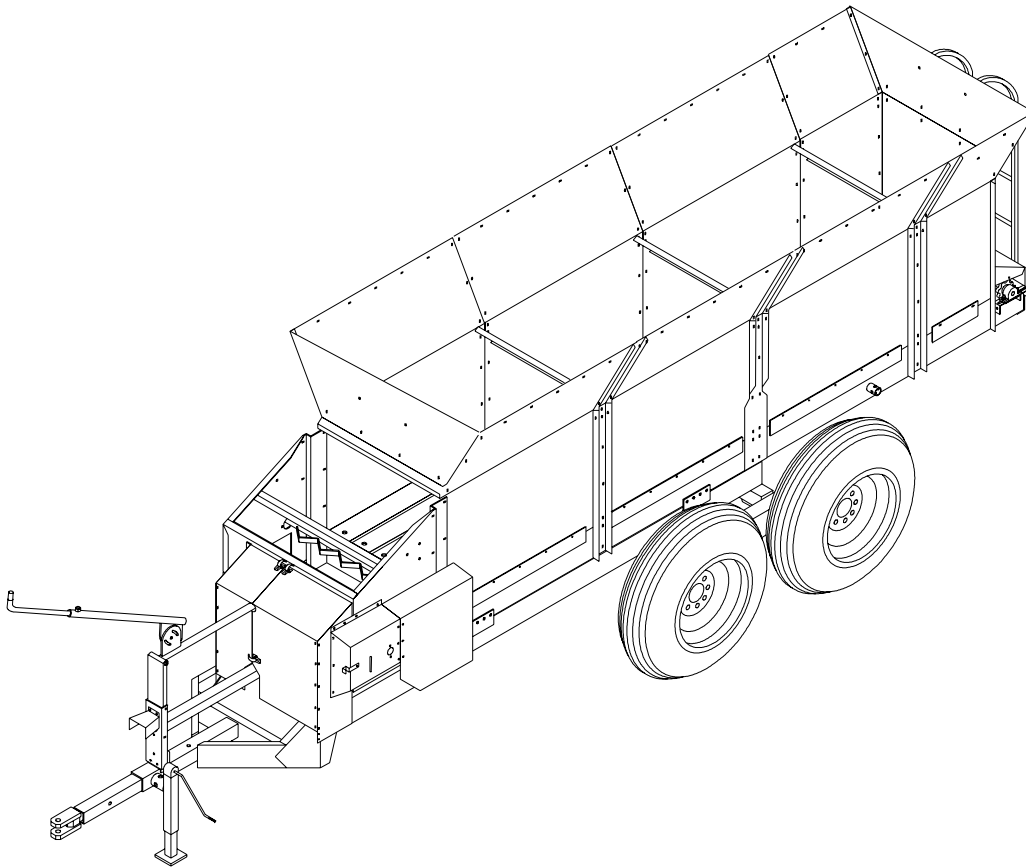


OPERATOR'S MANUAL

**MILLCREEK ROW MULCHER MODELS:
406, 706, 588 (PTO mechanical)**



I-86067

PUBLICATION DATE: 4/15/04, Rev. 1

MILLCREEK PART # 43802

Millcreek Manufacturing Company
525 Reservoir Road
Honey Brook, PA 19344
Phone: 1-800-311-1323
www.millcreekspreaders.com



WARNING: DO NOT assemble, operate, or maintain this equipment without first reading and understanding the information provided in this manual and the ADMA Safety Manual for Agricultural Implement Drivelines. Failure to follow all safety precautions as stated in these manuals may result in serious personal injury or death.

WARRANTY INFORMATION

Millcreek Manufacturing Company (hereinafter called the Company) warrants to the original Purchaser, the Equipment, manufactured by the Company, to be free from defects in material and workmanship under normal use and service. The Company obligation under this Warranty shall be limited to replacement or repair of any parts thereof, free of charge, to the original Purchaser provided, however, that the part(s) to be replaced or repaired, shall, within one year after delivery to the original Purchaser, be demonstrated to be defective; which determination shall be made by the Company. The said components or parts must be returned through the Selling Dealer or Distributor directly to the Company with all transportation charges prepaid. Notice of defect shall be furnished in writing to the Seller and to the agent through whom the machinery was purchased, disclosing in full all known defects and failure in operation and use. Reasonable time shall be given to the Seller to remedy any such defects and failures.

This Warranty does not cover, under any circumstances, any parts, components, or materials which, in the opinion of the Seller and the Company, have been subjected to neglect, misuse, alteration, accident, or repaired with parts other than those manufactured by and obtained from Millcreek Manufacturing Company.

This Warranty does not cover components which are already covered by a separate warranty provided by the supplier of said parts or components.

This Warranty is made in lieu of all other warranties, expressed or implied, including any warranty of merchantability and fitness for use and purpose and of all other obligations or liabilities on the Company part and any implied warranty. The Company neither assumes nor authorizes any other person to assume for it, any other liability in connection with the sale of this equipment. This Warranty shall not apply to this equipment or to any part thereof which has been subjected to accident, negligence, alteration, abuse, or misuse.

The Company makes no warranty whatsoever in respect to accessories or parts not supplied by the Company. The term "original Purchaser," as used in this Warranty, shall be deemed to mean that person for whom the equipment is originally supplied. This Warranty shall apply only within the boundaries of the continental United States.

Under this Warranty, the Company cannot guarantee that conditions existing beyond its control will not affect the Company's ability to obtain materials or manufacture necessary replacement parts.

The Company reserves the right to make design changes, or changes in specifications at any time, without any contingent obligation on the part of the Company to purchasers of machines and parts previously sold.

The Company warrants the construction of the equipment sold herein and will replace at the Company's expense for a period of one year from the date hereof, any parts which prove defective as determined under the terms of this Limited Warranty.

TRADEMARKS

The Millcreek logo is a trademark of the Millcreek Manufacturing Company. All other brand or product names mentioned are the registered trademarks or trademarks of their respective owners.

COPYRIGHT

Copyright © 2004 Millcreek Manufacturing Company. All rights reserved. No part of this publication may be reproduced, or distributed without the prior written permission of Millcreek Manufacturing Company, 34 Zimmerman Road, Leola, PA 17540. Subject to change without notice.



TABLE OF CONTENTS

SECTION 1: INTRODUCTION	1-1
Guide to this Manual	1-1
For Your Safety... ..	1-1
Safety Labels	1-2
Inspection and Warranty Registration	1-5
Standard/Optional Components	1-5
Warranty Registration	1-5
 SECTION 2: ATTACHING THE ROW MULCHER TO THE TRACTOR	 2-1
Connecting the Row Mulcher Hitch to the Tractor Drawbar	2-1
Attaching the Row Mulcher PTO to the Tractor PTO	2-2
Assembling the Safety Tow Chain	2-2
 SECTION 3: OPERATION & ADJUSTMENT	 3-1
Understanding Row Mulcher Operation	3-1
The Row Mulcher Operating Components	3-1
Important Specifications for Row Mulcher Operation	3-1
Guidelines for Loading the Row Mulcher	3-2
Operating the Row Mulcher	3-2
 SECTION 4: MAINTENANCE	 4-1
Guidelines for Regular Maintenance	4-1
General Maintenance	4-1
Wheel/Tire Maintenance	4-2
Wheel Bearing Maintenance	4-2
Drive System Maintenance	4-2
Procedures for Row Mulcher Adjustment and/or Repair	4-4
Replacing the Shear Pins	4-4
Adjusting the Slip Clutch	4-5
 APPENDIX A: PARTS REFERENCE	 A-1
Parts Ordering Information	A-1
Row Mulcher Specifications	A-1
Main Frame and Chassis Assembly	A-2
Tire and Wheel Assembly	A-4
Main Drive (Gearbox) Assembly	A-6
Drive Chain Assembly	A-8
Apron Sprocket / Clutch Assemblies (Front and Rear)	A-10
Conveyor Drive / Chain Assembly	A-12
Shifter Lever Assembly	A-14
Apron Chain / Floor Assembly	A-16
Side and Rear Panel Assemblies	A-18
Conveyor Frame and Belt Assembly	A-20

TABLE OF CONTENTS

APPENDIX A: PARTS REFERENCE (continued).....

Safety Shields A-22

PTO Shaft Assembly A-24

Crankcase Assembly A-26

APPENDIX B: ROW MULCHER OPTIONS PARTS REFERENCE **B-1**

Manual Metering Gate B-2

Load Retainer B-4

Spill Guard B-5

SECTION 1: INTRODUCTION

Guide to this Manual

This manual contains all the information necessary to safely operate and maintain your Millcreek Row Mulcher. Consult the Table of Contents for a detailed list of topics covered. You'll find this manual's step-by-step procedures easy to follow and understand. Should questions arise, please contact your Millcreek dealer before starting any of the procedures in this manual.

NOTE: Procedures provided in this manual apply to *all* PTO mechanical row mulcher models unless specifically noted otherwise.

Regarding the information presented in this manual:

- All safety, operating, and servicing information reflects current production models at the time of publication of this manual.
- References made to left, right, front, and rear are those directions viewed when facing the unit from the rear.

Please read all sections in the manual carefully--including the important safety information found in this section--before beginning any procedures; doing so is critical for the safe and proper operation of the Millcreek Row Mulcher.

For Your Safety...

For your safety, Millcreek documentation contains the following types of safety statements (listed here in order of increasing intensity):

- **NOTE:** A clarification of previous information or additional pertinent information.
- **ATTENTION:** A safety statement indicating that potential equipment damage may occur if instructions are not followed.



CAUTION: A safety statement that reminds of safety practices or directs attention to unsafe practices which could result in personal injury if proper precautions are not taken.



WARNING: A *strong* safety statement indicating that a hazard exists which can result in injury or death if proper precautions are not taken.



DANGER! *The utmost levels of safety must be observed;* an extreme hazard exists which would result in high probability of death or irreparable serious personal injury if proper precautions are not taken.

The best operator is a careful operator. By using common sense, observing general safety rules, and adhering to the precautions specific to the row mulcher, you, the operator, can promote safe equipment operation.

For Your Safety... (continued)

In addition to observing the specific precautions listed throughout the manual, **the following general precautions apply and *must be heeded* to ensure proper, safe operation.**



WARNING: Keep hands and feet from under the equipment at all times. Ensure that you are safely distanced from any other persons before operating the row mulcher.



WARNING: DO NOT attempt to operate the row mulcher in areas with steep inclines, ditches, large rocks, stumps, or holes which may endanger the operator by upsetting the tractor or cause damage to the row mulcher.



WARNING: To prevent serious personal injury and to promote safe equipment operation, keep all shields in place during operation. Ensure that all mounting hardware is properly tightened.



WARNING: Never clean, adjust, or repair the row mulcher while the equipment/tractor is in motion. Never attempt to pull material from any part of the equipment while it is in motion.



WARNING: On PTO units, DO NOT get off the tractor while the tractor PTO is engaged. Make sure the PTO shield safety chains are properly attached.



WARNING: Never wear loose clothing when operating the row mulcher as it may become caught in the moving parts of the machine.



WARNING: Never allow children or anyone else to ride on the row mulcher.

ATTENTION: For proper and safe operation of the spreader, periodically inspect all parts for excessive wear. Replace worn components with factory-authorized parts.

ATTENTION: To prevent the hitch from coming disconnected during operation, use the proper size hitch pin with a safety cotter at all times.

ATTENTION: Be sure to use a safety chain when traveling with the row mulcher on a public roadway.

Safety Labels

Following are the locations and descriptions of all labels on the row mulcher; refer to Figure 1A. Please note that some labels denote model number, model description, etc. while others contain important safety messages.

Each **Safety Label** contains an important safety message starting with a key word as discussed earlier in this section (e.g. ATTENTION, CAUTION, WARNING, DANGER). For your safety and the safe operation of your equipment, review all labels and heed all safety messages as printed on the labels.

Be sure to keep the safety labels clean and readable. If the labels ever become damaged or illegible, contact your Millcreek dealer for replacements.

Safety Labels (continued)

Row Mulcher Safety Labels

<u>Label Part #</u>	<u>Description</u>
42719	DANGER - Rotating PTO Driveline, Keep shields in place
42792	DANGER - NO riders
42710	WARNING - Flying Debris
42756	WARNING - Entanglement, Do NOT operate without shields
42772	WARNING - Spreader combination safety label - moving parts, read manual
42794	SMV (Slow Moving Vehicle) Sign
42708	50-Load Lube Label
42717	Millcreek Row Mulcher Label
42721	Operating Speed Label
42722	Apron Speed / Sprocket Selection Label
42730	Millcreek Logo Label
42778	Millcreek Logo Label
42736	Model/Serial Number Label (406)
42737	Model/Serial Number Label (706)
42738	Model/Serial Number Label (588)

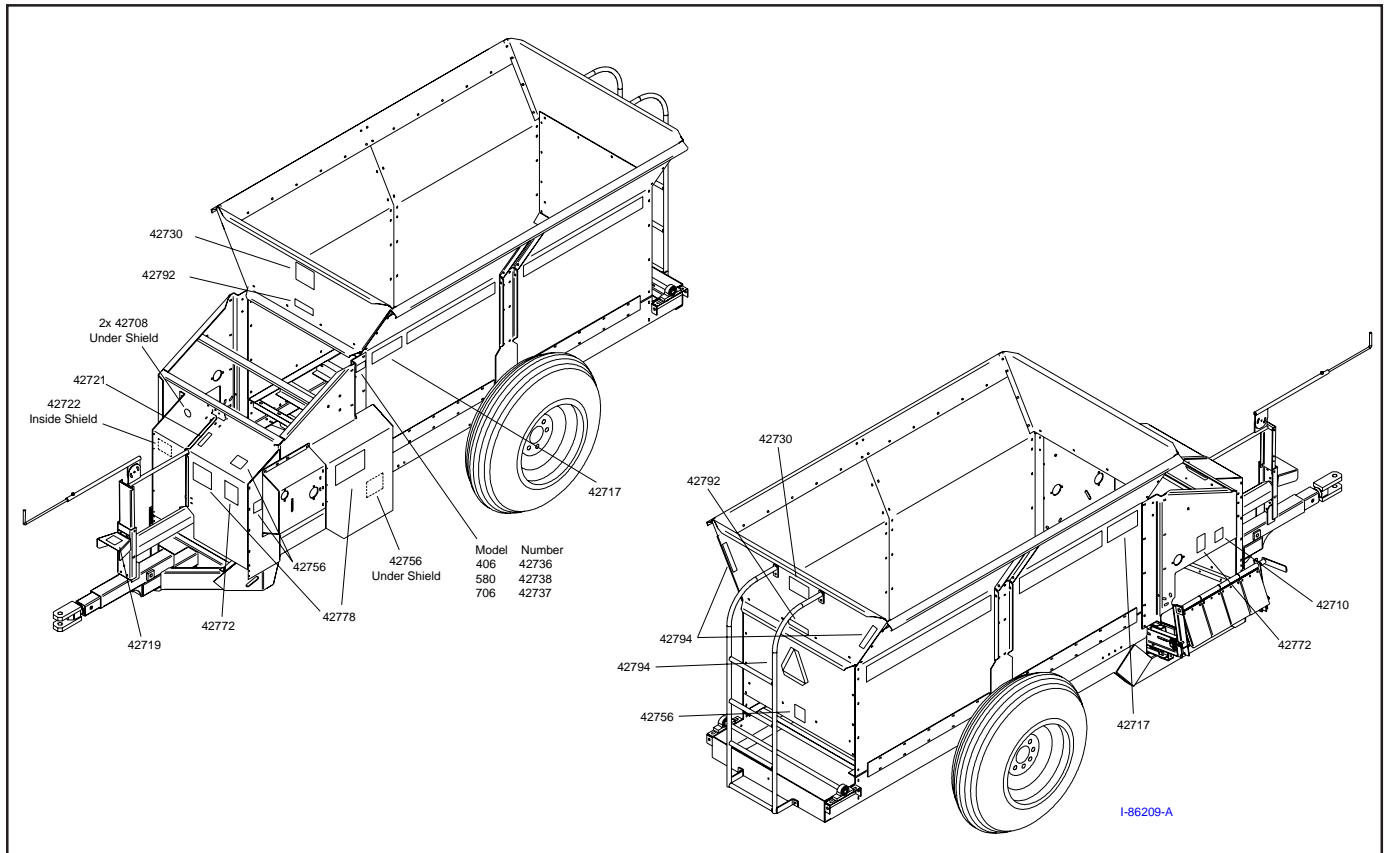


Figure 1A - Row Mulcher Safety Label Locations

For your safety, be sure to locate all safety labels and review their content before proceeding with operating the row mulcher!

Safety Labels (continued)



DANGER

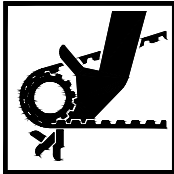
NO RIDERS

42792



WARNING

Entanglement Hazards



Moving parts can crush or cut.

STAY CLEAR of machine while engine is running and/or machine is operating. Keep hands, feet, clothing, and hair away from operating parts.



Never adjust, lubricate, or clean machine while engine is running and/or machine is operating.

Never operate machine without safety shields in place.



Read and understand operator's manual and safety labels before operating or servicing the machine.

Failure to follow these warnings may result in serious injury or death.

42772



DANGER



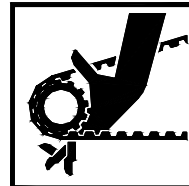
KEEP AWAY!

ROTATING DRIVELINE CONTACT CAN CAUSE DEATH. DO NOT OPERATE WITHOUT ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE. DRIVELINE SHIELDS MUST TURN FREELY ON DRIVELINE. DRIVELINE SHIELDS MUST BE SECURELY ATTACHED AT BOTH ENDS.

42719



WARNING



Entanglement Hazard.

DO NOT OPERATE without safety shield in place. Moving parts can crush and cut.

42756



WARNING



Entanglement / Flying Debris Hazards.

DO NOT STAND in back of machine while engine is running and/or machine is operating. Rotating beaters and/or flying debris can cause serious personal injury or death.



Approach the rear of the machine **ONLY** when all power sources are shut OFF and all moving parts have stopped.

42710

Inspection and Warranty Registration

The Row Mulcher is shipped from your Millcreek Dealer completely assembled and ready for operation. Inspect your new row mulcher thoroughly upon receipt to ensure that it has been shipped to you in a satisfactory manner. Immediately notify the freight company and your Millcreek dealer in case of shipping damage, shortage(s), and/or errors.

