



33-SERIES

**WIDE BODY
4-ROW & 6-ROW
PEANUT COMBINE
3355 & 3360**

(FOR MACHINES PRIOR TO 2000)

OPERATOR'S MANUAL

THIS MANUAL TO ACCOMPANY MACHINE

PART NO. 33-OM-03
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WARRANTY POLICY

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

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

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

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

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

Kelley Manufacturing Co.

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Tifton GA

TO THE PURCHASER

The **KMC PEANUT COMBINE** has been carefully designed and manufactured to give years of dependable service. In order to operate it efficiently and maintain it properly, please read the instructions within this manual thoroughly.

While reading the manual through, you will notice that it is divided into sections which clearly explain the assembly and operation of each component of this machine. A Table of Contents is also provided for quick reference to these sections.

Some components of this machine are labeled left or right. The notations are determined facing the direction the machine will travel in use.



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

After reading this operators manual, please keep it for reference each season.

To insure procurement of the proper repair parts, please record your machine's serial number and purchase date on the lines below.



4-ROW WIDE BODY COMBINE

Model No. _____

Serial No. _____

Purchase Date _____




6-ROW COMBINE

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SAFETY PROCEDURES

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

1. Do not permit any one to ride on the machine.
2. Keep all persons a safe distance away from the rear and sides of the machine while it is in operation.
3. Drive safely during transport; excessive speeds while turning on rough grounds or over hills could cause tractor tip over.
4. Make sure hitch components are attached securely before operating or transporting.
5. Use flashing warning lights when operating on highways, except where prohibited by law.
6. Stop engine and disengage PTO before leaving operator's position to adjust, lubricate, clean or unclog machine.
7. Keep all shield in place.
8. Keep hands, feet, and clothing away from moving parts.
9. Make sure that everyone is clear of machine before starting tractor or operating machine.
10.  **DANGER** - Install safety struts and pins prior to working under tank. Failure to do so may result in serious injury or death.
11. Be sure combine is on level surface before dumping the tank. **DO NOT** dump tank under power lines
12. Maximum towing speed is 10 MPH loaded . . . 20 MPH empty.
13. Observe all safety decals located on machine.

HIGH VOLTAGE SAFETY ACT

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

ASSEMBLY INSTRUCTIONS

There are several things which may need assembling before the peanut combine is ready for operation. The assembly order will depend on how the machine has been disassembled for shipping.

ATTACH THE SIX ROW HEADER

Use extreme caution when attaching the head to the combine. It is very heavy and should be handled in a secure manner at all times to avoid injury.

First position the header under the tongue of the combine. Raise and tilt the header so that it fits squarely against both combine side frame and the upper header. Install the 1/2 x 1 1/2 capscrews, flatwashers, lockwashers, and hex nuts (8 of each) that connect the rear of the header to the side frame. Do not fully tighten at this point. Next install the 1/2 x 1 1/2 carriage screws, flatwasher, lockwashers, and hex nuts (12 of each) that connect the top of the detached header to the under side of the tongue supports. Next attach the front brace arms with the 7/8 x 3 1/2 capscrews, lockwashers, and hex nuts (2 of each). Now tighten all bolts securely. Check the joint where the square tube of the drop floor meets the square tube of the #1 concave. The joint should be tight enough so that no peanuts can fall out. There should not be any raised corners or surfaces that could shell or damage peanuts. Adjust each tube position in the slotted holes if necessary.

Next attach quick disconnect couplers to the hydraulic hoses. The hoses for the tank lift, header lift, and tongue shift (if equipped) have 1/2-14 NPT threads. The hoses for header rotation have 3/4-16 O-Ring threads. The header requires a constant flow of high pressure oil and the O-Ring provides a better seal than the pipe threads. Use the appropriate adaptor on each hose.

Six-Row headers will require dealer assembly of the flashing lights on the ends of the header. Connect wires provided, making sure that the right and left sides operate properly.

MOUNT THE TANK TO THE COMBINE

First lift the tank into position using the loops provided on the tank frame, this will help keep the tank near level while working it into position. Align bolt holes and air-lift duct and lower into position and install bolts into support arms. Make sure tank is



Figure 1

sitting flat on combine top and square with sides and frame before disconnecting lift front tank. If tank does not sit flat on combine, adjust support arms to right or left as needed to allow tank to sit flat on frame. Secure tank to combine by tightening attachment bolts previously installed. Next connect hydraulic hoses between combine mainframe and tank using the hoses provided. See Figure 1.

MOUNT THE REAR HOOD



Figure 2

For some shipping situations, it may be necessary to mount the rear hood. If so, first hang the rear hood onto the mainframe by interlocking the front lip of the hood with the rear lip on the mainframe. Center the hood on the rear support, then secure its position by installing capscrews through mounting holes in edge of hood and bolt holes in rear tube of combine. See Figure 2. Connect Transport lights.

TIRE AND HUB INSTALLATION

Due to shipping width restrictions, some combines may require the attachment of hubs and tires. If the hubs have been removed, slide the shaft of the hub into the holes in the tandem tube, install 5/8 x 5 capscrews (Grade 5) and 5/8 locknuts. Be sure the locknuts are new and have not been previously installed and removed. Install the tire and rim on the hub, positioning the valve stem toward the outside. Tighten the lug nuts to between 120 and 135 ft lbs. torque.

ATTACH FOUR ROW TONGUE

Some combines may require the attachment of the pivot tongue. To do this slide the fork of the tongue over the pivot tube on the tongue support and insert the pivot pin. Secure with the nut and washer provided. Next select either the transport or operation

position and move the tongue against the appropriate stop and insert the stop pin. See Figure 3.

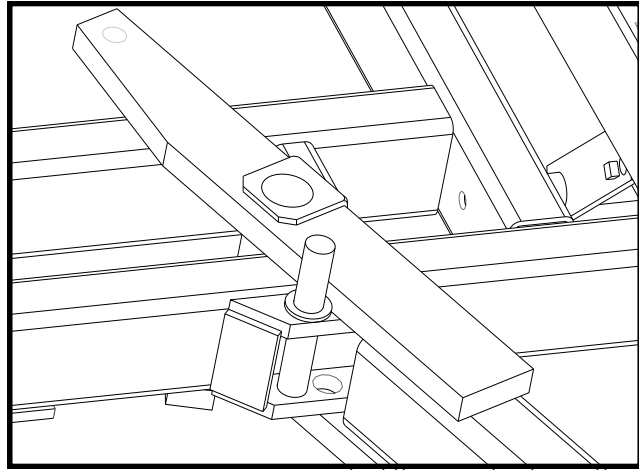


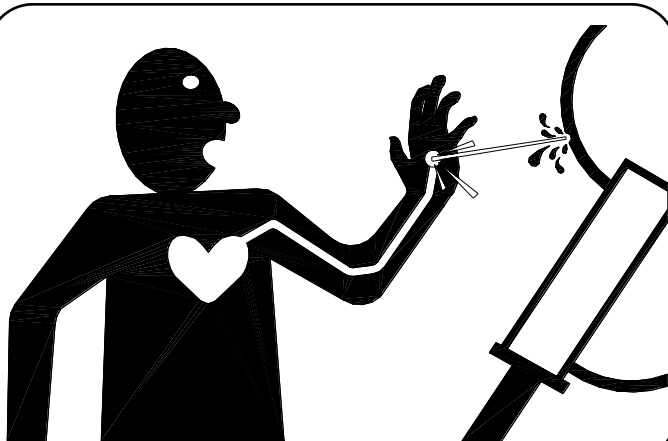
Figure 3

PRE-DELIVERY CHECKOUT

1. Open all shields and check chains and belts for proper tension.
2. Check setscrews and jam nuts on all sprockets, sheaves, shafts, etc. for proper torque.
3. Check oil level in gear boxes. Remove the level plug on front face of gear box. Oil should just reach bottom of hole. Add high grade SAE 90 weight oil if necessary.
4. Check hydraulic oil level in tractor. Add as necessary.
5. Check all lubrication points (see chart on page 16) and lubricate accordingly.
6. Connect tongue to tractor (see page 6 for instructions) then connect hydraulic lines for tank and header. Slowly raise and lower the tank and header to work all air out of lines. Check lines for leaks and correct as necessary.
7. Connect hydraulic lines for header rotation. Operate slowly until all air has escaped from the system. If using the flow control kit #33-081-229, be sure to locate it **OUTSIDE** of the cab.
8. Install tractor PTO driveline and secure shield chains. Operate combine at 1/2 speed for 5 minutes. Stop combine and check for loose bolts, nuts, chains, belts, sprockets, etc. and for hot bearings and gear box.
9. Make any necessary corrections and run again at full speed for 10 minutes and check all items again.
10. Check tire pressure and set at 32 PSI. Also check lug nuts for proper torque.
11. Disengage all strippers before going to the field. Stripper handles should be rotated as decals indicate. The top (2) strippers are adjusted from the right side of the machine. The lower (5) strippers must be adjusted from both right and left sides of the machine.



CAUTION: Never check for leaks with bare hands as small oil leaks under pressure can penetrate skin and cause serious injury.



WARNING

DO NOT GO NEAR LEAKS

- High pressure oil easily punctures skin causing serious injury, gangrene or death.
- If injured, seek emergency medical help. Immediate surgery is required to remove oil.
- Do not use finger or skin to check for leaks.
- Lower load or relieve hydraulic pressure before loosening fittings.

PRINCIPLES OF PEANUT HARVEST

The KMC Peanut Combine is designed to be used for the removal of peanut pods from peanut vines which have been uprooted. It will then separate the peanuts from the vines, placing the pods in a storage tank on top of the machine, and return the vines to the ground. The combine must be pulled and powered by a farm tractor.

* Efficiency of the combine is not measured in tons or acres per hour, but in the cleanliness of the sample.

