



# 12 & 14 WHEEL HI-CAPACITY RAKE

## PARTS BOOK



Revision #02

12 Wheel HI CAP. Starting Serial #415750

14 Wheel HI CAP. Starting Serial #415684

HSMFG1213

Part #59784

Manufactured By  
**H&S MANUFACTURING CO.,INC.**

P.O. BOX 768 (715) 387-3414 FAX (715) 384-5463

MARSHFIELD, WISCONSIN 54449

# CONTENTS

Instructions for Ordering Parts .....	1
Figure 1 - 12 Wheel Main Frame Rear .....	2-3
Figure 2 - 12 Wheel Main Frame Pole & Linkage .....	4-5
Figure 3 - 12 Wheel Rake Beams & Arms .....	6-9
Figure 4 - 12 & 14 Gauge Wheel .....	10-11
Figure 5 - 12 Wheel Hydraulics .....	12-13
Figure 6 - 12 Wheel Hydraulic Lift Cylinder .....	14
Figure 7 - 12 & 14 Wheel Hydraulic Opening Cylinder .....	15
Figure 8 - 14 Wheel Main Frame Rear .....	16-17
Figure 9 - 14 Wheel Main Frame Pole & Linkage .....	18-19
Figure 10 - 14 Wheel Rake Beams & Arms .....	20-23
Figure 11 - 14 Wheel Hydraulics .....	24-25
Figure 12 - 14 Wheel Hydraulic Lift Cylinder .....	26-27
Figure 13 - Optional 15" Gauge Wheel .....	28-29
Figure 14 - 14 to 16 Wheel Expansion Kit .....	30-31
Figure 15 - Optional 2 Wheel Center Kicker .....	32-35
Figure 16 - Optional 3 Wheel Center Kicker .....	36-39
Figure 17 - Optional Lights .....	40
Parts Notes .....	41-42

## **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)

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

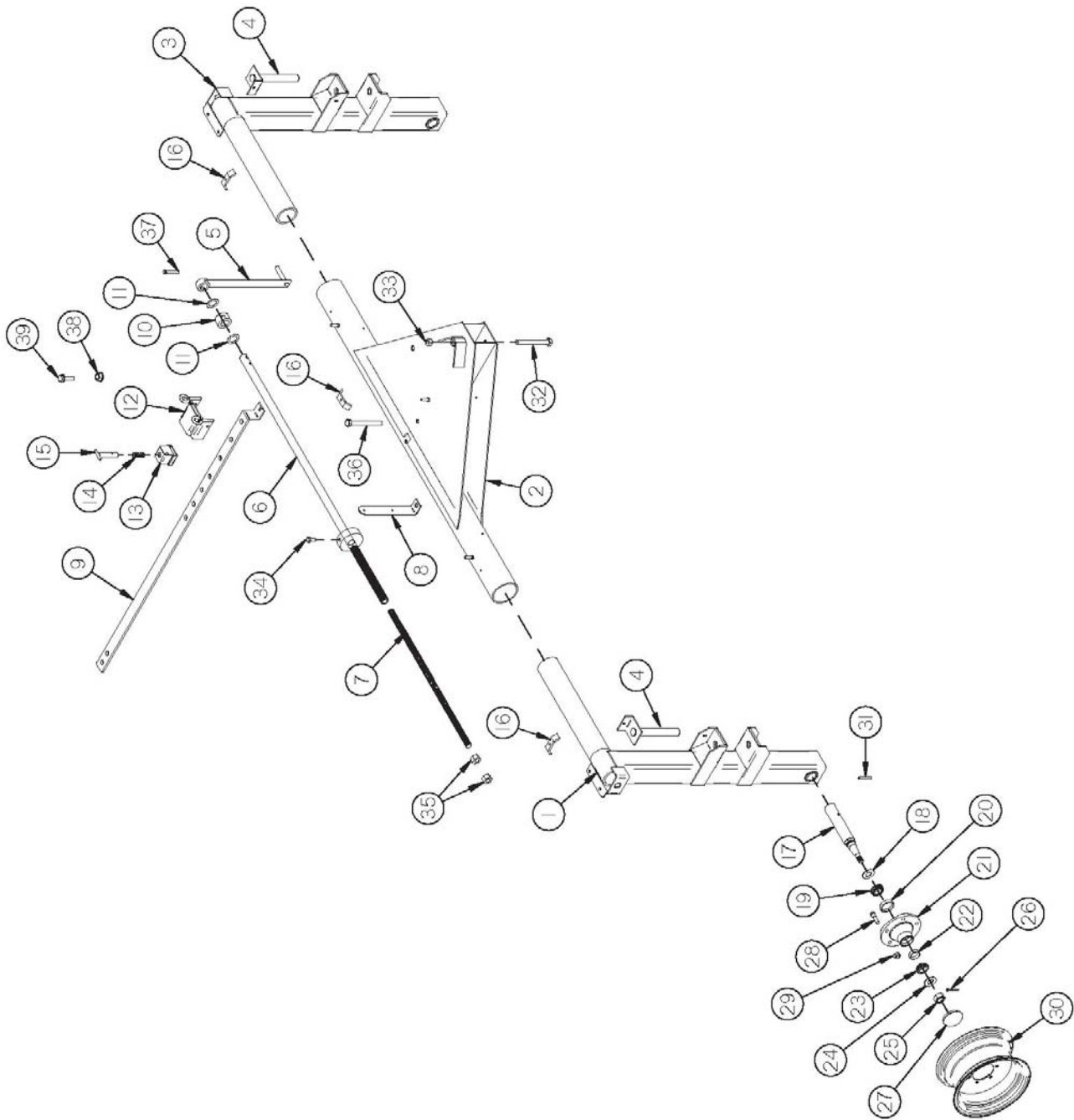
PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

### **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**  
**12 WHEEL HI CAPACITY RAKE**  
**MAIN FRAME REAR**



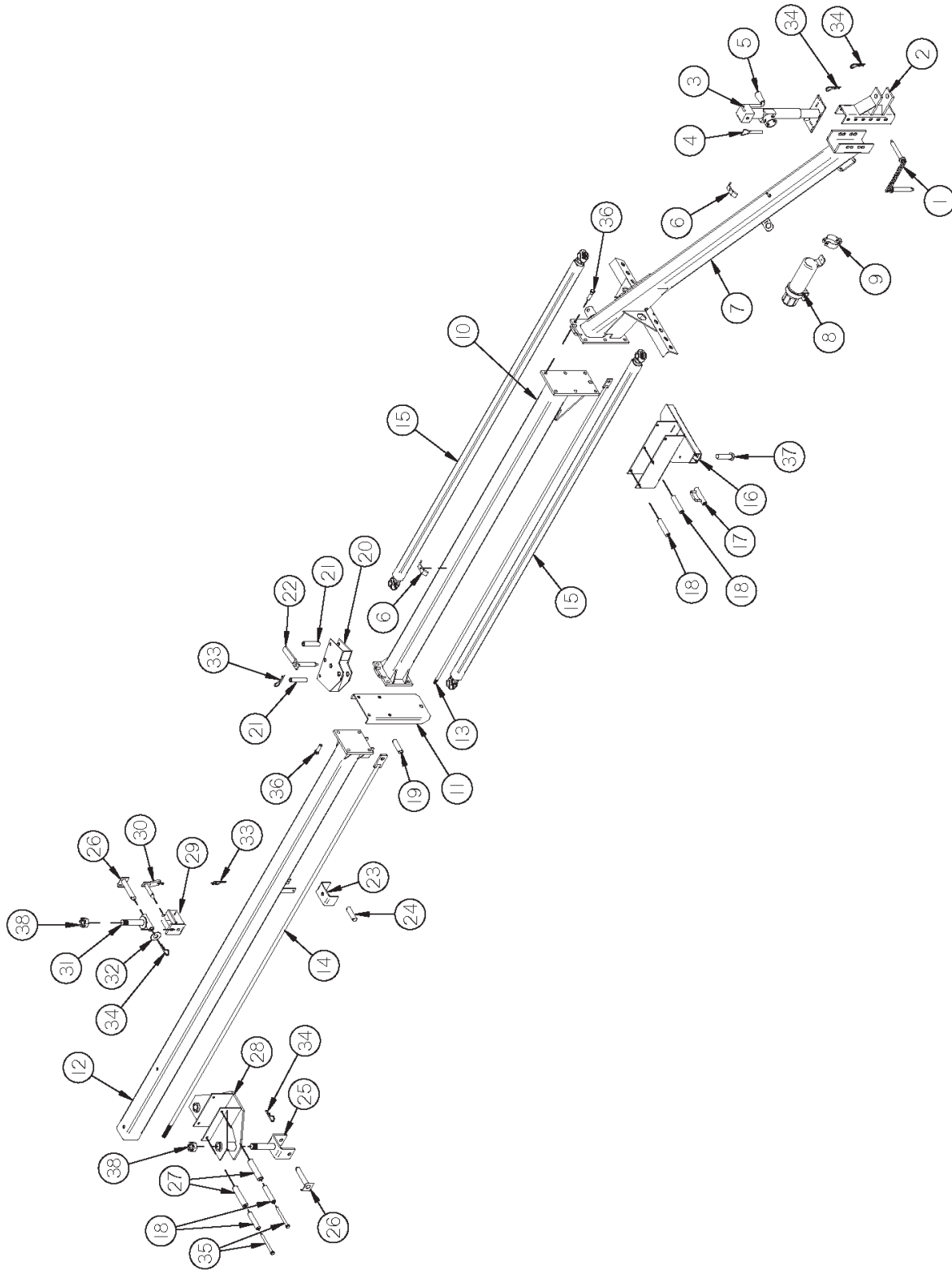
**FIGURE 1**  
**12 WHEEL HI CAPACITY RAKE**  
**MAIN FRAME REAR**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR754	RIGHT AXLE UPRIGHT
2	BFR498	REAR PIVOT ASSEMBLY
3	BFR755	LEFT AXLE UPRIGHT
4	BFR756	BEAM PIVOT SHAFT
5	BFR423	WIDTH ADJUSTMENT HANDLE
6	BFR485	REAR WIDTH ADJUSTMENT TUBE
7	BFR420	REAR WIDTH ADJUSTMENT ROD
8	BFR649	SMV BRACKET
9	BFR611	WIDTH ADJUSTMENT BAR
10	BFR422	WIDTH ADJUSTMENT COLLAR
11	BFR523	POLY WASHER
12	BFR613	WIDTH ADJUSTMENT STOP
13	BFR239	SLEEVE ADJUSTABLE LOCK
14	BFR240	SPRING
15	BFR241	ADJUSTMENT HANDLE
16	23N67	HOSE HOLDER
17	BFR449	SPINDLE
18	BFR57	SEAL
19	17G145	INNER BEARING
20	17G146	INNER RACE
21	BFR60	HUB
22	BFR61	OUTER RACE
23	BFR62	OUTER BEARING
*	BFR75	COMPLETE GROUND WHEEL HUB
24	YWFL24005	WASHER, FLAT, 3/4" USS
25	YNL24010	HEX NUT, SLOTTED, 3/4"-16
26	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
27	BFR66	HUB CAP
28	YBSD16005	STUD BOLT, 1/2"-20 UNF X 1-7/8" (3/8" SHOULDER)
29	YNWL16005	WHEEL NUT, 1/2"-20 UNF
30	BFR67	WHEEL 5 X 15
31	YPEX12025	EXPANSION PIN, 3/8" X 2-3/4"
32	YBHH20110	BOLT, 5/8" X 8" GR. 5
33	YNHX20005	HEX NUT, 5/8"-11 PLATED
34	YBHH16010	BOLT, 1/2" X 1" GR. 5
35	YNAC24005	HEX NUT, ACME, 3/4"-6
36	YBHH20085	BOLT, 5/8" X 5" GR. 5
37	YBHH12090	BOLT, 3/8" X 2-1/2" GR. 5
38	BFR642	WIDTH ADJUSTMENT SPACER
39	YSHW10010	5/16"-18 X 1-1/4" HEX WASHER SLOT TYPE F ZINC THREAD CUTTING SCREW

