1. All references to left or right apply to the machine as viewed from the rear.
2. Parts should not be ordered from illustration only. Please order complete part number.
3. If your dealer has to order parts - give shipping instructions:

VIA truck - large pieces (please specify local truck lines)

VIA United Parcel Service (include full address)



H&S MFG. CO. INC. MARSHFIELD, WIS.	
MOD. NO.	<input type="text"/>
SER. NO.	<input type="text"/>
DESCR.	<input type="text"/>

PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

H&S IS CONTINUALLY STRIVING TO IMPROVE ITS PRODUCTS

We must, therefore, reserve the right to make improvements or changes whenever it becomes practical to do so, without incurring any obligation to make changes or additions to the equipment previously sold.





FIGURE 1

JACK SHAFT SHIELD & COMPONENTS

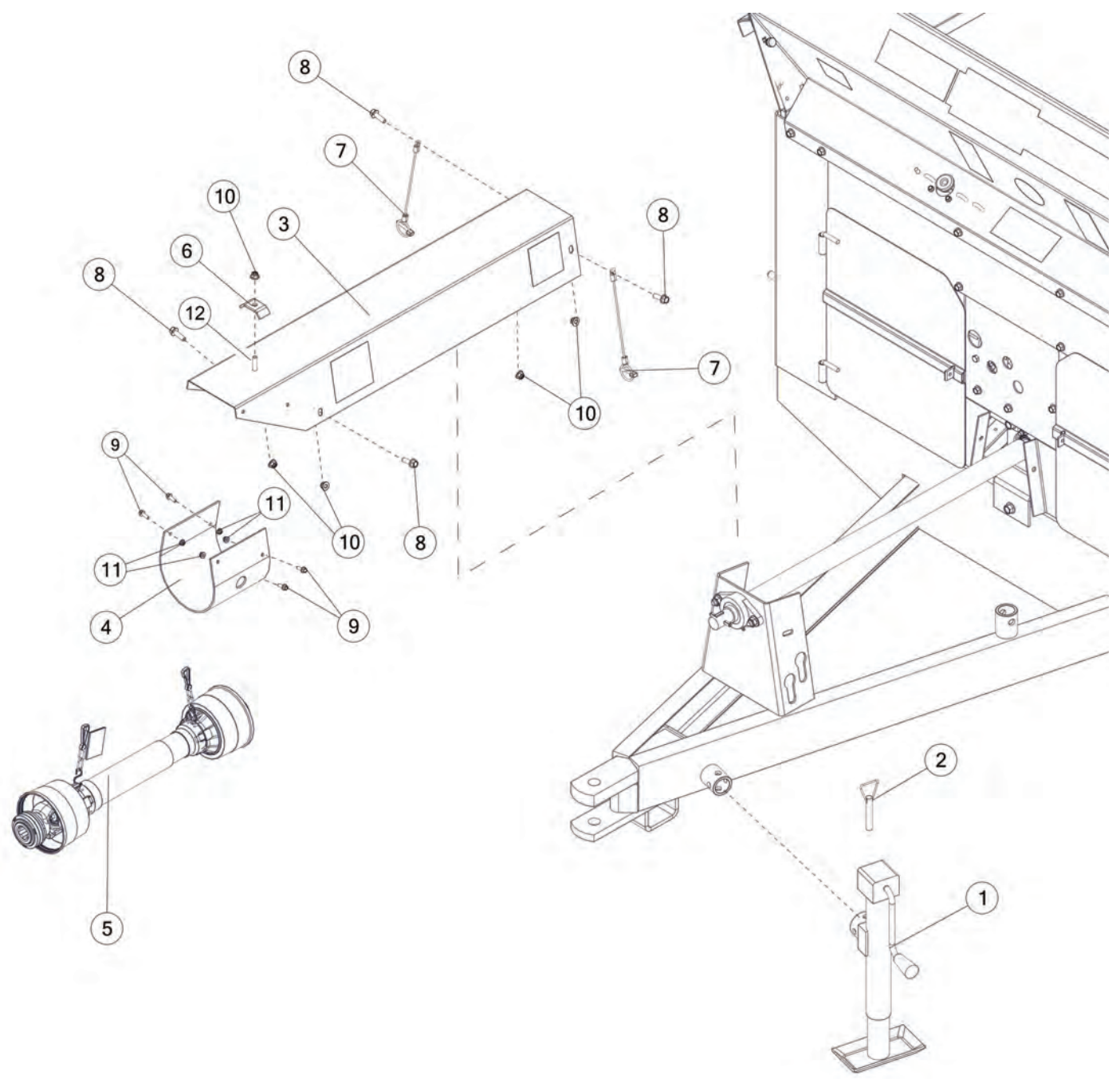
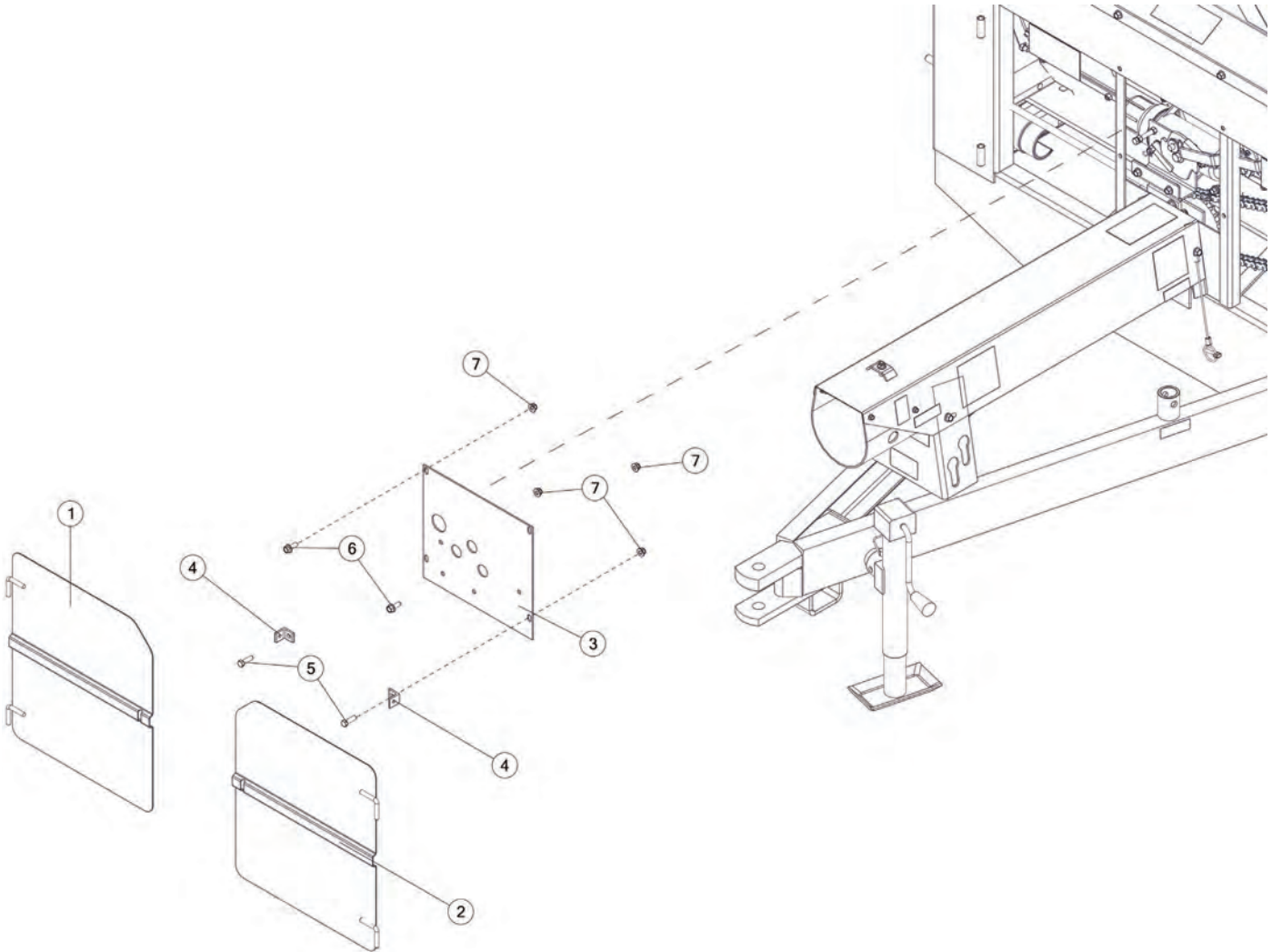




FIGURE 2

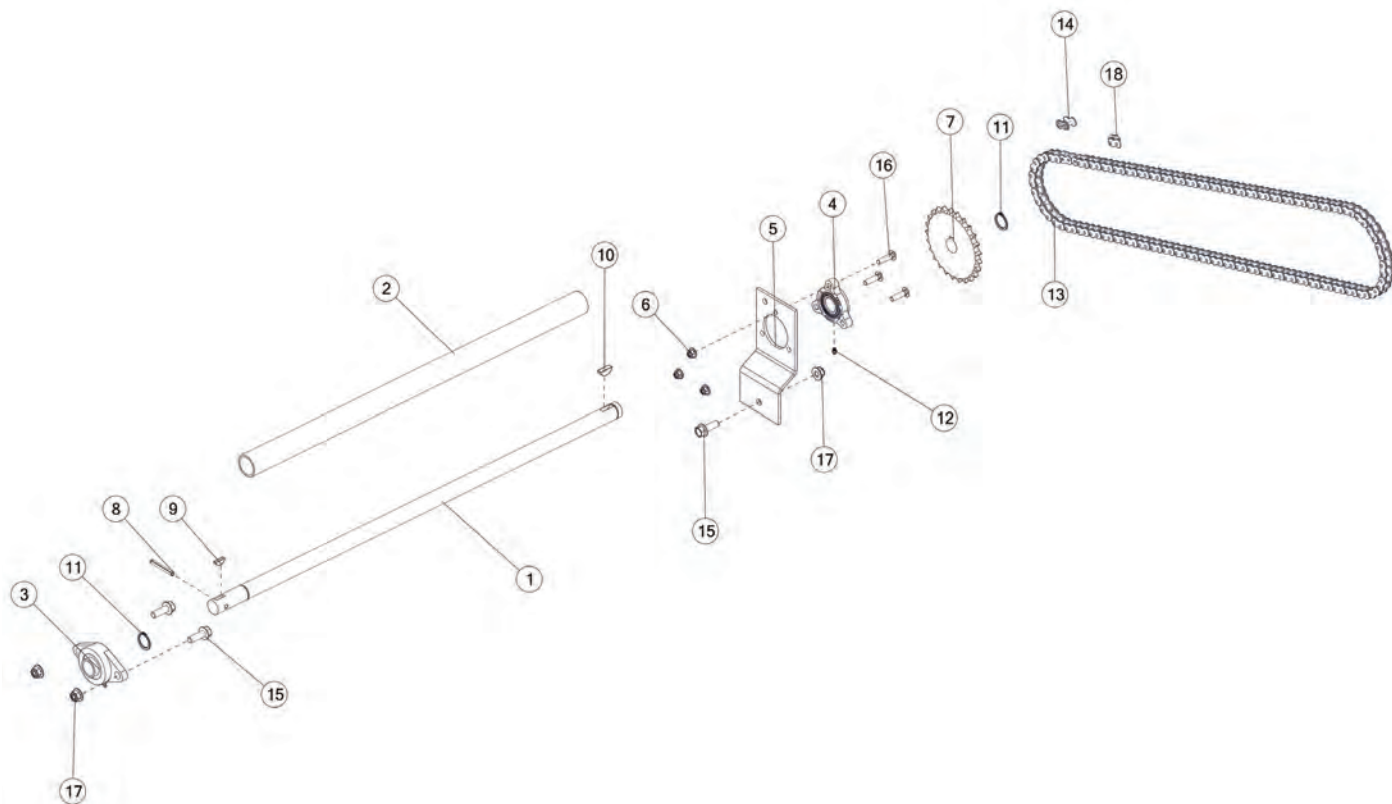
FRONT SHIELDS & COMPONENTS



REF #	PART #	DESCRIPTION	QTY
1	23N305B	FRONT SHIELD RIGHT W/DECALS	1
2	23N306B	FRONT SHIELD LEFT W/DECALS	1
3	23N195	SHIFTER PANEL	1
4	F92	FRONT SHIELD BRACKET	2
5	YBHH12035	BOLT, 3/8-16 X 1-1/4 G5	2
6	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	2
7	YNFG12006	NUT FLANGE, 3/8 GF	4

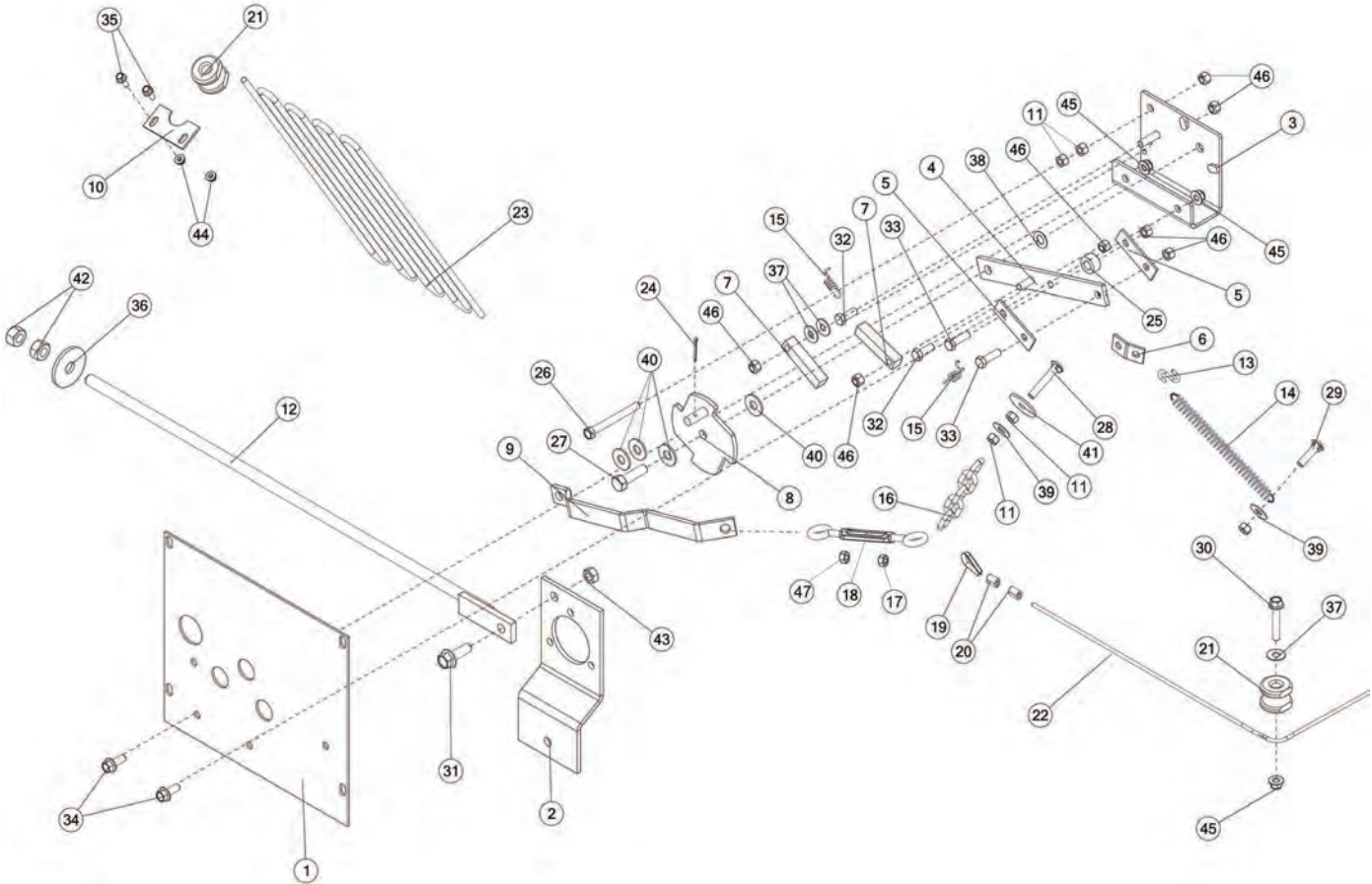


FIGURE 3 FRONT SHAFT & COMPONENTS



REF #	PART #	DESCRIPTION	QTY
1	43NW7	FRONT SHAFT	1
2	37N74	FRONT SHAFT GUARD, 35.38	1
3	12N29	BRG, 3.13 X 1.25 X 5.59, FLANGE	1
4	80662	BEARING, 1-1/4	1
5	23N68	FRONT ADJUSTMENT PLATE	1
6	YNFG12006	NUT FLANGE, 3/8 GF	3
7	43NW5	SPROCKET, 19 TOOTH	1
8	YPEX10250	EXPANSION PIN, 5/16 X 2-1/2	1
9	5B10	WOODRUF KEY, 1/4 X 1	1
10	5B9	WOODRUF KEY, 3/8 X 1-1/4	1
11	F73	1-1/4" SNAP RING	2
12	G89	ZERK, 1/4-28 STRAIGHT	1
13	87716	ROLLER CHAIN, #80, 95P	1
14	F158	OFFSET LINK, #80	1
15	YBFB16150	BOLT FLANGE, 1/2 X 1-1/2 G5	3
16	YBCR12015	BOLT CARRIAGE,, 3/8-16 X 1-1/2 G5 ZC	3
17	YNFG16003	NUT FLANGE, 1/2 GF	3
18	60531	CONNECTOR LINK W/PINS	94