Standard/Optional Components

The Row Mulcher is supplied completely assembled with the following components (standard):

- Cross Conveyor Crescent Belt
- Variable Speed Apron Chain Conveyor
- Mechanical Drive
- Tires: Ag Rib Type for Model 406
Airplane Type for Models 588, 706

If your row mulcher has been shipped with optional components, ensure that you have received everything as ordered.

Optional components include:

- Manual Metering Gate
- Fine Materials Apron Chain
- Cleated Cross Conveyor Belt
- Load Retainer
- Spill Guard
- Tandem Axle
- Safety Tow Chain (*user-installed; instructions provided in Section 2*)

NOTE: As ordered, all optional components, except the safety tow chain, are factory installed.

Warranty Registration

Following inspection of your new spreader, locate the Millcreek Warranty Card in the literature packet shipped with your spreader. For proper warranty registration, Millcreek requires that you fill out the warranty registration card and return it *within 30 days* to:

MILLCREEK WARRANTY REGISTRATION
Millcreek Manufacturing Company
34 Zimmerman Road
Leola, PA 17540
U.S.A.

SECTION 2: ATTACHING THE ROW MULCHER TO THE TRACTOR

Connecting the Row Mulcher Hitch to the Tractor Drawbar



WARNING: For safe operation, connect the row mulcher directly to the tractor drawbar; DO NOT connect the row mulcher to a three-point hitch.

The row mulcher hitch is designed to work with a standardized tractor drawbar. To connect the row mulcher hitch to the tractor drawbar, refer to Figure 2A and adhere to the following guidelines:

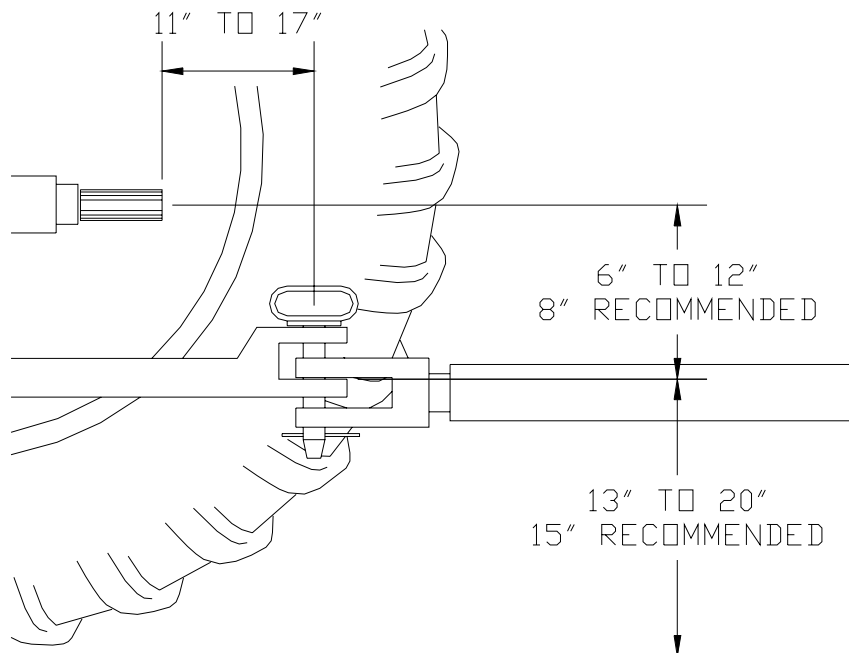
- Extend or shorten the tractor drawbar to obtain the horizontal distance from the end of the tractor power take-off (PTO) shaft to the center of the hitch pin hole (as shown in Figure 2A).
- Locate the jack, which is stored along the side of the row mulcher box. Use the jack to adjust the height of the row mulcher hitch so it matches the height of the tractor drawbar.
- Back the tractor into the hitch until the holes line up.
- Fasten the row mulcher hitch to the drawbar with a hitch pin that fits securely (i.e. so that it will not come out during operation).
- Remove the weight from the jack by lowering the row mulcher hitch on the drawbar.
- Return the jack to its storage bracket on the side of the row mulcher box.

ATTENTION: DO NOT store the jack by swinging it alongside the hitch; doing so allows the handle to hang down and drag on the ground, which may hinder safe and proper operation.



WARNING: Damage to the row mulcher or other vehicle, as well as injury to the operator, may occur if a properly-sized (1" diameter) hitch pin is not installed as recommended. Secure the hitch pin with the clip as shown.

ATTENTION: An improperly located hitch point may cause damage to the universal joints of the PTO. The recommended length of the PTO shaft should range from 35.83 to 51.42 inches center to center of the "U" joints.



I-86046

Figure 2A - Specifications for Connecting the Row Mulcher to the Tractor Drawbar

Attaching the Row Mulcher PTO to the Tractor PTO

1. Align the PTO splines on the row mulcher with the PTO splines on the tractor.
2. Pull back the slide collar on the PTO yoke, and slide the row mulcher PTO assembly onto the tractor PTO shaft. Be sure the slide collar snaps forward to indicate that the PTO shaft is properly secured.
ATTENTION: DO NOT transport the row mulcher without having the PTO shaft secured.
3. Refer to Figure 2B. Fasten the PTO safety chain to the link on the row mulcher to prevent rotation of the safety shield during operation.



WARNING: *Failure to secure the PTO safety chain will allow the safety shield to rotate.*

Operating the row mulcher without the safety shield in proper position may result in serious personal injury or death.

Assembling the Safety Tow Chain

NOTE: *The safety tow chain may be ordered as an optional component for the row mulcher and must be used if the row mulcher is to be moved any time on a public roadway.* Be sure to adhere to all local/state transportation codes for travel on public roadways with this type of equipment.



WARNING: DO NOT tow the row mulcher (loaded for operation) at highway speeds; doing so may cause the tires to overheat and/or loss of control.

1. Refer to Figure 2B for an illustration of the hook-up of the safety chains (one on each side).
2. Unscrew the quick link nuts (one on each side).
3. Insert the chain link into the quick link as shown (one on each side) and retighten the quick link nuts to keep the chains from slipping out.
4. Hook the other ends of the chains to the appropriate anchor holes on the vehicle hitch.



WARNING: For the safety chains to be effective, the installation of the chains should not allow more slack than is necessary for movement during row mulcher operation. Inspect the safety chains regularly to check the condition of the links and locking/hooks mechanisms; replace the chains as soon as weakness/breakage is noted.

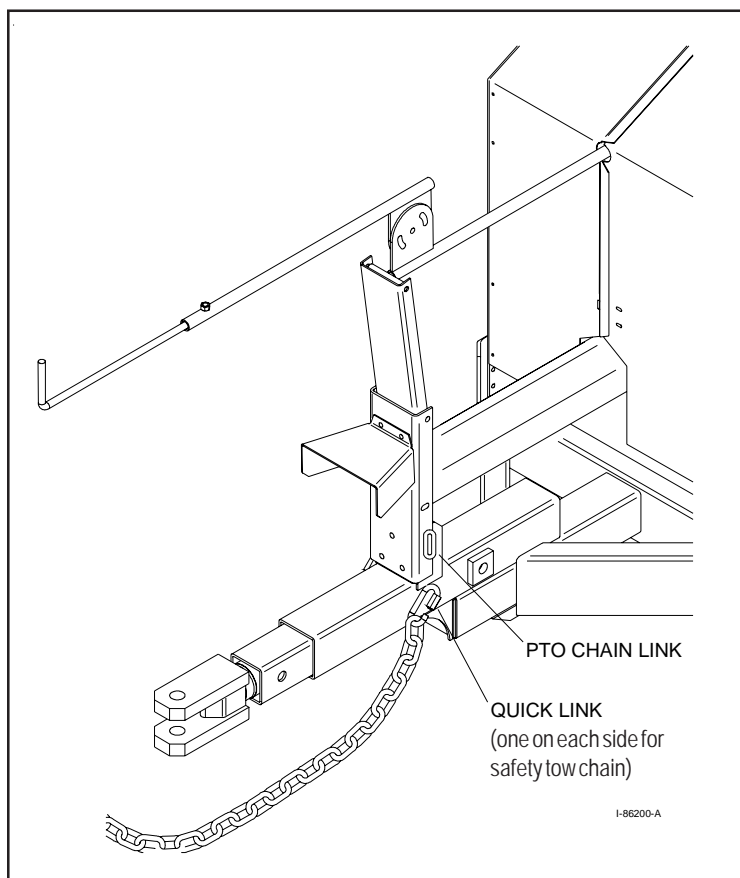


Figure 2B - Attaching the Safety Chains

SECTION 3: OPERATION & ADJUSTMENT

Understanding Row Mulcher Operation

Proper and safe operation of the Millcreek row mulcher requires: (1) being familiar with the row mulcher's operating components and (2) heeding all safety precautions as stated in this manual.

The Row Mulcher Operating Components

The row mulcher mechanical drive/PTO models draw power from the tractor PTO. For optimal operating performance, run the tractor at the throttle setting for standard PTO speed of 540 rpm and regulate ground speed to no more than 5 mph.

Key components for row mulcher operation and adjustment are:

- The **Shifter Rod**, located at the front (tractor end) of the row mulcher, allows you to select the apron feed rate (i.e. how quickly the material moves down the apron bed - Fast/Neutral/Slow). **NOTE:** The length and height of the shifter rod can be horizontally and vertically adjusted to make it easier for the tractor operator to control. Refer to the related **Shifter Lever Parts Assembly drawing** in **Appendix A** for a detailed view of the associated hardware for adjustment.
- The **Apron Speed Adjustment**, located under the front shield, allows you to further adjust the feed rate by changing the position of the chain between four different sprockets.
- The **Deflectors** (4) on the end of the row mulcher cross conveyor can be individually adjusted to set the desired spreading pattern.

Important Specifications for Row Mulcher Operation



CAUTION: Be aware that each row mulcher model has a specific capacity which must not be exceeded for safe and proper operation and to prevent equipment damage. Review the basic specifications for each row mulcher model as shown in Figure 3A.

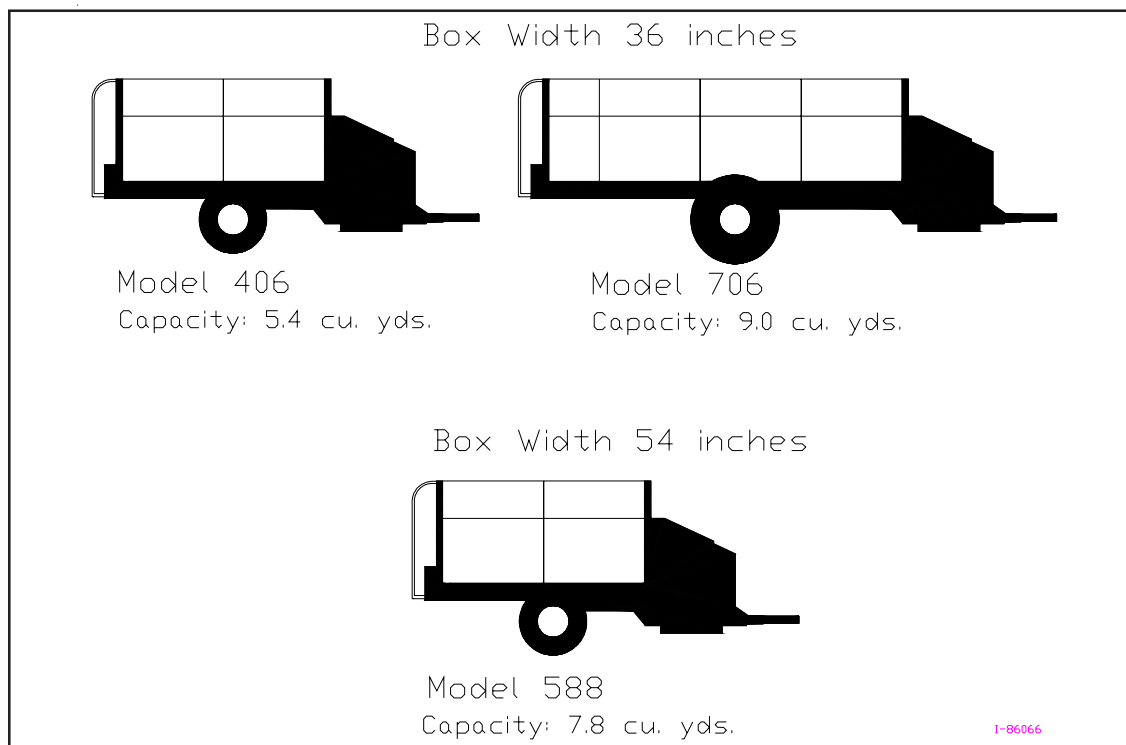


Figure 3A - Specifications for Row Mulcher Load Capacity

Important Specifications for Row Mulcher Operation (continued)

- **Ensure that the tractor weight is at least equal to the weight of the loaded row mulcher.**

For optimal operation, Millcreek recommends the following specifications for tractors:

- For Row Mulcher Model 406, use a tractor of at least 30 HP (PTO).
- For Row Mulcher Models 588 and 706, use a tractor of at least 50 HP (PTO).

Guidelines for Loading the Row Mulcher

- For safe and proper operation, DO NOT exceed the maximum payload for each row mulcher model:

<u>MODEL</u>	<u>MAX. PAYLOAD (LBS.)</u>
406	4,000
588	6,000
706	7,500

- Millcreek recommends that you **load the row mulcher from the front toward the back** to facilitate easier unloading.
- **ATTENTION:** NEVER store mulch in the row mulcher between unloading times during critical cold weather months when a frozen load could result in severe equipment damage (i.e. torn floor apron chain).
- DO NOT store wet mulch in the row mulcher (or keep the mulcher outdoors with mulch in it)--doing so will accelerate rusting of the steel. Be aware that storing material in the row mulcher also makes the material difficult to unload (i.e. it may solidify/harden).

Operating the Row Mulcher

WARNING! Before proceeding with operation of the row mulcher, review all safety statements as provided in Section 1 of this manual.



WARNING: DO NOT attempt to make any adjustments to the row mulcher with the tractor and/or PTO running. Doing so could cause serious personal injury.

NOTE: By definition, the left and right sides of the row mulcher are determined while sitting on the tractor seat.

NOTE: If the shifter rod is difficult to move when operating the row mulcher, lubricate the jaw clutch and shift detent with a light oil.

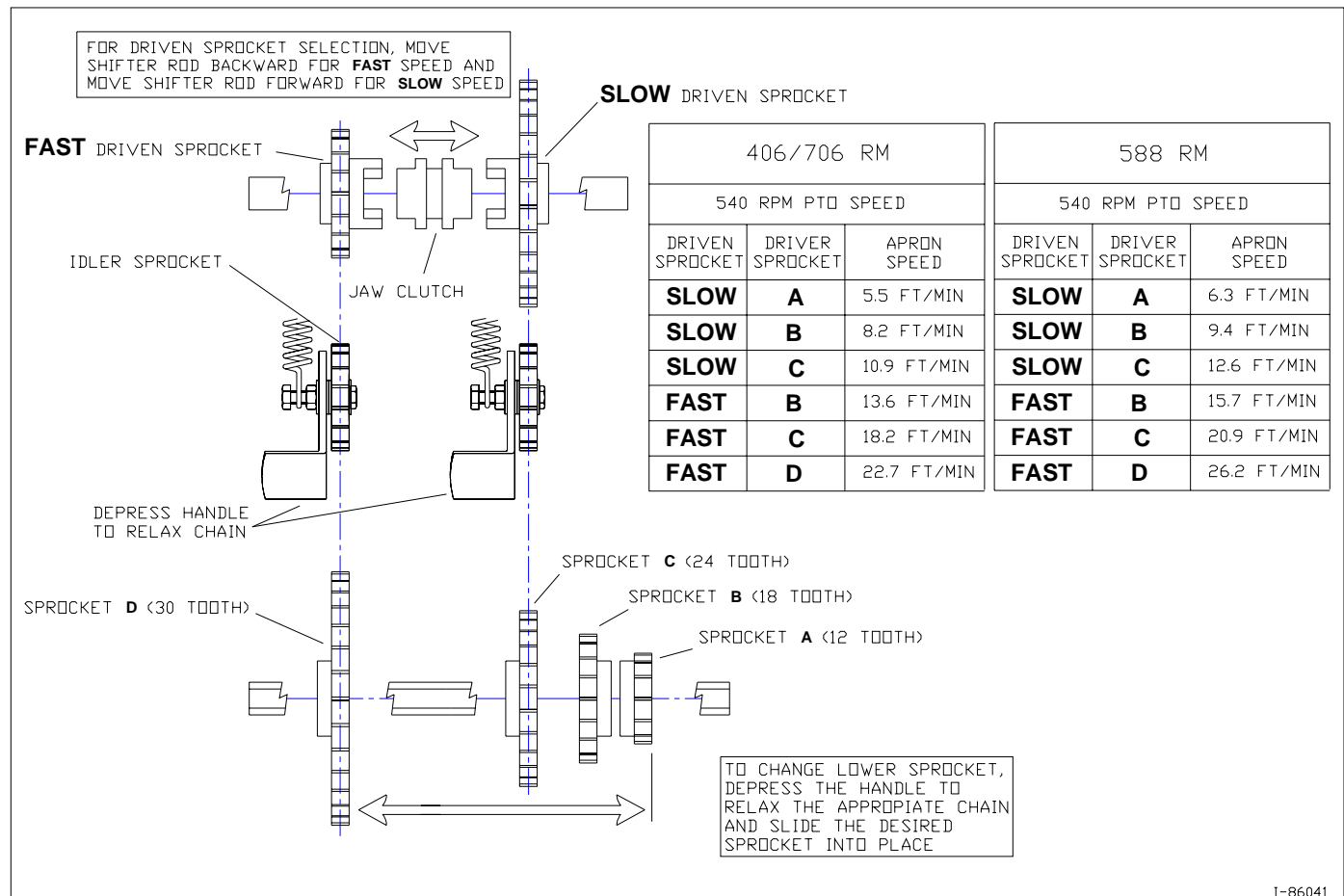
1. Move the shifter rod to the proper position for the desired feed rate. Refer to Figure 3B for additional related information on setting the sprockets for slower or faster speeds.
 - Pulling the shifter rod **forward** (away from the row mulcher) enables a **slower** feed rate.
 - Note that **neutral position** is achieved by setting the shifter rod in the middle (i.e. in between the forward/back positions).
 - Pushing the shifter rod **back** (towards the row mulcher) enables the **fastest** feed rate; this speed is most often used for "cleaning out" the row mulcher towards the end of a run.

