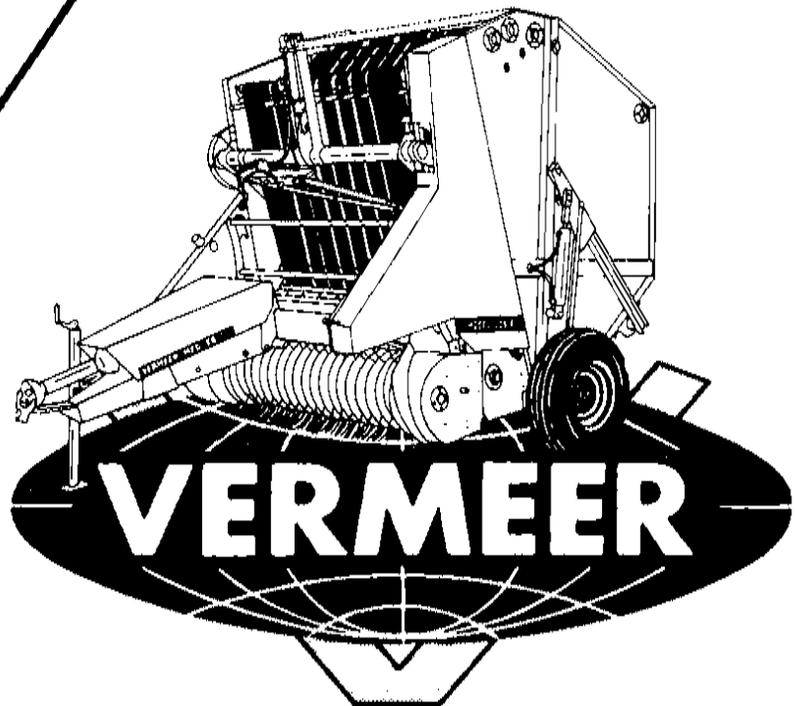


VERMEER

Manufacturing Company
Pella, Iowa 50219

Model
504 Super G Baler
Owner's Manual

105400-A07



**Agricultural
Products Division**

**TO THE PURCHASER
OF A VERMEER 504 SUPER G BALER**

We welcome you to our ever-growing family of Vermeer Baler owners. We are confident that the dependable and economical performance of this unit will prove that you have made a wise choice. The purpose of this manual is to acquaint you with your new Vermeer Baler and optional attachments. This manual will explain the proper operation of the unit and it contains a complete parts reference. It is very important that you know the serial number of your Vermeer Baler. REMEMBER, whenever you order parts for your Baler, specify the model number and serial number of your machine. So that you will always have this information at hand when you need parts, we suggest that you fill in the following information for your ready reference.

Baler Model No. _____ Baler Serial No. _____

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Printing Date:	First Edition, February 1980	Serial # 101 to 1436
	Second Edition, November 1981	Serial # 1437 to _____

BALERS DELIVERY AND SERVICE REPORT

DEALER CHECK SHEET

Serial No. _____

INSTRUCTIONS: Before delivering the machine, check the following items carefully and make corrections when necessary. Place an "X" in the blank after each item has been checked.

- _____ Check machine for Shortage or Damage in Transit
- _____ Proper Lubrication
- _____ Condition of Hydraulic Hoses and Connections
- _____ Adjustment of all Chains and Belts
- _____ Oil Level in Gearbox
- _____ Slow Moving Vehicle Sign
- _____ Tightness of Lug Nuts
- _____ Condition of Rims
- _____ Tires Properly Inflated
- _____ Installation of Shields
- _____ Operation of Shields - Opening, Closing and Latching

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SAFETY INSTRUCTIONS



This symbol is used throughout this manual to call attention to the safety instructions. These instructions are of great importance and must be read carefully and obeyed.

The safety of the operator is of great importance to those at Vermeer Manufacturing Company. The decals, guards and other protective features that are designed into the machine are there for your protection. A high percentage of the accidents that occur are due to careless behavior or misuse of the machinery and therefore we ask you to be a careful operator and to properly use and service your machine.



CAUTION: BEFORE ATTEMPTING TO OPERATE THIS MACHINE, CAREFULLY READ ALL INSTRUCTIONS CONTAINED IN THIS MANUAL AND IN YOUR BALER SAFETY MANUAL.

BEFORE OPERATING

1. Be sure all safety shields and covers are securely in place when machine is running.
2. Read all warning and instructional decals placed on the machine for your safety and convenience.
3. Allow only responsible, properly instructed individuals to operate machine. Carefully supervise inexperienced operators.
4. It is recommended that a fire extinguisher be carried on the tractor when baling. This is especially important when baling very dry materials which can be easily ignited.
5. Make no modifications to this equipment unless specifically requested or recommended by Vermeer Manufacturing Company.
6. Tighten or replace any loose or cracked bolts, chains, hoses or connections.

DURING OPERATION

1. Disengage the power take-off, shut off the tractor engine and set parking brake before removing hay or other material from the baler. **Never** leave the tractor controls unattended while the baler is operating.
2. **Never** hand feed hay or twine into the baler. Refer to the trouble shooting guide if you are having problems with twine not feeding.
3. Always make sure the area behind the baler is clear before raising or lowering tailgate.
4. Never eject or store a bale where it can roll. A rolling bale can be destructive and can cause severe injury or death.
5. Exercise extreme caution when operating the baler on steep slopes or grades.
6. Be sure all spectators are clear of the area where the baler is in operation.
7. Be sure the tractor operator is the only person riding the tractor. Allow no one to ride the baler at any time.
8. **Remember**, loose clothing, necklaces and similar items are more easily caught in moving parts. Avoid the use of these items if possible and keep long hair confined.
9. Never work under the tailgate or in the bale chamber when the tailgate is open unless the tailgate lock valve is engaged (knob push in).
10. Watch out for and avoid any object that might interfere with the proper operation of the machine.

SAFETY INSTRUCTIONS

DURING SERVICE AND MAINTENANCE

1. Disengage the power take-off, shut off the tractor engine and set the park brake before making any adjustments or repairs, or lubricating the equipment. Do not allow anyone near the tractor while servicing the baler.
2. When working under or beside open shields, be sure they are latched open so that they will not fall or blow shut on you.
3. When replacing any part on your baler, be sure to use only Vermeer authorized parts.
4. Relieve all pressure in the hydraulic system before disconnecting the lines or performing other work on the system (tailgate must be closed). Make sure all connections are tight and the hoses and lines are in good condition before applying pressure to the system.
5. Hydraulic fluid escaping under pressure can be invisible and have enough force to penetrate the skin. When searching for a suspected leak, use a piece of wood or cardboard rather than your hands. If injured, seek medical attention immediately to prevent serious infection or reaction.
6. Be careful when using a hoist or other lifting devices. Use only devices that have adequate lifting capacity and be sure the chain or cable is securely attached.

WHEN TRANSPORTING ON PUBLIC ROADS

1. Use good judgement and drive carefully, especially over rough or uneven roads.
2. Be sure tractor brakes are properly adjusted and foot pedals locked together.
3. Check your state laws regarding the use of lights, slow moving vehicle sign, safety chain and other possible requirements.

WARNING: FAILURE TO COMPLY WITH ANY OF THE ABOVE SAFETY INSTRUCTIONS OR THOSE THAT FOLLOW WITHIN THIS MANUAL MAY RESULT IN SEVERE INJURY OR DEATH.

THIS BALER IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS INTENDED AS EXPLAINED IN THE OPERATOR'S MANUAL, ADVERTISING MATERIALS AND OTHER PERTINENT WRITTEN MATERIAL.

HANDLING ROUND BALES



CAUTION: The improper handling of large round bales can result in accidental personal injury or death. The following instructions are provided for your protection and must be carefully read and obeyed.

1. Carefully read all operating instructions provided by the manufacturers of your bale handling equipment.
 - Rear wheels should be set at maximum width, if possible, to increase tractor stability.
2. When using a front end bale carrier, follow the instructions given below:
 - Use only tractors that are large enough to maintain adequate stability when handling the bales. Additional rear end ballast may be required. Follow the recommendations of the bale carrier manufacturer.
 - Front end loading device should be equipped with a grapple or similar restraining device to prevent the bale from rolling down the loader arms onto the tractor operator.

SAFETY INSTRUCTIONS

HANDLING ROUND BALES (CONT.)

Never carry a bale in a high position unless absolutely necessary and then only with extreme caution - moving very slowly and smoothly. Rapid or sudden movement can greatly increase the possibility of tractor rollover.

Always exercise extreme caution and good judgement, especially when operating on sloped ground or rough terrain.

Using a tractor with a four post rollover protective structure or cab (with built in rollover protection) is recommended.

3. When using rear mounted bale carriers, follow instructions given below:

Use only a tractor which is large enough to maintain adequate stability when

handling the bales. Additional front end weights may be required. Follow the recommendations provided by the bale carrier manufacturer.

Always exercise caution and good judgement, especially when operating on sloped ground or rough terrain.

Avoid applying the tractor brakes suddenly unless an emergency requires it. This may cause the front end of the tractor to swing over possibly causing loss of control.

It is recommended that you use a tractor with a rollover protective structure or a cab (with rollover protection built in).

INTRODUCTION

With the development of the Vermeer Hay Baler, Vermeer Manufacturing Company has introduced an entirely new concept in hay harvesting. With the Vermeer Baler, baling hay is completely mechanized, eliminating the hard manual labor normally associated with conventional baling systems.

This manual is shipped with each baler to familiarize the operator with the proper operating, maintenance, and lubrication instructions to insure the best possible performance and service from the machine. Study and understand these instructions thoroughly before operating the ma-

chine. A complete parts list section is also contained in the manual for easy reference to parts. The use of this section will provide a fast accurate way to order parts. We recommend that this manual be readily available for reference at all times. The parts book is located inside the twine box door.

Vermeer Manufacturing Company reserves the right to make changes in engineering, design and specifications, add improvements, or discontinue manufacture at any time without notice or obligation.

BALER IDENTIFICATION PLATE

Your baler serial number is stamped on an identification plate #1, Figure A, with the baler model number. The model number and serial

number are important when service and/or parts are required.



Figure A - Model & Serial Number Plate

OPERATING INSTRUCTIONS

PREPARING THE HAY FOR BALING

In this section we want to tell you how to best prepare the hay for baling with the Vermeer Baler.

We recommend that you mow and condition the hay you intend to bale. With this method, the coarse or stem material will dry as rapidly as the leaf, thus allowing you to bale quicker. If the hay is not conditioned, the juice in the stem

may cause a wrapping problem.

Rake the hay once before you bale. If mowing and conditioning is done in the same operation, the hay on top will normally dry faster than that on the bottom. The juice in the bottom layer, if it isn't raked, will form a sticky substance on the rollers of your baler and may cause wrapping.

OPERATING INSTRUCTIONS

PREPARING THE HAY FOR BALING (CONT.)

IMPORTANT:

Moisture Content — First of all, let us say this — we have not changed hay, we have improved the method of handling it. Although we have found, through experimentation, that the Vermeer Baler will perform in many conditions with a higher moisture content, we normally maintain a rule of thumb that you should not attempt to bale with the Vermeer Baler until you could with a conventional baler. This means that the moisture content of your hay at baling time should be no more than 20%. If the moisture content is higher than this, you run the usual risks of heat and resulting spoilage; and shorten belt and baler life.

IMPORTANT: Hay with too high a moisture content can be baled with the Baler. Hay will spoil through heat when wrapped tightly in the bale. Make sure the hay is low enough in moisture before baling. Also, wet hay is very hard on the components of the baler such as chain and sprockets, bearings, belts and rollers, etc., because of the high load it produces when making the bale.

Proper windrow width is important. A windrow

of the proper width will make baler operation easier and will result in more uniform bales. For best results, a single windrow should be no more than 2 feet wide. A double windrow should be 3 1/2 feet wide. Proper driving technique will be explained in the Starting to Bale Section.

Your Vermeer Baler will bale all types of hay including legumes, grass, and feed grains as well as non-hay crops such as corn, soybean, milo and peanut residues. The bales made with fibrous materials, such as straw, Sudan Grass, and non-hay crops, tend to absorb moisture and therefore these should be covered to prevent spoilage.

For cornstalks — use a flail-type stalk cutter to cut stalks from their roots. Using side-delivery rake, roll 6 - 10 rows (depending on density of the stalks) into a windrow and bale in the normal manner.

For soybean straw — after combining, follow with a side-delivery rake and roll 6 - 10 rows (depending on crop density) together to form a windrow and bale in a normal manner.

These suggestions are a guide since continued use for your new baler will let you determine exactly what local and crop conditions work best for YOU.

PREPARING YOUR BALER TO BALE

A number of items have to be attended to prior to going into the field to begin baling.

Set the wheels on your tractor out as wide as the baler pick-up. This procedure will allow you to make good bales without driving over the windrow.

When hooking up your baler to the tractor, be sure to use the Baler Attachment Bolt that comes with the baler. To prevent the bolt from

becoming an obstacle to hay movement, insert the bolt from the bottom of the tongue, Refer to Figure D.

Before attaching the PTO assembly, the distance from the end of the PTO shaft on the tractor to the center of the drawbar hitch pin hole should be 14" for the 540 rpm PTO and 16" for the 1000 rpm PTO. Adjust the drawbar as close as possible to these measurements.

OPERATING INSTRUCTIONS

PREPARING YOUR BALER TO BALE (CONT.)

Grease the PTO shaft and attach the telescoping PTO shaft to the tractor PTO. Depress the button on the coupling and slide coupling onto the splined shaft. **MAKE SURE THE SPRING-LOADED SAFETY CATCH IS PROPERLY SEATED BEFORE STARTING THE PTO.**



CAUTION: Be sure all safety shields are securely in place and operating properly.

We want to remind you that **before** running the baler, be sure to check that all belts are free of the rollers. Fresh paint and hot weather can make the belts stick to the rollers, so lift the belts from each roller prior to engaging the PTO drive.

IMPORTANT: Be sure to run PTO before attempting to open the baler with the hydraulic system.

The rope supplied with your baler should be attached to the tractor with enough slack that corners can be negotiated without tightening the rope. This rope operates the twine mechanism that enables the operator to tie the bale and cut the twine prior to bale ejection. It should be attached so it can be easily reached by the operator.

Now connect the baler's hydraulic lines to the hydraulic system of the tractor. Since on a new baler there is sometimes air in the hydraulic system, we suggest the following procedure to eliminate this air. Open and close the baler repeatedly, up to 10 or 12 times, if necessary. Your system is operating properly when the entire cycle is completed smoothly, without jerking.

If your baler has hydraulic twine tie — hook the hydraulic lines up to the tractor hydraulic system.

If your baler has electric twine tie — hook the connections directly to the tractor battery for better voltage. Make sure the red wire is hooked to the positive and the black wire to the ground terminal. Mount the toggle switch on the tractor.

Before starting to bale, we recommend that you go through the pre-starting check list found on Page 8. Each machine has been run at the factory and before leaving the plant, all bolts and hydraulic fittings were checked to make sure they were tight. However, we have found that transporting a machine a number of miles often loosens bolts and fittings. We therefore strongly recommend that you **USE** the pre-starting check list and **FOLLOW** its instructions to the letter. After you have baled about 6 bales, check your baler again for loose bolts or fittings, oil leaks and that the belts are running true. Make a visual check of your baler at least twice a day while you are baling.

Run the baler and check to make sure the gate locks when closing. Always check the gate latch indicator rod, which will have a red ring above the baler when gate is locked. Refer to Figure B & C.

Now that you are about ready to bale, let's spend just a little time on safety. Most accidents are caused by careless operation. We have made every effort to design operator safety into the Vermeer Baler. However, the operator still has to be **CAREFUL** and **ALERT**. Refer again to the safety notes on Pages 2 - 4 of this booklet. Read them again and practice them.

OPERATING INSTRUCTIONS

PREPARING YOUR BALER TO BALE (CONT.)

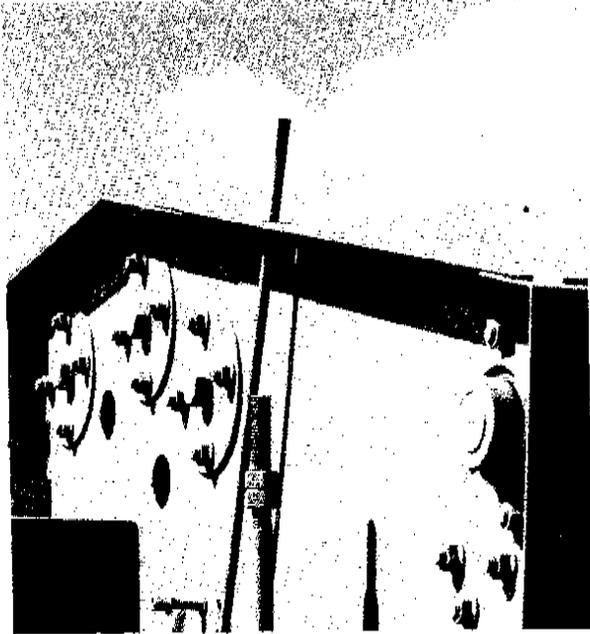


Figure B - Gate Lock Indicator
- Locked Position

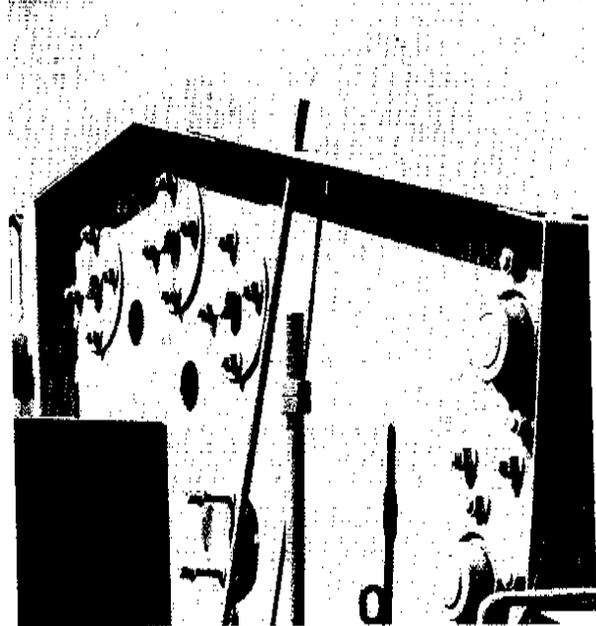


Figure C - Gate Lock Indicator
- Unlocked Position

CUSTOMER PRE-STARTING CHECK LIST FOR BALERS

BEFORE YOU START YOUR NEW VERMEER BALER, WE RECOMMEND THE FOLLOWING:

1. Read the complete safety, operating and maintenance instructions in this manual.
2. Check all lubrication points as listed in this manual and lubricate as directed.
3. Check all hydraulic hoses and connections for oil leaks.
4. Check that all bolts and screws are tight.
5. Check wheel lug bolts that they are tight.
6. Check tire pressure for 32 psi.
7. Remember to run pickup as high above the ground as possible and still pick up hay.
8. Before starting to bale with the baler, the operator should be sure that the lock on the rear gate is closed and latched.
9. We recommend that you carry a fire extinguisher on your tractor while baling.

AFTER YOU HAVE BALED FOR APPROXIMATELY 30 MINUTES OR BALED SIX BALES, WE RECOMMEND THAT YOU STOP AND CHECK THE FOLLOWING POINTS:

1. Check for any oil leaks.
2. Disconnect the PTO and check that tailgate is coming down evenly and that the lock hooks properly.



CAUTION: This requires two people - one, the operator at the tractor controls, the other checking the tailgate movement, always at a distance of several feet behind baler and in view of the operator.

3. Check that all bolts and set screws are tight, including wheel lug bolts.
4. Check that all belt lacings are okay.
5. Check that pickup is at proper height.
6. Check the adjustments found in the Maintenance Section.

OPERATING INSTRUCTIONS

ADJUSTMENTS BEFORE STARTING TO BALE

1. The pickup teeth should be adjusted to within one to three inches of the starting roller. The adjustment is made by the rods on the sides of the pickup. For heavy windrows, the teeth can be as far away as three inches from the starting roller. If hay tends to come back out the front, adjust the teeth closer to the starting roller by raising the pickup.

when using higher horse-power tractors can greatly reduce the maintenance in broken and worn parts on all balers.
2. The height of the teeth above the ground is adjusted by raising or lowering the hitch on the tongue. Be sure pickup teeth clear the ground 2" to 3" in normal operation or raise the pickup as high off the ground as possible without missing any material being baled.
3. If your PTO speed is 1000 rpm, the gear-box must be removed, turned over, and the ends reversed and then re-installed. A 1000 rpm PTO front half must be used to attach to tractor. These are available from Vermeer Manufacturing Company.
4. If you have a hydraulic twine tie, the twine tube speed for wrapping the bale is adjustable. The adjustment screw is marked by a decal on the right side of the tongue. To adjust, shut-off the tractor, go to this adjustment knob, give it a full twist in the direction you wish to speed it up or slow it down. Then go back to the tractor and run it to see if it is set to your satisfaction in the number of wraps you wish on each bale.
5. Fill Optional chain oiler with 30 weight engine oil.
6. The standard windguard can be adjusted to a higher or lower position by an adjustment bolt on the latch side. Normal adjustment would be, with the windguard teeth up, the teeth would be just below the starting roller.

IMPORTANT: The 504 Super G Baler is designed for tractors of 60 to 70 horsepower. Higher horsepower can put stress loads on the baler that it was not designed for. Adjust the torque limiter so that the clutch will slip momentarily if a heavy amount of wet hay comes in from the bottom of a windrow. Anything that would tend to jam the baler should allow the torque limiter to slip, otherwise damage will occur somewhere in the baler.

Also, tractors with higher horsepower may have live action PTO's and the rpm should be reduced as much as possible when engaging the PTO to reduce the shock load. Gentle care

If the baler would ever plug with hay between the pickup and windguard, shut off the tractor and go to the latch side of the windguard. Pull this lever and this will release the windguard to float up. Return to the tractor and start it and engage PTO. This will usually remove the plug into the baler. The windguard will automatically return to operating position.



CAUTION: Always shut off PTO and tractor engine and set park brake before removing hay or other material from the baler.

IMPORTANT: When rubber flaps are mounted on starter roller, you may not be able to raise windguard to up position. Baler must be stopped in such a position so that the rubber flaps do not restrict windguard.

OPERATING INSTRUCTIONS

STARTING TO BALE



CAUTION: Allow only responsible properly instructed individuals to operate the machine. Carefully supervise inexperienced operators.

Now you are ready to take your baler into the field and start baling, but before you do, let's take a look at some precautions and the technique of making well-formed bales.

Know the capacity and limitations of your new Vermeer Baler. No piece of equipment is without limitations — neither is your Vermeer Baler. It will not bale every type of material in every condition. It will, however, perform in many conditions that a conventional baler will not, and in many materials that another baler will not bale. Now for capacity: Your new Vermeer Hay Baler will make bales anywhere from 2 1/2 feet to 5 feet in diameter. The operator should be careful not to overfill the baler since the machine could be damaged. As soon as the "bale size" indicator reads 5, the bale is full and the bale should be tied and ejected.

The pickup mounted on the baler should be run as high off the ground as possible, but still able to pick up all the hay.

How to Start a Bale

The 504 Super G starts a bale instantly as hay comes into the baler. As the pickup lifts the hay and moves it back into the open throat, the upper belts turn the hay back toward the front and the starting roller above the throat deflects the hay down in a rolling motion. This starts the hay turning as soon as it comes into the baler.

IMPORTANT: You must get hay across the open chamber as soon as possible if you are in a narrow windrow to keep the hay from getting on top of an outside belt opposite from where hay first comes in. This is because the hay starts rolling immediately wherever you take hay into the open throat.

Single Windrow: As can be visualized, driving in a straight line will feed the hay to only one side of the bale, thus forming a cone-shaped bale. The correct technique is to first drive along one side and then the other, causing the hay to be fed into both sides of the machine.

There is no need to worry about the center, since crossing over from side-to-side will take care of the center automatically.

Double Windrow: Using a Twinrake, form a 3 1/2 foot wide windrow. You can then drive straight and form a good, uniform bale, it would probably be wise for you, at first, to operate in first or second gear to help you learn to control the shape of your bale. After you become experienced with your new baler, you will find that most tractors operate best in fourth gear.

The size of the windrow determines how good your bales are going to be. If the windrow is wider than half the width of the baler and not 3 1/2 feet wide, then you are constantly going to have hay building in the center and a barrel-shaped bale.

The operator does not have to wait until the baler has reached full capacity. You are able to tie and eject a bale any time after it has reached 2 1/2 feet in diameter.



CAUTION: To avoid possible bodily injury or damage to the baler, do not overfill baler.

IMPORTANT: Do not use the automatic pickup stop as a final bale indicator or it will increase wear on pickup sheaves and belt. Watch bale indicator on belt tightener arm.

Tying the Bale: After the bale has reached its maximum or desired size, stop forward motion. Depending upon which twine tie system you have, drop the twine tube to the right side of the baler. With the PTO running, the twine will be fed into the baler. Return the twine tube and the twine will wrap across the bale according to the rate of cross travel speed.

Driving Technique for Forming Good Bales

OPERATING INSTRUCTIONS

STARTING TO BALE (CONT.)

**Driving Technique for Forming Good Bales
(Cont.)**

NOTE: It is recommended putting 2 or 3 extra wraps of twine on each end of the bale to help hold the twine on the bale.



CAUTION: Never hand feed twine into the baler.

This whole procedure is accomplished with the tractor stationary, but the PTO running. When you have enough twine on the bale, move the twine tube up as high as it will go and this will result in the twine stopping and being cut by the knife.

Ejecting the Bale: First back up the bale 8 to

10 feet. Then using the tractor hydraulic lever, open the baler. This action will cause the bale to leave the baler, dropping to the ground. It is necessary to drive forward so the rear gate will not hit the bale as it closes. Again using the tractor hydraulic lever, close the baler. Be sure that the lock on the rear gate is closed and latched before starting to bale again.

NOTE: The latch indicator on the baler should be in the up position.



CAUTION: Never eject a bale where it can roll. A rolling bale can cause property damage or personal injury. Be sure area behind baler is clear.

PROPER BALE STORAGE

Storing bales proper is of utmost importance if the weather-resistant qualities of bales made with the Vermeer Baler are to be utilized to their greatest potential. We recommend that you store your bales at least one foot apart. Stacking bales too close together or on top of each other may cause spoilage. If you allow

a little space on each side of the bale, then they will shed water, and you will have the least amount of spoilage. Bales made of fibrous materials should be covered with plastic or placed under a roof since these bales tend to absorb water, thereby causing spoilage.

TAKING CARE OF YOUR BALER

Be sure to read the complete service and maintenance section of this manual. It will provide you with a thorough knowledge of how your baler works and also complete instructions on how to maintain your baler properly.

Never leave a bale in your baler overnight or during noon hour. Eject the bale when you plan to stop for dinner or overnight.

Keep your Machine Clean: Remove all hay and chaff accumulated during baling. Remove any materials coated on the rollers since clean rollers will not wrap as readily as dirty, rusted, or coated rollers. Keep all excess grease and oil wiped off. A clean machine is always an indication of good care.

Storage: When storing the baler for an extended period of time, park it in a dry, sheltered place.

If washing the baler with a high pressure washer, keep nozzle away from sealed bearings.

Remove twine from twine canister. Remove all dirt and chaff and lubricate thoroughly according to the lubrication instructions. Coat all chains and any part of the exposed hydraulic cylinder rods with grease. Place the baler on blocks, taking the weight off the tires, but do not deflate the tires.

OPERATING INSTRUCTIONS

TAKING CARE OF YOUR BALER (CONT.)

Repaint places where bare metal is exposed — this will inhibit rusting. Check baler for any worn and broken parts. By ordering parts now, you will avoid delays next season. When ordering parts always specify your baler's serial number and also the part number of the desired part. Part numbers can be found in the parts section of this manual.

Removing Baler from Storage: Remove all excess grease from the chains and lubricate your baler in accordance with the lubrication instructions. Check air pressure in the tires. Check gearbox grease and keep one-half filled with 90 weight gear lube.

Tighten all bolts, nuts and hydraulic fittings.

Again, use the pre-starting check list prior to baling.

Chains and Belts: Inspect the chains regularly for possible misalignment caused by a sprocket moving on its shaft. If this happens, make corrections immediately. Refer to the maintenance section of this manual for proper belt and chain adjustment instructions.

RETURN OF PARTS

No parts shall be returned to the factory without prior written authorization from Vermeer Manufacturing Company. Parts authorized for

return shall be shipped transportation charges prepaid.

WHEN ORDERING PARTS

When ordering parts always specify your Baler's Model Number, Serial Number and the Number of the Part you wish to order. Part numbers can be found in the parts section of this manual.

IMPORTANT: When replacement parts are needed, use the listed parts numbers and descriptions to insure fast and accurate shipment of your order.

