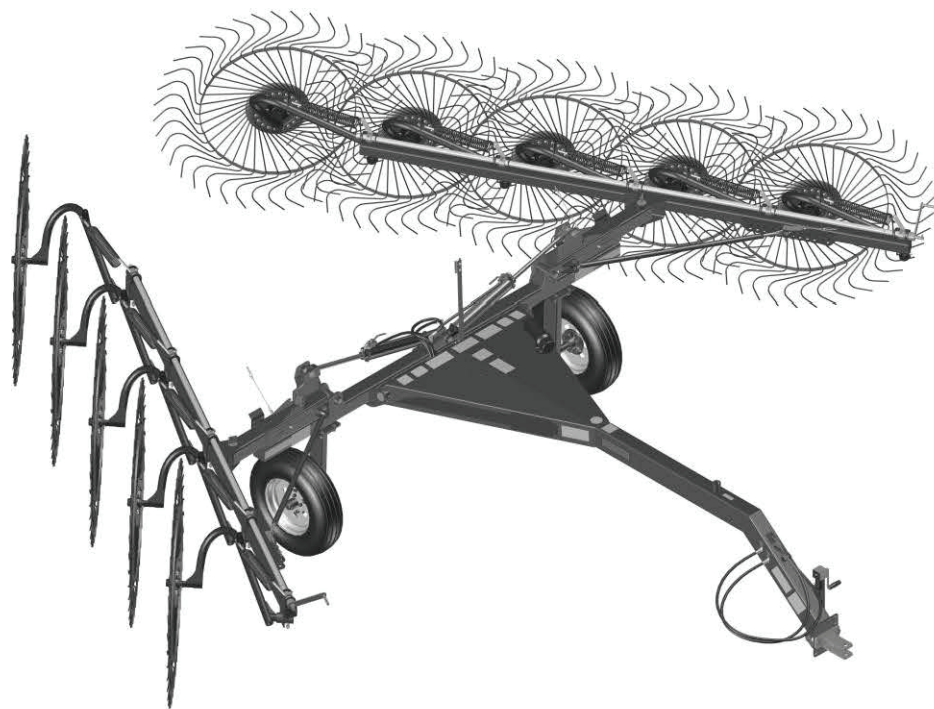




PARTS BOOK

3112 ACTION RAKE



Revision #06

Starting Ser. #811SS10031

HSMFGC0220

PART#73463

Manufactured By
H&S MANUFACTURING CO., INC.
2608 S. HUME AVE. MARSHFIELD, WI 54449
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INSTRUCTIONS FOR ORDERING PARTS

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

1. Model & Serial Number - Both can be located on the left, rear main frame of your unit.
2. All references to left or right apply to the machine as viewed from the rear.
3. Parts should not be ordered from illustration only. Please order complete part number.
4. 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.	
SER. NO.	
DESCR.	

PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

ABOUT IMPROVEMENTS

H&S IS CONTINUALLY STRIVING TO IMPROVE IT'S 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
FRAME COMPONENTS

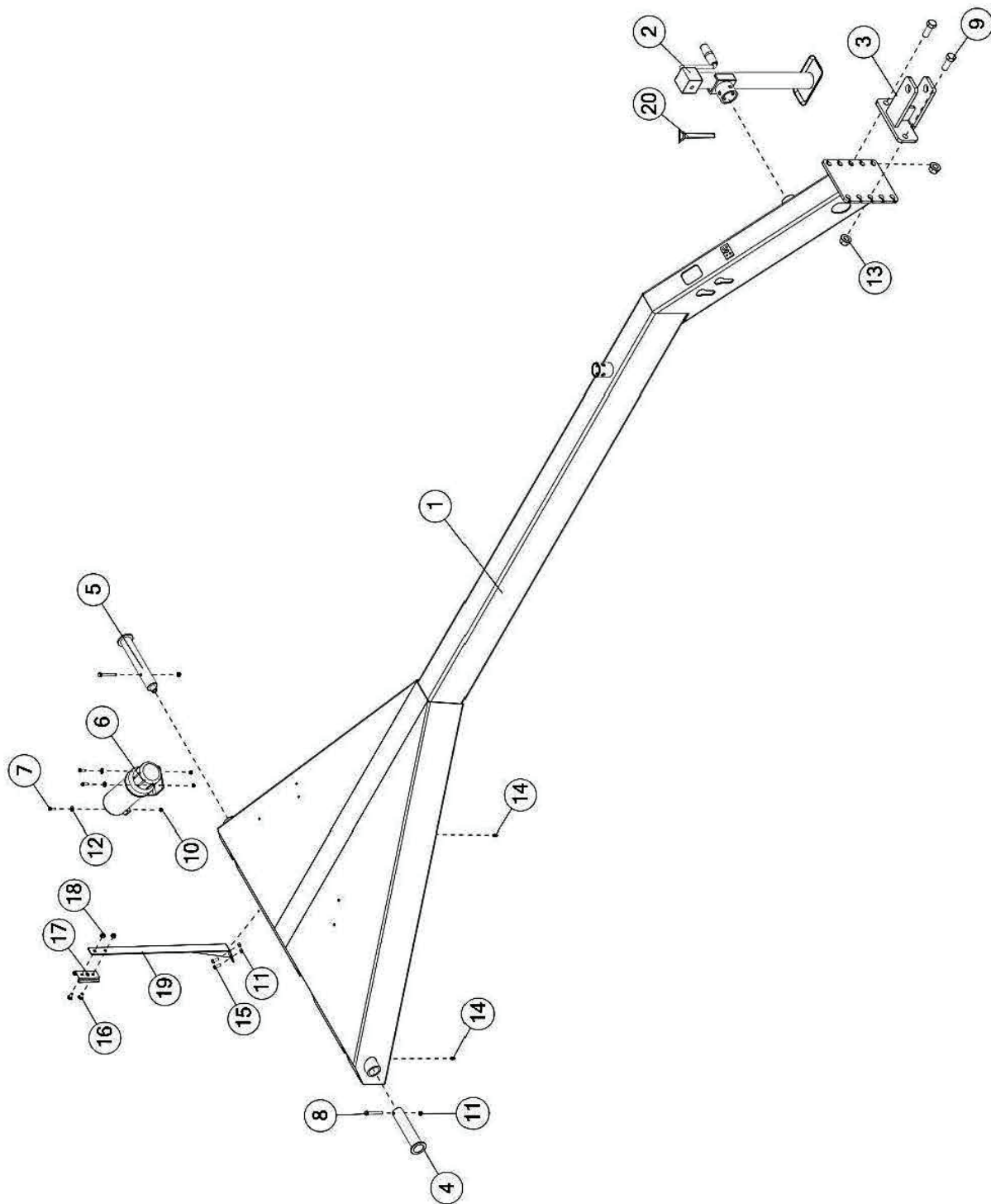


FIGURE 1

FRAME COMPONENTS

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	71835	POLE W/DECAL
2	1	BFR753A	SIDEWIND JACK
3	1	10ERWE06	CLEVIS
4	1	10WR7	PIVOT ARM PIN
5	1	0240WE05	PIVOT ARM PIN
6	1	S522	MANUAL HOLDER
7	3	YBHH08100	BOLT HEX, 1/4 X 3/4 G5
8	2	YBHH10080	BOLT HEX, 5/16 X 2-1/2 G5
9	2	YBHH24018	BOLT HEX 3/4-10 X 2 G8
10	3	YNRL08005	NUT HEX, REVERSIBLE-SIDE LOCK, 1/4-20
11	4	YNRL10005	NUT HEX, REVERSIBLE-SIDE LOCK, 5/16-18
12	3	YWFL08005	WASHER FLAT, 1/4
13	2	YNFG24006	NUT FLANGE, TOPLOCK 3/4-10
14	2	G89	STRAIGHT ZERK 1/4-28
15	2	YBHH10105	BOLT HEX, 5/16 X 3/4 G5
16	2	YBCR10030	BOLT CARR, 5/16-18 X 3/4 G5
17	1	F97	SMV BRACKET
18	2	YNSF10006	NUT FLANGE, 5/16-18
19	1	75209	BRACKET
20	1	12N117	JACK PIN

FIGURE 2
SLIDER & COMPONENTS

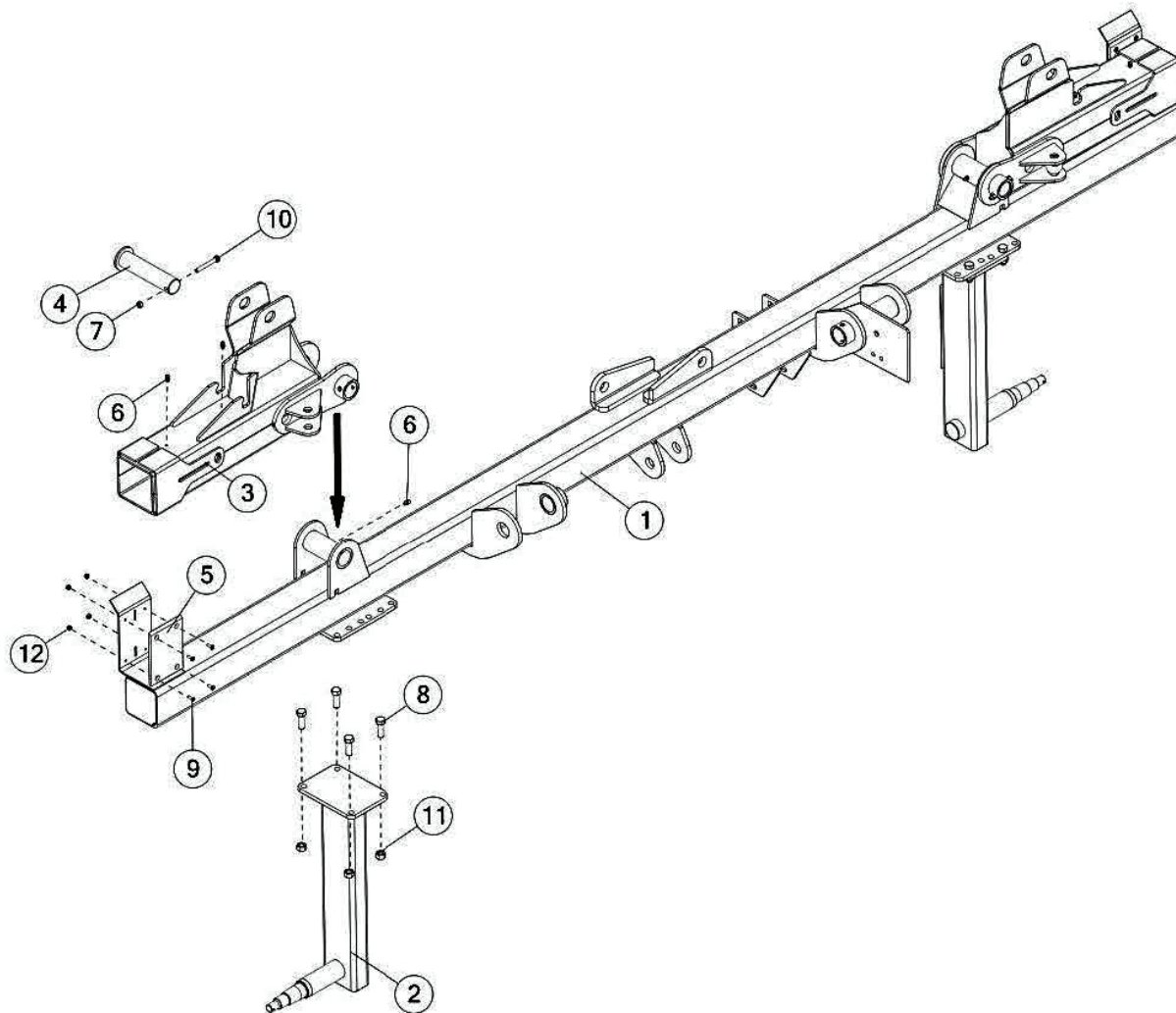


FIGURE 2

SLIDER & COMPONENTS

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	71839	FRAME W/DECAL
2	2	71881	AXLE RH
3	1	72206	SLIDER HOUSING RH
*	1	72174	SLIDER HOUSING LH
4	2	72258	PIVOT ARM PIN SHORT
5	2	72241	POLY HELPER PAD
6	6	G89	STRAIGHT GREASE ZERK, 1/4 - 28
7	2	YBHH10080	BOLT HEX, 5/16 X 2-1/2 G5
8	8	YBHH16030	BOLT HEX, 1/2 X 1-1/2 G5
9	8	YSFS64010	FLAT HEAD SOCKET CAP SCREW
10	2	YNRL10005	NUT HEX, REVERSIBLE-SIDE LOCK, 5/16 - 18
11	8	YNRL16005	NUT HEX, REVERSIBLE-SIDE LOCK, 1/2 - 13
12	8	YNRL64005	NUT HEX, REVERSIBLE-SIDE LOCK, #10-32

