

X10 RAKE

PARTS BOOK



Revision #03
Starting Serial #510258

HSMFG0415

Part #60469

Manufactured By
H&S MANUFACTURING CO.,INC.

P.O. BOX 768 (715) 387-3414 FAX (715) 384-5463
MARSHFIELD, WISCONSIN 54449

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INSTRUCTIONS FOR ORDERING PARTS

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

1. Model & Serial number is located on the left, rear main frame of your unit.
2. All reference to left or right apply to the machine as viewed from the rear.
3. Parts should not be ordered from illustration only. Please order by 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.	<input type="text"/>
SER. NO.	<input type="text"/>
DESCR.	<input type="text"/>

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

MAIN FRAME

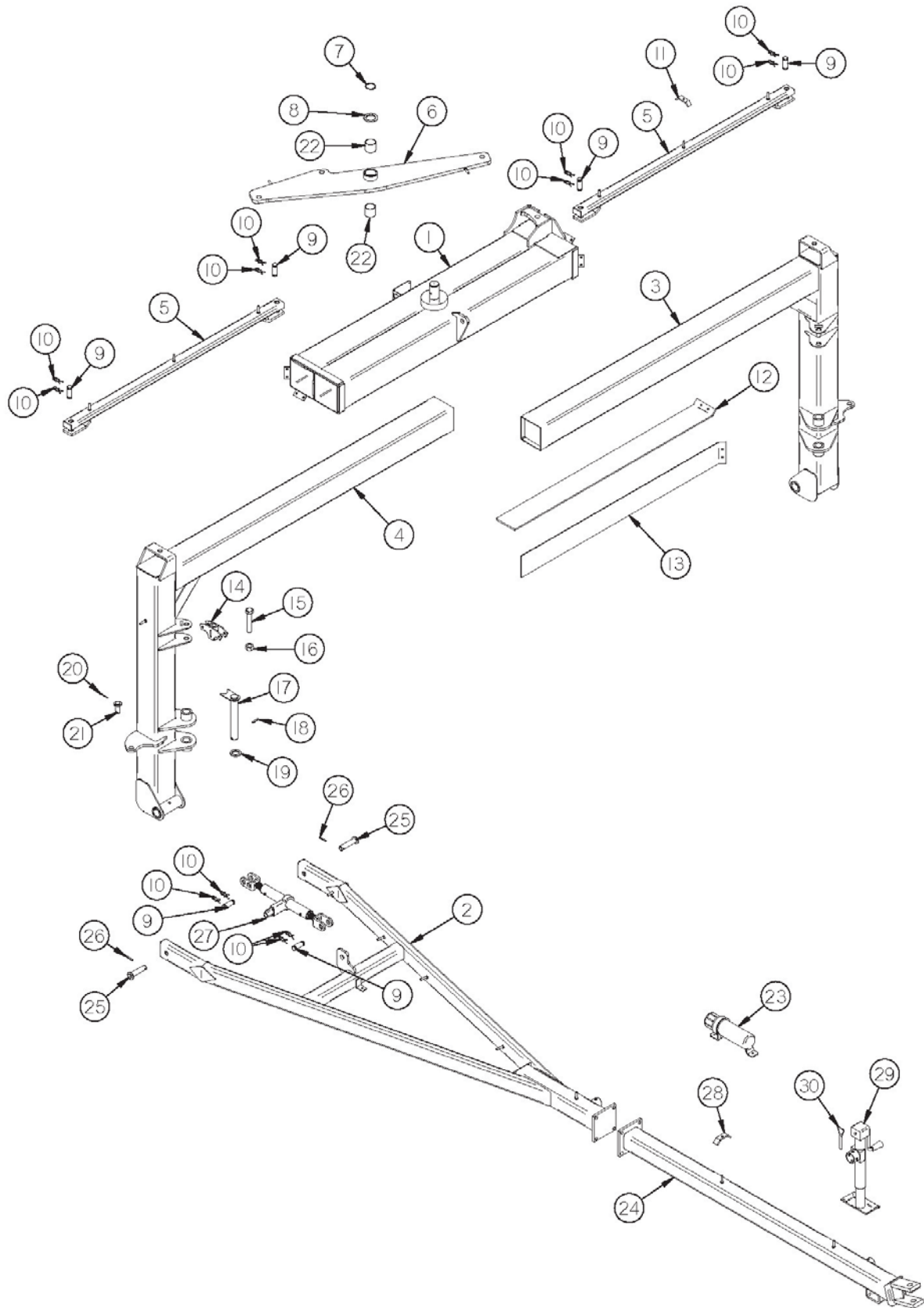


FIGURE 1

MAIN FRAME

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR1	MAIN FRAME
2	XR71	POLE TOP
3	XR3	LEFT AXLE UPRIGHT
4	XR4	RIGHT AXLE UPRIGHT
5	XR5	WIDTH LINK
6	XR6	WIDTH CAM
7	DWM280	SNAP RING 2"
8	XR7	CAM PIVOT WASHER
9	T143	JACK PIN
10	YPHR02020	HAIR PIN, #23-10
11	23N67	TWO HOSE CLAMP
12	XR8	MHD THICK POLY SLIDE
13	XR9	MHD THIN POLY SLIDE
14	XR72	HEAVY STABILIZER PIVOT
15	YBHH32020	BOLT, 1"-8 X 5" GR. 5
16	YNTL32005	HEX NUT, TOP LOCK, 1"-8
17	XR12	BEAM PIVOT PIN
18	YPEX10020	EXPANSION PIN, 5/16" X 2-1/4"
19	XR13	BEAM PIVOT PIN WASHER
20	YPCT08005	COTTER PIN, 1/4" X 1-3/4"
21	XR14	TRANSPORT LOCK PIVOT
22	XR17	CAM PIVOT BUSHING
23	S522	MANUAL HOLDER
24	XR70	POLE BOTTOM
25	XR16	POLE HINGE PIN
26	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
27	60206	RATCHET JACK
28	HE42	FOUR HOSE CLAMP
29	BFR753	JACK
30	12N117	JACK PIN & CHAIN
*	5N78	JACK HANDLE

