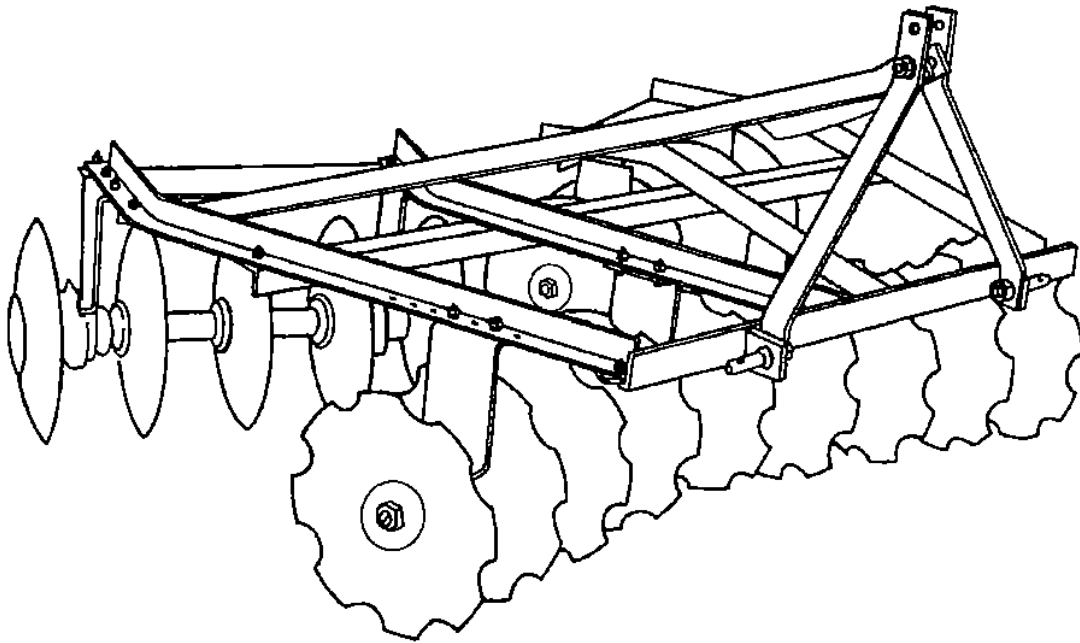




Taylor Pittsburgh Mfg., Inc.  
P.O. Box 1866  
Athens, TN 37371-1866  
423-745-3110

# FIELD GENERAL



## DISC HARROWS

**OWNERS MANUAL**

Form 233-G / 233-SC / 347  
APRIL 2008

**TO THE DEALER:**

The Harrow assembly and proper installation to the tractor is the responsibility of the TAYLOR PITTSBURGH dealer. Read manual instructions and safety rules. Make sure all items on the Pre-delivery and Delivery Check Lists are completed before releasing equipment to the owner.

**TO THE OWNER:**

Read this manual before operating your TAYLOR PITTSBURGH rear blade. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer or by calling 1-423-745-3110, in the USA and Canada only.

The rear blade you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the rear blade and tractor.

For service, your authorized TAYLOR PITTSBURGH dealer has trained mechanics, genuine TAYLOR PITTSBURGH service parts, and the necessary tools and equipment to handle all your needs.

Provide this information to your dealer to obtain correct repair parts.

**LIMITED WARRANTY**

TAYLOR PITTSBURGH MFG., INC., the manufacturer, warrants only to the Original Purchaser that this equipment, under normal use and service, will be free from defects in material and workmanship for one (1) year from date of purchase providing this equipment is purchased for individual and not for commercial use. Warranty for commercial usage is 90 days. This warranty does not apply to any equipment which has been damaged or which has been subjected to abuse, misuse, negligence, abnormal wear and tear, alterations, tampering, or failure to follow operating instructions. This warranty does not cover any product or parts not manufactured by Taylor Pittsburgh Manufacturing, Inc..

Under this warranty, the manufacturer will repair or replace any part which the manufacturer determines has failed during the period of the warranty due to defects in material or workmanship. After approval by the manufacturer, the equipment or defective part must be returned to Taylor Pittsburgh Mfg., Inc., Athens, Tennessee 37371.

**PURCHASER'S EXCLUSIVE REMEDY FOR BREACH OF WARRANTY, OTHER DEFECT, OR CONDUCT GIVING RISE TO LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT SOLD, AND THE MANUFACTURER UNDER NO CIRCUMSTANCES SHALL BE LIABLE FOR ECONOMIC LOSS OR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE MANUFACTURER DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR PURPOSE.**

Taylor Pittsburgh Mfg., Inc. reserves the right to make improvements and changes in specifications without notice or obligation to modify previously sold units.

This manual describes the proper assembly procedures for your rear blade and furnishes operating and maintenance recommendations to help you obtain long and satisfactory service.

## SAFETY RULES



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



### SAFETY ALERT SYMBOL


**FIG. 1:** This is the safety alert symbol. It means **ATTENTION: BECOME ALERT! YOUR SAFETY IS INVOLVED!** Look for it, both in this manual and on safety decals on the equipment. It will direct your attention to information that involves your safety and the safety of others.




Figure 1

### SIGNAL WORDS

**FIG. 2:** The words **DANGER**, **WARNING** or **CAUTION** are used with the safety alert symbol. Learn to recognize these safety alerts, and follow the recommended precautions and safe practices.

 **DANGER:** The safety alert symbol, with the word **DANGER**, indicates an imminently hazardous situation that, if not avoided, will cause **DEATH OR VERY SERIOUS INJURY**.

 **WARNING:** The safety alert symbol, with the word **WARNING**, indicates a potentially hazardous situation that, if not avoided, could cause **DEATH OR SERIOUS INJURY**.


 **CAUTION:** The safety alert symbol, with the word **CAUTION**, indicates a potentially hazardous situation that, if not avoided, may cause a **MINOR INJURY**.



Figure 2

Replace any **DANGER**, **WARNING**, **CAUTION** or instructional decal that is not readable or is missing. The location and part number of these decals is identified later in the section of the manual.