REF #	PART #	DESCRIPTION	QTY
1	23N195	SHIFTER PANEL	1
2	23N68	FRONT ADJUSTMENT PLATE	1
3	23N188	FRONT SHIFTER ASSEMBLY	1
4	23N192	SHIFTING DOG LEVER ASSEMBLY	1
5	23N184	SHIFTER ROPE BRACKET	2
6	23N185	FRONT SPRING RETURN BRACKET	1
7	23N193	SHIFTER DOG	2
8	23N196	FRONT SHIFTER ASSEMBLY	1
9	23N197	SHIFTER ARM	1



FIGURE 4

SHIFTING LINKS & COMPONENTS

REF #	PART #	DESCRIPTION	QTY
10	23N182	CABLE GUIDE BRACKET	1
11	YNHX12005	NUT HEX, 3/8-16 ZC	4
12	23N63	TIGHTENER ROD	1
13	YMHK91005	S-HOOK 0.162 X 1-1/4	1
14	23N187	EXTENSION SPRING	1
15	23N186	TORSION SPRING	2
16	37N64	CHAIN, 1/4, 9P	1
17	YNHX10005	NUT HEX, 5/16-18 RH	1
18	F84	TURNBUCKLE ASSEMBLY	1
19	ES14	LOOP	1
20	71279	SLEEVE, .13 X .63	2
21	F33	SIDE CABLE GUIDE	2
22	37N53	CABLE, 3/16, 212	1
23	77192	ROPE, 5/16, 180	1
24	YPCT04005	COTTER PIN, 1/8 X 1	1
25	D107	ROPE PULLER	1
26	YBHH12125	BOLT HEX, 3/8 X 3 G5	1
27	YBHH16065	BOLT HEX, 1/2-13 X 2 G5	1
28	YBCR12045	BOLT CARRIAGE, 3/8-16 X 2-1/4 G5 ZC	1
29	YBCR12035	BOLT CARRIAGE, 3/8 X 2 G5	1
30	YBFB12225	BOLT FLANGE, 3/8 X 2-1/4 G5	1
31	YBFB16125	BOLT FLANGE, 1/2 X 1-1/4 G5	1
32	YBHH12010	BOLT HEX, 3/8 X 1 G5	2
33	YBHH12035	BOLT HEX, 3/8-16 X 1-1/4 G5	2
34	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	2
35	YBFB08075	BOLT FLANGE, 1/4 X 3/4 G5	2
36	F129	TIGHTENER WASHER	1
37	YWFL12005	WASHER, FLAT, 3/8	3
38	31N51	SHIFTER SPACER WASHER	1
39	YWFL14005	WASHER, FLAT, 7/16 ZC	2
40	YWFL16005	WASHER, FLAT, 1/2	4
41	YWCU12005	WASHER, CUSTOM, .435	1
42	YNHX20005	NUT HEX, 5/8-11 ZC	2
43	YNLTL16005	NUT HEX, 1/2-13 LKTL ZC	1
44	YNFG08010	NUT FLANGE, 1/4 GF	2
45	YNFG12006	NUT FLANGE, 3/8 GF	3
46	YNLTL12005	NUT HEX, 3/8-16 LKTL ZC	6
47	YNHX10015	NUT HEX, 5/16-18 G2 ZC LH	1





FIGURE 5
SIDE SHAFT, SHIELDS & COMPONENTS

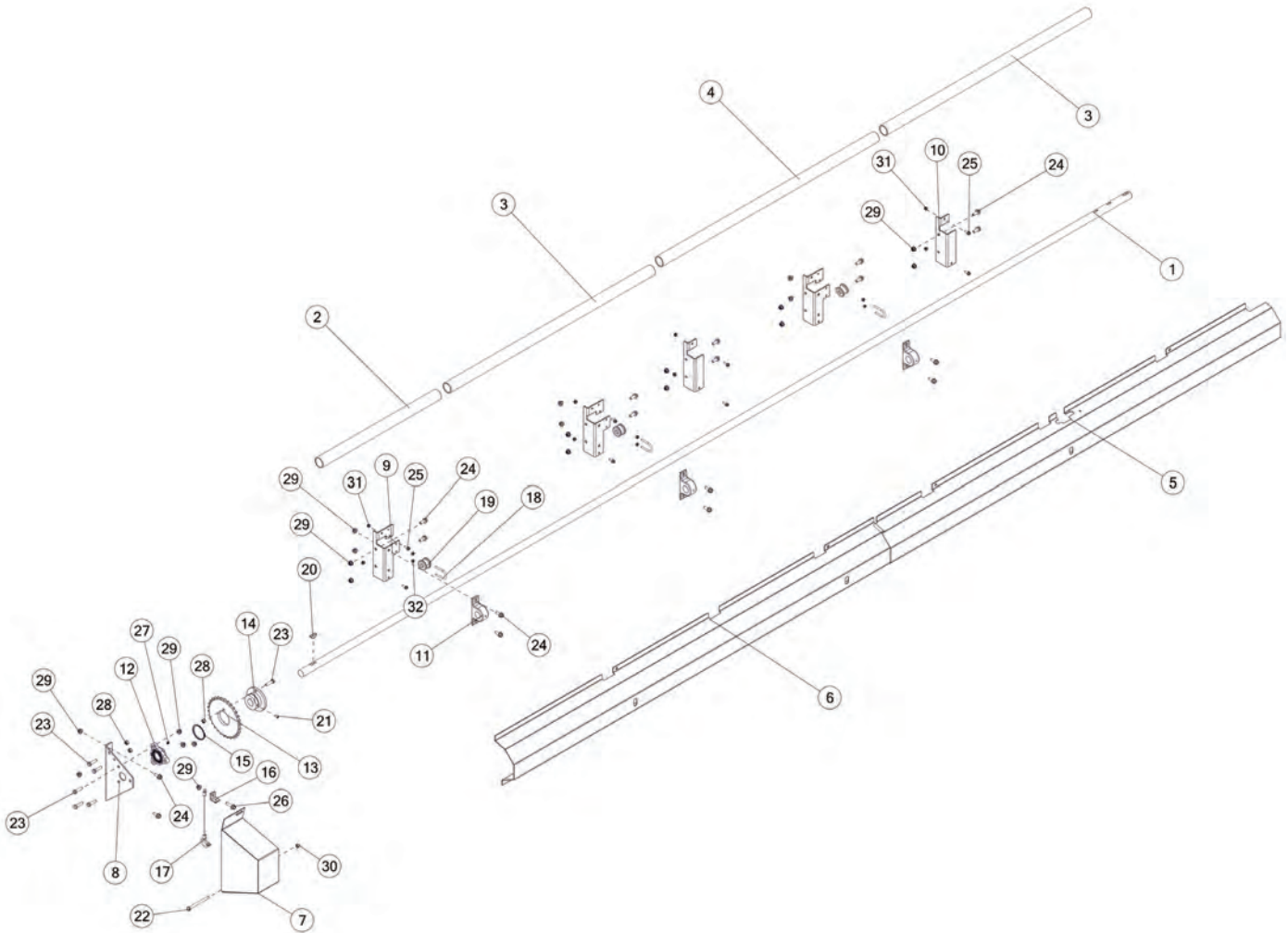


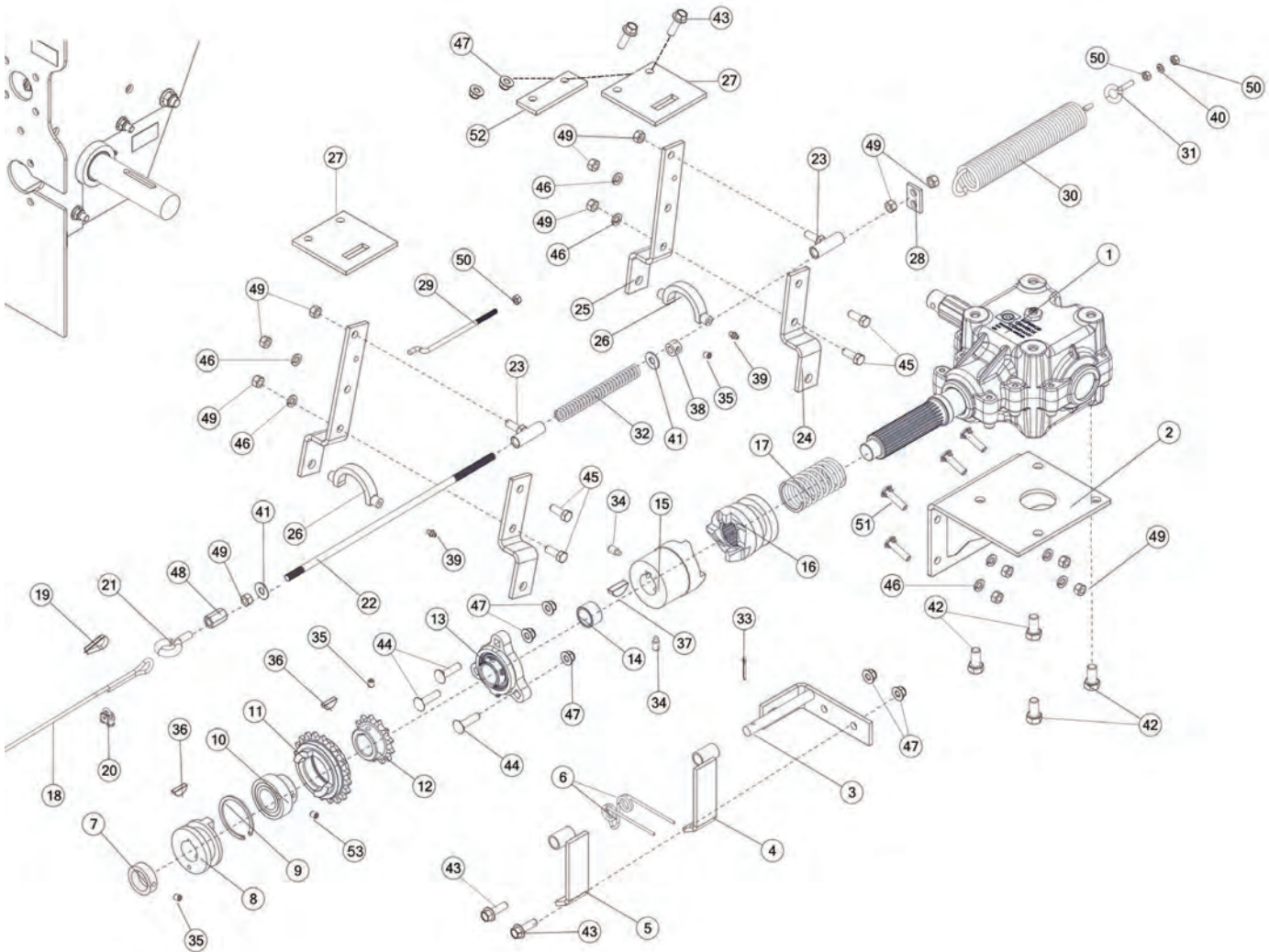


FIGURE 5

SIDE SHAFT, SHIELDS & COMPONENTS

REF #	PART #	DESCRIPTION	QTY
1	43NW19	SIDE SHAFT	1
2	37N75	#1 SIDE SHAFT GUARD 27.50	1
3	37N76	#2 SIDE SHAFT GUARD 47.50	2
4	37N77	#3 SIDE SHAFT GUARD 50.25	1
5	86123B	SIDE SHIELD, REAR W/DECALS	1
6	86122B	SIDE SHIELD, FRONT W/DECALS	1
7	85034B	SIDE SHIELD W/DECALS	1
8	85014B	BEARING PLATE W/DECALS	1
9	86104	BEARING BRACKET	3
10	86291	SHIELD BRACKET	2
11	12N36	BEARING, PILLOW BLOCK 1-1/4	3
12	80662	BEARING, 1-1/4	1
13	45N68	SPROCKET, 23T	1
14	45N71	SHEAR HUB	1
15	23N189	SNAP RING, EXTERNAL, 2.44	1
16	F92	FRONT SHIELD BRACKET	1
17	S122	LANYARD, CLIP PIN CABLE	1
18	YBPU08005	PIPE U BOLT, 1/4 X 3/4	3
19	F33	SIDE CABLE GUIDE	3
20	5B9	WOODRUF KEY, 3/8 X 1-1/4	1
21	YSKP12010	SET SCREW, SOCKT, KNURLED CUP PT, 3/8-16 X 1/2	1
22	YBHH12185	BOLT HEX, 3/8 X 4-1/2 G5	1
23	YBHH12025	BOLT HEX, 3/8-16 X 1-1/2 G5	6
24	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	18
25	YBFB08075	BOLT FLANGE, 1/4 X 3/4 G5	10
26	YBFB12150	BOLT FLANGE, 3/8 X 1-1/2 G5	1
27	G89	ZERK, 1/4-28 STRAIGHT	1
28	YN TL12005	NUT HEX, 3/8-16 ZC	3
29	YNFG12006	NUT FLANGE, 3/8 GF	21
30	YNRL12005	NUT HEX, 3/8-16 ZC	1
31	YNFG08010	NUT FLANGE, 1/4 GF	8
32	YNHX08005	NUT HEX, 1/4-20 ZC	6





REF #	PART #	DESCRIPTION	QTY
1	85385	GEARBOX ASSY	1
2	85205	GEARBOX BOTTOM BRACKET	1
3	31N36	TIGHTENER BRACKET	1
4	31N35	TIGHTENER BAR RH	1
5	31N34	TIGHTENER BAR LH	1
6	31N33	SPRING	1
7	F6	COLLAR FOR SHAFT	1
8	23N215	CLUTCH THROWOUT	1
9	3G19	SNAP RING, INTERNAL, 2.59 X 2.22	1
10	BFR525	BEARING W/LOCK COLLAR	1
11	23N216	HIGH SPEED DRIVE SPROCKET	1
12	10R11	SPROCKET, 13T	1
13	80662	BEARING, 1-1/4	1
14	D68	BUSHING, BRONZE, 1.25 OD X 1 ID X .75 LONG	1

REF #	PART #	DESCRIPTION	QTY
15	23N241	CLUTCH	1
16	23N90	CLUTCH W/SPLINE	1
17	23N89	COMPRESSION SPRING	1
18	37N53	CABLE, 3/16, 212	1
19	ES14	LOOP	1
20	BFR220	CABLE CLAMP, 3/16	1
21	YBTE12005	BOLT TURNED EYE, 3/8 X 1	1
22	23N205	CLUTCH ROD	1
23	23N206	CLUTCH ROD HOLDER	2
24	D57B	BEATER CLUTCH	2
25	23N208	YOKE W/ZERK	2
26	57265	CLUTCH YOKE	2
27	85006	SHIFTER BRACKET	2
28	23N207	SHIFTING SPRING BRACKET	1
29	23N210	SHIFTING ROD	11
30	K103	SPRING, ROPE RETURN SP-10	1
31	YBTE08005	BOLT TURNED EYE, 1/4 X 1	1
32	23N211	SPRING	1
33	YPCT04005	COTTER PIN, 1/8 X 1	1
34	YSFD12005	SET SCREW, SOCKET, FULL DOG PT, 3/8-16 X 3/4	2
35	YSKP10010	SET SCREW, SCKET, KNURLED CUP, 5/16 - 18 X 3/8	3
36	5B10	WOODRUFF KEY, 1/4 X 1	2
37	5B9	WOODRUFF KEY, 3/8 X 1-1/4	1
38	23N209	ROD COLLAR	1
39	G89	STRAIGHT ZERK, 1/4-28	2
40	YWLO08005	WASHER, LOCK, 1/4 ZC	1
41	YWFL12005	WASHER, FLAT, 3/8	2
42	YBHH16010	BOLT HEX, 1/2-13 X 1 G5	4
43	YBFB12125	BOLT FLANGE, 3/8 X 1-1/4 G5	6
44	YBCR12015	BOLT CARRIAGE, 3/8-16 X 1-1/2 G5 ZC	3
45	YBHH12010	BOLT HEX, 3/8 X 1 G5	4
46	YWLO12005	WASHER, LOCK, 3/8	8
47	YNFG12006	NUT FLANGE, 3/8 GF	9
48	YNCO12005	NUT HEX, COUPLING, 3/8-16 X 1-1/8 ZC	1
49	YNHX12005	NUT HEX, 3/8-16 ZC	12
50	YNHX08005	NUT HEX, 1/4-20 ZC	3
51	YBCR12010	BOLT CARRIAGE, 3/8 X 1 G5	4
52	86707	SHIFTER BRACKET SPACER	1
53	YSKP10020	SETSCRW, SCKT, KN CP, 5/16-24 X 3/8 W/NYL PTCH	1