NOTE: * MEANS NOT SHOWN

FIGURE 2

TANDEM AXLE

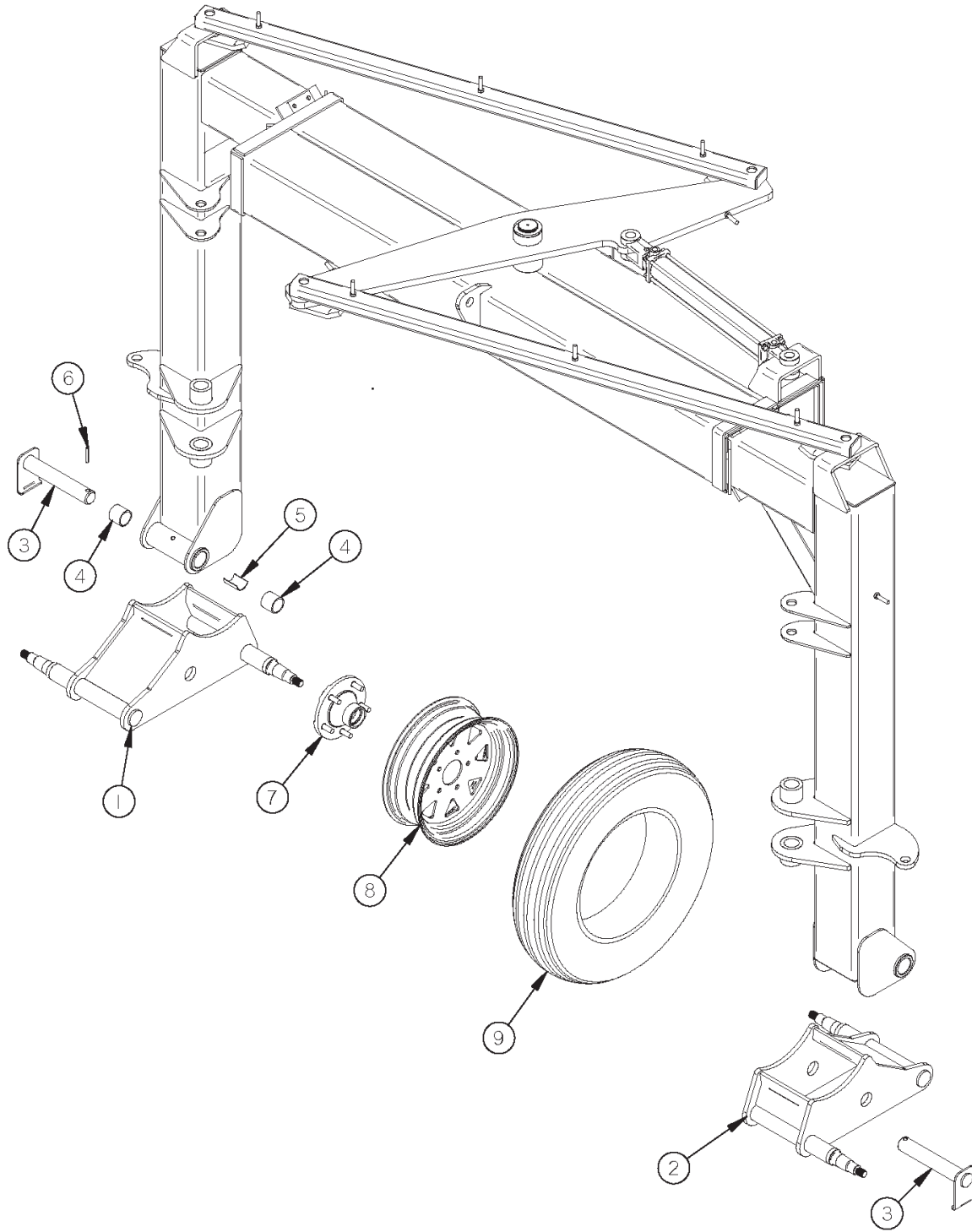


FIGURE 2

TANDEM AXLE

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR50	RIGHT X-RAKE TANDEM
2	XR51	LEFT X-RAKE TANDEM
3	XR52	TANDEM PIVOT PIN
4	BFR625	BUSHING
5	XR53	TANDEM BUSHING SPACER
6	YPEX12025	EXPANSION PIN, 3/8" X 2-3/4"
7	CAT8	GROUND WHEEL HUB
*	CAT5	SEAL
*	CAT6	INNER BEARING
*	CAT7	INNER RACE
*	BFR275	OUTER RACE
*	CAT10	OUTER BEARING
*	BFR63	WASHER
*	YNSL24005	HEX NUT, SLOTTED, 3/4" - 10
*	YPCT05015	COTTER PIN, 5/32" X 1-1/4"
*	CAT46	HUB CAP
*	CAT128A	HUB STUD
*	YNWL16005	WHEEL NUT, 1/2" - 20 UNF
8	CAT195	13 X 4.5 WHEEL
9	CAT198	ST175/80D13 TIRE

