

Taylor-Way

REG. U. S. PAT. OFF.

PARTS LIST

Setting-up and Operating Instructions for
WING-TYPE

WHEEL MOUNTED TANDEM HARROW

Spring Assist or Hydraulic Folding Wings

20" OR 22" DISCS

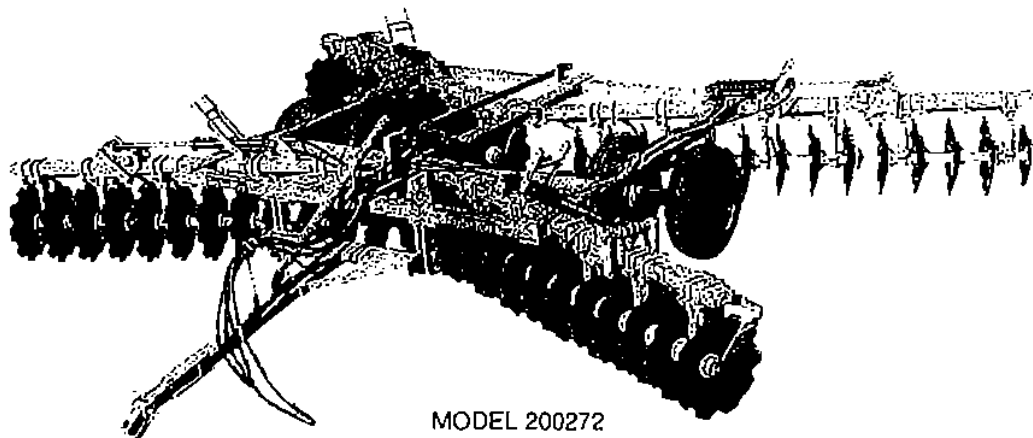
REGREASEABLE BALL BEARINGS

7½" AND 9" DISC SPACING

1½" SQUARE AXLE

Model Number	Size of Wings	No. of Discs	Disc Spacing	Width of Cut	APPROXIMATE WEIGHT				Suggested D.B.H.P.
					20" C.O.		22" C.O.		
					Pounds	Kilograms	Pounds	Kilograms	
200270	Basic Unit, Less Wings	36	9"	13' 7"	4475	2030	4560	2070	75
200271	3-Disc Front, 4-Disc Rear	50	9"	17' 10"	5895	2675	6000	2720	95
200272	4-Disc Front, 5-Disc Rear	54	9"	19' 4"	6000	2720	6125	2780	105
200273	5-Disc Front, 6-Disc Rear	58	9"	20' 9"	6115	2775	6250	2835	115
200274	Basic Unit, Less Wings	44	7½"	14' 1"	4635	2100	4735	2145	75
200275	4-Disc Front, 5-Disc Rear	62	7½"	18' 10"	6240	2830	6385	2895	95
200276	5-Disc Front, 6-Disc Rear	66	7½"	20' 0"	6350	2880	6505	2950	105
200277	6-Disc Front, 7-Disc Rear	70	7½"	21' 2"	6455	2925	6620	3000	115
200278	Basic Unit, Less Wings	18F, 22R	9"F, 7½R	14' 1"	4555	2065	4650	2110	75
200279	3-Disc Front, 5-Disc Rear	24F, 32R	9"F, 7½R	18' 10"	6070	2755	6195	2810	95
200280	4-Disc Front, 6-Disc Rear	26F, 34R	9"F, 7½R	20' 0"	6175	2800	6315	2865	105
200281	5-Disc Front, 7-Disc Rear	28F, 35R	9"F, 7½R	21' 2"	6285	2850	6435	2920	115

Shipped with 15" x 6" Rims as Standard Equipment, see Optional Equipment for Floatation Rims. Tires and Hydraulic Cylinder for transport not furnished, use standard ASAE 8" stroke double or single action Hydraulic Cylinder. Four 2½" x 16" double action Hydraulic Cylinders with all hoses and fittings shipped as Standard Equipment on implements ordered with Hydraulic Folding Wings. Shipped with standard clevis unless special clevis for double lip drawbar is specified. Basic unit model shipped less Wing Springs or Hydraulic Cylinders, hoses and fittings. On implements equipped with wings the outside disc on the front wings are tapered 2" and the outside two discs on the rear wings are tapered 2" and 4". Discs are not tapered on the Basic Unit Models shipped less wings.



MODEL 200272

TAYLOR IMPLEMENT DIVISION

PITTSBURGH FORGINGS CO.

TRACTOR DRAWN *Taylor-Way* IMPLEMENTS

ATHENS, TENNESSEE 37303—TELEPHONE (AREA CODE 615) 745-3110

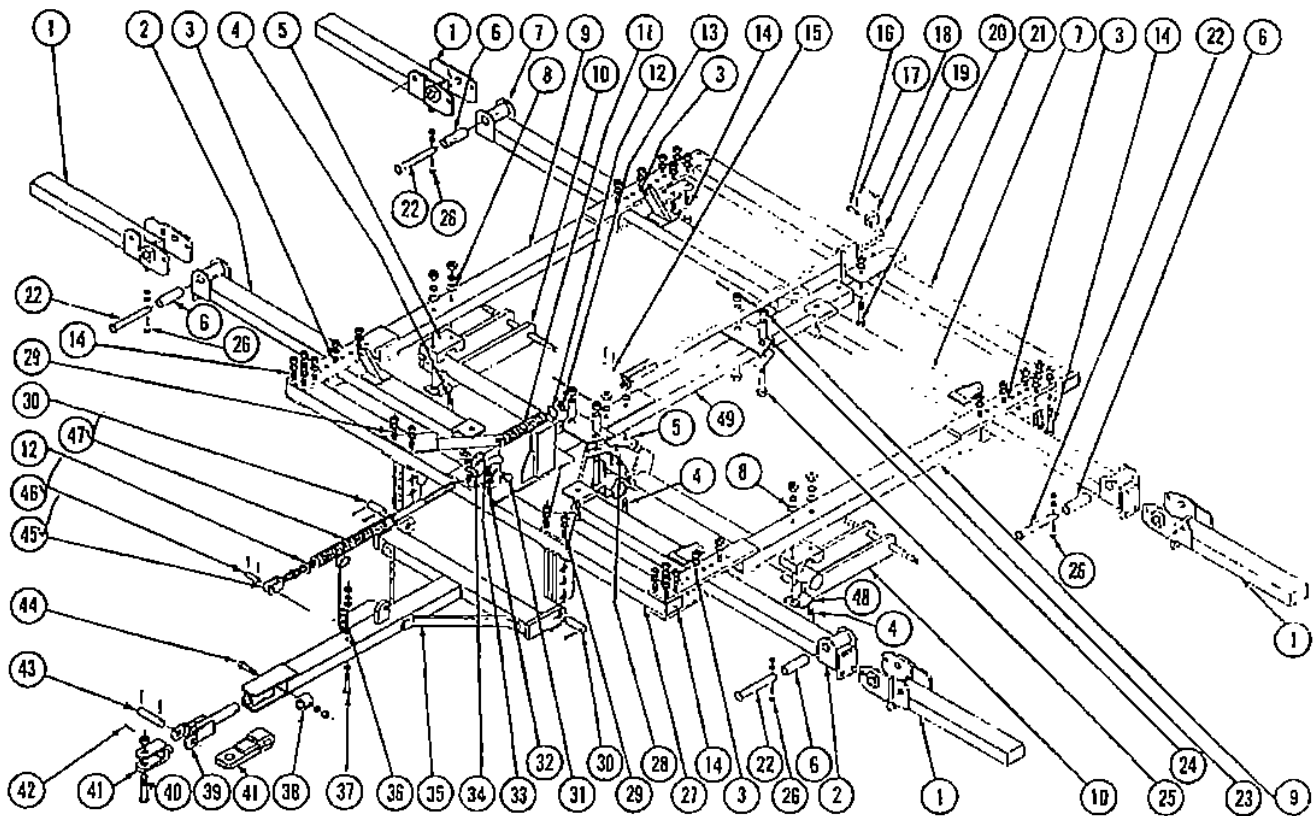
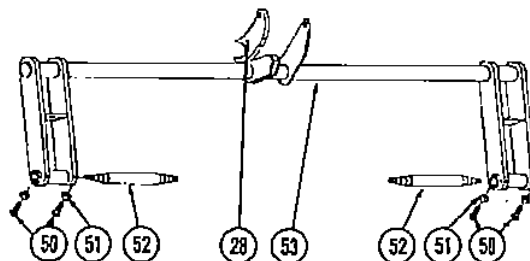


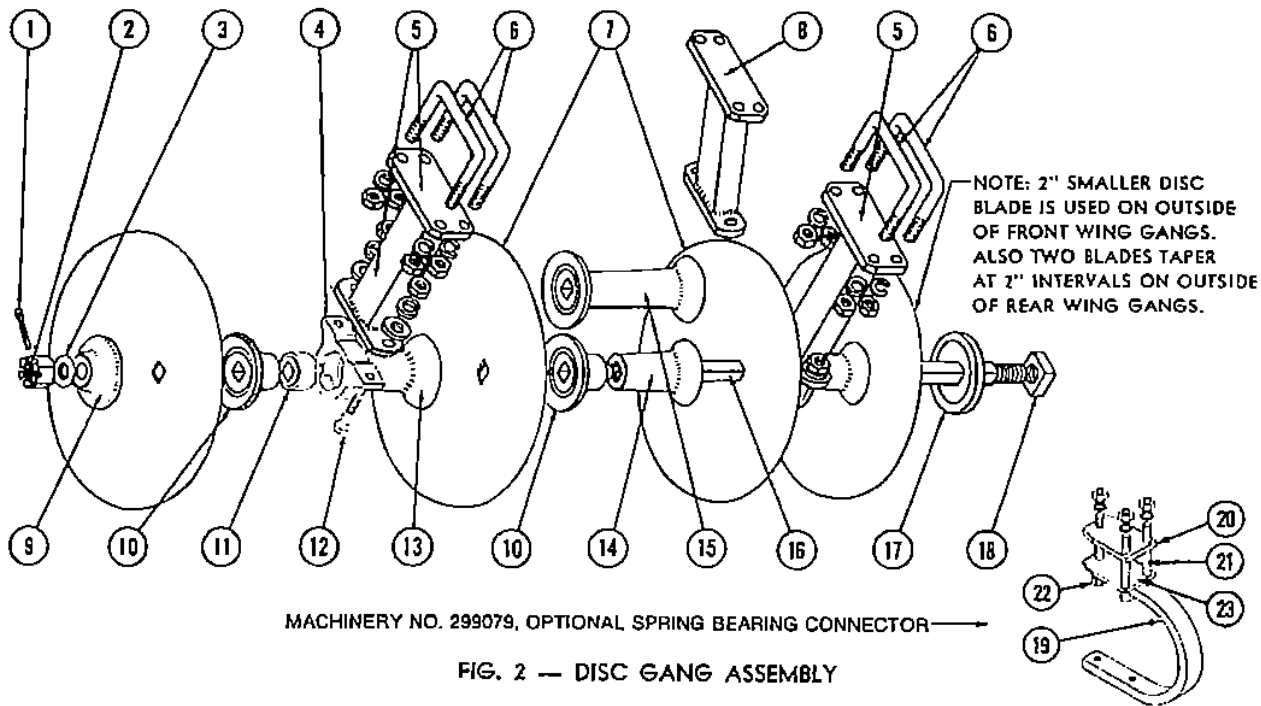
FIG. 1 — BASIC FRAME FOR MODEL 200270 THRU 200281



