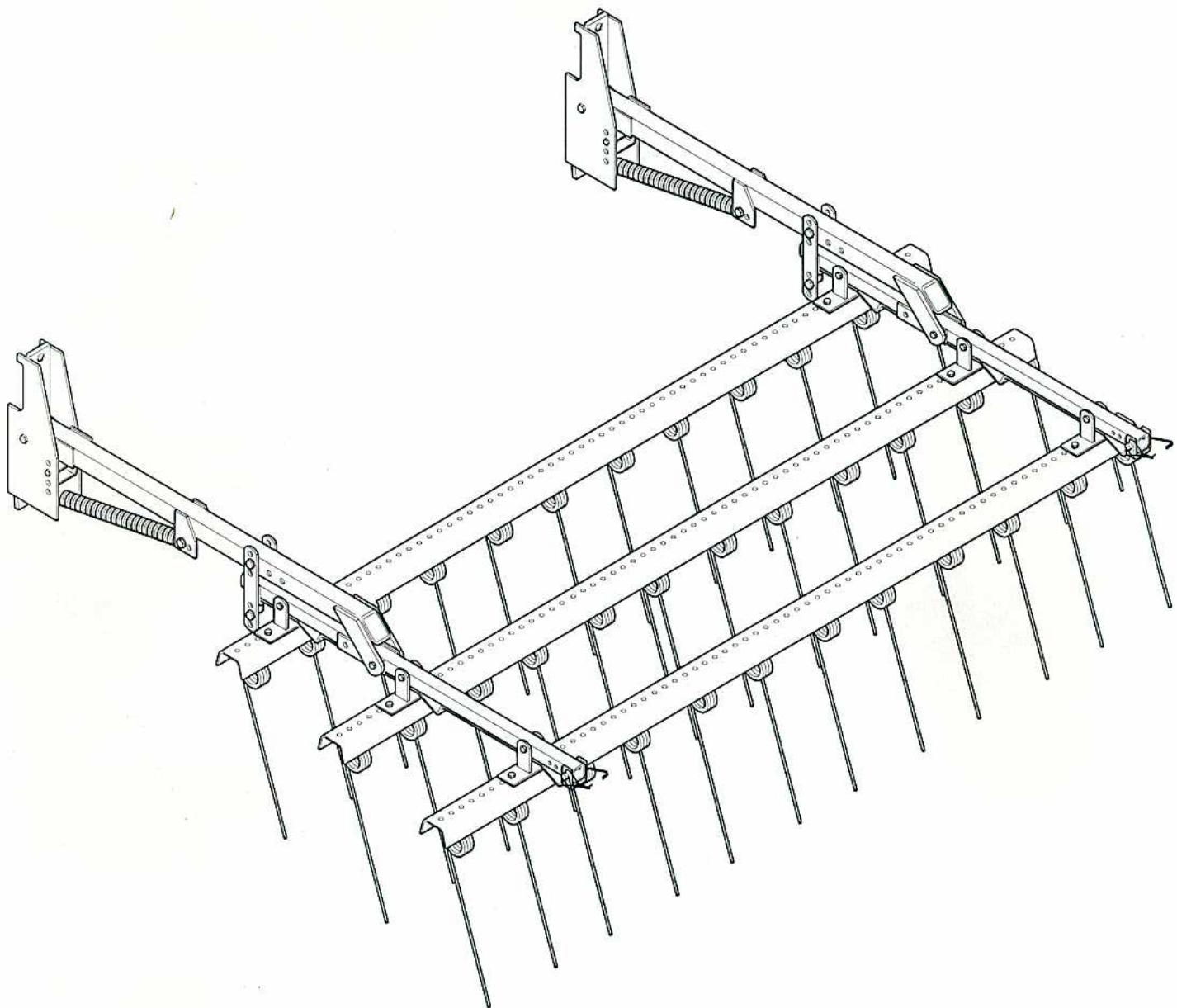


SUNFLOWER®

Quality & Customer Support Since 1945



1434

***Three Section Tandem Disc
Attachment Manual***

**These attachments will also fit on the Sunflower 1433 3-Section Disc.
If you are mounting these attachments on a 1433 model, refer to the
information below:**

<u>Machine Mounting On</u>	<u>Refer to Placement Drawings for</u>
1433-19'	1434-21'
1433-22'	1434-23'
1433-25'	1434-26'
1433-28'	1434-29'
1433-29'	1434-30'
1433-32'	1434-33'
1433-35'	1434-36'

Table of Contents

3-Row Coil Tine

Center Attachment Subframe Assembly (21'-29')	1
Center Attachment Subframe Assembly (30'-36')	1
Rear Jack Assembly	1
Wing Attachment Subframe Assembly (21'-23')	1
Wing Attachment Subframe Assembly (26'-33')	2
Wing Attachment Subframe Assembly (36')	2
3-Row Coil Tine Assembly	2
Coil Tine Adjustments	3
21' 3-Row Coil Tine Placement	5
23' 3-Row Coil Tine Placement	6
26' 3-Row Coil Tine Placement	7
29' 3-Row Coil Tine Placement	8
30', 33' & 36' 3-Row Coil Tine Placement	9
30' Wing Frames 3-Row Coil Tine Placement . .	10
33' Wing Frames 3-Row Coil Tine Placement . .	11
36' Wing Frames 3-Row Coil Tine Placement . .	12
36' Wing Frames 3-Row Coil Tine Placement . .	13
Center Attachment Subframe Assembly (21'-29')	15
Wing Attachment Subframe Assembly	17
Single Arm Coil Tine Assembly	19
Double Arm Coil Tine Assembly	21
Rear Jack Assembly	23

3-Row Spike Drag

Center Attachment Subframe Assembly (21'-29')	27
Center Attachment Subframe Assembly (30'-36')	27
Rear Jack Assembly	27
Wing Attachment Subframe Assembly (21'-23')	27
Wing Attachment Subframe Assembly (26'-33')	28
Wing Attachment Subframe Assembly (36')	28
3-Row Spike Drag Assembly	28

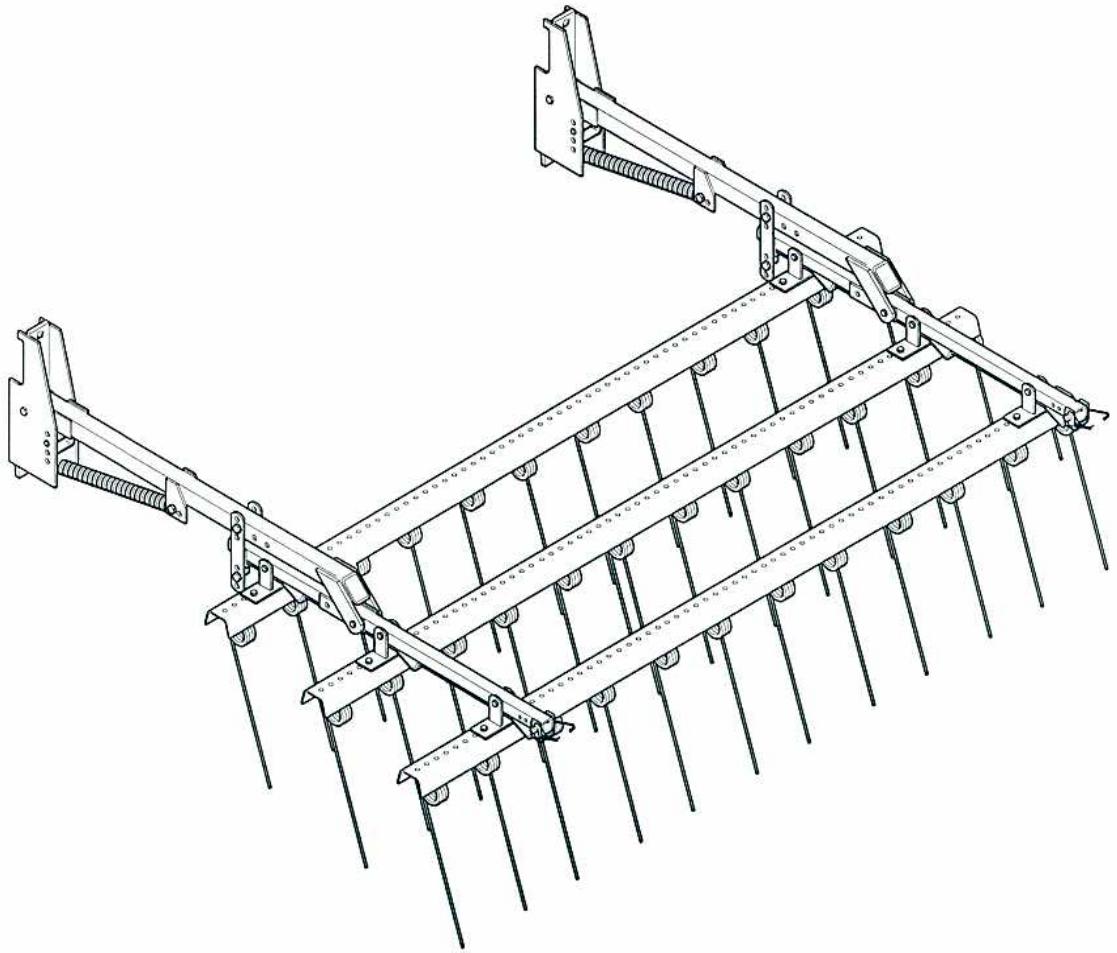
Table of Contents

21' 3-Row Spike Drag Placement	30
23' 3-Row Spike Drag Placement	31
26' 3-Row Spike Drag Placement	32
29' 3-Row Spike Drag Placement	33
30', 33' & 36' 3-Row Spike Drag Placement . . .	34
30' Wing Frames 3-Row Spike Drag Placement.	35
33' Wing Frames 3-Row Spike Drag Placement.	36
36' Wing Frames 3-Row Spike Drag Placement.	37
Center Attachment Subframe Assembly	39
Wing Attachment Subframe Assembly	41
3-Row Spike Drag Assembly.	43
Rear Jack Assembly	45

Numerical Index

Numerical Part Number Index	47
---------------------------------------	----

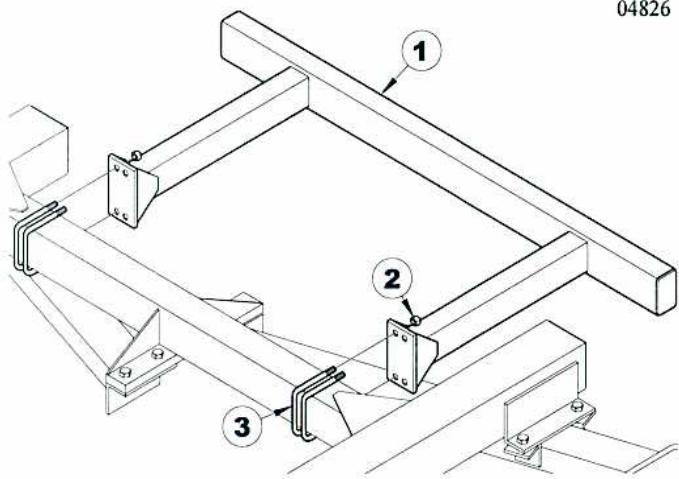
3-ROW COIL TINE HARROW



Sunflower Manufacturing
Assembly Section

**Center Attachment Subframe Assembly
(21'-29')**

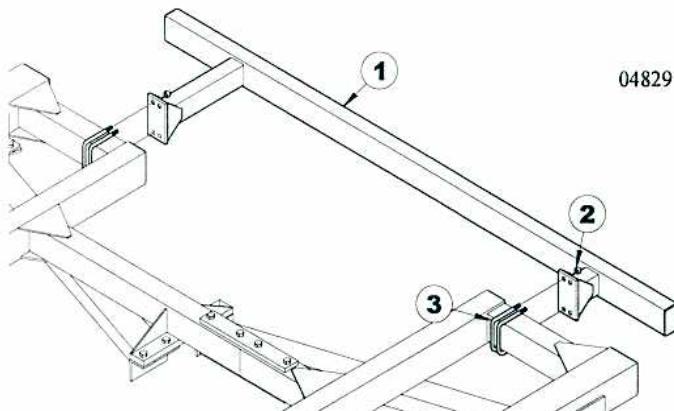
- Bolt the center attachment subframe (#1), as shown in figure 1, to the center frame using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).



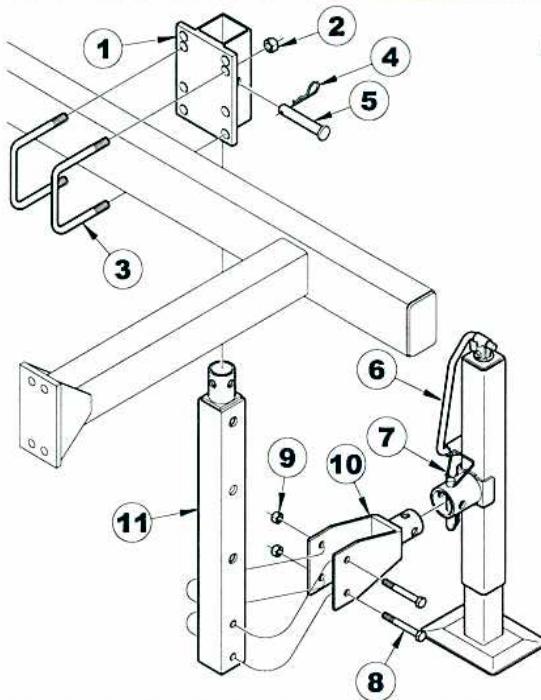
Center Attach. Subframe Assy. (21'-29')
Figure 1

**Center Attachment Subframe Assembly
(30'-36')**

- Bolt the center attachment subframe (#1), as shown in figure 2, to the center frame using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).



Center Attach. Subframe Assy. (30'-36')
Figure 2



Rear Jack Assembly
Figure 3

Rear Jack Assembly

- Attach the jack adapter plate (#1) as shown in figure 3, to the center attachment subframe with 5/8" x 4 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).
- Install the jack tube (#11) in the jack adapter plate using a 3/4" x 4 1/2" clevis pin (#5) and pin clip (#4).
- Attach the jack bracket (#10) to the jack tube using 1/2" x 4" hex bolts (#8) and lock nuts (#9).

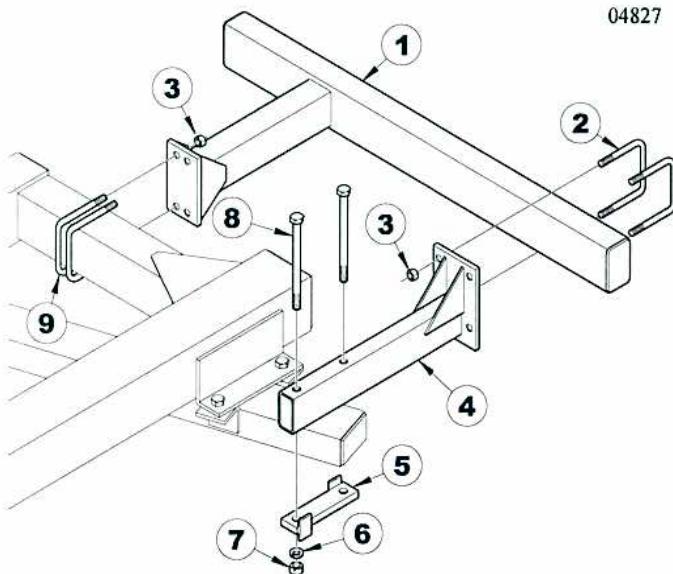
NOTE: The holes in the jack bracket are drilled off-center. This allows the jack bracket to be turned over so the rear jack may set more squarely on the ground.

- Install the rear jack (#6), using the retainer pin (#7)..

**Wing Attachment Subframe Assembly
(21'-23')**

- Bolt the 50 1/2" attachment subframe (#1) as shown in figure 4, to the wing frames using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).
- Attach the 22 1/2" attachment subframe (#4) to the wing frames using clamp plates (#5) 3/4" x 9 1/2" hex bolts (#8), lock washers (#6) and hex nuts (#9). Secure the other end of the 22

Sunflower Manufacturing
Assembly Section



Wing Attachment Subframes (21'-23')
Figure 4

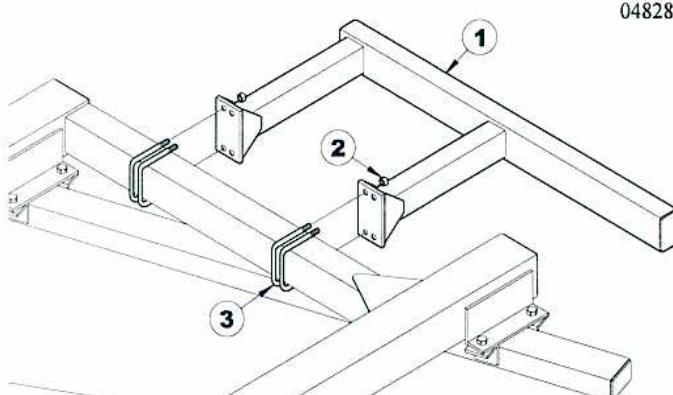
1/2" subframe (#4) to the 50 1/2" subframe (#1), using 5/8" x 4 1/2" x 5 11/16" wide u-bolts (#2) and lock nuts (#3).

Refer to the placement drawings for proper placement of the attachment subframes.

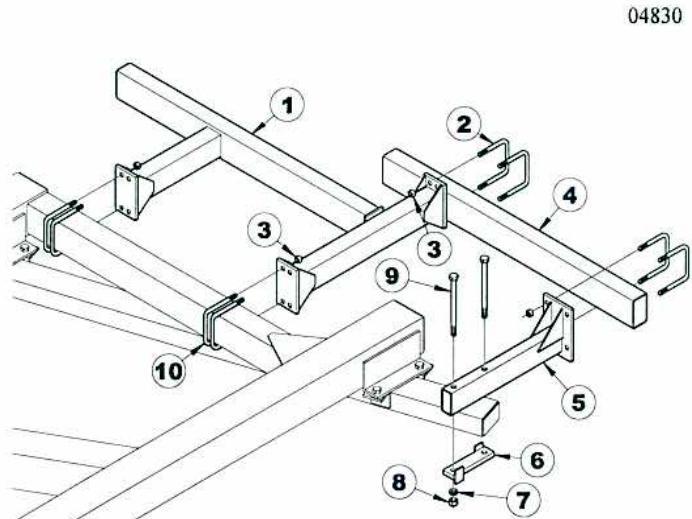
**Wing Attachment Subframe Assembly
(26'-33')**

1. Bolt the attachment subframe (#1) as shown in figure 5, to the wing frames using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).

Refer to the placement drawings for proper placement of the attachment subframes.



Wing Attachment Subframes (26'-33')
Figure 5



Wing Attachment Subframe (36')
Figure 6

Wing Attachment Subframe Assembly (36')

1. Bolt the 54 1/8" subframe (#1) as shown in figure 6, to the wings using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#10) and lock nuts (#3).

2. Attach the 22 1/2" subframes (#5), to the wing frames using clamp plates (#6), 3/4" x 9 1/2" hex bolts (#9), lock washers (#7) and hex nuts (#8).

3. Bolt the 50 1/2" tool bar (#11) to both of the subframes (#1) & (#5), using 5/8" x 4 1/2" x 5 11/16" wide u-bolts (#2) and lock nuts (#3).

Refer to the placement drawings for proper placement of the attachment subframes.

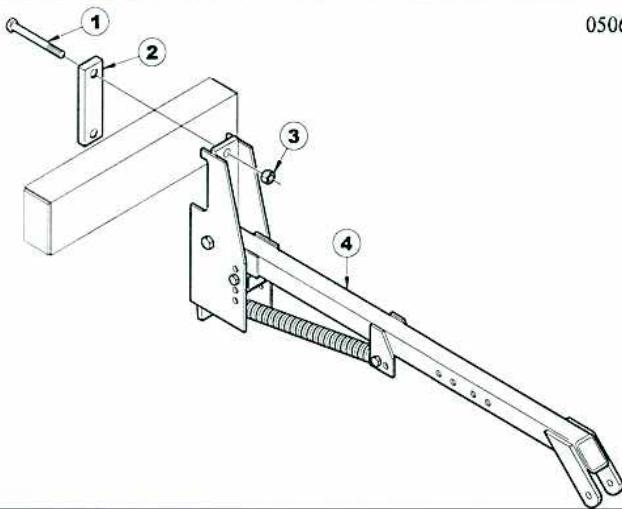
3-Row Coil Tine Assembly

1. Bolt the coil tine mount and arm assemblies (#4), as shown in figure 7, to the machine using 2 hole clamp plates (#2), 5/8" x 5 1/2" carriage bolts (#1), and lock nuts (#3). Refer to the Placement Drawings for correct positioning.