**NOTE: \* MEANS NOT SHOWN**

**TANDEM OPTIONS: BFR509 RH TANDEM AXLE  
BFR510 LH TANDEM AXLE**

**FIGURE 2**  
**12 WHEEL HI CAPACITY RAKE**  
**MAIN FRAME POLE AND LINKAGE**

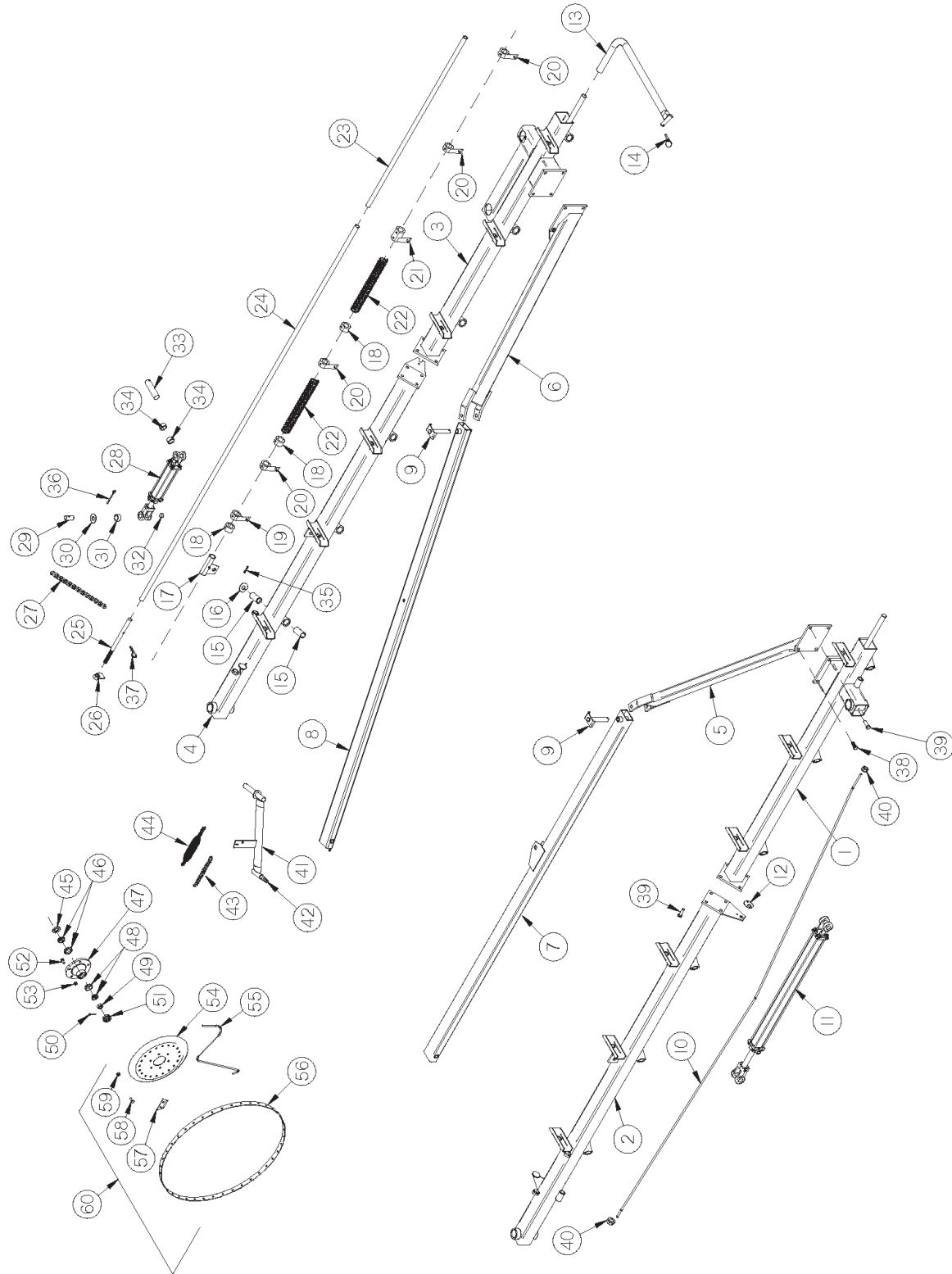


**FIGURE 2**  
**12 WHEEL HI CAPACITY RAKE**  
**MAIN FRAME POLE AND LINKAGE**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR450	HITCH PIN
2	BFR157	HITCH
3	BFR753	JACK
4	12N117	JACK PIN & CHAIN
5	5N78	JACK HANDLE
*	12N118	REPLACEMENT BEARING
6	HE42	HOSE HOLDER
7	BFR660	POLE
8	S522	MANUAL HOLDER
9	S23	MANUAL CLAMP - LARGE
10	BFR385	CENTER POLE SECTION
11	BFR399	LINKAGE STOP
12	BFR397	BACK POLE SECTION
13	BFR502	FRONT ROD
14	BFR503	BACK ROD
15	BFR390	FRONT LINKAGE
16	BFR387	FRONT LINKAGE SLIDER
17	BFR388	HOSE GUIDE SPACER
18	BFR389	SLIDER SPACER
19	BFR396	CYLINDER PIN
20	BFR398	CENTER SLIDER
21	BFR400	CENTER SLIDER SPACER
22	BFR401	CENTER SLIDER PIN
23	BFR402	HOSE GUIDE
24	BFR634	CYLINDER PIN
25	BFR410	BACK LINKAGE YOKE RH
26	BFR413	PIVOT YOKE SHAFT PIN
27	BFR404	BACK SLIDER ROLLER
28	BFR440	BACK LINKAGE SLIDER
29	BFR411	BACK LINKAGE YOKE LH
30	BFR412	BACK LINKAGE YOKE PIN
31	BFR414	LEFT PIVOT YOKE SHAFT
32	BFR441	STOP WASHER
33	YPHR02010	HAIR PIN, #21-07
34	YPHR06040	HAIR PIN, 3/16" X 3-3/4"
35	YBHH16160	BOLT, 1/2" X 5-1/2" GR. 5
36	YBHH20025	BOLT, 5/8" X 2" GR. 5
37	YBHH32010	BOLT, 1"-8 X 3-1/2" GR. 5
38	YNSL36005	HEX NUT, SLOTTED, 1-1/4"-12

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 3**  
**12 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**



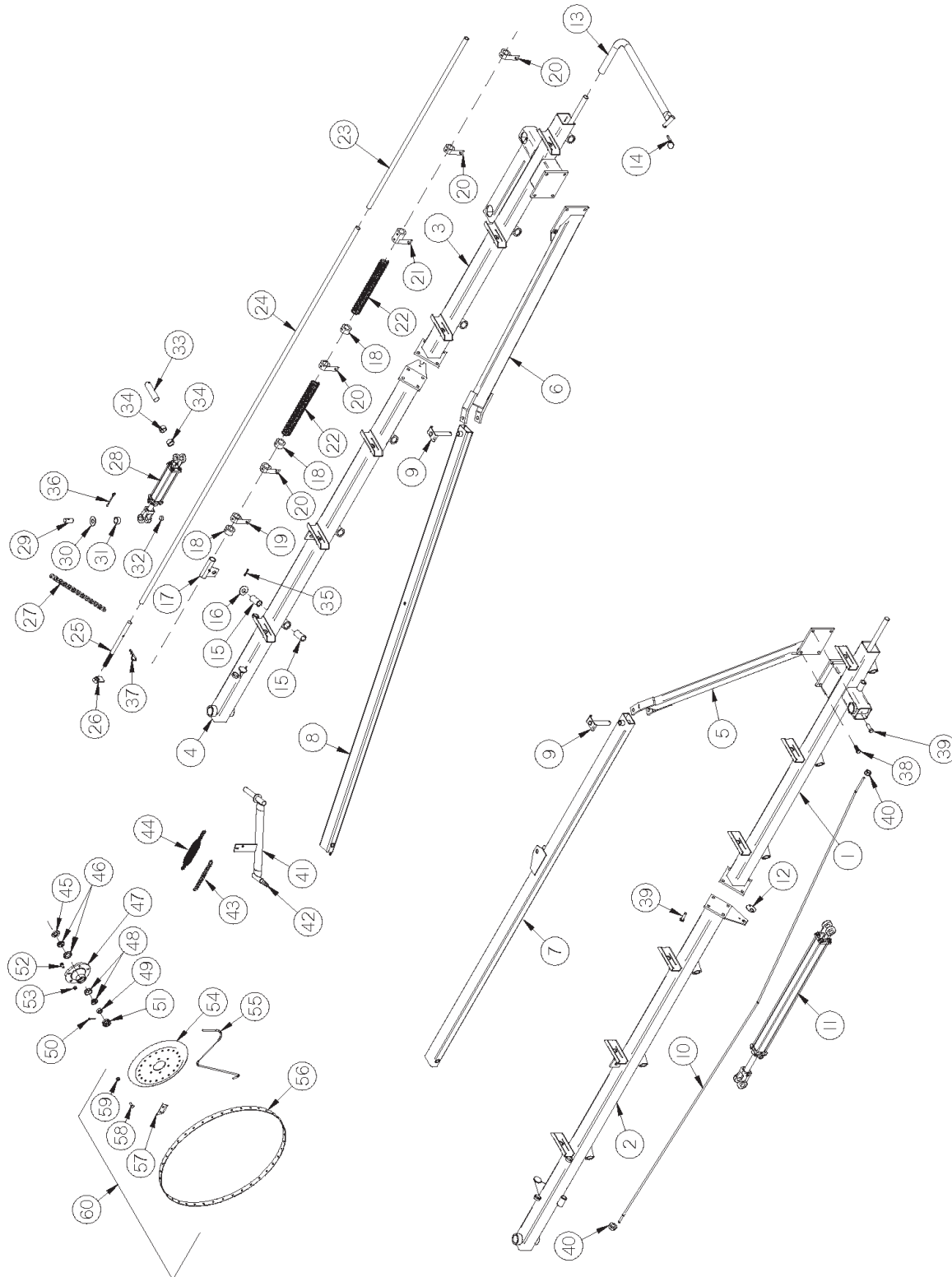


**FIGURE 3**  
**12 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR406	FRONT RAKE BEAM RH
2	BFR758	BACK RAKE BEAM RH
3	BFR407	FRONT RAKE BEAM LH
4	BFR759	BACK RAKE BEAM LH
5	BFR391	RAKE BEAM ARM RH
6	BFR392	RAKE BEAM ARM LH
7	BFR394	RIGHT REAR LINKAGE
8	BFR395	LEFT REAR LINKAGE
9	BFR393	RAKE BEAM ARM PIN
10	BFR612	SIDE ARM STABILIZER ROD
11	56004	HYDRAULIC CYLINDER
12	DF22	WASHER
13	BFR384	TRANSPORT LOCK PIPE LH
*	BFR415	TRANSPORT LOCK PIPE RH
14	BFR443	LYNCH PIN
15	BFR425	RAKE ARM BUSHING W/ FLANGE
16	BFR229	RAKE ARM WASHER
17	BFR428	HYDRAULIC CYLINDER END SLIDE LH
*	BFR429	HYDRAULIC CYLINDER END SLIDE RH
18	BFR82	PIPE CLAMPS
19	BFR622	SPRING BRACKET (2 HOLE)
20	BFR431	LH SPRING BRACKET
*	BFR430	RH SPRING BRACKET
21	BFR432	LH LIFTING PIPE CONNECTOR
*	BFR433	RH LIFTING PIPE CONNECTOR
22	BFR84	COMPRESSION SPRING
23	BFR520	LIFTING PIPE FRONT
24	BFR519	LIFTING PIPE BACK
25	BFR427	RAKE ARM LOCK-UP SHAFT
26	BFR426	RAKE PRESSURE HANDLE
27	BFR111	BACK RAKE ARM ADJUSTMENT CHAIN
28	55999	HYDRAULIC LIFT CYLINDER
29	BFR517	CYLINDER PIN
30	16SV136	WASHER
31	K106	CYLINDER SPACER

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 3**  
**12 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**



# FIGURE 3

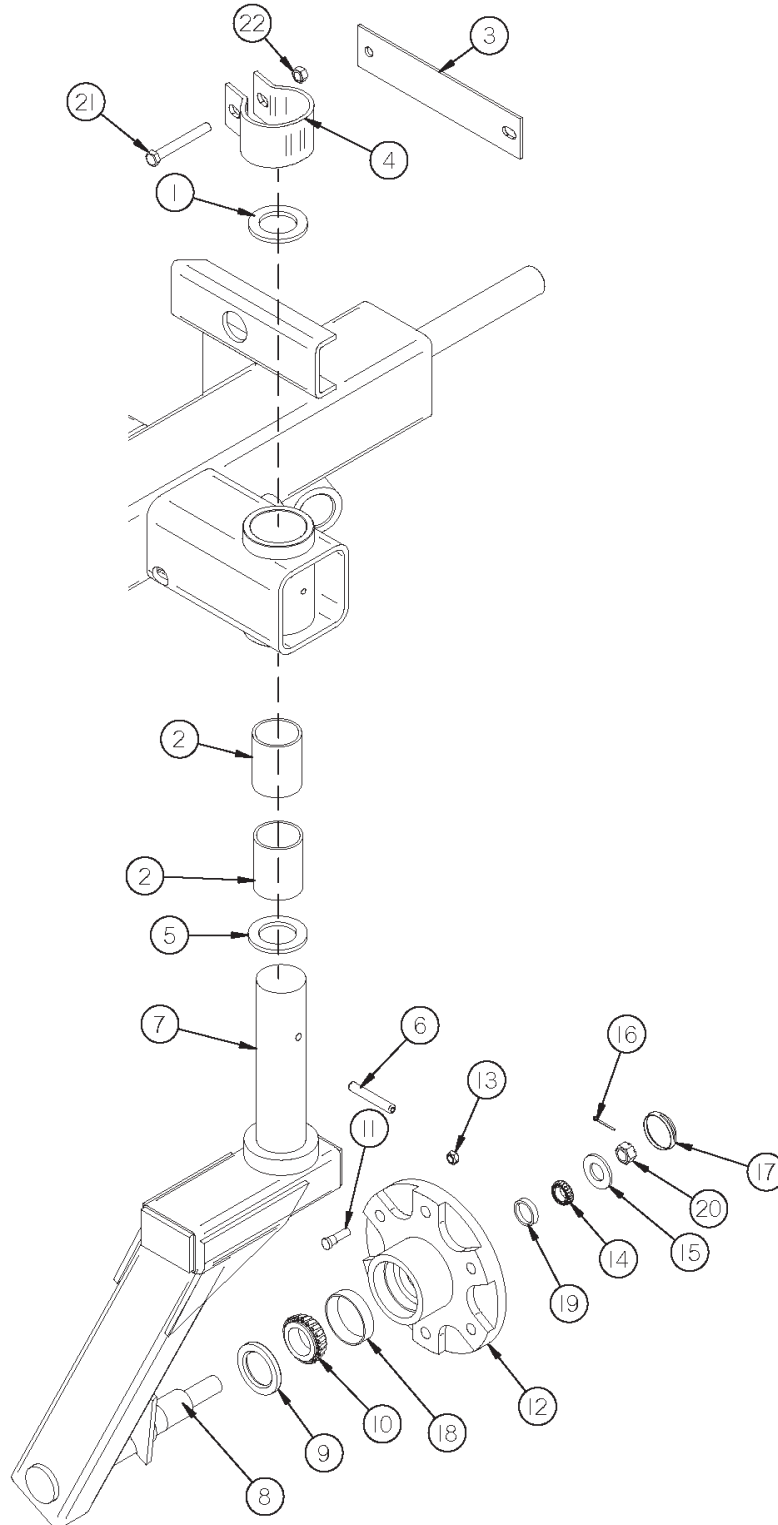
## 12 HI CAPACITY RAKE

### RAKE BEAMS AND ARMS

<u>ITEM</u>	<u>PART#</u>	<u>DESCRIPTION</u>
32	BFR506	NYLON WEAR BLOCK
33	T143	CYLINDER PIN
34	X94	CYLINDER SPACERS
35	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
36	YPCT07005	COTTER PIN, 7/32" X 2 "
37	YPHR08040	HAIR PIN, 1/4" X 5"
38	YBHH20020	BOLT, 5/8" X 1-3/4" GR. 5
39	YBHH20025	BOLT, 5/8" X 2" GR. 6
40	YNFG24005	HEX NUT, FLANGED-LOCK, 3/4"-10
41	BFR436	RAKE ARM LH
*	BFR437	RAKE ARM RH
42	BFR36	RAKE ARM SPINDLE
43	BFR140	RAKE ARM ADJUSTMENT CHAIN
44	BFR138	RAKE ARM SPRING
45	T163	SEAL
46	600012	INNER BEARING RACE
47	600014	OUTER BEARING RACE
48	BFR32	RAKE WHEEL HUB
49	600012	INNER BEARING RACE
50	600014	OUTER BEARING RACE
51	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
52	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
53	T173	HUB CAP
*	BFR76	COMPLETE HUB
54	YBHH76005	BOLT, 10MM X 25MM
55	YNHX76015	HEX NUT, 10MM
56	T179	RAKE WHEEL CENTER
57	T176	RAKE WHEEL TOOTH
58	T177	OUTER RING
59	T178	RAKE TOOTH CLIP
60	YBCR76005	CARR. BOLT, 10MM X 25MM
61	YNCL76005	10MM TOP LOCK NUT
62	T174	RAKE WHEEL LH
*	BFR31	RAKE WHEEL RH

