

83-118 Rev. 

ASSEMBLY AND OPERATION INSTRUCTIONS

OWNER'S MANUAL

12MX MULTIFLEX PLANTING SYSTEM



SEE YOUR COLE DEALER FOR MORE INFORMATION

LIMITED WARRANTY: Cole Planter Company offers a limited warranty on products it manufactures.



NOTICE: Cole Planter Company reserves the right to discontinue models at any time or change specifications, design or prices without notice and without incurring obligation.

COLE PLANTER COMPANY

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SAFETY



This safety-alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read and follow the message that follows. Failure to follow these procedures may result in serious personal injury.

SUGGESTIONS AND PRECAUTIONS



1. Lower the unit when adjusting it or doing maintenance work.



2. Always lower the unit from the transport position before detaching it from the tractor.



3. The implement should be operated by only those responsible and delegated to do so. Only one person should be on the tractor during operations: the operator. Do not allow anyone to ride on the implement.



4. Do not wear loose fitting clothes around the moving parts of the implement. These may catch in the moving parts.



5. Make sure that everyone is clear before starting the machine.



6. Do not drive too fast on curves or hillsides and do not drive too close to ditches or creeks.



7. Do not try to operate the tractor unless you are in the driver's seat and do not dismount while it is still in motion.



8. Check clearance before driving the planting unit under electric lines, bridges or into building.



9. Comply with state and local laws when moving machinery on the highway and use approved lights or warning devices.



10. The owner is responsible to properly train every operator initially and at least annually thereafter in the safe operation and servicing of the equipment.



11. The unit is unstable and must be securely supported throughout assembly.

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- Section 1 Assembly of planter
- Section 2 Assembly of 1-row implements
- Section 3 Assembly of Multiple-row
Tool Bar implements
- Section 4 Operation
- Section 5 Trouble Shooting and Storage
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Warranty

SECTION 1

ASSEMBLY OF PLANTER

The 12MX Multiflex planter is one of the most versatile planters on the market, resulting from our many years of experience. This one planter simultaneously plants and places fertilizer. We offer a variety of hitches, enabling the 12MX planter to be used with almost any tool bar, cultivator or tractor.

A. MOUNTING THE FERTILIZER SIDE-PLACER DISC.

For safer shipment, the 12MX planter is packaged with the fertilizer side-placer disc removed. When you are preparing to use your 12MX planter for the first time, the fertilizer side-placer disc must be assembled on the right side of the chassis between the sword and the rear press wheel. (See Figure 1) Position on the disc as shown, with the spout to the inside and secure the assembly to the chassis using 3/8" x 1-1/2" machine bolt.

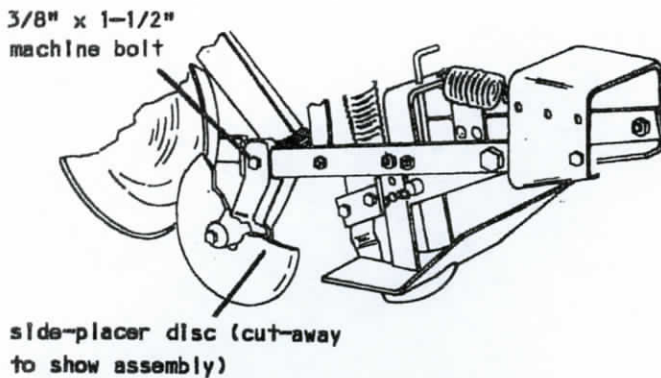


Fig. 1

B. USING THE PLANTER GAUGE WHEEL (OPTIONAL).

The planter gauge wheel allows the planter to function independently of the tractor. It is recommended when using a tractor without position control. The gauge wheel firms the seedbed and promotes uniform seed depth. To attach the planter gauge wheel, remove the 3/8" x 1-1/2" machine bolts holding the attaching bracket to the chassis of the planter. (See Figure 2) Position the planter gauge wheel as shown and substitute the 3/8" x 2" machine bolts through the planter chassis, attaching bracket, and arm of the gauge wheel. Use the 3/8" x 1-1/2" machine bolts to secure the arm of the gauge wheel to the attaching bracket, using the top center hole. (Note that planter gauge wheel cannot be used in conjunction with planter-mounted opening foot.)

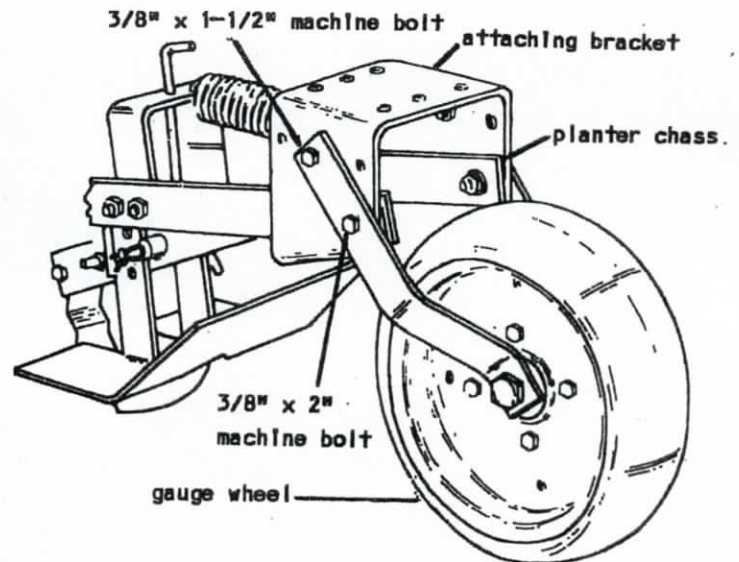


Fig. 2

C. USING THE PLANTER-MOUNTED OPENING FOOT (OPTIONAL).

The planter mounted opening foot tops the seedbed, so that seeds are planted in moist soil. It also levels the seedbed for more uniform seed depth. Most applications require that the opening foot and mounting bracket be assembled together. Figure 3 shows position of foot. Also, refer to planter mounting bracket you are going to use.

Depth of the opening foot may be readily changed by removing the 3/8" x 2-1/2" machine bolts holding the trip foot to the shank, moving the trip foot to another hole on the shank and replacing the bolts. Add a sweep of your choice to the trip foot. (Note that planter opening foot cannot be used with planter gauge wheel.)

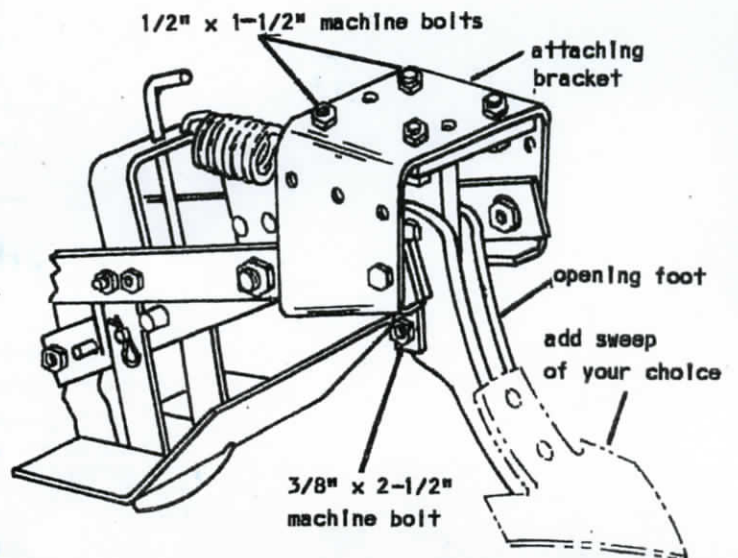


Fig. 3

B. USING THE 12MX PLANTER WITH CAT. 0 AND CAT. 1 THREE-POINT HITCHES (OPTIONAL).

These two hitches allow the attachment of the 12MX Multiflex planter to tractors with Category 0 or Category 1 three-point hitch. Attach the hitch as shown to the top of the planter attaching bracket using four $1/2"$ x $1-1/2"$ machine bolts, lock washers and nuts. (See Figure 5)

Before planting, make these adjustments. With the planter attached to your tractor's three-point hitch, adjust the top link so that the top link mast is at a right angle to the ground when the unit is in planting position. This can be checked by viewing the unit from the side. Adjust your tractor, so that the top of the attaching bracket of the planter is $13"$ (330mm) off the ground when the unit is in planting position.

Either a planter mounted gauge wheel or a planter mounted opening foot may be used. The planter gauge wheel helps maintain planter position. The opening foot tops the seedbed exposing moist soil. They cannot be used together. (See Figures 2 and 3, Page 3)

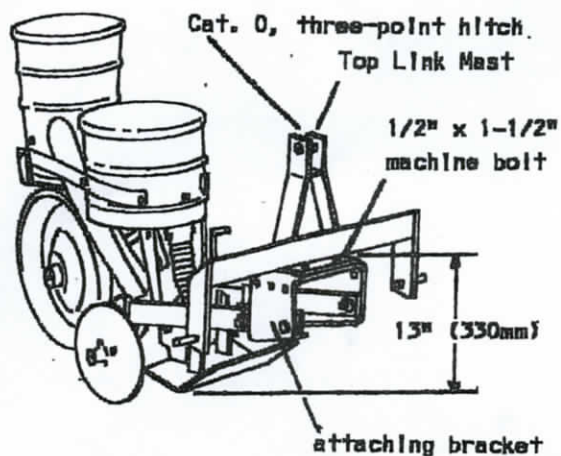
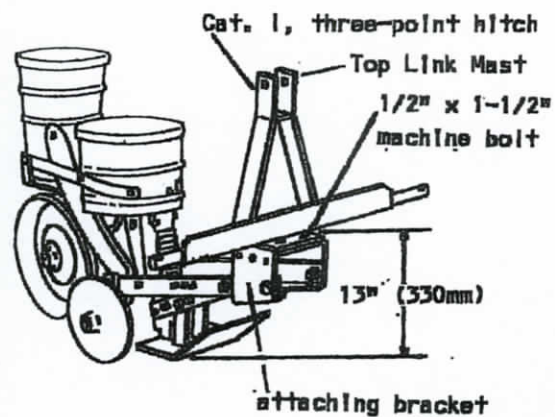