NOTE: * MEANS NOT SHOWN

FIGURE 3
RAKE BEAMS

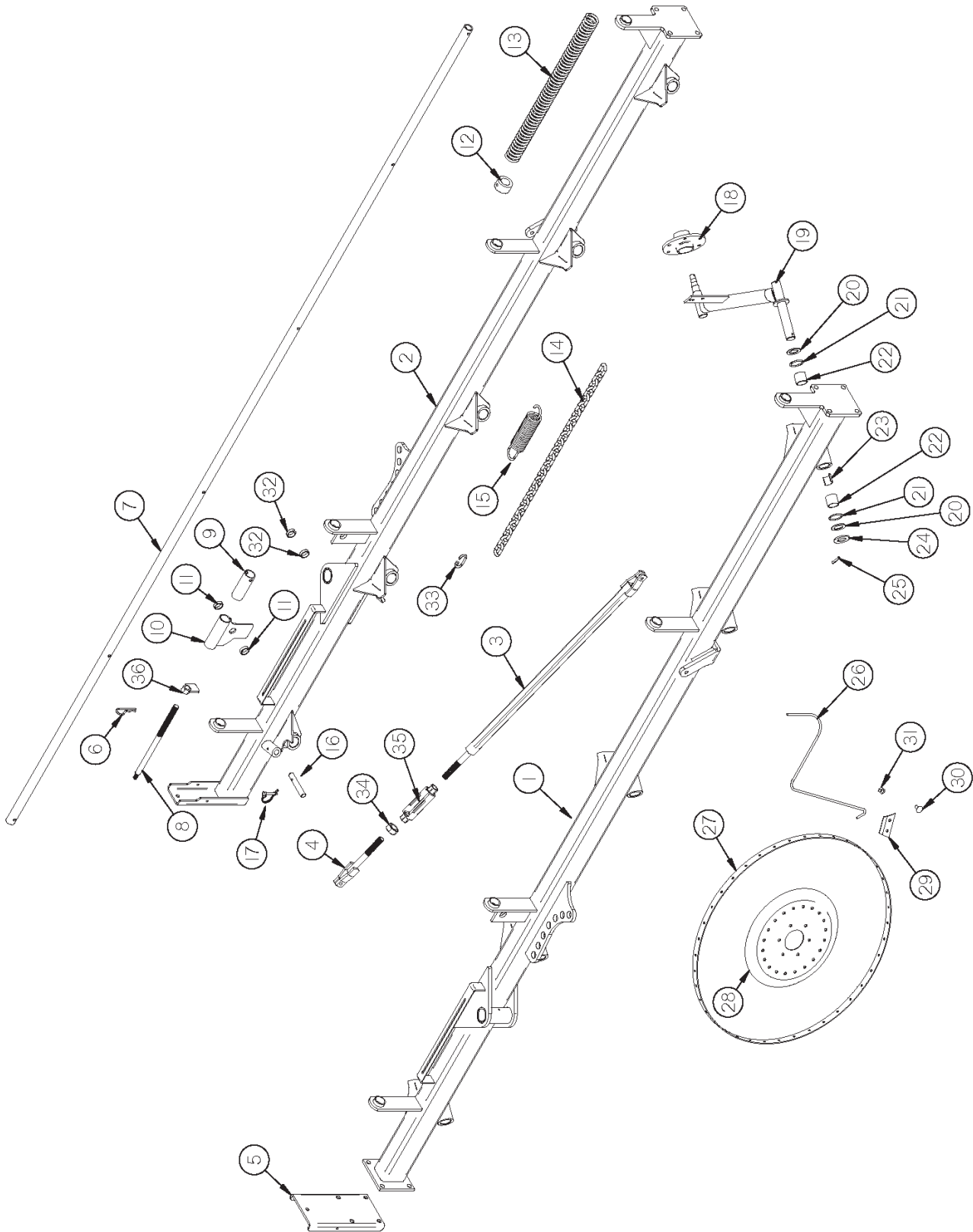


FIGURE 3

RAKE BEAMS

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR69	RIGHT RAKE BEAM
2	XR68	LEFT RAKE BEAM
3	HD113	STABILIZER
4	HD116	TURNBUCKLE END
5	XR22	LIFT PIPE STOP
6	YPHR08040	HAIR PIN, 1/4" X 5" #21-09
7	XR24	MAIN LIFT PIPE
8	HD154	ACME ROD
9	XR25	LONG LIFT PIPE COLLAR
10	XR26	LIFT CYLINDER SLIDE
11	K132	PIPE SPACER
12	BFR82	PIPE CLAMP
13	XR27	HEAVY LOWERING SPRING
14	XR28	RAKE ARM CHAIN
15	BFR138	RAKE ARM SPRING
16	XR29	STOP PIN
17	DWM324	SAFETY SNAP PIN
18	BFR32	RAKE WHEEL HUB
*	T163	SEAL
*	600012	INNER BEARING RACE
*	600012	INNER BEARING RACE
*	600014	OUTER BEARING RACE
*	600014	OUTER BEARING RACE
*	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
*	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
*	T173	HUB CAP
*	YBHH76005	BOLT, 10MM 1.5 X 12
*	YNHX76015	HEX NUT, M10-1.5
19	BFR437	RAKE ARM RH
*	BFR436	RAKE ARM LH
20	BFR221	POLY WASHER
21	S99	O-RING
22	G16	BUSHING
23	XR30	WIDE BEARING SPACER
24	BFR229	RAKE ARM WASHER
25	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
26	T176	RAKE WHEEL TOOTH
27	T177	OUTER RING
28	T179	RAKE WHEEL CENTER
29	T178	RAKE TOOTH CLIP
30	YBCR76005	CARR. BOLT, 10MM X 25MM
31	YNLC76005	HEX NUT, LOCK, 10MM (M10)
*	T174	RAKE WHEEL LH
*	BFR31	RAKE WHEEL RH
32	X94	5/16" PIPE SPACER
33	XR65	1/4" QUICK LINK
34	YNJM32010	HEX NUT, JAM, 1"-8
35	HD114	TURNBUCKLE
36	BFR426	RAKE PRESSURE HANDLE