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 4**  
**12 & 14 HI CAPACITY RAKE**  
**GAUGE WHEEL**

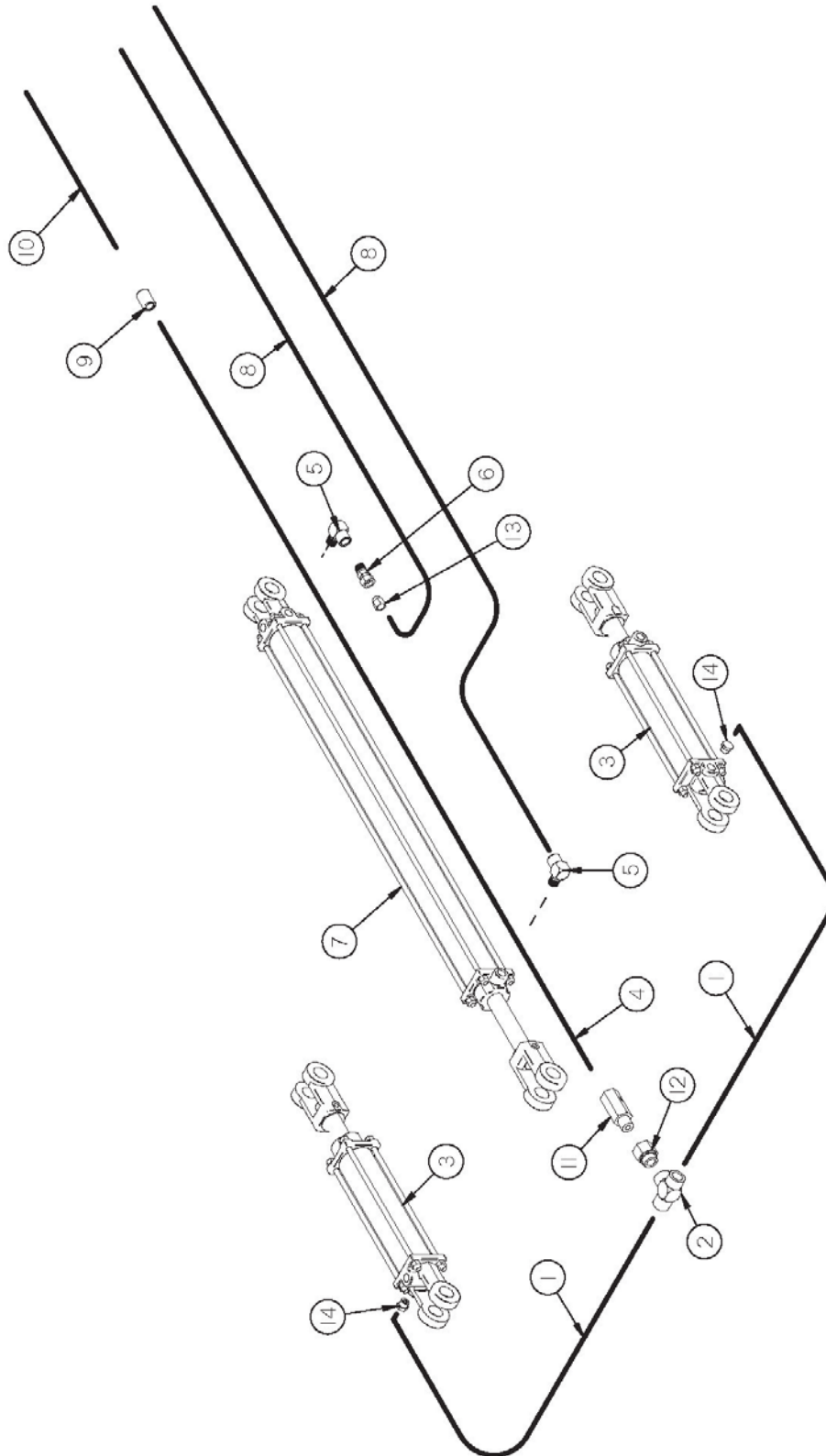


**FIGURE 4**  
**12 & 14 HI CAPACITY RAKE**  
**GAUGE WHEEL**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR309	GAUGE WHEEL WASHER
2	BFR527	BUSHING, BRONZE, GAUGE WHEEL
3	BFR310	BRAKE PAD (2)
4	BFR311	BRAKE COLLAR
5	RG24	BRONZE WASHER
6	YPEX10025	EXPANSION PIN, 5/16" X 2-3/4"
7	BFR312	COMPLETE FORK RH
*	BFR316	COMPLETE FORK LH
8	BFR56	SPINDLE
9	BFR57	SEAL
10	BFR58	INNER BEARING
11	YBSD16005	STUD BOLT, 1/2"-20 UNF X 1-7/8" (3/8" SHOULDER)
12	BFR60	HUB
13	YNWL16005	WHEEL NUT, 1/2"-20 UNF
14	BFR62	OUTER BEARING
15	YWFL24005	WASHER, FLAT, 3/4" USS
16	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
17	BFR66	HUB CAP
18	BFR59	INNER RACE
19	BFR61	OUTER RACE
20	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
*	BFR75	COMPLETE HUB FOR GROUND WHEEL
21	YBHH12125	BOLT, 3/8" X 3" GR. 5 FULL THREAD
22	YNHX12005	HEX NUT, 3/8"-16
*	BFR67	WHEEL 5 X 15
*	BFR128	6.70 X 15 TIRE

**NOTE: \* MEANS NOT SHOWN**

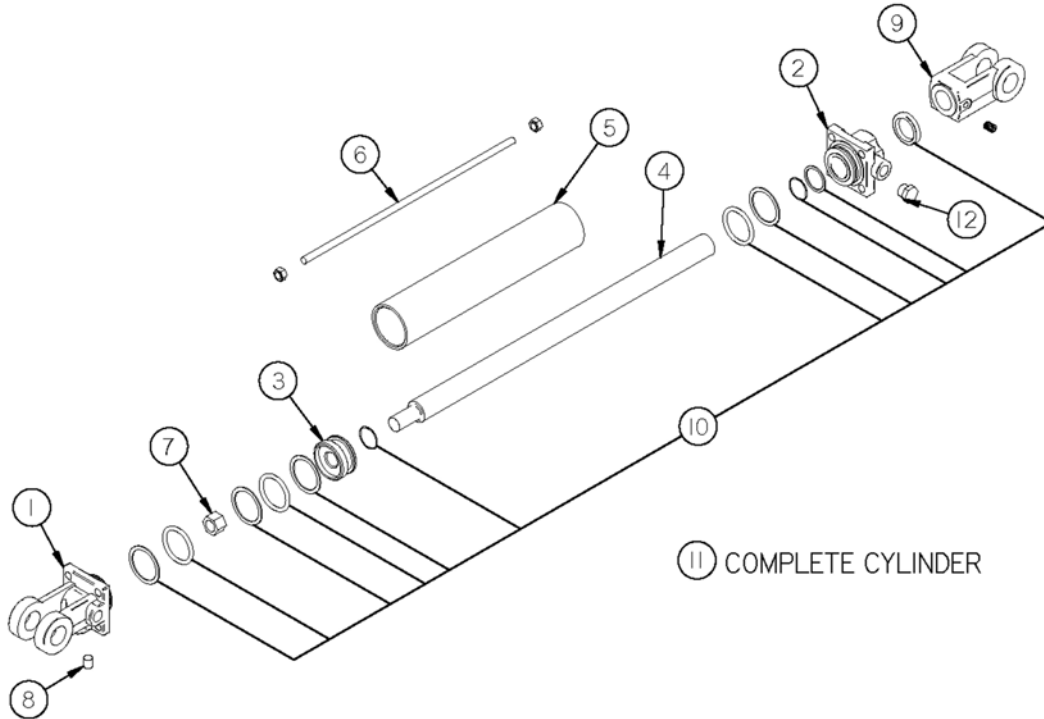
**FIGURE 5**  
**12 HI CAPACITY RAKE**  
**HYDRAULICS**



**FIGURE 5**  
**12 HI CAPACITY RAKE**  
**HYDRAULICS**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	37N60	108" HOSE
2	BFR74	3/8" FEMALE TEE
3	55999	HYDRAULIC LIFT CYLINDER
4	23N302	264" HOSE
5	23N234	3/8" STREET ELBOW
6	BFR617	MALE ADAPTER UNION W/ ORIFICE
7	56004	HYDRAULIC OPEN CYLINDER
8	BFR621	256" HOSE
9	HE60	3/8" PIPE COUPLER
10	BFR448	66" HOSE
11	BFR554	FLOW VALVE
12	BFR555	ADAPTER
13	BFR747	PIPE EXP. PLUG
14	BFR70	VENT PLUG

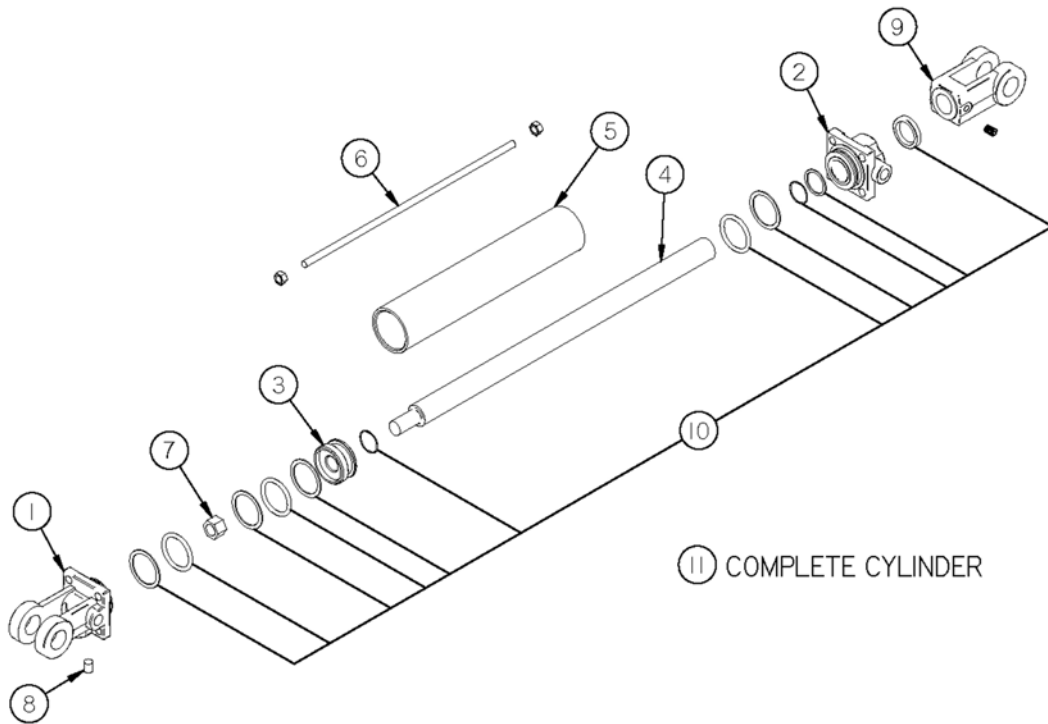
**FIGURE 6**  
**12 HI CAPACITY RAKE**  
**HYDRAULIC LIFT CYLINDER**



<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	23N142A	CLEVIS CAP
2	56174	ROD CAP
3	56180	PISTON
4	T184A	ROD
5	BFR68	CYLINDER TUBE
6	T186	TIE ROD
7	23N148	PISTON NUT
8	23N149	PLUG
9	23N150A	ROD CLEVIS
10	56187	SEAL KIT
11	55999	COMPLETE CYLINDER
12	BFR70	VENT PLUG