**IMPORTANT:** The word **IMPORTANT** is used to identify special instructions or procedures which, if not strictly observed could result in damage to, or destruction of the machine, process or its surroundings.

## GENERAL INFORMATION

### INTRODUCTION

**READ THIS MANUAL** carefully to learn how to properly operate and service your Disc Harrow correctly. Failure to do so could result in personal injury or equipment damage.

Throughout this manual references are made to right and left direction. **RIGHT - HAND AND LEFT - HAND** sides are determined by standing behind the harrow facing the direction the harrow will travel when going forward.

The purpose of this manual is to assist you in operating and maintaining your harrow. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions.

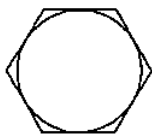
However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

Maintain your harrow with original equipment repair parts to ensure optimum performance.

The illustrations and data used in this manual were current at the time of printing, but due to possible production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

## BOLT TORQUE CHART

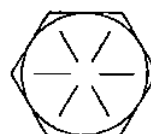
GRADE 2



GRADE 5



GRADE 8



### TORQUE IN FOOT POUNDS (NEWTON METERS)

BOLT SIZE		3/8	1/2	5/8	3/4	7/8	1
HEX HEAD		9/16	3/4	15/16	1-1/8	1-5/16	1-1/2
GRADE	2	18 (24.4)	45 (61.0)	89 (120.7)	160 (216.9)	252 (341.6)	320 (433.9)
	5	30 (40.6)	68 (92.2)	140 (189.8)	240 (325.4)	360 (488.1)	544 (737.5)
	8	40 (54.2)	100 (135.6)	196 (265.7)	340 (460.9)	528 (715.1)	792 (1073.8)

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# SPECIFICATIONS

## SERIES 233 ANGLE FRAME

<b>MODEL</b>	<b>4-1/2 ft</b>	<b>5-1/2 ft.</b>	<b>6-1/2 ft.</b>
Cutting width - in. (mm)	54" (1374)	66" (1679.3)	78" (1984.7)
Max. Cutting Depth - in. (mm)	6" (152)	6" (152)	6" (152)
Hitch Type	CAT. I	CAT. I	CAT. I
Tractor HP	20-35	20-40	20-40
Number of Disc	12	16	20
Disc Blade Spacing - in. (mm)	7-1/2" (190.5)	7-1/2" (190.5)	7-1/2" (190.5)
Disc Blade Diameter - in. (mm)	16" (406.4) 18" (457.2)	16" (406.4) 18" (457.2)	16" (406.4) 18" (457.2)
Blade Material	HT-High Carbon Steel	HT-High Carbon Steel	HT-High Carbon Steel
Frame Type 2" X 2" X 1/4"	Angle Iron	Angle Iron	Angle Iron
Gang Axles - in. (mm)	1" (25.4) High Carbon Steel	1" (25.4) High Carbon Steel	1" (25.4) High Carbon Steel
Bearing Type	Journal w/Lube	Journal w/Lube	Journal w/Lube
Approx. Weight - lbs. (kg)	400 (181)	460 (208.6)	560 (254)
Approx. Weight per Blade lbs.(kg)	33.3 (15.1)	28.8 (13.1)	28 (12.7)

## SERIES 233 SUB-COMPACT

<b>MODEL</b>	<b>5 ft.</b>
Cutting width - in. (mm)	50" (1272.2)
Max. Cutting Depth - in. (mm)	6" (152)
Hitch Type	CAT. I
Tractor HP	Up to 25
Number of Disc	16
Disc Blade Spacing - in. (mm)	7-1/2" (190.5)
Disc Blade Diameter - in. (mm)	14" (356.2)
Blade Material	HT-High Carbon Steel
Frame Type 2" X 2" X 1/4"	Angle Iron
Gang Axles - in. (mm)	1" (25.4) High Carbon Steel
Bearing Type	Journal w/Lube
Approx. Weight - lbs. (kg)	425 (192.3)
Approx. Weight per Blade -in.(kg)	26.5 (11.2)

# SPECIFICATIONS

## SERIES 233 BOX FRAME

MODEL	5-1/2 ft.	6-1/2 ft.	7-1/2 ft.
Cutting Width - in. (mm)	66" (1676)	78" (1981)	90" (2286)
Max. Cutting Depth - in. (mm)	6" (152)	7" (178)	7" (178)
Hitch Type	CAT. I	CAT. I	CAT. I
Tractor HP	25 - 35	35 - 60	40 - 65
Number of Disc	16	20	24
Disc Blade Spacing - in. (mm)	7-1/2" (190.5)	7-1/2" (190.5)	7-1/2" (190.5)
Disc Blade Diameter-in. (mm)	18" (457.2)	18" (457.2) 20" (508)	18" (457.2) 20" (508)
Blade Material	Heat Treated High Carbon	Heat Treated High Carbon	Heat Treated High Carbon
Frame Type - Square Tubing	3" (76.2)	3" (76.2)	3" (76.2)
Gang Axles - in. (mm) Square	1" (25.4) High Carbon	1" (25.4) High Carbon	1" (25.4) High Carbon
Bearing Type - Maintenance Free	Sealed Non Lube	Sealed Non Lube	Sealed Non Lube
Approx. Weight - lbs. (kg)	720 (326.2)	790 (357.9)	880 (398.7)
Approx. Weight per Blade - lbs. (kg)	45 (20.3)	39 (17.8)	37 (16.6)

## SERIES 347 FORMED FRAME

MODEL	5' 7"	6' 10"
Cutting Width - in. (mm)	67" (1701.8)	82" (2082.8)
Max. Cutting Depth - in. (mm)	6" (152.4)	6" (152.4)
Hitch Type	CAT. I	CAT. I
Tractor HP	23 - 35	28 - 40
Number of Disc	16	20
Disc Blade Spacing - in. (mm)	8" (203.2)	8" (203.2)
Disc Blade Diameter-in. (mm)	18" (457.2)	18" (457.2)
Blade Material	Heat Treated High Carbon	Heat Treated High Carbon
Frame Type - Rectangular Tubing	1-1/2" X 2-1/2"	1-1/2" X 2-1/2"
Gang Axles - in. (mm) Round	15/16" (23.81) High Carbon	15/16" (23.81) High Carbon
Bearing Type - Maintenance Free	Sealed Non-Lube	Sealed Non-Lube
Approx. Weight - lbs. (kg)	522 (236.7)	622 (282.1)
Approx. Weight per Blade - lbs. (kg)	32.6 (14.8)	31.1 (14.1)

## SAFETY RULES



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Your personal safety is a primary concern in the design and manufacture of our products. Our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said **"The best safety device is an informed, careful operator."** We ask you to be that kind of an operator.