NOTE: * MEANS NOT SHOWN

FIGURE 4
HYDRAULICS

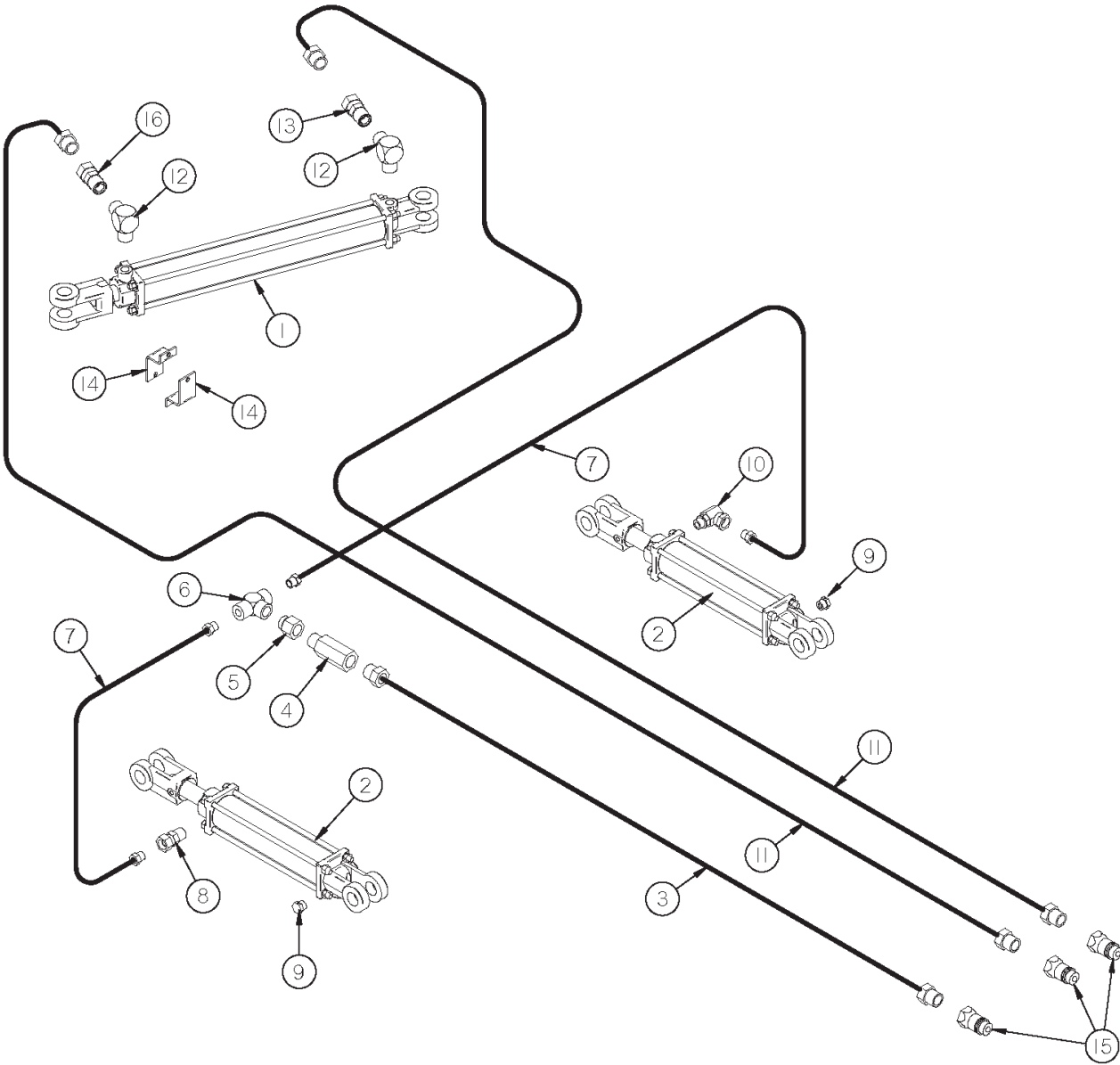


FIGURE 4

HYDRAULICS

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	56012	3-1/2" X 16" HYDRAULIC CYLINDER
2	56000	2" X 10" HYDRAULIC CYLINDER
3	XR33	HYDRAULIC HOSE 1/4" X 240" 1/2" MP & 1/2" MP
4	BFR554	FLOW VALVE
5	BFR555	ADAPTER
6	BFR74	3/8" FEMALE TEE
7	XR34	HYDRAULIC HOSE 1/4" X 180" 3/8" MP & 3/8" MP
8	DWM233	3/8" MALE ADAPTER
9	BFR70	3/8" VENT PLUG
10	DWM110	3/8" STREET ELBOW W/90° SWIVEL
11	XR35	HYDRAULIC HOSE 1/4" X 270" 1/2" MP & 1/2" MP
12	HE58	1/2" STREET ELBOW
13	LW174	1/2" MALE UNION ADAPTER (THREADED)
14	XR36	.062 ORIFICE .250 PIPE PLUG
15	DWM205	MALE QUICK COUPLER
16	LW174	UNION, ADAPTER, 1/2"