ONLY AUTHORIZED PARTS SHOULD BE USED FOR REPAIR AND/OR REPLACEMENT

TROUBLE SHOOTING GUIDE

If you have a problem with your new baler, we suggest that you refer to the following Trouble Shooting Guide. We have included this guide for your convenience and most of the problems you might encounter are included. If you cannot

make the baler perform after having followed the suggestions in the Trouble Shooting Guide, please contact the representative in your area and he will help in any way he can.

TROUBLE SHOOTING GUIDE

<u>PROBLEM</u>	<u>SOLUTION</u>
Hay wrapping around rollers	<ol style="list-style-type: none"> 1. Moisture content too high; wait for hay to dry to maximum 20% moisture. 2. The roller knife is adjustable or a portion of it can be removed. Check for clearance. <p> CAUTION: Shut off tractor engine and disengage PTO before attempting to pull hay from rollers.</p>
Pickup stop running	<ol style="list-style-type: none"> 1. Broken drive belt. 2. Drive belt too loose; set tension. 3. Check pickup height adjustment; it should clear ground. 4. When the bale is full size, the automatic pickup stop will shut off pickup. Make sure pickup stop is adjusted correctly.
Broken Belt	<ol style="list-style-type: none"> 1. Sharp, foreign matter in baler; remove foreign matter and repair or replace belt. 2. Worn belt; replace belt. 3. Too high of moisture content in hay or foliage.
Bale out of round	<ol style="list-style-type: none"> 1. Hay not distributed evenly across baler, drive in weave pattern to distribute hay evenly. 2. Hay windrow is between 2 and 3 feet wide; windrow should be less than 2, or over 3 feet wide for the best looking bales. 3. Too high of PTO speed and not fast enough ground speed.
Hay passes through baler	<ol style="list-style-type: none"> 1. Baler is not closed, and gate is not locked.
Twine will not start to wrap	<ol style="list-style-type: none"> 1. The twine protruding from the end of the tube is not long enough. 2. Drive forward into windrow to feed a small amount of hay into the machine with the twine. <p> CAUTION: Never hand feed twine into the baler.</p> <ol style="list-style-type: none"> 3. Twine tube bent, goes too far to the edge of bale.
Not enough twine on bale	<ol style="list-style-type: none"> 1. Allow more time in pulling the twine tube across bale. 2. Increase the PTO speed while wrapping. 3. Adjust valve for desired twine tube speed. (Hydraulic Twine Tie) 4. Turn Toggle Switch on and off to allow more twine on bale. (Electric Twine Tie)
Twine does not cut automatically	<ol style="list-style-type: none"> 1. Twine is not stopping when the tube is pulled against the brake; adjust brake. 2. Twine is not going across the cutter assembly when the twine stops; adjust the position of the cutter. 3. Sharpen twine cutter knife.
Torque limiter slips	<ol style="list-style-type: none"> 1. A wad of hay, foreign object is plugging the pickup or baler. Remove the hay or the object. 2. The limiter needs adjustment and is to be tightened. See adjustment section.

TROUBLE SHOOTING GUIDE

<u>PROBLEM</u>	<u>SOLUTION</u>
Chain jumps the sprockets	<ol style="list-style-type: none">1. The baler is overfilled. Eject the bale before the chains or rollers break.2. Idler springs are too loose; adjust the idler tension.3. Sprockets and chains worn.
Hay coming back out	<ol style="list-style-type: none">1. Adjust height of pickup so that pickup teeth are closer to starting roller.2. Put rubber starting flaps on starting roller.
Bale starts in between pickup & drum roller	<ol style="list-style-type: none">1. Pickup teeth too far from starting roller. Raise pickup.

SERVICE & MAINTENANCE INSTRUCTIONS

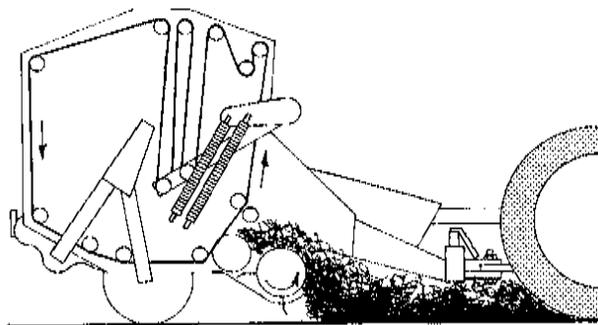
 **CAUTION:** Disengage the power take-off shut-off tractor engine and set park brake before servicing the baler. Before working near tailgate or in bale chamber also engage tailgate locking valve (push knob in).

Daily preventative maintenance is very important for this type of machine in order to obtain the best performance with the least amount of downtime, as well as for long machined life.

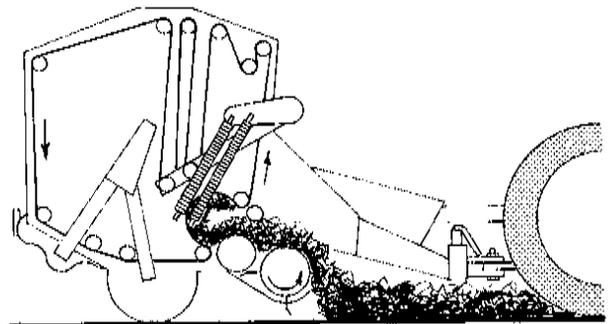
A thorough working knowledge of the machine is the first requirement toward a good maintenance and service program.

The purpose of these instructions is to explain to the operator how the baler is constructed and how to properly maintain and service the machine.

Refer to the following illustrations to see exactly how a bale is formed.

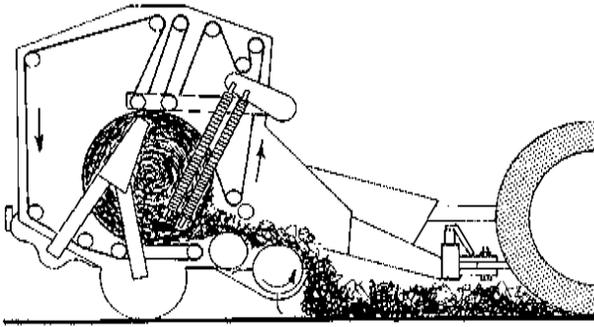


Step 1
Here's how the Vermeer Baler works. Hay is picked up from the ground with the efficient Vermeer pickup assembly. The pickup teeth lay the hay on the 16" bottom drum roller which turns in such a way so as to move the hay toward the back of the machine.

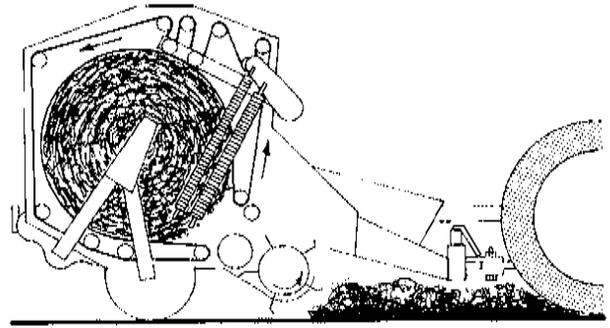


Step 2
As the hay moves toward the back of the baler, the upper belts move it toward the front starting roller. When the hay hits the starting roller, it is laid on top of other hay coming into the machine, thereby immediately starting the rolling action.

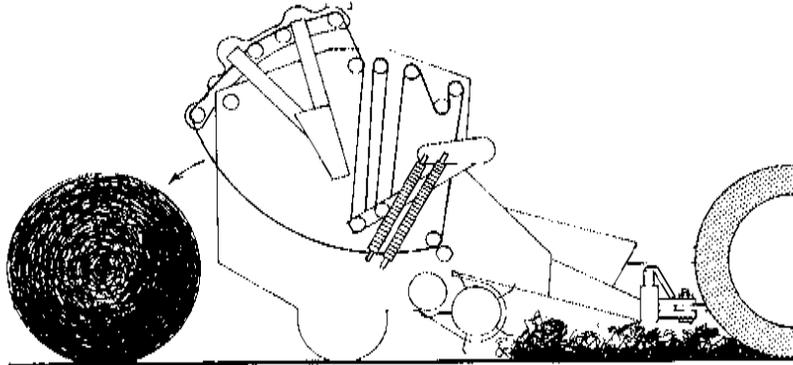
SERVICE & MAINTENANCE INSTRUCTIONS

**Step 3**

As more hay is fed into the machine the bale grows, which moves the belt tightener arms up. The action of the belt tightener arms gives up more belt to keep the baler encircled by the spring tensioned belts.

**Step 4**

When the bale size indicator shows that the bale has reached maximum size, the bale is wrapped with twine. In most instances, eight or nine wraps will be sufficient. Also note that there is no knotter or needles to cause trouble.

**Step 5**

After the bale has been wrapped with twine, the rear gate of the machine is opened and the bale leaves the machine. The operator now merely moves forward until the rear gate clears the bale and closes the baler to start the next cycle.

IMPORTANT: Bale should not remain inside Baler for longer than 1/2 hour as bale can become distorted and difficult to eject.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE**AXLE ASSEMBLY**

The axle on the Baler is made of 2 1/2" OD x 2" ID round tube. The wheel spindles are bolted into the ends of the axle. Weight capacity of each spindle is 3,560 pounds. We use an Electric Wheel 6-Bolt hub and rim assembly. Overall

width of the baler is 84".

The standard tire is a hi-way flotation, 11L x 15 6-ply. Maximum tire pressure for this tire is 32 pis.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

TONGUE – HITCH – TWINE TUBE

A jackstand with a removable jack is built into the tongue. This stand is used when hitching or unhitching the baler to or from the tractor.

NOTE: Remove jack by pulling the pin placed on the right hand side of the tongue brace.

When hitching the baler to the tractor, do not use a plain drop pin. This could cause pin to drag hay with it. **Always use the bolt with the nut and hair pin cotter which is included with the machine. Always install bolts with nut and hair pin cotter to the top.** This will prevent nut and hair pin cotter from dragging hay where the swath is very thick.

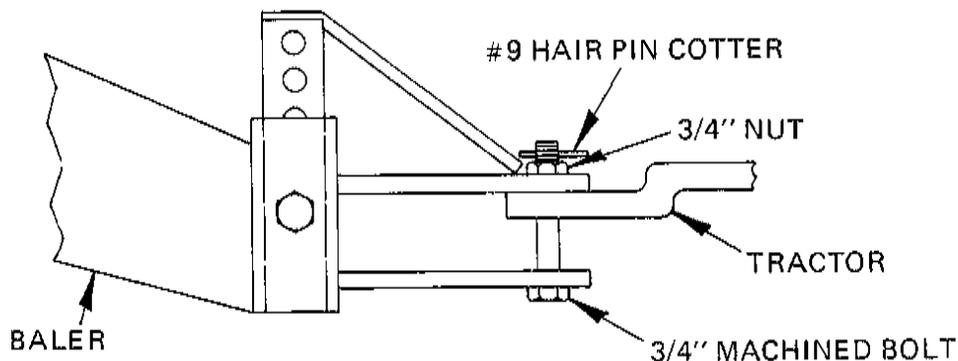


Figure D - Proper Hitching of Baler

The twine box will hold three balls of twine. They should be connected with a square knot or other suitable knots. The twine should be threaded through the tension guide and chain link guides, then through the twine tube, as shown in Figure E.

To cut the twine after you have wrapped the entire bale, position the twine tube all the way to the top until the twine is cut.

1. If the twine does not stop when you have positioned the twine tube all the way to the top, you will need to adjust the brake so that the twine is pinched and stopped when the tube is all the way up. Usually this is done by adjusting the top of the brake so it fits tightly against the twine

tube when the tube is positioned all the way up.

2. If the twine does not cut, make sure that it is being drawn over the cutting edge of the twine cutter. This can be done by adjusting the position of the cutter or by sharpening the cutting edge.
3. **If Your Baler Has Manual Tie:** Do not jerk the twine tube at the end, but pull it up firmly and steadily. A sudden jerk at the end will often cut the twine, but the twine will also spring back into the tube.
4. If you are having problems starting the twine, lower twine tube while in a heavy feed of hay.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

TONGUE – HITCH – TWINE TUBE (CONT.)

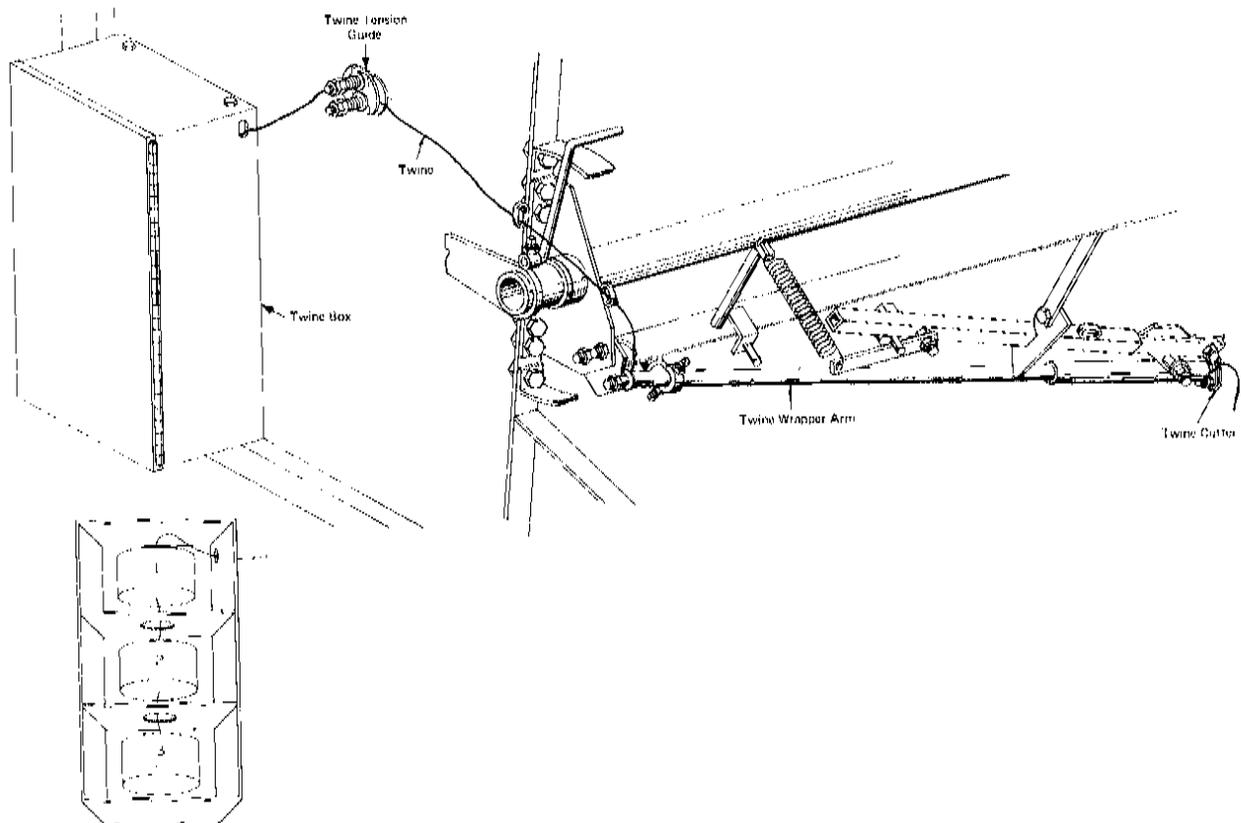


Figure E - Twine Routing

DRIVE MECHANISM

The drive mechanism from the tractor to the bale is built onto the tongue frame. This consists of a shaft that runs from the PTO to a torque limiter, a right angle gearbox and a shaft which runs from the gearbox to drive the baler. PTO speed is 540 rpms or 1000 rpms.

IMPORTANT: The distance from the end of the PTO shaft to the center of the draw bar pin hole should be 14" for 540 RPM PTO and 16" for 1000 RPM PTO.

The torque limiter is installed on the 1 1/2" shaft which drives the input shaft of the right angle gearbox. This shaft is supported on the front end by a 4-Bolt flangette.

The baler is protected against sudden overload or jamming by foreign objects by a torque limi-

ter, located on the input shaft of the gearbox. The torque limiter is pre-set.

IMPORTANT: If you are using 540 rpm PTO, use three spring washers on the torque limiter. For a 1000 rpm PTO, use two springs on the torque limiter.

If the baler jams and the torque limiter is allowed to slip, the faces will wear, allowing it to slip under normal loads. If this happens, it is necessary to re-adjust the limiter. When this occurs, the following steps must be taken:

1. Lift up shield protecting the drive train. (LATCH IN UP POSITION).
2. Loosen the set screw #1, Figure F, located in the adjustment nut #2. (Do not remove).

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

DRIVE MECHANISM (CONT.)

3. Using a soft-face hammer, rotate the adjustment nut clockwise 1/6 turn.
4. Tighten the set screw and lower shield.

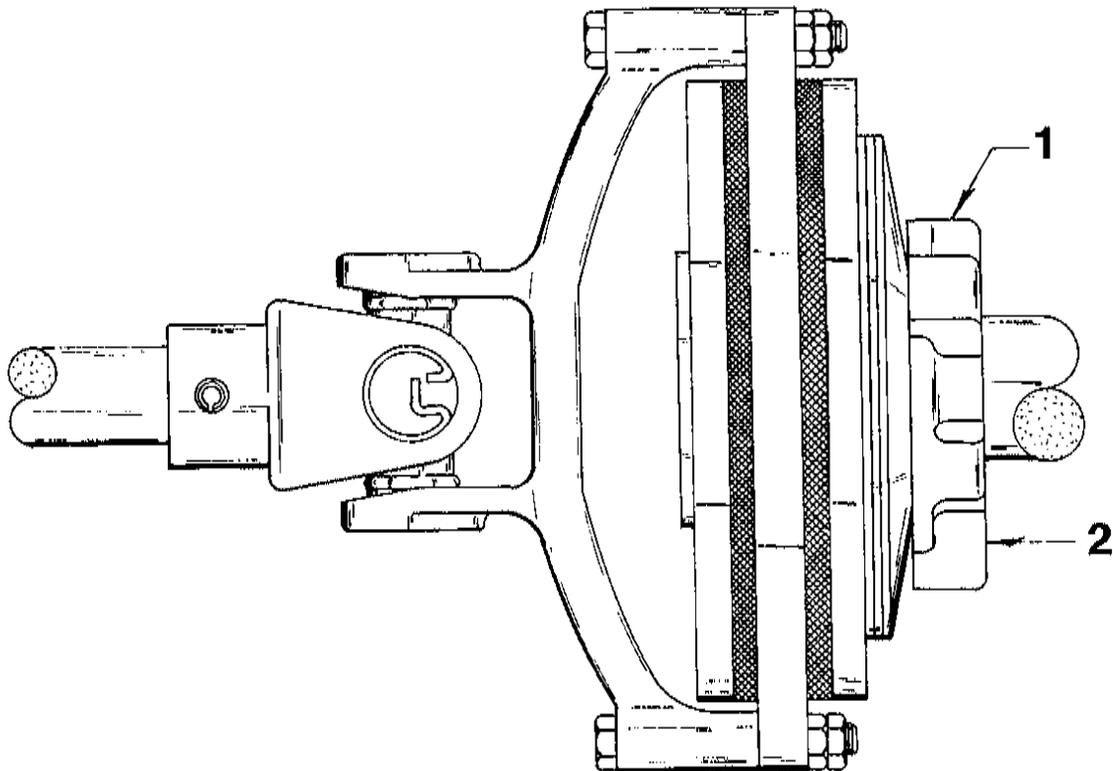


Figure F - Torque Limiter Adjustment

The right angle gearbox is filled with a good grade 90 weight oil. This gearbox comes from the factory set in the 540 rpm position. To convert to the 1000 rpm side, the gearbox must be removed, turned upside down and reinstalled. This will reverse the input and output shafts so that the 1000 rpm tractors can be used.

If you should find it necessary to take the gearbox apart, the torque setting for the bolts when reassembling is 35 - 40 lbs.

To set up the baler from 540 to 1000 PTO, follow these instructions:

1. Shut off PTO and tractor engine.
2. Lift up shield protecting the drive train. (Latch in up position).
3. Be sure machine is stopped in such a position that the allen head set screw on the double sprocket of the output side of the

gearbox is visible and accessible from the front. Loosen this set screw but do not remove.

4. Remove the four bolts holding the torque limiter and PTO assembly on the tongue frame. Slide complete assembly off the input shaft of the gearbox.
5. Remove the four bolts holding the gearbox in place on the frame.
6. Pull the gearbox output shaft out of the double sprocket.
7. Remove the vent plug which was located on the top and exchange places with the solid plug on the bottom.
8. Turn the gearbox upside down so vent plug is now on top and reverse the shafts so they are opposite of what they were for 540.

BALER CONSTRUCTION – ADJUSTMENT & MAINTENANCE

DRIVE MECHANISM (CONT.)

9. Reinstall gearbox output shaft into double sprocket making sure gearbox holes line up with holes on the frame. Put the four bolts in and bolt the gearbox to the frame.
10. Tighten set screw on the double sprocket.
11. Before reinstalling the torque limiter, remove one spring from the torque limiter assembly. (Refer to parts list section of this book).
12. Put the torque limiter on the gearbox input shaft and bolt the assembly to the tongue frame. When tightening the four bolts in the flangette, tighten evenly so no stress load is put on bearing. Lower shield.
13. Check the level of the lube in the gearbox. Fill gearbox one-half full with 90 weight gear lube.
14. A front half of the PTO with the 1000 rpm spline will be needed.

NOTE: For changing the bale from 1000 to 540, use the same procedure.

PICKUP

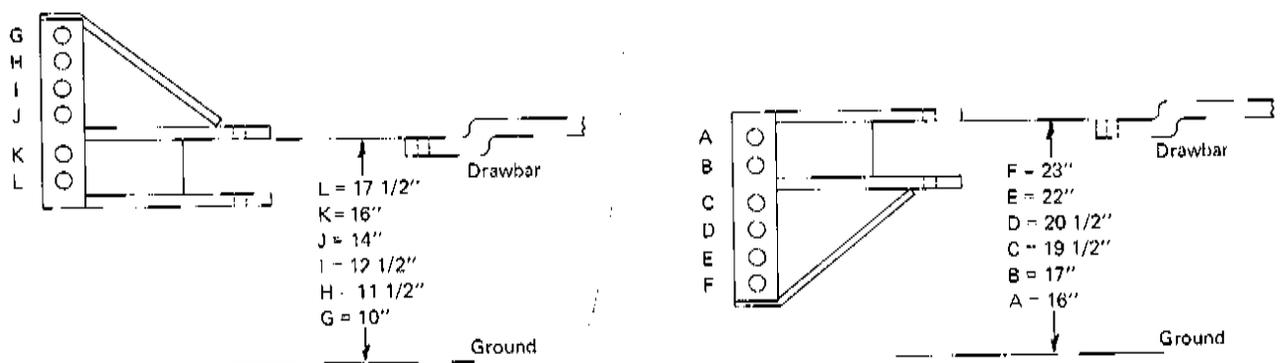


Figure G - Pickup Height Adjustment

The distance between the tips of the pickup teeth to the starter roller should be approximately 1.5". This measurement will vary somewhat depending upon the type of material being baled. If the material being baled is coarse or hard to start, the distance should be decreased to approximately 0.75". If the material is easy to start, the distance can be increased to approximately 2.5" to 3.0". Use the pickup lift adjustment on each side of the baler to increase or decrease distance between pickup teeth and starter roller.

To pick up hay cleanly from the field, the pickup height is adjusted by raising or lowering the hitch on the tongue. Be sure pickup teeth clear the ground 2" to 3" in normal operation or raise the pickup as high off of the ground as possible without missing any material being baled. Refer to figure G, for hitch adjustment height measurements. Positions K and L are not recommended for use. Use A and B positions when these meas-

urements are needed. All drawbars with a bend near the end should be position so the bend is turned downward, as shown in Figure G.

An over-center manual control lever, located on the right side of the baler, is used to raise the pickup for transport.

The tension of the pickup belt #1, Figure H, is regulated by the spring tension #2. The rod should be tightened until the spring #3, is spread 1 1/2" over original length. As the belt stretches, you may need to adjust the belt tension.

If proper care of this pickup is exercised, a minimum amount of maintenance will be required. We advise changing broken teeth immediately for smooth operation of the pickup. A few teeth should be carried with the baler.

BALER CONSTRUCTION – ADJUSTMENT & MAINTENANCE

PICKUP (CONT.)

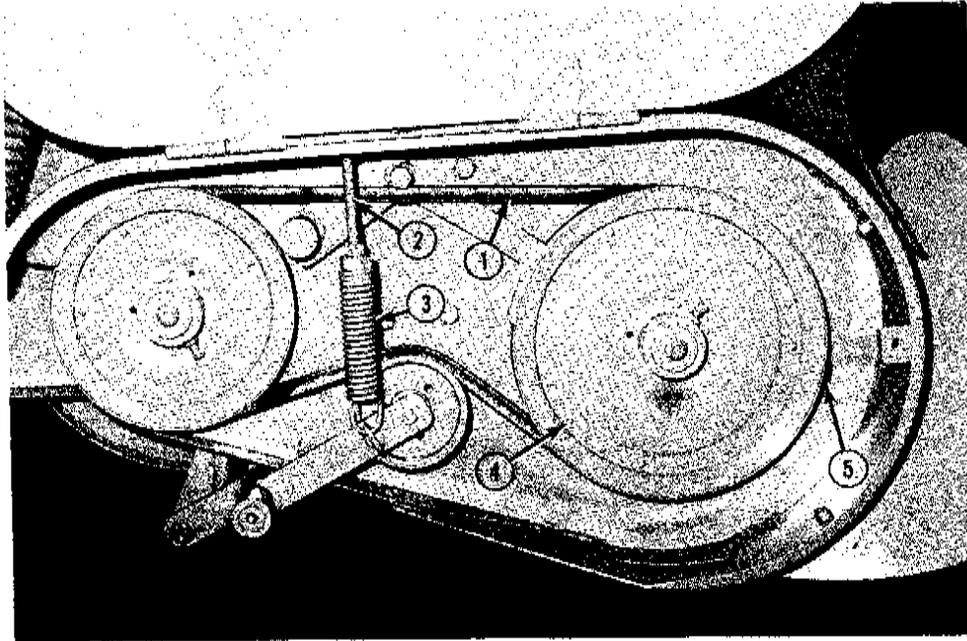


Figure H - Pickup Belt Drive

Figure I shows an end view of how the pickup works. The pickup frame end, together with the outer and inner cam ring, remains stationary. As the unit is rotated, the ball bearing rollers (which are part of the short pivot arm) follow the path between the outer and inner cam ring. This causes the teeth to change positions as they are being rotated.

NOTE: Tooth # 1 – Ready to start picking up the hay.
Teeth # 2, # 3, # 4, – Continue to carry the hay up and toward the baler.
Tooth # 5 – Being retracted from hay.

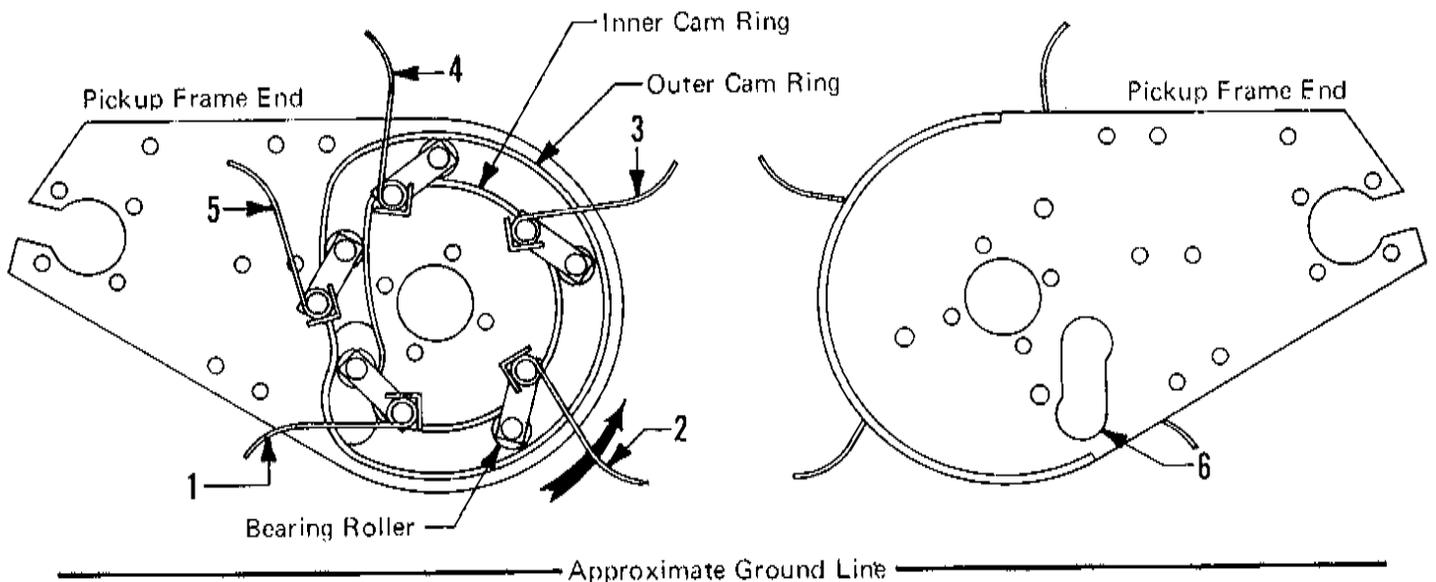


Figure I - Pickup End Views

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

PICKUP (CONT.)