Fig. 5

SECTION 2

ASSEMBLY OF 1-ROW IMPLEMENTS

C. USING THE 12MX PLANTER WITH INTERNATIONAL TRACTORS THAT HAVE FAST HITCH.

C. USING THE 12MX PLANTER WITH INTERNATIONAL TRACTORS THAT HAVE FAST HITCH (OPTIONAL).

Cole's fast hitch attachment allows mounting the 12MX planter to international tractors with one-point fast hitch. The tractor must be adjusted before mounting the planter. (See Figure 6)

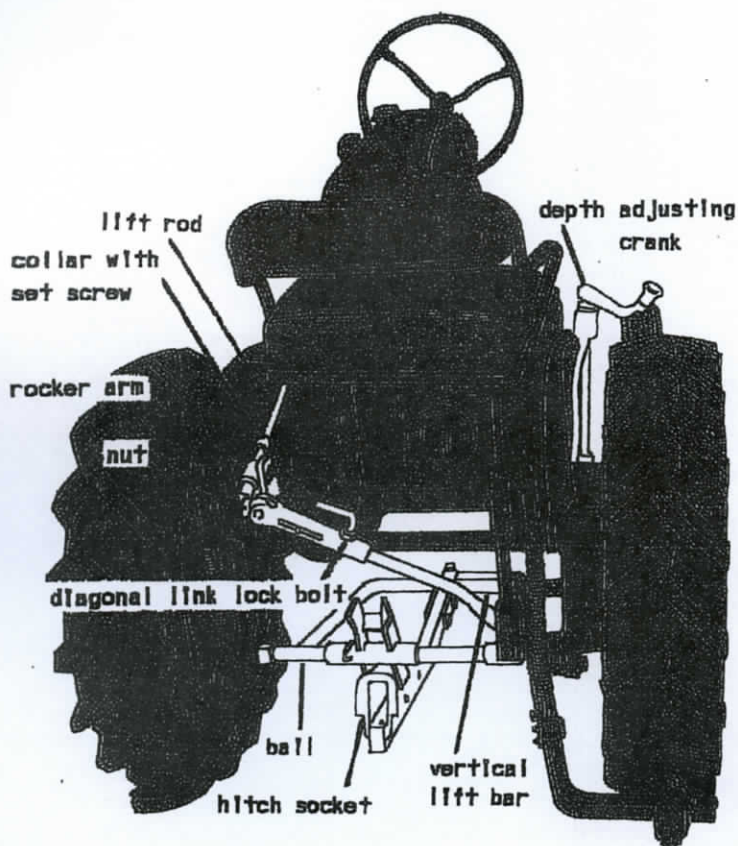


Fig. 6

1. Raise the ball on your tractor as high as possible. On the Cub, raise the ball by the depth adjusting crank. On the 140 tractors, pin the ball to the floorboard.
2. The hitch socket and pull-bar must be centered. Tighten the diagonal link lock bolt.
3. Vertical lift bars should be pinned and not allowed to float.

4. Loosen the set screw on the collar of the lift rod. (See Figure 7) Lift the support assembly up by hand, and insert the spacer (which comes with Powell's fast hitch attachment) between the nut and rocker arm. Slide the collar against the front of the rocker arm shaft and tighten the set screw.
5. Mount the planter to the fast hitch. (See Figure 8) Place the fast hitch, as shown, on top of the planter attaching bracket using the four 1/2" x 1-1/2" machine bolts, lock washers and nuts.
6. Set the hydraulic lift on your tractor so that when the planter is in planting position, the top of the attaching bracket of the planter is approximately 13" (330mm) off the ground. The tops of the hoppers should be level when the planter is in planting position.

Either a planter mounted gauge wheel or a planter mounted opening foot may be used. The planter gauge wheel helps maintain planter position. The opening foot tops the seedbed exposing moist soil. They cannot be used together. (See Figures 2 and 3, Page 3)

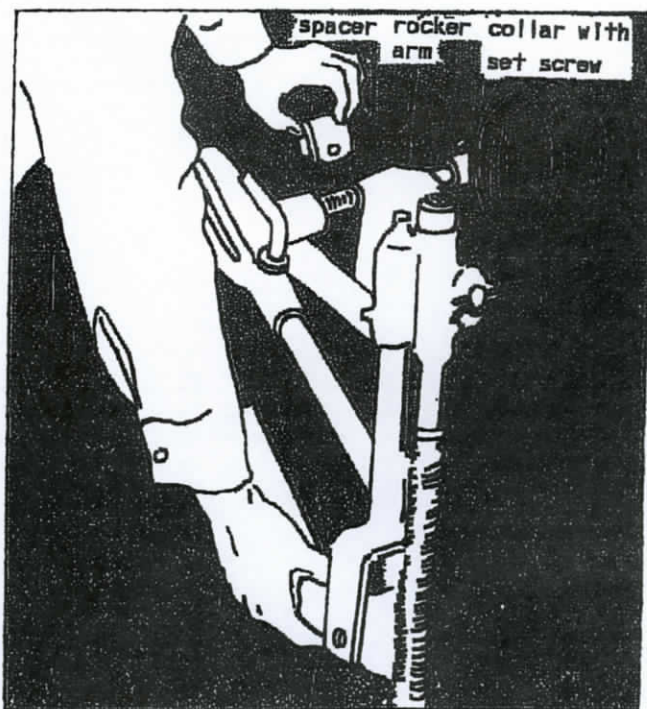


Fig. 7

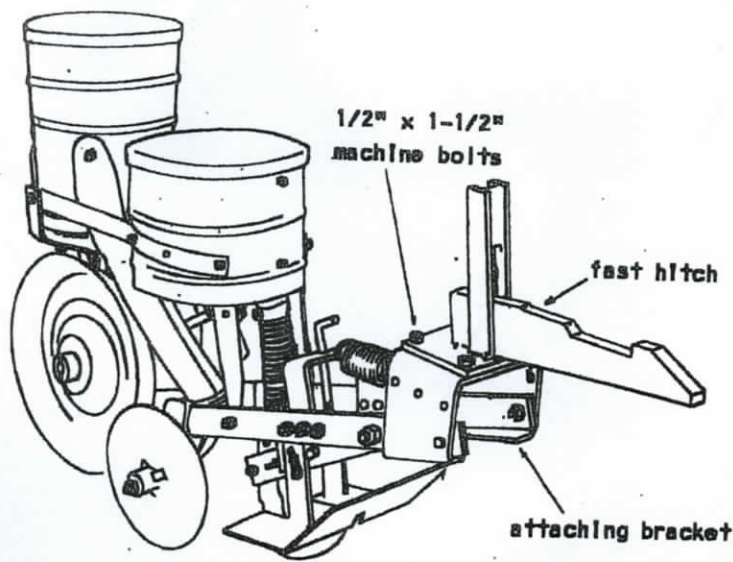


Fig. 8

Adjust the planter. Adjust the tractor so that when the planter is in planting position, the tops of the hoppers are level.

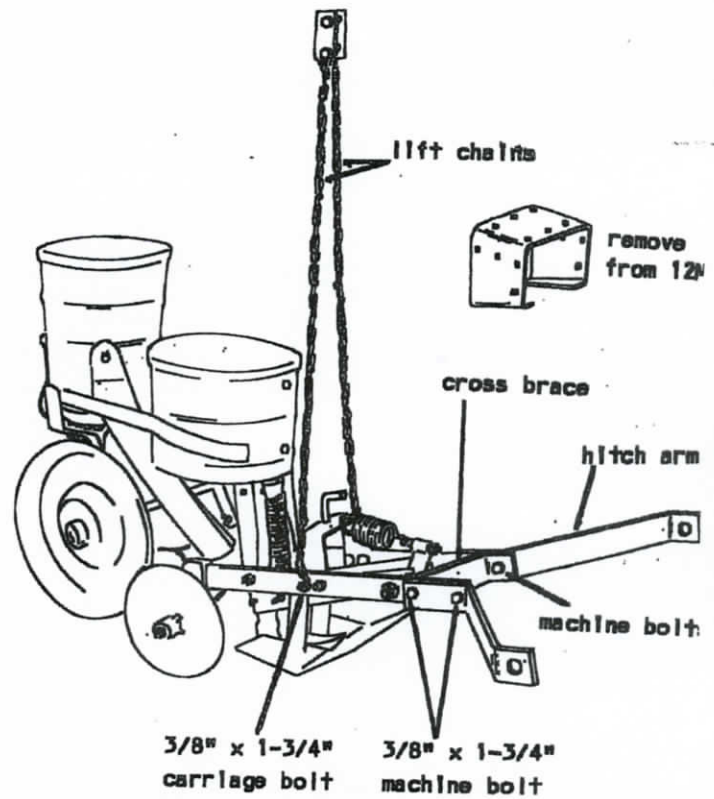


Fig. 9

SECTION 2 ASSEMBLY OF 1-ROW IMPLEMENTS

D. USING THE 12MX PLANTERS WITH INTERNATIONAL TRACTORS WITHOUT FAST HITCH

D. USING THE 12MX PLANTERS WITH INTERNATIONAL TRACTORS WITHOUT FAST HITCH.

Assemble the hitch to the 12MX planter. (See Figure 9) Note that the yoke is to be removed from the planter. Attach the cross brace and hitch arms to the front of the planter chassis as shown, using the four 3/8" x 1-3/4" machine bolts. Attach the lift chains to the sides of the planter as shown using 3/8" x 1-3/4" carriage bolts.

Prepare the tractor. Remove the drawbar and drawbar pads from the tractor. (Refer to Figure 10) Place the right pad to the front of the LEFT wheel housing, reversing it so that the hooked part is forward. Do likewise with the left pad, placing it to the front of the RIGHT wheel housing.

Mount the planter and hitch to the tractor. (See Figure 11, Page 7) Place the ends of the hitch arms on the studs of the drawbar pads. Secure with the 1/4" x 1-3/4" cotter pins. For 140 tractors, attach the ends of the lift chains to the rear lift arms of the tractor as shown. For Cub tractors, attach both chains to the single rear lift arm of the tractor.