The design of this equipment depends on it being operated within the limitations as explained in this manual.

### TRAINING

- **Safety instructions are important! Read this manual and the tractor manual; follow all safety rules and safety decal information. (Replacement manuals are available from dealer.) Failure to follow instructions or safety rules can result in serious injury or death.**

- **If you do not understand any part of this manual and need assistance, see your dealer.**

- **Know your controls and how to stop engine and attachment quickly in an emergency.**

- **The operator must be instructed in and be capable of the proper operation of the equipment, its attachments and all controls. Do not allow anyone to operate this equipment without proper instructions.**

- **Do not allow children or untrained persons to operate equipment.**

### PREPARATION

- **Always wear close fitting clothing and personal protection equipment called for by the job conditions. These items may include a hard hat, safety glasses, goggles or face shield, hearing protection and safety boots. DO NOT wear loose clothing, jewelry or any other items that may be entangled in moving parts. Tie up long hair.**

- **Ensure implement is properly mounted, adjusted and in good operating condition.**

- **Tighten all bolts and nuts and check that all cotter pins are installed securely to ensure equipment is properly assembled before operating.**

- **Tractor must be equipped with ROPS FRAME or ROPS CAB and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.**

- **Remove accumulated debris from this equipment, tractor and engine to avoid fire hazard.**

- **Ensure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

- **Ensure shields and guards are properly installed and in good condition. Replace if damaged.**

- **A minimum 20% of a tractor and harrow weight must be on tractor front wheels with attachment in transport position. Without this weight, tractor could tip over causing personal injury or death. See your tractor operators manual for information regarding adding weight.**

### OPERATIONAL SAFETY

- **Keep bystanders away from equipment while it is in operation.**

- **Operate only in daylight or good artificial light.**

- **Always comply with all state and local lighting and marking requirements.**

- **Use caution when working around sharp objects such as disc blades, tines, etc.**

*(Safety Rules continued on following page)*



## SAFETY RULES



### ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



*(Safety Rules continued from previous page)*

- No riders are allowed on equipment.
- Always sit in tractor seat with seat belt fastened when operating controls or starting engine. Place transmission in park or neutral, engage brake and ensure all other controls are disengaged before starting tractor engine.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop tractor and implement immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.
- When performing any service or maintenance, disengage power to implement. Lower all raised components to the ground. Operate valve levers to release any hydraulic pressure. Stop engine, set parking brake and remove key before dismantling tractor.

#### MAINTENANCE SAFETY

- Before working underneath, raise disc harrow to highest position and block securely. Blocking up prevents disc harrow dropping from hydraulic leak down, hydraulic system failures, or mechanical failure on the tractor.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.

- Frequently check blades. They should be sharp, free of nicks and cracks and securely fastened.
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.
- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications.

#### TRANSPORTING SAFETY

- Use a Slow-Moving-Vehicle (SMV) emblem and proper lighting on the tractor when transporting the disc harrow.
- Do not transport the harrow over 20 MPH (30 KPH) on the best surface conditions. Reduce speed when approaching ditches or corners.
- Always comply with all state and local lighting and marking requirements.
- Raise harrow to highest position for transport.
- Keep your harrow in proper working condition. Unauthorized modifications to the harrow may impair the function, affect harrow life, and put you at risk. Do not add excessive weight to harrow. Additional weight could cause frame to fail resulting in loss of control of harrow/tractor during transport.
- Watch low hanging Overhead Power Lines during transport. Avoid contact as this can cause serious injury or death.

#### STORAGE

- Lower disc harrow to the ground for storage and block to prevent rolling.
- Store on a level surface sheltered from the weather.
- Coat soil engaging surfaces with a rust inhibitor after cleaning.
- Keep playing children and bystanders away from storage area.

## **SAFETY DECALS**



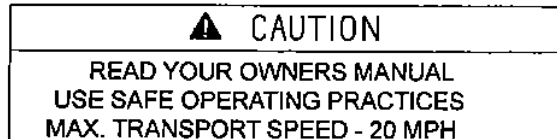
**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



**Replace Immediately If Damaged!**

### DECAL LOCATIONS

The following safety decals are located on your implement. Read them and follow their instructions for your safety. Keep all decals in place and legible. Replace worn or missing decals. Replacement safety decals are available through your dealer. Order by number listed.



---

009537 on front cross member of frame

## INTRODUCTION

This manual covers the assembly, operation, and maintenance of your Series 233 Disc Harrow. Studying and obeying these instructions will insure optimum product performance and longevity. Be sure to read all instructions carefully. Read all safety precautions prior to operation.

Maintain your implement with original repair parts to insure optimum performance.

## MODIFICATIONS

It is the policy of the manufacturer to improve its products whenever possible and practical. We reserve the right to make changes, improvements, and modifications at any time without incurring the obligation to make such changes, improvements, and modifications on any implement sold previously.

## ASSEMBLY

### General

Your Series 233 Disc Harrow is shipped completely assembled except for the three point hitch. Choose a level area to arrange the parts conveniently. Assemble parts for each step loosely to insure fit. Use flatwashers with slotted holes. Always use lockwashers unless a lock nut is called for. Tighten hardware after parts are installed according to the torque chart given. Unless otherwise stated, all hardware is Grade 5. The following

assembly steps are given to minimize the need for adjustment after assembly. Remember that **LEFT** and **RIGHT** are determined by standing at the rear of the implement and facing it.