FIGURE 7

APRON GEARBOX & COMPONENTS

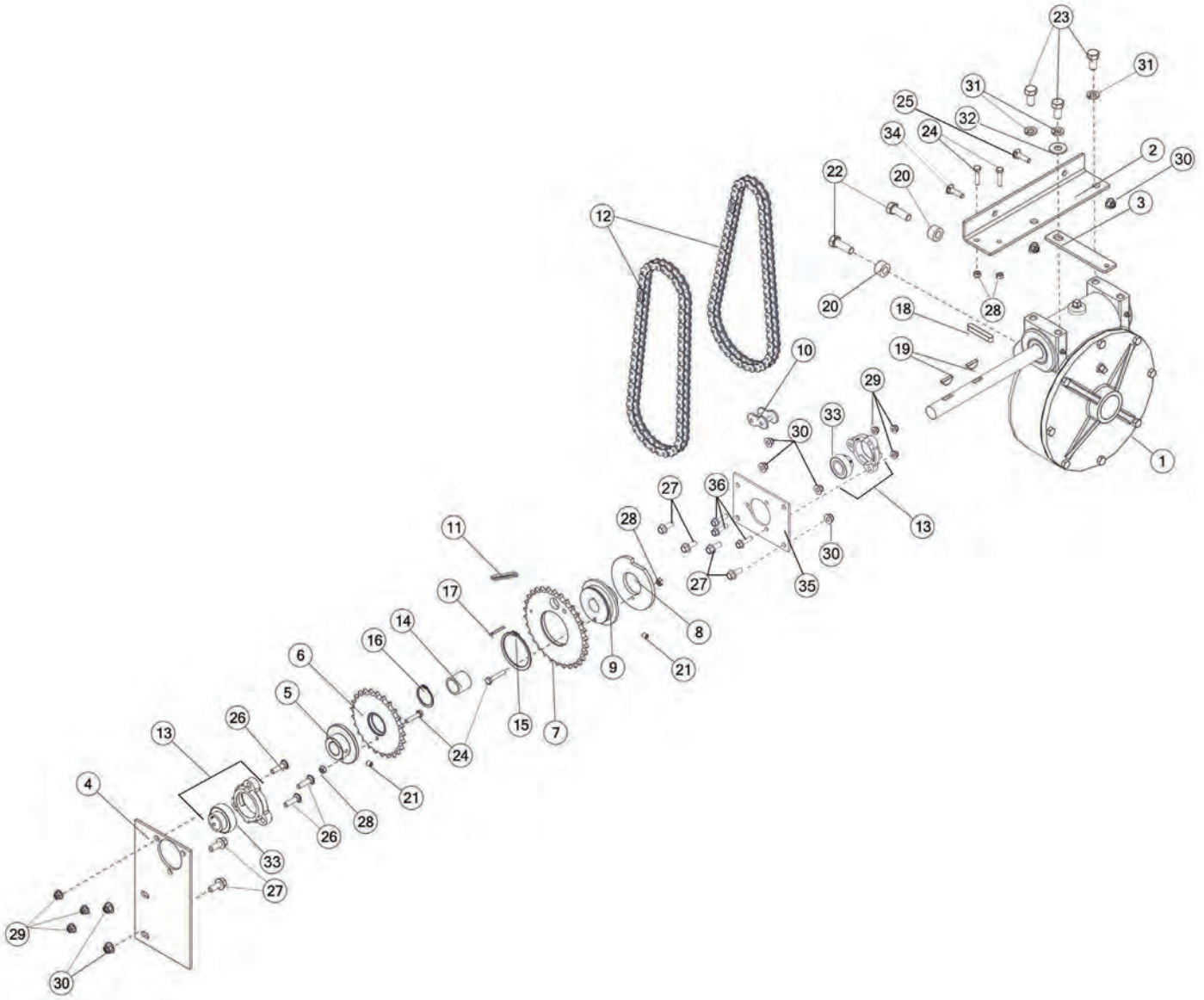




FIGURE 7

APRON GEARBOX & COMPONENTS

REF #	PART #	DESCRIPTION	QTY
1	G122	WORM GEARBOX	1
2	23N95	GEARBOX HOLDER	1
3	86101	SHIELD BRACKET	1
4	23N230	BEARING PANEL	1
5	56025	SHEAR HUB	1
6	56036	SPROCKET BUSHING ASSY.	1
7	23N226	SPROCKET W/BUSHING, 50T A 30T	1
8	23N222	SHEAR PLATE	1
9	23N224	LOW SPEED SHEAR HUB	1
10	X61	CONNECTOR LINK	2
11	23N229	DOG SPRING	1
12	23N93	ROLLER CHAIN, #50, 60P	2
13	80530	PILLOW BLOCK BEARING, 1IN	2
14	56029	SPACER	1
15	23N227	SNAP RING	1
16	56024	STANDARD EXTERNAL SNAP RING, 1-1/2	1
17	YPCT04005	COTTER PIN, 1/8 X 1	1
18	S138	SQUARE KEY, 3/8 X 2-3/8	1
19	5B10	WOODRUFF KEY, 1/4 X 1	2
20	23N94	WORM BOX SPACER	2
21	YSKP10010	SET SCREW, SCKT, KNURLED CUP, 5/16 - 18 X 3/8	2
22	YBHH16030	BOLT HEX, 1/2-13 X 1-1/2 G5	2
23	YBHH16010	BOLT HEX, 1/2-13 X 1 G5	3
24	YBHH08035	BOLT HEX, 1/4-20 X 1-1/4 G5	3
25	YBHH08025	BOLT HEX, 1/4-20 X 1-1/2 G5	1
26	YBCR10020	BOLT CARRIAGE, 5/16-18 X 1-1/4 G5 ZC	3
27	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	6
28	YNTL08005	NUT HEX, 1/4-20 LKTL ZC	4
29	YNFG10005	NUT FLANGE, 5/16 GF	6
30	YNFG12006	NUT FLANGE, 3/8 GF	8
31	YWLO16005	WASHER, LOCK, 1/2	3
32	YWFL16005	WASHER, FLAT, 1/2	1
33	23N221	BEARING W/SET SCREWS, 1IN	2
34	YBCR12010	BOLT CARRIAGE, 3/8 X 1 G5	2
35	96463	COVER PLATE	1
36	YBFB10125	BOLT FLANGE, 5/16 X 1-1/4 G5	3





FIGURE 8

GEARBOX SHIELD & COMPONENTS

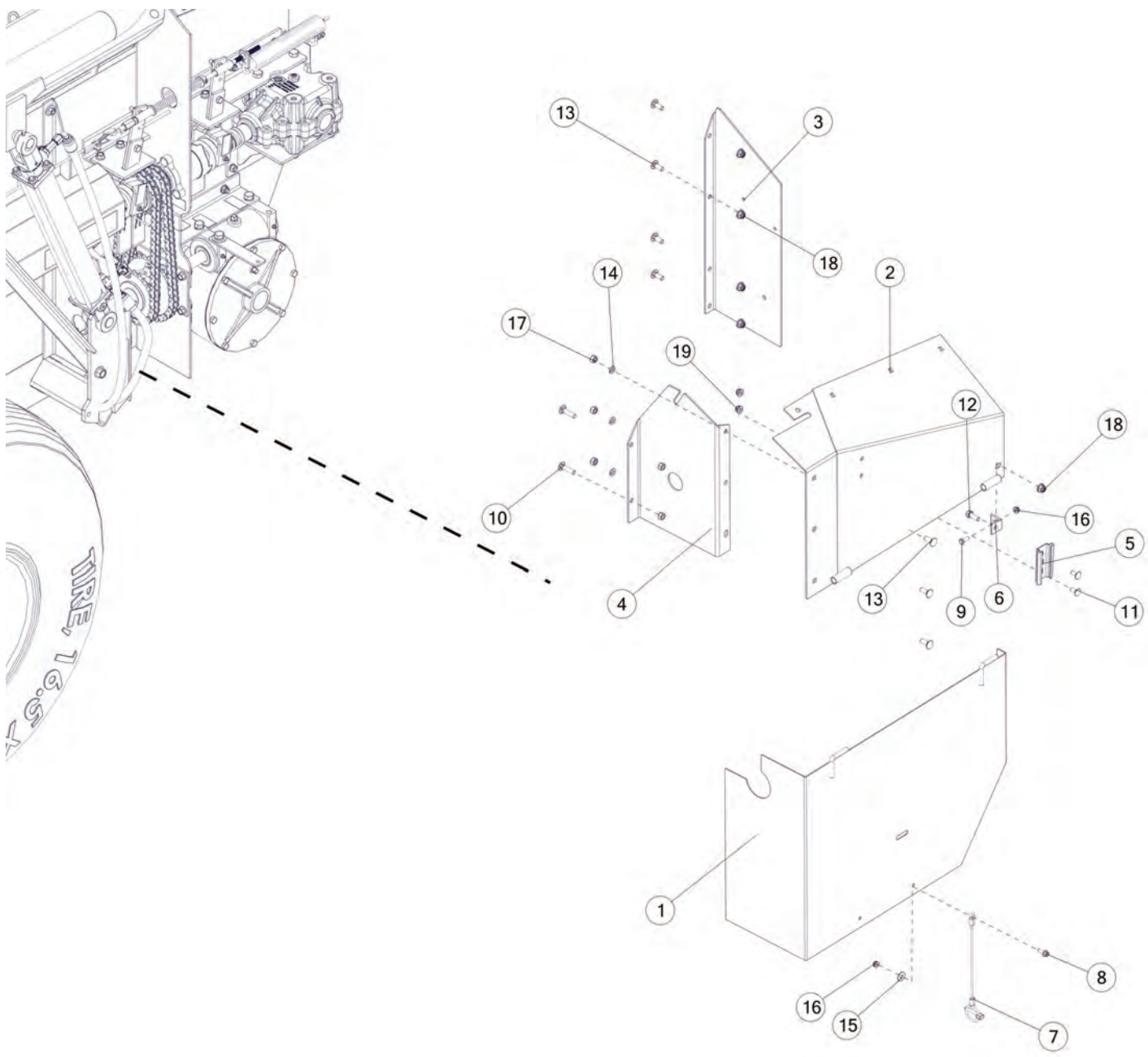




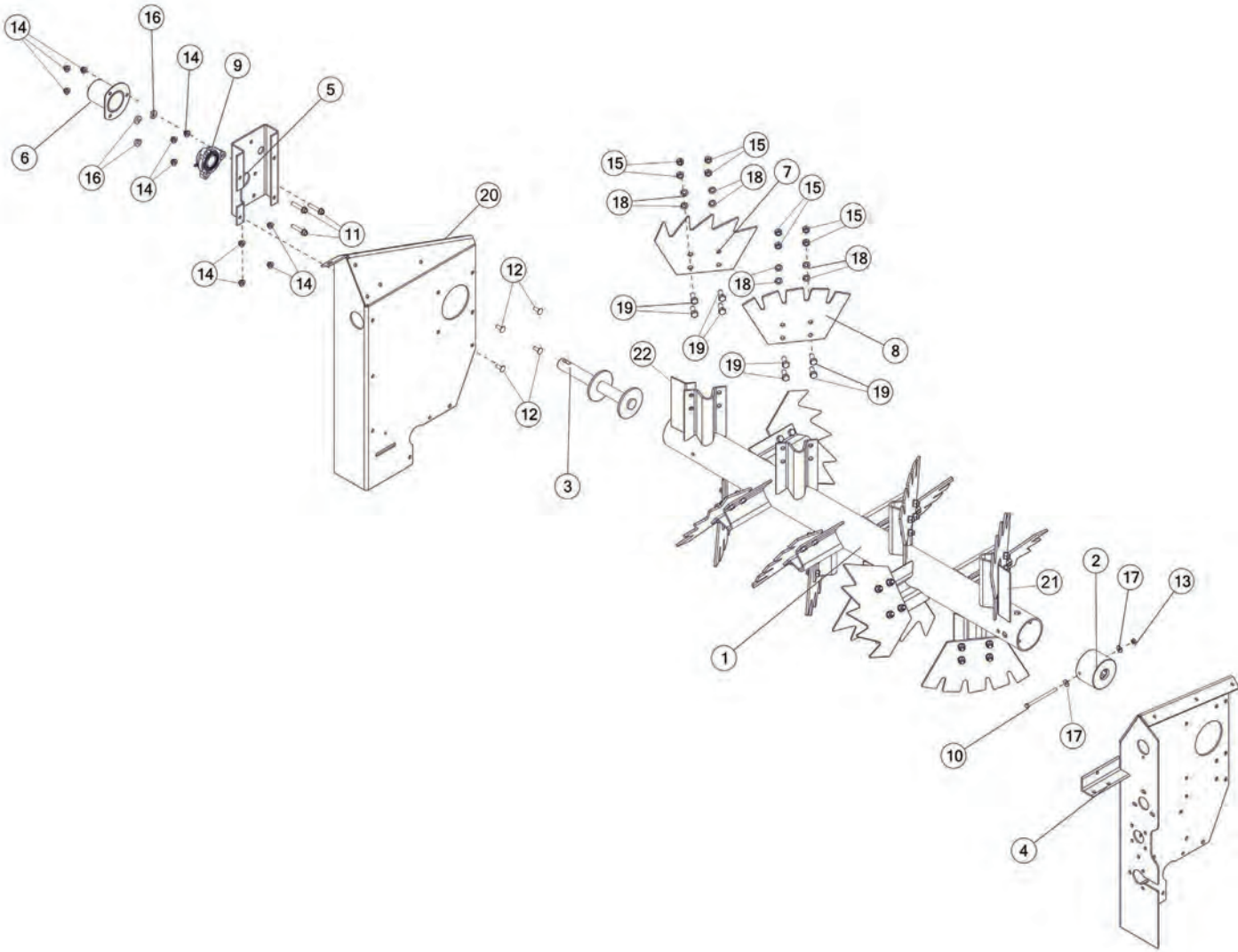
FIGURE 8 GEARBOX SHIELD & COMPONENTS

REF #	PART #	DESCRIPTION	QTY
1	86103B	GEARBOX SHIELD W/DECALS	1
2	86114	TOP BACK SHIELD	1
3	86109B	BACK SHIELD W/DECALS	1
4	86108	SHIELD	1
5	F97	SMV HOLDER	1
6	F92	FRONT SHIELD BRACKET	1
7	S122	LANYARD, CLIP PIN CABLE	1
8	YBFB08075	BOLT FLG, 1/4 X 3/4 G5	1
9	YBHH08100	BOLT, 1/4-20 X 3/4 GR 5	1
10	YBCR12015	BOLT, CARR, 3/8-16 X 1-1/2, GR5, ZC	2
11	YBCR10030	BOLT, CARR, 5/16-18 X 3/4, GR5, ZC	2
12	YBHH12010	BOLT, 3/8 X 1 GR 5	1
13	YBCR12010	BOLT, CARR, 3/8-16 X 1.00, GR5, ZC	7
14	YWLO12005	WASHER, LOCK, 3/8	3
15	YWFL10005	WASHER, FLAT, 5/16 USS	1
16	YNFG08010	NUT FLG, 1/4 GF	2
17	YNHX12005	NUT, HEX, 3/8-16, NA, A, ZC	3
18	YNFG12006	NUT FLG, 3/8 GF	7
19	YNFG10005	NUT FLG, 5/16 GF	2