2. Bolt the angle links (#4), as shown in figure 8, to the tine carrier arms (#19), using 1/2" x 3 1/2" hex bolts (#9) and lock nuts (#5).

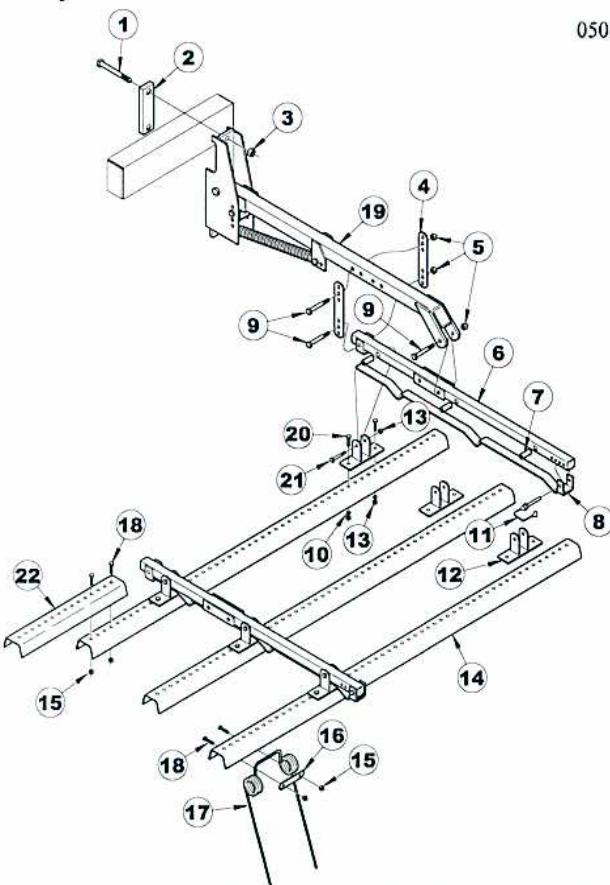
3. Place the harrow subframe (#6), between the angle links (#4), and the ears on the carrier arm (#19). Bolt in place using 1/2" x 3 1/2" hex bolts (#9), and lock nuts (#5).

Sunflower Manufacturing
Assembly Section



Coil Tine Mount Assembly
Figure 7

4. Slide the tine angle adjustment stop (#8), under the harrow subframe and pin in place using a 3/8" x 2 1/2" quick pin (#11), in the second hole from the rear. Additional adjustments may be needed depending on the field conditions. Refer to the Coil Tine Adjustments.



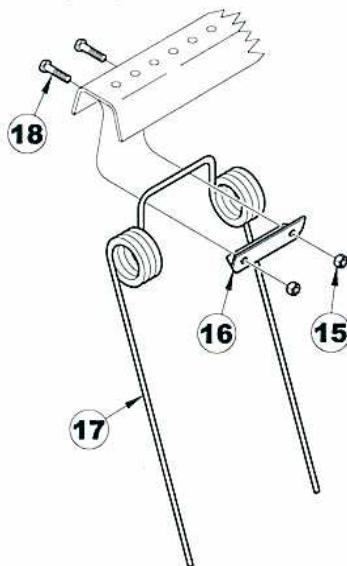
3-Row Coil Tine Assembly
Figure 8

05062

5. Bolt the tine bar pivots (#12), to the tine channels (#14) with a 3/8" x 1" hex bolt (#20), and flat washers (#10), and lock nuts (#13).

6. Attach the harrow teeth (#17), as shown in figure 9, to the tine channels with 3/8" x 1 1/2" hex bolts (#18), tooth clips (#16), and lock nuts (#15).

03263



Tine Installation
Figure 9

7. Place pivot bushings (#7), in the harrow subframe (#6).
8. Bolt the tine channels (#14) with tine bar pivots (#12) to the harrow subframe (#6) using 3/8" x 2 3/4" hex bolts (#21), and lock nuts (#13).
9. Certain models will use a harrow connector (#22), as shown in figure 8. Bolt the connector to the tine channels (#14), using 3/8" x 2 3/4" hex bolts (#18) and lock nuts (#15). Refer to the placement drawings for the proper location of the harrow connectors.

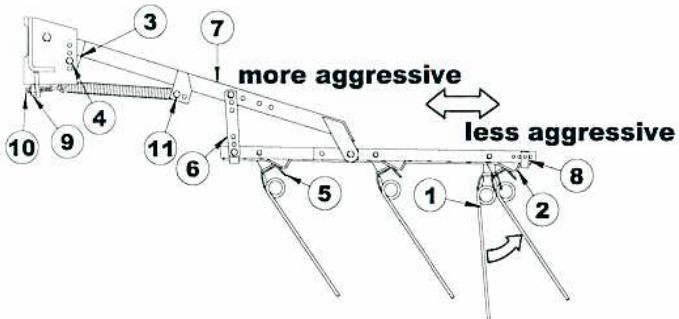
Coil Tine Adjustments

1. The coil tine harrow has several adjustments, as shown in figure 10, to allow for transport height, aggressiveness, and wear. For the initial setting, the harrow should be adjusted to operate level front to rear and no deeper than the bottom of the disc blades. Minor adjustments may be required for best results.

2. When setting the depth of the tine harrow, pull the tine teeth (#1) as shown in figure 10, back until the tine channel contacts the tine angle adjustment stop (#2). Verify the depth of the tines by sighting across the bottoms of the front and rear disc gangs.

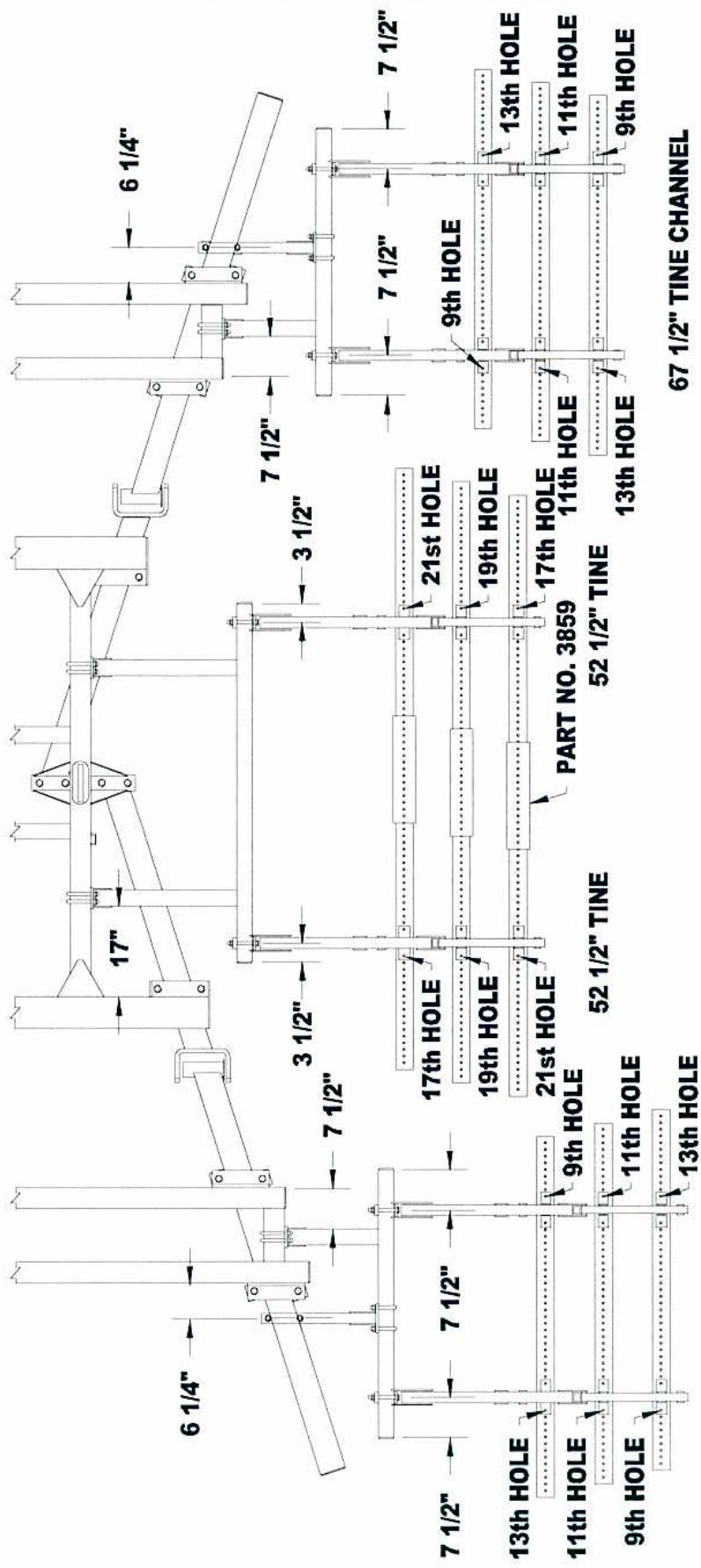
Sunflower Manufacturing
Assembly Section

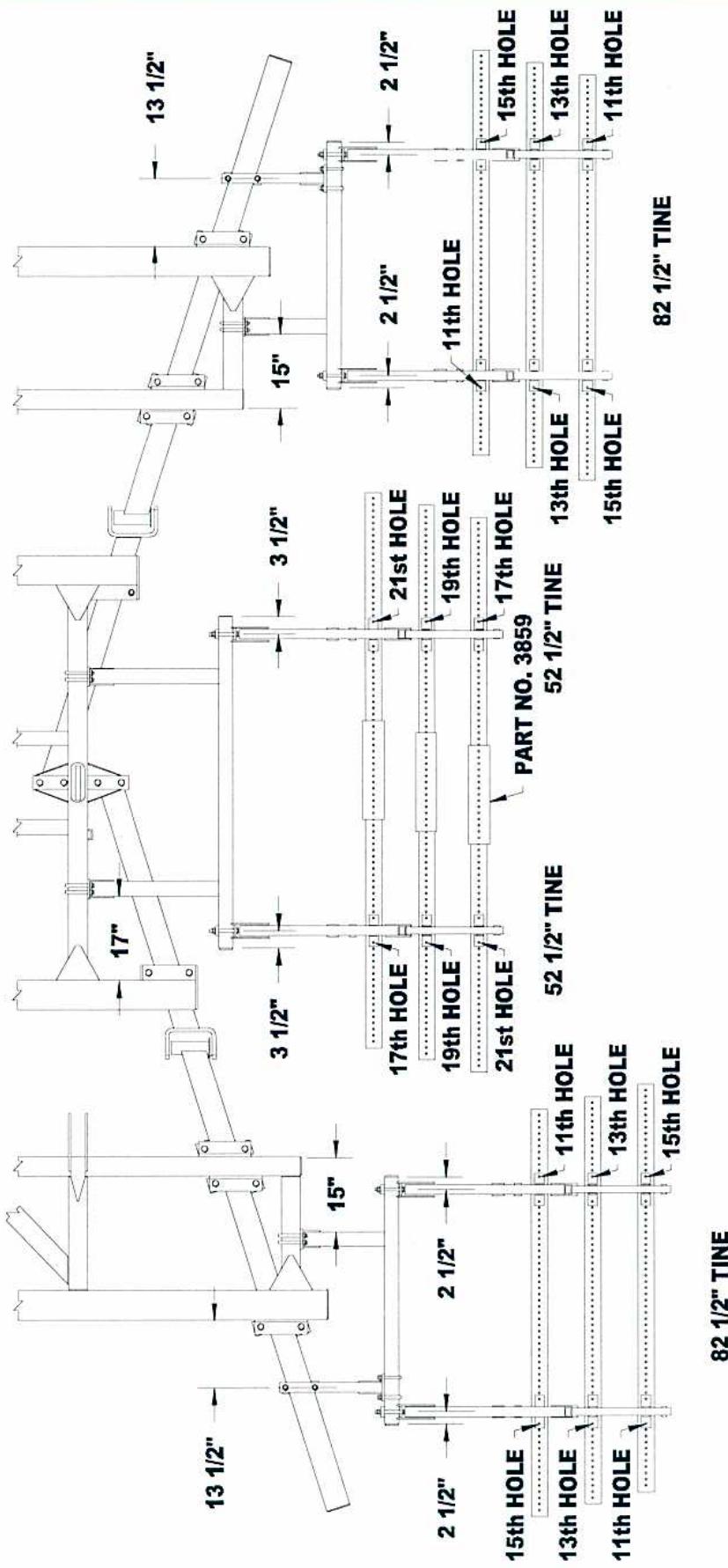
03315

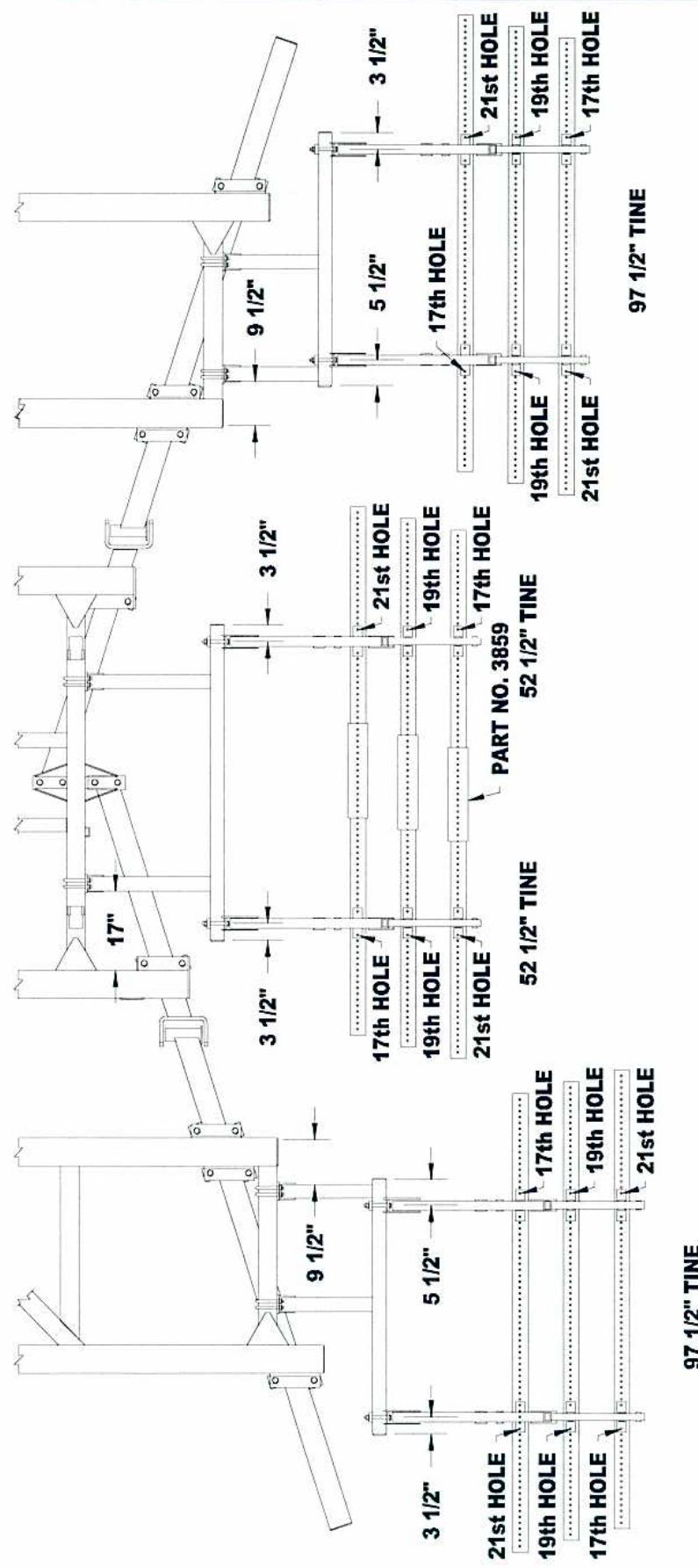


Coil Tine Adjustments
Figure 10

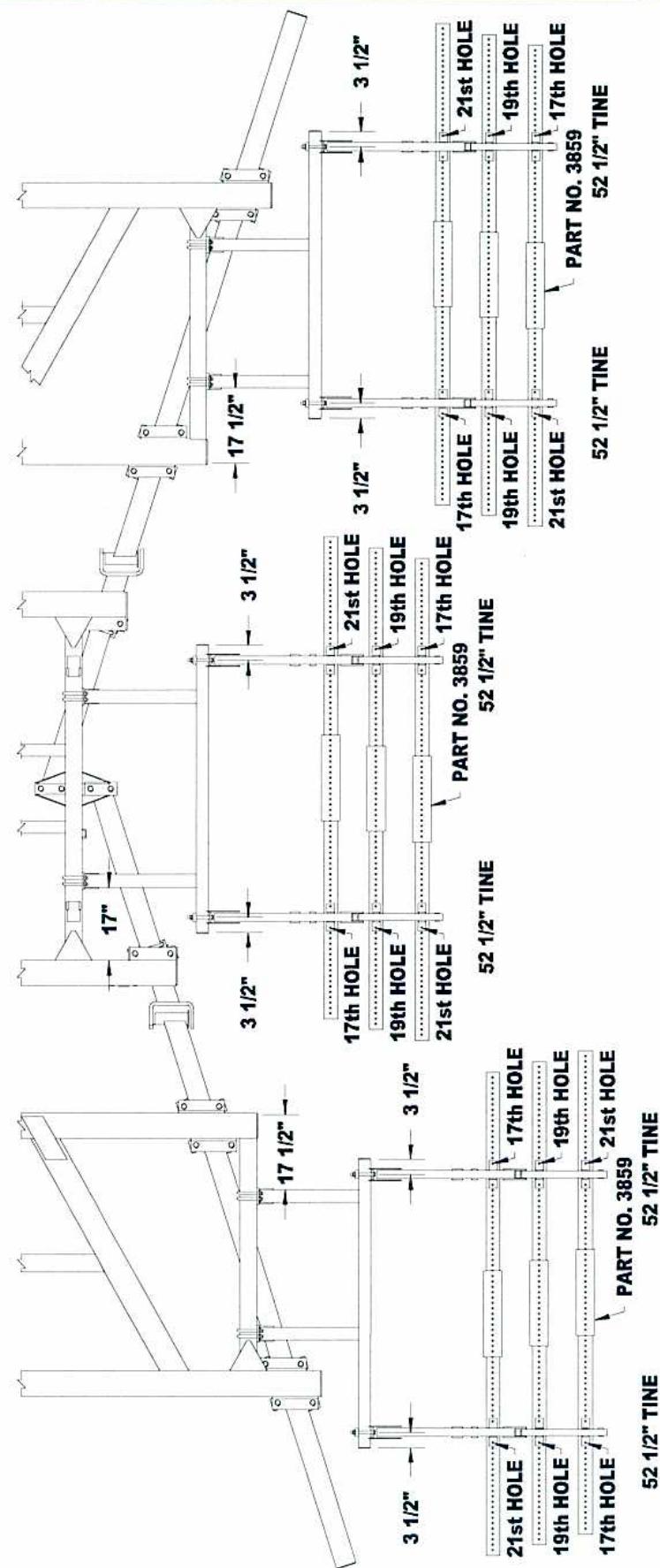
3. The transport height of the harrow may be set by adjusting the arm stop (#3), located beneath the harrow arm in the mounting head. The arm stop is adjusted by hole placement and/or rotation of the stop. The arm stop hole is drilled off-center and may be rotated to any of the four sides for height adjustment. When the desired arm stop setting has been determined, tighten the 1/2" x 4" hex bolt (#4) through the stop to prevent it from turning.
3. The coil tine channels (#5), may be leveled by using the series of holes in the angle link (#6) and the harrow arm (#7). Various combinations of the holes may be used to keep the tine channels level front to rear. The harrow may perform better if the front row of the tines are set slightly higher than the rear tines. This will allow the residue to enter the harrow easier and keep the harrow level as it flexes upward.
4. Tine tooth angle may be adjusted at the rear of the harrow by changing the tine angle stop. Moving the quick pin (#8) to the front hole provides the most aggressive angle, while the rear hole is the least aggressive. This adjustment must be made for each arm of the harrow section.
5. The spring down pressure may be adjusted by tightening the nut (#9) on the spring eye bolt (#10). As the tines wear, the 1/2" x 3 1/2" hex bolt (#11) at the rear of the spring may be positioned in the rear hole of the harrow arm.
6. When operating the tine harrow, more aggressive tine tooth angles and heavier spring pressure can be used in light residue and/or dry soil conditions. Overly aggressive tine settings will accelerate tine tooth wear and may affect the operation of the disc. Use lower tine tooth angles and lighter spring pressure when operating in heavy residue and/or wet conditions to prevent plugging of the harrow.

