KMC

KELLEY

09-SERIES

FERTILIZER APPLICATOR

OPERATOR MANUAL AND PARTS BOOK

THIS MANUAL TO ACCOMPANY MACHINE

MEMBER

FEMA

FARM EQUIPMENT MANUFACTURERS ASSOCIATION

www.FarmEquip.org

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WARRANTY POLICY

KELLEY MANUFACTURING COMPANY (KMC) warrants that all goods sold to the original purchaser of any KMC product shall be free of any defects in material and workmanship if used under normal operating conditions. The warranty period begins on the date of purchase by the retail customer and ends twelve (12) months thereafter. KMC's sole responsibility is to repair and/or replace the defective part or parts at no cost to purchaser. This remedy is the **SOLE AND EXCLUSIVE REMEDY** of purchaser.

The purchaser must fill out and return the warranty registration form found in the front of the operator's manual. Failure to return the warranty registration form within 30 days shall result in the goods being sold "AS IS", and all warranties shall be excluded.

This warranty shall not apply to those items that are by nature worn in normal service, including but not limited to belts, springs, teeth, chains, etc. Items such as tires, tubes, and gearboxes and all other items warranted by the original manufacturer are warranted only to the extent of their individual manufacturer warranty, and KMC is not warranting any of said items. All warranty claims must be made through a KMC licensed dealer, and a warranty form request must be submitted to KMC within 30 days of failure or the warranty provision shall be unenforceable against KMC.

No agent or person has authority to change or add to this warranty as written.

THE ABOVE IS THE ONLY WARRANTY MADE BY KMC AND IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. KMC MAKES NO WARRANTY OF MERCHANTABILITY AS TO ANY GOODS MANUFACTURED BY KMC AND FURTHER, KMC DOES NOT WARRANT ANY SUCH GOODS AS SUITABLE FOR ANY PARTICULAR PURPOSE TO THE RETAIL CUSTOMER. THE SUITABILITY OF GOODS FOR ANY PURPOSE PARTICULAR TO THE CUSTOMER IS FOR THE CUSTOMER, IN HIS SOLE JUDGEMENT, TO DETERMINE. KMC FURTHER MAKES NO WARRANTIES WITH RESPECT TO ITS MANUFACTURED GOODS THAT WOULD NORMALLY BE DISCLOSED BY AN EXAMINATION. THIS IS THE FULL AND FINAL EXPRESSION OF ALL WARRANTY LIABILITY OF KMC. NO OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, SHALL BE ENFORCEABLE AGAINST KMC.

Kelley Manufacturing Co.
80 Vernon Drive / Zip 31794
P.O. Drawer 1467 / Zip 31793
Tifton GA

09 SERIES FERTILIZER APPLICATOR

Table of Contents:

4-ROW CULTIVATOR WITH GROUND DRIVE

8-ROW CULTIVATOR WITH HYDRAULIC DRIVE

FORWARD

INTRODUCTION:

The **09-SERIES FERTILIZER APPLICATOR** has a dual spout 550 lb capacity hopper molded from plastic/fiberglass with spouts made of cast iron for corrosion resistance. Hoppers and Drive Components are securely mounted on a 2 1/2" Square auxiliary toolbar clamped to main toolbar of implement with stout, heavy duty brackets designed for 4 x 4, 7 x 4 and 7 x 7 toolbars. Ground Drive and Hydraulic drive are available.

TO THE PURCHASER

This **09-SERIES FERTILIZER APPLICATOR** has been carefully designed and manufactured to give years of dependable service. In order to operate it efficiently and maintain if properly, please read the instructions within this manual thoroughly.

Some components of this machine are labeled left or right. The notations are determined by standing behind the implement and facing the direction of forward travel.

After reading this Operator's Manual, Please keep it for reference each season.

To insure procurement of the proper repair parts, please record your machine's Serial Number and Purchase Date as shown below:

Model No._____

Serial No._____

Purchase Date _____

MODELS COVERED IN THIS OWNER'S MANUAL:

For use with Ripper Equipment and Bedding Equipment Hydraulic Drive

4 x 7 Flat Models

MODEL NUMBERS:
2RHD4X7(30-40)
2RHD4X7(42-48)
4RHD4X7(30-40)
4RHD4X7(42-48)
6RHD4X7(30)
6RHD4X7(36-40)
8RHD4X7(30)
8RHD4X7(36-40)

7 x 7 Flat Models

MODEL NUMBERS:
2RHD7X7(30-40)
2RHD7X7(42-48)
4RHD7X7(30-40)
4RHD7X7(42-48)
6RHD7X7(30)
6RHD7X7(36-40)
8RHD7X7(30)
8RHD7X7(36-40)

For use with Speed Wheel Cultivator Hydraulic Drive

4 x 7 Tool Bar Models

MODEL NUMBERS:
2CHD(4X7)550#30-40
2CHD(4X7)550#42-48
4CHD(4X7)550#30-40
4CHD(4X7)550#42-48
6CHD(4X7)550#30
6CHD(4X7)550#36-40

7 x 7 Tool Bar Models

MODEL NUMBERS:
4CHD(7X7)550#30-40
6CHD(7X7)550#30
6CHD(7X7)550#36-40

For use with Speed Wheel Cultivator Ground Drive

4 x 7 Tool Bar Models

MODEL NUMBERS:
2CGD(7X4)550#30-40
2CGD(7X4)550#42-48
4CGD(7X4)550#30-40
4CGD(7X4)550#42-48
6CGD(7X4)550#30
6CGD(7X4)550#36
6CGD(7X4)550#38-40

7 x 7 Tool Bar Models

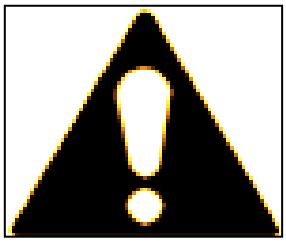
MODEL NUMBERS:
4CGD(7X7)550#42-48
6CGD(7X7)550#30
6CGD(7X7)550#36
6CGD(7X7)550#38-40

7 x 7 Stack-Fold Models

MODEL NUMBERS:
8SFSWGD550(40)
8SFSWGD550(42-48)

SYMBOL INFORMATION

This safety alert symbol is used throughout this manual to identify safety messages. When you see this symbol, read the message which follows as it will advise you of possible injury.

REMEMBER  **THINK SAFETY!**

(RED)

This symbol indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

(ORANGE)

This symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

(YELLOW)

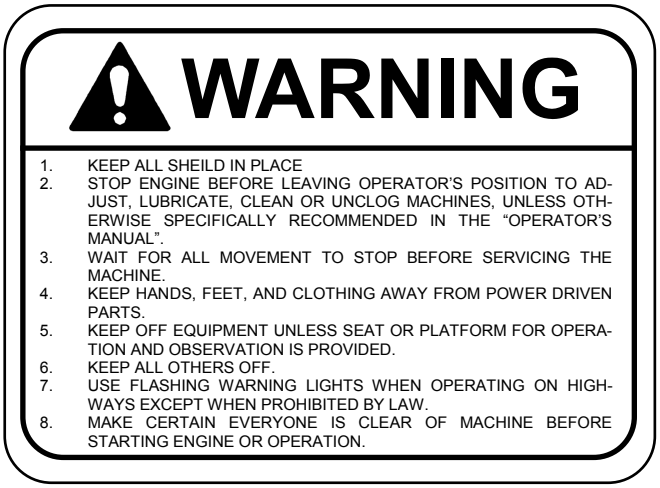
This symbol indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

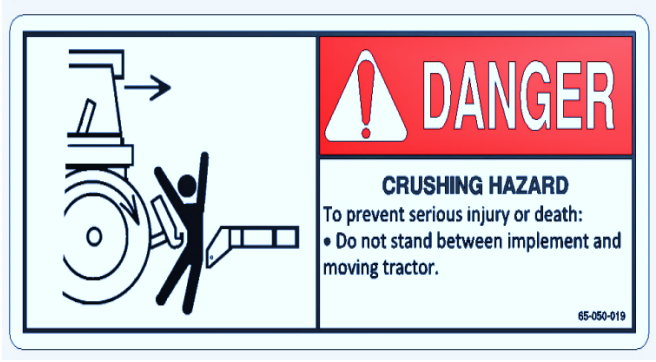
(GREEN OR BLACK)

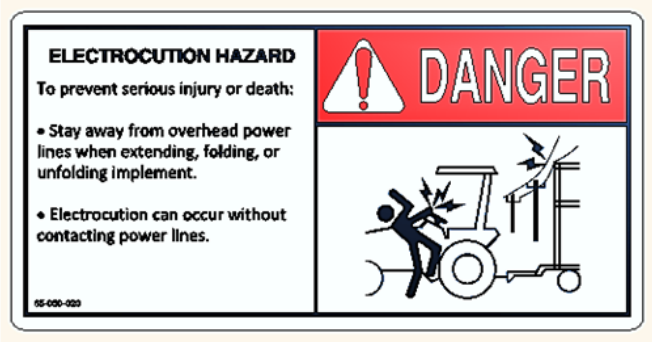
Is used for instruction on operating, adjusting, or servicing a machine.

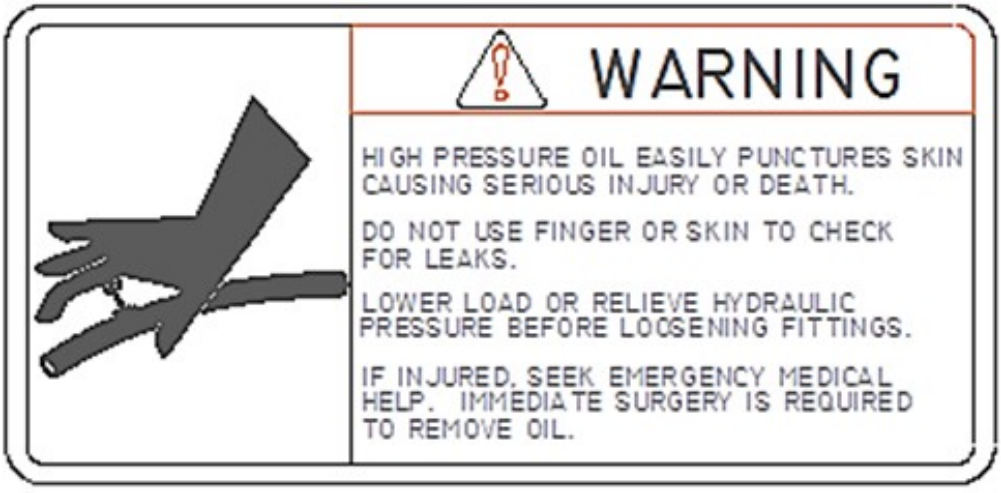
SAFETY DECALS

The Safety decals that follow are associated with the implement covered in this owner's manual. They should be reviewed and associated with where they are applicable on the implement being covered.









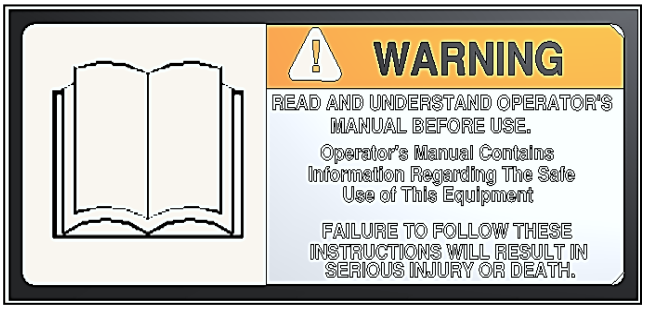
RETAIL CUSTOMERS RESPONSIBILITY UNDER THE KMC WARRANTY:

The retail customer's responsibilities are:

1. To read the Operator's Manual and operate the **Fertilizer Applicator** in accordance with the instructions given in this manual.
2. To inspect the **Fertilizer Applicator** daily, lubricate as specified and repair or replace parts as needed, especially when continued use would cause damage or excessive wear to other parts.
3. To maintain and keep in place all safety shields and devices.
4. When warranty service is necessary, it is the customer's responsibility to deliver the machine to the KMC dealer from which it was purchased. Warranty repairs should be submitted to the dealer within **thirty (30)** days of failure.
5. Dealer travel to the machine or hauling the machine to his shop for the purpose of performing warranty service is not allowed under KMC warranty. It is a cost to be paid for by the retail customer. Any arrangement whereby the dealer agrees to absorb all or part of this cost is strictly between the dealer and the retail customer.

SAFETY PROCEDURES:

Safety and performance are the primary objectives of the designers of KMC equipment. Safety features have been incorporated into this machine where possible and warnings given in other areas. For your safety, **PLEASE** read and observe the following safety procedures.



1. All persons operating this piece of equipment should **READ** the Owner's Manual.

2. Do not permit anyone to ride on the machine at any time.

3. Before starting or operating the machine, make a walk-around inspection and check for obvious defects such as loose mounting bolts and damaged components. Correct any deficiencies before starting. **(The equipment must be properly maintained and guarded and must be suitable to performing its task.)**

4. Keep all persons a safe distance away from the rear and sides of the machines while it is in operation.

5. **Do not allow children to operate the Fertilizer Applicator. Only experienced tractor operators should operate the tractor when using the Fertilizer Applicator**

6. Stay clear of hydraulic lines, as they maybe under extreme pressure or heat.

7. Drive safely during transport; excessive speed while turning or on rough ground could cause damage to the **Fertilizer Applicator** and/or cause the tractor to tip over. **(Maximum speed of implement should never exceed 20 mph on highway and 10 mph off-highway.)**

8. Make sure hitch components are attached securely before operating or transporting.

9. Use flashing warning lights when on highways, except where prohibited by law.

10. Disengage PTO, apply parking brake, and stop tractor engine before dismounting tractor. Allow mechanisms to stop completely before cleaning, working, or adjusting on machine. Even when the tractor is stationary, you should make sure it is properly secured and made safe by following the **Safe Stop procedure**:

    1. **Handbrake/Footbrake on**
    2. **Controls in neutral/park**
    3. **Engine off**
    4. **Key out**

11. Keep hands, feet and clothing away from moving parts.

12. Make sure everyone is clear of machine before starting tractor or operating machine.

13. Observe all safety decals located on machine. Replace them if they become damaged.

HIGH VOLTAGE SAFETY ACT

Georgia Law requires that anyone operating equipment within 10 feet of an overhead high voltage line of more than 750 volts, must contact the Utilities Protection Center (UPC) by telephone at least 72 hours before commencing the work. For more information call (811), toll free (1-800-282-7411) or visit on the web "www.gaupc.com". **Please** contact your local power company about laws before operating near high voltage lines.

ASSEMBLY SET-UP

GENERAL:

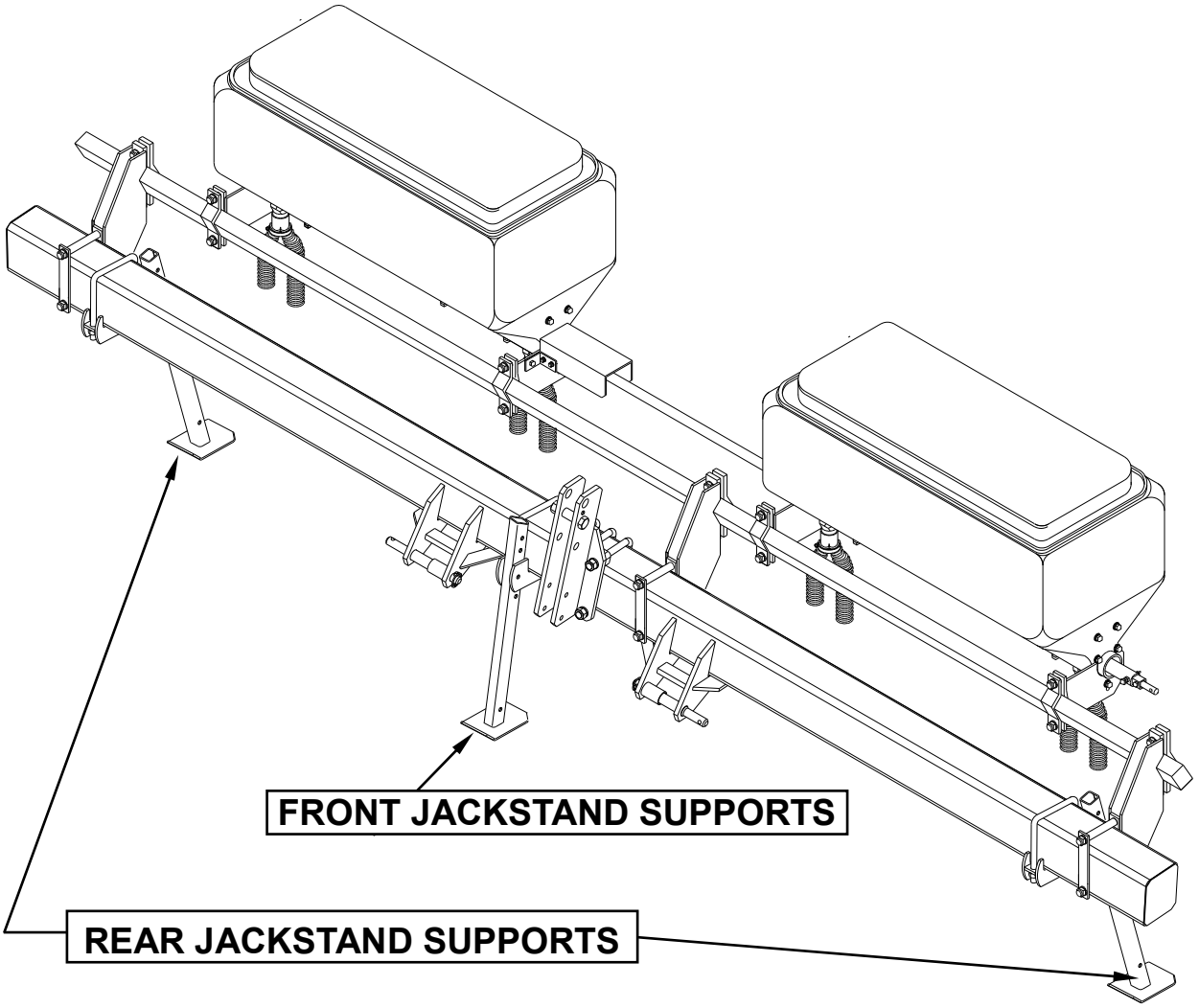
Most of the general set-up and assembly for your Fertilizer Applicator has been performed at the factory. Those items not installed at KMC will be reviewed later in this section. For your convenience, please see the "Overhead Layouts" portion at the end of this section, to ensure proper positioning for the size and configuration of your Fertilizer Applicator .

GROUND DRIVE FERTILIZER APPLICATOR

HYDRAULIC DRIVE FERTILIZER APPLICATOR

WARNING

CARE SHOULD BE TAKEN DURING SET-UP AND ASSEMBLY OF THIS PRODUCT. DEATH OR SERIOUS INJURY COULD OCCUR IF PROPER STEPS ARE NOT TAKEN TO FULLY SECURE THE UNIT WHEN WORKING UNDERNEATH IT. ENSURE THE UNIT IS PROPERLY SUPPORTED BY LOWERING THE JACKSTAND SUPPORTS THAT HAVE COME ASSEMBLED WITH IT, OR PROPERLY SECURE THE UNIT WITH ANY HOISTING DEVICES BEFORE ATTEMPTING ANY FURTHER SET-UP OF THIS PRODUCT. ANY HOISTING DEVICES SHOULD BE RATED TO FULLY SUPPORT THE LOAD OF THE UNIT BEING LIFTED.



! IMPORTANT !

Before set-up and assembly can be completed ensure that all hardware is in place and fully tightened. Refer to the **Bolt Torque Chart** at right for proper torque values.

BOLT TORQUE CHART

SAE GRADE 5

Diameter & Threads Per Inch	Tensile Strength Min. PSI	Proof Load LB	Clamp Load LB	Torque Dry FT LB	Lubricated FT LB
1/4-20	120,000	2,700	2,020	8	6.3
1/4-28	120,000	3,100	2,320	10	7.2
5/16-18	120,000	4,450	3,340	17	13
5/16-24	120,000	4,900	3,700	19	14
3/8-16	120,000	6,600	4,950	30	23
3/8-24	120,000	7,450	5,600	35	25
7/16-14	120,000	9,050	6,780	50	35
7/16 20	120,000	10,100	7,570	55	40
1/2-13	120,000	12,100	9,050	75	55
1/2-20	120,000	13,600	10,200	85	65
9/16-12	120,000	15,500	11,600	110	80
9/16-18	120,000	17,300	12,950	120	90
5/8-11	120,000	19,200	14,400	150	110
5/8-18	120,000	21,800	16,350	170	130
3/4-10	120,000	28,400	21,300	260	200
3/4-16	120,000	31,700	23,780	300	220
7/8-9	120,000	39,300	29,450	430	320
7/8 14	120,000	43,300	32,450	470	350
1-8	120,000	51,500	38,600	640	480
1-14	120,000	57,700	43,300	720	540

SAE GRADE 8

Diameter & Threads Per Inch	Tensile Strength Min. PSI	Proof Load LB	Clamp Load LB	Torque Dry FT LB	Lubricated FT LB
1/4-20	150,000	3,800	2,850	12	9
1/4-28	150,000	4,350	3,250	14	10
5/16-18	150,000	6,300	4,700	24	18
5/16-24	150,000	6,950	5,200	27	20
3/8-16	150,000	9,300	6,980	45	35
3/8-24	150,000	10,500	7,900	50	35
7/16-14	150,000	12,800	9,550	70	50
7/16 20	150,000	14,200	10,650	80	60
1/2-13	150,000	17,000	12,750	110	80
1/2-20	150,000	19,200	14,400	120	90
9/16-12	150,000	21,800	16,350	150	110
9/16-18	150,000	24,400	18,250	170	130
5/8-11	150,000	27,100	20,350	210	160
5/8-18	150,000	30,700	23,000	240	180
3/4-10	150,000	40,100	30,100	380	280
3/4-16	150,000	44,800	33,500	420	310
7/8-9	150,000	55,400	41,600	600	450
7/8 14	150,000	61,100	45,800	670	500
1-8	150,000	72,700	54,500	910	680
1-14	150,000	81,500	61,100	1,020	760

OVERHEAD LAYOUTS

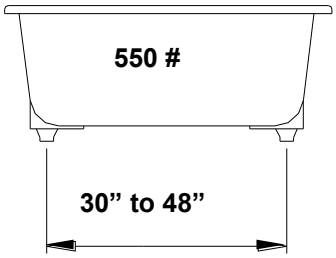
CULTIVATOR TOOL BAR & BOX REQUIREMENTS

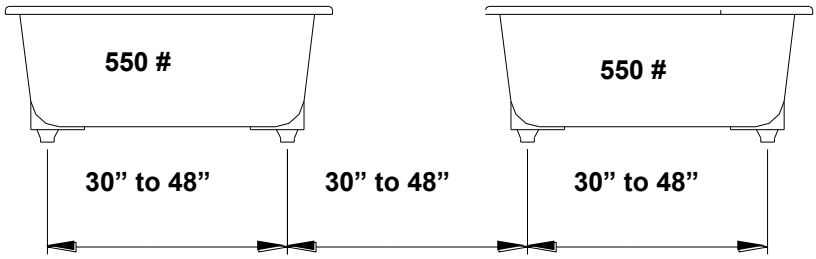
TOOL BAR REQUIRED

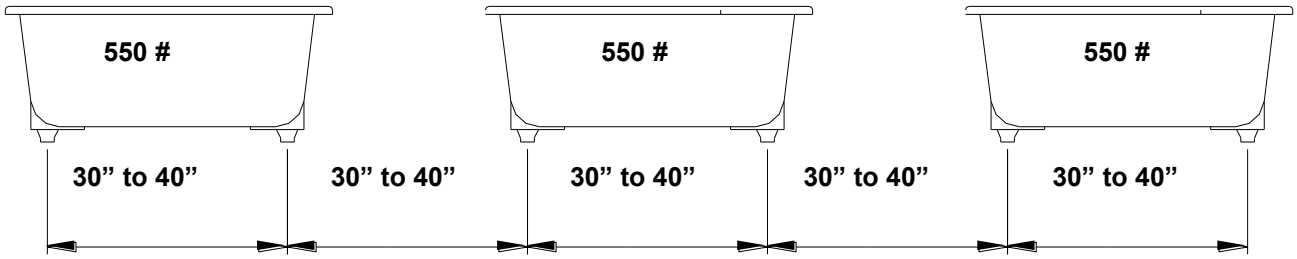
2-ROW
104" 4 X 4 - 104" 2 1/2 X 2 1/2
(09-024-011)

4-ROW (30"-40" ROWS)
168" 4 X 4 - 164" 2 1/2 X 2 1/2
168" 7 X 7 - 164" 2 1/2 X 2 1/2
(02-024-016)

4-ROW (42"-48" ROWS)
208" 4 X 4 - 200" 2 1/2 X 2 1/2
208" 7 X 7 - 200" 2 1/2 X 2 1/2
(02-024-018)