STEPS OF THE PROCESS

1. The peanuts are lifted off the ground and taken into the combine by the pickup attachment, which delivers them to the threshing cylinders for picking.
2. The threshing cylinders strip the vines pulling the pods off the vines. Additional stripping tines can be engaged into the number one, two, three, and four cylinders to increase the aggressiveness in tough conditions.
3. When the peanut pods are pulled off the vines they fall through separator concaves and onto a shaker pan which conveys them to the cleaning shoe located at the rear of the machine. The concaves prevent most of the vine material from falling onto the shaker pan and cleaning shoe.
4. The peanuts and small vine material which has fallen onto the pan moves on to a comb agitator which tosses the material into a stream of air. Any small vines, leaves or trash are blown out the rear of the machine by this air.
5. Any large material which falls through the agitator comb will fall onto the cleaning shoe. Here a blast of air will lift the lighter of these materials out the back and an oscillating motion will work the heavier items out the back. The cleaning shoe consists of one screen called the chaffer. The opening in this screen is adjustable for different size peanuts and different conditions. It allows the peanuts to fall through but not the trash. The bottom of the cleaning shoe has two rows of stemmer saws to cut the stems off the peanuts.
6. A cross auger or air chute then takes the peanuts to the airlift delivery chute which takes them to the storage tank on top of the combine.

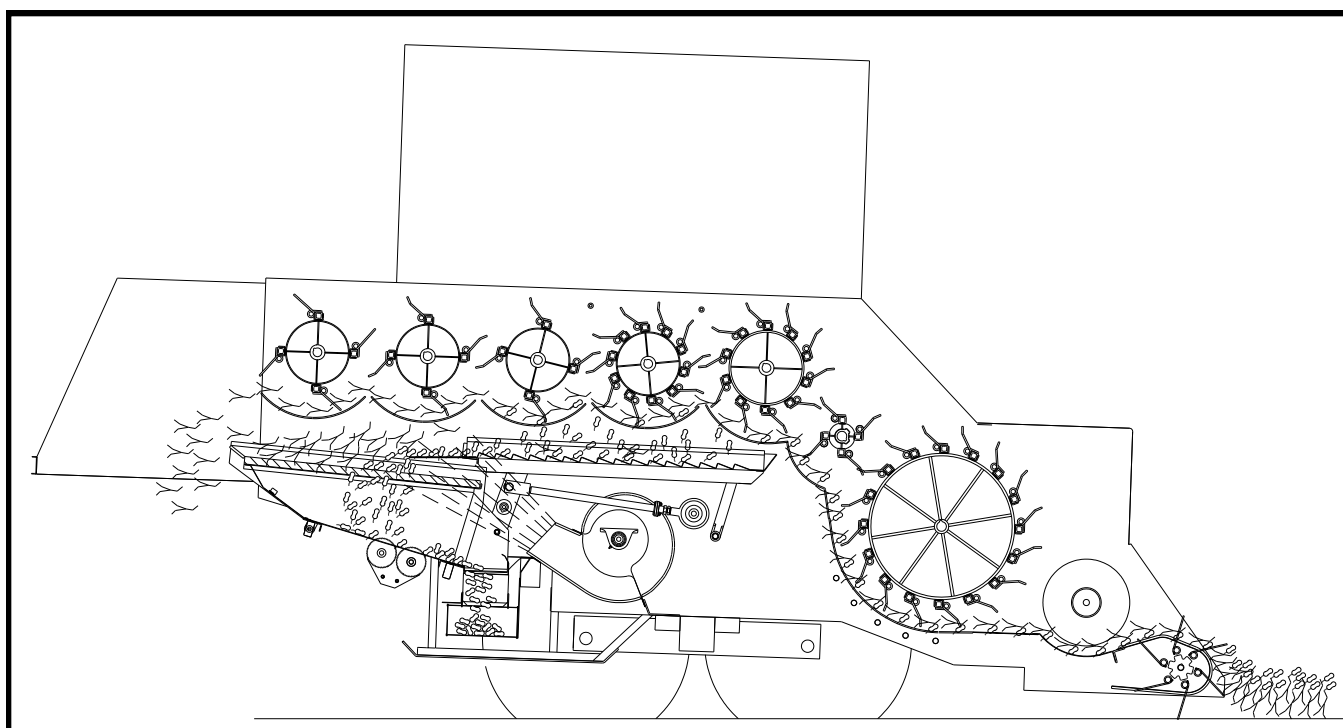


Figure 5 MATERIAL FLOW THROUGH COMBINE

FUNDAMENTALS FOR GOOD PERFORMANCE

1. The peanut vines must not be too green or good separation will be slow and difficult.
2. Moisture content of the peanut should not be too high or too low, otherwise increased damage or LSK's may result.
3. Keep the windrow centered entering the combine so that the combine does not get overloaded on either side.
4. Make sure combine is properly adjusted for peanut and field conditions.
 - A. Chaffer opening must be adjusted to allow all peanuts to fall through yet minimize foreign material from flowing through.
5. Use as much air as necessary to separate peanuts from trash without blowing peanuts out the rear of the combine.
6. Select a ground speed that will not overload the combine. Too much ground speed is one of the greatest causes of poor performance in separation.
5. Make sure the operator knows how to operate the combine properly and efficiently.
6. The efficiency of the combine is not measured in acres covered/hour, but in cleanliness of the sample.

OPERATION INSTRUCTIONS

NOTE: KMC COMBINES SHOULD BE OPERATED AT A PTO SPEED RANGE OF 900 TO 1000 RPM FOR OPTIMUM PERFORMANCE AND FUEL EFFICIENCY.

BEFORE HOOKING COMBINE TO THE TRACTOR

If combine is delivered with the tongue in the transport (center hitch) position, it must be repositioned to (left hitch) position for field use (see figure 6) to reposition tongue:

- (a) Raise header with tongue jack until all pickup springs clear the ground. Place wood blocks or other support under each skid shoe of the header.
- (b) Remove stop pin and pivot the tongue to the operation position and re-insert the stop pin.
- (c) Raise the header with the tongue jack and remove the support blocks.
- (d) For tongues with hydraulic tongue option, remove stop pin and activate cylinder.



CAUTION: Always keep stop pin inserted during normal operation and transport. Personal injury can result from unexpected cylinder movement.

TRACTOR SETUP AND ATTACHING TO THE COMBINE



CAUTION: Check drawbar to PTO relationship before installing driveline. Too short of a length could damage tractor or combine.

The distance from the end of the tractor PTO to the center of the hitch pin should be 16" for 1 3/8-21 PTO, and 20" for 1 3/4-20 PTO.

Adjust tractor drawbar if necessary to achieve this dimension. Attach the tongue of the combine to the tractor drawbar using a 1 1/4 x 5 inch grade 5 bolt. Tighten bolt securely. Attach the driveline to the tractor, make sure driveline and combine gearbox match. Secure driveline shields upper and lower halves with chains provided. This will insure longer life of the shields which is very important for safe operation.

Attach the hydraulic lines for the tank and header. Raise and lower both tank and header to insure proper operation.

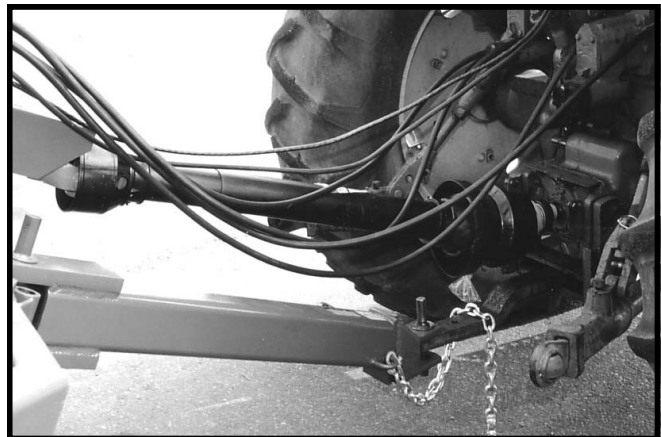


Figure 6

PICKUP AND HEADER

The KMC combine is equipped with a hydraulic cylinder to raise and lower the pickup attachment.



CAUTION: Always install safety latch on tongue when transporting.

In operation the pickup height should be set with the springs approximately one inch above ground. This will minimize spring wear and nut losses from lift height.

The pickup speed is variable and should be set to match ground speed. Proper adjustment of the pickup speed will reduce losses. If the pickup is running too fast it will tend to pull the vines apart as they are rising to the header and nuts will be pulled off the vines. If the pickup is running too slow it will push the vines along the ground before picking them up which will also result in excess losses.

If the tractor has a multi-turn precision flow control, connect the motor hoses directly to the tractor. If the tractor has no flow control or one with only a 1/4 turn adjustment, then KMC flow control kit #33-081-229 is required to be able to set the header speed accurately.

For proper header operation, the tractor hydraulic system must be capable of supplying up to 15 gpm at pressure near 3000 psi. If tractor hydraulic flow is too low, then ground speed will be reduced. If tractor hydraulic pressure is too low, then the header will plug more easily.

The pickup speed should be adjusted to match field conditions as they change. Peanuts should feed smoothly from the pickup band to the number one cylinder. This will give a uniform flow of material for threshing and separating.

PICKUP AUGER ADJUSTMENT AND OPERATION

The purpose of the auger is to transfer vines to the center of the machine after they have been lifted by the pickup reel. **PROPER VINE FLOW IS IMPORTANT AND ALLOWS THE PICKING AND SEPARATION SYSTEMS TO PERFORM EFFICIENTLY AND SAVE MORE PEANUTS.** Ideally, vines should flow to THE REAR of the auger and then be transported to the throat of the machine. If they tend to flow in front of the auger instead of being fed underneath it, they will enter the center of the throat, causing the middle of the picking and separation systems to be overloaded, causing peanut loss.

The auger can be adjusted horizontally or vertically as a means of creating proper vine flow. These adjustments are located on the auger shaft ends.

To raise or lower the auger, loosen the drive chain and the two bolts on the sides of the frame members as shown in Figure 9. Then screw the adjustment bolt out to raise the auger or in to lower it. To move auger forward or backward, loosen the four bolts in the auger bearing mount plate. Re-tighten chain and all bolts securely when either of the above adjustments are made.

NOTE: In most cases, raising the auger will allow vines to feed in the desired manner (underneath the auger). If vines still do not feed appropriately after auger is raised, it may be necessary to move the auger forward.

