



# **Art's-Way Manufacturing Co., Inc.**

Model 5300 Combination Front/Rear Unload Forage Box

Operator's Manual & Illustrated Parts List MP16.22030

Issued September 2016



This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS IN-VOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

### **BEFORE THE OPERATOR STARTS THE ENGINE:**

GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.

MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

# **A** WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

### BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

- 1. READ THE OPERATOR'S MANUAL.
- 2. READ ALL SAFETY DECALS ON THE MACHINE.
- 3. CLEAR THE AREA OF OTHER PERSONS.
- 4. LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE AND CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Art's-Way Manufacturing Co., Inc. dealer or Art's-Way Manufacturing Co., Inc. for additional operator's manuals, illustrated parts catalogs, and service manuals.

TO THE OWNER 1

### **TO THE OWNER**

Congratulations on the purchase of your new Art's-Way Combination Front/Rear Unload Forage Box. You have selected a top quality machine that is designed and built with pride to ensure you have many years of efficient and reliable service.

Many people have worked on the design, production, and delivery of this Combination Front/Rear Unload Forage Box. The information in this manual is based on the knowledge, study, and experience through years of specializing in the manufacturing of farm machinery. This manual is designed to provide you with important information regarding safety, maintenance, and machine operation so you can and will get the best possible performance from your Combination Front/Rear Unload Forage Box.

Even if you are an experienced operator of this or similar equipment, we ask that you read this manual before operating this Combination Front/Rear Unload Forage Box. The way you operate, adjust, and maintain this unit will have much to do with its successful performance. Any further questions you may have about this product of Art's-Way equipment should be directed to your local Art's-Way dealer or to Art's-Way Manufacturing Co., Inc. Armstrong, Iowa, 50514, (712) 864-3131.

### SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE

Art's-Way Manufacturing Co., Inc. is continually making product improvements. In doing so, we reserve the right to make changes and/or add improvements to our products without obligation for the equipment previously sold.

Modifications to this Combination Front/Rear Unload Forage Box may affect the performance, function, and safety of its operation. Therefore, no modifications are to be made without the written permission of Art's-Way Manufacturing Co., Inc. Any modification made without the written permission of Art's-Way Mfg. Co. Inc. shall void the warranty of this product.

In the interest of continued safe operation of this Combination Front/Rear Unload Forage Box, pay particular attention to the safety alert symbol(s) throughout this manual.

### Art's-Way Manufacturing Co., Inc. STATEMENT OF PRODUCT LIABILITY

Art's-Way Manufacturing Co., Inc. recognizes its responsibility to provide customers with a safe and efficient product. Art's-Way Manufacturing Co., attempts to design and manufacture its products in accordance with all accepted engineering practices effective at the date of design. This statement should not be interpreted to mean that our products will protect against the user's own carelessness or failure to follow common safety practices nor will Art's-Way Manufacturing Co., be liable for any such act. In addition, Art's-Way Manufacturing Co., assumes no liability for any altered product or any modified product by users or anyone other than an authorized dealer.

### **IMPORTANT WARRANTY INFORMATION**

The warranty for this Combination Front/Rear Unload Forage Box appears on page 6 of this manual. In order to establish proper warranty registration, the Warranty Registration must be completed and returned to the factory. Failure to comply with this requirement will result in invalidating the warranty!

### **LIMITATIONS OF THIS MANUAL**

This manual contains operating instructions for your 5300 Combination Front/Rear Unload Forage Box only. Any mention of other machinery in this manual other than the 5300 Combination Front/Rear Unload Forage Box is for reference only. This manual does not replace nor is it to be used for any machinery that may be attached to or used in conjunction with the 5300 Combination Front/Rear Unload Forage Box.

2 PARTS & SERVICE

### **PARTS & SERVICE**

As the purchaser of your new forage box, it is very important to consider the following factors:

- A. Original Quality
- B. Availability of Service Parts
- C. Availability of Adequate Service Facilities

Art's-Way Manufacturing Co., Inc. has an excellent dealership network ready to answer any questions you may have about your forage box. Parts for your machine may be ordered through our dealers. When placing a parts order, please have the **model** and **serial number** ready. This will allow the dealer to fill your order as quickly as possible.

For your convenience, we have provided this space for you to record your model number, serial number, and the date of purchase, as well as your dealer's name and address.

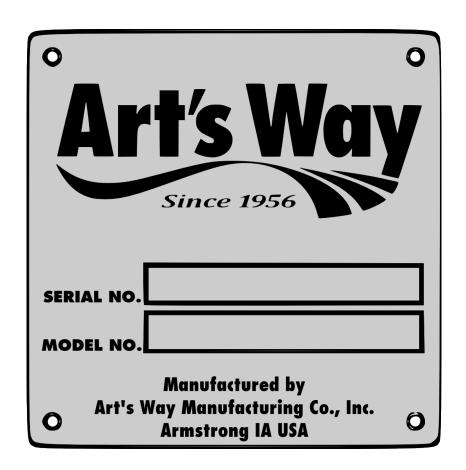


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6 LIMITED WARRANTY





# LIMITED WARRANTY FOR NEW ART'S WAY MANUFACTURING CO. FARM MACHINERY (U.S. ONLY)

- A. GENERAL PROVISIONS: Art's Way Manufacturing Co., Inc. (Art's Way Mfg.) warrants the products it sells to be free from defects in material and workmanship for the periods of time set forth in the Warranty Table below. Art's Way Mfg. obligation and liability under this limited warranty, is to repair or replace (at Art's Way Mfg. option) any part(s) that upon manufacture were defective in material or workmanship. Warranty service shall be performed by an authorized Art's Way Mfg. dealer or authorized service center and will be completed using Art's Way Mfg. supplied parts. Parts supplied by Art's Way Mfg. are shipped F.O.B. Art's Way. The original purchaser shall be responsible for service calls and transportation of the farm machinery to and from their dealer or service center. The original purchaser is also responsible for any repair service, parts, and labor on repairs made to the farm machinery at the time the warranty service was being performed.
- B. SECURING WARRANTY SERVICE: The original purchaser must (1) contact their authorized dealer and report the break-down. (2) The authorized dealer shall provide objective evidence of the farm machinery's warranty status to Art's Way Mfg. (3) The authorized dealer shall provide all documentation to Art's Way Mfg. which supports that the farm machinery was thoroughly inspected prior to set-up and delivery to the original purchaser. (4) The original purchaser shall make the farm machinery available to their Art's Way Mfg. authorized dealer and/or Art's Way Mfg. authorized service center within 30 days of the reported break-down. All parts or assemblies replaced under the limited warranty must be held for inspection for ninety (90) days, or until credit has been issued, or a claim has been returned to a dealer. When a claim is returned to a dealer with instructions to return and/or hold the part(s) for inspection, parts must be handled as instructed or the claim may be denied.
- C. SPARE PARTS WARRANTY: Art's Way Mfg. warrants that it will replace or repair (excluding labor) as Art's Way Mfg. elects, without charge, any genuine spare part purchased from Art's Way Mfg. which is defective in material or workmanship within ninety (90) days of the date of installation. This warranty applies to parts that, in Art's Way Mfg. judgement, prove to be defective in either material or workmanship. All parts to be shipped F.O.B. Art's Way Mfg. All spare parts replaced under the spare parts warranty must be held for inspection for ninety (90) days or until credit has been issued, or a claim has been returned to a dealer. When a claim is returned to a dealer with instructions to return and/or hold the part(s) for inspection, parts must be handled as instructed or the claim may be denied.
- D. LIMITATIONS: Art's Way Mfg. Limited Warranty does not extend coverage to product being used in a commercial application (i.e. rented equipment). Art's Way Mfg. Limited Warranty does not extend to parts and elements not manufactured by Art's Way Mfg., and which carry the warranty of another manufacturer. Art's Way Mfg. makes no other warranty expressed or implied and makes no warranty of merchantability or fitness for any particular purpose beyond that expressly stated in this warranty. Art's Way Mfg. liability is limited to the terms set forth in this warranty and does not include any liability for direct, incidental or consequential damages or expenses of delay and Art's Way Mfg. liability is limited to the repair and replacement of defective parts as set forth herein. Any improper use and/or maintenance, including operation after the discovery of defective or worn parts, operation beyond the rated capacity, substitution of parts not approved by Art's Way Mfg. or any alteration or repair by others than the authorized Art's Way Mfg. dealer or authorized service center which affect the product materially and adversely, shall void the warranty. No dealer, employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Art's Way Mfg. Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you the specific legal rights, and you may have other rights that vary from state to state.

NOTE: As of April 1, 2015, all previously distributed information concerning the limited warranty coverage of any Art's Way Manufacturing Company, Inc. manufactured product is to be considered null and void and replaced by this document.

Art's Way Mfg. Farm Machinery	Warranty Coverage
Grinder / Mixer – Model 6520, 6530, 6140, 6105, and Portable and Stationary	1 (one) Year from Date of Delivery to Original Purchaser
equipment	
Manure Spreader	1 (one) Year from Date of Delivery to Original Purchaser
Graders and Land Planes	1 (one) Year from Date of Delivery to Original Purchaser
Beet Harvesting Machinery	1 (one) Harvest Season from Date of Delivery to Original
	Purchaser
Shredders – Model 180C and 240C	1 (one) Year from Date of Delivery to Original Purchaser
Plows	1 (one) Year from Date of Delivery to Original Purchaser
Forage Blowers – Model 1060 and 2060	1 (one) Year from Date of Delivery to Original Purchaser
Forage Boxes/Receivers – Model 5300 and 1250	1 (one) Year from Date of Delivery to Original Purchaser
Rakes	1 (one) Year from Date of Delivery to Original Purchaser
Dump Boxes	1 (one) Year from Date of Delivery to Original Purchaser
Augers	1 (one) Year from Date of Delivery to Original Purchaser
Running Gear	1 (one) Year from Date of Delivery to Original Purchaser
Snow Blowers	1 (one) Year from Date of Delivery to Original Purchaser
Harvester Reel	1 (one) Year from Date of Delivery to Original Purchaser

Manual No. MP16.22030

Art's-Way Manufacturing Co., Inc.

SAFETY FIRST 7

### **SAFETY FIRST**

#### SAFETY INSTRUCTIONS

"A careful operator is the best insurance against an accident." Quote from the National Safety Council.

Most accidents can be prevented if the operator:

- 1. Fully understands how the machine functions.
- Can anticipate situations which may produce problems.
- 3. Can make necessary corrections before problems develop.

Safety features and instructions for the forage box are detailed in the Safety Guidelines section of this Operator's Manual. It is the responsibility of the owner to ensure that all operators read and understand the manual before they are allowed to operate the combo forage box. (Occupational Safety and Health Administration (OSHA) regulations 1928.57).

### NOTICES OF DANGER, WARNING, AND CAUTION

Signal Words: Note the use of signal words **DANGER**, **WARNING**, and **CAUTION** on the forage box and in this manual. The appropriate signal word for each has been selected using the following guidelines:

# THIS SYMBOL MEANS ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Universal Safety Alert Symbol

# **A DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

# **AWARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

# **ACAUTION**

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

### NOTICE

NOTICE is used to address practices not related to physical injury.

# The American Society of Agricultural Engineers has adopted the Universal Safety Alert Symbol as a way to identify areas of potential danger if the equipment is not operated correctly. Please be alert whenever you see this symbol in the manuals or on your forage box.

Art's-Way Manufacturing Co., Inc. strives to make our equipment as safe as possible. The Art's-Way 5300 Combination Front/Rear Unload Forage Box conforms to applicable safety standards at the time of manufacturing. A safety conscious equipment operator makes an effective accident-prevention program complete.

#### SAFETY INSTRUCTIONS

Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

**Note**: Contains additional information important to a procedure and will be found within the regular text body of this manual.

SAFETY INSTRUCTIONS

### SAFETY INSTRUCTIONS

### **GENERAL**

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Most work related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you operate and maintain the combo forage box you must be alert to potential hazards. You should also have the necessary training, skills, and tools to perform any assembly procedure.

Improper operation and/or maintenance of this unit could cause a dangerous situation that results in injury or death.

Do not use this unit until you read and understand the information contained in this manual. Do not use this equipment for anything other than its intended purpose.



Safety precautions and warnings are provided in this manual and on the unit. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

Art's-Way Manufacturing Co., Inc. cannot anticipate every possible might circumstance that involve a potential hazard. The warnings in this manual and on the product are, therefore, not all-inclusive. method of operation not specifically recommended by us is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the unit will not be damaged or be made unsafe by the methods that you choose.

The information, specifications, illustrations in this manual are based on the information that was available at the time this material was written and can change at any time.

### Safety Alert Symbols

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGERS. This manual contains CAUTIONS, WARNINGS. NOTICES SAFETY INSTRUCTIONS, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following key words call the readers attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "DANGER", "WARNING", or "CAUTION".

#### SAFETY INSTRUCTIONS

### Remember:

"The Best Operator is a Safe Operator"

# **ACAUTION**

Read and understand the operator's manual and all the safety decals before operating the forage box. Review all safety instructions with all operators annually.

SAFETY INSTRUCTIONS 9

#### **BEFORE OPERATING**

#### SAFETY INSTRUCTIONS



Do not wear loose fitting clothing as it may catch in moving parts.



Make sure all guards and shields are installed, including the tractor power take-off (PTO) master shield, before starting or operating the forage box.



Be sure that the correct implement driveline parts are used and that they are properly secured.

Lower the lifter wheels when the forage box is not in use.

Install safety chain when attaching the forage box to the tractor.



Clear the area of bystanders, especially children, when making repairs, adjustments, or performing maintenance on the forage box.



Do not allow riders.

Put all tractor and machine controls in "neutral" and disengage the PTO before starting. Follow the starting instructions according to the OEM tractor manual.



Operate the forage box only while seated on the tractor seat.



Make sure the unit is adequately supported with safety blocks or safety stands when changing tires or performing maintenance.

### **DURING OPERATION**

# **ACAUTION**





Entanglement Hazard Keep hands, feet, hair, and clothing away from moving parts. Wait for all movement to

stop before approaching equipment. Before making adjustments:

- 1. Shut off the tractor,
- 2. Set parking brake,
- 3. Put machine in neutral, and
- 4. Remove key while making adjustments.



Keep all shields and guards in place and in good working condition.



Keep all bystanders, especially children, away from the forage box while in operation.



Do not allow riders while the forage box is in operation.



Do not attempt to unclog, clean, or adjust the forage box while it is running.



Stay away from overhead power lines. Electrocution can occur even without direct contact.



Keep all hydraulic lines, fittings, and couplers tight and free of leaks. (Refer to Safety Guidelines – Hydraulic Safety).



Use caution when ascending or descending on the forage box. Wet shoes or boots are slippery.

### **MAINTENANCE SAFETY**

#### SAFETY INSTRUCTIONS

Follow all operating, maintenance, and safety instructions found in this Manual.







Before servicing, adjusting, repairing, or unclogging the machine, always make sure the tractor engine is stopped.

key in your pocket, the machine is lowered to the ground, all controls are placed in neutral, the parking brake is set, and all the moving parts have stopped.



Use sufficient tools, jacks, and hoists that have the capacity for the job.



Use support blocks or safety stands when changing tires or performing maintenance.





Follow good shop practices of keeping the service area clean and dry, and use adequate light for the job at hand.



Before applying pressure to the hydraulic system, make sure all lines, fittings, and couplers are tightly secured and in good condition.



Make sure all shields/guards are in place and properly secured when performing maintenance.

### **HYDRAULIC SAFETY**

#### SAFETY INSTRUCTIONS

# Follow all operating, maintenance, and safety instructions found in this Manu-

Make sure components in hydraulic system the kept are clean and in good working condition.



Relieve pressure from the hydraulic system before servicing or disconnecting from the tractor.



Keep all hydraulic lines, fittings, and couplers tightly secured and free of leaks.



Replace any worn, cut, abraded, flattened, or crimped hoses.



Do not make any temporary repairs to the hydraulic lines, fittings, or hoses using tape, clamps, or cement. The hydraulic system operates under extremely high

pressure and temporary repairs may fail suddenly and create a hazardous/dangerous situation.





Wear proper hand and eye protection when searching for high-pressure hydraulic leak. Use a piece

of wood or cardboard as a backstop instead of hands to identify and isolate a leak. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop if hydraulic fluid penetrates the surface of the skin.



Before applying pressure to the system, make sure all components are tight and that the hydraulic lines, hoses, and couplings are not damaged.

### TRANSPORTATION SAFETY

#### SAFETY INSTRUCTIONS

Follow all operating and safety instructions found in this manual when transporting this equipment.

Make sure the forage box complies with all local regulations regarding transporting equipment on public roads and highways.



Make sure the Slow Moving Vehicle (SMV) emblem and all lights and reflectors required by local highway and transportation authorities are properly in place, clean, and clearly visible to traffic.



Do not allow riders on any machinery during transport.

Make sure the forage box is securely attached to the tractor and install a safety chain to the forage box.

Make sure the tractor brake pedals are latched together.

Do not exceed 20 mph (32 km/h) when transporting the forage box. Always reduce speed on rough roads and surfaces, or when going down inclines.

Use caution when turning and always use the turn signals on the tractor to indicate your turning intentions to the other traffic.

The weight of the trailed machine should NEVER exceed the weight of the towing vehicle.

Check all clearances carefully whenever the machine is towed.

Lower the elevator into the transport position before transporting the forage box on the highway



Stay away from overhead obstructions and power lines during transport. Electrocution can occur even without direct contact.

#### STORAGE SAFETY

#### SAFETY INSTRUCTIONS

Follow all operating and safety instructions found in this manual when storing this equipment.



Store the forage box in an area away from human activity.



Do not permit children to play on or around the stored machine at any time.

Make sure that the forage box is stored in an area with a firm and level base to prevent the machine from tipping or sinking into the ground.



Block the wheels to prevent the machine from rolling.

SAFETY INSTRUCTIONS 11

### **TIRE SAFETY**

#### SAFETY INSTRUCTIONS

Follow all operating and safety instructions found in this manual when working around tires.

Have only a qualified tire dealer or tire repair service perform tire repairs.

Do not attempt to install a tire on a wheel or rim unless you have the proper equipment and experience to do the job.

Do not substitute tires with a lesser road rating and/or capacity for the original equipment tires.

# **AWARNING**

Explosive Force Hazard
Tire replacement, repair, and/or
maintenance should be done by
a qualified tire dealer or qualified repair
service.

Failure to follow proper procedures when installing a tire on a wheel or rim can produce an explosive force that will result in serious injury or death.

Do not attempt to install a tire without proper equipment and experience to perform the job.

### **ASSEMBLY SAFETY**

#### SAFETY INSTRUCTIONS

Follow all assembly, operating, and safety instructions found in this manual when assembly this equipment.



Use adequate manpower to perform assembly procedures safely.

Assemble the forage box in an area with sufficient space to maneuver the largest components and allow easy access to all sides of the machine.



Use only forklifts, lift cranes, jacks, and tools with sufficient capacity for the loads.



Do not allow spectators, especially children, in the working area.

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# **SECTION 1: OPERATOR'S MANUAL**

#### **SAFETY PRECAUTIONS**

### SAFETY PRECAUTIONS



This symbol is used to call your attention to instructions concerning you personal safety. Be sure to observe and follow these instructions. Take time to be careful!



### DANGER

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



### WARNING

"WARNING" indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.



### CAUTION

"CAUTION" indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also alert against unsafe practices.

BEFORE you attempt to operate this forage box, read and study the following safety information. In addition, MAKE SURE that every individual who operates or works with this equipment, whether family member or employee, is familiar with these safety precautions. Miller- St. Nazianz provides guards for exposed moving parts for the operator's protection; however, some areas cannot be guarded or shielded in order to assure proper operation. The OPERATOR'S MANUAL AND DECALS on the machine itself warn you of dangers and SHOULD BE READ AND OBSERVED CLOSELY.

# POWER SOURCE SHUTDOWN PROCEDURE

Before cleaning, unclogging, adjusting, lubricating or servicing this machine:

- 1. Disengage the tractor PTO.
- 2. Shut off the tractor engine, remove the starter key and take it with you.
- 3. Wait for the all machine motion to stop.
- 4. Remove the telescoping PTO driveline and ALL power connections from the tractor.

Failure to follow these precautions could result in death or serious injury.

Some photographs used herein may show doors, guards and shields opened and removed. BE SURE that all doors, guards and shields are fastened in their proper position before machine is operated.



Do not unclog, adjust, lubricate or service the forage box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

KNOW how to stop the unloading unit of the forage box before starting it!

BE SURE the locking device on the telescoping PTO drive shaft is engaged onto the tractor PTO shaft groove before starting the tractor engine!

BE SURE all guards, doors and shields are in place and properly secured before starting the tractor engine!

KEEP hands, feet and clothing away from chains, augers and PTO when they are moving!

DO NOT connect a 1000 RPM tractor PTO shaft onto this unit!

DO NOT use a PTO adapter!

DO NOT allow minors to be near the machine unless properly supervised!

KEEP the forage box away from power lines. Contact with electrical lines may result in serious injury or death by electrocution!

**USE ONLY properly rated running gear and tires!** 

ALWAYS engage the tractor parking brake before proceeding to unload the forage box!

CHECK operation of the emergency clutch and of the activating mechanisms, safety bar and safety cable frequently, to insure that they are functioning properly!

BE SURE the rotating shields that are on the telescoping PTO drive shaft turns freely before starting the tractor engine!

DO NOT wear loose or baggy clothing when operating this unit!

DO NOT allow people other than a qualified operator near the unit!

DO NOT exceed a maximum towing speed of 20 MPH (32 KP H) while transporting the forage box!

DO NOT use PTO or PTO guard as a step!

### **OPERATING EQUIPMENT**

# OPERATING AND SAFETY EQUIPMENT



Become familiar with and know how to use all SAFETY DEVICES and controls BEFORE attempting to operate this equipment. Know how to stop the unit BEFORE starting it!

### **Shields**



DO NOT operate this equipment unless ALL shields are properly secured in place!



Do not unclog, adjust, lubricate or service the forage box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

Wherever possible and without affecting machine operation, shields have been used on this forage box to protect potentially hazardous areas. In many places, decals are also provided to warn of potential dangers as well as to display special operating procedures. Refer to Safety Label Location section. Page 10

### **Hinged Shields** Figure 1-#1

Hinged Shields have been provided over the transmission, beater drive chains and front roller chain drive. These can be opened for lubrication, adjustment and/or service access when required. Shields should be inspected and cleaned periodically to avoid material build up.

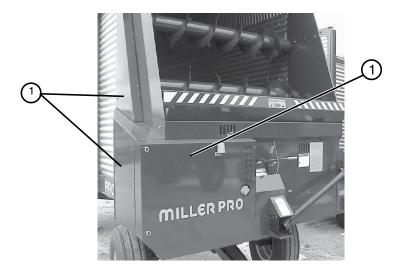


Figure 1

### **Emergency Clutch Bar and Cable** Figure 2- #2 & #3



IN AN EMERGENCY, PUSH THE SAFETY BAR OR PULL THE SAFETY CABLE TO TRIP THE SAFETY/CROSS CONVEYOR CLUTCH AND STOP THE CROSS CONVEYOR, AUGERS AND MAIN APRONS.



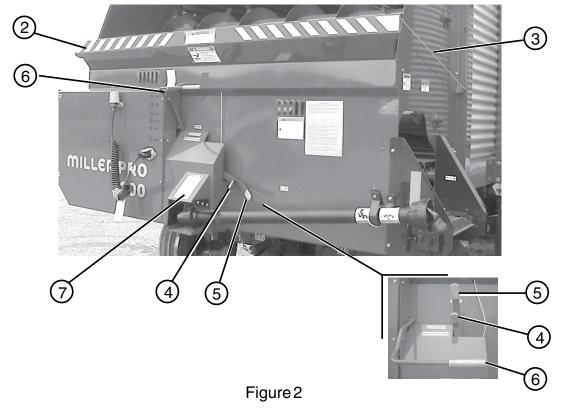
# EMERGENCY STOP DOES NOT STOP THE FORAGE BOX DRIVE SYSTEM WHEN BEING OPERATED AS A REAR UNLOAD.

To trip the safety/cross conveyor clutch, either push the safety bar (Figure 2-#2) which spans across the front of the unloading unit or pull the safety cable (Figure 2-#3) which runs over the outfeed. To reset, rotate safety/cross conveyor clutch lever into "RUN" position.

### Safety/Cross Conveyor Clutch Figure 2-#4

The safety/cross conveyor clutch allows clearing of the cross conveyor without operation of the augers or main aprons. This clutch also functions as a safety reset and is disengaged by pushing the safety push bar or pulling the safety cable on the side of the box. (Figure 2-#2 & #3)

To reset, return the safety/cross conveyor clutch handle to the "run" position.



### Main Clutch Figure 2-#5

The main clutch lever is provided for stopping and starting the augers and main aprons.

The main clutch is engaged when the lever is in the "run" position. To disengage the clutch, move the lever to the "stop" position.

Use of the main clutch lever during unloading is further explained in the Operating Instructions section of this manual. Page 20.



DISENGAGING THE MAIN CLUTCH DOES NOT STOP THE CROSS CONVEYOR. TO STOP THE CROSS CONVEYOR, THE EMERGENCY PUSH BAR OR CABLE MUST BE TRIPPED OR SAFETY/CROSS CONVEYOR CLUTCH TURNED TO THE STOP POSITION!

### Main Apron Shift Lever Figure 2-#6

The shift lever is used only to adjust the feeding rate of the main aprons. It is marked with seven positions:

1, Neutral (N); 2, Neutral (N); 3, Neutral (N); and 4 (Sweep).

CAUTION: The fourth or sweep speed should only be used at the end of the load for clean-out and not for normal unloading operation.

# Front PTO Guard Figure 2-#7

A guard is provided over the input drive universal joint on the front of the unloading unit.



### DO NOT USE THE PTO GUARD AS A STEP!

# Rotating PTO Guard Figure 3-#8

The telescoping PTO shaft, between the forage box and the tractor, is equipped with a rotating shield.