HYDRAULIC DRIVE

6-ROW (30" ROWS)
188" 4 X 4 - 180" 2 1/2 X 2 1/2 (02-024-017)
188" 7 X 7 - 180" 2 1/2 X 2 1/2

6-ROW (36"-40" ROWS)
248" 4 X 4 - 236" 2 1/2 X 2 1/2 (02-024-035)
248" 7 X 7 - 236" 2 1/2 X 2 1/2

GROUND DRIVE

6-ROW (30" ROWS)
188" 4 X 4 - 200" 2 1/2 X 2 1/2 (02-024-018)
188" 7 X 7 - 200" 2 1/2 X 2 1/2

6-ROW (36" ROWS)
248" 4 X 4 - 236" 2 1/2 X 2 1/2 (02-024-035)
248" 7 X 7 - 236" 2 1/2 X 2 1/2

6-ROW (38"-40" ROWS)
248" 4 X 4 - 260" 2 1/2 X 2 1/2 (02-024-019)
248" 7 X 7 - 260" 2 1/2 X 2 1/2

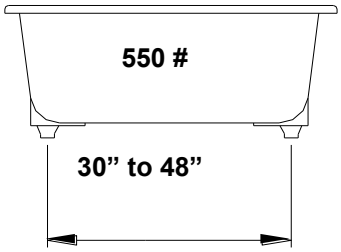
RIPPER-BEDDER WITH HYDRAULIC DRIVE

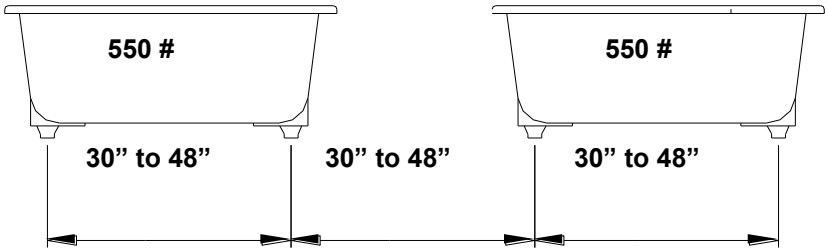
TOOL BAR REQUIRED

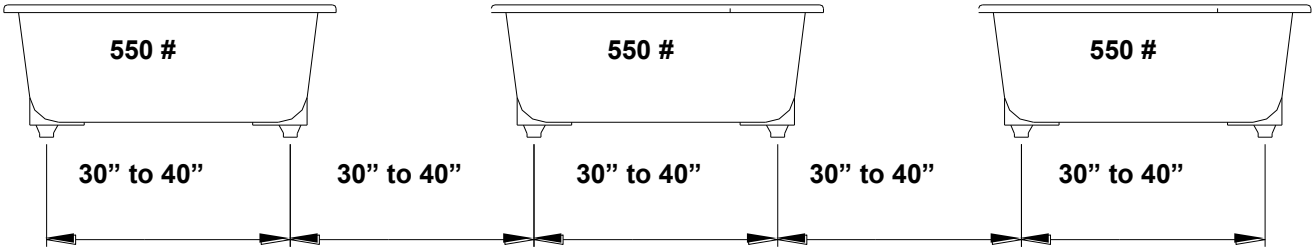
2-ROW
104” 4 X 7 - 104” 2 1/2 X 2 1/2
(09-024-011)

4-ROW (30”-40” ROWS)
168” 4 X 7 - 164” 2 1/2 X 2 1/2
(02-024-016)

4-ROW (42”-48” ROWS)
200” 4 X 7 - 280” 2 1/2 X 2 1/2
(02-024-017)







6-ROW (30” ROWS)
200” 4 X 7 - 180” 2 1/2 X 2 1/2 (02-024-017)

6-ROW (36”- 40” ROWS)
248” 4 X 7 - 236” 2 1/2 X 2 1/2 (02-024-035)

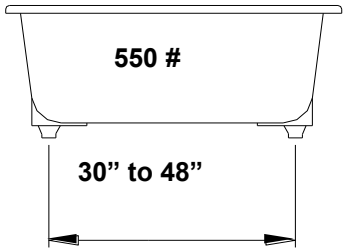
DISC-BEDDERS WITH HYDRAULIC DRIVE

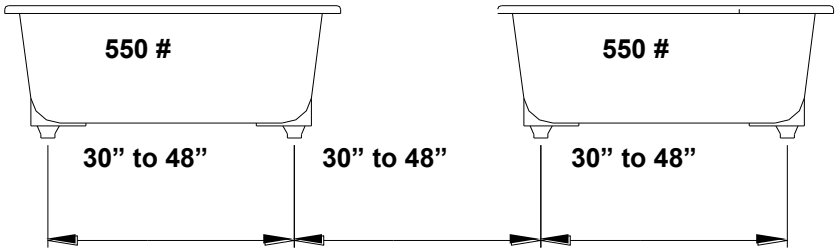
TOOL BAR REQUIRED

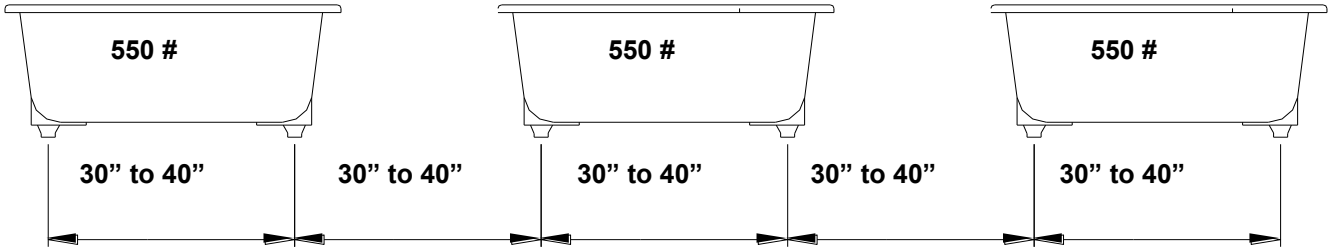
2-ROW
104" 4 X 7 - 104" 2 1/2 X 2 1/2
(09-024-011)

4-ROW (30"-40" ROWS)
168" 4 X 7 - 164" 2 1/2 X 2 1/2
(02-024-016)

4-ROW (42"-48" ROWS)
200" 4 X 7 - 280" 2 1/2 X 2 1/2
(02-024-017)







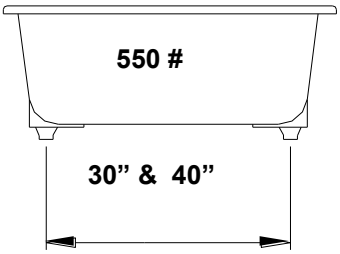
6-ROW (30" ROWS)
208" 4 X 7 - 180" 2 1/2 X 2 1/2 (02-024-017)

6-ROW (36"- 40" ROWS)
248" 4 X 7 - 236" 2 1/2 X 2 1/2 (02-024-035)

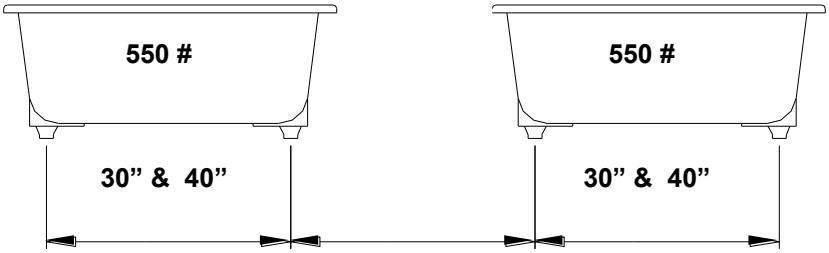
RIPPER-SPIDER WITH HYDRAULIC DRIVE

TOOL BAR REQUIRED

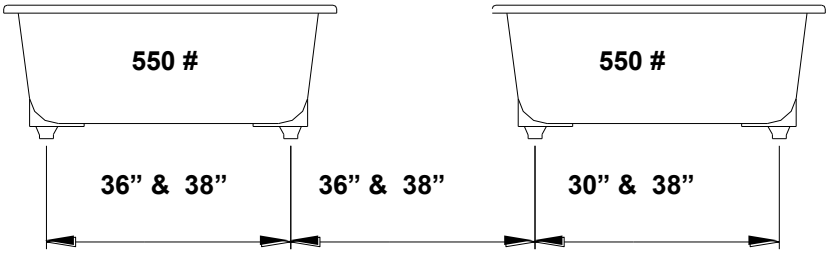
2-ROW
104” 4 X 7 - 104” 2 1/2 X 2 1/2
(09-024-011)



4-ROW
168” 4 X 7 - 164” 2 1/2 X 2 1/2
(02-024-016)



4-ROW
168” 4 X 7 - 164” 2 1/2 X 2 1/2
(02-024-016)



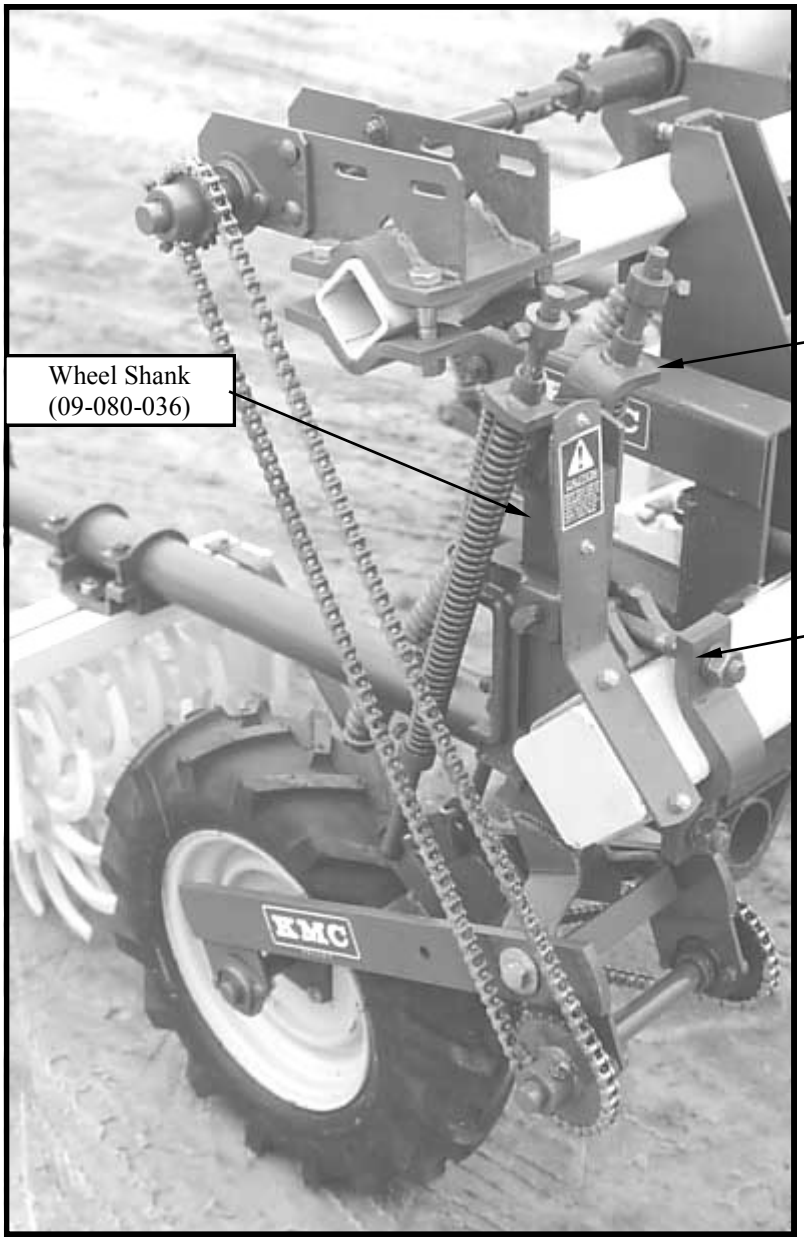
This safety alert symbol is used throughout this manual to identify safety messages. When you see this symbol, read the message which follows as it will advise you of possible injury.

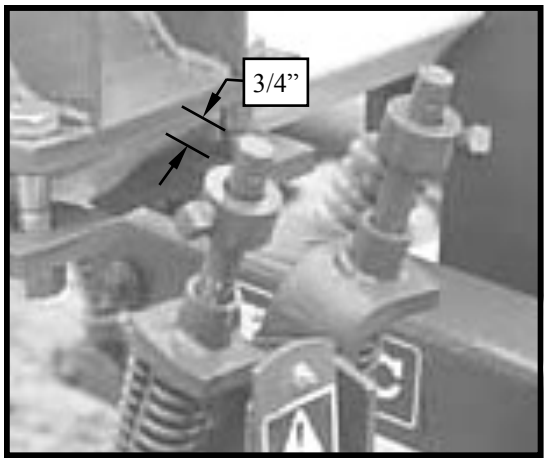
ASSEMBLY INSTRUCTIONS FOR GROUND DRIVE

KMC Fertilizer Applicator adapts to both KMC 4 x 4, 4 x 7, 5 x 7, and 7 x 7 Cultivator tool bars and is available with either a hydraulic drive or ground drive.

KMC CULTIVATOR FERTILIZER APPLICATOR

1. Assemble Cultivator components as shown being sure to refer to your KMC Cultivator Owner's Manual.

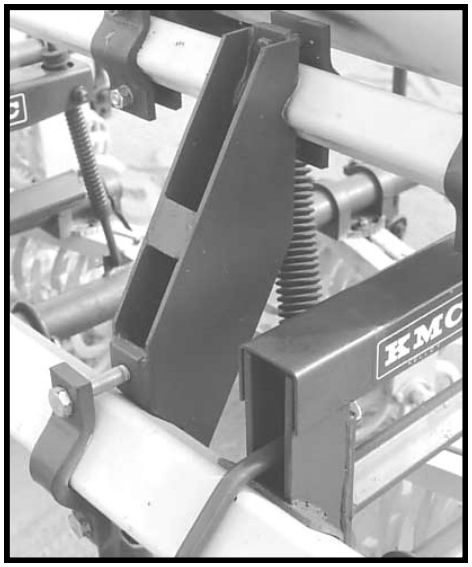




2. Remove trunnion support (09-080-032) from wheel shank (09-080-036) on ground drive wheel (09-082-053, Lt.) (09-082-054, Rt.) as shown on page 46. Assemble either 1 x 3 shank bracket 4 x 4 diamond (04-082-056) or 1 x 3 shank bracket 7 x 7 (04-082-087) (page 43) on wheel shank with clamp facing to the front of the drive wheel. Re-assemble trunnion support on wheel shank. Set spring push rods approximately 3/4" from top of setscrew collars. See ground drive chart to determine which drive sprocket arrangement will be needed on the ground drive wheel.

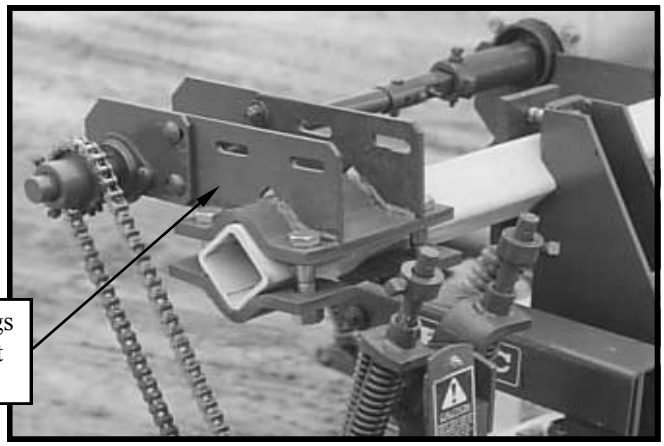
3. For single ground drive wheel, mount wheel in the outside middle on right hand side of Cultivator. When two ground drive wheels are required, mount one wheel in each outside middle.

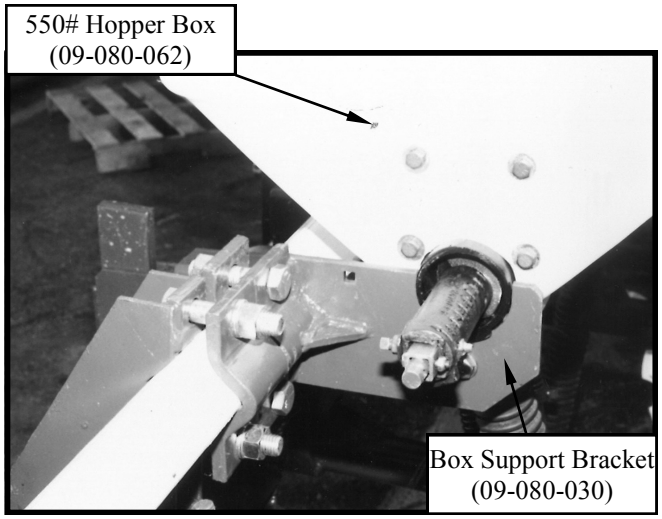
NOTE: WHEN MOUNTING GROUND DRIVE WHEEL ON LEFT SIDE OF CULTIVATOR, THE SPIDER GANG ON THE OUTSIDE GANG PIPE WILL HAVE TO BE MOVED BACK SO THAT IT WILL NOT INTERFERE WITH THE DRIVE WHEEL.



4. Mount recommended length auxiliary tool bar (2 1/2 x 2 1/2) (page 12) behind Cultivator tool bar as shown using mounting brackets. These mounting brackets are to be located, as shown, so they do not interfere with other components. Two brackets are required for 2-row machines, three brackets required on 4-row machines, and four brackets required on 6-row machines. On some machines using only one ground drive wheel, the auxiliary tool bar may have to be shifted to the right in order to hook up the drive shaft to the ground drive wheel. The 17 tooth sprocket on the drive shaft should be centered between the two bearings on the bearing support bracket mounted on the 2 1/2 x 2 1/2 auxiliary tool bar.

5. Next, mount the motor and bearings support bracket (09-082-079) on the 2 1/2 x 2 1/2 auxiliary tool bar and center it on the outside middle on the right side of the cultivator of single ground drive wheel as shown on page 16. For machines requiring two ground drive wheels, mount a motor and bearing support bracket on the left side also.

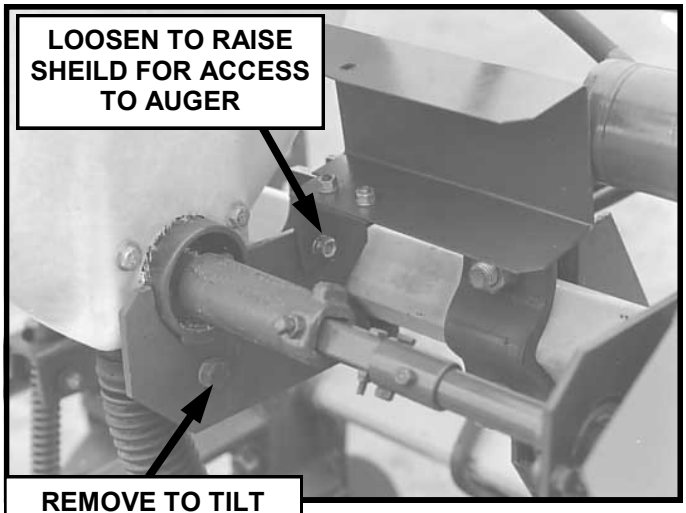


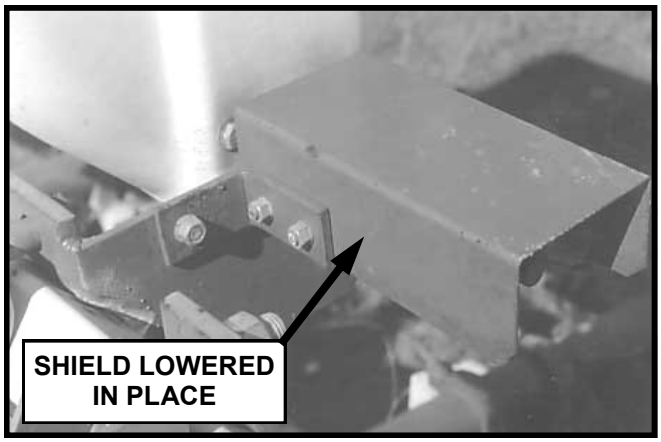


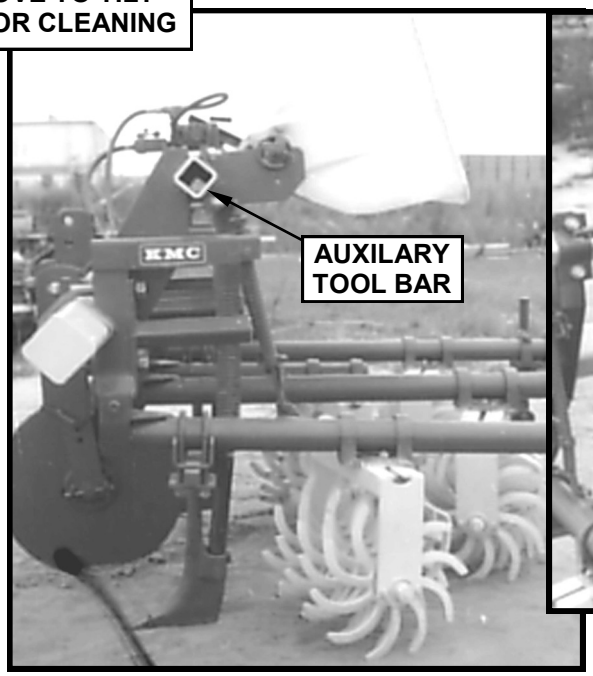
6. Attach box support brackets (09-082-030) to (09-082-062) 550# hopper box. The casting on each end of the box must rest in the round saddle of the support brackets. Remove the 1/2" capscrew from the castings on each end of the box and mount the support brackets to the box with the clamp part of the bracket to the inside. Put capscrews back into castings through the slotted holes in the brackets and tighten.

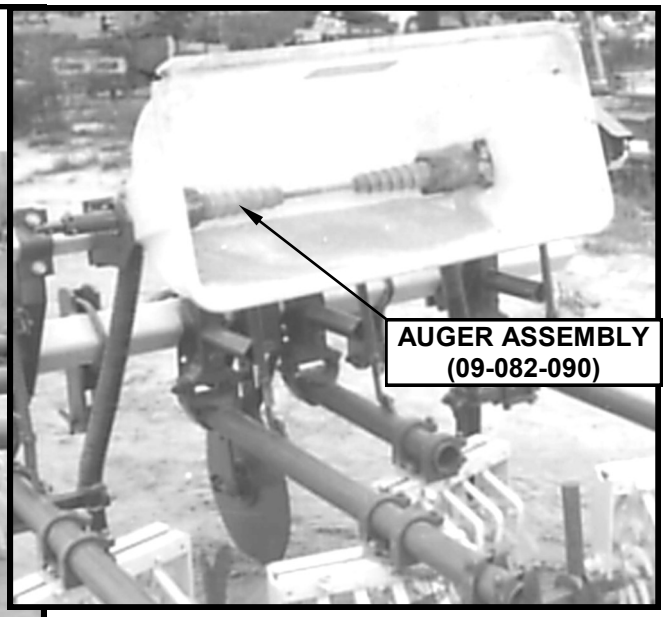
NOTE: THESE CAPSCREWS CAN BE REMOVED AND THE HOPPER BOX TILTED BACKEARDS SO THAT IS CAN BE EASILY CLEANED OUT. THIS IS RECOMMENDED FREQUENTLY DURING USE AND BEFORE HOPPER BOXES ARE STORED UNTIL NEXT SEASON (See page 18).

7. Insert auger assembly (09-082-090) for 550# box (09-082-062) in the box as shown below. Augers can be inserted in either side of the 550# box. Be sure that the arrows on the augers always point in the direction of travel on the implement. Loosen the setscrew on the auger until it bottoms out on the square tubing. Retighten setscrew to lock the auger to the square tubing. Next, set the auger metering number by one (1) by aligning it with the end of the casting on the box. The augers have to be initially set like this so that when the boxes are mounted on the auxiliary tool bar, the drive shaft or outboard drive tube can be cut off the right length and also to be able to get a full adjustment of the auger. Refer to application rate chart for auger setting after all components have been mounted and hooked up on the auxiliary tool bar.

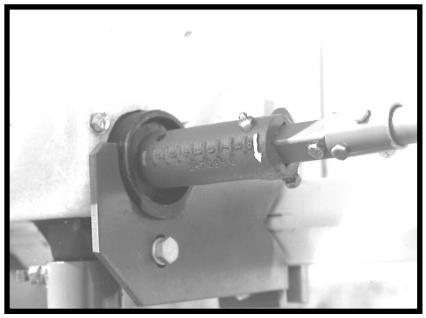


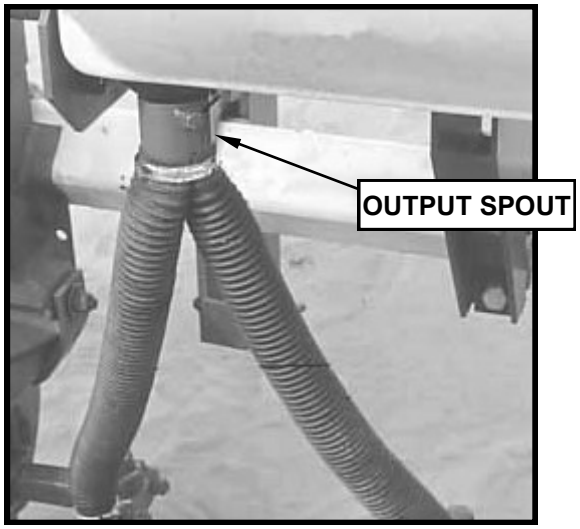






8. Attach the hopper boxes as shown to the auxiliary tool bar and locate the output spout as required per row width. See table on page 12 for spout location on different machines. Be sure that the augers are still set on number one and that the arrows on the augers point in the direction of travel as shown below.

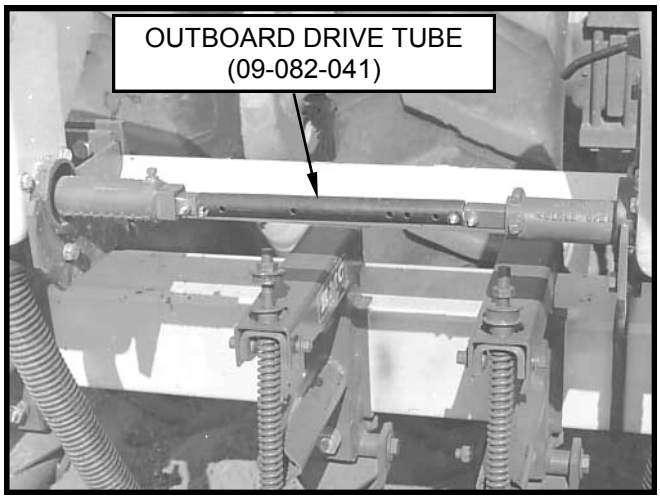




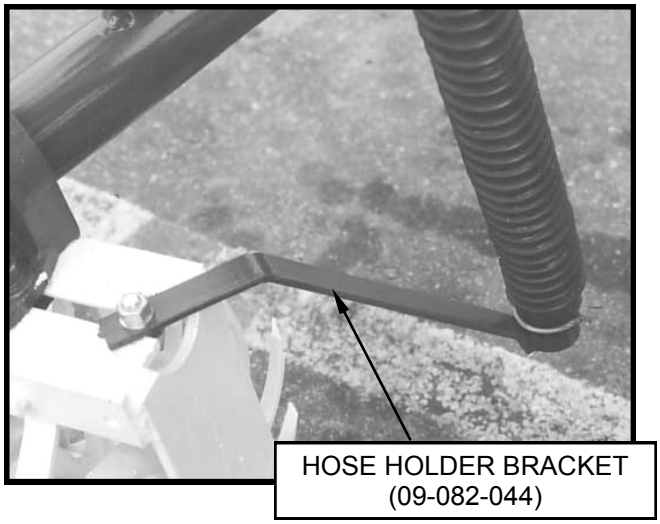
9. Recheck auger settings and location of the output spouts in relation to the row. The whole box may have to be moved on the auxiliary bar to get the output spout in the right location. Be sure the boxes are turned the right way as shown. Assemble 17t sprocket (09-052-012) on the ground drive jackshaft (09-026-012) (page 48). Next assemble jackshaft on bearing support bracket mounted on 2 1/2 x 2 1/2 auxiliary tool bar and centered on outside middle. Center the 17T sprocket between the bearings after connecting the jackshaft to the shaft with coupler (09-024-007). Assemble 168 pitch chain (09-052-014) on the 17T sprocket on the jackshaft and the 27T sprocket on the countershaft of the ground drive wheel. Align sprockets and lock in place.