WHEEL LIFT ASSEMBLY

Item No.	Part Number	FOR MODEL											Description	Size	
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280			200 281
1	208507	0	2	0	0	0	2	0	0	2	0	0	Front Wing Frame	3D-9"; 4D-7½"	
	208517	0	2	2	0	0	2	2	0	0	2	2	0	Front & Rear Wing Frame	4D-9"; 5D-7½"
	208518	0	0	2	2	0	0	2	2	0	0	2	2	Front & Rear Wing Frame	5D-9"; 6D-7½"
	208519	0	0	0	2	0	0	0	2	0	0	0	2	Rear Wing Frame	6D-9"; 7D-7½"
2	208501	2	2	2	2	2	2	2	2	2	2	2	2	Front Gong Frame	
		2	2	2	2	2	2	2	2	2	2	2	2	Alemite, Straight	⅛"
3		8	8	8	8	8	8	8	8	8	8	8	8	Bolt w/Nut, H.T.	¾" x 5½"
		8	8	8	8	8	8	8	8	8	8	8	8	Lockwasher	¾"
4		6	6	6	6	6	6	6	6	6	6	6	6	Bolt w/Nut, H.T.	¾" x 9"
		6	6	6	6	6	6	6	6	6	6	6	6	Lockwasher	¾"
	207010	6	6	6	6	6	6	6	6	6	6	6	6	Wheel Axle Bearing	
5		3	3	3	3	3	3	3	3	3	3	3	3	Alemite, Straight	⅛"
	207949	0	4	4	4	0	4	4	4	0	4	4	4	Hinge Bearing	
7	208506	2	2	2	2	2	2	2	2	2	2	2	2	Rear Gong Frame	
		2	2	2	2	2	2	2	2	2	2	2	2	Alemite, Straight	⅛"
8		4	4	4	4	4	4	4	4	4	4	4	4	Flat Washer	¾"
9	208294	2	2	2	2	2	2	2	2	2	2	2	2	Side Frame	
10	207138	1	1	1	1	1	1	1	1	1	1	1	1	Wheel Axle Repairs Only (See Item No. 53)	
11	206325	1	1	1	1	1	1	1	1	1	1	1	1	Top Spring	

Item No.	Part Number	FOR MODEL											Description	Size
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280		
12	205163	2	2	2	2	2	2	2	2	2	2	2	Special Flat Washer	
13		1	1	1	1	1	1	1	1	1	1	1	Heavy Hex Nut	1 3/8"
14		16	16	16	16	16	16	16	16	16	16	16	Bolt w/Nut	3/8" x 5 1/2"
		16	16	16	16	16	16	16	16	16	16	16	Lockwasher	3/4"
15	204215	1	1	1	1	1	1	1	1	1	1	1	Depth Connector Pin	
		2	2	2	2	2	2	2	2	2	2	2	Cotter	5/16" x 1 1/2"
16	203058	1	1	1	1	1	1	1	1	1	1	1	Depth Adjustment Pin	
17	205831	1	1	1	1	1	1	1	1	1	1	1	Special Cotter	
18	204683	1	1	1	1	1	1	1	1	1	1	1	Depth Adjustment Cuff	
19	206671	1	1	1	1	1	1	1	1	1	1	1	Depth Control Bar	
20		1	1	1	1	1	1	1	1	1	1	1	Bolt w/Nut	3/8" x 5"
		1	1	1	1	1	1	1	1	1	1	1	Lockwasher	3/4"
21	206667	1	1	1	1	1	1	1	1	1	1	1	Rear Cross Frame	
22	207963	0	4	4	4	0	4	4	4	0	4	4	Wing Connector Pin	
23		4	4	4	4	4	4	4	4	4	4	4	Hex Slotted Nut	7/8"
24	206696	4	4	4	4	4	4	4	4	4	4	4	Bushing	
25	206758	4	4	4	4	4	4	4	4	4	4	4	Gaug Bolt	7/8" x 6 1/2"
		4	4	4	4	4	4	4	4	4	4	4	Cotter	3/16" x 1 1/2"
26		0	4	4	4	0	4	4	4	0	4	4	Bolt w/Nut	3/8" x 3 1/2"
		0	4	4	4	0	4	4	4	0	4	4	Lockwasher	3/8"
27	206649	1	1	1	1	1	1	1	1	1	1	1	Front Cross Tube	
28	207141	1	1	1	1	1	1	1	1	1	1	1	Hydraulic Cylinder Bracket	
	208863	1	1	1	1	1	1	1	1	1	1	1	Tension Bushing	
29		4	4	4	4	4	4	4	4	4	4	4	Bolt w/Nut	3/4" x 5 1/2"
		4	4	4	4	4	4	4	4	4	4	4	Lockwasher	3/4"
30	206666	2	2	2	2	2	2	2	2	2	2	2	Tongue Connector Pin	
		4	4	4	4	4	4	4	4	4	4	4	Cotter	3/8" x 2"
31	203748	2	2	2	2	2	2	2	2	2	2	2	Shoulder Bolt	
		2	2	2	2	2	2	2	2	2	2	2	Lockwasher	7/8"
32		2	2	2	2	2	2	2	2	2	2	2	Bolt w/Nut	3/4" x 4 1/2"
		2	2	2	2	2	2	2	2	2	2	2	Lockwasher	3/4"
33		1	1	1	1	1	1	1	1	1	1	1	Alumite, Straight	1/8"
34	203742	1	1	1	1	1	1	1	1	1	1	1	Spring Rod Slide	
35	206641	1	1	1	1	1	1	1	1	1	1	1	Tongue	
36	206553	1	1	1	1	1	1	1	1	1	1	1	Hose Holder	
37		1	1	1	1	1	1	1	1	1	1	1	Bolt w/Nut	1/2" x 4"
		1	1	1	1	1	1	1	1	1	1	1	Lockwasher	1/2"
		2	2	2	2	2	2	2	2	2	2	2	Flat Washer	1/2"
38	206640	1	1	1	1	1	1	1	1	1	1	1	Swivel Collar	
39	207874	1	1	1	1	1	1	1	1	1	1	1	Swivel Clevis	
40	206123	1	1	1	1	1	1	1	1	1	1	1	Clevis Bolt w/Nut H.T.	1" x 5 1/2"
41	207871	1	1	1	1	1	1	1	1	1	1	1	Clevis	
	604005	1	1	1	1	1	1	1	1	1	1	1	Double Draw Bar Clevis (Optional)	
42	205831	1	1	1	1	1	1	1	1	1	1	1	Special Cotter	
43	207421	1	1	1	1	1	1	1	1	1	1	1	Pin	
		2	2	2	2	2	2	2	2	2	2	2	Cotter	3/8" x 2"
44		1	1	1	1	1	1	1	1	1	1	1	Bolt w/Nut	3/4" x 4"
		1	1	1	1	1	1	1	1	1	1	1	Lockwasher	3/4"
45	206808	1	1	1	1	1	1	1	1	1	1	1	Spring Rod	
46	203100	1	1	1	1	1	1	1	1	1	1	1	Spring Rod Pin	
		2	2	2	2	2	2	2	2	2	2	2	Cotter	5/16" x 1 1/2"
47	204364	1	1	1	1	1	1	1	1	1	1	1	Spring	
48	208367	3	3	3	3	3	3	3	3	3	3	3	Wheel Axle Strap Repairs Only (See Item No. 5)	
49	206654	1	1	1	1	1	1	1	1	1	1	1	Center Frame	
50		4	4	4	4	4	4	4	4	4	4	4	Set Screw	3/4" x 1 1/4"
51		4	4	4	4	4	4	4	4	4	4	4	Jam Nut	3/4"
52	206443	2	2	2	2	2	2	2	2	2	2	2	Stub Axle	
53	208882	1	1	1	1	1	1	1	1	1	1	1	Wheel Lift	



Item No.	Part Number	FOR MODEL											Description	Size	
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280			200 281
1		8	12	12	12	8	12	12	12	8	12	12	12	Cotter	1/4" x 2"
2		8	12	12	12	8	12	12	12	8	12	12	12	Hex Slotted Nut	1 1/8"
3		8	12	12	12	8	12	12	12	8	12	12	12	Flat Washer	1 1/8"
4	208155	16	24	24	24	16	18	18	18	16	22	22	22	Regreasable Bearing Holder	
5	206850	16	24	24	24	16	20	20	20	16	24	24	24	Alumic, Straight Bearing Connector	1/8"
6	206831	12	48	48	48	32	48	48	48	32	48	48	48	U-Bolt	
		64	96	96	96	64	96	96	96	64	96	96	96	Nut	3/4"
		64	96	96	96	64	96	96	96	64	96	96	96	Lockwasher	3/4"
7	204004	36	44	48	52	44	56	60	64	40	50	54	58	20" x 1/4" Rd. Disc	
	204003	36	44	48	52	44	56	60	64	40	50	54	58	20" x 1/4" C.O. Disc	
	204010	36	44	48	52	44	56	60	64	40	50	54	58	22" x 1/4" Rd. Disc	
	205020	36	44	48	52	44	56	60	64	40	50	54	58	22" x 1/4" Rd. Disc	
	204005	36	44	48	52	44	56	60	64	40	50	54	58	22" x 1/4" C.O. Disc	
	205005	36	44	48	52	44	56	60	64	40	50	54	58	22" x 1/4" C.O. Disc	
Note: One Disc Blade tapers on each Front Wing. Two Disc Blades taper on each Rear Wing.															
TAPERED DISC BLADES FOR WINGS WITH 20" DISC BLADES															
	205001	0	4	4	4	0	4	4	4	0	4	4	4	18" x 1/4" Rd. Disc	
	205002	0	4	4	4	0	4	4	4	0	4	4	4	18" x 1/4" C.O. Disc	
	208440	0	2	2	2	0	2	2	2	0	2	2	2	16" x 1/4" Rd. Disc	
	208439	0	2	2	2	0	2	2	2	0	2	2	2	16" x 1/4" C.O. Disc	
TAPERED DISC BLADES FOR WINGS WITH 22" DISC BLADES															
	204004	0	4	4	4	0	4	4	4	0	4	4	4	20" x 1/4" Rd. Disc	
	204003	0	4	4	4	0	4	4	4	0	4	4	4	20" x 1/4" C.O. Disc	
	205003	0	2	2	2	0	2	2	2	0	2	2	2	18" x 1/4" Rd. Disc	
	205002	0	2	2	2	0	2	2	2	0	2	2	2	18" x 1/4" C.O. Disc	
8	207032	0	0	0	0	2	4	4	4	0	0	0	0	Offset Bearing Connector, Used on 7 1/2" Spacing Inside Front Disc Gang Assembly	
9	204704	8	12	12	12	8	12	12	12	8	12	12	12	End Washer	
10	205486	16	24	24	24	16	24	24	24	16	24	24	24	Concave Spacer, 7 1/2" or 9" Spacing	
11	207359	16	24	24	24	16	24	24	24	16	24	24	24	Regreasable Ball Bearing	
12		32	48	48	48	32	48	48	48	32	48	48	48	Bolt w/Nut Grade-5	1 1/2" x 2 1/2"
		32	48	48	48	32	48	48	48	32	48	48	48	Lockwasher	3/8"
		32	48	48	48	32	48	48	48	32	48	48	48	Flat Washer A.S.A.F.	3/8"
13	206826	16	24	24	24	0	0	0	0	8	12	12	12	Short Convex Spacer, 9" Spacing	
	205489	0	0	0	0	16	24	24	24	8	12	12	12	Short Convex Spacer, 7 1/2" Spacing	
14	205488	0	0	0	0	20	26	30	34	10	14	16	18	Long Convex Spacer, 7 1/2" Spacing	
15	207344	12	14	18	22	0	0	0	0	6	6	8	10	Long Double End Spacer, 9" Spacing	
16	207525	0	2	0	0	0	0	0	0	0	2	0	0	3-Disc Axle, 9" Spacing	2 1/2" x 1/4"
	206626	4	6	6	4	0	0	0	0	2	2	4	2	4-Disc Axle, 9" Spacing	3 1/2" x 1/4"
	206627	4	4	6	6	0	0	0	0	2	2	4	4	5-Disc Axle, 9" Spacing	4 0" x 1/4"
	206618	0	0	0	2	0	0	0	0	0	0	0	0	6-Disc Axle, 9" Spacing	4 9" x 1/4"
	207526	0	0	0	0	0	0	0	0	0	0	0	0	4-Disc Axle, 7 1/2" Spacing	2 7" x 1/4"
	207038	0	0	0	0	4	6	6	4	2	4	2	2	5-Disc Axle, 7 1/2" Spacing	3 4" x 1/4"
	207039	0	0	0	0	4	4	6	6	2	2	4	2	6-Disc Axle, 7 1/2" Spacing	4 2" x 1/4"
	206618	0	0	0	0	0	0	0	2	0	0	0	2	7-Disc Axle, 7 1/2" Spacing	4 9" x 1/4"
17	206613	8	12	12	12	8	12	12	12	8	12	12	12	Butt Plate	
18	208931	8	12	12	12	8	12	12	12	8	12	12	12	Square Nut	1 1/8"
19	207664	16	24	24	24	0	0	0	0	16	24	24	24	Spring Bearing Connector	
20	207823	16	24	24	24	0	0	0	0	16	24	24	24	Top Plate	
21	207845	16	24	24	24	0	0	0	0	16	24	24	24	U-Bolt	
		32	48	48	48	0	0	0	0	32	48	48	48	Nut	3/4"
		32	48	48	48	0	0	0	0	32	48	48	48	Lockwasher	3/4"
22		16	24	24	24	0	0	0	0	16	24	24	24	Bolt w/Nut	1 1/2" x 5/16"
		16	24	24	24	0	0	0	0	16	24	24	24	Lockwasher	3/4"
23	208468	16	24	24	24	0	0	0	0	16	24	24	24	Spring Bearing Connector Support	