NOTE: The faster setting increases the speed of the main apron chain which delivers more mulch to the cross conveyor belt. The slower setting causes the apron chain to run slower, delivering less product to the cross conveyor belt.

Operating the Row Mulcher (continued)

NOTE: The length and height of the shifter rod can be horizontally and vertically adjusted to suit the operator; refer to the **Shifter Lever Assembly Parts Detail** in Appendix A at the back of this manual.

- To adjust the **height** of the shifter rod, loosen the three bolts that hold the outer and inner shifter levers together. Slide the bolts in the bracket slots to the desired position, and re-tighten.
 - To **lengthen** the shifter rod, loosen the set screw that holds the adjustable extension in the outer lever. Slide the extension piece outward or inward to the desired position; re-tighten the set screw.
2. If desired, additional feed rate speed adjustment may be achieved by changing the apron drive chain between four different sprockets as shown in Figure 3B.
- (a) To access the drive chain and sprockets, open the front shield doors.
 - (b) Push the lever handle downward to release tension on the chain. This will allow enough slack in the chain so the sprocket(s) can be moved into the desired position(s).
 - (c) Refer to Figure 3B for speed rates for each chain position (as it relates to each sprocket).
In general, if the chain is positioned on the smaller sprockets, the mulcher will dispense mulch at slower speeds. If the chain is positioned on the larger sprockets, the mulcher will dispense mulch at a faster rate.
 - (d) After the desired sprocket position is achieved, release the lever handle to tighten the apron chain and close the front shield doors.



Operating the Row Mulcher (continued)

3. Before startup, check the oil level in the gearbox. If necessary, fill the gearbox with 85W-90/GL-5 gear oil up to the oil level plug.
4. After all adjustments for operation are complete, ensure that all bolts/nuts have been properly tightened and all safety shields replaced.
5. If your row mulcher is outfitted with an optional endgate, ensure that the gate is OPEN before starting the row mulcher for operation.
6. Start the row mulcher by engaging the tractor PTO. For best results, run the tractor at the throttle setting for standard PTO speed of 540 RPM and regulate ground speed accordingly for the desired application.

SECTION 4: MAINTENANCE & ADJUSTMENT

Guidelines for Regular Maintenance



WARNING: *All shields must be replaced after maintenance or adjustment procedures are performed.* Failure to do so could result in serious personal injury or death.



WARNING: Perform maintenance procedures and/or adjustments to the row mulcher **ONLY** when the PTO is disengaged and the tractor engine and/or row mulcher engine is not running. Failure to adhere to this caution could result in serious personal injury.

General Maintenance

Performing regular maintenance on you Millcreek Row Mulcher will help ensure optimal performance. Please follow these guidelines for maintaining your mulcher:

- Clean the row mulcher after each use.
- **ATTENTION:** NEVER store mulch in the row mulcher between unloading times during critical cold weather months when a frozen load could result in severe equipment damage (i.e. torn floor apron chain). Storing wet mulch in the row mulcher (or keeping the mulcher outdoors with mulch in it) will accelerate rusting of the steel.
- Check the row mulcher each time it is used for loose, bent, broken or missing parts.
ATTENTION: During operation, listen for abnormal sounds which might indicate loose parts or other equipment damage. Correct any parts problems immediately; expanded parts views of all row mulcher assemblies are provided in the Appendixes at the back of this manual.
- Inspect the PTO safety shield and chain regularly to check the condition of the links; replace the shield and chain as soon as weakness/breakage is noted.
- Grease the lube fittings marked with the yellow "50LOAD" label every 50 loads. All other lube fittings should be greased once a year with approximately 1/2 pump of a manual grease gun.
ATTENTION: All lube fittings are SAE standard. Lubricate non-sealed fittings until grease begins to seep from the fitting. DO NOT lubricate or oil the bushings--they are oil impregnated. (Oil will collect dust and dirt, causing the bushing to wear faster.) ***Worn grease fittings that will not hold the gun and/or fittings with a stuck check ball must be replaced.***
- Once a year, grease the following row mulcher components: PTO slide, U-joint, wheel hubs.
- If the shifter rod ever becomes difficult to move, grease the jaw clutch and shift detent with a light oil.


Guidelines for Regular Maintenance (continued)

Wheel/Tire Maintenance

- Once a month, check the wheel lug bolt torque. The recommended torque is 120 ft. lbs.
- Check the tires and maintain proper tire pressure:
 - 40 PSI for Ag Rib Tires
 - 80 PSI for Airplane Tires

ATTENTION: When storing the row mulcher for a period of time, block up the unit to remove weight from the tires. Doing so helps to prevent any possible damage to the tires.

Wheel Bearing Maintenance

- Adjust the wheel hub bearings after 100 loads and once each season thereafter.
 - Use a jack to raise the row mulcher to remove weight from the wheel.
-  **CAUTION:** Be sure to block up the row mulcher to prevent personal injury while working on the wheels.
- Rotate the wheel and torque the wheel hub bearings to 25 ft. lbs.
 - Back off the nut one flat, plus enough to install the cotter pin (1/6 turn min., 1/3 turn max.)

Drive System Maintenance

- Periodically check the oil level in the gearbox. If necessary, fill the gearbox to the oil level plug on front of the gearbox with 85W-90/GL-5 gear oil.
- Apply chain lube to the floor apron chain each time after completing a spreading job **and** before storing the row mulcher for any period of time.
- Periodically check the apron chain and/or cross conveyor belt for proper tension/tightness (refer to Figures 4A and 4B).

Procedure for adjusting the apron chain:

- a) The apron chain can be adjusted using the apron tensioner bolts at the rear of the row mulcher as shown in Figure 4A.
- b) Adjust the apron tensioner bolts so 1/4 to 1/2 of the lower chain strand is laying on the chain guides (steel channels in the apron floor).

Procedure for adjusting the cross conveyor belt:

- a) Use a 3/4 " wrench to loosen the mounting bolts on the cross conveyor tensioner bearings (located at the front right corner of the row mulcher on either side of the cross conveyor belt).
- b) Refer to Figure 4B. Adjust the tensioner bolt to obtain the desired tension.

ATTENTION: Be sure to tighten the draw bolts *equally on each side* so the belt does not droop or have any slack in it; the belt may be damaged if it is operated when misaligned.

Guidelines for Regular Maintenance (continued)

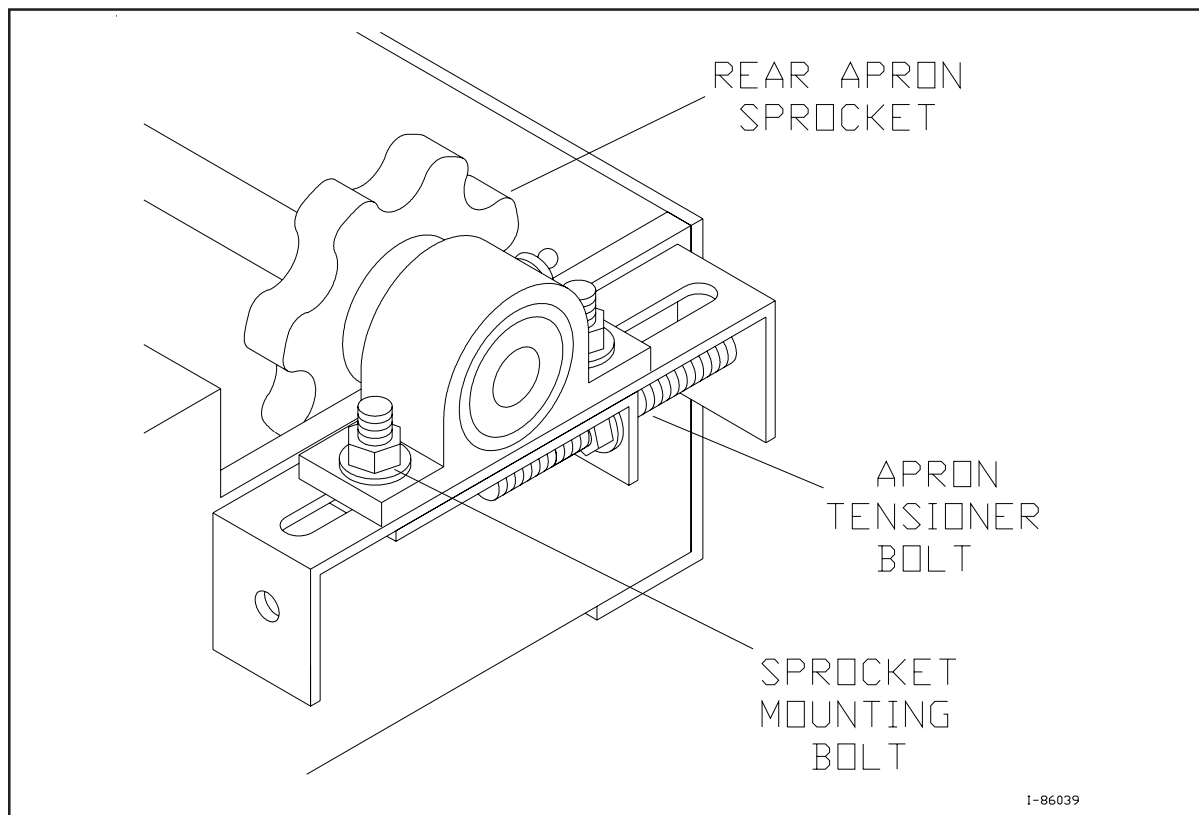


Figure 4A - Adjusting the Apron Chain Tension

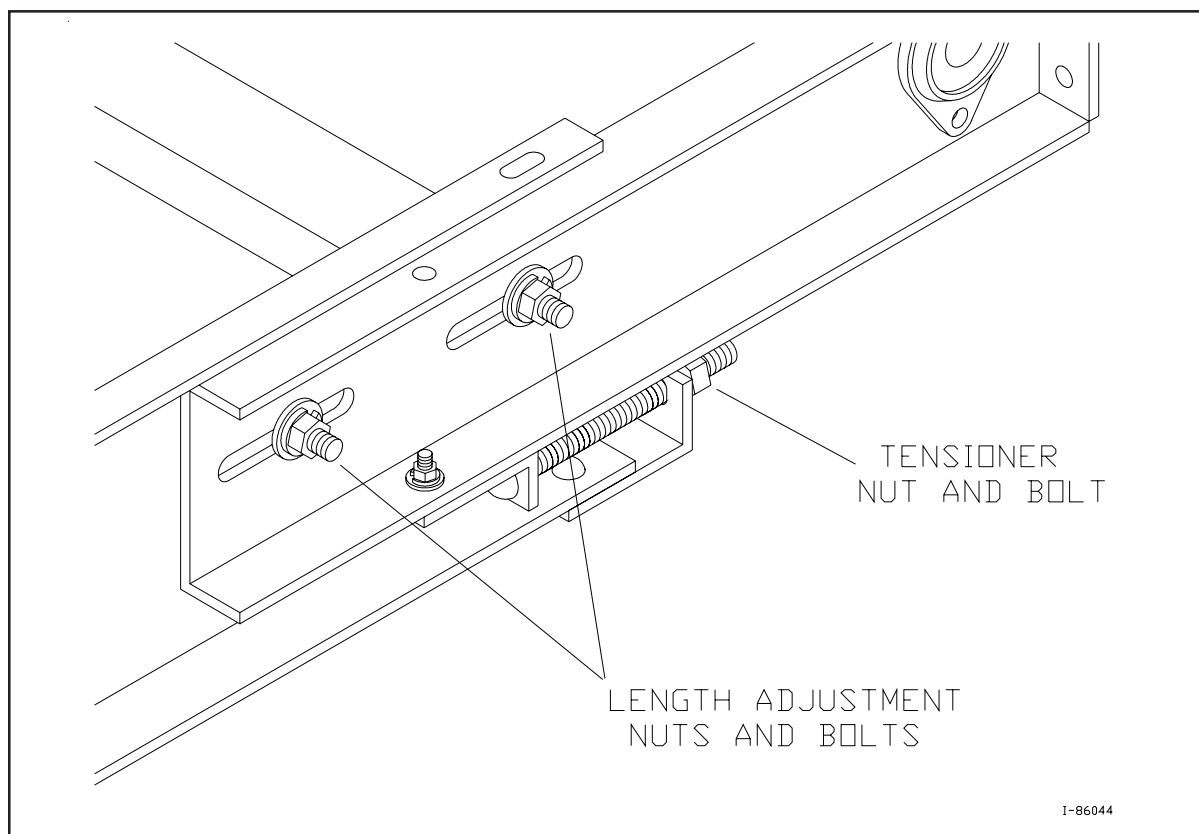


Figure 4B - Cross Conveyor Belt Tension Adjustment

Procedures for Row Mulcher Adjustment and/or Repair



WARNING: *All shields must be replaced after maintenance or adjustment procedures are performed.* Failure to do so could result in serious personal injury or death.



WARNING: Perform maintenance procedures and/or adjustments to the row mulcher **ONLY** when the PTO is disengaged and the tractor engine and/or row mulcher engine is not running. Failure to adhere to this caution could result in serious personal injury.

Problems with row mulcher operation may indicate that certain adjustments and/or repair procedures are required to restore proper functioning. The following procedures address common problems which may be encountered in row mulcher operation.

Replacing the Shear Pins

Located on the front left side of the row mulcher under the swing away shield is a large sprocket with two shear pins. Should the main apron chain become jammed for any reason, these shear pins are engineered to break, preventing damage to other parts of the equipment.

Replace the shear pins with Grade #2, 3/8 x 1-1/2" hex-head bolts and lock nuts (MC Part# 34051).

ATTENTION: Be sure to clear any obstructions prior to re-starting the row mulcher.

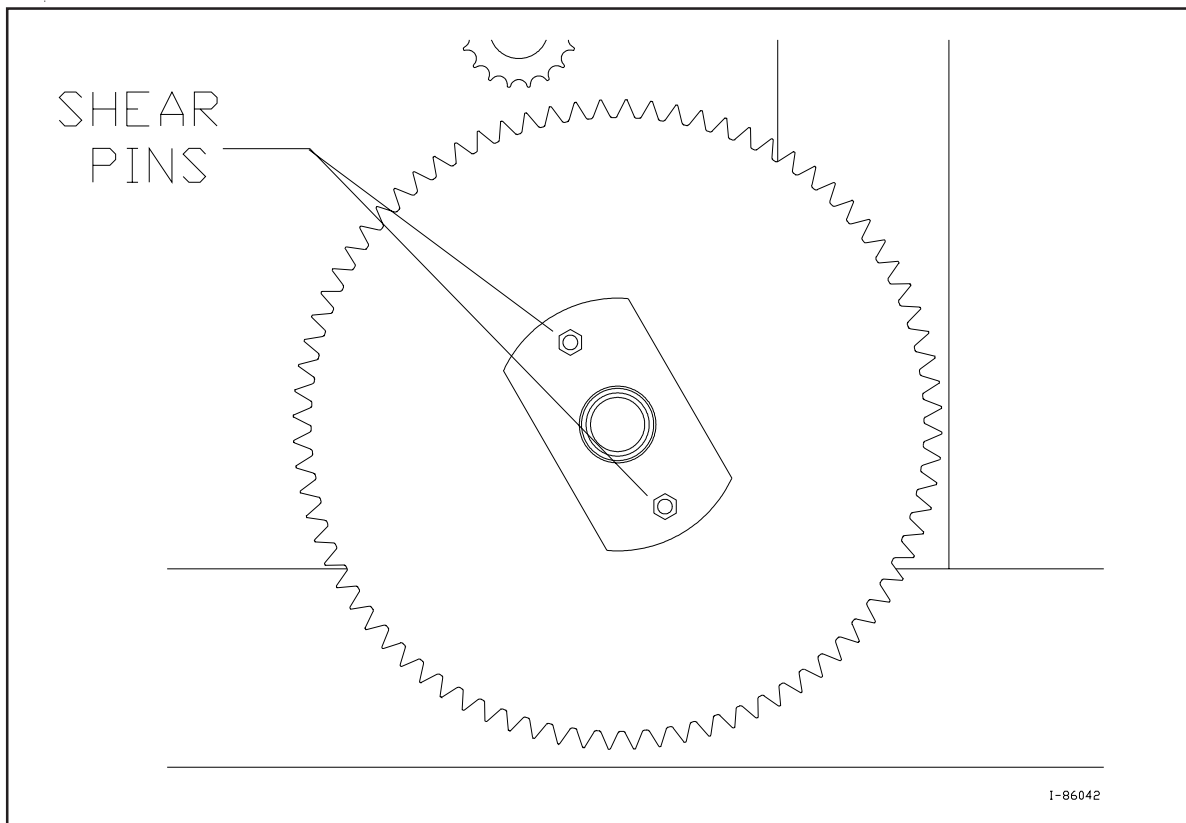


Figure 4C - Replacing the Shear Pins

Procedures for Spreader Adjustment (continued)

Adjusting the Slip Clutch

The slip clutch, located under the front shields, drives the cross conveyor. It is designed to slip in the event the cross conveyor becomes jammed or overloaded.

Periodically check the slip clutch and re-adjust the tension as necessary.

1. Refer to Figure 4D.
2. Loosen the slip clutch (large nut) by turning counterclockwise until slippage occurs.
3. Then **handtighten** the nut clockwise and tighten one-half additional turn with a large wrench.

ATTENTION: The slip clutch uses Bellville washers for pressure on the slip clutch pads. Overtightening of the large nut can cause the washers to move on center, releasing pressure on the slip clutch pads.