CAUTION! TO TIGHTEN CHAIN BE SURE THAT WHEEL IS AT OPERATING DEPTH (PAGE 48). LOOSEN SETSCREWS IN 1 X 3 SHANK BRACKET AND MOVE SHANK DOWN TO TIGHTEN CHAIN.

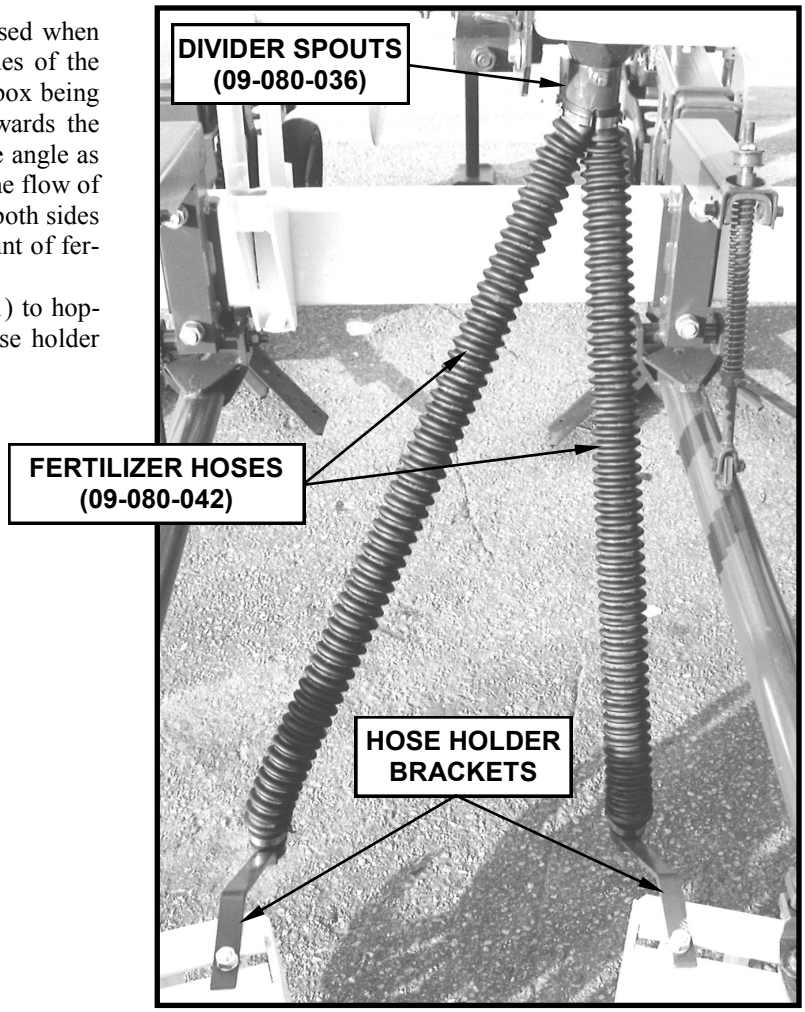
10. If more than two hopper boxes are used, cut off out board drive tube (09-082-041) (page 40) if necessary to desired length to couple the auger shafts together on other boxes.
11. Mount "S"-Tine Shank Support (04-082-224) (page 42) or hose holder brackets (09-082-044) (page 44) as shown. Shank applicators assemble in standard supports (04-082-067) (page 42) located on the gang pipes. Shank applicators apply the fertilizer in the soil. The hose holder brackets are used to dump fertilizer on top of the ground ahead of the spider gangs which incorporates it into the soil.



The hose holder brackets assemble on the spider gangs with a single carriage screw and can be easily adjusted.



12. Divider spouts (09-082-036) (page 40) are used when it is necessary to apply fertilizer to both sides of the crop. Assemble divider on spout of hopper box being sure to turn the setscrew on the divider towards the center of the hopper box at about a 45 degree angle as shown. This allows the divider to distribute the flow of fertilizer from the auger more evenly so that both sides of the crop get approximately the same amount of fertilizer.
13. Attach fertilizer hoses (09-082-042) (page 41) to hopper boxes and required applicator feet or hose holder brackets.

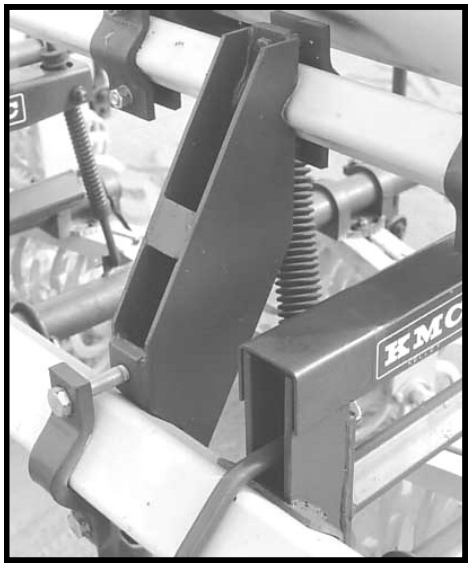


GREASE HOPPER BEARINGS AND AUGERS EVERY 8 HOURS OR DAILY.

ASSEMBLY INSTRUCTIONS FOR HYDRAULIC DRIVE

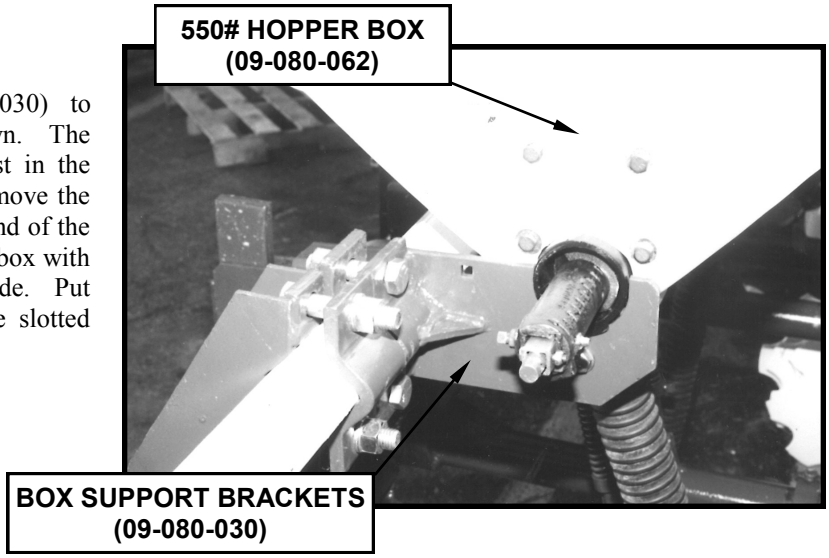
KMC CULTIVATOR FERTILIZER APPLICATOR

1. Assemble Cultivator Components as shown being sure to refer to your **KMC Cultivator Owner's Manual**.



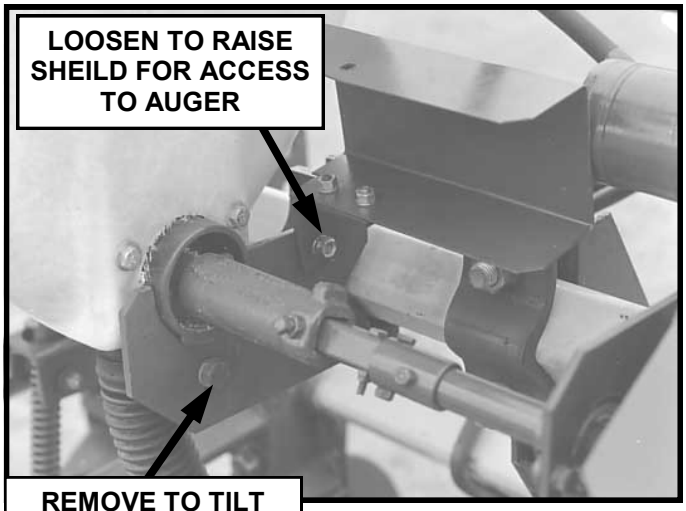
2. Center recommended length auxiliary tool bar (2 1/2 x 2 1/2) behind Cultivator tool bar using mounting brackets above. These mounting brackets are to be located as shown so they do not interfere with other components. Two brackets are required for 2-row machines, three brackets on 4-row machines, and four brackets on 6-row machines.

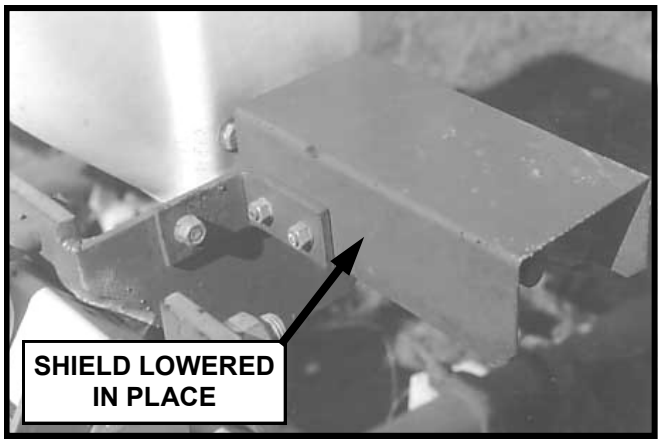
3. Attach box support brackets (09-082-030) to (09-082-062) 550 # hopper box as shown. The casting of each end of the box must rest in the round saddle of the support brackets. Remove the 1/2" capscrew from the castings on each end of the box and mount the support brackets to the box with the clamp part of the bracket to the inside. Put capscrews back into castings through the slotted holes in the brackets and tighten.

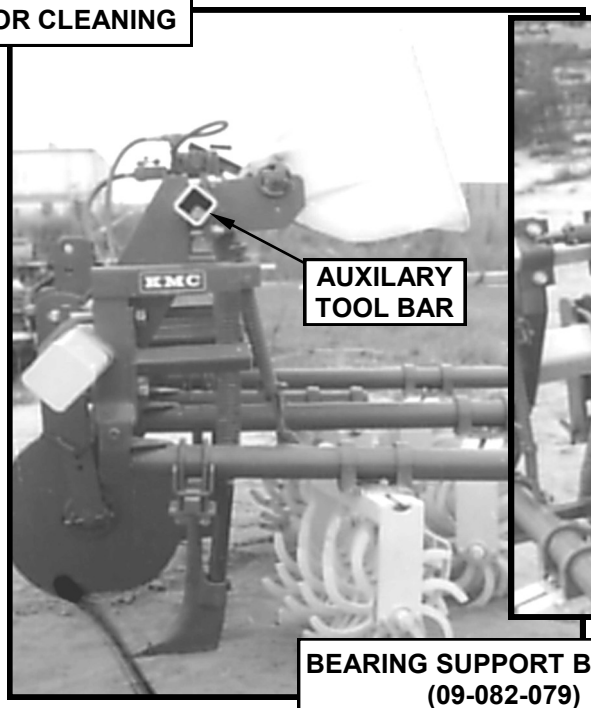


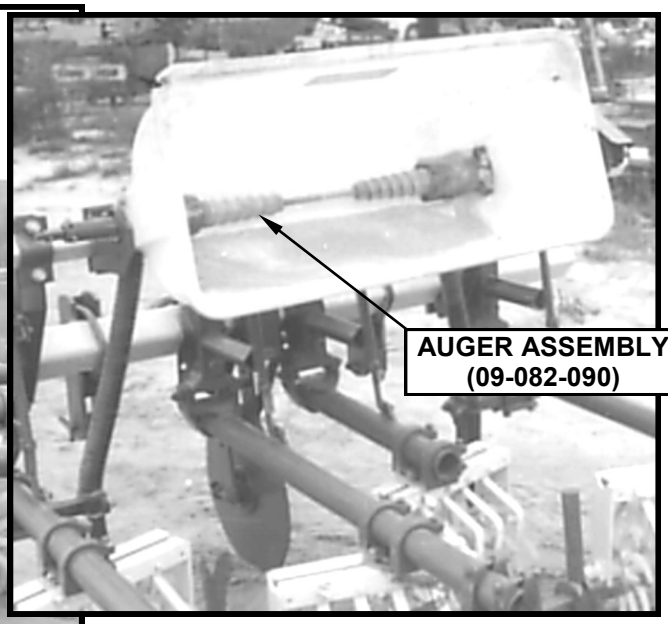
<u>NOTE</u>: THESE CAPSCREWS CAN BE REMOVED AND THE HOPPER BOX TILTED BACKWARDS SO THAT IS CAN BE EASILY CLEANED OUT. THIS IS RECOMMENDED FREQUENTLY DURING USE AND BEFORE HOPPER BOXES ARE STORED UNTIL NEXT SEASON. (See Page 22).

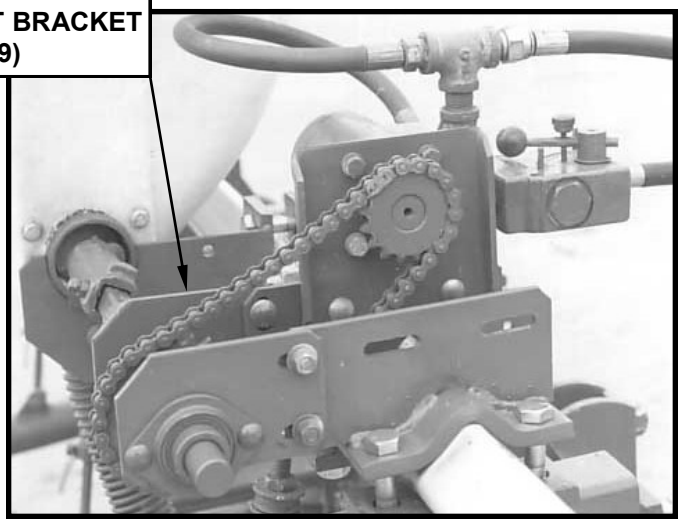
4. Insert auger assembly (09-082-090) for 550# box (breakdown on page 34), in the box. Augers can be inserted in either side of the 550# box. Be sure that the arrows on the augers always point in the direction of travel on the implement. Loosen the setscrew on the auger until bottoms out on the square tubing. Retighten setscrew to lock the auger to the square tubing. Next, set the auger metering number by one (1) by aligning it with the end of the casting on the box. The augers have to be initially set like this so that when the boxes are mounted on the auxiliary tool bar, the drive shaft or outboard drive tube can be cut off the right length and also to be able to get a full adjustment of the auger. Refer to application rate chart for auger setting after all components have been mounted and hooked on the auxiliary tool bar.





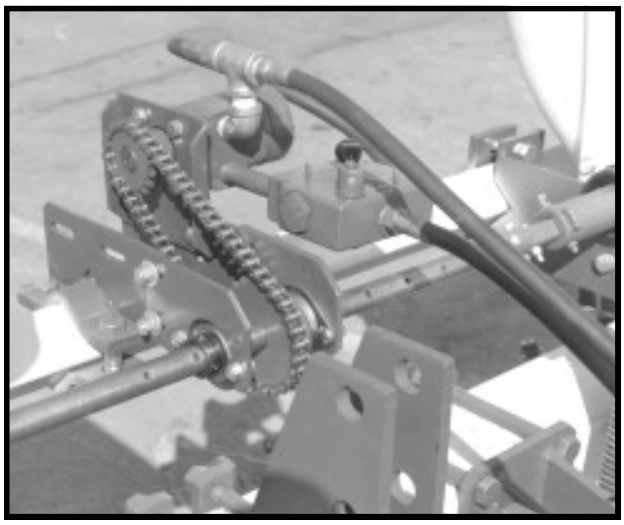




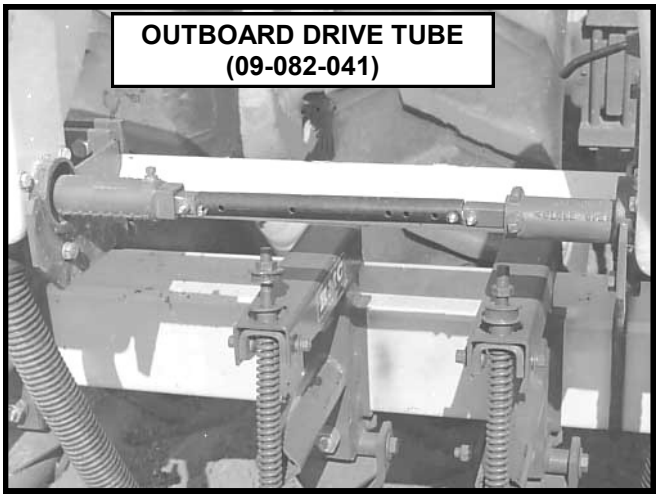


5. Mount the motor and bearings support bracket (09-082-079) on the center of the auxiliary tool bar when using two or four boxes. The bracket is mounted to one end when using only one box. When three boxes are used the bracket is mounted between any of the boxes.
6. Mount Hydraulic Motor and Valve Assembly (09-082-034) (Page 23) on support bracket as shown. The Hydraulic motor and flow control valve come partially assembled. For closed hydraulic systems, use the (2) two solid plugs to close off the tee on the motor and the street ell on the valve.

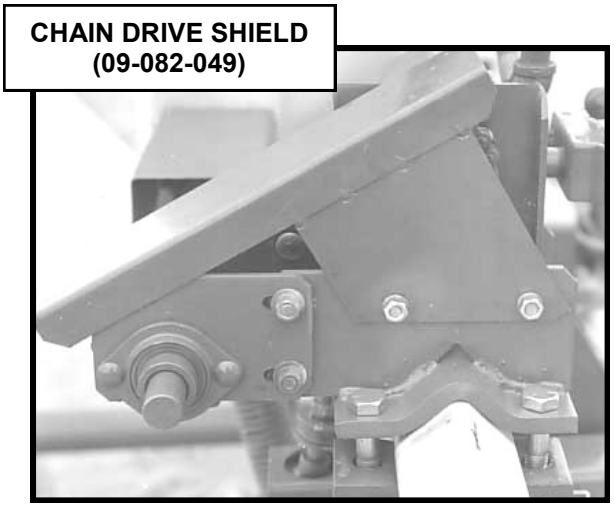
For open hydraulic systems, hook up the 24" hydraulic hose to the tee on motor and to the street ell on the valve to handle excess flow (see page 38). Hook up the tractor end hydraulic hoses as follows: The input (pressure) hose connects to adjustable flow control valve at the port marked "in" on the front; the return hose connects to the tee on the hydraulic motor. See application rate table for flow control valve setting.

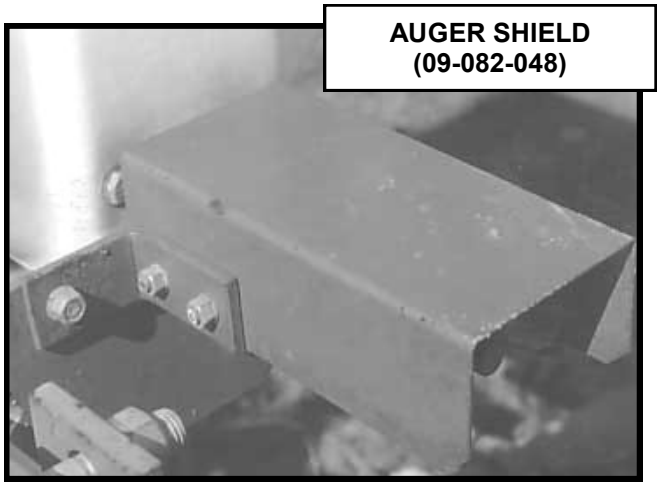


7. Attach the hopper boxes as shown to the auxiliary tool bar and locate the output spout as required per row width. See table on page 12 for spout locations on different machines. Be sure that the augers are still set on number one and that the arrows on the augers point in the direction of travel.
8. Recheck auger settings and location of the output spouts in relation to the row. The whole box may have to be moved on the auxiliary bar to get the output spout in the right location. Be sure the boxes are turned the right way as shown. Next, cut off the center drive shaft (09-082-038) to desired length. Assemble the 27 tooth sprocket (09-052-013) on the drive shaft and then assemble bearings and flanges on the shaft. Hook up the couplers to the drive shaft and auger shafts. Assemble bearings to supports. Leave bearing flanges loose until the drive shaft has been lined up. Tighten up bearing supports being sure to keep the drive shaft running level and square to the hydraulic motor. Tighten bearing flanges and lock bearings to shaft. Assemble 56 pitch chain (09-052-011) on sprockets and line up. Loosen motor mounting bracket and tighten chain by moving hydraulic motor forward.

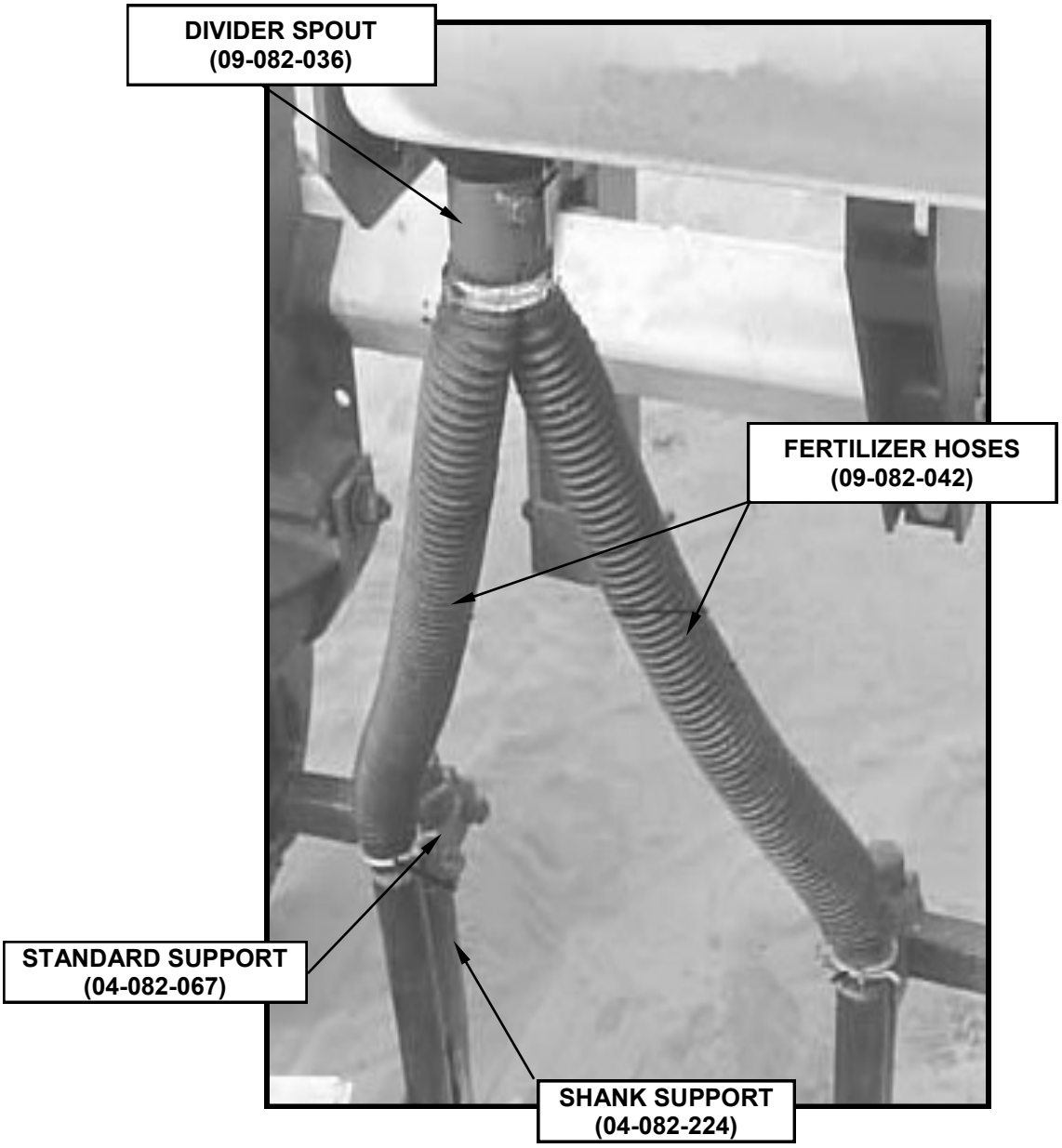


9. If more than two hopper boxes are used, cut off outboard drive tube (09-082-041) if necessary to desired length to couple the auger shafts together on outside boxes.
10. ⚠ Assemble auger shields (09-082-048) and chain drive shield (09-082-049) as shown below on all hydraulic drive fertilizer applicators . Auger shields can be left loose an lifted forward until the augers have been set on recommended metering numbers as shown on application rate table. Lower shield and tighten after auger has been adjusted (See page 22).





11. Mount “S”-Tine Shank Support (04-082-224) or dump brackets as shown. Shank applicators assemble in standard supports (04-082-067) located on the gang pipes. Shank applicators apply the fertilizer in the soil. The dump brackets are used to dump fertilizer on top of the ground ahead of the spider gangs which incorporate it into the soil. The dump brackets assemble on the spider gangs with a single carriage screw and can be easily adjusted.
12. Divider spouts (09-082-036) are used when it is necessary to apply fertilizer to both sides of the crop. Assemble divider on spout of hopper box being sure to turn the setscrew on the divider towards the center of the hopper box at about a 45 degree angle as shown. This allows the divider to distribute the flow of fertilizer from the auger more evenly so that both sides of the crop get approximately the same amount of fertilizer.
13. Attach fertilizer hoses (09-082-042) to hopper boxes and required applicator feet or dump brackets.