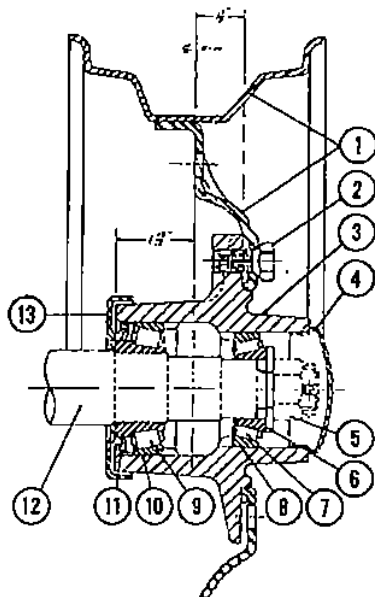


FIG. 3 — WHEEL HUB ASSEMBLY
 WHEEL HUB COMPLETE (See Item 14)
 WHEEL HUB REPAIR KIT (See Item 15)

Item No.	Part Number	FOR ALL MODELS		Description	Size
		200 295 thru	200 298		
1	208634	4		15" x 6" Rims	
	207857	4		15"x10" High Flotation Rim	
2	403817	24		Lug Bolt	
3	204515	4		Wheel Hub w/Two Cups	
4	204523	4		Hub Cap	
5	204522	4		Bearing Adjustment Nut	
		4		Cotter	5/32"x1 1/4"
6	204521	4		Special Flat Washer	
7	204524	4		Bearing Cone	
8	203021	4		Bearing Cup	
9	204526	4		Bearing Cone	
10	204525	4		Bearing Cup	
11	204527	4		Grease Seal	
12	206443	2		Stub Axle	1 3/4"x23"
13	204520	4		Dust Collar	
14	207889	4		Wheel Hub (Complete). Includes Items 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, & 13.	
15	207937	4		Wheel Hub Repair Kit. Includes Items 7, 8, 9, 10, & 11.	

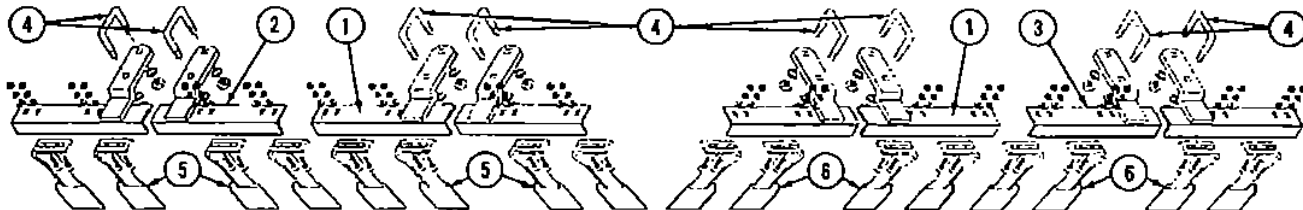


FIG. 4 — SCRAPERS & SCRAPER BARS

Item No.	Part Number	FOR MODEL												Description	Size
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281		
1	206878	4	4	4	4	0	0	0	0	2	2	2	2	9-Disc Scraper Bar, 9" Spacing	
	207034	0	0	0	0	4	4	4	4	2	2	2	2	11-Disc Scraper Bar, 7 1/2" Spacing	
2	207241	0	1	0	0	0	0	0	0	0	1	0	0	3-Disc Left Scraper Bar, 9" Spacing	
	207966	0	1	0	0	0	0	0	0	0	0	0	0	4-Disc Scraper Bar, 9" Spacing	
	208639	0	0	1	0	0	0	0	0	0	0	1	0	4-Disc Right Front Scraper Bar, 9" Spacing	
	206885	0	0	1	1	0	0	1	0	0	0	0	1	5-Disc Scraper Bar, 9" Spacing	
	206766	0	0	0	0	0	0	1	0	0	0	0	1	5-Disc Front Scraper Bar, 7 1/2" Spacing	
	208295	0	0	0	1	0	0	0	0	0	0	0	0	6-Disc Scraper Bar, 9" Spacing	
	208310	0	0	0	0	0	1	0	0	0	0	0	0	4-Disc Left Scraper Bar, 7 1/2" Spacing	
	208306	0	0	0	0	0	1	0	0	0	1	0	0	5-Disc Left Rear Scraper Bar, 7 1/2" Spacing	
	208303	0	0	0	0	0	0	1	1	0	0	1	0	6-Disc Left Scraper Bar, 7 1/2" Spacing	
	208304	0	0	0	0	0	0	0	1	0	0	1	0	7-Disc Right Rear Scraper Bar, 7 1/2" Spacing	
3	207241	0	1	0	0	0	0	0	0	0	1	0	0	3-Disc Right Scraper Bar, 9" Spacing	
	207966	0	1	0	0	0	0	0	0	0	0	0	0	4-Disc Scraper Bar, 9" Spacing	
	208640	0	0	1	0	0	0	0	0	0	0	1	0	4-Disc Left Front Scraper Bar, 9" Spacing	
	206985	0	0	1	1	0	0	0	0	0	0	0	1	5-Disc Scraper Bar, 9" Spacing	
	206766	0	0	0	0	0	0	1	0	0	0	0	1	5-Disc Front Scraper Bar, 7 1/2" Spacing	
	208295	0	0	0	1	0	0	0	0	0	0	0	0	6-Disc Scraper Bar, 9" Spacing	
	208309	0	0	0	0	0	1	0	0	0	0	0	0	4-Disc Right Scraper Bar, 7 1/2" Spacing	
	208305	0	0	0	0	0	1	0	0	0	1	0	0	5-Disc Rear Scraper Bar, 7 1/2" Spacing	
	208302	0	0	0	0	0	0	1	1	0	0	1	0	6-Disc Scraper Bar, 7 1/2" Spacing	
	208241	0	0	0	0	0	0	0	1	0	0	0	1	7-Disc Left Rear Scraper Bar, 7 1/2" Spacing	
4	206833	8	16	16	16	8	16	16	16	8	16	16	16	U-Bolt	
		16	32	32	32	16	32	32	32	16	32	32	32	Nut	3/4"
		16	32	32	32	16	32	32	32	16	32	32	32	Lockwasher	3/4"
5	207603	18	25	27	29	22	31	33	35	20	28	30	32	Left Scraper	
		36	50	54	58	44	62	66	70	40	56	60	64	Carriage Bolt w/Nut	1/2" x 1 1/2"
		36	50	54	58	44	62	66	70	40	56	60	64	Flat Washer	1/2"
		36	50	54	58	44	62	66	70	40	56	60	64	Lock Washer	1/2"
6	207600	18	25	27	29	22	31	33	35	20	28	30	32	Right Scraper	
		36	50	54	58	44	62	66	70	40	56	60	64	Carriage Bolt w/Nut	1/2" x 1 1/2"
		36	50	54	58	44	62	66	70	40	56	60	64	Flat Washer	1/2"
		36	50	54	58	44	62	66	70	40	56	60	64	Lock Washer	1/2"