***MEANS NOT SHOWN**

FIGURE 3
HUB ASSEMBLY

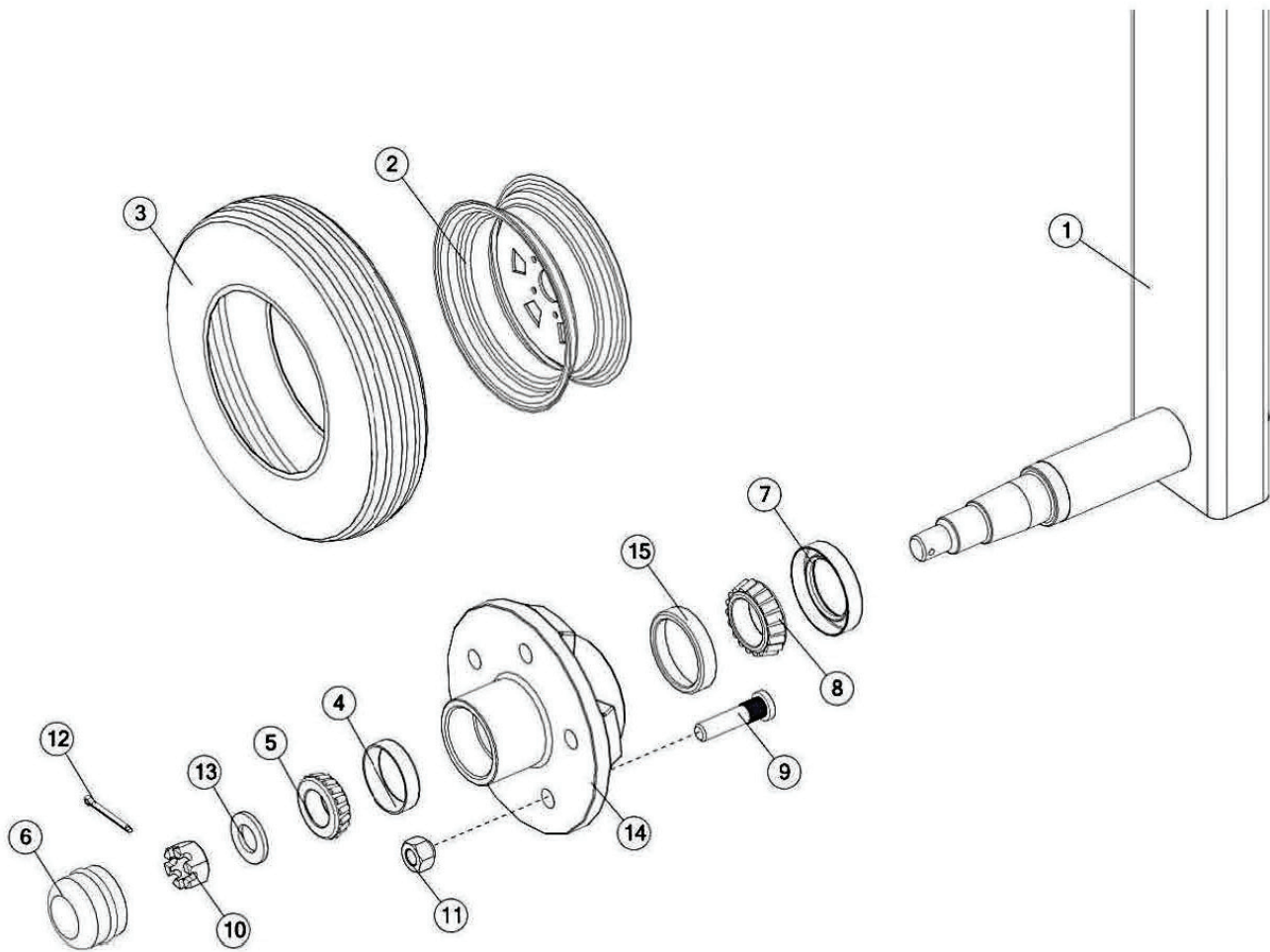


FIGURE 3 **HUB ASSEMBLY**

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	2	71881	AXLE RH
2	2	8603	RIM 15 X 5 5 BOLT
3	2	8604	TIRE 205/75D15 LRC
4	2	BFR275	RACE
5	2	CAT10	OUTER BEARING
6	2	CAT46	CAP
7	2	CAT5	GREASE SEAL
8	2	CAT6	INNER BEARING
9	10	YBSD16018	STUD BOLT
10	2	YNSL24010	NUT HEX, SLOTTED, 3/4-16,
11	10	YNWL16005	NUT WHEEL, 1/2-20
12	2	YPCT05010	COTTER PIN 5/32 X 1-1/2
13	2	YWFL24010	WASHER FLAT, 3/4
14	2	CAT8	HUB W/RACES
15	2	CAT7	INNER RACE