GREASE HOPPER BEARINGS AND AUGERS EVERY 8 HOURS OR DAILY.

ASSEMBLY INSTRUCTIONS FOR HYDRAULIC DRIVE

KMC RIPPER-BEDDER FERTILIZER APPLICATOR

1. Assemble Ripper-Bedder components as shown being sure to refer to your KMC Ripper-Bedder Owner's Manual and Parts Book.

2. Mount the 1 x 3 shank brackets the desired distance from the row. NOTE: on 2-row units a 1 x 3 shank bracket, wide (09-082-005) (4 x 7) or (09-082-091) (7 x 7) (page 52) must be used to straddle the outside braces on the tool bar main frame. In all other locations the 1 x 3 shank bracket, narrow (09-082-007) (4 x 7) or (09-082-092) (7 x 7) (page 52) can be used.
3. Assemble 1 x 3 shanks (09-023-012) (page 53) in the 1 x 3 shank brackets. Mount the deep applicator feet (09-082-003, Lt. 09-082-004 Rt.) on the 1 x 3 shanks.

CAUTION! THE GRADE 2 (SOFT) CAP SCREW MUST REMAIN IN THE BOTTOM HOLE FOR SHEARING PURPOSES (PAGE 53).

Finish setup by following #4 thru #14 on the following pages

KMC DISC-BEDDER FERTILIZER APPLICATOR

1. Assemble Disc-Bedder components as shown being sure to refer to your KMC Ripper-Bedder Owner's Manual and Parts Book.
2. Mount the 1 x 3 shank brackets narrow (09-082-007) (page 52) the desired distance from the row.
3. Assemble 1 x 3 shanks offset (09-023-013) in the 1 x 3 shank brackets under lower hitch as shown on page 53. Assemble 1 x 3 shanks, straight (09-023-012) (page 53) in other 1 x 3 shank brackets. Mount the deep applicator feet (09-082-003, Lt & 09-082-004, Rt.) on the 1 x 3 shanks.

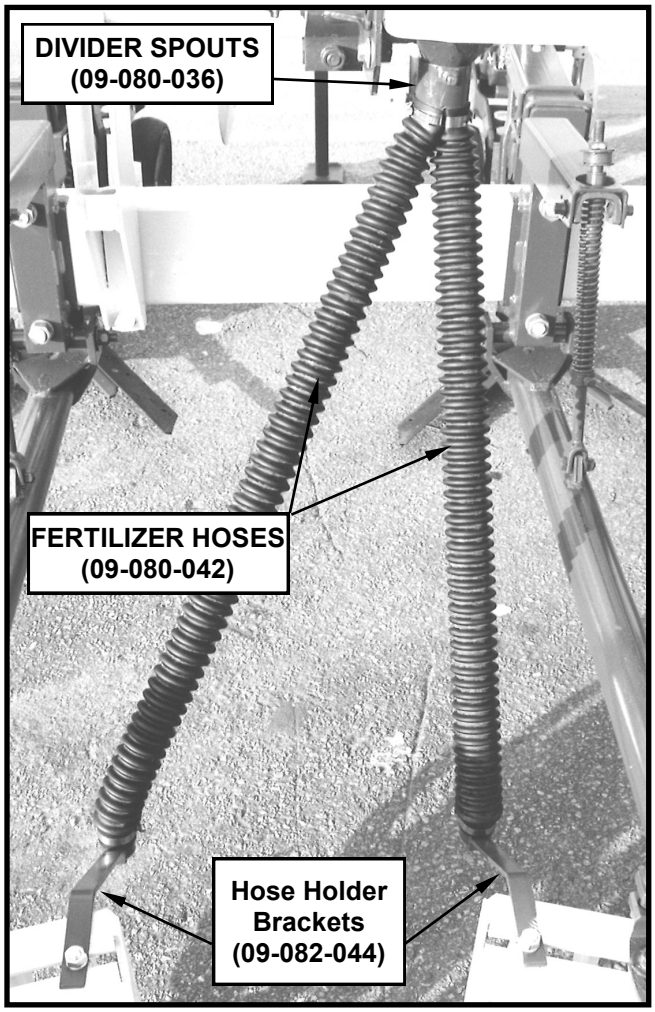
CAUTION! THE GRADE 2 (SOFT) CAPSCREW MUST REMAIN IN THE BOTTOM HOLE FOR SHEARING PURPOSES (PAGE 53).

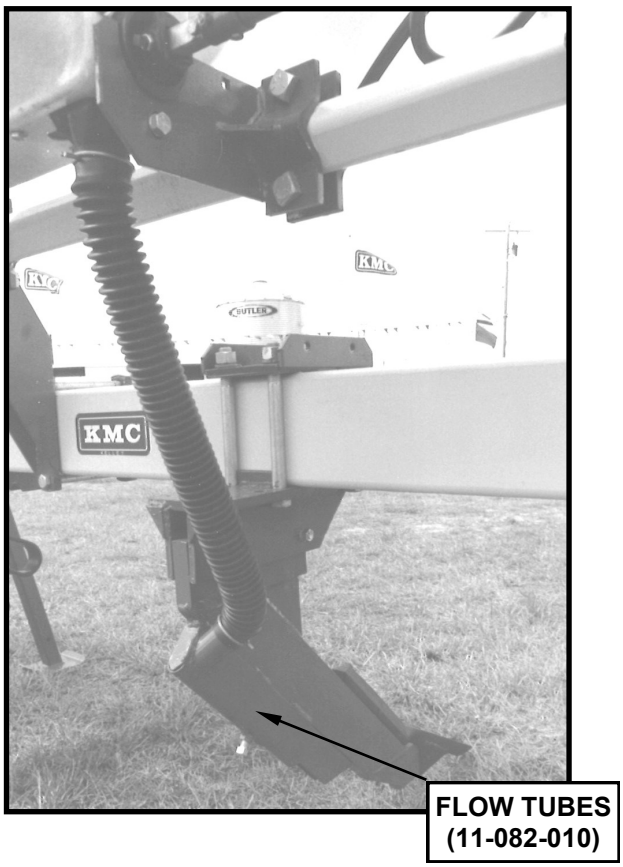
Finish setup by following #4 thru #14 on the following pages

KMC RIPPER-SPIDER-PLANTER FERTILIZER APPLICATOR

1. Assemble Ripper-Spider-Planter as shown being sure to refer to your KMC Ripper Spider-Planter Owner's Manual and Parts Book.

2. The ripper shanks on the Ripper-Spider-Planter will have to be equipped with flow tubes (11-082-010). These tubes have to be welded on the ripper shanks as shown on page 54. Refer to chart on page 54 to determine where to weld on left and right flow tubes by observing the location of the spout on the hopper box for the different machines.
3. Hose holder brackets (09-082-044) can be mounted to the spider gangs as shown. The hose holder brackets are used to dump fertilizer on top of the ground ahead of the spider gangs which incorporate it into the soil.

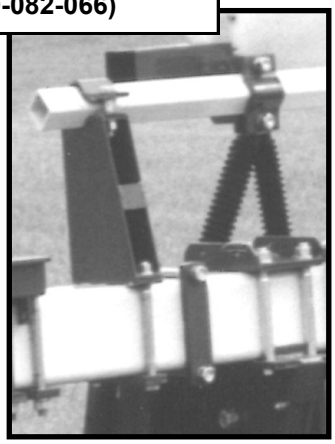


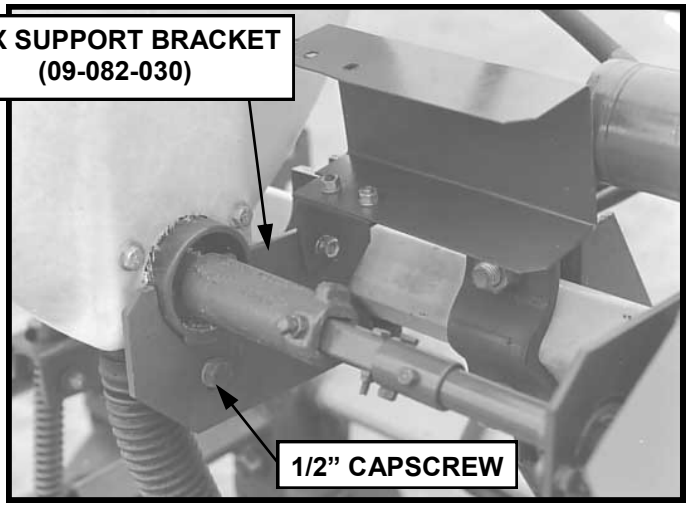


Finish setup by following #4 thru #14 on the following pages

4. Center recommended length auxiliary tool bar (2 1/2 x 2 1/2) (Page 13) for Ripper-Bedder tool bar and (page 14) for Disc Bedder tool bars as shown using mounting brackets (09-082-029) for 4 x 7 to 2 1/2 x 2 1/2 tool bar or (09-082-066) for 7 x 7 to 2 1/2 x 2 1/2 (page 20). Be sure that the mounting brackets are turned as shown with the square part of the bracket to the **front** of the tool bar for Ripper Bedder machines and to the **rear** for Disc Bedder Machines. These mounting brackets are to be located as shown so they do not interfere with other components. Two brackets are required for 2-row machines, three brackets required on 4-row machines, and four brackets required on 6-row machines.

TOOL BAR BRACKETS (09-082-066)





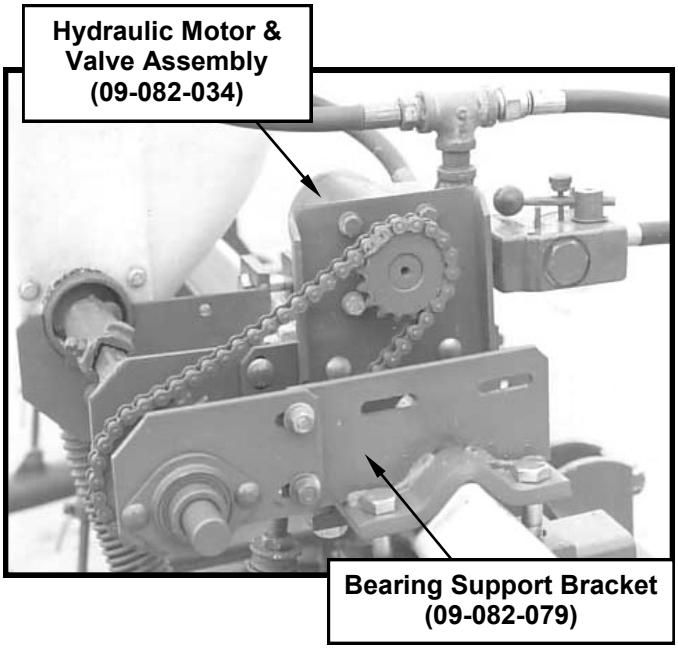
5. Attach box support brackets (09-082-030) to (09 -082-062) 550 # hopper box. The casting of each end of the box must rest in the round saddle of the support brackets. Remove the 1/2" capscrew from the castings on each end of the box and mount the support brackets to the box with the clamp part of the bracket to the inside. Put capscrews back into castings through the slotted holes in the brackets and tighten.

NOTE: THESE CAPSCREWS CAN BE REMOVED AND THE HOPPER BOX TILTED BACKWARDS SO THAT IS CAN BE EASILY CLEANED OUT. THIS IS RECOMMENDED FREQUENTLY DURING USE AND BEFORE HOPPER BOXES ARE STORED UNTIL NEXT SEASON. (See Page 22).

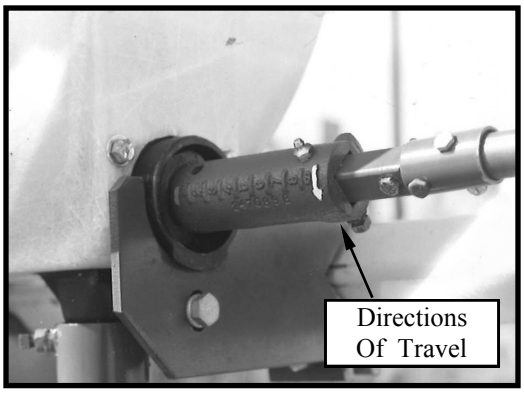
6. Insert auger assembly (09-082-090) for 550# box (Page 34), in the box. Augers can be inserted in either side of the 550# box. Be sure that the arrows on the augers always point in the direction of travel on the implement. Loosen the setscrew on the auger until bottoms out on the square tubing. Retighten setscrew to lock the auger to the square tubing. Next, set the auger metering number by one (1) by aligning it with the end of the casting on the box. The augers have to be initially set like this so that when the boxes are mounted on the auxiliary tool bar, the drive shaft or outboard drive tube can be cut off the right length and also to be able to get a full adjustment of the auger. Refer to application rate chart for auger setting after all components have been mounted and hooked on the auxiliary tool bar.

7. Mount the motor and bearings support bracket (09-082-079) (Page 37) on the center of the auxiliary tool bar when using two or four boxes. The bracket is mounted to one end when using only one box. When three boxes are used the bracket is mounted between any of the boxes.

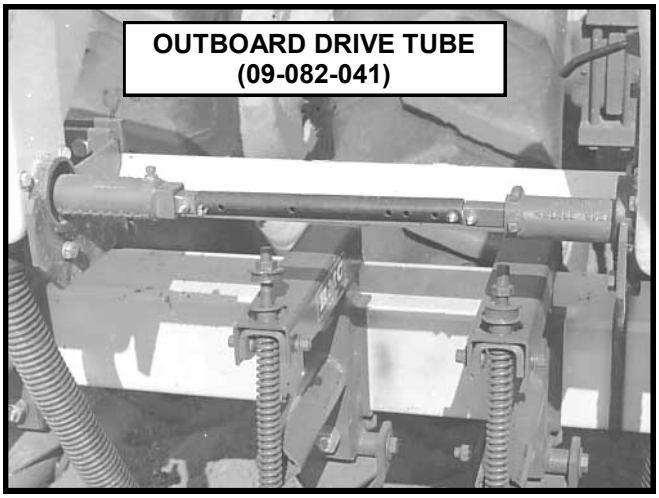
8. Mount Hydraulic Motor and Valve Assembly (09-082-034) on support bracket. The Hydraulic motor and flow control valve come partially assembled. For closed hydraulic systems, use the (2) two solid plugs to close off the tee on the motor and the street ell on the valve. For open hydraulic systems, hook up the 24" hydraulic hose to the tee on motor and to the street ell on the valve to handle excess flow (see page 38). Hook up the tractor end hydraulic hoses as follows: The input (pressure) hose connects to adjustable flow control valve at the port marked "in" on the front; the return hose connects to the tee on the hydraulic motor. See application rate table for flow control valve setting.



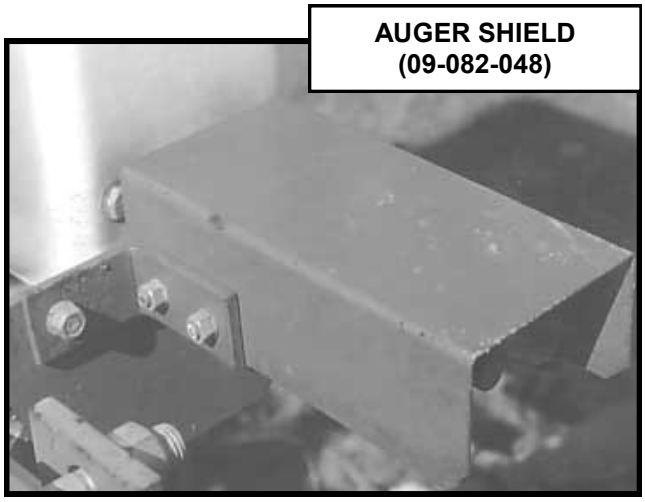
9. Attach the hopper boxes as shown to the auxiliary tool bar and locate the output spout as required per row width. See table on page 13 for spout locations on Ripper Bedder machines and page 14 For Disc Bedder machines. Be sure that the augers are still set on number one and that the arrows on the augers point in the direction of travel.



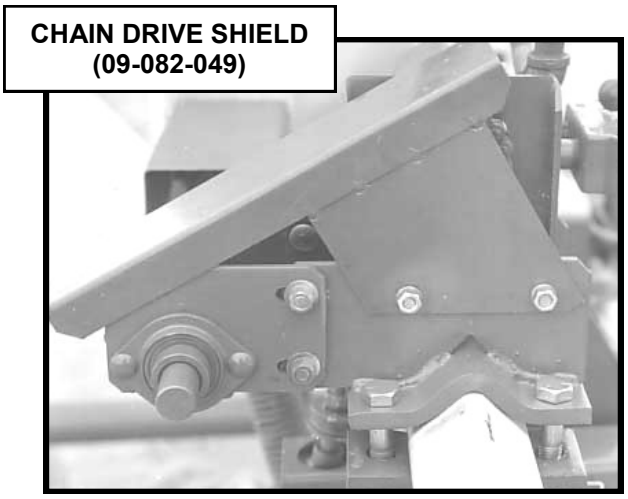
10. Recheck auger settings and location of the output spouts in relation to the row. The whole box may have to be moved on the auxiliary bar to get the output spout in the right location. Be sure the boxes are turned the right way as shown. Next, cut off the center drive shaft (09-082-038) to desired length. Assemble the 27 tooth sprocket (09-052-013) on the drive shaft and then assemble bearings and flanges on the shaft. Hook up the couplers to the drive shaft and auger shafts. Assemble bearings to supports. Leave bearing flanges loose until the drive shaft has been lined up. Tighten up bearing supports being sure to keep the drive shaft running level and square to the hydraulic motor. Tighten bearing flanges and lock bearings to shaft. Assemble 56 pitch chain (09-052-011) on sprockets and line up. Loosen motor mounting bracket and tighten chain by moving hydraulic motor forward.

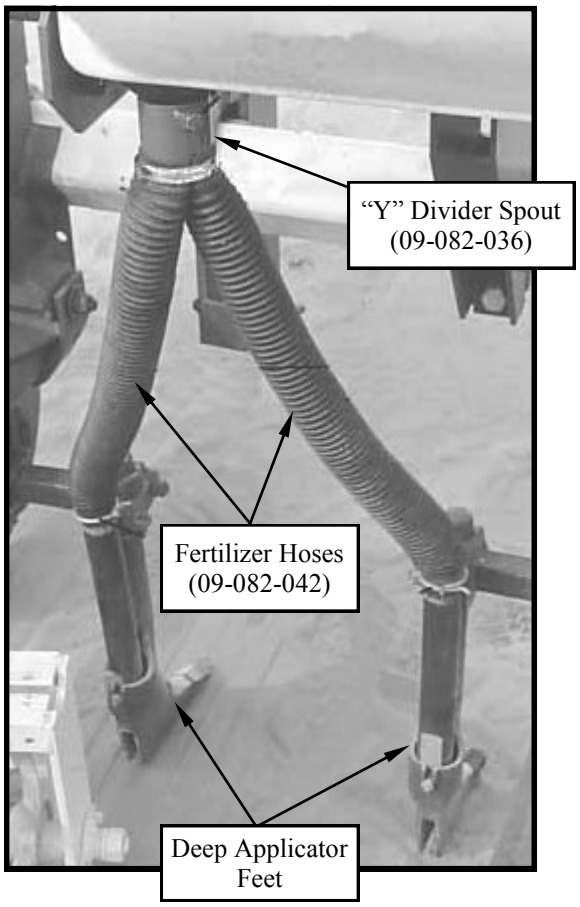


11. If more than two hopper boxes are used, cut off out board drive tube (09-082-041) if necessary to desired length to couple the auger shafts together on other boxes.



12. Assemble auger shields (09-082-048) and chain drive shield (09-082-049) as shown on all hydraulic drive fertilizer applicators. Auger shields can be left loose an lifted forward until the augers have been set on recommended metering numbers as shown on application rate table. Lower shield and tighten after auger has been adjusted.





13. Divider spouts (09-082-036) are used when it is necessary to apply fertilizer to both sides of the crop. Assemble divider on spout of hopper box being sure to turn the setscrew on the divider towards the center of the hopper box at about a 45 degree angle as shown. This allows the divider to distribute the flow of fertilizer from the auger more evenly so that both sides of the crop get approximately the same amount of fertilizer.
14. Attach Fertilizer Hoses (09-082-042) to Hopper Boxes and Deep Applicator Feet (09-082-003 (Lt) or 09-082-004 (Rt)

GREASE HOPPER BEARINGS AND AUGERS EVERY 8 HOURS

OPERATIONAL SETUP

Follow the recommended operating instructions for the KMC implement on which the fertilizer applicator is mounted.

The fertilizer applicator is offered with either a hydraulic drive or a ground drive.

HYDRAULIC DRIVE:

On hydraulically driven units the application rate (lbs. per acre) is affected by the four (4) following

1. Tractor Engine RPM –The fertilizer application rate chart (for hydraulic drive) given below was based on engine RPM's at approximate PTO speed. If field running engine RPM varies greatly from this, the application rate could be affected.
2. Ground Speed of Tractor - The application rate increase with a decrease in ground speed and decreases with an increase in ground speed.
3. Auger Feed Adjustment - The application rate increase as the auger is pushed further into the hopper box and decreases as the auger is pulled out of the box. Each auger indexes from 1 thru 9.
4. Flow Control Valve - Each hydraulically driven unit is equipped with an adjustable flow control valve which controls the speed (RPM's) of the hydraulic motor. The application rate increases as the valve setting is increased and decrease as the valve setting is decreased.

CAUTION: IT IS NOT RECOMMENDED TO OPERATE FERTILIZER UNITS ABOVE VALVE SETTING 8 OR APPROXIMATE AUGER SPEED OF 290 RPM.

FERTILIZER APPLICATION RATES
HYDRAULIC DRIVE 17T TO 27T (BASED ON 5 MPH)

VALVE SETTING	AUGER RPM (APPR)	ROW WIDTH *	AUGER INDEX								
			1	2	3	4	5	6	7	8	9
			POUNDS PER ACRE								
3	75	36	90	100	150	214	256	289	310	315	320
		48	68	75	113	161	192	217	233	236	240
4	136	36	140	165	248	355	462	495	536	545	561
		48	105	124	186	266	347	371	402	409	421
5	182	36	198	225	305	462	594	660	710	726	743
		48	149	169	229	347	446	495	533	545	557
6	225	36	245	278	377	571	734	816	878	898	919
		48	184	209	283	428	551	612	659	674	689
7	253	36	256	289	404	611	792	916	965	990	1023
		48	192	217	303	458	594	687	724	743	767
8	290	36	297	338	462	693	875	1007	1114	1147	1163
		48	223	254	347	520	656	755	836	860	872

ROW WITDH	CONVERSION FACTOR
30"	1.20
32"	1.125
34"	1.06
38"	.95
40"	.90
42"	.86
44"	.82

* For other row widths or ground speeds multiply conversion factors by the rate for 36 inch rows. (Rates based on 80 lbs. Per cubic foot of fertilizer.)

The fertilizer application rate chart (for hydraulic drive) shown above gives an estimated output (lbs. per acre) at a selected valve setting and auger index setting. The chart shows rates for 36" and 48" rows only (based on 5 MPH ground speed). Conversion factors are given for different row widths and different ground speeds. However, the following procedure may be used to accurately check the application rate:

GROUND SPEED	CONVERSION FACTOR
3 MPH	1.67
4 MPH	1.25
6 MPH	.83
7 MPH	.71

1. Select ground speed (MPH).
2. Select row width (inches)
3. Select valve setting and auger index setting as recommended by application rate chart for desired application rate (lbs. Per acre). Use conversion factor for row widths other than 36" and 48" and ground speeds other than 5 MPH.
4. Fill one hopper with fertilizer
5. Collect the fertilizer for one (1) hopper outlet for (1) one minute with tractor stationary but running at field operating engine speed. Weigh collected fertilizer.
6. Fill in following formula to determine application rate in lbs. Per acre

$$\text{Application Rate (lbs per acre)} = \frac{5940 \times \text{lbs per minute collected}}{\text{MPH} \times \text{Width of Row (inches)}}$$

7. If application rate is too low, increase valve setting and/or auger index setting and repeat procedure above. If application rate is too high, decrease valve setting and/or auger index setting and repeat procedure.

EXAMPLE

1. Ground speed - 4 MPH
2. Row width - 42 inches
3. Desired application rate - 500 lbs per acre

   Using conversion factors for 42 inch row and 4 MPH ground speed we can select valve setting 5 and auger index setting of 4 from application rate chart.

   .86 x 1.25 x 463 = 497.73 lbs per acre.

4. Fertilizer collected from one hopper outlet in one minute - 14 lbs.
5. Using formula:

$$\text{Application Rate (lbs per acre)} = \frac{5940 \times 14 \text{ lbs}}{4 \text{ MPH} \times 42 \text{ inches}} = 495 \text{ lbs per acre}$$

6. Increase auger index setting very slightly.

GROUND DRIVE:

On ground driven units the application rate (lbs per acre) is affected by two (2) factors:

1. **Auger Feed Adjustment** - The application rate increases as the auger is pushed further into the hopper box and decreases as the auger is pulled out of the box. Each auger indexes from 1 thru 9.
2. **Sprocket Selection** - Each ground drive wheel comes standard with a 17 tooth sprocket on the wheel connected by roller chain to a 27 tooth sprocket on a counter shaft. These two sprockets may be reversed to increase auger RPM. These two sprocket combinations are shown in the fertilizer application rate chart for ground drive units.

ROW WITDH	CONVERSION FACTOR
30"	1.20
32"	1.125
34"	1.06
38"	.95
40"	.90
42"	.86
44"	.82

FERTILIZER APPLICATION RATES

(COUNTER SHAFT SPROCKET DRIVE – 27T) GROUND DRIVE (AUGER SHAFT SPROCKET – 17T)

WHEEL SPRK'T (DRIVE)	COUNTER SHAFT SPRK'T (DRIVEN)	ROW WIDTH *	AUGER INDEX								
			1	2	3	4	5	6	7	8	9
			POUNDS PER ACRE								
17	27	36	90	100	150	214	256	289	310	315	320
		48	68	75	113	161	192	217	233	236	240
27	17	36	227	252	378	539	645	728	781	794	806
		48	170	189	284	404	484	546	486	496	605
60	17	36	431	491	671	1004	1267	1457	1615	1661	1684
		48	323	368	503	753	950	1093	1211	1246	1263

* For other row widths multiply conversion factor by the rate of 36 inch rows.
(Rates based on 80 lbs per Cubic Foot of fertilizer).