NOTE: It is important that the auger be positioned low enough to keep the trough swept clean and prevent dirt and trash from building up.



CAUTION: MOVING AUGER FORWARD INCREASES THE POTENTIAL FOR VINES TO WRAP OR RE-CIRCULATE AROUND THE AUGER.

In small vines which feed well under the auger, it may be necessary to move the auger to the rear and/or lower it to prevent vines from wrapping or building in the trough.

IT IS VERY IMPORTANT THAT VINES FEED FROM THE BACK OF THE AUGER!

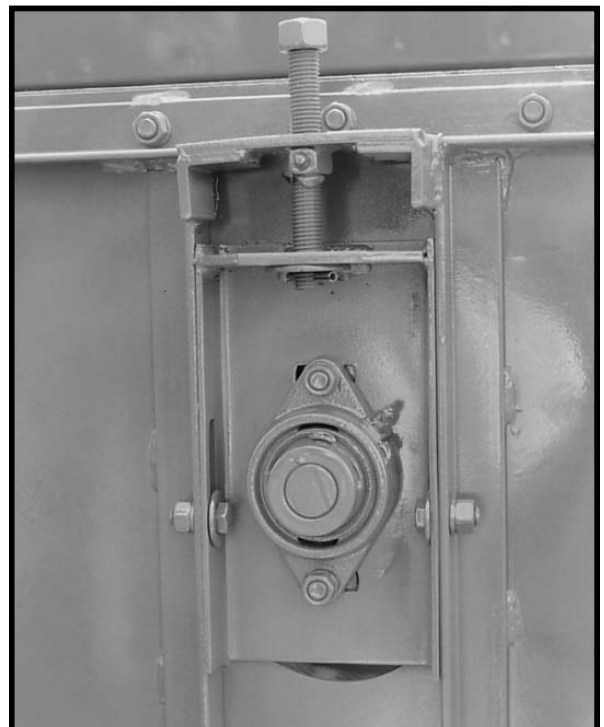


Figure 9

VINE HOLD DOWN

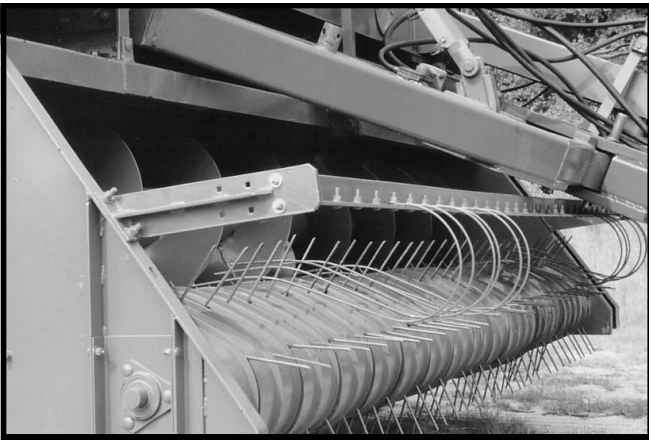


Figure 10

The vine hold down assembly is standard equipment. Proper setting is essential for smooth flow of material into the combine. Both vertical and horizontal

adjustments are provided to fit the vine conditions. In small vines that try to roll in front of the leader, lower and extend the tine bar. Larger vines are easier to pick up but more difficult to feed smoothly under the auger. The vine hold down is essential here as well. Smooth feeding at the front of the combine improves efficiency for the whole machine. In larger vines, raise and retract the tine bar toward the auger.



CAUTION: If the tine bar is raised and not retracted, it can be damaged when the header is raised.

In certain conditions, it is helpful to remove some of the tines from the tine bar. Such as when peanuts are easily knocked off the vines or when large vines have a difficult time turning toward the center of the combine. The most important tines to keep on are the ones directly over the windrows.

PICKING CYLINDERS

After the windrow has been picked up it moves into a series of cylinders which are equipped with spring tines that pull the peanuts off the vines. The cylinders are rotating at a high rate of speed, therefore it is important to keep a constant and adequate supply of material flowing into the combine to minimize damage and shelling of peanuts. Proper speed of the cylinders is also important, therefore tractor RPM should be maintained at PTO speed or 900 RPM. A quick check can be made by counting the speed of the number one cylinder. THE SPEED OF THE NUMBER ONE CYLINDER IS 114 R.P.M. AT 900 PTO R.P.M. AND 126 R.P.M. AND 1000 PTO R.P.M.

Underneath each cylinder is a cylinder concave, the rear four are floating concaves. They may need adjusting to achieve the proper clearance between the cylinder spring and the concave. To make this adjustment back off the adjustment nut on the setscrew on bottom of the concave until the springs miss the concave by 9/16 inch for runner peanuts and 3/4 inch for Virginia type nuts (See Figure 11A). Closer settings may be necessary for rank vines if they build up on the concaves closing up the holes. Follow this procedure on all cylinder concaves starting with the number four cylinders continuing through the sixth concave. The seventh concave is adjusted differently. It should set so that the concave will just miss the cylinder spring.

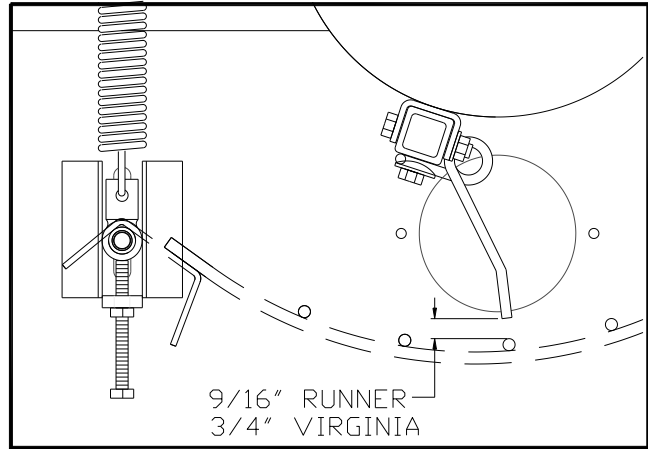


Figure 11A CONCAVE HEIGHT ADJUSTMENT

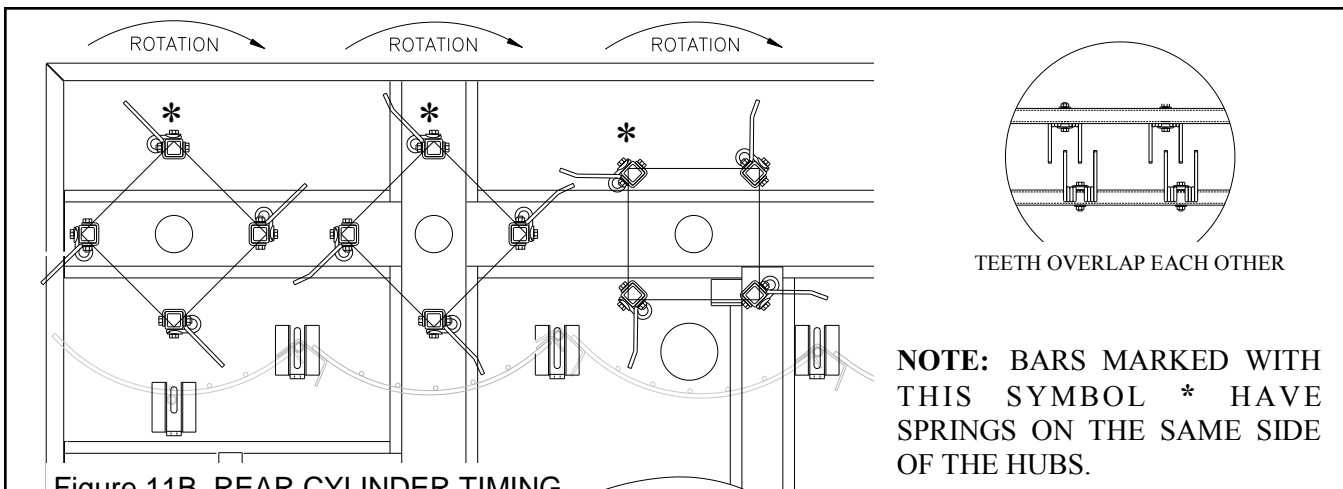


Figure 11B REAR CYLINDER TIMING

In certain tough conditions, the vines may not break up easily and may tend to wrap around the last few cylinders in the combine. If this becomes a problem, it can be improved by timing the last 3 cylinders. Cylinders 5, 6, & 7 turn the same speed. The springs on each bar should interlace and pull on the vines as they pass each other. Figure 11B shows the correct setting. Remove the drive chains and rotate the cylinders into position. Reattach the drive chains.

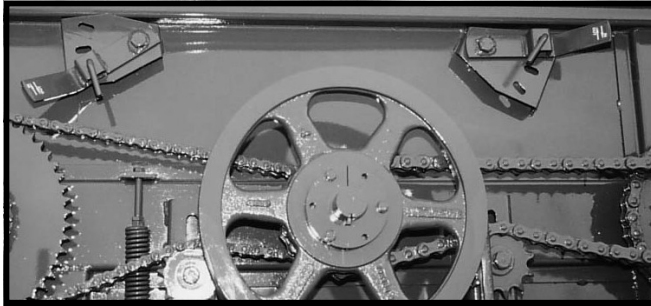


Figure 12 UPPER STRIPPER ADJUSTMENT

The aggressiveness of the picking cylinders can be adjusted by increasing or decreasing the number of strippers engaged in the picking cylinders. When first beginning a new field or new conditions **START WITH ALL STRIPPERS DISENGAGED**. If you find peanuts still attached to the vines which have gone through the machine, engage the first stripper to the center position. If this is not enough then engage the second stripper to the center position and proceed through all five strippers until all are engaged half-way. If additional aggressiveness is needed engage the second stripper fully proceeding as before.