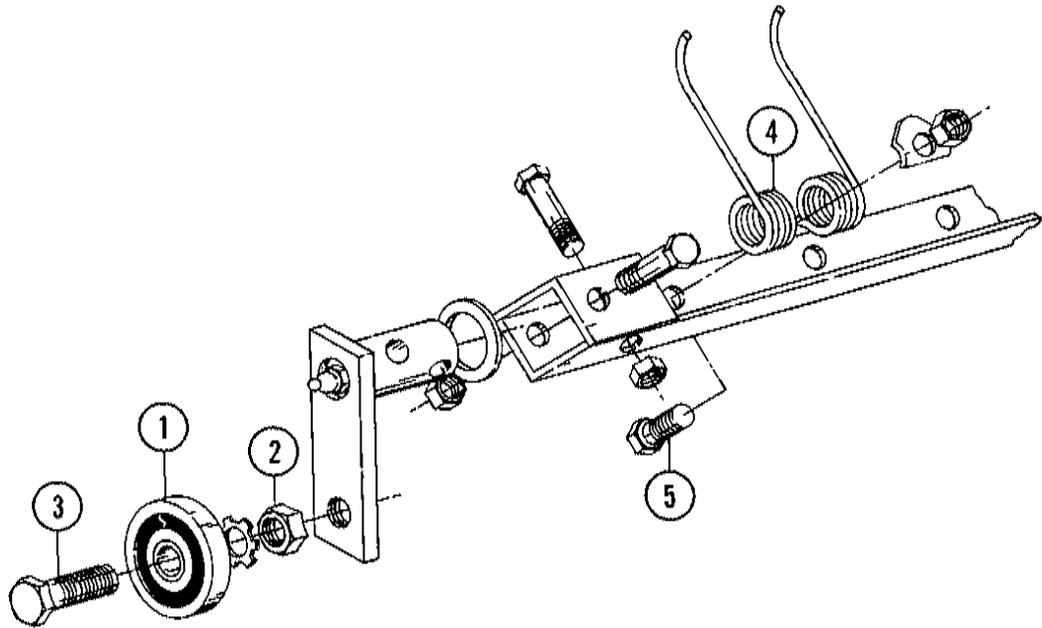


Figure J - Pickup Bearing & Tooth Assembly

Figure J shows the breakdown of the pickup bearing and tooth assembly. If it should be necessary to replace this bearing #1, be sure to follow the sequence as shown in Figure J. Use the inspection plate #6, Figure I, located in the pickup end plate to check and remove the roller assembly. The nut #2, Figure J, must be tightened securely so the inside race of the bearing is held between the bolt head #3 and the nut. The inside race may not turn on the bolts.

Figure J also shows the sequence in fastening the pickup tooth #4 to the angle and the angle to

the pivot arm. After removing the appropriate stripper band, a 5/16" x 1" bolt #5 is used together with a special clip and lock nut to hold the tooth in place. Replacing broken teeth should not be neglected.

If you find it necessary to replace the tooth mounting angle pin on the pickup drive pulley end, there is a hole in the end plate to remove the pin without disassembling the complete pickup. You must remove the drive pulley #4, to gain access to this hole #5. See Figure H.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

BELT DRIVE ROLLERS – BELT TIGHTENER ARMS

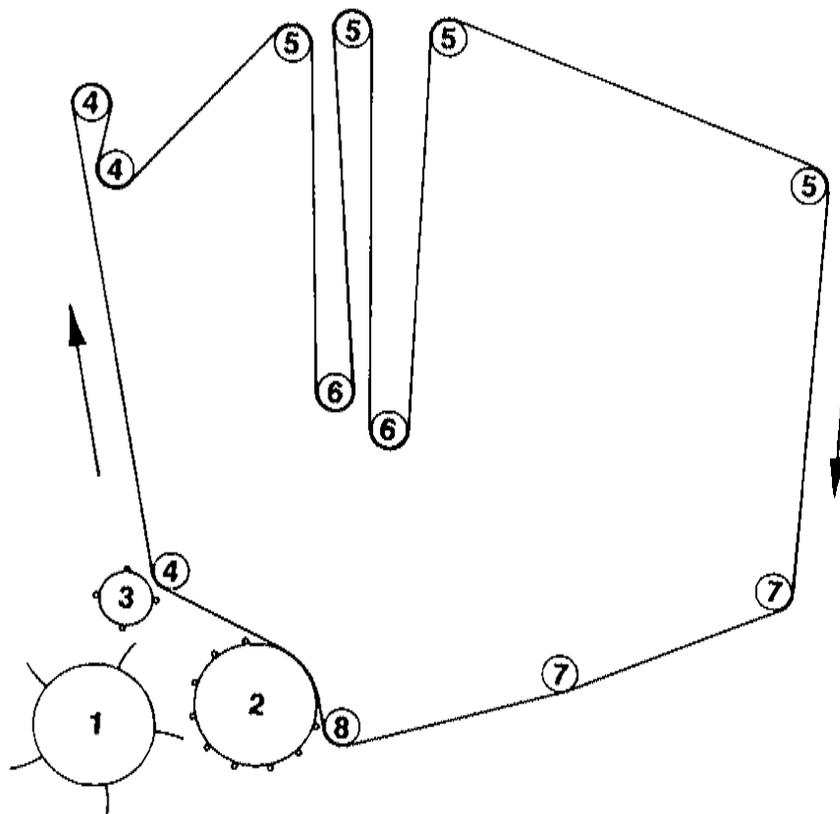


Figure K - Drive Rollers Location

Arrows denote direction of belt travel.

1. Pickup
2. 16" Feed & Support Roller
3. 6" Starter Roller
4. 3 1/2" Drive Rollers

5. 3 1/2" Idler Rollers w/ 1 1/2" Shafts
6. 3 1/2" Belt Tightener Rollers
7. 3 1/2" Rear Gate Rollers w/ 1 1/4" Shafts
8. 3 1/2" Rear Gate Roller w/ 1 1/2" Shaft

Figure K shows the belt drive rollers and the direction of travel of the belts, as well as the other rollers used in the Baler.

The belt drive 3 1/2" rollers #4, Figure K, have 1 1/2" welded shafts and are equipped with 1 1/2" spherical flange type bearing with 1 1/2" locking collars.

The upper 3 1/2" idler rollers, #5 and three of the tailgate idler rollers #7 have 1 1/4" through shafts and use a heavy duty 1 1/4" cylindrical type bearing with a 1 1/4" locking collar.

The 3 1/2" belt tightener rollers #6 and 3 1/2"

tailgate roller #8 have 1 1/2" through shafts and use a 1 1/2" cylindrical type bearing and 1 1/2" locking collar.

When assembling the 16" feed and support roller, the shaft must stick through the roller 6 3/8" on the right hand side of the roller. This measurement is from the end of the shaft to the face of the taper lock bushing which holds the shaft in the roller.

If you should have to order a new roller, we caution you to order by part number, since all of the rollers are not the same length.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

BELTS

The baler is equipped with four 4" wide belts 436" long and two 10" wide belts 438" long. The difference in the length of the 10" and the 4" belts is required because the 10" belts have a greater tendency toward shrinkage than the 4" belts.

NOTE: The length of a belt given above does NOT include the lacing.

It is strongly recommended that only Vermeer belts be used to ensure that belts meet specifications.

The belts are a very important part of the baler; therefore, these belts should receive special care. The baler does have belt guides to keep the belts in position.



CAUTION: Before replacing or checking belts, shut off tractor engine and disengage PTO.

Repair and Replacement

NOTE: The Baler can be operated temporarily with one forming belt missing provided that missing belt is an inside or center belt. Belt must be replaced as soon as possible.

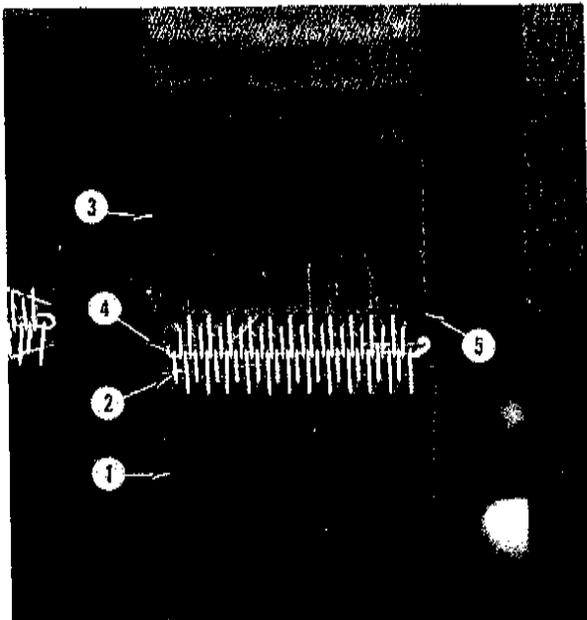


Figure L - Belt Lacing

Forming belts may stretch when they have been used in field operation. Should a new belt be required, or an old belt repaired, the following details should be observed.

When a new belt is to be installed, the total length of new belt, including lacing, must be within 1 - 1/2 inches of existing belts. If not, a belt section will have to be spliced in.

When splicing a section into a new or old belt, total length of belt must be within 1 - 1/2 inches of existing belts after section has been spliced in.

NOTE: Belt sections with or without lacings, for splicing into belts are available through your Dealer.

When installing new belts or replacing old belts, use a new connecting pin.

When a section is to be spliced into an existing belt, the end of the section and existing belt must be cut square (i.e.: 90° to side of belt or belt section).

Referring to Fig. L the trailing end of the belt, or belt section # 3, must be chamfered as shown, # 5. The leading end of the belt, # 1, is not chamfered.

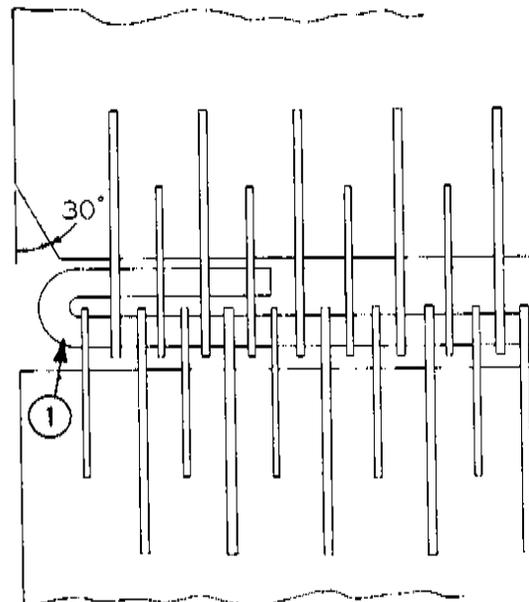


Figure M - Connecting Pin

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

BELTS (CONT.)

Belt Lacing

When belts are to be installed, whether new or upon reinstallation, following information is applicable.

It is **important** that leading end of belt #1, Fig. L, be identified in comparison to trailing edge #3.

For identification, lead end has the most lacings and this must be installed to lead in direction of rotation.

The other end has less lacings and this must be installed to trail in direction of rotation.

Belts are joined at lacing #2 using a special pin, #4, Fig. L. These pins are 1" longer than width of belt. Do not cut pin to width of belt, but loop ends inwards through lacing, as shown #1, Fig. M. If the pin is too short the outside

part of the belt lacing will pull out. This could cause all the lacing to tear out.

Replacing Belts

For belt relacing a fast, convenient and economical lacing tool is available through your Vermeer Dealer. Its initial obtaining is highly recommended. Instruction on it are enclosed with each tool.

NOTE: Use only "clipper lacing" which can be obtained thru your Vermeer Dealer.

Belt Guides

The belt guides at the front of the baler can be turned through 90° if the belts cause them to become grooved and worn. Also, the guides can be turned end for end when one end has become grooved and worn.

BEARINGS

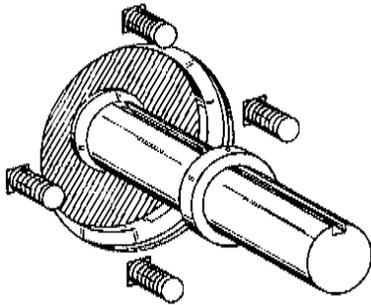
Two types of bearing are used on the baler - flange and cartridge. See parts section for bearing number. On the three drive rollers and the four most upper idler rollers a flange-type bearing is used. When installing a flange bearing on the shaft, be sure the shaft is clean and free of burrs and nicks.

Do not tighten one bolt tight and then tighten the others. This could cause a side load on the bearing. Always tighten bolts evenly on the 4-bolt flange bearing to 90 ft. lbs.

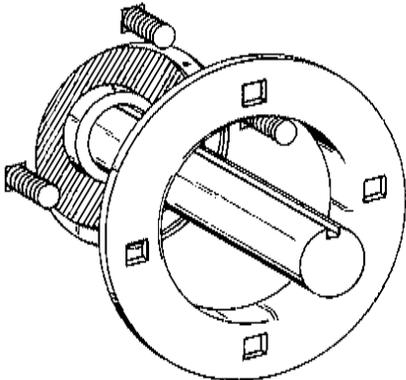
BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

BEARINGS (CONT.)

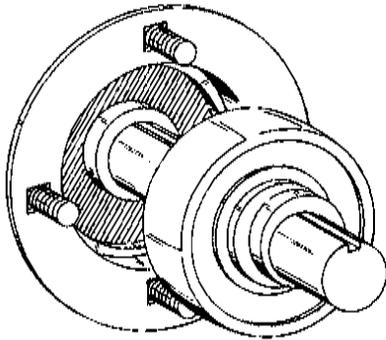
Use the following procedure for installing the flange bearing:



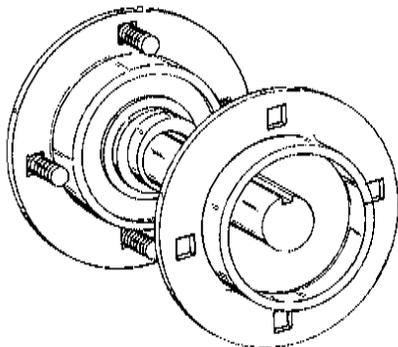
1. Slip the spacer ring over the roller shaft against the roller with the bevel towards the rollers.



2. Slip one-half of flangette over roller shaft and against side of baler.



3. Slip bearing on roller shaft and set in flangette.

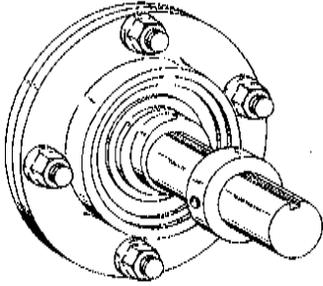


4. Install other half of flangette and mounting bolts or nuts.

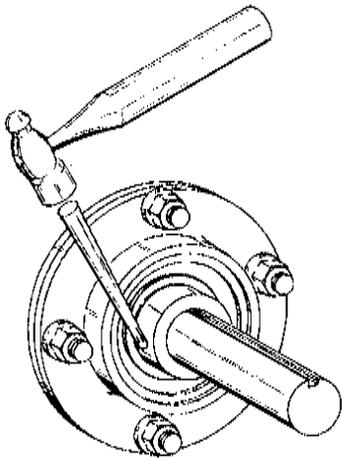
Repeat above steps on other end of roller shaft and fully tighten the bolts or nuts on both sides.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

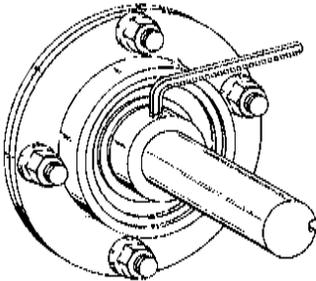
BEARINGS (CONT.)



5. Slip the locking collar over the roller shaft and the hub of the bearing.



6. Engage the locking collar in the same direction the roller shaft rotates. Set the locking collar on the hub of the bearing using a hammer and punch.



7. Tighten the set screw in the locking collar with an allen wrench. Take note that the set screw is not directly over the keyway.

Repeat Steps 5 - 7 on the other end of the roller shaft.

NOTE: These Installation Instructions are supplied to us by the Fafnir Bearing Company.

The other type of bearing is the cartridge type. These are 1 1/4" and 1 1/2" bearings used on the tailgate rollers and the belt tightener arm rollers. These are sealed bearings which need no additional lubrication.

These bearings consist of the outer ring which is the part that fits into the roller, the inner ring which fits on the shaft, and the ball bearing between the outer and inner rings. These bearings are filled with lubricant and are sealed.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

BEARINGS (CONT.)

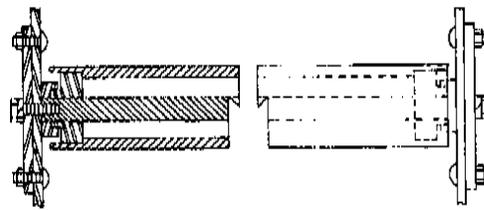
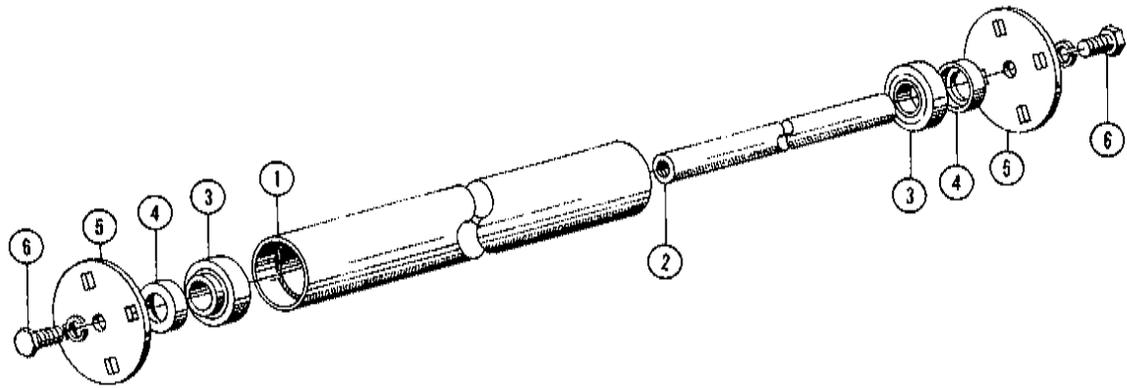


Figure N - Upper Idler Roller Assembly

- | | |
|-----------------|------------------------|
| 1. Roller | 4. Locking Collar |
| 2. Roller Shaft | 5. Idler Roller Flange |
| 3. Bearing | 6. Retaining Bolt |

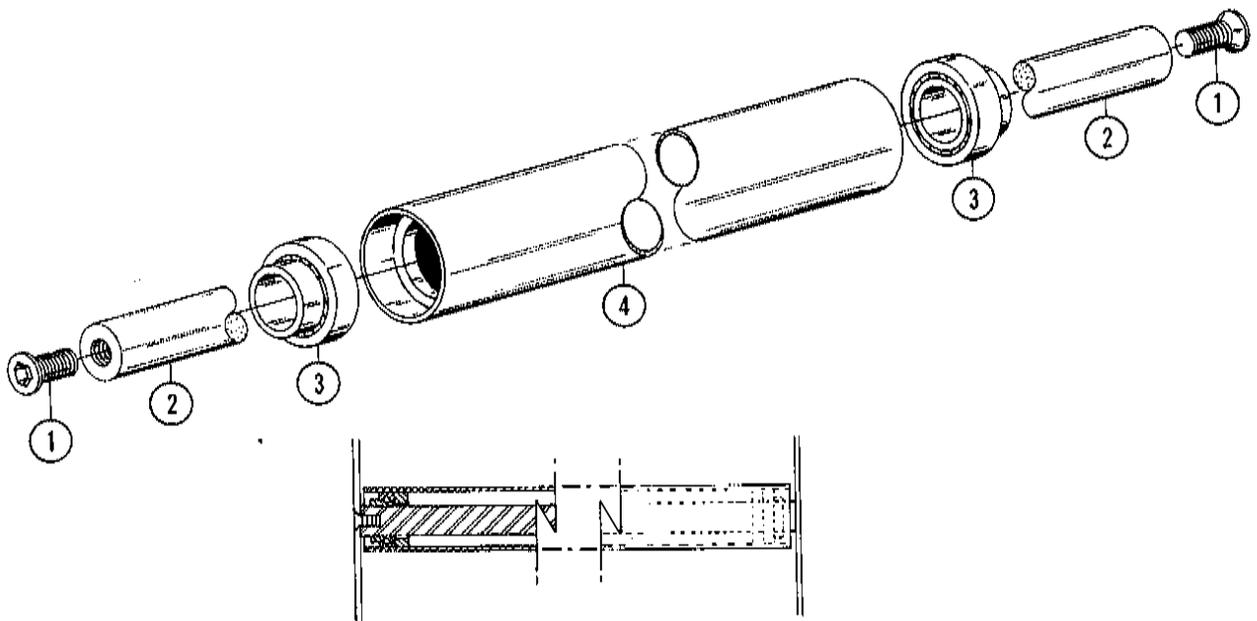


Figure O - Belt Tightener & Tailgate Roller Assembly

- | | |
|-------------------|------------|
| 1. Retaining Bolt | 3. Bearing |
| 2. Roller Shaft | 4. Roller |

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

SPROCKETS

There are two types of mountings for the sprockets on the Baler; standard mounting and reverse mounting. For removal of the sprockets, follow these instructions.

1. Loosen and remove cap screws.
2. Insert cap screws in tapped removal holes.
3. Tighten inserted screws until sprocket is loose on shaft.
4. Remove sprocket from shaft.

For installation, follow these steps.

1. Be sure the tapered cone surfaces of the bushings and the inside of the sprocket hub are clean.

2. Place bushing in sprocket.
3. Place cap screws and lock washers loosely in pull-up holes. Bushings remain fully expanded to assure sliding fit on shaft.
4. With key on shaft, slide sprocket to desired position on shaft. Be sure heads of cap screws are on outside.
5. Align sprocket. Tighten screws alternately and progressively until they are pulled up tight. Do not allow sprocket to be drawn in contact with flange of bushing; there should be a gap from 1/8" to 1/2". Use a torque wrench when possible and follow this chart:

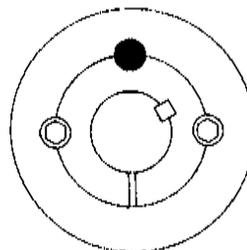
SDS Bushing	Vermeer Part # 1692-007	9 ft. lbs.
SK Bushing	Vermeer Part # 1695-005	15 ft. lbs.
3P Special	Vermeer Part # 202-001	14 ft. lbs.

IMPORTANT: When tightening screws, apply pressure by hand only; do not use wrench extensions. If extreme tightening forces are applied, bursting pressures will be created in the sprocket hub.

There should be a gap of 1/8" to 1/4" between the face of the sprocket hub and the flange of the OD bushing. This gap must not be closed!

NOTE: Removal and Installation Instructions are supplied to us by Martin Company.

TAPER-LOCK BUSHINGS



There are three taper-lock bushings on the Baler; two of which are the same. These two are on each end of the big drum roller, the other on the starting roller, drive side. The big drum roller

has a thru shaft where the starting roller has a stub shaft. Use these instructions for removal and installation of both kinds of bushings.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

TAPER-LOCK BUSHINGS (CONT.)

To Remove:

1. Remove all screws. Oil thread and point of set screws or thread and under head of cap screws.
2. Insert screw in hole that is threaded on bushing side. (Shown thus ● in the diagram on the preceding page.) Note that one screw in each hub is left over and is not used in this loosening operation.
3. Tighten screw until bushing is loosened in hub. If bushing does not loosen immediately, tap on hub.

To Install:

1. Clean shaft, bore and outside of bushing and bore of hub (taking bushing from hub if already assembled). Remove any oil, lacquer or dirt. Place bushing in hub and notch half holes to make complete holes (each complete hole will be threaded on one side only).
2. Oil thread and point of set screws or thread

NOTE: The registered trademark "Taper-lock" is licensed from Dodge Manufacturing Company, Division of Reliance Electric Company.

NOTE: These instructions are supplied to us by Martin Company.

HYDRAULICS

The hydraulic cylinders and lines are filled at the factory with ATF oil, also called Dexron. This oil is compatible with the hydraulic oil in your tractor system.

The hydraulic systems are used to open and

and under head of cap screws. Place screws loosely in holes that are threaded on hub side. (Shown thus ⊙ in the diagram on the preceding page).

3. Make sure bushing is free in hub. Slip assembly onto shaft and locate in position desired.
4. Tighten screw alternately and evenly until all are pulled up very tightly. (**NOTE:** If torque wrench can be used, the starter roller screws can be tightened to 24 ft. lbs. (The bottom drum roller screws - 36 ft. lbs.).
5. Hammer against large end of bushing using hammer and block or sleeve to avoid damage. Screws can now be turned a little more using the specified wrench torque. Repeat this alternate hammering and screw re-tightening until the specified wrench torque no longer turns the screws after hammering. Fill other holes with grease to exclude dirt.

close as well as lock and unlock, the rear gate cylinders. And to operate the hydraulic twine tie (if equipped) during bale operation, the hydraulic control levers on the tractor should be in neutral position.

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

HYDRAULICS (CONT.)

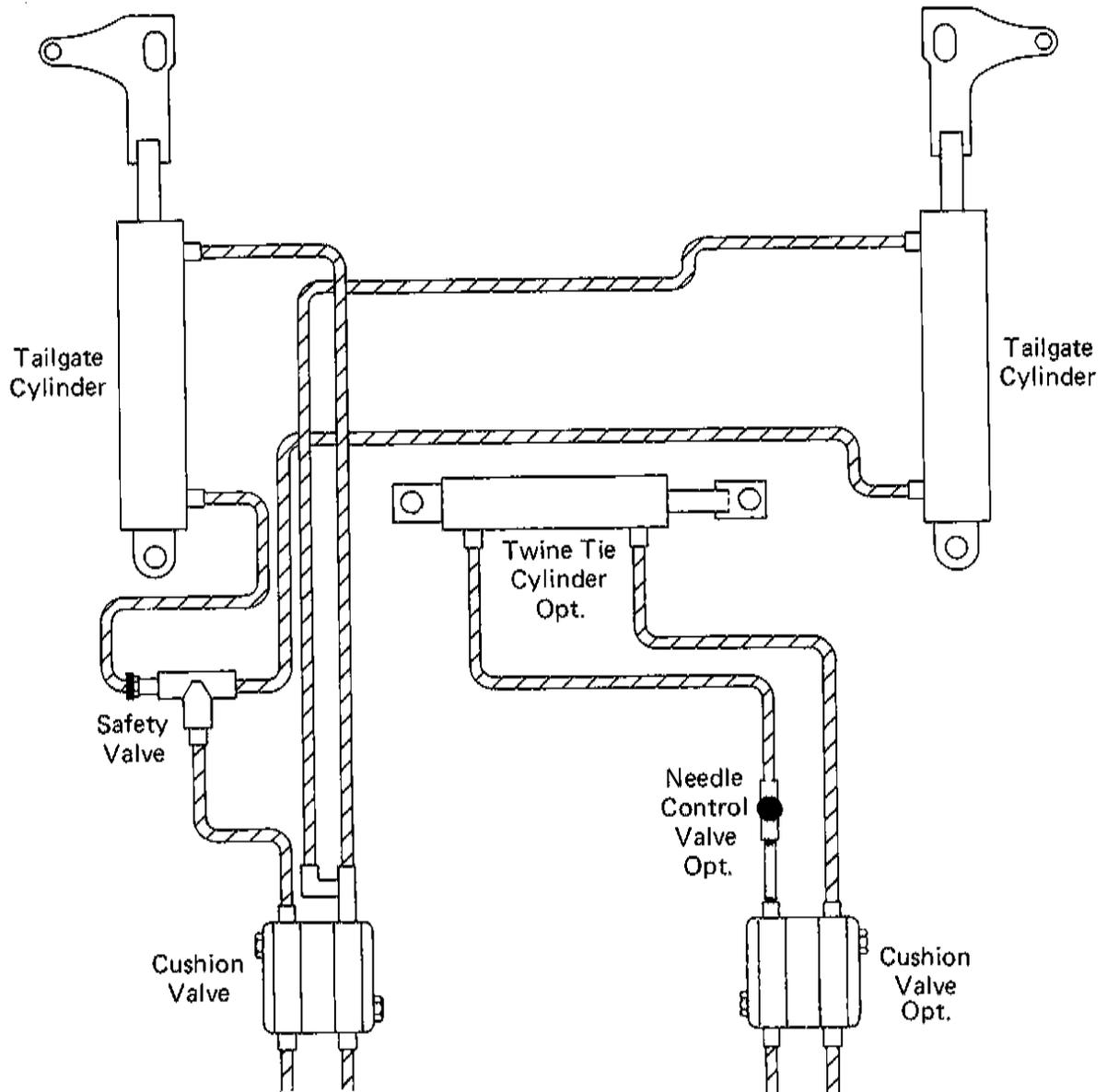


Figure P - Hydraulic Oil Flow Diagram for Tractors w/ Two Hydraulic Valves

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

HYDRAULICS (CONT.)