FIGURE 5
HYDRAULIC BEAM ANGLE

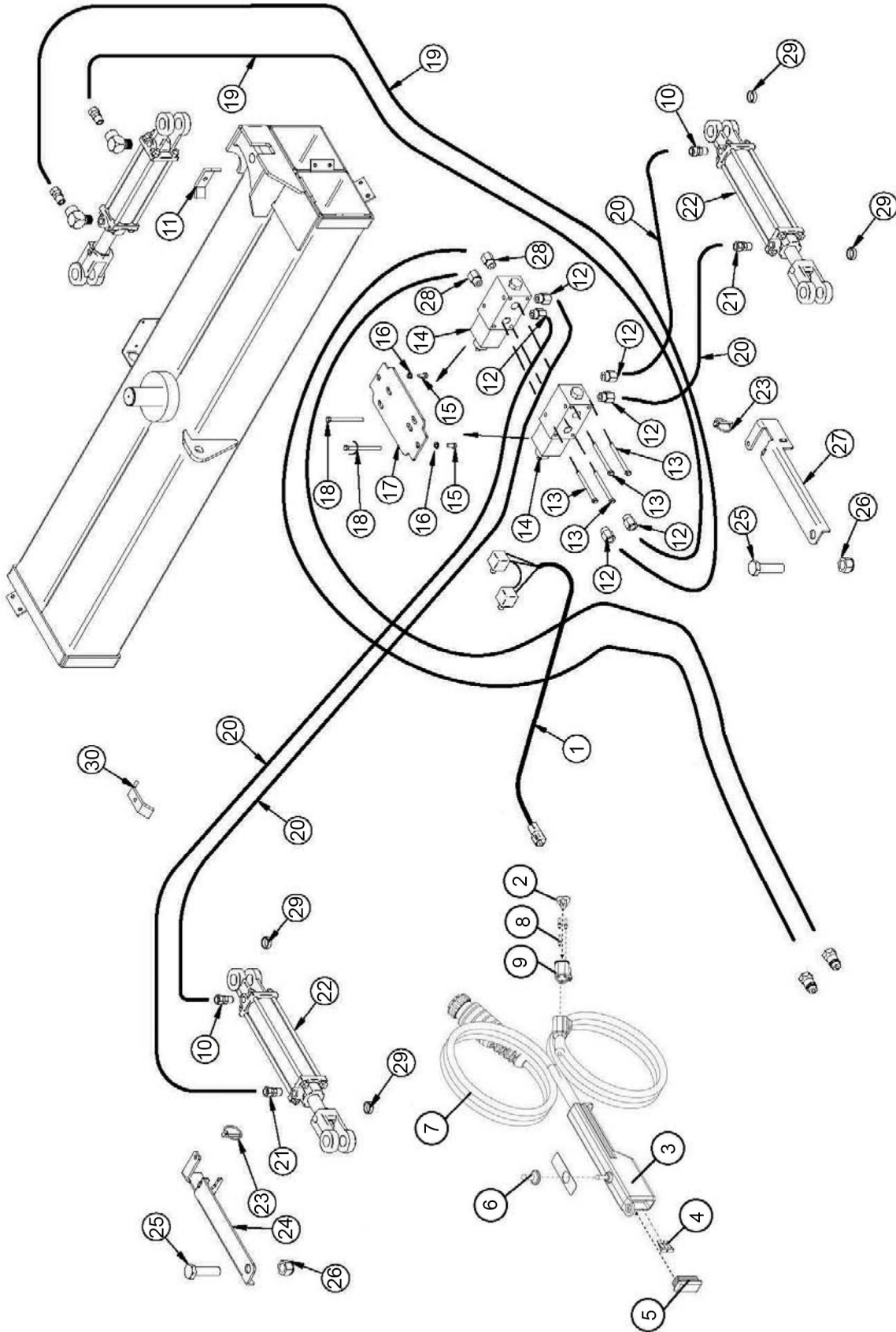


FIGURE 5

HYDRAULIC BEAM ANGLE

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR66	POLE CORD (18')
2	60114	WEDGELOCK, 3 SOCKET
3	63363	HAND CONTROLLER (ON-OFF-ON)
4	61597	FUSE, BLADE, 5 AMP
5	61564	CAP
6	16SV235	SWITCH BOOTS
7	16SV271	CONTROL BOX POWER SUPPLY CABLE W/PLUG
8	56760	DEUTSCH SOCKET, SOLID, 14-16 GA.
9	60113	DEUTSCH, 3 SOCKET PLUG HOUSING
10	58722	3/8 MALE ADAPTER WITH .042 ORIFICE
11	23N67	TWO HOSE CLAMP
12	DWM269	3/4" O-RING TO 3/8" PIPE SWIVEL ADAPTER
13	YBHH10130	BOLT, 5/16" X 5" GR. 5
*	YWLO10005	WASHER, LOCK, 5/16"
*	YNHX10005	HEX NUT, 5/16"
14	FR81	SOLENOID VALVE
*	FR84	O-RING SEAL KIT
15	YBHH12135	BOLT, 3/8" X 3/4" GR. 5
16	YWLO12005	WASHER, LOCK, 3/8"
17	XR44	MOUNTING PLATE
18	YSHS08030	SOCKET HEAD CAP SCREW, 1/4"-20 X 3"
*	YWLO08005	WASHER, LOCK, 1/4"
*	YNHX08005	HEX NUT, 1/4"-20
19	DWM108	1/4" X 56" HYDRAULIC HOSE 3/8" MP & 1/2" MP
20	XR34	1/4" X 180" HYDRAULIC HOSE 3/8" MP & 3/8" MP
21	DWM233	3/8" UNION ADAPTER
22	55999	2" X 8" HYDRAULIC CYLINDER
23	YPLY12010	LYNCH PIN, 3/8" X 1-3/4"
24	XR49	RIGHT TRANSPORT LOCK
25	YBHH32015	BOLT, 1"-8 X 4" GR. 5
26	YNTL32005	HEX NUT, TOP LOCK, 1"-8
27	XR48	LEFT TRANSPORT LOCK
28	XR54	FEMALE UNION ADAPTER 3/4" O-RING TO 1/2" PIPE
29	K132	PIPE SPACER
30	HE42	FOUR HOSE CLAMP