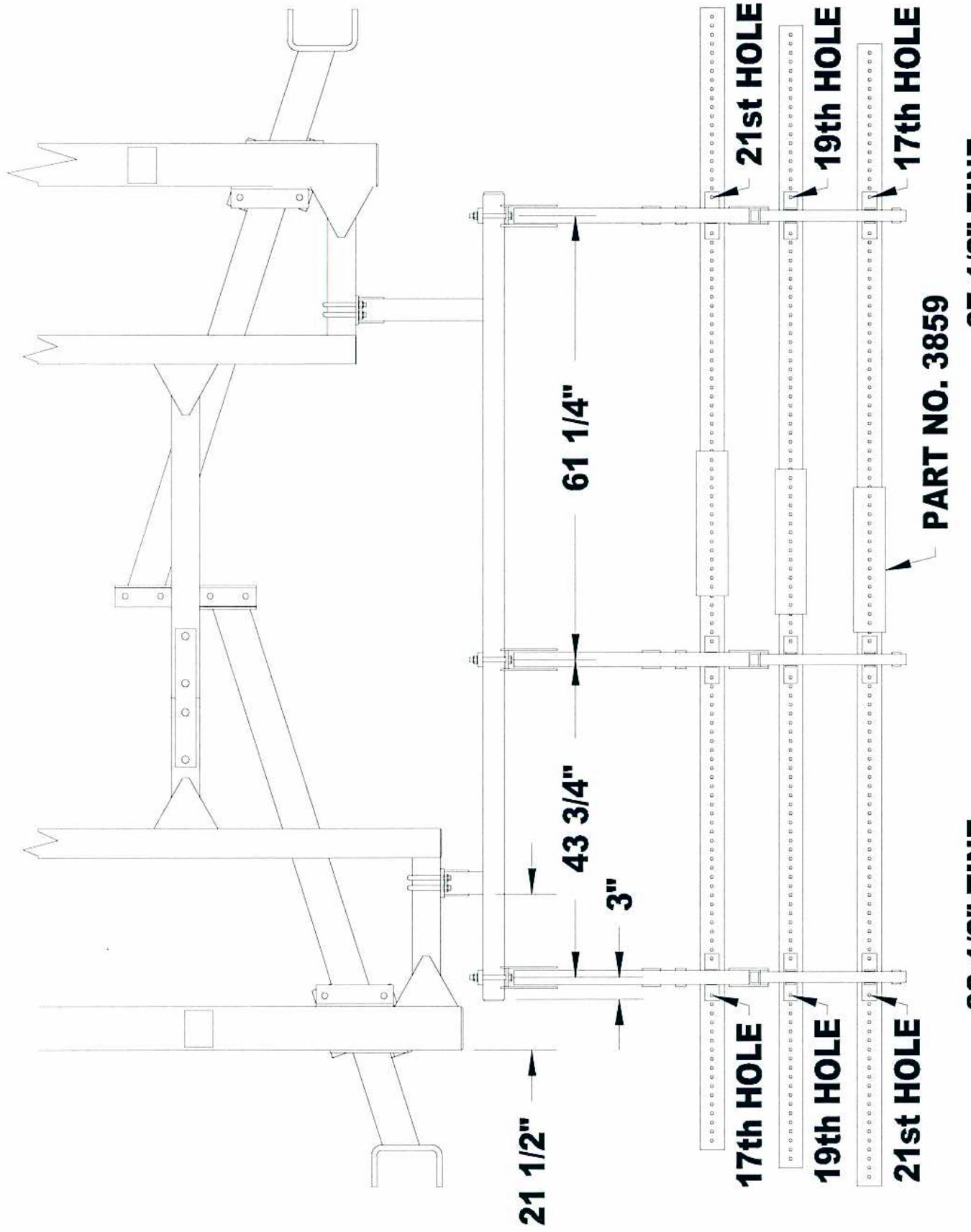


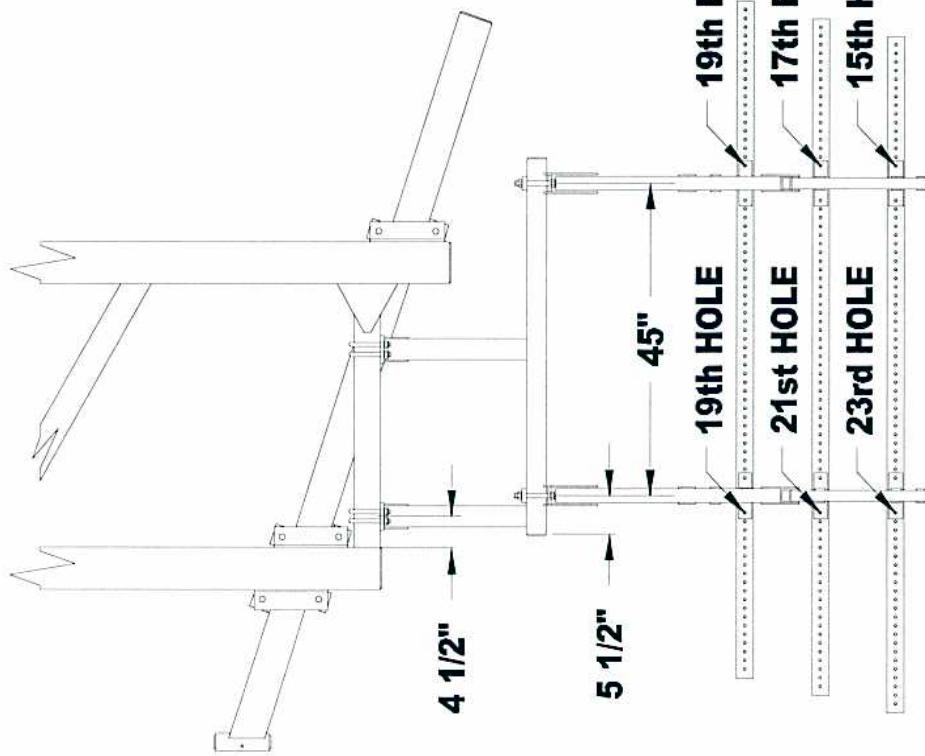




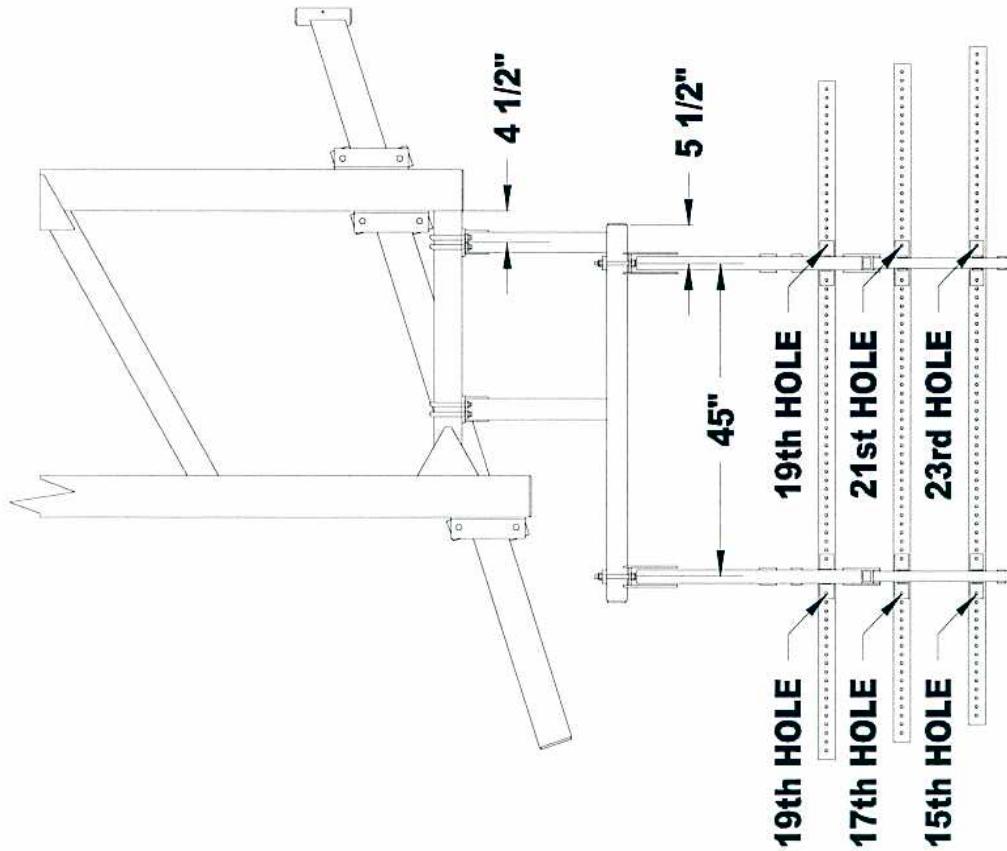
Sunflower Manufacturing
29' 3-Row Coil Tine Placement



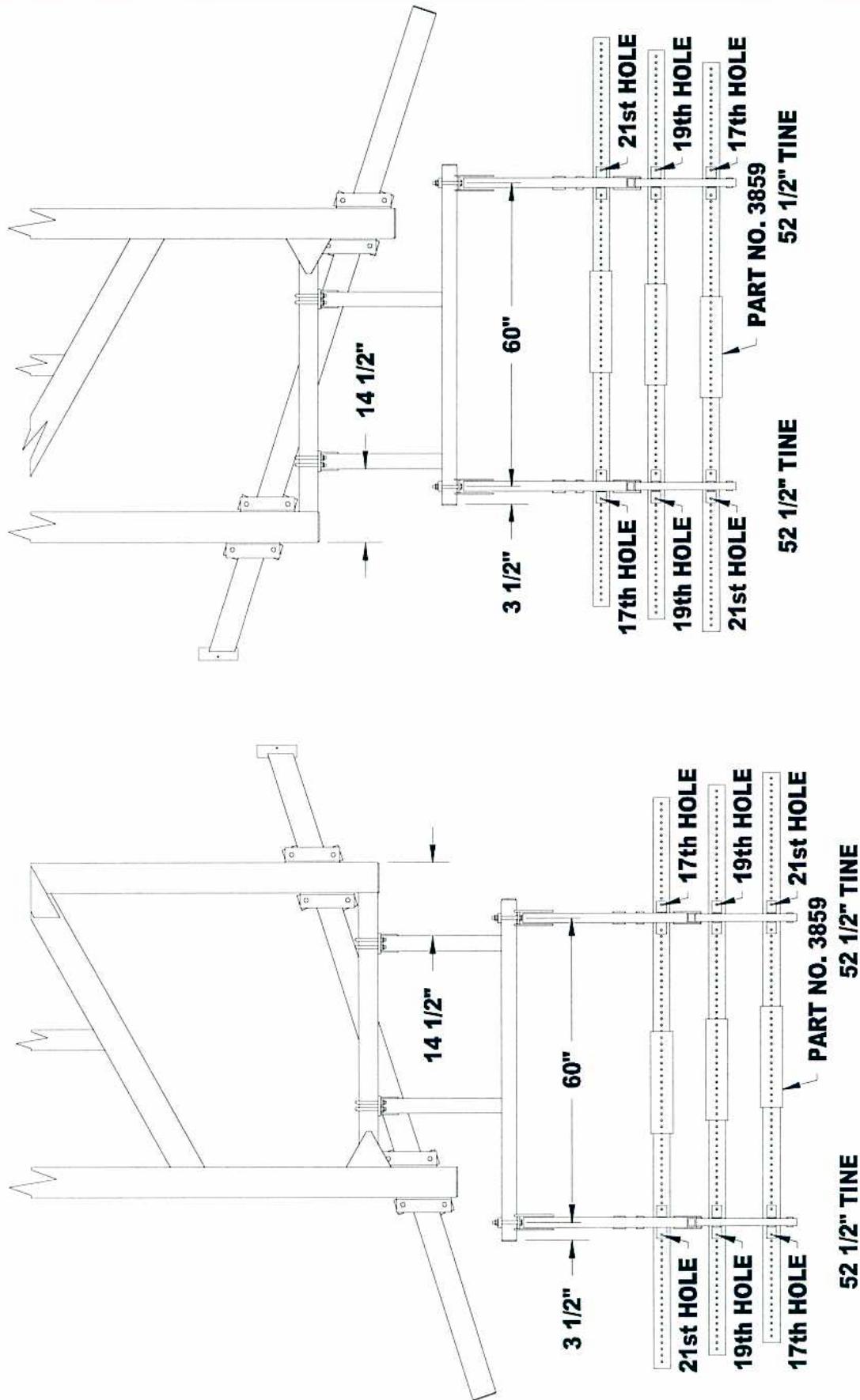




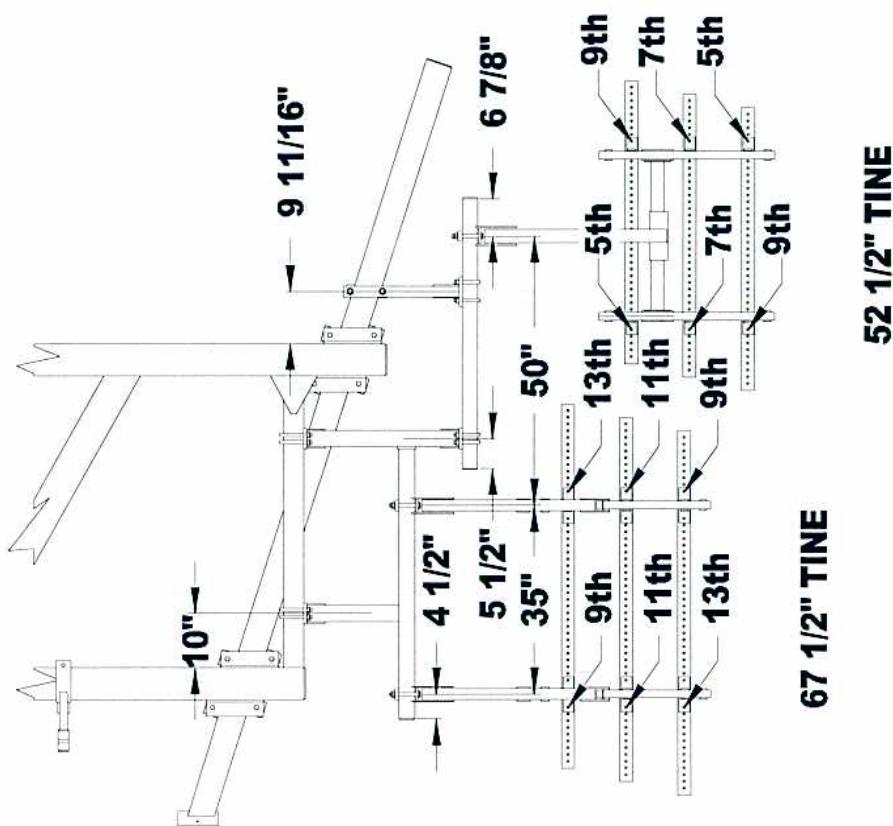
97 1/2" TINE



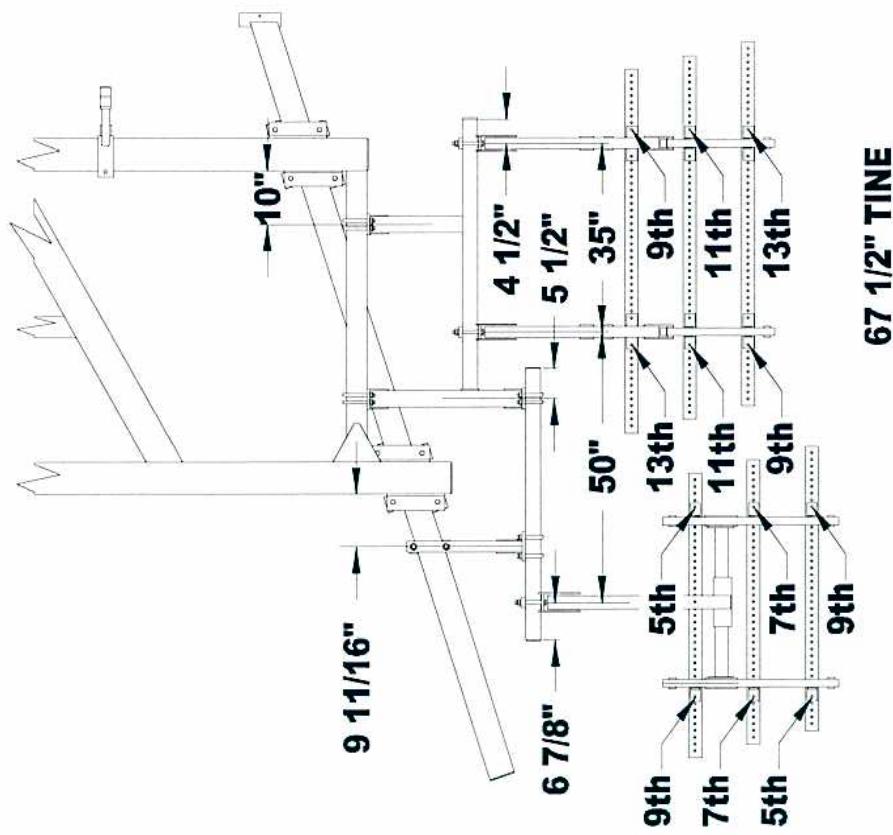
97 1/2" TINE

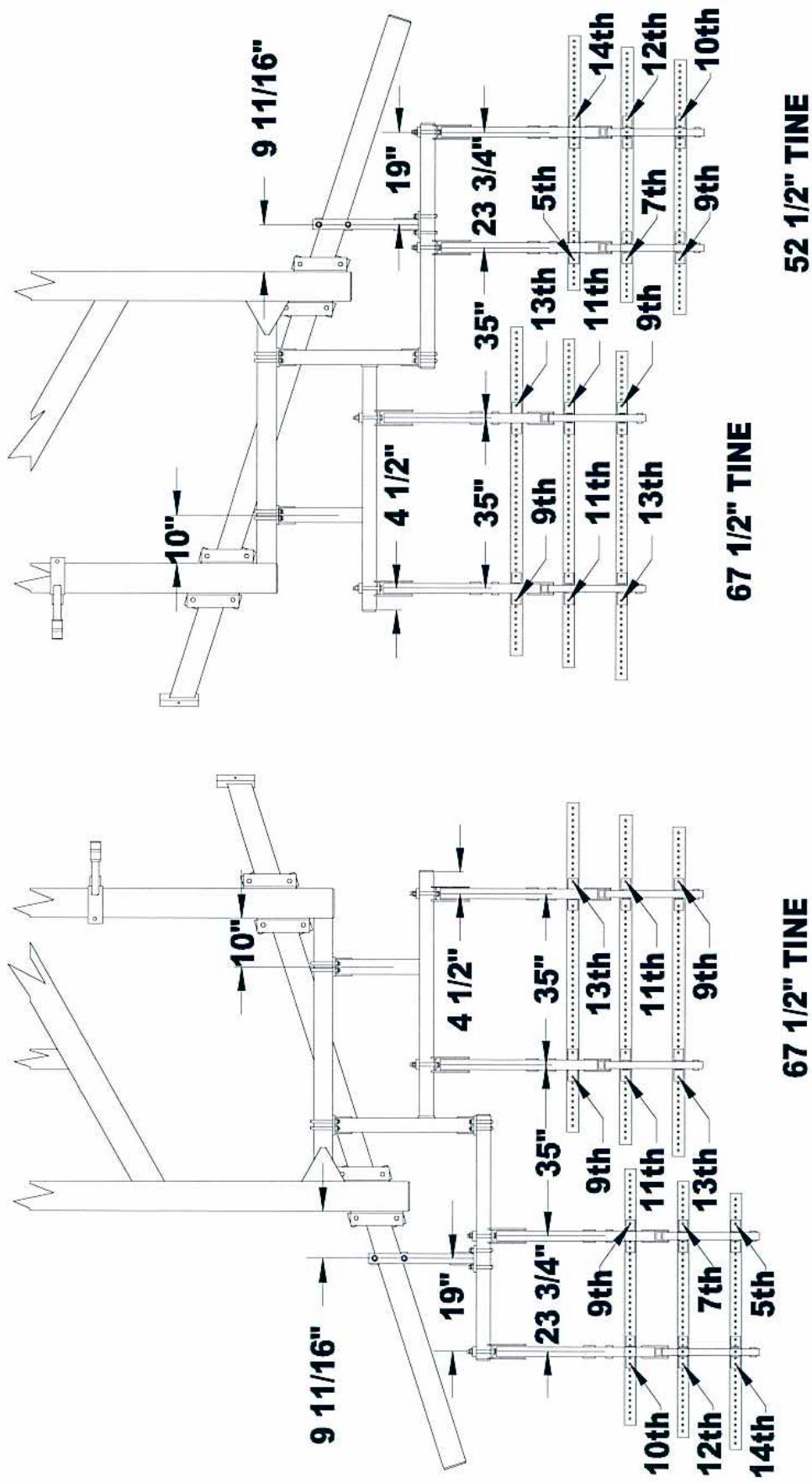
33' Wing Frames 3-Row Coil Tine Placement