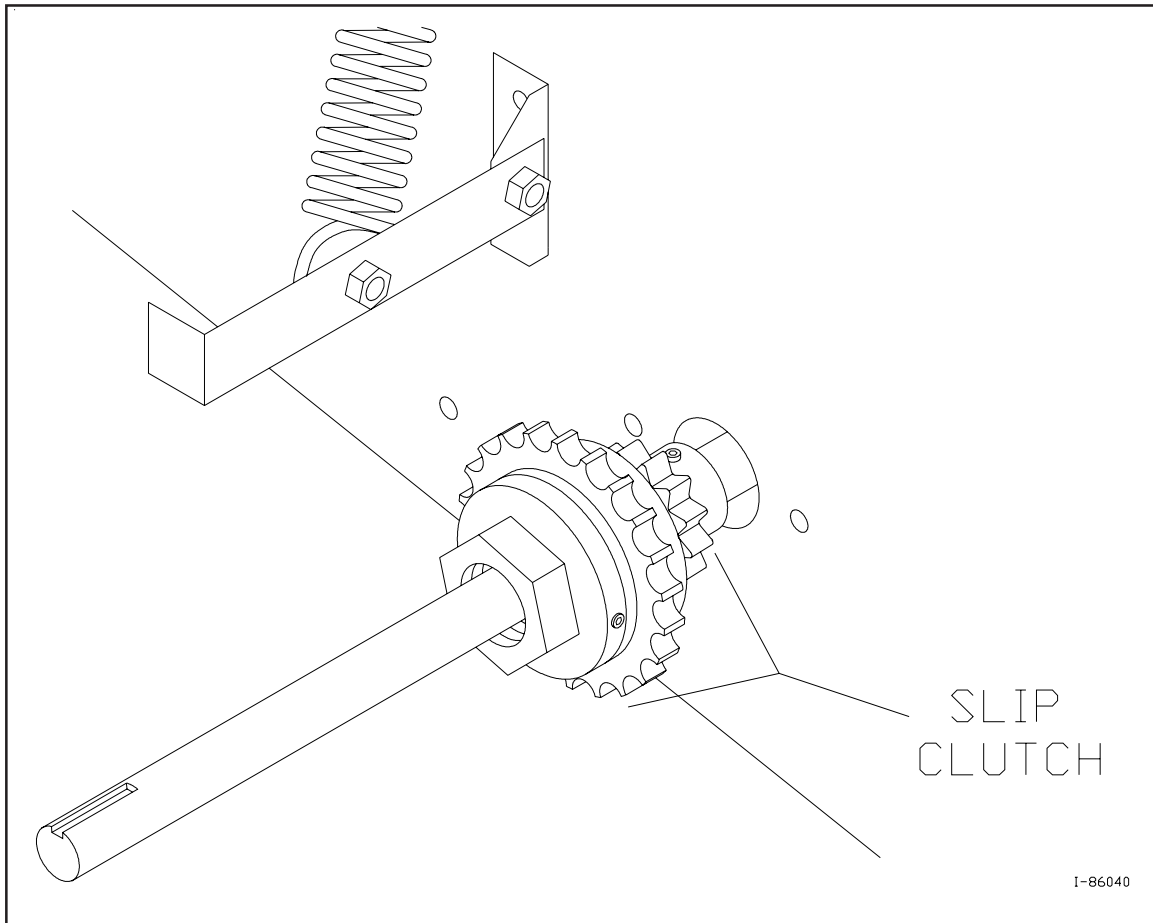


Figure 4D - Adjusting the Slip Clutch

APPENDIX A: PARTS REFERENCE

The following information is provided for your reference in understanding how the row mulcher is assembled and how spare parts can be identified and ordered properly.

IMPORTANT! Please note that some of the Parts Lists in this section apply generally to all Row Mulcher Model Numbers, while others are specified differently for separate models. Please read carefully to find the appropriate information that applies to your Row Mulcher Model.

Parts Ordering Information

When ordering replacement parts, please provide the following information to your local Millcreek dealer:

- Model and Serial Number of the unit (located on the front right corner of the unit)
- Part Number and Description as it appears on the following drawings/parts lists

Row Mulcher Specifications

	36" BOX WIDTH		54" BOX WIDTH
<u>Specification</u>	<u>Model 406</u>	<u>Model 706</u>	<u>Model 588</u>
Capacity (cu. yds.)	5.4	9.3	7.8
Struck Capacity	4.0	7.0	5.8
Maximum Payload (lbs.)	4,000	7,500	6,000
Overall Width	62"	67"	85"
Overall Length	16'	22'10"	16'10"
Loading Height	6'	6'	6'
Body Width	3'	3'	4'6"
Body Length	8'	14'	8'
Body Height	49"	49"	49"
Weight (unloaded - lbs.)	2500	3500	3200
Construction	11-gauge, galvanized steel; heavy channel chassis	11-gauge, galvanized steel heavy channel chassis	11-gauge, galvanized steel heavy channel chassis
Floor	10-yr. poly floor	10-yr. poly floor	10-yr. poly floor
Apron Conveyor Chain	#662 pintle	#667X pintle	#662 pintle, dual apron
Wheels	11L x 14 x 12-ply	37L x 14 x 15-ply	37L x 14 x 15-ply
Tires	Ag Rib	Airplane	Airplane
Hubs	6-bolt	8-bolt	8-bolt
Body Finish	Industrial, rust-proof	Industrial, rust-proof	Industrial, rust-proof
Min. Tractor HP Required	30 HP	50 HP	40 HP

Main Frame and Chassis Assembly

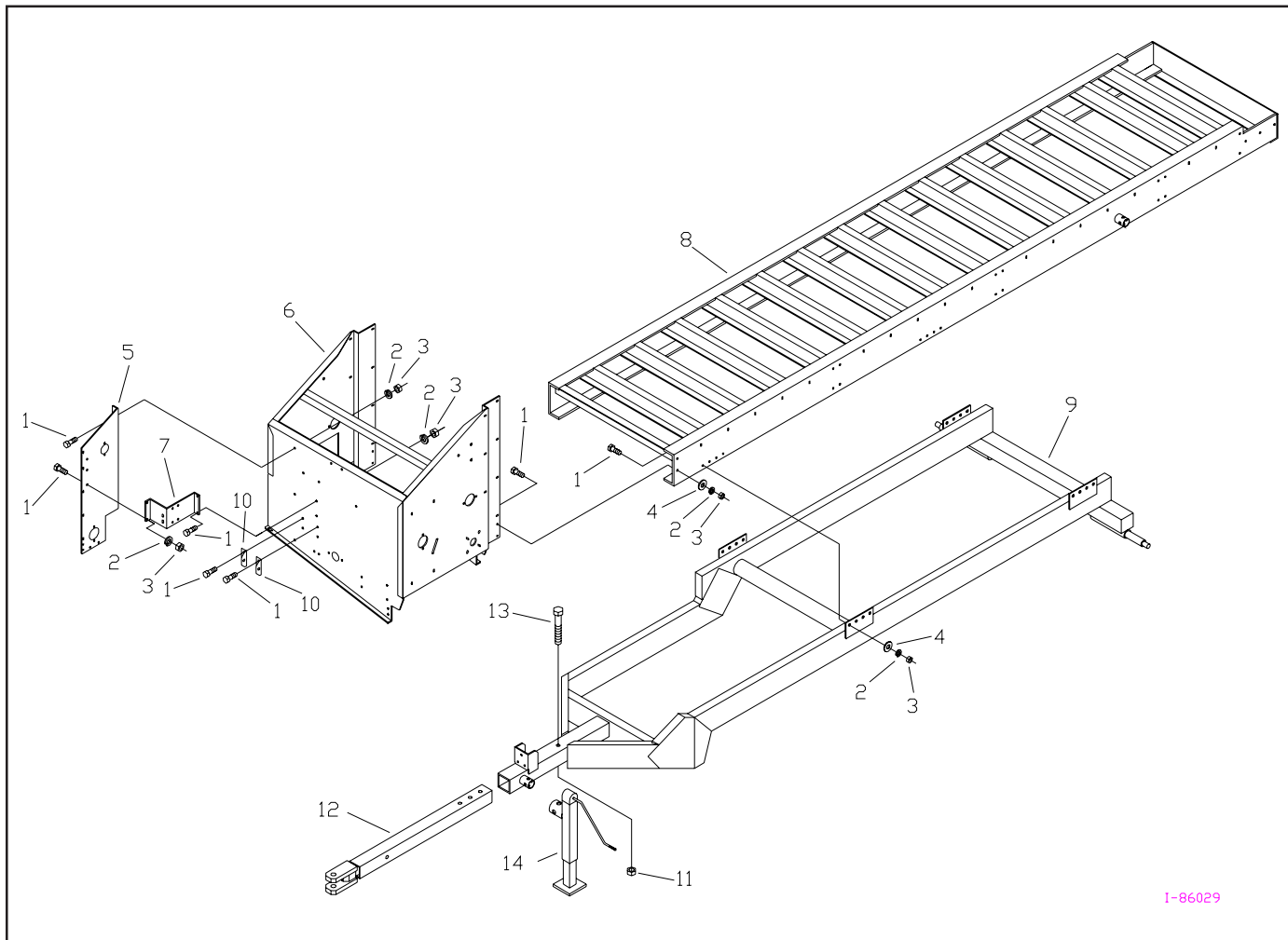


Figure A1 - Main Frame and Chassis Parts Detail

Main Frame and Chassis Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	34119	35	3/8 x 1 Bolt
2	34141	35	3/8 Lock Washer
3	34087	35	3/8 Nut
4	34018	22	3/8 Washer
5	270388	1	Front Bearing Bracket
6	270415	1	Conveyor Housing (406, 706)
	270568	1	Conveyor Housing (588)
7	270241	1	Shifter Bracket
8	270499	1	406 Box Frame
	270357	1	706 Box Frame
	270571	1	588 Box Frame
9	270547	1	406 Chassis
	270562	1	406 Tandem Chassis
	270548	1	706 Chassis
	270563	1	706 Tandem Chassis
	270549	1	588 Chassis
	270592	1	588 Tandem Chassis
10	270402	2	Lever Bracket
11	34265	1	3/4 Nylon Stop Nut
12	260788	1	Swivel Hitch
13	34262	1	3/4 x 6 Bolt
14	215187	1	5000 Pound Jack

Tire and Wheel Assembly

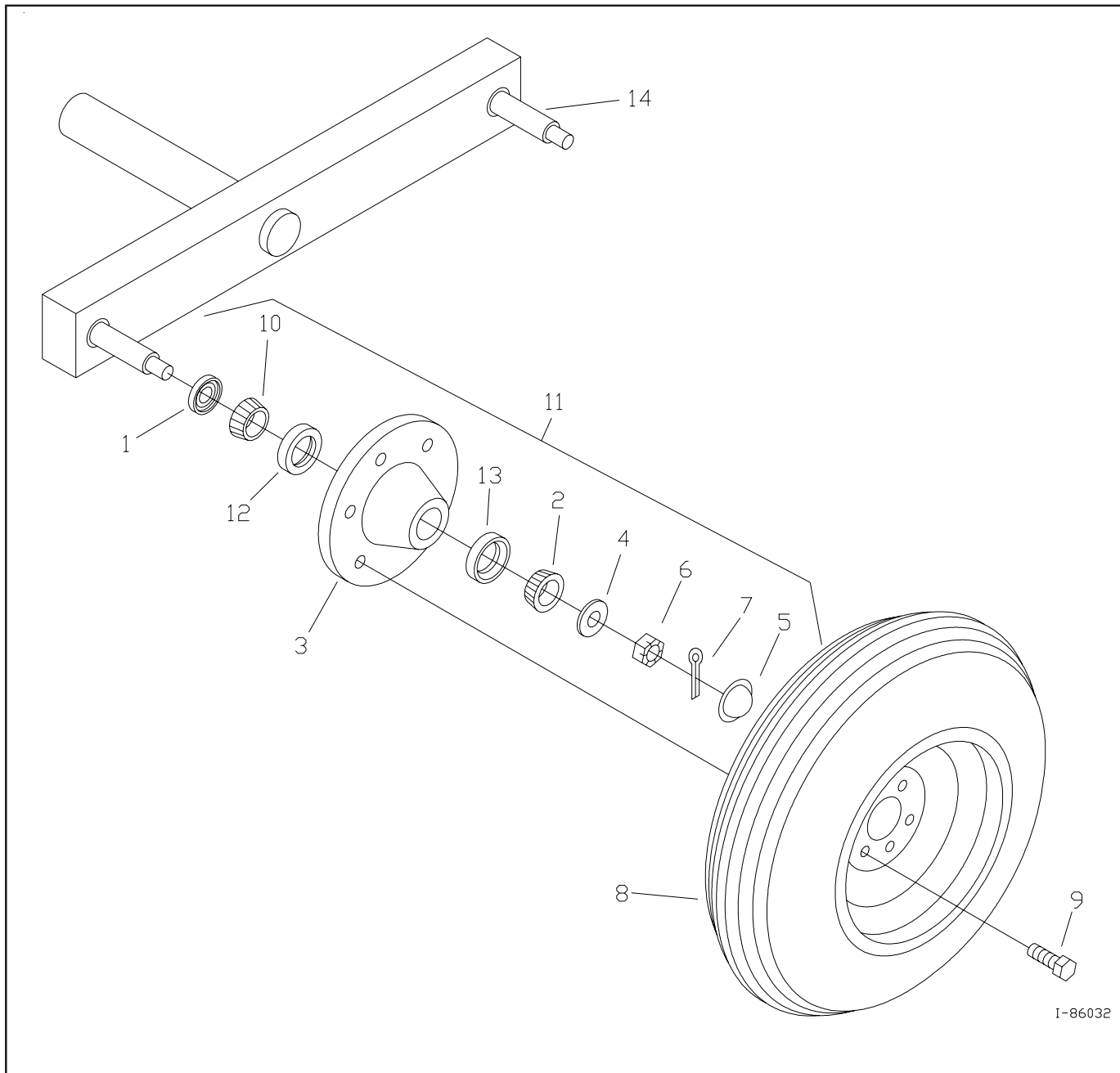


Figure A2 - Tire and Wheel Parts Detail

Tire and Wheel Assembly (continued)

<u>Item #</u>	<u>Component Description</u>	<u>MC Part #'s for Hub Types</u>		
		<u>406</u> <u>(6-hole hub)</u>	<u>706/588</u> <u>(8-hole hub)</u>	<u>Walking Beam</u> <u>(6-hole hub)</u>
—	Spindle (<i>not a service part</i>)	215116	215110	215115
1	Grease Seal	215166	215166	215158
2	Outer Bearing Cone	215303	215303	215203
3	Hub	215301	215170	215162
4	Spindle Washer	34216	34216	215164
5	Dust Cap	215169	215169	215161
6	Spindle Nut	215168	215168	215160
7	Cotter Pin	34347	34347	34347
8	Wheel	215194	215195	215194
9	Lug Bolt	215289	215289	215222
10	Inner Bearing Cone	215167	215167	215159
11	Complete Hub	215242	215111	215114
12	Inner Bearing Cup	215300	215300	215279
13	Outer Bearing Cup	215302	215302	215277
		<u>MC Part #</u>		
14	Right Walking Beam	270641 (option for 406, 706, 588)		
	Left Walking Beam	270803		

Main Drive (Gearbox) Assembly

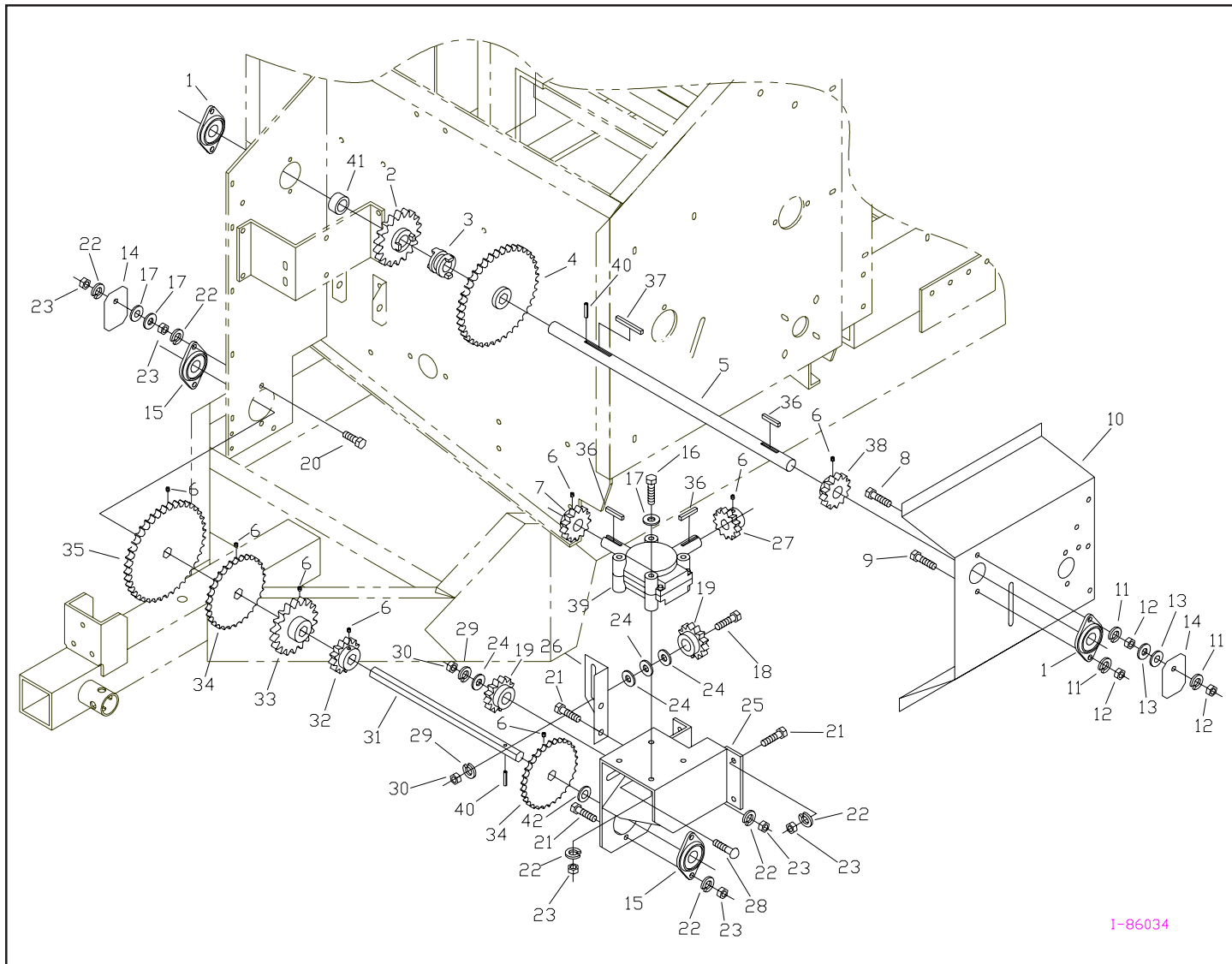


Figure A3 - Main Drive (Gearbox) Parts Detail

Main Drive (Gearbox) Assembly (continued)