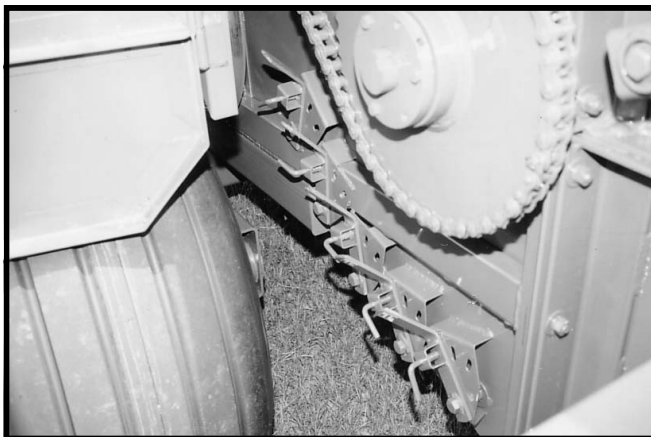


Figure 13 LOWER STRIPPER ADJUSTMENT

Use upper strippers last, engaging them progressively until you reach a point where there are no longer any peanuts being left on the vine. In extremely dry peanuts where LSK's sometimes occur reverse the order of stripper engagement, start at the rear bottom and work forward. The rear bottom strippers are not as aggressive as the front bottom strippers. **DO NOT USE UPPER STRIPPERS IN DRY PEANUTS.** This usually results in fewer LSK's. It is important

to balance ground speed and stripper engagement to minimize LSK's and damage. **NOTE:** As conditions change from morning to afternoon strippers may need to be removed to minimize damage.

NOTE: Use a 15/16" wrench to make adjustments easier.

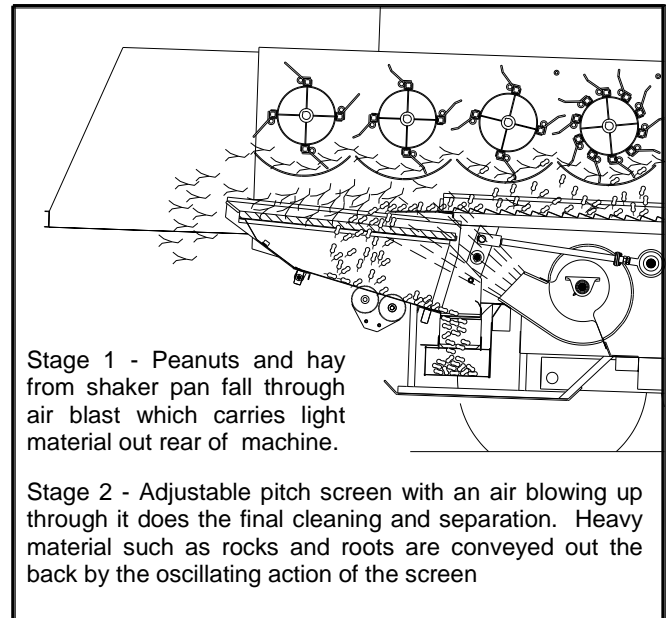


Figure 14

The most important area of the combine is the separation system. More peanuts are lost and more poor grades are received due to improper adjustments of the cleaning shoe and separator fan than any other area. The KMC peanut combine has a unique separation system which gives improved performance in grades and capacity. There are two stages to the KMC system, first the peanuts and foreign material coming off the shaker are tossed into an airstream which blows most of the lighter hay material out the back of the combine. This precleans and lessens the amount of material which the cleaning shoe has to work with. It is easier for the peanuts to fall through the screen under these conditions. The second stage of cleaning is by an oscillating cleaning shoe. The Chaffer has adjustable openings for different size peanuts. The chaffer is available in two sizes, one with a wide spacing 2 1/4" between rows of fingers and one with a small 1 5/8" spacing.

The openings are controlled by a lever in the center of the screen, see figure 15. The purpose of the chaffer is to separate the peanuts from materials that are close in size and weight to the peanut. Although vine and field conditions will influence the final setting of the chaffer the following recommendations are made for initial start-up.

	SPANISH	RUNNER	VIRGINIA
CHAFFER	5/8"	7/8"	1 1/8"



Figure 15 Screen Adjustment

The larger the screen openings the greater the possibility of getting all the peanuts into the tank, however, this also increases the potential of foreign material being put into the tank. Therefore a balance must be found to give optimum performance. Located at the rear of the chaffer is an adjustable tailboard. It's purpose is to retain lighter peanuts which do a lot of bouncing before falling through the chaffer. The tail board is normally set in an upward position. This should be lowered if high amounts of foreign material are found in the peanuts. See Figure 16.



Figure 15 Screen Adjustment

The Main Fan is an essential part of the separation process. The principal of separation is air and gravity, as the peanuts and foreign material fall from the agitator rods onto the cleaning shoe gravity begins to pull the peanuts downward, air then blows the hay and foreign material out the back. Therefore, the right combination of air for conditions must be determined.

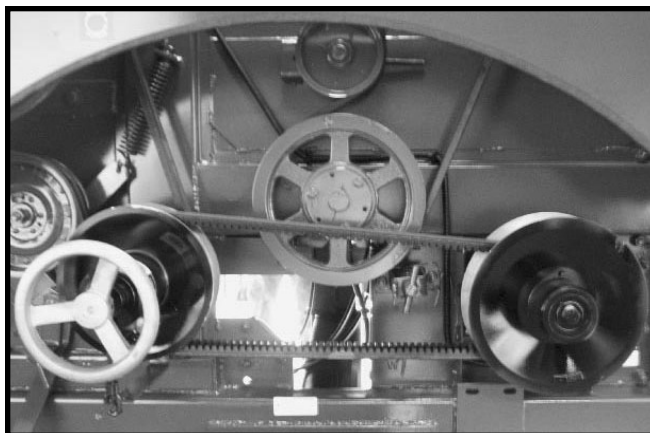


Figure 17 6-Row Separator Fan Drive

First START WITH MAXIMUM AIR FROM THE FAN. Check behind the combine to see if peanuts are being blown out, this can best be determined by someone other than the operator observing the materials flowing off the rear of the screen.

If excessive peanut loss is occurring from too much air, reduce the fan speed. On 6-row combines, turn the control handle CCW and/or reduce tractor RPM. On 4-row combines, turn the control handle clockwise and/or reduce tractor RPM.

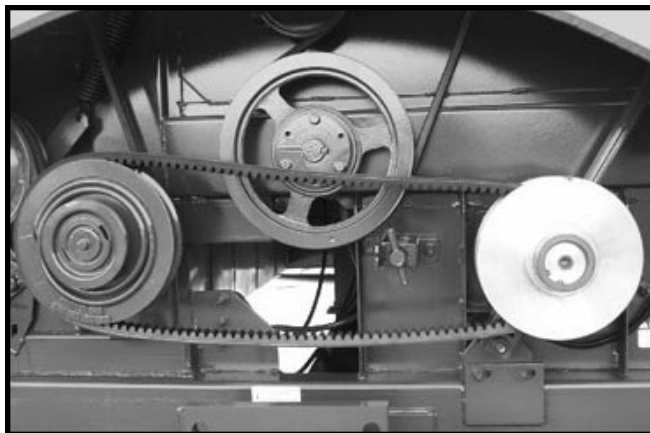
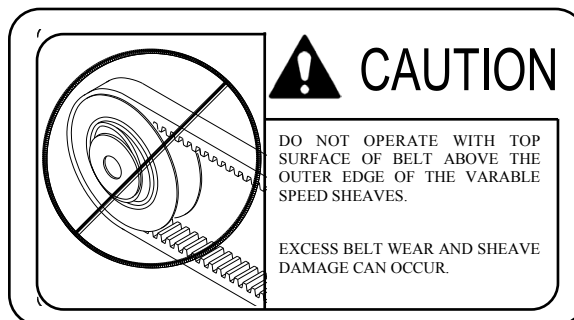


Figure 18 4-R Wide Body Separator Fan Drive



STEMMER SAWS

As the peanuts fall from the chaffer they fall onto a set of stemmer saws. These saws remove the stems from the peanuts and dispose of the vine fragments. The saws turn in opposite direction which rotates most all peanuts into position for stem removal.



Figure 19 Airlift Adjustment

The airlift fan supplies the energy to lift the peanuts into the storage tank on top of the combine. The amount of air can be varied to meet field conditions by means of a damper in the lower end of the fan housing. The control lever can be set from high to low. See Figure 19. The recommended settings are high for heavy yield peanuts, medium for dry light peanuts and low for small low yield peanuts. Inadequate air flow will result in the delivery duct plugging. Too much air will result in increased LSK's. Always inspect peanuts in tank when first starting up, this will help determine the proper air flow.

In the event of duct plugging, 3 clean-out doors are provided. **Make sure these doors are installed properly; if not, they can create increased LSK's.**

Check delivery liners each day. Replace if worn or damaged.

THE TANK

The tank is located on top of the combine. Care should be taken not to over fill the tank as excess peanuts will plug the delivery system and eventually spill on to the ground. The tank is emptied by two hydraulic cylinders which lift the bottom of the tank until it reaches a vertical position. The peanuts exit through a door on the top right side of the tank. The maximum recommended dump height is ten foot two inches, this is to 10" below the pivot point on the tank arms.



DANGER: NEVER WORK ON COMBINE WITH TANK RAISED UNLESS SUPPORT STRUTS ARE IN PLACE ON CYLINDERS.

Periodic cleaning of the air release grid on the top of the tank delivery duct may be necessary. See Figure 20. A heavy buildup of vines and roots in the grid can cause shelling of peanuts.



Figure 20

Proper air adjustment is for the peanuts to just reach the far side of the tank when it's empty.



DANGER: NEVER LIFT TANK WHILE UNDERNEATH POWER LINES.