FIGURE 9 BOTTOM BEATER & COMPONENTS



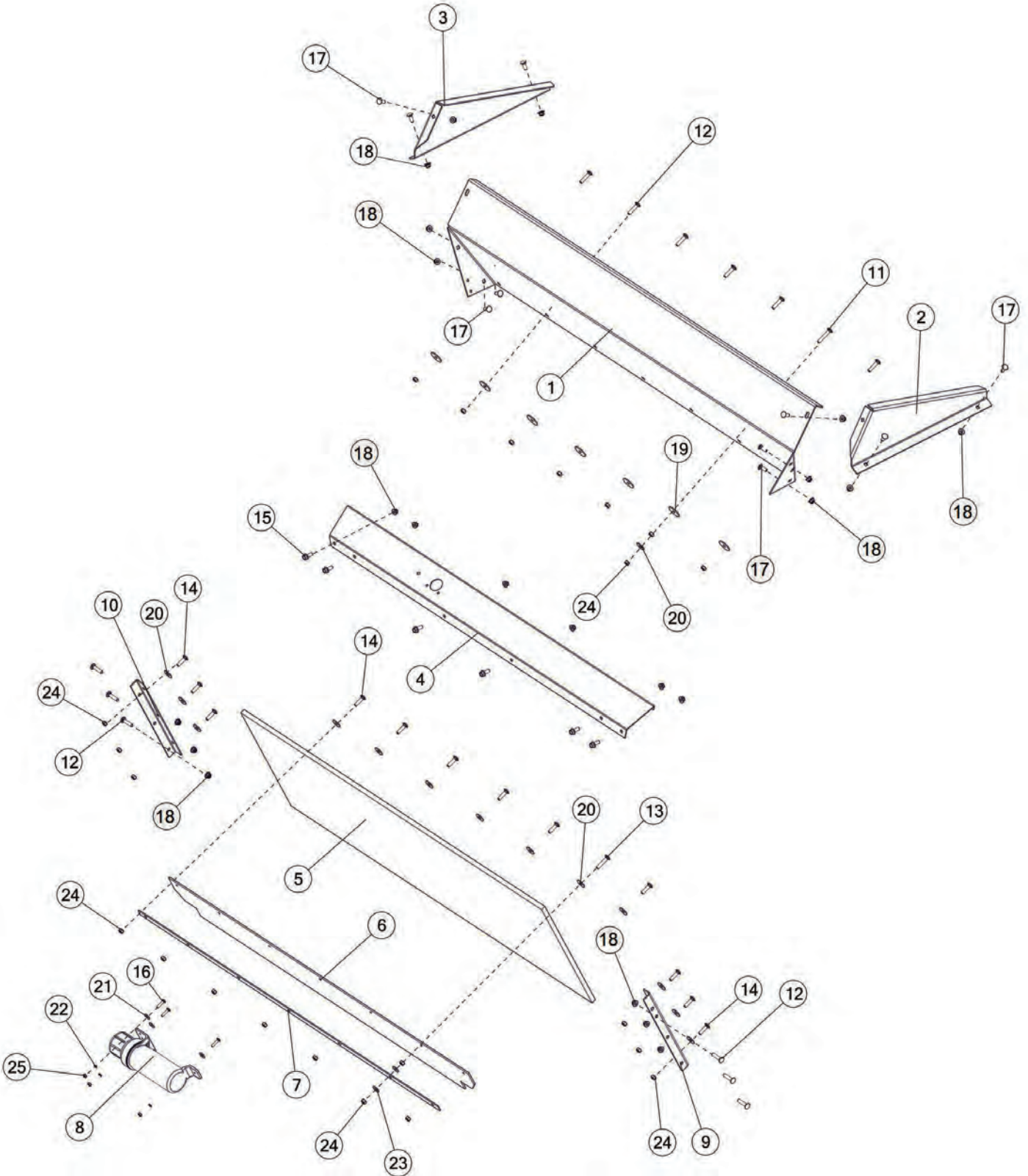


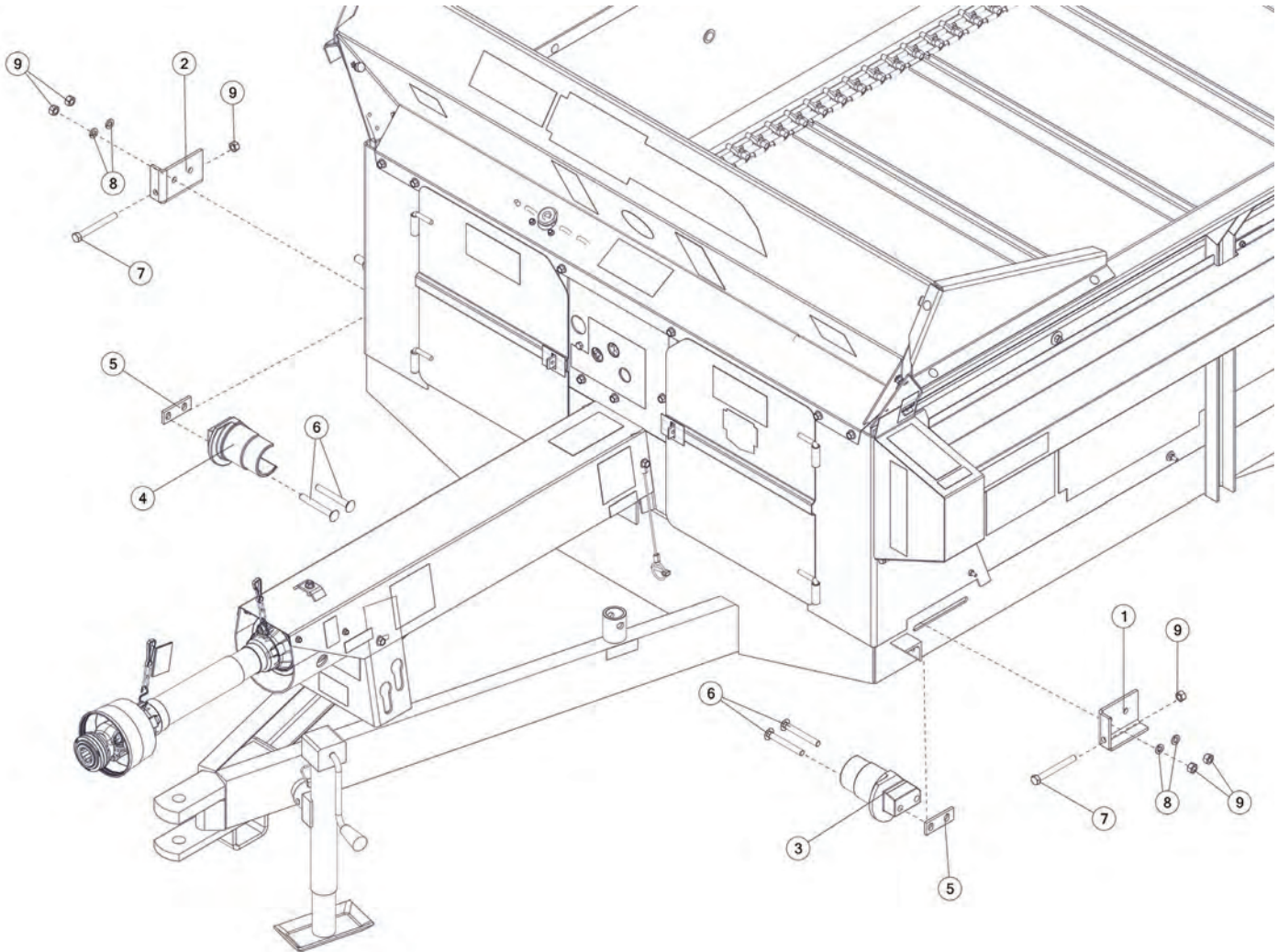


FIGURE 10

SPLASH GUARD & COMPONENTS

REF #	PART #	DESCRIPTION	QTY
1	23N34B	FRONT FLARE W/DECALS	1
2	95867	SPLASH GUARD LH	1
3	95868	SPLASH GUARD RH	1
4	23N176B	FRONT FLARE SUPPORT W/DECALS	1
5	37N65A	FRONT GATE W/DECALS	1
6	23N41	FRONT GATE RUBBER	1
7	23N40	STRAP FOR RUBBER	1
8	S522	MANUAL HOLDER	1
9	37N13	GATE ANGLE LH	1
10	37N12	GATE ANGLE RH	1
11	YBCR12045	BOLT CARRIAGE, 3/8-16 X 2-1/4 G5 ZC	1
12	YBCR12030	BOLT CARRIAGE, 3/8-16 X 1-3/4 G5 ZC	12
13	YBCR12035	BOLT CARRIAGE, 3/8-16 X 2 G5 ZC	1
14	YBCR12015	BOLT CARRIAGE, 3/8-16 X 1-1/2 G5 ZC	12
15	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	6
16	YBCR08015	BOLT CARRIAGE, 1/4-20 X 1-1/4 G5 ZC	3
17	YBCR12010	BOLT CARRIAGE, 3/8-16 X 1 G5 ZC	10
18	YNFG12006	NUT FLANGE, 3/8 GF	22
19	YWCU14005	WASHER, CUSTOM, FLAT, 7/16D X 1-3/4OD X .12 ZC	7
20	YWFL14005	WASHER, FLAT, 7/16 ZC	8
21	YWFL10005	WASHER, FLAT, 5/16	3
22	YWLO08005	WASHER, LOCK, 1/4 ZC	3
23	YWFL12005	WASHER, FLAT, 3/8	2
24	YNHX12005	NUT HEX, 3/8-16 ZC	23
25	YNHX08005	NUT HEX, 1/4-20 ZC	3



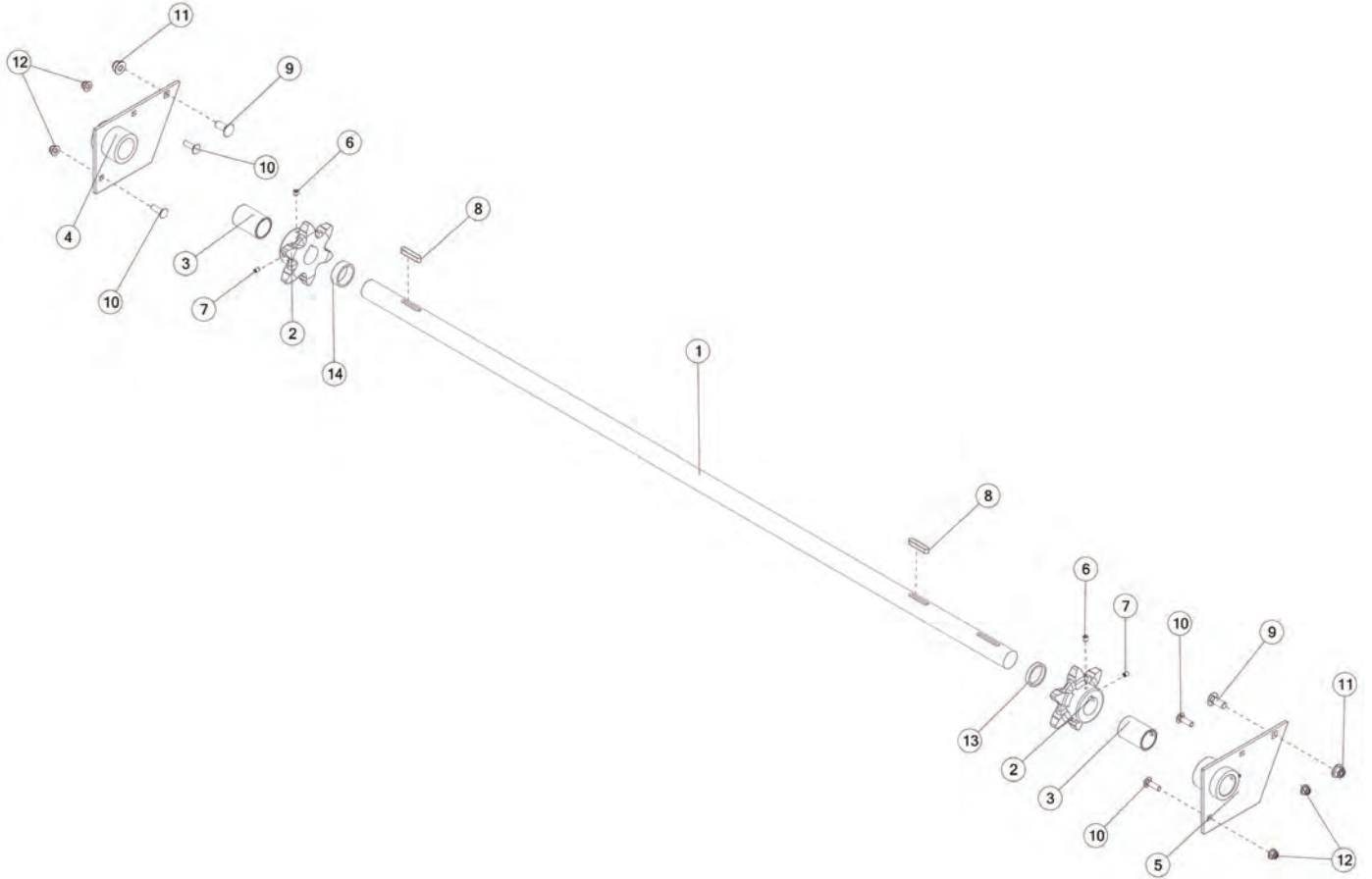


REF #	PART #	DESCRIPTION	QTY
1	A29	FRAME WASHER LH	1
2	A30	FRAME WASHER RH	1
3	23N127	T-ROD SLIDE LH	1
4	23N128	T-ROD SLIDE RH	1
5	23N126	APRON CHAIN TIGHTENER	2
6	YBCR16045	BOLT CARRIAGE, 1/2-13 X 4 G5 ZC	4
7	YBHH16145	BOLT HEX, 1/2 X 4-1/2 G5 FULL THREAD	2
8	YWLO16005	WASHER, LOCK, 1/2	4
9	YNHX16005	NUT HEX, 1/2-13 ZC	6



FIGURE 12

DRIVE SHAFT & COMPONENTS



REF #	PART #	DESCRIPTION	QTY
1	27N19	DRIVESHAFT	1
2	23N122	DRIVE SPROCKET, 6T	2
3	23N17	BUSHING, DRIVE SHAFT	2
4	23N19	DRIVE SHAFT BRACKET RH	1
5	37N78	DRIVE SHAFT BRACKET LH	1
6	YSKP12025	SET SCREW, SCKT, KNURLED CUP PT, 3/8-16 X 3/8	2
7	YSKP10010	SET SCREW, SCKT, KNURLED CUP PT, 5/16-18 X 3/8	2
8	PB136	SQUARE KEY, 3/8 X 2	2
9	YBCR16015	BOLT CARRIAGE, 1/2-13 X 1-1/4 G5 ZC	2
10	YBCR12020	BOLT CARRIAGE, 3/8-16 X 1-1/4 G5 ZC	4
11	YNFG16003	NUT FLANGE, 1/2 GF	2
12	YNFG12006	NUT FLANGE, 3/8 GF	4