FIGURE 4
RAKE BEAM & COMPONENTS

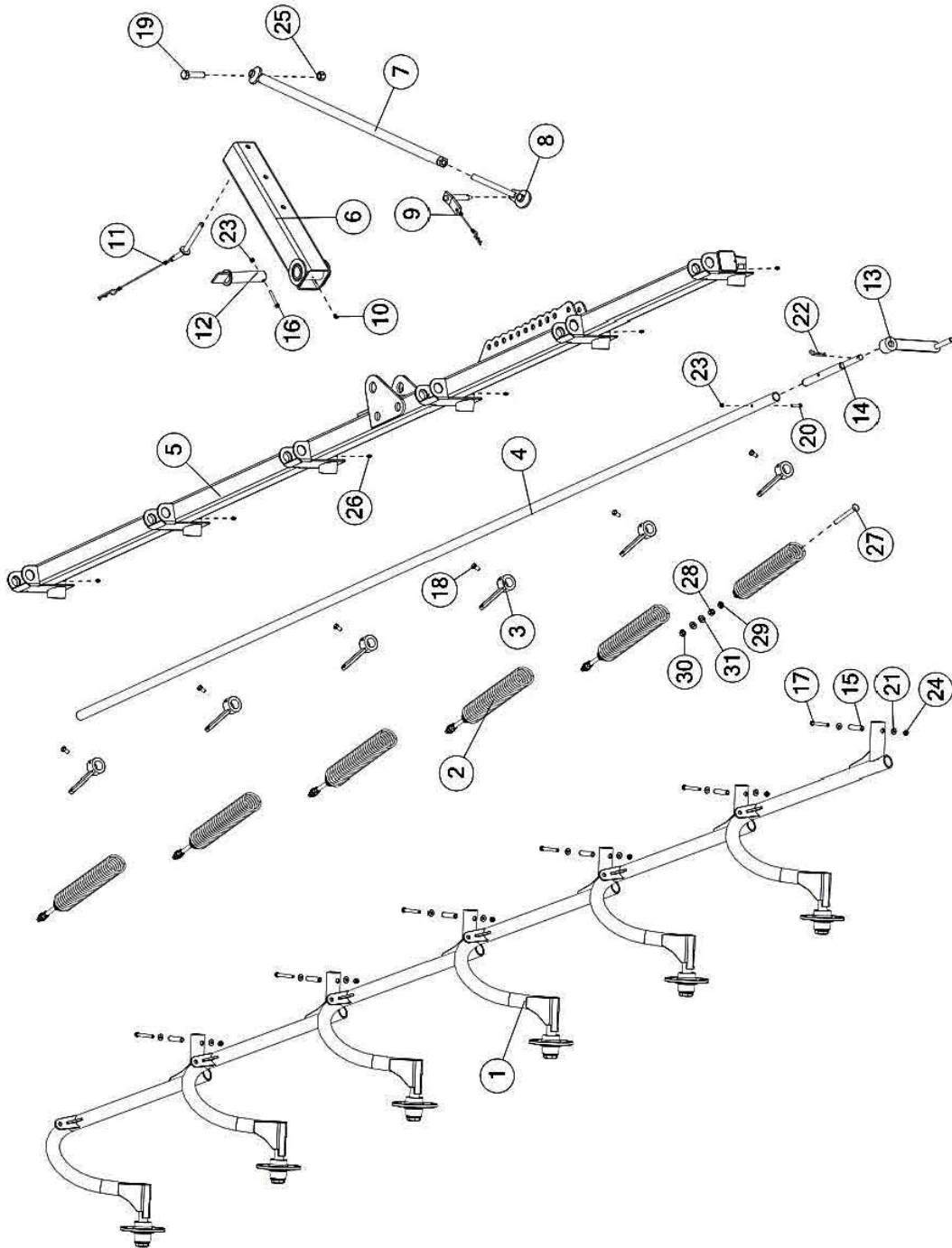


FIGURE 4

RAKE BEAM & COMPONENTS

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	6	75877	CANDY CANE RH
*	6	75878	CANDY CANE LH
2	6	75862	SPRING, EXTENSION, CANDY CANE
3	6	BFR431	SPRING BRACKET LH
*	6	BFR430	SPRING BRACKET RH
4	6	66214	LIFTING PIPE BACK
5	1	72149	RAKE BEAM RH
*	1	72148	RAKE BEAM LH
6	2	10WR34	SLIDE ARM
7	2	10WR31	LINK ROD
8	2	10WR9	ADJUSTING ROD
9	2	10ERAS20	LANYARD W/PIN
10	2	RG21	GREASE ZERK, 45 DEGREE
11	2	71903	ARM SLIDER PIN
12	2	10WR6	RAKE BEAM PIN
13	2	71886	HANDLE
14	2	BFR427	RAKE ARM LOCK-UP SHAFT
15	12	66247	SPACER, TUBE
16	2	YBHH10080	BOLT HEX, 5/16 X 2-1/2 G5
17	12	YBHH12155	BOLT HEX, 3/8-16 X 3-1/4 G5
18	12	YBHH14035	BOLT HEX, 7/16 X 3/4 G5
19	2	YBHH24050	BOLT HEX, 3/4 X 3 G5
20	2	YBHH10025	BOLT HEX, 5/16-18 X 1-1/2 G2
21	24	YWFL10005	WASHER FLAT, 5/16
22	2	YPHR02010	HAIR PIN
23	4	YNRL10005	NUT HEX, REVERSIBLE-SIDE LOCK, 5/16-18
24	12	YNRL12005	NUT HEX, REVERSIBLE-SIDE LOCK, 3/8-16
25	2	YNRL24005	NUT HEX, REVERSIBLE-SIDE LOCK, 3/4-10
26	12	G89	STRAIGHT GREASE ZERK, 1/4 - 28
27	12	YBCR16060	BOLT CARR, 1/2-13 X 7.00 G5
28	12	YNHX16005	NUT HEX, 1/2-13
29	12	YNJM16005	NUT JAM, 1/2-13
30	12	YNNY16005	NUT HEX, 1/2-13
31	24	YWFL16010	WASHER FLAT, 1/2