NOTE: * MEANS NOT SHOWN

FIGURE 6

HYDRAULIC CYLINDER

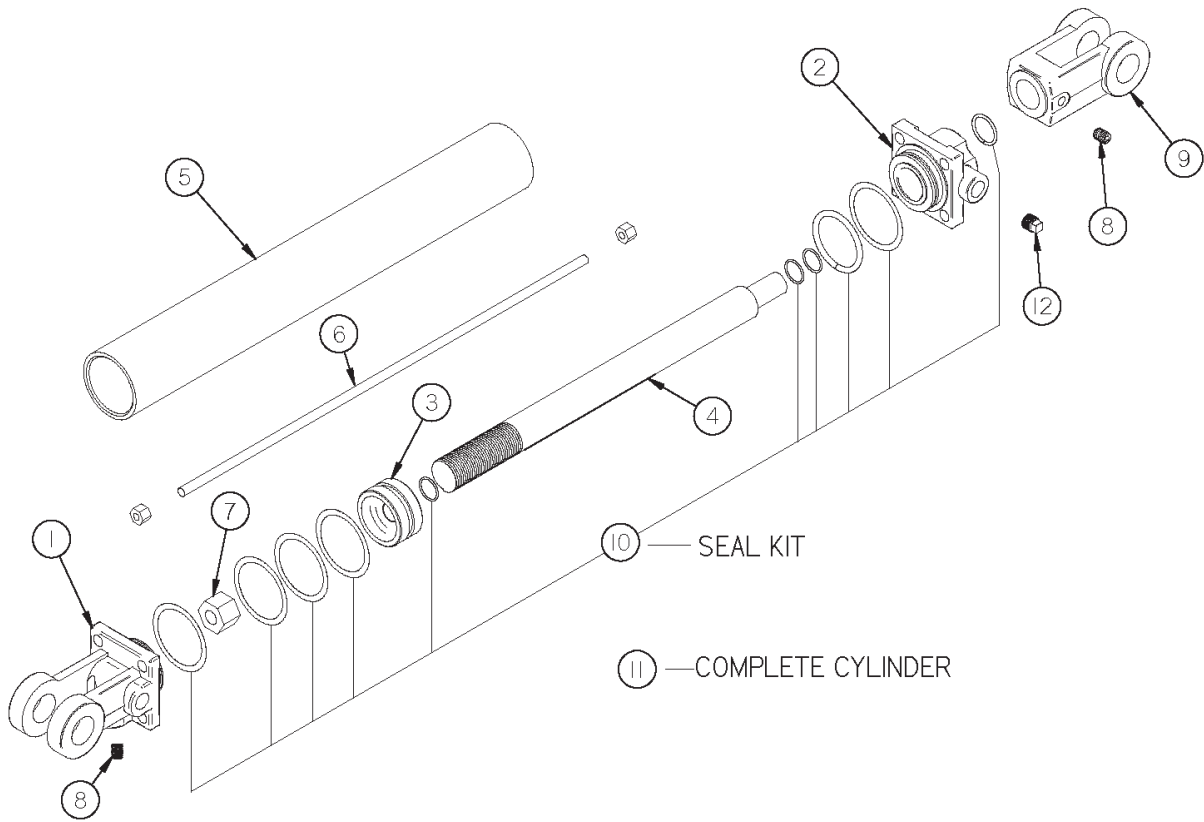


FIGURE 6

HYDRAULIC CYLINDERS

OPTIONAL BEAM RAKE WHEEL WIDTH CYLINDER
ANGLE KIT 2" X 8" LIFT 2" X 10" 3-1/2" X 16"

<u>ITEM</u>	<u>PART #</u>	<u>PART #</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	23N142A	23N142A	XR55	CLEVIS CAP
2	56174	"	56178	ROD CAP
3	56180	"	56183	PISTON
4	T184A	16SV168A	XR58	ROD
5	BFR68	16SV169	XR59	CYLINDER TUBE
6	T186	16SV170	XR60	TIE ROD
7	23N148	23N148	XR61	PISTON NUT
8	23N149	23N149	XR62	PLUG
9	23N150A	23N150A	XR63	ROD CLEVIS
10	56187	"	56191	SEAL KIT
11	55999	56000	56012	HYDRAULIC CYLINDER (COMPLETE)
12	——	BFR70	——	VENT PLUG