FIGURE 13

FLOOR, SIDE PANELS & COMPONENTS

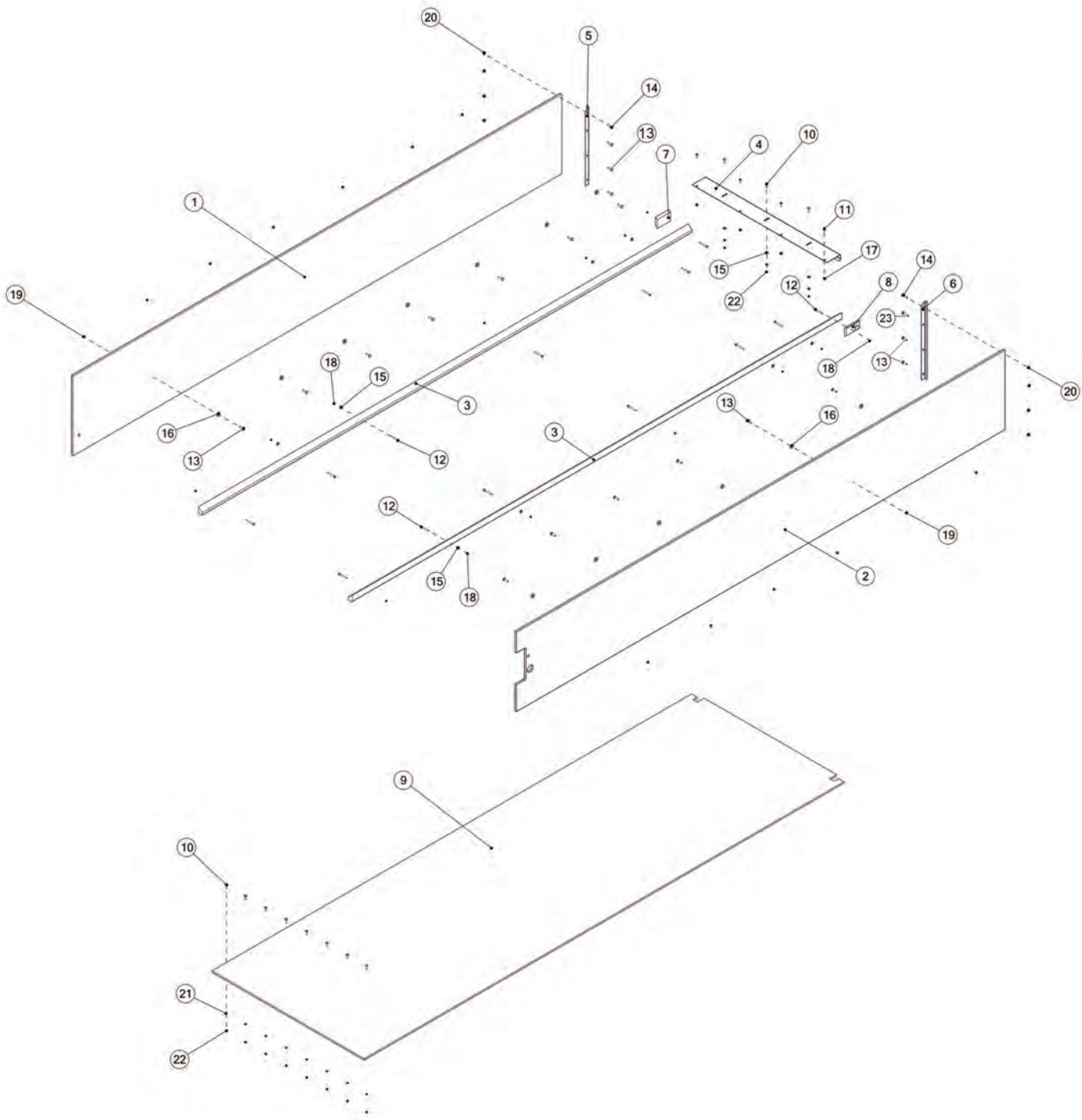
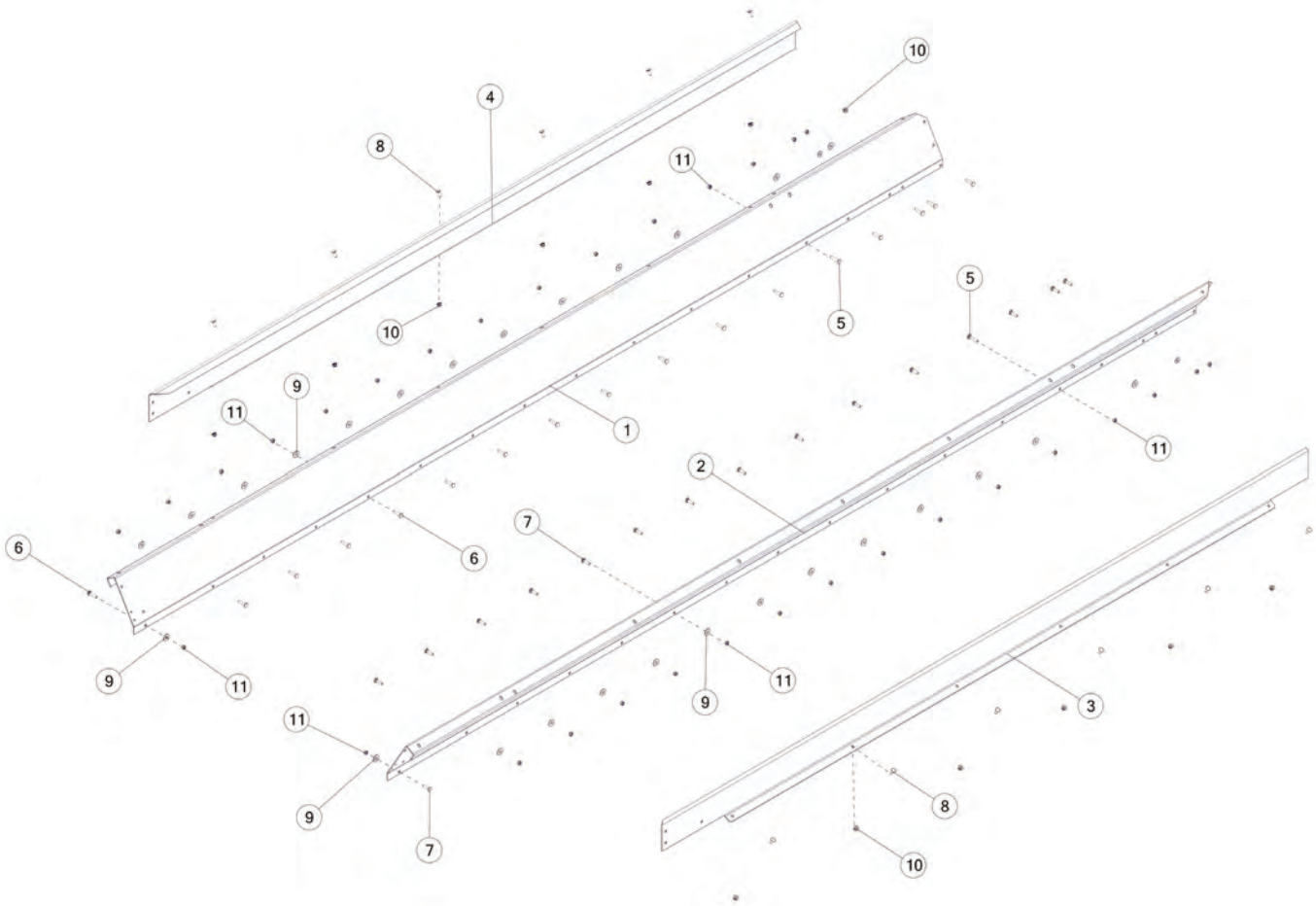