01355



02058

**52 1/2" TINE****67 1/2" TINE****67 1/2" TINE****52 1/2" TINE**



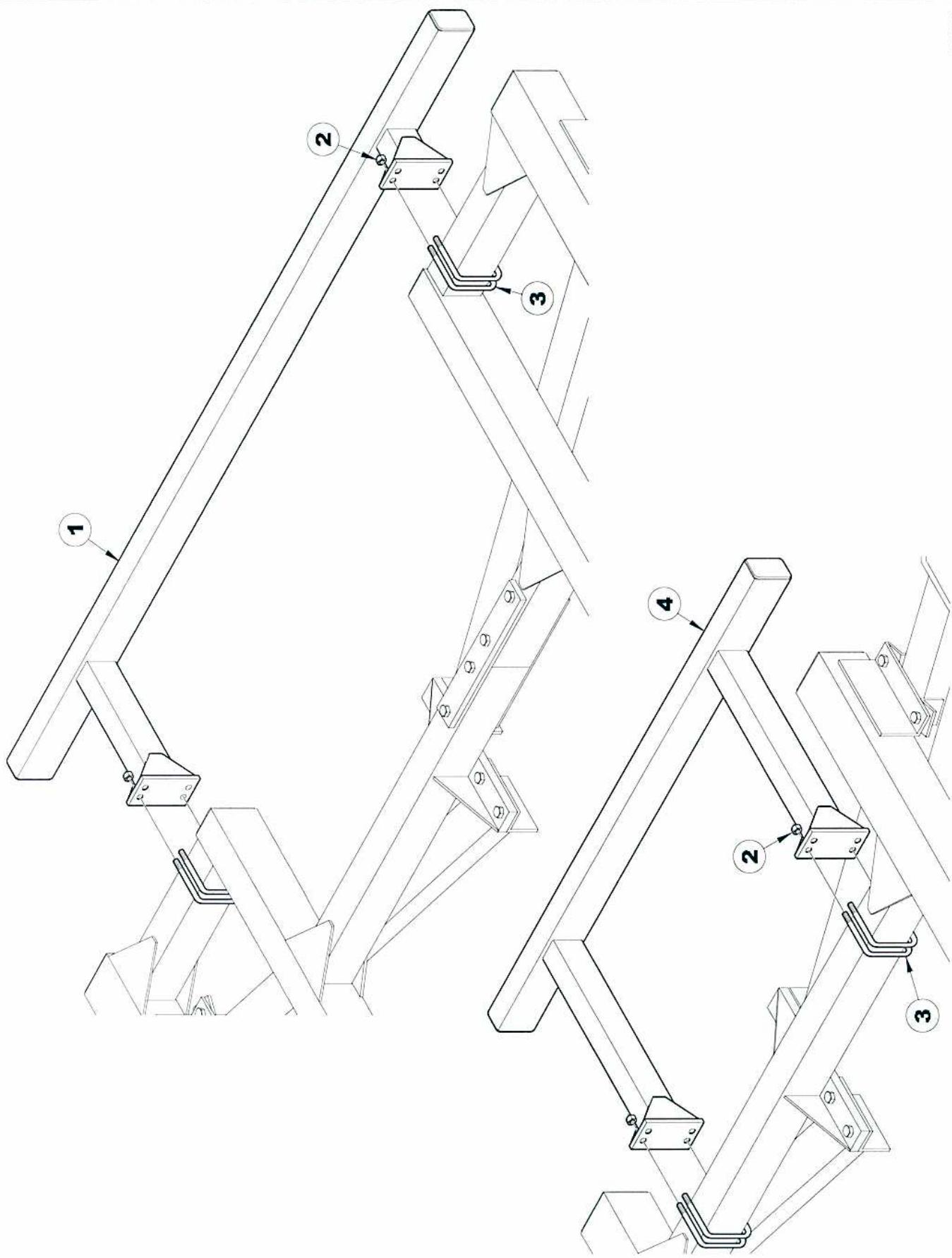
06638

Sunflower Manufacturing
Placement Section

This page was intentionally left blank.

Center Attachment Subframe Assembly

04831



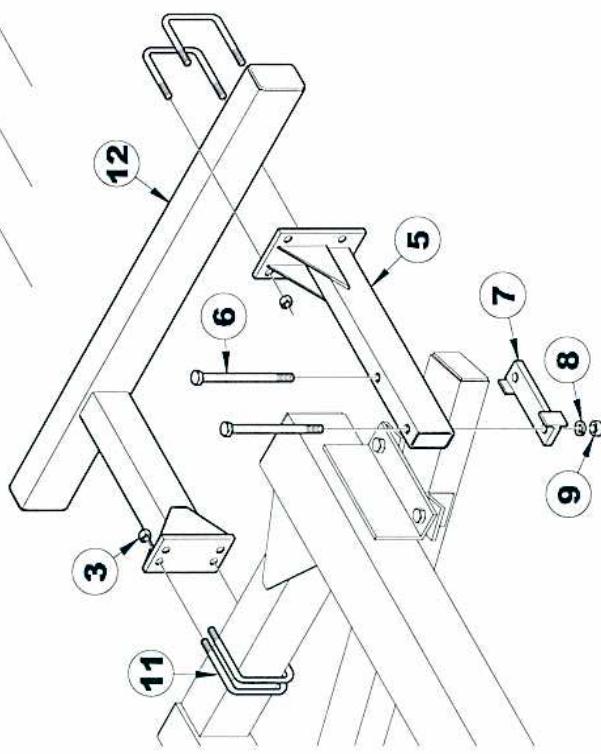
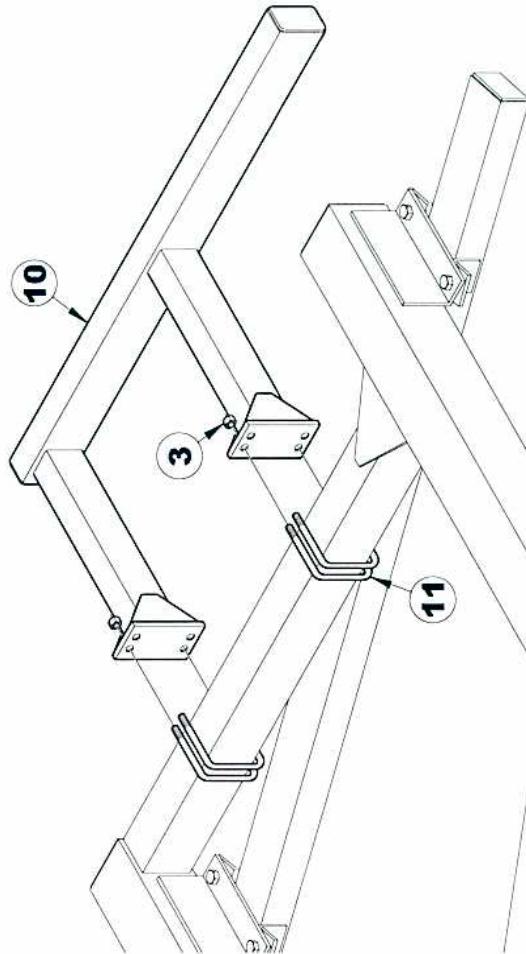
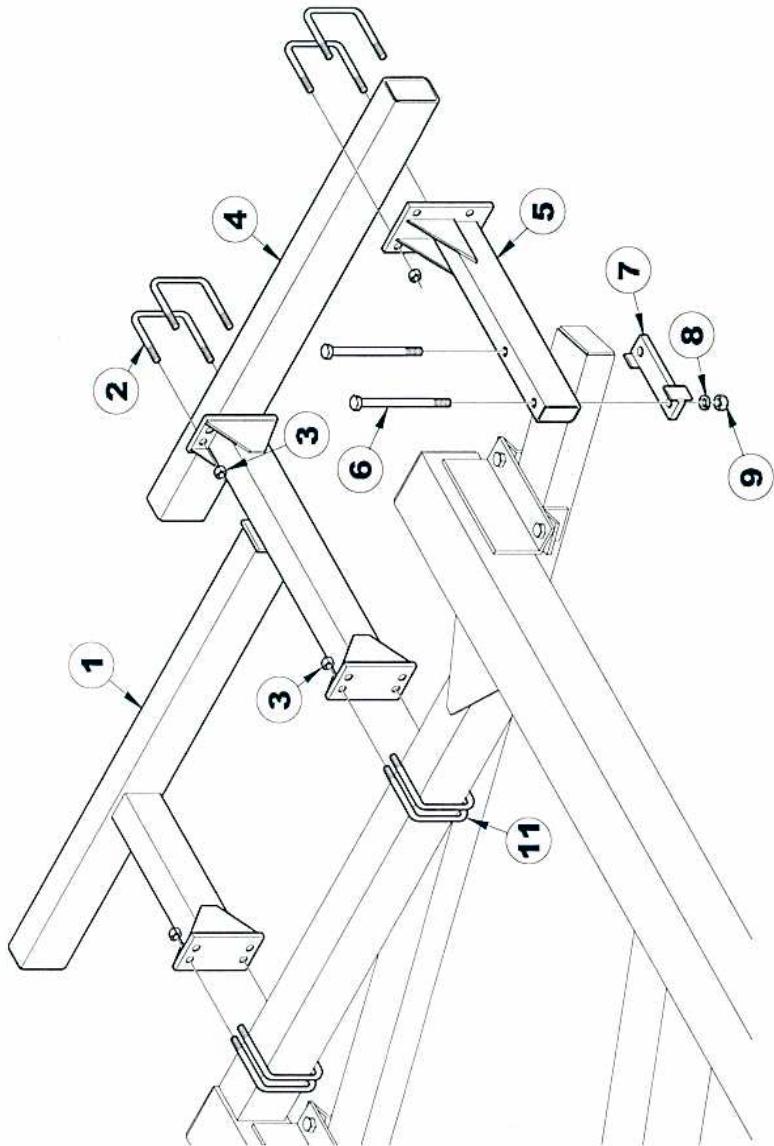
Center Attachment Subframe Assembly

Item Number Part Number Description

1	6283R	ATTACHMENT SUBFRAME, 111 1/2" (30', 33' & 36')
2	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
3	6102	U-BOLT, 5/8"-11 X 5 1/2" X 5 11/16" W, GR 5, Z/P
4	6185R	ATTACHMENT SUBFRAME, 67 1/2" CENTER (21', 23', 26' & 29')

Wing Attachment Subframe Assembly

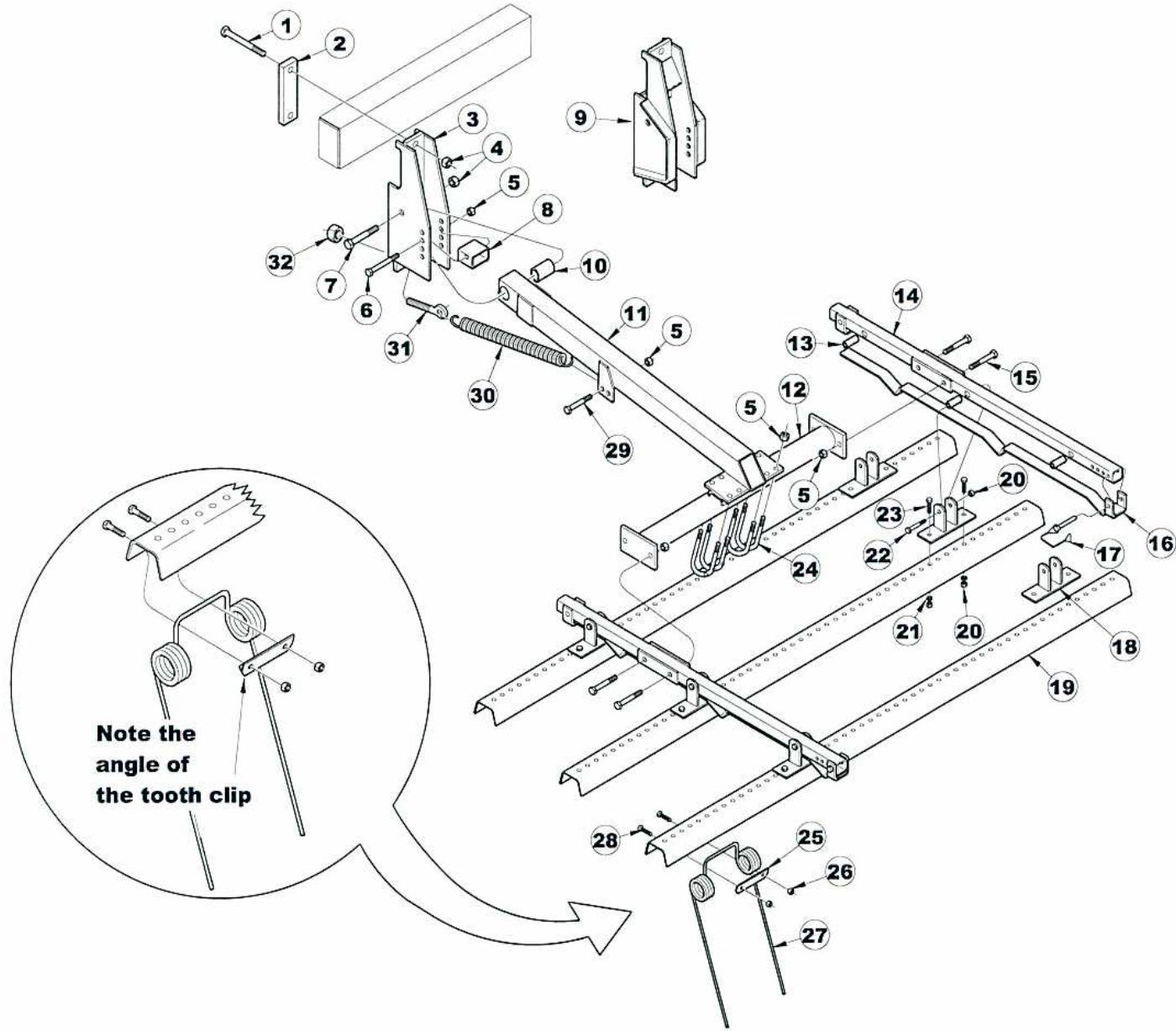
04832



*Wing Attachment Subframe Assembly**Item Number Part Number Description*

1	6284R	ATTACHMENT SUBFRAME, 54 1/8" (36')
2	2815	U-BOLT, 5/8"-11 X 4 1/2" X 5 11/16" W, GR 5, Z/P
3	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
4	6285R	TOOL BAR, 50" (35')
5	6183R	ATTACHMENT SUBFRAME, 22 1/2" (21', 23' & 36')
6	1951	HEX BOLT, 3/4"-10 X 9 1/2", GR 5, Z/P
7	6189R	CLAMP PLATE
8	1040	LOCK WASHER, 3/4" SPLIT TYPE MED, Z/P
9	106	HEX NUT, 3/4"-10 FULL, GR 5, Z/P
10	6187R	ATTACHMENT SUBFRAME, 54 1/2" (26' & 30' SHOWN)
	6188R	ATTACHMENT SUBFRAME, 67 1/2" (29' & 33')
11	6102	U-BOLT, 5/8"-11 X 5 1/2" X 5 11/16" W, GR 5, Z/P
12	6186R	ATTACHMENT SUBFRAME, 50 1/2" (21' & 23')

Single Arm 3-Row Coil Tine Assembly

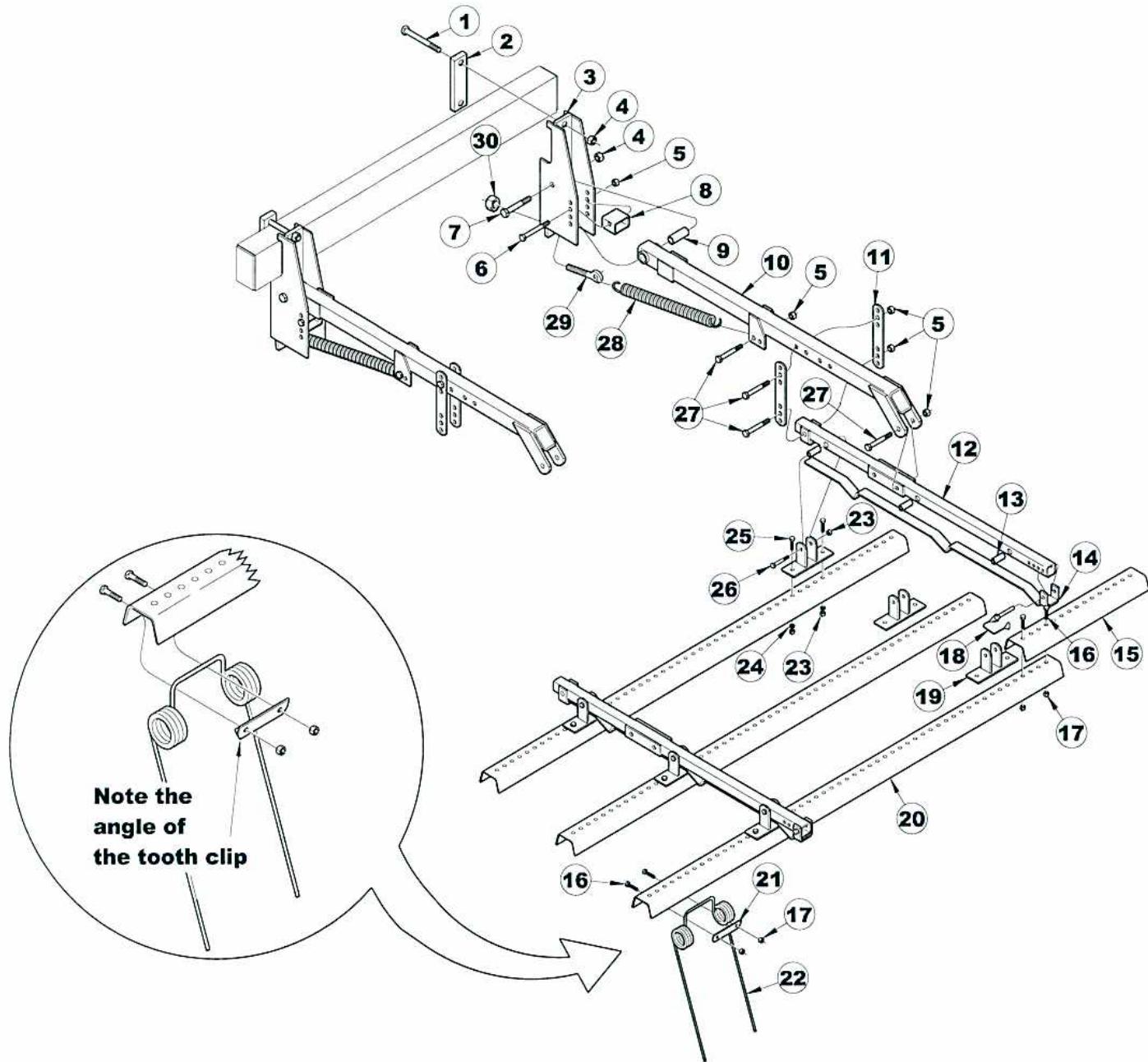


05064

Single Arm 3-Row Coil Tine Assembly***Item Number Part Number Description***

1	2097	HEX BOLT, 5/8"-11 X 5 1/2", GR 5, Z/P
2	3962	CLAMP PLATE, 2 HOLE
3	6175R	HARROW MOUNT
4	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
5	2096	LOCK NUT, 1/2"-13 HEX NYLON INSERT, GR 8, Z/P
6	140	HEX BOLT, 1/2"-13 X 4 1/2", GR 5, Z/P
7	2557	HEX BOLT, 5/8"-11 X 4 1/2", GR 5, Z/P
8	5728R	ARM STOP
9	7018R	HARROW MOUNT
10	3628	REEL CARRIER ARM PIVOT BUSHING
11	5721R	TINE CARRIER ARM, SINGLE
	5889R	TINE CARRIER ARM, SINGLE, LONG (15" ROW SPACING)
12	5725R	COIL TINE PIPE, 20 1/2" L
	5726R	COIL TINE PIPE, 28" L
13	5730	PIVOT BUSHING
14	5729R	HARROW SUBFRAME, 3-ROW
	7908R	HARROW SUBFRAME, 3-ROW (15" ROW SPACING)
15	156	HEX BOLT, 1/2"-13 X 3", GR 5, Z/P
16	5724R	TINE ANGLE ADJUSTMENT STOP
	7907R	TINE ANGLE ADJUSTMENT STOP (15" ROW SPACING)
17	3557	QUICK PIN, 3/8" DIA X 2 1/2"
18	5723R	TINE BAR PIVOT
19	3917	TINE CHANNEL, 37 1/2"
	3609	TINE CHANNEL, 52 1/2"
20	3566	LOCK NUT, 3/8"-16 HEX CENTER, GR 2, Z/P
21	317	FLAT WASHER, 3/8", Z/P
22	4738	HEX BOLT, 3/8"-16 X 2 3/4", GR 5, Z/P
23	178	HEX BOLT, 3/8"-16 X 1", GR 5, Z/P
24	5733	U-BOLT, 1/2"-13 X 4" X 3" W, GR 5, Z/P
25	3621	TOOTH CLIP
26	3567	LOCK NUT, 3/8"-16 HEX NYLON INSERT, GR 2, Z/P
27	5715	HARROW TOOTH, 3/8" DIA X 16" L
28	175	HEX BOLT, 3/8"-16 X 1 1/2", GR 5, Z/P
29	3371	HEX BOLT, 1/2"-13 X 4", GR 5, Z/P
30	5732R	SPRING, 1.40" OD X .82" ID X 16 1/4" L
31	5731	EYE BOLT, 3/4"-10 X 4 1/2" Y/D
32	HEN 3/4-10	LOCK NUT, 3/4" HEX NYLON INSERT, GR 5, Z/P