NOTE: " MEANS SAME AS PREVIOUS
—— MEANS NOT USED ON THIS MODEL

FIGURE 7
2 WHEEL FRONT EXTENSION

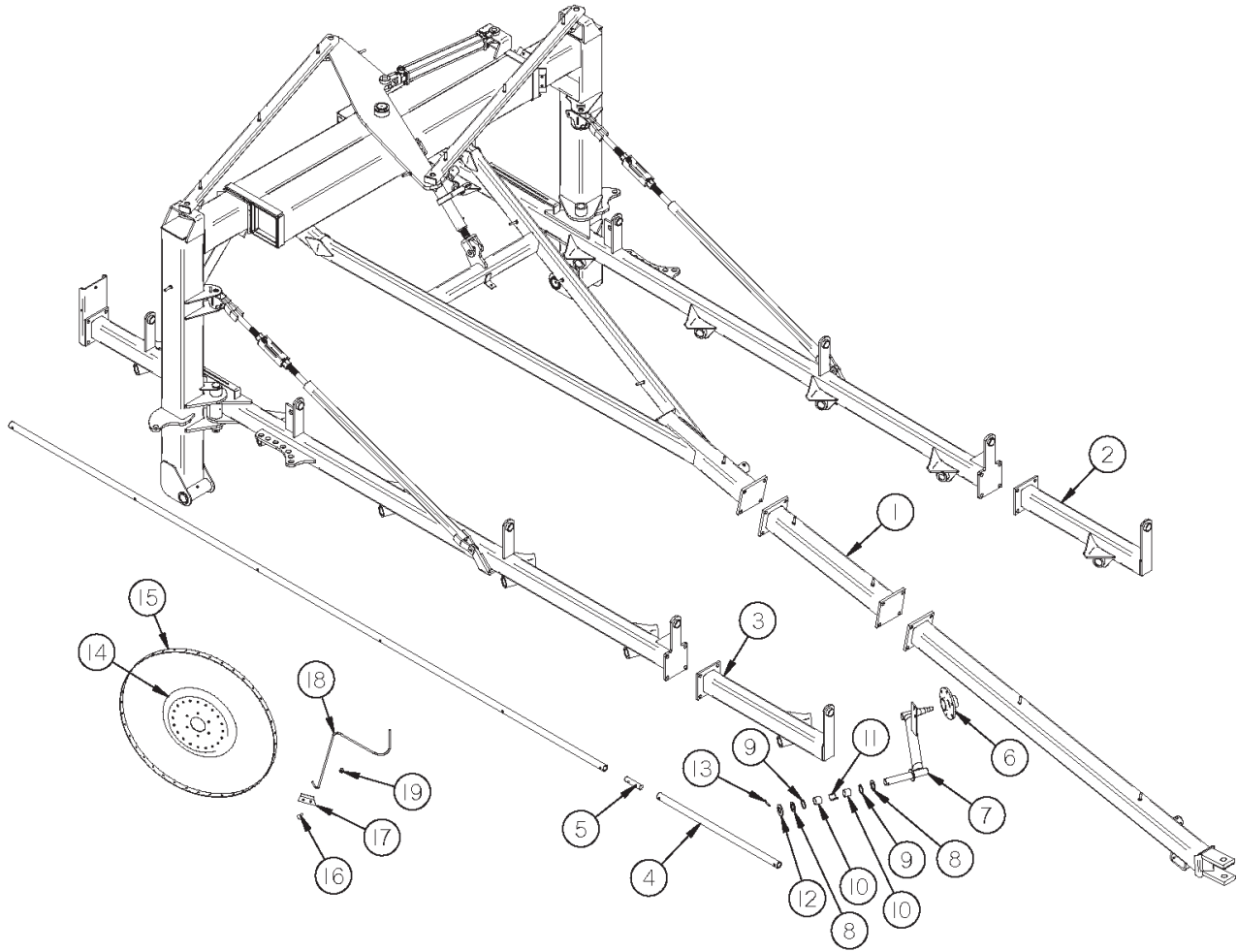


FIGURE 7

2 WHEEL FRONT EXTENSION

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR74	POLE EXTENSION
2	XR75	LH FRONT BEAM EXTENSION
3	XR76	RH FRONT BEAM EXTENSION
4	XR77	LIFT PIPE EXTENSION
5	XR41	LIFT PIPE CONNECTOR
6	BFR32	RAKE WHEEL HUB
*	T163	SEAL
*	600012	INNER BEARING
*	600012	INNER RACE
*	600014	OUTER RACE
*	600014	OUTER BEARING
*	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
*	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
*	T173	HUB CAP
*	YBHH76005	BOLT, 10MM 1.5 X 12
*	YNHX76015	HEX NUT, M10-1.5
7	BFR437	RH RAKE ARM
*	BFR436	LH RAKE ARM
8	BFR221	POLY WASHER
9	S99	O-RING
10	G16	BUSHING
11	XR30	WIDE BEARING SPACER
12	BFR229	RAKE ARM WASHER
13	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
14	T179	RAKE WHEEL CENTER
15	T177	OUTER RING
16	YBCR76005	CARR. BOLT, 10MM X 25MM
17	T178	RAKE TOOTH CLIP
18	T176	RAKE WHEEL TOOTH
19	YNLC76005	HEX NUT, LOCK, 10MM (M10)
*	T174	RAKE WHEEL LH
*	BFR31	RAKE WHEEL RH