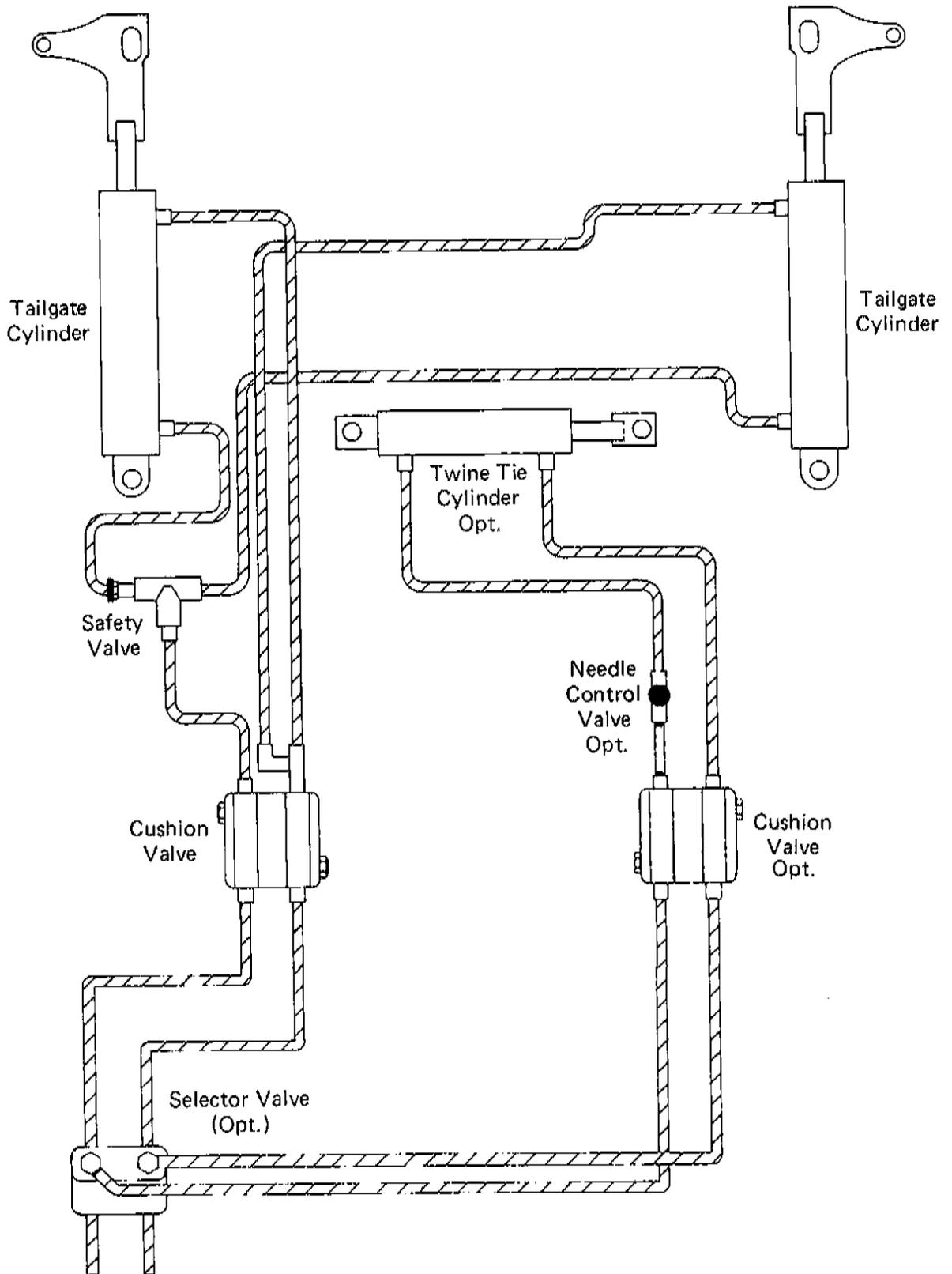


Figure Q - Hydraulic Oil Flow Diagram for Tractors w/ One Hydraulic Valve

BALER CONSTRUCTION – ADJUSTMENTS & MAINTENANCE

HYDRAULICS (CONT.)

There is a dual pressure relief valve in the hydraulic system, the one on the tailgate, which is set at 1600 psi and the one on the hydraulic twine tie (if equipped) which is set at 600 psi. This is to prevent damage to the tailgate and twine tie. There is no adjustment needed on these valves.

A safety valve located on the left side of the tongue, behind the gearbox, has been installed on your baler as a safety feature.

Before working around the baler, the push-pull type selector valve should be closed by pushing the knob in.



CAUTION: Lock tailgate before working around rear of baler or inside bale chamber.

This valve blocks the bottom side of the cylinder preventing oil from entering the cylinder if the gate is closed, and preventing oil from leaving the cylinder if the gate is open. This will prevent the accidental opening or closing of the gate while someone is working around the baler.

The valve, hoses, and cylinders are so designed as to be able to withstand full tractor hydraulic pressure without damage, and without the gate opening or closing, whichever is the case. While the system is designed to withstand full tractor pressure, the tractor hydraulic should not be purposely actuated with the valve closed (knob pushed in).

The design of the valve is such that when it is closed (knob pushed in) all three ports are blocked individually. This feature means that if the gate is raised and locked, and a hydraulic hose on one side fails, the gate will still remain

in the up position. If the gate is open and locked, and a hydraulic hose on one side fails, the gate will still remain in the up position. If the gate is open and locked, and a hydraulic hose fails on one side and tractor hydraulics are actuated, the gate can be damaged.



CAUTION: Do not operate the baler with damaged or leaking hydraulic hoses, fittings, cylinders or valves.

Pushing in the valve knob before working around the baler any time and particularly when the gate is open, will help prevent accidents. Make a habit of pushing in the knob when getting off the tractor to work on the baler.



CAUTION: Caution should be exercised when disconnecting the hydraulic lines. Make sure that all pressure is relieved. Hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Check the hydraulic system for tight connections, leaks, damaged hoses and connections before you apply pressure. Before disconnecting any hoses which are part of hydraulic belt tightener system, back off belt tightener control valve all the way. Wrap the fitting to be loosened with a heavy rag and slightly crack fitting loose with a wrench to relieve any residual pressure in this system.

LUBRICATION INSTRUCTIONS

CAUTION: Disengage PTO and shut off the tractor engine before lubricating the machine.

All Balers are completely serviced at the factory before shipping. However, the operator should make a check of all grease fittings on the unit before beginning to operate it so as to familiarize himself with their location and to acquaint himself with the correct service schedule.

Use only a high quality, multi-purpose grease when lubricating the unit. Make sure all fittings and the nozzle of the grease applicator are clean before applying the grease. If any grease fittings are missing, replace them immediately.

DO NOT OVER LUBRICATE. . .DO NOT UNDER LUBRICATE.

SYMBOLS

 Lubricate with a SAE multi-purpose type grease at the hourly interval indicated by the bottom number. The top number indicates the number of shots of grease per greasing interval.

 Lubricate periodically with a good grade of chain lube.

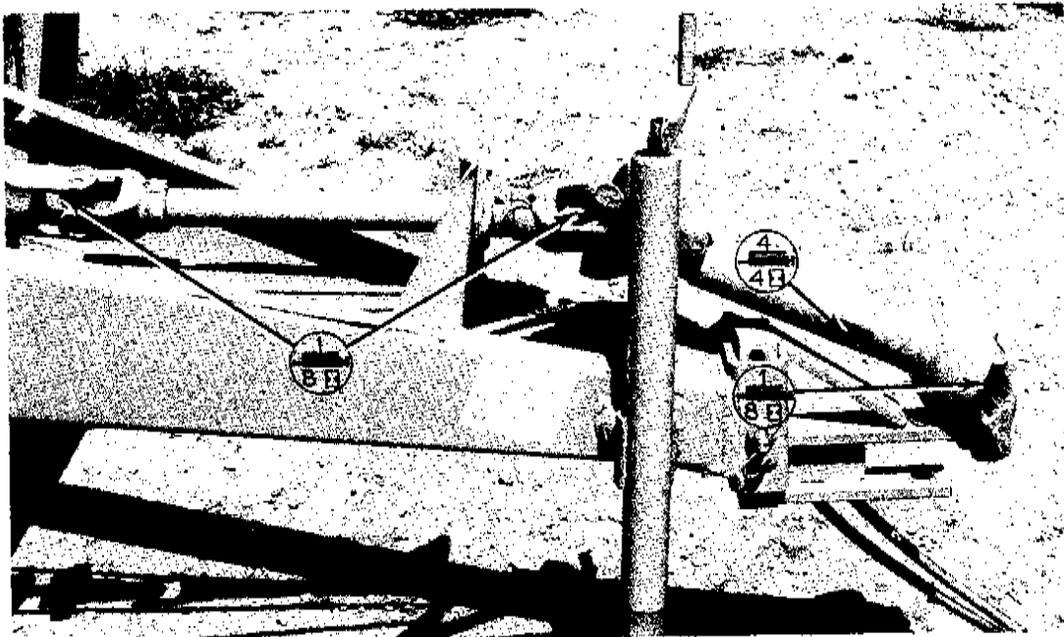


Figure R - PTO Drive

LUBRICATION INSTRUCTIONS

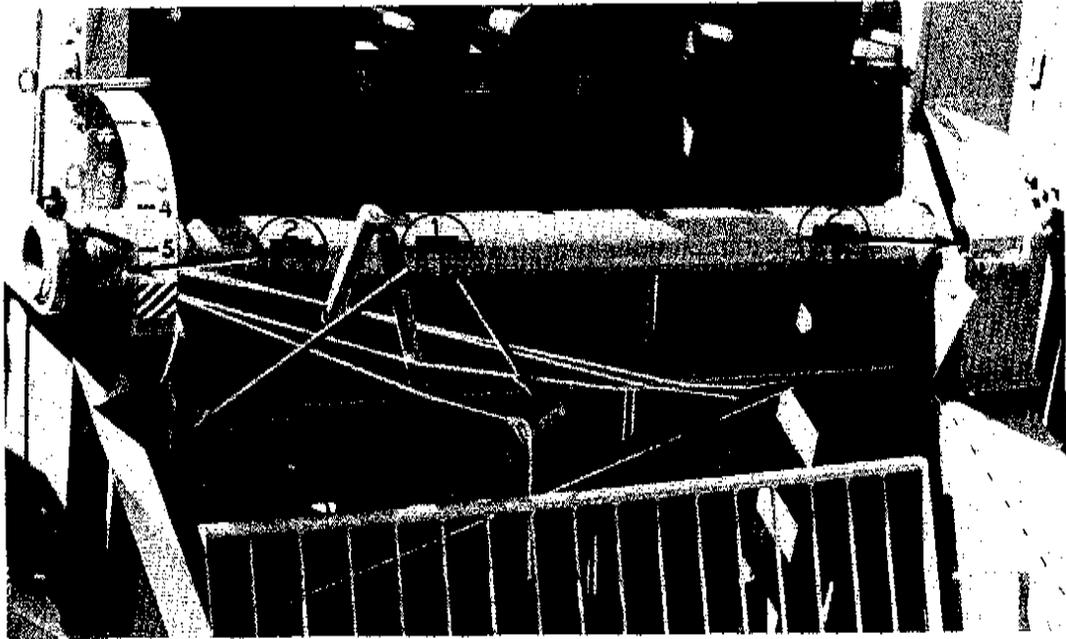


Figure S - Belt Tightener Arm & Twine Tie

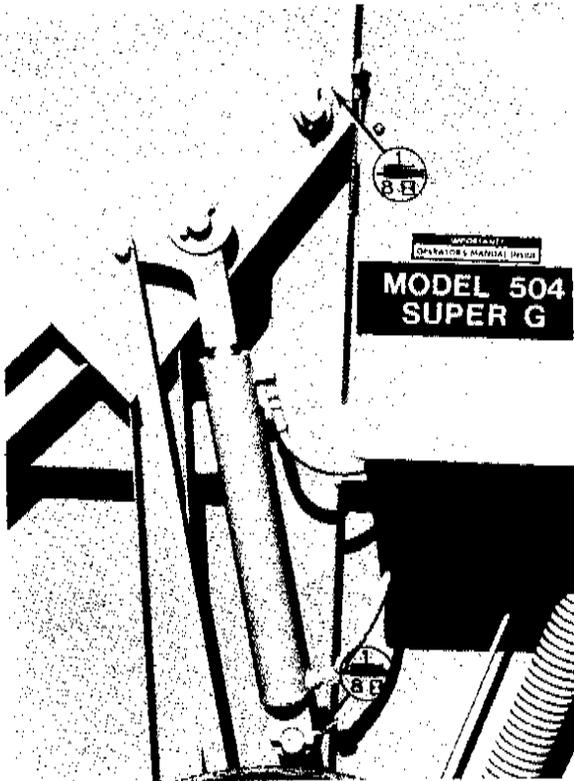


Figure T - Bale Ejector Arm

Two Grease Fitting Each Side

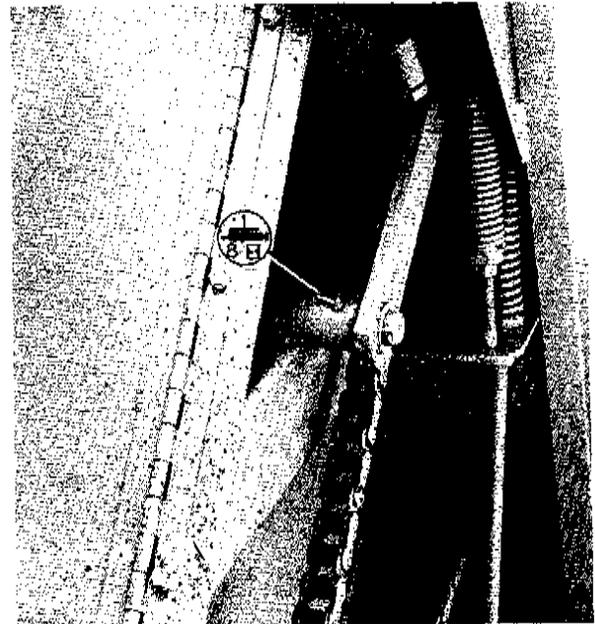


Figure U - Chain Tightener Arm

LUBRICATION INSTRUCTIONS



Figure V - Bale Ejector Arm Latch

One Grease Fitting Each Side



Figure W - Bale Ejector Arm Latch

One Grease Fitting Each Side

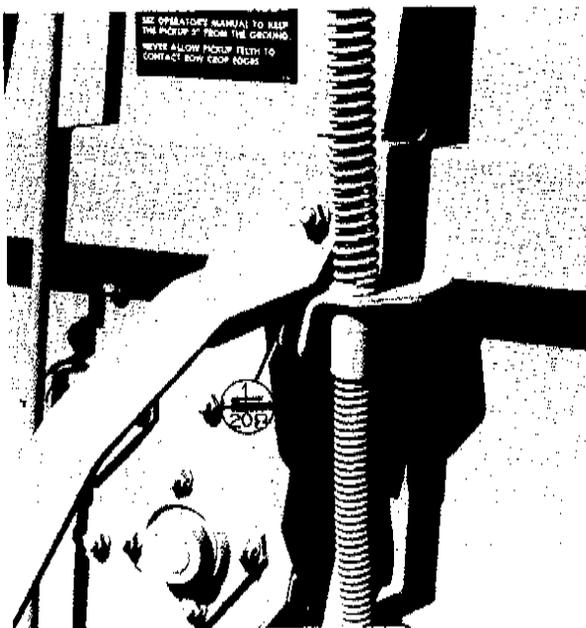


Figure X - Pickup Lift Arm

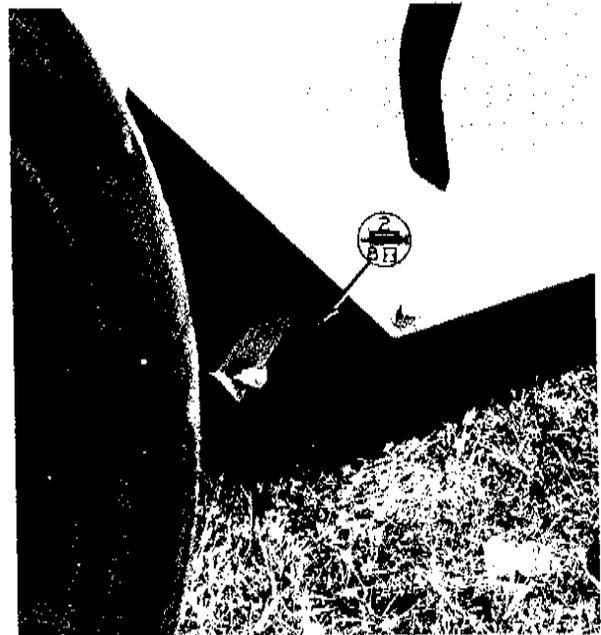


Figure Y - Pickup Drive

LUBRICATION INSTRUCTIONS



Figure Z - Pickup
Five Grease Fittings

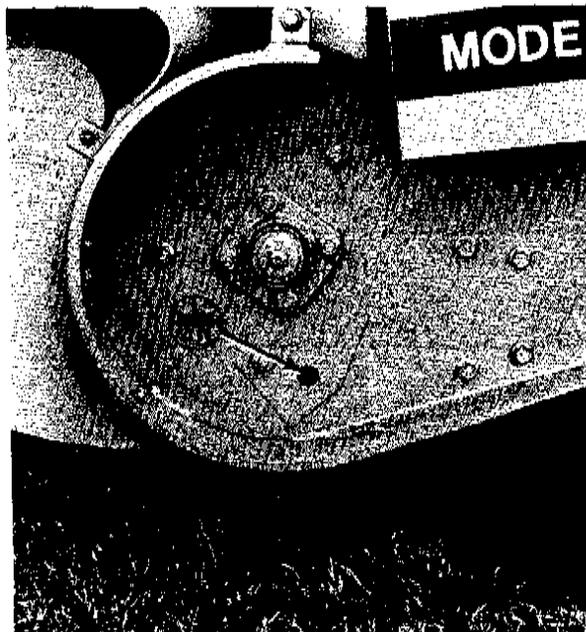


Figure AA - Pickup
Five Grease Fittings

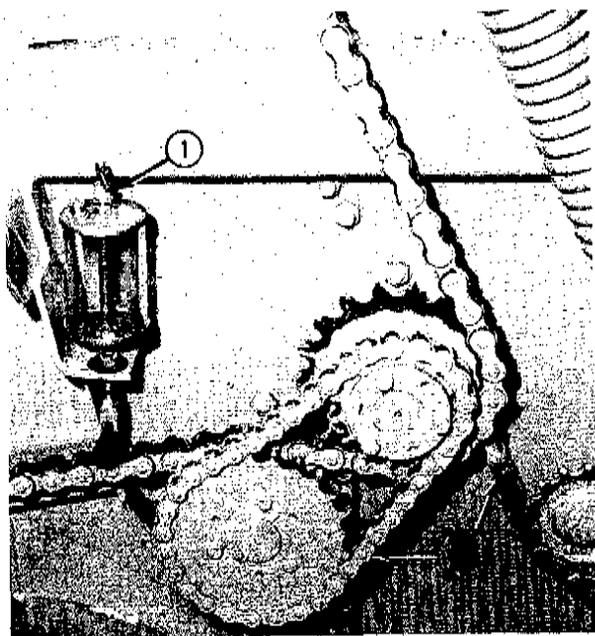


Figure BB - Drop Feed Oiler

1. Drop Feed Oiler - Fill with 30 or 40 weight oil. Adjust flow of oil to 8 drops every minute. Shut off when not baling.

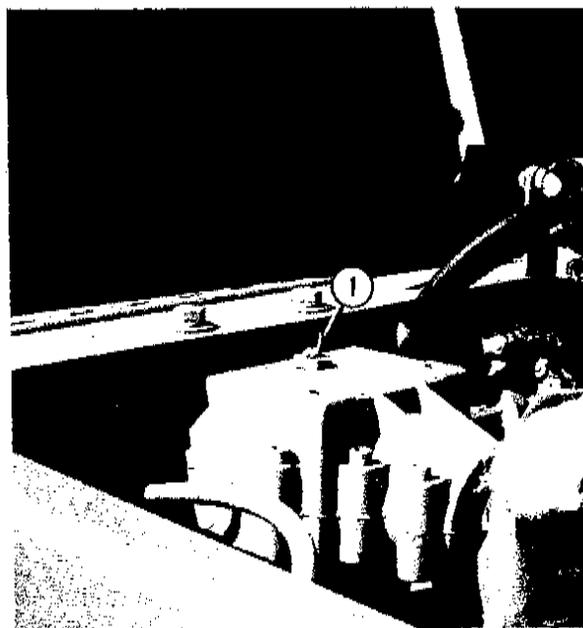


Figure CC - Gearbox

1. Check and Fill Plug - Keep half full with a good grade of 90 weight oil.

LUBRICATION INSTRUCTIONS

WHEEL BEARINGS

At the end of each haying season, the wheel bearing on the baler should be checked for lubrication and/or adjustment.

Use the following procedure for checking wheel bearings:

1. Jack up the baler until wheel is off the ground.
2. Remove dust cap.
3. Remove cotter key, castellated nut and washer.
4. Remove outer bearing and inspect lubricant.

If a generous amount of grease is on the bearing and in the housing, and if the grease is soft, the grease will not need changing.

If the lubricant is caked and the bearings seem

dry, the bearings should be washed to remove old grease.

To repack the bearings, the wheel must be pulled and the inner bearing and seal must be removed. If the seal is damaged, it must be replaced.

The cone bearings and the housing should be washed with a solvent and wiped clean. When repacking the bearings, be sure the grease is worked into the roller retainers to allow the entire bearing to be filled with grease.

When readjusting the wheel bearings, tighten the castellated nut until a drag is felt when turning the wheel. Loosen the nut until the wheel spins freely. A very slight amount of side play is advisable to allow for heat expansion, especially if the unit is towed at high speed.

DRIVE CHAINS

The drive chains must be kept well lubricated with a spray-type lubricant especially made for use on open chain drives. Check these chains every 2 - 4 hours of use.

At the end of the haying season, the chains should be removed and washed in solvent. Then, using a clean cloth, wipe off the chains. Lubricate the chains and replace them on the unit.

TONGUE JACK

A hole located on the side, near the top of the jack is used to keep the jack lubricated. A light oil should be used monthly or bi-monthly, depending on use to coat the inside of the jack.

Too much oil in the jack will cause dust and other foreign material to build up inside the jack causing the jack not to operate properly.

PARTS LISTS TABLE OF CONTENTS

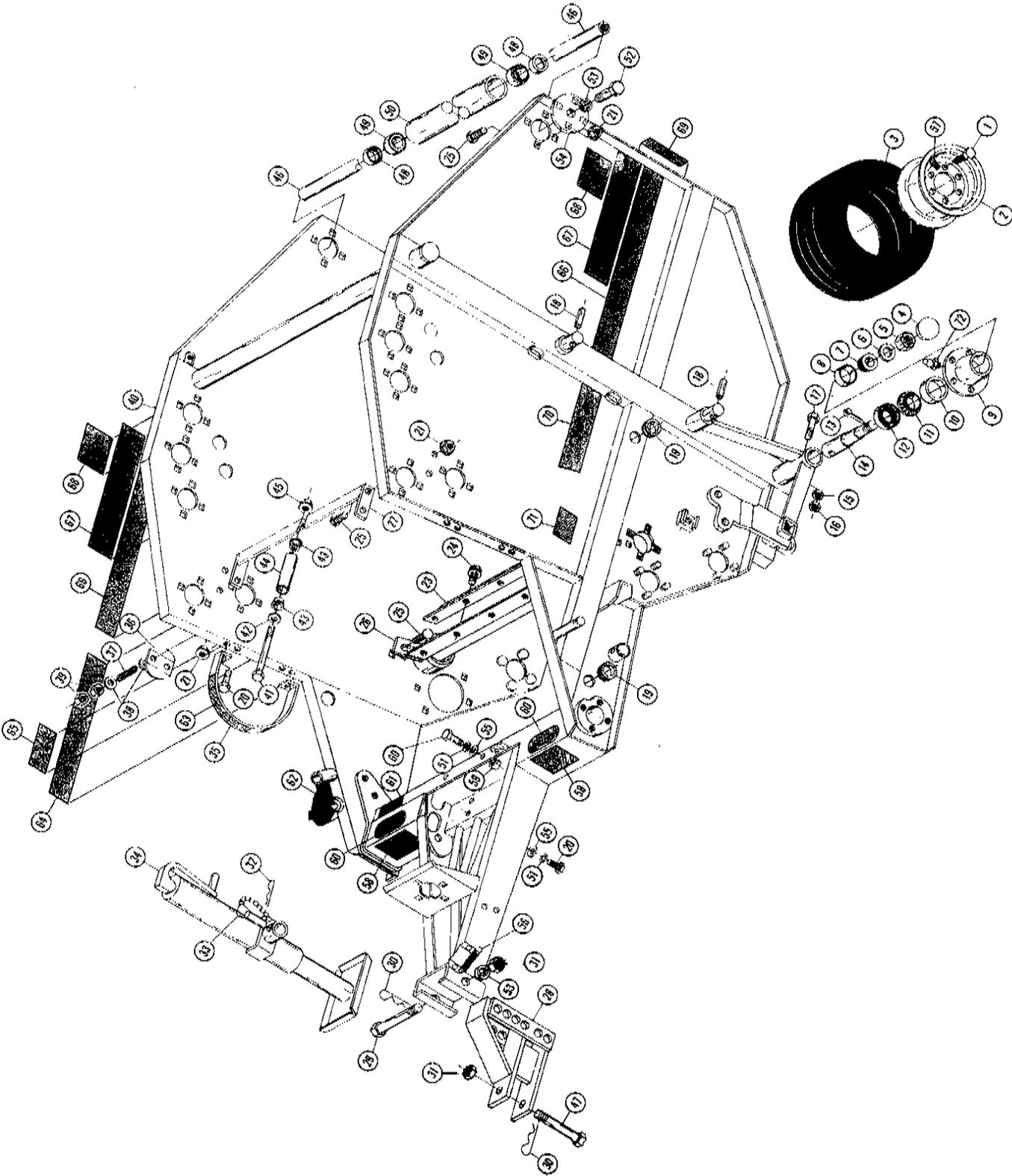
Revised Jan. 1984 due to addition
& change in figures marked w/*.

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MAIN FRAME ASSEMBLY

Revised June 1986 due to addition of grease zerk & hub.

Figure "1"



MAIN FRAME ASSEMBLY

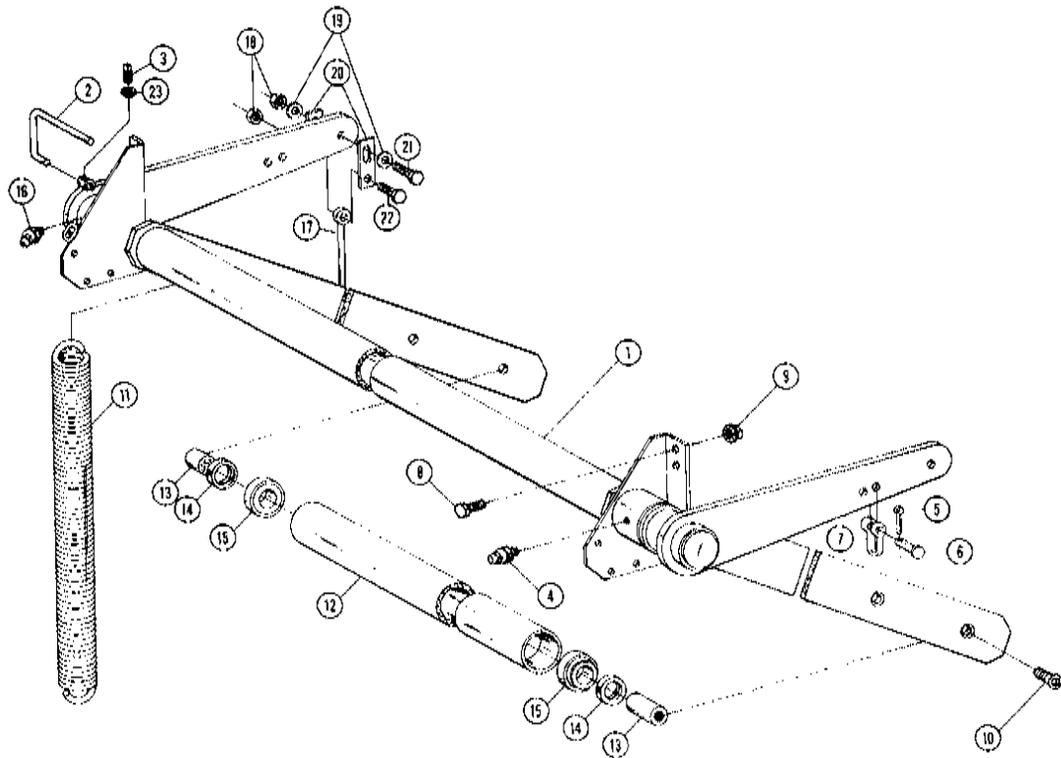
Revised June 1986 due to addition
of grease zerk & hub. Changed
parts marked w/*.