Double Arm 3-Row Coil Tine Assembly



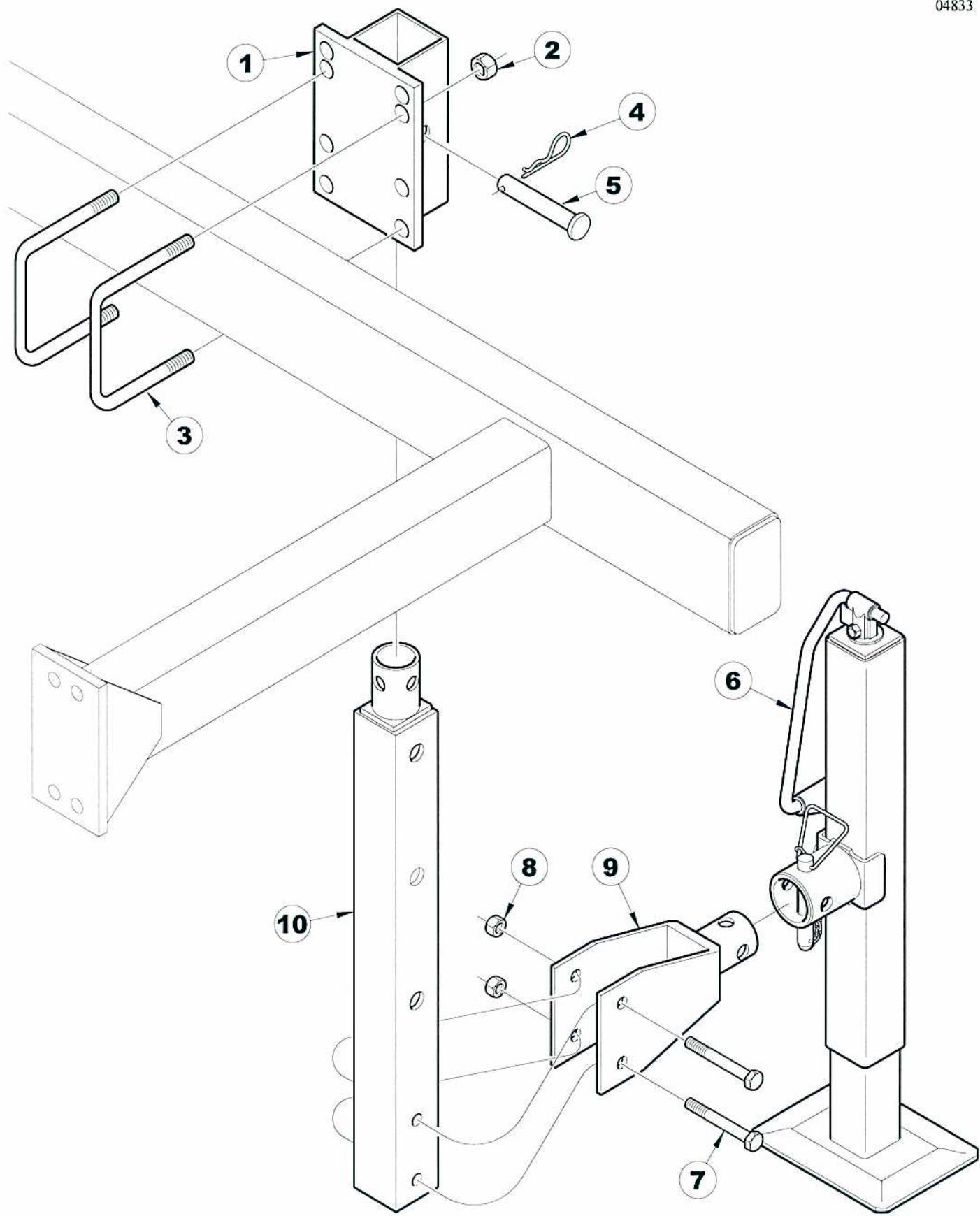
05065

Double Arm 3-Row Coil Tine Assembly***Item Number Part Number Description***

1	2097	HEX BOLT, 5/8"-11 X 5 1/2", GR 5, Z/P
2	3962	CLAMP PLATE, 2 HOLE
3	5746R	HARROW MOUNT
4	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
5	2096	LOCK NUT, 1/2"-13 HEX NYLON INSERT, GR 8, Z/P
6	3371	HEX BOLT, 1/2"-13 X 4", GR 5, Z/P
7	3065	HEX BOLT, 5/8"-11 X 4", GR 5, Z/P
8	3629	ARM STOP
9	3635	PIVOT BUSHING, 2 1/2" L.
10	5722	TINE CARRIER ARM, DOUBLE
	5890R	TINE CARRIER ARM, DOUBLE, LONG
11	5727R	ANGLE LINK
12	5729R	HARROW SUBFRAME, 3-ROW
	7908R	HARROW SUBFRAME, 3-ROW (15" ROW SP)
13	5730	PIVOT BUSHING
14	5724R	TINE ANGLE ADJUSTMENT STOP
	7907R	TINE ANGLE ADJUSTMENT STOP (15" ROW SP)
15	3859	HARROW CONNECTOR
16	175	HEX BOLT, 3/8"-16 X 1 1/2", GR 5, Z/P
17	3567	LOCK NUT, 3/8"-16 HEX NYLON INSERT, GR 2, Z/P
18	3557	QUICK PIN, 3/8" DIA X 2 1/2"
19	5723R	TINE BAR PIVOT
20	3609	TINE CHANNEL, 52 1/2"
	3610	TINE CHANNEL, 67 1/2"
	3611	TINE CHANNEL, 82 1/2"
	3612	TINE CHANNEL, 97 1/2"
21	3621	TOOTH CLIP
22	5715	HARROW TOOTH, 3/8" DIA X 16" L
23	3566	LOCK NUT, 3/8"-16 HEX CENTER, GR 2, Z/P
24	317	FLAT WASHER, 3/8", Z/P
25	178	HEX BOLT, 3/8"-16 X 1", GR 5, Z/P
26	4738	HEX BOLT, 3/8"-16 X 2 3/4", GR 5, Z/P
27	1507	HEX BOLT, 1/2"-13 X 3 1/2", GR 5, Z/P
28	5732R	SPRING, 1.40" OD X .82" ID X 16 1/4" L
29	5731	EYE BOLT, 3/4"-10 X 4 1/2"
30	HEN 3/4-10	LOCK NUT, 3/4" HEX NYLON INSERT, GR 5, Z/P

Sunflower Manufacturing
Rear Jack Assembly

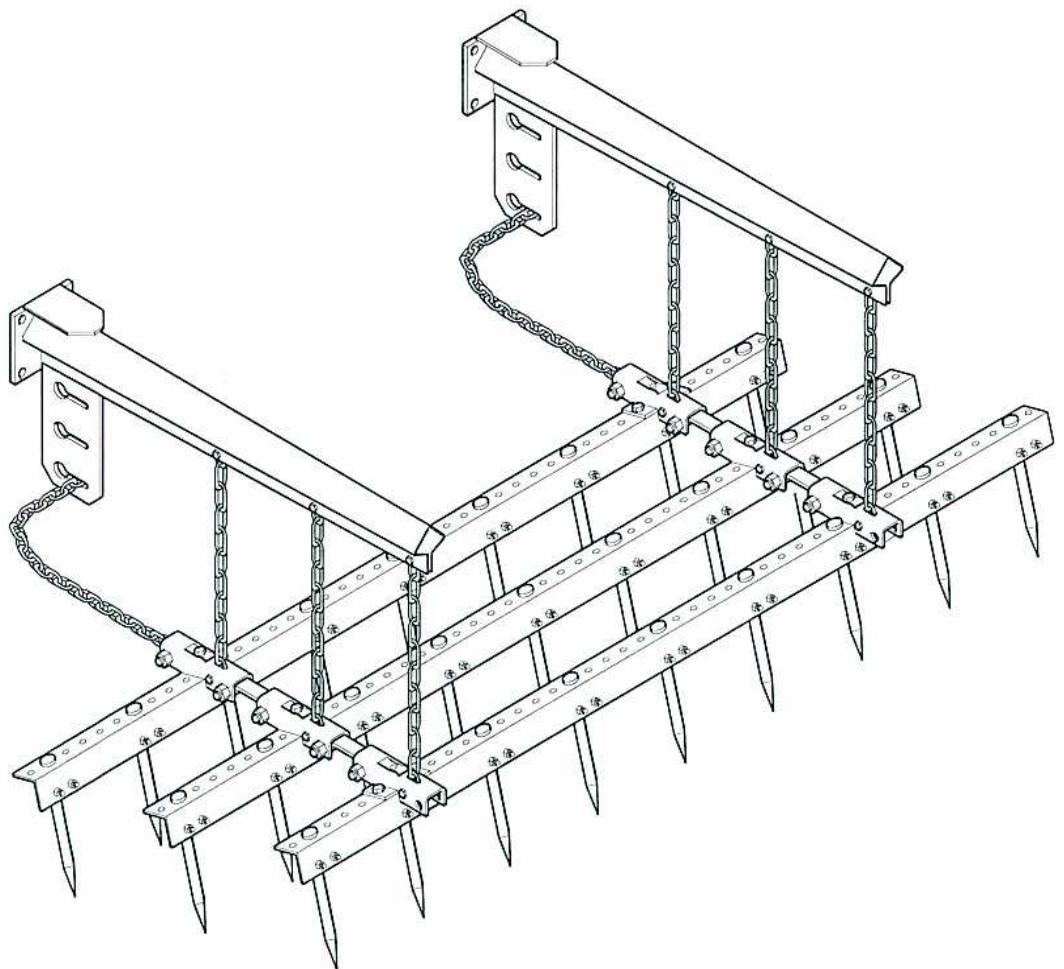
04833



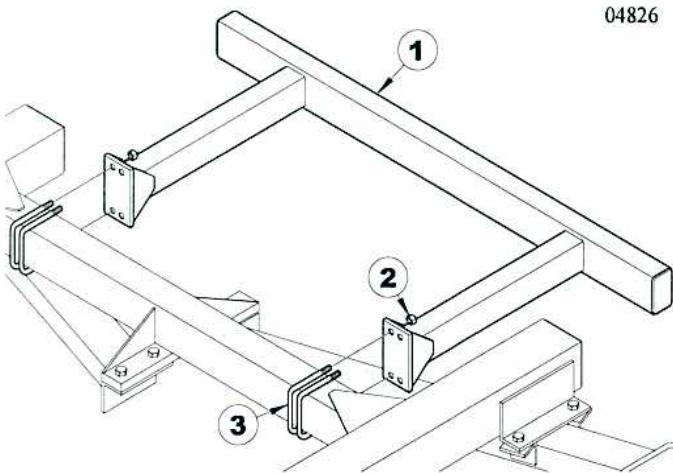
Rear Jack Assembly**Item Number Part Number Description**

1	3353	JACK ADAPTER PLATE
2	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
3	2815	U-BOLT, 5/8"-11 X 4 1/2" X 5 11/16" W, GR 5, Z/P
4	2867	PIN CLIP, 1/2"-5/8" SHAFT, .120" DIA, 2" L
5	2094	PIN, 3/4" X 4 1/2" (4"), Z/P
6	9777	LONG TONGUE JACK, SQ W/TUBE MOUNT
7	3371	HEX BOLT, 1/2"-13 X 4", GR 5, Z/P
8	2096	LOCK NUT, 1/2"-13 HEX NYLON INSERT, GR 8, Z/P
9	3355R	JACK BRACKET
10	3354R	JACK TUBE
	3352	REAR JACK MOUNT ASSEMBLY, LESS U-BOLTS & JACK

3-ROW SPIKE DRAG



Sunflower Manufacturing
Assembly Section

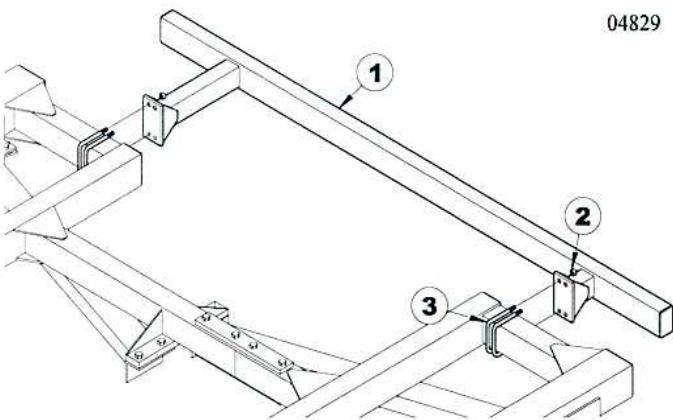


Center Attach. Subframe Assy. (21'-29')

Figure 11

**Center Attachment Subframe Assembly
(21'-29')**

- Bolt the center attachment subframe (#1), as shown in figure 11, to the center frame using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).



Center Attach. Subframe Assy. (30'-36')

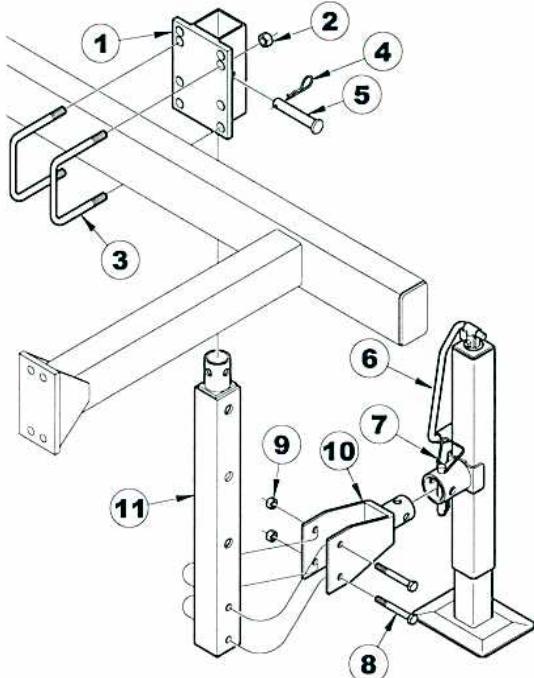
Figure 12

**Center Attachment Subframe Assembly
(30'-36')**

- Bolt the center attachment subframe (#1), as shown in figure 12, to the center frame using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).

Rear Jack Assembly

- Attach the jack adapter plate (#1) as shown in figure 13, to the center attachment subframe with 5/8" x 4 1/2" x 5 11/16" wide u-bolts (#3) and lock nuts (#2).



Rear Jack Assembly

Figure 13

- Install the jack tube (#11) in the jack adapter plate using a 3/4" x 4 1/2" clevis pin (#5) and pin clip (#4).
- Attach the jack bracket (#10) to the jack tube using 1/2" x 4" hex bolts (#8) and lock nuts (#9).

NOTE: The holes in the jack bracket are drilled off-center. This allows the jack bracket to be turned over so the rear jack may set more squarely on the ground.

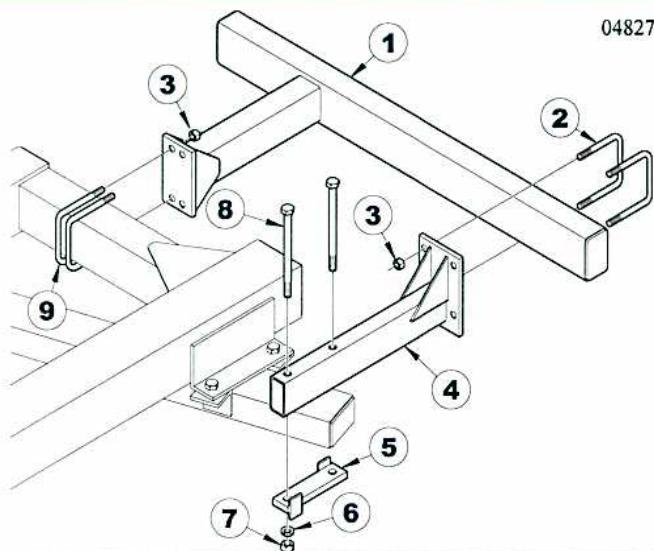
- Install the rear jack (#6), using the retainer pin (#7)..

**Wing Attachment Subframe Assembly
(21'-23')**

- Bolt the 50 1/2" attachment subframe (#1) as shown in figure 14, to the wing frames using 5/8" x 5 1/2" x 5 11/16" wide u-bolts (#9) and lock nuts (#3).
- Attach the 22 1/2" attachment subframe (#4) to the wing frames using clamp plates (#5) 3/4" x 9 1/2" hex bolts (#8), lock washers (#6) and hex nuts (#9). Secure the other end of the 22 1/2" subframe (#4) to the 50 1/2" subframe (#1), using 5/8" x 4 1/2" x 5 11/16" wide u-bolts (#2) and lock nuts (#3).

Refer to the placement drawings for proper placement of the attachment subframes.

Sunflower Manufacturing
Assembly Section



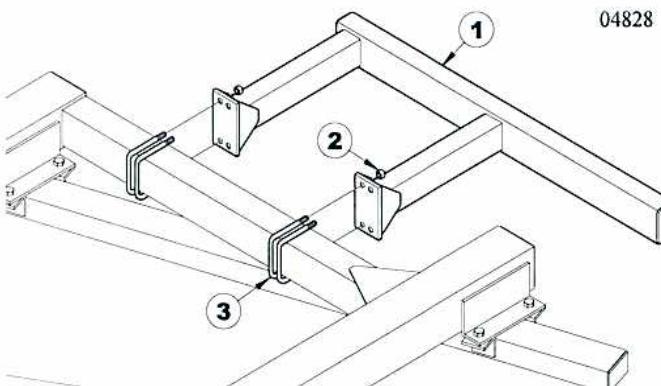
Wing Attachment Subframes (21'-23')

Figure 14

**Wing Attachment Subframe Assembly
(26'-33')**

- Bolt the attachment subframe (#1) as shown in figure 15, to the wing frames using $5/8'' \times 5 1/2'' \times 5 11/16''$ wide u-bolts (#3) and lock nuts (#2).