# BE SURE THE ROTATING PTO SHIELD TURNS FREELY BEFORE STARTING THE TRACTOR ENGINE!

### **PTO Transport Bracket** Figure 3-#9

A bracket is provided on the front of the unloading unit to conveniently hold the telescoping PTO drive shaft during transport.

To safeguard the telescoping PTO drive shaft, be sure to shut off the tractor engine and disconnect the drive shaft from the PTO shaft and place it into the bracket when transporting or filling the forage box.

### **<u>Hinged Shields</u>** Figure 4

Hinged shields have been provided over the apron takeup and rear roller chain drive. These can be opened for lubrication, adjustment and /or service access when required. Shields should be inspected and cleaned periodically to avoid material build up. The rear shield should be raised and pinned in the open position for servicing, Figure 4 #A. Return the pins to the storage position when finished, Figure 4 #B.



# DO NOT LUBRICATE, ADJUST AND /OR SERVICE UNLESS TRACTOR PTO IS DISENGAGED AND TRACTOR ENGINE IS SHUT OFF!

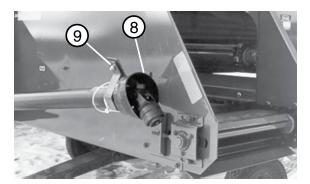
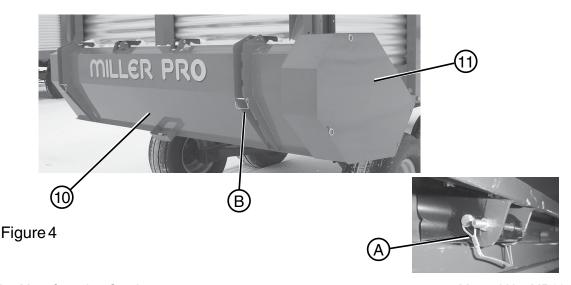


Figure 3



# **Unloading Operation - Left Hand Unload**

Because forage blowers load from the right side (as viewed from behind), a left hand forage box will be stationed next to the forage blower so that the controls on the forage box as well as those on the blower and the blower tractor easily can be reached from the Operator's Position. See the line drawing (Figure 5).

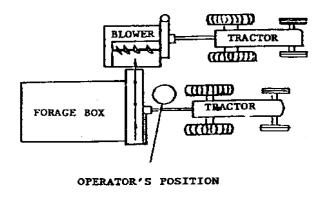


### **WARNING**

### DO NOT STEP OVER PTO SHAFT!

# DO NOT WALK OR CLIMB BETWEEN FORAGE BOX OUTFEED AREA AND BLOWER WHEN EITHER FORAGE BOX OR BLOWER IS OPERATING!

### DO NOT TAKE A SHORT CUT!



LEFT HAND UNLOAD

Figure 5

# SAFETY LABEL LOCATION

Each Forage Box has been produced and assembled with the operator's safety in mind. As a reminder to the operator of proper operation of the machine, several labels of warning and instruction have been attached. Information on labels is, by necessity less than in the operator's manual. Do not depend solely on the labels for safe and proper operation. Use your operator's manual.

DO NOT REMOVE ANY OF THESE LABELS. THEY ARE FOR YOUR PROTECTION! TAKE NOTE OF THEIR MESSAGES AND OBSERVE!

PERIODICALLY CHECK ALL LABELS AND REPLACE ANY THAT ARE MISSING, WORN, OR ILLEGIBLE. WHEN REPLACING, CLEAN MACHINE SURFACE THOROUGHLY USING SOAP AND WATER OR CLEANING SOLVENT TO REMOVE DIRT AND GREASE. CONTACT YOUR DEALER OR MILLER-ST. NAZIANZ AT 920-773-2121 IF ANY LABELS ARE NOT UNDERSTOOD!

THE MILLER FORAGE BOX WAS DESIGNED AS A FORAGE BOX. DO NOT USE FOR OTHER PURPOSES!

REPLACE ALL WORN, DAMAGED, UNUSABLE OR MISSING SAFETY SHIELDS AND GUARDS. CONTACT YOUR DEALER!

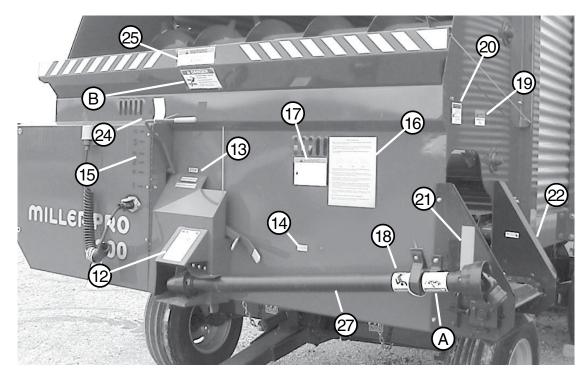


Figure 7

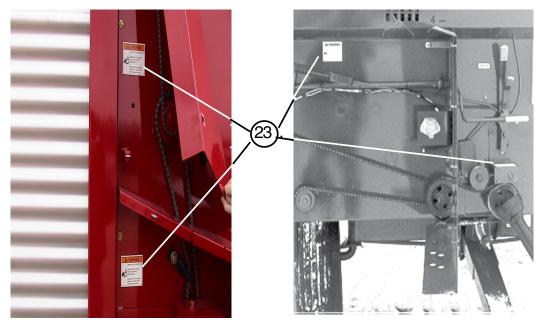


Figure 8 Figure 9

<u>Ref. N</u>	<u>No. Part No.</u>	<u>Description</u>
12	16.20177	WARNING - ROTATING PTO KEEP YOUR BODY AND
		CLOTHING AWAY
13	01.77770	STOP
14	01.77760	RUN
15	16.20195	SHIFT QUADRANT 5300 (LEFT HAND)
16	16.20210	OPERATING INSTRUCTIONS - 5300
17	16.20178	CAUTION - BEFORE YOU OPERATE THIS EQUIPMENT
18	329594B2	DANGER - ROTATING DRIVELINE
19	01.77810	EMERGENCY STOP PULL
20	16.20181	WARNING - ROTATING PARTS INSIDEKEEP YOUR BODY
		AND CLOTHING AWAY
21	907220	AMBER REFLECTOR (2 on each side, not shown)
22	907219	RED REFLECTOR
23	16.20179	WARNING - REPLACE ALL SHIELDS BEFORE OPERATING
24	16.20196	DECAL, 4TH GEAR (LEFT HAND)
25	01.77740	EMERGENCY STOP - PUSH
26	16.10552	DECAL, DANGER DOOR
27	17.00165	DECAL, DANGER (INSIDE IMPLEMENT INPUT DRIVELINE)
	907228	PTO MANUAL
Α	16.20980	DECAL, 540 RPM, DANGER
В	16.21200	DECAL, ENTANGLEMENT DANGER
С	21.09024	DECAL, HYDRAULIC FLUID PRESSURE WARNING
D	907224	SMV W/STEEL BACKING



# CLOSE OR REPLACE ALL COVERS, DOORS OR SHIELDS BEFORE STARTING THE UNLOADING MECHANISM!

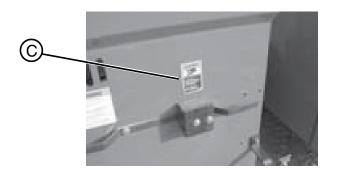
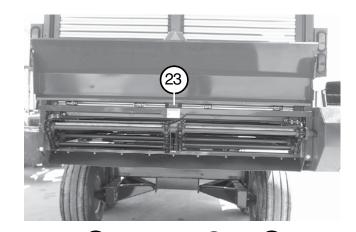


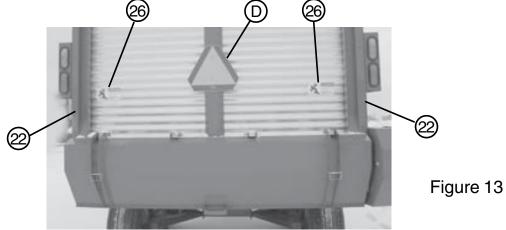
Figure 10



Figure 11







# **WARNING**

# EMERGENCY STOP PUSH

01.77740 1 Req'd Figure 7 # 25

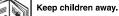


01.77810 1 Req'd Figure 7 # 19

# **WARNING**

BEFORE YOU OPERATE THIS EQUIPMENT:

Read the operator's manual and learn to operate this machine safely.



Machines can be hazardous in the hands of an untrained operator.

Failure to follow safety, operating and maintenance instructions could result in death or serious injury.

If you have questions; contact your dealer or Miller-St. Nazianz at (920) 773-2121



**ADANGER** 

DO NOT STAND CLOSE TO THE DOOR.

IT WILL OPEN SUDDENLY WITHOUT WARNING!

16.10552 Figure 13 2 Req'd #26





ROTATING PARTS INSIDE. KEEP YOUR BODY AND CLOTHING AWAY.

FAILURE TO HEED COULD RESULT IN DEATH OR SERIOUS INJURY. 16.20181

16.20181 1 Req'd Figure 7 # 20



• 1000 RPM TRACTOR PTO

• TRACTOR PTO ADAPTER

16.20980 1 Req'd Figure 7 # A

# **A WARNING**

SHIELD IS OFF OR OPEN

Replace or close shield before operating.

Failure to heed could result in death or personal injury.

16-20179

16.20179 Fig. 8 & 9 11,& 12

Art's-Way Manufacturing Co., Inc.

9 Req'd

# 23



ROTATING DRIVELINE contact can cause death KEEP AWAY!

### DO NOT OPERATE WITHOUT-

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE.
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN
  FREELY ON DRIVELINE



17.00165 1 Req'd Figure 7 #27

# **A DANGER**



### **ROTATING DRIVE LINE**

Do not operate without the following:

- Proper drive line guards
- Input shaft guards
- Tractor master shield
- U-Joint locked to tractor and implement shafts

Failure to heed will result in death or serious injury

16-20177

16.20177 1 Req'd Figure 7 # 12

# **▲ DANGER**



# ENTANGLEMENT HAZARD

ROTATING AUGER

Keep away during operation

Disconnect power before servicing Failure to heed will result

in death or personal injury

16-21200

16.21200 1 Req'd Figure 7 # B



21.09024 1 Req'd Figure 10 # C Hydraulic Drive Only

# **SET-UP INSTRUCTIONS**

### SMV Emblem

A Slow Moving Vehicle (SMV) Emblem is supplied with the forage box.

# Mounting Forage Box to Miller Pro Running Gear

### Combo Boxes:

Box Length	Running Gear	<u>A Dimension</u>	<b>B Dimension</b>
18'	6 - Wheel	139.50	139.00
18'	4 - Wheel	147.00	146.50
20'	6 - Wheel	162.00	161.50
20'	4 - Wheel	169.50	169.00

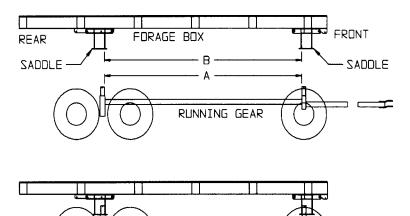


Figure 14

**NOTE:** B Dimension <u>DOES NOT</u> center forage box saddles on running gear bolster but are biased to prevent movement.

**NOTE:** Be sure the forage box is assembled to a running gear per included setup instructions or warranty may not apply.

### **Saddle Mounting**

Saddle must be mounted with the side brackets facing inward, as shown.

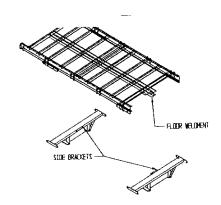
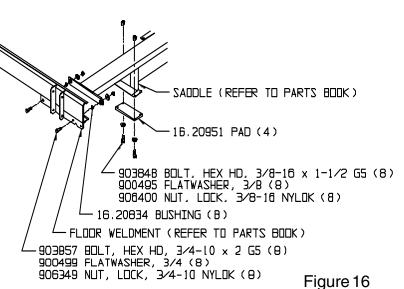
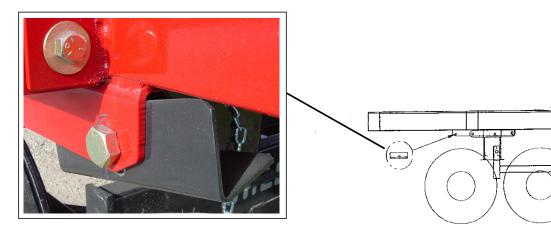


Figure 15

Saddles must be mounted with bushings provided.
Bushings must be bolted tight to the floor allowing the saddle to flex.

Pads must be mounted to saddles with hardware provided.





### **Tandem Tire Bracket**

If you mount the box on a running gear equipped with tandems, you must bolt the tandem tire bracket into place (1 per side).

Figure 17

### Mounting Forage Box to Running Gear

The forage box may require a riser kit when mounted to a running gear with larger tires. Check the chart to determine if it is necessary to order a kit.

Kit\_Number "A" Dim **Block Height** Figure 19 0" - 6 1/2" 0" 6 1/2" - 8 1/2" 2" 16.09984 8 1/2" - 10" 3" 16.09985 5" 10" - 11 1/2" 16.09984 & 16.09985 16.10534.5 BLOCK - 2" RISER 902300 BDLT, HEX HD,  $3/8-16 \times 1$  G5 (16) 900495 FLATWASHER, 3/8 (16) 903937 NUT, LOCK, 3/8-16 (16) SEE PAD PAGE 2 FOR PART NO.'s & QUANTITY 16.10537.5 BLOCK - 3" RISER 902300 BOLT, HEX HD, 3/8-16 x 1 G5 (16) 900495 FLATWASHER, 3/8 (15) 903937 NUT, LOCK, 3∕8-16 (16) SEE PAD PAGE 2 FOR PART NO.'s & QUANTITY 2" RISER KIT 16.10537.5 BLOCK - 3" RISER 902300 BOLT, HEX HD, 3/8-16 x 1 G5 (16) 15.09985 900495 FLATWASHER, 3/8 (16) 3" RISER KIT 903937 NLT, LOCK, 3/8-16 (16) 15.10534.5 BLOCK - 2" RISER 902300 BDLT, HEX HD, 3/8-16 x 1 G5 (16) 900495 FLATWASHER, 3/8 (16) 16.09984 & 903937 NUT. LOCK. 3/8-16 (16) 16.09985 SEE PAD PAGE 2 FOR PART NO.'S & QUANTITY

### Cross Conveyor Apron

Figure 18

On some units the outfeed extension is shipped loose. Proper setup requires this be attached with the existing 6-3/8" bolts, lockwashers & nuts. The PTO bracket is located on the middle 3/8" bolt in front. The flange on the return pan must be inside the unit as shown.

5" RISER KIT

Proper tension on the cross conveyor apron is obtained when apron slats are first touching the return pan about 3' inside the outfeed opening. Adjust the right and left tighteners so both side chains are tightened equally. To adjust the apron, loosen the 3/8" nuts #28A, and then loosen the outer jam nut #28 on the adjusting stud and turn the inner adjusting nut #29 until the proper tension is achieved, then retighten the jam nuts and 3/8" nuts #28A.



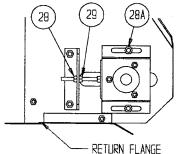


Figure 20

Assembly routing of tie down chains between front saddle of forage box and front bolster of running gear.

- 1. Install two chains as shown, being sure to slide chains over small brackets on the saddle, and leaving a 2"-3" gap between the bottom bolster of the running gear and chain.
- 2. Connect each chain together, using 7/16" x 2" Hex head bolt and 7/16" lock nut.

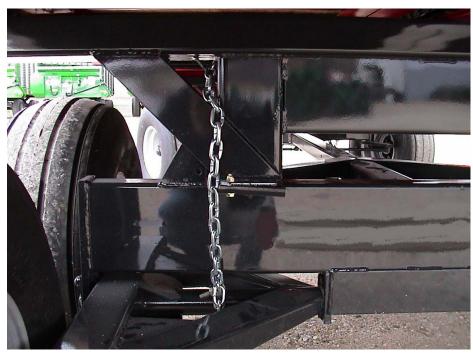




Assembly routing of tie down chains between rear saddle of forage box and rear bolster of running gear.

- 1. Install two chains as shown, being sure to slide chains over small brackets on the saddle, and leaving a 2"-3" gap between the bottom bolster of the running gear and chain. NOTE: If mounting the forage box onto a trailer the chains should be tight.
- 2. Connect each chain together, using 7/16" x 2" Hex head bolt and 7/16" lock nut.





### **OPERATION INSTRUCTIONS**

### Loading

The forage box load should be filled evenly so as to provide for even feeding into the unloading unit.

Do not fill the cross feed unloading area with crop to get extra capacity. Although overloading devices are provided as a protection, overloading puts unnecessary pressure and strains on the cross conveyor and augerdrive.

Place the telescoping PTO drive shaft in the transport bracket during loading and transporting the forage box.

### **Transporting**

The outfeed apron extension has been equipped with an amber reflector on front and a red reflector to the rear. There are 2 amber reflectors on each side of the forage box. Red reflectors also are attached to the rear of the forage box.

There are also red and amber transport lights at the rear on each side of the box. The plug for the light cord is mounted in the front shield. For your safety, and the safety of others, it is recommended that the transport lights are used when traveling public roadways.



### NEVER EXCEED A MAXIMUM TOWING SPEED OF 20 MPH (32 KPH) WHEN TRANSPORTING THE FORAGE BOX!

The telescoping PTO connection MUST be disconnected from the tractor when the forage box is being towed. Use the transport bracket provided for convenient storage of the drive shaft during transporting.

### **Capacity**

The capacity of your forage box depends on the size of the box, the strength of the main apron chain, and the rating of the wagon gear and tires. The recommended maximum loads below are assuming running gear and tires are adequately rated for both the crop load and the weight of the forage box.

Recommended Forage Box Maximum Loads			
Model	<u>Chain</u>	Maximum <u>Crop Load</u>	Weight (Approx.)*
5300 - 18'	667H Pintle (Std)	9.0 ton	2.25 ton
5300 - 18'	667X Pintle (Opt)	9.5 ton	2.25 ton
5300 - 20'	667H Pintle (Std)	10.0 ton	2.50 ton
5300 - 20'	667X Pintle (Opt)	10.5 ton  * Weight includes	2.50 ton three augers and roof.

### **Tractor Connections**



### WARNING

- Use ONLY a 540 RPM tractor PTO shaft.
- Do not connect to 1000 RPM PTO or use an adapter. PTO damage and risk of entanglement may result.

The following tractor hookup provisions should be made: Figure 21

The hitch point of the tractor drawbar should be set at least 14" behind the end of the PTO shaft.

The hitch point of the tractor drawbar should be set at least 5" but not more than 12" below the tractor PTO shaft.

The hitch point of the tractor drawbar should be at least 13" but not more than 20" above the ground.

The hitch point of the tractor drawbar and PTO should be on the same vertical plane.

After the proper tractor drawbar/PTO shaft alignments are established, make the telescoping PTO drive shaft connection.

### **PTO Attachment Procedure**

Figure 22

On units with plastic (two piece) locking ring, moving the ring, #30, back (away from the tractor) releases the retaining balls.



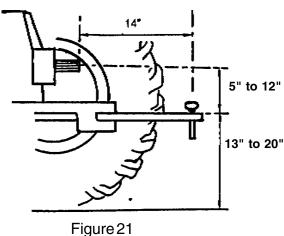
### WARNING

THE ROTATING PTO FRONT HALF PTO JOINT MUST BE GUARDED BY THE TRACTOR MASTER PTO SHIELD PROVIDED BY THE TRAC-TOR MANUFACTURER. TO AVOID INJURY BE SURE TO HAVE IT INSTALLED BEFORE OPERATION!



# **WARNING**

BE SURE THE TELESCOPING PTO DRIVE SHAFT LOCKING DEVICE IS POSITIVELY ENGAGED INTO THE TRACTOR PTO SHAFT BEFORE STARTING TRACTOR ENGINE!



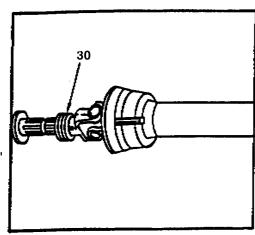


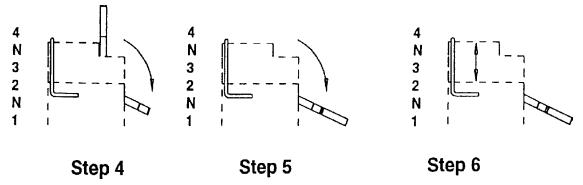
Figure 22



# DO NOT ALLOW ANYONE TO OPERATE THIS EQUIPMENT WHO HAS NOT BEEN TRAINED IN ITS SAFE OPERATION!

### **FRONT UNLOADING**

- 1. Before unloading the forage box, park the box on level ground for unloading, if possible, engage the tractor parking brake and shut off the tractor engine.
- 2. Be sure <u>safety/cross conveyor clutch</u> is in the "stop" position and the shift lever in the "neutral" position. To avoid undue strain on drive mechanism never start unloading with <u>shift lever</u> in gear or <u>safety/cross conveyor clutch</u> in "run".
- 3. Connect <u>telescoping PTO drive shaft</u> to tractor. Engage locking device in groove on tractor PTO shaft.



- 4. Start tractor engine. Set throttle at idle and engage the PTO. Engage the <u>safety/cross conveyor clutch</u> to clean out crop on the cross conveyor.
- 5. Place the <u>main clutch</u> in the "run" position to start the augers. If the cross conveyor chamber becomes full, switch the <u>main clutch</u> to "stop" until area clears. Return clutch to "run" and repeat procedure until augers are clear of crop.
- 6. Move the <u>shift lever</u> from neutral to unload (1,2, or 3) to start the main unloading aprons. Do not force <u>shift lever</u> from neutral into gear. To shift from neutral to unload (1,2, or 3) the unit should be running and the drive clutch engaged (run).
- 7. Proceed to unload the forage box. Unloading speed can be varied by using the tractor throttle or selecting an alternate unloading speed. It may be necessary to disengage the <u>main clutch</u> to allow shifting. It may also be necessary to re-engage the <u>main clutch</u> to complete the shift. Do not use sweep speed (4) for unloading. Do not exceed a PTO speed of 400 RPM.

- 8. After the crop falls back move the <u>shift lever</u> into sweep (4) for faster cleanout. It may be necessary to disengage the <u>main clutch</u> to allow shifting from an unload speed (1,2, or 3) to sweep (4).
- 9. After unloading return the <u>shift lever</u> to neutral before stopping the PTO.
- Disengage tractor PTO and shut off tractor engine. Disconnect telescoping PTO drive shaft from the tractor and place in PTO transport bracket.



DO NOT ALLOW ANYONE TO OPERATE THIS EQUIPMENT WHO HAS NOT BEEN TRAINED IN ITS SAFE OPERATION!



EMERGENCY STOP DOES NOT STOP THE FORAGE BOX DRIVE SYSTEM WHEN BEING OPERATED AS A REAR UNLOAD.

# Rear Unloading-Mechanical

- A. Before unloading the Forage Box, park the box on level ground, if possible, engage the tractor parking brake, and turn off the tractor engine.
- B. Connect telescoping PTO drive shaft to tractor. Engage the locking device in the groove on the tractor PTO shaft.
- C. Start the tractor engine. Set throttle at idle and engage the PTO. Once load has started moving and the door is open, increase your throttle to desired speed. Never exceed 540 RPM.
- D. You may have to drive ahead to allow full cleanout & door closure.
- E. Engage the parking brake, disengage the tractor PTO and shut off the tractor engine. Disconnect the telescoping PTO driveshaft from the tractor and place it in the transport bracket.
- F. Check the door to be sure the latches are engaged.

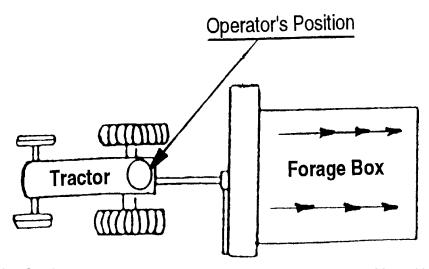


# EMERGENCY STOP DOES NOT STOP THE FORAGE BOX DRIVE SYSTEM WHEN BEING OPERATED AS A REAR UNLOAD.

#### **Rear Unloading-Hydraulic**

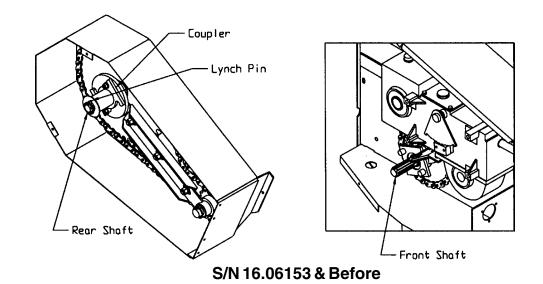
- A. Before unloading the forage box, park the box on level ground, if possible, engage the tractor parking brake, and turn off the tractor engine.
- B. Connect the hydraulic lines to the hydraulic output couplers on the tractor.
- C. Start the tractor engine and engage the hydraulics. If the load does not move, reverse the hydraulic flow with the tractor lever. The forage box has been equipped with a check valve to ensure proper motor rotation.
- D. Once load has started moving, you may have to drive ahead to allow full cleanout and door closure.
- E. Engage the parking brake and disengage the hydraulics and shut off the tractor engine. Disconnect the hydraulic lines from the hydraulic output couplers on the tractor and place them in the storage position.
- F. Check the door to be sure the latches are engaged.

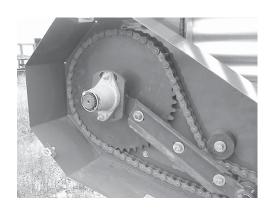
### Operator's Position - Rear Unloading



#### Shifting the Drive Coupler From Rear Unload To Front Unload

- 1. Set parking brake and shut off the tractor engine.
- 2. Remove the lynch pin & washer from the shaft with coupler in the rear of the box.
- 3. Slide the coupler off the shaft and go to the front.
- 4. Remove the lynch pin and washer from the front shaft.
- 5. Slide the coupler onto the front shaft and replace the lynch pin and washer.
- 6. Replace washer and lynch pin onto the rear shaft.
- 7. To shift from front unload to rear unload just reverse the above procedure.