***MEANS NOT SHOWN**

FIGURE 5
RAKE WHEEL ASSEMBLY

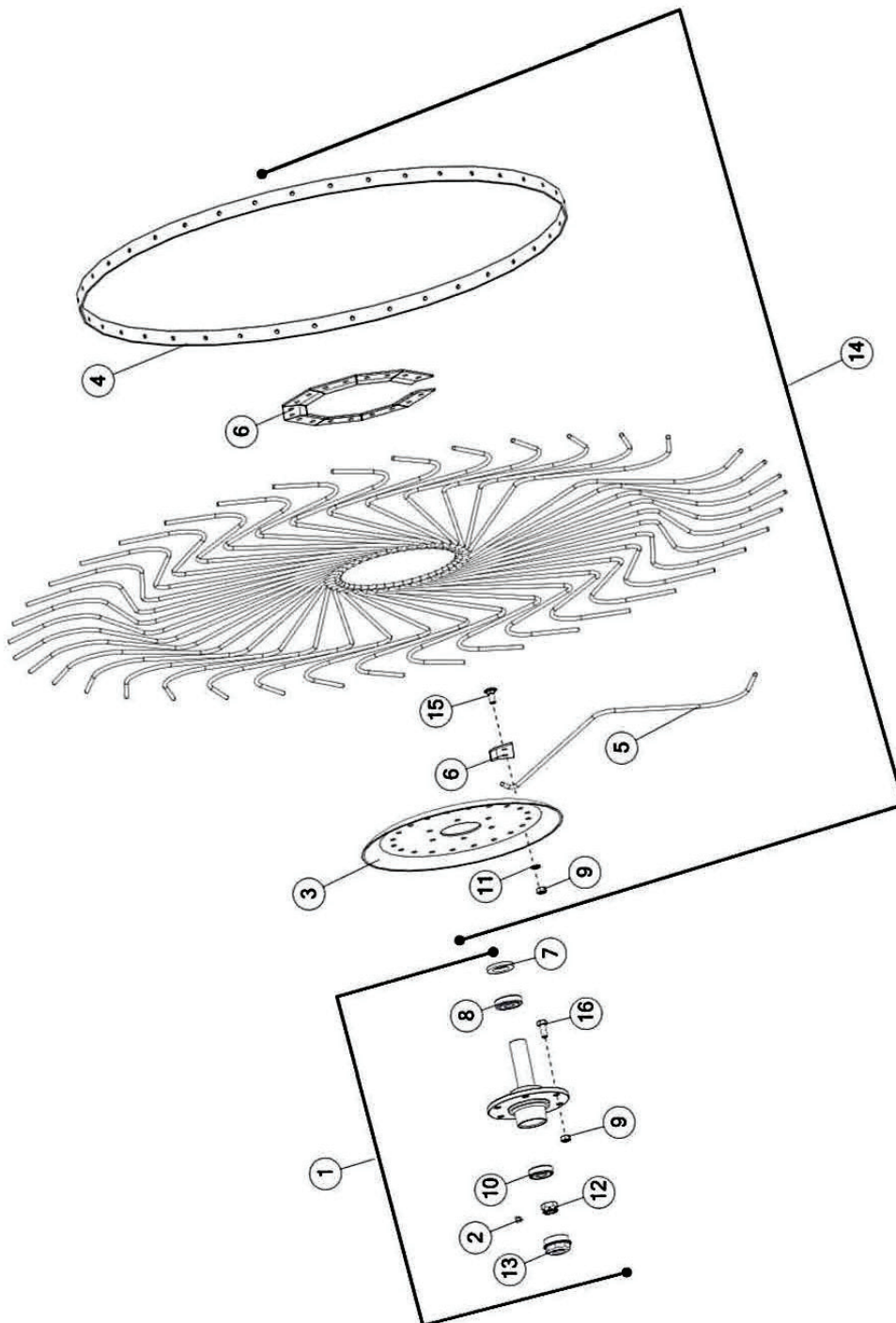


FIGURE 5

RAKE WHEEL ASSEMBLY

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	10	1081	RAKE WHEEL HUB COMPLETE AND SPINDLE
2	10	1088	RETAINING CLIP
3	10	FR71	RAKE WHEEL CENTER
4	10	FR72	RAKE WHEEL OUTER RING
5	400	FR73	RAKE WHEEL TOOTH, 60
6	100	FR74	RAKE TOOTH CLIP
7	10	T163	SEAL
8	10	600012	INNER BEARING AND RACE
9	260	YNHX76015	NUT HEX, M10-1.5
10	10	600014	OUTER BEARING AND RACE
11	200	YWLO76015	WASHER LOCK, M10
12	10	T172	NUT HEX, M18 - 1.5 G2
13	10	T173	CAP
14	5	FR70	RAKE WHEEL RH
*	5	FR69	RAKE WHEEL LH
15	200	YBCR76005	BOLT CARR, M10
16	60	YBHH76015	BOLT HEX, M10 - 1.5

***MEANS NOT SHOWN**

FIGURE 6 **OPTIONAL - KICKER WHEEL**

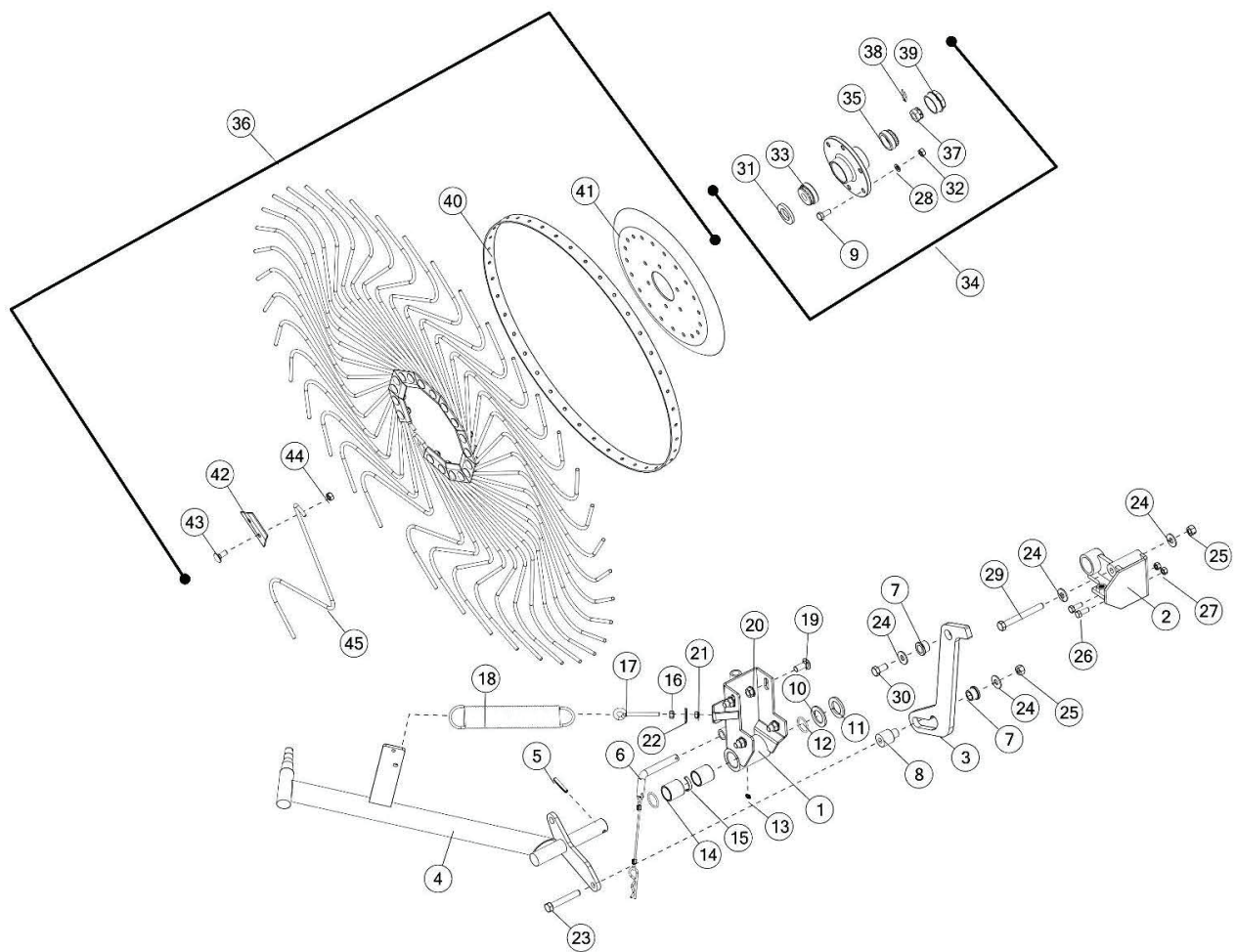


FIGURE 6

OPTIONAL - KICKER WHEEL

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	0240WE04	KICKER MOUNT
2	1	0240WE07	KICKER STOP
3	1	0240HF03	KICKER LEVER LINK FRAME PIVOT
4	1	0240WE03	KICKER ARM
5	1	YPEx10015	EXPANSION PIN, 5/16 X 1-3/4
6	1	10ERAS08	LANYARD W/PIN
7	2	8579	POLY PIVOT BEARING
8	1	0240TU04	KICKER PIVOT SPACER LOWER
9	6	YBHH76015	BOLT, M10-1.5
10	1	BFR221	POLY WASHER
11	1	BFR229	WASHER
12	2	S99	O-RING
13	1	G89	STRAIGHT GREASE ZERK, 1/4 - 28
14	2	G16	BRONZE BUSHING 1-1/2 X 1-1/4 X 1-1/2
15	1	BFR230	BEARING SPACER
16	1	YNHX10005	NUT HEX, 5/16 G2
17	1	YBTE10030	TURNED EYE BOLT, 5/16 X 3
18	1	BFR110	KICKER WHEEL SPRING
19	4	YBCR16015	BOLT CARR, 1/2 X 1-1/4 G5
20	4	YNSF16005	NUT HEX, SERRATED FLANGED-LOCK, 1/2-13
21	1	YNNY10005	NUT HEX, NYLON LOCKNUT, 5/16-18
22	1	YWFL10010	WASHER FLAT, 5/16
23	1	YBHH16120	BOLT HEX, 1/2 X 3-1/4 G5
24	4	YWFL16005	WASHER, FLAT, 1/2
25	1	YNRL16005	NUT HEX, REVERSIBLE-SIDE LOCK, 1/2-13
26	2	YBHH12010	BOLT HEX, 3/8 X 1 G5
27	2	YNRL12005	NUT HEX, REVERSIBLE-SIDE LOCK, 3/8-16
28	6	YWLO76015	WASHER, LOCK, M10
29	1	YBHH16140	BOLT HEX, 1/2 X 4-1/2 G5
30	1	YBHH16010	BOLT HEX, 1/2 X 1 G5
31	1	T163	SEAL
32	6	YBHH76015	BOLT, M10-1.5
33	1	600012	INNER BEARING AND RACE
34	1	1081	RAKE WHEEL HUB AND SPINDLE
35	1	600014	BEARING AND RACE
36	1	10WR17	RAKE WHEEL LH
37	1	T172	NUT HEX, M18 - 1.5 G2
38	1	1088	RETAINING CLIP
39	1	T173	CAP
40	1	T177A	RAKE WHEEL OUTER RING
41	1	FR71	RAKE WHEEL CENTER
42	10	FR74	RAKE TOOTH CLIP
43	20	YBCR76005	BOLT CARR, M10
44	20	YNHX76015	NUT HEX, M10-1.5
45	10	10WR42	RAKE WHEEL TOOTH, 49