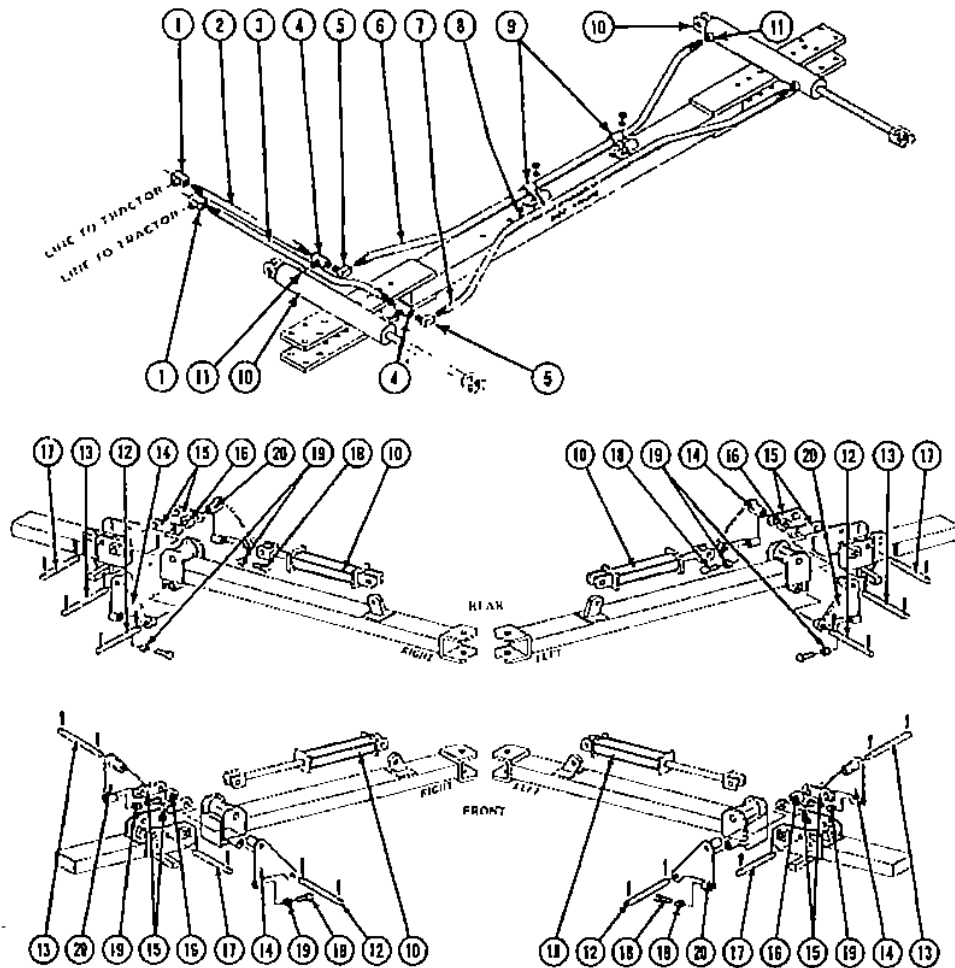


FIG. 5 — HYDRAULIC FOLDING ATTACHMENT (COMPLETE)
MACH. NO. 299057

Item No.	Part Number	FOR MODEL												Description	Size
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281		
1	207983	0	2	2	2	0	2	2	2	0	2	2	2	Hydraulic Tee (All Female)	1/2"
2	207975	0	2	2	2	0	2	2	2	0	2	2	2	Hydraulic Hose	41"
3	207976	0	2	2	2	0	2	2	2	0	2	2	2	Hydraulic Hose	60"
4	207981	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic Tee	1/2"
5	207982	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic 90° Street El	1/2"
6	207979	0	2	2	2	0	2	2	2	0	2	2	2	Hydraulic Hose	84"
7	207980	0	2	2	2	0	2	2	2	0	2	2	2	Hydraulic Hose	105"
8		0	4	4	4	0	4	4	4	0	4	4	4	Carriage Bolt w/Nut	1/2" x 1 1/2"
		0	4	4	4	0	4	4	4	0	4	4	4	Lockwasher	1/2"
9	208259	0	4	4	4	0	4	4	4	0	4	4	4	Hose Clamp	
10	208546	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic Cylinder	2 1/2" x 16"
11	208569	0	4	4	4	0	4	4	4	0	4	4	4	Flow Restrictor (Not Shown)	
12	208522	0	4	4	4	0	4	4	4	0	4	4	4	Hinge Pin	
		0	8	8	8	0	8	8	8	0	8	8	8	Cotter	3/8" x 2"
13	208492	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic Cylinder Pin	
		0	8	8	8	0	8	8	8	0	8	8	8	Cotter	3/8" x 2"
14	208527	0	4	4	4	0	4	4	4	0	4	4	4	Wing Lock (Left)	
15	208520	0	8	8	8	0	8	8	8	0	8	8	8	Lift Arm	
16	208528	0	4	4	4	0	4	4	4	0	4	4	4	Roller	
17	208521	0	4	4	4	0	4	4	4	0	4	4	4	Hinge Pin	
		0	8	8	8	0	8	8	8	0	8	8	8	Cotter	3/8" x 2"
18		0	8	8	8	0	8	8	8	0	8	8	8	Bolt, I.T.	3/8" x 2"
19		0	8	8	8	0	8	8	8	0	8	8	8	Jam Nut	3/8"
20	208523	0	4	4	4	0	4	4	4	0	4	4	4	Wing Lock (Right)	

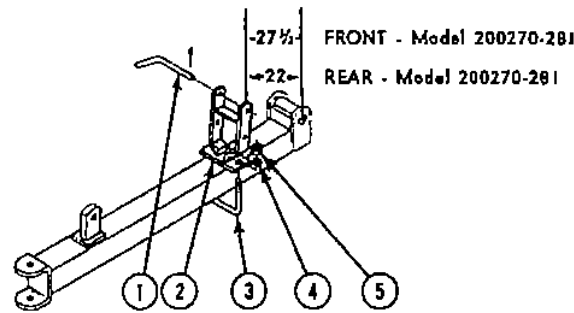


FIG. 6 — WING LATCH ATTACHMENT

Note: Wing Latch Works on Both Spring & Hydraulic Folding Attachments.
MACHINERY NOS. 299057 & 299058

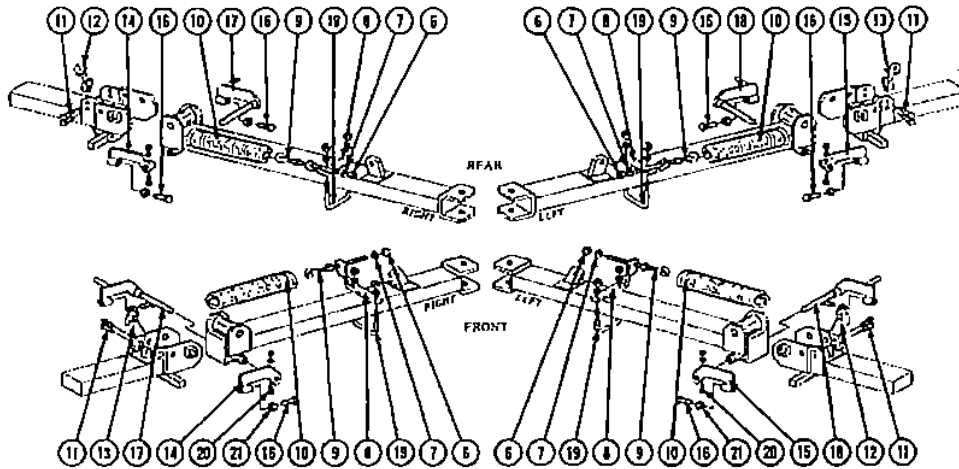


FIG. 7 — SPRING FOLDING ATTACHMENT
Machinery No. 299058

Item No.	Part Number	FOR MODEL												Description	Size
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281		
1	208540	0	4	4	4	0	4	4	4	0	4	4	4	Wing Latch Pin	
	205831	0	4	4	4	0	4	4	4	0	4	4	4	Special Cotter	
2	208556	0	2	2	2	0	0	0	0	0	2	2	2	Front Wing Stop (9" Spac.) 20 3/8" Long @ 59°	
	208551	0	2	2	2	0	0	0	0	0	0	0	0	Rear Wing Stop (9" Spac.) 18 3/8" Long @ 67°	
	208563	0	0	0	0	0	2	2	2	0	0	0	0	Front Wing Stop (7 1/2" Spac.) 14 1/2" Long @ 82°	
	208560	0	0	0	0	0	2	2	2	0	2	2	2	Rear Wing Stop (7 1/2" Spac.) 15" Long @ 65°	
3	206833	0	4	4	4	0	4	4	4	0	4	4	4	U-Bolt	3/4"
4		0	8	8	8	0	8	8	8	0	8	8	8	Lock Washer	3/4"
5		0	8	8	8	0	8	8	8	0	8	8	8	Nut	3/4"
6		0	8	8	8	0	8	8	8	0	8	8	8	Nut	3/4"
7		0	4	4	4	0	4	4	4	0	4	4	4	Flat Washer	3/4"
8	208317	0	4	4	4	0	4	4	4	0	4	4	4	Eye Bolt Conn. Brkt.	
9	206872	0	4	4	4	0	4	4	4	0	4	4	4	Eye Bolt	
10	206841	0	4	4	4	0	4	4	4	0	4	4	4	Extension Spring	
11		0	8	8	8	0	8	8	8	0	8	8	8	Bolt	5/8"x2"
		0	8	8	8	0	8	8	8	0	8	8	8	Lock Washer	5/8"
		0	8	8	8	0	8	8	8	0	8	8	8	Nut	5/8"
12	208937	0	2	2	2	0	2	2	2	0	2	2	2	L.F. & R.R. Spring Brkt.	
13	208938	0	2	2	2	0	2	2	2	0	2	2	2	R.F. & L.R. Spring Brkt.	
14	208532	0	2	2	2	0	2	2	2	0	2	2	2	Right Wing Lock	
15	208633	0	2	2	2	0	2	2	2	0	2	2	2	Left Wing Lock	
16		0	8	8	8	0	8	8	8	0	8	8	8	Bolt, H.T.	3/8"x2"
17	208529	0	2	2	2	0	2	2	2	0	2	2	2	Right Wing Lock	
18	208632	0	2	2	2	0	2	2	2	0	2	2	2	Left Wing Lock	
19	206833	0	4	4	4	0	4	4	4	0	4	4	4	U-Bolt	
		0	8	8	8	0	8	8	8	0	8	8	8	Lock Washer	3/4"
		0	8	8	8	0	8	8	8	0	8	8	8	Nut	3/4"
20		0	4	4	4	0	4	4	4	0	4	4	4	Bolt w/Nut, H.T.	3/8"x2"
		0	4	4	4	0	4	4	4	0	4	4	4	Lock Washer	3/8"
21		0	8	8	8	0	8	8	8	0	8	8	8	Jam Nut	3/8"

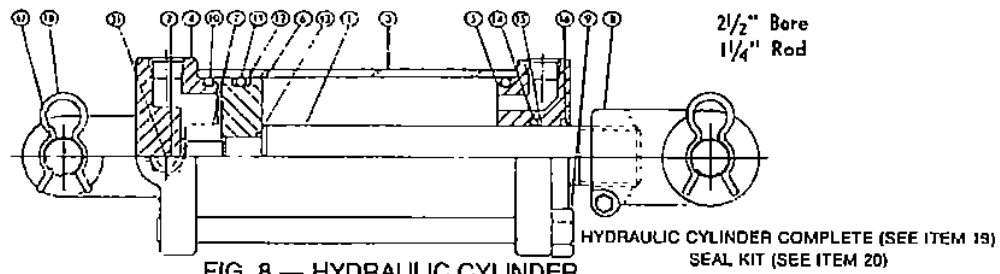


FIG. 8 — HYDRAULIC CYLINDER

Item No.	Prince Part Number	Hydra-Cyl. Part Number	FOR MODEL												Description	Size
			200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281		
1	208601	208902	0	4	4	4	0	4	4	4	0	4	4	4	Piston Rod	
2	208602	208903	0	4	4	4	0	4	4	4	0	4	4	4	Pipe Plug	
3	208603	208904	0	4	4	4	0	4	4	4	0	4	4	4	Tube	
4	208604	208905	0	4	4	4	0	4	4	4	0	4	4	4	U-bolt	
5	208605	208906	0	4	4	4	0	4	4	4	0	4	4	4	Gland	
6	208606	208907	0	4	4	4	0	4	4	4	0	4	4	4	Piston	
7	208607	208908	0	4	4	4	0	4	4	4	0	4	4	4	Lock Nut	3/4"
8	208493	208909	0	4	4	4	0	4	4	4	0	4	4	4	Clevis Assembly	
9	208608	208910	0	16	16	16	0	16	16	16	0	16	16	16	Tie Rod	3/4"
10	208609	208609	0	8	8	8	0	8	8	8	0	8	8	8	O-Ring	
11	208610	208610	0	4	4	4	0	4	4	4	0	4	4	4	O-Ring	
12	208611	208611	0	8	8	8	0	8	8	8	0	8	8	8	BU-Washer	
13	208612	208612	0	4	4	4	0	4	4	4	0	4	4	4	O-Ring	
14	208613	208613	0	4	4	4	0	4	4	4	0	4	4	4	O-Ring	
15	208614	208614	0	4	4	4	0	4	4	4	0	4	4	4	BU-Washer	
16	208615	208615	0	4	4	4	0	4	4	4	0	4	4	4	Wiper	
17	208616	208616	0	4	4	4	0	4	4	4	0	4	4	4	Clevis Pin	
18	208617	208617	0	8	8	8	0	8	8	8	0	8	8	8	Hairpin Clip	
19	208546	208920	0	4	4	4	0	4	4	4	0	4	4	4	2 1/2" x 16" Hydraulic Cyl. Complete	
20	208618	208618	0	4	4	4	0	4	4	4	0	4	4	4	Seal Kit (Includes Items 10 thru 15).	
21	208569	208569	0	4	4	4	0	4	4	4	0	4	4	4	Flow Restrictor (Not Shown)	