Figure "1"

REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.	REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.
1-1	1823-001	Bolt - 1/2" - 20 NF x 1" Lug	12	1-38	485-005	Washer - 5/16" Flat	4
1-2	55944-001	Rim Ass'y. - 8" x 15" - 6-Bolt (Inc. Ref. 57)	2	1-39	406-001	Nut - 5/16" - 18 NC	4
1-3	1821-001	Tire - 11L - 15 Flotation	2	1-40	58627-001	Frame - Main	1
1-4	1656-005	Cap - #06-120160-00 Dust	2	1-41	354-080	Bolt - 3/8" - 16 NC x 8"	6
1-5	459-001	Nut - 7/8" - 14 NF Slotted Hex	2	1-42	157-001	Slug - 1 17/64" OD x 13/32"	9
1-6	1657-003	Washer - #06-02002-00 Spindle	2	1-43	3322-001	ID x 1/4" Belt Guide	18
1-7	1716-147	Cone - #LM67048 Brg.	2	1-44	1281-011	Bushing - Metal Cap	2
1-8	1715-045	Cup - #LM67010 Brg.	2	1074-003	1074-003	Tube - 1" Pipe x 7"	4
1-9	* 69974-001	Hub Ass'y. - 6-Bolt (Inc. Ref. 8, 10 & 72)	2	1-45	1809-003	Tube - 3/4" OD x 7/16" ID x 7"	6
	* 69975-001	Hub Comp. - 6-Bolt (Inc. Ref. 1,4,7,8,9,10,11&72)	2	1-46	13157-001	Nut - 3/8" - 16 NC Small Flange T.L.	4
1-10	1715-049	Cup - #JL69310 Bearing	2	1-47	5513-001	Shaft - 1 1/4" x 47 1/8" Top Idler	1
1-11	1716-051	Cone - #JL69349 Bearing	2	1-48	1719-003	Pin Ass'y. - Hitch (Inc. One of Ref. 30 & 31)	8
1-12	1820-001	Seal - #0205275	2	1-49	10843-001	Collar - 1 1/4" Locking	8
1-13	510-015	Pin - 5/32" x 1 1/4" Cotter	2	1-50	11730-001	Bearing - 1 1/4" Cylindrical	4
1-14	182-001	Spindle - 6-Bolt	2	1-51	480-011	Roller Ass'y. - Top Idler (Inc. Ref. 48 & 49)	6
1-15	421-001	Nut - 1/2" - 13 NC	2	1-52	369-014	Washer - 1/2" Lock	8
1-16	422-001	Nut - 1/2" - 13 NC Jam	2	1-53	480-017	Bolt - 3/4" - 10 NC x 1 1/2"	9
1-17	358-034	Bolt - 1/2" - 13 NC x 3 1/2"	4	1-54	11053-001	Washer - 3/4" Lock	8
1-18	1788-005	Pin - 5/16" x 2 1/4" Exp.	4	1-55	485-011	Flange - Idler Roller	6
1-19	12720-001	Grommet - 1/4" x 5 3/4" Rub.	12	1-56	1789-007	Washer - 1/2" Flat	1
1-20	358-012	Bolt - 1/2" - 13 NC x 1 1/4"	60	1-57	2250-001	Spring - #106 Extension	2
1-21	1809-001	Nut - 1/2" - 13 NC Small Flange T.L.	2	1-58	2326-318	Stem - #TR415 Dill Valve	2
1-22	358-014	Bolt - 1/2" - 13 NC x 1 1/2"	1	1-59	1071-033	Decal - Danger: Stay Clear...	2
1-23	27858-001	Support - Front Knife	1	1-60	2326-277	Tube - 3/4" OD x 12 Ga. x 5/8"	2
	27313-001	Support - Silage Knife	1	1-61	2326-277	Decal - Danger: Keep Hands	1
1-24	353-006	Bolt - 5/16" - 18 NC x 3/4" Self-Tapping Flanged	5	1-62	2326-431	Decal - Patent No.	1
1-25	377-012	Bolt - 1/2" - 13 NC x 1 1/4" Carriage	36	1-63	2326-003	Decal - Vermeer World	1
1-26	27856-001	Knife - Front	1	1-64	2326-430	Decal - Bale Size Indicator	1
	29162-001	Knife - Silage	1	1-65	2326-334	Decal - 4" Stripe x 32"	1
1-27	4596-001	Guide - Upper Belt	1	1-66	2326-334	Decal - To Avoid Damage...	2
1-28	11000-001	Hitch	1	1-67	2326-595	Decal - 4" Stripe x 35"	2
1-29	11637-001	Bolt - Hitch Mounting	1	1-68	2326-317	Decal - Vermeer	2
1-30	1794-003	Pin - #9 Hairpin Cotter	2	1-69	2326-209	Decal - Danger: Stay Clear...	2
1-31	432-001	Nut - 3/4" - 10 NC	2	1-70	+	Decal - Reflector	1
1-32	1793-005	Pin - #11 Hairpin Cotter	1	1-71	2326-310	Decal - 4" Stripe x 15"	1
1-33	1844-001	Pin - Jack Stabilizer	1	1-72	* 586-001	Decal - Warning: For Your Protection...	1
1-34	1792-001	Jack - #81264 Atwood	1			Zerk 1/8" NPT St. Grease	2
1-35	1954-001	Band - Bale Size Indicator	1		2326-626	Decal - 4" Stripe (Specify Length Per Foot)	
1-36	86-001	Plate - Twine Tension	1				
1-37	1803-001	Spring - #111 Compression	2				

BELT TIGHTENER ASSEMBLY

Figure "2"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
2-1	11881-003		Tightener Ass'y. - Belt (Inc. Ref. #3,4,16&23)	1
2-2	237-001		Rod - Bale Indicator	1
2-3	548-006	F-2252	Screw - 5/16" - 18 NC x 3/4" Sq. Hd. Set	1
2-4	598-001		Zerk - 1/4" - 28 NF Straight Grease	1
2-5	510-011	F-1107	Pin - 1/8" x 1 1/2" Cotter	2
2-6	1833-001	F-975	Pin - 5/8" x 1 7/8" Clevis	2
2-7	1452-001	F-613	Clevis - 1/2" Shackle w/ Pin	2
2-8	358-012	F-600	Bolt - 1/2" - 13 NC x 1 1/4"	8
2-9	1809-001	F-2150	Nut - 1/2" - 13 NC Flanged T.L.	8
2-10	521-014		Screw - 3/4" - 10 NC x 1 1/2" Flat Hd. Socket Cap Screw	4
2-11	1789-043		Spring - 2 7/8" OD x .499" Wire x 43 1/2" Extension Special	4
2-12	1952-001		Roller Ass'y. - Idler & Gate (Inc. Ref. #14 & 15)	2
2-13	1964-001		Shaft - 1 1/2" x 44 1/2" Idler	2
2-14	1731-001	F-2216	Collar - 1 1/2" Locking	4
2-15	215-003		Bearing - 1 1/2" Cylindrical	4
2-16	596-001		Zerk - 1/4" - 28 NF x 45° Grease	1
2-17	15828-001		Guide - Rear Spring	2
2-18	430-001		Nut - 5/8" - 11 NC Self-Locking	4
2-19	485-015	F-506	Washer - 5/8" Flat	4
2-20	15829-001		Mount - Rear Spring	4
2-21	366-022		Bolt - 5/8" - 11 NC x 2 1/4"	2
2-22	366-020	F-508	Bolt - 5/8" - 11 NC x 2"	2
2-23	407-001		Nut - 5/16" - 18 NC Jam	1

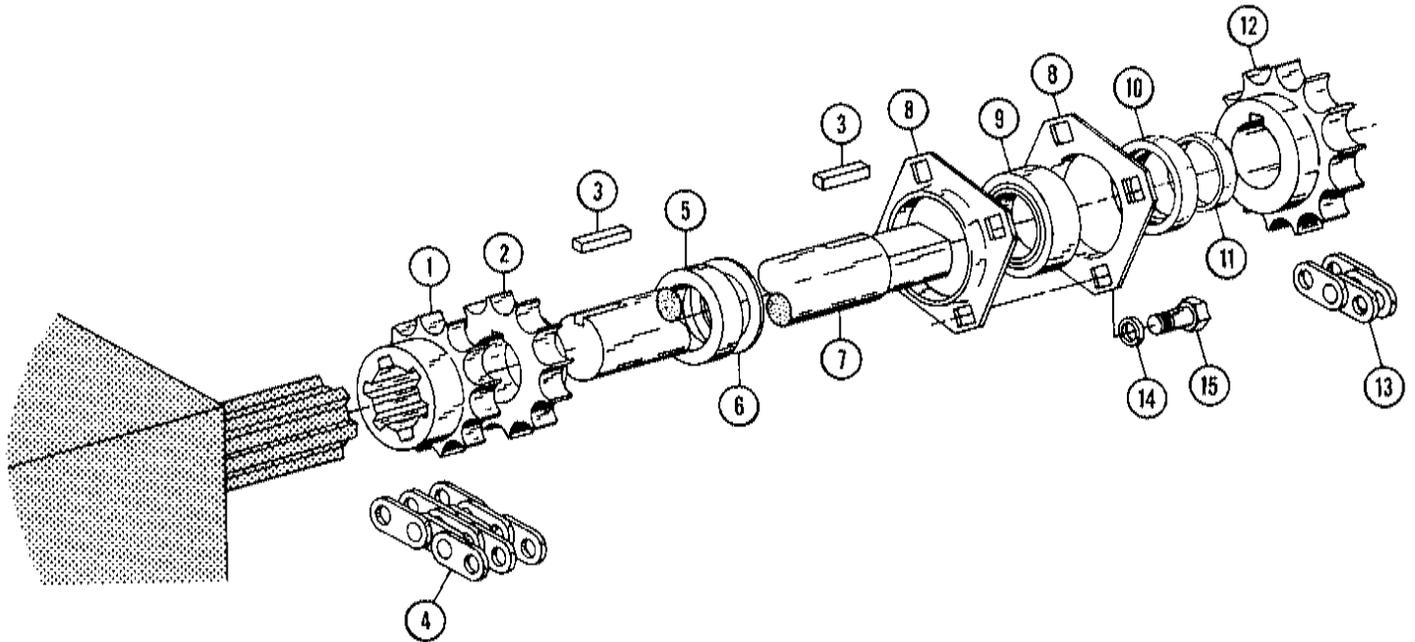
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

CROSS DRIVE SHAFT ASSEMBLY

Figure "3"

Revised Jan. 1984 due to change to Overrunning Coupler. Changed Part marked w/*.



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
3-1	*21153-001		Coupler - Overrunning (Clockwise) (Breakdown Fig. "28")	1
3-2	1806-001	F-1382	Sprocket - 60B 18T 1 1/2" Bore	1
3-3	579-003	F-520	Key - 3/8" x 3/8" x 1 1/4"	2
3-4	1781-018	F-1379	Chain - RC60-2, 13 1/2" (18 Pitches)	1
	1774-001	F-1380	Link - 60-2 Connector	
	1769-005	F-1079	Link - 60-1 Roller	
3-5	1500-013	F-1076	Collar - 1 1/2" Set	1
3-6	483-009	F-1176	Washer - 2 1/4" OD x 1 1/2" ID x 14 Ga.	A/R
3-7	1957-001		Shaft - Cross Drive	1
3-8	213-039	F-2217	Flangette - 80 MM	2
3-9	212-001	F-2218	Bearing - 1 1/2" Spherical	1
3-10	1731-001	F-2216	Collar - 1 1/2" Locking	1
3-11	1100-001	F-1721	Spacer - 1 3/4" OD x 12 Ga. x 5/16"	1
3-12	4061-001		Sprocket - 80B 13T 1 1/2" Bore	1
3-13	1782-167		Chain - RC80-1, 167" (167 Pitches)	1
	1773-009	F-5	Link - 80-1 Connector	
	1769-009	F-6	Link - 80-1 Roller	
	1770-009	F-7	Link - 80-1 Offset	
3-14	480-011	F-564	Washer - 1/2" Lock	4
3-15	358-010	F-473	Bolt - 1/2" - 13 NC x 1"	4

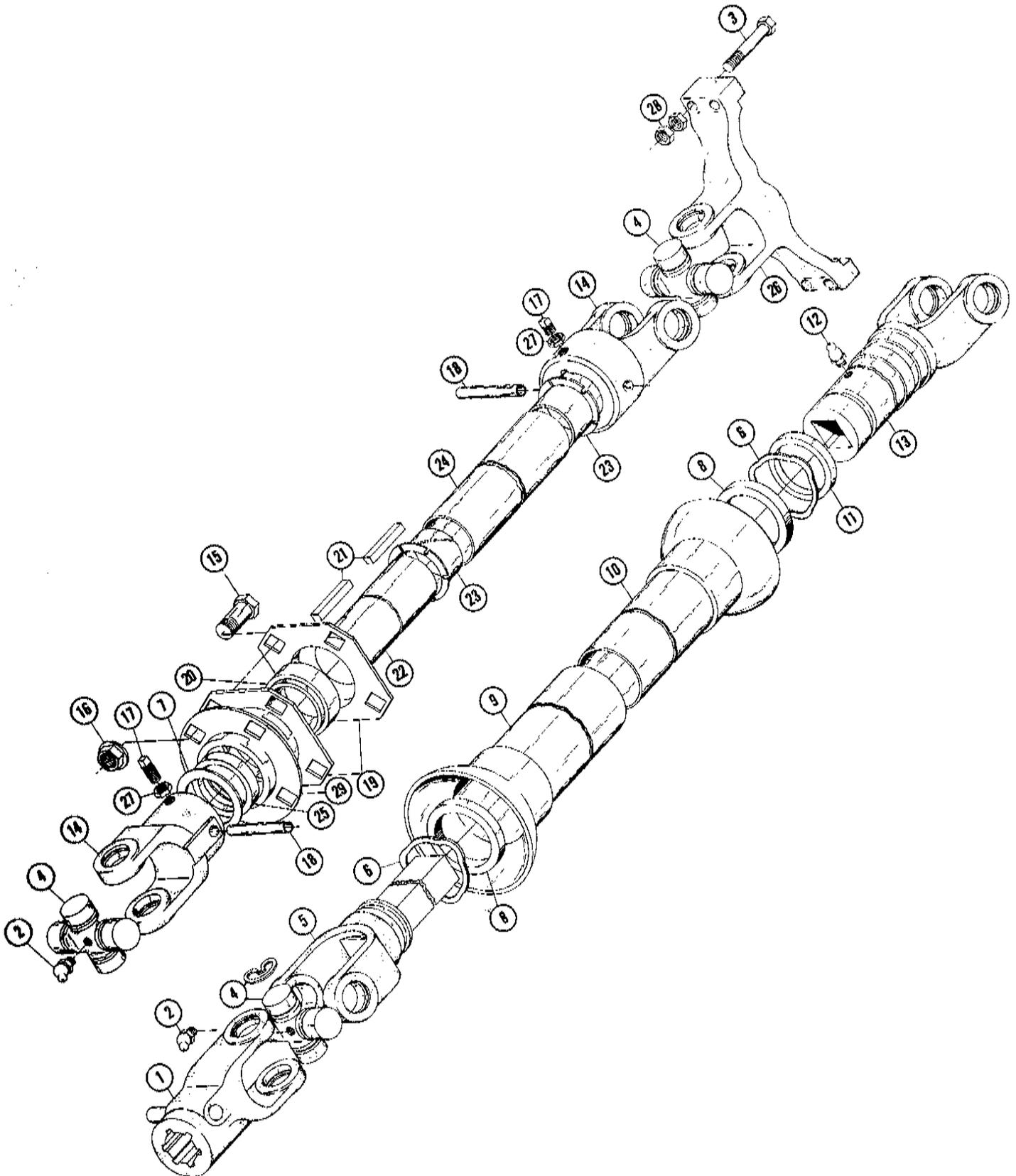
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

Revised Jan. 1984 due to
elimination of Thrust Washer.

REXNORD #350 DOUBLE U-JOINT ASSEMBLY

Figure "4"



WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

REXNORD #350 DOUBLE U-JOINT ASSEMBLY

Revised June 1986 due to addition
of quick disconnect pin kits.
Added parts marked w/*.

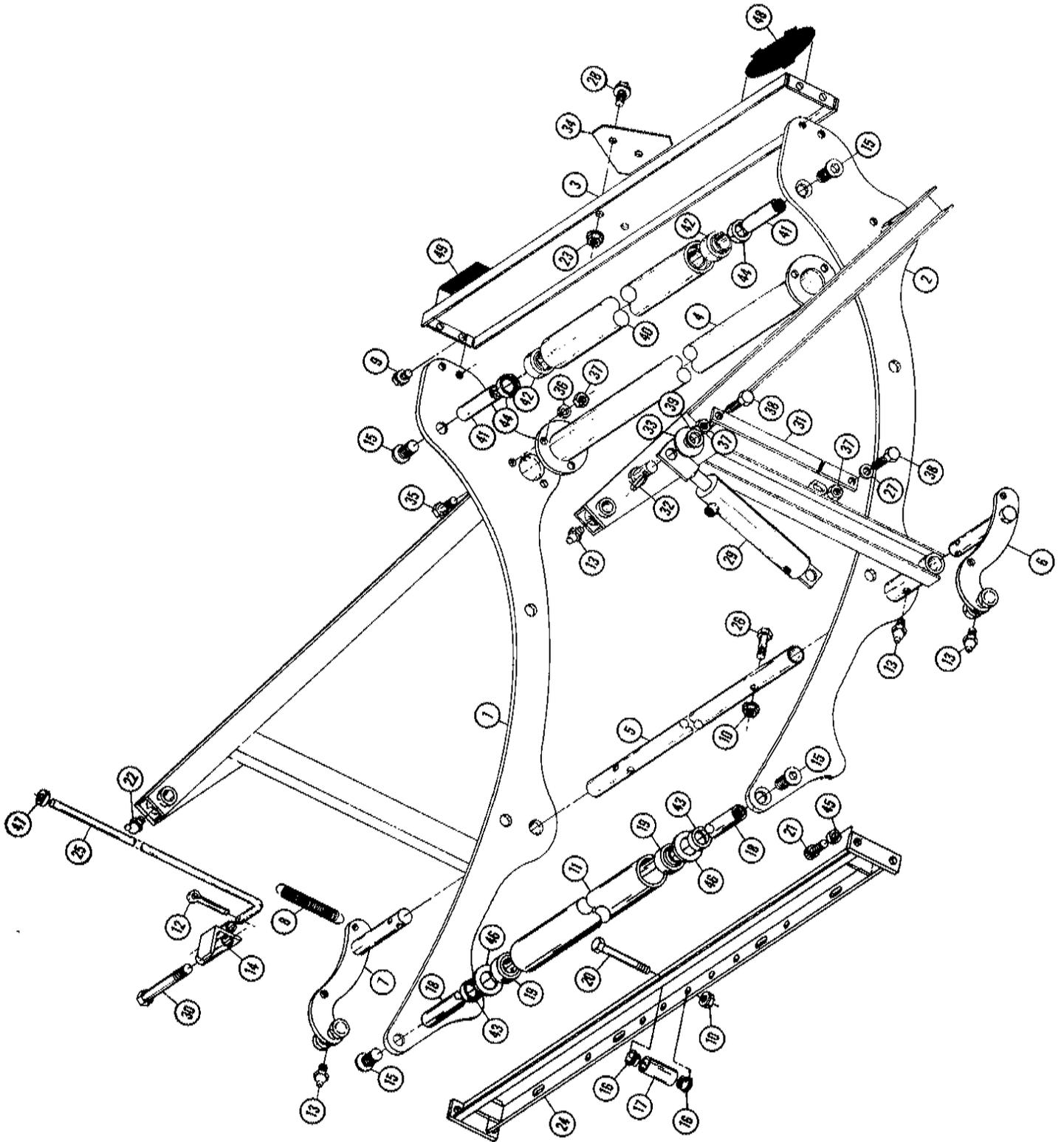
Figure "4"

REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.
4-1	1818-009	Tractor Yoke Ass'y. w/ 1 3/8" - 6B Spline Bore, 540 RPM	1
	* 17320-001	Q.D. Pin Kit (540 RPM)	
	1818-011	Tractor Yoke Ass'y. w/ 1 3/8" - 21B, 1000 RPM	1
	* 76129-001	Q.D. Pin Kit (1000 RPM)	
4-2	1818-013	Grease Fitting	1
4-3	351-020	Bolt - 5/16" - 18 NC x 2"	4
4-4	1818-015	Cross & Bearing Repair Kit	2
4-5	4428-005	#350 Yoke Ass'y. w/ 1 3/16" Shaft, 1000 RPM	1
	1818-023	#350 Yoke Ass'y. w/ 1 3/16" Shaft, 540 RPM	1
4-6	1818-025	Snap Ring	2
4-7	483-009	Washer - 2 1/4" OD x 1 1/2" ID x 14 Ga.	A/R
4-8	1818-029	Nylon Bearing	2
4-9	1818-031	Outer Shield, 540 RPM	1
	4428-007	Outer Shield, 1000 RPM	1
4-10	1818-033	Inner Shield	1
4-11	1818-035	Center Shield Bearing	1
4-12	1818-037	Grease Fitting	1
4-13	1818-039	#350 Yoke, Tube & Sleeve Ass'y. w/ 1.19" Sq. Bore (Inc. Ref. 12)	1
4-14	1818-041	#350 Fitting Yoke Ass'y. w/ 1.12" Bore (Inc. Ref. 17&27)	2
4-15	358-012	Bolt - 1/2" - 13 NC x 1 1/4"	4
4-16	1809-001	Nut - 1/2" - 13 NC Small Flange T.L.	4
4-17	549-004	Screw - 3/8" - 16 NC x 1/2" Sq. Hd. Set	2
4-18	1978-009	Pin - 5/16" x 2 1/2" Spiral Roll	2
4-19	213-039	Flangette - 80 mm	2
4-20	212-001	Bearing - 1 1/2" Spherical	1
4-21	579-003	Key - 3/8" x 3/8" x 1 1/4"	2
4-22	104-001	Shaft - PTO	1
4-23	209-005	Bushing - 1 1/2" Nylon	2
4-24	1110-001	Tube - PTO Shaft, 1 7/8" OD x 13 Ga. x 14 1/4"	1
4-25	1731-001	Collar - 1 1/2" Locking	1
4-26	1819-005	Torque Limiter Yoke #350	1
4-27	413-001	Nut - 3/8" - 16 NC Jam	2
4-28	406-001	Nut - 5/16" - 18 NC	8
4-29	5469-001	Flangette - PTO Bearing	1
	1819-001	#350 Torque Limiter Joint Comp. (Inc. 1819-003, 1819-005, 1818-015)	
	1818-001	#350 U-Joint Ass'y. Comp. 540 RPM (Inc. 1818-009, 1818-041, 1818-015, 549-004, 1978-009, 1818-039, 1818-037, 1818-035, 1818-033, 1818-031, 1818-043, 1818-023)	
	4428-001	#350 U-Joint Ass'y. Comp. 1000 RPM (Inc. 1818-011, 1818-041, 1818-015, 549-004, 1978-009, 1818-039, 1818-037, 1818-035, 1818-033, 4428-007, 1818-043, 4428-005)	
	1818-003	#350 Shield U-Joint w/ 1 1/2" Bore & 1.19" Sq. Drive Tube (Rear Half Comp.) 540 & 1000 RPM (Inc. 1818-033, 1818-035, 1818-037, 1818-039, 1818-015, 1818-041, 549-004, 1978-009, 1818-043)	
	1818-005	#350 Shielded U-Joint w/ 6T Spline & 1.19" Sq. Drive Shaft (Front Half Comp.) 540 RPM (Inc. 1818-009, 1818-015, 1818-023, 1818-043, 1818-031)	
	4428-003	#350 Shielded U-Joint w/ 21T Spline & 1.19" Sq. Drive Shaft (Front Half Comp.) 1000 RPM (Inc. 1818-011, 1818-015, 4428-005, 1818-043, 4428-007)	
	1818-043	Keeper Kit (which Inc. 1818-025, 1818-029)	

Revised Jan. 1984 due to
change of Lower Belt Guide.

TAIL GATE ASSEMBLY

Figure "5"



WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

Revised Jan. 1984 due to change of
Lower Belt Guide and updating of
parts list. Changed parts marked w/*.

TAIL GATE ASSEMBLY

Figure "5"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
5-1	* 1871-004		Gate Ass'y. - Right (Inc. One of Ref. #13 & One of Ref. #22)	1
5-2	1871-003		Gate Ass'y. - Left (Inc. One of Ref. #13)	1
5-3	19656-001		Shield - Tailgate Belt	1
5-4	1874-001		Tube - Cross Gate	1
5-5	1960-001		Tube - Gate Latch	1
5-6	11004-003		Latch Arm Ass'y. - Gate Left (Inc. One of Ref. #13)	1
5-7	11004-004		Latch Arm Ass'y. - Gate Right (Inc. One of Ref. #13)	1
5-8	1789-003	F-1478	Spring - #143 Extension	2
5-9	19862-006		Bolt - 5/16" - 10 NC x 3/4" Self-Tapping Washer Hd.	4
5-10	* 1809-003		Nut - 3/8" - 16 NC Small Flange T.L.	8
5-11	1952-001		Roller Ass'y. - Idler (Inc. Ref. #19 & 43)	1
5-12	510-021		Pin - 3/16" x 1" Cotter	1
5-13	598-001	F-655	Zerk - 1/4" - 28 NF Straight Grease	4
5-14	255-001		Actuator - Gate Latch Indicator	1
5-15	521-014		Screw - 3/4" - 10 NC x 1 1/2" Flat Hd. Socket	6
5-16	3322-001		Bushing - Metal Cap	14
5-17	* 1281-009		Tube - 1" Pipe x 3"	2
	* 1074-025		Tube - 3/4" OD x 7/16" ID x 3"	2
5-18	1964-001		Shaft - 1 1/2" x 44 1/4", Roller	1
5-19	215-003		Bearing - 1 1/2" Cylindrical	2
5-20	* 354-040	F-381	Bolt - 3/8" - 16 NC x 4"	4
5-21	* 512-006		Bolt - 3/8" - 16 NC x 3/4" Socket Hd.	4
5-22	* 596-001		Zerk - 1/4" - 28 NF x 45° Grease	1
5-23	* 405-001		Nut - 1/4" 20 NC Flg. Whiz	2
5-24	* 59686-001		Guide - Lower Belt	1
5-25	13849-001		Rod - Closed Gate Indicator	1
5-26	354-020	F-654	Bolt - 3/8" - 16 NC x 2"	4
5-27	485-011	F-419	Washer - 1/2" Flat	2
5-28	* 4473-006		Bolt - 1/4" 20 NC x 3/4" Flg. Whiz	2
5-29	24731-001		Cylinder - Vermeer 2 1/2" x 14" Hydraulic (Breakdown Fig. 21)	2
5-30	358-044	F-947	Bolt - 1/2" - 13 NC x 4 1/2"	1
5-31	1956-001		Strap - Gate Latch Activating	2
5-32	1788-005	F-271	Pin - 5/16" x 2 1/4" Expansion	6
5-33	10548-001		Slug - Gate Cylinder Pin	2
5-34	1836-001	F-998	Sign - SMV	1
5-35	358-012	F-600	Bolt - 1/2" - 13 NC x 1 1/4"	6
5-36	480-011	F-564	Washer - 1/2" Lock	6
5-37	421-001	F-512	Nut - 1/2" - 13 NC	10
5-38	358-014	F-649	Bolt - 1/2" - 13 NC x 1 1/2"	4
5-39	483-007	F-362	Washer - 1 7/8" OD x 1 1/4" ID x 14 Ga.	A/R
5-40	11733-001		Roller Ass'y. - Idler (Inc. Ref. #42 & 44)	2
5-41	13156-001		Shaft - 1 1/4" x 44 1/4" Roller	2
5-42	10843-001		Bearing - 1 1/4" Cylindrical	4
5-43	1731-001	F-2216	Collar - 1 1/2" Locking	2
5-44	1719-003	F-2220	Collar - 1 1/4" Locking	4
5-45	480-007	F-593	Washer - 3/8" Lock	4
5-46	* 53085-001		Shield - Tailgate Roller (Optional)	2
5-47	* 1500-021		Collar - 3/8" Set	1
5-48	* 2326-003		Decal - Vermeer World	1
5-49	* 2326-317		Decal - Danger: Stay Clear	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
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PICKUP ASSEMBLY

Revised June 1986 due to change
in pickup teeth. Changed parts marked w/*.