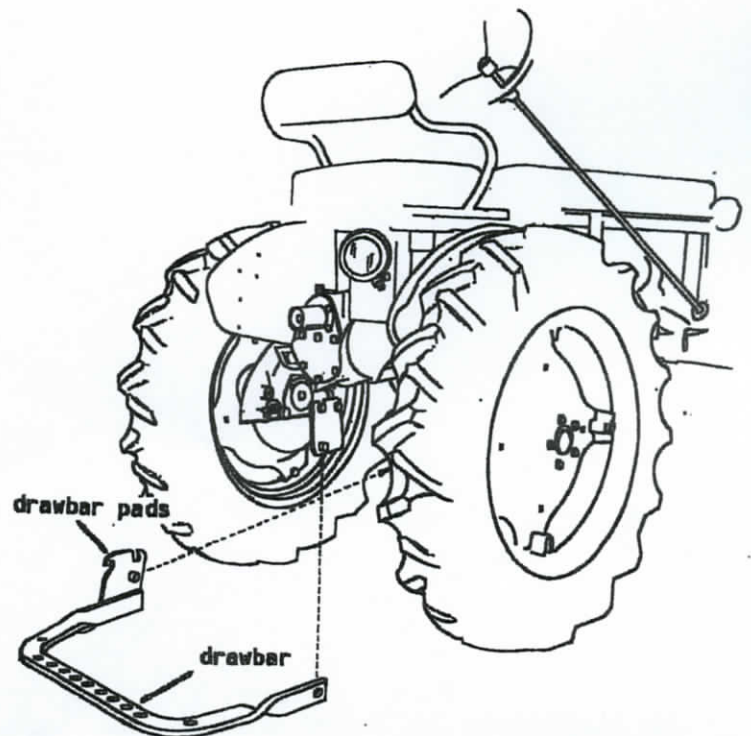
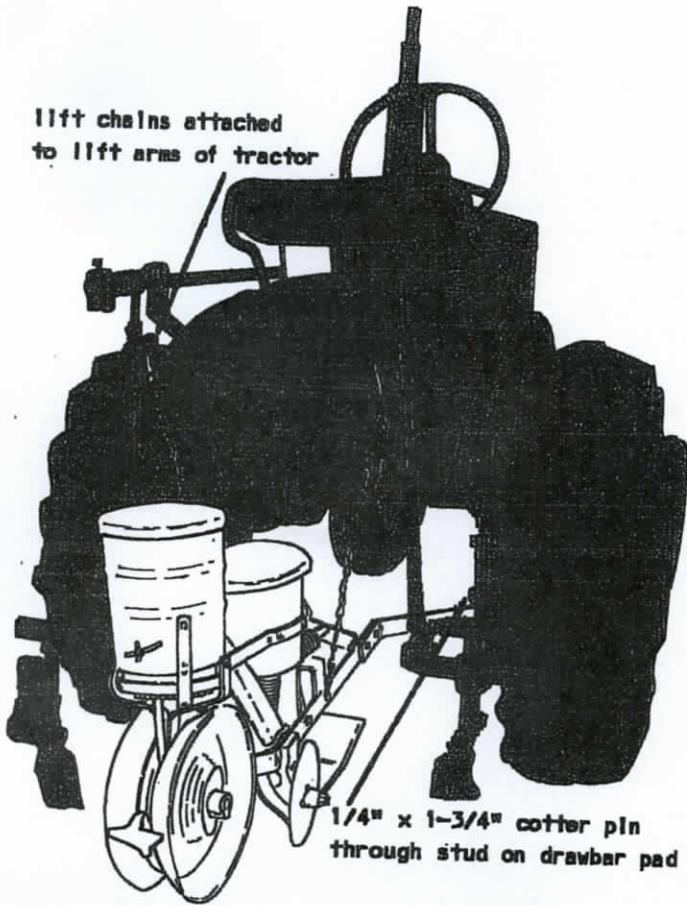


Fig. 10

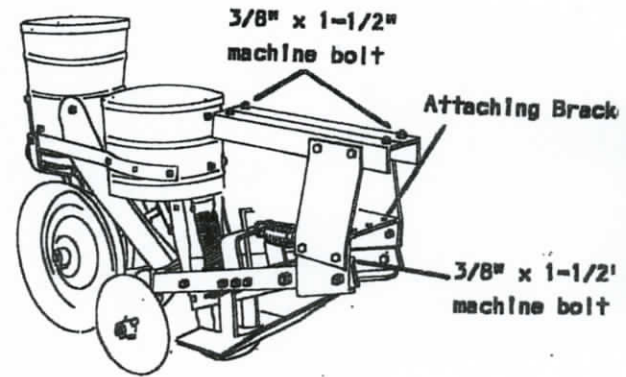
lift chains attached
to lift arms of tractor



$1/4'' \times 1-3/4''$ cotter pin
through stud on drawbar pad

Fig. 11

Either a planter mounted gauge wheel or a planter mounted opening foot may be used. The gauge wheel helps maintain planter position. Care must be exercised not to let the weight of the cultivator ride on the gauge wheel. The opening foot tops the seedbed exposing moist soil. They cannot be used together. (See Figures 2 and 3, Page 3)



$3/8'' \times 1-1/2''$
machine bolt

Attaching Bracket

$3/8'' \times 1-1/2''$
machine bolt

Fig. 12

SECTION 3 ASSEMBLY OF TOOL BAR UNITS

- A. MOUNT PLANTERS TO TOOL BAR
- B. USING CARRIER GAUGE WHEELS
- C. USING TRACK ERADICATORS/
MIDDLE SWEEPS

A. MOUNT PLANTERS TO TOOL BAR AT CORRECT ROW SPACING.

Powell offers tool bars for multiple row use with the 12MX Multiflex planter. Block the tool bar securely to a height of approximately 13" (330mm) over the ground. Find and mark the center of the tool bar between the A-frame bracket. Measure and mark row spacing along the tool bar. Place the planters under the tool bar at the row spacing. Attach the planter to the tool bar as shown in Figure 14. Place the cast V-blocks on the attaching bracket of the planter, as shown, under the tool bar so that the tool bar rests in the "V" of the block. Place the U-bolts over the tool bar, through the cast V-block and attaching bracket. Secure with lock washers and nuts. Wait to tighten the nuts until all planters have been mounted. Recheck the row spacing and make final adjustments. Then, tighten the U-bolts. Minimum recommended row spacing for multiple row planters on single tool bar is 15" (381mm).

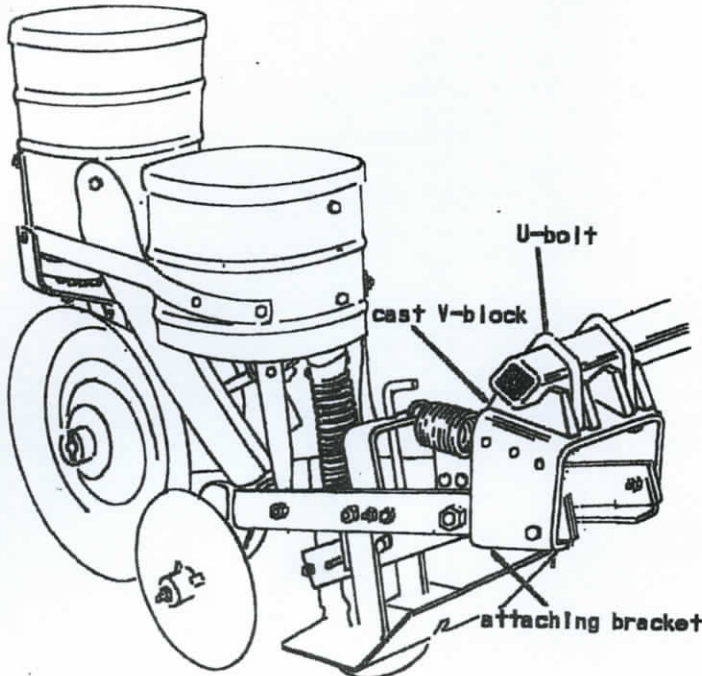


Fig. 14

B. USING GAUGE WHEELS

Use of either the carrier-mounted gauge wheels or the planter-mounted gauge wheels is recommended for two or four-row planting units to help maintain more uniform planting depth. The planter-mounted gauge wheel helps firm the seedbed as well as promoting uniform seed depth.

The carrier-mounted gauge wheels maintain uniform planting height and at the same time allow you to use the planter-mounted opening foot, since the gauge wheels mount to the carrier. (See Figure 15) Place the gauge wheel to the rear of the diamond tool bar. Change the height of the tool bar by loosening the bolts and sliding the stem of the gauge wheel either up or down. The height of the tool bar should be such that the attaching bracket of the planter is approximately 13" (330mm) above the seedbed when the unit is in planting position. The hopper tops of the planters should be level when planting (See section on operation, Page 10)

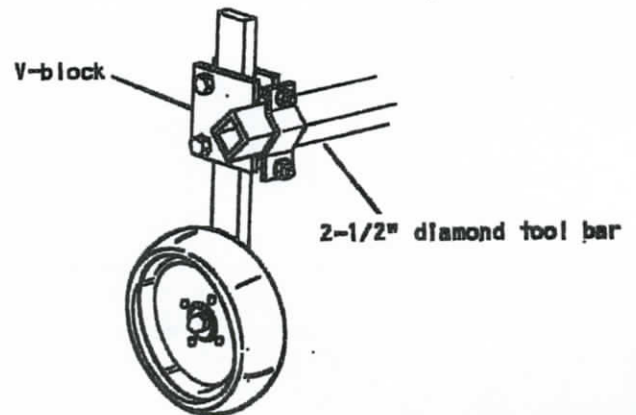


Fig. 15

SECTION 4 OPERATION

- A. LEVELING THE PLANTER**
B. SELECT AND INSTALL SEED PLATE
SEED PLATE LIST

A. CORRECTLY LEVEL THE 124X PLANTER

Adjust the hitch, or tool bar so the top of the attaching bracket is approximately 13" (330mm) off the ground when the planter is in planting position. The hopper tops should be level when planting.

B. SELECT AND INSTALL SEED PLATE.

The 124X planter has a single seed plate and is shaft driven. The seed plates are designed to accurately place seeds in properly prepared soil. The seed plates are made of sturdy cast iron. These seed plates come packed with each planter: POX-367 (for medium flat corn), P30-433 (for soybeans and field peas—two or three per cell), P30-434 (for milo, sorghum, okra, tomato, asparagus, cane, coated sugar beets, and similar seeds), and P30-435 (peas and beans—three to seven per hill). Other seed plates may be ordered separately. See the seed plate chart.