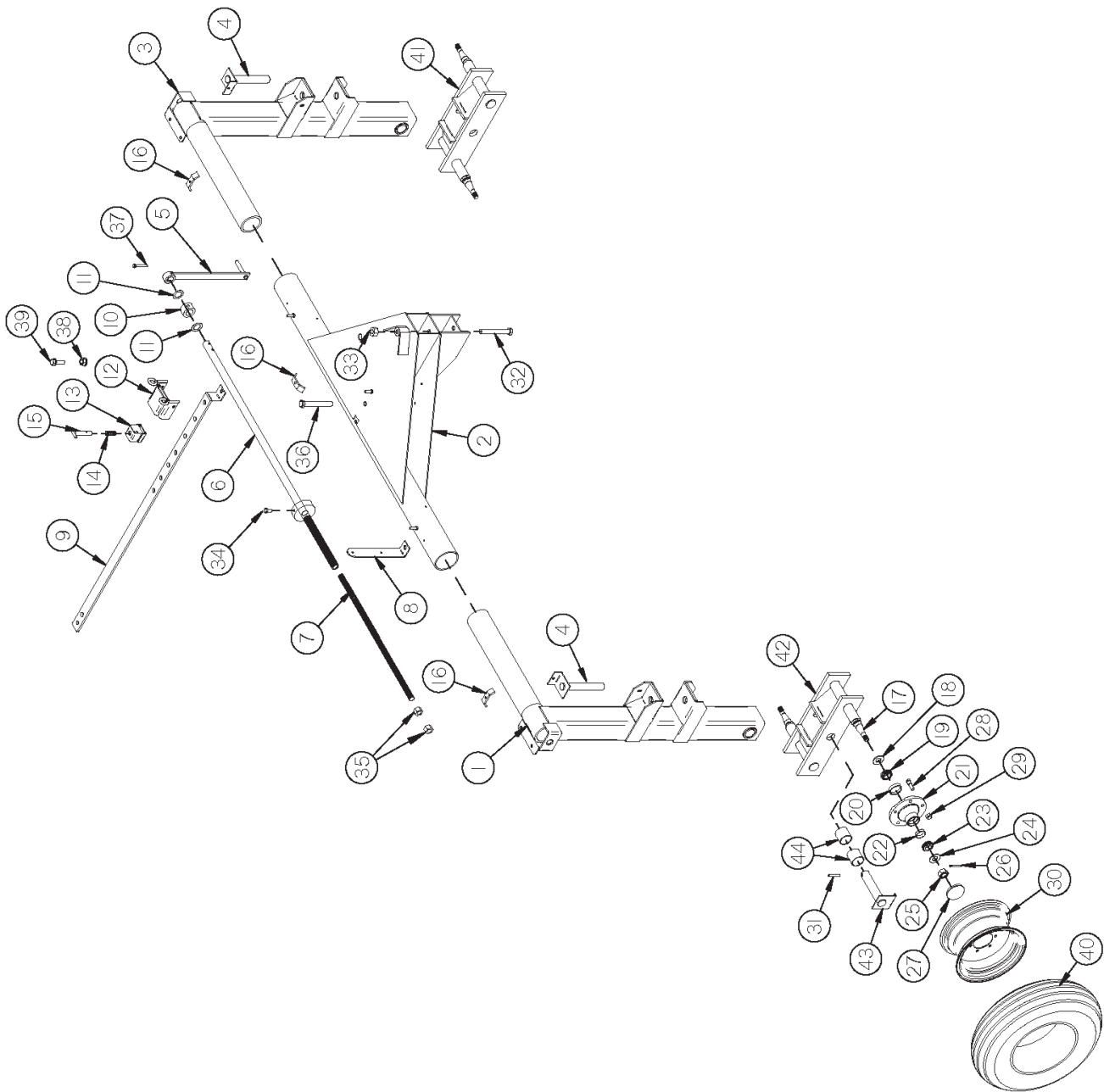


**FIGURE 7**  
**12 & 14 HI CAPACITY RAKE**  
**OPENING CYLINDER**



<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	23N142A	CLEVIS CAP
2	56174	ROD CAP
3	56180	PISTON
4	BFR654	ROD
5	BFR655	CYLINDER TUBE
6	BFR656	TIE ROD
7	23N148	PISTON NUT
8	23N149	PLUG
9	23N150A	ROD CLEVIS
10	56187	SEAL KIT
11	56004	COMPLETE CYLINDER

**FIGURE 8**  
**14 HI CAPACITY RAKE**  
**MAIN FRAME REAR**

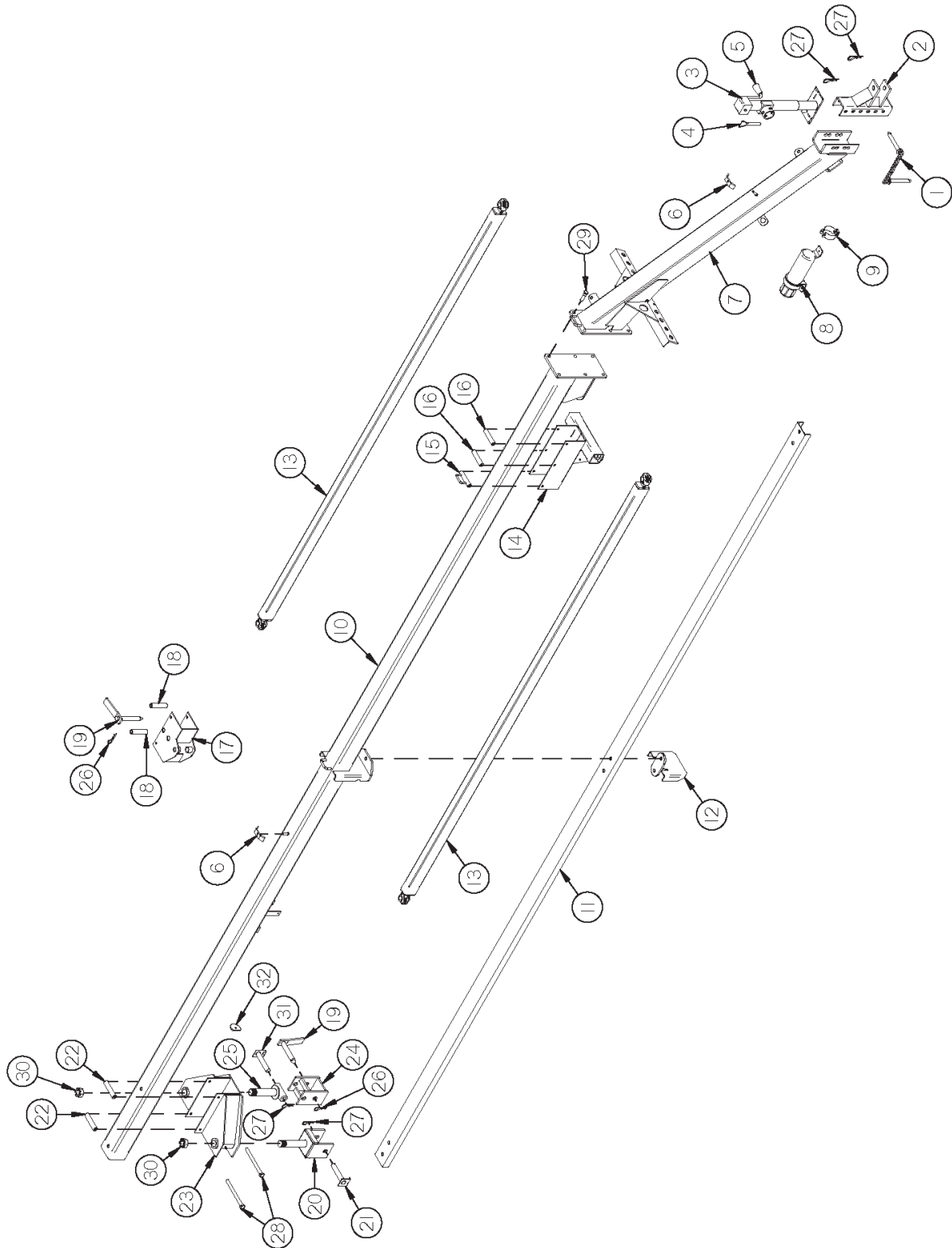


**FIGURE 8**  
**14 HI CAPACITY RAKE**  
**MAIN FRAME REAR**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR754	RIGHT AXLE UPRIGHT
2	BFR709	REAR PIVOT ASSEMBLY
3	BFR755	LEFT AXLE UPRIGHT
4	BFR756	BEAM PIVOT SHAFT
5	BFR423	WIDTH ADJUSTMENT HANDLE
6	BFR485	REAR WIDTH ADJUSTMENT TUBE
7	BFR420	REAR WIDTH ADJUSTMENT ROD
8	BFR649	SMV BRACKET
9	BFR611	WIDTH ADJUSTMENT BAR
10	BFR422	WIDTH ADJUSTMENT COLLAR
11	BFR523	POLY WASHER
12	BFR616	WIDTH ADJUSTMENT STOP
13	BFR239	SLEEVE ADJUSTABLE LOCK
14	BFR240	SPRING
15	BFR241	ADJUSTMENT HANDLE
16	23N67	HOSE HOLDER
17	BFR522	SPINDLE
18	BFR57	SEAL
19	17G145	INNER BEARING
20	17G146	INNER RACE
21	BFR60	HUB
22	BFR61	OUTER RACE
23	BFR62	OUTER BEARING
24	YWFL24005	WASHER, FLAT, 3/4" USS
25	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
26	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
27	BFR66	HUB CAP
28	YBSD16005	STUD BOLT, 1/2"-20 UNF X 1-7/8" (3/8" SHOULDER)
29	YNWL16005	WHEEL NUT, 1/2"-20 UNF
*	BFR75	COMPLETE HUB FOR GROUND WHEEL
30	BFR67	WHEEL 5 X 15
31	YPEX12025	EXPANSION PIN, 3/8" X 2-3/4"
32	YBHH24115	BOLT, 3/4" X 8-1/2" GR. 5
33	YNHX24010	HEX NUT, 3/4"-16
34	YBHH16010	BOLT, 1/2" X 1" GR. 5
35	YNAC24005	HEX NUT, ACME, 3/4"-6
36	YBHH24090	BOLT, 3/4" X 6" GR. 5
37	YBHH12090	BOLT, 3/8" X 2-1/2" GR. 5
38	BFR642	WIDTH ADJUSTMENT SPACER
39	YSHW10010	5/16"-18 X 1-1/4" HEX WASHER SLOT TYPE F ZINC THREAD CUTTING SCREW
40	BFR128	TIRE (6.70 X 15)
41	BFR510	LH TANDEM AXLE
42	BFR509	RH TANDEM AXLE
43	BFR524	TANDEM PIN
44	56244	BUSHING