Item #	MC Part #	Qty.	Component Description
1	210144	2	1" Flanged Bearing
2	210222	1	18 Tooth Clutch Sprocket
3	210220	1	Clutch
4	210188	1	30 Tooth Clutch Sprocket
5	270284	1	Clutch Shaft (406, 706)
	270786	1	Clutch Shaft (588)
6	34325	8	5/16 x 5/16 Set Screw
7	210145	1	12 Tooth Sprocket (Includes Item #6)
8	34222	2	5/16 x 1-1/4 Bolt
9	34200	2	5/16 x 3/4 Bolt
10	270274	1	Side Bracket
11	34203	6	5/16 Lock Washer
12	34020	6	5/16 Nut
13	34057	4	5/16 Washer
14	270309	3	Shaft Cover
15	210317	2	1" Hex Flanged Bearing
16	34241	4	3/8 x 4-1/2 Bolt
17	34018	8	3/8 Washer
18	34254	1	1/2 x 2 Bolt
19	210205	2	Idler Sprocket
20	34255	1	3/8 x 1-1/2 Bolt
21	34199	9	3/8 x 1 Bolt
22	34141	16	3/8 Lock Washer
23	34087	16	3/8 Nut
24	34094	10	1/2 Washer
25	270444	1	Gearbox Bracket
26	270428	1	Idler Bracket
27	210216	1	15 Tooth Sprocket
28	34266	1	1/2 x 2-1/2 Carriage Bolt
29	34035	2	1/2 Lock Washer
30	34034	2	1/2 Nut
31	270443	1	Lower Gear Hex Shaft
32	210191	1	12 Tooth Sprocket (Includes Item #6)
33	210215	1	18 Tooth Sprocket (Includes Item #6)
34	210214	2	24 Tooth Sprocket (Includes Item #6)
35	210196	1	30 Tooth Sprocket (Includes Item #6)
36	210130	3	1/4 x 1 Key
37	210223	1	1/4 x 2-1/4 Key
38	210159	1	12 Tooth Sprocket (Includes Item #6)
39	210174	1	Gearbox
40	220106	3	1/4 x 1-1/4 Roll Pin
41	210226	2	1" Shaft Collar
42	34381	2	1-1/8 SAE Washer

Drive Chain Assembly

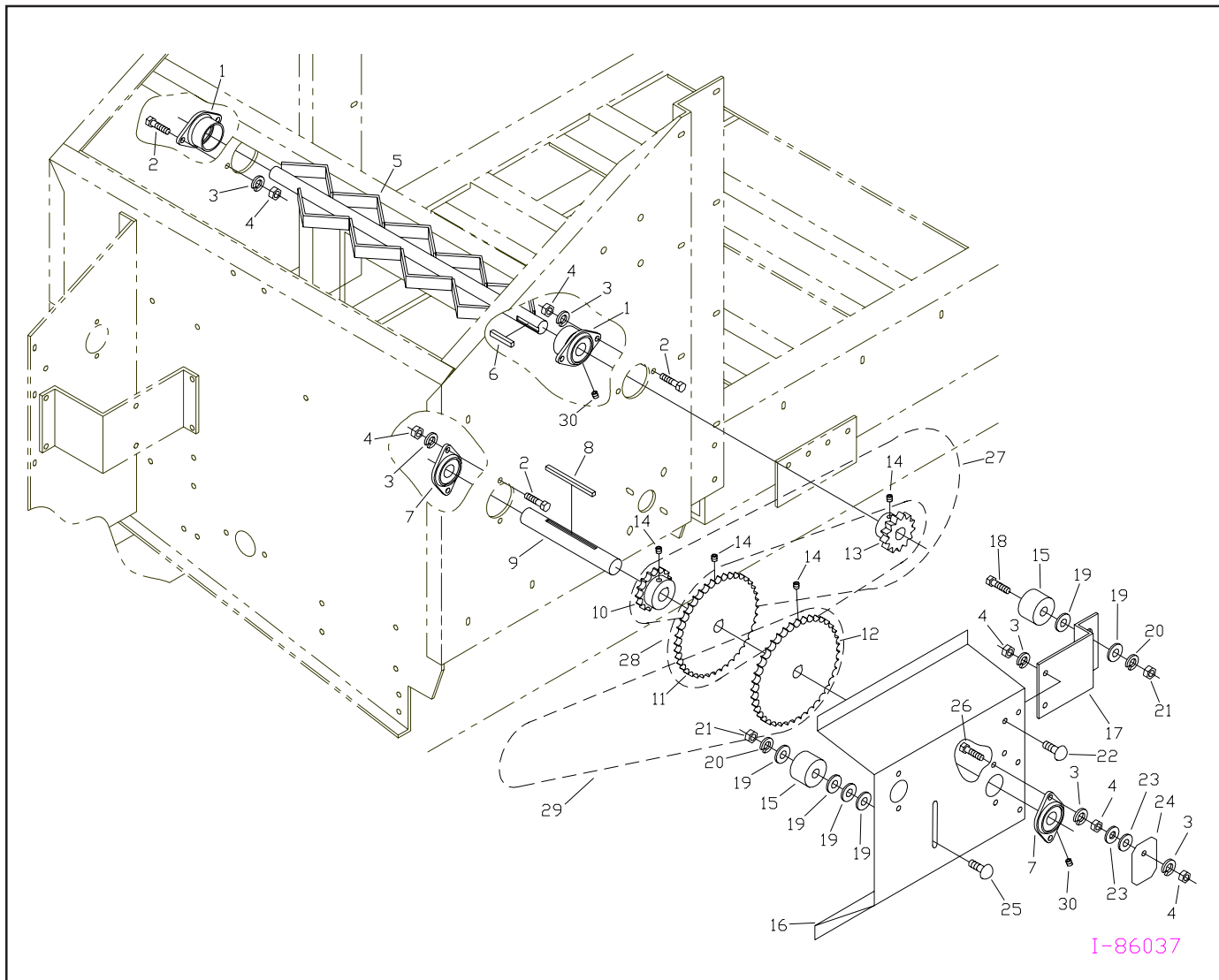


Figure A4 - Drive Chain Parts Detail

Drive Chain Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	261407	2	Flanged Bearing With Shield (Includes Item # 30)
2	34199	7	3/8 x 1 Bolt
3	34141	10	3/8 Lock Washer
4	34087	10	3/8 Nut
5	270221	1	Beater (406, 706)
	270224	1	Beater (588)
6	210130	1	1/4 x 1 Key
7	210227	2	Flanged Bearing (Includes Item # 30)
8	210248	1	1/4 x 4 Key
9	270468	1	Jack Shaft
10	210195	1	15 Tooth Sprocket (Includes Item # 14)
11	210193	1	38 Tooth Sprocket (Includes Item # 14)
12	210212	1	42 Tooth Sprocket (Includes Item # 14)
13	210287	1	12 Tooth Sprocket (Includes Item # 14)
14	34325	4	5/16 x 5/16 Set Screw
15	270640	3	Roller Idler
16	270274	1	Side Bracket
17	270403	1	Side Roller Bracket
18	34230	2	1/2 x 3 Bolt
19	34094	8	1/2 Washer
20	34035	3	1/2 Lock Washer
21	34034	3	1/2 Nut
22	34006	2	3/8 x 1 Carriage Bolt
23	34018	2	3/8 Washer
24	270309	2	Bearing Shaft Shield
25	34091	1	1/2 x 3 Carriage Bolt
26	34252	1	3/8 x 1-3/4 Bolt
27	210232	1	Apron Drive Chain
28	210233	1	Beater Drive Chain
29	210231	1	Jack Shaft Drive Chain
30	N/A	4	1/4 x 1/4 Set Screw

Apron Sprocket / Clutch Assemblies (Front and Rear)

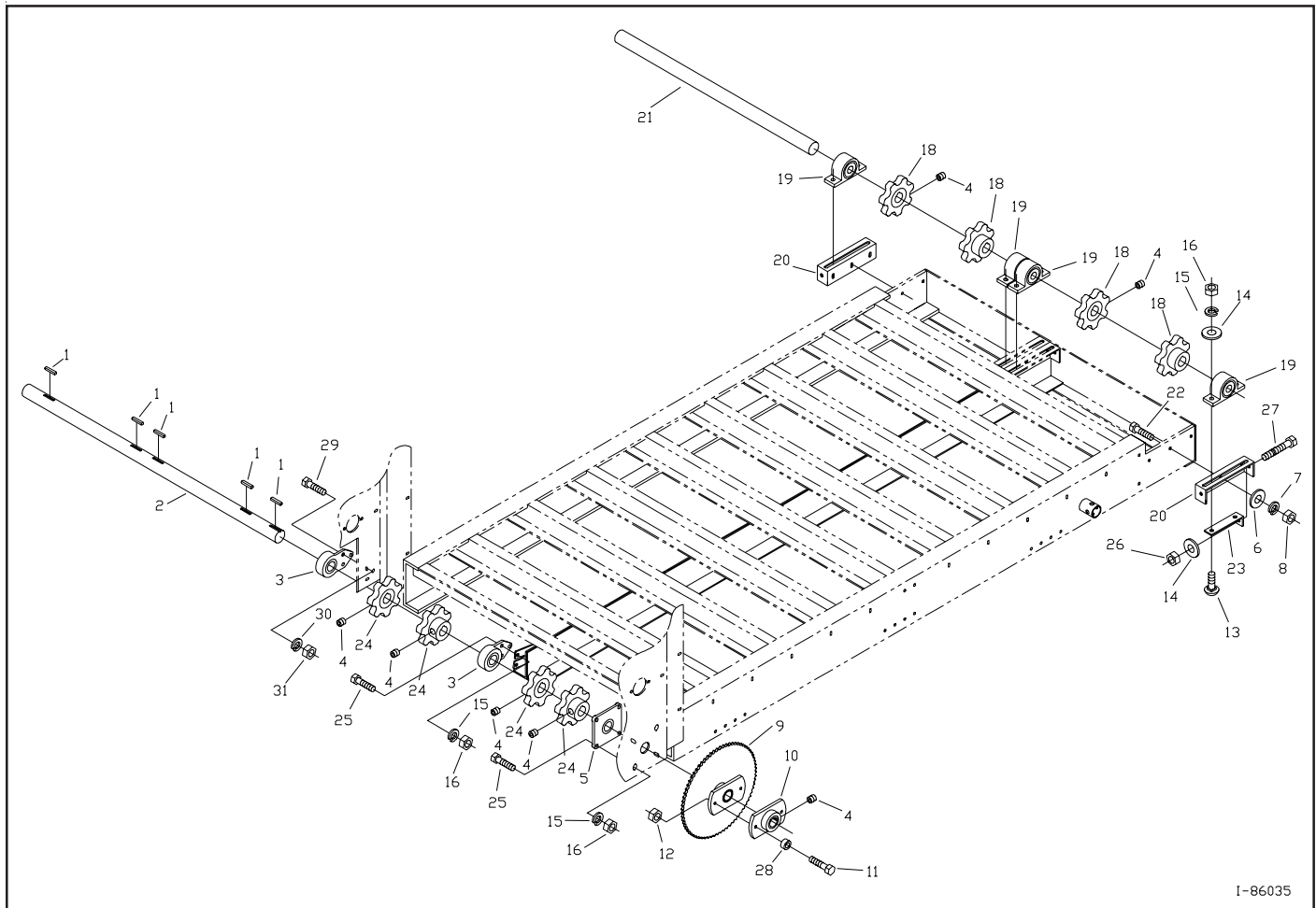


Figure A5 - Apron Sprockets and Clutch Parts Detail

Apron Sprocket / Clutch Assemblies (continued)

Item #	MC Part #	Qty. Per Model #			Component Description
		406	706	588	
1	210224	3	3	5	3/8 x 1-1/4 Key
2	270320	1	1		Front Apron Shaft
	270245			1	Front Apron Shaft
3	210218	1	1	2	Front Cast Bearing (Includes Item # 4)
4	34312	9	9	17	3/8 x 3/8 Set Screw
5	210217	1	1	1	Square Cast Bearing (Includes Item # 4)
6	34018	6	6	6	3/8 Washer
7	34141	6	6	6	3/8 Lock Washer
8	34087	6	6	6	3/8 Nut
9	270259	1	1	1	Shear Clutch Sprocket (Includes Item #28 and Bushing)
10	270204	1	1	1	Outer Shear Clutch (Includes Item #4 and 28)
11	34051	2	2	2	3/8 x 1-1/2 Bolt, GR 2*
12	34220	2	2	2	3/8 Nylon Stop Nut
13	34240	4	4	8	1/2 x 2 Carriage Bolt
14	34094	6	6	12	1/2 Washer
15	34035	11	11	12	1/2 Lock Washer
16	34034	11	11	12	1/2 Nut
18	270815	2			Rear Apron Sprocket (Includes Item #4)
	270816			4	Rear Apron Sprocket (Includes Item #4)
	210252	2			Rear Apron Sprocket (Includes Item #4)
19	210418	2			Rear Apron Shaft Bearing (Includes Item # 4)
	210243		2	4	Rear Apron Shaft Bearing (Includes Item # 4)
20	270289	2	2	2	Side Bearing Mount
21	270178	1			Rear Apron Shaft
	270186		1		Rear Apron Shaft
	270634			2	Rear Apron Shaft
22	34199	6	6	6	3/8 x 1 Bolt
23	270282	2	2	4	Apron Tensioner Bracket
24	210155	2		4	Front Apron Sprocket (Includes Item #4)
	210211		2		Front Apron Sprocket (Includes Item #4)
25	34226	4	4	4	1/2 x 1-1/2 Bolt
26	34211	2	2	4	1/2 Nylon Stop Nut
27	34380	2	2	4	1/2 x 5 Tap Bolt
28	220159	4	4	4	Shear Bolt Bushing (<i>Not a Service Part</i>)
29	34263	3	3	6	7/16 x 1-1/2 Bolt
30	34231	3	3	6	7/16 Lock Washer
31	34189	3	3	6	7/16 Nut

***NOTE: Use Grade 2 bolt ONLY.**

Conveyor Drive / Chain Assembly

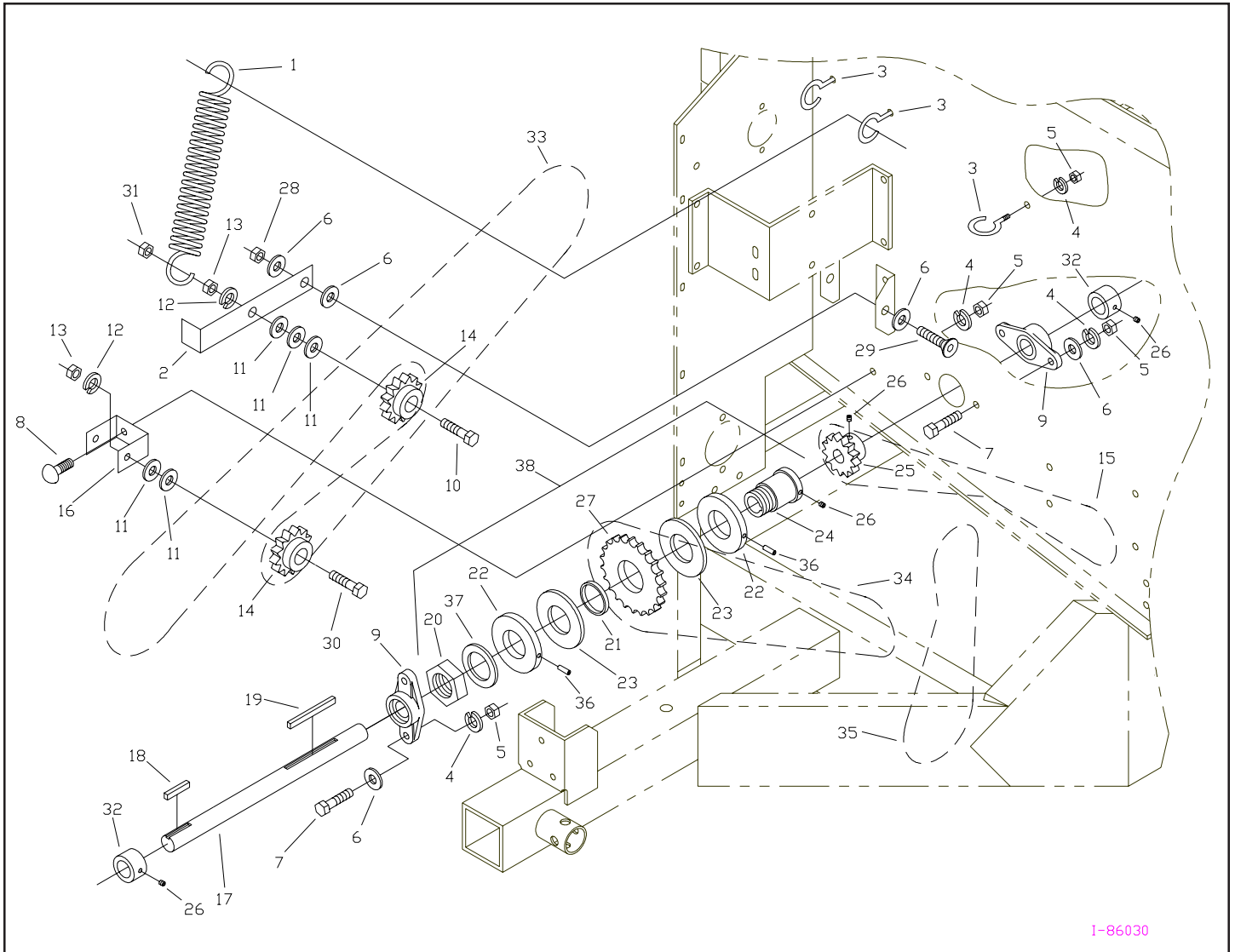


Figure A6 - Conveyor Drive Chain Parts Detail

Conveyor Drive / Chain Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	220123	2	Tensioner Spring
2	270533	2	Tension Adjustment Arm
3	210228	3	Eye Bolt
4	34141	9	3/8 Lock Washer
5	34087	9	3/8 Nut
6	34018	8	3/8 Washer
7	34255	4	3/8 x 1-1/2 Bolt
8	34006	2	3/8 x 1 Carriage Bolt
9	210219	2	Cast Housing Bearing (Includes Item #32)
10	34230	2	1/2 x 3 Bolt
11	34094	10	1/2 Washer
12	34035	4	1/2 Lock Washer
13	34034	4	1/2 Nut
14	210205	4	Idler Sprocket
15	210229	1	Gearbox Drive Chain (406, 706)
	210244	1	Gearbox Drive Chain (588)
16	270532	1	Idler Sprocket Bracket
17	270285	1	PTO Shaft (588)
	270602	1	PTO Shaft (406, 706)
18	210130	1	1/4 x 1 Key
19	210248	1	1/4 x 4 Key
20	34291	1	1-1/2 Nut
21	210171	1	Slip Clutch Bushing (<i>Not a Service Part</i>)
22	270336	2	Slip Clutch Plate (Includes Item #36)
23	220158	2	Slip Clutch Lining
24	270337	1	Slip Clutch Hub (Includes Item #26)
25	210145	1	12 Tooth Sprocket (Includes Item #26)
26	34325	4	5/16 x 5/16 Set Screw
27	210225	1	Slip Clutch Sprocket (Includes Item #21)
28	34220	2	3/8 Nylon Stop Nut
29	34151	2	3/8 x 1 Countersunk Bolt
30	34254	2	1/2 x 2 Bolt
31	34211	2	1/2 Nylon Stop Nut
32	210226	2	Shaft Collar (Includes Item #26)
33	210242	2	Speed Adjustment Chain
34	210245	1	Conveyor Drive Chain (406, 706)
	210246	1	Conveyor Drive Chain (588)
35	210230	1	Hex Shaft Chain Drive
36	220137	2	1/4 x 1 Roll Pin
37	210347	1	Belleville Washer
38	270332	1	Complete Slip Clutch (Includes Items 20-24, 26-27, 36-37)