The fertilizer application rate chart (for ground drive) gives an estimated output (lbs per acre) at a selected auger index setting and sprocket combination. The chart gives rates for 36" and 48" row only. Conversion factors are given for different row widths. However, the following procedure may be used to accurately check the application rate:

1. Select row width (inches).
2. Select auger index setting as recommended by application rate chart (ground drive) for desired application rate (lbs per acre). Use conversion factors for row widths other than 36" and 48". **NOTE: FOR HIGHER RATES (LBS PER ACRE) THE WHEEL SPROCKET AND COUNTER SHAFT SPROCKET WILL HAVE TO BE REVERSED AS SHOWN IN THE RATE CHART.**
3. Fill one hopper with fertilizer.
4. Collect the fertilizer from one (1) hopper outlet with the drive wheel connected and in operating position. Drive forward an exact pre-measured distance (recommended a minimum of 300 feet). Weigh collected fertilizer.
5. Fill in following formula to determine application rate in lbs per acre.

$$\text{Application Rate (lbs per acre)} = \frac{522{,}720 \times \text{lbs. Collected}}{\text{Measured distance (ft.)} \times \text{Row width (inches)}}$$

6. If application rate is too low, increase auger index setting and repeat procedure above. If application rate is too high, decrease auger index setting and repeat procedure.

EXAMPLE:

1. Row width - 42 inches
2. Desired application rate - 250 lbs per acre. Using conversion factor for 42 inch rows we can select auger index setting of 6 from application rate chart.

   .86 x 289 = 248.54 lbs per acre

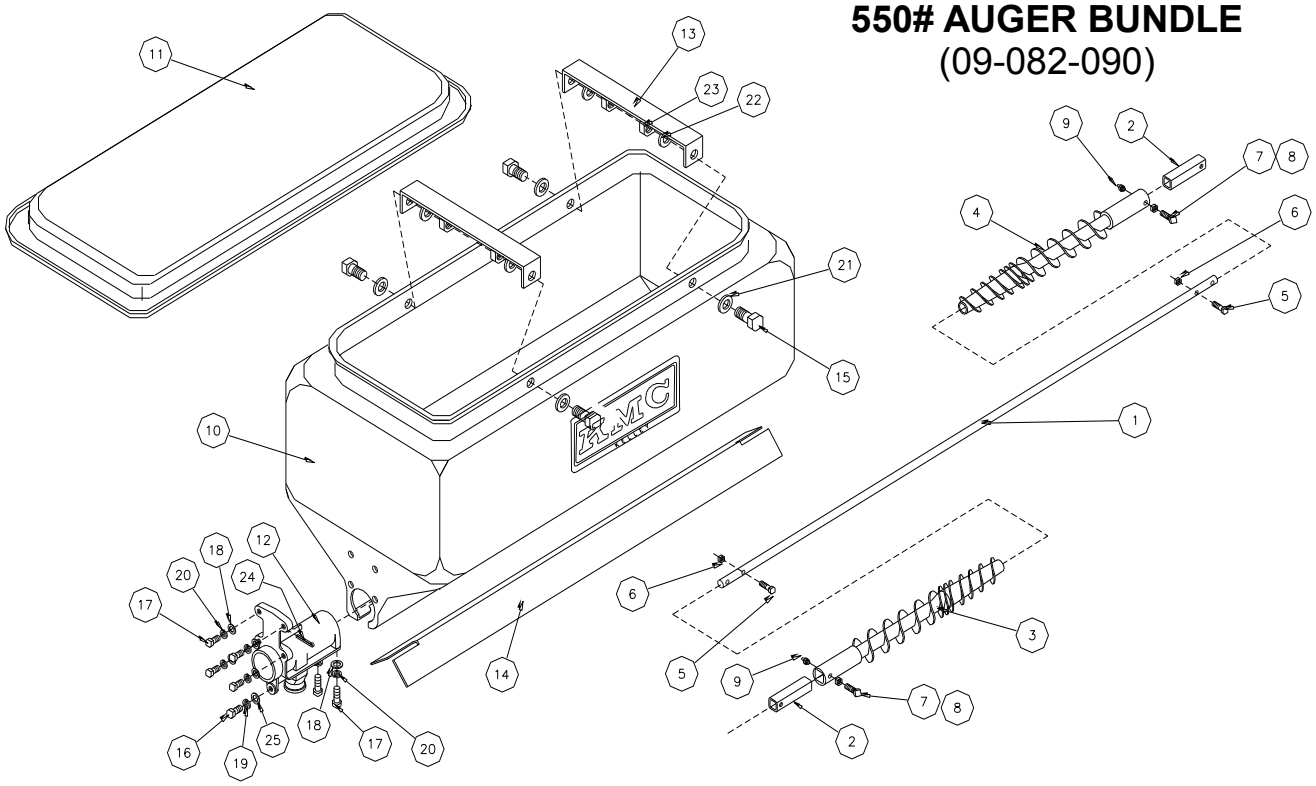
3. Fertilizer collected from one hopper outlet over 300 feet measured distance - 6 lbs.
4. Using formula:

$$\text{Application Rate (lbs per acre)} = \frac{522{,}720 \times 6 \text{ lbs}}{300 \text{ ft.} \times 42 \text{ inches}} = 248.9 \text{ lbs per acre}$$

5. Increase auger index setting very slightly.

PARTS BOOK SECTION

550# AUGER BUNDLE
(09-082-090)

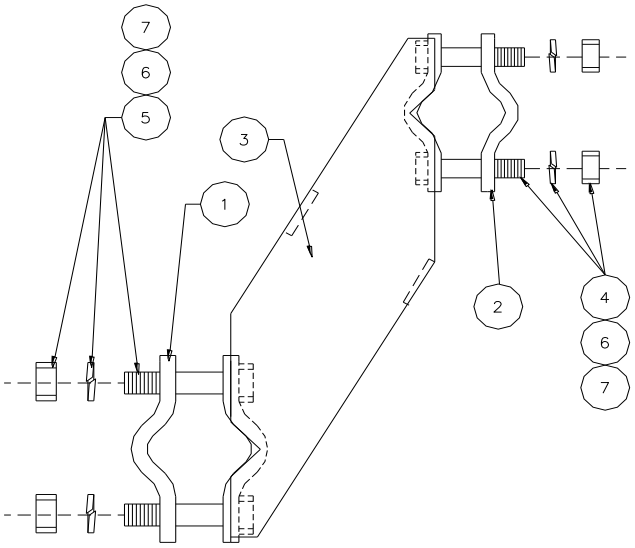


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-026-031		Shaft, 550# Box	1
2	09-024-028		Drive Tube	2
3	09-057-017		Auger, Lt. Hand	1
4	09-057-018		Auger, Rt. Hand	1
5	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	2
6	72-010020		Locknut, 1/4 G"A" Plt	2
7	54-010100		Setscrew, 3/8 x 3/4 Sq. Hd. Cuppt.	2
8	70-010050		Jam Nut, 3/8 Hex	2
9	02-050-005		Grease Fitting, 1/4-28	2

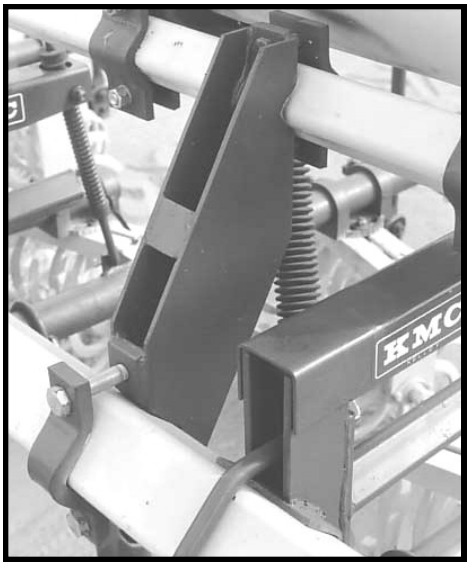
550# HOPPER(1993) (09-082-062)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
10	09-050-063		Hopper, 550#	1
11	09-050-065		Lid, 550# Hopper	1
12	09-057-019		Spout	2
13	09-023-104		Brace, Hopper (1993)	2
14	09-027-022		Baffle	1
15	48-090036		Capscrew, 5/16 x 1 NC Plt	4
16	48-090592		Capscrew, 1/2 x 1 1/4 G"5" Plt	2
17	48-090100		Capscrew, 3/8 x 1 G"5" Plt	12
18	62-010100		Flatwasher, 3/8 Plt	12
19	66-010250		Lockwasher, 1/2 Plt	2
20	66-010150		Lockwasher, 3/8 Plt	12
21	62-010050		Flatwasher, 5/16 Plt	4
22	68-010100		Hex Nut, 5/16 Plt	4
23	66-010100		Lockwasher, 5/16 Plt	4
24	76-010100		Cotter Pin, 3/16 x 1 1/2	2
25	62-010200		Flatwasher, 1/2 Plt	2

CULTIVATOR CLAMP BUNDLE
(09-082-031)

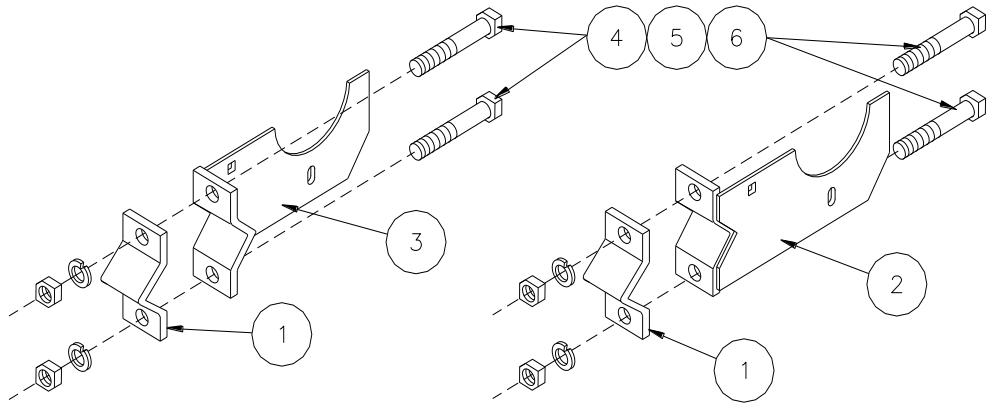


4X4 to 2 1/2 T.B. BRACKET—15 5/8
(09-082-075)



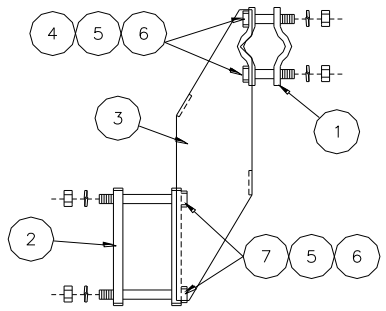
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	-031	-075
1	02-023-167		Clamp Cap, 4” T.B.	1	1
2	02-023-179		Clamp Cap	1	1
3	09-080-024		Cultivator Clamp	1	-
	09-080-046		Tool Bar Bracket, 15 5/8	-	1
4	48-091400		Capscrew, 3/4 x 3 1/2 G5 Plt	2	2
5	48-091450		Capscrew, 3/4 x 4 1/2 G5 Plt	2	2
6	66-010350		Lockwasher, 3/4 Plt	4	4
7	68-010350		Hex Nut, 3/4 Plt	4	4

HOPPER SUPPORT BRACKETS (09-082-030)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	02-023-179		Clamp Cap	2
2	09-080-022		Box Support, Lt.	1
3	09-080-023		Box Support, Rt.	1
4	48-091375		Capscrew, 3/4 x 3 G5 Plt	4
5	66-010350		Lockwasher, 3/4 Plt	4
6	68-010350		Hex Nut, 3/4 Plt	4

TOOL BAR BRACKETS

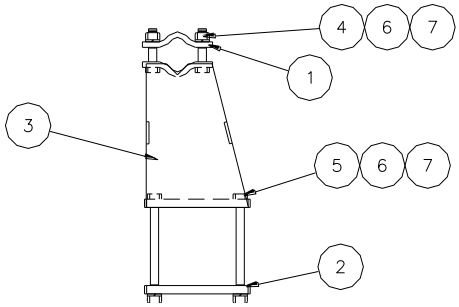


7X7 TO 2 1/2
(09-082-043)

7X7 TO 2 1/2
(09-082-067)

7X4 TO 2 1/2 LONG
(09-082-081)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	-043	-067	-081
1	02-023-179		Clamp Cap	1	1	1
2	04-023-213		7” Tool Bar Cap	1	1	1
3	09-080-026		7x7 to 2 1/2 Bracket	1	1	-
	09-080-066		7 x 4 to 2 1/2 Bracket, long	-	-	1
4	48-091400		Capscrew, 3/4 x 3 1/2 G5 P	2	2	2
5	66-010350		Lockwasher, 3/4 Plt	4	4	4
6	68-010350		Hex Nut, 3/4 Plt	4	4	4
7	48-070100		Capscrew, 3/4 x 9 1/2 G5	2	-	-
	48-100060		Capscrew, 3/4 x 6 1/2 G5 P	-	2	2



4X7 TO 2 1/2
(09-082-029)

5X7 TO 2 1/2
(09-082-065)

7X7(TOP) TO 2 1/2
(09-082-066)

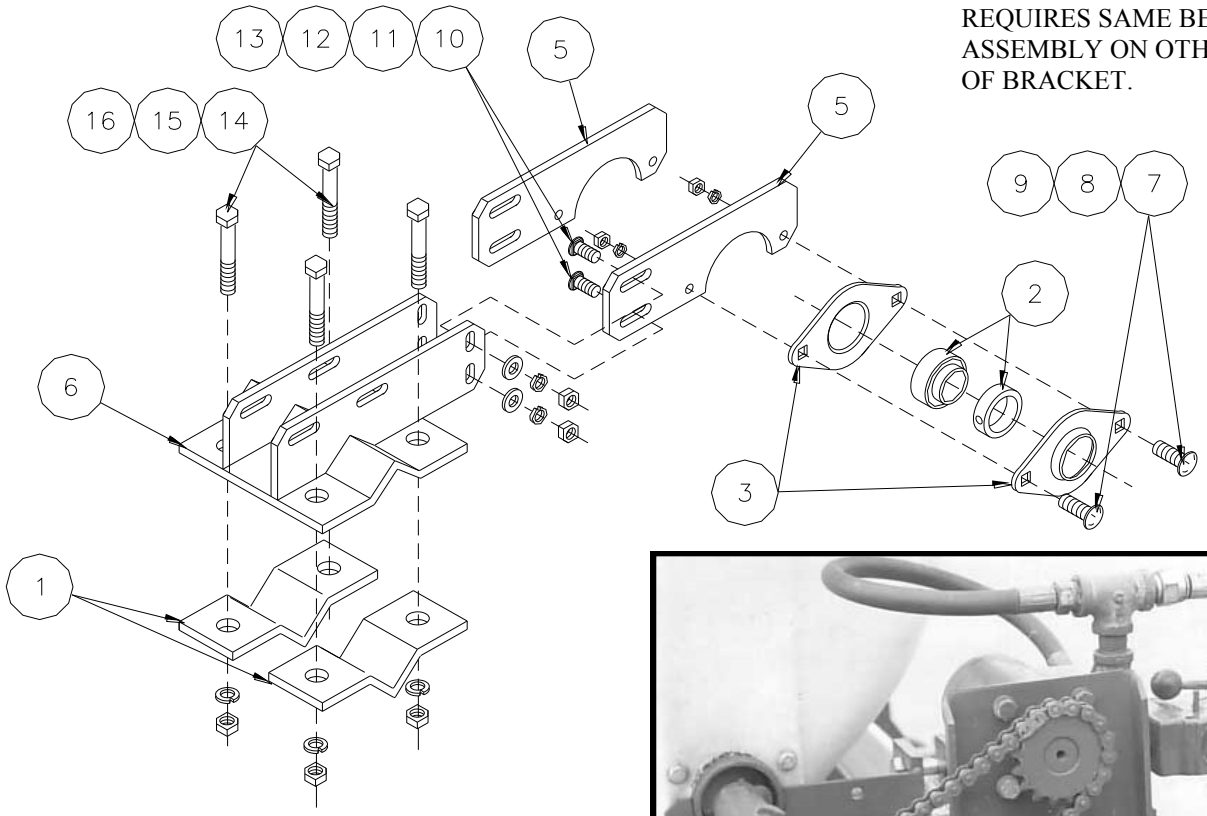
4X7 TO 2 1/2, 13 1/4
(09-082-077)

7X7 (TOP) TO 2 1/2, 13 1/4
(09-082-043)

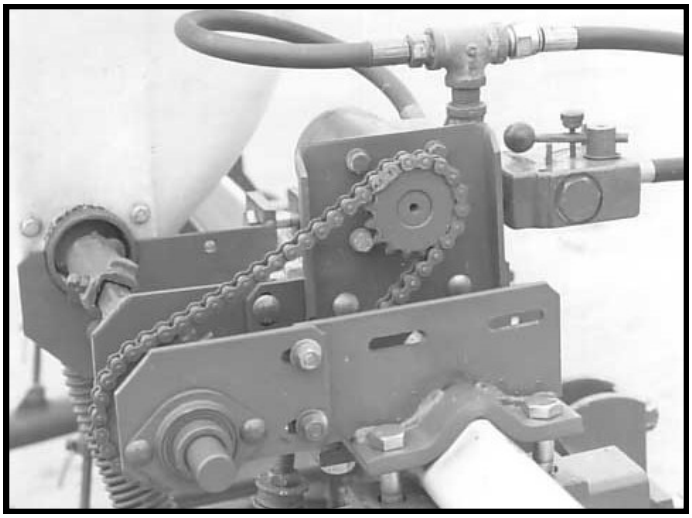
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	-029	-065	-066	-077	-089
1	02-023-179		Clamp Cap	1	1	1	1	1
2	04-023-213		7” Tool Bar Cap	1	1	1	1	1
3	09-080-021		4x7-2 1/2 Bracket	1	1	1	-	-
	09-080-064		4x7-2 1/2 Bracket, 13 1/4	-	-	-	1	1
4	48-091400		Capscrew, 3/4 x 3 1/2 G5	2	2	2	2	2
5	48-070050		Capscrew, 3/4 x 6 1/2 G5	2	-	-	2	-
	48-100075		Capscrew, 3/4 x 7 1/2 G5	-	2	-	-	-
	48-100103		Capscrew, 3/4 x 9 1/2 G5	-	-	2	-	2
6	66-010350		Lockwasher, 3/4 Plt	4	4	4	4	4
7	68-010350		Hex Nut, 3/4 Plt	4	4	4	4	4

MOTOR & BRG SUPPORT

(09-082-079)



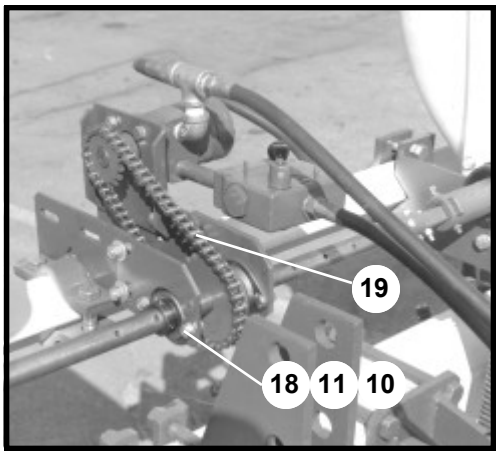
REQUIRES SAME BEARING ASSEMBLY ON OTHER LEG OF BRACKET.

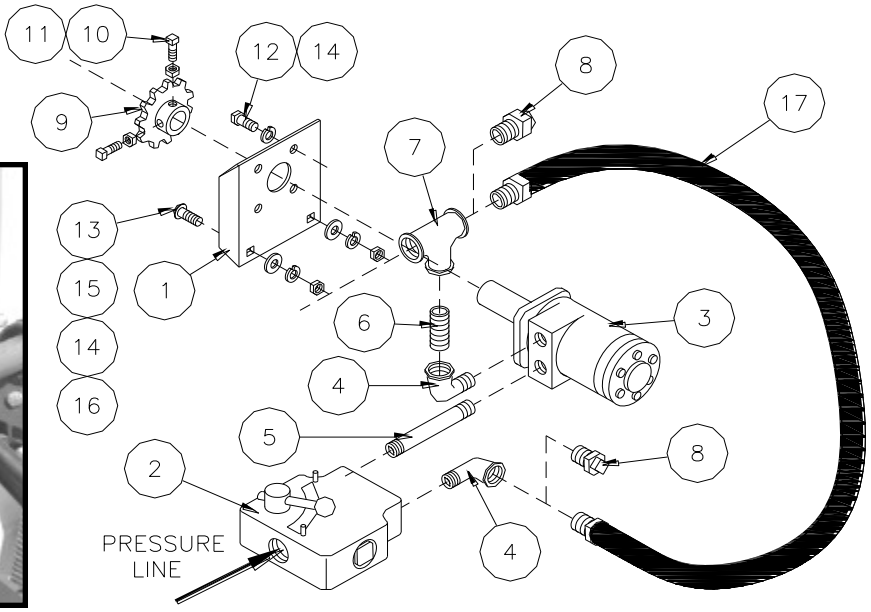


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	02-023-031		Clamp, P.B.	2
2	03-051-021		Bearing, 1” Ext. w/Collar	2
3	04-051-002		Stamping, 52 MST	4
5	09-027-014		Bearing Plate	2
6	09-080-025		Motor Bracket	1
7	52-050005		Carriage Screw, 5/16 x 3/4 G2 Plt	4
8	66-010100		Lockwasher, 5/16 Plt	4
9	68-010100		Hex Nut, 5/16 Plt	4
10	52-050035		Carriage Screw, 3/8 x 1 G2 Plt	4
11	62-010100		Flatwasher, 3/8 Std Plt	4
12	66-010150		Lockwasher, 3/8 Plt	4
13	68-010150		Hex Nut, 3/8 Plt	4
14	48-091000		Capscrew, 5/8 x 3 G5 Plt	4
15	66-010300		Lockwasher, 5/8 Plt	4
16	68-010300		Hex Nut, 5/8 Plt	4

MOTOR & VALVE BUNDLE

(09-082-034)





NOTE: Assemble Hydraulic Hose (Item 17) as shown for **"open"** hydraulic system or assemble pipe plugs (Item 8) as shown for **"closed"** hydraulic system on tractor.