FIGURE 14 SIDE FLARES & COMPONENTS



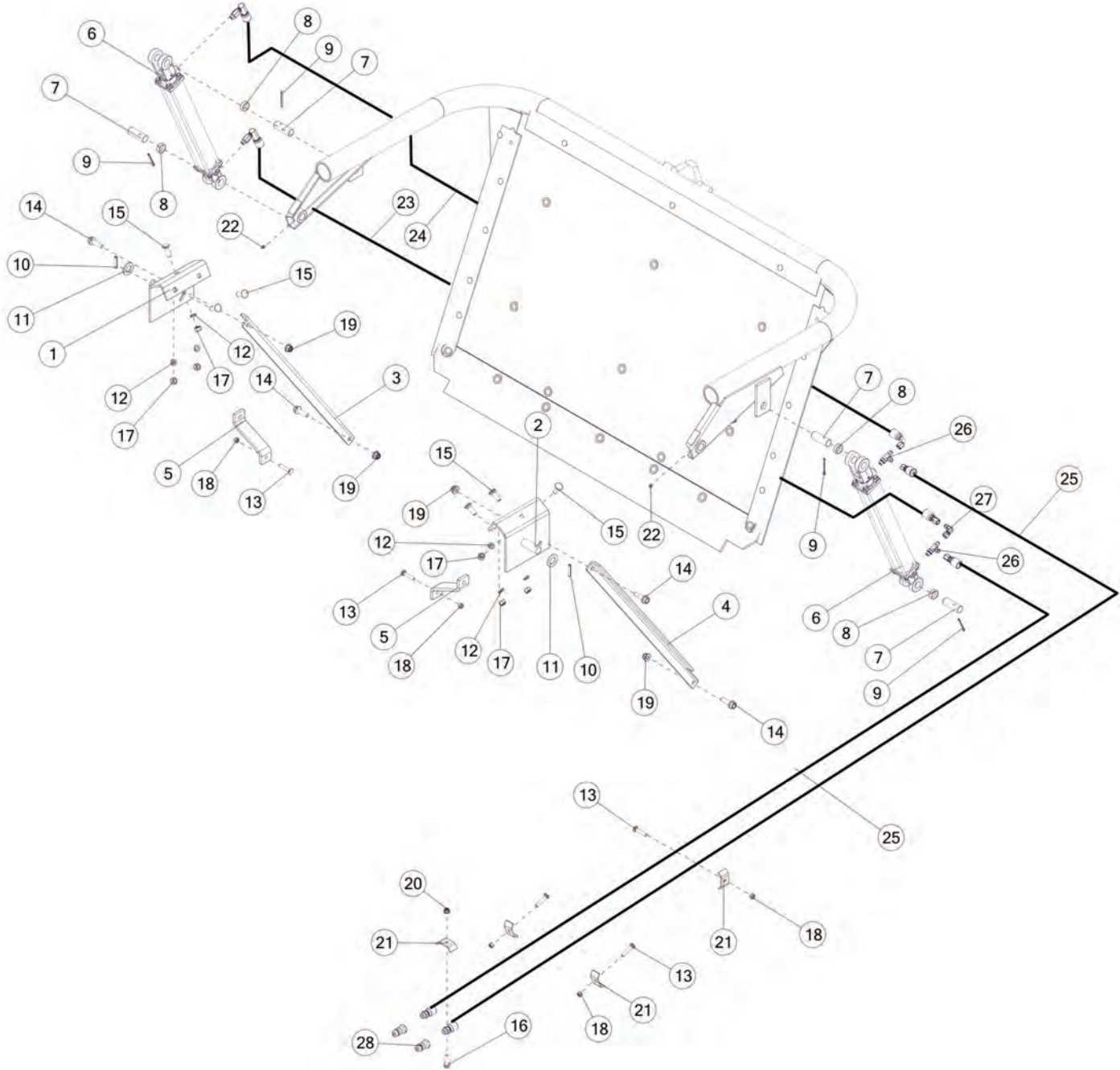




FIGURE 15 ENDGATE & COMPONENTS

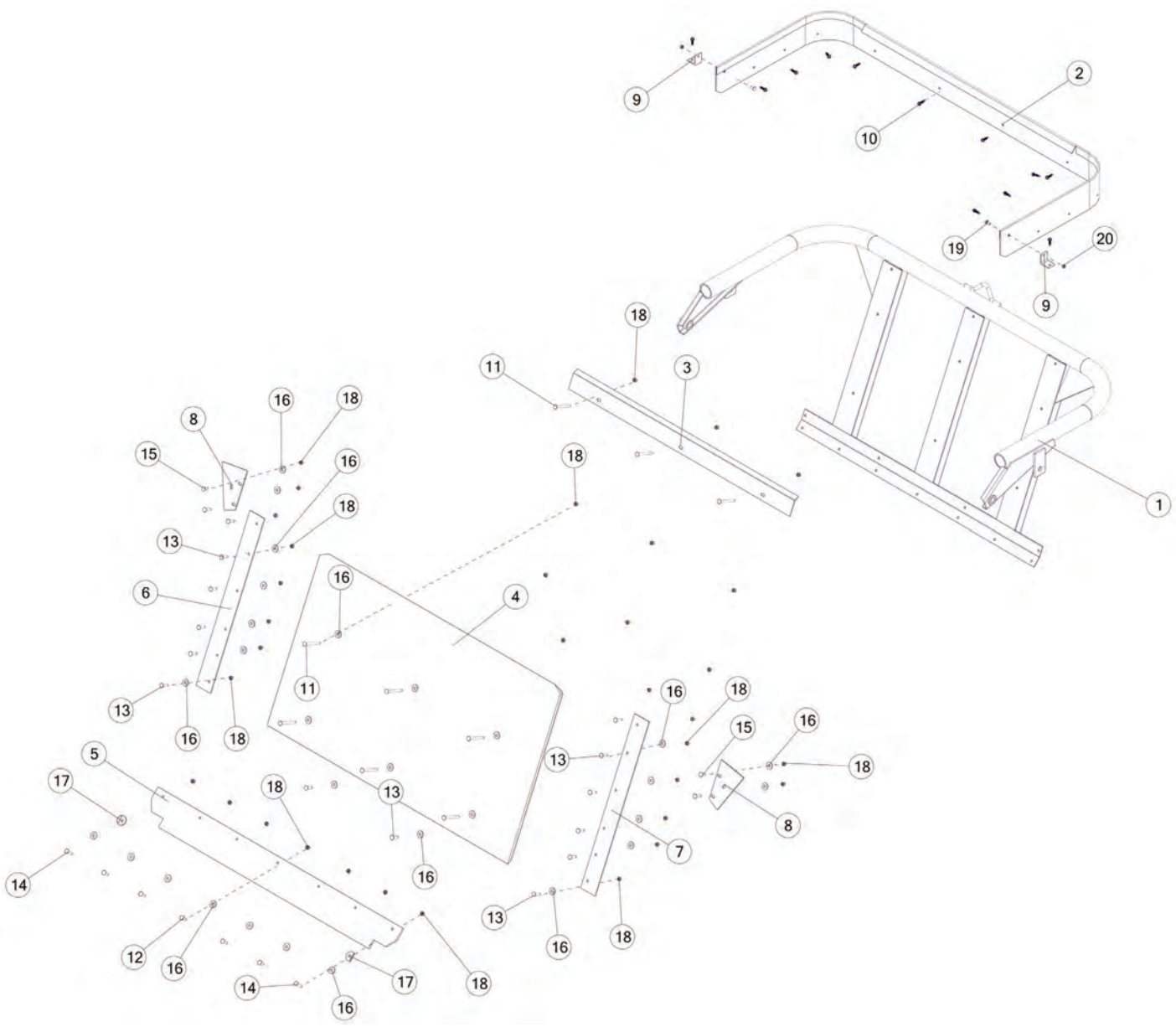




FIGURE 16
APRON CHAIN ASSEMBLY

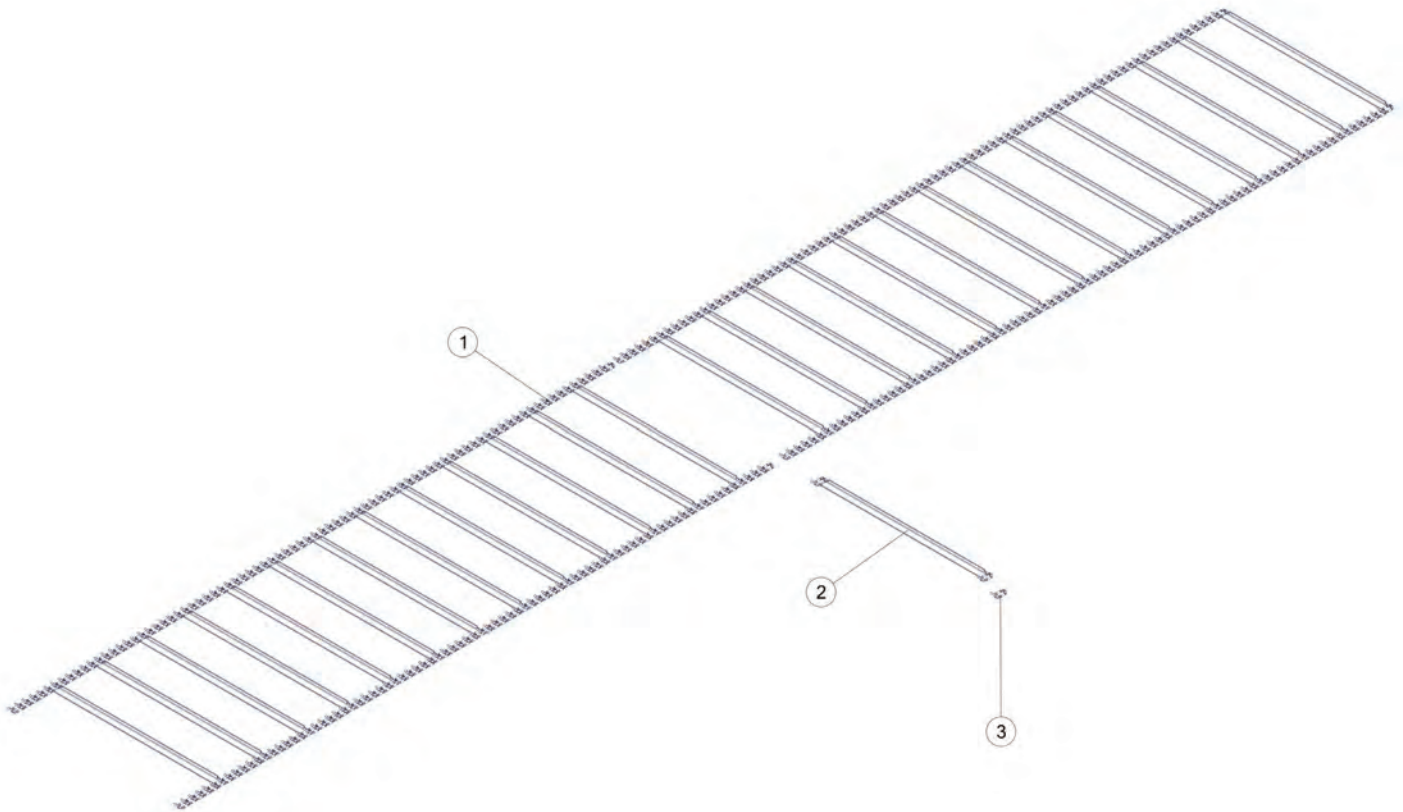




FIGURE 17
APRON GEARBOX

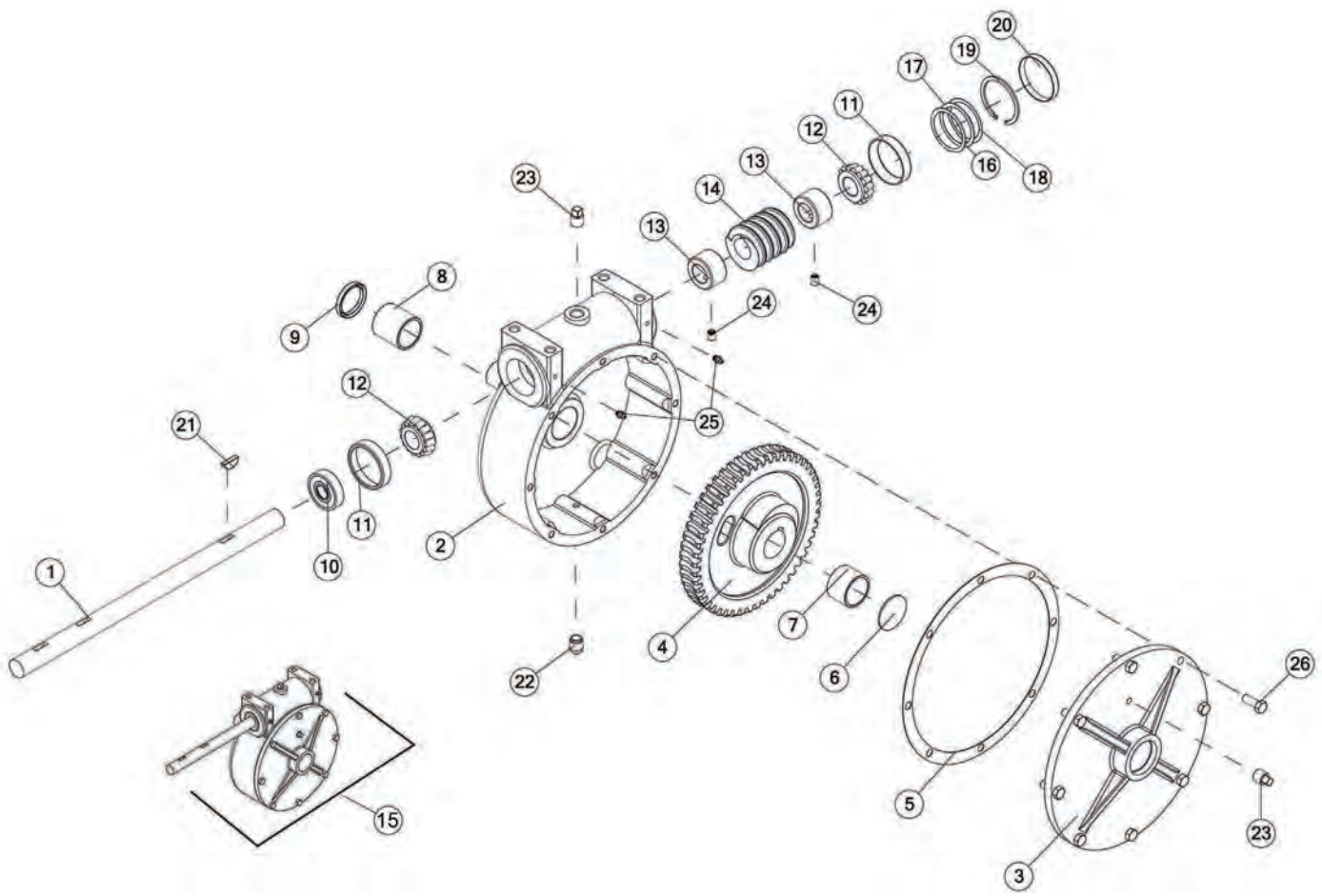




FIGURE 18
BEATER GEARBOX

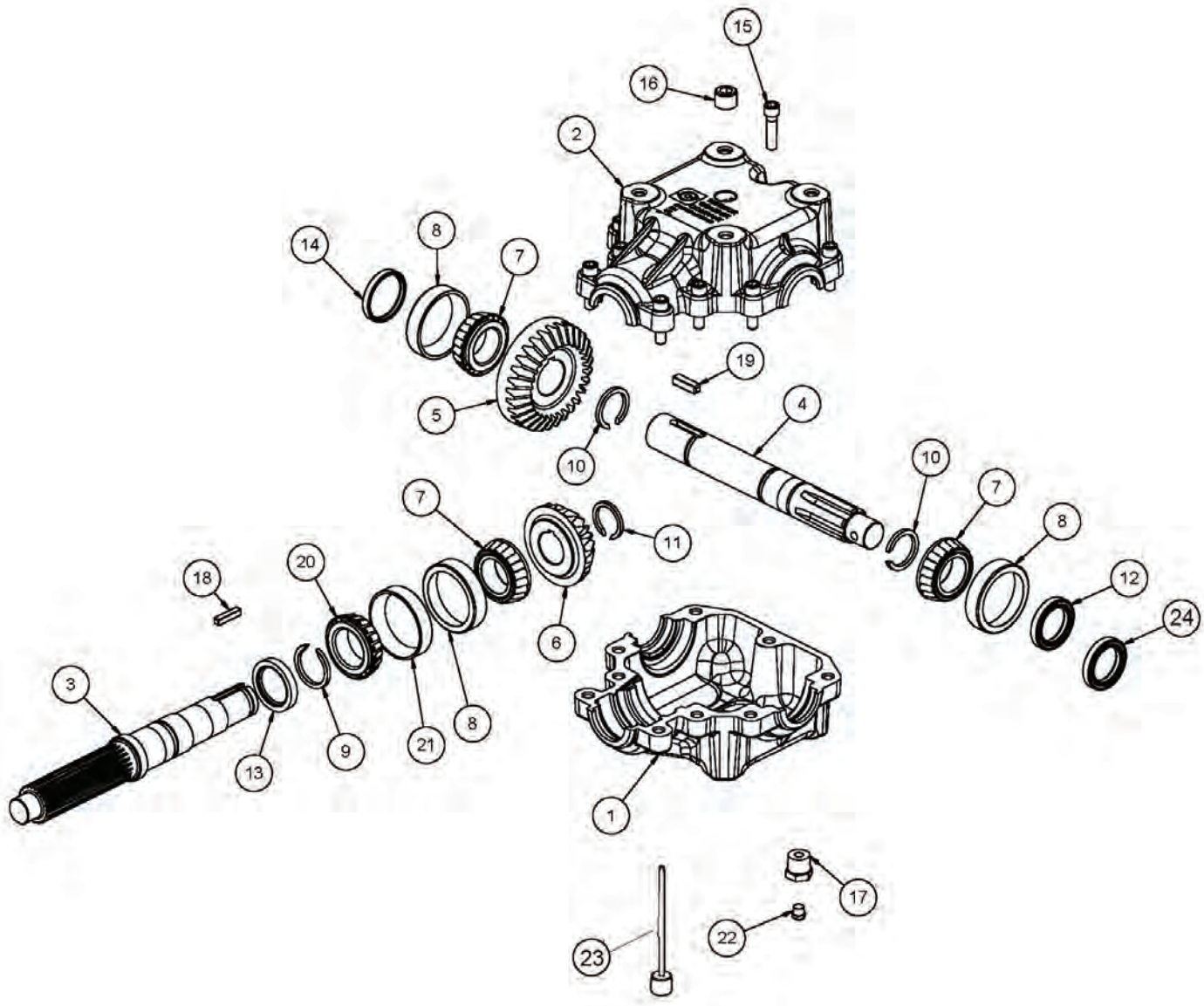




FIGURE 19

PTO

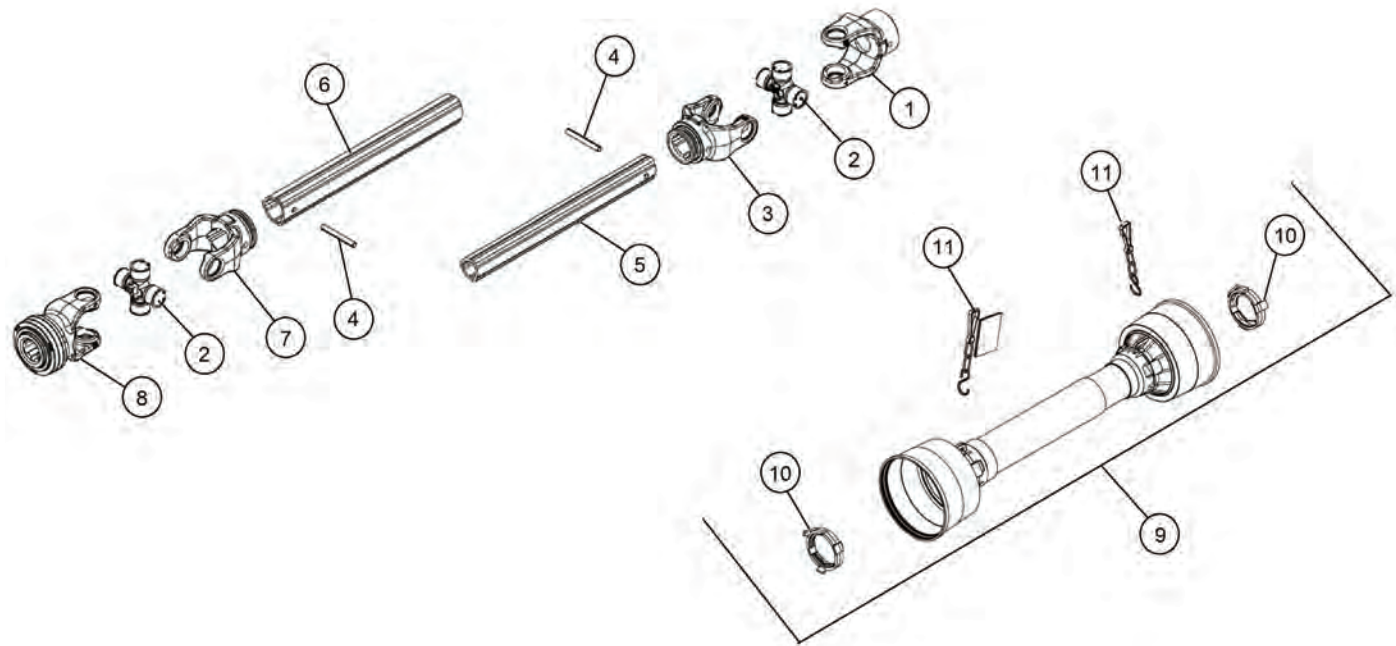




FIGURE 20

WHEEL & HUB ASSEMBLY

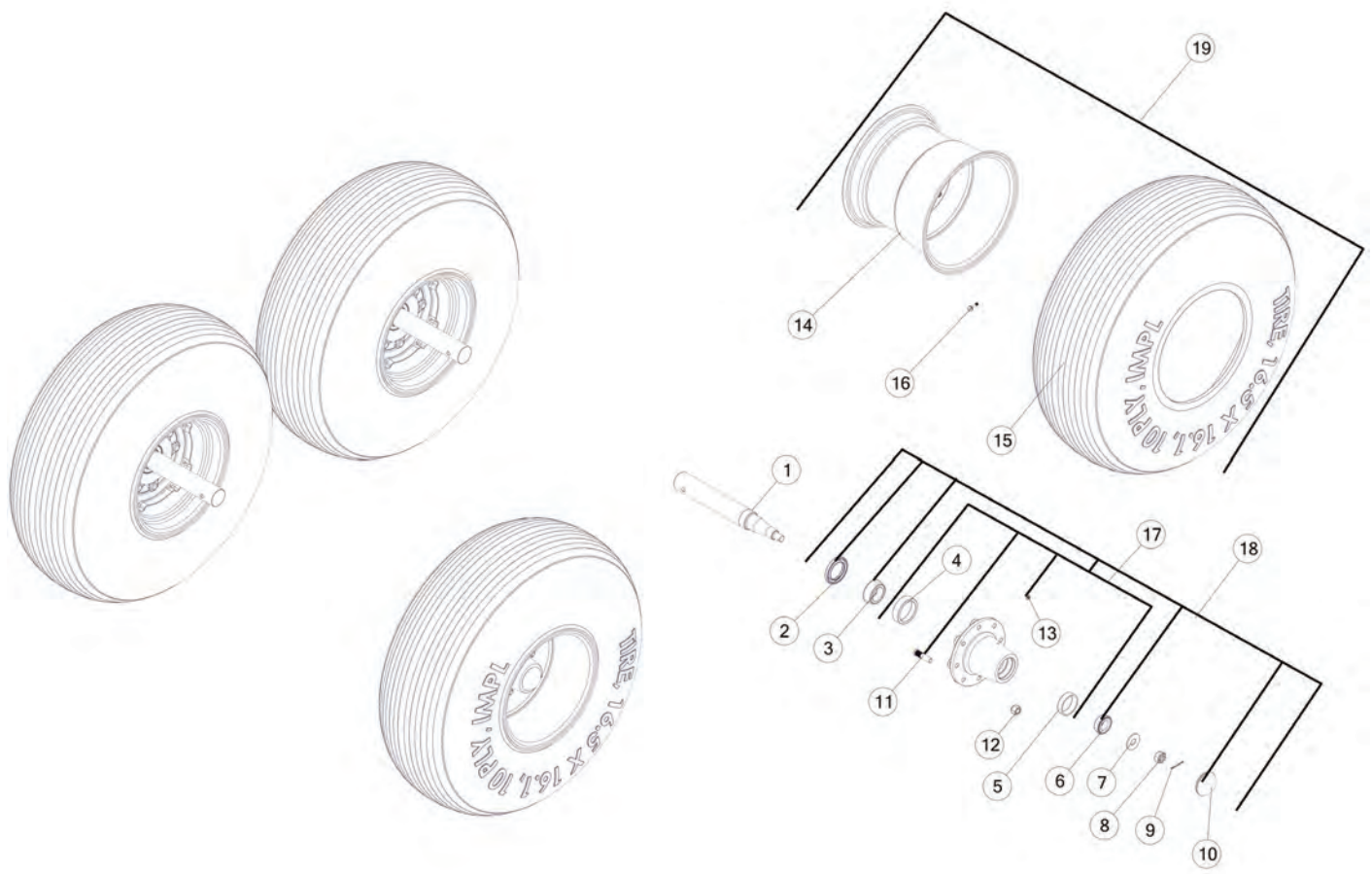




FIGURE 21

TOP BEATER

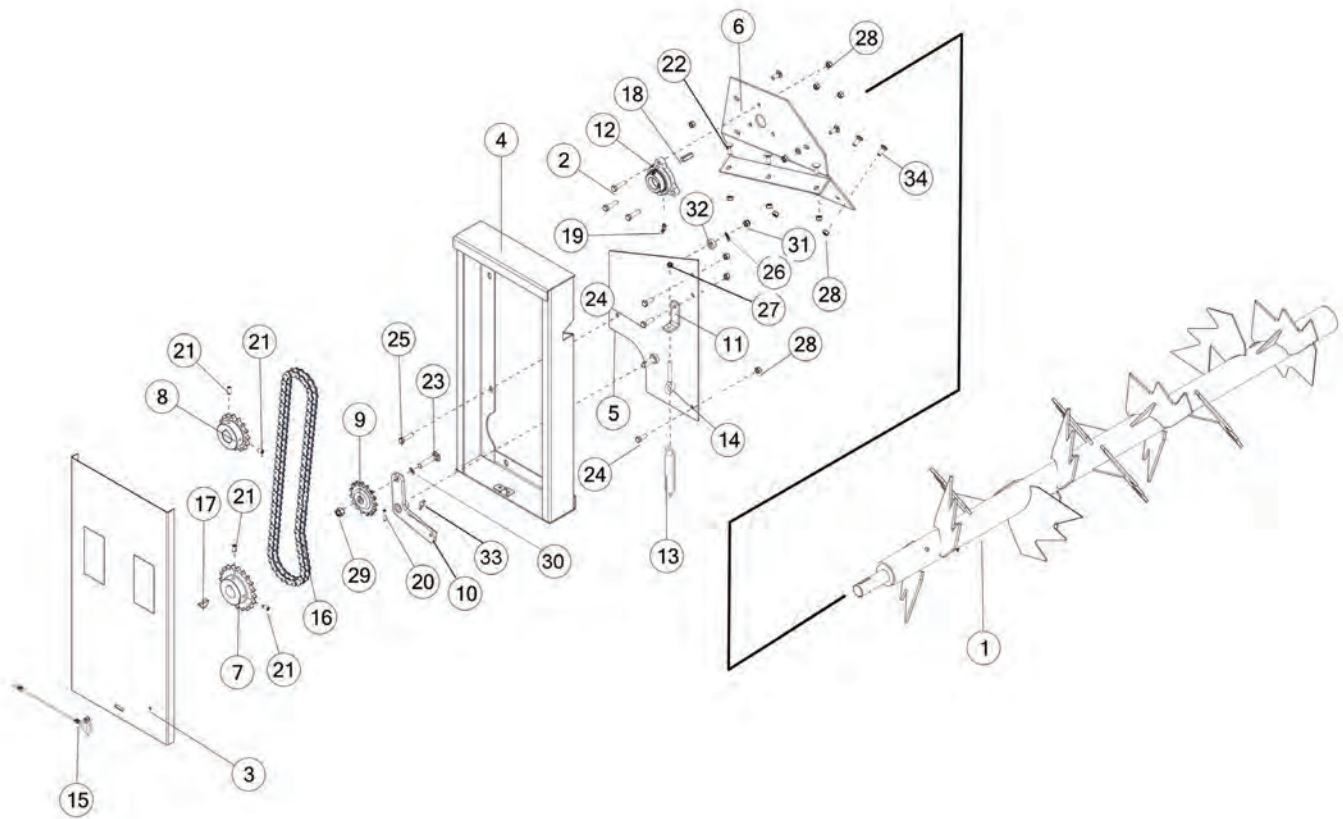




FIGURE 21

TOP BEATER

REF #	PART #	DESCRIPTION	QTY
1	97944	SECOND BEATER	1
2	YBCR12015	BOLT CARRIAGE, 3/8-16 X 1-1/2 G5	3
3	81467	FRONT SHIELD WITH DECAL	1
4	81468	BEATER SHIELD WITH DECALS	1
5	81465	BACK SHIELD WITH DECAL	1
6	80718	BEATER PANEL, RH	1
7	80898	SPROCKET, 20T	1
8	D23	SPROCKET, 16T	1
9	12N42	IDLER SPROCKET,15T	1
10	80728	SPRING TENSIONER ARM	1
11	23N242	SHIELD BRACKET	1
12	80725	BEATER BEARING	1
13	ST36	TENSION SPRING	1
14	YBTE10039	BOLT TURNED EYE, 5/16 X 4	1
15	57616	LANYARD, 9/64 X 2-11/16 HAIR PIN	1
16	37N49	ROLLER CHAIN #60	1
17	5B9	KEY	1
18	A32	SQUARE KEY	1
19	RG21	GREASE ZERK, 45 DEGREE	1
20	YPEX08010	EXPANSION PIN, 1/4 X 1-1/4	1
21	YSKP12035	SETSCREW, 3/8 X 3/4	4
22	YBCR12010	BOLT CARRIAGE, 3/8 X 1 G5	3
23	YBCR16025	BOLT CARRIAGE, 1/2 X 2-1/2 G2	1
24	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	3
25	YBFB12150	BOLT FLANGE, 3/8 X 1-1/2 G5	4
26	YWFL12005	WASHER FLAT, 3/8	5
27	YNFG10005	NUT FLANGE, 5/16 GF	1
28	YNFG12006	NUT FLANGE, 3/8 GF	12
29	YNFG16003	NUT FLANGE, 1/2 GF	1
30	YWFL14005	WASHER FLAT, 7/16	4
31	YNNY12005	NUT HEX, 3/8 LKNY G2	1
32	S246	SPACER	1
33	G89	STRAIGHT ZERK, 1/4-28 X 90	1
34	YBCR12020	BOLT CARRIAGE, 3/8 X 1-1/4 G5	3