Shifter Lever Assembly

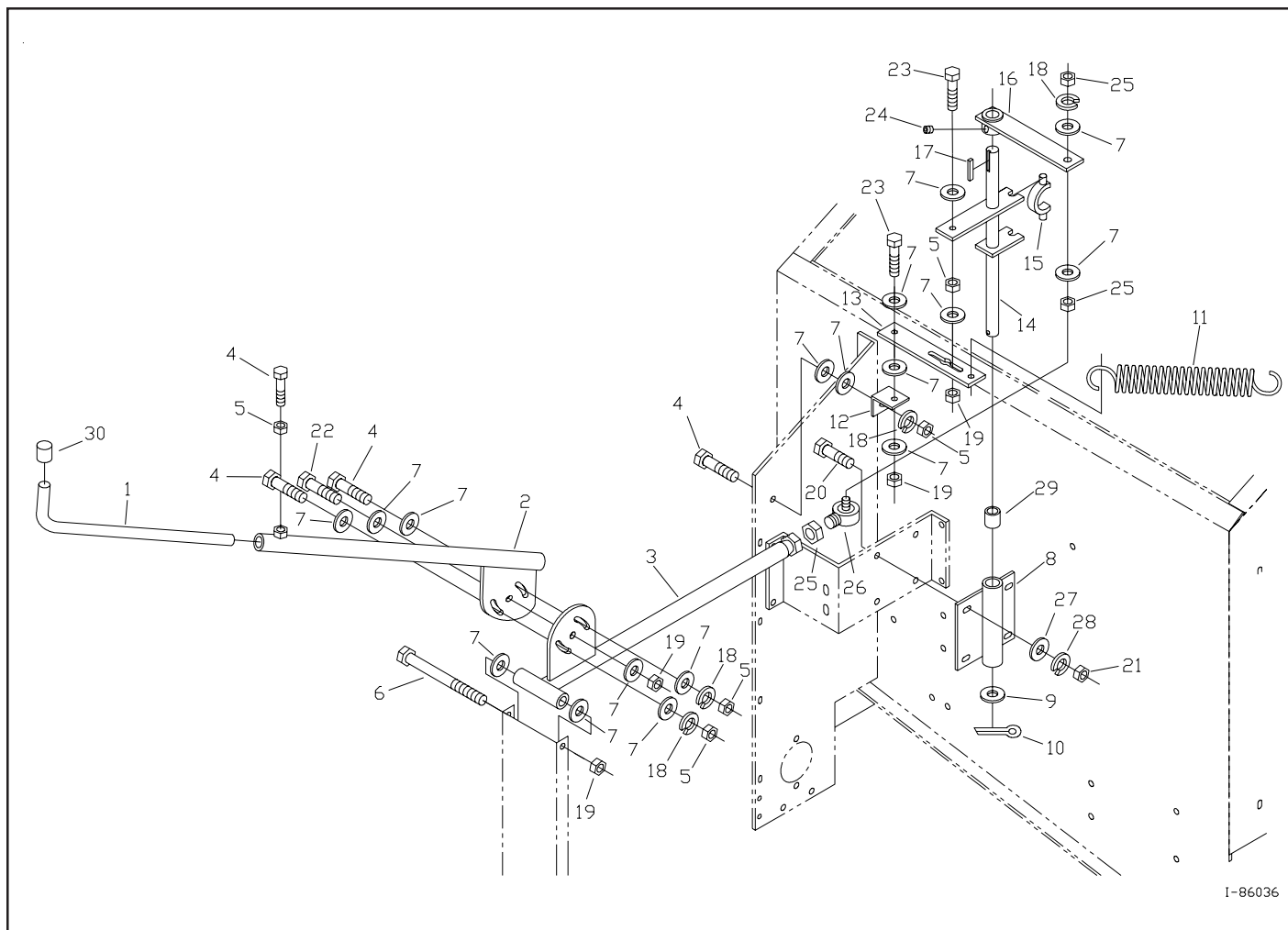


Figure A7 - Shifter Lever Parts Detail

Shifter Lever Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	270631	1	Adjustable Shifter Lever Extension
2	270629	1	Outer Shifter Lever
3	270628	1	Inner Shifter Lever (588)
	270630	1	Inner Shifter Lever (406, 706)
4	34199	4	3/8 x 1 Bolt
5	34087	6	3/8 Nut
6	34241	1	3/8 x 4-1/2 Bolt
7	34018	17	3/8 Washer
8	270567	1	Shifter Lever Pivot Bracket (Includes Item #29)
9	34144	1	3/4 Washer
10	34209	1	Cotter Pin 5/32 x 1-1/2
11	220123	1	Shifter Lever Neutral Spring
12	270318	1	Side Mount Bracket
13	270265	1	Speed Selection Arm
14	270108	1	Speed Selection Pivot Assembly
15	210221	1	Clutch Shifter
16	270624	1	Shifter Lever Arm (Includes Item #24)
17	210129	1	3/16 x 1 Key
18	34141	4	3/8 Lock Washer
19	34220	4	3/8 Nylon Stop Nut
20	34221	4	5/16 x 1 Bolt
21	34020	4	5/16 Nut
22	34224	1	3/8 x 1-1/4 Bolt
23	34255	2	3/8 x 1-1/2 Bolt
24	34325	1	5/16 x 5/16 Set Screw
25	34292	3	3/8 Fine Thread Nut
26	220145	1	3/8 Ball Joint
27	34057	4	5/16 Washer
28	34203	4	5/16 Lock Washer
29	210173	2	Bushing
30	32478	1	Plastic Cap

Apron Chain Assembly

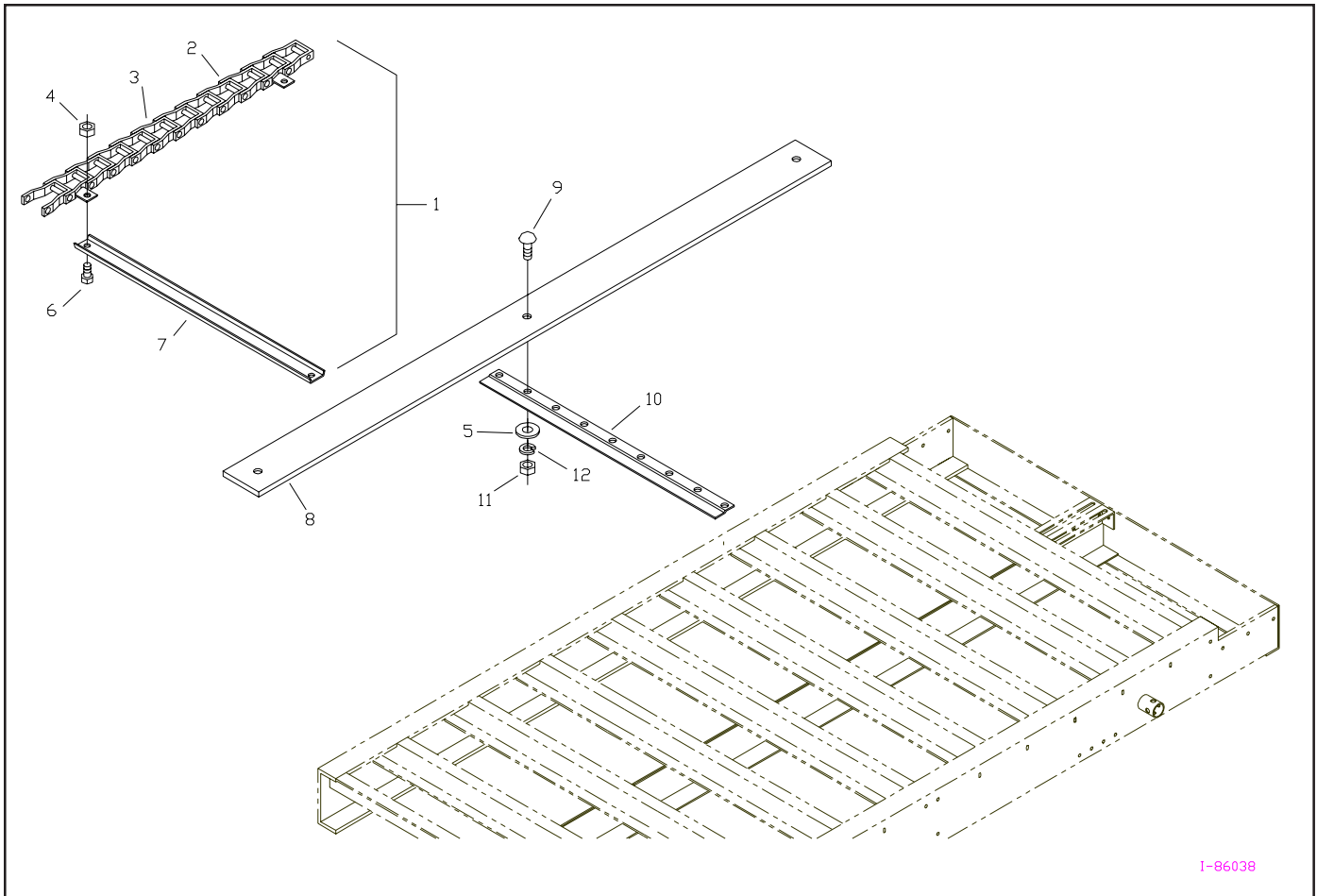


Figure A8 - Apron Chain Parts Detail

Apron Chain Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty. Per Model #</u>			<u>Component Description</u>
		<u>406</u>	<u>706</u>	<u>588</u>	
1	270636	1			Apron Chain Complete
	270637		1		Apron Chain Complete
	270638			2	Apron Chain Complete
2	210256	32		60	Chain Link With Slat Tab
	210258		48		Chain Link With Slat Tab
3	210259	122		244	Chain Link
	210260		284		Chain Link
4	34124	32		60	1/4 Nylon Stop Nut
	34223		48		5/16 Nylon Stop Nut
5	34057	18	24	27	5/16 Washer
6	34234	32		60	1/4 x 3/4 Bolt
	34221		48		5/16 x 1 Bolt
7	260528	16			Apron Slat
	270322			30	Apron Slat
	270314		24		Apron Slat
8	215104	6		9	Floor Board
	215105		6		Floor Board
9	34282	18	24	27	5/16 x 1-1/2 Carriage Bolt
10	260482	2	3		Floor Board Retainer
	260433			2	Floor Board Retainer
11	34020	18	24	27	5/16 Nut
12	34203	18	24	27	5/16 Lock Washer

Optional Fine Materials Apron Chain

<u>Item #</u>	<u>MC Part #</u>	<u>Qty. Per Model #</u>			<u>Component Description</u>
		<u>406</u>	<u>706</u>	<u>588</u>	
1	270804	1			Apron Chain Complete
	270805		1		Apron Chain Complete
	170806			2	Apron Chain Complete
7	260528	68			Apron Slat
	270314		82		Apron Slat
	270322			136	Apron Slat
	210322	1		2	Chain Only
	210323		1		Chain Only

Side and Rear Panel Assemblies

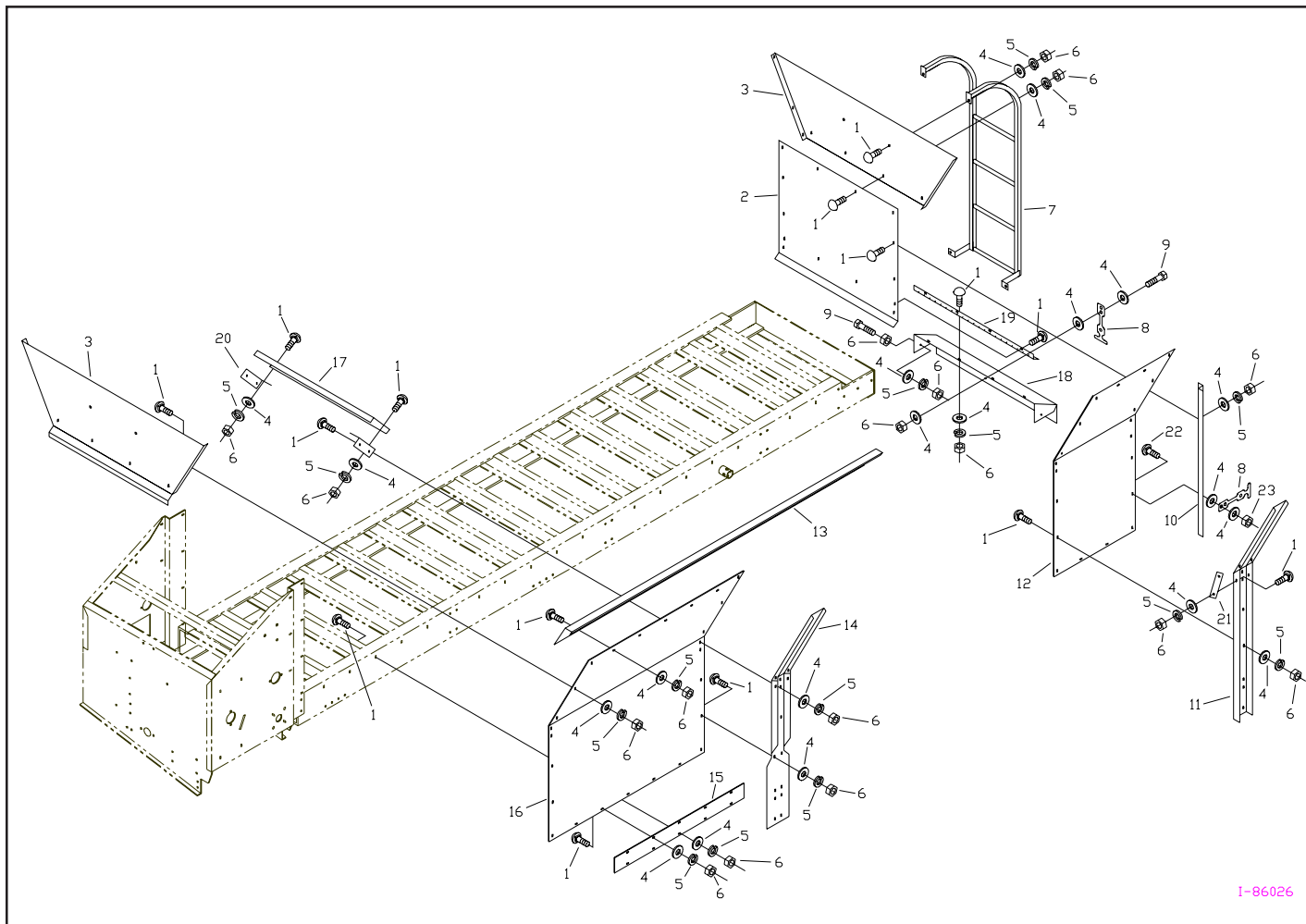


Figure A9 - Side and Rear Panel Parts Detail

Side and Rear Panel Assemblies (continued)

<u>Item#</u>	<u>MC Part #</u>	<u>Qty. Per Model #</u>			<u>Component Description</u>
		<u>406</u>	<u>706</u>	<u>588</u>	
1	34250	175	311	180	5/16 x 1 Carriage Bolt
2	270290	1	1		Lower Back
	270113			1	Lower Back
3	270112	2	2		Upper End
	270561			2	Upper End
4	34057	181	317	188	5/16 Washer
5	34203	176	312	181	5/16 Lock Washer
6	34020	178	314	183	5/16 Nut
7	270106	1	1	1	Ladder
8	220113	2	2	3	Rubber Latch
9	34046	2	2	2	5/16 x 1-1/4 Bolt
10	270115	1	1	1	Left Box Support
	270114	1	1	1	Right Box Support
11	270376		4		Side Support
12	270377		2		Short Side Panel
13	270175	2	2	2	Long Edging
	270218		1		Short Edging RH
	270837		1		Short Edging LH
14	270105	2	2	2	Side Support
15	270305	4		4	Side Bracket
16	270300	4	6	4	Long Side Panel
17	260842	2	4		Center Support
	270190			2	Center Support
18	270118	1	1		Apron Tightener Shield
	270560			1	Apron Tightener Shield
19	270813	1	1		Back Shield Hinge
	270814			1	Back Shield Hinge
20	270231	4	8	4	Center Support Bracket
21	270304	4	12	4	Corner Brace
22	34282	1	1	2	5/16 x 1-1/2 Carriage Bolt
23	34223	1	1	2	5/16 Nylon Stop Nut