Refer to the placement drawings for proper placement of the attachment subframes.

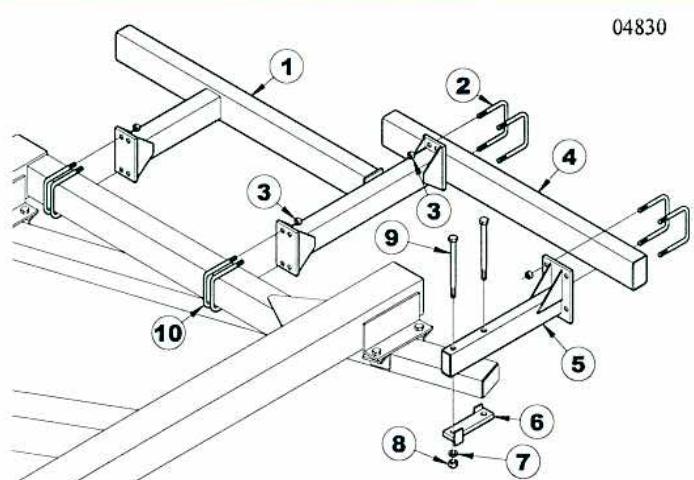


Wing Attachment Subframes (26'-33')

Figure 15

**Wing Attachment Subframe
Assembly (36')**

- Bolt the $54 1/8''$ subframe (#1) as shown in figure 16, to the wings using $5/8'' \times 5 1/2'' \times 5 11/16''$ wide u-bolts (#10) and lock nuts (#3).



Wing Attachment Subframe (36')

Figure 16

- Attach the $22 1/2''$ subframes (#5), to the wing frames using clamp plates (#6), $3/4'' \times 9 1/2''$ hex bolts (#9), lock washers (#7) and hex nuts (#8).

- Bolt the $50 1/2''$ tool bar (#11) to both of the subframes (#1) & (#5), using $5/8'' \times 4 1/2'' \times 5 11/16''$ wide u-bolts (#2) and lock nuts (#3).

Refer to the placement drawings for proper placement of the attachment subframes.

3-Row Spike Drag Assembly

- Bolt the harrow arm extensions (#3) as shown in figure 17, to the spike tooth arms (#5), using $5/8'' \times 2''$ hex bolts (#4), and lock nuts (#2).

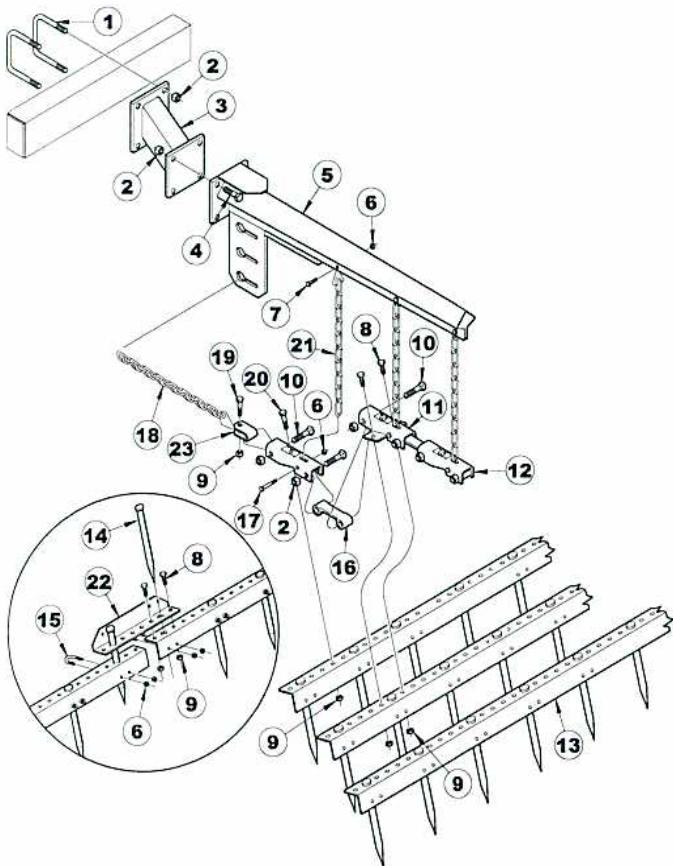
- Bolt the spike tooth arms with extensions to the attachment subframes using $5/8'' \times 4 1/2'' \times 5 11/16''$ wide u-bolts (#1) and lock nuts (#2).

- Insert a $3/8'' \times 1 1/4''$ hex bolt (#7), through the spike tooth arms (#5) and the carrier chains (#22). Secure the bolts with lock nuts (#6).

- Bolt the bar brackets (#12), to the carrier chains (#21), using $3/8'' \times 2 3/4''$ hex bolts (#17) and lock nuts (#6). Attach the carrier chains to the double bar brackets (#11) using $3/8'' \times 2 3/4''$ hex bolts (#17) and lock nuts (#6).

NOTE: Pay special attention to the placement of the double bar brackets, they are used only when a bracket is placed directly over a spike tooth. Be sure to mount the bar brackets so that the slot for the carrier chain is to the rear.

Sunflower Manufacturing
Assembly Section



3-Row Spike Drag Assembly

Figure 17

5. Bolt the offset links (#16) with the flat side up, between the bar brackets (#12) and the double bar brackets (#11), using 5/8" x 3" carriage bolts (#10) and lock nuts (#2). Do not overtighten these bolts as the links must be free to pivot.

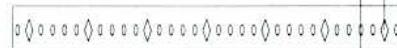
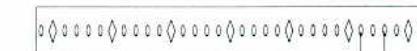
6. Mount the spike tooth bars (#13), to the bar brackets (#12) using 1/2" x 2 1/2" hex bolts (#20) and lock nuts (#9). Attach the spike tooth bars to the double bar brackets (#11) using 1/2" x 1 1/4" hex bolts (#8) and lock nuts (#9).

Refer to figure 18, on staggering the spike bars for proper tooth spacing.

7. Bolt a u-clip (#23), to the front of ear bar bracket (#12), on the first spike bar with a 5/8" x 3" carriage bolt (#10) and lock nut (#2). Bolt one end of the pull chain (#18), to the U-clip using a 1/2" x 1 3/4" hex bolt (#19) and lock nut (#9). Remove the slack from the pull chain and insert the other end of the chain through the keyhole slot of the spike tooth arm (#5).