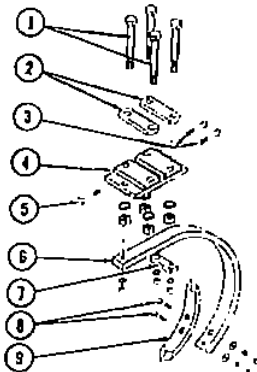


FIG. 9 — BALK BREAKER
ATTACHMENT — MACH. NO. 299053

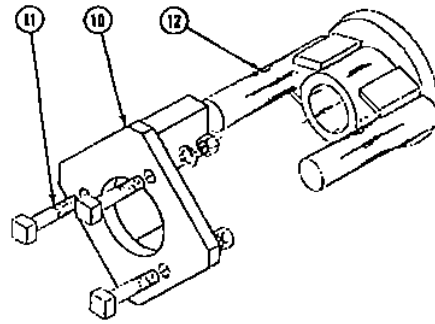


FIG. 10 — GANG COUPLER
MACH. NO. 200092

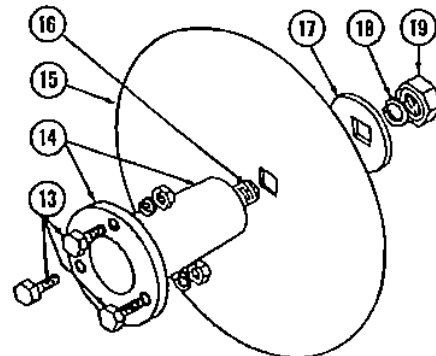


FIG. 11 — FURROW FILLER
ATTACHMENT — MACH. NO. 200060

Item No.	Part Number	FOR MODEL												Description	Size
		200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281		
1	208839	4	4	4	4	4	4	4	4	4	4	4	4	Bolt w/Nut	3/8" x 7"
2	603895	4	4	4	4	4	4	4	4	4	4	4	4	Lock Washer	3/8"
3	2	2	2	2	2	2	2	2	2	2	2	2	2	Simp	
4	207785	2	2	2	2	2	2	2	2	2	2	2	2	Bolt w/Nut	3/8" x 3"
5	1	1	1	1	1	1	1	1	1	1	1	1	1	Lock Washer	3/8"
6	206726	1	1	1	1	1	1	1	1	1	1	1	1	Shank Connector Assy.	
7	603710	1	1	1	1	1	1	1	1	1	1	1	1	Bolt w/Nut	3/8" x 2 1/2"
8	2	2	2	2	2	2	2	2	2	2	2	2	2	Lock Washer	3/8"
9	603014	2	2	2	2	2	2	2	2	2	2	2	2	22" Shank	
10	207313	2	2	2	2	2	2	2	2	2	2	2	2	Support Strap	
11	12	12	12	12	12	12	12	12	12	12	12	12	12	Flow Bolt w/Nut. H.T.	3/8" x 2 1/4"
12	207307	2	2	2	2	2	2	2	2	2	2	2	2	Lock Washer	3/8"
13	6	6	6	6	6	6	6	6	6	6	6	6	6	Flat Washer	3/8"
14	206629	2	2	2	2	2	2	2	2	2	2	2	2	Chisel	
15	204000	2	2	2	2	2	2	2	2	2	2	2	2	Bull Plate Drive	
16	203986	2	2	2	2	2	2	2	2	2	2	2	2	Bolt w/Nut	1/2" x 2 1/4"
17	2	2	2	2	2	2	2	2	2	2	2	2	2	Lock Washer	3/8"
18	2	2	2	2	2	2	2	2	2	2	2	2	2	Flat Washer	3/8"
19	2	2	2	2	2	2	2	2	2	2	2	2	2	Furrow Filler Spacer	
20	2	2	2	2	2	2	2	2	2	2	2	2	2	16" Round Disc	
21	2	2	2	2	2	2	2	2	2	2	2	2	2	18" Round Disc	
22	2	2	2	2	2	2	2	2	2	2	2	2	2	Bolt	3/8" x 2 1/4"
23	2	2	2	2	2	2	2	2	2	2	2	2	2	Bull Plate	
24	2	2	2	2	2	2	2	2	2	2	2	2	2	Lock Washer	3/8"
25	2	2	2	2	2	2	2	2	2	2	2	2	2	Nut	3/8"

DIAGRAM SHOWING RESPECTIVE POSITIONS OF BEARINGS AND AXLES

* Denotes position of spring bearing connector used on 7 1/2" disc spacing.



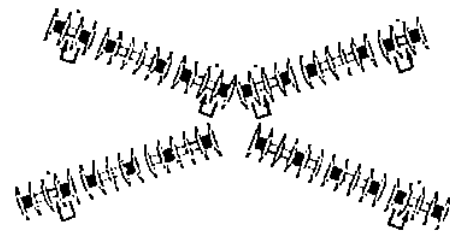
MODEL 200270 FRONT & REAR
MODEL 200278 FRONT



MODEL 200274 FRONT & REAR
MODEL 200278 REAR



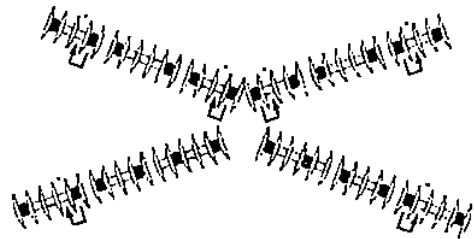
MODEL 200271 FRONT & REAR
MODEL 200279 FRONT



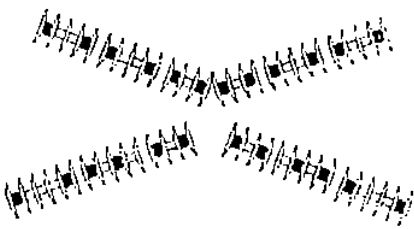
MODEL 200275 FRONT & REAR
MODEL 200279 REAR



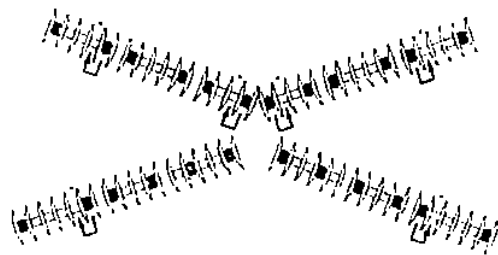
MODEL 200272 FRONT & REAR
MODEL 200280 FRONT



MODEL 200276 FRONT & REAR
MODEL 200280 REAR



MODEL 200273 FRONT & REAR
MODEL 200281 FRONT



MODEL 200277 FRONT & REAR
MODEL 200281 REAR

SHIPPING INFORMATION

General

Right and left are determined by standing at the rear of the harrow. All items designated as right and left fit into their respective positions on the front section. When used on the rear section, the procedure is reversed and items designated as right will fit onto the left side and vice versa.

These harrows are shipped "Knocked Down" and are bundled into the bundles listed below:

Bundle Number	BUNDLES REQUIRED												Description
	200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281	
201147	1	1	1	1	1	1	1	1	1	1	1	1	Tongue Bundle w/Special Clevis*
200908	1	1	1	1	1	1	1	1	1	1	1	1	Tongue Bundle
201555	1	1	1	1	1	1	1	1	1	1	1	1	Tongue Jack
200909	1	1	1	1	1	1	1	1	1	1	1	1	Front and Rear Cross Frames
200910	1	1	1	1	1	1	1	1	1	1	1	1	Center Frame
201340	1	1	1	1	1	1	1	1	1	1	1	1	Side Frame
200912	1	1	1	1	1	1	1	1	1	1	1	1	Wheel Axle Assembly
201449	4	4	4	4	4	4	4	4	4	4	4	4	15" x 6" Rims**
201209	4	4	4	4	4	4	4	4	4	4	4	4	15" x 10" High Floatation Rims**
201246	1	1	1	1	0	0	0	0	0	1	1	1	Right Front 9-Disc Gang, 9" Spacing
201247	1	1	1	1	0	0	0	0	0	1	1	1	Left Front 9-Disc Gang, 9" Spacing
201248	1	1	1	1	0	0	0	0	0	0	0	0	Right Rear 9-Disc Gang, 9" Spacing
201249	1	1	1	1	0	0	0	0	0	0	0	0	Left Rear 9-Disc Gang, 9" Spacing
201250	0	1	0	0	0	0	0	0	0	0	1	0	Right Front 3-Disc Wing, 9" Spacing
201251	0	1	0	0	0	0	0	0	0	0	1	0	Left Front 3-Disc Wing, 9" Spacing
201252	0	1	0	0	0	0	0	0	0	0	0	0	Right Rear 4-Disc Wing, 9" Spacing
201253	0	1	0	0	0	0	0	0	0	0	0	0	Left Rear 4-Disc Wing, 9" Spacing
201254	0	0	1	0	0	0	0	0	0	0	0	1	Right Front 4-Disc Wing, 9" Spacing
201255	0	0	1	0	0	0	0	0	0	0	1	0	Left Front 4-Disc Wing, 9" Spacing
201256	0	0	1	0	0	0	0	0	0	0	0	0	Right Rear 5-Disc Wing, 9" Spacing
201257	0	0	1	0	0	0	0	0	0	0	0	0	Left Rear 5-Disc Wing, 9" Spacing
201258	0	0	0	1	0	0	0	0	0	0	0	1	Right Front 5-Disc Wing, 9" Spacing
201259	0	0	0	1	0	0	0	0	0	0	0	1	Left Front 5-Disc Wing, 9" Spacing
201260	0	0	0	1	0	0	0	0	0	0	0	0	Right Rear 6-Disc Wing, 9" Spacing
201261	0	0	0	1	0	0	0	0	0	0	0	0	Left Rear 6-Disc Wing, 9" Spacing
201324	0	0	0	0	1	1	1	1	0	0	0	0	Right Front 11-Disc Gang, 7½" Spacing
201325	0	0	0	0	1	1	1	1	0	0	0	0	Left Front 11-Disc Gang, 7½" Spacing
201326	0	0	0	0	1	1	1	1	1	1	1	1	Right Rear 11-Disc Gang, 7½" Spacing
201327	0	0	0	0	1	1	1	1	1	1	1	1	Left Rear 11-Disc Gang, 7½" Spacing
201328	0	0	0	0	0	1	0	0	0	0	0	0	Right Front 4-Disc Wing, 7½" Spacing
201329	0	0	0	0	0	1	0	0	0	0	0	0	Left Front 4-Disc Wing, 7½" Spacing
201330	0	0	0	0	0	1	0	0	0	1	0	0	Right Rear 5-Disc Wing, 7½" Spacing
201331	0	0	0	0	0	1	0	0	0	1	0	0	Left Rear 5-Disc Wing, 7½" Spacing
201332	0	0	0	0	0	0	1	0	0	0	0	0	Right Front 5-Disc Wing, 7½" Spacing
201333	0	0	0	0	0	0	1	0	0	0	0	0	Left Front 5-Disc Wing, 7½" Spacing
201334	0	0	0	0	0	0	1	0	0	0	1	0	Right Rear 6-Disc Wing, 7½" Spacing
201335	0	0	0	0	0	0	1	0	0	0	1	0	Left Rear 6-Disc Wing, 7½" Spacing
201336	0	0	0	0	0	0	0	1	0	0	0	0	Right Front 6-Disc Wing, 7½" Spacing
201337	0	0	0	0	0	0	0	1	0	0	0	0	Left Front 6-Disc Wing, 7½" Spacing
201338	0	0	0	0	0	0	0	1	0	0	0	1	Right Rear 7-Disc Wing, 7½" Spacing
201339	0	0	0	0	0	0	0	1	0	0	0	1	Left Rear 7-Disc Wing, 7½" Spacing
201380	0	1	1	1	0	0	0	0	0	0	0	0	Wing Stop, 9" Spacing
201387	0	0	0	0	0	1	1	1	0	0	0	0	Wing Stop, 7½" Spacing
201388	0	0	0	0	0	0	0	0	1	1	1	1	Wing Stop, 9" and 7½" Spacing
TOTAL	13	16	18	18	13	18	18	18	13	18	18	18	