To change a seed plate, See Figure 18

1. Remove the wing nut.
2. Remove the partition and cap.
3. Remove the seed plate used previously, and replace it with the plate that you intend to use. Make sure that the four notches in the seed plate are securely engaged with the four raised pins on the drive gear underneath.
4. Replace the cap and turn until it is snug. Do not overtighten.
5. Replace the partition, making sure that one of the holes in the partition fits over the raised pin in the top of the cap.
6. Replace the wing nut.
7. Raise planter off ground and rotate wheel to make sure that seed plate will rotate freely and does not bind. Adjust cap if necessary.

The fit between the plate and the hopper can be adjusted by turning the cap to the right or to the left. Make sure when replacing the partition that the stud on the cap is lined up with a hole in the partition so that the setting will be maintained. If the cells of the plate are too small for the seeds there will be irregular seed distance. Seed plate cells too large for the seed will over-fill and cause increased plant population.

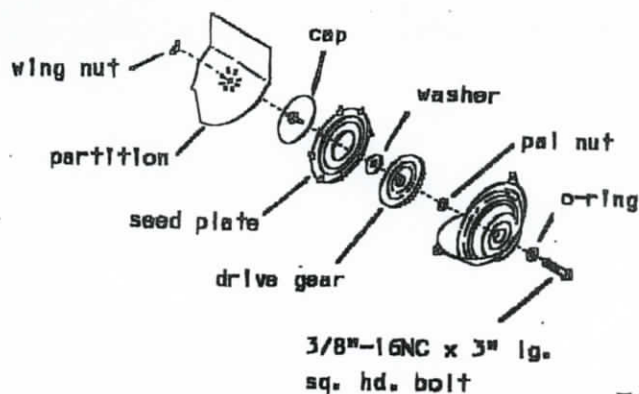


Fig.

SEED PLATES	NUMBER OF CELLS	PLATE NUMBER
CORN (PLANTS ONE SEED PER CELL)		
EXTRA SMALL ROUND, INCLUDING POPCORN	18	POX-604
SMALL ROUND	18	POX-605
MEDIUM ROUND	18	POX-606
MEDIUM FLAT	12	*POX-367
MEDIUM LARGE FLAT	12	PDX-563
LARGE FLAT	12	PDX-566
SOYBEANS / FIELD PEAS		
PLANTS TWO OR THREE PER CELL	42	*P30-433
MILLO / SORGHUM: Also plants okra, tomato, asparagus, cane, coated sugar beets and similar seed		
PLANTS TWO TO THREE SORGHUM & ONE TO TWO OKRA PER CELL	16	*P30-434
PEANUTS		
SMALL PEANUTS - 1000- 1200 AVERAGE SEEDS PER POUNDS PLANTS ONE PER CELL, 12# - 75# PER ACRE	21	POX-454
MEDIUM PEANUTS SUCH AS N.C. RUNNER, PICKS UP MORE THAN ONE PER CELL, 25# -125# ACRE	26	POX-467
EXTRA LARGE PEANUTS SUCH AS FLORA GIANTS	16	POX-480
COTTON: ACID DELINTED		
PLANTS THREE OR FOUR SEED PER HILL	12	POX-500
DRILLS SEED	40	PDX-576
WATERMELON, CANTALOUPE, CUCUMBER SQUASH, PUMPKIN		
WATERMELON, SQUASH - PLANTS THREE OR FOUR SEED PER HILL	2	PDX-355
CATALOUPE, CUCUMBER - PLANTS TWO OR THREE SEED PER HILL	6	POX-382
SNAP BEANS, LIMA BEANS, FIELD PEAS, ETC.		
SMALL SNAP BEANS	42	*P30-433
BUSH LIMA - TWO PER CELL	12	POX-337
PEAS AND BEANS - PLANTS THREE TO SEVEN PER HILL	8	*P30-435
SUNFLOWER	12	PDX-630

*STANDARD SEED PLATES COMES WITH EACH UNIT

SECTION 4 OPERATION

- C. OBTAINING THE CORRECT SEED SPACING**
D. SET THE SEED DEPTH
E. SET THE FERTILIZER RATE

C. OBTAINING THE CORRECT SEED SPACING.

Select and install the correct distance gear for the seed spacing that you desire. Refer to the seed spacing chart. To change the distance gear, loosen the wing nut under the seed hopper, pull the drive shaft down and change the gear. Then, push the drive shaft back up until the gears engage properly and tighten the wing nut. (See Figure 19) Raise planter off the ground and rotate wheel to insure the gears do not bind.

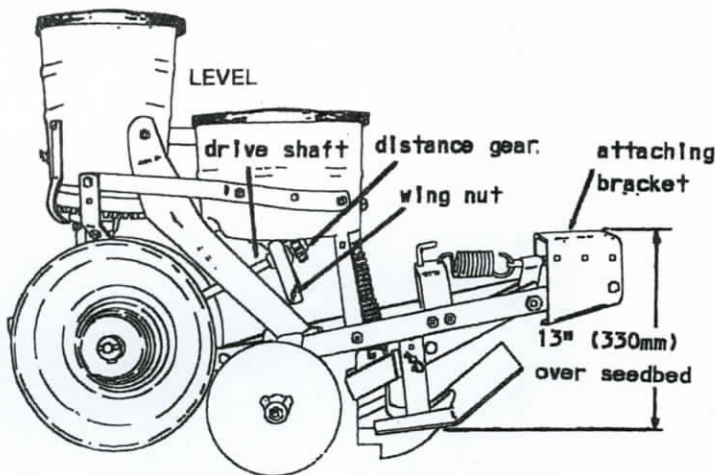


Fig. 19

SEED SPACING				
Distance Gear	8-Tooth	10-Tooth	12-Tooth	14-Tooth
Number of Cells in Plate	SEED SPACING INCH (CM)			
1	180 (457.2)	144 (365.8)	120 (304.8)	100 (254)
2	90 (228.6)	72 (182.9)	60 (152.4)	50 (127)
4	45 (114.3)	36 (91.4)	30 (76.2)	26 (66)
6	30 (76.2)	24 (61)	20 (50.8)	17 (43.2)
8	22 (55.9)	18 (45.7)	15 (38.1)	13 (33)
10	18 (45.7)	14 (35.6)	12 (30.5)	10 (25.4)
12	15 (38.1)	12 (30.5)	10 (25.4)	8 (20.3)
16	11 (27.9)	9 (22.9)	7 (17.8)	6 (15.2)
18	10 (25.4)	8 (20.3)	6.5 (16.5)	5 (12.7)
26	7 (17.8)	5.5 (14)	4.5 (11.4)	3.5 (8.9)
30	6 (15.2)	4.5 (11.4)	4 (10.2)	3 (7.6)
32	6 (15.2)	4.5 (11.4)	4 (10.2)	3 (7.6)
36	5 (12.7)	4 (10.2)	3.5 (8.9)	2.5 (6.4)
40	4.5 (11.4)	3.5 (8.9)	3 (7.5)	2.5 (6.4)
46	4 (10.2)	3 (7.6)	2.5 (6.4)	2 (5.1)
60	3 (7.6)	2.5 (6.4)	2 (5)	1.5 (3.8)

D. SET THE SEED DEPTH.

Decide on the correct depth for type of seed you are planting. Seed depth may be set by two methods. (See Figure 20) Use the sliding shoe depth gauge for planting flat or on beds. Change seed depth by removing the hair pin and sliding the holding pin out. Move the depth gauge to the correct position, and replace the holding pin and hair pin. Seed planting depth, when using the sliding shoe depth gauge, is set in 1/2" (13mm) increments. Rotate the hand crank completely out to insure maximum float of the seed opener.

When planting in furrows, remove the sliding shoe depth gauge completely and use the hand crank to set seed depth.

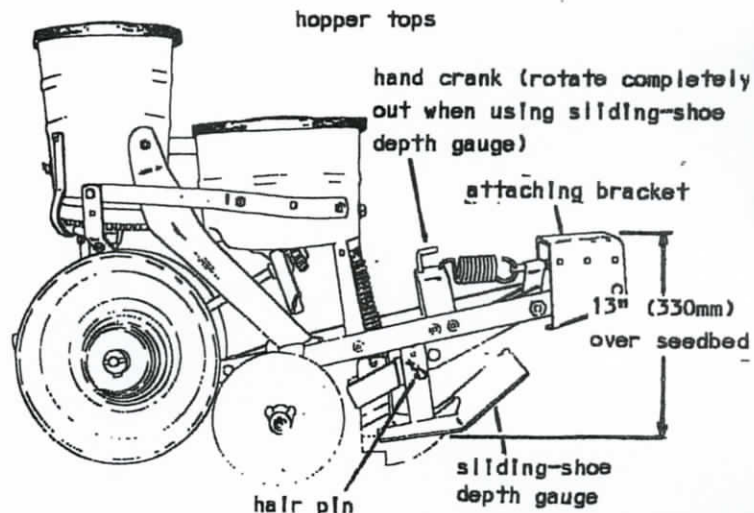


Fig. 20

E. SET THE FERTILIZER RATE.

To regulate the amount of fertilizer, loosen the wing nut at the rear of the fertilizer hopper. (See Figure 21) Moving the lever to the left will decrease the fertilizer application. Minimum application is 34 lbs. per acre (38kg/ha). (Rates are based on fertilizer with a density of 72 lbs. per cubic foot (80kg/m³) and calculated on 36" (91cm) row spacings.) Moving the lever to the right will increase fertilizer application up to 650 lbs. per acre (730kg/ha). After setting fertilizer output, retighten wing nut.