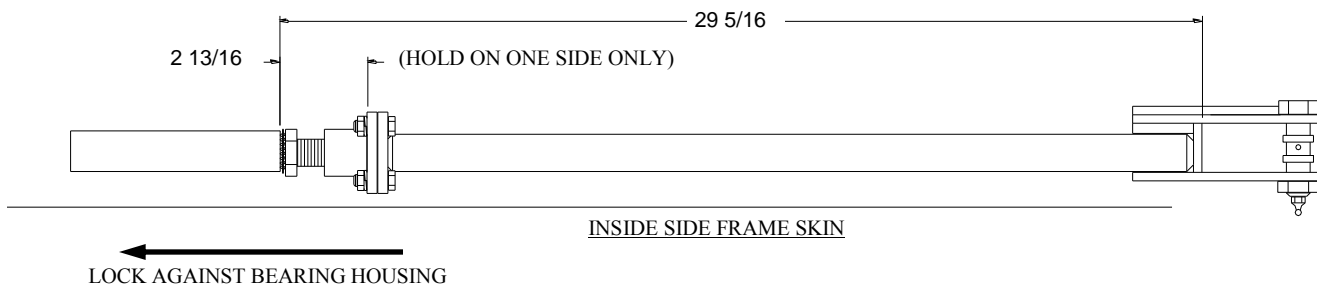
Figure 21

COMBINE TRANSPORT

When towing the combine on public roads be sure that the weight of the towing vehicle is equal to or greater than the weight of the combine which is 17,000 lbs., 4-row and 17,300 lbs., 6-row. **We do not recommend speeds of greater than 20 MPH empty or 10 MPH loaded.**

When towing machine make sure cylinder transport lock is properly engaged for safe transport. (See Figure 21).

PUSH ROD SETTINGS



PROBLEM	POSSIBLE CAUSE AND SOLUTION
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1. Vines rolling in front of pickup, not being picked up by header.	1. Small vines or high winds will not allow springs to penetrate vines. Install vine hold down attachment and for extreme conditions bend pickup spring up slightly 1" from end. 2. Make sure pickup speed is matched to ground speed.
2. Peanuts bunching in front of pickup before entering combine.	1. Pickup speed is too slow. Increase speed of pickup by adjusting hydraulic valve.
3. Pickup pulling vines apart and losing peanuts on the ground.	1. Pickup speed is too fast. Reduce speed of pickup by adjusting hydraulic valve.
4. Peanuts left on vines after going through combine.	1. Combine not running up to speed. Be sure tractor is running at proper PTO speed. For extremely tough vines, it is OK to increase PTO speed to 1000 RPM. 2. Strippers not set aggressively enough. Engage stripper springs starting with first bar until all peanuts are remove from vines. Do not engage more strippers than are absolutely necessary. 3. If No. 2 does not solve the problem then: (a) check for broken or loose stripper springs or (b) reduce ground speed to meet tough field conditions. Note: The spring coils may still be attached to the bar and just the tine broken off. Look closely when checking stripper springs. 4. Use only KMC brand stripper springs. Alternative brands are weaker, will break easier and are not as aggressive.
6. Excessive LSK's First, determine where LSK's are originating. If you find only kernels in the tank and hulls on the ground, it usually means that the shelling is taking place inside the machine. (Use solutions 1-3) If you find kernels and hulls in the tank it usually means that the shelling is taking place in the delivery system. (Use solutions 4-8)	1. Too many strippers engaged. Back out strippers if possible without creating peanut loss. 2. Reduce PTO speed for less aggressive action in picking cylinders. 3. Check picking cylinder and concave setting, (Page 8) and for obstructions in concaves. Remove if necessary. 4. Too much air to delivery duct. Reduce air by closing damper in fan duct. 5. Foreign material in airlift duct. Clean out duct and check for misalignment between duct and hopper. 6. Stemmer saws plugged. Clean out stemmer saws and reduce opening in sieve to reduce chance of re-plugging. 7. Damaged delivery duct or liners. Repair or replace damaged parts. 8. Clean out doors not installed properly.

PROBLEM

POSSIBLE CAUSE AND SOLUTION

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| 7. Excessive foreign material in sample. | <ol style="list-style-type: none">1. Too little air through separator. Turn control handle to increase air. CW-6R, CCW-4R.2. If material is small and dry, reduce aggressiveness of stripper springs.3. If material is small clods of soil, re-shaking of vines may be necessary.4. If material is vines and hay, reduce the openings of chaffer. Make sure peanuts will still fall through chaffer.5. Check fan housing for material buildup. Clean out if necessary. |
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| 8. Excessive peanuts found in loose hay behind combine. | <ol style="list-style-type: none">1. Peanuts being blown out back. Reduce air velocity of fan by turning control handle CCW-6R, CW-4R.2. Insufficient breakup of hay. Engage more strippers.3. Chaffer opening too small. Increase openings by 1/16th inch increments. Check screen for buildup of hay, sticks or mud.4. Insufficient air to take loose hay off screens. Increase air flow by turning control handle CW-6R, CCW-4R.5. Combine running too fast for conditions. Slow ground speed down. |
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|--------------------------|---|
| 9. Airlift duct plugging | <ol style="list-style-type: none">1. Too little air. Increase damper openings for more air flow.2. Check for damaged duct or fan. Repair or replace as necessary.3. Check tension on airlift drive belt. Adjust or replace if necessary.4. Make sure combine is running at proper PTO speed. |
|--------------------------|---|
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- | | |
|------------------------|---|
| 10. Tank will not dump | <ol style="list-style-type: none">1. Check hydraulic coupling engagement to tractor.2. Improper hose coupling for tractor model.3. Faulty cylinder. Replace as necessary.4. Insufficient hydraulic pressure. |
|------------------------|---|
-

PROBLEM

POSSIBLE CAUSE AND SOLUTION

11. Excessive machine vibration.

1. Check eccentric drive belts on BOTH sides of the machine to be sure they are tight.



CAUTION: Avoid over tightening of the belt on the right side as this could cause the shaft to bend due to an ex-

2. Check the setscrews in the eccentric bearing cams and in the rocker arms to be sure they are tight. Make sure that the shaker pan and stemmer frame are centered in the combine before tightening.
3. Check the jam nuts on the push rod adjustment. If they have loosened, retighten as follows. Set the distance of one push rod to 29 5/16" from inside of the clevis at the rear of the push rod to the flat surface on the eccentric housing. Lock the jam nuts against the bearing housing. Adjust the other rod length until the 7/8 x 3 capscrew in the push rod clevis can be easily installed. Lock jam nuts. (See page 12.)
4. If rubber bushings and/or hanger arms have been replaced, make sure the eccentric bearings were rotated to mid-stroke before tightening cap-screws. If not, loosen and tighten with eccentric bearings in correct position.
5. Check the setscrews in the picking cylinder ends. Re-tighten if they have loosened.
6. Check the rocker shaft, bearings, eccentric bearings, and push rod bearings. Loose and excessive play in worn out bearings will create shock loads and vibrations. Replace as necessary.

12. Header Speed Control Valve makes a high pitched noise and speed changes.

1. Incorrect plumbing. Correct the by-pass line in the circuit.

13. Vines wrapping around rear cylinders.

1. Vine conditions tough. Adjust the rear cylinder timing as shown in Figure 11B, Page 8.

MAINTENANCE

There are certain things which need daily or regular attention to keep your combine in good operating condition.

LUBRICATION is the most important of these. The following chart shows points that require lubrication and the intervals at which they require it. The cylinder bearings on the combine are prelubed and non-relubricatable. This is because most often these bearings are over greased. This attracts dust and dirt to the seals of the bearings which eats them away and allows the dirt to penetrate the bearing and cause it to fail. Also improper cleaning of the grease fitting allows dirt to be pumped directly into the bearing which causes premature failure.