Conveyor Frame and Belt Assembly

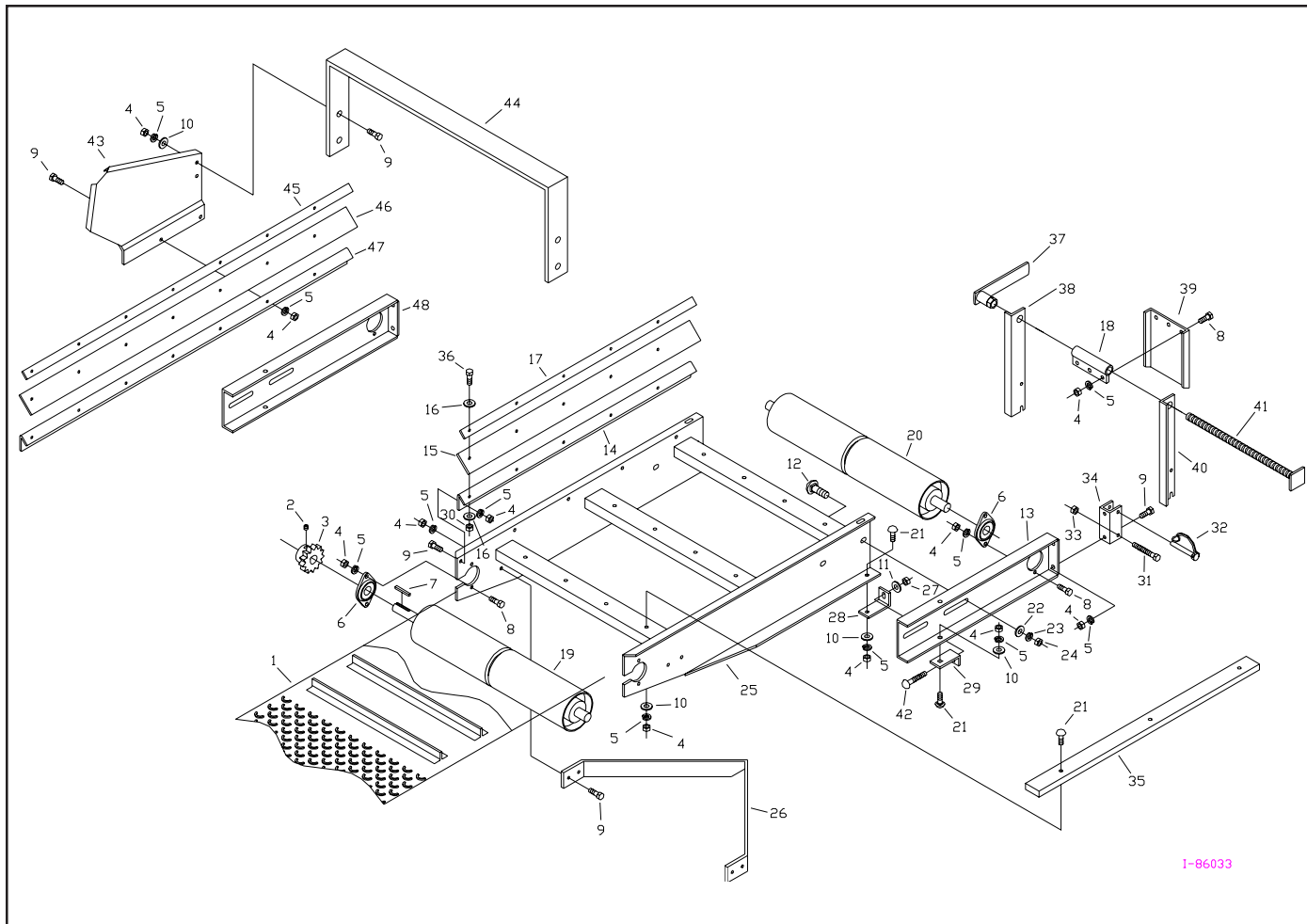


Figure A10 - Conveyor Frame and Belt Parts Detail

Conveyor Frame and Belt Assembly (continued)

Item #	Qty.	MC Part# per Model		Component Description
		406/ 706	588	
1	1	215236 (88")	215266 (124")	Cleated Conveyor Belt (Includes Lacing)
	1	215188 (88")	215189 (124")	Crescent Conveyor Belt (Includes Lacing)
	1	220183	220183	Lacing for Belt
2	1	34325	34325	5/16 x 5/16 Set Screw
3	1	210145	210145	12 Tooth Sprocket
4	36	34020	34020	5/16 Nut
5	36	34203	34203	5/16 Lock Washer
6	4	210144	210144	1" Flange Bearing
7	1	210130	210130	¼ x 1 Key
8	8	34200	34200	5/16 x ¾ Bolt
9	8	34221	34221	5/16 x 1 Bolt
10	28	34057	34057	5/16 Washer
11	2	34018	34018	3/8 Washer
12	4	34246	34246	½ x 1-1/2 Carriage Bolt
13	2	270216	270216	Conveyor Extension (14.5")
14	1	270513	270508	Front Edging Bracket
	1	270512	270507	Rear Edging Bracket
15	2	220151 (37")	220153 (55")	Rubber Seal
16	20	34052	34052	¼ Washer
17	2	270601	270598	Rubber Seal Support
18	4	270576	270576	Deflector Mount
19	1	215325	215325	Conveyor Drive Roller (Mechanical)
	1	215327	215327	Conveyor Drive Roller (Hydraulic)
20	1	215326	215326	Conveyor Idler Roller
21	16	34250	34250	5/16 x 1 Carriage Bolt
22	4	34094	34094	½ Washer
23	4	34035	34035	½ Lock Washer
24	4	34034	34034	½ Nut
25	1	270536	270537	Conveyor Frame
26	1	270189	270189	Conveyor Scraper
27	2	34220	34220	3/8 Nylon Stop Nut
28	2	270271	270271	Lower Conveyor Tightener
29	2	270323	270323	Upper Conveyor Tightener
30	10	34124	34124	¼ Nylon Stop Nut
31	4	34252	34252	3/8 x 1-3/4 Bolt
32	2	220127	220127	Wire Lock Pin
33	2	34210	34210	3/8 Thin Nylon Stop Nut
34	2	270894	270894	Deflector Bracket
35	4	215185	215186	Conveyor Support Strip
36	10	34214	34214	¼ x 1 Bolt
37	1	270578	270578	Deflector Tightener Arm
38	1	270446	270446	Front Deflector Support
39	4	270448	270448	Deflector Plate
40	1	270445	270445	Rear Deflector Support
41	1	270579	270579	Deflector Shaft
42	2	34324	34324	3/8 x 5 Carriage Bolt

Extension Conveyor

1	1	215190 (104")	215191 (140")	Cleated Conveyor Belt (Includes Lacing)
43	1	270501	270501	Conveyor Front Side Ext - <i>Shown</i>
	1	270500	270500	Conveyor Rear Side Ext
44	1	270515	270515	Conveyor Side Ext Brace
45	2	270598	270600	Hold Down Rubber
46	2	220153 (55")	220154 (63")	Seal Conveyor
47	1	270508	270505	Conveyor Edging Front - <i>Shown</i>
		270507	270506	Conveyor Edging Rear
48	2	270406	270406	Belt Tensioner Beam (22.5")

Safety Shields

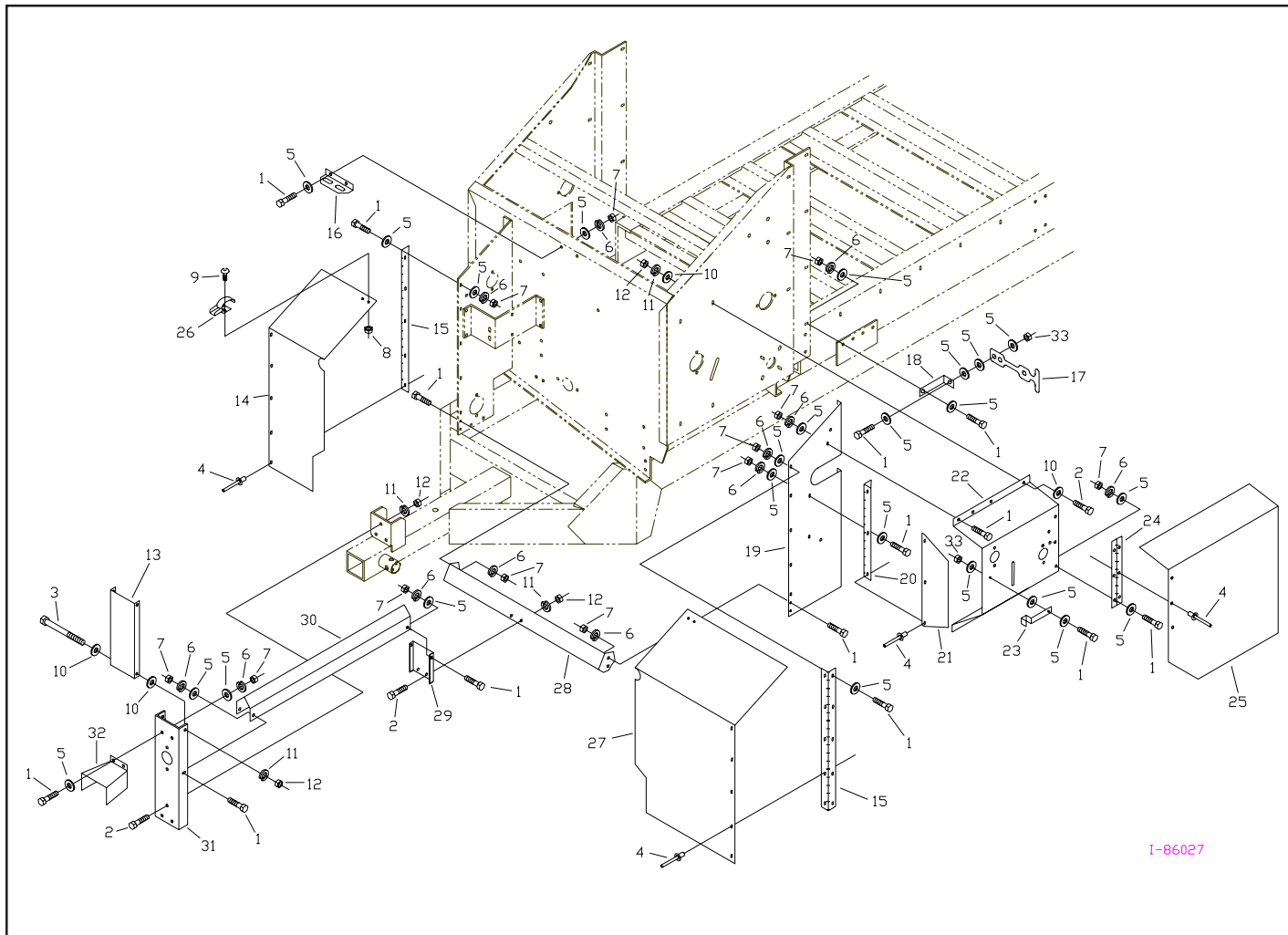


Figure A11 - Safety Shields Parts Detail

Safety Shields (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty. Per Model #</u>		<u>Component Description</u>
		<u>406/706</u>	<u>588</u>	
1	34071	35	35	¼ x ¾ Bolt
2	34199	9	9	3/8 x 1 Bolt
3	34241	1	1	3/8 x 4-1/2 Bolt
4	34346	16	16	3/16 x ¼ Pop Rivet
5	34052	52	52	¼ Washer
6	34235	34	34	¼ Lock Washer
7	34003	34	34	¼ Nut
8	34289	6	6	10-24 Type K Lock Nut
9	34288	6	6	10-24 x ½ Machine Screw
10	34018	13	13	3/8 Washer
11	34141	10	10	3/8 Lock Washer
12	34087	10	10	3/8 Nut
13	270521	1	1	Shift Lever Support
14	270489	1	1	Right Front Shield (Includes Item #15)
15	270810	2	2	Front Shield Hinge
16	270394	1	1	Front Shield Catch
17	220113	1	1	Rubber Latch
18	270325	1	1	Shield Latch Bracket
19	270398	1	1	Front Shield Side
20	270811	1	1	Side Shield Hinge
21	270395	1	1	Side Shield (Includes Item #20)
22	270274	1	1	Side Bracket
23	270528	1	1	Side Shield Latch
24	270812	1	1	Sprocket Shield Hinge
25	270397	1	1	Sprocket Shield (Includes Item #24)
26	220141	3	3	Latch
27	270487	1		Left Front Shield (Includes Item #15)
	270427		1	Left Front Shield (Includes Item #15)
28	270516	1		Front Shield Bracket
	270525		1	Front Shield Bracket
29	270520	1	1	Driveline Shield Bracket
30	270526	1		Driveline Shield
	270514		1	Driveline Shield
31	270393	1	1	Driveline Front Post
32	270535	1	1	PTO Shield
33	34124	2	2	¼ Stop Nut

PTO Shaft Assembly

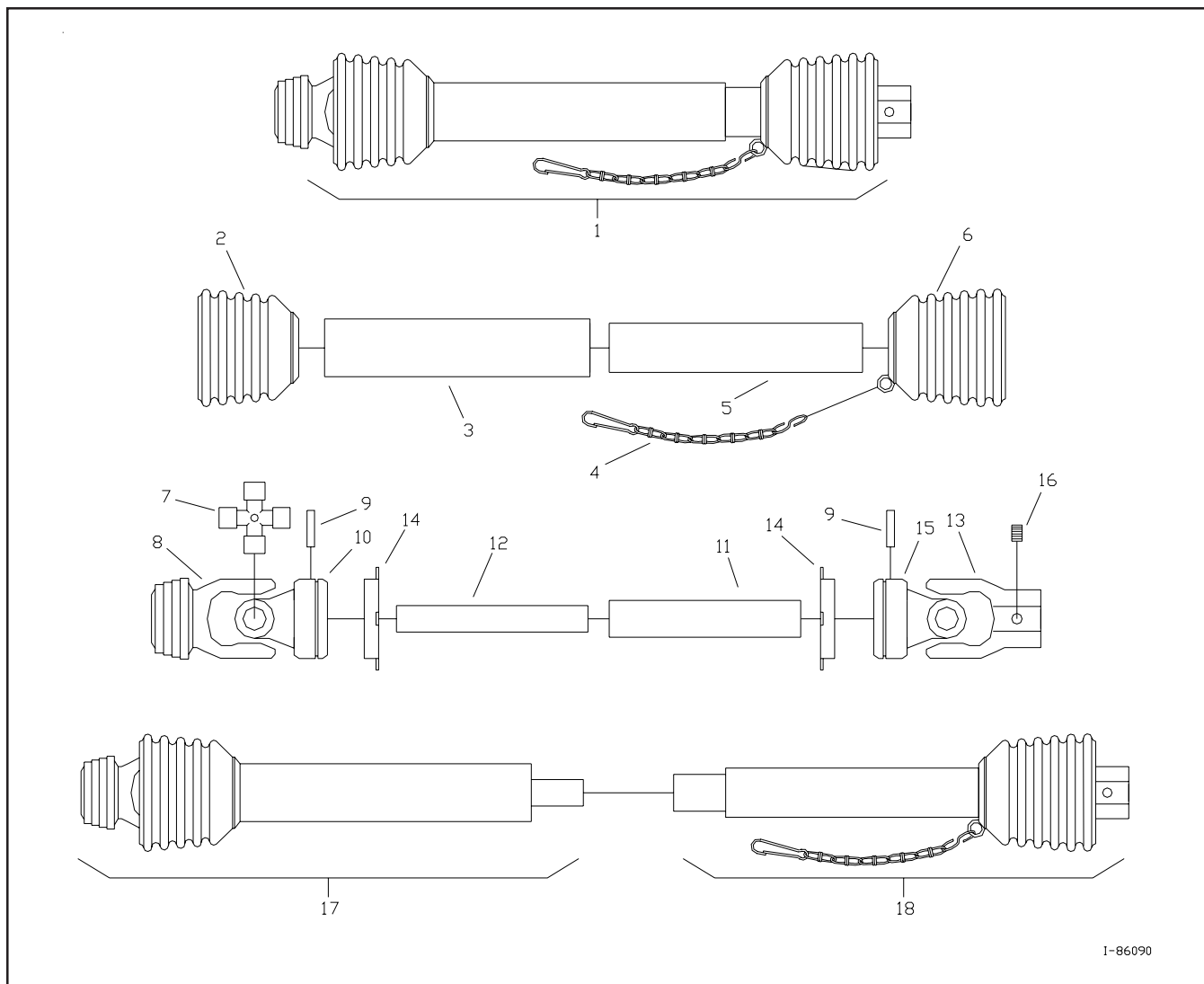


Figure A12 - PTO Shaft Assembly Parts Detail

PTO Shaft Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	210336	1	Complete PTO Shaft (Mechanical)
	210352	1	Complete PTO Shaft (Hydraulic)
2	210285	1	5 Rib Shield Cone
3	210340	1	Outer Shield Tube
4	210291	1	Safety Chain
5	210341	1	Inner Shield Tube
6	210335	1	6 Rib Shield Cone
7	210292	2	Cross and Bearings
8	210293	1	Snap Yoke
9	210298	2	8 x 50mm Roll Pin
10	210325	1	Inboard Yoke
11	210339	1	Outer Profile
12	210338	1	Inner Profile
13	210297	1	Keyed Yoke for PTO Mechanical (1" Dia)
	210351	1	Keyed Yoke for Hydraulic (1-1/4" Dia)
14	210310	2	Bearing Ring
15	210294	1	Inboard Yoke
16	34312	2	3/8 x 3/8 Set Screw
17	210349	1	Front Half PTO Shaft
18	210350	1	Rear Half PTO Shaft