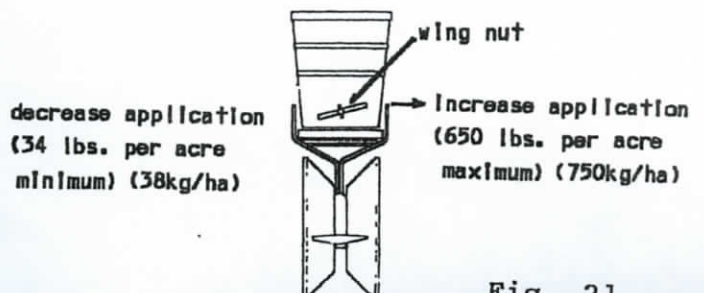


Fig. 21

SECTION 5

TROUBLE SHOOTING / STORAGE

TROUBLE SHOOTING

PROBLEM

Improper seed distribution

SOLUTION

1. Check that planter is mounted correctly to hitch or tool bar and that planter is adjusted so that the top of the attaching bracket is approximately 13" (330mm) above seedbed. Hopper tops should be level when planting.
2. Check to make sure that distance gear meshes properly. Have you used the correct distance gear?
3. Check seed plate to be sure that it is not too tight or too loose. If plate is too tight, turn cap to the left one or more notches on the partition. If too loose, check for trash caught under the plate, and then turn the cap to the right one or more notches.
4. Check to be sure the seeds being planted and seed plate used are properly matched.
5. Check that all mountings are securely bolted.

Improper fertilizer distribution

1. Check that planter is mounted correctly to hitch or tool bar, that planter is adjusted so that the top of the attaching bracket is approximately 13" (330mm) above seed bed. Hopper tops should be level when mounting.
2. Check to see that wing nut at the rear of the fertilizer hopper is set on the correct setting.
3. Check drive wheel to be sure that it turns freely.
4. Check for large lumps of fertilizer clogging spout or fertilizer cutoff band. Fertilizer may have picked up too much moisture.
5. Check that all mountings are securely bolted.

STORAGE

DAILY

1. Remove seed and fertilizer from hoppers.
2. Check unit/units for broken or badly worn parts. Replace as required.
3. Store out of the weather.
4. Store planter so that it is stable and will not turn over and cause personal injury.

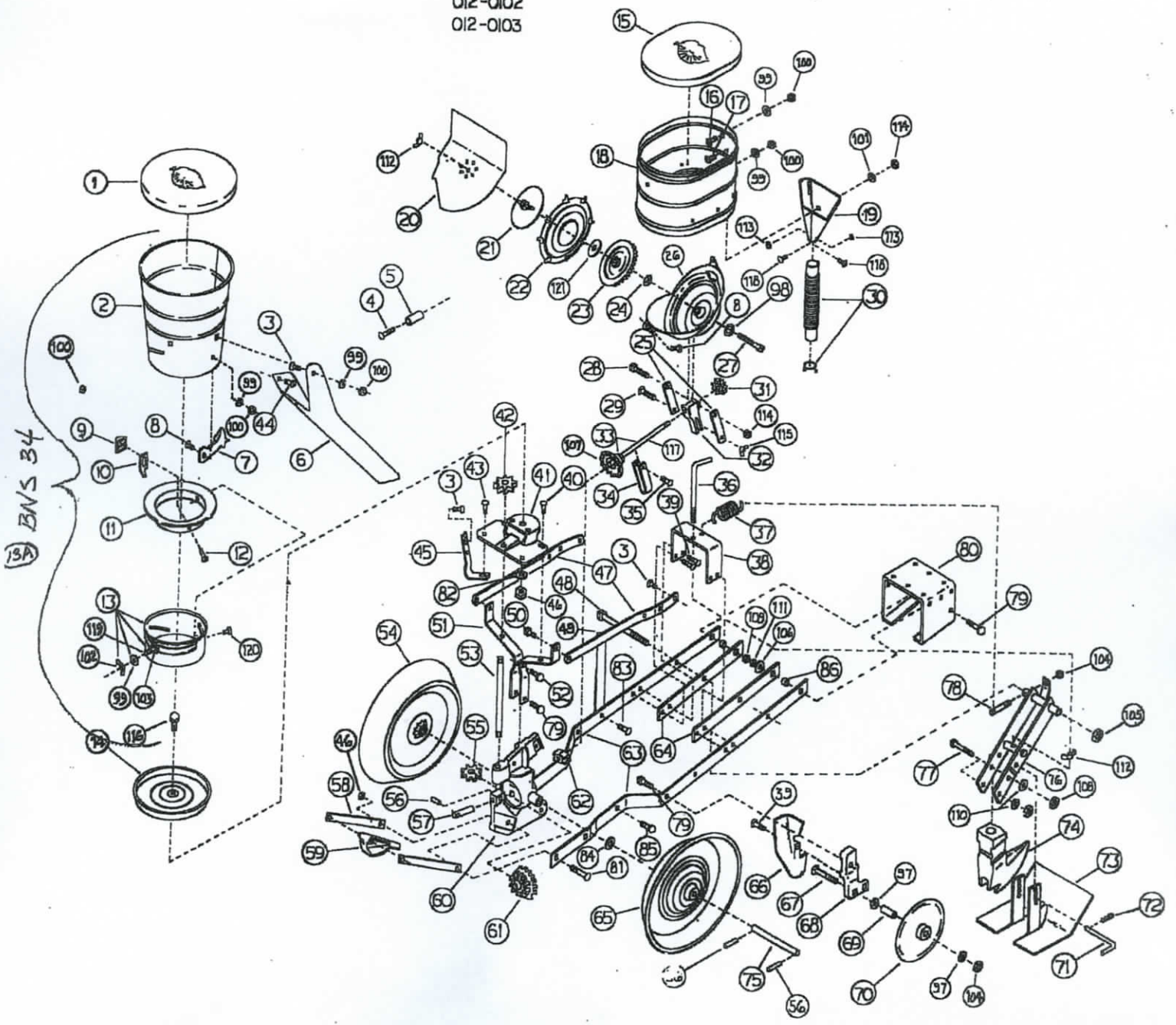
END OF SEASON OR PROLONGED STORAGE

1. Remove all seed from hopper.
2. Remove all fertilizer from hopper and wash entire unit thoroughly with water. Allow to dry.
3. Lubricate unit. Coat all metal parts with a light oil or commercial corrosion preventive.
4. Check unit for broken or badly worn parts. Order necessary parts from your dealer.
5. Store planter so that it is stable and will not turn over and cause personal injury.

11 and 12MX Planter Assembly

012-0102, 012-0103 and B47-216

012-0102
012-0103



11 and 12MX Planter Assembly

012-0102, 012-0103 and B47-216

DIAGRAM NUMBER	PART NUMBER	DESCRIPTION	NUMBER PER ASSEMBLY
1	P20-909	Lid, Fertilizer Hopper (Plastic)	1
2	P30-593	Can, Fertilizer Riveted	1
3	001-2549-S	Bolt, Crg., 1/4-20NC x 5/8 Lg. Short Shoulder	7
4	001-2558	Bolt, Crg., 1/4-20NC x 2-1/2	1
5	P20-235	Spacer, Hopper	1
6	POS-35	Spout, Fertilizer	1
7	POA-50	Scrape, Outside Fertilizer Casting	1
8	001-2986	Screw, Machine Flat Head 1/4-20NC x 3/4	1
9	P00-52	Shield, Scrape	1
10	POA-51	Scrape, Inside Fertilizer	1
11	P00-57	Ring, Fertilizer	1
12	001-2991	Screw, Machine Flat Head 1/4-20NC x 1-1/2	1
13	BOS-37	Assembly, Cut-off Band	1
13A	BNS-34	Assembly, Fertilizer Hopper, Complete	1
14	P00-246	Plate, Fertilizer	1
15	B21-025	Lid, Seed Hopper	1
16	001-2985	Screw, Machine Flat Head 1/4-20NC x 5/8	1
17	001-2980	Screw, Machine Flat Head 1/4-20NC x 3/4	1
18	B30-592	Can, Seed Hopper	1
	B30-602	Seed Hopper Assembly, Complete	1
19	P46-689	Spout, Seed	1
20	P20-927	Partition, Seed	1
21	P20-926	Cap, Seed Plate	1
22	P30-433	Plate, Seed 42 Cell	1
	P30-434	Plate, Seed 16 Cell	1
	P30-435	Plate, Seed 8 Cell	1
	POX-367	Plate, Seed 12 Cell	1
23	P00-187	Gear, Under Seed Plate	1
24	001-0140	Nut, 3/8 Pal.	1
25	P30-342	Steel, Bottom	2
26	P00-B189	Bottom, Hopper	1
	POB-189	Hopper Bottom Assembly	1
27	001-2073-S	Screw, Cap HH 3/8-16NC x 3 Sq. Hd.	1
28	001-2037	Screw, Cap HH 5/16-18NC x 1-1/2	1
29	001-2576	Bolt, Crg., 5/16-18NC x 1-1/2	1
30	P21-104	Spout, Seed, Rubber W/Wire	1

11 and 12MX Planter Assembly

012-0102, 012-0103 and B47-216

DIAGRAM NUMBER	PART NUMBER	DESCRIPTION	NUMBER PER ASSEMBLY
31	POG-8	Gear, 8 Tooth	1
	POG-10	Gear, 10 Tooth	1
	POG-12	Gear, 12 Tooth	1
	POG-14	Gear, 14 Tooth	1
32	P00-206	Bearing, Upper	1
33	PCB-45	Assembly, Drive Shaft W/Gear	1
34	POC-43	Stop, Axle	1
35	001-2553	Bolt, Crg., 1/4-20NC x 1-1/4	1
36	P21-132A	Rod, Depth Adjusting	1
37	P21-108	Spring	1
38	P21-114	Bracket, Adjusting	1
39	001-2598	Bolt, Crg., 3/8-16NC x 1-1/4	5
40	001-2575	Bolt, Crg., 5/16-18NC x 1-1/4	2
41	P20-512	Saddle	1
42	POB-255	Gear, Upper Drive	1
43	001-2574-S	Bolt, Crg., 5/16-18NC x 1 Short Shoulder	2
44	001-2002	Screw, Cap HH 1/4-20NC x 1/2	1
45	POS-257	Brace	2
46	001-0055	Locknut, 3/8-16NC Hex	2
47	POC-179	Brace, Hopper	2
48	001-2163	Screw, Cap HH 5/8-11NC x 7	1
49	PCL-178	Brace, Left	1
	PCR-178	Brace, Right	1
50	001-2033	Screw, Cap HH 5/16-18NC x 3/4	2
51	P20-324	Leg	2
52	001-2035	Screw, Cap HH 5/16-18NC x 1	1
53	P20-713A	Shaft, Drive 5/8	1
54	P00-186B-G	Wheel, Half, Gear Side	1
55	P20-712	Gear, Lower Drive	1
56	001-3433	Pin, Roll 1/4 x 1-1/2	3
57	P20-322	Axle, Drive Gear	1
58	P20-630	Arm, Scraper	2
59	P20-720	Scrape, Wheel	1
60	P20-320	Support, Main	1
61	POA-253	Gear, Drive	1
62	POA-214	Bearing, Lower	1
63	P21-112	Beam, Planter	2