### MODEL 233 Hitch Assembly (Refer to Fig 1)

- 1) Remove bundle wire on the hitch from the main frame.
- 2) Attach the A-frame bars to the inside of the inner pull lugs using the 3/4" bolts, lockwashers and nuts.
- 3) Bolt pull lugs to A-Frame bars using bolt and spacer provided.
- 4) Check all hardware to see that it is in position and tight.

## BEFORE OPERATION

- 1) Tighten all loose hardware using the torque chart. **SEE ASSEMBLY**. Replace any missing hardware. On new machines, all hardware must be rechecked after first few hours of operation.
- 2) Replace any bent or broken parts.
- 3) Refer to your Tractor's Owner's Manual for recommended adjustments and weight distribution.
- 4) Read the **SAFETY** section of this manual to be sure of all precautions.

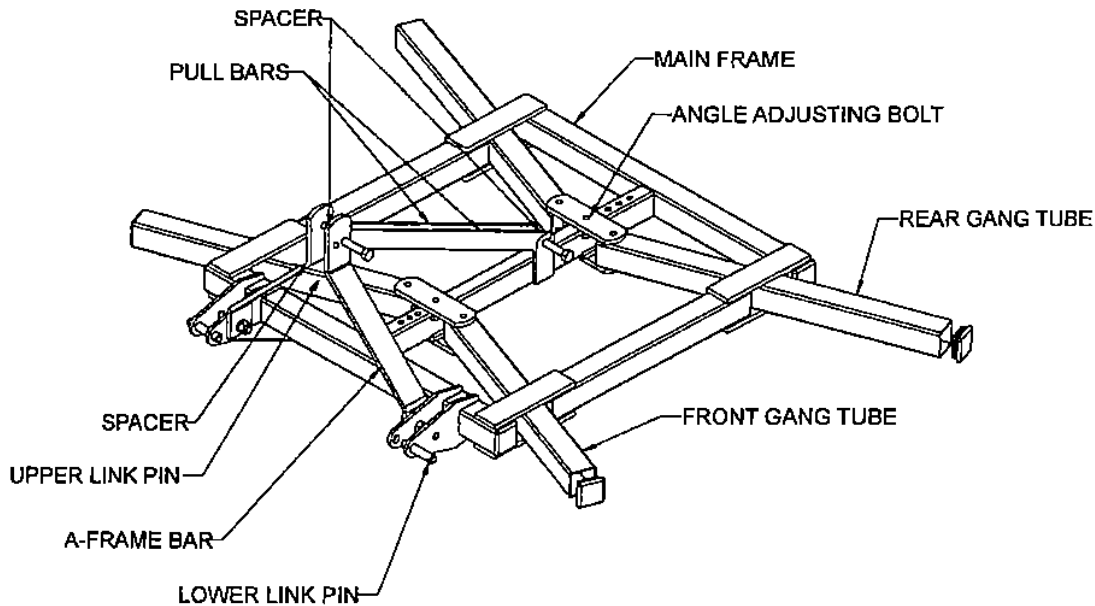


FIGURE 1 -- MODEL 233 BOX FRAME

### Hitch Assembly (Refer to Fig. 2)

- 1) Remove bundle wire on the hitch from the main frame.
- 2) Attach the A-frame bars to the inside of the main frame using the link pins with 7/8" lockwashers and nuts.
- 3) Bolt A-frame pull lugs to frame with bolt provided in the frame.
- 4) Bolt pull lugs to A-Frame bars using bolt and spacer provided.
- 4) Check all hardware to see that it is in position and tight.

### BEFORE OPERATION

- 1) Tighten all loose hardware using the torque chart. **SEE ASSEMBLY.** Replace any missing hardware. On new machines, all hardware must be rechecked after first few hours of operation.
- 2) Replace any bent or broken parts.
- 3) Refer to your Tractor's Owner's Manual for recommended adjustments and weight distribution.
- 4) Read the **SAFETY** section of this manual to be sure of all precautions.

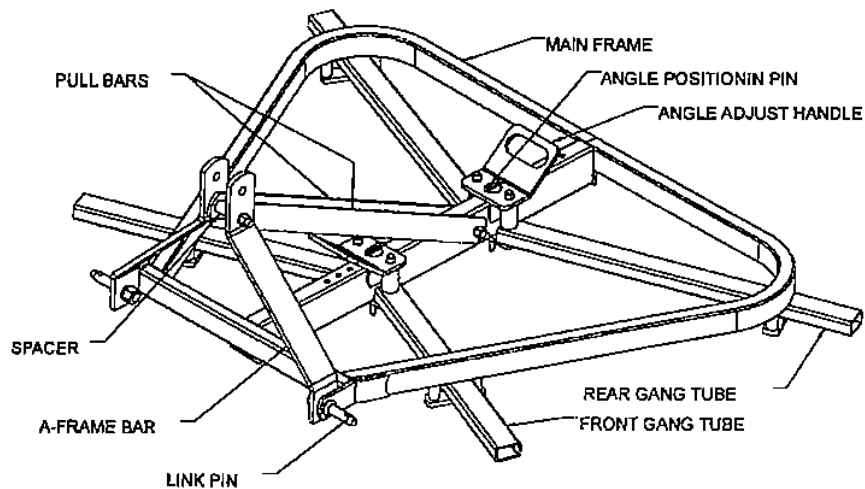


FIGURE 2 - MODEL 347

### **MODEL 233 Hitch Assembly (Refer to Fig 3)**

- 1) Remove bundle wire on the hitch from the main frame.
- 2) Attach the A-frame bars to the inside of the pull lugs using the Cat I linkpin, lockwashers and nuts.
- 3) Bolt pull lugs to lower hole in A-Frame top using 5/8" x 4-1/2" bolt installing spacer provided between the pull bars.
- 4) Attach lower end of pull bars to harrow frame using 1/2" x 1-1/2" bolts provided.
- 5) Check all hardware to see that it is in position and tight.

### **BEFORE OPERATION**

- 1) Tighten all loose hardware using the torque chart. **SEE ASSEMBLY.** Replace any missing hardware. On new machines, all hardware must be rechecked after first few hours of operation.
- 2) Replace any bent or broken parts.
- 3) Refer to your Tractor's Owner's Manual for recommended adjustments and weight distribution.
- 4) Read the **SAFETY** section of this manual to be sure of all precautions.