Crankcase Assembly

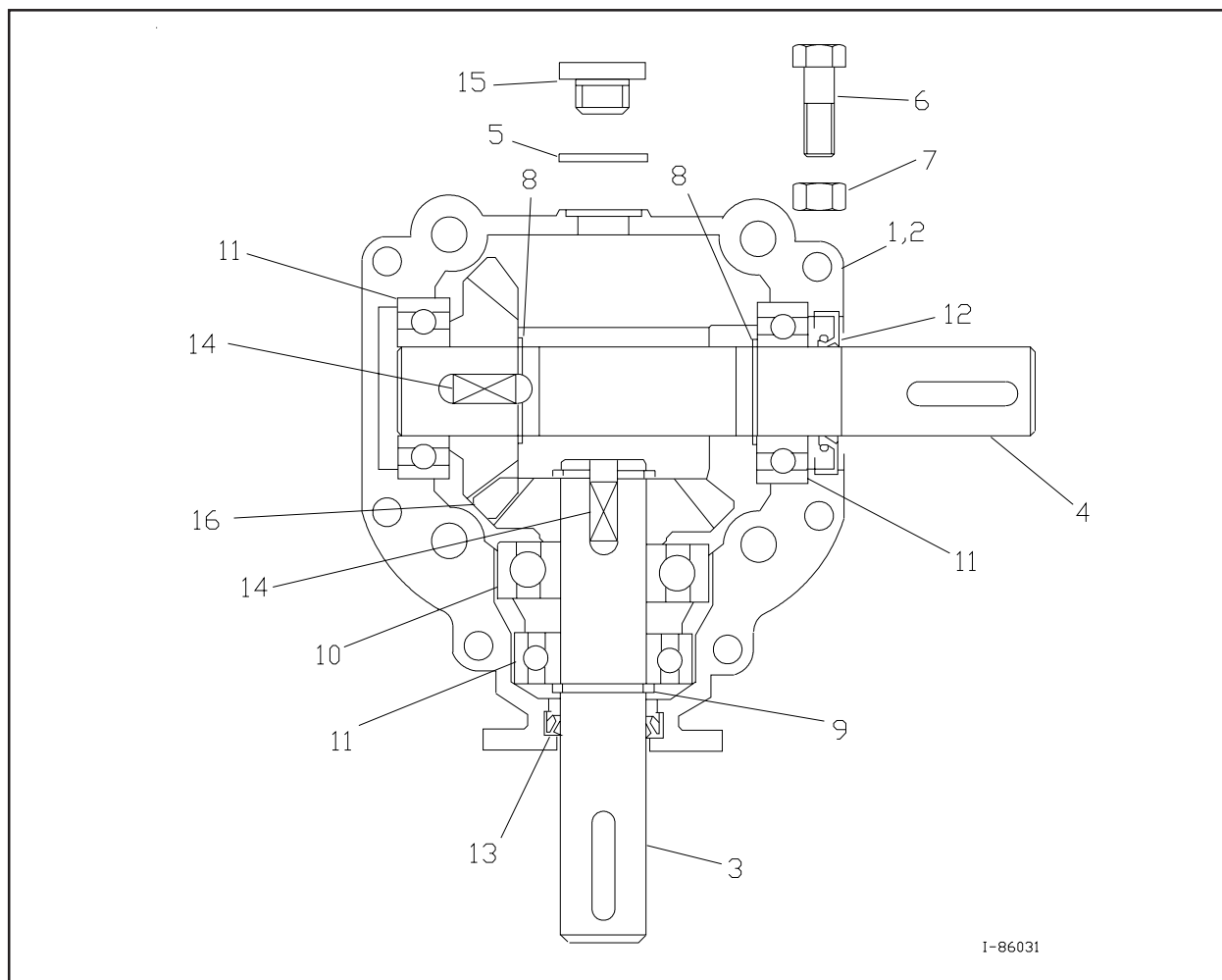


Figure A13 - Crankcase Parts Detail

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
---	210174	1	Complete Gear Box (Bondioli)
1	210266	1	Upper Crankcase
2	210267	1	Lower Crankcase
3	210268	1	Shaft
4	210269	1	Shaft
5	210270	1	Gasket
6	210271	6	Screw
7	210272	6	Nut
8	210273	2	Snap Ring
9	210274	2	Snap Ring
10	210275	1	Ball Bearing
11	210276	3	Ball Bearing
12	210277	1	Oil Seal
13	210278	1	Oil Seal
14	210279	2	Key
15	210280	1	Oil Plug
16	210281	2	Bevel Gear

APPENDIX B: ROW MULCHER OPTIONS

The following information is provided for your reference in understanding how the row mulcher option components are assembled and/or installed on the row mulcher. Parts detail drawings and parts lists for some of the options are provided in this section; other options, relating to standard equipment, may already be pictured and detailed in other parts of the manual as indicated below.

Pictured/Detailed in Appendix B

- METERING GATE
- LOAD RETAINER
- SPILL GUARD

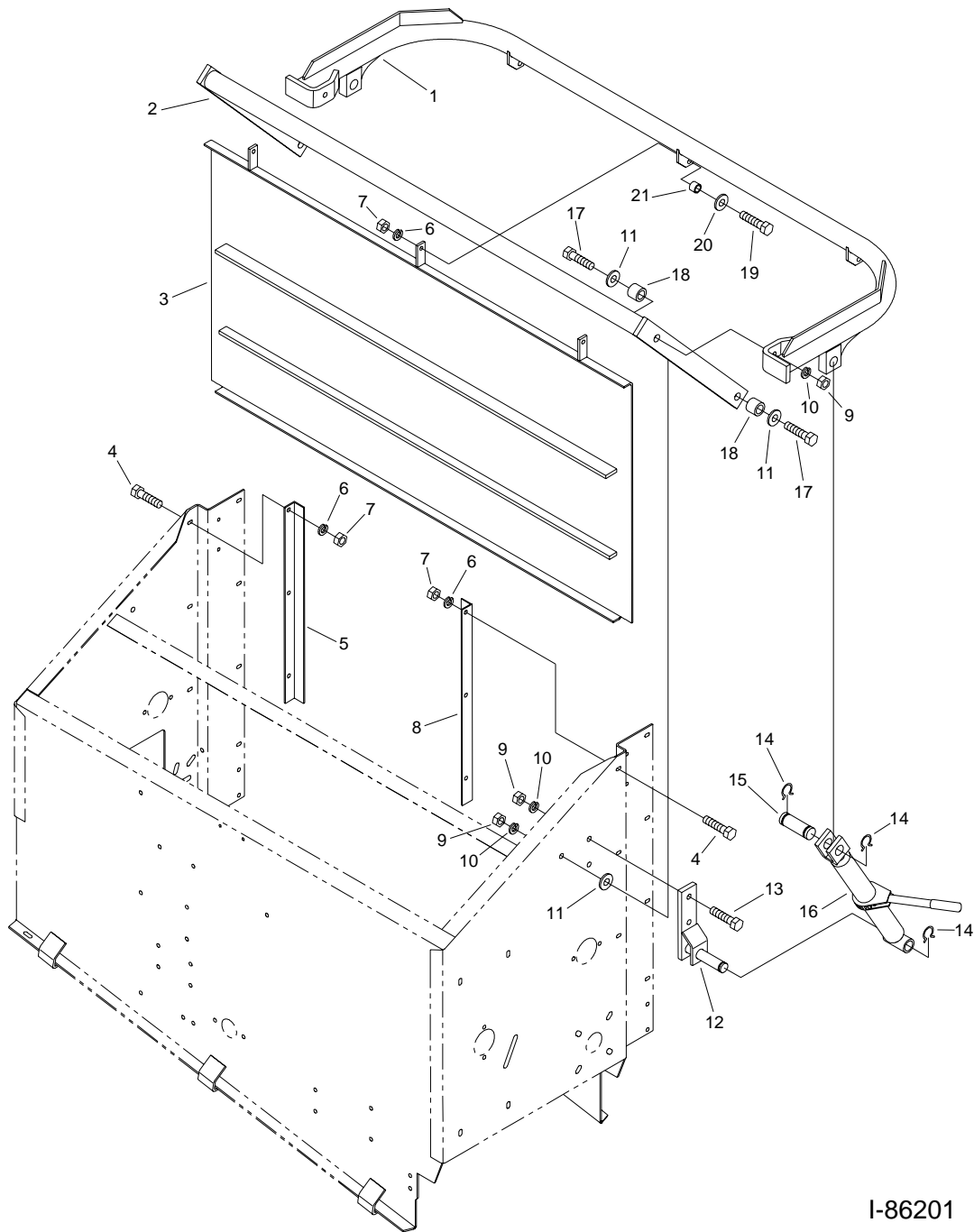
See Appendix A for related components/assemblies

- FINE MATERIALS APRON CHAIN
- CLEATED BELT
- EXTENSION CONVEYOR
- TANDEM AXLE

Pictured/Detailed in Section 2

- SAFETY TOW CHAIN

Metering Gate Assembly



I-86201

Figure B1 -Metering Gate Parts Detail

Metering Gate Assembly (continued)

<u>Item #</u>	<u>MC Part #</u>	<u>Qty. per Model</u>		<u>Component Description</u>
		<u>406/706</u>	<u>588</u>	
1	270222	1		Metering Gate Frame (406/706)
	270385		1	Metering Gate Frame (588)
2	270365	1		Lift Support Bracket (406/706)
	270386		1	Lift Support Bracket (588)
3	270233	1		Metering Gate (406/706)
	270384		1	Metering Gate (588)
4	34199	6	6	3/8 x 1 Bolt
5	270371	1	1	Angle Right Side
6	34141	8	9	3/8 Lock Washer
7	34087	8	9	3/8 Nut
8	270227	1	1	Angle Left Side
9	34034	6	6	1/2 Nut
10	34035	6	6	1/2 Lock Washer
11	34227	6	6	1/2 Washer
12	270366	1	1	Lift Mount Bracket
13	34226	2	2	1/2 x 1-1/2 Bolt
14	220133	3	3	Clip
15	220132	1	1	Pin
16	215335	1	1	Ratchet Jack
17	34254	4	4	1/2 x 2 Bolt
18	270367	4	4	1/2 ID Bushing
19	34255	2	3	3/8 x 1-1/2 Bushing
20	34018	2	3	3/8 Washer
21	270368	2	3	3/8 ID Bushing

Load Retainer Assembly

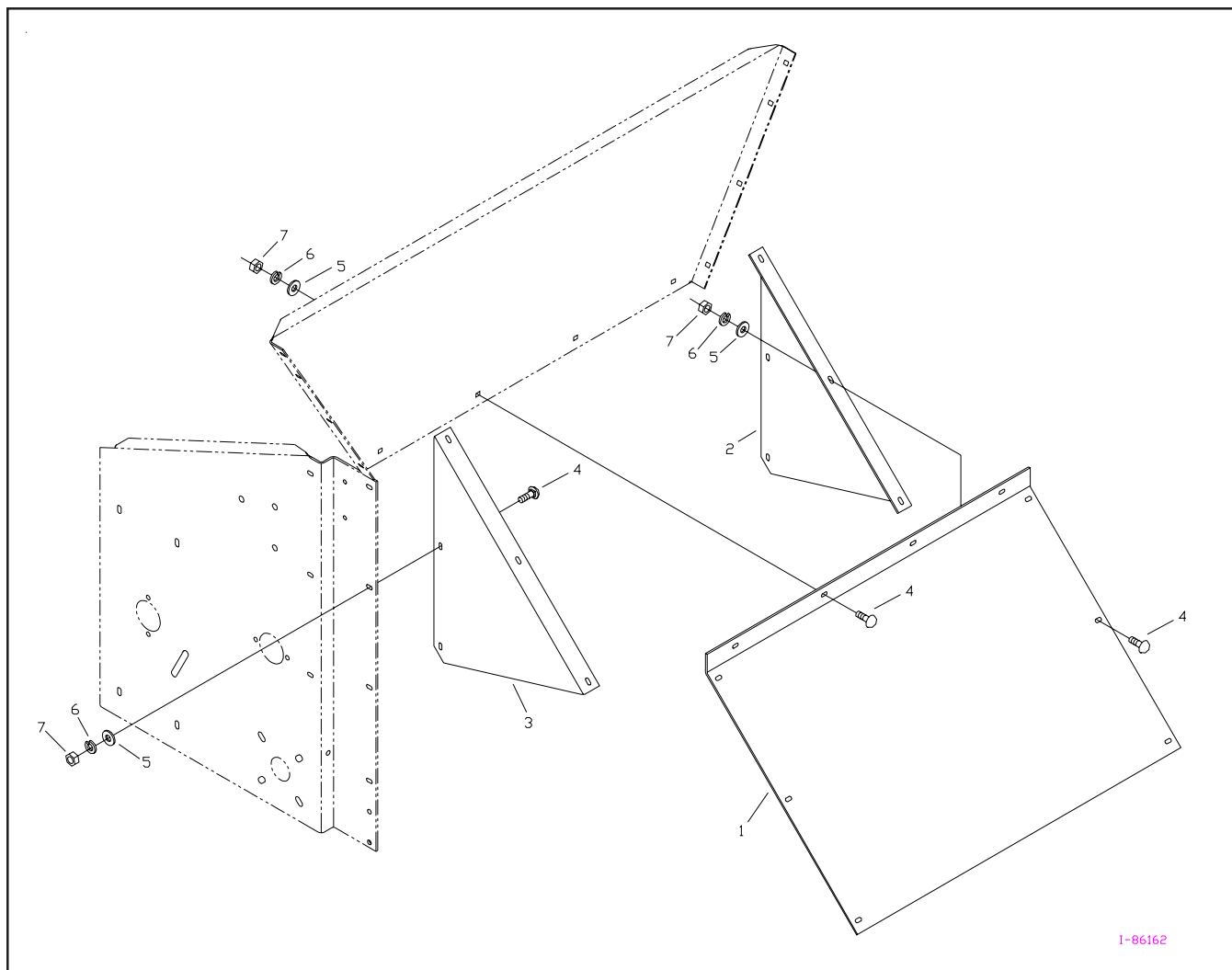


Figure B2 -Load Retainer Parts Detail

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	270557	1	Load Retainer (406, 706)
	270769	1	Load Retainer (588, 1028)
2	270558	1	Load Retainer Bracket RH
3	270559	1	Load Retainer Bracket LH
4	34275	14	5/16 x 1 Carriage Bolt
5	34057	14	5/16 Washer
6	34203	14	5/16 Lock Washer
7	34020	14	5/16 Nut

Spill Guard Assembly

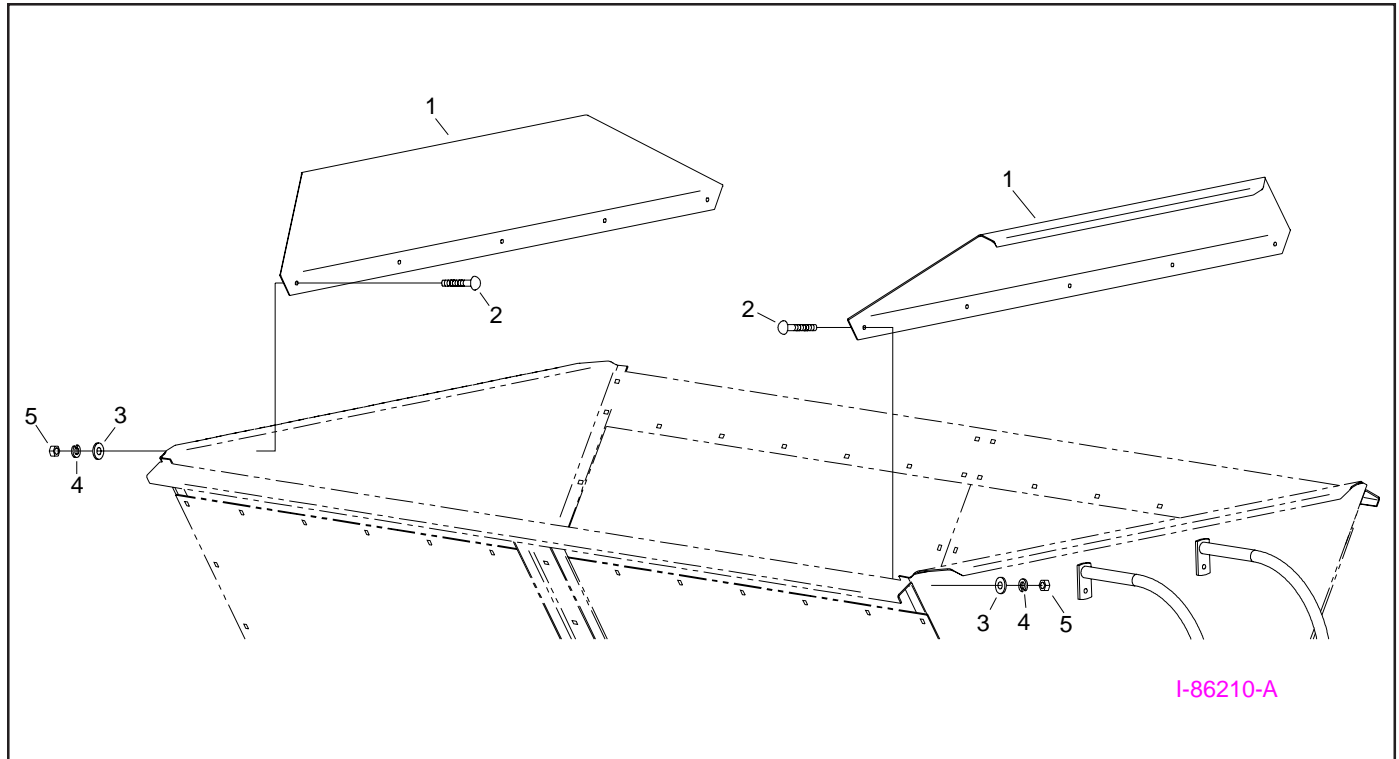


Figure B3 -Spill Guard Parts Detail

<u>Item #</u>	<u>MC Part #</u>	<u>Qty.</u>	<u>Component Description</u>
1	270517	2	Spill Guard (406, 706)
	270519	2	Spill Guard (588)
2	34275	10	5/16 x 1 Carriage Bolt
3	34057	10	5/16 Washer
4	34203	10	5/16 Lock Washer
5	34020	10	5/16 Nut

INSTALLATION NOTE: For field mounting of the Spill Guard, holes must be drilled. Use the Spill Guard pieces (#1 in drawing) as templates for drilling.