LUBRICATION CHART

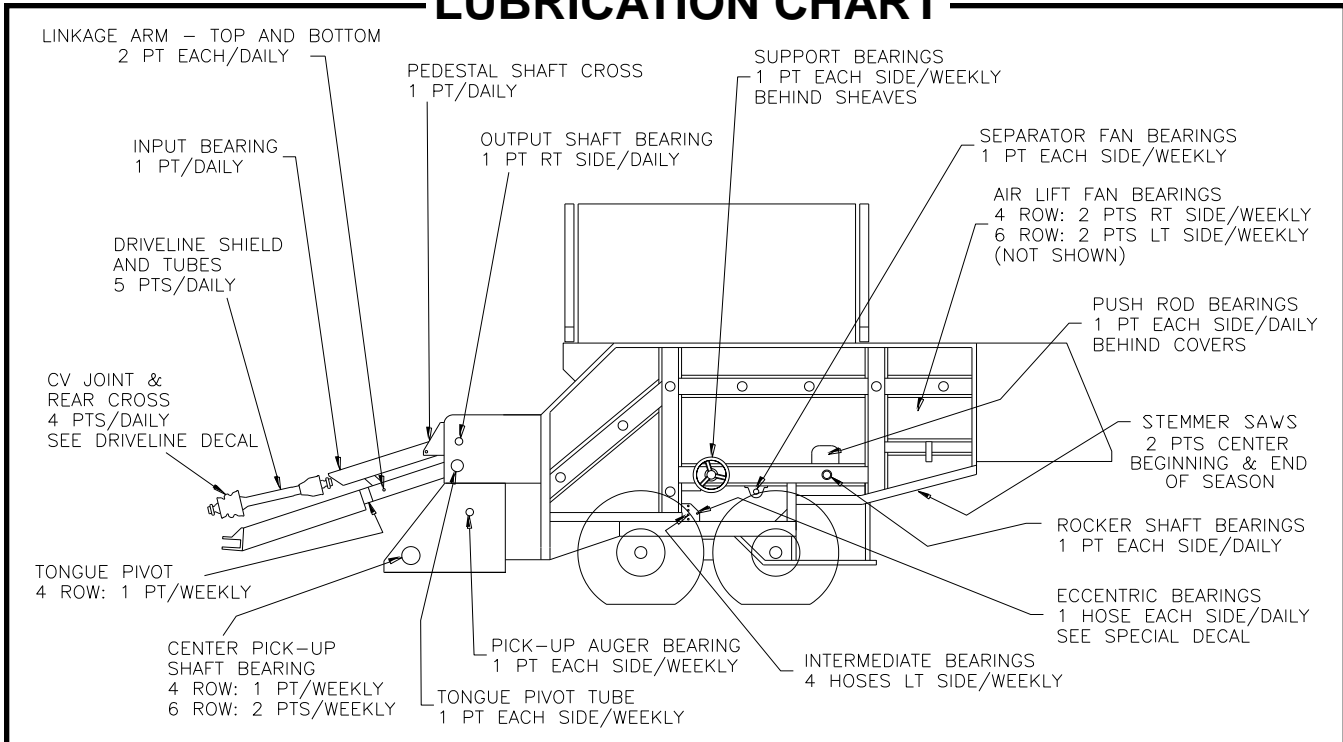


Figure 23 LUBRICATION CHART

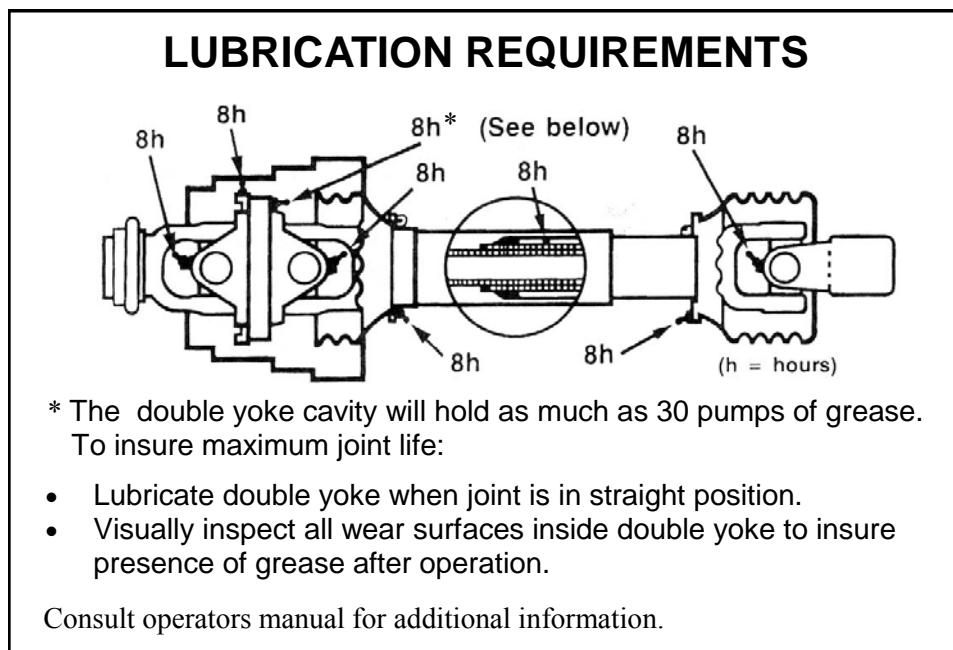


Figure 25 CONSTANT VELOCITY JOINT

SPRING MAINTENANCE should be performed daily to insure peak performance of the combine.

1. Pickup springs should be checked for broken or bent tines and for excessive rubbing on the pickup bands. Broken or bent springs can be replaced through the access opening underneath and at the rear of the pickup. Pickup should have some pivotal action to allow for misalignment of bands and springs.
2. Cylinder springs should be checked for broken or bent tines. Replacement of springs on the number one and two cylinders can be made by access through the front top cover. Replacement of the number three and four cylinders can be made by raising the storage tank.



DANGER: BE SURE SAFETY STRUTS ARE IN PLACE BEFORE WORKING UNDER RAISED TANK. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH!!

Replacement of the numbers five, six, and seven cylinders can be made by removing the top rear cover.

3. Stripper springs should also be checked for broken or bent tines. Replacement of these springs require the removal of the stripper bar. To accomplish this remove the stripper handle by removing the capscrow adjacent to the inside wall of the frame, then remove the capscrows on the center pivot post located under the #1 concave. Drop the bar out of the machine, remove any springs between the end of the bar and the damaged spring, then replace the damaged spring. Next reinstall the bar.



CAUTION: ENGAGING STRIPPER HANDLES PAST THE BRACKETS WILL CAUSE PREMATURE SPRING BREAKAGE.

SEPARATION SYSTEM

If the rubber torsional bushings in the pan or stemmer hangers ever need replacing, be sure that the bushing is pressed in properly. When reinstalling on combine place the eccentric in the middle of a stroke before tightening the bushing. **NEVER** lubricate these bushings.

If the eccentric bearings ever need replacing, make sure the relube holes in the bearing align with the grease groove in the housing. Also replace the formed sheet metal cavity rings. This will give a better seal than trying to straighten old ones that may have been bent.

Check fan air-ducts daily to make certain that they are clear of obstructions.

Check chaffer assembly daily to make sure it is secure and adjusted properly and clean of sticks and stems.

The drives for the combine should be inspected daily. The drives for all the cylinders and header are chain drives. These chains should be set where all the slack is taken out but not so that they are preloaded which can cause premature wear and failure. Usually 1" of movement in the tight side of the chain will be obtainable. The following photographs show the proper installation of chain drives.