**S/N 16.06154 & After** Figure 23

### **LUBRICATION**



Do not unclog, adjust, lubricate or service the forage box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

Sufficient oil and grease will prevent excessive part wear and early failure. Lubricate according to instructions.

## Main Apron and Beater Drive Gearbox

The gearbox oil level should be checked every 50 loads. Use No. 85W140 or No. 90 gearlube if oil is needed, add through plug in top cover. Figure 24-#31

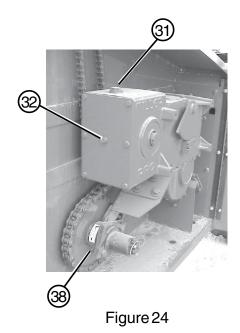
The gearbox oil level should be up to the check level plug in the gearbox rear cover. Figure 24-#32

#### **Grease and Oil**

Most grease fittings are a standard style 1/4" - 28 commonly found on farm implements and automotive equipment. A good grade of lithium base grease should be used.

#### <u>Safety/Cross and Main Clutch</u> Handles

If handle movement becomes hard, remove nuts (Figure 25-#33) and coat pivot bolt with grease and reinstall.



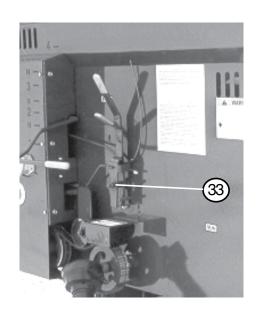


Figure 25



Figure 26

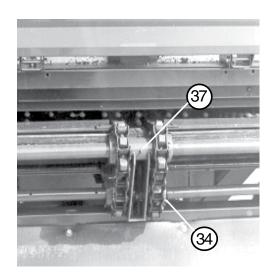


Figure 27

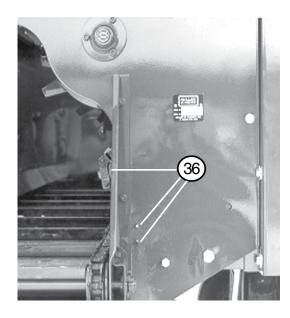
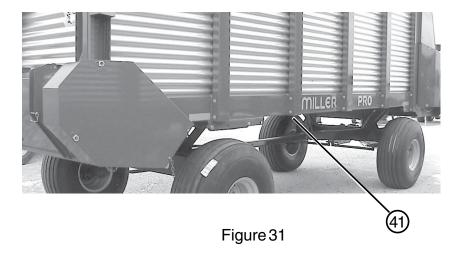


Figure 28

Ref. <u>No.</u>	<u>Qty</u>	<u>Description</u>
34	8	Rearldler
		Sprockets
35	2	Driveline Joints
36	3	Front Main Apron
		Bearings
37	3	Rear Main Apron
		Bearings
38	1	Outer Apron Shaft
		Support (Fig. 24)
39	2	Rear Drive Outer
		Bearings (Fig. 32)
40	1	Sprocket Bearing
41	1	Center Shaft Bearing
		(Fig. 31)
42	1	Sprocket Cluster
		Bearings (Fig.32)
		(Hydraulic Drive Only)
		• •

Periodic oiling of all drive chains and conveyor chains will assure longer life.

The main apron chains do not require lubrication.



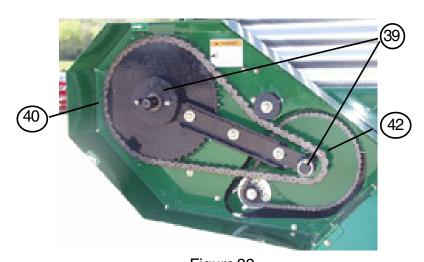


Figure 32
HYDRAULIC REAR UNLOAD SHOWN

## Right Angle Gearbox

The gearbox oil levels should be checked every 50 loads. Use No. 85W140 or No. 90 gearlube if oil is needed, add through plug (Fig.33 #43) in the gearbox side cover.

The gearbox oil level should be up to the check level plug in the gearbox side cover.



Figure 33

#### **ADJUSTMENTS**



Do not unclog, adjust, lubricate or service the forage box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

#### Main Apron Figure 34

The main unloading aprons should be kept at proper tension at all times. On a new forage box tension should be checked every 5 loads until any excess slack has been taken up and during normal lubrication thereafter.

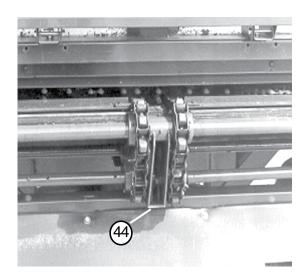
To obtain proper tension adjustments open rear access shield. Pin the rear shield in the raised position when adjusting the main apron. Return the pins to the storage positions when finished. Take up any excess slack evenly with the (4) tightener bolts #44 (2 outside bolts not shown) provided until the slats lift 1/2" off the return flanges 5 feet from the back of the forage box, Figure 31 #41.



## CLOSE THE REAR SHIELD BEFORE STARTING THE UNLOADING MECHANISM!

#### **Cross Conveyor Apron** Figure 35

The cross conveyor apron should be kept at proper tension at all times. Proper tension on the cross conveyor apron is obtained when apron slats are first touching the return pan about 3' inside the outfeed opening. Adjust the right and left tighteners so both side chains are tightened equally. To adjust the apron, loosen the 3/8" nuts #45, and then loosen the outer jam nut #46 on the adjusting stud and turn the inner adjusting nut #47 until the proper tension is achieved, then retighten the jam nuts and 3/8" nuts #45.



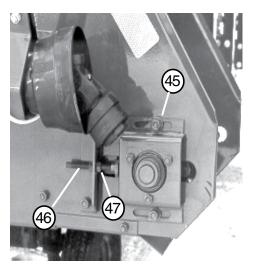


Figure 34

Figure 35
Art's-Way Manufacturing Co., Inc.

#### Front Drive Chain Figure 36

Open front shield for access. The front chain is tensioned by a spring loaded idler.

To adjust tension, tighten the hex nut #48 on the rod to compress the spring to 6 inches.



CLOSE the front cover before starting the unloading mechanism!

#### Safety/Cross Conveyor and Main Drive Clutch Figure 36

The safety/cross conveyor clutch and main drive clutch rod linkage is factory adjusted and should not require regular adjustment. Should the belt on either one not drive, additional tension can be applied by tightening the nuts #49 & #50 to increase spring tension.

IMPORTANT: MAXIMUM BELT LIFE IS ASSURED BY APPLYING ONLY THE MINIMUM AMOUNT OF TENSION NECESSARY TO DRIVE!



## CLOSE THE FRONT COVER BEFORE STARTING THE UNLOADING MECHANISM!



Figure 36

#### **Apron Drive Chain** Figure 37

The apron drive chain is properly adjusted when all slack has been removed. To adjust the tension, loosen the nut holding the steel tightener assembly #51 and move the tightener in until proper tension is obtained and then retighten the nut.

#### **Beater Drive Chains** Figure 37

The beater drive chain is properly adjusted when all slack has been removed. To adjust the tension, loosen the nut holding the plastic tightener assembly #52 and move the tightener in until proper tension is obtained and then retighten the nut.

CAUTION: Periodic cleaning of inside of Transmission Side Door may be required.



## CLOSE THE TRANSMISSION SIDE DOOR BEFORE STARTING THE UNLOADING MECHANISM!



Figure 37



Do not unclog, adjust, lubricate or service the forage box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

#### **Rear Apron Drive Chain**

Figure 39

The apron drive chain is properly adjusted when all slack has been removed. To adjust the tension, loosen the nut holding the tightener assembly #53 and move the tightener in until proper tension is obtained and then retighten the nut.

## <u>Hydraulic Drive Chain</u>

Figure 39

The hydraulic drive chain is properly adjusted when all the slack has been removed. To adjust the tension, loosen the 4-bolts #54 holding the motor in position. Slide the motor, in the slots, in the direction to tighten to the chain. Torque the 4-bolts #54 to proper torque.

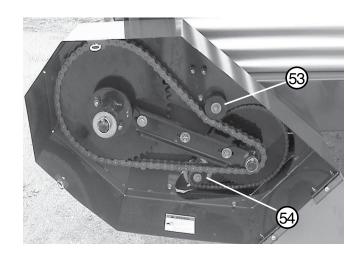


Figure 39
HYDRAULIC REAR UNLOAD SHOWN

#### **Shear Bolts**

A spare set of shear bolts have been supplied with the forage box. They are located inside the rear drive shield. Shear bolts may be purchased at your local Miller Pro Parts Dealer. The proper bolts to use are: 3/8"-16 x 1-3/8" Grade 9, Part #16.20659 (S/N 16.06153 & Before) 3/8"-16 x 2" Grade 9, Part #09.71303 (S/N 16.06154 & After)

#### **Fasteners**

Retighten all fasteners every 50 loads or as required.

## **Storage**

For off- season storage the following procedures are recommended:

- 1. Remove all crop material from the floor, cross conveyor, front door, emergency clutch housing and transmission side door.
- 2. Remove cleanout pan provided in the non-outfeed side of the forage box. Remove debris and buildup. Be sure to replace this pan before resuming operation.



## Clean out pan must be replaced before operation.

- 3. Lubricate all grease points and check gearbox oil level.
- 4. Oil all chains outfeed apron, front drive chain, main apron drive chains and metering auger drive chains.
- 5. Run the forage box for several minutes to distribute lubrication.
- 6. Store inside.

## **OPTIONS AND ACCESSORIES**

MILLER ITEM NO.	DESCRIPTION
16.09990	Motor and control unit with mounting plate and lock pin.
16.09970	Adaptor coupler and drive mounting weldment. ( <i>One required per forage box.</i> )
16.10454	Seal Kit, Cross Conveyor
16.20925	18" fold-up outfeed extension, complete with chain and attaching hardware.
16.21029	18' Side Extension Kit
16.21031	20' Side Extension Kit
16.21019	Fourth Beater Kit (requires side extension)
16.21059	Roll Tarp, Electric (w/o side extensions)
16.21060	Roll Tarp, Electric (w/Side Extensions)
16.20823	Rafters Only Rafters (3) (to utilize complete roof removable feature).  IMPORTANT: If roof is removed a side stiffener kit or side extension kit must be added.

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## TORQUE SPECIFICATIONS

**NOTE:** Use these torque values when tightening hardware (excluding: locknuts and self-tapping, thread forming and sheet metal screw) unless specified otherwise.

All torque values are in lb-ft except those marked with an \* which are lb-in (for metric torque value nm, multiply lb-ft value by 1.355 or lb-in value by 0.113).

Unified	Grade 2	2 ()	Grade 5	· ()	Grade 8	€ (;)
National Thread	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18 5/16-24	11 12	9	17 19	13 14	25	18 20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	180	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	200	150	300	220	420	320
7/8-9	170	125	430	320	600	460
7/8-14	180	140	470	360	660	500
1-8	250	190	640	480	900	680
1-14	270	210	710	530	1000	740
Metric	Grade 8.	.8 👪	Grade 10.9 (10.9)		Grade 12.9 (12.9)	
Course Thread	Dry	Lubed	Dry	Lubed	Dry	Lubed
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
* M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

#### TIGHTEN HYDRAULIC FITTINGS



#### **CAUTION:**

Escaping fluid under pressure can penetrate the skin caus ing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

### **Tightening Flare Type Fittings\***

- 1. Check flare and flare seat for defects that might cause leakage.
- 2. Align hose end with fitting before tightening.
- 3. Lubricate connection and hand tighten swivel nut until snug.
- 4. To prevent twisting the hose, use two wrenches. Place one wrench on the hose end body and with the second wrench, tighten the swivel nut to the torque shown in this chart.
- \* Torque values shown are based on lubricated connections as in reassembly.

Tube Size OD	Nut Size Across Flats	Torque	· Value*	Tui Tiç (Afte	nmended rns To ghten r Finger tening)
(ln.)	(ln.)	(Nm)	(lb-ft)	(Flats)	(Turns)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

### **TIGHTEN HYDRAULIC FITTINGS continued**

## **Tightening O-Ring Fittings\***

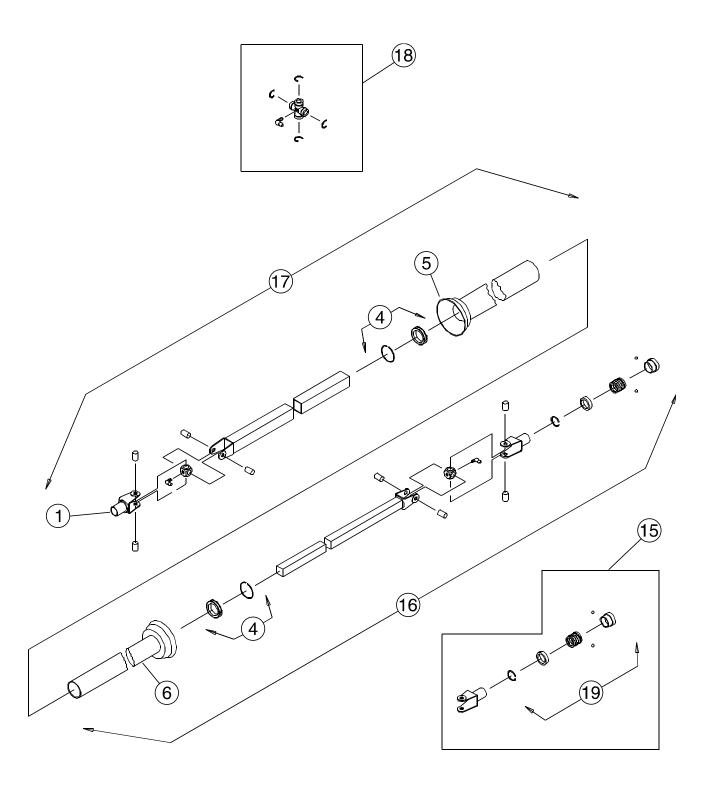
- 1. Inspect O-ring and seat for dirt or obvious defects.
- 2. On angle fittings, back the locknut off until washer bottoms out at top of groove.
- 3. Hand tighten fitting until backup washer or washer face (if straight fitting) bottoms on face and O-ring is seated.
- 4. Position angle fittings by unscrewing no more than one turn.
- 5. Tighten straight fittings to torque shown.
- \* Torque values shown are based on lubricated connections as in reassembly.

Thread Size	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
(ln.)	(ln.)	(Nm)	(lb-ft)	(Flats)	(Turns)
3/8	1/2	8	6	2	1/3
7/16	9/16	12	9	2	1/3
1/2	5/8	16	12	2	1/3
9/16	11/16	24	18	2	1/3
3/4	7/8	46	34	2	1/3
7/8	1	62	46	1-1/2	1/4
1-1/16	1-1/4	102	75	1	1/6
1-3/16	1-3/8	122	90	1	1/6
1-5/16	1-1/2	142	105	3/4	1/8
1-5/8	1-7/8	190	140	3/4	1/8
1-7/8	2-1/8	217	160	1/2	1/12

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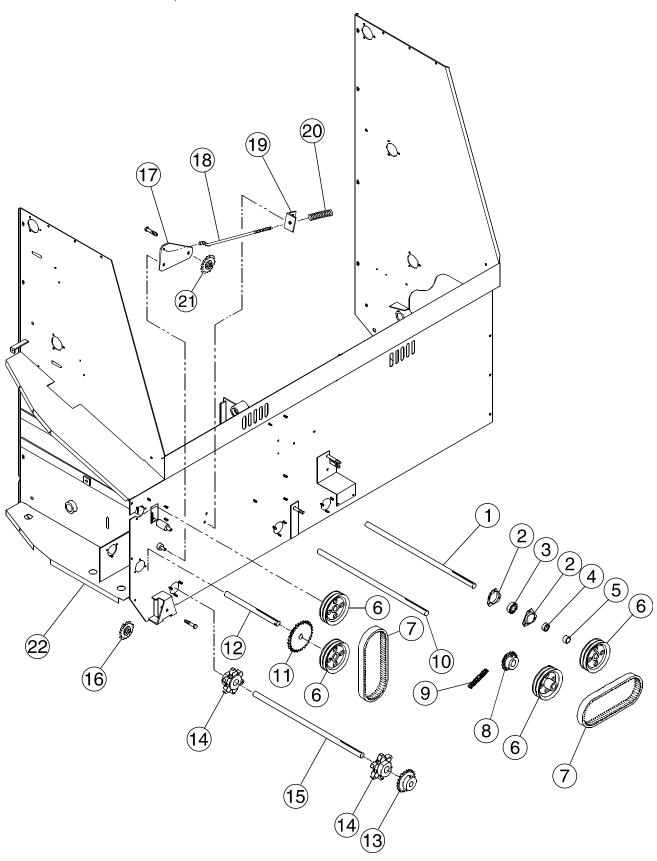
## **SECTION 1: ILLUSTRATED PARTS LIST**

#### **PTO ASSEMBLY**



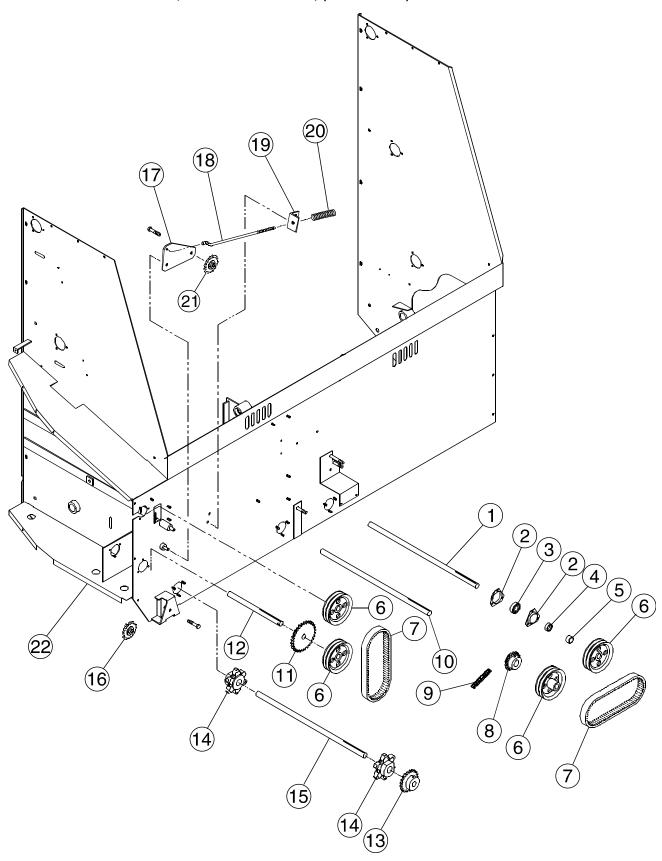
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20967	END YOKE	1
4	MP906549	NYLON BEARING AND RETAINER - 2.75"	2
5	MP16.20965	INNER SHIELD (PLASTIC)	1
6	MP16.20964	OUTER SHIELD (PLASTIC)	1
15	MP907534	YOKE W/LOCK ASSEMBLY, PLASTIC	1
16	MP16.20961	JOINT & SHAFT HALF WITH GUARD	1
17	MP16.20962	JOINT & TUBE HALF WITH GUARD	1
18	MP700235	CROSS KIT	2
19	MP906195	QUICK LOCK REPAIR KIT (PLASTIC COLLAR)	1
-	MP16.20927	PTO COMPLETE	-

#### FRONT DRIVE ASSEMBLY, LEFT SIDE UNLOAD



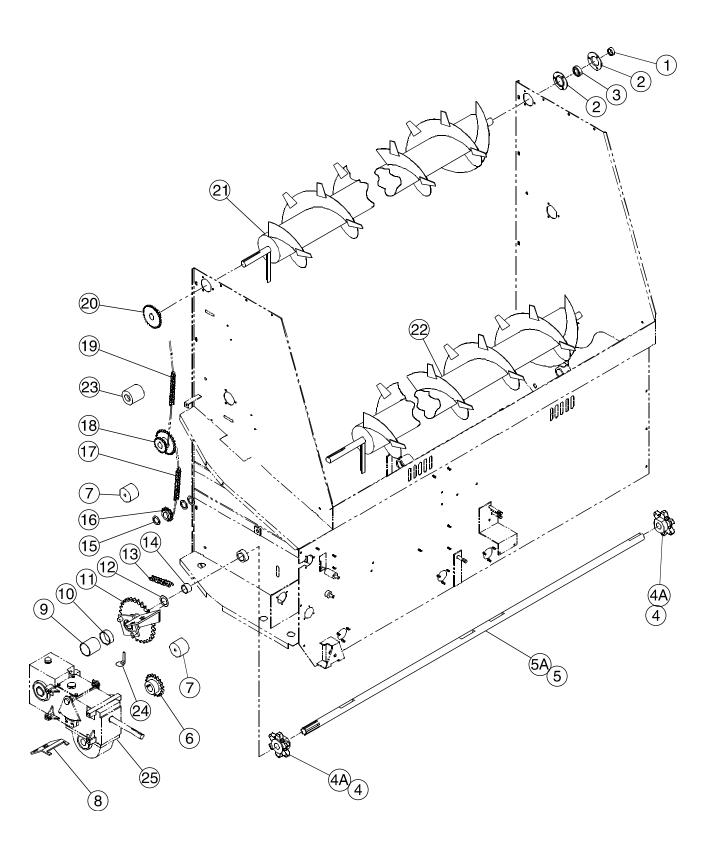
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.10470	SHAFT, PTO DRIVE	1
1	MP01.74158	PIN, SPIRAL, 5/16 X 1 1/2	2
	MP900549	KEY, SQUARE, 1/4 X 1 3/4	2
	MP14.77107	FLANGETTE, 1 TRIANGULAR 3 HOLE	18
0	MP09.71112	BOLT, HEX, WASHER HD THRD FRM, 5/16-18 X 3/4	3
2	MP900503	LOCKWASHER, 5/16, MED	27
	MP900365	NUT, 5/16-18	27
3	MP01.77500	BEARING, 1 SPHERICAL W/ COLLAR	9
4	MP900633	COLLAR, 1 LOCK	9
5	MP16.10239	SPACER, 1.05 X 1.31 X .64	1
	MP16.10196	PULLEY DRIVE BB6.25	4
6	MP900444	SCREW, SET, 3/8-16 X 3/8	8
7	MP01.76000	BELT, TORQUE TEAM	2
8	MP16.20878	SPROCKET, 50C19 1	1
9	MP16.20892	CHAIN #50 160P	1
40	MP16.10184	SHAFT, PTO DRIVEN	1
10	MP01.73240	KEY, SQUARE, 1/4 X 3 1/2	1
11	MP16.10199	SPROCKET, 50B30 1	1
40	MP16.10157	SHAFT, JACK	1
12	MP01.73240	KEY, SQUARE, 1/4 X 3 1/2	1
	MP16.20877	SPROCKET, 50B23 1	1
13	MP900548	KEY, SQUARE 1/4 X 1/2	1
	MP900441	SCREW, SET, 5/16-18 X 5/16	2
14	MP01.60160	SPROCKET, DRIVE 8 TOOTH	2
14	MP01.74170	PIN, SPIRAL, 5/16 X 2 1/2	2
15	MP16.20879	SHAFT, OUTFEED DRIVE	1

#### FRONT DRIVE ASSEMBLY, LEFT SIDE UNLOAD, (CONTINUED)



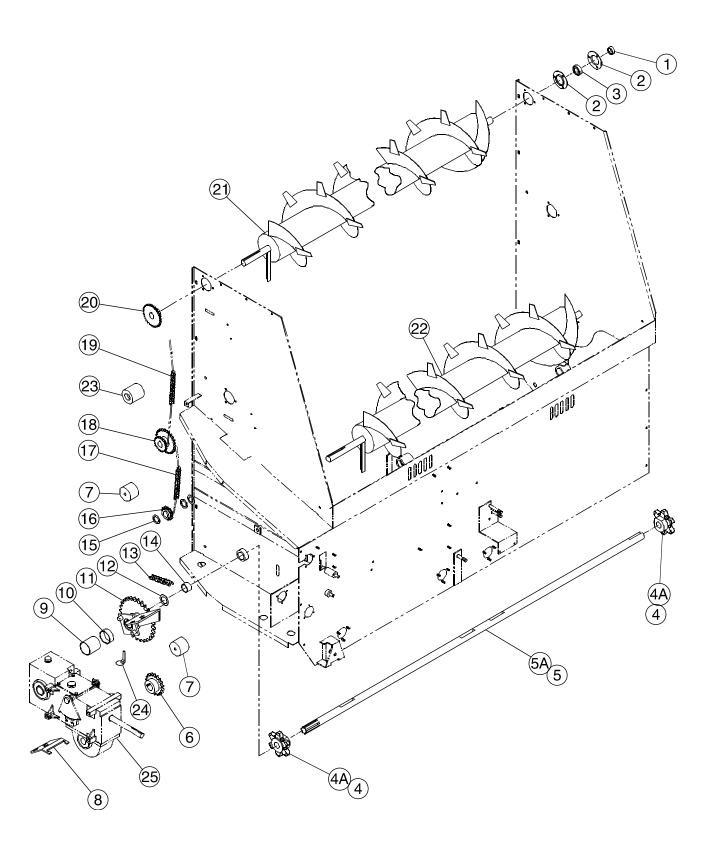
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP01.76300	SPROCKET, IDLER	1
16	MP901341	BOLT, HEX, 1/2-13 X 2-1/2 GR 5	1
10	MP900497	FLATWASHER, 1/2	1
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	1
	MP16.20931	BAR, CHAIN TENSIONER	1
17	MP900497	FLATWASHER, 1/2	1
	MP902194	NUT LOCK, 1/2-13 TOPLOCK	3
	MP16.20932	ROD, CHAIN TENSIONER	1
18	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
	MP16.20929	ANGLE, CHAIN TENSIONER	1
19	MP902300	BOLT, HEX, 3/8-16 X 1, GR 5	2
19	MP900495	FLATWASHER, 3/8	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
20	MP01.73890	SPRING	1
	MP01.76300	SPROCKET, IDLER	1
21	MP901341	BOLT, HEX, 1/2-13 X 2 1/2 GR 5	1
21	MP900497	FLATWASHER, 1/2	2
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	1
	MP16.20975	UNIT SHELL ASSEMBLY, LSU (INCLUDES DECALS)	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4, GR 5	2
	MP900506	LOCKWASHER, 1/2, MED	2
22	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	2
22	MP09.71113	BOLT, HEX, WASHER, HD THRD FRM, 5-16-18 X 1	10
	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	10
	MP900494	FLATWASHER, 5/16	10
	MP903936	NUT, LOCK, 5-16-18, TOPLOCK	10
-	MP16.20139	CLEANOUT COVER (NOT SHOWN)	1