FIGURE 21

TOP BEATER

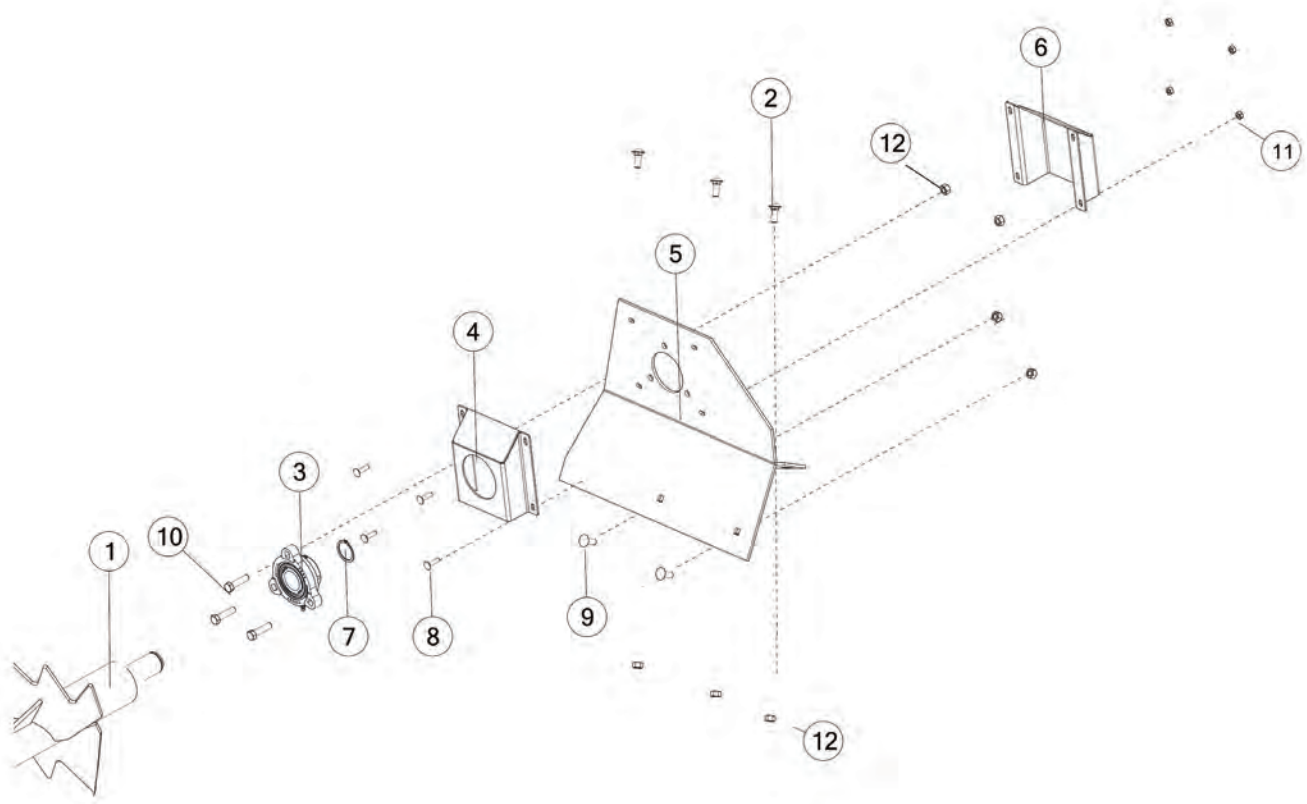
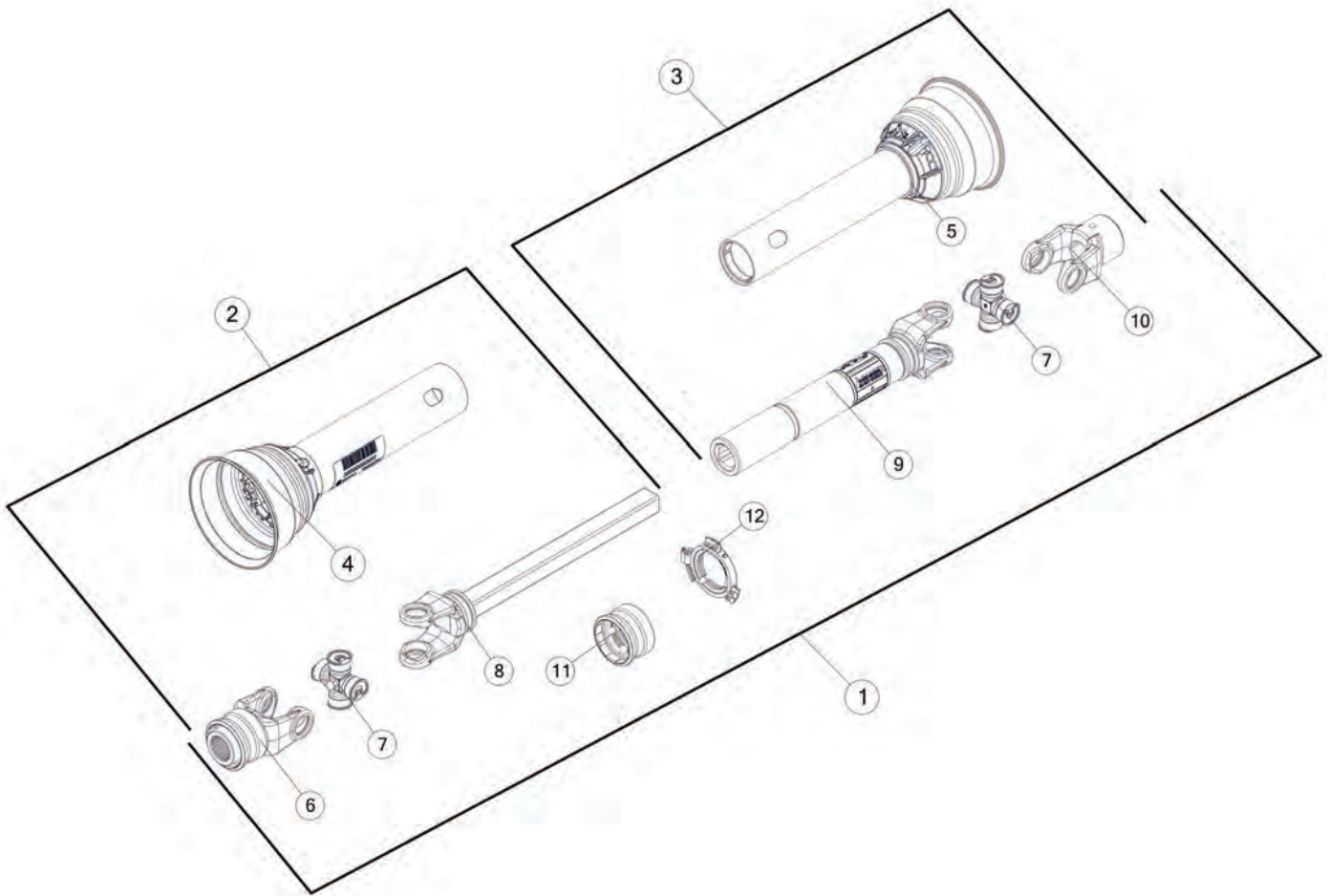