FIGURE 7 **HYDRAULICS**

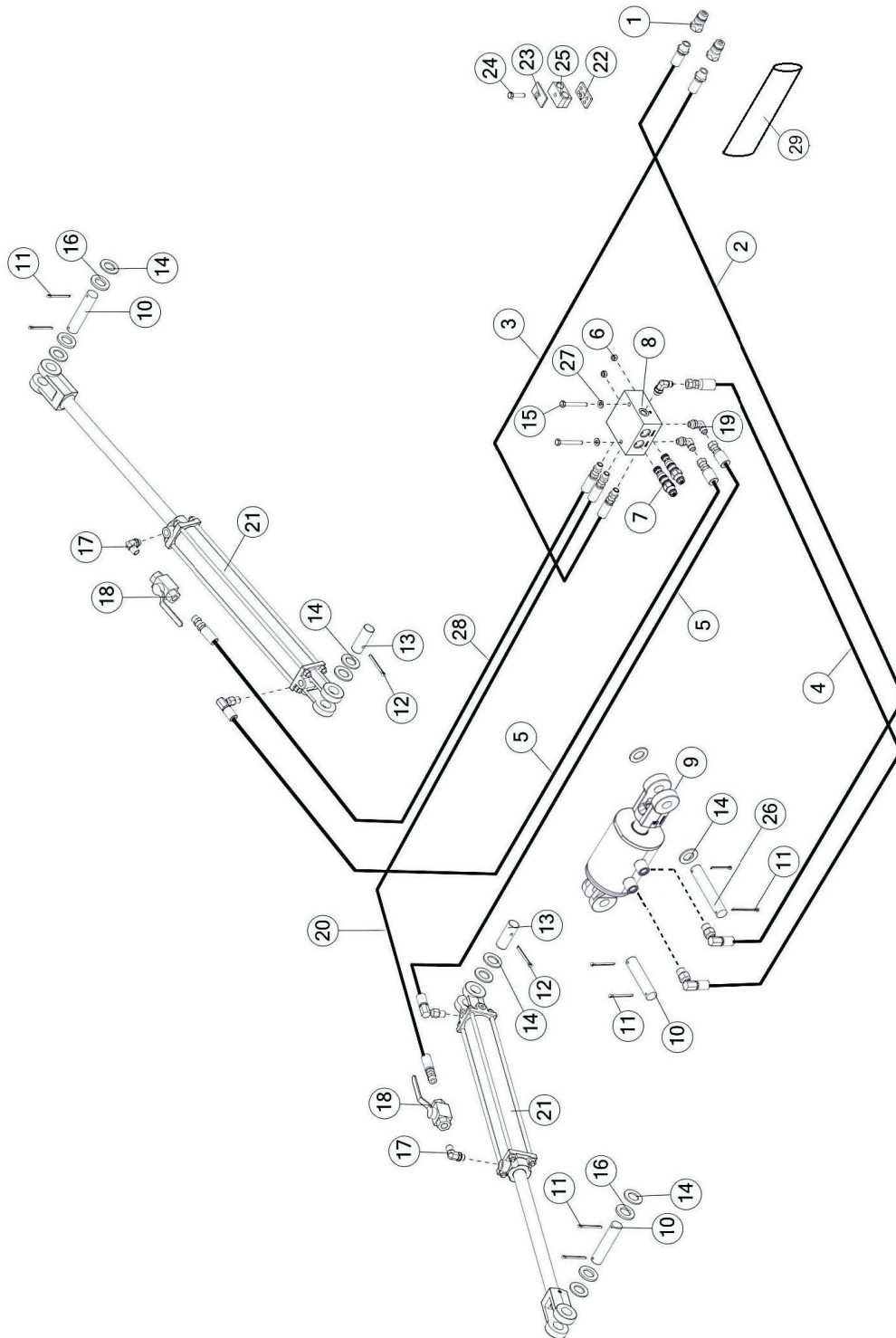


FIGURE 7 **HYDRAULICS**

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	2	67148	FTG, ST, 8ORB, QUICK COUPLER TIP
2	1	70095	HSASSM, HYD, 6, 214.0, 1/2 ORB, 1/2 ORB
3	1	70096	HYD HOSE, 6, 214IN
4	1	70097	HYD HOSE, 6, 20IN
5	2	70094	HYD HOSE, 6, 34IN
6	2	YNRL10005	NUT HEX, REVERSIBLE-SIDE LOCK, 5/16-18
7	2	66920	HYD VALVE, COUNTERBALANCE
8	1	60426	HYD MANIFOLD
9	1	56611	HYD CYLINDER, REPHASE
*	1	56975	SEAL KIT
10	3	LW55	CYLINDER PIN
11	8	YPCT06020	COTTER PIN, 3/16 X 2
12	2	YPCT07005	COTTER PIN, 7/32 X 2
13	2	23N107	CYLINDER PIN
14	10	16SV136	SHIM
15	2	YBHH10080	BOLT HEX, 5/16 X 2-1/2 G5
16	2	BFR33	SHIM
17	2	70113	FITTING, 90, 9/16ORB, 3/8NPT
18	2	59235	BALL VALVE, HIGH PRESSURE
19	3	CHM268	ELBOW (6 C50X-S)
20	1	72314	HYD HOSE, 6 X 39.6, 6ORB, 6NPT
21	2	72235	HYDRAULIC CYLINDER, 2 X 17
22	2	1021	DOUBLE T CLAMP, PLASTIC
23	2	56563	TOP PLATE CLAMP
24	2	56568	BOLT HEX, 5/16 X 1-3/8 G5
25	2	CHM278	BLOCK CLAMP, PLASTIC
26	1	72884	CYLINDER PIN
27	2	YWFL08005	WASHER FLAT, 1/4
28	1	72315	HYD HOSE, 6 X 45.1, 6ORB, 6NPT
29	1	72319	WEAR SLEEVE

***MEANS NOT SHOWN**

This exploded view diagram illustrates the assembly of a mechanical component. The parts are numbered as follows:

- 1**: A bracket or housing component at the bottom right.
- 2**: A long, thin cylindrical shaft or tube.
- 3**: A large, hollow cylindrical component.
- 4**: A thin rod or pin passing through the shaft.
- 5**: A small cylindrical component, possibly a bush or spacer.
- 6**: A small cylindrical component, possibly a bush or spacer.
- 7**: A small cylindrical component, possibly a bush or spacer.
- 8**: A small cylindrical component, possibly a bush or spacer.
- 9**: A small cylindrical component, possibly a bush or spacer.
- 10**: A small cylindrical component, possibly a bush or spacer.
- 11**: A small cylindrical component, possibly a bush or spacer.
- 12**: A long, thin cylindrical component, possibly a shaft or tube.