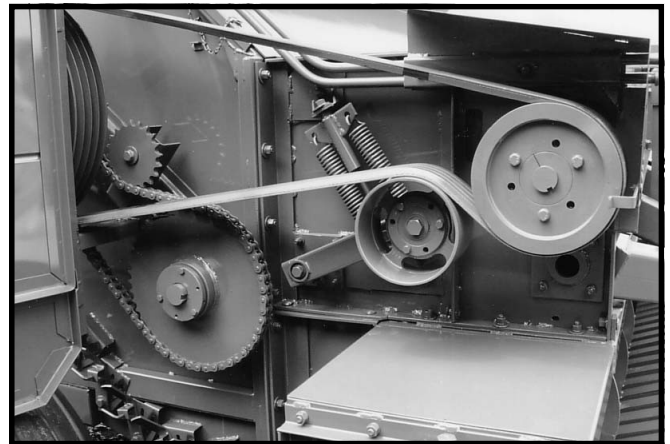


Figure 26 NO. 1 CYLINDER DRIVE

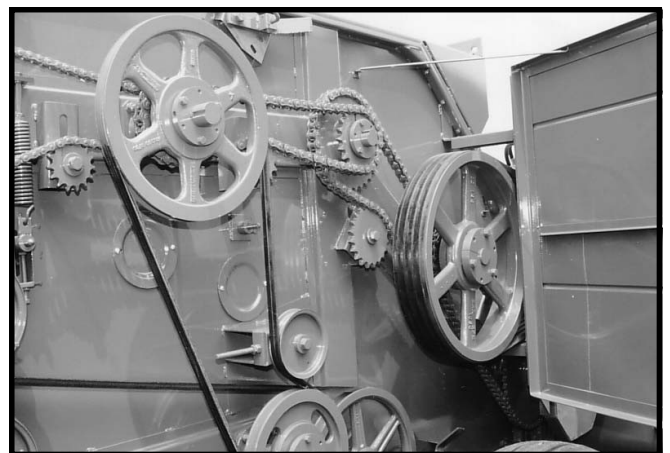


Figure 27 NO. 2, 3, & 4 CYLINDER DRIVE

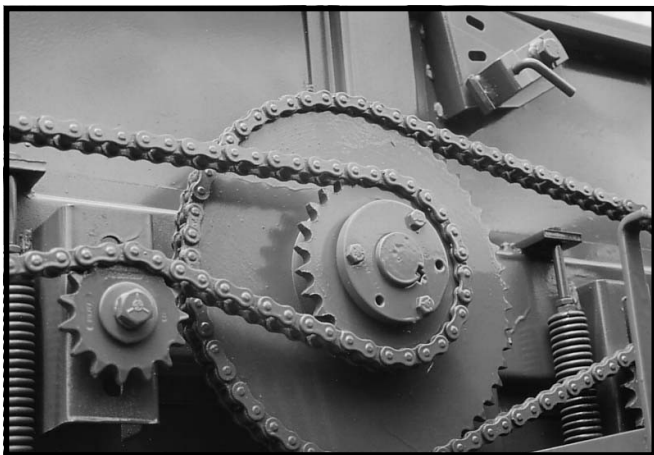


Figure 28 No. 5 Cylinder Drive

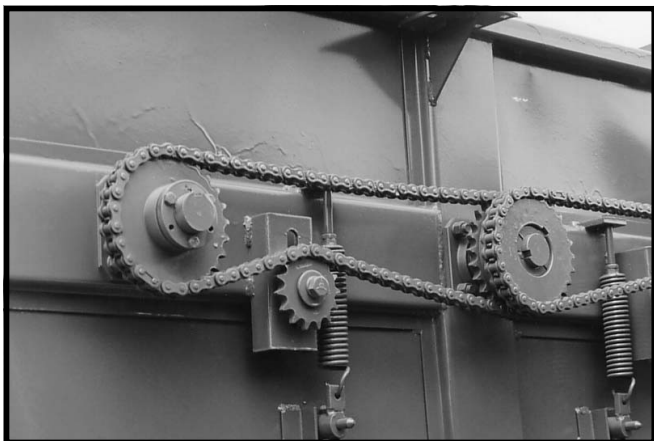


Figure 29 No. 6 & 7 Cylinder Drive

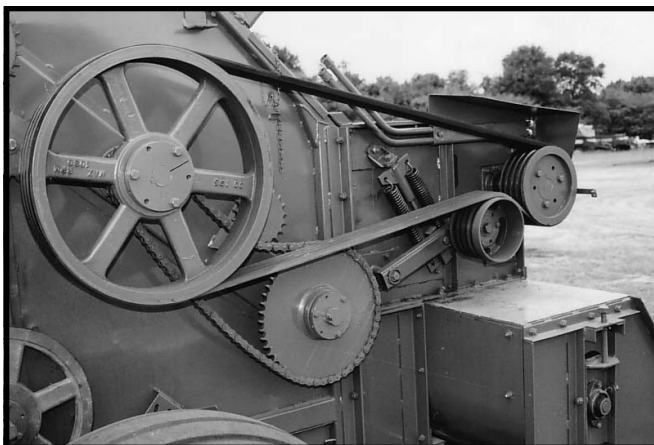


Figure 30 Main Drive

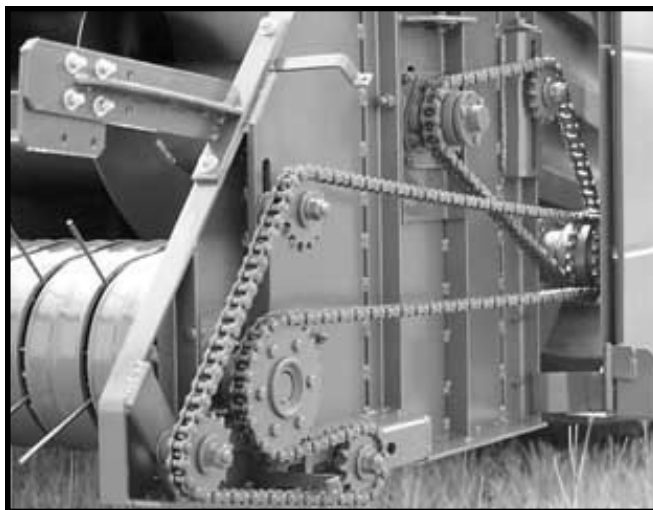


Figure 31 Header Drives

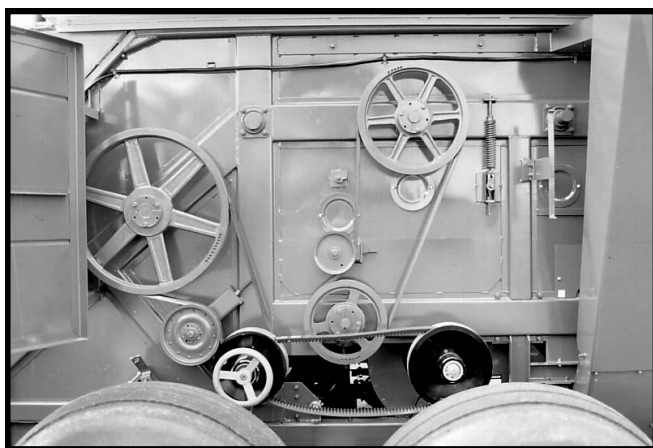


Figure 32 Eccentric & Jackshaft Drives

The main drive, both fans, eccentric, and stemmer saws are all driven by V-belts. Proper installation and tension of the belts is necessary for optimum performance. There are no twisted belts on the combine, however, the airlift fan and pick-up have a back wrap belt arrangements to achieve proper rotation and contact area. **All belts should be adjusted after two hours of operation to take-up looseness caused by initial stretch of belt.** Check regularly and tighten as needed; loose belts contribute to poor performance of the combine. The following pictures and illustrations show proper installation of drive belts.

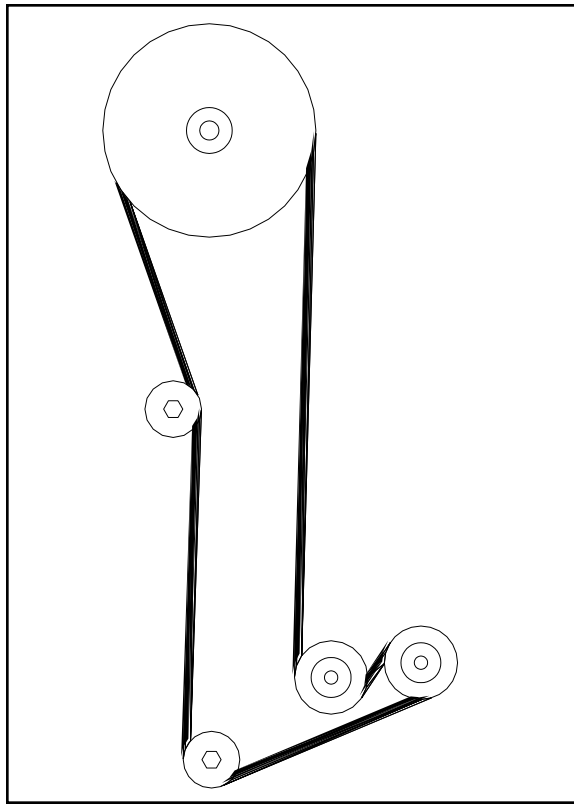


Figure 33 STEMMER SAW DRIVE

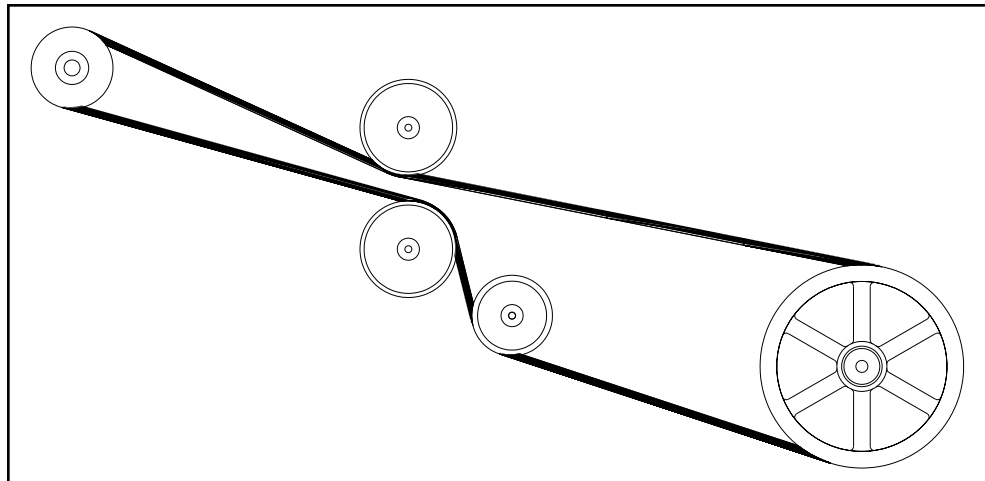


Figure 36 AIR LIFT FAN DRIVE

AFTER SEASON MAINTENANCE

1. Clean the combine thoroughly to remove all dirt and moisture holding materials.
2. Repaint worn and scratched parts if possible or coat machine with light oil or other rust inhibitor.
3. Loosen all belts to take tension off bearings and shafts.
4. Remove and clean all chains, store in oil if possible during off season. If not saturate and re-install, leave loose.
5. Grease all fittings, driveline, bearings, bushings, and pivot joints. NOTE: MAKE SURE ALL WATER IS PURGED FROM BEARINGS TO PREVENT RUSTING AND PITTING.
6. Store under shelter if possible. Collapse all hydraulic cylinders to prevent rods from rusting and pitting.

SPECIFICATIONS

HITCH: Stationary tractor drawbar types

PICKUP REEL: Low profile, 6-bar, camless, 212" wide on six row machines, 132" wide on four row machines.

THRESHING SYSTEM: 7 cylinders, 7 stripper bars (individually adjusted), floating concaves under 4 rear cylinders.

DRIVELINE: 1000 RPM constant velocity drive-line, safety shielded. Non-CV driveline optional.

TANK CAPACITY: 324 cubic feet or 260 bushels. Tank hydraulic operated, 122" dumping height.

MACHINE WEIGHT: Four Row - 17,000 lbs
Six Row - 17,300 lbs

MACHINE HEIGHT: 151" 4-ROW, 161" 6-ROW

MACHINE WIDTH: Four Row - 187"
Six Row - 251"

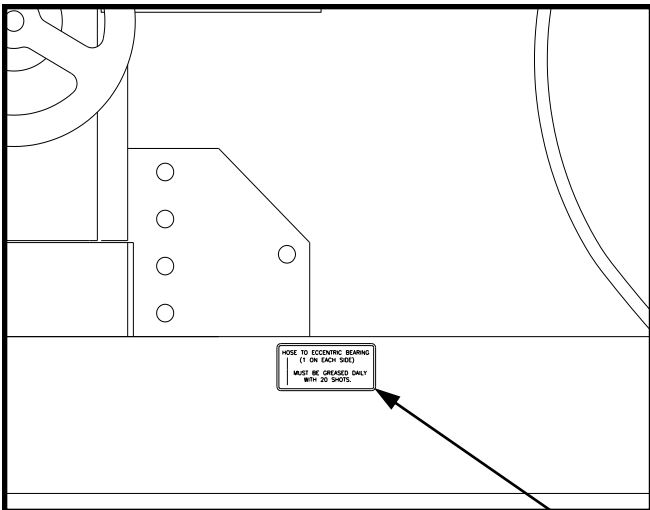
TIRE SIZE: 19L X 16.1 SL HIGH FLOTATION, STANDARD.

WHEEL BASE: (CL/Outside)
Four Row - 131"/ 151"
Six Row - 149"/ 169"

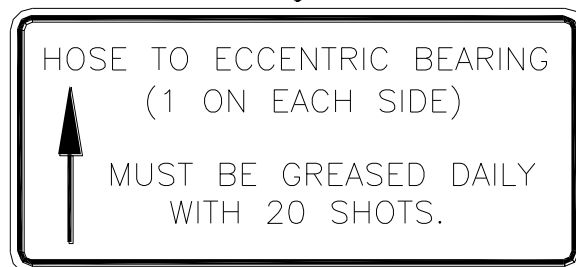
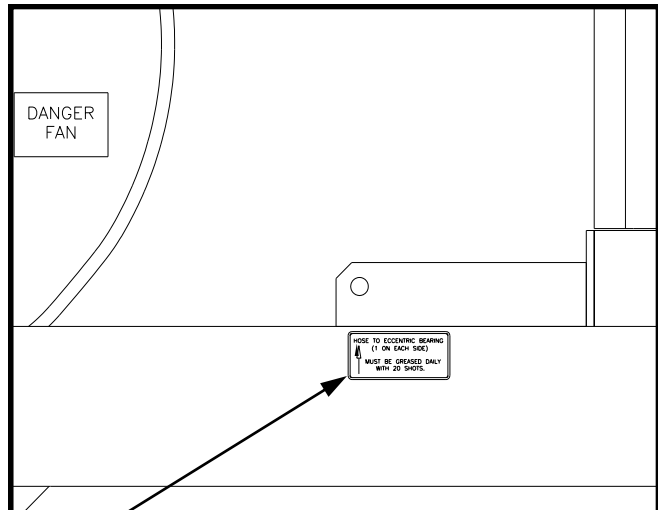
ECCENTRIC BEARING LUBRICATION

It is very **important** that each eccentric bearing be greased daily with at least 20 shots.