#### SIDE DRIVE ASSEMBLY

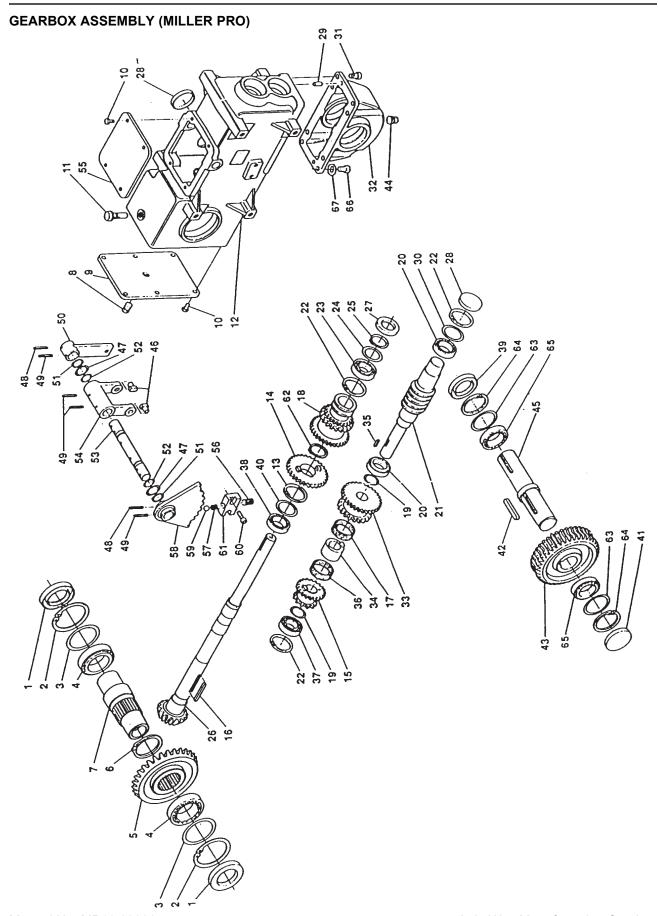


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP900672	COLLAR, 1-1/4 LOCK	5
	MP01.77580	FLANGE, 1-1/4 BEARING	10
2	MP09.71251	BOLT, HEX, WASHER HD THRD FRM, 3/8-16 X 3/4	15
2	MP900504	LOCKWASHER, 3/8, MED	15
	MP900366	NUT, 3/8-16	15
3	MP01.77560	BEARING, 1-1/4 SPHERICAL W/COLLAR	5
	MP05.60104	SPROCKET, DRIVE 6 TOOTH WITH KEYWAY	4
4	MP907543	KEY, SQUARE, 3/8 X 2-1/4 ROUND ENDS	4
	MP906559	SCREW, SET, 3/8 X 3/8	8
_	MP16.20986	SHAFT, APRON DRIVE WITH KEYWAYS	1
5	MP01.73266	KEY, SQUARE, 3/8 X 3	2
6	MP16.10667	SPROCKET, 80B14 1-1/2	1
	MP26.00020	CHAIN TIGHTENER	2
	MP907054	BOLT, CARRIAGE, 1/2-13 X 3-1/2	2
7	MP900497	FLATWASHER, 1/2	2
	MP900506	LOCKWASHER, 1/2, MED	2
	MP900369	NUT, 1/2-13	2
8	MP16.10622	BRACKET, GEARBOX	1
9	MP16.10654	SPACER, 1.50 X 2.00 X 2.88	1
	MP16.10628	BUSHING, 2-1/2 X 2-3/4 X 15/16	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4, GR 5	3
10	MP900497	FLATWASHER, 1/2	3
10	MP900506	LOCKWASHER, 1/2, MED	3
	MP900369	NUT, 1/2-13	3
	MP905081	FITTING, GREASE, 1/4-28 X 3/4	1

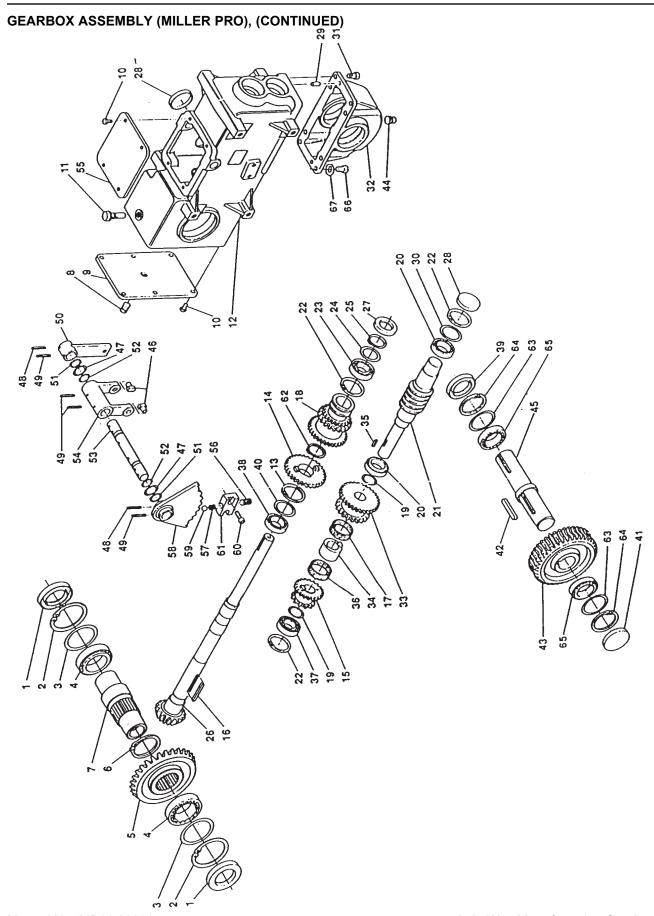
#### SIDE DRIVE ASSEMBLY, (CONTINUED)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20298	SPROCKET ASSEMBLY, 28T	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5	3
44	MP900497	FLATWASHER, 1/2	6
11	MP900506	NUT, 1/2-13	3
	MP905081	FITTING, GREASE, 1/4-28 X 3/4	1
	MP16.10517	RETAINING RING, 1-3/8 EXTERNAL	1
12	MP09.70986	FLATWASHER, 1 1/2 X 2 1/4 X 14 GA	3
13	MP16.10674	CHAIN 80 50P	1
14	MP01.76445	BUSHING, 1 1/2 X 1 3/4 X 1	2
15	MP09.70985	FLATWASHER, 1 1/4 X 1 7/8 X 14 GA	3
16	MP16.10193	SPROCKET, 50B19 1 1/4"	1
17	MP16.20950	CHAIN, #50 100P	1
18	MP16.20881	SPROCKET 50B28 40B19 1 1/4"	1
19	MP16.20089	CHAIN, #40 124P	1
20	MP16.10240	SPROCKET, 40B29 1.25	1
	MP16.20034	BEATER WELDMENT DRIVEN	2
21	MP01.73250	KEY, SQUARE, 5/16 X 1-1/2	2
	MP900971	RETAINING RING, 1-1/4 EXT	4
	MP16.20033	BEATER WELDMENT DRIVE	1
	MP16.10167	KEY, SQUARE, 5/16 X 1	1
22	MP16.10156	KEY, SQUARE, 5/16 X 6	1
	MP09.70985	FLATWASHER, 1 1/4 X 1 7/8 X 14 GA	4
	MP900971	RETAINING RING, 1-1/4 EXT	4
	MP26.00021	TENSIONER	1
	MP907054	BOLT, CARRIAGE, 1/2-13 X 3-1/2	2
23	MP900497	FLATWASHER, 1/2	3
	MP900506	LOCKWASHER, 1/2, MED	3
	MP900369	NUT, 1/2-13	3
24	MP16.10451	LYNCH PIN	1
25	MP16.10662	GEAR BOX - 4 SPEED (MILLER PRO OR ART'S WAY)	1

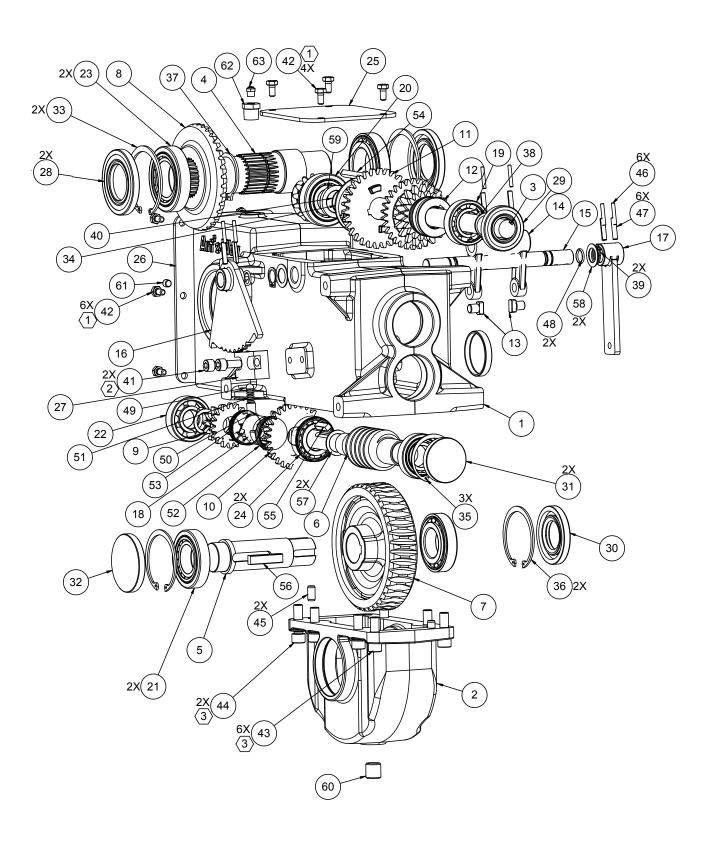


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.10275	SEAL, DOUBLE LIP	2
2	MP16.10276	SNAP RING	2
3*	MP16.10277	SHIM KIT	2
4	MP16.10278	BEARING	2
5	MP16.10279	GEAR	1
6	MP16.10280	SNAP RING	1
7	MP16.10281	SLEEVE	1
8	MP16.10523	PLUG	1
9	MP16.10282	COVER	1
10	MP16.10283	BOLT	10
11	MP16.10284	PLUG, OIL FILLER	1
12	MP16.10285	CASING	1
13	MP16.10512	SNAP RING	1
14	MP16.10286	GEAR	1
15	MP16.10287	GEAR	1
16	MP16.10288	KEY, PARALLEL	1
17	MP16.10289	SPRING	1
18	MP16.10290	GEARS	1
19	MP16.10291	SHIM	2
20	MP16.10503	BEARING	2
21	MP16.20588	SHAFT, WORM W/8 X 7 X 38 KEYWAY	1
22	MP16.10504	SNAP RING	3
23	MP16.10293	BEARING	1
24*	MP16.10294	SHIM KIT	1
25	MP16.10295	SNAP RING	1
26	MP16.10296	SHAFT, PINION	1
27	MP16.10297	SEAL, OIL	1
28	MP16.10505	CAP	2
29	MP16.10511	PIN, SPRING	2
30*	MP16.10506	SHIM KIT	1
31	MP16.10524	BOLT	6
32	MP16.10735	CASING	1
33	MP16.10298	GEAR	1
34	MP16.10299	BUSH	1
35	MP16.20589	KEY, 8 X 7 X 30 W/SQ ENDS	1
36	MP16.10304	SPRING	1



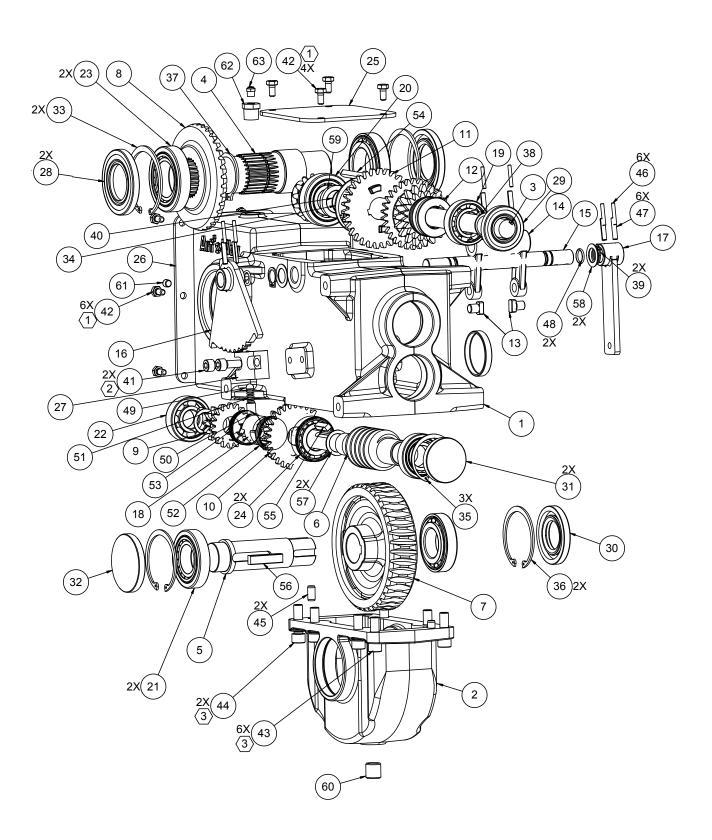
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
37	MP16.10305	BEARING	1
38	MP16.10507	BEARING	1
39	MP16.10725	SEAL, DOUBLE LIP	1
40*	MP16.10509	SHIM KIT	1
41	MP16.10726	CAP	1
42	MP16.10737	KEY, PARALLEL	1
43	MP16.10727	GEAR	1
44	MP16.10526	PLUG	1
45	MP16.10728	SHAFT (LSU)	1
46	MP16.10309	PAD	2
47*	MP16.10310	SHIM KIT	2
48	MP16.10311	PIN, SPRING	6
49	MP16.10312	PIN, SPRING	6
50	MP16.10313	LEVER	1
51	MP16.10314	SNAP RING	2
52	MP16.10315	O-RING	2
53	MP16.10316	STAFF	1
54	MP16.10317	FORK	1
55	MP16.10318	COVER	1
56	MP16.10319	BOLT	1
57	MP16.10320	SPRING	1
58	MP16.10321	LEVER	1
59	MP16.10322	BALL	1
60	MP16.10323	BOLT	2
60	MP16.10736	BOLT	2
61	MP16.10324	DETENT	1
62	MP16.10325	SNAP RING	1
63*	MP16.10730	SHIM KIT	2
64	MP16.10731	SNAP RING	2
65	MP16.10732	BEARING	2
66	MP09.72902	BOLT	2
67	MP09.73200	WASHER	2
-	MP16.10738	MASTER SHIM KIT - INCLUDES REF 3, 24, 30, 40, 47, & 63	-

#### **GEARBOX ASSEMBLY (ART'S WAY)**



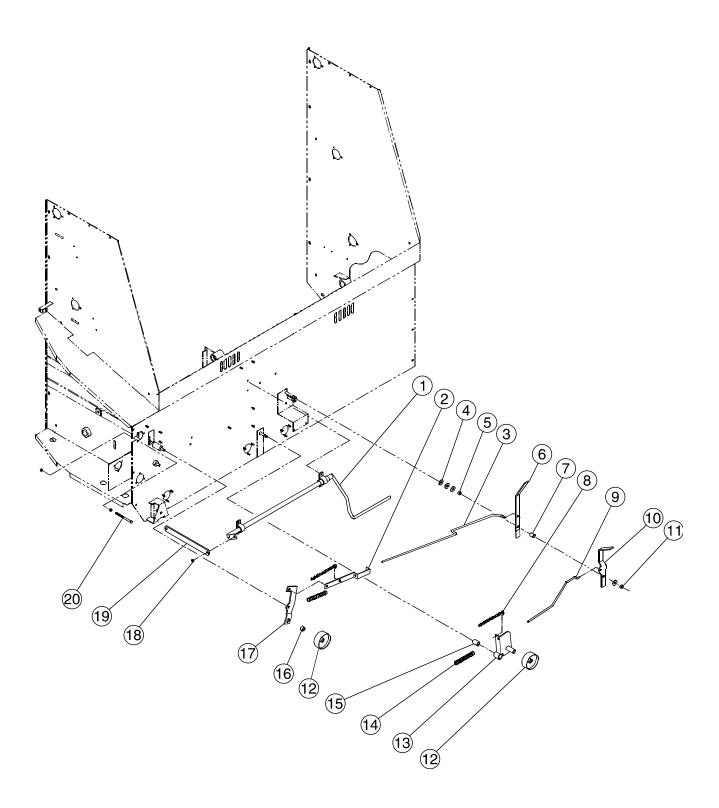
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	620000	HSG, MACH MAIN	-
2	620010	HSG,MACH, WHEEL COVER	-
3	620020	SUBA,INPUT SHAFT/GEAR	-
4	620030	SHAFT, OUTPUT	-
5	620040	SHAFT, WORM, OUTPUT	-
6	620050	GEAR, WORM/SHAFT 40:1	-
7	620060	GEAR, WORM WHEEL 40:1	-
8	620070	GEAR, BEVEL, 35T 2.53:1	-
9	620080	GEAR, SPUR12T/18T	-
10	620090	GEAR, SPUR17/29T 1	-
11	620100	GEAR, SPUR 30T 2.5	-
12	620110	SUBA,GEAR/GEAR	-
13	620120	FOOT, SHIFT, YOKE	-
14	620130	YOKE, MACH, SHIFTER	-
15	620140	SHAFT, SHIFTER	-
16	620150	SUBA,SHIFTER, DETENT	-
17	620160	ASSY, LEVER, SHIFTER	-
18	620170	SHIFTER DOG	-
19	620180	BRG, BALL 6206C3	-
20	620190	BRG, CUP/CONE 30306M	-
21	620200	BRG, CUP/CONE 30208M	-
22	620210	BRG, BALL 6305 C3	-
23	620220	BRG, CUP/CONE 30210M	-
24	620230	BRG, CUP/CONE 30206M	-
25	620240	PLATE, COVER	-
26	620250	PLATE, MACH, COVER	-
27	620260	BLOCK, DETENT	-
28	620270	SEAL, 50-90-10MM	-
29	620280	SEAL, 30-62-10MM	-
30	620290	SEAL, 40-80-10MM	-
31	620300	SEAL, ENDCAP 62-10MM	-
32	620310	SEAL, ENDCAP 80-10MM	-

#### **GEARBOX ASSEMBLY (ART'S WAY), (CONTINUED)**



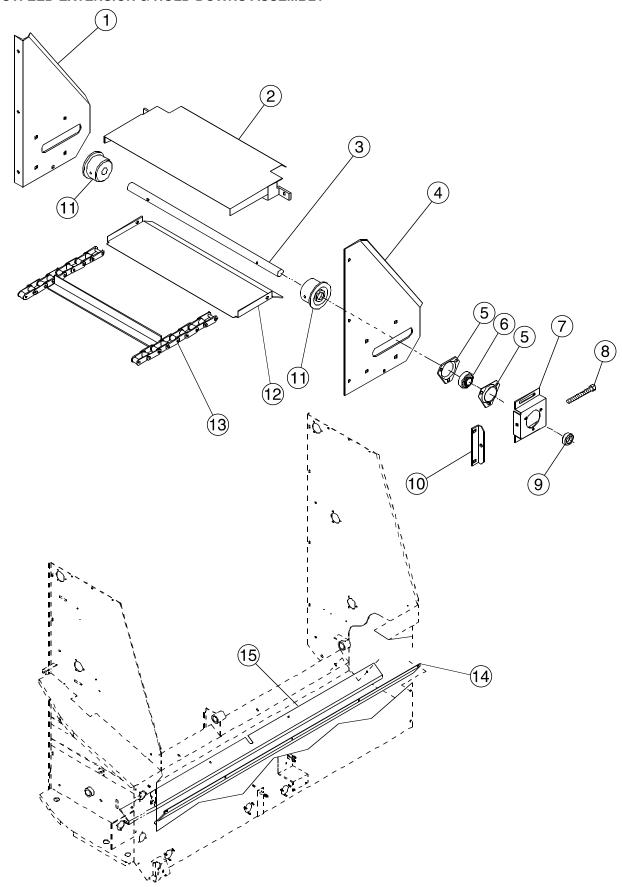
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
33	620320	RET RNG, INT DI300-09	-
34	620330	RET RNG, INT DI300-072	-
35	620340	RET RNG, INT DI300-062	-
36	620350	RET RNG, INT DI300-08	-
37	620360	RET RNG, EXT D1400-055	-
38	620370	RET RNG, EXT D1400-03	-
39	620380	RET RNG, EXT D1400-02	-
40	620390	RET RNG, EXT D1460-03	-
41	620400	BOLT, M10-1.5X25	-
42	620410	BOLT, M8-1.25X16	-
43	620420	BOLT, M12-1.75X35	-
44	620430	BOLT, M12-1.75X40	-
45	620440	PIN, DOWEL, 10X2	-
46	620450	PIN, SPRING SLOTTED 4	-
47	620460	PIN, SPRING SLOTTED	-
48	620470	SEAL, O-RING	-
49	620480	BALL, STEEL ROUND 10MM	-
50	620490	SCREW, SET M12-1.75X16	-
51	620500	SPRING, COMPRESSION	-
52	620510	SPRING, TORSION, LH	-
53	620520	SPRING, TORSION, RH	-
54	620530	KEY, 8X7X70MM	-
55	620540	KEY, 8X7X30MM	-
56	620550	KEY, 8X7X48MM	-
57	620560	SPACER, 1.380 X 1.000	-
58	620570	SPACER, 1.250 X .0800	-
59	620580	SPACER, 1.750 X 1.183	-
60	620590	2-14 NPT SCHD W/3M	-
61	620600	8-27 NPT SCHD W/3M	-
62	620610	1/2 NPT TO 1/8 NPT	-
63	620620	8-27 NPT VENT 5PSI	-
64	620630	LUBE/EP 80W90	-

#### CONTROL SYSTEM ASSEMBLY, LEFT SIDE UNLOAD



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20098	SHAFT, ASSEMBLY, CONTROL	1
	MP900494	FLATWASHER, 5/16	1
1	MP900503	LOCKWASHER, 5/16, MED	4
	MP900365	NUT, 5/16-18	4
	MP16.10192	GRIP, HANDLE	1
	MP16.10245	BRACKET, SPRING ADJUSTMENT	1
	MP902300	BOLT, HEX, 3/8-16 X 1, GR5	1
2	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
	MP16.20097	ROD, BEATER CLUTCH	1
3	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16, TOPLOCK	1
4	MP900497	FLATWASHER, 1/2	4
5	MP900369	NUT, 1/2-13	1
	MP16.20093	HANDLE, BEATER CLUTCH	1
6	MP01.73960	GRIP, CLUTCH HANDLE	1
7	MP16.20190	BUSHING, .54 X .84 X 1.00	1
8	MP16.20118	SPRING, EXT054 X .56 X 8.50	2
	MP16.20096	ROD, SAFETY CLUTCH	1
9	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
40	MP16.20092	HANDLE, SAFETY CLUTCH	1
10	MP01.73960	GRIP, CLUTCH HANDLE	1
11	MP901650	NUT, LOCK, 1/2-13 CENTER LOCK	1
12	MP01.76340	PULLEY, IDLER	2
	MP16.20094	LEVER ASSY, IDLER	1
	MP904635	BOLT, HEX, 5/8-11 X 3 1/2, GR 2	1
13	MP902193	NUT, LOCK, 5/8-11 CENTER LOCK	1
	MP900497	FLATWASHER, 1/2	1
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	1
14	MP01.73890	SPRING, CLUTCH CONTROL	2
15	MP16.10260	SPACER, .56 X 1.00 X 1.53	1
16	MP16.10364	SPACER, .66 X 1.00 X .62	1
	MP16.10231	STRAP, IDLER	1
	MP904253	BOLT, HEX, 5/8-11 X 2	1
17	MP902193	NUT, LOCK, 5/8-11, CENTER LOCK	1
	MP900497	FLATWASHER, 1/2	1
	MP901650	NUT, LOCK, 1/2-13 CENTER LOCK	1
	MP16.10195	SPACER, .36 X .62 X .33	2
18	MP902859	BOLT, HEX, 5/16-18 X 1	2
۱ŏ	MP900494	FLATWASHER, 5/16	2
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	2
19	MP16.10229	ROD, TRANSMISSION	1
20	MP904130	BOLT, HEX, 3/8-16 X 5	1
	MP900366	NUT, 3/8-16	2

#### **OUTFEED EXTENSION & HOLD DOWNS ASSEMBLY**

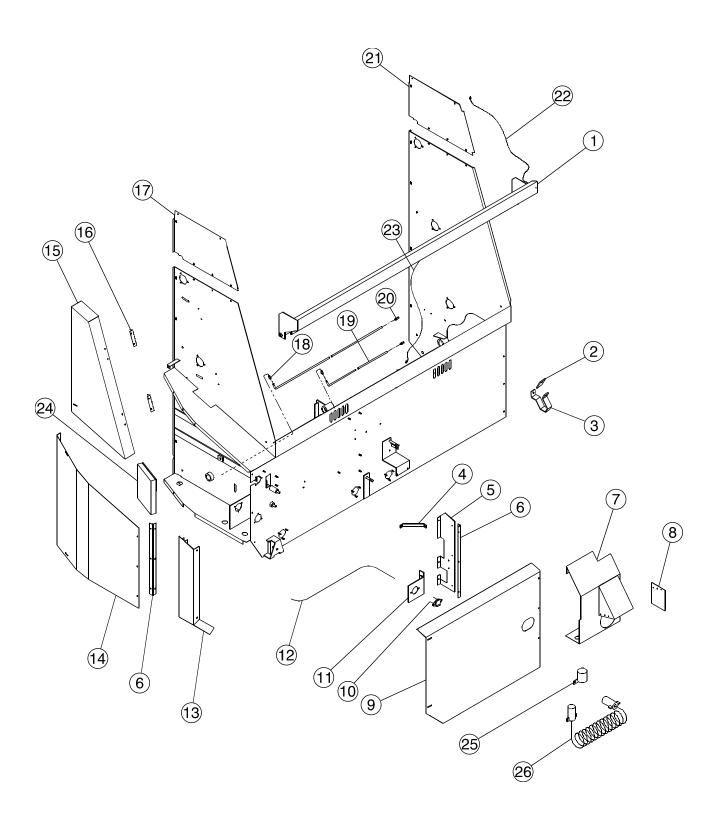


Manual No. MP16.22030

Art's-Way Manufacturing Co., Inc.