11 and 12MX Planter Assembly

012-0102, 012-0103 and B47-216

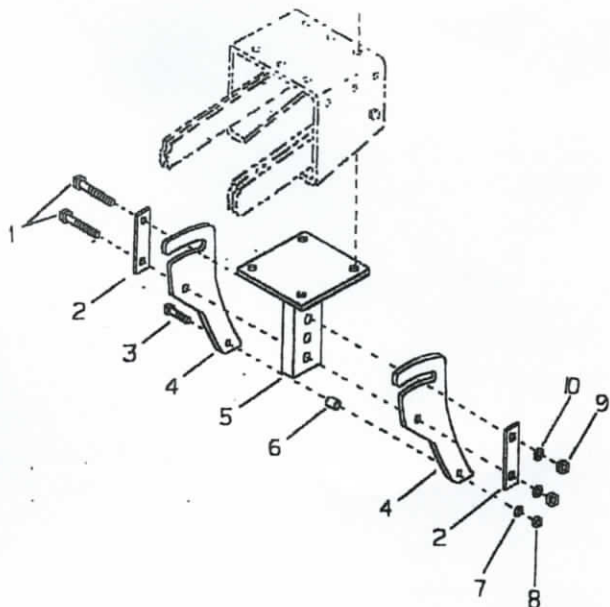
<u>DIAGRAM NUMBER</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>NUMBER PER ASSEMBLY</u>
64	P21-113	Beam, Back-up	2
65	P00-1868-P	Wheel, Half, Plain Side	1
66	P21-174	Spout, Side Placer	1
67	001-2651	Bolt, Crg., 1/2-13NC x 3-1/4	1
68	P21-175	Bracket, Attaching, Side Placer	1
69	P20-705	Bushing, Side Placer	1
70	P20-697	Placer, Side, Fertilizer	1
71	P21-134	Pin	1
72	P20-277	Hair Pin #16 (1/8) Wire	1
73	P21-109	Skid Plate	1
74	P21-131	Foot, Opener	1
75	P05-99	Axle, Wheel 3/4	1
76	P21-115	Support, Arm	1
77	001-2043	Screw, Cap HH 5/16-18NC x 3	2
78	P21-120	Rod, Adjusting 1/2	1
79	001-2067	Screw, Cap HH 3/8-16NC x 1-1/2	4
80	P21-121	Bracket, Attaching	1
81	001-2600	Bolt, Crg., 3/8-16NC x 1-3/4	2
82	001-1067	Washer, Flat Special	1
83	001-2597	Bolt, Crg., 3/8-16NC x 1	2
84	001-1046	Washer, 1-7/8 OD x 15/16 ID x 1/16	1
85	001-2065	Screw, Cap HH 3/8-16NC x 1	4
86	P21-133	Bushing, 45/64 OD x 13/32 ID x 17/32	2
97	001-1005	Washer, Flat 1/2	2
98	P30-450	Ring, "O", 9/16 OD x 3/8 ID x 3/32	1
99	001-1001	Washer, Flat 1/4	11
100	001-0005	Nut, 1/4-20NC Hex	14
101	001-1002	Washer, Flat 5/16	1

11 and 12MX Planter Assembly

012-0102, 012-0103 and B47-216

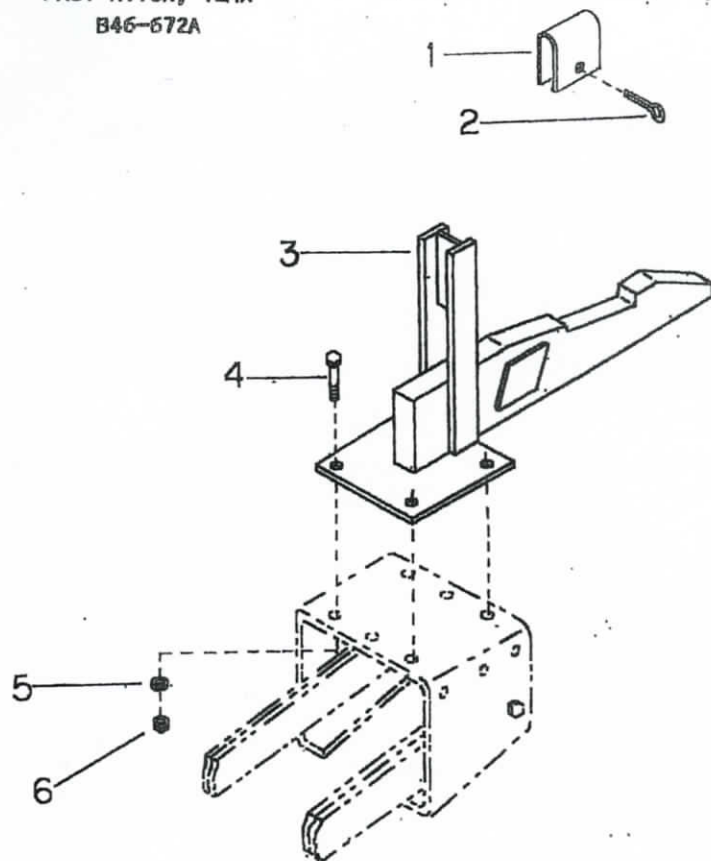
<u>DIAGRAM NUMBER</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>NUMBER PER ASSEMBLY</u>
102	001-0100	Nut, Wing 1/4-20NC	1
103	001-1005	Nut, 1/4 -20NC Hex	1
104	001-0009	Nut, 1/2-13NC Hex	2
105	001-0057	Locknut, 5/8-11NC	1
106	011-1003	Washer, Flat 3/8	2
107	P00-220	Gear, Drive Shaft	1
108	001-0006	Nut, 5/16-18NC Hex	10
109	001-0007	Nut, 3/8-16NC Hex	16
110	001-1251	Washer, Lock 5/16	2
111	001-1252	Washer, Lock 3/8	4
112	001-0103	Nut, Wing 3/8-16NC	2
113	001-0004	Nut, Hex 10-24NC	2
114	001-0061	Locknut, 5/16-18NC	2
115	001-0101	Nut, Wing 5/16	1
116	001-2066	Screw, Cap HH 3/8-16NC x 1-1/4	1
117	P20-644	Shaft, Hopper Drive	1
118	001-3096	Screw, Mach. Rd. Hd. #10-24NC x 1/2	2
119	001-2552-S	Bolt, Crg., 1/4-20NC x 1 Short Shoulder	1
120	001-3486	Rivet, 1/4 x 1/2	3
121	001-1309	Washer, Special Fender 1-1/2 OD x 13/32 ID x 24 GA.	1

FRICION TRIP OPENING FOOT, 12MX
B46-574

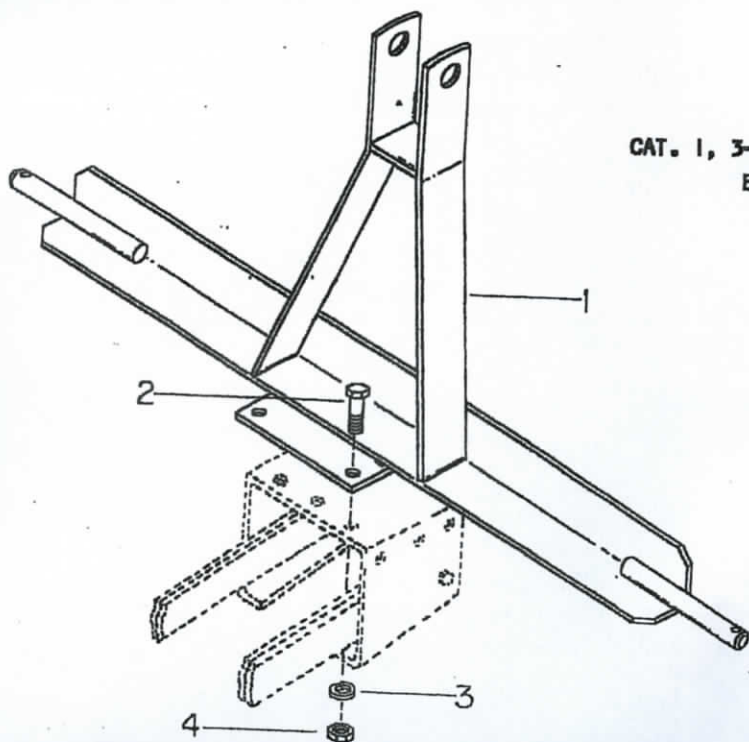


REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	001-2071	Screw, Cap HH ZP 3/8-16NC x 2-1/2	2
2	P45-943	Steel, Friction	2
3	001-2039	Screw, Cap HH ZP 5/16-18NC x 2	1
4	P45-718	Trip Foot Steel	2
	P21-148	Weldment, Opening Foot	1
	P45-596	Spacer, 3/8 BIP x 3/4	1
7	001-1251	Lockwasher, 5/16	1
8	001-0006	Nut, Hex ZP 5/16-18NC	1
9	001-0007	Nut, Hex ZP 3/8-16NC	2
10	001-1252	Lockwasher, 3/8	2