The diagram shows the relative positions and assembly sequence of these parts, with dashed lines indicating the alignment of the components.

FIGURE 8

HYDRAULIC CYLINDER

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	66932	CLEVIS CAP FOR 2 CYLINDER
2	1	72237	ROD
3	1	72234	CYLINDER TUBE
4	4	72236	TIE ROD
5	1	23N148	PISTON NUT
6	1	23N150A	ROD CLEVIS
7	1	66934	ROD CAP
8	4	YNHX12005	NUT HEX, 3/8-16 G2
9	1	SD270	HOLLOW HEX PLUG 6
10	1	YSSO12015	SET SCREW, SOCKET, 3/8-24 X 3/8
11	1	56180	PISTON
12	6	56187	SEAL KIT
-	1	72235	COMPLETE HYD CYLINDER, 2 X 17

FIGURE 9
OPTIONAL - WIND GUARD

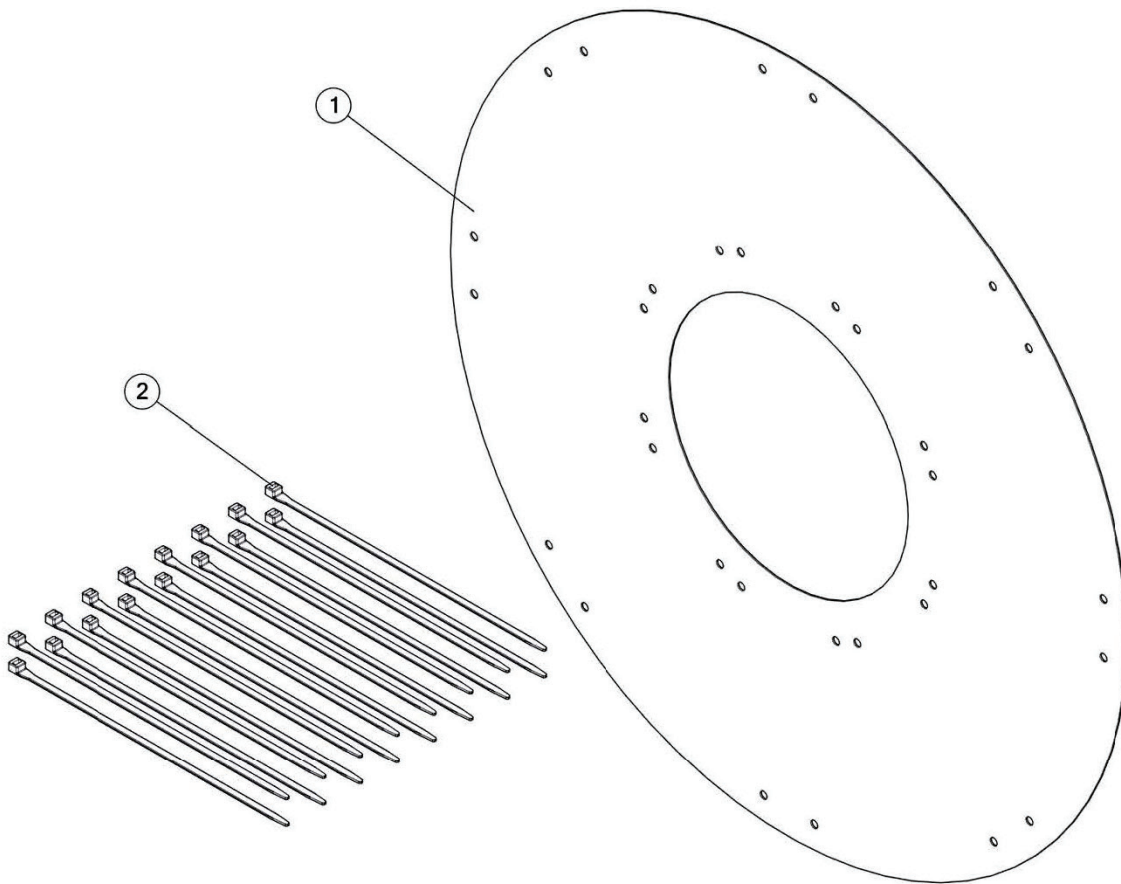


FIGURE 9
OPTIONAL - WIND GUARD

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	59039	POLY WIND GUARD
2	16	CIZT105	ZIPTIE, 15.0 X .30 X .08