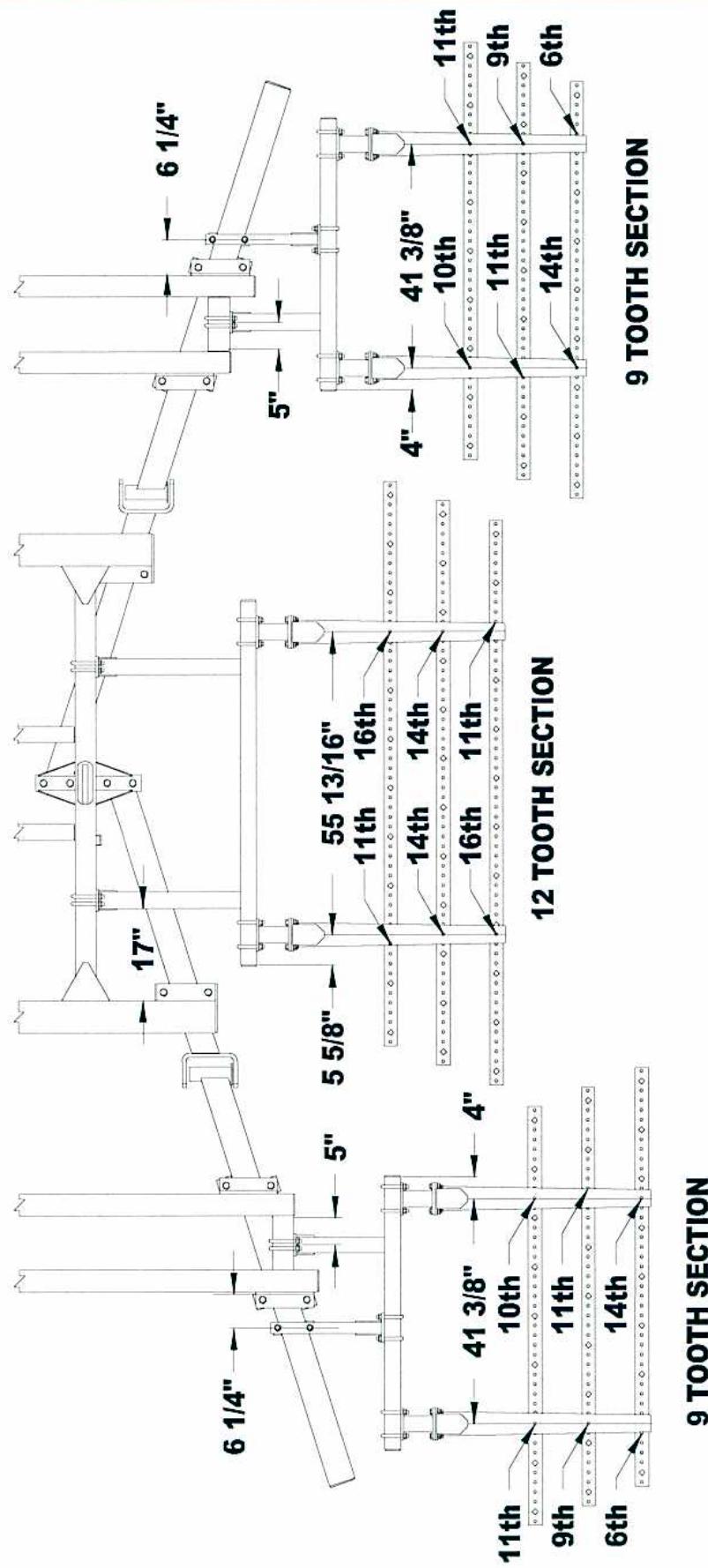
04693

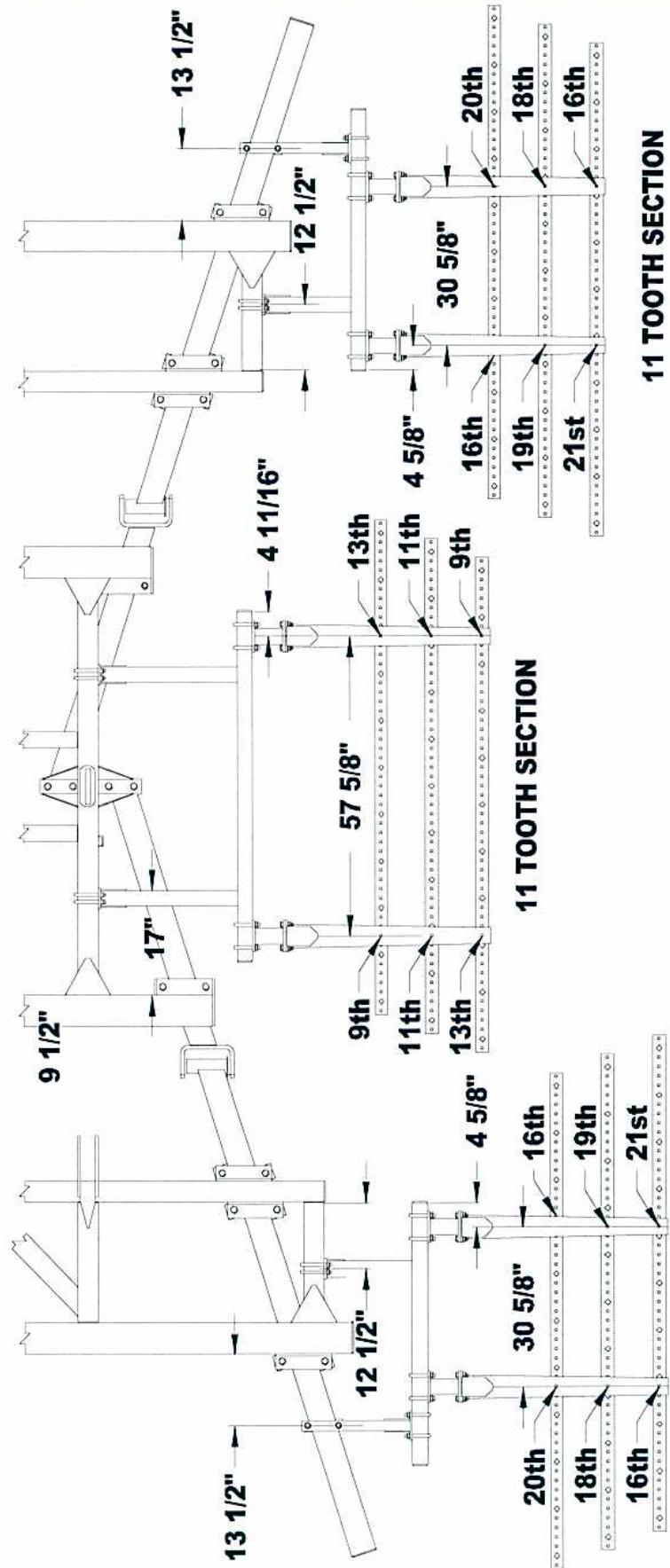
00398



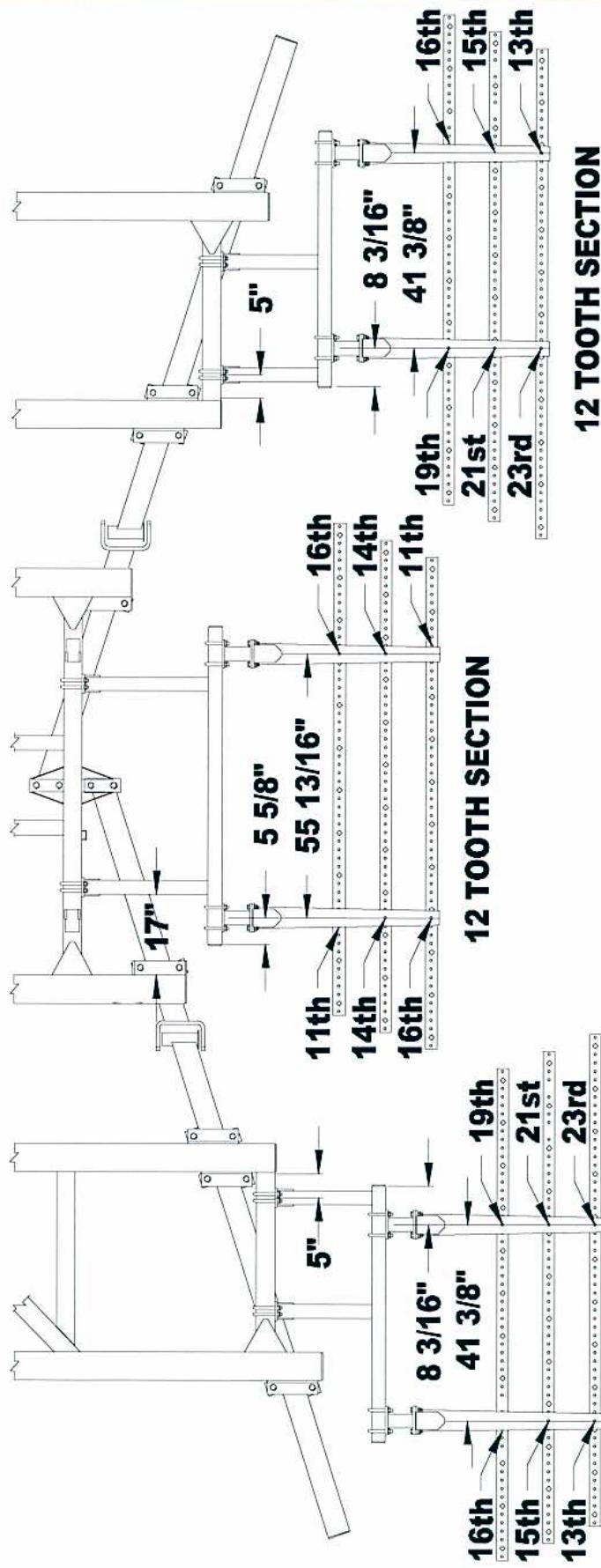
Spike Bar Stagger

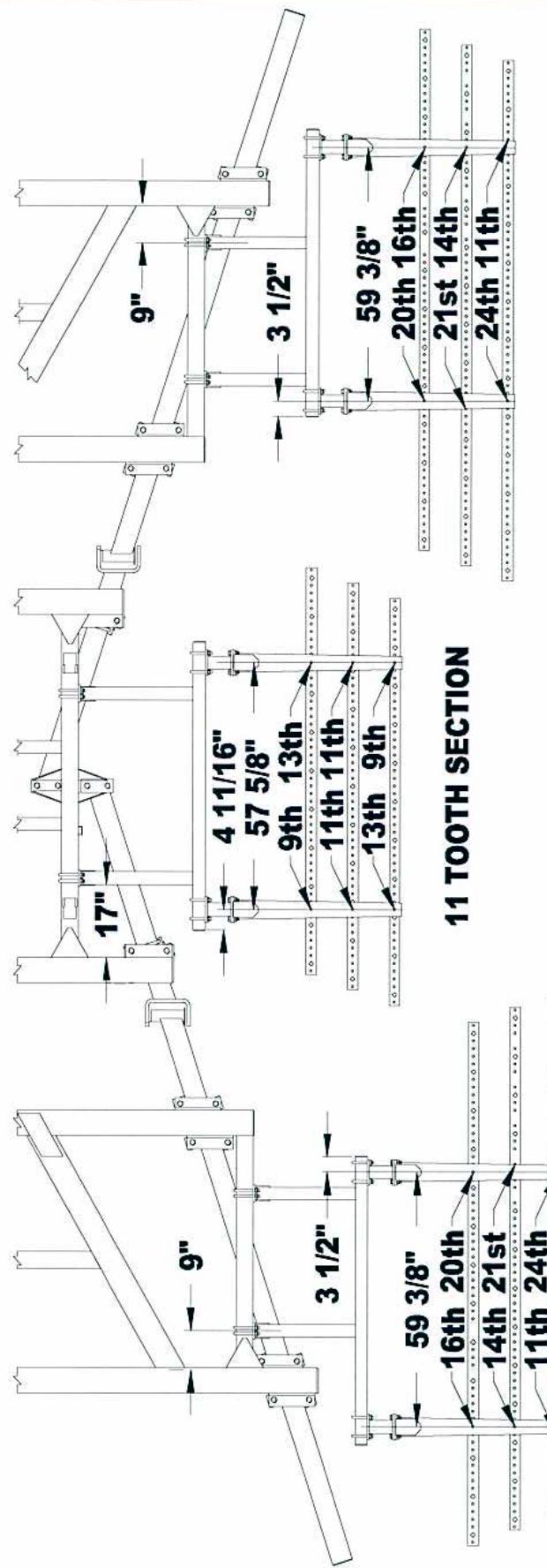
Figure 18

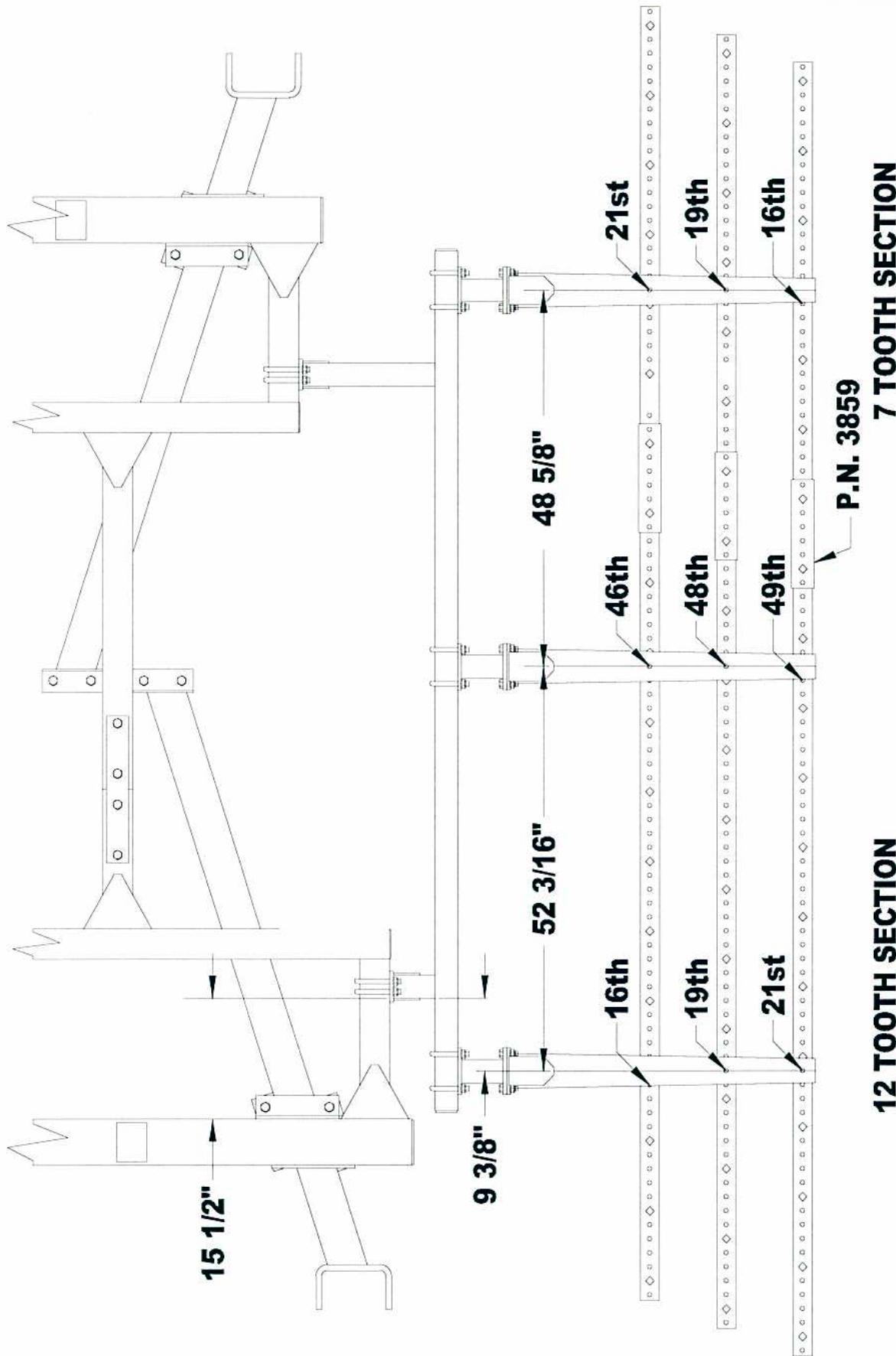


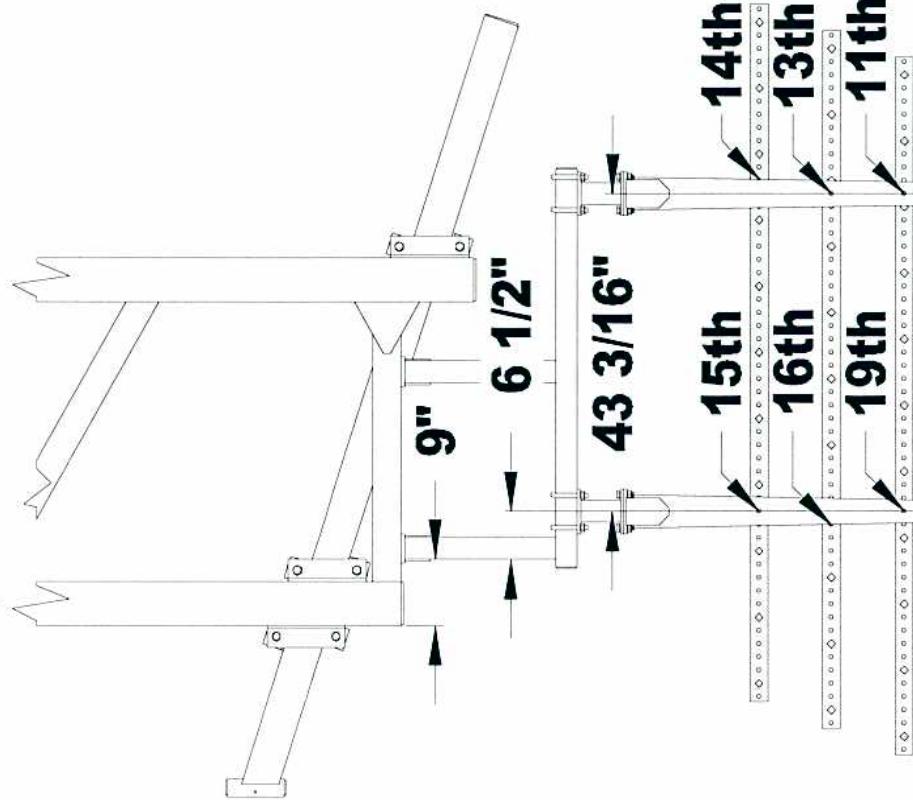


04675

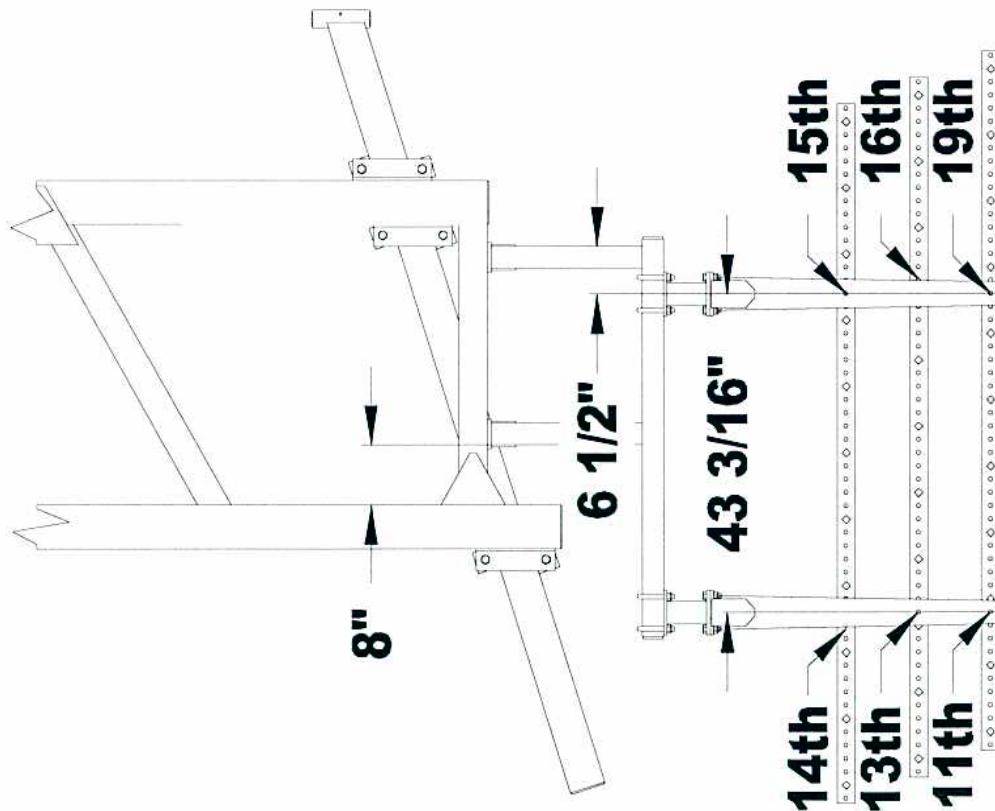




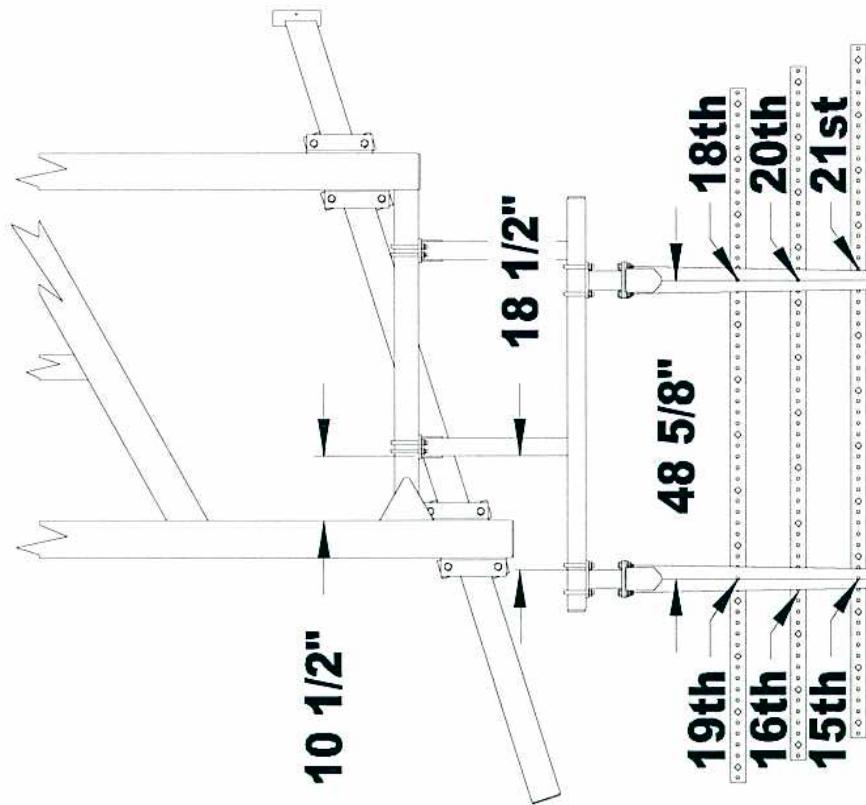
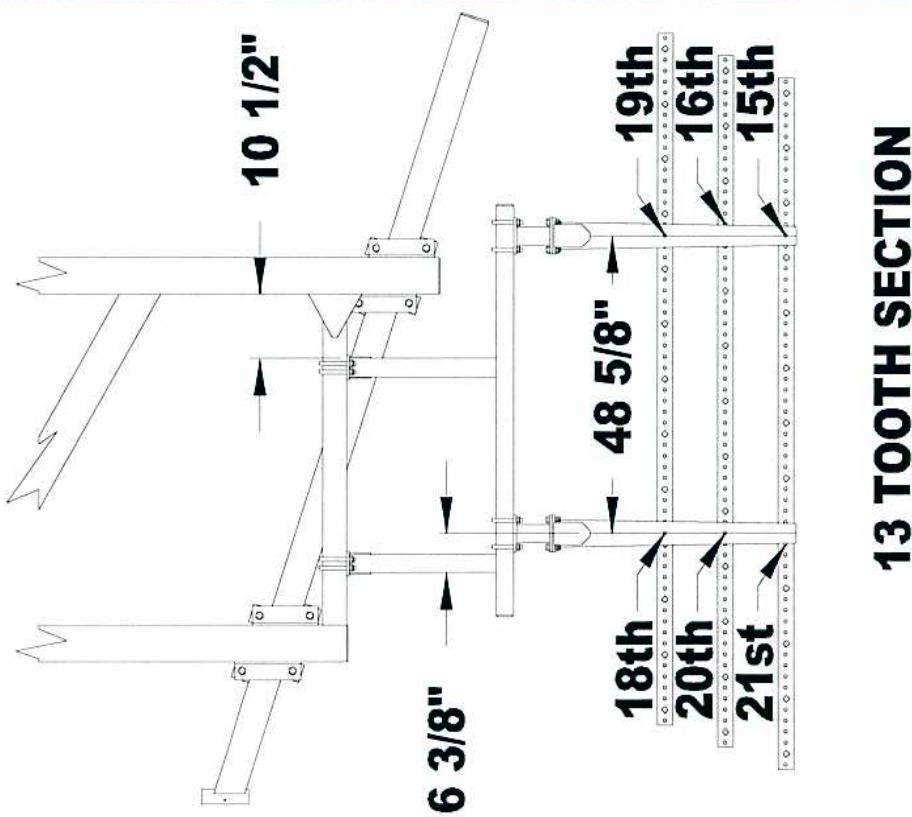


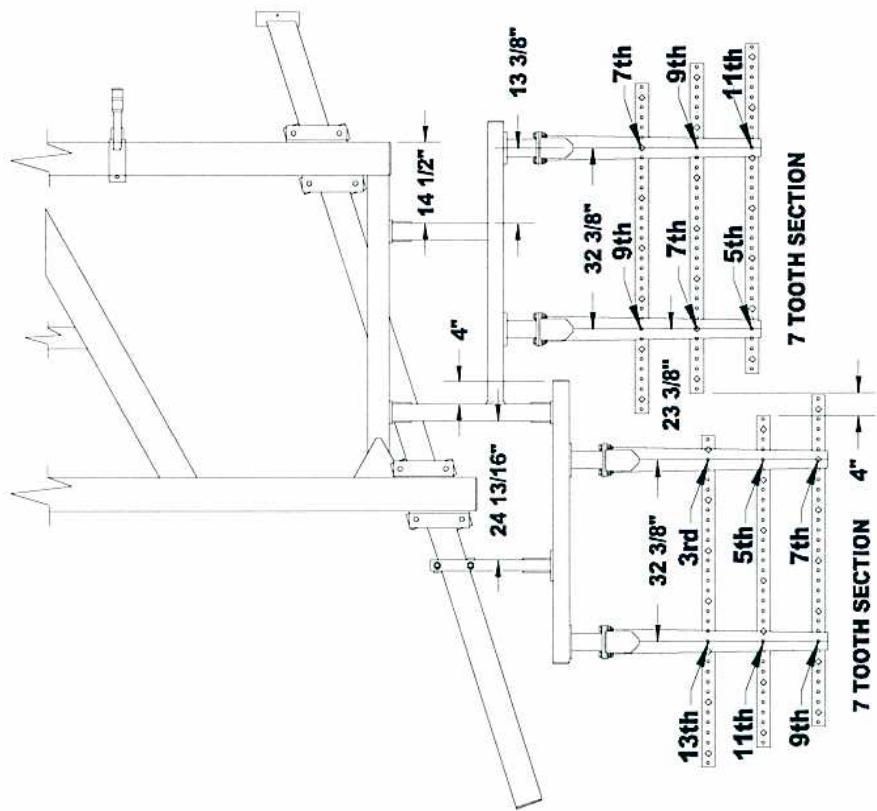
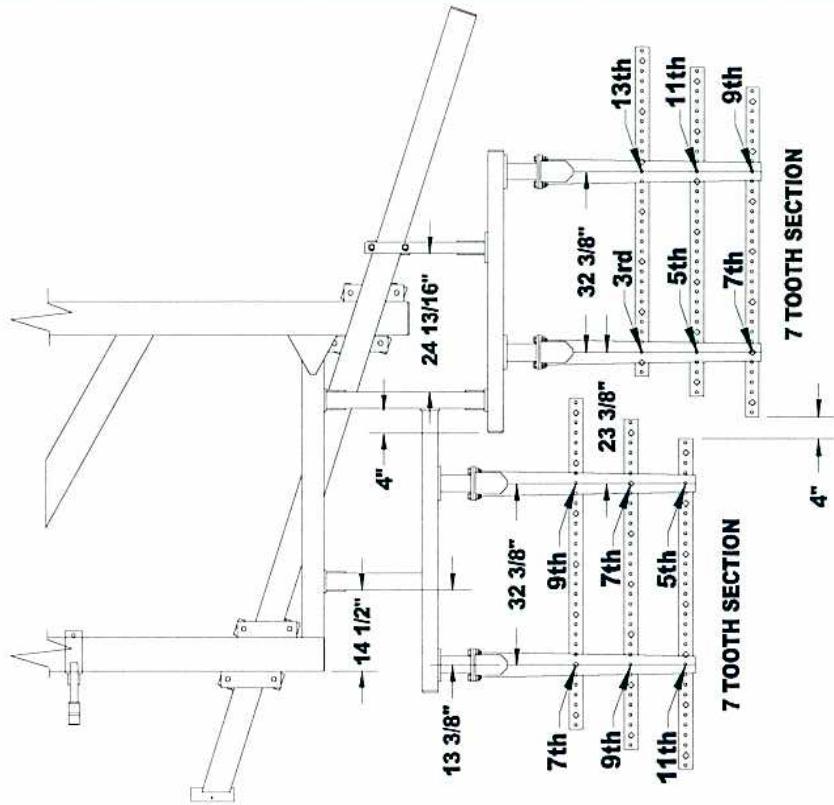