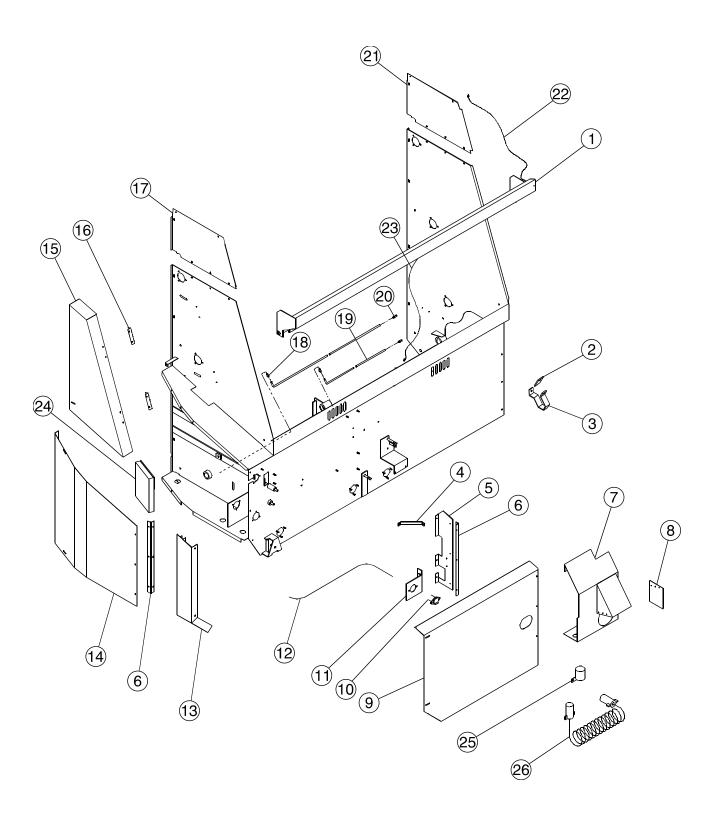
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20091	OUTFEED EXTENSION, REAR	1
1	MP902364	BOLT, HEX, 3/8-16 X 3/4	3
	MP900504	LOCKWASHER, 3/8, MED	3
	MP900366	NUT, 3/8-16	3
2	MP16.20863	OUTFEED EXTENSION PAN WELDMENT	1
3	MP16.20187	SHAFT, OUTFEED IDLER	1
	MP16.20090	OUTFEED EXTENSION, FRONT	1
	MP902364	BOLT, HEX, 3/8-16 X 3/4	1
4	MP900397	BOLT, HEX, 3/8-16 X 1 SPECIAL	2
	MP900504	LOCKWASHER, 3/8, MED	3
	MP900366	NUT, 3/8-16	3
5	MP14.77107	FLANGETTE, 1" TRIANGLE LR 3 HOLE	4
6	MP01.77500	BEARING, 1 SPHERICAL W/LOCK COLLAR	2
	MP16.20007	TAKEUP BRACKET, OUTFEED	2
	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
7	MP900494	FLATWASHER, 5/16	4
	MP900504	LOCKWASHER, 3/8, MED	4
	MP900366	NUT, 3/8-16	4
0	MP901759	BOLT, CARRIAGE, 3/8-16 X 4	2
8	MP900366	NUT, 3/8-16	6
9	MP900633	COLLAR, 1" LOCK	2
	MP16.20006	PLATE, TAKEUP, OUTFEED	2
10	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
10	MP900504	LOCKWASHER, 3/8, MED	4
	MP900366	NUT, 3/8-16	4
11	MP01.60500	ROLLER, APRON	2
11	MP01.74140	PIN, ROLL, 1/4 X 3	2
	MP16.10173	RETURN, OUTFEED EXTENSION	1
12	MP903689	BOLT, CARRIAGE, 5/16-18 X 3/4	2
12	MP900503	LOCKWASHER, 5/16, MED	2
	MP900365	NUT, 5/16-18, NC	2
	MP16.10204	APRON OUTFEED ASSY	1
13	MP01.75810	SLAT, W/ATTACHING LINKS	-
13	MP900709	LINK, CA550 OFFSET	-
	MP900703	LINK, CA550 CONNECTOR	-
	MP16.10805	COVER, CROSS CONV, FRONT	1
14	MP903690	BOLT, CARRIAGE, 5/16-18 X 1	4
14	MP900503	LOCKWASHER, 5/16, MED	4
	MP900365	NUT, 5/16-18, NC	4
	MP16.20867	HOLD DOWN, CROSS CONV, REAR	1
15	MP903690	BOLT, CARRIAGE, 5/16-18 X 1	4
10	MP900503	LOCKWASHER, 5/16, MED	4
	MP900365	NUT, 5/16-18, NC	4

#### SHIELDING, SAFETY BAR, SIDE EXTENSION, & ASSORTED ASSEMBLY



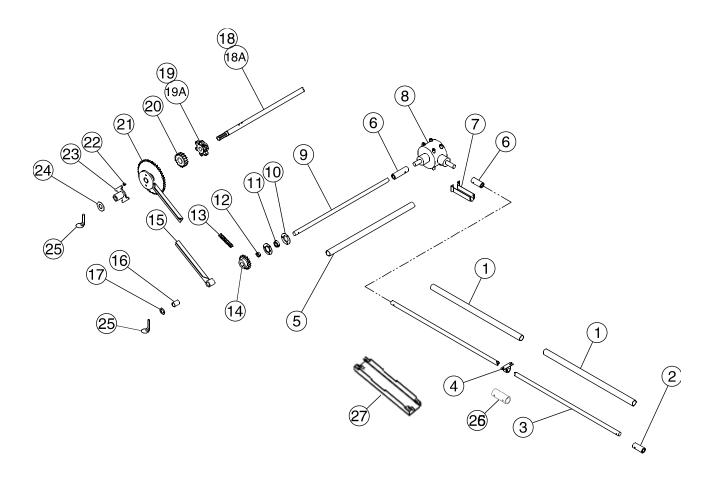
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20416	SAFETY PUSH BAR ASSY (INCLUDES DECALS)	1
1	MP902364	BOLT, HEX, 3/8-16 X 3/4	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
	MP16.10225	FLAP, HANGER	1
	MP902300	BOLT, HEX, 3/8-16 X 1, GR5	1
2	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
3	MP16.21023	HANGER, PTO	1
	MP16.20183	GUSSET, FRONT SHIELD	1
4	MP900494	FLATWASHER, 5/16	1
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	1
	MP16.20104	BULKHEAD, FRONT SHIELD	1
5	MP900503	LOCKWASHER, 5/16, MED	3
	MP900365	NUT, 5/16-18, NC	3
	MP16.20145	HINGE, SHIELD	2
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	6
6	MP900503	LOCKWASHER, 5/16, MED	6
	MP900365	NUT, 5/16-18, NC	6
	MP16.20442	PTO SHIELD WELDMENT (INCLUDES DECALS)	1
7	MP900382	NUT, CAGE, 5/16-18	2
7	MP09.71121	BOLT, HEX, 5/16-18 X 1 TAPTITE THREAD FORMING	2
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 TAPTITE THREAD FORMING	2
0	MP01.73980	FLAP, PTO	2
8	MP01.74570	RIVET, POP, 3/16 LG HD SBS64L	6
	MP16.20968	FRONT SHIELD ASSY (INCLUDES DECALS)	1
	MP904863	BOLT, HEX, 1/4-20 X 3/4	3
9	MP900502	LOCKWASHER, 1/4, MED	3
	MP900363	NUT, 1/4-20	3
	MP16.10750	DECAL, CLIP	2
	MP16.20213	SOCKET, 7 POLE	1
10	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	2
	MP900494	FLATWASHER, 5/16	2
	MP16.20204	BRACKET, LIGHT SOCKET	1
11	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 , TAPTITE THREAD FORMING	2
	MP900494	FLATWASHER, 5/16	2
10	MP16.20794	WIRING HARNESS 20'	1
12	MP16.20337	WIRING HARNESS 18'	1
	MP16.20106	SIDE SHIELD	1
	MP900494	FLATWASHER, 5/16	5
13	MP900503	LOCKWASHER, 5/16, MED	3
	MP900365	NUT, 5/16-18, NC	3
	MP906492	LATCH, DOOR	2

#### SHIELDING, SAFETY BAR, SIDE EXTENSION, & ASSORTED ASSEMBLY, (CONTINUED)



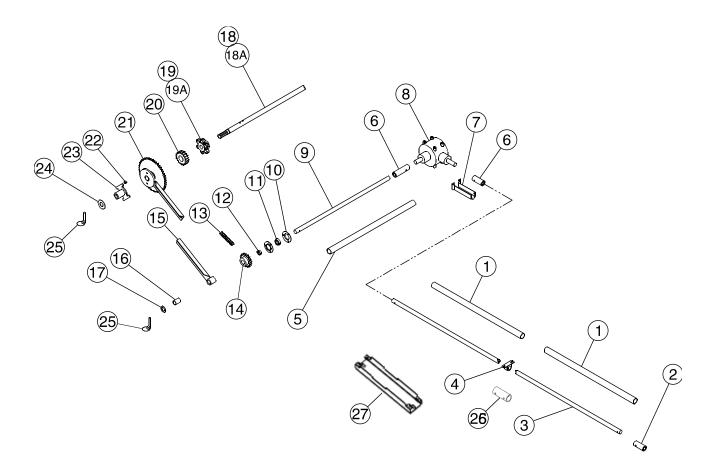
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20107	TRANSMISSION SHIELD	1
	MP904863	BOLT, HEX, 1/4-20 X 3/4	3
14	MP900502	LOCKWASHER, 1/4, MED	3
	MP900363	NUT, 1/4-20	3
	MP906492	LATCH, DOOR	2
	MP900494	FLATWASHER, 5/16	2
	MP16.20108	BEATER SHIELD	1
	MP904863	BOLT, HEX, 1/4-20 X 3/4, THREAD FORMING	4
15	MP900502	LOCKWASHER, 1/4, MED	4
15	MP900363	NUT, 1/4-20	4
	MP906492	LATCH, DOOR	1
	MP900494	FLATWASHER, 5/16	1
	MP16.20144	HINGE, BEATER SHIELD	2
16	MP902364	BOLT, HEX, 3/8-16 X 3/4	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
	MP16.20202	EXTENSION, SIDE, RIGHT SIDE	1
47	MP09.71121	BOLT, HEX, 5/16-18 X 1, TAPTITE THREAD FORMING	3
17	MP900494	FLATWASHER, 5/16	3
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	3
18	MP01.73043	FITTING, BRASS TUBING PLAIN	2
19	MP11.14300	1/8" OD REFRIG TUBING	-
20	MP01.73042	FITTING, BRASS TUBING TAPPED	2
20	MP905081	FITTING, GREASE, 1/4-28 X 3/4	2
	MP16.20203	EXTENSION, SIDE, LEFT SIDE	1
21	MP09.71121	BOLT, HEX, 5/16-18 X 1 TAPTITE THREAD FORMING	3
21	MP900494	FLATWASHER, 5/16	3
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	3
22	MP11.77120	CABLE, 3/32 7 X 7 VINYL	-
22	MP01.73844	SLEEVE, CABLE	2
	MP11.77120	CABLE, 3/32 7 X 7 VINYL	-
	MP01.73850	STOP, CABLE 3/32	2
23	MP16.20176	EYEBOLT, #10-24 X 1	1
23	MP900616	NUT, #10-24	1
	MP900617	LOCKWASHER, #10	1
	MP903834	FLATWASHER, #10 SAE	2
	MP16.20260	CASE, OPERATOR'S MANUAL-BOX	1
24	MP904602	RIVET, POP, 3/16 SBS64	2
	MP09.73301	FLATWASHER, 3/16, RIVETING ZNC	2
	MP16.20165	HOLDER, PLUG STORAGE	1
25	MP904863	BOLT, HEX, 1/4-20 X 3/4, GR 5	2
	MP904092	NUT, LOCK, 1/4-20, NYL INS	2
26	MP16.20214	CABLE, COIL, 12', 7 WIRE	1

### REAR DRIVE SYSTEM ASSEMBLY, MECHANICAL



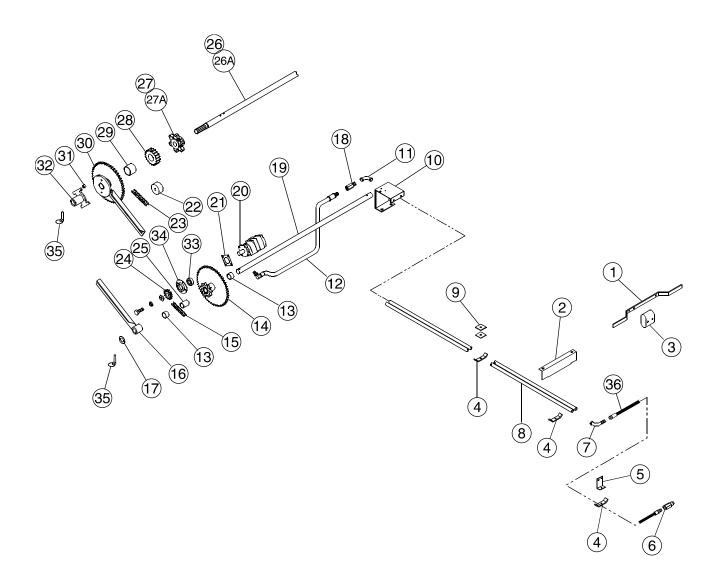
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20361	SHIELD, CENTER SHAFT (18' ONLY)	2
1	MP16.20798	SHIELD, CENTER SHAFT (20' ONLY)	2
	MP16.21290	SHIELD, CENTER SHAFT (24' ONLY)	2
2	MP16.10460	COUPLER, 1-1/4 - 1.0 SHAFT	1
	MP16.20162	SHAFT, CENTER COMBO (18' ONLY)	1
3	MP16.20797	SHAFT, CENTER COMBO (20' ONLY)	1
	MP16.21289	SHAFT, CENTER COMBO (24' ONLY)	2
	MP16.10710	BEARING, PILLOW BLOCK	1
	MP16.10710	BEARING, PILLOW BLOCK (24' ONLY)	2
4	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
4	MP903937	NUT, LOCK, 3/8-16 TOPLOCK (24' ONLY)	4
	MP900397	BOLT, HEX, 3/8-16 X 1 SPECIAL	2
	MP900397	BOLT, HEX, 3/8-16 X 1 SPECIAL (24' ONLY)	4
5	MP16.10500	SHIELD, CROSS SHAFT	1
	MP16.10459	COUPLER, 1-1/4" SHAFT	2
0	MP900441	SCREW, SET, 5/16-18 X 5/16	5
6	MP01.73250	KEY, SQUARE, 5/16 X 1-1/2	3
	MP904847	PIN, SPIRAL, 5/16 X 2 HD	1
	MP16.10348	GUARD, COUPLER REAR	2
7	MP09.73804	BOLT, HEX, M8-1.25 X 25	5
	MP09.73005	LOCKWASHER, M8	5
	MP16.10327	GEARBOX, REAR UNLOAD/COMBO	1
8	MP902930	BOLT, HEX, 1/2-13 X 1	4
	MP900506	LOCKWASHER, 1/2, MED	4
0	MP16.20391	SHAFT, CROSS	1
9	MP16.10451	PIN, LYNCH, 7/16	1
	MP01.77580	FLANGE, 1-1/4" BEARING	2
	MP902300	BOLT, HEX, 3/8-16 X 1 GR 5	3
10	MP900495	FLATWASHER, 3/8	3
	MP900504	LOCKWASHER, 3/8 MED	3
	MP900366	NUT, 3/8-16	3

### REAR DRIVE SYSTEM ASSEMBLY, MECHANICAL, (CONTINUED)



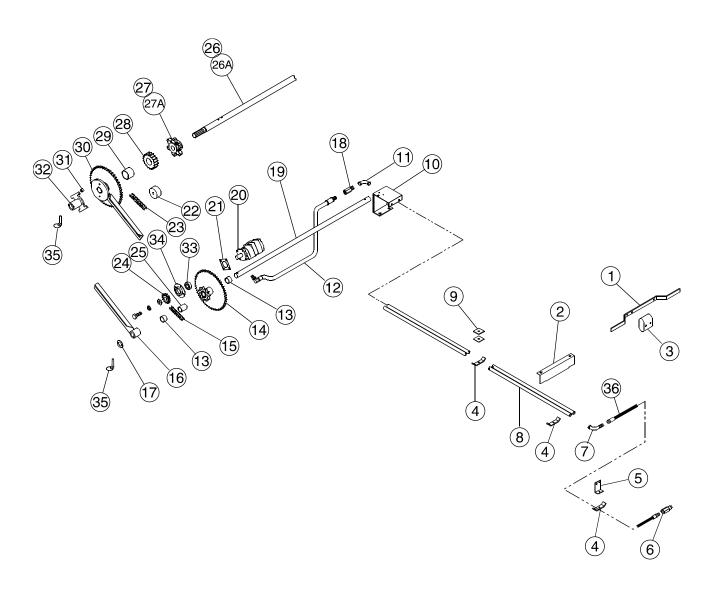
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
11	MP01.77560	BEARING, 1-1/4 SPHR W/COLLAR	1
12	MP900672	COLLAR, 1-1/4" LOCK	1
13	MP16.10673	CHAIN, 8072P	1
	MP16.10669	SPROCKET, 80B12 1-1/4	1
14	MP01.73250	KEY, SQUARE, 5/16 X 1-1/2	1
	MP900441	SETSCREW, 5/16 X 5/16 HHDCP	2
15	MP16.20393	OUTER BEARING WELDMENT, 1-1/4	1
15	MP905081	FITTING, GREASE, 1/4-28 X 3/4	1
16	MP01.76415	BUSHING, 1-1/4 X 1-1/2 X 1	1
17	MP09.70985	FLATWASHER, 1-1/4 X 1-7/8	1
	MP16.20987	SHAFT, APRON, REAR WITH KEYWAYS	1
18	MP09.73300	BUSHING, MACHINE, 1-3/8 X 2-1/8 X 14 GA.	1
10	MP16.10517	RING, RETAINING, 1-3/8 EXT.	1
	MP16.10451	PIN, LYNCH, 7/16	1
	MP05.60104	SPROCKET, DRIVE 6 TOOTH WITH KEYWAY	4
19	MP907543	KEY, SQUARE. 3/8 X 2-1/4 ROUND ENDS	4
	MP906559	SETSCREW, 3/8 X 3/8 SKTHDCP	8
20	MP16.20164	HUB, LATCH	2
20	MP01.74250	PIN, SPIRAL, 3/8 X 2-3/4	2
21	MP16.20630	SPROCKET ASSY, 48T #80	1
21	MP09.72606	FITTING, GREASE, 1/4-28 X 1	1
	MP16.10452	SPACER, .40 X .75 X .50	2
22	MP16.20659	BOLT, HEX, 3/8-16 X 1-3/8 GR 9	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
23	MP16.10395	COUPLER ASSY	1
24	MP16.10646	FLATWASHER, 1-3/8 X 1/16 X .10	1
25	MP16.10451	PIN, LYNCH, 7/16	2
26	SD201147	COUPLER, SHAFT CENTER COMBO (24' ONLY)	1
26	U10300154	PIN, ROLL 3/8 X 2 ZN (24' ONLY)	2
27	MP16.21292	SHIELD, CENTER SHAFT SPLICE COMBO (24' ONLY)	1

#### REAR DRIVE SYSTEM ASSEMBLY, HYDRAULIC



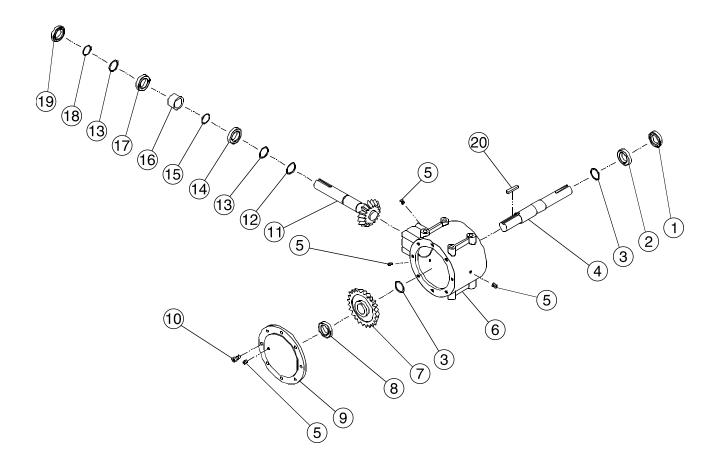
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20465	BRACKET, HOSE HOLDER	1
1	MP902364	BOLT, HEX, 3/8-16 X 3/4	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
	MP900495	FLATWASHER, 3/8	1
2	MP16.20480	BRACKET, PIPE HANGER	1
	MP16.20958	PROTECTOR, HYDRAULIC TIP	1
	MP902831	BOLT, HEX, 3/8-16 X 3	2
3	MP900495	FLATWASHER, 3/8	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
	MP19.800144	CLAMP	3
	MP16.10228	WASHER, SQUARE, .53 X 2.00 X .18	2
4	MP901893	BOLT, HEX, 5/16-18 X 2	3
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	3
_	MP16.20481	BRACKET, HOSE HOLDER	1
5	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	2
6	MP07.19044	MALE PIONEER, 1/2 COUPLER	2
7	MP05.78023	ELBOW, 1/2, 90° STREET, GALVANIZED	2
	MP16.20454	TUBE, HYDRAULIC 206" (18' ONLY)	2
8	MP16.20519	TUBE, HYDRAULIC 230" (20' & 24' ONLY)	2
	MP16.31000	TUBE, HYDRAULIC 42" (24' ONLY)	2
9	MP16.10228	WASHER, SQUARE, .53 X 2.00 X .18	2
	MP16.20463	BRACKET, JACK SHAFT	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5	2
	MP900506	LOCKWASHER, 1/2 MED	2
	MP900369	NUT, 1/2-13	2
10	MP09.71121	BOLT, HEX, 5/16-18 X 1, WASHER HEAD	2
	MP900497	FLATWASHER, 5/16	4
	MP900503	LOCKWASHER, 5/16 MED	2
	MP900365	NUT, 5/16-18 NC	2
11	MP16.20460	FITTING, HYDRAULIC, 1/2 PIPE ELBOW	2
	MP16.20458	HOSE ASSEMBLY, 45"	2
12	MPH434289	CLAMP, HOSE	1
	MP09.71113	BOLT, HEX, 5/16-18 X 1	1
13	MP16.20456	SPACER, 1.38 X 1.66 X 1.00	2
	MP16.20445	SPROCKET ASSEMBLY, 50A57 80A12	1
14	MP905081	FITTING, GREASE, 1/4-28 X 3/4	1
15	MP16.20448	CHAIN, #50 66P	1
	MP16.20393	OUTER BEARING WELDMENT, 1-1/4	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5	3
	MP900497	FLATWASHER, 1/2	6
16	MP900506	LOCKWASHER, 1/2 MED	3
	MP900369	NUT, 1/2-13	3
	MP905081	FITTING, GREASE, 1/4-28 X 3/4	1
17	MP09.70985	FLATWASHER, 1-1/4 X 1-7/8	1