* Denotes Optional Tongue Bundles
** Denotes Optional Rims

Hydraulic Folding Wings Machinery No. 299057

201229	0	1	1	1	0	1	1	1	0	1	1	1	Hydraulic Hose Bundle
201384	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic Wing Lock
201383	0	4	4	4	0	4	4	4	0	4	4	4	Hydraulic Cylinder Bundle, 2½" x 16"
TOTAL	0	9	9	9	0	9	9	9	0	9	9	9	

Manual Folding Wings Machinery No. 299058

Bundle Number	BUNDLES REQUIRED												Description
	200 270	200 271	200 272	200 273	200 274	200 275	200 276	200 277	200 278	200 279	200 280	200 281	
201164	0	1	1	1	0	1	1	1	0	1	1	1	Spring Bundle
201323	0	1	1	1	0	1	1	1	0	1	1	1	Spring Holder Bundle
201385	0	1	1	1	0	1	1	1	0	1	1	1	Manual Wing Lock
TOTAL	0	3	3	3	0	3	3	3	0	3	3	3	

EXTRA EQUIPMENT

If implements are ordered with Extra Equipment these bundles will be shipped as shown below.

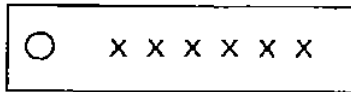
- Machinery No. 200092 — Gang Coupler, used to connect split gangs together, one connector required for each set of gangs connected. When shipped assembled on implements, these are included in the disc gang bundle.
- Machinery No. 299053 — Balk Breaker Attachment.
- Machinery No. 299057 — Hydraulic Folding Attachment. Converts Spring Assisted Folding Wing to Hydraulic Folding Wings for Models 200271-273, 200275-277, 200279-281.
- Machinery No. 299058 — Spring Folding Attachment. Converts Hydraulic Folding Wings to Spring Folding Wings for Models 200271-273, 200275-277, 200279-281.
- Machinery No. 299079 — Spring Bearing Connector. Converts Standard Bearing Connectors to Spring Bearing Connectors. Gang Connectors are not used with Spring Bearing Connectors.
- Machinery No. 200080 — Furrow Filler Attachment, less Discs.
Furrow Filler Attachment w/16" Rd. Discs.
Furrow Filler Attachment w/18" Rd. Discs.
All with or without scrapers.

Bundle Number	Machinery Number	Bundles Required												Description	
		200270	200271	200272	200273	200274	200275	200276	200277	200278	200279	200280	200281		200080
201127	299053	1	1	1	1	1	1	1	1	1	1	1	1	0	Balk Breaker Attachment
201051	200092	4	8	8	8	4	8	8	8	4	8	8	8	0	Gang Coupler
201478	299079	16	24	24	24	0	0	0	0	16	24	24	24	0	Spring Bearing Connector
201383	299057	0	4	4	4	0	4	4	4	0	4	4	4	0	Hydraulic Cylinder 2½" x 16"
201384	299057	0	4	4	4	0	4	4	4	0	4	4	4	0	Hydraulic Wing Lock Bundle
201229	299057	0	1	1	1	0	1	1	1	0	1	1	1	0	Hydraulic Hose Bundle
201164	299058	0	1	1	1	0	1	1	1	0	1	1	1	0	Spring Bundle
201385	299058	0	1	1	1	0	1	1	1	0	1	1	1	0	Manual Wing Lock Bundle
201323	299058	0	1	1	1	0	1	1	1	0	1	1	1	0	Spring Holder Bundle
201048	200080	0	0	0	0	0	0	0	0	0	0	0	0	1	Furrow Filler Attachment, Less Disc
201049	200080	0	0	0	0	0	0	0	0	0	0	0	0	1	Furrow Filler Attachment, w/16" Rd. Disc
201050	200080	0	0	0	0	0	0	0	0	0	0	0	0	1	Furrow Filler Attachment, w/18" Rd. Disc
201123	200080	0	0	0	0	0	0	0	0	0	0	0	0	1	Scrapers For Furrow Filler, Optional

Bundle Number Tags

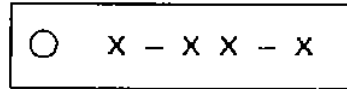
Bundles for Disc Gang Assemblies may vary with the type of bearing connector; use of gang connectors; size of disc blade and type of bearing. Two bundle number tags are attached to disc gang assemblies to fully describe the bundle.

BUNDLE NO. TAG



SAME AS OLD TAG

BUNDLE DESCRIPTION TAG



Type of Bearing Connector; or Use of Gang Connectors

Code No.	Description
1	Standard Bearing Connectors
2	Spring Bearing Connectors
3	Standard Bearing Connectors with Gang Connectors
4	Spring Bearing Connectors with Gang Connectors

Disc Blade

Code No.	Part No.	Diameter	Axle or Housing Size	Cut-Out or Round
10	204003	20"	1½" Sq.	C.O.
11	204004	20"	1½" Sq.	Rd.
14	204005	22"	1½" Sq.	C.O.
15	204010	22"	1½" Sq.	Rd.
16	205005	22"	1½" Sq.	C.O.
17	205020	22"	1½" Sq.	Rd.

Type of Bearing

Code No.	Description
1	Gray Iron
2	7/8" Sealed Bearing
3	1½" Sealed Bearing Flange Mount
4	1½" Sealed Bearing Pillow Block Mount
5	1½" Regreasable Bearing Flange Mount
6	1½" Regreasable Bearing Pillow Block Mount
7	1½" Regreasable Bearing
8	1½" Special Regreasable Bearing

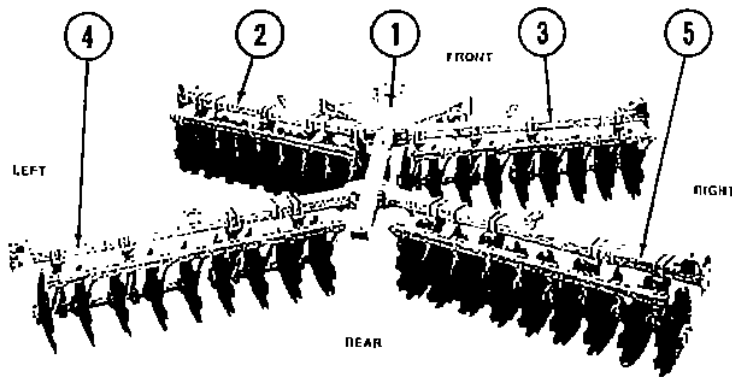


FIG. 12

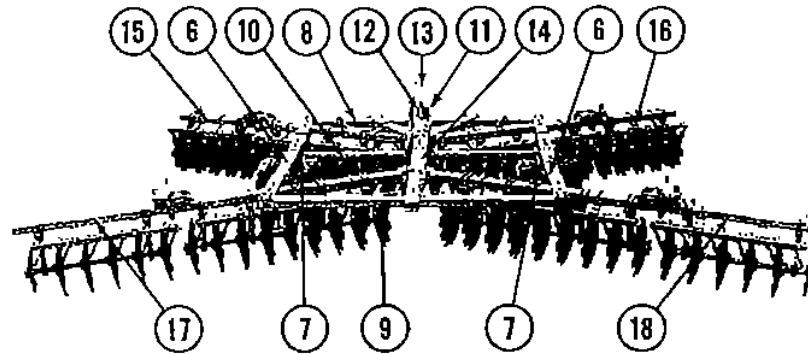


FIG. 13

Basic Harrow Assembly

1. Remove all bundling wire and proceed as follows: Note: Right and Left are determined by standing at the rear and looking at the harrow.
2. Position the *Center Frame Bundle* (Item 1, Fig. 12) Bundle No. 200910 in the center of the work area. Block the center frame bundle up approximately 3 feet off the ground level.
3. Position the *Left and Right Front Gang Bundles* (Bundle Nos. 201246, 201247, or 201324, 201325) (Items 2 & 3) as shown in Fig. 12. Block up the bundles so they will be in an upright position. Remove the gang bolt ($\frac{3}{8}$ " x $6\frac{1}{2}$ ") and bushings. Position the spacer bushing into the center frame bracket and attach the ends of each front gang bundle onto the bracket provided on the center frame bundle (Item 1).
4. Set the *Right and Left Rear Gang Bundles* (Bundle No. 201248, 201249, or 201326, 201327; Items 4 & 5, Fig. 12) in position as described in Step 3 and secure to the center frame (Item 1) as shown in Figure 12.
5. Remove the bolts from both ends of the *Side Frame Bundle* (Item 6, Fig. 13) Bundle No. 201340. Spread the front and rear gang frame bundles (Items 2, 3, 4 and 5) by pushing the front gang frames forward and the rear gang frames towards the rear. Position the side frame members so that the wheel axle bearing (Item 7) is to the front and downward. Slide the open end of the side frame member over the front gang-tube approximately 53" from the gang connector cuff. Then slide the other end of the side frame over the rear gang tube. Close the front and rear bundle by pushing the front gang bundle backward and the rear gang bundle forward. Repeat this procedure on the other side.
6. Remove the four $\frac{3}{8}$ " x $4\frac{1}{2}$ " and the two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts from the front of the center frame bundle (Item 1), insert the *Front Cross Frame Member* (Item 8) found in bundle number 200909, with the holes in the center of the front cross frame member to the front. Align all holes in the front cross frame with the holes in the center frame and side frame. Bolt into position but do not tighten the bolts.
7. Remove the one $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolt from the *Rear Cross Frame* (Item 9, found in bundle number 200909), attach the rear cross frame to the rear of the center frame and to the side frames. Bolt into position but do not tighten the bolts.
8. Position the *Wheel Axle Bundle* (Item 10), bundle number 200912, under the side frames and the center frame with the wheel axle for rubber tires to the rear of the harrow and the hydraulic cylinder bracket upward. Remove the wheel axle bearing (Item 7) from the center frame and side frames. Raise the wheel axle (Item 10) and position

three wheel axle bearings with the allenites to the rear between the wheel axle (Item 10) and the center frame (Item 1); side frame (Item 6). Secure the wheel axle with the wheel axle straps and the bolts previously removed.