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 9**  
**14 HI CAPACITY RAKE**  
**MAIN FRAME POLE AND LINKAGE**

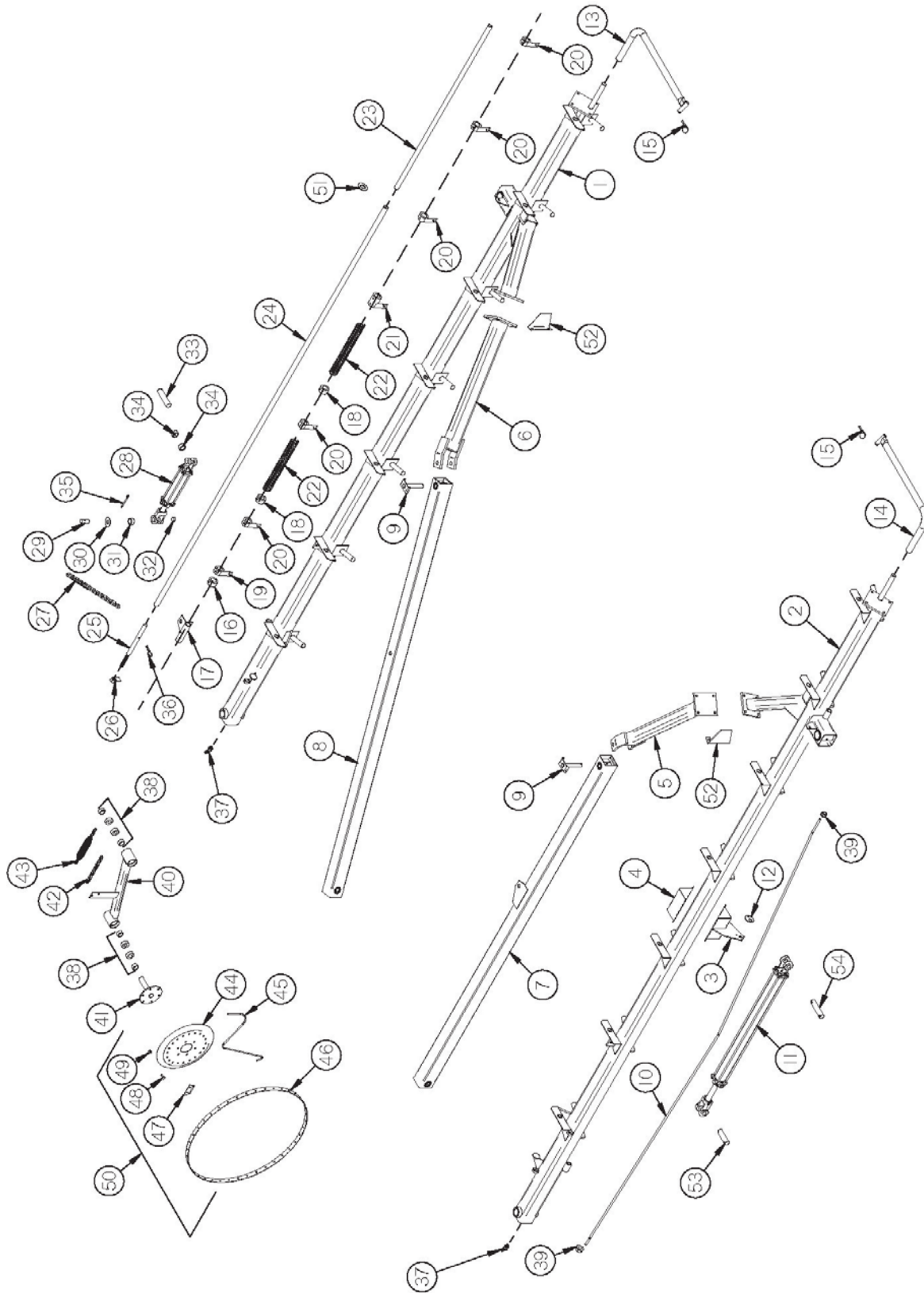


**FIGURE 9**  
**14 HI CAPACITY RAKE**  
**MAIN FRAME POLE AND LINKAGE**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR450	HITCH PIN
2	BFR157	HITCH
3	BFR753	JACK
4	12N117	JACK PIN & CHAIN
5	5N78	JACK HANDLE
*	12N118	REPLACEMENT BEARING
6	HE42	HOSE HOLDER
7	BFR663	POLE
8	S522	MANUAL HOLDER
9	S523	MANUAL CLAMP - LARGE
10	14DWE81	POLE
11	14DCH07	POLE CHANNEL
12	14DWE83	MIDDLE LINKAGE STOP BOTTOM
13	BFR458	FRONT LINKAGE
14	BFR455	FRONT LINKAGE SLIDER
15	BFR456	HOSE GUIDE SPACER
16	BFR457	SLIDER SPACER
17	BFR465	CENTER SLIDER
18	BFR467	CENTER SLIDER SPACER
19	BFR468	LINKAGE PIN
20	BFR476	BACK LINKAGE YOKE RH
21	BFR479	PIVOT YOKE SHAFT PIN RH
22	BFR471	BACK SLIDER ROLLER
23	BFR491	BACK LINKAGE SLIDER
24	BFR477	BACK LINKAGE YOKE LH
25	BFR480	LEFT PIVOT YOKE SHAFT
26	YPHR02010	HAIR PIN, #21-07
27	YPHR06040	HAIR PIN, 3/16" X 3-3/4"
28	YBHH16165	BOLT, 1/2" X 6" GR. 5
29	YBHH20025	BOLT, 5/8" X 2" GR. 5
30	YNSL40005	HEX NUT, SLOTTED, 1-1/2"-12
31	BFR505	PIVOT YOKE SHAFT PIN LH
32	BFR693	STOP WASHER

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 10**  
**14 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**

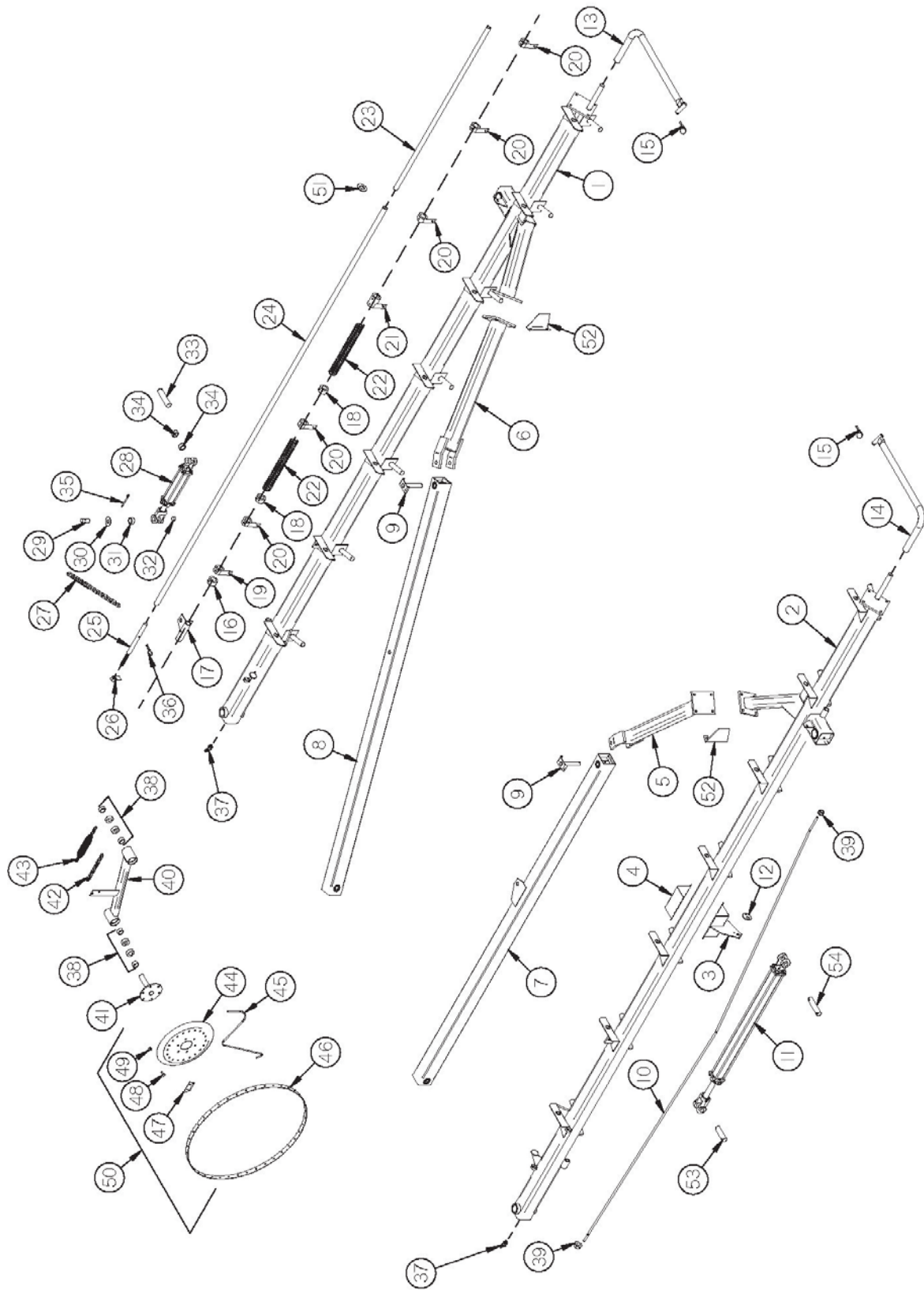


**FIGURE 10**  
**14 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	14DWE86	RAKE BEAM LEFT
2	14DWE89	RAKE BEAM RIGHT
3	14DWE85	ROD STAND-OFF
4	14D3G18	ROD STAND-OFF BRACKET
5	BFR744	RAKE BEAM ARM RH
6	BFR745	RAKE BEAM ARM LH
7	BFR462	RIGHT REAR LINKAGE
8	BFR463	LEFT REAR LINKAGE
9	BFR461	RAKE BEAM ARM PIN
10	BFR612	SIDE ARM STABILIZER ROD
11	56004	HYDRAULIC CYLINDER
12	DF22	WASHER
13	BFR452	TRANSPORT LOCK PIPE LH
14	BFR492	TRANSPORT LOCK PIPE RH
15	BFR443	LYNCH PIN
16	BFR83	PIPE CLAMP (2 HOLES)
17	BFR530	HYDRAULIC CYLINDER END SLIDE LH
*	BFR531	HYDRAULIC CYLINDER END SLIDE RH
18	BFR82	PIPE CLAMPS
19	BFR622	SPRING BRACKET (2 HOLE)
20	BFR431	LH SPRING BRACKET
*	BFR430	RH SPRING BRACKET
21	BFR749	RH LONG LIFT PIPE CONNECTOR
*	BFR750	LH LONG LIFT PIPE CONNECTOR
22	BFR84	COMPRESSION SPRING
23	BFR520	LIFTING PIPE FRONT
24	BFR521	LIFTING PIPE BACK
25	BFR486	RAKE ARM LOCK-UP SHAFT
26	BFR426	RAKE PRESSURE HANDLE
27	BFR111	BACK RAKE ARM ADJUSTMENT CHAIN

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 10**  
**14 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**



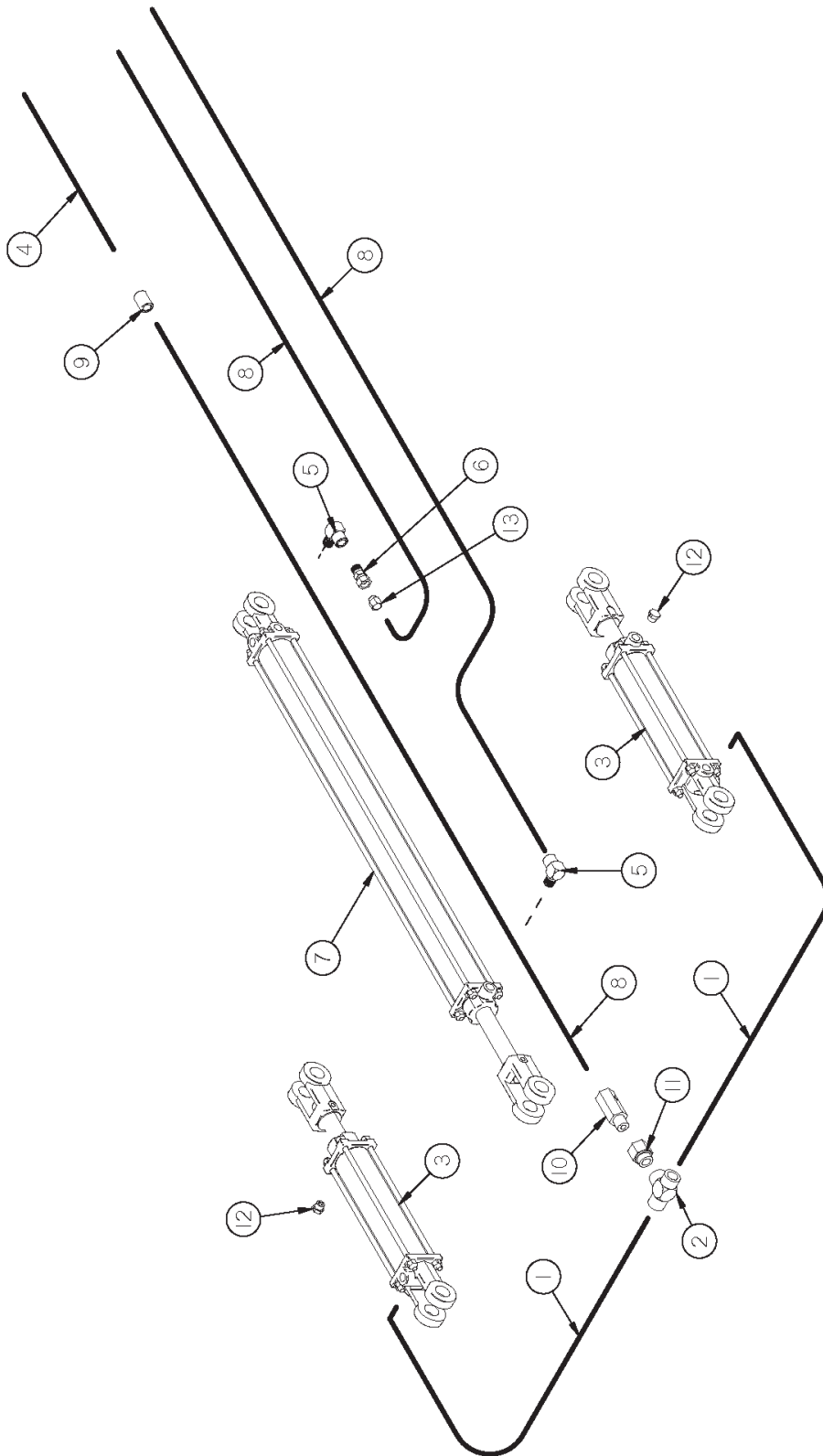


**FIGURE 10**  
**14 HI CAPACITY RAKE**  
**RAKE BEAMS AND ARMS**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
28	56000	HYDRAULIC CYLINDER
29	BFR517	CYLINDER PIN
30	16SV136	WASHER
31	K106	CYLINDER SPACER
32	BFR506	NYLON WEAR BLOCK
33	T143	CYLINDER PIN
34	X94	CYLINDER SPACERS
35	YPCT07005	COTTER PIN, 7/32" X 2 "
36	YPHR08040	HAIR PIN, 1/4" X 5"
37	F16	LOCK COLLAR
38	BFR525	BEARING
39	YNFG24005	HEX NUT, FLANGED-LOCK, 3/4"-10
40	BFR489	RAKE ARM LH
*	BFR490	RAKE ARM RH
41	BFR657	RAKE WHEEL HUB
42	BFR140	RAKE ARM ADJUSTMENT CHAIN
43	BFR138	RAKE ARM SPRING
44	T179	RAKE WHEEL CENTER
45	T176	RAKE WHEEL TOOTH
46	T177	OUTER RING
47	T178	RAKE TOOTH CLIP
48	YBCR76005	CARR. BOLT, 10MM X 25MM
49	YNCL76005	10MM TOP LOCK NUT
50	T174	RAKE WHEEL LH
*	BFR31	RAKE WHEEL RH
51	BFR641	WASHER
52	BRF549	TOOTH DEFLECTOR
53	BFR634	FRONT WIDTH CYLINDER PIN
54	BFR396	CYLINDER PIN
55	RG21	GREASE ZERK