#### REAR DRIVE SYSTEM ASSEMBLY, HYDRAULIC, (CONTINUED)



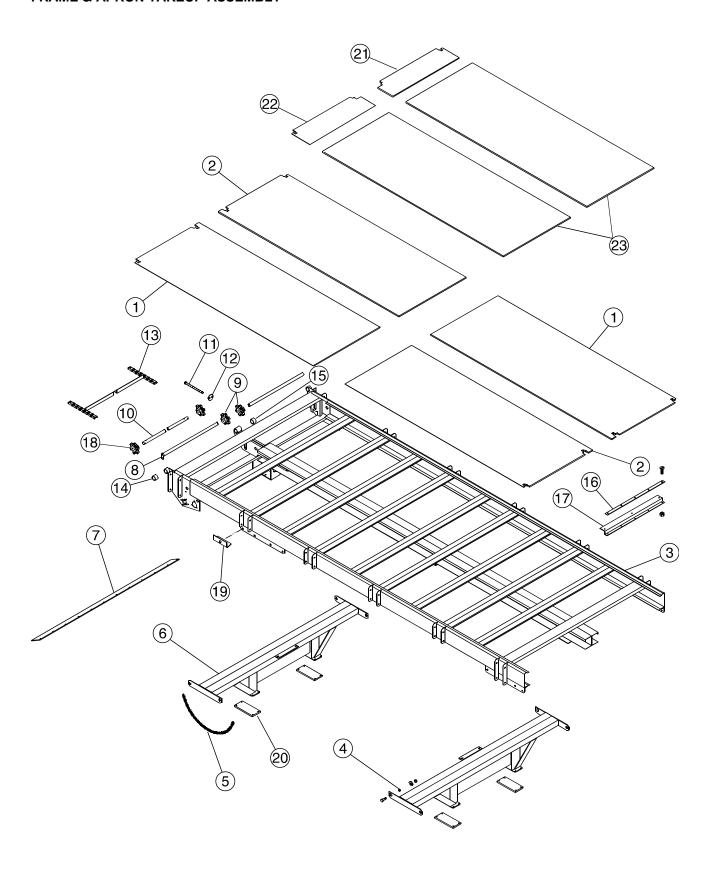
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
18	MP05.75170	VALVE, CHECK IN-LINE, ONE-WAY	1
	MP16.20483	SHAFT, COMBO HYDRAULIC JACK	1
4.0	MP16.10451	PIN, LYNCH, 7/16	1
19	MP09.74201	U-BOLT, 1/4 X 1-1/4 X 2-1/4	1
	MP900502	LOCKWASHER, 1/4 MED	2
	MP01.82214	MOTOR, HYD - 10.0 CID (18' ONLY)	1
	MP16.10758	MOTOR, HYD 14 (WHITE) - 15.5 CID (20' ONLY)	1
	MP033503	SEAL KIT (WHITE)	1
	MP902300	BOLT, HEX, 3/8-16 X 1	4
20	MP900495	FLATWASHER, 3/8	4
	MP900504	LOCKWASHER, 3/8, MED	4
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	1
	MP900503	LOCKWASHER, 5/16, MED	1
	MP907057	FLATWASHER, 3/8 X 1-1/4	1
21	MP16.20464	PLATE, MOTOR	1
	MP1544585C1	CHAIN TENSIONER	1
	MP903635	BOLT, CARRIAGE, 1/2-13 X 2-1/2	1
22	MP900497	FLATWASHER, 1/2	1
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	1
23	MP16.10673	CHAIN, #80 72P	1
	MP16.20523	SPROCKET, 50C13	1
24	MP901661	KEY, SQUARE, 1/4 X 9/16	1
25	MP01.76415	BUSHING, 1-1/4 X 1-1/2 X 1	3
	MP16.20987	SHAFT, APRON, REAR WITH KEYWAYS	1
	MP09.73300	BUSHING, MACHINE, 1-3/8 X 2-1/8 X 14 GA.	1
26	MP16.10517	RING, RETAINING, 1-3/8 EXT.	1
	MP16.10451	PIN, LYNCH, 7/16	1
	MP05.60104	SPROCKET, DRIVE 6 TOOTH WITH KEYWAY	4
27	MP907543	KEY, SQUARE. 3/8 X 2-1/4 ROUND ENDS	4
	MP906559	SETSCREW, 3/8 X 3/8 SKTHDCP	8
00	MP16.20164	HUB, LATCH	2
28	MP01.74250	PIN, SPIRAL, 3/8 X 2-3/4	2
	MP01.76442	BUSHING, 1-1/2 X 1-3/4 X 3/4	1
29	MP01.76445	BUSHING, 1-1/2 X 1-3/4 X 1	1
20	MP16.20630	SPROCKET, 48T #80	1
30	MP09.72606	FITTING, GREASE, 1/4-28 X 1	1
	MP16.10452	SPACER, .40 X .75 X .50	2
31	MP16.20659	BOLT, SPECIAL, 3/8-16 X 1-3/8	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
32	MP16.10395	COUPLER ASSEMBLY	1
33	MP16.10646	FLATWASHER, 1.38 X 3-1/16 X .10	1
24	MP16.20525	BEARING, BALL, 1.0 X 52 X 15	1
34	MP16.20524	FLANGE, BEARING	1
35	MP16.10451	PIN, LYNCH, 7/16	2
36	MP16.20477	HOSE ASSEMBLY 152"	2

#### **RIGHT ANGLE GEAR BOX ASSEMBLY**



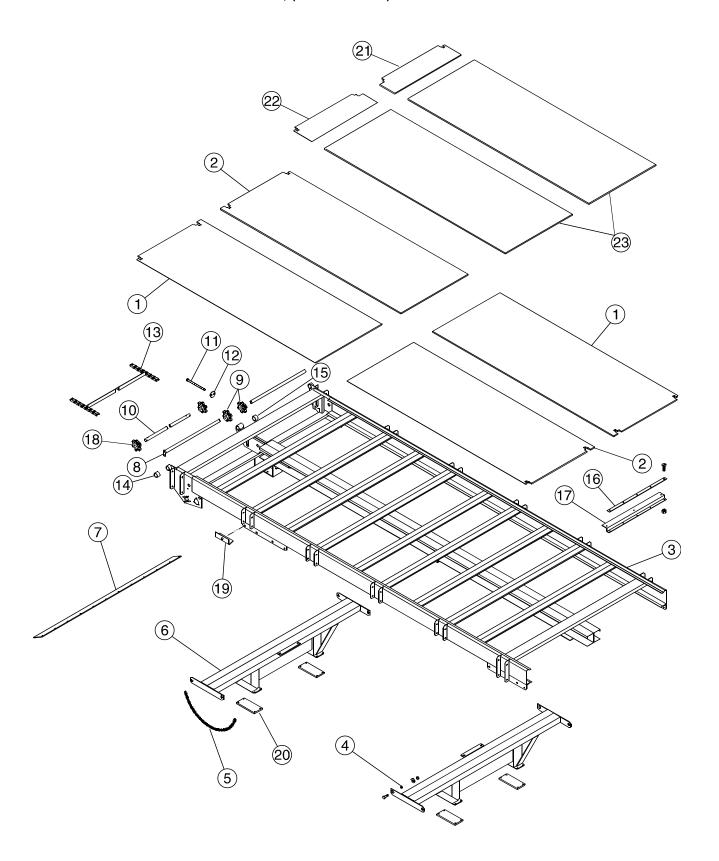
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.10579	SEAL, OIL	1
2	MP16.10580	BEARING	1
3	MP16.10581	SHIM KIT	1
4	MP16.10578	SHAFT	1
5	MP16.10583	PLUG	4
6	MP16.10585	CASING	1
7	MP16.10584	GEAR	1
8	MP16.10588	BEARING	1
9	MP16.10587	COVER	1
10	MP09.73805	BOLT, HEX, M10-1.25 X 25 GR 8.8 ZNC	8
11	MP16.10592	SHAFT, PINION	1
12	MP16.10596	SHIM	1
13	MP16.10591	SHIM KIT	2
14	MP16.10595	BEARING	1
15	MP16.10512	RETAINING RING, 72 INT PIN	1
16	MP16.10589	SPACER	1
17	MP16.10590	BEARING	1
18	MP16.10594	SNAP RING	1
19	MP16.10593	SEAL, OIL	1
20	MP16.10582	KEY, PARALLEL	1
-	MP16.10327	COMPLETE GEAR BOX ASSEMBLY	1

#### FRAME & APRON TAKEUP ASSEMBLY



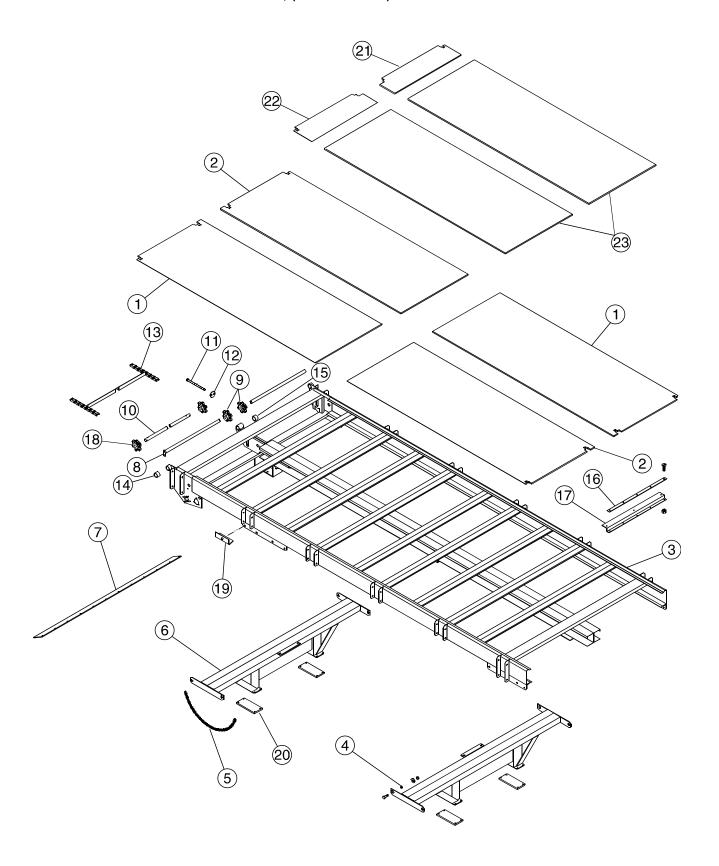
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20159	PANEL, FLOOR, COMBO, LEFT FRONT/RIGHT REAR (18' ONLY)	2
	MP16.20159	PANEL, FLOOR, COMBO, LEFT FRONT (20' ONLY)	1
	MP16.21310	PANEL, FLOOR, COMBO, LEFT FRONT (24' ONLY)	1
	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING	28
4	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (18' ONLY)	12
1	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (20' ONLY)	6
	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (24' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (18' ONLY)	12
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (20' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (24' ONLY)	6
	MP16.20160	PANEL, FLOOR, COMBO, RIGHT FRONT/LEFT REAR (18' ONLY)	2
	MP16.20160	PANEL, FLOOR, COMBO, RIGHT FRONT (20' ONLY)	1
	MP16.21309	PANEL, FLOOR, COMBO, RIGHT FRONT (24' ONLY)	1
	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING	28
	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (18' ONLY)	12
2	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (20' ONLY)	6
	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (24' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (18' ONLY)	12
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (20' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (24' ONLY)	6
	MP16.21073	FLOOR ASSY COMBO INCLUDES YELLOW REFLECTORS (18' ONLY)	1
	MP16.21074	FLOOR ASSY COMBO INCLUDES YELLOW REFLECTORS (20' ONLY)	1
	MP16.21360	FLOOR ASSY COMBO INCLUDES YELLOW REFLECTORS (24' ONLY)	1
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5 (18' ONLY) (FOR SIDE STAKE MOUNTING)	48
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5 (20' ONLY) (FOR SIDE STAKE MOUNTING)	56
	MP902928	BOLT, HEX, 1/2-13 X 1-1/4 GR 5 (24' ONLY) (FOR SIDE STAKE MOUNTING)	58
3	MP900497	FLATWASHER, 1/2 (18' ONLY) (FOR SIDE STAKE MOUNTING)	48
	MP900497	FLATWASHER, 1/2 (20' ONLY) (FOR SIDE STAKE MOUNTING)	56
	MP900497	FLATWASHER, 1/2 (24' ONLY) (FOR SIDE STAKE MOUNTING)	58
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK (18' ONLY) (FOR SIDE STAKE MOUNTING)	48
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK (20' ONLY) (FOR SIDE STAKE MOUNTING)	56
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK (24' ONLY) (FOR SIDE STAKE MOUNTING)	58
4	MP16.20834	BUSHING, .76 X 1.00 X .437	8
	MP01.77040	CHAIN, BOLSTER TIE DOWN	4
5	MP906004	BOLT, HEX, 7/16-14 X 2	4
	MP904526	NUT, 7/16-14	4
	MP16.20835	SADDLE WELDMENT RU	2
	MP16.21333	SADDLE WELDMENT RU (24' ONLY)	2
	MP903857	BOLT, HEX, 3/4-10 X 2 GR 5	10
	MP900499	FLATWASHER, 3/4	10
6	MP906349	NUT, LOCK, 3/4-10 NYLOCK	10
	MP903695	BOLT, CARRIAGE, 1/2-13 X 1-1/4	2
	MP900497	FLATWASHER, 1/2	2
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	2

# FRAME & APRON TAKEUP ASSEMBLY, (CONTINUED 1)



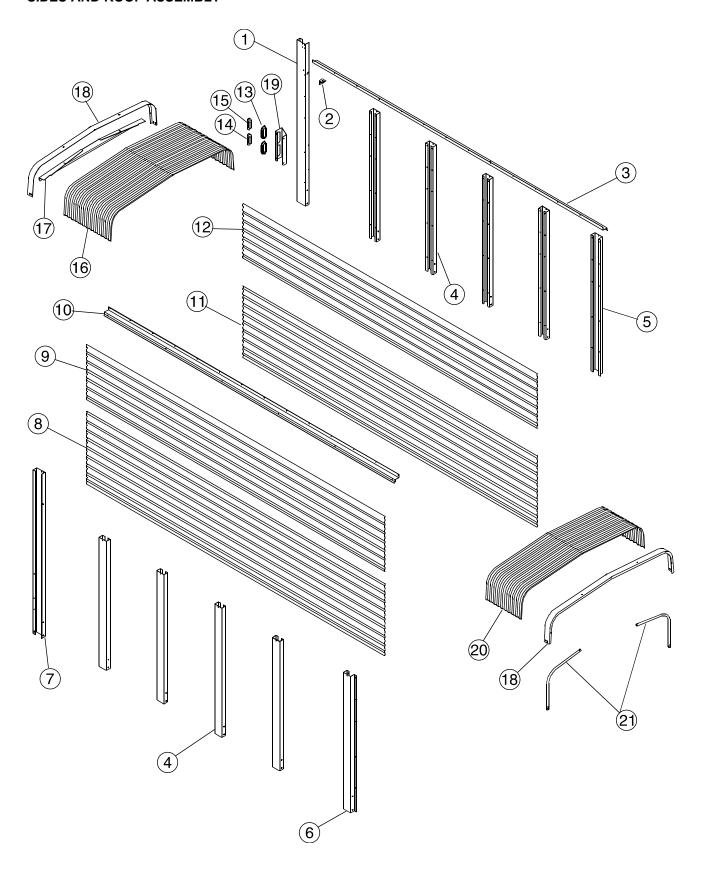
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20363	FLAP, RUBBER	1
7	MP09.71113	BOLT, HEX, 5/16-18 X 1, TAPTITE THREAD FORMING	11
	MP900494	FLATWASHER, 5/16	11
	MP16.20174	IDLER SHAFT WELDMENT	1
	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 5	1
8	MP900503	LOCKWASHER, 5/16 MED	1
	MP900365	NUT, 5/16-18 NC	1
9	MP16.20534	SPROCKET, IDLER, 6 TOOTH	4
10	MP16.20084	SHAFT, APRON IDLER	2
	MP09.71621	BOLT, HEX, 1/2-13 X 5 TAP	4
11	MP16.20621	STRAP, LONG 2-3/4	1
	MP16.20620	STRAP, SHORT 1-1/2	2
12	MP16.20200	WASHER, SPECIAL	1
	MP16.20135	APRON, 667H PINTLE, COMBO STANDARD (18' ONLY)	2
	MP16.20413	APRON, 667X PINTLE, COMBO OPTIONAL (18' ONLY)	2
	MP16.20735	APRON, 667H PINTLE, COMBO STANDARD (20' ONLY)	2
	MP16.20803	APRON, 667X PINTLE, COMBO OPTIONAL (20' ONLY)	2
	MP16.21453	APRON, 667X PINTLE, COMBO STANDARD (24' ONLY)	2
13	MP61.79140	CONNECTOR LINK, 667H	-
13	MP901155	ATTACHING LINK, 667H	-
	MP61.79170	RIVET	-
	MP61.79121	667H SLAT W/ATTACHING LINK & PINS	-
	MP61.79125	667X SLAT W/ATTACHING LINK & PINS	-
	MP61.79340	CONNECTOR LINK, 667X	-
	MP905426	ATTACHING LINK, SLAT, 667X	-
14	MP16.20374	BUSHING, 1-1/2 X 1-3/4 X 1-1/2	2
15	MP01.76445	BUSHING, 1-1/2 X 1-3/4 X 1	2
	MP16.20625	WEAR STRIP	2
16	MP901798	SCREW, MACHINE, FLAT HEAD, 1/4 X 3	10
	MP901651	NUT, LOCK, 1/4	10
	MP16.20619	BRACKET, HOLD DOWN	2
17	MP906540	BOLT, CARRIAGE, SHORT NECK, 3/8-16 X 2	10
17	MP900504	LOCKWASHER, 3/8	10
	MP900366	NUT, 3/8-16	10
18	MP01.60120	SPROCKET, IDLER, 6 TOOTH	4

# FRAME & APRON TAKEUP ASSEMBLY, (CONTINUED 2)



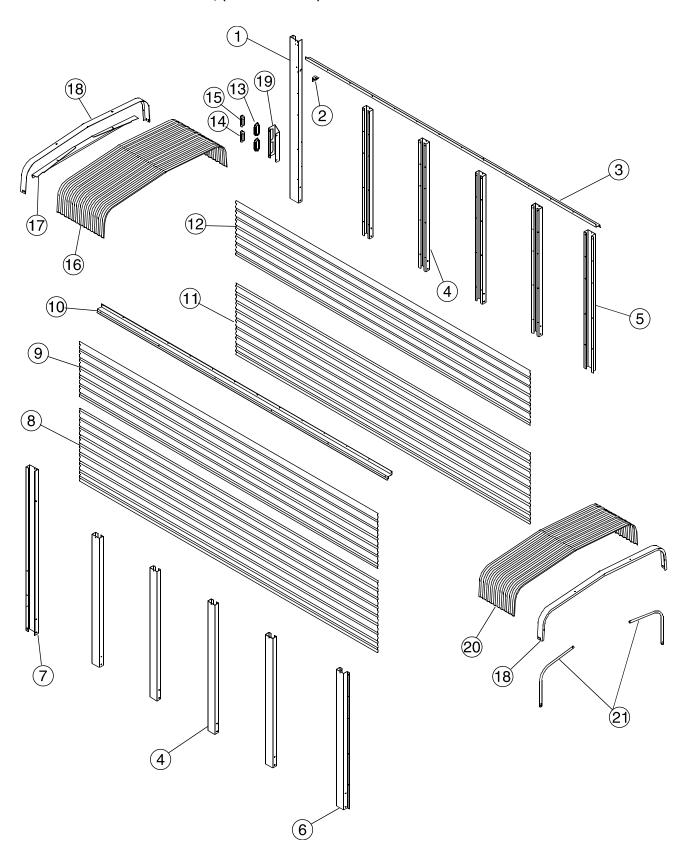
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20287	TANDEM BRACKET (FOR RUNNING GEAR WITH TANDEM WHEELS ONLY)	2
19	MP900385	BOLT, HEX, 3/4-10 X 2	2
19	MP900449	FLATWASHER, 3/4	2
	MP906349	NUT, LOCK, 3/4-10 NYLOCK	2
	MP16.20951	PAD, SADDLE	4
20	MP903848	BOLT, HEX, 3/8-16 X 1-1/2	8
20	MP900495	FLATWASHER, 3/8	8
	MP906400	NUT, LOCK, 3/8-16 NYLON	8
	MP16.20792	PANEL, FLOOR, COMBO LEFT REAR (20' ONLY)	1
21	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING (20' ONLY)	6
21	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (20' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (20' ONLY)	6
	MP16.20793	PANEL, FLOOR, COMBO RIGHT REAR (20' ONLY)	1
22	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING (20' ONLY)	6
22	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (20' ONLY)	6
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (20' ONLY)	6
	MP16.20791	PANEL, FLOOR, COMBO CENTER (20' ONLY)	2
	MP16.21311	PANEL, FLOOR, COMBO CENTER (24' ONLY)	2
	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING (20' ONLY)	14
00	MP09.71007	SCREW, PHILLIPS HD W/WOOD WING (24' ONLY)	18
23	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (20' ONLY)	12
	MP907624	SCREW, FHSCS, 5/16-18 X 1-1/2 (24' ONLY)	16
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (20' ONLY)	12
	MP907625	NUT, NYLON LOCK, FLANGE, 5/16-18 (24' ONLY)	16

#### SIDES AND ROOF ASSEMBLY



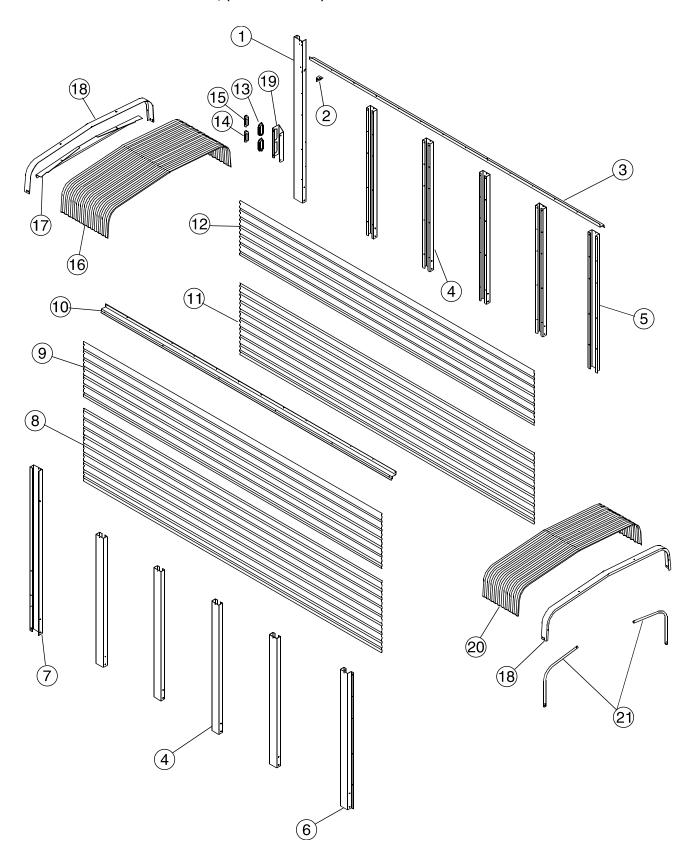
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20148	STAKE, REAR, LEFT SIDE RU	1
2	MP16.20349	CLIP, SILL	2
	MP09.71121	BOLT, HEX, WASHER HD, 5/16-18 X 1	4
	MP900494	FLATWASHER, 5/16	4
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	4
	MP16.20351	SILL, ROOF, COMBO LEFT SIDE (18' ONLY)	1
	MP16.20780	SILL, ROOF, COMBO LEFT SIDE (20' ONLY)	1
_	MP16.21278	SILL, ROOF, COMBO LEFT SIDE (24' ONLY)	1
3	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (18' ONLY)	6
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (20' ONLY)	7
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	9
	MP16.20002	STAKE, MID (18' ONLY)	8
4	MP16.20002	STAKE, MID (20' ONLY)	10
	MP16.21342	STAKE, MID (24' ONLY)	16
5	MP16.20003	STAKE, FRONT, LEFT SIDE	1
6	MP16.20004	STAKE, FRONT RIGHT SIDE	1
7	MP16.20147	STAKE, REAR, RIGHT SIDE RU	1
	MP16.20157	SIDE, LOWER RIGHT SIDE, COMBO (18' ONLY)	1
	MP16.20789	SIDE, LOWER RIGHT SIDE, COMBO (20' ONLY)	1
	MP16.21317	SIDE, LOWER RIGHT SIDE, COMBO (24' ONLY)	1
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (18' ONLY)	18
8	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (20' ONLY)	21
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	27
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (18' ONLY)	18
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (20' ONLY)	21
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (24' ONLY)	27
	MP16.20155	SIDE, UPPER RIGHT SIDE, COMBO (18' ONLY)	1
	MP16.20787	SIDE, UPPER RIGHT SIDE, COMBO (20' ONLY)	1
	MP16.21318	SIDE, UPPER RIGHT SIDE, COMBO (24' ONLY)	1
9	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	12
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	18
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA.	12
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (24' ONLY)	18
	MP16.20350	SILL, ROOF, COMBO RIGHT SIDE (18' ONLY)	1
	MP16.20783	SILL, ROOF, COMBO RIGHT SIDE (20' ONLY)	1
40	MP16.21285	SILL, ROOF, COMBO RIGHT SIDE (24' ONLY)	1
10	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (18' ONLY)	6
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (20' ONLY)	7
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	9