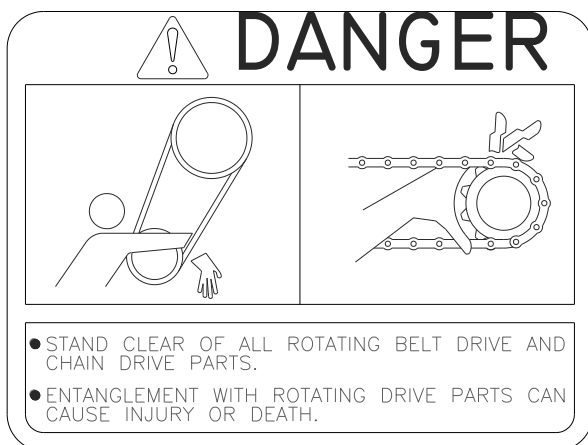
LEFT SIDE



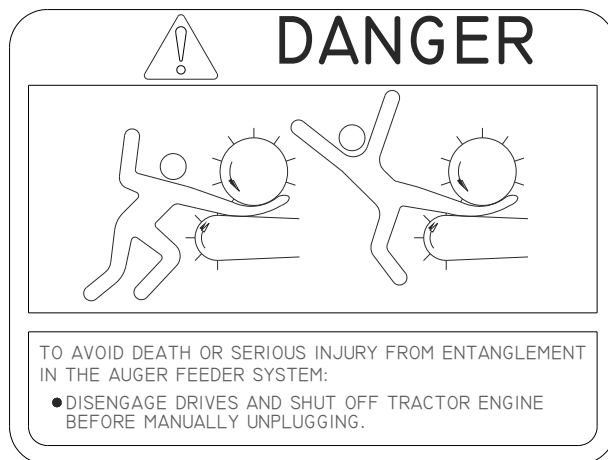
RIGHT SIDE



33-050-309



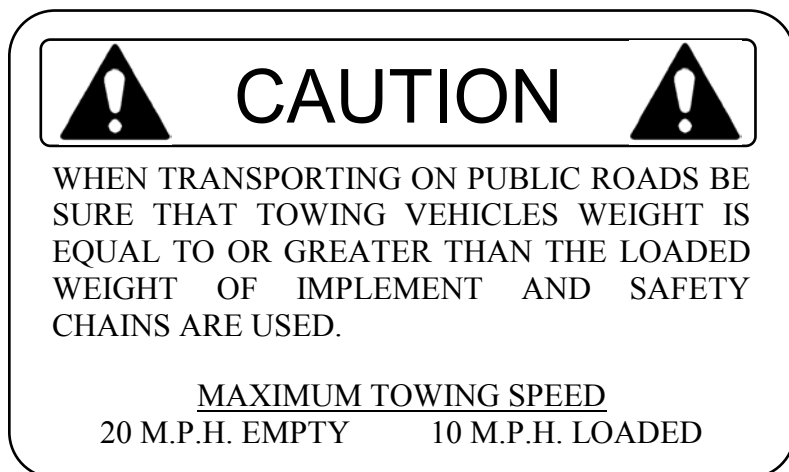
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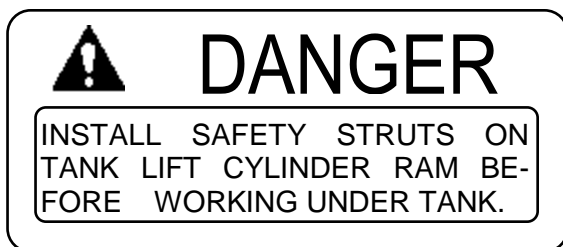
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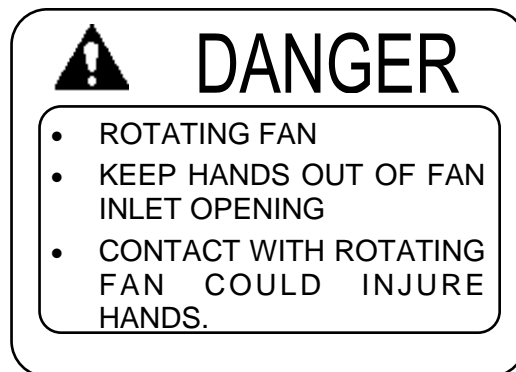
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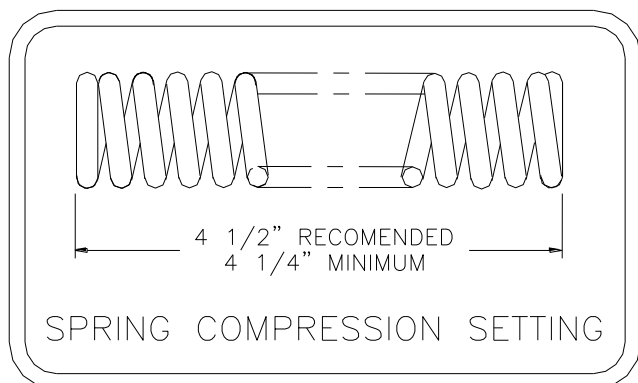
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33-050-035



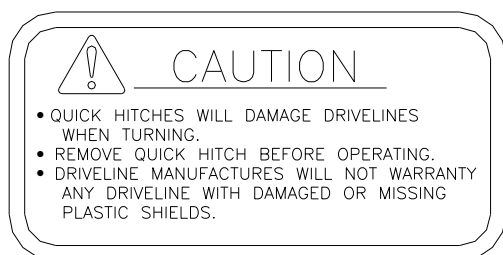
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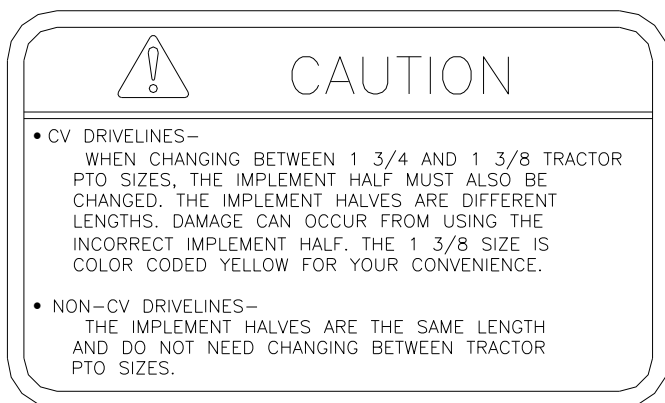
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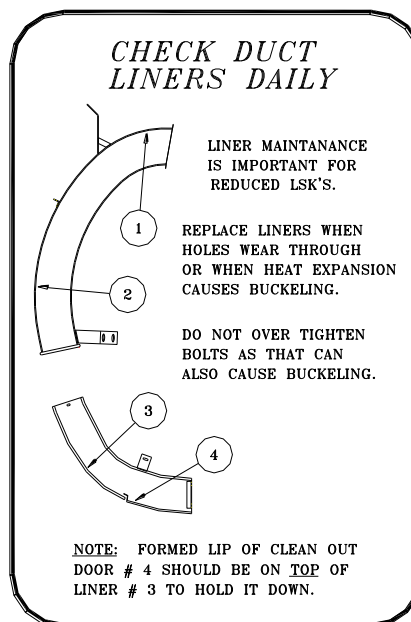
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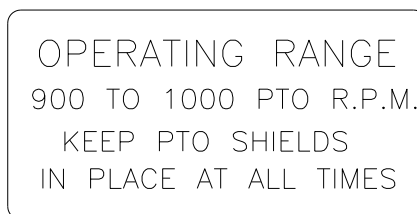
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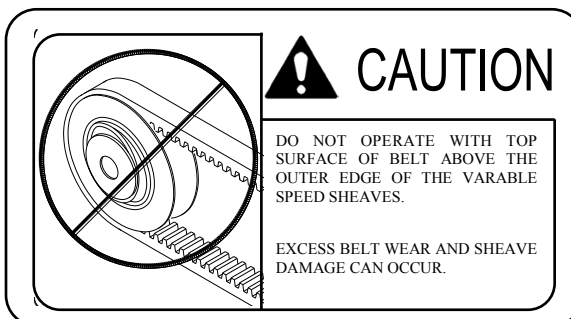
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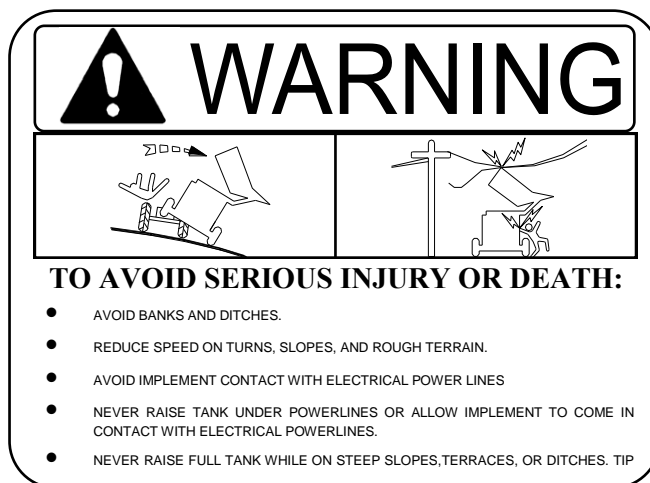
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33-050-258



33-050-251



33-050-146

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

YEAR	SERIAL NUMBERS
1985	27986-29695
1986	29696-31095
1987	31096-33234
1988	33235-35548
1989	35549-38496
1990	38497-41771
1991	41772-44466
1992	44467-47001
1993	47002-48750
1994	48751-51549
1995	51551-54262
1996	54263-56661
1997	56662-59465
1998	59466-62097
1999	62098-63986
2000	63987-65692
2001	65693-67340



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