FAST HITCH, 12MX
B46-572A



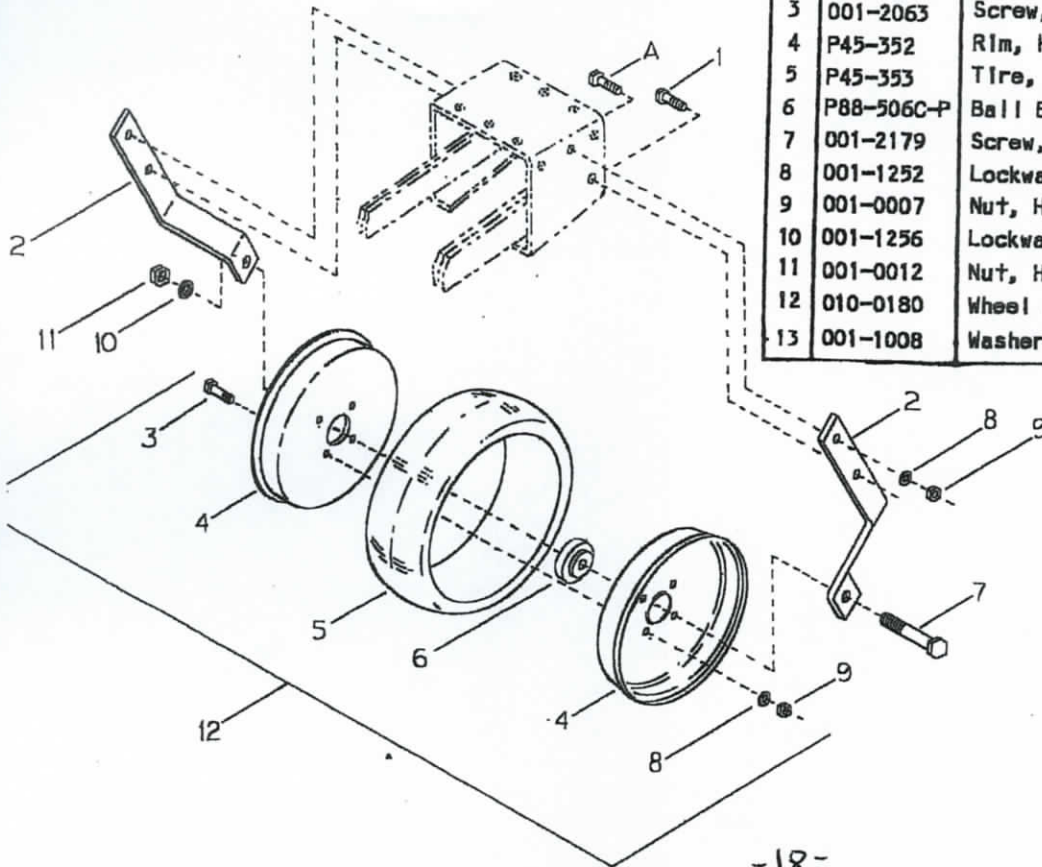
REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P45-819	Spacer, Lift, 3/16 x 2 x 4	1
2	001-3378	Pin, cotter, 1/4 x 1-3/4	1
3	P46-711	Weldment, Fast Hitch, 12 MX	1
4	001-2121	Screw, Cap HH, ZP, 1/2-13NC x 1-1/2	4
5	001-1254	Lockwasher, 1/2	4
6	001-0009	Nut, Hex, ZP 1/2-13NC	4



CAT. 1, 3-POINT HITCH, 12MX
B46-664A

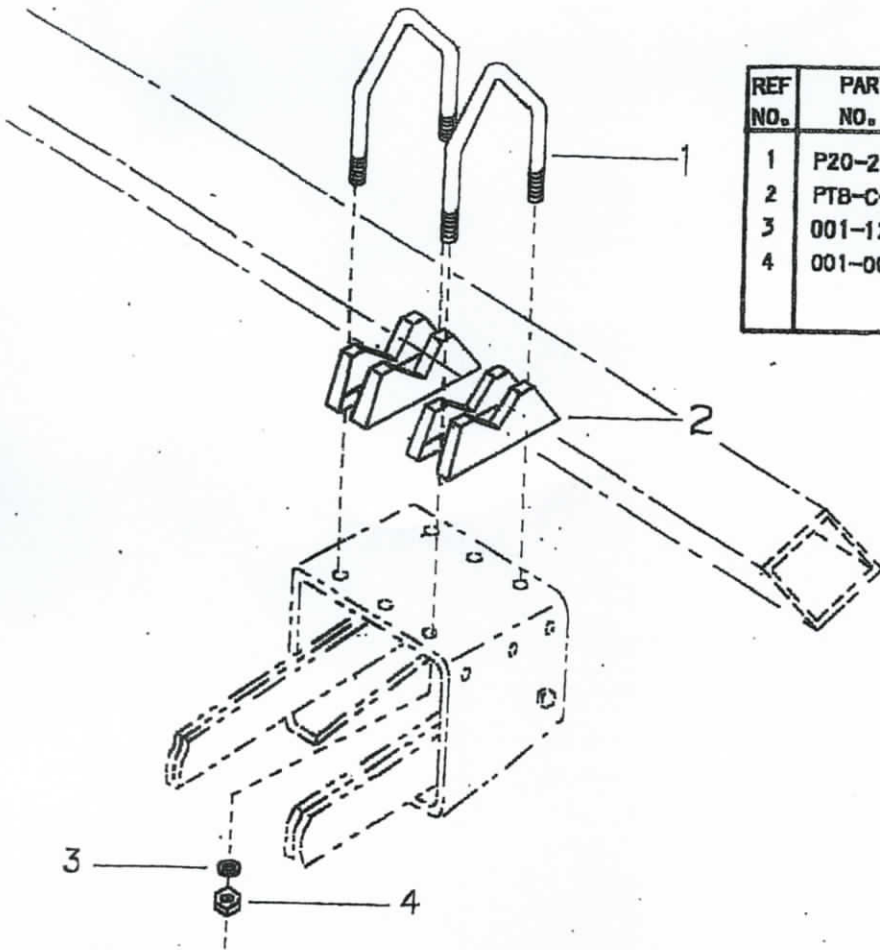
REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P46-693A	Hitch, 3 Point, CAT. 1	1
2	001-2121-5	Screw, Cap HH ZP 1/2-13NC x 1-1/2 Gr. 5	4
3	001-1254	Lockwasher 1/2	4
4	001-0009	Nut, Hex 1/2-13NC	4

GAUGE WHEEL, 12MX
B46-676



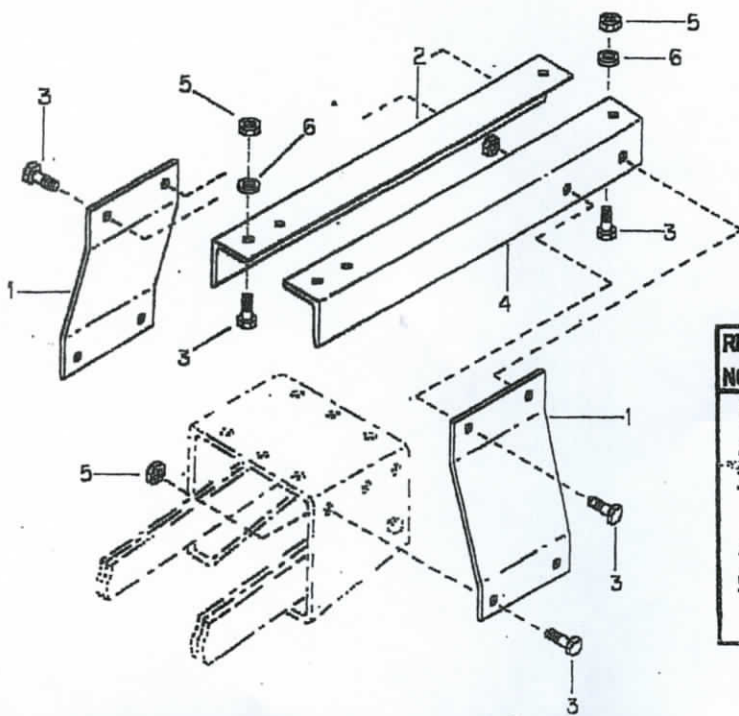
REF NO.	PART NO.	DESCRIPTION	NO. REQ
A		Screw, Cap HH ZP 3/8-16NC x 1-1/2 (Supplied with Planter)	2
1	001-2069	Screw, Cap HH ZP 3/8-16NC x 2	2
2	P46-681	Arm, Support	2
3	001-2063	Screw, Cap HH ZP 3/8-16NC x 3/4	4
4	P45-352	Rim, Half	2
5	P45-353	Tire, 4.00 x 12	1
6	P88-506C-P	Ball Bearing	1
7	001-2179	Screw, Cap HH ZP 3/4-10NC x 3	1
8	001-1252	Lockwasher, 3/8	6
9	001-0007	Nut, Hex ZP 3/8	6
10	001-1256	Lockwasher, 3/4	1
11	001-0012	Nut, Hex 3/4-10NC	1
12	010-0180	Wheel Assembly, 12 Zero Pressure	1
13	001-1008	Washer, Flat ZP 3/4	1

HITCH, 2-1/2 CORNER MOUNTED BAR, 12MX
B46-670



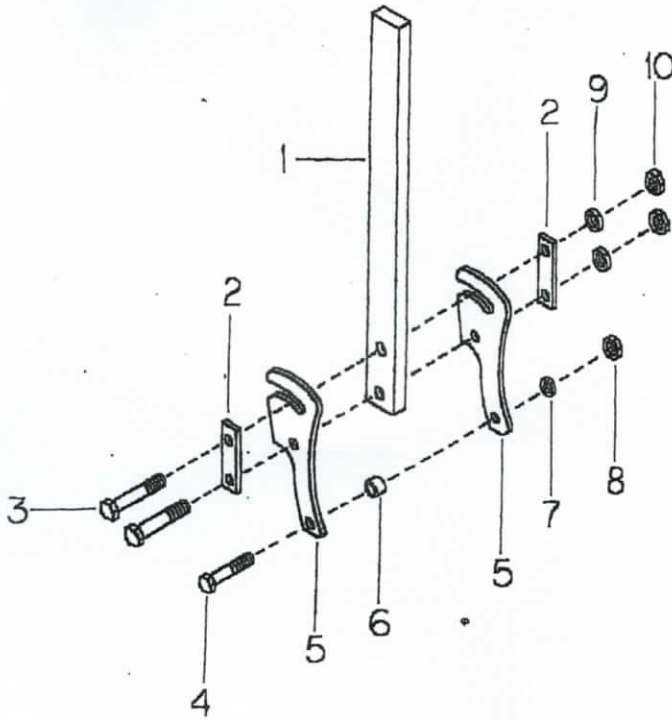
REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P20-224	U-Bolt, Angle Bend 1/2	2
2	PTB-C-1	V-Block	2
3	001-1254	Lockwasher, 1/2	4
4	001-0009	Nut, Hex, ZP 1/2-13NC	4