9. Remove the two pins from the front bottom of the center frame bundle (Item 1). Position the *Tongue Bundle* (Item 11), Bundle No. 200908 or 201147, with the spring rod bracket upward between the tongue connector brackets on the front of the center frame and secure with the two pins previously removed. Connect the spring rod (Item 12) to the tongue (Item 11) with the pin found in the tongue end of the spring rod. Connect the other end of the spring rod to the center frame with the two $\frac{3}{8}$ " shoulder bolts found at the connecting point. Connect the hose holder (Item 13) to the tongue with the bolt provided.
10. Remove the pins from the depth adjustment bar (Item 14) place the rear of the depth adjustment bar through the opening provided at the rear of the center frame. Connect the front of the depth adjustment bar to the bracket provided on the wheel axle (Item 10) and secure with the pin and cotter provided. Replace the depth adjustment cuff, pin and cotter on the depth adjustment bar behind the depth bar bracket.
11. Position the front and rear gang bundles (Items 2, 3, 4 and 5) at the desired angle. Note: The left front and right front gang must be at the same angle. Left rear and right rear gang must have the same angle. Put one $\frac{3}{4}$ " x $5\frac{1}{2}$ " heat treated bolt in front and one $\frac{3}{4}$ " x $5\frac{1}{2}$ " heat treated bolt behind each gang frame holding the disc gang bundle in the desired angle.
12. Adjust all scrapers, mount wheels, and tighten all bolts.

Wing Assembly

Note: The rear wing gangs have one more disc, 4" smaller than the front wing gangs.

1. Remove the wing connector pin and the bushing from the wing gang frame (Items 15, 16, 17 and 18, Fig. 13) insert the bushing into the main frame gang hinge (Items 2, 3, 4 and 5, Fig. 12). Position the wing bundles in their respective positions and pin with the wing connector pin previously removed.
2. Remove the U-bolts (Item 3, Fig. 6) from the wing stop (Item 2, Fig. 6). Place the wing at the correct distance (see Figure 6) from the center of the wing hinge. Connect the wing stop to the gang frame with the U-bolt previously removed.

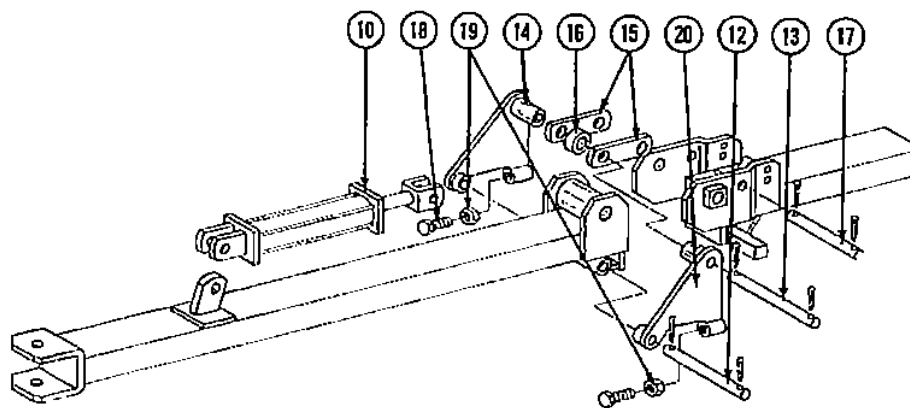
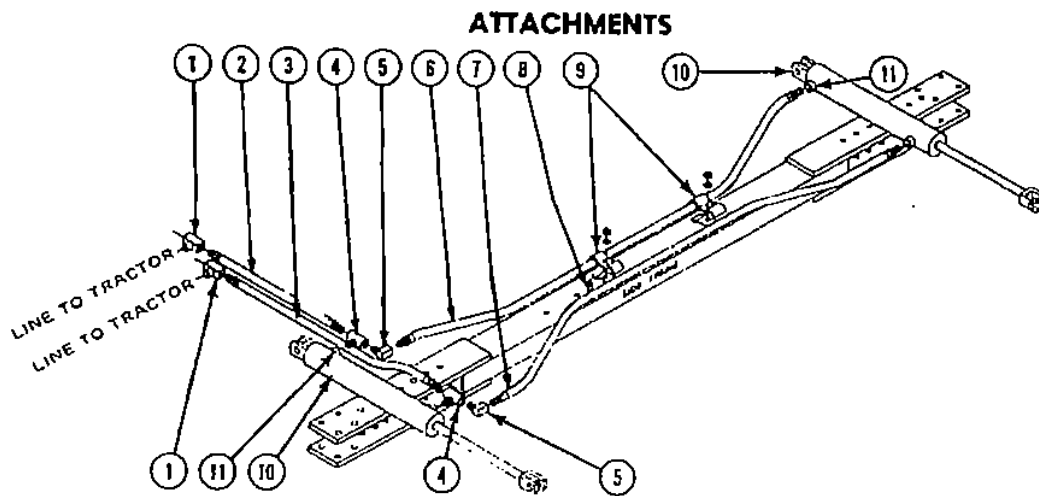


FIG. 14 — HYDRAULIC FOLDING ATTACHMENT (COMPLETE)
MACH. NO. 299057

Hydraulic Folding Attachment

See Figure 14

MACHINERY NO. 299057

1. Connect the right and left hydraulic wing lock (Item 14 and 20, Fig. 14) to the gang frame by using the hinge pin (Item 12, Fig. 14). Insert the two $\frac{3}{8}$ "x2" cotters in the hinge pin to secure the right and left hydraulic wing locks.
2. Adjust the cylinder cuff to the length of $31\frac{1}{2}$ " between the pin centers. Connect the butt end of the hydraulic cylinder (Item 10) to the hydraulic cylinder bracket on the gang frame.

For cylinders mounted on front gangs: turn the cylinder so that the hydraulic hose ports are toward the rear of the harrow.

For cylinders mounted on the rear gangs: turn the cylinder so that the hydraulic hose ports are toward the front of the harrow.

Fasten the hydraulic cylinders to the brackets with the pins provided.

3. Insert the hydraulic cylinder pin (Item 13) through the hole in the left hydraulic wing lock (Item 14). Position one lift arm (Item 15) so that the pin can slide through the slotted hole. Push the pin through one side of the hydraulic cylinder cuff. Place the roller (Item 16) between the cuff. Push the pin through the roller and the other side of the hydraulic cylinder cuff. Place the second lift arm (Item 15) in the position so that the pin can be pushed through the slotted hole and into the hole in the right hydraulic wing lock (Item 20). Key the pin with the two cotters ($\frac{3}{8}$ "x2").
4. Connect the lift arms (Item 15) to the wing gang frame, by

inserting the pin (Item 17) through the wing frame and the two lift arms. Secure with the two cotters ($\frac{3}{8}$ "x2")

5. Item 14 and 20 will already be assembled. Screw the $\frac{7}{8}$ "x2" adjustment bolts into the hydraulic wing lock as far as they will go.
6. Connect the flow restrictor (Item 11) to the butt end of the hydraulic cylinder as shown by the arrow in Fig. 14. Connect the hydraulic tees (Item 4) to the four ports in the front hydraulic cylinders. Connect the two hydraulic hoses (41" long) (Item 2) to the inside hydraulic tee of the cylinder. Connect the two hydraulic hoses (60" long) (Item 3) to the outside tees of the hydraulic cylinder. Connect the two (41" long) hoses together with the all female hydraulic tee (Item 1). Connect the two (60" long) hydraulic hoses together with the all female hydraulic tee (Item 1). Connect the 90° hydraulic street ell (Item 5) to the hydraulic tee on the front hydraulic cylinders. Connect the (84" long) hydraulic hose (Item 6) to the butt end of the front hydraulic cylinder. Connect the other end of the 84" long hydraulic hose to the butt end of the rear hydraulic cylinder. Connect the (105" long) hydraulic hose (Item 7) to the rod end of the hydraulic cylinder. Connect the other end of the hose to the rod end of the rear hydraulic cylinder. Connect the hydraulic hose (Items 6 and 7) to the side frame with equal slack between front and rear with the hose clamps (Item 9). Tighten clamp down to secure hose.
7. Extend the hydraulic cylinder rod to the full length. Adjust the adjustment bolts (Item 18, Fig. 14) so that they are snug, not tight, on the wing lock bar. Lock the adjustment nut (Item 19).

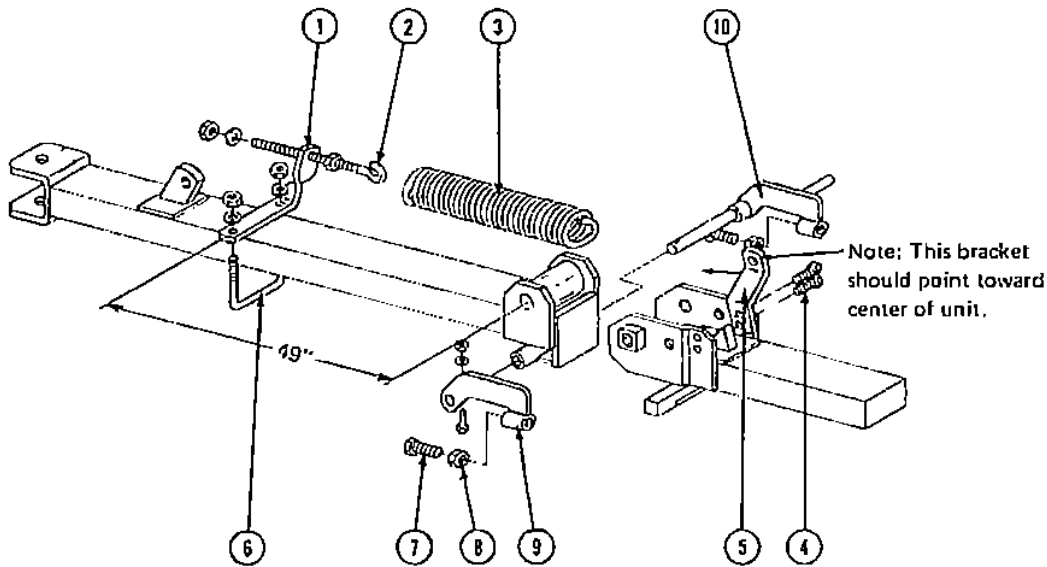


FIG. 15 — SPRING FOLDING ATTACHMENT
MACHINERY NO. 299058

Spring Folding Attachment

See Figure 15

MACHINERY NO. 299058

1. Remove the nuts from the U-bolt of the spring connector bracket bundle (201323) and separate the four (Item 1) brackets and U-bolts (Item 6).
2. Position the spring connector bracket (Item 1) on the gang frame tube approximately 49" from the wing connector pin. Fasten with the U-bolts previously removed.
3. Bolt the spring connector bracket (Item 5) to the wing as shown in the figure by using the two $\frac{3}{8}$ "x2" bolts (Item 4).
4. Connect one end of the spring (Item 3) to the hole in the top of the spring connector bracket (Item 5).
5. Connect the eye bolt (Item 2) to the other end of the spring (Item 3).
6. Raise the wing to approximately 45° angle and insert the

- eye bolt through the hole in the spring connector bracket. Secure with the nut and flat washer.
7. Adjust the tension in the extension spring with the nut on the eye bolt until the wing assemblies can be raised and lowered easily.
8. Insert the wing lock (Item 10) through the bushing under the gang frame tube as shown in the figure. Position the other wing lock (Item 9) over the pin and secure with the bolt ($\frac{3}{8}$ "x2").
9. With the wing in the full downward position, adjust the adjustment bolt and nut (Items 7 and 8) until the bolt puts a slight pressure on the wing bar.
10. By pushing down on the end of the wing the manual wing latch can be raised allowing the wing to be folded.