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-027-012		Motor Mounting Plate	1
2	09-061-006		Adjustable Flow Control Valve	1
3	09-061-001		Hydraulic Motor 6.2	1
	09-061-005		Seal Kit For 09-061-001 (Eaton Part # 101-1003-107)	1
	or			
	42-061-031		Seal Kit For 09-061-001 (Eaton Part # 101-1003-109)	1
4	05-050-013		1/2 NPT Galvanized Street Ell	2
5	09-050-053		1/2 NPT x 3 Galvanized Nipple	1
6	07-050-002		1/2 NPT x 1 1/2 Galvanized Nipple	1
7	07-050-001		1/2 NPT Galvanized Tee	1
8	02-054-021		Solid Pipe Plug	2
9	09-052-012		Sprocket (40B17 x 1" Bore)	1
10	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	4
11	70-010050		Jam Nut, 3/8 Pln	4
12	48-040100		Capscrew, 3/8 x 3/4 G2 Plt	4
13	52-030250		Carriage Screw, 3/8 x 1 G2 Plt	2
14	66-010150		Lockwasher, 3/8 Plt	6
15	62-010100		Flatwasher, 3/8 Std Plt	2
16	68-010150		Hex Nut, 3/8 Plt	2
17	11-059-001		Hydraulic Hose, 3/8 x 24	1
18	09-052-013		Sprocket (40B27 x 1" Bore)	1
19	09-052-011		Chain (#40-56P)	1
	09-052-005		Connecting Link, #40 Chain	1

48” HOSE BUNDLE

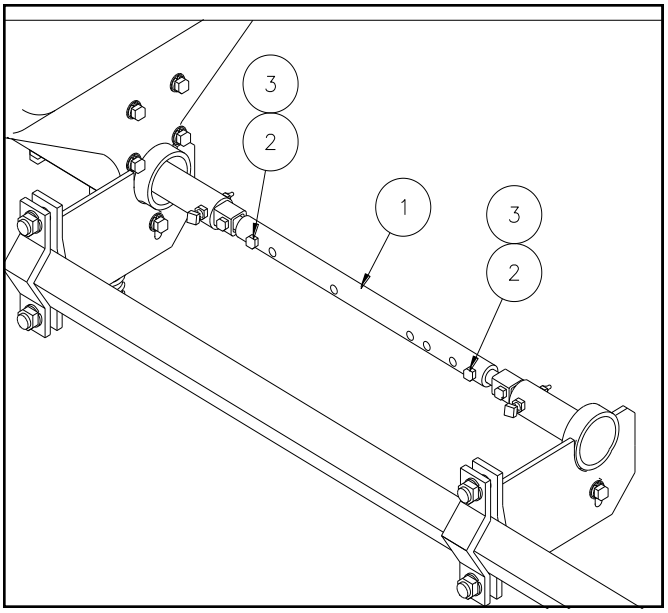
(11-082-019)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-059-002		Hydraulic Hose, 3/8 x 48	2
	11-059-002		Coupling, 1/2 NPT	2

80” HOSE BUNDLE

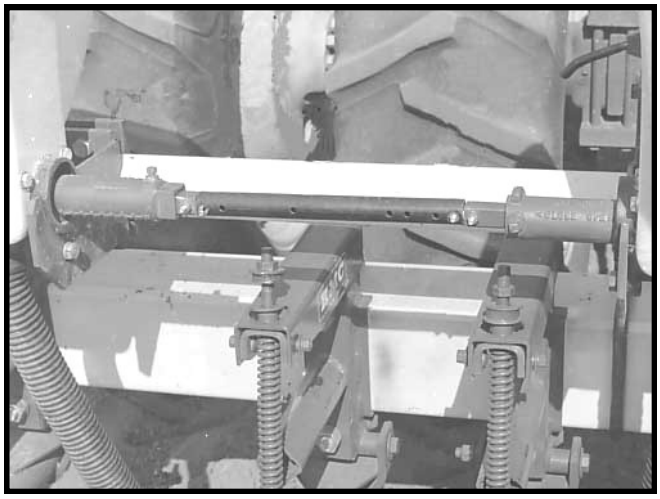
(02-082-137)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
2	07-059-004		Hydraulic Hose, 3/8 x 80	2

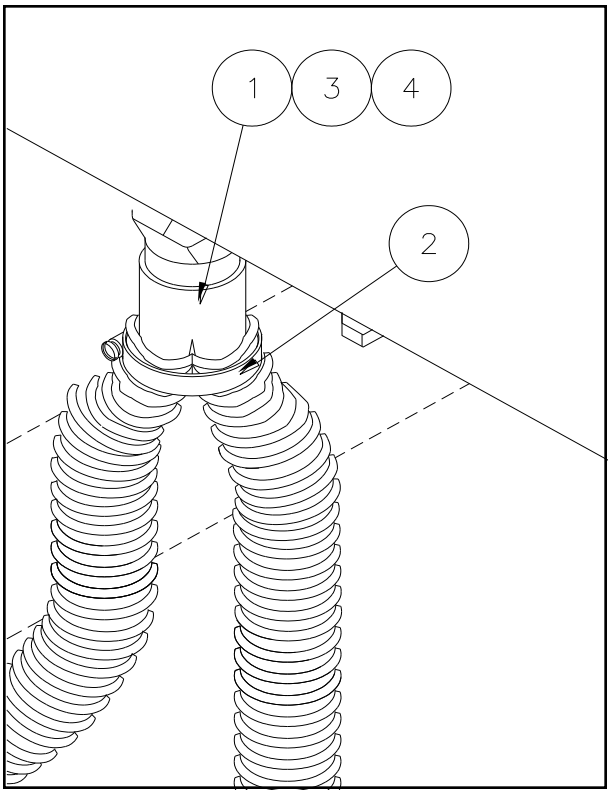


OUTBOARD DRIVE TUBE

(09-082-041)

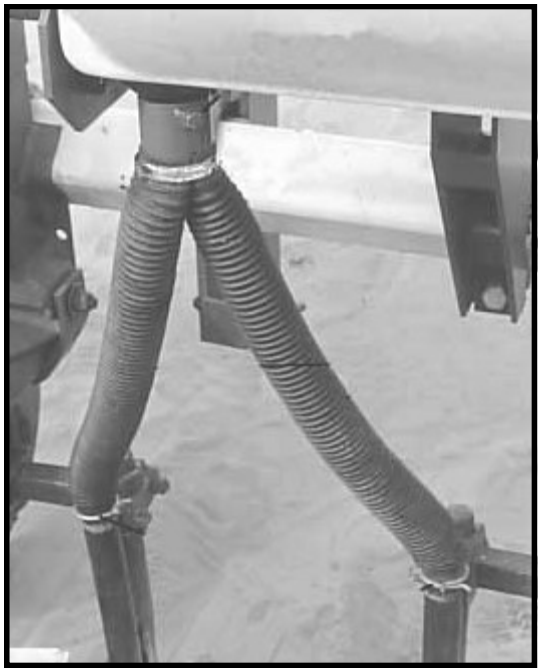


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-024-008		Outboard Drive Tube	1
2	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	2
3	72-010020		Lock Nut, 1/4 G"A" Plt	2



"Y" DIVIDER SPOUT

(09-082-036)

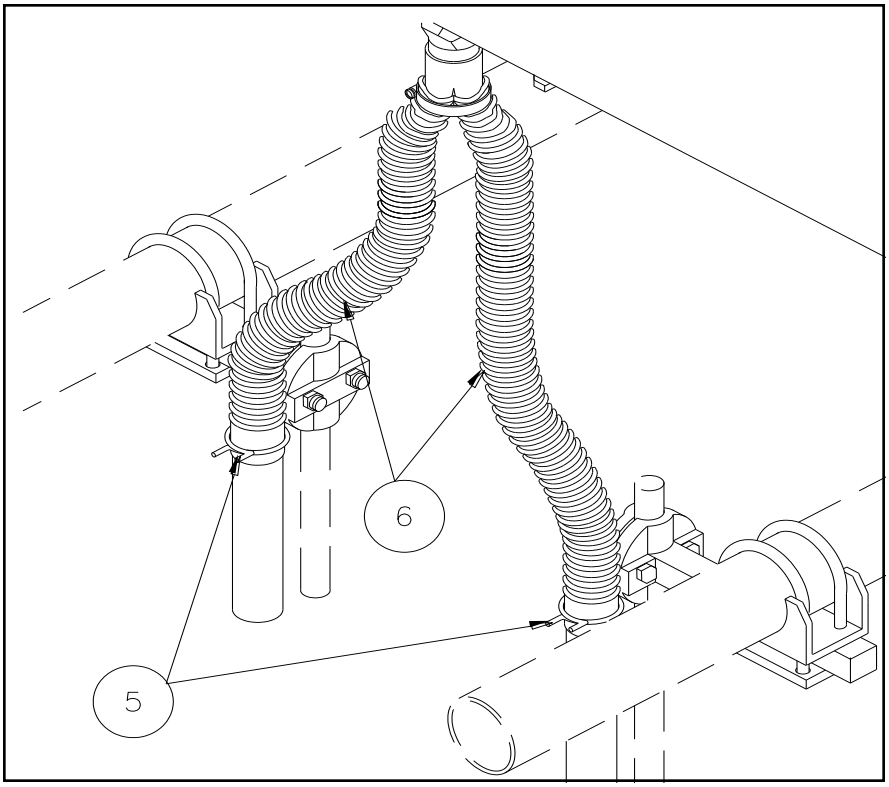


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-028		Spout, 1979 "Y"	2
*2	09-050-055		Clamp, "Y" Spout	2
3	54-010170		Setscrew, 3/8 x 1 Sq Hd	2
4	70-010050		Jam Nut, 3/8 Pln	2

* Clamp is same design as other clamps but larger in diameter.

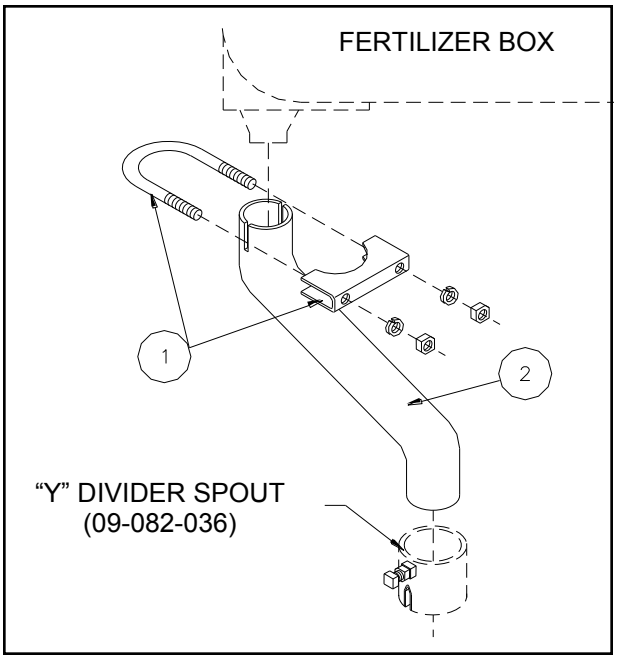
FERTILIZER HOSE & CLAMPS

(09-082-042)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
5	09-050-006		Clamp, Lower Hose	2
6	09-050-052		Hose, 1979 Fertilizer	2
**	09-050-054		Clamp, Upper Hose	2

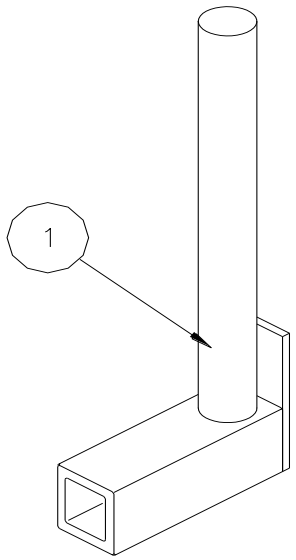
** Not shown - used to connect hose directly to spout on box.



OFFSET DROP SPOUT

(09-082-074)

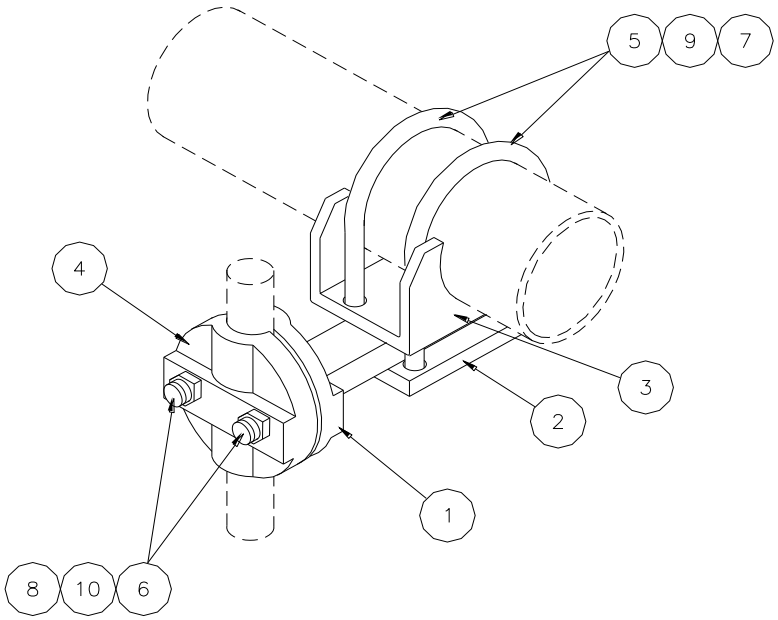
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-050-068		Spout Clamp	2
2	09-050-067		Spout, Offset Drop	2



“S”-TINE SHANK SUPPORT

(04-082-224)

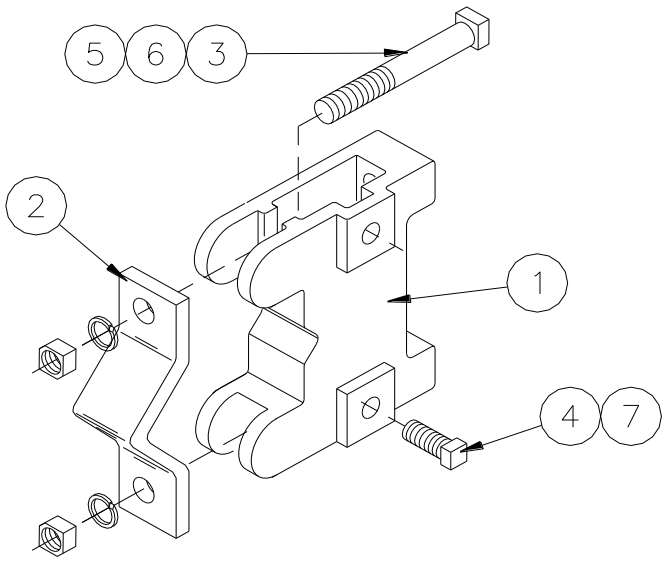
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	04-080-229		“S” Tine Shank Support	1



STANDARD SUPPORT

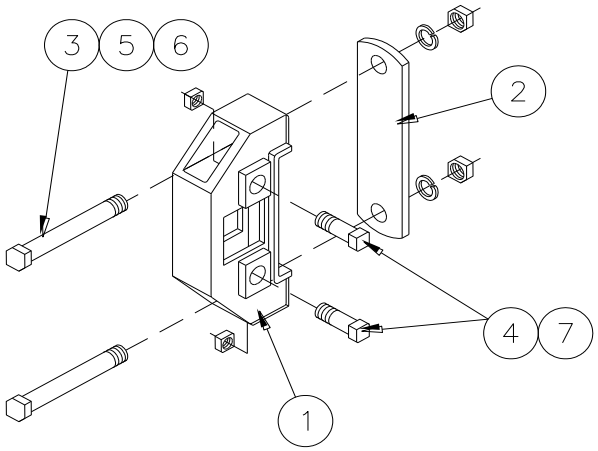
(04-082-067)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	04-057-011		Shank Cross Bar	1
2	04-023-054		Cross Bar Plate	1
3	04-023-055		Shank Clamp	1
4	04-057-012		Shank Cross Bat Cap	1
5	04-050-002		“U”-Bolt, 5/8 x 3 5/8 x 5 1/8	2
6	52-050200		Carriage Screw, 1/2 x 2 3/4 G5 Plt	2
7	68-010300		Hex Nut, 5/8 Plt	4
8	68-010250		Hex Nut, 1/2 Plt	2
9	66-010300		Lockwasher, 5/8 Plt	4
10	66-010250		Lockwasher, 1/2 Plt	2



4 x 4 Diamond,
1 x 3 SHANK BRACKET
(04-082-056)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	04-057-027		1 x 3 Shank Bracket	1
2	02-023-167		Clamp Cap	1
3	66-010350		Hex Nut, 3/4 Plt	2
4	54-010300		Setscrew, 5/8 x 1 1/2 Sq Hd. Cuppt	2
5	50-010150		Capscrew, 3/4 x 5 Sq Hd G5 Plt	2
6	66-010350		Lockwasher, 3/4 Plt	2
7	74-010100		Square Nut, 5/8	2

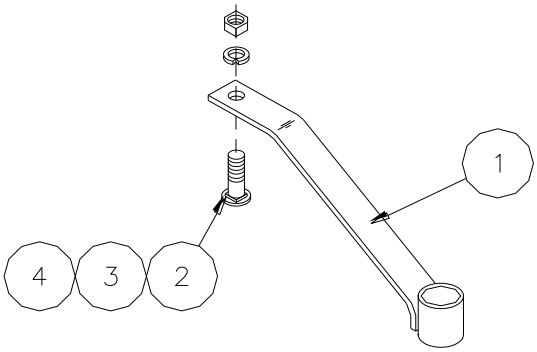


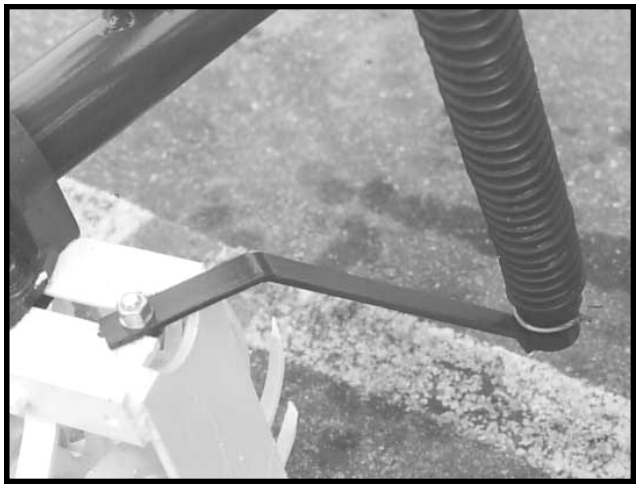
4x7 VERTICAL
1X3 SHANK BRACKET
(04-082-199)

7x7 CULTIVATOR
1X3 SHANK BRACKET
(04-082-087)

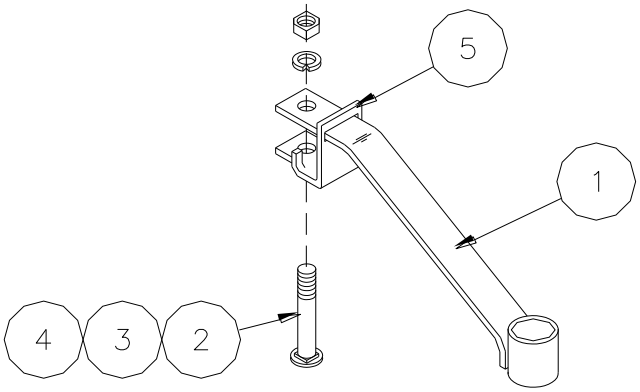
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY	
				-199	-087
1	04-057-035		7X7 Cultivator 1x3 Bracket	1	1
2	04-023-213		7” Tool Bar Cap	1	1
3	48-100050		Capscrew, 3/4 x 6 G5 Plt	2	-
	50-010300		Capscrew, 3/4 x 9 Sq Hd G5 Plt	-	2
4	54-010280		Setscrew, 5/8 x 1 1/2 Sq Hd Cuppt	2	2
5	66-010350		Lockwasher, 3/4 Plt	2	2
6	68-010350		Hex Nut, 3/4 Plt	2	2
7	74-010100		Square Nut, 5/8 Pln	2	2

HOSE HOLDER BRACKET
(09-082-044)



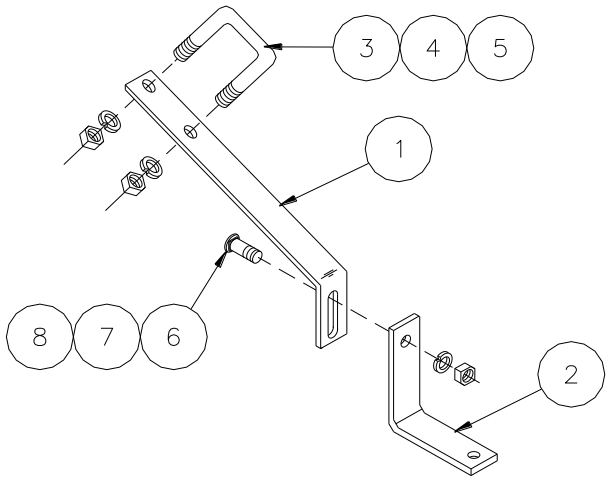


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-027		Hose Holder Bracket	2
2	52-050125		Carriage Screw, 1/2 x 1 1/4 G2 Plt	2
3	66-010250		Lockwasher, 1/2 Plt	2
4	68-010250		Hex Nut, 1/2 Plt	2



2x2 HOSE HOLDER BRACKET
(09-082-068)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-027		Hose Holder Bracket	2
2	52-050260		Carriage Screw, 1/2 x 3 1/4 G5 Plt	2
3	66-010250		Lockwasher, 1/2 Plt	2
4	68-010250		Hex Nut, 1/2 Plt	2
5	04-023-296		“S” -Tine Clamp	2



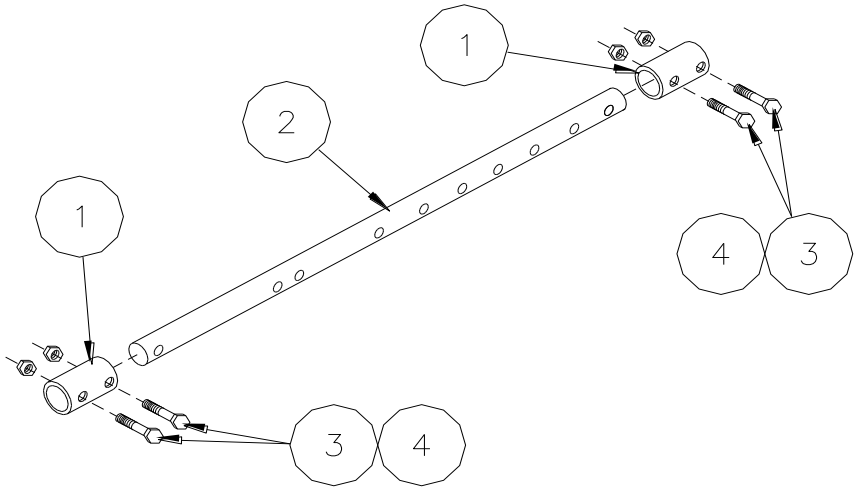
HOSE HOLDER EXTENSION

(09-082-094)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-023-118		Arm, Hose Holder	1
2	09-023-119		Bracket, Hose Holder	1
3	16-050-001		U-Bolt, 5/8 x 3 3/16 x 3 13/16 Plt	1
4	66-010300		Lockwasher, 5/8 Plt	2
5	68-010300		Hex Nut, 5/8 Plt	2
6	52-050140		Carriage Screw, 1/2 x 1 1/2 G5 Plt	1
7	66-010250		Lockwasher, 1/2 Plt	1
8	68-010250		Hex Nut, 1/2 Plt	1

CENTER DRIVE SHAFT BUNDLE

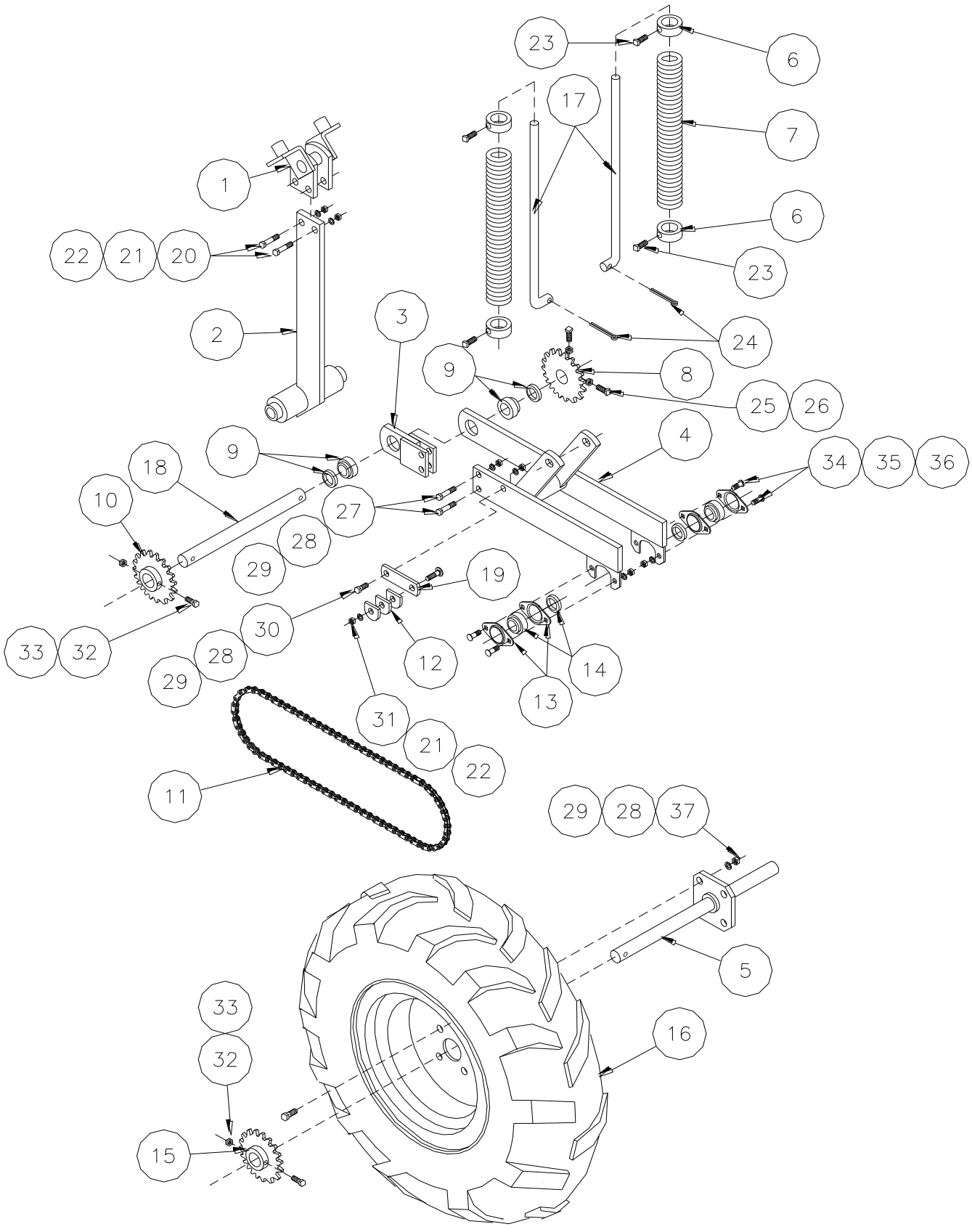
(09-082-038)



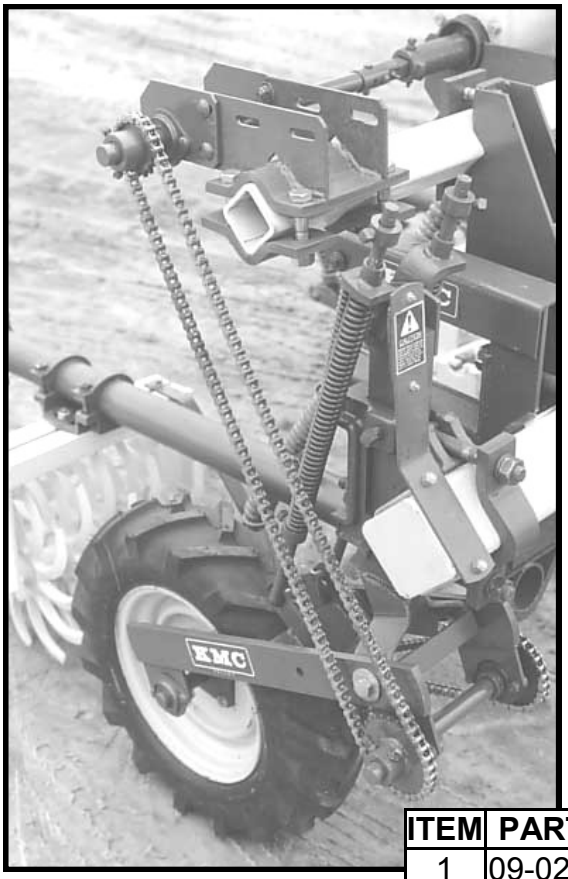
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-024-007		Center Drive Coupler	2
2	09-026-008		Center Drive Shaft	1
3	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	4
4	72-010020		Locknut, 1/4 G”A” Plt	4

GROUND DRIVE WHEEL, LT
(09-082-053)