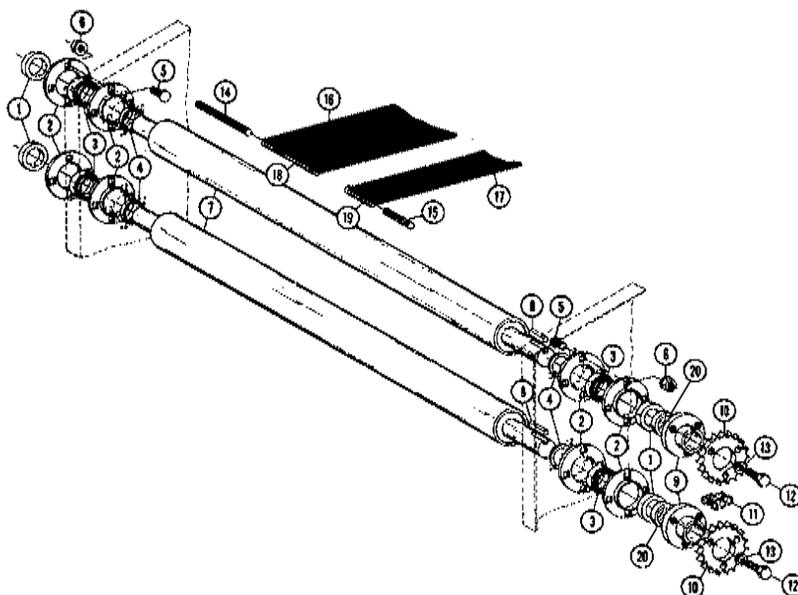
Figure "6"

REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.	REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.
6-1	360-010	Bolt - 1/2" - 13 NC x 1" Button Head	3	6-36	15713-003	Handle Ass'y. - Pickup Lift (Inc. Ref. 67)	1
6-2	87-001	Cap - 1 3/4" OD x 17/32" ID x 1/4" Shaft	3	6-37	1809-001	Nut - 1/2" - 13 NC Flg. Lock	16
6-3	1731-001	Collar - 1 1/2" Locking	3	6-38	24745-003	Link Ass'y. - Pickup Lift (Inc. Ref. 39 & 42)	1
6-4	213-039	Flangette - 80 MM	6	6-39	1071-009	Tube - 3/4" OD x 12 Ga. x 5/16"	1
6-5	212-001	Bearing - 1 1/2" Spherical	3	6-40	485-011	Washer - 1/2" Flat	3
6-6	58695-001	Plate - Pickup End (Left)	1	6-41	358-014	Bolt - 1/2" - 13 NC x 1 1/2"	1
6-7	4090-001	Cam - Pickup	1	6-42	1080-007	Tube - 1" OD x 11/16" ID x 9/32"	1
6-8	368-014	Bolt - 5/8" - 11 NC x 1 1/2" Special	5	6-43	366-022	Bolt - 5/8" - 11 NC x 2 1/4"	1
6-9	1733-003	Bearing - 5/8" Ball	5	6-44	15289-001	Nut - 3/8" - 16 NC Self- Locking Grade 8	20
6-10	428-001	Nut - 5/8" - 11 NC	9	6-45	1078-007	Tube - 1" OD x 12 Ga. x 3/4"	1
6-11	24797-003	Arm Ass'y. - Pickup Eccentric (Inc. One of Ref. 12)	5	6-46	1803-005	Spring - 1 1/8" OD x .192" Wire x 11" Compression	1
6-12	598-001	Zerk - 1/4" - 28 NF St. Grease	6	6-47	257-001	Stop - Pickup Lift	1
6-13	1835-015	Bushing - 1 1/4" OD x 1" ID x 1" Steel	10	6-48	480-011	Washer - 1/2" Lock	13
6-14	483-005	Washer - 1 1/2" OD x 1" ID x 14 Ga.	10	6-49	421-001	Nut - 1/2" - 13 NC	5
6-15	1100-025	Tube - 1 3/4" OD x 12 Ga. x 1 3/4"	1	6-50	358-036	Bolt - 1/2" - 13 NC x 3 3/4"	1
6-16	12625-001	Drum Ass'y. - 5 Bar Pickup (Inc. Ref. 13)	1	6-51	10791-001	Lever - Pickup Anti-Reverse	1
6-17	10809-001	Shield	1	6-52	1891-001	Plate - Pickup Back	1
6-18	353-006	Bolt - 5/16" - 18 NC x 3/4" Flange Self-Tapping	65	6-53	4471-010	Bolt - 1/2" - 13 NC x 1" Self-Tapping Washer Hd.	12
6-19	1100-023	Tube - 1 3/4" OD x 12 Ga. x 15/16"	1	6-54	11051-001	Shield - Hay	2
6-20	579-003	Key - 3/8" x 3/8" x 1 1/4" Hardened	1	6-55	4000-001	Bracket - Hay Shield	2
6-21	24799-003	Pin Ass'y. - Tooth Mtg. Angle (Inc. Ref. 22)	5	6-56	3999-001	Bracket - Hay Shield	2
6-22	597-001	Zerk - 1/4" - 28 NF x 90° Gr.	5	6-57	354-010	Bolt - 3/8" - 16 NC x 1"	8
6-23	4094-001	Plate - Pickup End	1	6-58	1809-003	Nut - 3/8" - 16 NC Small Flange T.L.	8
6-24	366-020	Bolt - 5/8" - 11 NC x 2"	1	6-59	4062-001	Cover - Cam Inspection	1
6-25	430-001	Nut - 5/8" - 11 NC Self- Locking	2	6-60	20947-001	Angle - Tooth Mounting	5
6-26	1080-005	Tube - 1" OD x 11/16" ID x 1/2"	2	6-61	* 27997-001	Tooth - Pickup	40
6-27	1476-001	Rod - Pickup Tension	2	6-62	422-001	Nut - 1/2" - 13 NC Jam	2
6-28	259-001	Spacer - Pickup Float	2	6-63	* 483-009	Washer - 2 1/4" OD x 1 1/2" ID x 14 Ga.	A/R
6-29	1077-001	Tube - 7/8" OD x 13 Ga. x 12"	2	6-64	351-010	Bolt - 5/16" - 18 NC x 1"	40
6-30	1803-003	Spring - 18" Compression	2	6-65	409-001	Nut - 5/16" - 18 NC Self- Locking T.L.	40
6-31	485-015	Washer - 5/8" Flat	3	6-66	16114-020	Bolt - 3/8" - 16 NC x 2" Gr. 8	20
6-32	429-001	Nut - 5/8" - 11 NC Jam	2	6-67	596-001	Zerk - 1/4" - 28 NF x 45° Gr.	1
6-33	211-001	Guide - Pickup Finger	15	6-68	1788-001	Pin - 1/4" x 1 1/2" Exp.	1
6-34	1577-001	Belt - #97-00-1645 Gates V	1	6-69	2326-310	Decal - Warning: For Your Protection...	1
6-35	279-001	Pulley - 12 1/2" Drive	1	6-70	10850-001	Bolt - 1/2" - 13 NC x 7" Eye	2
				6-71	58698-001	Washer - Cam Adjustment	3
				6-72	358-010	Bolt - 1/2" - 13 NC x 1"	1
				6-73	481-005	Washer - 5/8" Ext. Tooth Star Lock	5
				6-74	1100-001	Tube - 1 3/4" OD x 12 Ga. x 5/16"	1

UPPER DRIVE ROLLER ASSEMBLY

Revised Jan. 1984 due to addition
of spacers and change in Belting.
Changed parts marked w/ *. Belting
change starts w/Serial #2475.

Figure "7"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
7-1	1731-001	F-2216	Collar - 1 1/2" Locking	4
7-2	213-039	F-2217	Flangette - 80 MM	8
7-3	212-001	F-2218	Bearing - 1 1/2" Spherical	4
7-4	88-001		Ring - Spacer	4
7-5	* 377-010		Bolt - 1/2" - 13 NC x 1" Carriage	16
7-6	1809-001	F-2150	Nut - 1/2" - 13 NC Flange Lock	16
7-7	4038-001		Roller - Upper Belt Drive	2
7-8	579-009	F-21	Key - 3/8" x 3/8" x 1 3/4" Hardened	2
7-9	1695-005	F-1732	Hub - SK 1 1/2"	2
7-10	1807-003		Sprocket - 80SK 18T	2
7-11	1782-167		Chain - RC80-1, 167" (167 Pitches)	1
	1769-009	F-6	Link - RC80 Roller	
	1773-009	F-5	Link - RC80 Connector	
	1770-009	F-7	Link - RC80 Offset	
7-12	* 4593-013		Bolt - 5/16" - 18 NC x 2" (TAW)	6
7-13	480-005	F-783	Washer - 5/16" Lock	6
7-14	* 1830-013		Cable - 3/32" x 10 1/2" Nylon Coated	2
7-15	* 1830-003		Cable - 3/32" x 5 1/2" Nylon Coated	3
7-16	* 59631-005		Belting - 9" x 437" Goodyear (w/Hooks)	2
	* 59631-003		Belting - 9" x 438" Goodrich (w/Hooks)	2
7-17	* 1826-007		Belting - 4" x 436" Goodyear (w/Hooks)	3
	* 1826-003		Belting - 4" x 436" Goodrich (w/Hooks)	3
7-18	* 28915-011		Hook - Belt Lacing (57 & 58 Per Card)	2
7-19	* 28914-001		Hook - Belt Lacing (21 & 22 Per Card)	3
7-20	* 1100-001		Tube - 1 3/4" OD x 12 Ga. x 5/16"	2
	* 59933-001		Goodrich Laced Belt Set (Inc. two 9" Belts and three 4" Belts)	
	* 59939-001		Goodyear Laced Belt Set (Inc. two 9" Belts and three 4" Belts)	

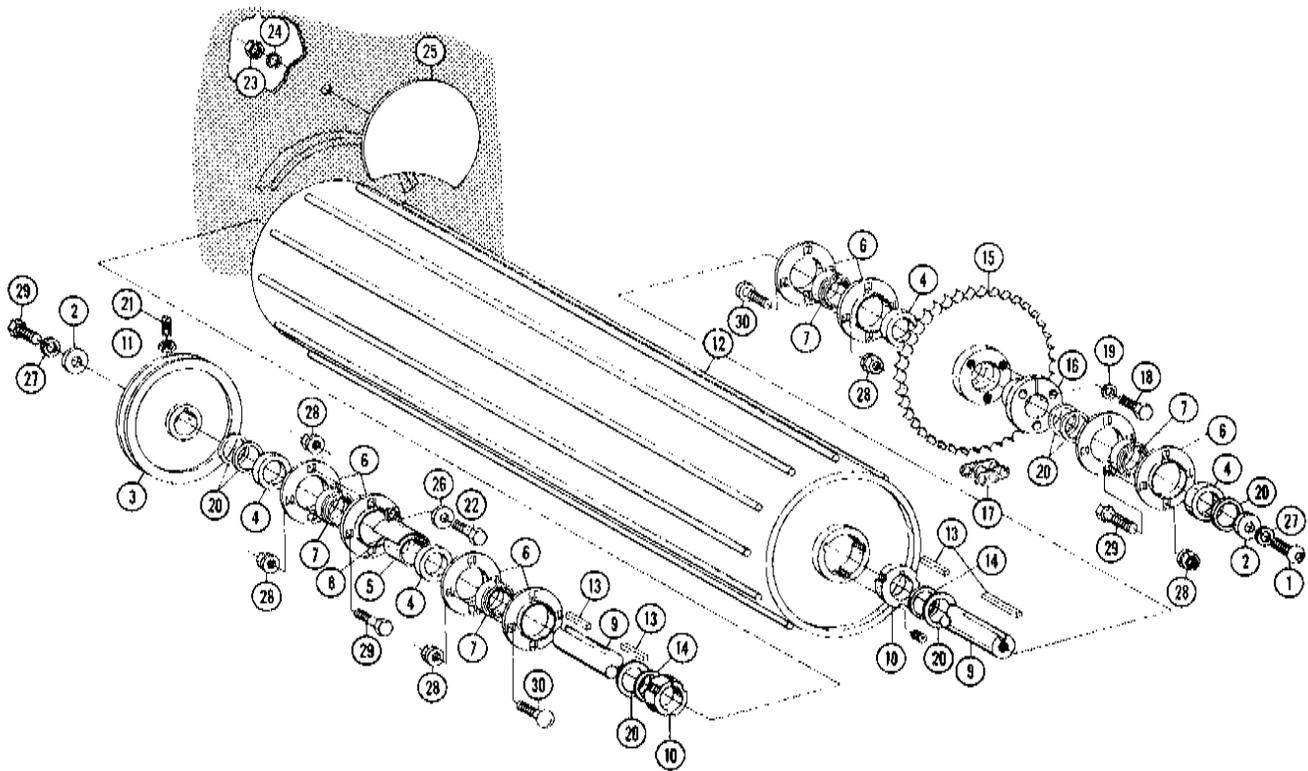
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

SUPPORT AND DRIVE ROLLER ASSEMBLY

Revised June 1986 due to elimination of spacer. Changed part marked w/*.

Figure "8"

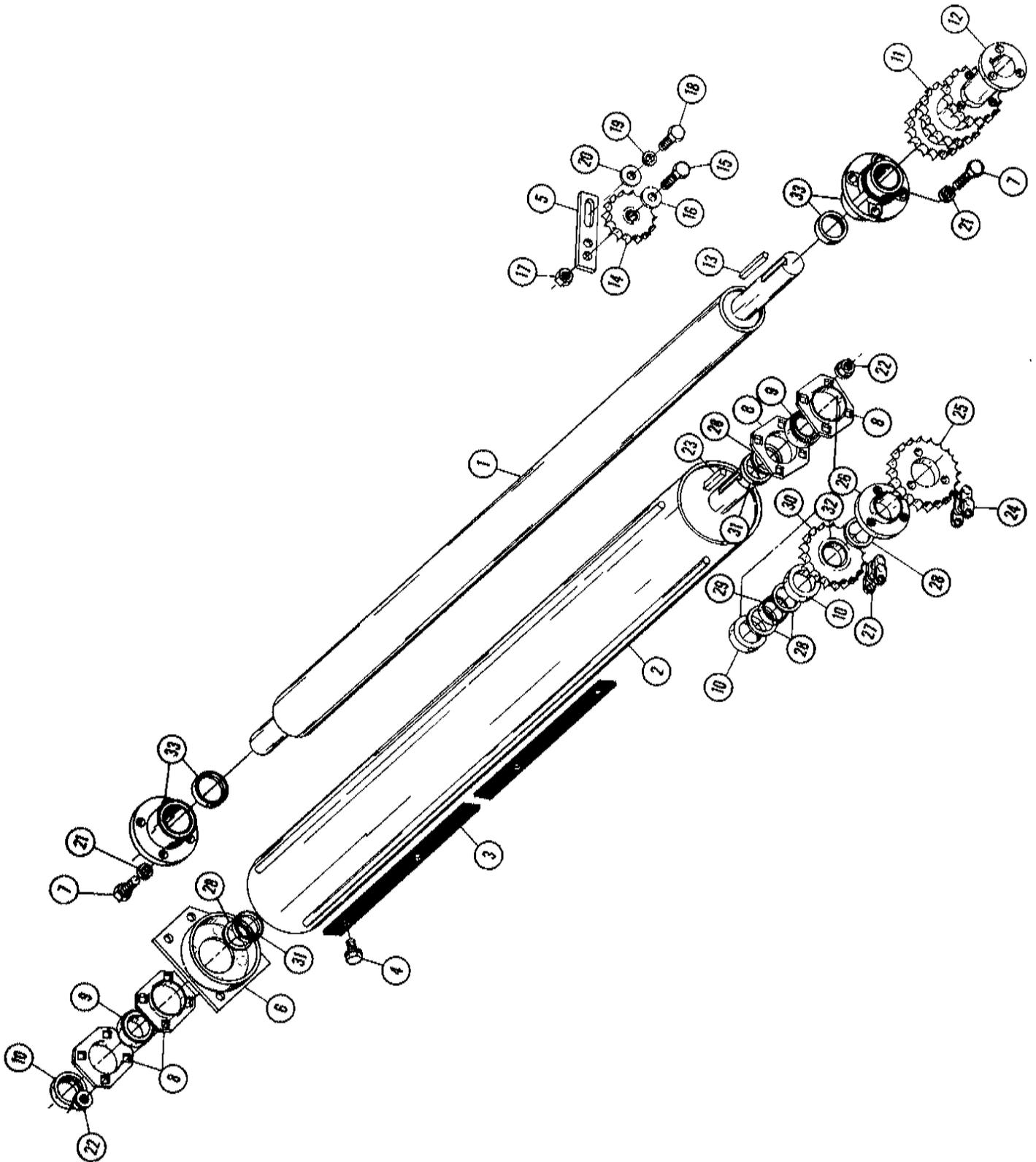


REF. NO.	CUSTOMER ORDER NO.	DESCRIPTION	QTY.
8-1	360-010	Bolt - 1/2" - 13 NC x 1" Button Hd.	2
8-2	87-001	Cap - Shaft	2
8-3	280-003	Pulley Ass'y. - 9 1/2" Drive (Inc. Ref. 11 & 21)	1
8-4	1731-001	Collar - 1 1/2" Locking	5
8-5	1100-007	Tube - 1 3/4" OD x 12 Ga. x 1 31/32"	1
8-6	213-039	Flangette - 80 MM	8
8-7	212-001	Bearing - 1 1/2" Spherical	4
8-8	1469-001	Shield - Bottom Roller	1
8-9	2062-001	Shaft - 16" Roller	1
8-10	1698-001	Bushing - 1 1/2" Taper Lock (#2517)	2
8-11	413-001	Nut - 3/8" - 16 NC Jam	1
8-12	1875-001	Roller - 16" Support & Drive	1
8-13	579-009	Key - 3/8" x 3/8" x 1 3/4"	4
8-14	88-001	Ring - Spacer	2
8-15	1812-001	Sprocket - 60SK 64T	1
8-16	1695-005	Hub - 1 1/2" SK	1
8-17	1778-095	Chain - RC60-1, 71 1/4" (95 Pitches)	1
	1769-005	Link - RC60 Roller	
	1773-005	Link - RC60 Connector	
	1770-005	Link - RC60 Offset	
8-18	N/A	Bolt - 5/16" - 18 NC x 1 1/2" (TAW)	3
8-19	480-005	Washer - 5/16" Lock	3
8-20	483-009	Washer - 2 1/4" OD x 1 1/2" ID x 14 Ga.	A/R
8-21	549-010	Screw - 3/8" - 16 NC x 1" Sq. Hd. Set	1
8-22	358-012	Bolt - 1/2" - 13 NC x 1 1/4"	1
8-23	421-001	Nut - 1/2" - 13 NC (Opt.)	2
8-24	480-011	Washer - 1/2" Lock (Opt.)	2
8-25	11945-001	Restrictor - Bale (Opt.)	2
8-26	485-011	Washer - 1/2" Flat	1
8-27	480-011	Washer - 1/2" Lock	2
8-28	1809-001	Nut - 1/2" - 13 NC Flange Lock	16
8-29	358-010	Bolt - 1/2" - 13 NC x 1"	7
8-30	57868-010	Bolt - 1/2" - 13 NC x 1" Carriage (Weld to Main Frame)	8

Revised Jan. 1984 due to change in Lower Drive Roller and Bearings.

STARTING ROLLER ASSEMBLY

Figure "9"



WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

STARTING ROLLER ASSEMBLY

Revised Jan. 1984 due to change in
Lower Drive Roller and Bearings.
Changed Parts marked w/*.

Figure "9"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
9-1	*27854-001		Roller - Lower Drive	1
9-2	20319-001		Roller - Starting	1
9-3	1959-001		Belting - Starting Roller	4
9-4	353-006		Bolt - 5/16" - 18 NC x 3/4" Self-Tapping Flanged	32
9-5	275-001		Arm - Chain Tightener	1
9-6	11036-001		Mount - Starting Roller	1
9-7	* 354-012		Bolt - 3/8" - 16 NC x 1 1/4"	8
9-8	213-039	F-2217	Flangette - 80 MM	8
9-9	212-001	F-2218	Bearing - 1 1/2" Spherical	4
9-10	1731-001	F-2216	Collar - 1 1/2" Locking	5
9-11	61-001		Sprocket - Triple	1
9-12	202-001		Hub Ass'y. - P3- 1 1/2" (Inc. Ref. # 13 & Bolts)	1
9-13	202-005		Key - 3/8" x 1/2" x 3 7/8"	1
9-14	1813-001	F-1087	Sprocket - 60A 15T Idler	1
9-15	358-020	F-389	Bolt - 1/2" - 13 NC x 2"	1
9-16	485-011	F-419	Washer - 1/2" Flat	1
9-17	421-001	F-512	Nut - 1/2" - 13 NC	1
9-18	366-012	F-390	Bolt - 5/8" - 11 NC x 1 1/4"	1
9-19	480-015	F-573	Washer - 5/8" Lock	1
9-20	485-015	F-506	Washer - 5/8" Flat	1
9-21	* 480-007		Washer - 3/8" Lock	6
9-22	1809-001	F-2150	Nut - 1/2" - 13 NC Small Flange T.L.	18
9-23	579-003	F-520	Key - 3/8" x 3/8" x 1 1/4"	1
9-24	1778-037	F-1119	Chain - RC60-1, 27 3/4" (37 Pitches)	1
	1769-005	F-1079	Link - RC60-1 Roller	
	1773-005	F-1078	Link - RC60-1 Connector	
	1770-005	F-1080	Link - RC60-1 Offset	
9-25	1814-001	F-1094	Sprocket - 60 SDS 24H	1
9-26	1692-007	F-519	Hub - SDS 1 1/2"	1
9-27	1782-167		Chain - RC80-1, 167" (167 Pitches)	1
	1769-009	F-6	Link - RC80-1, Roller	
	1773-009	F-5	Link - RC80-1 Connector	
	1770-009	F-7	Link - RC80-1 Offset	
9-28	483-009	F-1176	Washer - 2 1/4" OD x 1 1/2" ID x 14 Ga.	A/R
9-29	1100-001	F-1721	Tube - 1 3/4" OD x 12 Ga. x 5/16"	1
9-30	1815-001		Sprocket - 80B 15T Idler w/ Bearing	1
9-31	* 1100-033		Spacer - 1 3/4" OD x 12 Ga. x 15/32"	2
9-32	* 215-003		Bearing - 1 1/2" Cylindrical	1
9-33	*57040-001		Bearing Ass'y - 1 1/2" Flange (Link Belt # FCB22424H) (Includes Spacer Ring)	2
	*27642-001		Ring - Spacer	2
	*58448-002		Insert - Bearing (Link Belt #B22424HL) (Complete)	
	*57041-001		Bearing Ass'y - 1 1/2" Flange (Browning # SFC1000NE) (Includes Spacer Ring)	2
	*27643-001		Ring - Spacer	2
	*58449-001		Insert - Bearing (Browning B1000 x 1 1/2) (Complete)	

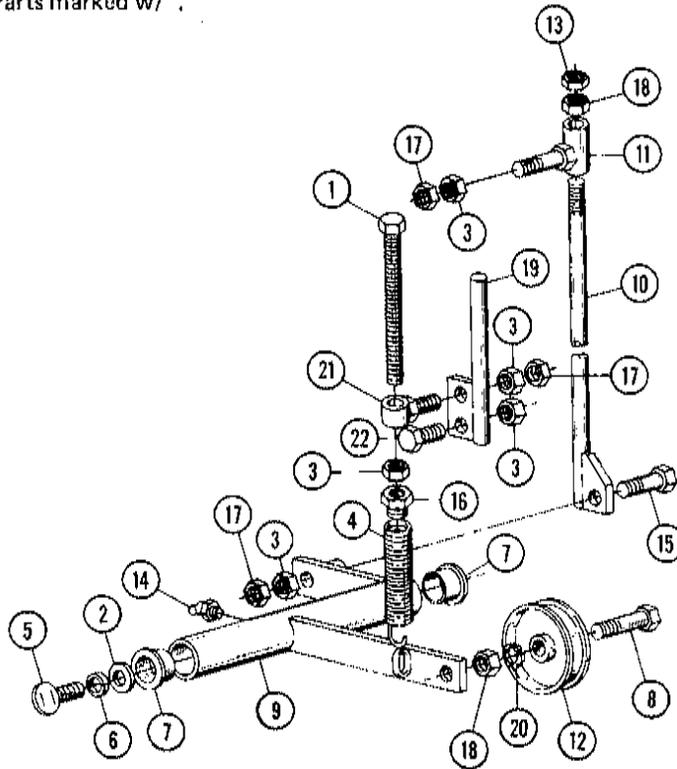
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

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PICKUP BELT TIGHTENER ASSEMBLY

Figure "10"

Revised Jan. 1984 due to updating
of Parts List. Changed Parts marked w/*.

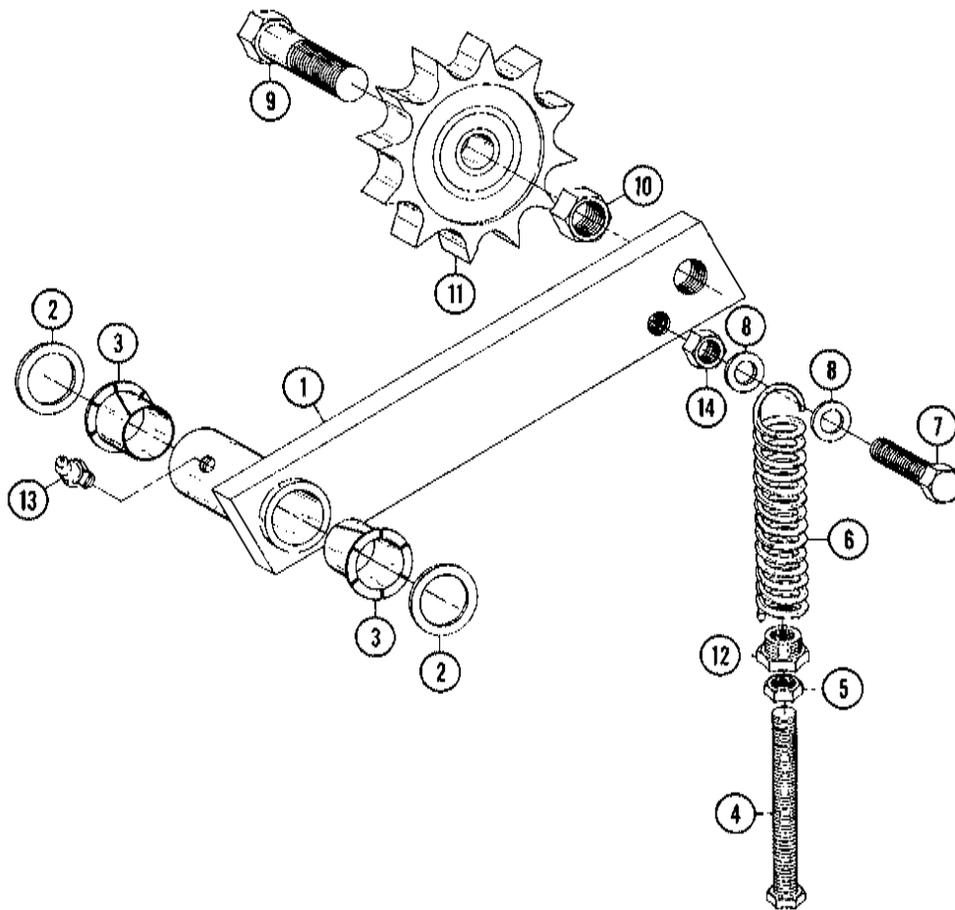


<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
10-1	364-076		Bolt - 1/2" - 13 NC x 7 3/4" (w/ 6 3/4" Min. Thd.)	1
10-2	* 485-011	F-419	Washer - 1/2" Flat	1
10-3	* 421-001	F-512	Nut - 1/2" - 13 NC	5
10-4	1799-001		Spring - 1 3/8" OD x .20 Wire x 4" (w/ Hook on One End)	1
10-5	* 1474-001		Bolt - Pickup Cover	2
10-6	482-003	F-474	Washer - 1/2" Internal Star	1
10-7	209-003		Bushing - 1" Nylon	2
10-8	366-020	F-508	Bolt - 5/8" x 11 NC x 2"	1
10-9	13-003		Release Assembly - Pivot Tube (Inc. Ref. #14)	1
10-10	11734-001		Rod - Pickup Release	1
10-11	5-001		Guide - Pickup Release Rod	1
10-12	1791-001	F-723	Sheave - 4" Idler	1
10-13	429-001	F-500	Nut - 5/8" - 11 NC Jam	1
10-14	596-001	F-964	Zerk - 1/4" - 28 NF x 45° Grease	1
10-15	358-026	F-571	Bolt - 1/2" - 13 NC x 2 3/4"	1
10-16	218-001		Nut - 1 1/8" Hex Cast (Internal & External Threads)	1
10-17	* 422-001		Nut - 1/2" - 13 NC Jam	3
10-18	* 428-001	F-486	Nut - 5/8" - 11 NC	2
10-19	* 15697-001		Handle - Quick Release	1
10-20	* 481-005		Washer - 5/8" External Star Lock	1
10-21	* 15699-001		Bolt - Quick Release Pivot	1
10-22	* 358-014		Bolt - 1/2" - 13 NC x 1 1/4"	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

CHAIN TIGHTENER ASSEMBLY

Figure "11"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
11-1	84-003		Arm Ass'y. - Chain Tightener (Inc. Ref. # 13)	1
11-2	483-005	F-1194	Washer - 1 1/2" OD x 1" ID x 14 Ga.	2
11-3	209-003		Bushing - 1" Nylon	2
11-4	364-076		Bolt - 1/2" - 13 NC x 7 3/4" (w/ 6 3/4" Min. Thd.)	1
11-5	421-001	F-512	Nut - 1/2" - 13 NC	1
11-6	1799-001		Spring - 1 3/8" OD x .20 wire x 4" Long (w/ Hook on One End)	1
11-7	357-014	F-989	Bolt - 7/16" - 14 NC x 1 1/2"	1
11-8	485-009	F-644	Washer - 7/16" Flat	2
11-9	369-020	F-578	Bolt - 3/4" - 10 NC x 2"	1
11-10	432-001	F-433	Nut - 3/4" - 10 NC	1
11-11	1804-001	F-30	Sprocket - 80A - 12T Idler w/ Bearing	1
11-12	218-001		Nut - 1 1/8", Internal & External	1
11-13	596-001	F-964	Zerk - 1/4" - 28 NF x 45° Grease	1
11-14	418-001	F-642	Nut - 7/16" - 14 NC	1

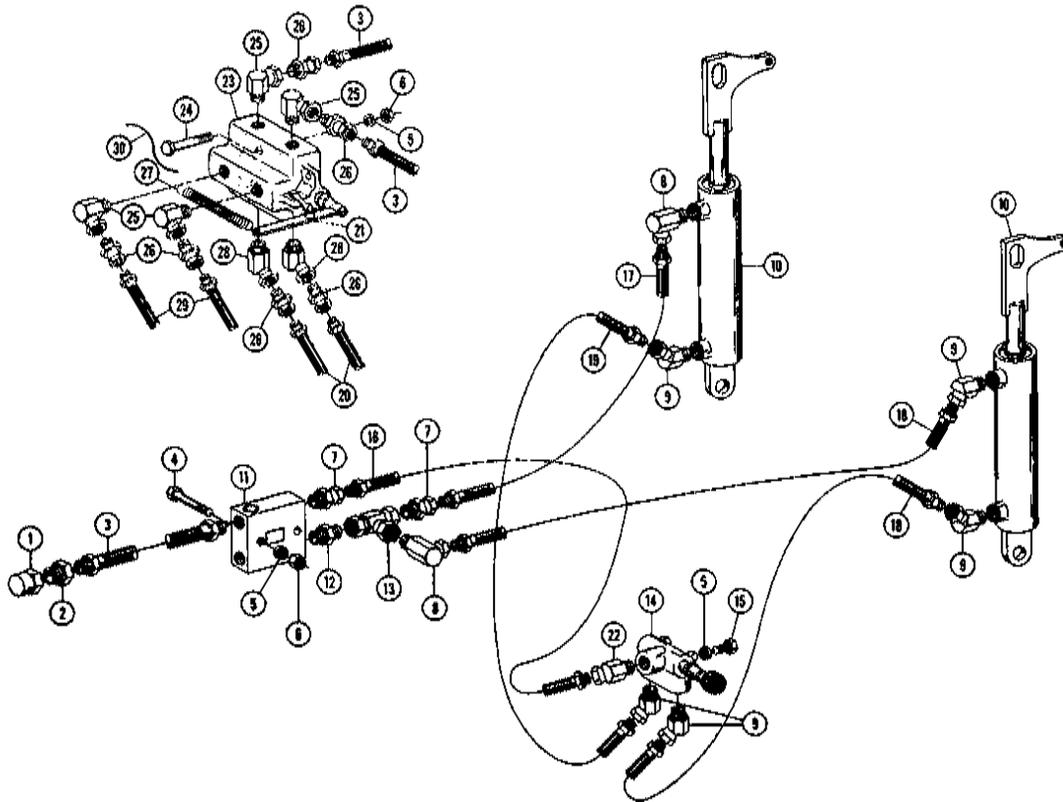
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

HYDRAULIC ASSEMBLY

Revised Jan. 1984 due to updating
of parts list. Changed parts marked w/ *.