Extra Equipment

Gang Coupler Attachment

MACHINERY NO. 200092

1. Remove the nut, washer and end washer (Items 1, 2, 3 and 9, Fig. 2) from the axle (Item 16, Fig. 2) in the opening where the two axles are to be connected. Slip the axle (Item 16, Fig. 2) back approximately $1\frac{1}{2}$ ". This will give sufficient clearance to install the coupler. *On the front gangs, start on the outside and work to the inside. On the rear gangs start on the inside and work to the outside.*
2. With the bolts provided, mount the butt plate driver (Item 10, Fig. 10) to the butt plate (Item 17, Fig. 2). Tighten all bolts evenly and securely. Replace the end washer (Item 9, Fig. 2) with the end washer drive (Item 12, Fig. 10) of the coupler.
3. Slip the axle back into its original position and replace the cotter, washer and nut (Items 1, 2 and 3, Fig. 2). Tighten securely.

Balk Breaker Attachment

MACHINERY NO. 299053

Remove the four bolts (Item 1, Fig. 9) from the Balk Breaker Connector (Item 4, Fig. 9). Mount the Balk Breaker Attachment on the Center Frame (Item 49, Fig. 1) directly behind the Wheel Axle Bearings (Item 5, Fig. 1) and secure in place with the four bolts previously removed.

Furrow Filler Attachment

MACHINERY NO. 200086

Remove the three $\frac{1}{2}$ "x $1\frac{1}{2}$ " bolts (Item 13, Fig. 11) from each furrow filler spacer (Item 14, Fig. 11). Mount the furrow filler spacers onto the butt-plates (Item 17, Fig. 2) on the outside rear of the harrow. To mount the furrow filler spacers insert the heads of the $\frac{1}{2}$ "x $1\frac{1}{2}$ " bolts into the three slots provided on the outside of each butt-plate and secure the furrow filler spacers to the butt-plates. Mount the discs (Item 15, Fig. 11) onto the furrow filler spacers and tighten into position, using the furrow filler butt-plates, lock washers and nuts (Items 17, 18, & 19, Fig. 11) provided. Any disc with a $\frac{3}{8}$ " square center hole can be used. For best results, use a disc that is 4"x6" smaller than the discs on the harrow.

OPERATING INSTRUCTIONS

Wing-Type Wheel Mounted Tandem Harrow

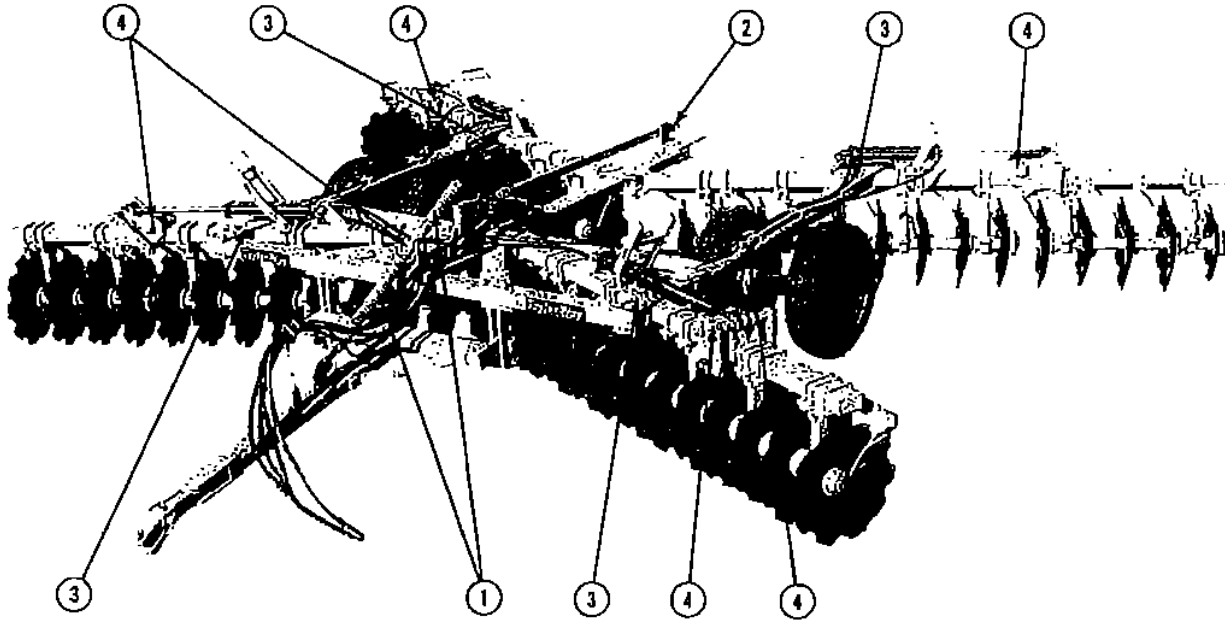


FIG. 16 — OPERATING INSTRUCTIONS

Front to Rear Leveling

See Item 1, Figure 16

To level the harrow from front to rear, use the Spring Adjusting Rod (Item 1, Fig. 16). Loosen the $1\frac{3}{8}$ " Nut (Item 13, Fig. 1) so that no pressure is exerted on the Top Spring (Item 11, Fig. 1) when the harrow is down and in its plowing position. With the Top Spring loose, tighten the Bottom Spring (Item 45, Fig. 1) by screwing up on the Wing Nut located on the Spring Adjusting Rod to increase the cutting depth of the rear section. To decrease the cutting depth of the rear section, loosen the Bottom Spring by screwing down on the Wing Nut. After the cutting depth has been adjusted, lift the harrow to its transport position and tighten the Top Spring by screwing down on the $1\frac{3}{8}$ " Nut located on top of the Spring Adjusting Rod until the harrow is approximately level.

If the Tongue (Item 35, Fig. 1) needs to be adjusted to compensate for the draw bar height of the tractor, remove the two Pins securing the Tongue to the Center Frame (Item 30, Fig. 1) and move the Tongue up or down as required.

Depth of Cut

See Item 2, Figure 16

The depth of cut is controlled by the use of a ASAE standard 8" stroke single or double action Hydraulic Cylinder with a $3\frac{1}{2}$ " or larger bore or by use of the Depth Adjustment Bar, Cuff, Pin and Cotter (Item 2, Fig. 15). To adjust the depth of cut using the Depth Adjustment Bar, remove the Depth Ad-

justment Pin and Cotter and slide the Depth Adjustment Cuff forward to decrease the depth of cut, and to the rear to increase the depth of cut. For transport, move the Depth Adjustment Cuff to the foremost hole. Never pin the Depth Adjustment Cuff in front of the slide which the Depth Adjustment Bar travels through on the rear of the harrow. Also, do not place a wedge or any other object between the rear Hydraulic Cylinder Bracket and the Bracket Holder welded to the Wheel Axle (Item 53, Fig. 1) to make the harrow lift higher in the transport position.

Adjustment for Disc Angle

See Item 3, Figure 16

The disc angle is changed by removing the $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts behind each Gang Frame (Item 3, Fig. 16) and shifting the outside ends of each Gang Frame forward or rearward until the desired amount of angle is obtained. Reinsert the bolts behind each Gang Frame and tighten. Always have the same amount of angle in both Front Gang Assemblies and the same amount of angle in both Rear Gang Assemblies.

Adjusting for Balk

Loosen the U-Bolts holding the Bearing Connectors (Item 6, Fig. 2) and the Scraper Bars (Item 4, Fig. 4) onto the Front Gang Frames (Item 2, Fig. 1) and move all front Disc Gang Assemblies (Fig. 2) in toward the center until the inside discs are touching. Make sure all U-Bolts are moved the same distance toward the center before tightening.

Adjusting for Ridging or Furrowing

Loosen the U-Bolts holding the Bearing Connectors (Item 6, Fig. 2) and the Scraper Bars (Item 4, Fig. 4) onto the Rear Gang Frames (Item 7, Fig. 1) and move all rear Disc Gang Assemblies (Fig. 2) out if the harrow is ridging and in if the harrow is not filling up the furrow left by the center of the front gangs. Make sure that all U-Bolts are moved the same distance toward or away from the center of the harrow. The speed that the harrow is to be pulled will affect these adjustments; therefore, adjustments should be made for the speed that the harrow will normally be pulled.

Lubrication

See Item 4, Figure 16

The bearing (Items 7 and 9, Fig. 3) used in the Wheel Hub Assemblies are packed with grease at the factory prior to shipment. These bearings should be checked and adjusted periodically and repacked with grease. The harrow should be greased at all alemite fittings as often as necessary to insure ease of operation and long life of the working parts. These points are indicated as (Item 4, Fig. 16). The ball bearings (Item 16, Fig. 2) are regreaseable ball bearings and should be greased daily when operating.

Transporting Harrow

See Item 5, Figure 16

When transporting the harrow at transport speeds always have the Wing Assemblies folded over on top of the basic harrow. Fold the wings and pin the wings in the folded position with the wing latch pin (Item 1, Fig. 6) provided.

Pin the depth control bar in transport position when transporting. Remove the depth adjustment pin (Item 16, Fig. 1) and the depth adjustment cuff (Item 18, Fig. 1). Position the depth adjustment cuff over the hole closest to the front of the unit and replace the depth adjustment pin.

Spring Folding Attachment

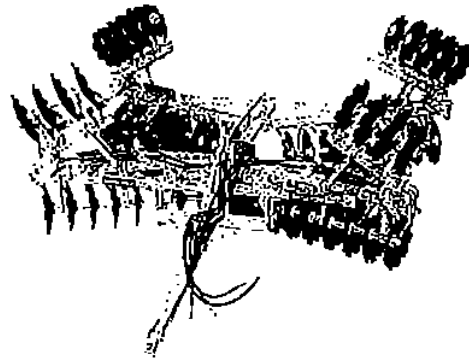
The wing lock may be adjusted to increase pressure on the wing lock bar. However the adjustment bolts must not be so tight that the wing lock cannot be pulled up by hand. Applying pressure on the wing will loosen the lock so it can easily be raised.

Hydraulic Folding Attachment

The wing lock may be adjusted to increase pressure on the wing lock bar. However the adjustment bolts must not be so tight that the wing lock cannot go over the wing lock bar. Adjust bolts to allow the wing lock to go over the bar with only a small force. Adjustment may be made on the hydraulic cylinder cuff to raise or lower the adjustment bolt on the wing lock bar. The adjustment bolts should stop when the hydraulic cylinder is fully extended in the center of the wing lock bar. Be careful not to lower wing when center is already in plowing position.

TRANSPORT WIDTH — 15 FEET, 10 INCHES

Disc Clearance Height = 9 inches



SAFETY



General

1. Do not walk on unit.
2. Use extreme caution around disc blades.
3. Do not try to adjust unit while moving.
4. Keep all bolts tight; all pins in place.
5. Do not alter design of unit.

Transporting

1. Use slow-moving emblem.
2. Do not exceed 15 mph.
3. Pin and lock transport bar before moving.
4. Do not transport without keying hitch bolt.
5. Always insert safety lock pin after folding wing.

Folding Wings

1. Do not allow anyone to stand near wings being folded or unfolded.
2. Do not remove hydraulic cylinders without inserting safety pin.
3. Always insert safety lock pin after folding spring assist wings.

TAYLOR IMPLEMENT DIVISION

PITTSBURGH FORGINGS CO.

TRACTOR DRAWN *Taylor-Way* IMPLEMENTS
INC. U.S. PAT. OFF.

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