**NOTE: \* MEANS NOT SHOWN**

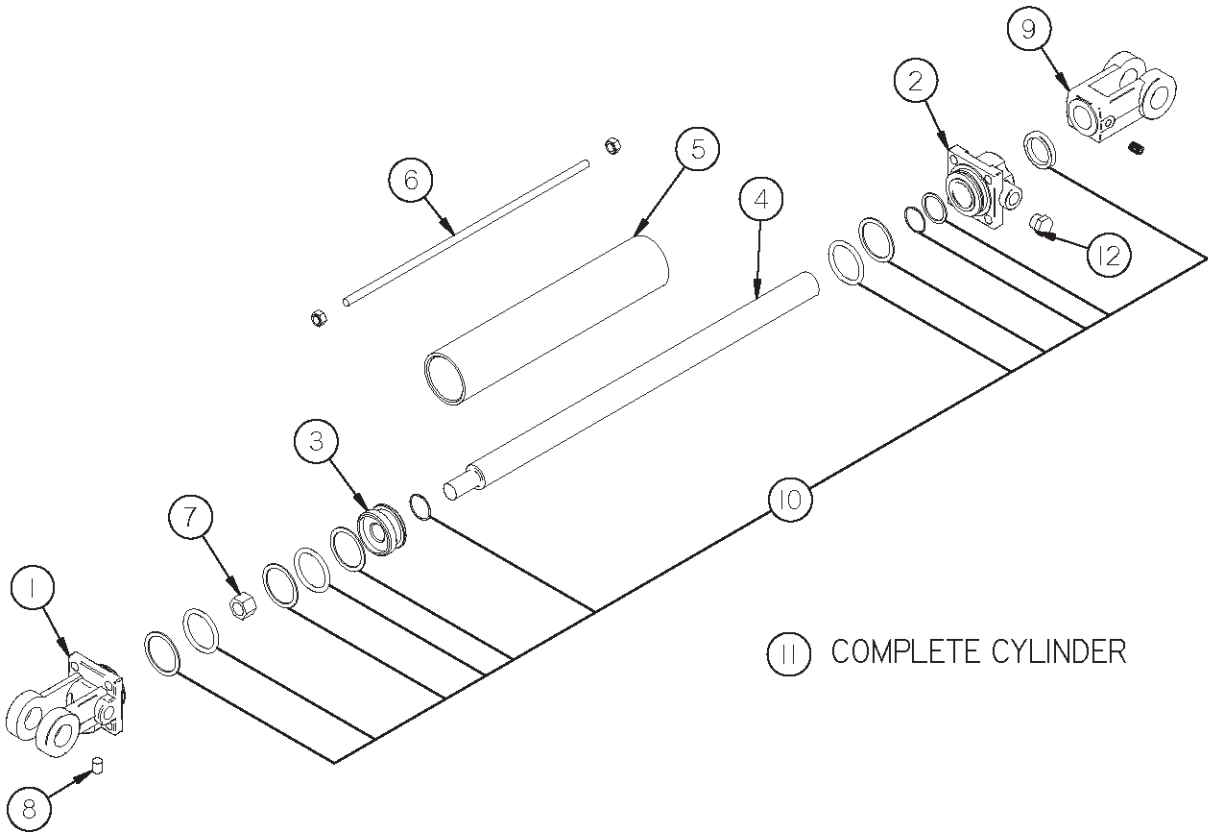
**FIGURE 11**  
**14 HI CAPACITY RAKE**  
**HYDRAULICS**



**FIGURE 11**  
**14 HI CAPACITY RAKE**  
**HYDRAULICS**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	37N60	108" HOSE
2	BFR74	3/8" FEMALE TEE
3	56000	HYDRAULIC LIFT CYLINDER
4	BFR448	66" HOSE
5	23N234	3/8" STREET ELBOW
6	58721	MALE ADAPTER UNION W/ORIFICE
7	56004	HYDRAULIC OPEN CYLINDER
8	27N45	288" HOSE
9	HE60	3/8" PIPE COUPLER
10	BFR554	FLOW VALVE
11	BFR555	ADAPTER
12	BFR120	ORIFICE (.062)
13	BFR747	PIPE EXPANSION COUPLING

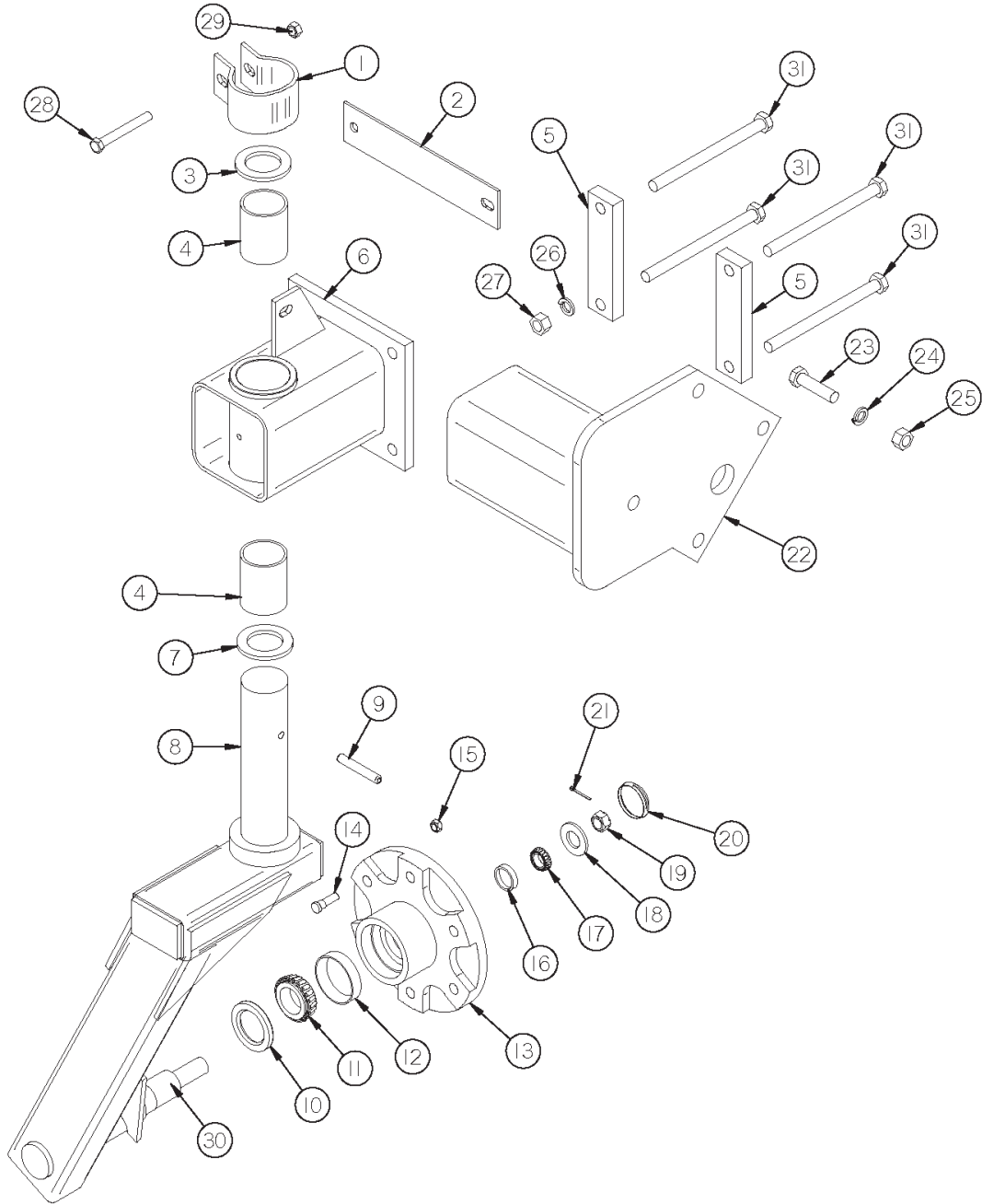
**FIGURE 12**  
**14 HI CAPACITY RAKE**  
**HYDRAULIC LIFT CYLINDER**



**FIGURE 12**  
**14 HI CAPACITY RAKE**  
**HYDRAULIC LIFT CYLINDER**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	23N142A	CLEVIS CAP
2	56180	ROD CAP
3	23N144	PISTON
4	16SV168A	ROD
5	16SV169	CYLINDER TUBE
6	16SV170	TIE ROD
7	23N148	PISTON NUT
8	23N149	PLUG
9	23N150A	ROD CLEVIS
10	56187	SEAL KIT
11	56000	COMPLETE CYLINDER
12	BFR70	VENT PLUG

**FIGURE 13**  
**14 HI CAPACITY RAKE**  
**OPTIONAL 15" GAUGE WHEEL**

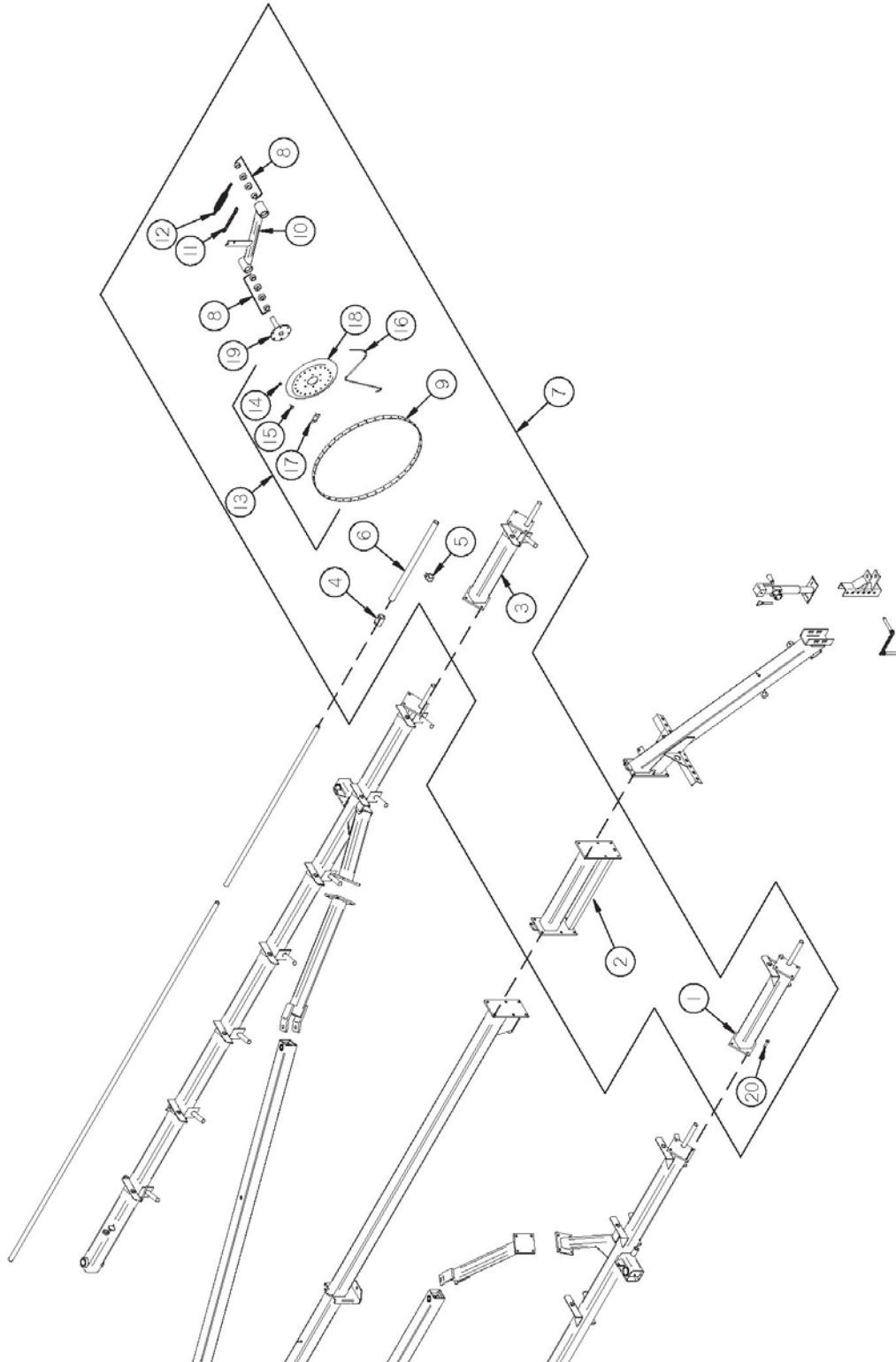


**FIGURE 13**  
**14 HI CAPACITY RAKE**  
**OPTIONAL 15" GAUGE WHEEL**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR311	BRAKE COLLAR
2	BFR310	BRAKE PAD (2)
3	BFR309	GAUGE WHEEL WASHER
4	RG26	BRONZE BUSHING
5	BFR725	MOUNTING STRAP
6	BFR643	GAUGE WHEEL MOUNT
7	RG24	BRONZE WASHER
8	BFR316	COMPLETE FORK LH
*	BFR312	COMPLETE FORK RH
9	YPEX10025	EXPANSION PIN, 5/16" X 2-3/4"
10	BFR57	SEAL
11	BFR58	INNER BEARING
12	BFR59	INNER RACE
13	BFR60	HUB
14	YBSD16005	STUD BOLT, 1/2"-20 UNF X 1-7/8" (3/8" SHOULDER)
15	YNWL16005	WHEEL NUT, 1/2"-20 UNF
16	BFR61	OUTER RACE
17	BFR62	OUTER BEARING
18	YWFL24005	WASHER, FLAT, 3/4" USS
19	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
20	BFR66	HUB CAP
21	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
*	BFR75	COMPLETE GROUND WHEEL HUB
22	BFR644	GAUGE WHEEL EXTENSION LEFT
*	BFR645	GAUGE WHEEL EXTENSION RIGHT
23	YBHH20025	BOLT, 5/8" X 2" GR. 5
24	YWLO20005	WASHER, LOCK, 5/8"
25	YNHX20005	HEX NUT, 5/8"-11 PLATED
26	YWLO16005	WASHER, LOCK, 1/2"
27	YNHX16005	HEX NUT, 1/2"
28	YBHH12125	BOLT, 3/8" X 3" GR. 5 FULL THREAD
29	YNHX12005	HEX NUT, 3/8"-16
30	BFR56	SPINDLE
*	BFR67	15 X 5 WHEEL
*	BFR128	6.70 X 15 TIRE
31	YBHH16175	BOLT, 1/2" X 6-1/2" GR. 5