Figure "12"

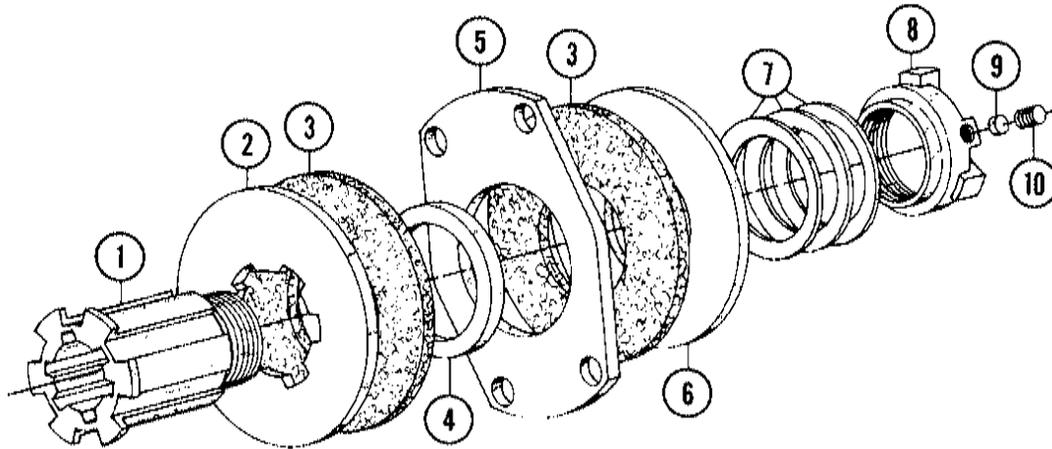


<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
12-1	731-003	F-1318	Fitting - 1/2" NPT Cap	2
12-2	* 730-005	F-168	Fitting - 1/2" M x 3/8" F Hex Bushing	2
12-3	* 607-063		Hose - 3/8" x 94" M & M	2
12-4	351-022		Bolt - 5/16" - 18 NC x 2 1/4"	2
12-5	480-005	F-783	Washer - 5/16" Lock	6
12-6	406-001	F-784	Nut - 5/16" - 18 NC	4
12-7	* 890-001		Fitting - 3/8" M x 1/4" FS Straight Adapter	2
12-8	* 636-001		Fitting - 3/8" M x 1/4" FS - 90° Elbow	1
12-9	* 635-001		Fitting - 3/8" M x 1/4" FS - 45° Elbow	5
12-10	24731-001		Cylinder - Vermeer 2 1/2" x 14" Hyd. (Breakdown Fig. 21)	2
12-11	13337-001		Valve - #987935 Rexnord Cushion (1600 PSI) (Breakdown Fig. 19)	1
12-12	707-001	F-167	Fitting - 3/8" NPT Hex Nipple	1
12-13	701-001	F-163	Fitting - 3/8" FS Tee	1
12-14	207-001	F-1556	Valve - HM-38 Float Position (Breakdown Fig. 20)	1
12-15	* 351-006		Bolt - 5/16" - 18 NC x 3/4"	2
12-16	* 606-017		Hose - 1/4" x 48" M & M	1
12-17	* 606-027		Hose - 1/4" x 94" M & M	1
12-18	* 606-039		Hose - 1/4" x 120" M & M	2
12-19	* 606-035		Hose - 1/4" x 134" M & M	1
12-20	* 607-063	F-337	Hose - 3/8" x 94" M & M (Optional)	2
12-21	* 2632-001		Handle - Valve (Optional)	1
12-22	* 15210-001		Fitting - 3/8" M x 1/4" FS - 45° El w/.094 Orifice	1
12-23	15209-001		Valve - #DS-12 (Mod.) Gresen (Opt.) (Breakdown Fig. 26)	1
12-24	351-030		Bolt - 5/16" - 18 NC x 3" (Opt.)	2
12-26	664-001		Fitting - SAE 12 M x 1/2" FS - 90° Elbow (Opt.)	4
12-26	693-001		Fitting - 1/2" M x 3/8" FS Straight Adapter (Opt.)	6
12-27	1789-011	F-383	Spring - #102 Extension (Opt.)	1
12-28	663-001		Fitting - SAE 12 M x 1/2" FS - 45° Elbow (Opt.)	2
12-29	607-067		Hose - 3/8" x 100" M & M (Opt.)	2
12-30	1801-003		Rope - 1/4" x 14' Nylon (Opt.)	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

TORQUE LIMITER ASSEMBLY

Figure "13"



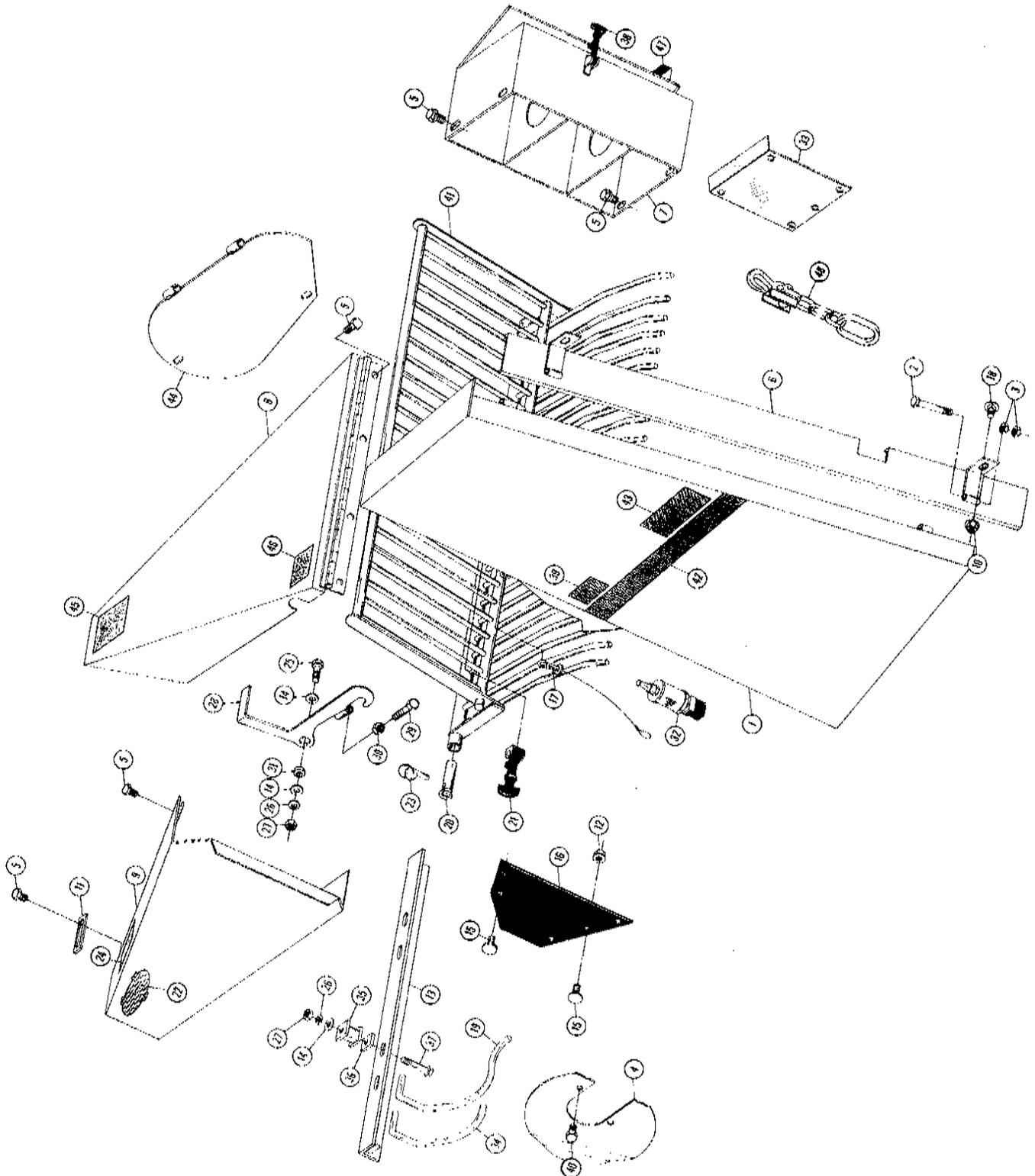
<u>REF. NO.</u>	<u>WARNER PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
13-1	09-01-105-01	1417-003	F-850	Hub	1
13-2	09-01-109-12	1417-005	F-851	Drive Plate - Thick	1
13-3	09-01-108-01	1417-007	F-852	Clutch Facing	3
13-4	09-01-101-01	1417-009	F-853	Bushing	1
13-5	09-01-102-11	1417-011	F-854	Driven Plate	1
	09-01-002-01	1417-001	F-860	Complete - Warner Torque Limiter (Inc. Ref. # 1-10)	1
13-6	09-01-109-11	1417-013	F-855	Drive Plate	1
13-7	09-01-107-01	1417-015	F-856	Spring - Belleville 540 RPM 3 req'd., 1000 RPM - 2 req'd.	
13-8	09-01-110-11	1417-017	F-857	Adjusting Nut	1
13-9	09-01-104-01	1417-019	F-858	Bronze Plug	1
13-10	09-01-103-01	1417-021	F-859	Set Screw - 3/8" - 10 NC x 5/16" Long Cup Point Socket Head	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

SHIELDS ASSEMBLY

Figure "14"

Revised June 1986 due to addition of safety chain.



SHIELDS ASSEMBLY

Revised June 1986 due to addition
of safety chain. Added part marked w/*.

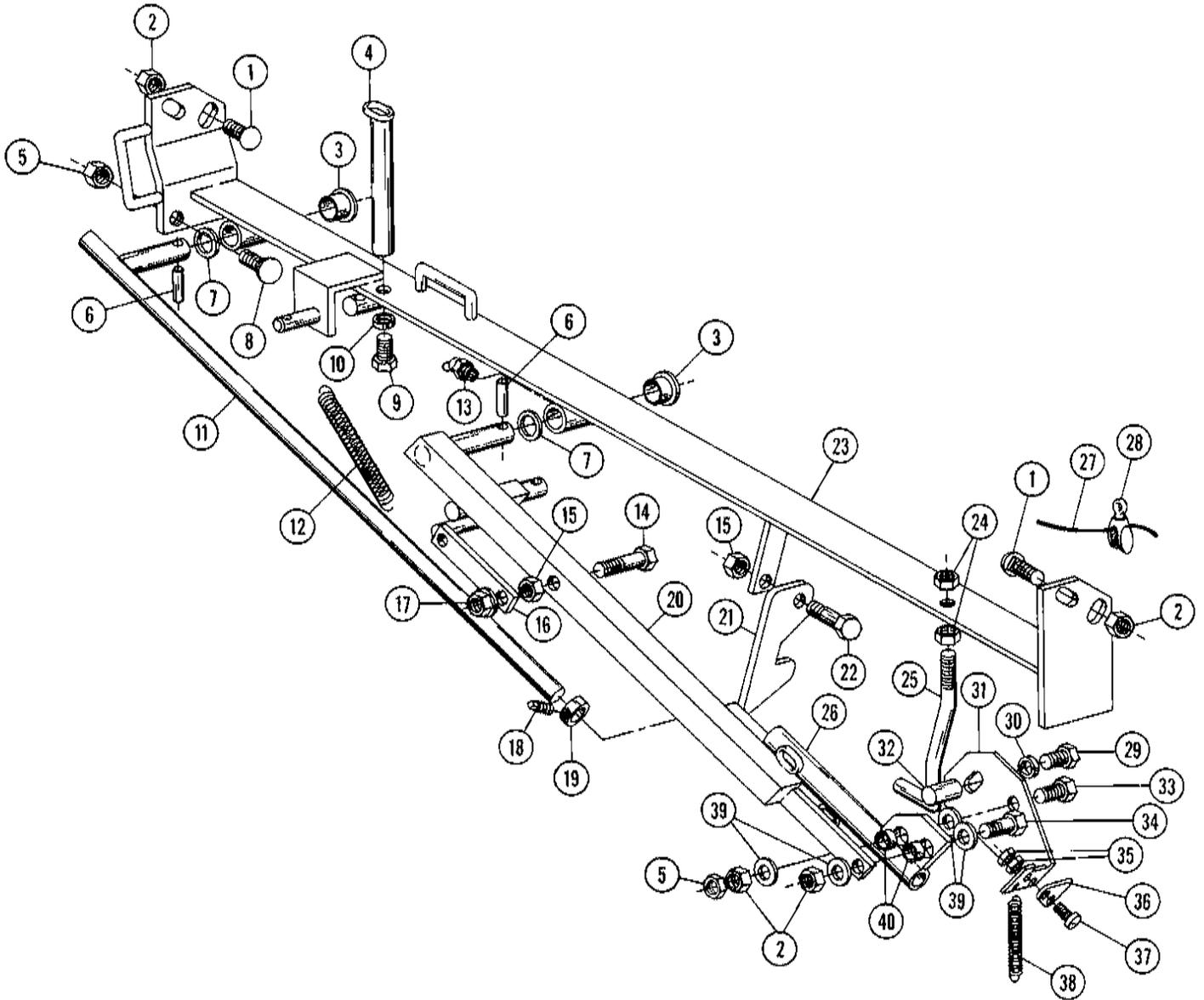
Figure "14"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
14-1	11740-001	Shield - Chain	1
14-2	351-050	Bolt - 5/16" - 18 NC x 5"	2
14-3	406-001	Nut - 5/16" - 18 NC	4
14-4	1951-001	Shield - Drive Chain	1
14-5	353-006	Bolt - 5/16" - 18 NC x 3/4" Self-Tapping Flanged	18
14-6	11736-001	Shield - Filler	1
14-7	1876-001	Box - Twine (Inc. Ref. 38)	1
14-8	11012-001	Shield - PTO	1
14-9	11752-001	Shield - Forward Drive	1
14-10	1809-001	Nut - 1/2" - 13 NC Small Flange TL	6
14-11	76-001	Catch - Forward Drive Shield	1
14-12	405-001	Nut - 1/4" - 20 NC Flange Whiz Lock	10
14-13	10580-001	Mount - Windguard Rod (Optional)	1
14-14	485-011	Washer - 1/2" Flat	4
14-15	544-004	Bolt - 1/4" - 20 NC x 1/2" Elevator	10
14-16	277-001	Shield - Safety	2
14-17	1832-001	Strap - Shield	1
14-18	377-010	Bolt - 1/2" - 13 NC x 1" Carriage	2
14-19	4762-001	Rod - Inside Windguard (Optional)	7
14-20	1470-001	Pin - Windguard Pivot	2
14-21	1864-001	Latch - #37-10-101-10 Southco Rubber	1
14-22	2326-003	Decal - Vermeer World	1
14-23	1797-001	Pin - Quick Attach w/ Chain	2
14-24	2326-134	Decal - Oil Chain Daily	1
14-25	358-020	Bolt - 1/2" - 13 NC x 2"	1
14-26	480-011	Washer - 1/2" Lock	3
14-27	421-001	Nut - 1/2" - 13 NC	3
14-28	1472-003	Latch Ass'y. - Windguard (Inc. Ref. 31)	1
14-29	1798-024	Bolt - 3/4" - 10 NC x 2 1/2" Full Thread	1
14-30	433-001	Nut - 3/4" - 10 NC Jam	1
14-31	1081-001	Tube - 1" OD x 9/16" ID x 7/16"	1
14-32	1808-001	Oiler - #RDB-308-N-3 (Opt.) Drop Feed	1
14-33	872-001	Holder - Instruction 1" x 17 1/2"	1
14-34	4761-001	Rod - Outside Windguard (Optional)	2
14-35	4757-001	Spacer - Windguard Mount (Optional)	2
14-36	486-001	Washer - 1/2" Hillside (Optional)	4
14-37	358-054	Bolt - 1/2" - 13 NC x 5 1/2" (Optional)	2
	358-020	Bolt - 1/2" - 13 NC x 2" (Optional)	2
14-38	4443-001	Latch - Rubber	1
14-39	2326-310	Decal - Warning: For Your Protection...	1
14-40	4471-010	Bolt - 1/2" - 13 NC x 1" Self-Tapping	2
14-41	58630-001	Windguard	1
	13560-001	Tine - Windguard (Repairs)	A/R
14-42	+	Decal - 4" Stripe x 31"	1
14-43	2326-700	Decal - 504G	1
14-44	24907-001	Shield - Pickup End	1
14-45	2326-511	Decal - Caution: To Avoid Accidents...	1
14-46	2326-275	Decal - Caution: Before Working...	1
14-47	2326-320	Decal - Important: Operator Manual...	1
14-48	* 1443-017	Chain - Safety	1
	+ 2326-626	Decal - 4" Stripe (Specify Length Per Foot)	

MANUAL TWINE TIE ASSEMBLY (OPTIONAL)

Revised June 1986 due to change to "H" style twine tie ass'y. Starts w/ Serial #2735.

Figure "15"



MANUAL TWINE TIE ASSEMBLY (OPTIONAL)

Revised June 1986 due to change
to "H" style twine tie ass'y.
Starts w/ Serial #2735.

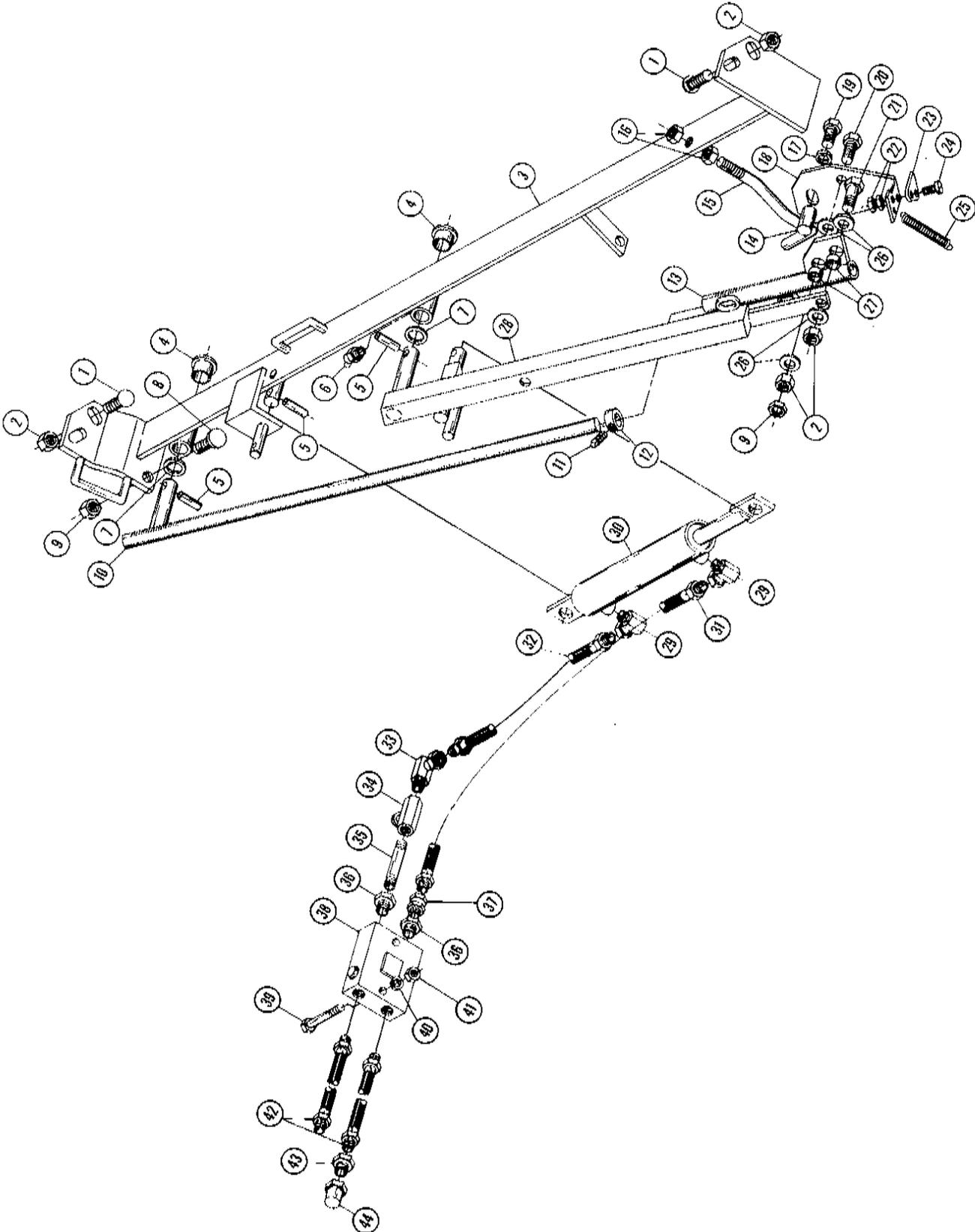
Figure "15"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
15-1	375-012	Bolt - 3/8" - 16 NC x 1 1/4" Carriage	4
15-2	416-001	Nut - 3/8" - 16 NC Self-Locking Top Lock	6
15-3	209-001	Bushing - #12L12F Nyliner	4
15-4	11633-001	Mount - Twine Wrapper Spring	1
15-5	413-001	Nut - 3/8" - 16 NC Jam	2
15-6	1788-001	Pin - 1/4" x 1 1/2" Expansion	2
15-7	483-025	Washer - 1 1/4" OD x 3/4" ID x 14 Ga.	4
15-8	5638-014	Bolt - 3/8" - 16 NC x 1 1/2" Elevator (Special)	1
15-9	358-010	Bolt - 1/2" - 13 NC x 1"	1
15-10	480-011	Washer - 1/2" Lock	1
15-11	1877-001	Arm - Twine Wrapper	1
15-12	1789-047	Spring - #143 Extension (Special)	1
15-13	597-001	Zerk - 1/4" - 28 NF x 90° Grease	2
15-14	354-020	Bolt - 3/8" - 16 NC x 2"	1
15-15	412-001	Nut - 3/8" - 16 NC	2
15-16	11635-001	Mount - Twine Wrapper Arm Spring	1
15-17	1809-003	Nut - 3/8" - 16 NC Small Flange Top Lock	1
15-18	548-006	Screw - 5/16" - 18 NC x 3/4" Sq. Hd. Set	2
15-19	3109-001	Collar - Slide Tube Stop	1
15-20	52548-001	Arm - Twine Wrapper Activator	1
15-21	4165-001	Latch - Twine Tie	1
15-22	354-010	Bolt - 3/8" - 16 NC x 1"	1
15-23	11751-003	Mount Ass'y. - Twine Tie (Inc. Ref. 13)	1
15-24	421-001	Nut - 1/2" - 13 NC	2
15-25	52550-001	Stop - Twine Cutter	1
15-26	1883-001	Mount - Slide Tube Cutter	1
15-27	1801-007	Rope - 17' Nylon	1
15-28	4447-001	Pulley - #0173 1" Swivel Eye	1
15-29	354-006	Bolt - 3/8" - 16 NC x 3/4"	1
15-30	480-007	Washer - 3/8" Lock	1
15-31	52547-001	Mount - Cutter	1
15-32	52546-001	Stop - Twine Cutter Mount	1
15-33	354-012	Bolt - 3/8" - 16 NC x 1 1/4"	1
15-34	354-014	Bolt - 3/8" - 16 NC x 1 1/2"	1
15-35	400-001	Nut - 3/16" - 24 NC	4
15-36	188-001	Blade - #000188 Twine Cutter	1
15-37	1802-010	Bolt - 3/16" - 24 NC x 1" Stove	2
15-38	1789-007	Spring - #106 Extension	1
15-39	485-007	Washer - 3/8" Flat	4
15-40	1070-025	Tube - 5/8" OD x 11 Ga. x 7/16"	2

HYDRAULIC TWINE TIE ASSEMBLY

Revised June 1986 due to change to "H" style twinc tie ass'y. Starting w/ Serial #2735.

Figure "16"



HYDRAULIC TWINE TIE ASSEMBLY

Revised June 1986 due to change
to "H" style twine tie ass'y.
Starts w/ Serial #2735.