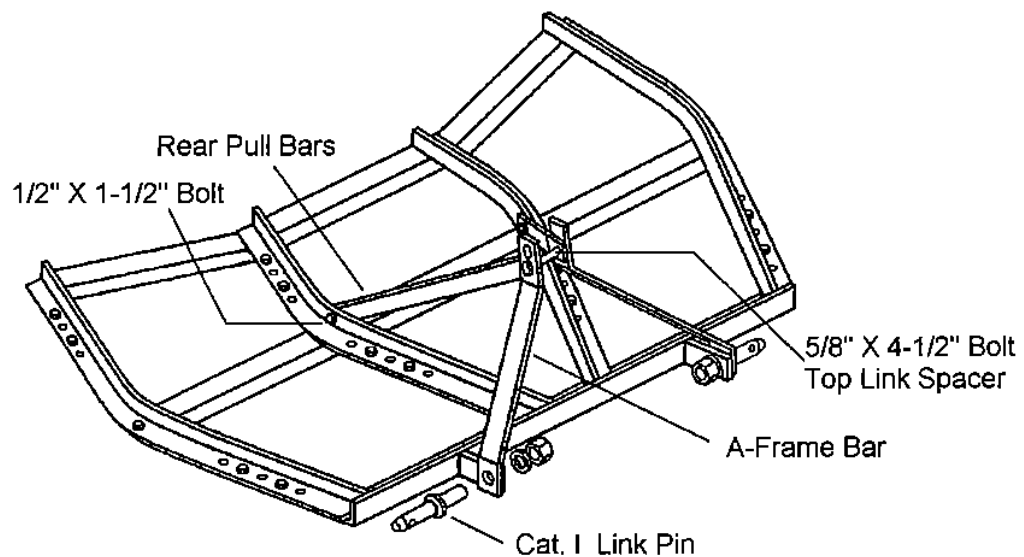


FIGURE 3 -- MODEL 233 ANGLE FRAME

# OPERATION

Your personal safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said "The best safety device is an informed, careful operator." We ask you to be that kind of an operator.

The operator is responsible for the proper operation of this disc harrow. The operator must be properly trained. Operators should be familiar with the disc harrow and tractor and all safety practices before starting operation. Read the safety information on pages 5 through 6.

## Tractor Stability (Figure 5)

### **⚠ WARNING**

A minimum 20% of combined tractor and harrow weight must be on tractor front wheels with attachment in transport position. Without this weight, tractor could tip over causing personal injury or death. See your tractor operators manual regarding adding weights.

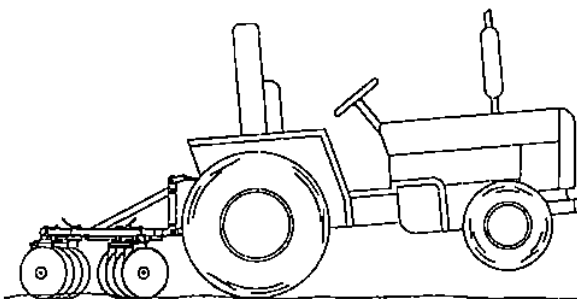


Figure 5

## ATTACHING

1) Back tractor to align lower link arms with implement link pins.

### **⚠ WARNING**

**Be sure bystanders are clear. Do not stand between harrow and tractor. Shut off tractor and engage parking brake prior to dismounting.**

2) Connect lower link arms to harrow using link pins provided. Secure with click pins.

3) Connect top link to harrow using a pin. Secure with click pins.

## TRANSPORTING

1) Transport harrow lifted high above ground.

2) Travel at a speed suitable for terrain and other conditions. Transport at speeds compatible with safety and no more than 20 MPH (30 KPH). Use care when transporting on rough terrain. Hitch Assembly (Refer to Fig.3)

3) Avoid night travel on public roads. If unavoidable, be sure to use adequate lighting on tractor and implement. Always have a Slow Moving Vehicle (SMV) emblem attached to the implement clearly visible from the rear. Check local laws regarding transport on public roads.

## ADJUSTMENTS

### **Side To Side Leveling**

The harrow should be leveled from side to side. With the harrow and tractor on level ground, use the tractor's link arm crank to adjust the lower link arm up or down as need to level the harrow.

### **Front To Rear Leveling**

The harrow is leveled front to rear by adjusting the length of the top link of the three point hitch. Shorten the top link to tilt the harrow forward, and lengthen the top link to tilt the harrow backward.

### **Gang Angle Adjustment**

1) Lift harrow enough to relieve pressure on gangs.

2) Remove bolts and nuts -- adjust gangs to desired angle.

- 3) Reinstall bolts and nuts at new position.

### **Adjusting Front Gang Spacing on 233 box frame & 347 harrows**

- 1) Loosen the U-bolts holding the front disc gangs to the gang tubes.
- 2) Move both gangs the same distance until the inside discs are touching.
- 3) Make sure bearing hangers are square with the gang tubes and retighten U-bolts.

### **Adjusting Front Gang Spacing on 233 angle frame harrows**

- 1) Angle is preset from factory and is non-adjustable.

### **Adjusting For Ridging or Furrowing on 233 box frame & 347 harrows**

- 1) Loosen the U-bolts holding the rear disc gangs to the gang tubes and move both gangs out if the harrow is ridging and in if the harrow is not filling the furrow left by the front gangs. Be sure to move both gangs the same amount.
- 2) Make sure bearing hangers are square with gang tubes and retighten U-bolts.

### **Adjusting For Ridging or Furrowing on 233 angle frame harrows**

- 1) Adjustments are preset from factory and are non-adjustable.

## **STORAGE**

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- 1) Clean all dirt and debris from harrow prior to storage.
- 2) Store your harrow on a flat surface sheltered from the weather.
- 3) Lower the harrow to the ground and block to prevent rolling.
- 4) For periods of long storage, coat soil engaging surfaces with a rust inhibitor such as grease or oil. Apply touch-up paint to frame where paint is worn or chipped to prevent rusting.