11 TOOTH SECTION



11 TOOTH SECTION



36' Wing Frame 3-Row Spike Drag Placement

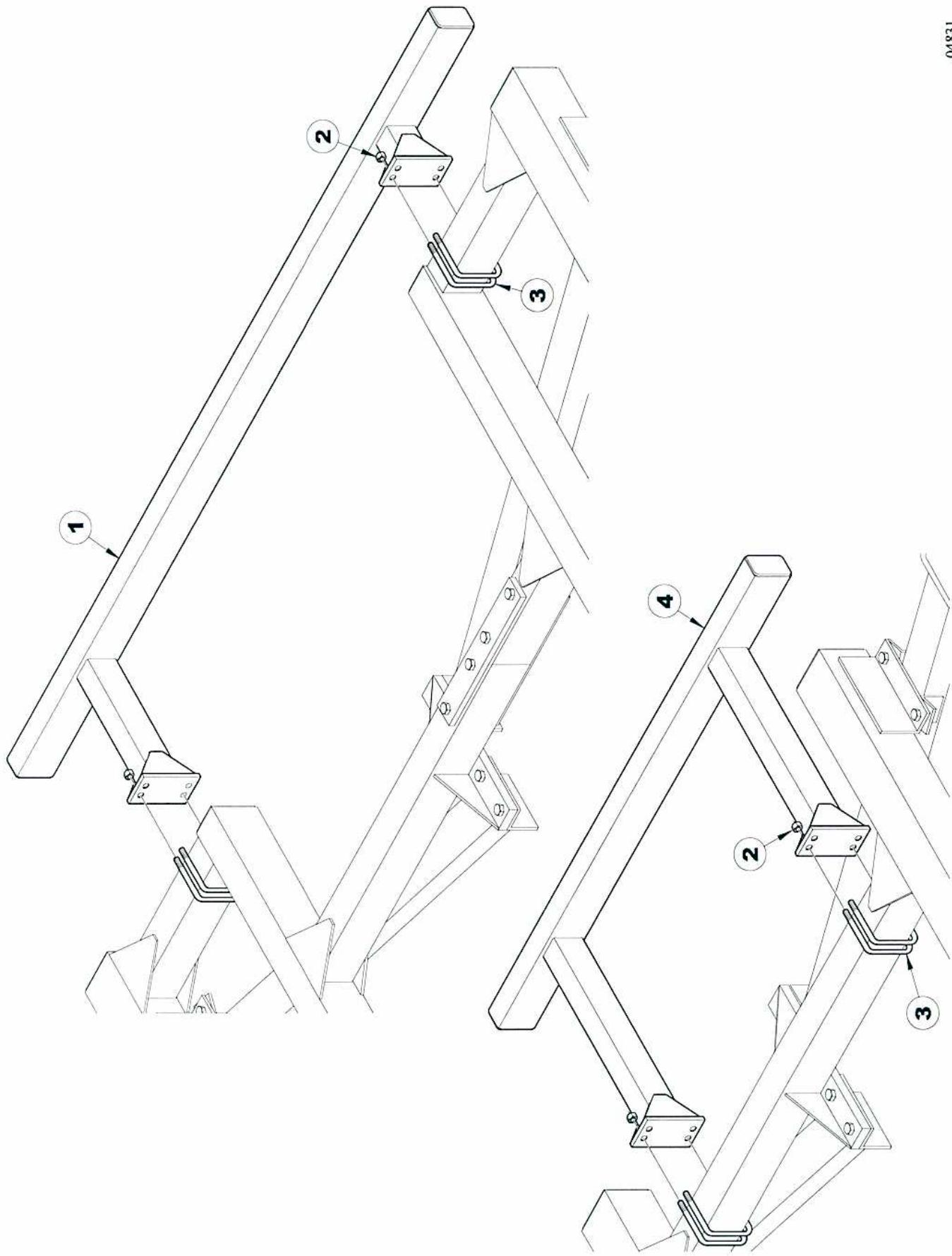
04685

Parts Section

*Always Use Genuine
Sunflower
Replacement Parts!*

Center Attachment Subframe Assembly

04831



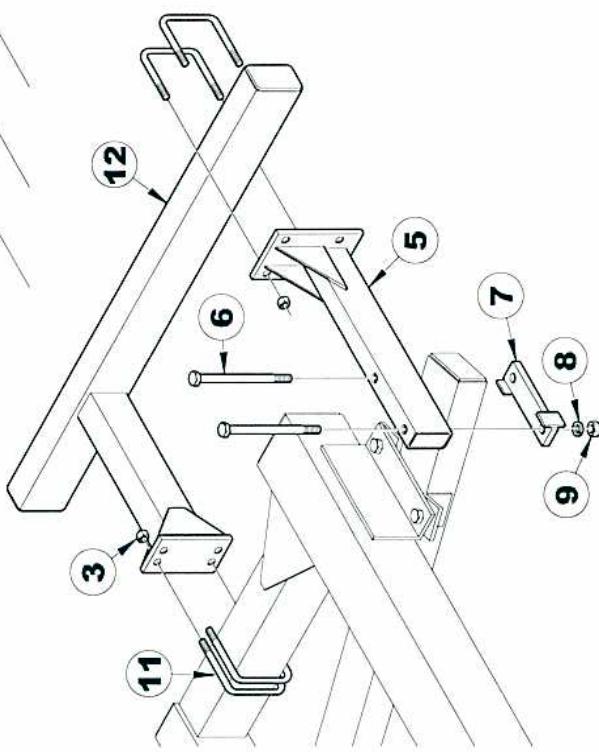
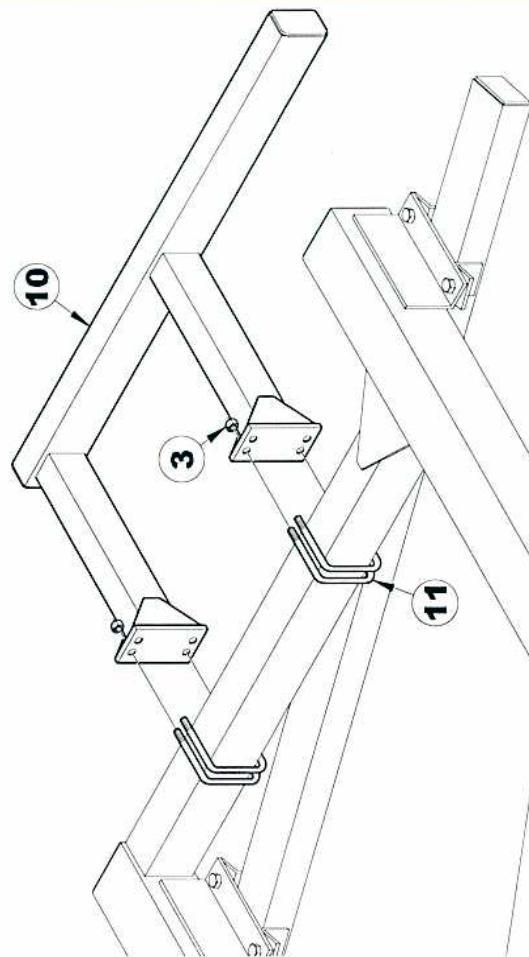
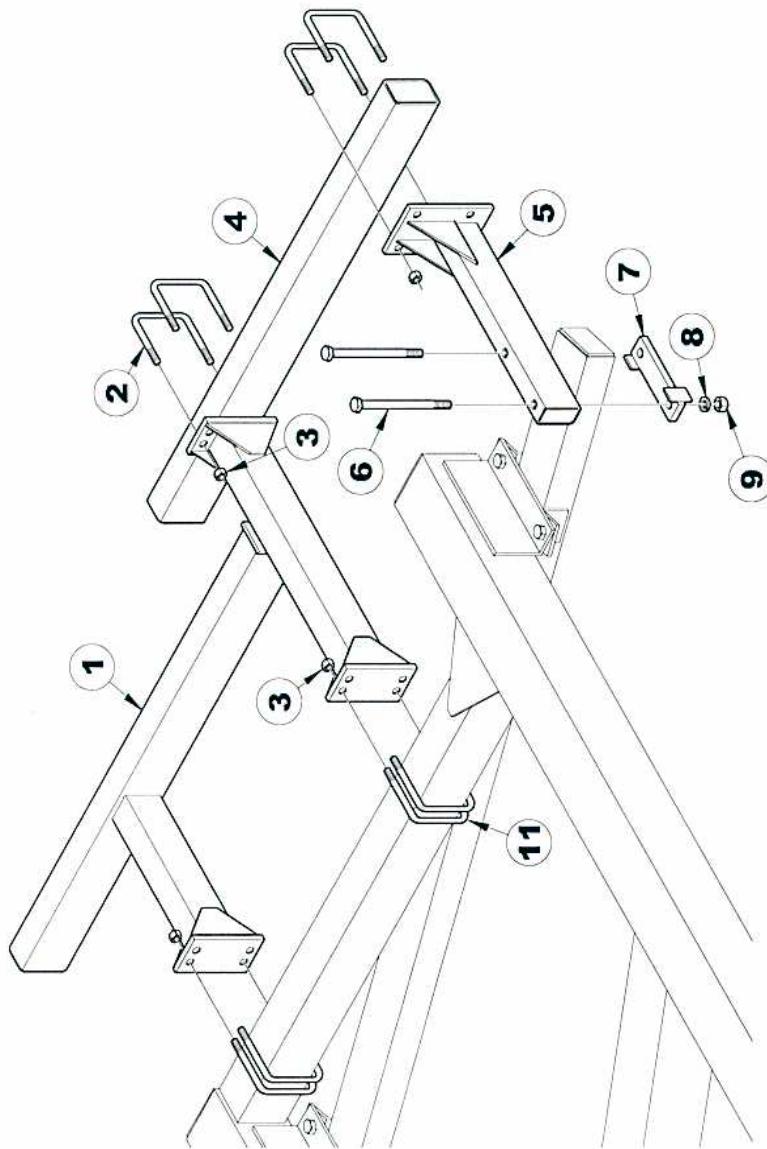
Center Attachment Subframe Assembly

Item Number Part Number Description

1	6283R	ATTACHMENT SUBFRAME, 111 1/2" (30', 33' & 36')
2	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
3	6102	U-BOLT, 5/8"-11 X 5 1/2" X 5 11/16" W, GR 5, Z/P
4	6185R	ATTACHMENT SUBFRAME, 67 1/2" CENTER (21', 23', 26' & 29')

Wing Attachment Subframe Assembly

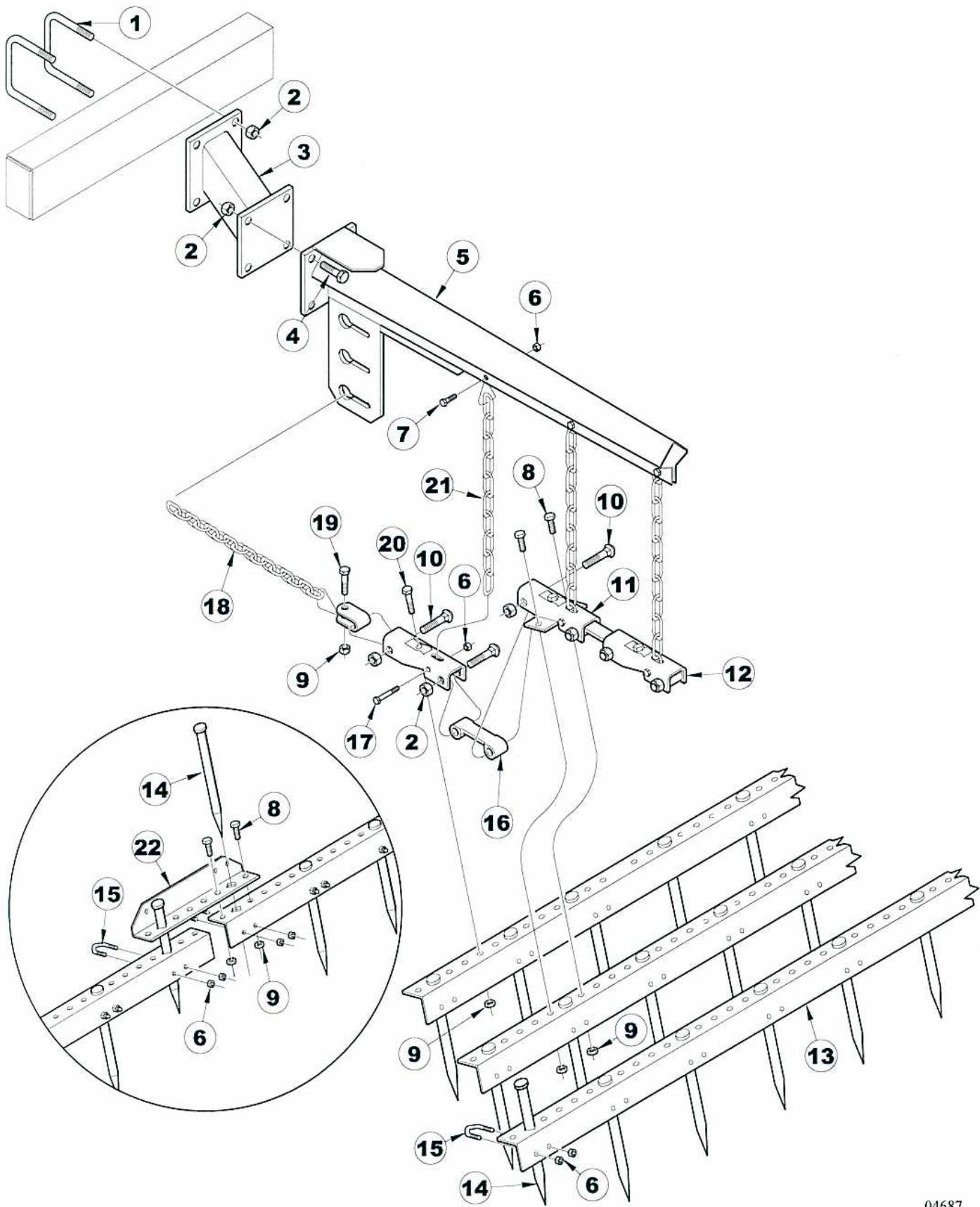
04832



Wing Attachment Subframe Assembly

Item Number Part Number Description

1	6284R	ATTACHMENT SUBFRAME, 54 1/8" (36')
2	2815	U-BOLT, 5/8"-11 X 4 1/2" X 5 11/16" W, GR 5, Z/P
3	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
4	6285R	TOOL BAR, 50" (36')
5	6183R	ATTACHMENT SUBFRAME, 22 1/2" (21', 23' & 36')
6	1951	HEX BOLT, 3/4"-10 X 9 1/2", GR 5, Z/P
7	6189R	CLAMP PLATE
8	1040	LOCK WASHER, 3/4" SPLIT TYPE MED, Z/P
9	106	HEX NUT, 3/4"-10 FULL, GR 5, Z/P
10	6187R	ATTACHMENT SUBFRAME, 54 1/2" (26' & 30' SHOWN)
	6188R	ATTACHMENT SUBFRAME, 67 1/2" (29' & 33')
11	6102	U-BOLT, 5/8"-11 X 5 1/2" X 5 11/16" W, GR 5, Z/P
12	6186R	ATTACHMENT SUBFRAME, 50 1/2" (21' & 23')

3-Row Spike Drag Assembly

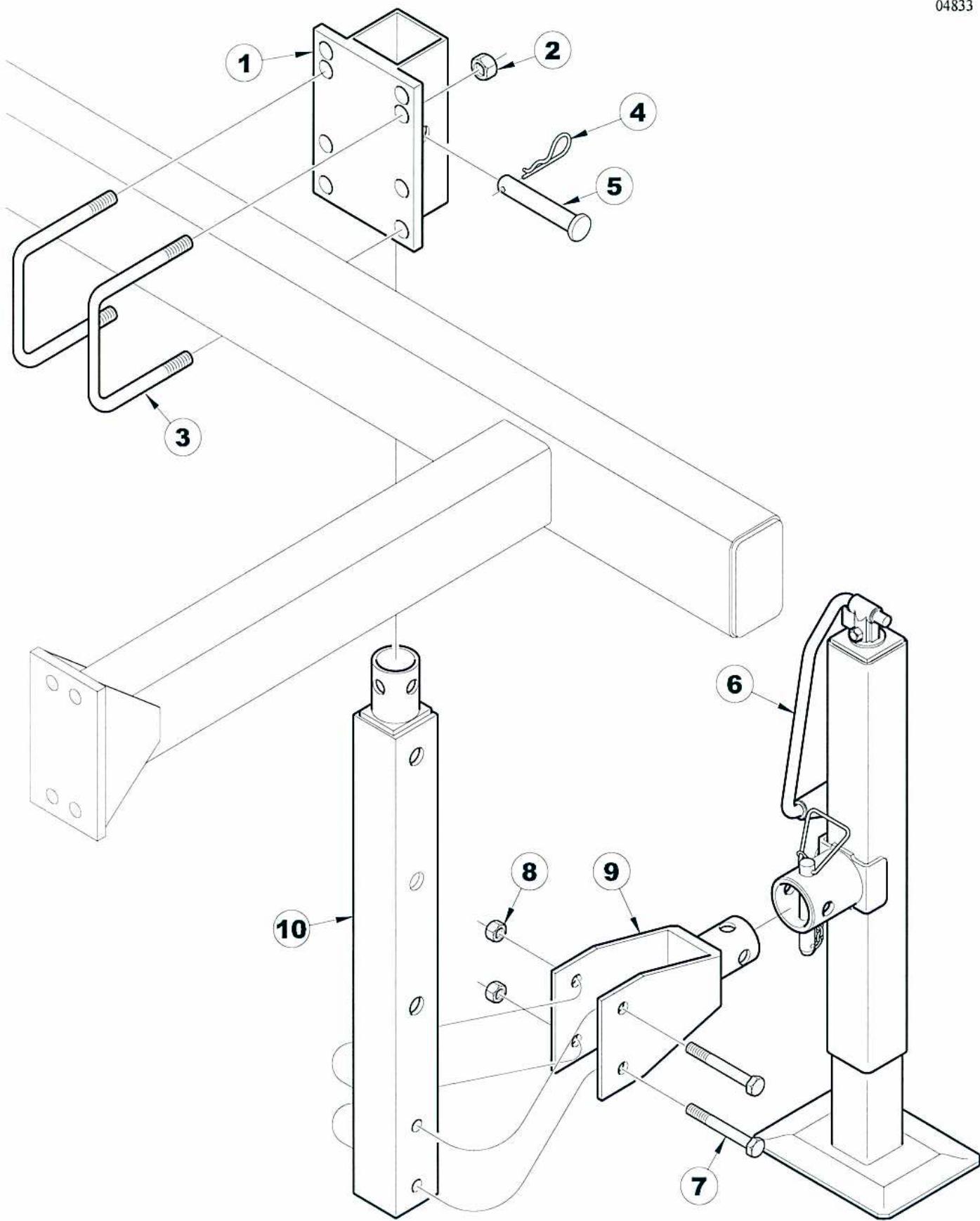
04687

3-Row Spike Drag Assembly***Item Number Part Number Description***

1	2815	U-BOLT, 5/8"-11 X 4 1/2" X 5 11/16" W, GR 5, Z/P
2	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
3	6334R	EXTENSION, SPIKE DRAG
4	670	HEX BOLT, 5/8"-11 X 2", GR 5, Z/P
5	3974	SPIKE TOOTH ARM, 3-ROW
6	3567	LOCK NUT, 3/8"-16 HEX NYLON INSERT, GR 2, Z/P
7	3984	HEX BOLT, 3/8"-16 X 1 1/4", GR 5, Z/P
8	1823	HEX BOLT, 1/2"-13 X 1 1/4", GR 5, Z/P
9	2096	LOCK NUT, 1/2"-13 HEX NYLON INSERT, GR 8, Z/P
10	3985	CARRIAGE BOLT, 5/8"-11 X 3" GR 5, Z/P SPECIAL
11	3979	DOUBLE BAR BRACKET
12	3977	BAR BRACKET
13	3966	SPIKE TOOTH BAR, 3 1/2' (5 TOOTH)
	3967	SPIKE TOOTH BAR, 5' (7 TOOTH)
	3968	SPIKE TOOTH BAR, 6 1/2' (9 TOOTH)
	3969	SPIKE TOOTH BAR, 8' (11 TOOTH)
	3970	SPIKE TOOTH BAR, 9 1/2', (13 TOOTH)
	5954B	SPIKE TOOTH BAR, 8 3/4' (12 TOOTH)
	5955B	SPIKE TOOTH BAR, 10 1/4' (14 TOOTH)
14	3895	SPIKE TOOTH, 3/4" X 11"
15	3894	TRI-BEND BOLT, 3/8"-16 X 1 1/2", Z/P
16	3976	LINK, OFFSET
17	4738	HEX BOLT, 3/8"-16 X 2 3/4", GR 5, Z/P
18	3983	CHAIN, 5/16" PROOF, 25 LINKS
19	2045	HEX BOLT, 1/2"-13 X 1 3/4", GR5, Z/P
20	112	HEX BOLT, 1/2"-13 X 2 1/2", GR 5, Z/P
21	5531	CHAIN, 7/0 SIDE 12 LINKS
22	3964	SPIKE TOOTH EXTENSION, 18" (2 TOOTH)
23	7013B	U-CLIP

Sunflower Manufacturing
Rear Jack Assembly

04833



Rear Jack Assembly**Item Number Part Number Description**

1	3353	JACK ADAPTER PLATE
2	669-1	LOCK NUT, 5/8" HEX NYLON INSERT, GR 5, Z/P
3	2815	U-BOLT, 5/8"-11 X 4 1/2" X 5 11/16" W, GR 5, Z/P
4	2867	PIN CLIP, 1/2"-5/8" SHAFT, .120" DIA, 2" L
5	2094	PIN, 3/4" X 4 1/2" (4"), Z/P
6	9777	LONG TONGUE JACK, SQ W/TUBE MOUNT
7	3371	HEX BOLT, 1/2"-13 X 4", GR 5, Z/P
8	2096	LOCK NUT, 1/2"-13 HEX NYLON INSERT, GR 8, Z/P
9	3355R	JACK BRACKET
10	3354R	JACK TUBE
	3352	REAR JACK MOUNT ASSEMBLY, LESS U-BOLTS & JACK

Sunflower Manufacturing
Numerical Part Number Index

<i>PART NO.</i>	<i>PAGE</i>	<i>PART NO.</i>	<i>PAGE</i>	<i>PART NO.</i>	<i>PAGE</i>
1040	16,40	3983	42		
106	16,40	3984	42		
112	42	3985	42		
140	18	4738	18,20,42		
1507	20	5531	42		
156	18	5715	18,20		
175	18,20	5721R	18		
178	18,20	5722	20		
1823	42	5723R	18,20		
1951	16,40	5724R	18,20		
2045	42	5725R	18		
2094	22,44	5726R	18		
2096	18,20,22,42,44	5727R	20		
2097	18,20	5728R	18		
2557	18	5729R	18,20		
2815	16,22,40,42,44	5730	18,20		
2867	22,44	5731	20		
3065	20	5732R	18,20		
317	18,20	5733	18		
3352	22,44	5746R	20		
3353	22,44	5889R	18		
3354R	22,44	5890R	20		
3355R	22,44	5954B	42		
3371	18,20,22,44	5955B	42		
3557	18,20	6102	14,16,38,40		
3566	18,20	6175R	18		
3567	18,20,42	6183R	16,40		
3609	18,20	6185R	14,38		
3610	20	6186R	16,40		
3611	20	6187R	16,40		
3612	20	6188R	16,40		
3621	18,20	6189R	16,40		
3628	18	6283R	14,38		
3629	20	6284R	16,40		
3635	20	6285R	16,40		
3859	20	6334R	42		
3894	42	669-1	14,16,18,20,22,38,40, 42,44		
3895	42	670	42		
3917	18	7013B	42		
3962	18,20	7018R	18		
3964	42	7907R	18,20		
3966	42	7908R	18,20		
3967	42	9777	22,44		
3968	42	H			
3969	42	HEN	18,20		
3970	42				
3974	42				
3976	42				
3977	42				
3979	42				