FIGURE 10
OPTIONAL - HITCH

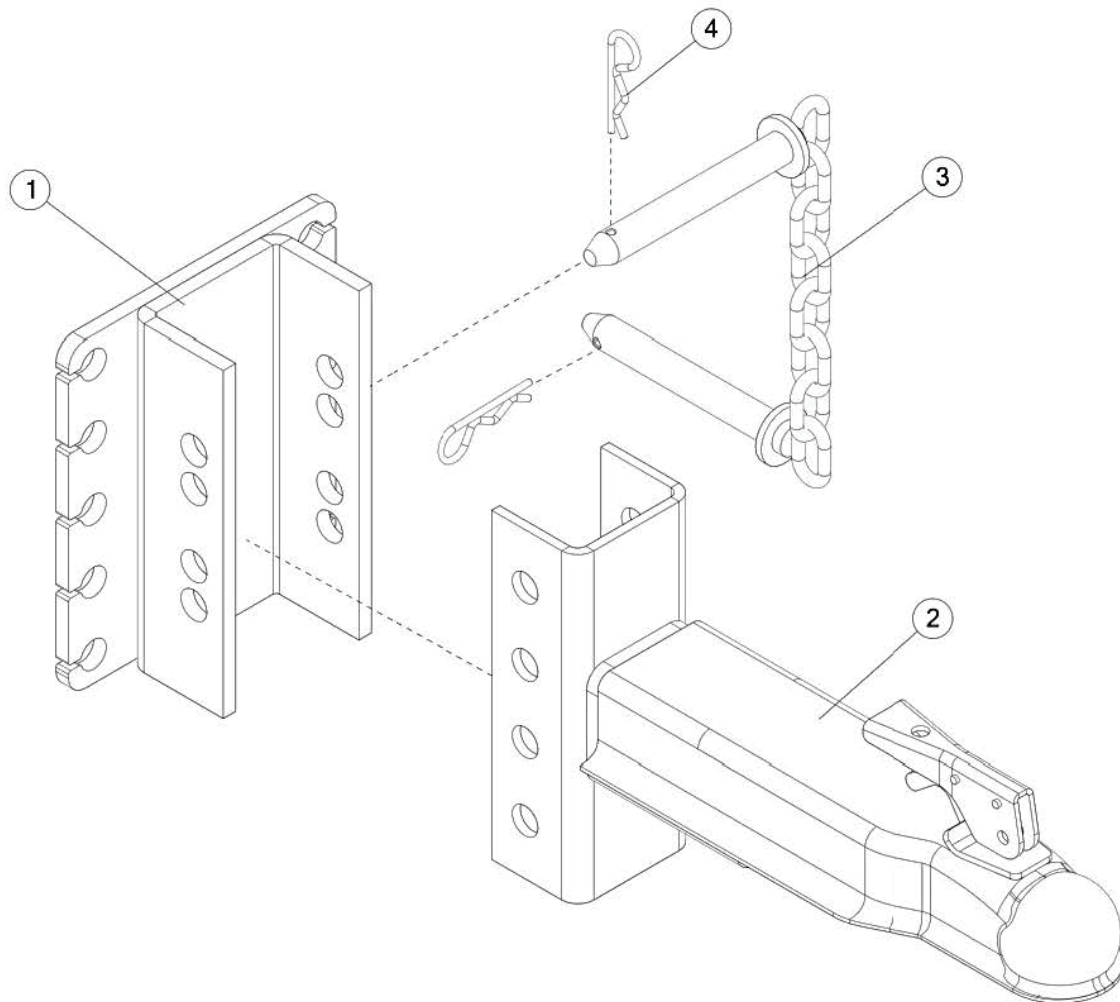


FIGURE 10
OPTIONAL - HITCH

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	76459	ADJUSTABLE HITCH
2	1	76461	BALL HITCH, 2- 5/16
3	1	BFR450	HITCH PIN
4	2	YPHR02010	HAIR PIN, #21-07

FIGURE 11
OPTIONAL - TAIL LIGHT KIT

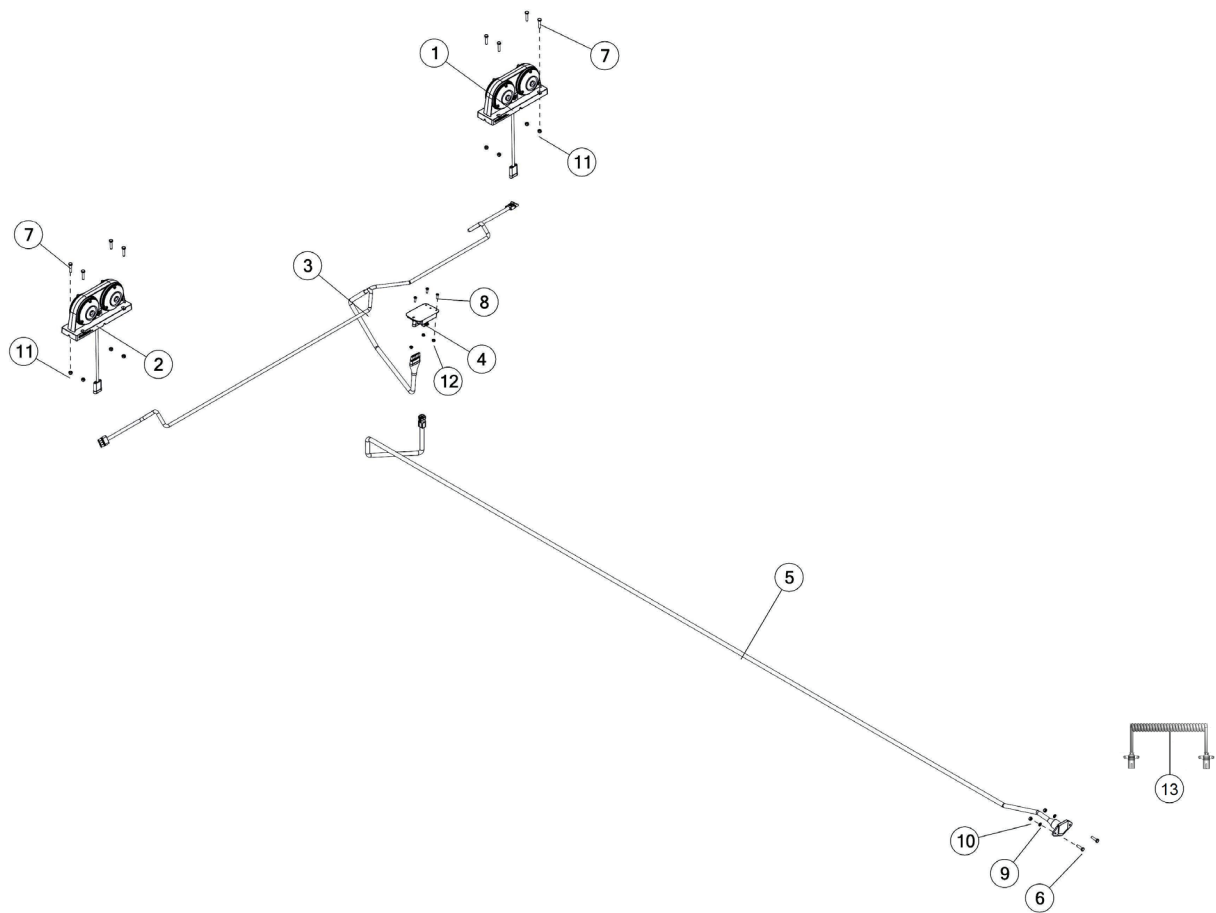


FIGURE 11

OPTIONAL - TAIL LIGHT KIT

<u>ITEM</u>	<u>QTY</u>	<u>PART#</u>	<u>DESCRIPTION</u>
1	1	77923	TAIL LIGHT LH
2	1	77924	TAIL LIGHT RH
3	1	77990	LIGHT HARNESS, REAR
4	1	69908	CONTROL MODULE
5	1	77986	LIGHT HARNESS
6	2	YBHH08005	BOLT HEX, 1/4 X 1 G2
7	8	YBHH08030	BOLT HEX, 1/4 X 1-1/4 G2
8	3	YSPN64005	PAN HEAD, SCREW 10 - 24 X 5/8
9	2	YWLO08005	WASHER LOCK, 1/4
10	2	YNHX08005	NUT HEX, 1/4
11	8	YNNY08005	NUT HEX, 1/4
12	3	YNNY64005	NUT HEX, #10 - 24
13	1	TLPC	TRANSPORT LIGHT CORD

PARTS NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

CHANGE NOTES

1. Added TLPC to Figure 11

H&S MFG. CO.

products approved

for the

FEMA

SEAL OF QUALITY