CULTIVATOR HITCH, 12MX
B46-668



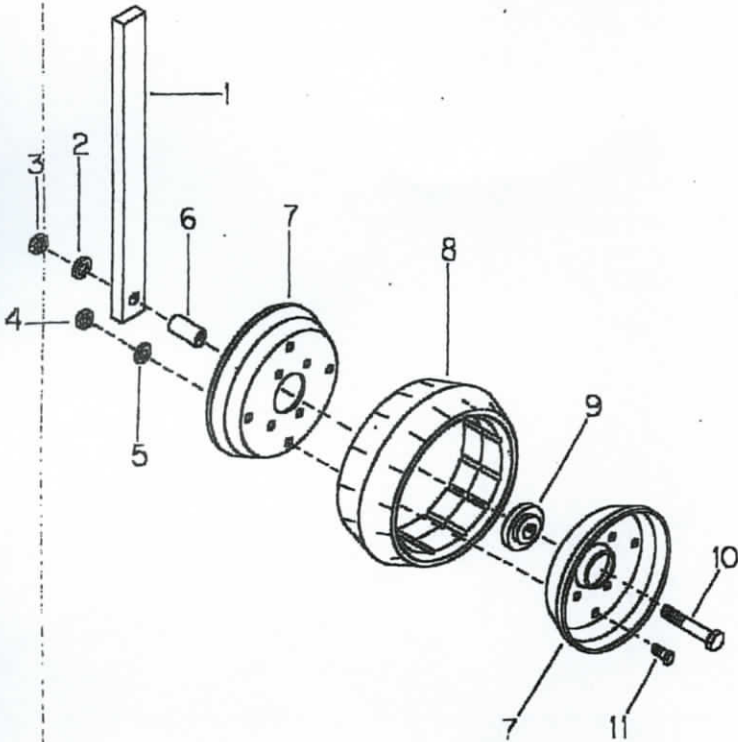
REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P46-686	Plate, Mounting	2
2	P46-688	Arm, Attachment, Left	1
3	001-2067	Screw, Cap HH ZP 3/8-16NC x 1-1/2 Lg.	12
4	P46-685	Arm, Attachment, Right	1
5	001-0055	Locknut, Hex ZP 3/8-16NC	12
	001-1003	Washer, 3/8 Flat	4

FRICION TRIP ERADICATOR
B46-658



REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P45-557	Stem, 3/4 x 2 x 24	1
2	P45-943	Friction Steel	2
3	001-2071	Screw, Cap HH ZP 3/8-16NC x 2-1/2	2
4	001-2039	Screw, Cap HH ZP 5/16-18NC x 2	1
5	P45-718	Trip Foot Steel	2
6	P45-596	Spacer, 3/8 BIP x 3/4	1
7	001-1251	Lockwasher, 5/16	1
8	001-0006	Nut, Hex ZP 5/16-18NC	1
9	001-1252	Lockwasher, 3/8	2
10	001-0007	Nut, Hex ZP 3/8-16NC	2

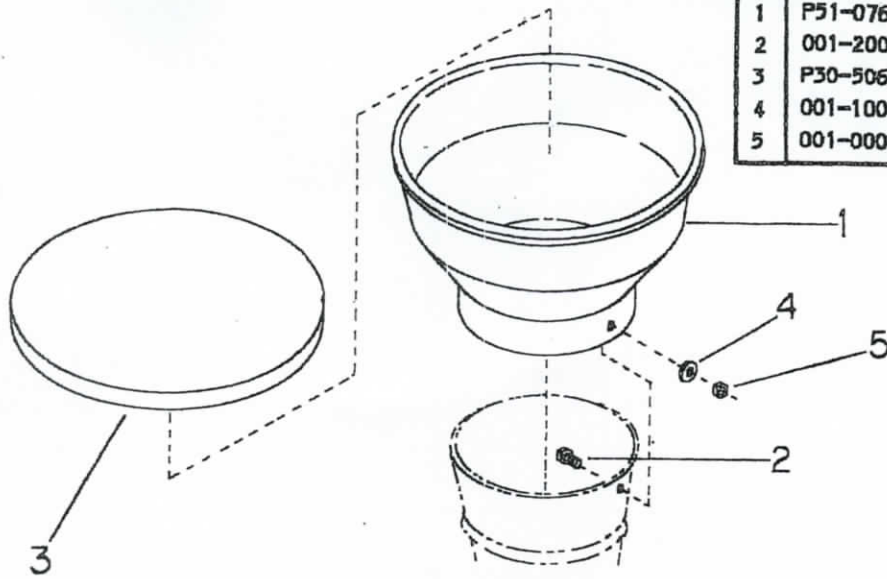
12" ZERO PRESSURE GAUGE WHEEL
B47-121



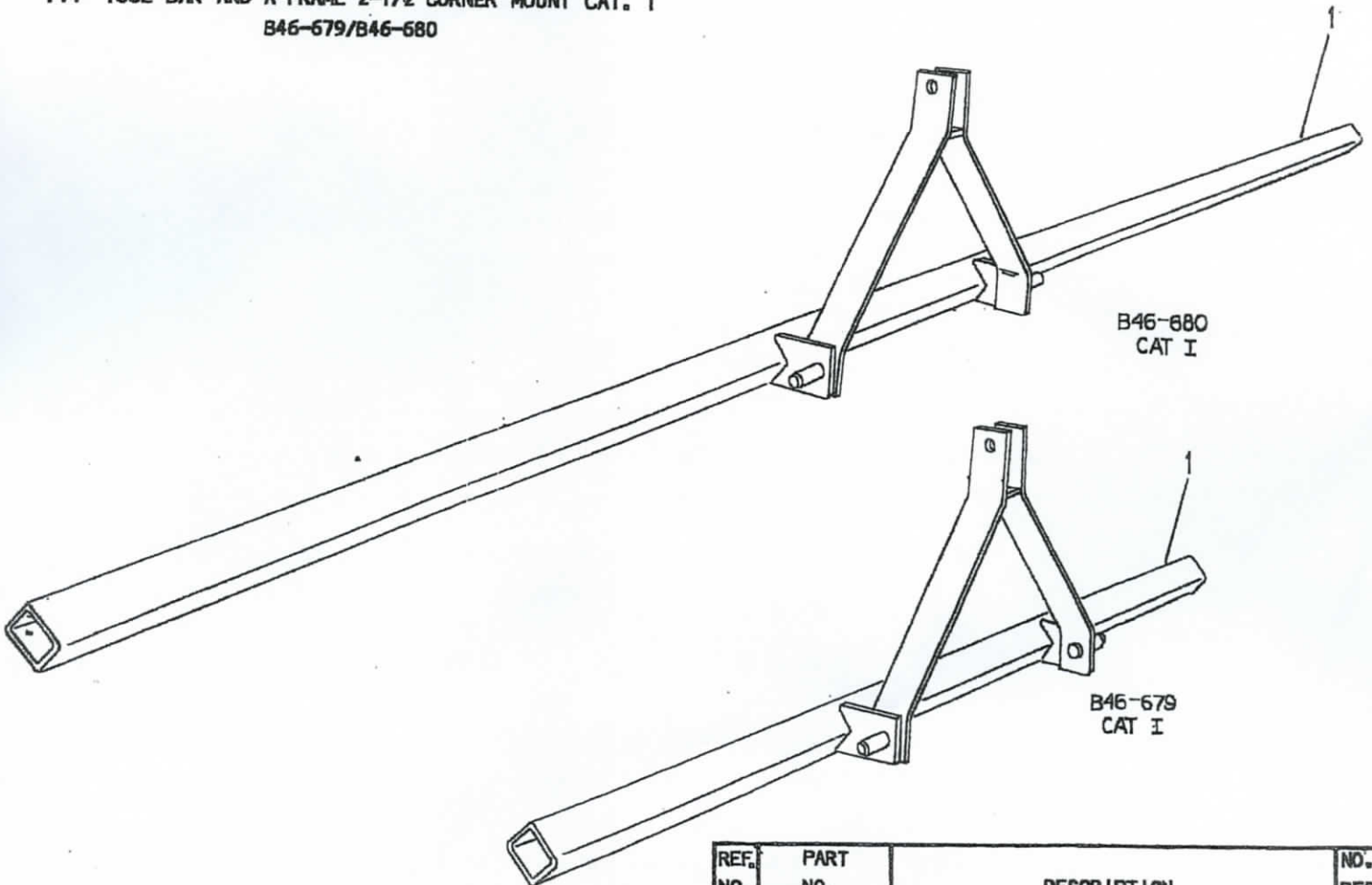
REF NO.	PART NO.	DESCRIPTION	NO REQ
1	P47-255	Shank, 3/4 x 2 x 24	1
2	001-1256	Lockwasher, 3/4	1
3	001-0012	Nut, Hex 3/4 -10NC	1
4	001-1252	Lockwasher, 3/8	4
5	001-0007	Nut, Hex 3/8-16NC	4
6	P45-840	Spacer, 3/4 Pipe x 2	1
7	P45-352	Rim, Half	2
8	P45-353	Tire, 4.00 x 12	1
9	P88-506C-P	Ball Bearing	1
10	001-2184	Screw, Cap HH ZP 3/4 -10NC x 4-1/2	1
11	001-2063	Screw, Cap HH ZP 3/8 -16NC x 3/4	4

124X FERTILIZER HOPPER EXTENSION
B51-075

REF NO.	PART NO.	DESCRIPTION	NO. REQ
1	P51-076	Extension, Hopper/12 MX	1
2	001-2002	Screw, Cap HH 1/4-20NC x 1/2	3
3	P30-506	Lid, Hopper Plastic	1
4	001-1001	Washer, Flat ZP 1/4 USS	3
5	001-0005	Nut, Hex ZP 1/4-20NC	1



80" TOOL BAR AND A-FRAME 2-1/2 CORNER MOUNT CAT. I
144" TOOL BAR AND A-FRAME 2-1/2 CORNER MOUNT CAT. I
B46-679/B46-680



REF. NO.	PART NO.	DESCRIPTION	NO. REQ
1	B46-679	Weldment, 80 Tool Bar & A-Frame, 2-1/2 Corner Mount, CAT. I	1
1	B46-680	Weldment, 144 Tool Bar & A-Frame, 2-1/2 Corner Mount, CAT. I	1