NOTE: * MEANS NOT SHOWN

FIGURE 8

THREE WHEEL REAR EXTENSION

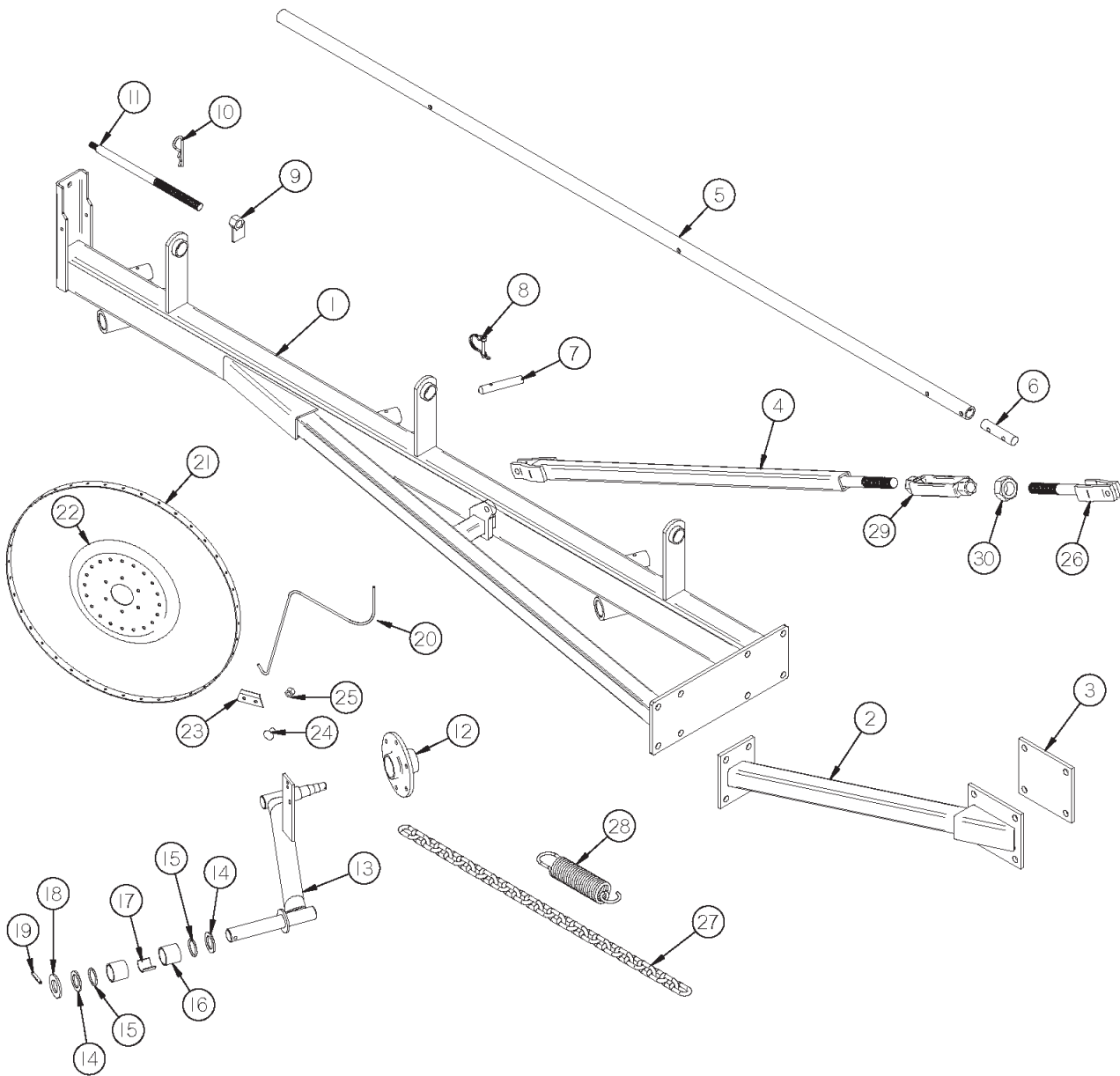


FIGURE 8

THREE WHEEL REAR EXTENSION

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	XR73	X-RAKE EXTENSION
2	XR38	FORWARD BRACE
3	XR39	FORWARD BRACE FRONT BRACKET
4	HD113	STABILIZER
5	XR40	EXTENSION LIFT PIPE
6	XR41	EXTENSION LIFT PIPE CONNECTOR
7	XR29	STOP PIN
8	DWM324	SAFETY SNAP PIN
9	BFR426	RAKE PRESSURE HANDLE
10	YPHR08040	HAIR PIN, 1/4" X 5" #21-09
11	HD154	ACME ROD
12	BFR32	RAKE WHEEL HUB
*	T163	SEAL
*	600012	INNER BEARING
*	600012	INNER RACE
*	600014	OUTER RACE
*	600014	OUTER BEARING
*	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
*	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
*	T173	HUB CAP
*	YBHH76005	BOLT, 10MM 1.5 X 12
*	YNHX76015	HEX NUT, M10-1.5
13	BFR437	RAKE ARM RH
14	BFR221	POLY WASHER
15	S99	O-RING
16	G16	BUSHING
17	XR30	WIDE BEARING SPACER
18	BFR229	RAKE ARM WASHER
19	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
20	T176	RAKE WHEEL TOOTH
21	T177	OUTER RING
22	T179	RAKE WHEEL CENTER
23	T178	RAKE TOOTH CLIP
24	YBCR76005	CARR. BOLT, 10MM X 25MM
25	YNLC76005	HEX NUT, LOCK, 10MM (M10)
26	HD116	TURNBUCKLE END
27	XR28	RAKE ARM CHAIN
28	BFR138	RAKE ARM SPRING
29	HD114	TURNBUCKLE
30	YNJM32010	HEX NUT, JAM, 1"-8

NOTE: * MEANS NOT SHOWN

FIGURE 9

OPTIONAL LIGHTING

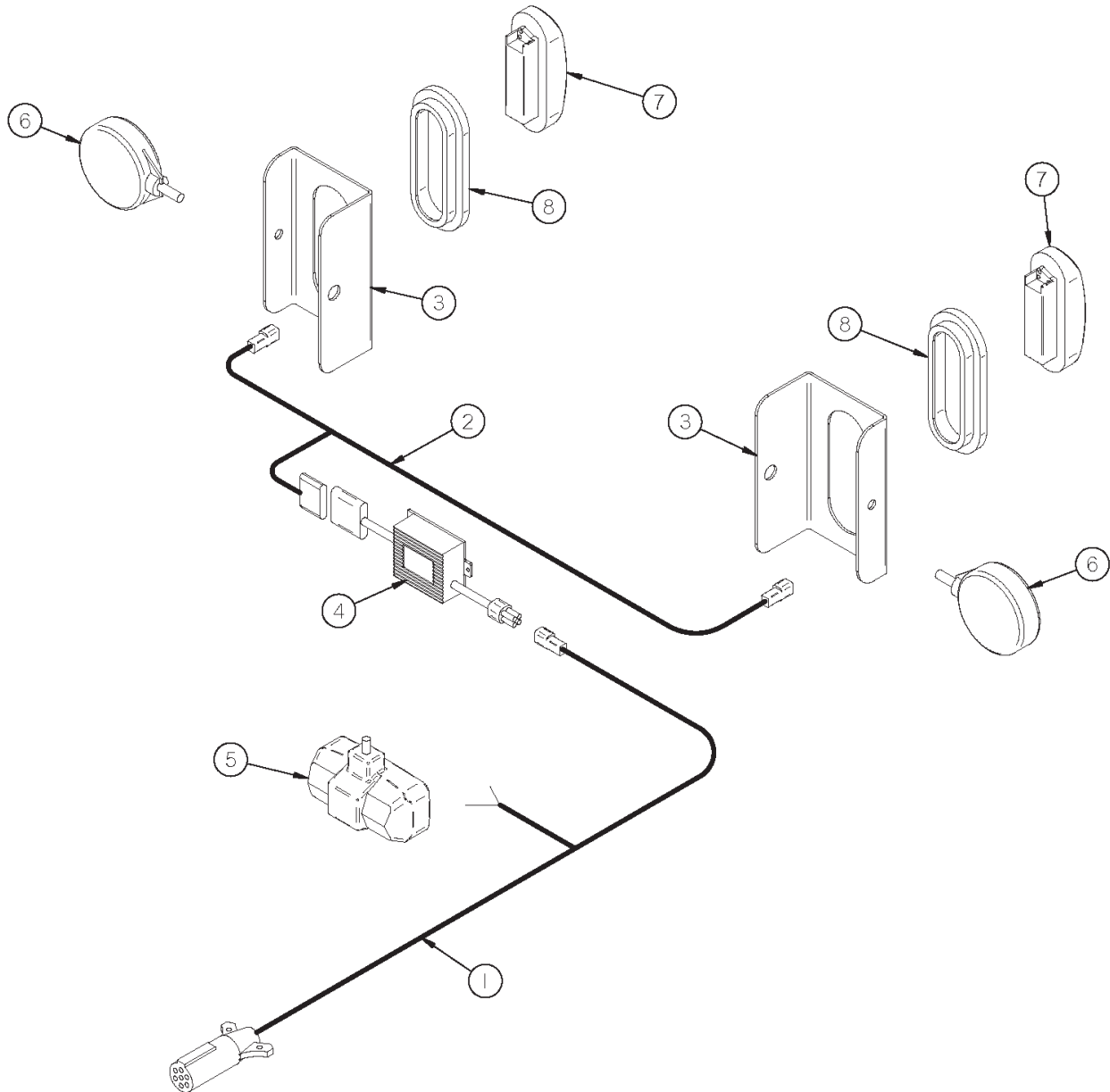


FIGURE 9

OPTIONAL LIGHTING

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	MHD1	LIGHT HARNESS POLE CORD
2	MHD2	LIGHT HARNESS FRAME CORD
3	HD148	LIGHT BRACKET
4	S441	LIGHT MODULE
5	DWM130	WORK LIGHT
6	DWM129	YELLOW HAZARD LIGHT
7	S310	RED TAIL LIGHT
8	S308	RUBBER LIGHT MOUNT

H&S MFG. CO.

products approved

for the

FEMA

SEAL OF QUALITY