## **MAINTENANCE**

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### **Before Each Use**

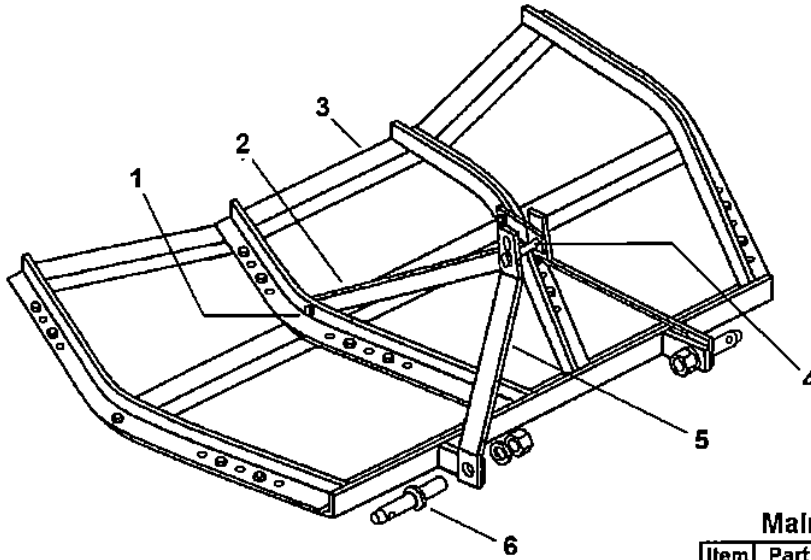
- 1) Your Series 233 Box Frame or Series 347 Harrow is equipped with triple lip sealed bearings which do not require lubrication.
  - 1a) Your Series 233 Angle Frame Harrow is equipped with journal bearings which require lubrication.

- 2) Check over entire implement to see that all bolts are in place and tight.

### **After First Few Hours of Use**

The disc gangs are torqued at the factory but can become loose during the first use as they seat themselves. Because of this it is necessary to check the disc blades to see they are tight. Do this by lightly striking each blade with a hammer. If a ringing sound is heard, the blade is tight. If a flat sound is heard, the blade is loose and the gang should be retorqued. Do this by removing the cotter pin from the gang bolt nut and torquing the bolt to 500 ft-lbs (667.9 N.m).

## SUB-COMPACT DISC COMPONENTS 5 ft. MODEL

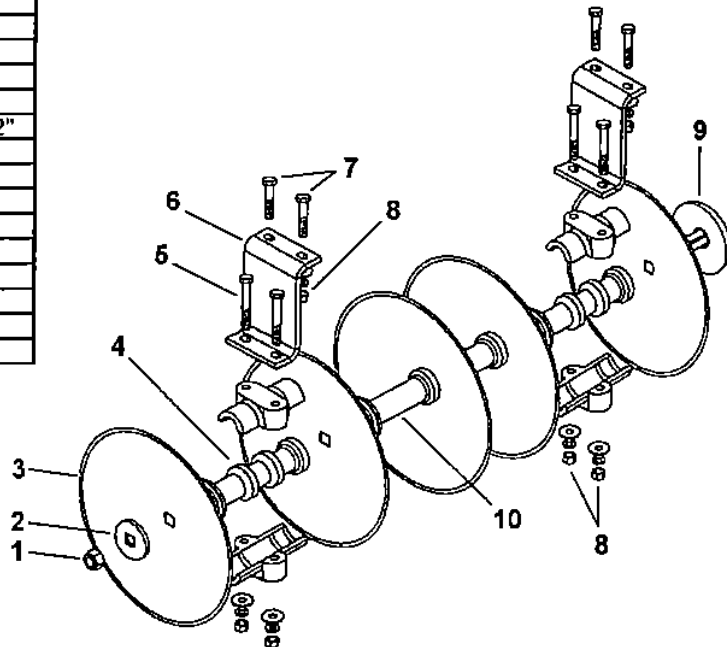


### Main Frame Components

Item	Part #	Description
1	MAIN FRAME	Not a Service Part
2	311071	LH LIFT BRACE
3	311072	RH LIFT BRACE
4	501090	LIFT ARM SPACER KIT
5	311070	LIFT ARM
6	203266	CAT. I LINK PIN

### Disc Gang Components

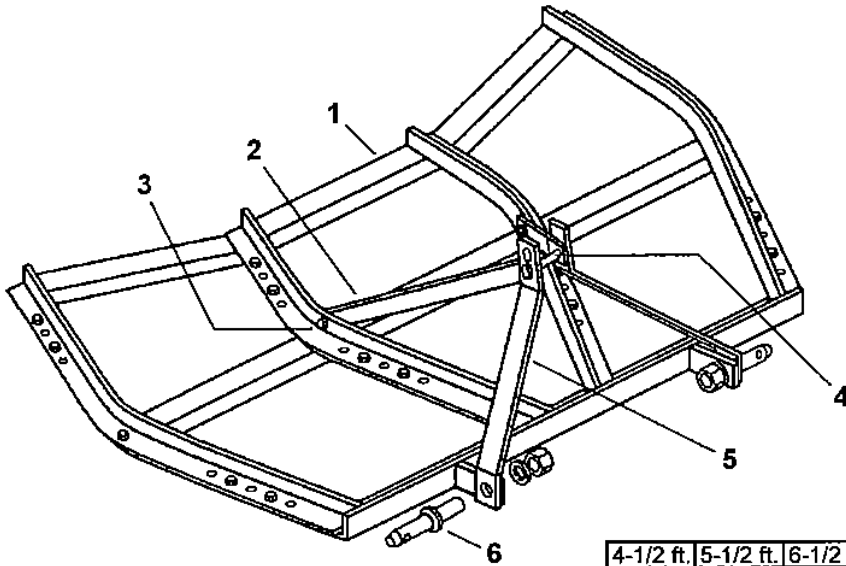
Item	Part #	Description
1	304024	LOCKNUT 1"
2	607708	END WASHER
3	930256	C.O. DISC 14"
4	504110	BRG. CAPS & SPOOL
5	303872	CARR. BOLT 1/2" X 5-1/2"
	303955	LOCKWASHER 1/2"
	303971	FLATWASHER 1/2"
6	311068	BRG. STAND
7	303651	HHCS 1/2" X 1-1/2"
8	303955	LOCKWASHER 1/2"
	303971	FLATWASHER 1/2"
	304007	HEX NUT 1/2"
9	401035	AXLE
10	607617	FULL SPACER