## SIDES AND ROOF ASSEMBLY, (CONTINUED 1)

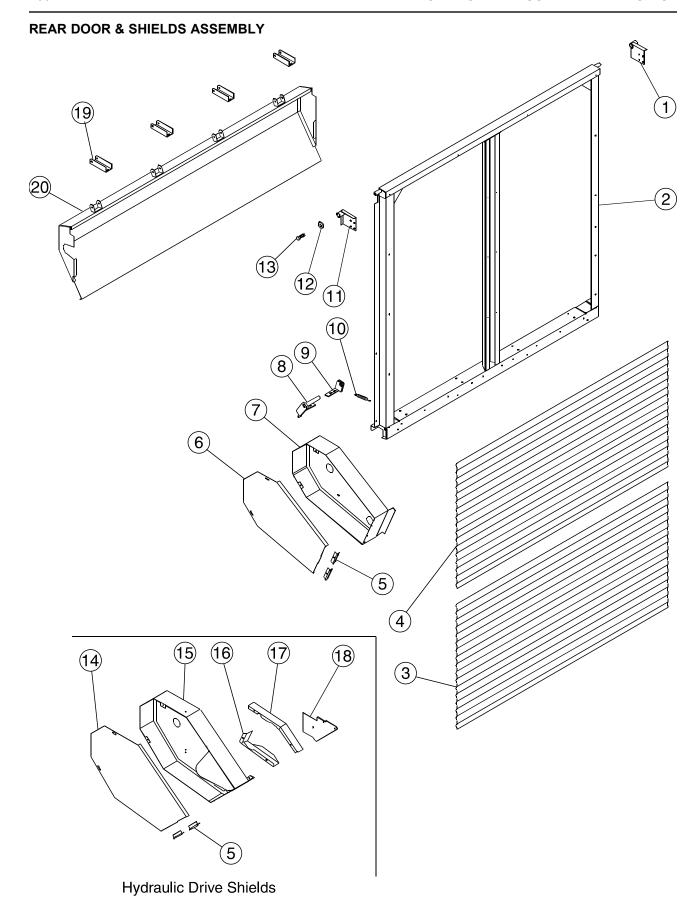


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
11	MP16.20158	SIDE, LOWER LEFT SIDE, COMBO (18' ONLY)	1
	MP16.20790	SIDE, LOWER LEFT SIDE, COMBO (20' ONLY)	1
	MP16.21319	SIDE, LOWER LEFT SIDE, COMBO (24' ONLY)	1
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (18' ONLY)	18
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (20' ONLY)	21
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	27
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (18' ONLY)	18
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (20' ONLY)	21
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (24' ONLY)	27
	MP16.20156	SIDE, UPPER LEFT SIDE, COMBO (18' ONLY)	1
	MP16.20788	SIDE, UPPER LEFT SIDE, COMBO (20' ONLY)	1
	MP16.21322	SIDE, UPPER LEFT SIDE, COMBO (24' ONLY)	1
12	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	12
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 (24' ONLY)	18
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA.	12
	MP300439B1	FLATWASHER, 5/16 FENDER 18 GA. (24' ONLY)	18
13	MP16.20193	GROMMET, LIGHT, B421-18	4
14	MP16.20192	LIGHT, RED, M421-R	2
15	MP16.20191	LIGHT, AMBER, M421-A	2
	MP16.20066	PANEL, ROOF SHEET (STANDARD)	7
	MP16.20779	PANEL, ROOF SHEET (OPT. 4" ROOF EXTENSION)	7
16	MP09.71121	BOLT, HEX, WASHER HD, 5/16-18 X 1	38
10	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA.	38
	MP900494	FLATWASHER, 5/16	12
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	38
17	MP16.20690	PANEL, SHORT FILLER, VENTED (STANDARD)	1
17	MP16.20691	PANEL, FILLER, VENTED (OPT. 4" ROOF EXTENSION)	1

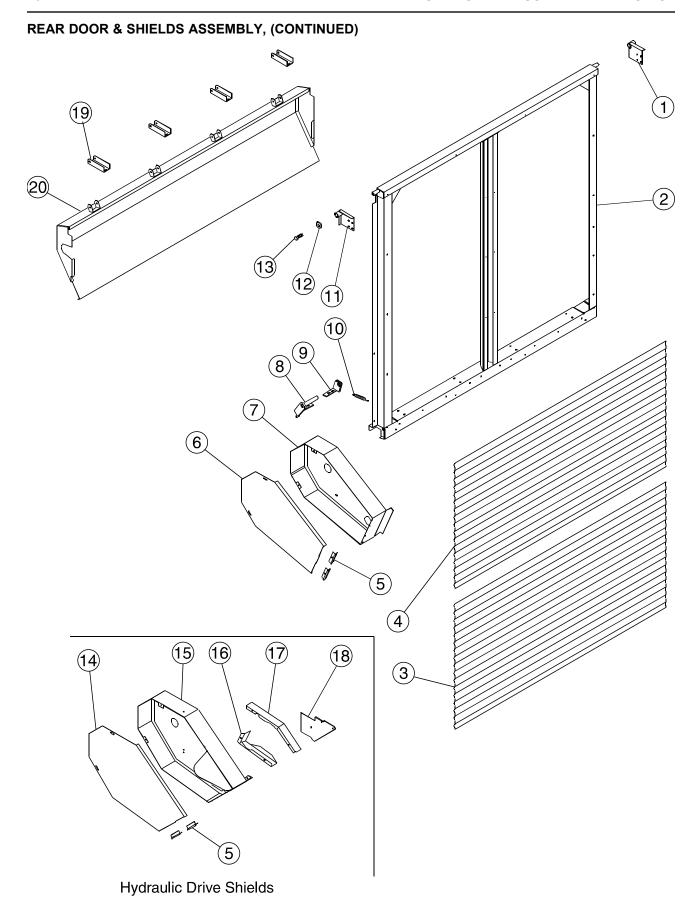
## SIDES AND ROOF ASSEMBLY, (CONTINUED 2)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
18	MP6.20427	PROTECTOR, ROOF EDGE (STANDARD) (18' ONLY)	2
	MP16.20330	PROTECTOR, ROOF EDGE - REAR (STANDARD) (20' & 24')	1
	MP16.20427	PROTECTOR, ROOF EDGE - FRONT (STANDARD) (20' & 24')	1
	MP16.20371	PROTECTOR, ROOF EDGE (OPT. 4" ROOF EXTENSION) (18' ONLY)	2
	MP16.20371	PROTECTOR, ROOF EDGE - FRONT (OPT. 4" ROOF EXTENSION) (20' & 24')	1
	MP16.20372	PROTECTOR, ROOF EDGE - REAR (OPT. 4" ROOF EXTENSION) (20' & 24')	1
	MP09.71122	BOLT, HEX, 5/16-18 X 1-1/4	6
	MP09.71121	BOLT, HEX, WASHER HEAD, 5/16-18 X 1	2
	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA.	4
	MP900494	FLATWASHER, 5/16 MED	6
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	8
	MP16.20450	BRACKET, LIGHT	2
	MP09.71121	BOLT, HEX, WASHER HEAD, 5/16-18 X 1	4
19	MP09.71113	BOLT, HEX, 5/16-18 X 1	4
19	MP900494	FLATWASHER, 5/16 MED	8
	MP900503	LOCKWASHER, 5/16 MED	4
	MP900365	NUT, 5/16-18 NC	4
20	MP16.20331	PANEL, ROOF SHEET - HALF (STANDARD) (20' ONLY)	1
20	MP16.20776	PANEL, ROOF SHEET - HALF (OPT. 4" ROOF EXTENSION) (20' ONLY)	1
	MP16.20680	TUBE, FRONT ROOF PROTECTOR (OPT. 4" ROOF EXTENSION)	2
24	MP900494	FLATWASHER, 5/16	4
21	MP903829	BOLT, HEX, 5/16-18 X 1-3/4 GR 5	4
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	4

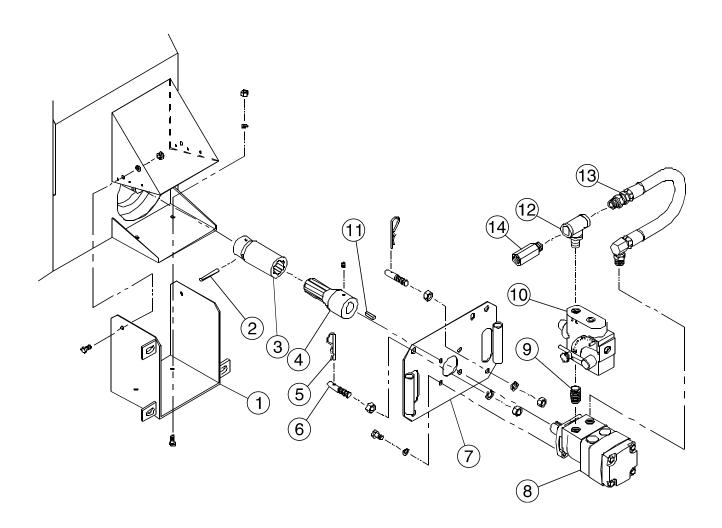


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20173	HINGE WELDMENT LEFT SIDE RU	1
	MP900397	BOLT, HEX, 3/8-16 X 1	4
	MP900495	FLATWASHER, 3/8	4
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	4
2	MP16.20484	TAILGATE WELDMENT (INCLUDES DECALS)	1
3	MP16.10721	REAR PANEL ASSY (INCLUDES DECALS)	1
	MP16.10437	PANEL, REAR DOOR	1
	MP09.71121	BOLT, HEX WASHER HD, 5/16-18 X 1	16
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	10
4	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	19
	MP900494	FLATWASHER, 5/16	2
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	16
	MP16.20144	HINGE, BEATER SHIELD	2
5	MP09.71251	BOLT, HEX, 3/8-16 X 3/4	2
	MP903937	NUT, HEX, 3/8-16 TOPLOCK	2
	MP16.20236	SHIELD, DOOR (MECHANICAL DRIVE ONLY)	1
6	MP906492	LATCH, DOOR	2
	MP16.20660	SHIELD, REAR WLDT. (INCLUDES DECALS) (MECHANICAL DRIVE ONLY)	1
	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 2	3
	MP900494	FLATWASHER, 5/16	2
_	MP900503	LOCKWASHER, 5/16, MED	3
7	MP900365	NUT, 5/16-18 NC	3
	MP904863	BOLT, HEX, 1/4-20 X 3/4 GR 5	4
	MP900502	LOCKWASHER, 1/4, MED	4
	MP900363	NUT, 1/4-20	4
	MP16.20229	LATCH, WELDMENT, RIGHT HAND	1
	MP16.20230	LATCH, WELDMENT, LEFT HAND	1
8	MP902859	BOLT, HEX, 5/16-18 X 1	4
	MP900494	FLATWASHER, 5/16	8
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	4
0	MP16.20359	STOP, LATCH WELDMENT RIGHT HAND	1
9	MP16.20360	STOP, LATCH WELDMENT LEFT HAND	1
10	MP16.20390	SPRING, EXTENSION, .085 X .75 X 2.6	2
	MP16.20172	HINGE WELDMENT RIGHT SIDE RU	1
11	MP900397	BOLT, HEX, 3/8-16 X 1	4
11	MP900495	FLATWASHER, 3/8	4
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	4

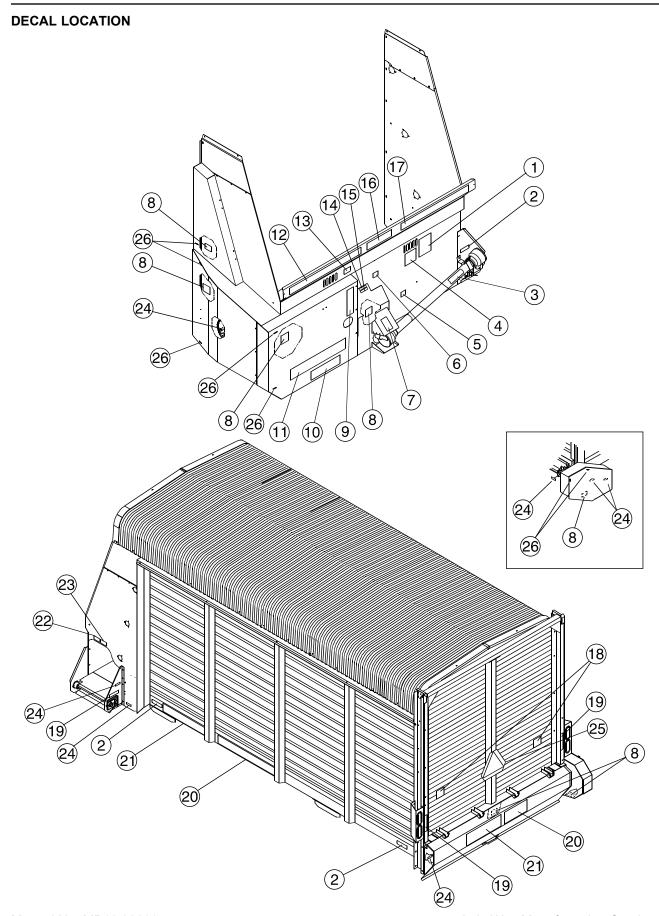


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
12	MP907057	FLATWASHER, 3/8, FENDER HVY	2
13	MP900397	BOLT, HEX, 3/8-16 X 1	2
	MP900504	LOCKWASHER, 3/8, MED	2
4.4	MP16.20347	SHIELD, DOOR (HYDRAULIC DRIVE ONLY)	1
14	MP906492	LATCH, DOOR	2
	MP16.20661	SHIELD, REAR WLDT. (INCLUDES DECALS) (HYDRAULIC DRIVE ONLY)	1
	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 2	3
	MP900494	FLATWASHER, 5/16	2
45	MP900503	LOCKWASHER, 5/16, MED	3
15	MP900365	NUT, 5/16-18 NC	3
	MP904863	BOLT, HEX, 1/4-20 X 3/4 GR 5	4
	MP900502	LOCKWASHER, 1/4, MED	4
	MP900363	NUT, 1/4-20	4
	MP16.20346	SHIELD, WRAPPER, LOWER REAR (HYDRAULIC DRIVE ONLY)	1
16	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 5	2
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	2
	MP16.20345	SHIELD, WRAPPER, REAR (HYDRAULIC DRIVE ONLY)	1
17	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 2	2
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	2
	MP16.20449	SHIELD, WRAPPER, REAR SIDE (HYDRAULIC DRIVE ONLY)	1
	MP903277	BOLT, HEX, 5/16-18 X 3/4 GR 2	2
18	MP09.71251	BOLT, HEX, 3/8-16 X 3/4	1
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	2
	MP16.20358	MOUNT, REAR DOOR	4
	MP902364	BOLT, HEX, 3/8-16 X 3/4	8
19	MP900495	FLATWASHER, 3/8	8
	MP900504	LOCKWASHER, 3/8 MED	8
	MP900366	NUT, 3/8-16	8
	MP16.20486	SHIELD, REAR DOOR (INCLUDES DECALS)	1
20	MP904334	BOLT, HEX, 3/8-16 X 3-3/4	4
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	4

## **HYDRAULIC DRIVE KIT, (ACCESSORY ONLY)**



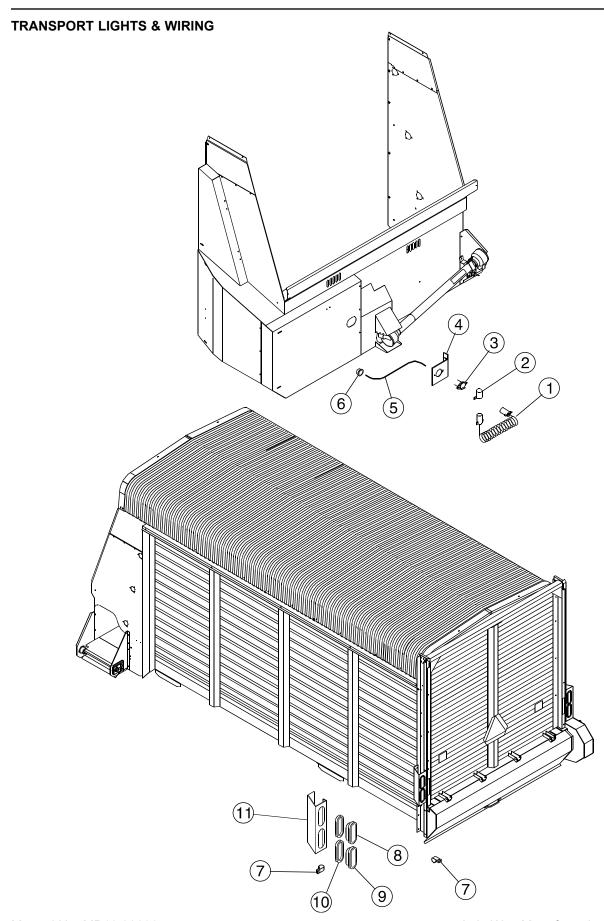
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.10698	BRACKET ASSY, HYDRAULIC ADAPTER	1
	MP904464	BOLT, HEX, 5/16-18 X 1-1/4	4
	MP900503	LOCKWASHER, 5/16	4
	MP900365	NUT, 5/16-18 NC	4
2	MP904847	PIN, SPIROL, 5/16 X 2	1
3	MP01.62861	COUPLER, HYDRAULIC DRIVE	1
4	MP01.62980	SHAFT, SPLINED, HYDRAULIC DRIVE	1
4	MP900441	SETSCREW, 5/16 X 5/16, HHDCP	1
5	MP05.73120	PIN, HAIR, 5/32 X 2-15/16 ZNC	2
	MP01.73710	PIN, ALIGNMENT, HYDRAULIC DRIVE	2
6	MP900506	LOCKWASHER, 1/2, MED	2
	MP900369	NUT, 1/2-13	4
7	MP16.10701	PLATE ASSY, HYDRAULIC DRIVE	1
	MP16.10758	MOTOR, HYDRAULIC 14 - 15.5 CID (HIGH TORQUE, LOW SPEED)	1
	MP01.82214	MOTOR, HYDRAULIC - 10 CID 1/2 NPT (LOW TORQUE, HIGH SPEED)	1
8	MP902364	BOLT, HEX, 3/8-16 X 3/4	4
	MP900504	LOCKWASHER, 3/8, MED	4
9	MP09.74113	NIPPLE, 1/2, HEX	1
10	MP05.75190	VALVE, FLOW CONTROL	1
11	MP900546	KEY, SQ, 1/4 X 1	1
12	MP09.74135	TEE, MALE BRANCH, 1/2 NPTF	1
13	MP01.75701	HOSE, HYDRAULIC DRIVE	1
14	MP05.75170	VALVE, CHECK	1



Manual No. MP16.22030

Art's-Way Manufacturing Co., Inc.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20178	DECAL, BEFORE OPERATING	1
_	MP907220	REFLECTOR, AMBER, 50 MM X 160 MM (STANDARD)	5
2	MP907220	REFLECTOR, AMBER, 50 MM X 160 MM (WITH OPTIONAL OUTFEED EXT)	6
3	MP329594B2	DECAL, ROTATING DRIVELINE	1
4	MP16.20210	DECAL, OPERATING INSTRUCTIONS	1
5	MP01.77760	DECAL, RUN	1
6	MP01.77770	DECAL, STOP	1
7	MP16.20177	DECAL, ROTATING DRIVE LINE	1
8	MP16.20179	DECAL, SHIELD IS OFF	6
9	MP16.20195	DECAL, QUADRANT	1
10	MP16.20887	DECAL, 5300	1
11	MP16.20205	DECAL, MILLER PRO	1
12	MP01.77720	DECAL, SPILL PLATE RIGHT HAND	1
13	MP16.20196	DECAL, 4TH	1
14	MP16.20212	DECAL, MAIN APRON/BEATER	1
15	MP16.20211	DECAL, SAFETY/CROSS CONVEYOR	1
16	MP01.77740	DECAL, EMERGENCY STOP PUSH	1
17	MP01.77730	DECAL, SPILL PLATE LEFT HAND	1
18	MP16.10552	DECAL, DANGER, DOOR	2
10	MP907219	REFLECTOR, RED, 50 MM X 160 MM (STANDARD)	3
19	MP907219	REFLECTOR, RED, 50 MM X 160 MM (WITH OPTIONAL OUTFEED EXT)	4
20	MP16.20206	DECAL, PRO	2
21	MP16.20208	DECAL, MILLER	2
22	MP16.20181	DECAL, ROTATING PARTS	1
23	MP01.77810	DECAL, EMERGENCY STOP PULL	1
24	MP907510	DECAL, GREASE	20
	MP907224	SMV EMBLEM (METAL)	1
25	MP09.71121	BOLT, HEX, WASHER HD, 5/16-18 X 1	2
25	MP903936	NUT, HEX, 5/16-18 TOPLOCK	2
	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	2
26	MP16.10750	DECAL, CLIP	7

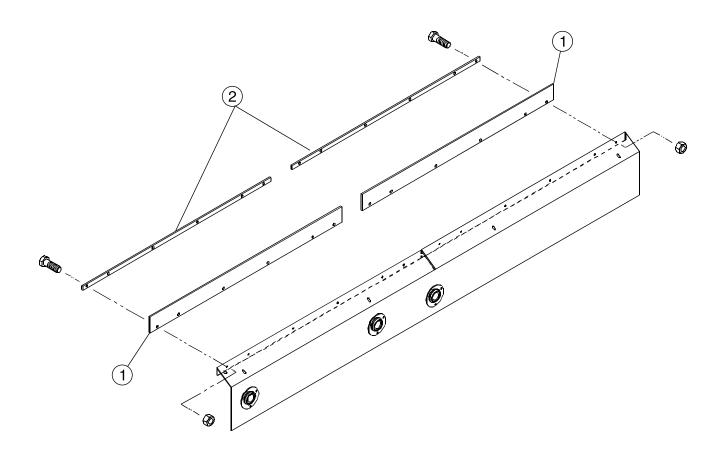


Manual No. MP16.22030

Art's-Way Manufacturing Co., Inc.

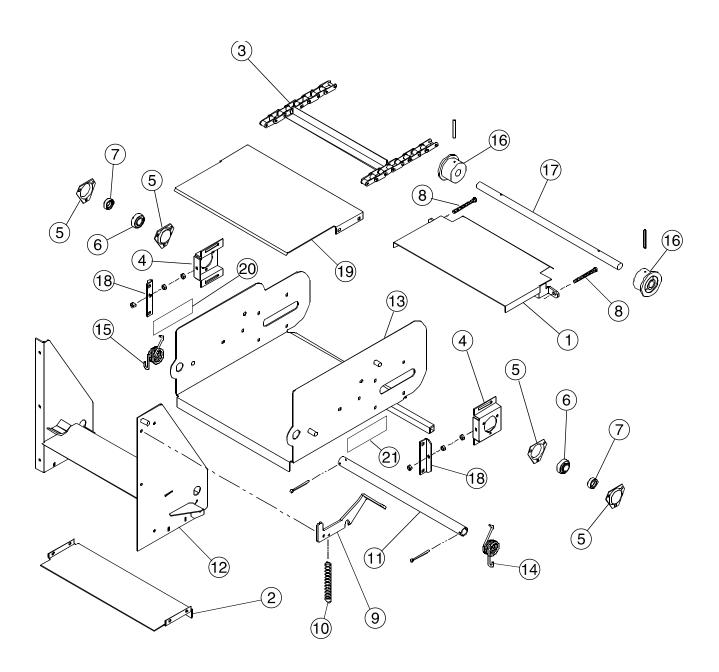
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20214	CABLE, COIL, 15'-7" WIRE	1
	MP16.20165	HOLDER, STORAGE PLUG	1
2	MP904863	BOLT, HEX, 1/4-20 X 3/4	2
	MP904092	NUT, LOCK, 1/4-20	2
	MP16.20213	SOCKET, 7 POLE	1
3	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	2
	MP900494	FLATWASHER, 5/16	2
	MP16.20204	BRACKET, LIGHT SOCKET	1
4	MP09.71112	BOLT, HEX, 5/16-18 X 3/4 , TAPTITE THREAD FORMING	2
	MP900494	FLATWASHER, 5/16	2
_	MP16.20337	WIRING HARNESS (18' ONLY)	1
5	MP16.20794	WIRING HARNESS (20' ONLY)	2
6	MP16.20209	PLASTIC GROMMET	3
7	MP16.20395	CLAMP, HOSE, 1/2 ID	8
8	MP16.20191	LIGHT, AMBER, M421-A	2
9	MP16.20192	LIGHT, RED, M421-R	2
10	MP16.20193	GROMMET, LIGHT, B421-18	4
	MP16.20450	BRACKET, LIGHT	2
	MP09.71121	BOLT, HEX, WASHER HEAD, 5/16-18 X 1	4
11	MP09.71113	BOLT, HEX, 5/16-18 X 1	4
	MP900494	FLATWASHER, 5/16 MED	8
	MP900503	LOCKWASHER, 5/16 MED	4
	MP900365	NUT, 5/16-18 NC	4

## **SEAL KIT**



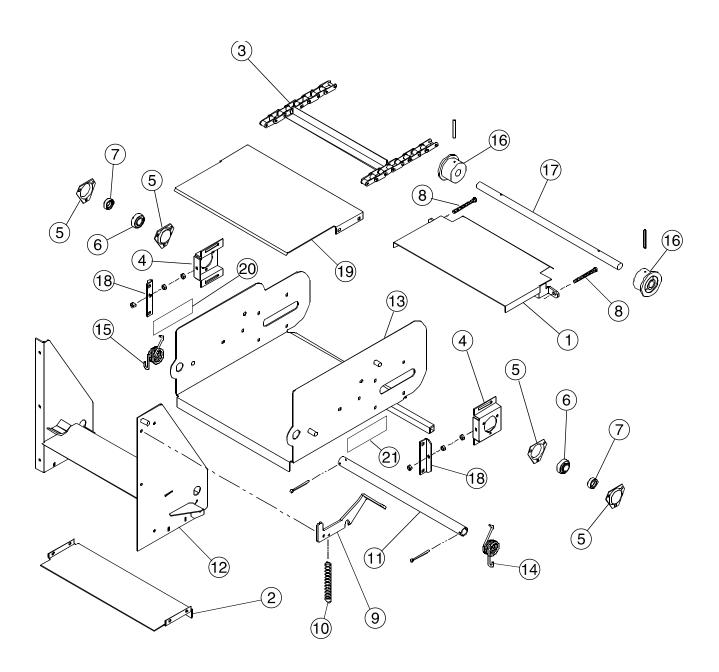
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.10660	SEAL, APRON SHAFT	2
	MP16.10661	RETAINER, SEAL	2
2	MP904464	BOLT, HEX, 5/16-18 X 1-1/4	12
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	12