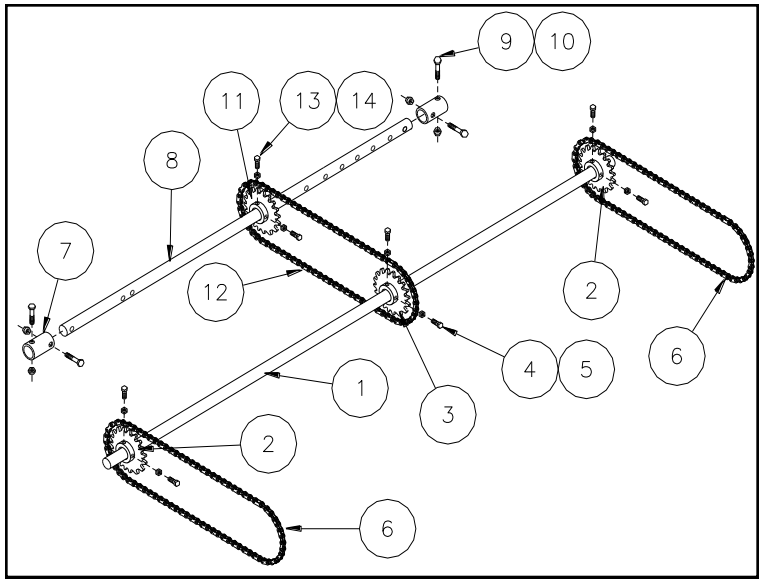
GROUND DRIVE WHEEL, RT
(09-082-054)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-032		Trunnion Support	1
2	09-080-036		Wheel Shank	1
3	09-080-037		Fork Arm Extension	1
4	09-080-042		Wheel Fork	1
5	09-080-029		Drive Axle	1
6	03-050-009		11/16” Adj. Collar	4
7	03-050-008		Coulter Spring	2
8	09-052-013		Setscrew Sprocket (40B27-1” Bore)	1
9	15-051-001		Bearing, 1” Cyl. w/Collar	2
10	09-052-017		Drilled Sprocket (40B27-1” Bore)	1
11	09-052-018		Chain (#40 -98P)	1
12	09-050-004		Idler Block	3
13	04-051-002		Stamping, 52 MST	4
14	03-051-021		Bearing, 1” Ext. w/Collar	2
15	09-052-016		Drilled Sprocket (40B17 –1” Bore)	1
	09-080-010		Sprocket (40B60) High Rate	1
16	09-058-005		Wheel Assembly, 6 x 12 Rt.	1
	09-058-004		Wheel Assembly, 6 x 12 Lt.	1
	09-058-001		Tire, 6 x 12 SSG Tubeless	1
	09-058-002		Wheel, 4 x 12 4-Bolt	1
17	03-026-115		Spring Push Rod, 26 1/4”	2
18	09-026-015		Counter Shaft, ‘84	1
19	09-023-038		Idler Bar	1
20	04-051-002		Capscrew, 3/8 x 2 G5 Plt	2
21	66-010150		Lockwasher, 3/8 Plt	3
22	68-010150		Hex Nut, 3/8 Plt	3
23	54-010200		Setscrew, 1/2 x 5/8 Sq Hd Cuppt	4
24	76-010100		Cotter Pin, 3/16 x 1 1/2	2
25	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	2
26	70-010050		Jam Nut, 3/8 Pln	2
27	48-090596		Capscrew, 1/2 x 1 3/4 G5 Plt	2
28	66-010250		Lockwasher, 1/2 Plt	7
29	68-010250		Hex Nut, 1/2 Plt	7
30	48-010250		Capscrew, 1/2 x 1 1/2 G2 Pln	1
31	60-010125		Plow Screw, 3/8 x 2 G3 Plt	1
32	48-090040		Capscrew, 5/16 x 2 1/4 G5 Plt	2
33	72-010025		Locknut, 5/16 G”B” Plt	2
34	52-030100		Carriage Screw, 5/16 x 3/4 G2 Plt	4
35	66-010100		Lockwasher, 5/16 Plt	4
36	68-010100		Hex Nut, 5/16 Plt	4
37	48-090592		Capscrew, 1/2 x 1 1/4 G5 Plt	4



GROUND DRIVE JACKSHAFT
(09-082-047)



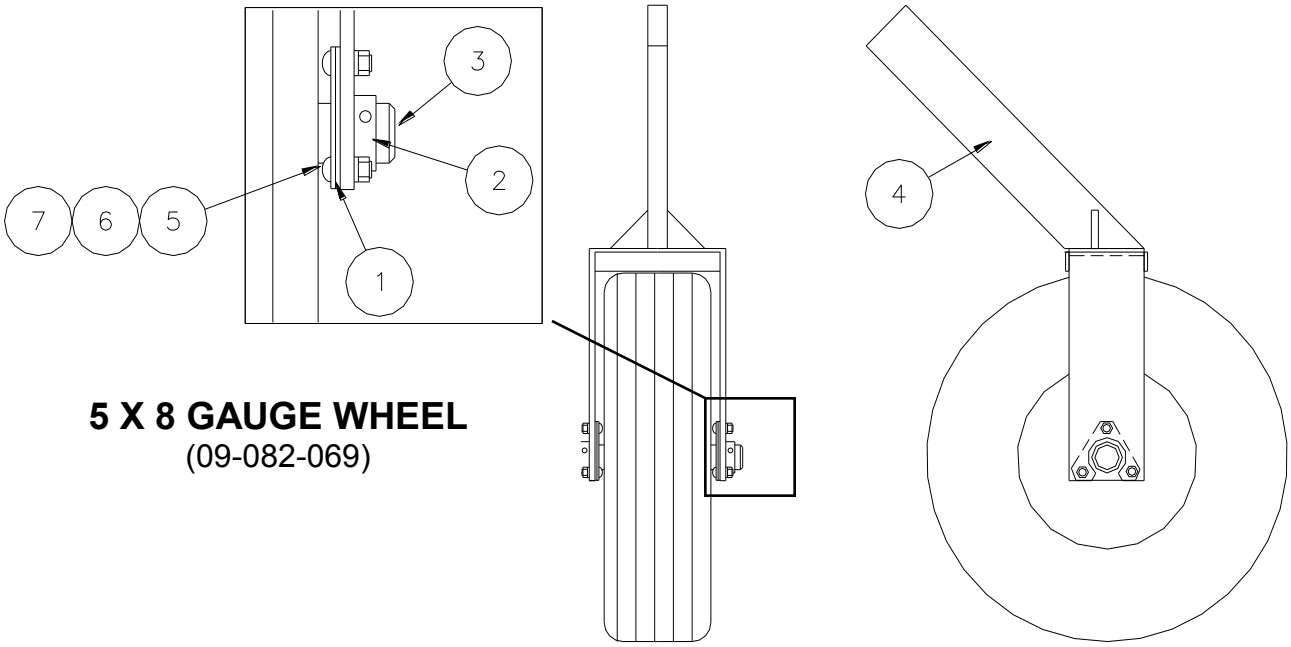
ITEM	PART NO	SERIAL NO	DESCRIPTION	QTY
1	09-024-007		Center Drive Coupler	1
2	09-026-012		Jackshaft	1
3	09-052-012		Sprocket, 40B17 x 1”B	1
4	09-052-014		Chain, #40 - 168P	1
5	48-090030		Capscrew, 1/4 x 1 1/2 G5	2
6	72-010020		Locknut, 1/4 G”A” Plt	2
7	54-010100		Setscrew, 3/8 x 3/4 Sq Hd	2
8	70-010050		Jam Nut, 3/8 Pln	2

88” AUX. DRIVE SHAFT W/SPROCKETS (09-082-078)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-026-029		Shaft, 88” Aux. Drive	1
2	09-052-012		Sprocket, 40B17 x 1”B	2
3	09-052-013		Sprocket, 40b27 x 1”B	1
4	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	6
5	70-010050		Jam Nut, 3/8 Pln	6
6	09-052-014		Chain, #40-168P	2

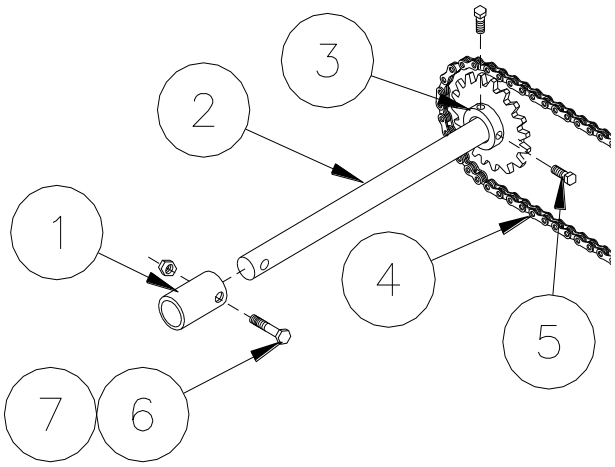
CENTER DRIVE SHAFT W SPROCKETS & CHAIN (09-082-080)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
7	09-024-007		Center Drive Coupler	2
8	09-026-008		Center Drive Shaft	1
9	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	4
10	72-010020		Lock Nut, 1/4 G”A” Plt	4
11	09-052-012		Sprocket, 40B17 x 1”B1	1
12	09-052-020		Aux. Drive Chain, #40-68P	1
13	54-010100		Setscrew , 3/8 x 3/4 Sq Hd Cuppt	2
14	70-010050		Jam Nut, 3/8 Pln	2



5 X 8 GAUGE WHEEL
(09-082-069)

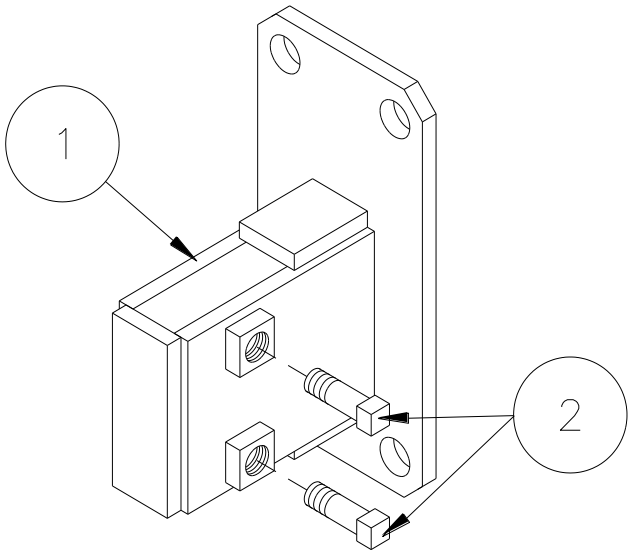
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	03-051-012		Flange, 52 MSTR	4
2	03-051-021		Bearing, 1” Ext. w/Collar	2
3	09-081-015		Gauge Wheel, 5x8	1
4	09-080-062		Fork, 5x8 Gauge Wheel	1
5	52-030150		Carriage Screw, 5/16 x 1 G2 Plt	6
6	66-010100		Lockwasher, 5/16 Plt	6
7	68-010100		Hex Nut, 5/16 Plt	6



5 X 8 JACKSHAFT BUNDLE
(09-082-072)

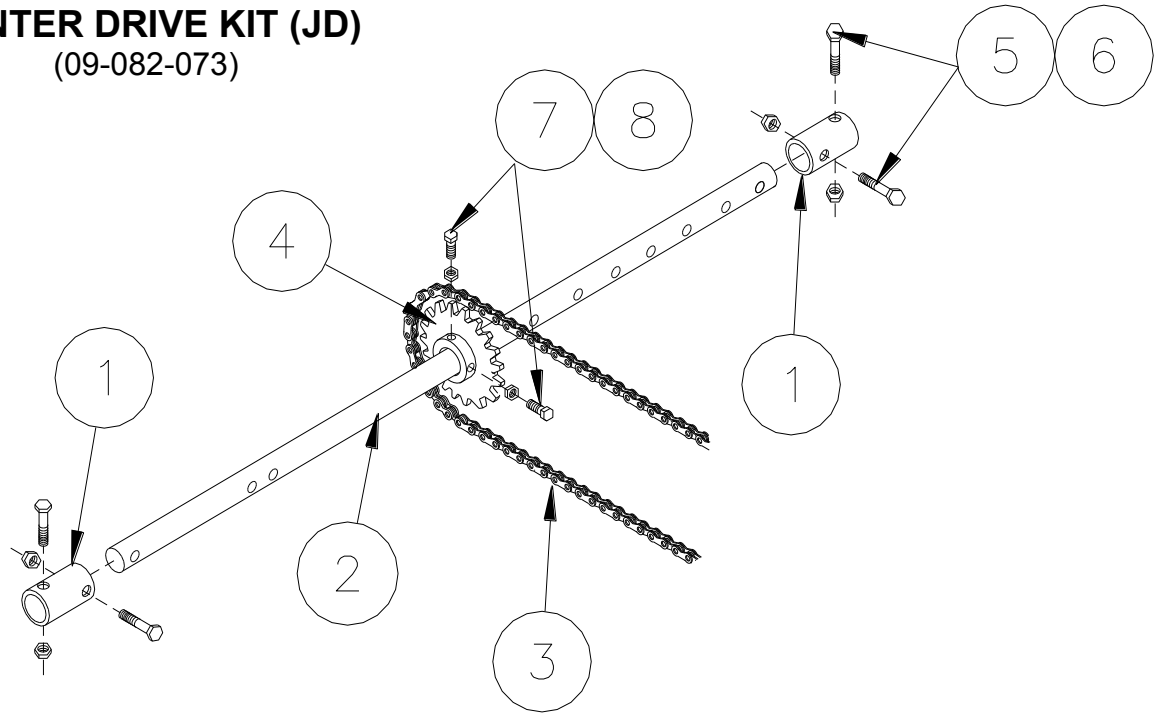
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-024-007		Center Drive Coupler	1
2	09-026-012		Jackshaft	1
3	09-052-019		Sprocket, 40B21 w/1” Bore	1
4	09-052-014		Chain (#40-168P)	1
5	54-020050		Setscrew, 3/8 x 1/2 Socket Hd Cuppt	2
6	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	1
7	72-010020		Locknut, 1/4 G”B” Plt	1

1 X 3 LINKAGE MOUNT
(09-082-071)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-063		Bracket, 1x3 Mounting	1
2	54-010300		Setscrew, 5/8 x 1 1/2	2

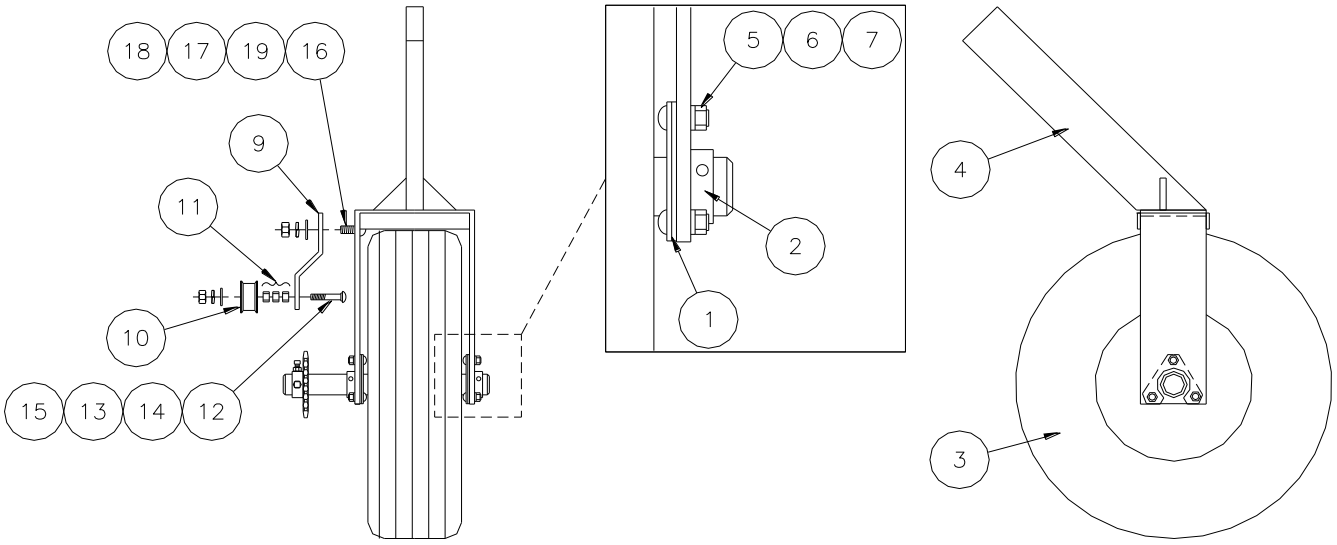
CENTER DRIVE KIT (JD)
(09-082-073)



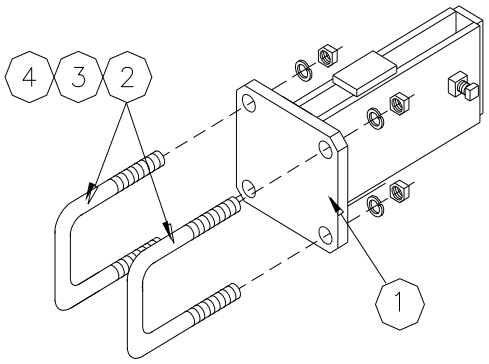
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-024-007		Center Drive Coupler	2
2	09-026-008		Center Drive Shaft	1
3	09-052-014		Chain (#40-168P)	1
4	09-052-012		Sprocket (#40B-17T)	1
5	48-090030		Capscrew, 1/4 x 1 1/2 G5 Plt	4
6	72-010020		Locknut, 1/4 G”A” Plt	4
7	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	2
8	70-010050		Jam Nut, 3/8 Pln	2

5x8 DRIVE GAUGE WHEEL, LT
(09-082-070)

5x8 DRIVE GAUGE WHEEL, RT
(09-082-082)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	03-051-012		Flange, 52 MSTR	4
2	03-051-021		Bearing, 1” Ext. w/Collar	2
3	09-081-016		Drive Gauge Wheel, 5x8	1
4	09-080-062		Fork, 5x8 Gauge Wheel	1
5	52-030150		Carriage Screw, 5/16 x 1 G2 Plt	6
6	66-010100		Lockwasher, 5/16 Plt	6
7	68-010100		Hex Nut, 5/16 Plt	6
9	22-023-087		Idler Bar	1
10	22-026-020		Idler Roller	1
11	04-024-007		Bushing, 5/8 x 3/8 x 3/8	3
12	52-050050		Carriage Screw, 3/8 x 2 1/2 G5 Plt	1
13	66-010150		Lockwasher, 3/8 Plt	1
14	62-010100		Flatwasher, 3/8 Plt	2
15	68-010150		Hex Nut, 3/8 Plt	1
16	52-030450		Carriage Screw, 1/2 x 1 1/4 G2 Plt	1
17	66-010250		Lockwasher, 1/2 Plt	1
18	68-010250		Hex Nut, 1/2 Plt	1
19	62-010200		Flatwasher, 1/2 Plt	1
20	09-052-024		40B35 x 1” Bore Sprocket	1
21	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	2
22	701-010050		Jam Nut, 3/8 Pln	2



1 X 3 BRACKET, 2 1/2 SQ

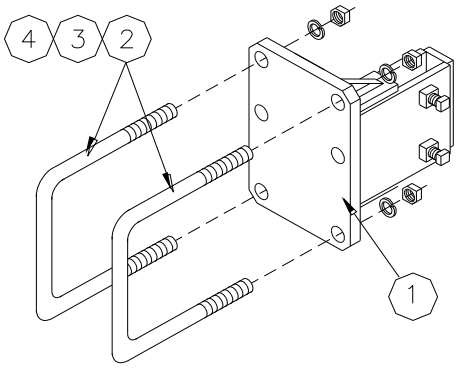
(09-082-055)

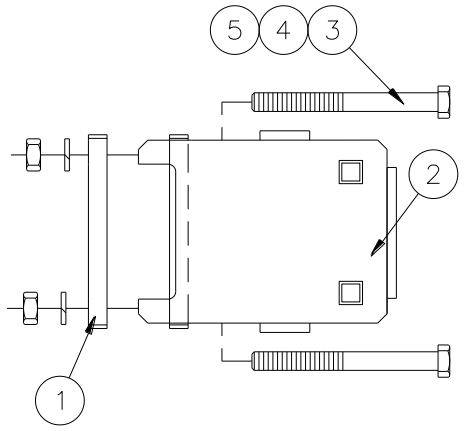
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-039		Shank Bracket, 1 x 3	1
2	16-050-001		"U"-Bolt	2
3	66-010300		Lockwasher, 5/8 Plt	4
4	68-010300		Hex Nut, 5/8 Plt	4
5	54-010300		Setscrew, 5/8 x 1 1/2 Sq Hd Cuppt	1

1 X 3 BRACKET

(4X7) (09-082-005) **(7X7)** (09-082-091)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	-005	-091
1	09-080-005		Bracket, 1x3 Wide (4x7)	1	-
	09-080-077		Bracket, 1x3 Wide (7x7)	-	1
2	09-050-001		"U"-Bolt, 3/4 (4x7)	2	-
	04-050-077		"U"-Bolt, 3/4 (7x7)	-	2
3	66-010350		Lockwasher, 3/4 Plt	4	4
4	68-010350		Hex Nut, 3/4 Plt	4	4

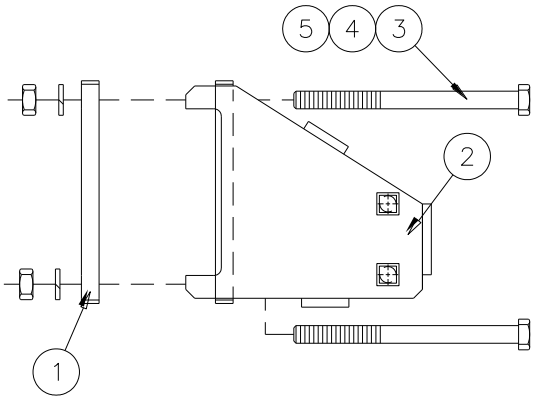




1 X 3 BRACKET, NARROW (4X7)

(09-082-007)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	05-023-031		Cap, Tool Bar	1
2	09-080-006		Bracket, 1x3 Narrow (4x7)	1
3	48-070100		Hex Screw, 3/4 x 9 1/2 UNF G5 Pln	2
4	66-010350		Lockwasher, 3/4 Plt	2
5	68-010350		Hex Nut, 3/4 Plt	2



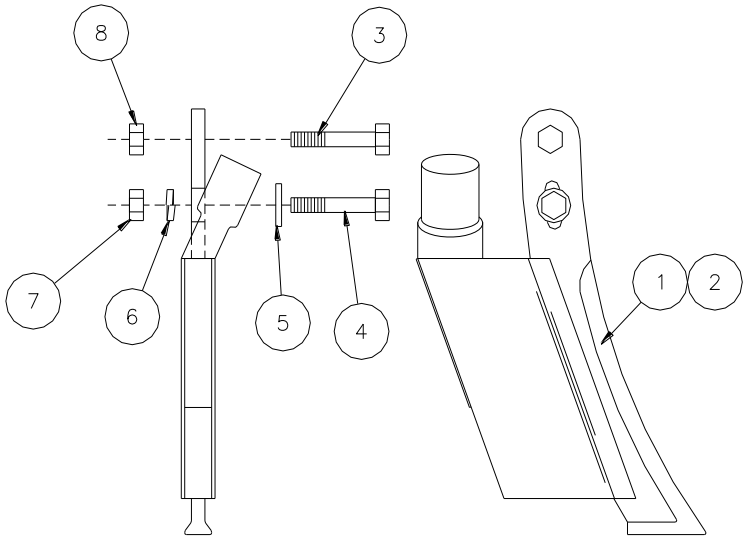
1 X 3 BRACKET, NARROW (7X7)

(09-082-092)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	04-023-213		Cap, 7" Tool Bar	1
2	09-080-076		Bracket, 1x3 Narrow (7x7)	1
3	48-070100		Hex Screw, 3/4 x 9 1/2 UNF G5 Pln	2
4	66-010350		Lockwasher, 3/4 Plt	2
5	68-010350		Hex Nut, 3/4 Plt	2

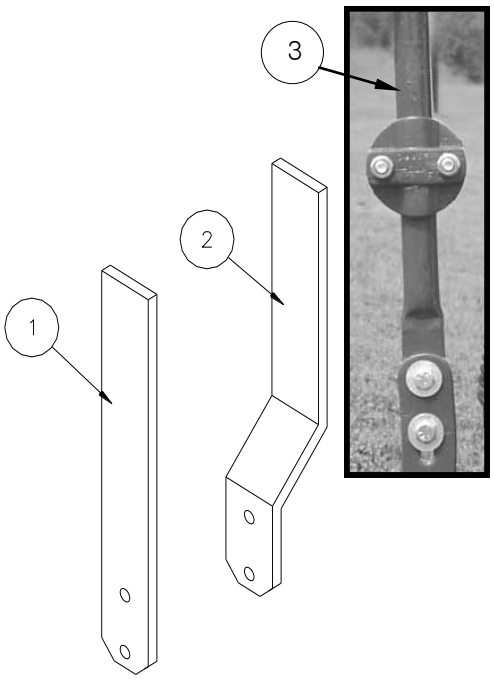
DEEP APPLICATOR

(09-082-003, LT) (09-082-004, RT)



RIGHT SHOWN - LEFT OPPOSITE

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-003		Deep Applicator, Lt	1
2	09-080-004		Deep Applicator, Rt	1
3	48-090600		Capscrew, 1/2 x 2 G5 Plt	1
4	48-010350		Capscrew, 1/2 x 2 1/4	1
5	62-010200		Flatwasher, 1/2 Std Plt	1
6	66-010250		Lockwasher, 1/2 Plt	1
7	68-010250		Hex Nut, 1/2 Plt	1
8	72-010100		Locknut, 1/2 G"B" Plt & Waxed	1



1 X 3 SHANK, STRAIGHT

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-023-012		1 X 3 Shank, Straight	1

1 X 3 SHANK, OFFSET

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
2	09-023-013		1 x 3 Shank, Offset	1

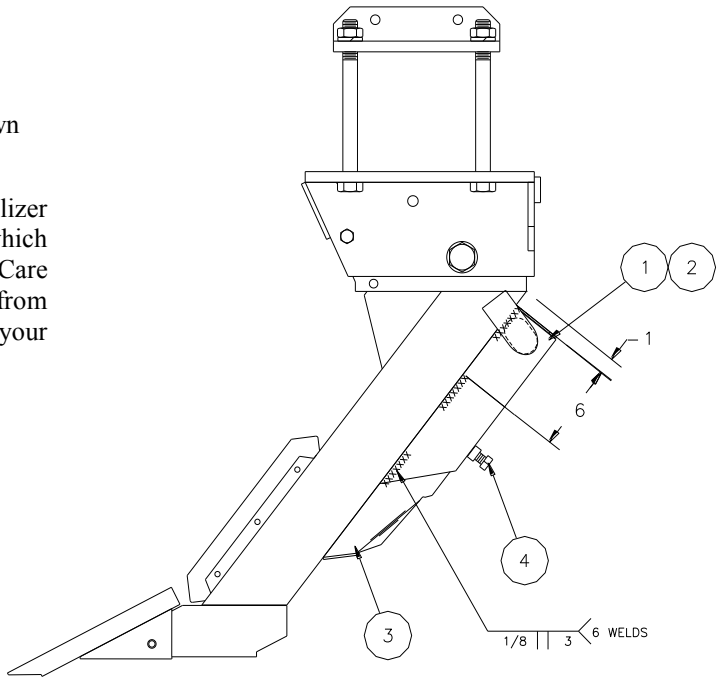
STANDARD, T.S. (02-082-150)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
3	02-057-002		STD, 1 3/8 X 20"	2

FLOW TUBE BUNDLE
(11-082-010)

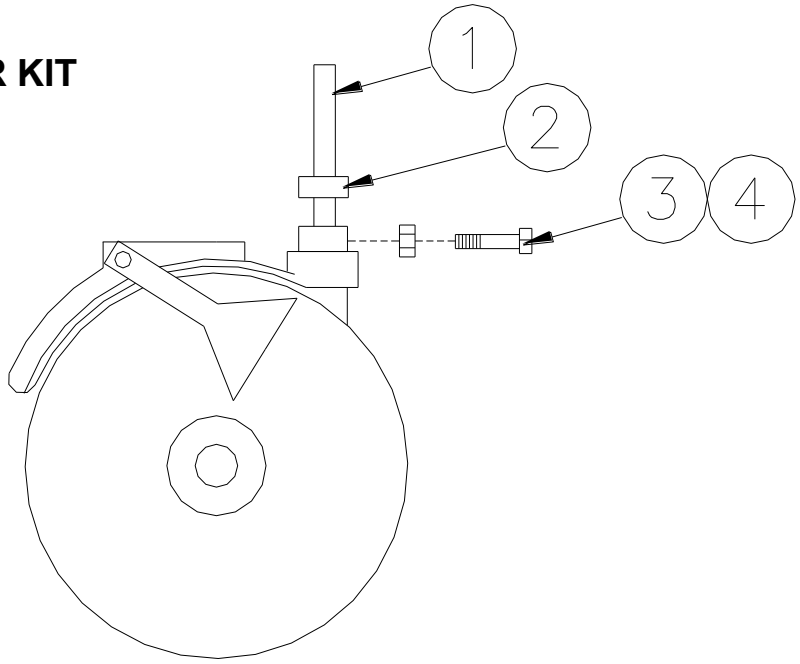
*Flow Tubes have to welded on Ripper Shanks as shown

The flow tube is designed to dispense granular fertilizer and other dry materials. It has an adjustable spout which regulates the depth the material that exits the tube. Care should be taken to prevent the feeder tubes from clogging or blocking material flow. Consult your fertilizer supplier for placement information.