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 14**  
**14 HI CAPACITY RAKE**  
**14 TO 16 WHEEL EXPANSION KIT**



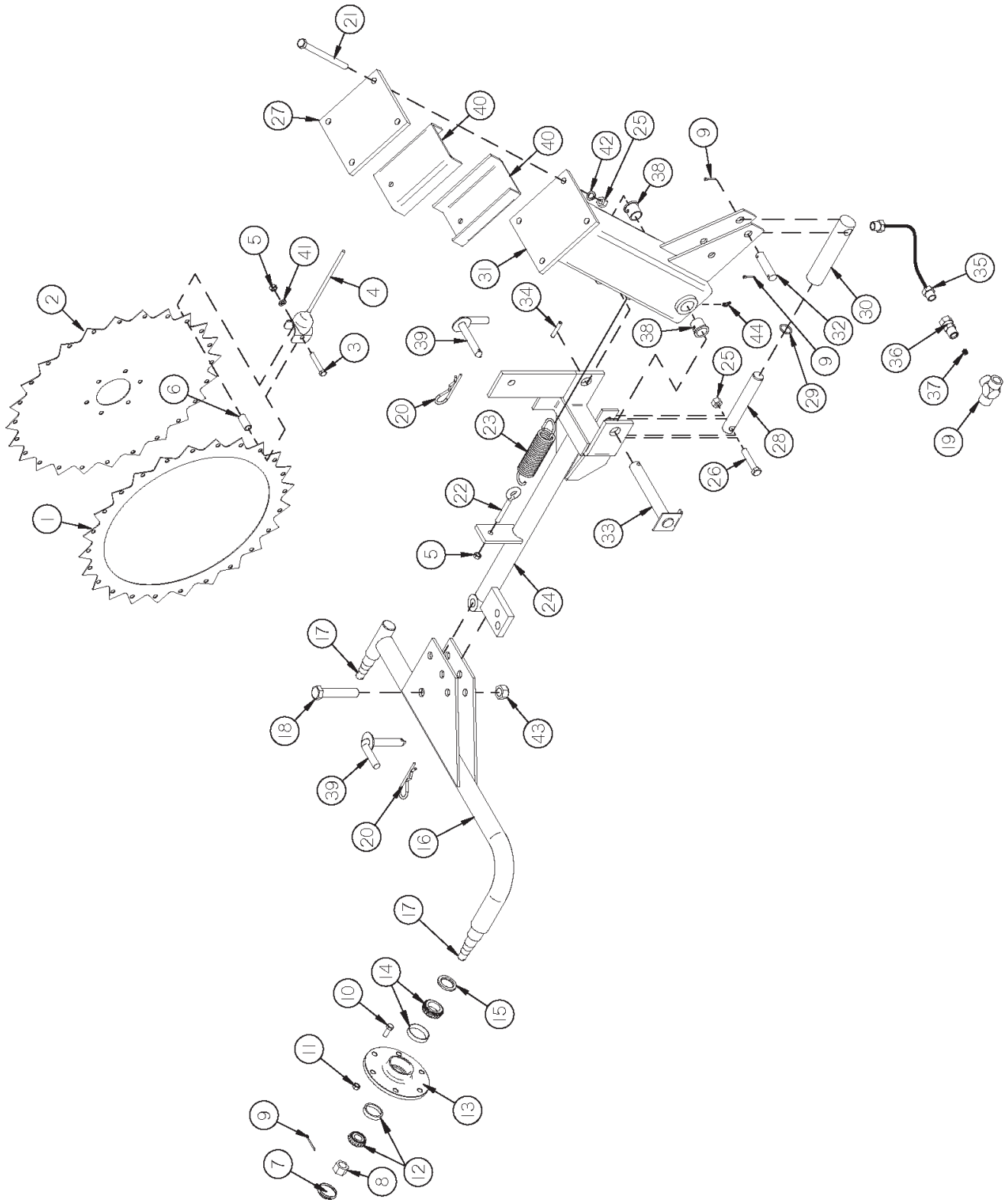


**FIGURE 14**  
**14 HI CAPACITY RAKE**  
**14 TO 16 WHEEL EXPANSION KIT**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR733	RH RAKE BEAM EXTENSION
2	031WE04	POLE EXTENSION
3	BFR734	LH RAKE BEAM EXTENSION
4	BFR537	LIFTING PIPE CONNECTOR
5	BFR431	LH SPRING CLAMP
*	BFR430	RH SPRING CLAMP
6	BFR536	LIFTING PIPE EXTENSION
7	BFR535	COMPLETE EXPANSION KIT
8	BFR525	BEARING
9	T177	OUTER RING
*	BFR635	HOSE 1/2" FP X 1/2" MP X 33" (3)
*	BFR555	ADAPTER
*	JB82	1/2" TO 3/8" BUSHING
10	BFR489	RAKE ARM LH
*	BFR490	RAKE ARM RH
11	BFR140	RAKE ARM ADJUSTMENT CHAIN
12	BFR138	SPRING
13	T174	RAKE WHEEL LH
*	BFR31	RAKE WHEEL RH
14	YNCL76005	10MM TOP LOCK NUT
15	YBCR76005	CARR. BOLT, 10MM X 25MM
16	T176	RAKE WHEEL TOOTH
17	T178	RAKE TOOTH CLIP
18	T179	RAKE WHEEL CENTER
19	BFR657	RAKE WHEEL HUB
20	YBHH20025	BOLT, 5/8" X 2" GR. 5

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 15**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 2 WHEEL CENTER KICKER WHEEL**

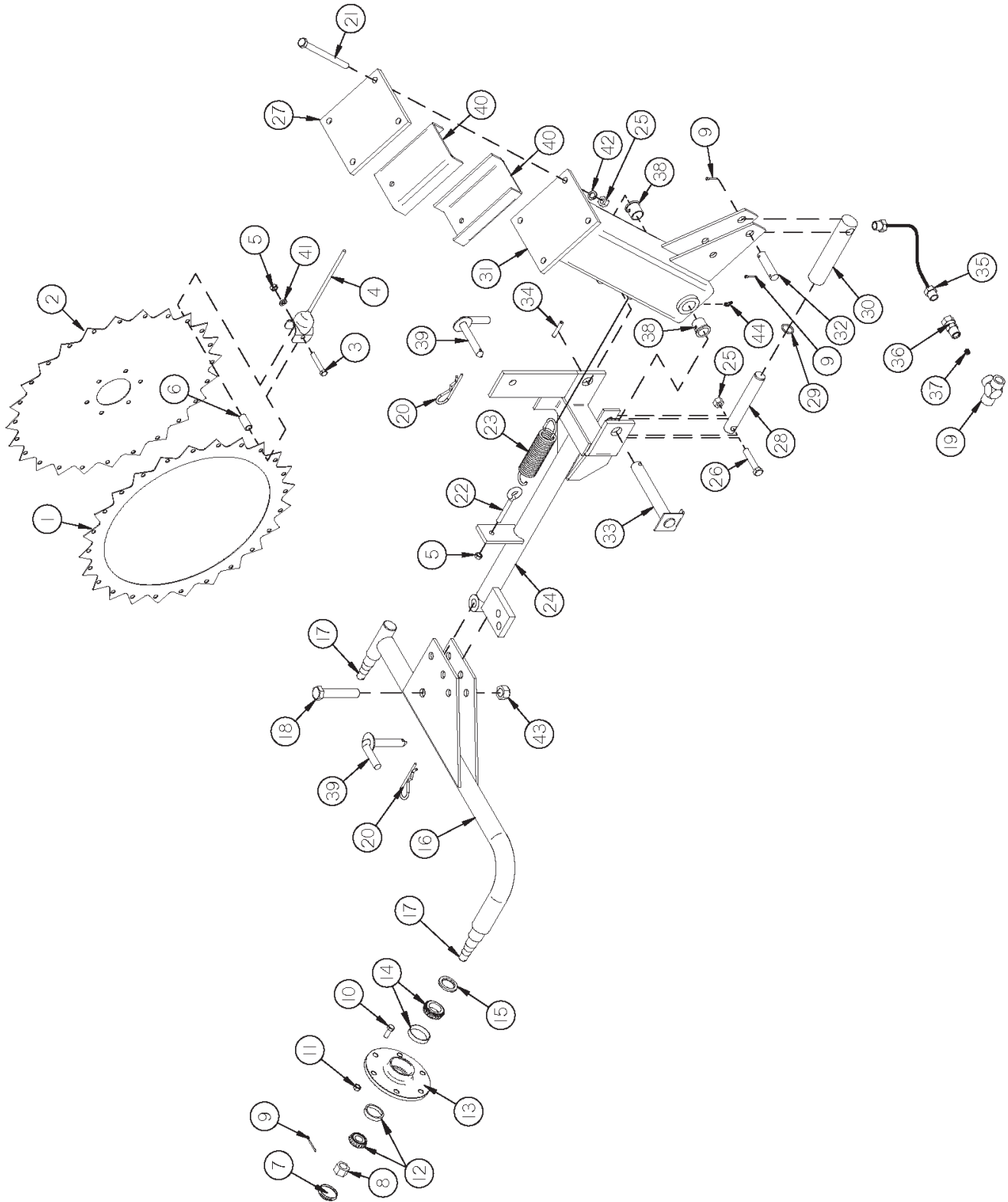


**FIGURE 15**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 2 WHEEL CENTER KICKER WHEEL**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
1	BFR369	RAKE WHEEL RING
2	BFR370	RAKE WHEEL CENTER
*	BFR748	COMPLETE WHEELASSEMBLY
3	YBHH12100	BOLT, 3/8" X 2-1/4" GR. 5
4	T82	RAKE WHEEL TOOTH
5	YNTL12005	HEX NUT, TOP LOCK, 3/8"-16
6	BFR371	RAKE WHEEL SPACER
7	T173	HUB CAP
8	YNSL24010	HEX NUT, SLOTTED, 3/4"-16
9	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
10	YBHH76005	BOLT, 10MM X 25MM
11	YNHX76015	HEX NUT, 10MM
12	600014	OUTER BEARING RACE
13	BFR32	RAKE WHEEL HUB
14	600012	INNER BEARING RACE
15	T163	SEAL
*	BFR76	COMPLETE HUB
16	BFR511	CENTER KICKER WHEEL ARM
17	BFR36	SPINDLE
18	YBHH24050	BOLT, 3/4" X 3" GR. 5
19	BFR74	3/8" PIPE TEE
20	YPHR02010	HAIR PIN, #21-07
21	YBHH16175	BOLT, 1/2" X 6-1/2" GR. 5
22	YBTE12025	TURND EYE BOLT, 3/8" X 3" FULL THREAD
23	BR62	SPRING
24	BFR512	CENTER KICKER WHEEL PIVOT
25	YNTL16005	HEX NUT, TOP LOCK, 1/2"-13
26	YBHH16080	BOLT, 1/2" X 2-1/2" GR. 5
27	BFR513	KICKER WHEEL MOUNT

**NOTE: \* MEANS NOT SHOWN**

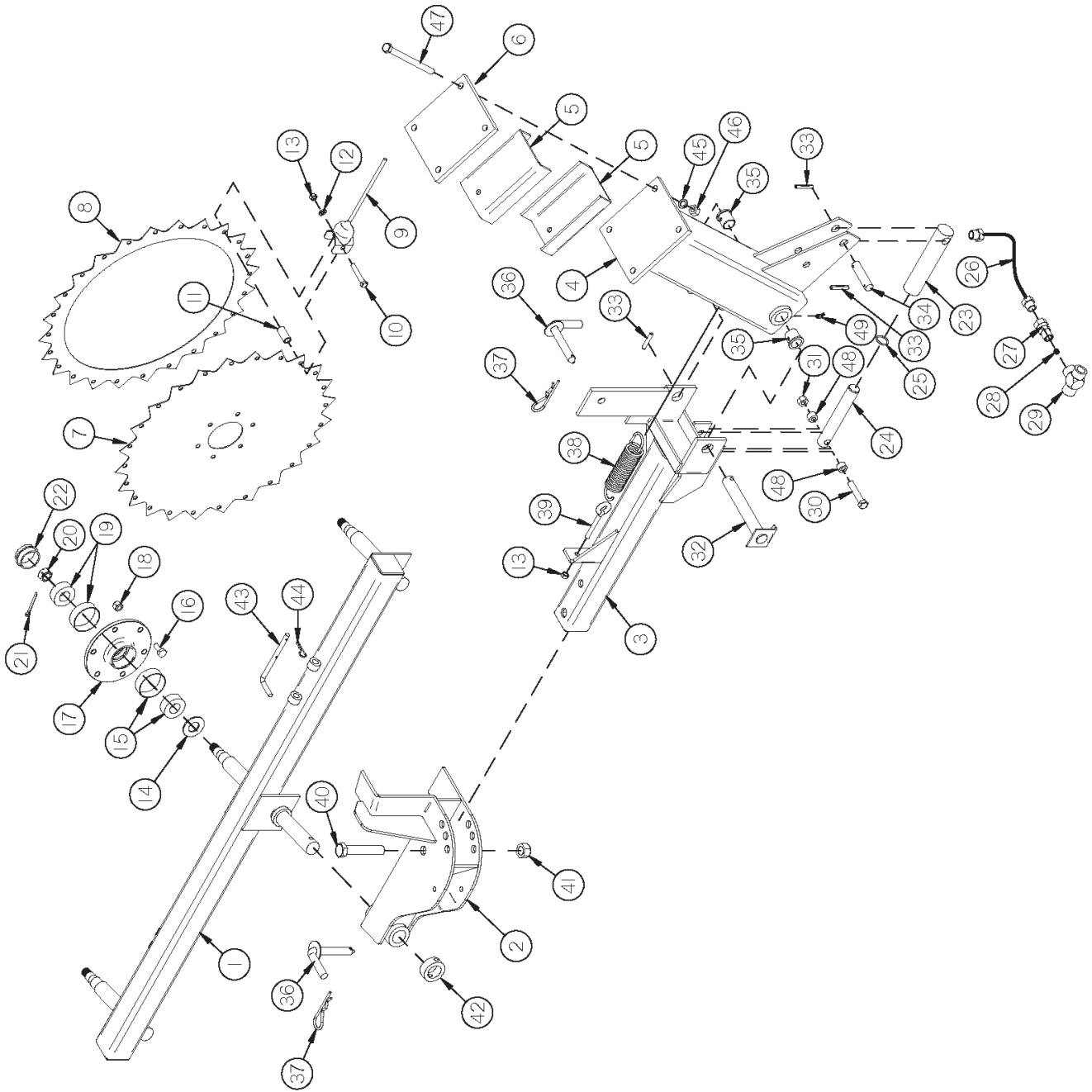
**FIGURE 15**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 2 WHEEL CENTER KICKER WHEEL**