## **30" OUTFEED EXTENSION, (OPTIONAL)**



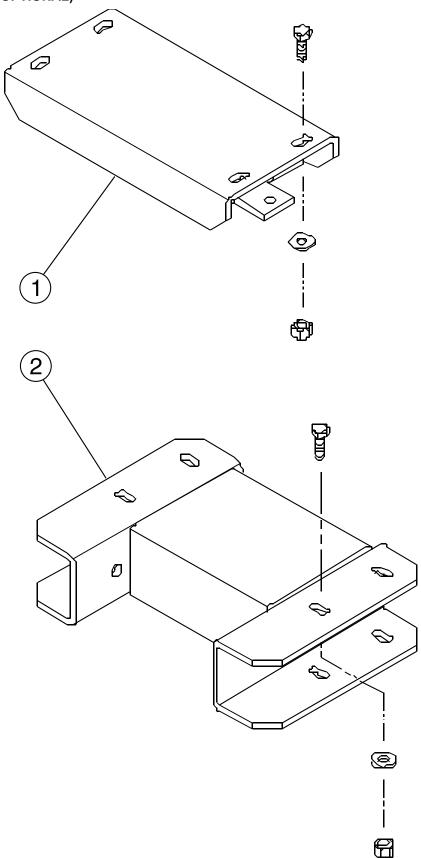
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MP16.20863	OUTFEED EXTENSION PAN WELDMENT (30")	1
	MP16.20873	PAN, RETURN, OUTFEED EXTENSION	1
0	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
2	MP900504	LOCKWASHER, 3/8 MED	4
	MP900366	NUT, 3/8-16	4
	MP16.10367	EXTENSION, APRON ASSEMBLY 30"	1
3	MP900709	LINK, CA550 OFFSET	-
3	MP900703	LINK, CA550 CONNECTOR	1
	MP01.75810	SLAT, W/ATTACHING LINKS	-
	MP16.20007	BRACKET, BEARING HOUSING	2
	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
4	MP900504	LOCKWASHER, 3/8 MED	4
	MP900494	FLAT WASHER, 5/16	4
	MP900366	NUT, 3/8-16	4
	MP14.77107	FLANGETTE, 1 TRIANGULAR 3 HOLE	4
_	MP903689	BOLT, CARRIAGE, 5/16-18 X 3/4	6
5	MP900503	LOCKWASHER, 5/16 MED	6
	MP900365	NUT, 5/16-18 NC	6
6	MP01.77500	BEARING, 1 SPHERICAL W/COLLAR	2
7	MP900633	COLLAR, 1 LOCK	2
8	MP901759	BOLT, CARRIAGE, 3/8-16 X 4	2
	MP16.20860	LATCH, OUTFEED	1
	MP907285	BOLT, HEX, 3/8-16 X 1-3/4	1
0	MP900504	LOCKWASHER, 3/8	1
9	MP900366	NUT, 3/8-16	1
	MP900495	FLAT WASHER, 3/8	2
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
	MP313445B1	SPRING, 6-1/2" EXTENSION	1
10	MP900495	FLAT WASHER, 3/8	6
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
11	MP16.20871	TUBE, PIVOT	1
11	MP900536	PIN, COTTER 3/16 X 2	2

## 30" OUTFEED EXTENSION, (OPTIONAL), (CONTINUED)



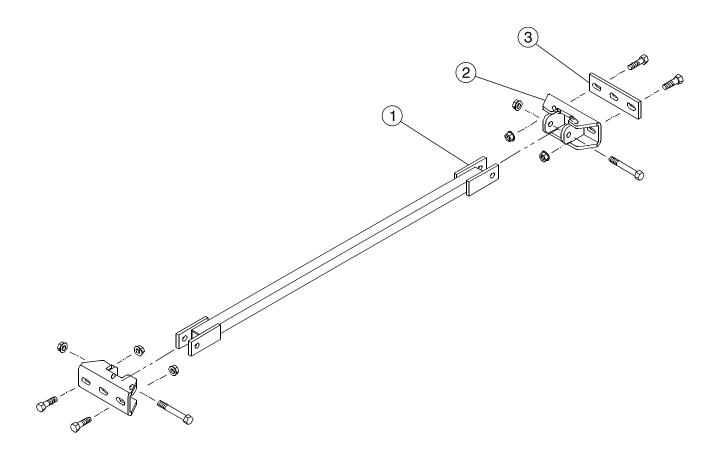
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20854	OUTFEED EXTENSION WELDMENT, LEFT SIDE UNLOAD	1
40	MP906397	BOLT, HEX, 3/8-16 X 1-1/2 TAP	1
12	MP900504	LOCKWASHER, 3/8 MED	1
	MP900366	NUT, 3/8-16	1
13	MP16.20853	FRAME, OUTFEED WELDMENT, LEFT SIDE UNLOAD (30")	1
	MP32.00738	SPRING, TORSION, LEFT HAND	1
14	MP902930	BOLT, HEX, 1/2-13 X 1	1
	MP907399	NUT, HEX, FLANGE LOCK 1/2-13	1
	MP32.00737	SPRING, TORSION, RIGHT HAND	1
15	MP902930	BOLT, HEX, 1/2-13 X 1	1
	MP907399	NUT, HEX, FLANGE LOCK 1/2-13	1
16	MP01.60500	ROLLER, APRON	2
10	MP01.74140	PIN, ROLL, 1/4 X 3	2
17	MP16.20861	SHAFT, OUTFEED IDLER	1
	MP16.20006	PLATE, TAKE-UP, OUTFEED	2
18	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
10	MP900504	LOCKWASHER, 3/8	4
	MP900366	NUT, 3/8-16	4
	MP16.20870	PAN, FOLDING, OUTFEED EXTENSION, INNER (30")	1
40	MP905354	BOLT, CARRIAGE, 3/8-16 X 3/4	4
19	MP900504	LOCKWASHER, 3/8	4
	MP900366	NUT, 3/8-16	4
20	MP907219	DECAL, RED REFLECTOR 2X9	1
21	MP907220	DECAL, YELLOW REFLECTOR 2X9	1

## RISER BLOCKS, (OPTIONAL)



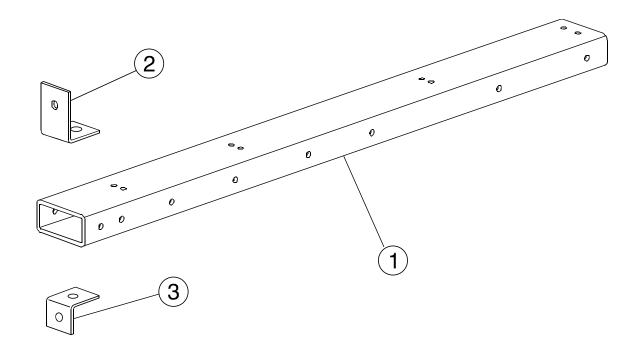
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.10534	RISER BLOCK WELDMENT 2"	4
	MP902300	BOLT, HEX, 3/8-16 X 1	16
'	MP900495	FLATWASHER, 3/8	16
	MP903937	NUT, LOCK, 3/8-16	16
	MP16.10537	RISER BLOCK WELDMENT 3"	4
2	MP902300	BOLT, HEX, 3/8-16 X 1	16
2	MP900495	FLATWASHER, 3/8	16
	MP903937	NUT, LOCK, 3/8-16	16

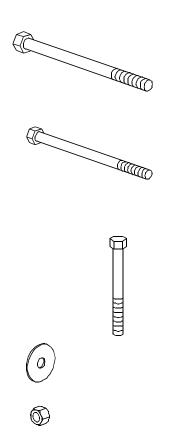
#### **ROOF RAFTERS FOR FORAGE BOXES LESS ROOFS**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20824	RAFTER WELDMENT (18' ONLY)	3
	MP16.20824	RAFTER, WELDMENT (20' ONLY)	4
	MP904214	BOLT, HEX, 3/8-16 X 3-1/2 (18' ONLY)	6
'	MP904214	BOLT, HEX, 3/8-16 X 3-1/2 (20' ONLY)	8
	MP903437	NUT, LOCK, 3/8-16 WHIZ (18' ONLY)	6
	MP903437	NUT, LOCK, 3/8-16 WHIZ (20' ONLY)	8
2	MP16.20827	MOUNT, RAFTER (18' ONLY)	6
	MP16.20827	MOUNT, RAFTER (20' ONLY)	8
	MP16.20830	SHIM (18' ONLY)	3
	MP16.20830	SHIM (20' ONLY)	4
	MP902367	BOLT, HEX, 3/8-16 X 1-1/4 (LESS ROOF) (18' ONLY)	12
3	MP902367	BOLT, HEX, 3/8-16 X 1-1/4 (LESS ROOF) (20' ONLY)	16
3	MP903874	BOLT, HEX, 3/8-16 X 5-1/2 (LESS ROOF W/STIFFENER TUBE) (18' ONLY)	12
	MP903874	BOLT, HEX, 3/8-16 X 5-1/2 (LESS ROOF W/STIFFENER TUBE) (20' ONLY)	16
	MP903437	NUT, LOCK, 3/8-16 WHIZ (18' ONLY)	12
	MP903437	NUT, LOCK, 3/8-16 WHIZ (20' ONLY)	16

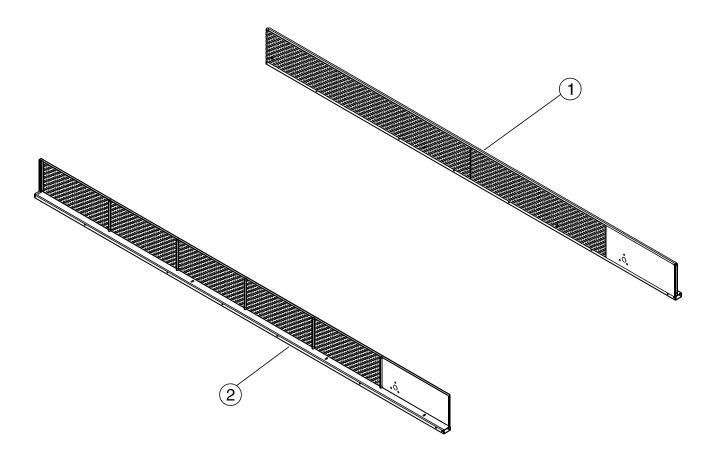
#### **RECEIVER BOX STIFFENER TUBE**





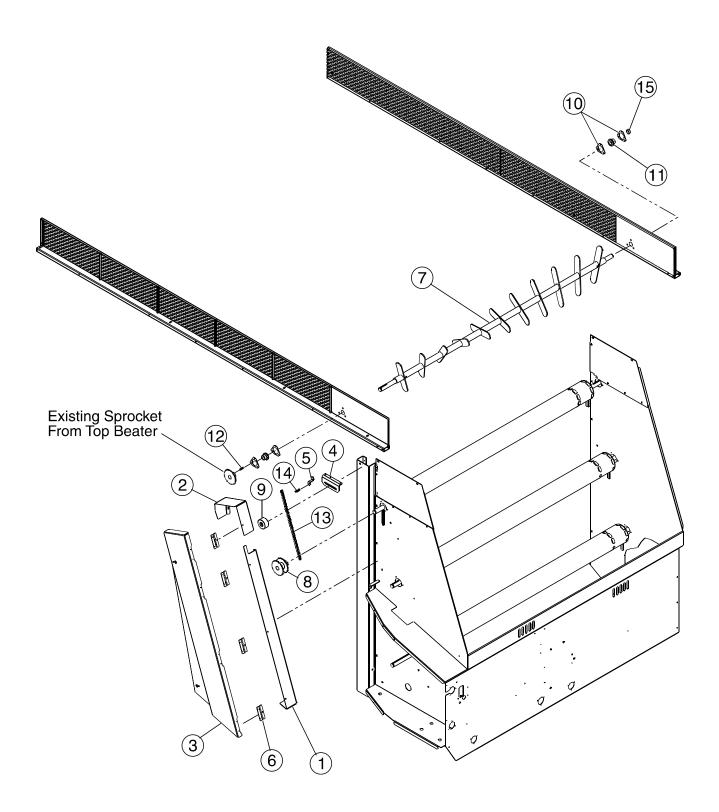
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20663	STIFFENER TUBE (18' ONLY)	2
'	MP16.20849	STIFFENER TUBE (20' ONLY)	2
	MP16.20254	BRACKET, ANGLE	2
	MP903874	BOLT, HEX, 3/8-16 X 5-1/2	8
2	MP09.71215	BOLT, HEX, 3/8-16 X 5	12
2	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	8
	MP902832	BOLT, HEX, 5/16-18 X 3	8
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	20
	MP16.20349	CLIP, SILL	2
3	MP09.71121	BOLT, HEX, WASHER HD, 5/16-18 X 1	4
3	MP900494	FLATWASHER, 5/16	4
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	4

## **SIDE EXTENSIONS, (OPTIONAL)**

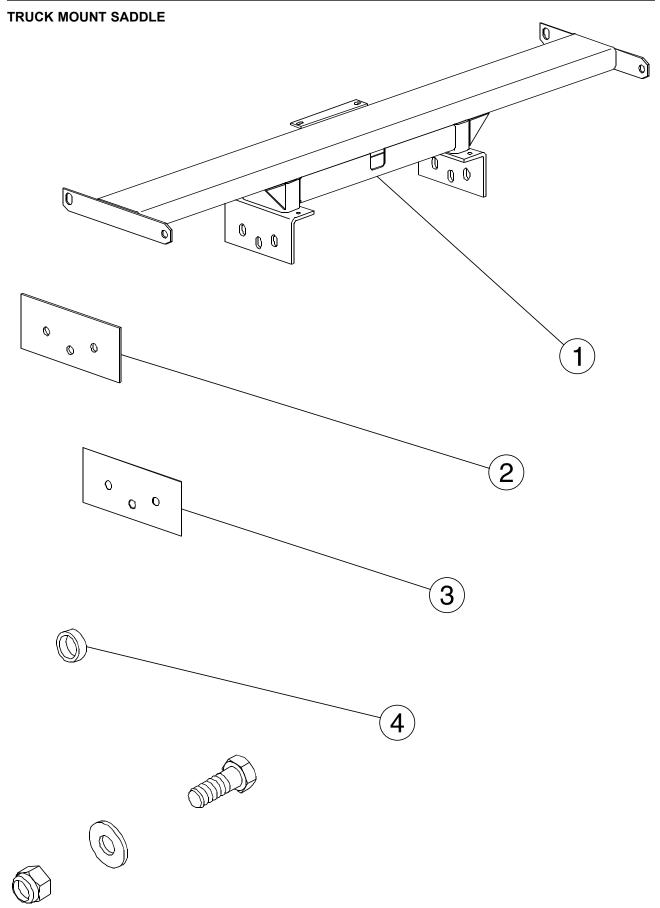


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20844	SIDE EXTENSION, LEFT SIDE (18' ONLY)	1
	MP16.20847	SIDE EXTENSION, LEFT SIDE (20' ONLY)	1
	MP903874	BOLT, HEX, 3/8-16 X 5-1/2	4
1	MP09.71215	BOLT, HEX, 3/8-16 X 5	6
	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	4
	MP902832	BOLT, HEX, 5/16-18 X 3	4
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	10
	MP16.20845	SIDE EXTENSION, RIGHT SIDE (18' ONLY)	1
	MP16.20848	SIDE EXTENSION, RIGHT SIDE (20' ONLY)	1
	MP903874	BOLT, HEX, 3/8-16 X 5-1/2	4
	MP09.71215	BOLT, HEX, 3/8-16 X 5	6
2	MP300439B1	FLATWASHER, 5/16, FENDER 18 GA	4
2	MP902832	BOLT, HEX, 5/16-18 X 3	4
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	10
	MP900495	FLATWASHER, 3/8	8
	MP902367	BOLT, HEX, 3/8-16 X 1-1/4 GR 5	4
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	4

#### **FOURTH BEATER, (OPTIONAL)**

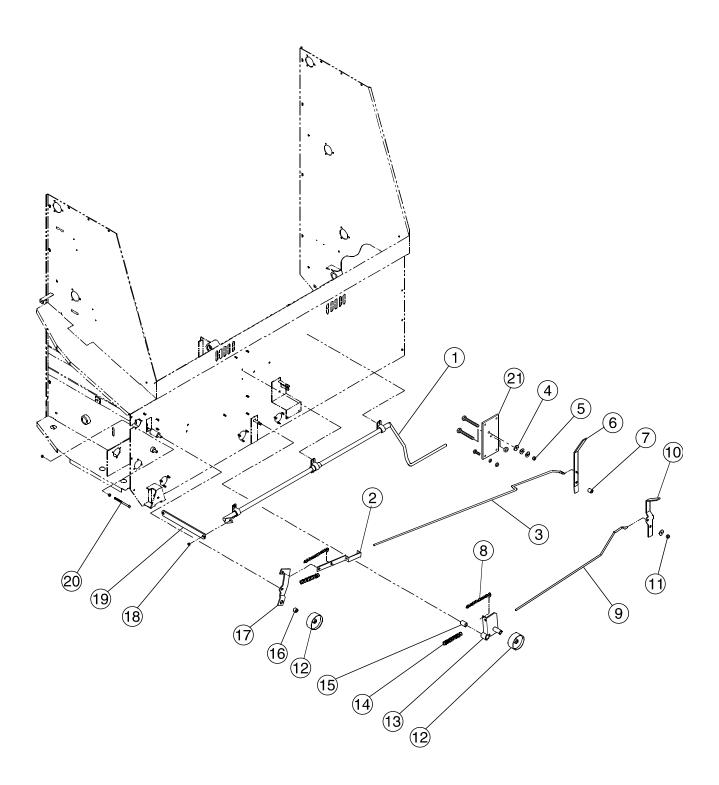


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.21002	BRACKET, SHIELD, LOWER	1
	MP09.71251	BOLT, HEX, WASHER HEAD, 3/8-16 X 3/4 GR 5	1
1	MP900504	LOCKWASHER, 3/8	1
	MP900366	NUT, 3/8-16	1
	MP16.21003	BRACKET, SHIELD, UPPER	1
	MP09.71112	BOLT, HEX, 5/16-18 X 3/4	3
2	MP900494	FLATWASHER, 5/16	6
	MP900503	LOCKWASHER, 5/16	3
	MP900365	NUT, 5/16-18	3
	MP16.21001	SHIELD, 2ND, 3RD & 4TH BEATER	1
	MP095001	BOLT, HEX, 1/4-20 X 1/2 GR 5	8
3	MP900502	LOCKWASHER, 1/4	8
	MP900363	NUT, 1/4-20	8
	MP16.21004	BRACKET, CHAIN TENSIONER	1
	MP902832	BOLT, HEX, 5/16-18 X 3 GR 5	2
4	MP900503	LOCKWASHER, 5/16	2
	MP900365	NUT, 5/16-18	2
	MP16.21005	BRACKET, SHIELD MOUNT	1
_	MP09.71121	BOLT, HEX, WASHER HEAD, 5/16-18 X 1	1
5	MP900503	LOCKWASHER, 5/16	1
	MP900365	NUT, 5/16-18	1
	MP16.20144	HINGE, BEATER SHIELD	4
	MP902300	BOLT, HEX, 3/8-16 X 1 GR 5	4
6	MP900504	LOCKWASHER, 3/8	4
	MP900366	NUT, 3/8-16	4
7	MP16.20998	BEATER WELDMENT, 4TH	1
8	MP16.21000	SPROCKET, DOUBLE	1
	MP40.00213	SUPPORT, CHAIN	1
9	MP904744	BOLT, CARRIAGE, 1/2-13 X 2 GR 5	1
	MP907399	NUT, FLANGE LOCK, NYLON, 1/2-13	1
	MP01.77580	FLANGETTE, 62 MM, 3 ROUND	4
10	MP09.71251	BOLT, HEX, WASHER HEAD, 3/8-16 X 3/4 GR 5	6
	MP903437	NUT, LOCK, 3/8-16 WHIZ	6
11	MP01.77560	BEARING, SPHERICAL W/COLLAR	2
12	MP01.73250	KEY, SQUARE, 5/16 X 1-1/2"	1
13	MP16.21018	CHAIN, ROLLAR, #40 115P	1
14	MP906492	LATCH, DOOR	1
15	MP900672	COLLAR, 1-1/4 LOCK	2



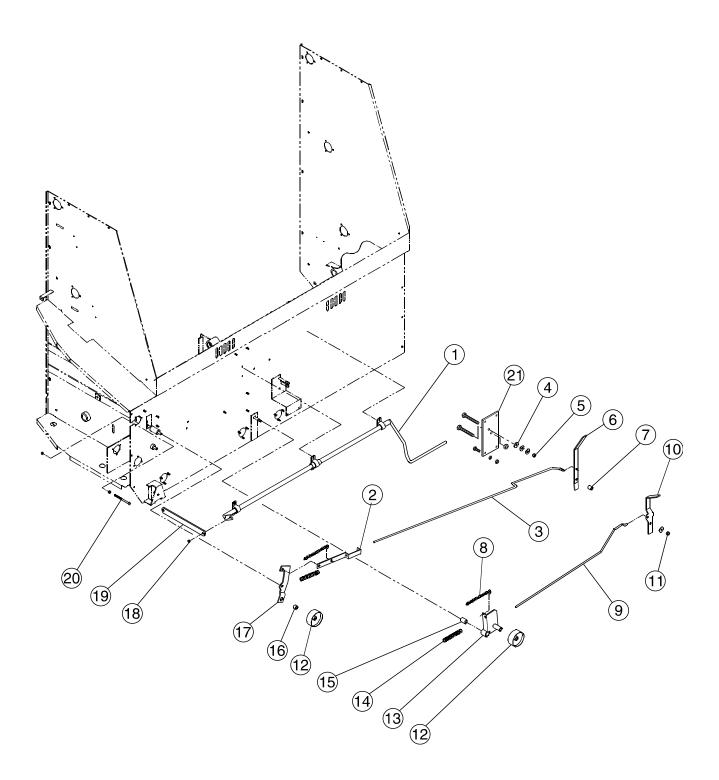
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.20837	SADDLE, TRUCK MOUNT	2
	MP903423	BOLT, HEX, 3/4-10 X 2-1/2	12
!	MP900499	FLATWASHER, 3/4	12
	MP906349	NUT, LOCK, 3/4-10 NYLOCK	12
2	MP16.20710	SHIM, 1/4 THICK	4
3	MP16.20711	SHIM, 1/16 THICK	4
4	MP16.20712	BUSHING, 3/4 X 1 X 9/16	12

## CONTROL SYSTEM, TRUCK MOUNT, LEFT SIDE UNLOAD, (OPTIONAL)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
	MP16.21033	SHAFT, ASSEMBLY, CONTROL	1
	MP900494	FLATWASHER, 5/16	1
1	MP900503	LOCKWASHER, 5/16, MED	6
	MP900365	NUT, 5/16-18	6
	MP16.10192	GRIP, HANDLE	1
	MP16.10245	BRACKET, SPRING ADJUSTMENT	1
,	MP902300	BOLT, HEX, 3/8-16 X 1, GR5	1
2	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
	MP16.21035	ROD, BEATER CLUTCH	1
3	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16, TOPLOCK	1
4	MP900497	FLATWASHER, 1/2	4
5	MP900369	NUT, 1/2-13	1
	MP16.20093	HANDLE, BEATER CLUTCH	1
6	MP01.73960	GRIP, CLUTCH HANDLE	1
7	MP16.20190	BUSHING, .54 X .84 X 1.00	1
8	MP16.20118	SPRING, EXT054 X .56 X 8.50	2
	MP16.21036	ROD, SAFETY CLUTCH	1
9	MP900495	FLATWASHER, 3/8	1
	MP903937	NUT, LOCK, 3/8-16 TOPLOCK	1
10	MP16.20092	HANDLE, SAFETY CLUTCH	1
10	MP01.73960	GRIP, CLUTCH HANDLE	1

## CONTROL SYSTEM, TRUCK MOUNT, LEFT SIDE UNLOAD, (OPTIONAL), (CONTINUED)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
11	MP901650	NUT, LOCK, 1/2-13 CENTER LOCK		
12	MP01.76340	PULLEY, IDLER		
13	MP16.20094	LEVER ASSY, IDLER	1	
	MP904635	BOLT, HEX, 5/8-11 X 3 1/2, GR 2	1	
	MP902193	NUT, LOCK, 5/8-11 CENTER LOCK	1	
	MP900497	FLATWASHER, 1/2	1	
	MP902194	NUT, LOCK, 1/2-13 TOPLOCK	1	
14	MP01.73890	SPRING, CLUTCH CONTROL	2	
15	MP16.10260	SPACER, .56 X 1.00 X 1.53	1	
16	MP16.10364	SPACER, .66 X 1.00 X .62	1	
	MP16.10231	STRAP, IDLER	1	
	MP904253	BOLT, HEX, 5/8-11 X 2	1	
17	MP902193	NUT, LOCK, 5/8-11, CENTER LOCK	1	
	MP900497	FLATWASHER, 1/2	1	
	MP901650	NUT, LOCK, 1/2-13 CENTER LOCK	1	
	MP16.10195	SPACER, .36 X .62 X .33	2	
18	MP902859	BOLT, HEX, 5/16-18 X 1	2	
10	MP900494	FLATWASHER, 5/16	2	
	MP903936	NUT, LOCK, 5/16-18 TOPLOCK	2	
19	MP16.10229	ROD, TRANSMISSION	1	
20	MP904130	BOLT, HEX, 3/8-16 X 5	1	
20	MP900366	NUT, 3/8-16	2	
	MP16.21037	PLATE, CONTROL BASE, TRUCK MOUNT CONTROLS	1	
	MP902300	BOLT, HEX, 3/8-16 X 1	4	
	MP900504	LOCKWASHER, 3/8	4	
21	MP900366	NUT, 3/8-16	4	
	MP907072	BOLT, HEX, 1/2-13 X 3-1/2 TAP	1	
	MP900369	NUT, 1/2-13	1	
	MP09.71601	BOLT, HEX, 1/2-13 X 4 TAP	1	

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## Art's-Way Manufacturing Co., Inc. TECHNICAL MANUALS

Manuals are available from your local dealer or Art's-Way Manufacturing Co., Inc. for the operation, service, and repair of your machine. For prompt convenient service, contact your local dealer for assistance in obtaining the manuals for your machine.

Your local dealer can expedite your order for operator manuals, illustrated parts catalogs, service manuals, and maintenance records.

Always give the Machine Name, Model, and Serial Number so your local dealer can provide the correct manuals for your machine.

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