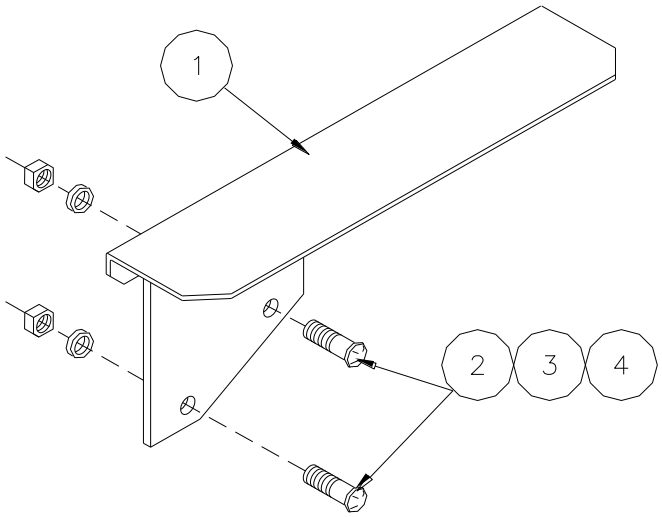
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	11-080-010		Flow Tube & Spout , Rt	1
2	11-080-011		Flow Tube & Spout, Lt	1
3	11-080-012		Adj. Flow Tube	2
4	54-010251		Setscrew, 1/2 x 1 Sq Hd Cuppt Plt	2

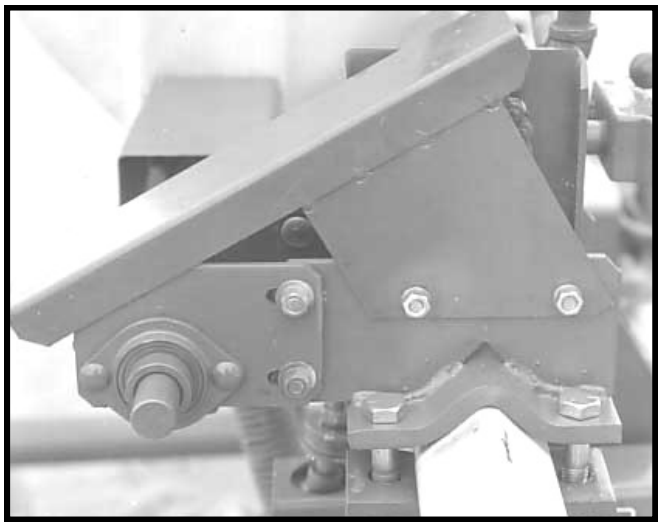
LIQUID FERTILIZER KIT
(09-082-058)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-024-014		Fertilizer Tube	1
2	03-050-009		Setscrew Collar	1
3	48-010150		Capscrew, 1/2 x 1 G2 Plt	1
4	70-010100		Jam Nut, 1/2	1

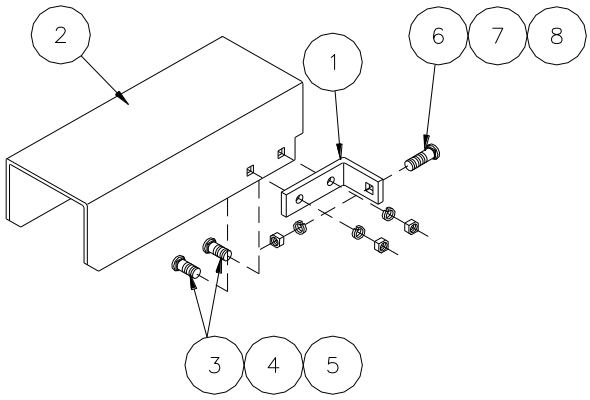
CHAIN DRIVE SHIELD
(09-082-049)

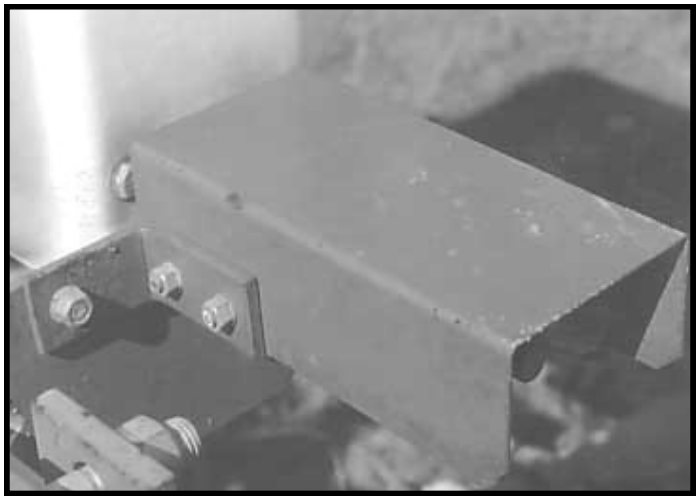




ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-033		Chain Shield	1
2	52-030250		Carriage Screw, 3/8 x 1 G2 Plt	2
3	66-010150		Lockwasher, 3/8 Plt	2
4	68-010150		Hex Nut, 3/8 Plt	2

AUGER SHIELD BUNDLE
(09-082-048)

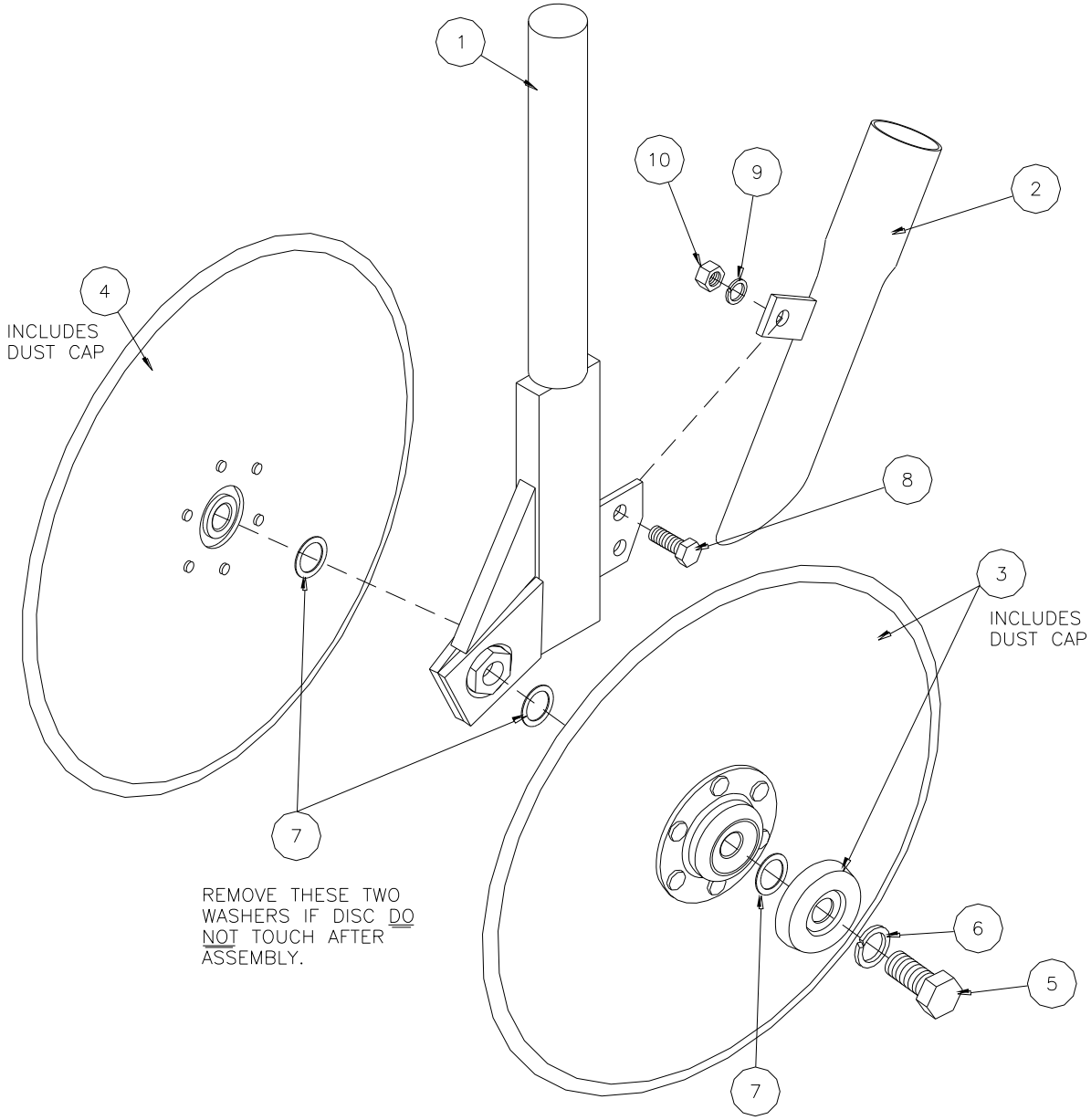




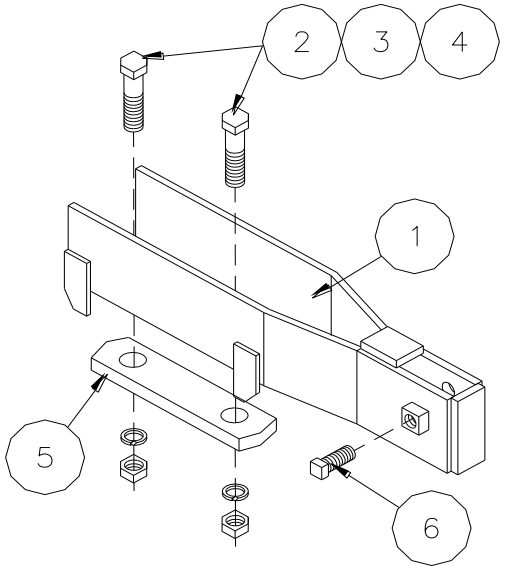
ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-023-046		Shield Support	2
2	09-027-017		Auger Shield	2
3	52-030100		Carriage Screw, 5/16 x 3/4 G2 Plt	4
4	66-010100		Lockwasher, 5/16 Plt	4
5	68-010100		Hex Nut, 5/16 Plt	4
6	52-030250		Carriage Screw, 3/8 x 1 G2 Plt	2
7	66-010150		Lockwasher, 3/8 Plt	2
8	68-010150		Hex Nut, 3/8 Plt	2

DOUBLE DISC FERT. ASSY. OPENER

(09-082-095)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-081		Stem, Double Disc Opener	1
2	09-080-082		Tube, Fertilizer Drop	1
3	09-050-072		Disc Assy, 14” L.H.	1
4	09-050-073		Disc Assy, 14” R.H.	1
5	48-090930		Capscrew, 5/8 x 1 1/2 G5 Plt	2
6	66-010300		Lockwasher, 5/8 plt	2
7	15-050-005		Washer, 1.125 x .76 x .032	1
8	48-090090		Capscrew, 3/8 x 3/4 g5 plt	1
9	66-010150		Lockwasher, 3/8 Plt	1
10	68-010150		Hex Nut, 3/8 Plt	1



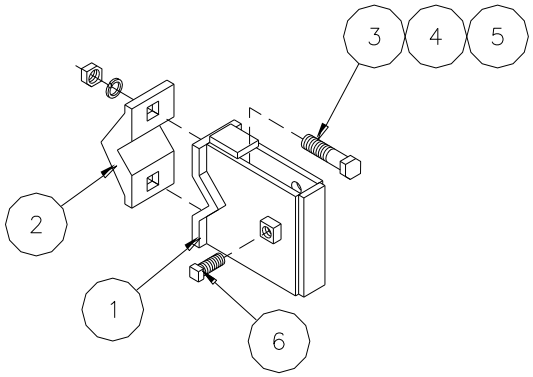
1 X 3 BRACKET (T.M.) 4X7

(09-082-059)

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-080-043		Bracket, 1 x 3	1
2	48-091200		Capscrew, 5/8 x 6 G5 Plt	2
3	66-010300		Lockwasher, 5/8 Plt	2
4	68-010300		Hex Nut, 5/8 Plt	2
5	15-023-024		Cap, 7” Tool Bar	1
6	54-010300		Setscrew, 5/8 x 1 1/2	1

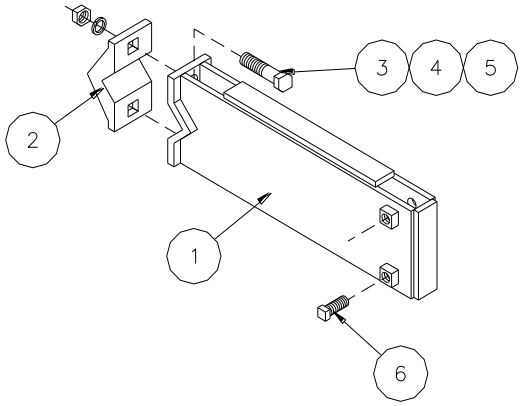
1 X 3 BRACKET 2 1/2 DIAMOND

(09-082-060)



1 X 3 BRACKET 2 1/2 –14” EXT.

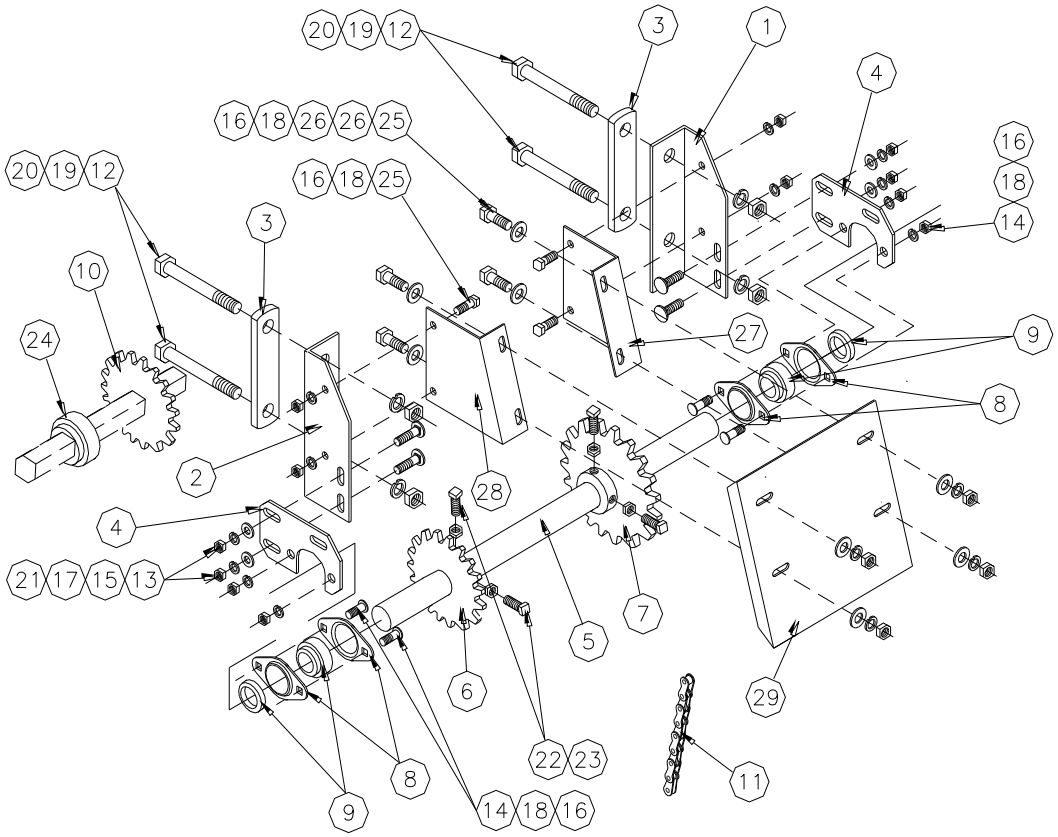
(09-082-093)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	-060	-093
1	09-080-044		Bracket, 1 x 3 (2 1/2)	1	-
	09-080-078		Bracket, 1 x 3 (2 1/2-14” Ext)	-	1
2	02-057-019		Clamp, 2 1/2 Tool Bar	1	1
3	48-0901375		Capscrew, 3/4 x 3 G5 Plt	2	2
4	66-010350		Lockwasher, 3/4 Plt	2	2
5	68-010350		Hex Nut, 3/4 Plt	2	2
6	54-010300		Setscrew, 5/8 x 1 1/2	1	1

M.E. 7300 DRIVE JACKSHAFT

(09-082-087)

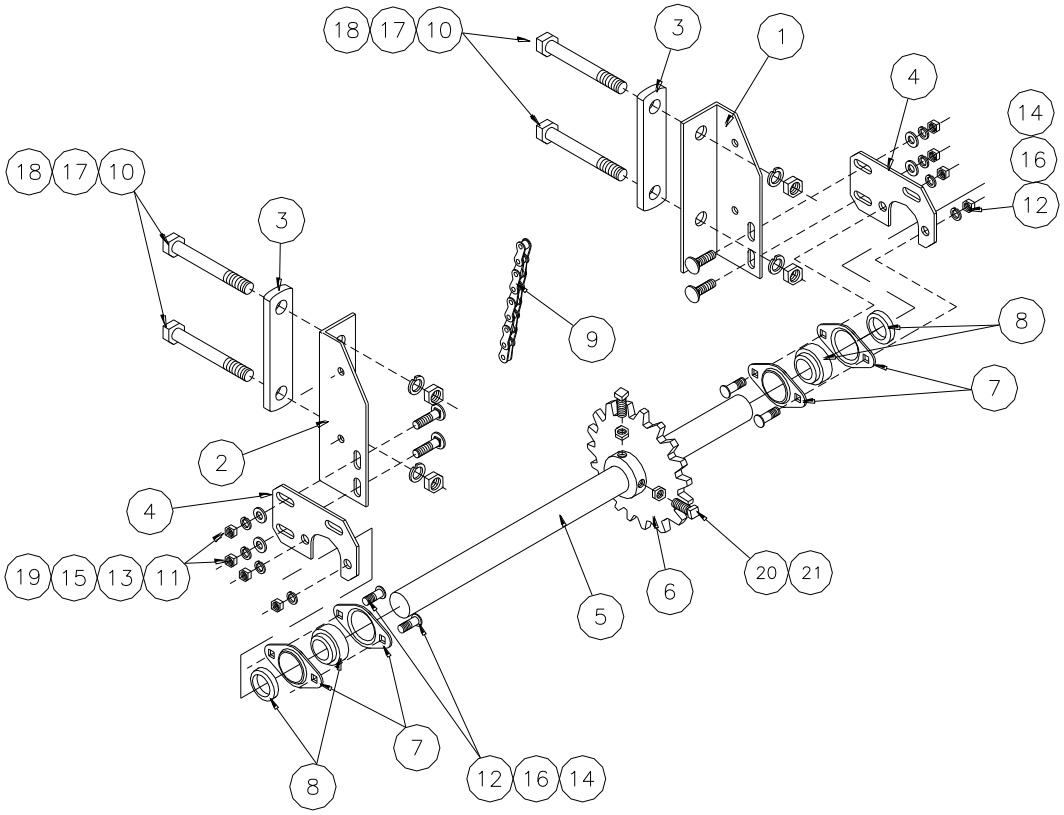


ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-027-046		Mount, Lt Jackshaft	1
2	09-027-047		Mount, Rt Jackshaft	1
3	15-023-024		Cap, 7” Tool Bar	2
4	09-027-014		Plate, Bearing	2
5	09-026-030		Jackshaft, 16”	1
6	09-052-012		Sprocket, 40B17 x 1”	1
7	09-052-013		Sprocket, 40B27 x 1”	1
8	04-051-002		Stamping, 52 MST	4
9	03-051-021		Bearing, 1” w/Collar	2
10	09-080-071		Sprocket, 40B23 x 7/8” Hex	1
11	09-052-011		Chain, #40 x 56P	1
12	48-091250		Capscrew, 5/8 x 9 G5 Plt	4
13	52-030250		Carriage Screw, 3/8 x 1 G2 Plt	4
14	52-030100		Carriage Screw, 5/16 x 3/4 G2 Plt	4
15	68-010150		Hex Nut, 3/8 Plt	4
16	68-010100		Hex Nut, 5/16 Plt	12
17	66-010150		Lockwasher, 3/8 Plt	4
18	66-010100		Lockwasher, 5/16 Plt	12
19	66-010300		Lockwasher, 5/8 Plt	4
20	68-010300		Hex Nut, 5/8 Plt	4

ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
21	62-010100		Flatwasher, 3/8 Plt	4
22	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cuppt	4
23	70-010051		Jam Nut, 3/8 Plt	4
24	09-051-006		Bearing, 7/8 Hex Bore	1
25	48-040060		Capscrew, 5/16 x 3/4 G2 Plt	8
26	62-010050		Flatwasher, 5/16 Plt	8
27	09-027-048		Stand-Off, Lt	1
28	09-027-049		Stand-Off, Rt	1
29	09-027-050		Shield, Drive	1

EXTENDED JACKSHAFT

(09-082-03R)



ITEM	PART NO	SERIAL NO OR YR	DESCRIPTION	QTY
1	09-027-02R		Mount, Lt Jackshaft	1
2	09-027-01R		Mount, Rt Jackshaft	1
3	15-023-024		Cap, 7” Tool Bar	2
4	09-027-014		Plate, Bearing	2
5	09-026-030		Jackshaft, 16”	1
6	09-052-013		Sprocket, (40B27 x 1”)	2
7	04-051-002		Stamping, 52 MST	4
8	03-051-021		Bearing, 1” W/Collar	2
9	09-052-01R		Chain, No. 40 x 80P	1
10	48-091250		Capscrew, 5/8 x 9 G5 P	4
11	52-050035		Carriage Screw, 3/8 x 1 G5 P	4
12	52-050005		Carriage Screw, 5/16 x 3/4 G5 P	4
13	68-010150		Hex Nut, 3/8 P	4
14	68-010100		Hex Nut, 5/16 P	4
15	66-010150		Lockwasher, 3/8 P	4
16	66-010100		Lockwasher, 5/16P	4
17	66-010300		Lockwasher, 5/8 P	4
18	68-010300		Hex Nut, 5/8 P	4
19	62-010100		Flatwasher, 3/8 P	4
20	54-010100		Setscrew, 3/8 x 3/4 Sq Hd Cppt Pln	2
21	70-010051		Jam Nut, 3/8 P	2

The following is a list of serial numbers issued to our machines at the beginning of each year. To determine when a unit was made, find the range within which the particular serial number falls. It would have been produced between January 1 to December 31 of that year.

YEAR	SERIAL NUMBERS
1985	27986-29695
1986	29696-31095
1987	31096-33234
1988	33235-35548
1989	35549-38496
1990	38497-41771
1991	41772-44466
1992	44467-47001
1993	47002-48750
1994	48751-51549
1995	51551-54262
1996	54263-56661
1997	56662-59465
1998	59466-62097
1999	62098-63986
2000	63987-65692
2001	65693-67340
2002	67341-68699
2003	68700-70482
2004	70483-72646
2005	72647-74866
2006	74867-76368
2007	76369-77883
2008	77884-79891
2009	79892-80944
2010	80945-81775
2011	81776-83453
2012	83454-85092
2013	85093-86418
2014	86419-87790
2015	87791-89096
2016	89097-

DEPENDABLE EQUIPMENT FOR PROGRESSIVE FARMING

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