**FIGURE 15**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 2 WHEEL CENTER KICKER WHEEL**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
28	BFR114	PISTON
29	BFR115	O-RING
30	BFR116	HYDRAULIC CYLINDER
31	BFR514	KICKER WHEEL OFFSET
32	BFR515	CYLINDER PIN
33	BFR379	AXLE SHAFT
34	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
35	BFR121	HOSE
36	BFR122	UNION ADAPTER W/ORIFICE
*	BFR529	ADAPTER UNION W/ORIFICE
37	BFR380	ORIFICE
38	BFR27	BUSHING
39	BFR197	LOCKING PIN
40	BFR516	FILLER PLATE
41	YWLO12005	WASHER, LOCK, 3/8"
42	YWLO16005	WASHER, LOCK, 1/2"
43	600012	INNER BEARING RACE
44	600014	OUTER BEARING RACE
45	YNL24005	HEX NUT, TOP LOCK, 3/4"-10
46	RG21	GREASE ZERK, 45 DEGREE

**FIGURE 16**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 3 WHEEL CENTER KICKER WHEEL**



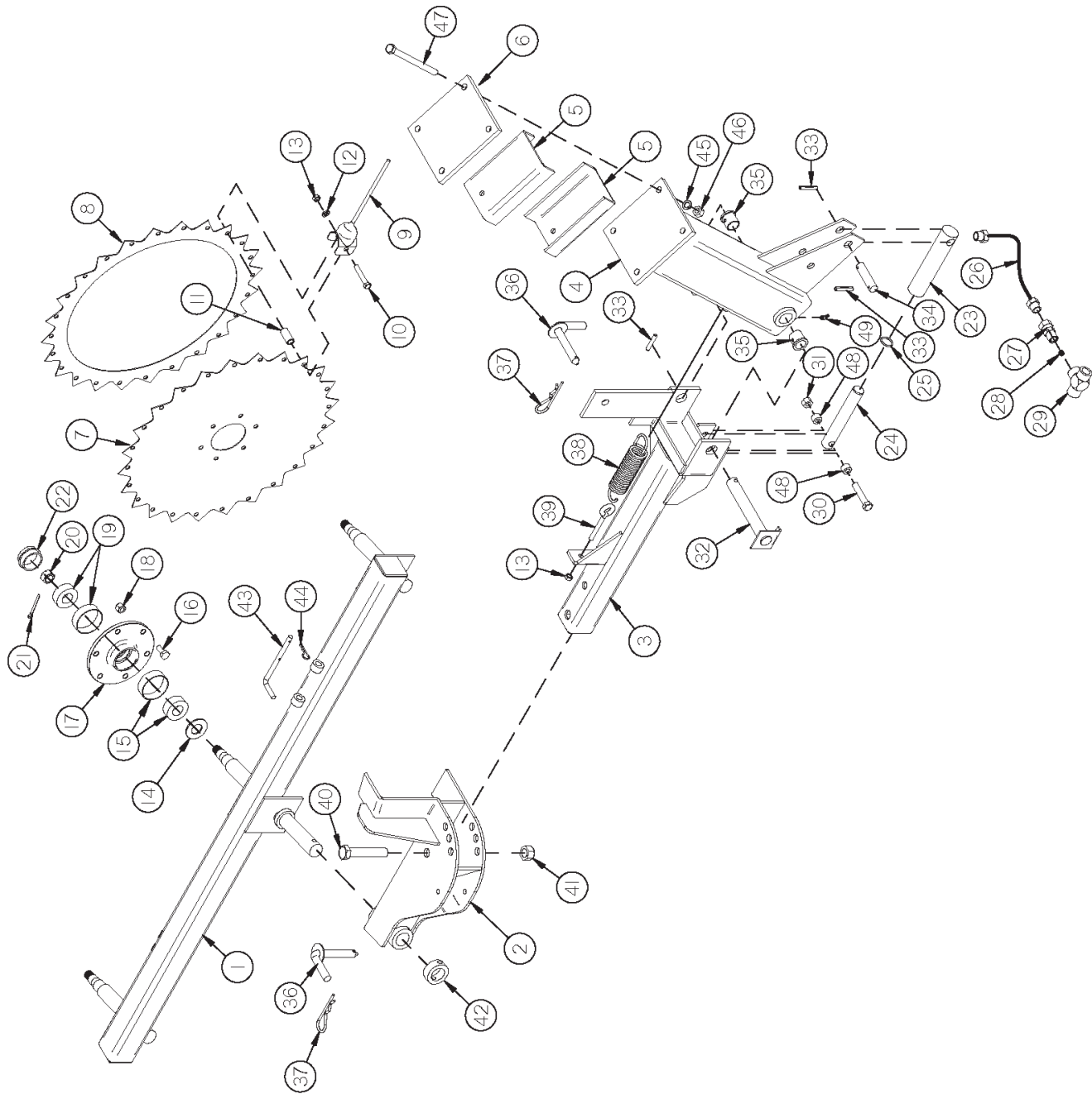
## FIGURE 16

### 12 & 14 HI CAPACITY RAKE OPTIONAL 3 WHEEL CENTER KICKER WHEEL

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	BFR717	KICKER RAKE BEAM
2	BFR718	PIVOT
3	BFR719	SQUARE RAKE ARM
4	BFR514	KICKER WHEEL OFFSET
5	BFR516	FILLER PLATE
6	BFR513	KICKER WHEEL MOUNT
7	BFR370	RAKE WHEEL CENTER
8	BFR369	RAKE WHEEL RING
9	T82	RAKE WHEEL TOOTH
*	BFR748	COMPLETE WHEEL ASSEMBLY
10	YBHH12100	BOLT, 3/8" X 2-1/4" GR. 5
11	BFR371	RAKE WHEEL SPACER
12	YWLO12005	WASHER, LOCK, 3/8"
13	YNL12005	HEX NUT, TOP LOCK, 3/8"-16
14	T163	SEAL
15	600012	INNER BEARING RACE
16	600012	INNER BEARING RACE
17	YBHH76005	BOLT, 10MM X 25MM
18	BFR32	RAKE WHEEL HUB
*	BFR76	COMPLETE HUB
19	YNHX76015	HEX NUT, 10MM
20	600014	OUTER BEARING RACE
21	600014	OUTER BEARING RACE
22	YNL24010	HEX NUT, SLOTTED, 3/4"-16
23	YPCT05010	COTTER PIN, 5/32" X 1-1/2"
24	T173	HUB CAP
25	BFR116	HYDRAULIC CYLINDER
26	BFR114	PISTON
27	BFR115	O-RING
28	BFR121	HOSE
29	BFR122	3/8" UNION ADAPTER
30	BFR380	ORIFICE
31	BFR74	3/8" PIPE TEE

**NOTE: \* MEANS NOT SHOWN**

**FIGURE 16**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 3 WHEEL CENTER KICKER WHEEL**





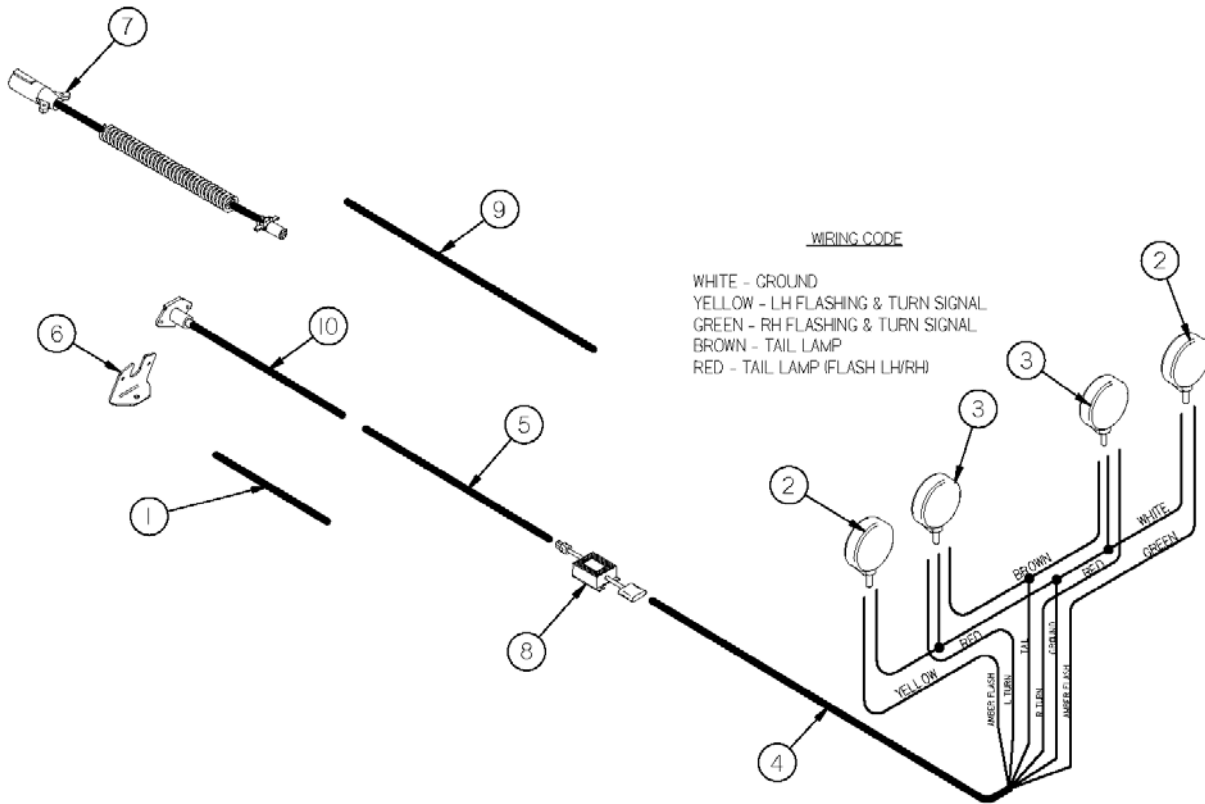
**FIGURE 16**  
**12 & 14 HI CAPACITY RAKE**  
**OPTIONAL 3 WHEEL CENTER KICKER WHEEL**

<b><u>ITEM</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
32	YBHH16115	BOLT, 1/2" X 3-1/2" GR. 5
33	YNL16005	HEX NUT, TOP LOCK, 1/2"-13
34	BFR379	AXLE SHAFT
35	YPEX10015	EXPANSION PIN, 5/16" X 1-3/4"
36	BFR515	CYLINDER PIN
37	BFR27	BUSHING
38	BFR197	LOCKING PIN
39	YPHR02010	HAIR PIN, #21-07
40	BR62	SPRING
41	YBTE12025	TURNED EYE BOLT, 3/8" X 3" FULL THREAD
42	YBHH24070	BOLT, 3/4-10" X 4" GR. 5
43	YNL24005	HEX NUT, TOP LOCK, 3/4"-10
44	BFR720	PIVOT LOCK COLLAR
45	BFR721	BEAM LOCK PIN
46	YPHR02005	HAIR PIN, #21-05 (1-7/8" LONG, 3/8-7/16" SHAFT)
47	YWLO16005	WASHER, LOCK, 1/2"
48	YNL16005	HEX NUT, TOP LOCK, 1/2"-13
49	YBHH16175	BOLT, 1/2" X 6-1/2" GR. 5
50	BFR722	LIFT CYLINDER SPACER
51	RG21	GREASE ZERK, 45 DEGREE

# FIGURE 17

## 12 & 14 HI CAPACITY RAKE

### OPTIONAL LIGHTS



<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	BFR666	16 WHEEL EXT. LIGHT HARNESS
2	DWM129	AMBER LIGHT
3	BFR675	RED LIGHT
4	BFR667	LIGHT HARNESS (6 WIRE)
5	BFR705	14 WHEEL LIGHT HARNESS
6	BFR659	MOUNTING BRACKET
7	TLPC	TRACTOR CORD (OPTIONAL)
8	S441	LIGHT MODULE
9	BFR668	12 WHEEL LIGHT HARNESS
10	BFR706	FRONT PIGTAIL
*	BFR671	12 WHEEL COMP. LIGHT HARNESS LESS OPTIONAL CORD
*	BFR707	14 WHEEL COMP. LIGHT HARNESS LESS OPTIONAL CORD
*	BFR708	16 WHEEL COMP. LIGHT HARNESS LESS OPTIONAL CORD

**NOTE: \* MEANS NOT SHOWN**







# **H&S MFG. CO.**

products approved

for the

## **FEMA**

# **SEAL OF QUALITY**