# ANGLE FRAME DISC COMPONENTS

4-1/2, 5-1/2 & 6-1/2 ft. MODELS

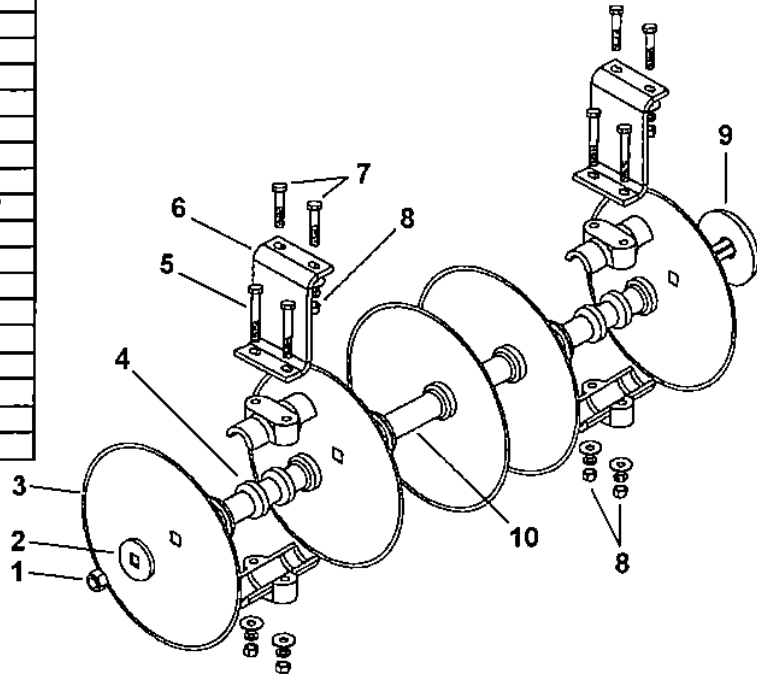


Item	4-1/2 ft.	5-1/2 ft.	6-1/2 ft.	Description
	Part #	Part #	Part #	
1	NOT A SERVICE PART			Main Frame
2	321030	322055	323107	LH LIFT ARM BRACE
	321030	322057	323105	RH LIFT ARM BRACE
3	303651	303651	303651	HHCS 1/2" X 1-1/2"
	303955	303955	303955	LOCKWASHER 1/2"
	304007	304007	304007	HEX NUT 1/2"
4	501090	501090	501090	LIFT ARM SPACER KIT
5	322075	322075	322075	LIFT ARM
6	203266	203266	203266	CAT. I LINK PIN

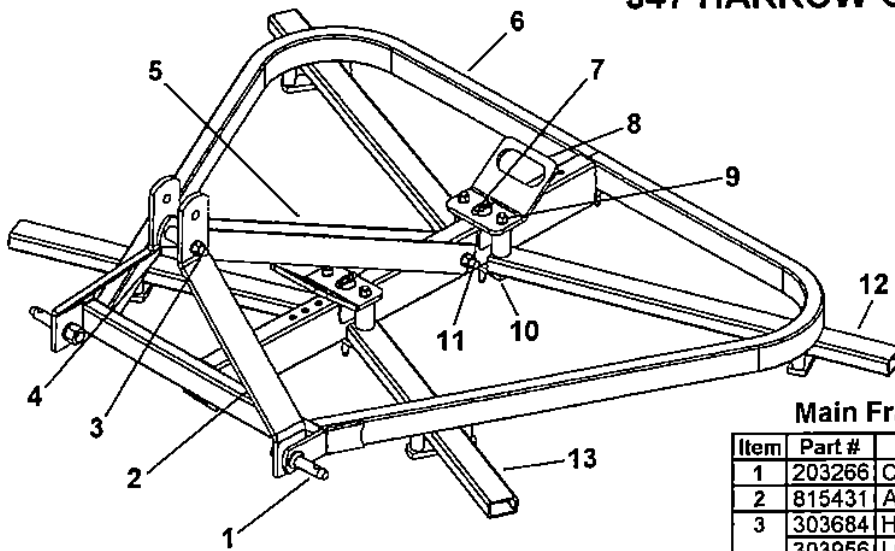
Main Frame Components

## Disc Gang Components

Item	Part #	Description
1	304024	LOCK NUT 1"
2	607708	WASHER END
3	607704	DISC Rnd. 16"
	607705	DISC C.O. 16"
	607637	DISC Rnd. 18"
	607636	DISC C.O. 18"
4	504110	BRG. CAPS & SPOOL
5	303872	CARR. BOLT 1/2" X 5-1/2"
6	607711	BRG. STAND
7	303651	HHCS 1/2" X 1-1/2"
8	303955	LOCKWASHER 1/2"
	303971	FLATWASHER 1/2"
	304007	HEX NUT 1/2"
9	607716	AXLE for 3-Disc
	607717	AXLE for 4-Disc
	607718	AXLE for 5-Disc
10	607617	FULL SPACER