FIGURE 22
MSOWPTO1038 OPTION
1000 RPM PTO



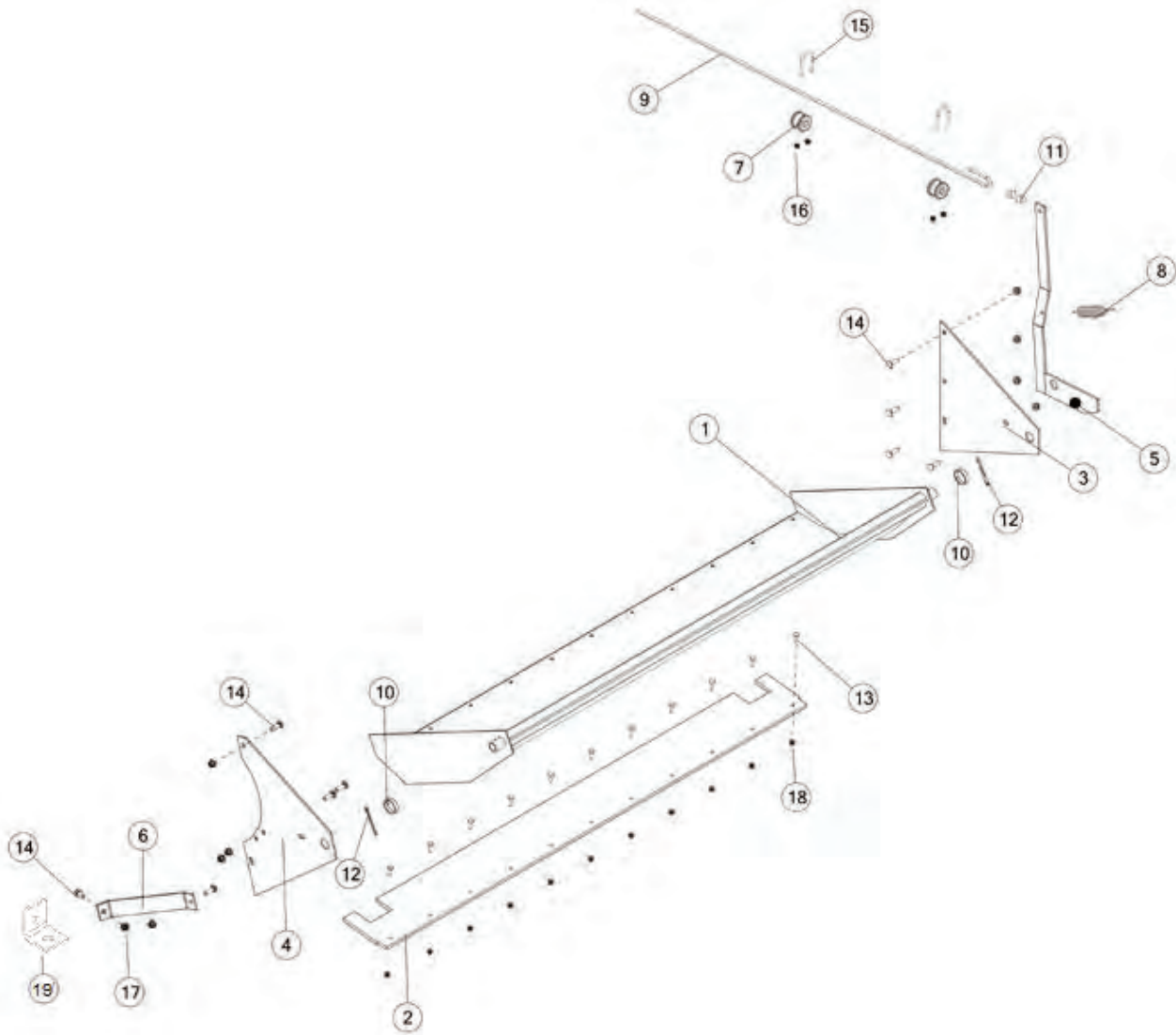




FIGURE 24
MSO310HD4 OPTION
HYDRAULIC DRIVE KIT - 4 HOSE

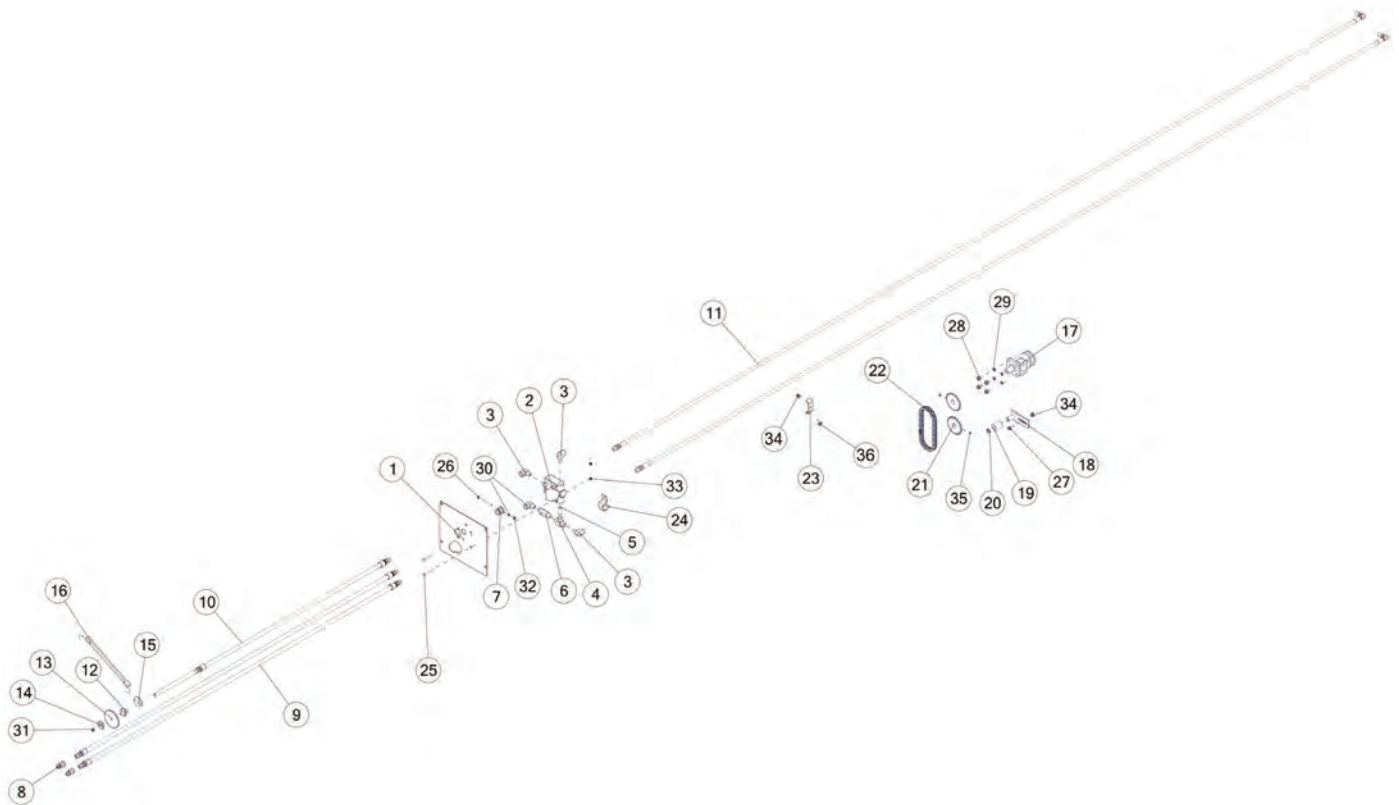




FIGURE 24
MSO310HD4 OPTION
HYDRAULIC DRIVE KIT - 4 HOSE

REF #	PART #	DESCRIPTION	QTY
1	23N133	HYDRAULIC CONTROL PANEL	1
2	DF15	SPEED CONTROL VALVE, NON-ADJUSTABLE	1
3	HE58	FITTING, 90, 1/2NPT, 1/2NPT	4
4	DF8	FITTING TEE, 1/2NPT, 1/2NPT, 1/2NPT	1
5	DF7	FIT STRAIGHT, 1/2NPT, 1/2NPT	1
6	DF18	CHECK VALVE, 1/2	1
7	60695	PIPE REDUCER, 3/4-1/2	1
8	DWM205	MALE QUICK COUPLER S71-4P HYD TIP	2
9	23N309	HYD HOSE, 8, 96IN	2
10	DF9	HYD HOSE, 8, 72IN	1
11	77330	HYD HOSE, 6X224, 8NPT, 8NPT	2
12	DF10	HANDLE BRACKET	1
13	DF11	CONTROL HANDLE	1
14	DF12	WASHER	1
15	DF22	RING FOR STRAP	1
16	DF14	STRAP	1
17	DF1	HYDRAULIC MOTOR	1
18	L10R35	TIGHTENER BRACKET	1
19	23N238	CHAIN TIGHTENER ROLLER	1
20	10R32	SNAP RING, EXTERNAL, .7	1
21	11S19	SPROCKET, 50B20, 1.000 ID	2
22	23N131	ROLLER CHAIN, #50, 40P	1
23	HE42	HOSE BRACKET	1
24	HE14	SMALL PIPE BRACKET	1
25	YBCR08025	BOLT CARRIAGE, 1/4-20 X 2-1/2 G5 ZC	2
26	YBHH08115	BOLT HEX, 1/4 X 4 G5 FULL THREAD	1
27	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	1
28	YBFB12075	BOLT FLANGE, 3/8 X 3/4 G5	4
29	YWLO12005	WASHER, LOCK, 3/8	4
30	YWLO08005	WASHER, LOCK, 1/4, ZC	1
31	YNTL12005	NUT HEX, 3/8-16 LKTL ZC	1
32	YNHX08005	NUT HEX, 1/4-20 ZC	1
33	YNFG08010	NUT FLANGE, 1/4 GF	2
34	YNFG12006	NUT FLANGE, 3/8 GF	2
35	YSKP10010	SET SCRW, SCKT, KNURLED CUP PT, 5/16 - 18 X 3/8	2
36	YBFB12225	BOLT FLANGE, 3/8 X 2-1/4 G5	1





FIGURE 25

MSO310HD4EC OPTION
HYD DRIVE KIT - 4 HOSE W/ELEC CONTROL

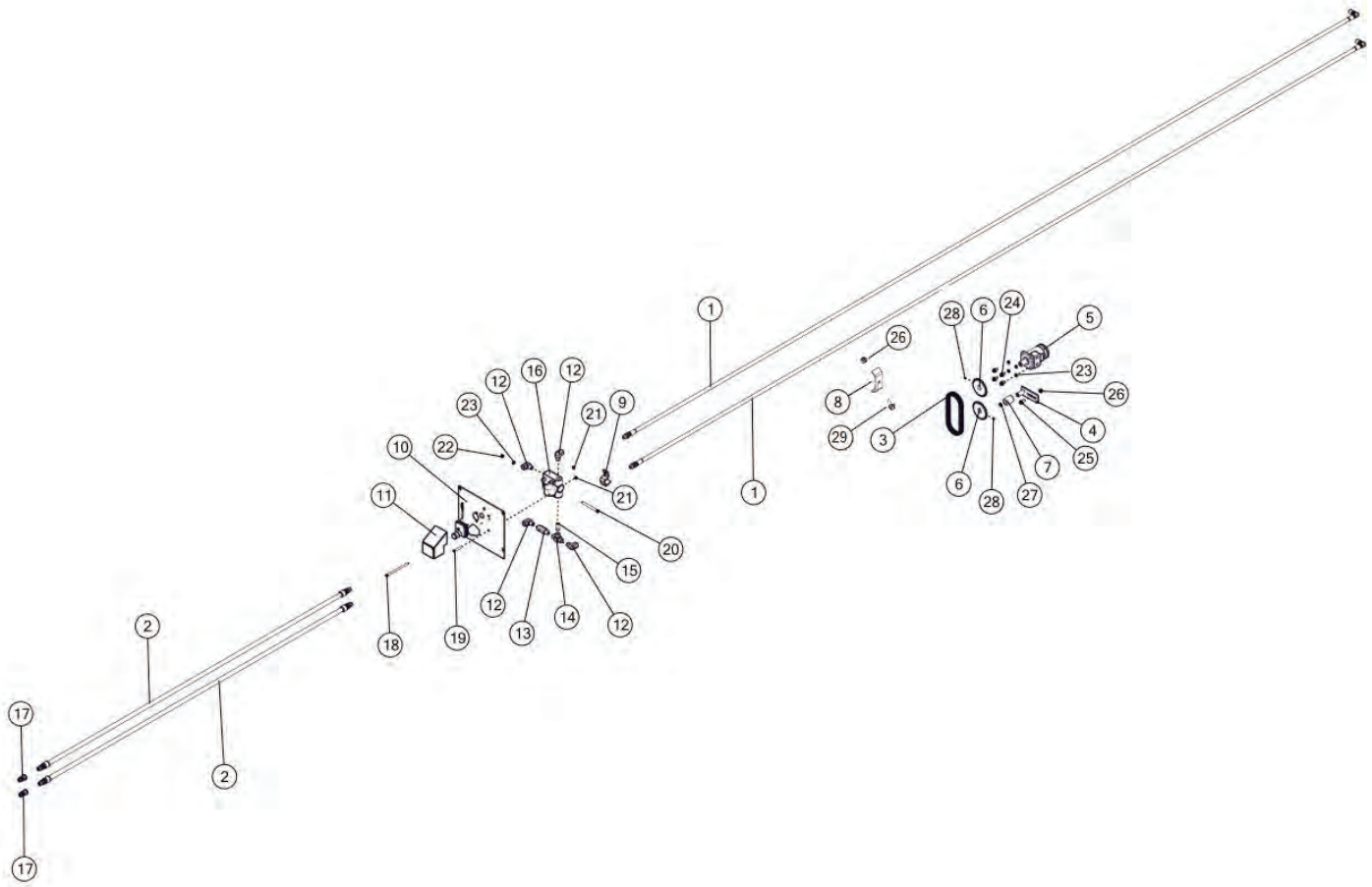




FIGURE 25
MSO310HD4EC OPTION
HYD DRIVE KIT - 4 HOSE W/ELEC CONTROL

REF #	PART #	DESCRIPTION	QTY
1	77330	HYDRAULIC HOSE, 6 X 224 8NPT 8NPT	2
2	23N309	HYDRAULIC HOSE, 8, 96IN	2
3	23N131	ROLLER CHAIN, #50, 40P	1
4	L10R35	TIGHTENER BRACKET	1
5	DF1	HYDRAULIC MOTOR	1
6	11S19	SPROCKET, 50B20, 1 ID	2
7	23N238	CHAIN TIGHTENER ROLLER	1
8	HE42	HOSE BRACKET	1
9	HE14	SMALL PIPE BRACKET	1
10	23N133	HYDRAULIC CONTROL PANEL	1
11	81058	MOTOR SHIELD	1
12	HE58	FITTING 90, 1/2NPT, 1/2NPT	4
13	DF18	CHECK VALVE, 1/2	1
14	DF8	FITTING TEE, 1/2NPT, 1/2NPT, 1/2NPT	1
15	DF7	FITTING STRAIGHT, 1/2NPT, 1/2NPT	1
16	DF15A	PORT, ADJUSTABLE FLOW CONTROL, 1/2	1
17	DWM205	MALE QUICK COUPLER S71-4P SAFEWAY HYD TIP	2
18	YBHH08127	BOLT HEX, 1/4 X 6-1/2 G5	1
19	YBCR08025	BOLT CARRIAGE, 1/4-20 X 2-1/2 G5 ZC	2
20	YSHS12020	BOLT SOCKET, 3/8-16X4-1/2 BO	1
21	YNFG08010	NUT FLANGE, 1/4 GF	2
22	YNHX12005	NUT HEX, 3/8-16 ZC	1
23	YWLO12005	WASHER, LOCK, 3/8	5
24	YBFB12075	BOLT FLANGE, 3/8 X 3/4 G5	4
25	YBFB12003	BOLT FLANGE, 3/8 X 1 G5	1
26	YNFG12006	NUT FLANGE, 3/8 GF	2
27	10R32	SNAP RING, EXTERNAL, .7	1
28	YSKP10010	SET SCRW, SCKT, KNURLED CUP PT, 5/16 - 18 X 3/8	2
29	YBFB12225	BOLT FLANGE, 3/8 X 2-1/4 G5	1





FIGURE 26
MSO-EC OPTION
ELEC CONTROLS - HYD DRIVE

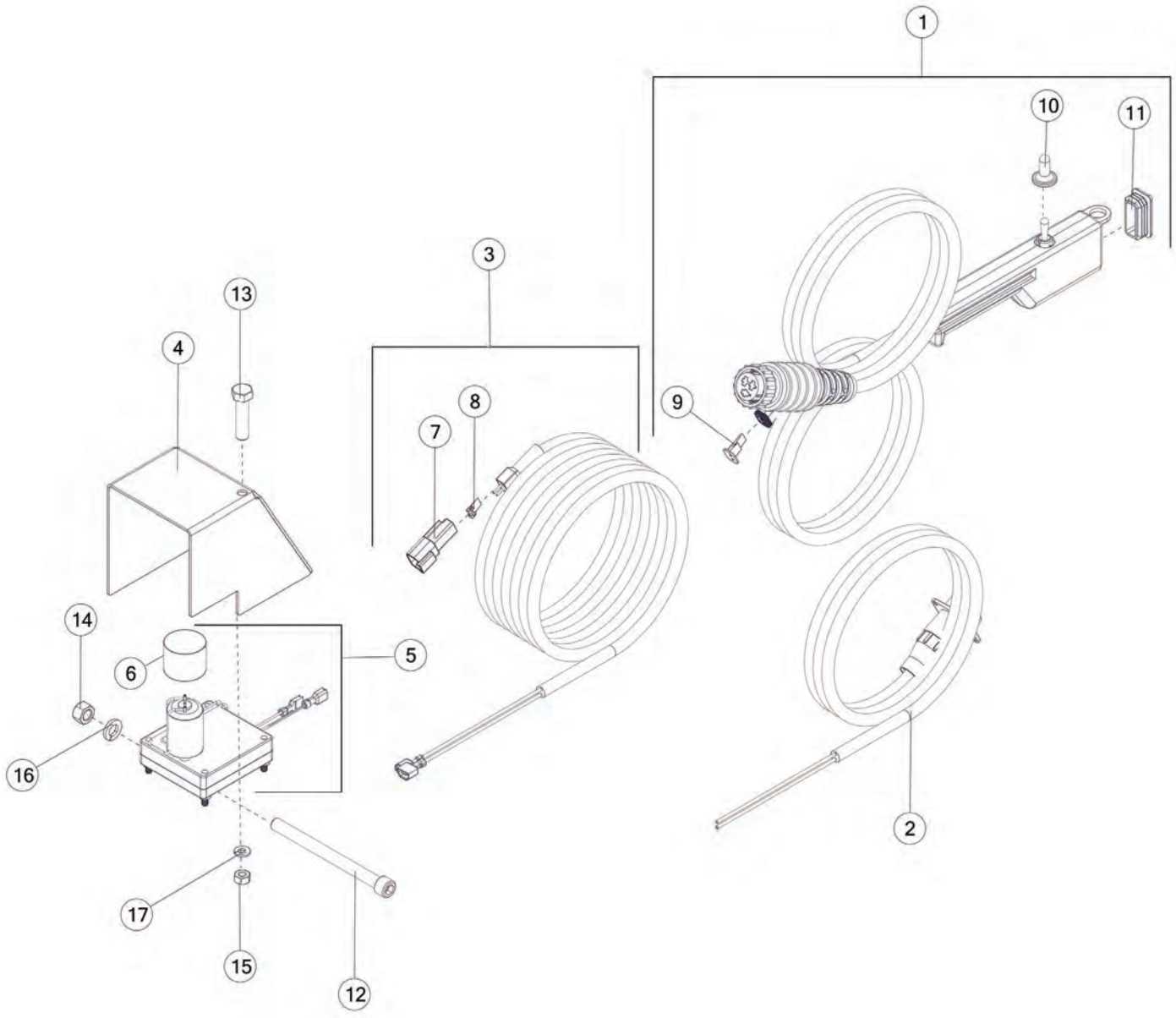
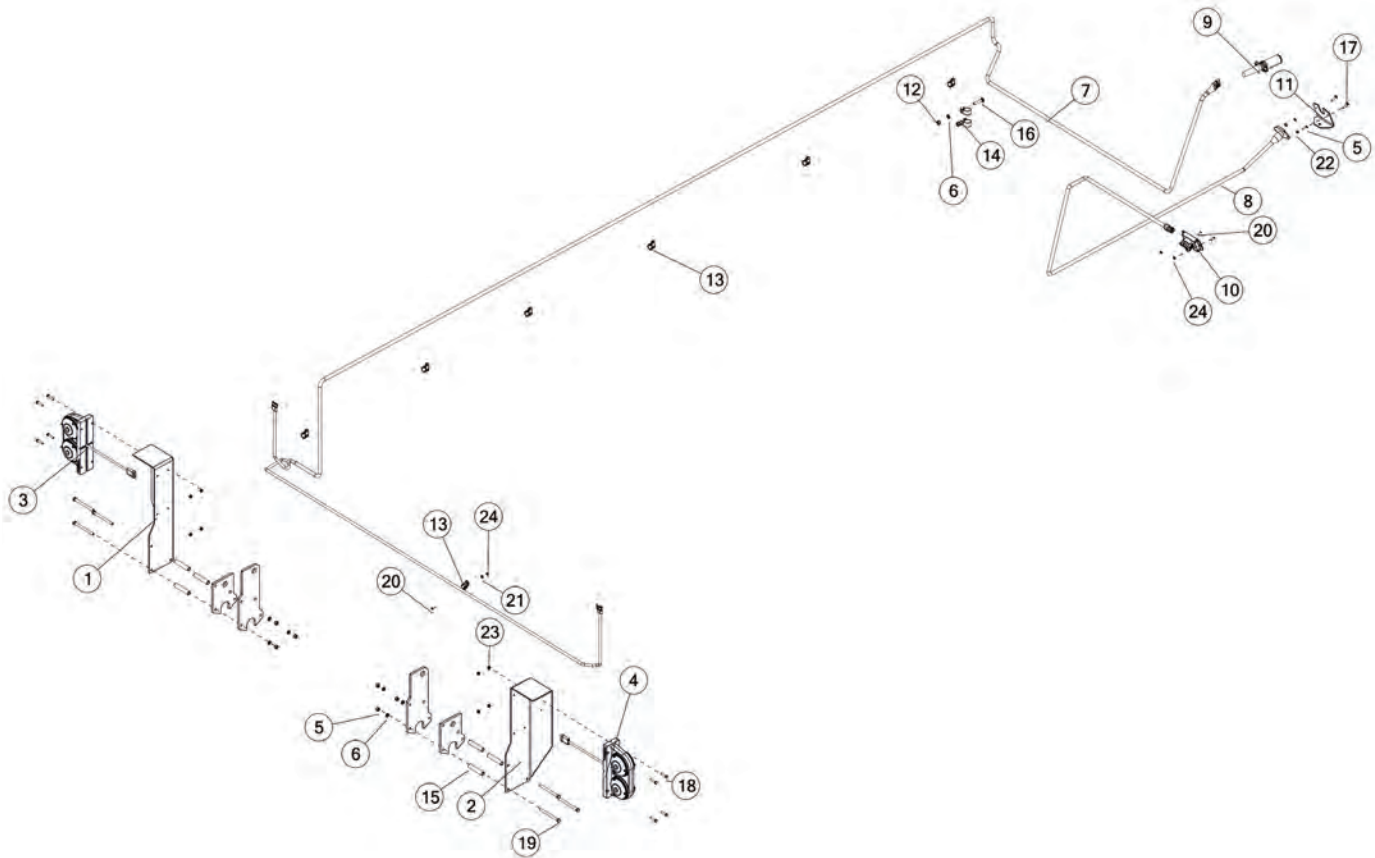




FIGURE 27

MSOLIGHT OPTION

HIGHWAY LIGHTING KIT





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