# 347 HARROW COMPONENTS

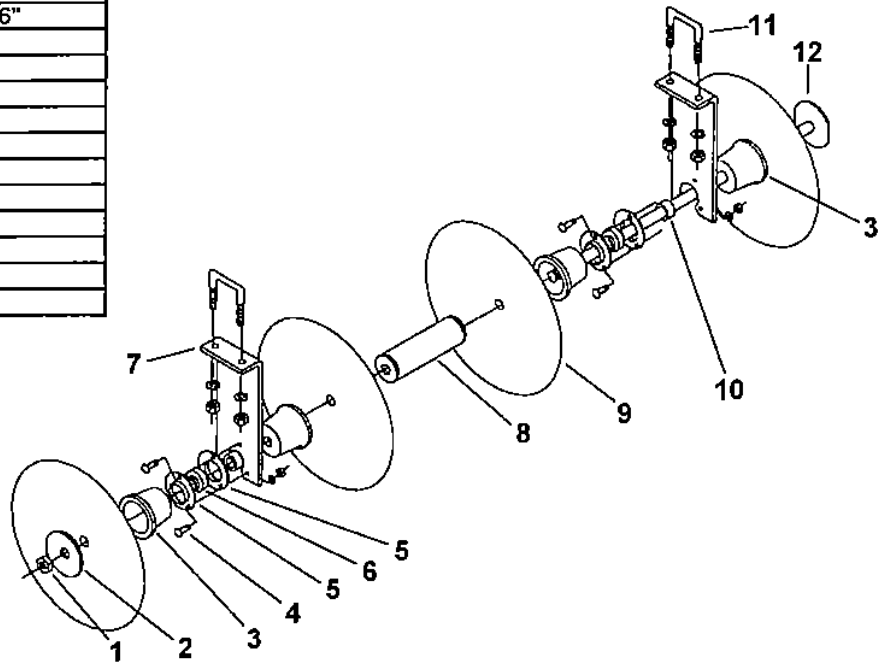


## Main Frame Components

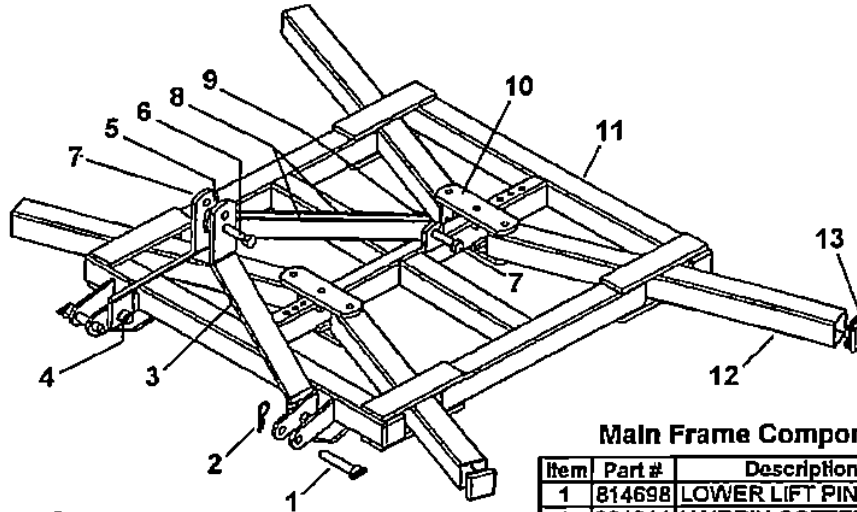
Item	Part #	Description
1	203266	CAT. I LINK PIN
2	815431	A-FRAME
3	303684	HHCS 5/8" X 5"
	303956	LOCKWASHER 5/8"
	304008	HEX NUT 5/8"
4	815465	SPACER
5	815467	REAR PULL BAR
6		MAIN FRAME Not a Service Part
7	815466	PULL PIN
	304244	HAIRPIN COTTER
8	815462	UPPER SLIDE
9	303663	HHCS 1/2" X 6"
	303955	LOCKWASHER 1/2"
	304007	HEX NUT 1/2"
10	815464	GANG SUPPORT
11	303682	HHCS 5/8" X 4"
	303956	LOCKWASHER 5/8"
	304008	HEX NUT 5/8"
12	211634	REAR GANG TUBE 4-Disc
	211635	REAR GANG TUBE 5-Disc
13	211631	FRONT GANG TUBE 4-Disc
	211633	FRONT GANG TUBE 5-Disc

## Disc Gang Components

Item	Part #	Description
1	304023	LOCKNUT 7/8"
2	211392	END WASHER
3	34391	SPACER
4	303838	CARRIAGE BOLT 5/16" X 1"
	303952	LOCKWASHER 5/16"
	304004	HEX NUT 5/16"
5	606960	FLANGETTE
6	811331	BEARING
7	211639	BRG. HANGER
8	30288	FULL SPACER
9	204001	18" Rnd. DISC
	204002	18" C.O. DISC
10	211642	BRG. SPACER
11	211476	U-BOLT
12	211390	AXLE ASSY 4-Disc
	211643	AXLE ASSY 5-Disc



## 233-G Box Frame Harrow Components



**Main Frame Components**

Item	Part #	Description
1	814698	LOWER LIFT PIN
2	304244	HAIRPIN COTTER
3	360170	A- FRAME BAR
4	303701	HHCS 3/4" X 2-1/2"
5	607629	SPACER
6	303706	HHCS 3/4" X 4-1/2"
7	303957	LOCKWASHER 3/4"
	304009	HEX NUT 3/4"
8	607631	PULL BAR
9	607629	SPACER
10	607633	SLIDE ADJ. BAR
	303684	HHCS 5/8" X 5"
11	MAIN FRAME Not a Service Part	
12	607702	GANG TUBE 28"
	607622	GANG TUBE 31"
	607725	GANG TUBE 33-1/2"
	607623	GANG TUBE 38"
	607686	GANG TUBE 44"
13	607616	3" PLASTIC CAP PLUG

**Disc Gang Components**

Item	Part #	Description
1	304024	LOCKNUT 1"-NC
2	607621	END WASHER
3	607619	HAL F SPACER 3.67 Long
4	303859	CARR. BOLT 1/2 X 1-1/2"
5	607727	FLANGED BEARING
6	303955	LOCKWASHER 1/2"
	304007	HEX NUT 1/2"-NC
7	607630	BRG. HANGER
8	607618	HALF SPACER 2.42 LONG
9	607617	FULL SPACER
10	607637	18" Rnd. DISC BLADE
	607636	18" C.O. DISC BLADE
	607635	20" Rnd. DISC BLADE
	607628	20" C.O. DISC BLADE
11	607726	AXLE 1" X 1" X 26-1/2"
	607626	AXLE 1" X 1" X 33-3/4"
	607627	AXLE 1" X 1" X 41-3/4"
12	607620	BUTT PLATE
	304078	SQUARE NUT usage varies
13	607615	U-BOLT