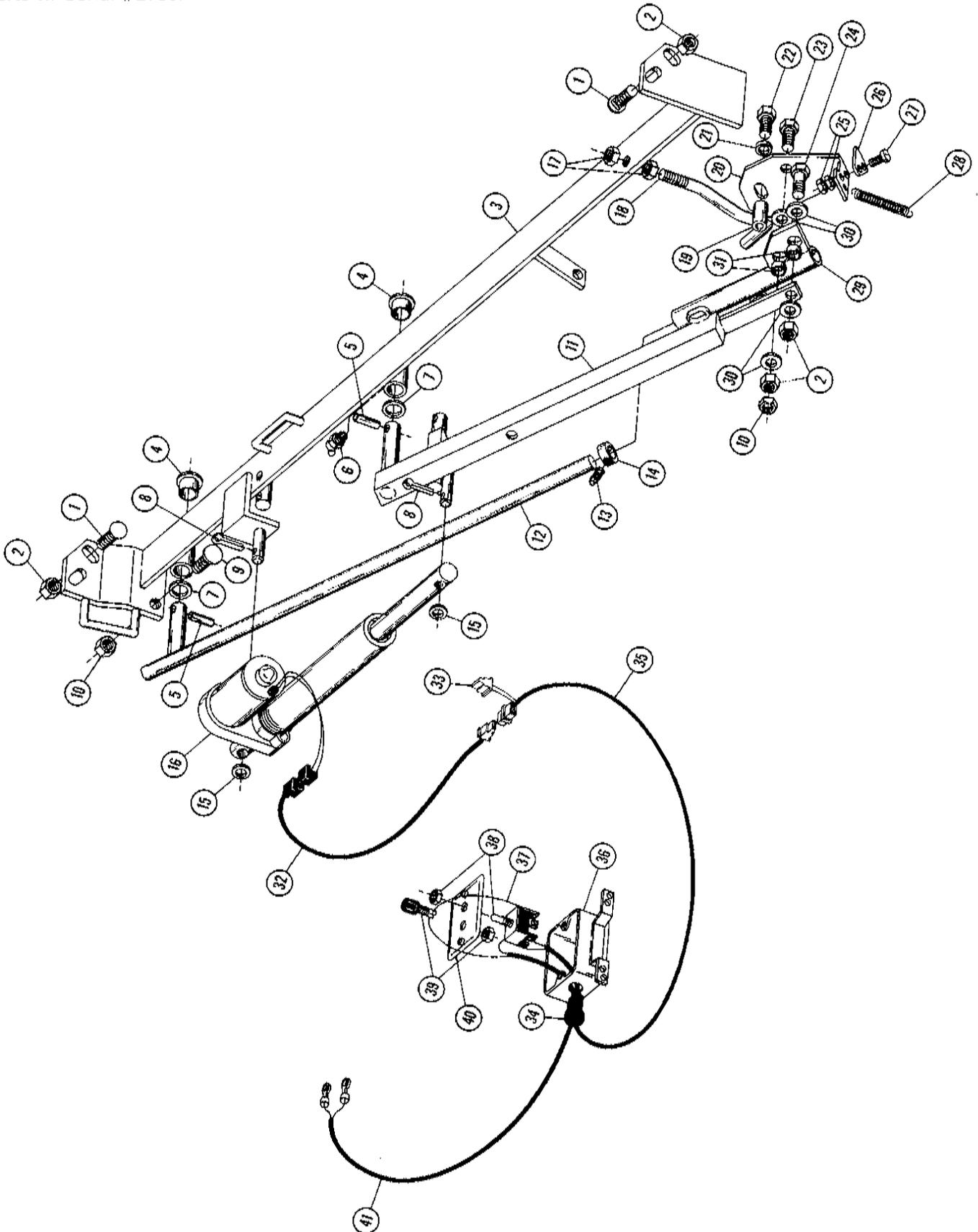
Figure "16"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
16-1	375-012	Bolt - 3/8" - 16 NC x 1 1/4" Carriage	4
16-2	416-001	Nut - 3/8" - 16 NC Self-Locking Top Lock	6
16-3	11751-003	Mount Ass'y. - Twine Tie (Inc. Ref. 6)	1
16-4	209-001	Bushing - #12L12F Nylon	4
16-5	1788-001	Pin - 1/4" x 1 1/2" Expansion	4
16-6	597-001	Zerk - 1/4" - 28 NF x 90° Grease	2
16-7	483-025	Washer - 1 1/4" OD x 3/4" ID x 14 Ga.	4
16-8	5638-014	Bolt - 3/8" - 16 NC x 1 1/2" Elevator (Special)	1
16-9	413-001	Nut - 3/8" - 16 NC Jam	2
16-10	1877-001	Arm - Twine Wrapper	1
16-11	548-006	Screw - 5/16" - 18 NC x 3/4" Sq. Hd. Set	2
16-12	3109-001	Collar - Slide Tube Stop	1
16-13	1883-001	Mount - Slide Tube Cutter	1
16-14	52546-001	Stop - Twine Cutter Mount	1
16-15	52550-001	Stop - Twine Cutter	1
16-16	421-001	Nut - 1/2" - 13 NC	2
16-17	480-007	Washer - 3/8" Lock	1
16-18	52547-001	Mount - Cutter	1
16-19	354-006	Bolt - 3/8" - 16 NC x 3/4"	1
16-20	354-012	Bolt - 3/8" - 16 NC x 1 1/4"	1
16-21	354-014	Bolt - 3/8" - 16 NC x 1 1/2"	1
16-22	400-001	Nut - 3/16" - 24 NC	4
16-23	188-001	Blade - #000188 Twine Cutter	1
16-24	1802-010	Bolt - 3/16" - 24 NC x 1" Stove	2
16-25	1789-007	Spring - #106 Extension	1
16-26	485-007	Washer - 3/8" Flat	4
16-27	1070-025	Tube - 5/8" OD x 11 Ga. x 7/16"	2
16-28	52548-001	Arm - Twine Wrapper Activator	1
16-29	636-001	Fitting - 3/8" M x 1/4" FS - 90° EI	2
16-30	53165-001	Cylinder - 2" x 5" Hyd. (Breakdown Fig. 22)	1
16-31	1824-009	Hose - 3/16" x 82" M & M w/ 1/4" Ends	1
16-32	606-025	Hose - 1/4" x 81" M & M	1
16-33	633-001	Fitting - 1/4" M x 1/4" FS - 90° EI	1
16-34	1825-001	Valve - Flow Control (Breakdown Fig. 23)	1
16-35	739-005	Fitting - 1/4" x 4" Close Nipple	1
16-36	730-001	Fitting - 3/8" M x 1/4" F Hex Bushing	2
16-37	688-001	Fitting - 1/4" M x 1/4" FS St. Adapter	1
16-38	13336-001	Valve - Cushion (600 PSI) (Breakdown Fig. 19)	1
16-39	351-040	Bolt - 5/16" - 18 NC x 4"	2
16-40	480-005	Washer - 5/16" Lock	2
16-41	406-001	Nut - 5/16" - 18 NC	2
16-42	607-063	Hose - 3/8" x 94" M & M	2
16-43	730-005	Fitting - 1/2" M x 3/8" F Hex Bushing	2
16-44	731-003	Fitting - 1/2" Cap	2

ELECTRIC TWINE TIE ASSEMBLY (OPTIONAL)

Figure "17"

Revised June 1986 due to change to "H" style twine tie ass'y. Starts w/ Serial #2735.



ELECTRIC TWINE TIE ASSEMBLY (OPTIONAL)

Revised June 1986 due to change
to "H" style twine tie ass'y.
Starts w/ Serial #2735.

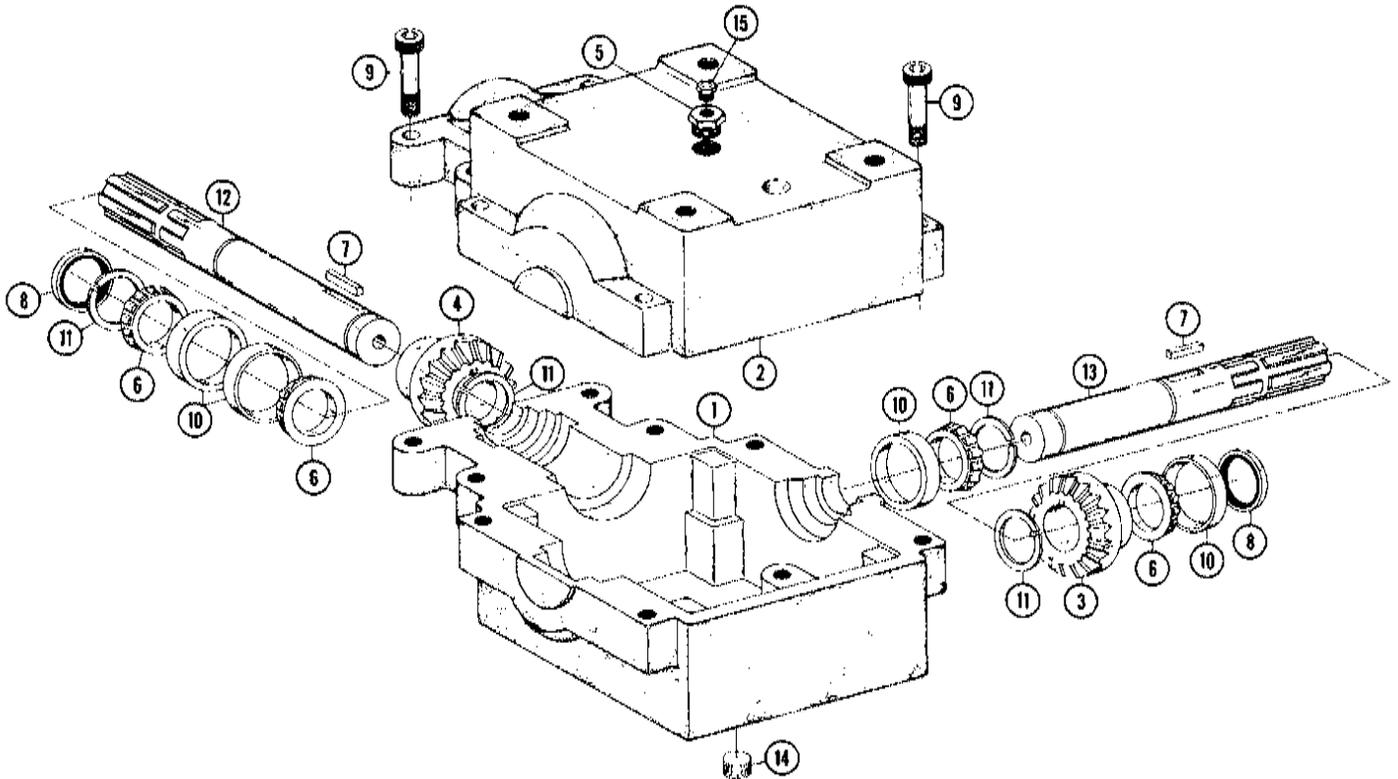
Figure "17"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
17-1	375-012	Bolt - 3/8" - 16 NC x 1 1/4" Carriage	4
17-2	416-001	Nut - 3/8" - 16 NC Self-Locking Top Lock	6
17-3	11751-003	Mount Ass'y. - Twine Tie (Inc. Ref. 6)	1
17-4	209-001	Bushing - #12L12F Nylon	4
17-5	1788-001	Pin - 1/4" x 1 1/2" Expansion	2
17-6	597-001	Zerk - 1/4" - 28 NF x 90° Grease	2
17-7	483-025	Washer - 1 1/4" OD x 3/4" ID x 14 Ga.	4
17-8	510-015	Pin - 5/32" x 1 1/4" Cotter	2
17-9	5638-014	Bolt - 3/8" - 16 NC x 1 1/2" Elevator (Special)	1
17-10	413-001	Nut - 3/8" - 16 NC Jam	2
17-11	52548-001	Arm - Twine Wrapper Activator	1
17-12	1877-001	Arm - Twine Wrapper	1
17-13	548-006	Screw - 5/16" - 18 NC x 3/4" Sq. Hd. Set	2
17-14	3109-001	Collar - Slide Tube Stop	1
17-15	485-011	Washer - 1/2" Flat	2
17-16	53011-001	Activator - Twine Tie	1
17-17	421-001	Nut - 1/2" - 13 NC	2
17-18	52550-001	Stop - Twine Cutter	1
17-19	52546-001	Stop - Twine Cutter Mount	1
17-20	52547-001	Mount - Cutter	1
17-21	480-007	Washer - 3/8" Lock	1
17-22	354-006	Bolt - 3/8" - 16 NC x 3/4"	1
17-23	354-012	Bolt - 3/8" - 16 NC x 1 1/4"	1
17-24	354-014	Bolt - 3/8" - 16 NC x 1 1/2"	1
17-25	400-001	Nut - 3/16" - 24 NC	4
17-26	188-001	Blade - #000188 Twine Cutter	1
17-27	1802-010	Bolt - 3/16" - 24 NC x 1" Stove	2
17-28	1789-007	Spring - #106 Extension	1
17-29	1883-001	Mount - Slide Tube Cutter	1
17-30	485-007	Washer - 3/8" Flat	4
17-31	1070-025	Tube - 5/8" OD x 11 Ga. x 7/16"	2
17-32		Wire - 14 Ga. 2-in-1 x 16' 6" Electrical	1
17-33	14466-003	Plug Assembly	1
17-34	20922-001	Connector - Appleton A1	1
17-35		Wire - 14 Ga. 2-in-1 x 48" Electrical	1
17-36	20923-001	Box - #4CSDD 1/2 Switch	1
17-37		Wire - 14 Ga. x 2" Red Electrical	1
17-38	11186-001	Switch - #314011-0004 Electrical Twine Tie Control	1
17-39	21072-001	Holder Ass'y. - Fuse w/ Fuse	1
		Fuse - SFE 20 Amp	1
17-40	11156-001	Cover - #2540 (Modified) Switch Box	1
17-41		Wire - 14 Ga. 2-in-1 x 86" Electrical	1
	14466-001	Harness Ass'y. - Electric Twine Tie (Inc. Ref. 32-41)	

SUPERIOR GEARBOX COMPONENTS ASSEMBLY

Figure "18"

Revised Jan. 1984 due to
change in Cross & Pinion Shaft.
Changed Parts marked w/ *.



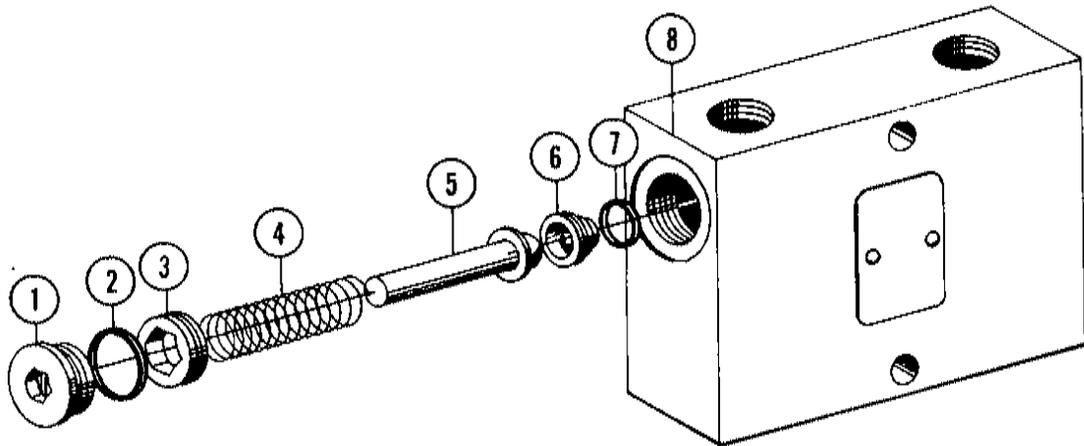
<u>REF. NO.</u>	<u>SUPERIOR PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
18-1	400001	15-003	Box w/ Threaded Holes	1
18-2	400002	15-005	Box w/ Thru Holes	1
18-3	531017	15-011	Gear - 17T	1
18-4	531023	15-013	Gear - 23 T	1
18-5		15-031	Fitting - 1/2" M x 1/8" F NPT Hex Bushing	1
18-6	514137	15-015	Cone - Bearing	4
18-7	500200	15-023	Key - 5/16" Square	2
18-8	513569	15-019	Seal	2
18-9	438225	15-025	Bolt - 2 1/4"	9
18-10	514276	15-017	Cup - Bearing	4
18-11	503413	15-021	Ring - Retaining	4
18-12		*26693-003	Shaft - Pinion	1
18-13		*26693-005	Shaft - Cross	1
18-14	400300	15-027	Plug	1
18-15		15-033	Fitting - #5677 Pressure Relief	1
		*52336-001	Gearbox Ass'y Comp. (Inc. Ref. # 1-15)	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

#987935 & #987936 REXNORD DUAL RELIEF VALVE COMPONENTS ASSEMBLY

Figure "19"



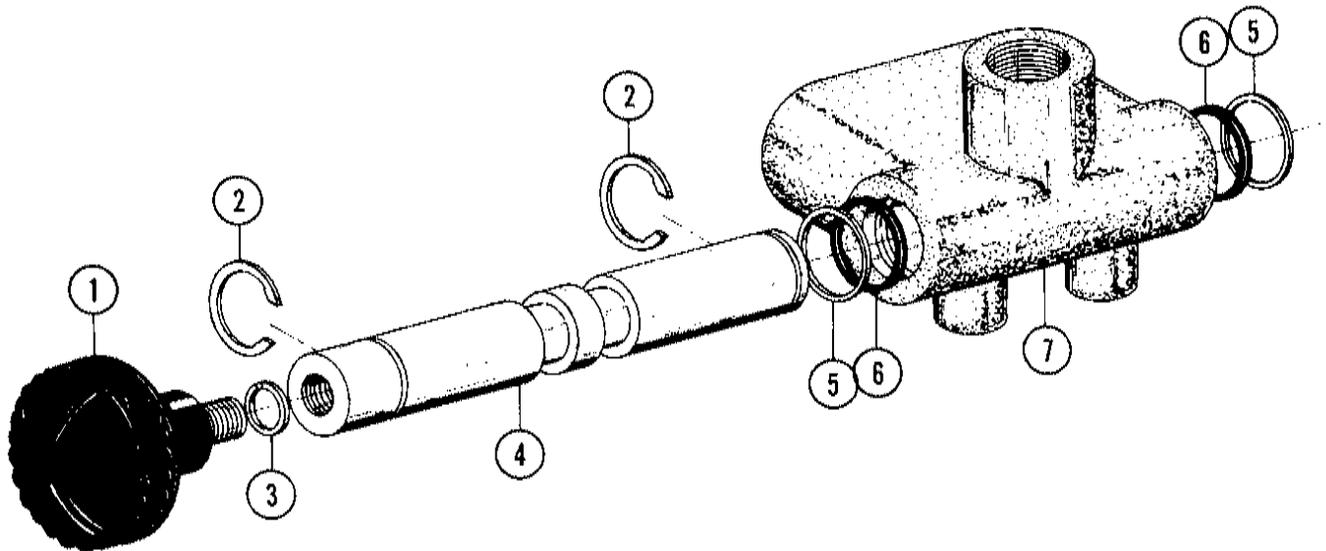
<u>REF. NO.</u>	<u>REXNORD PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
19-1	406872		Plug	1
19-2	ARP908		O-Ring-.087 x .644 ID	1
19-3	360103		Screw - Lock	1
19-4	493303		Spring	1
19-5	360102		Poppet	1
19-6	360104		Seat	1
19-7	402664		O-Ring - ARP #011 (1/16" x 5/16" x 7/16")	1
19-8	361288		Body - 1/2" NPT Ports	1

NOTE: #987935 Valve is set at 600 PSI
#987936 Valve is set at 1600 PSI

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

GRESEN HM-38 FLOAT POSITION VALVE COMPONENTS ASSEMBLY

Figure "20"

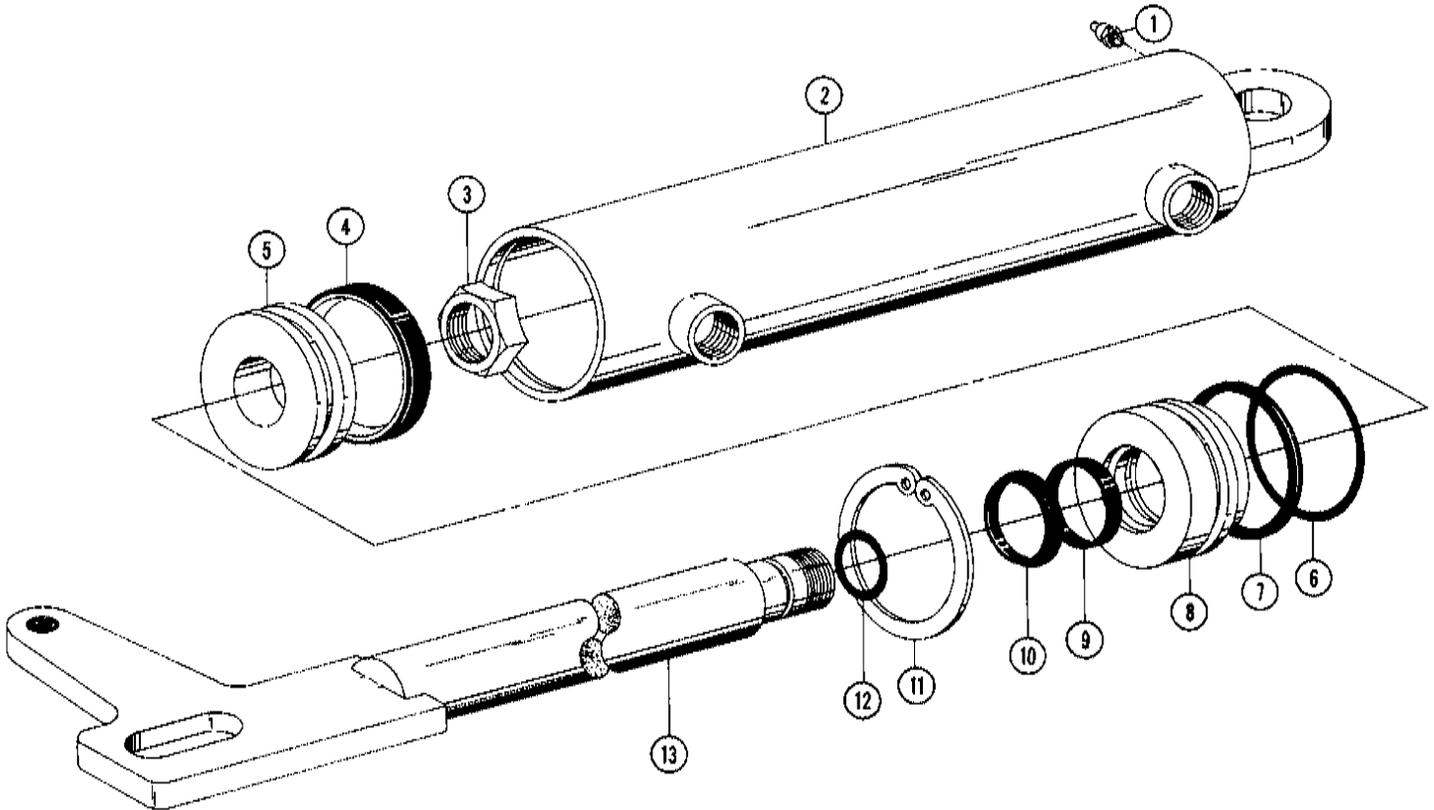


<u>REF. NO.</u>	<u>GRESEN PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
20-1	081-001	207-003		Control Knob	1
20-2	602-001	207-005		Snap Ring	2
20-3	1291-001	207-007		Lock Washer	1
20-4	606-001	** NSS		Valve Spool	1
20-5	604-001	*207-009		Back-up Leather	2
20-6	062-001	*207-011		O-ring	2
20-7	600-XXX	**207-015		Valve Housing (Inc. Ref. #4)	1
	K-16001	207-013	F-1613	Repair Kit for HM-38 Gresen Selector Valve (Includes items marked w/*)	
	K-13002	207-017		Control Knob Kit (Includes Ref. #1 & 3)	
		** NSS		Not sold as separate items. Spools are factory honed to individual housings and are not interchangeable.	

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
 USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

24731-001 VERMEER 2 1/2" x 14" HYDRAULIC CYLINDER COMPONENTS ASSEMBLY

Figure "21"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
21-1	598-001	Zerk - 1/4" - 28 NF Straight Grease	1
21-2	24731-003	Body Assembly - Cylinder (Inc. Ref. #1)	1
21-3	330-011	Nut - 7/8" - 14 NF Self-Locking T.L.	1
21-4	* 19510-001	Uni-Ring - #12-216-204-375	1
21-5	24732-001	Piston - Cylinder	1
21-6	* 19513-001	Washer - #19-330 Back-up	1
21-7	* 19514-001	O-Ring - #330-70D	1
21-8	24733-001	Gland - Cylinder	1
21-9	* 19511-001	Seal - #30-104-112-250 Rod	1
21-10	* 19512-001	Wiper - #50-11	1
21-11	* 602-250	Ring - 2 1/2" Internal Retaining (#N5000)	1
21-12	* 20383-001	O-Ring - #113	1
21-13	24739-001	Rod - Piston	1
	24731-005	Repair Kit - #24731-001 2 1/2" x 14" Vermeer Hyd. Cylinder	

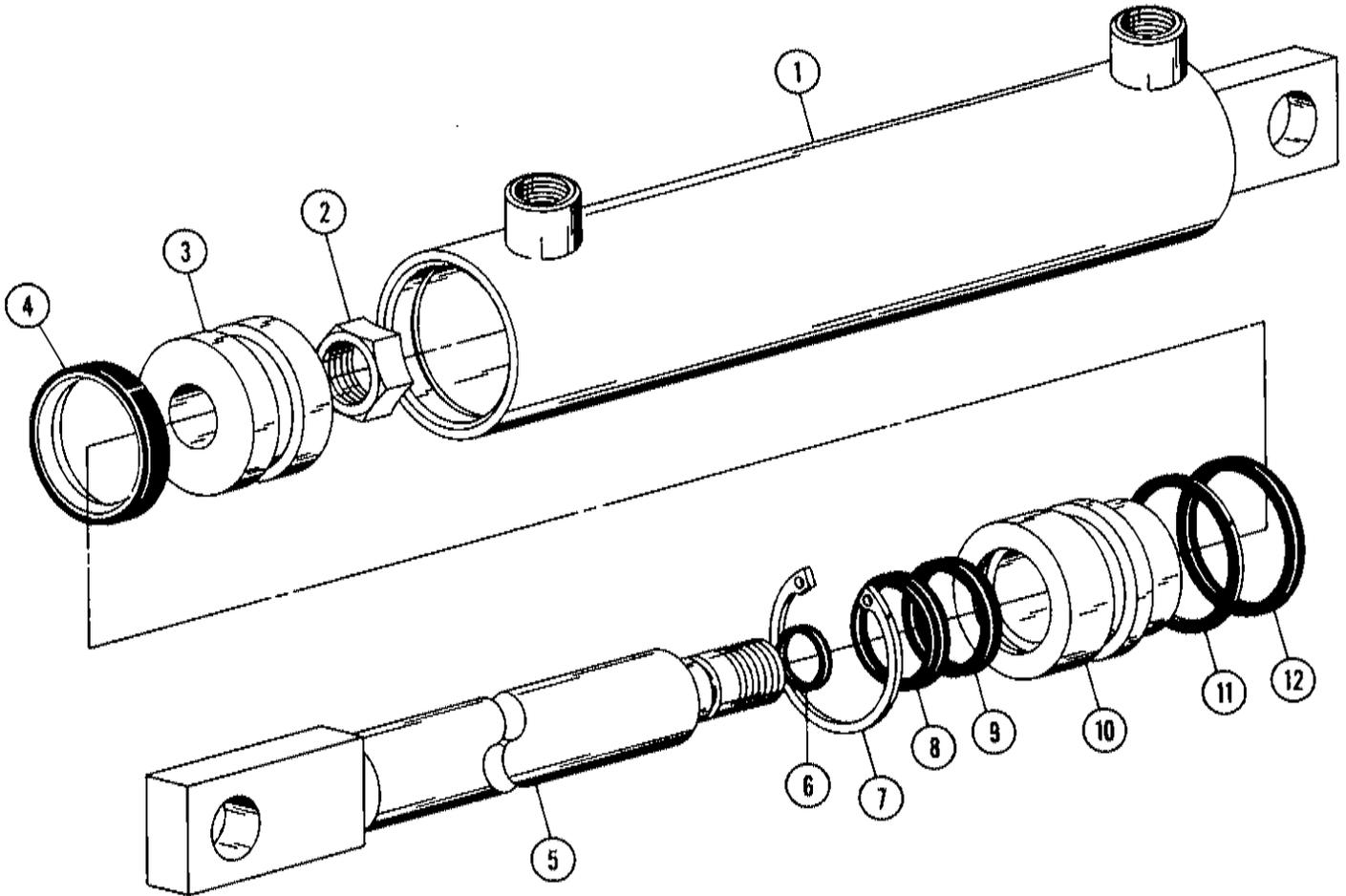
* Items included in repair kit.

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

#53165-001 VERMEER 2" x 5" HYDRAULIC CYLINDER COMPONENTS ASSEMBLY

Revised Jan. 1984 due to change to new Vermeer Cylinder.

Figure "22"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
22-1	56064-001	Body - Cylinder	1
22-2	330-011	Nut - 7/8" - 14 NF SLTL	1
22-3	53167-001	Piston	1
22-4	* NSS	Uni-Ring	1
22-5	56065-001	Rod - Piston	1
22-6	* NSS	O-Ring	1
22-7	* NSS	Ring - Internal Retaining	1
22-8	* NSS	Wiper	1
22-9	* NSS	Seal - Rod	1
22-10	53168-001	Gland	1
22-11	* NSS	Washer - Back-up	1
22-12	* NSS	O-Ring	1

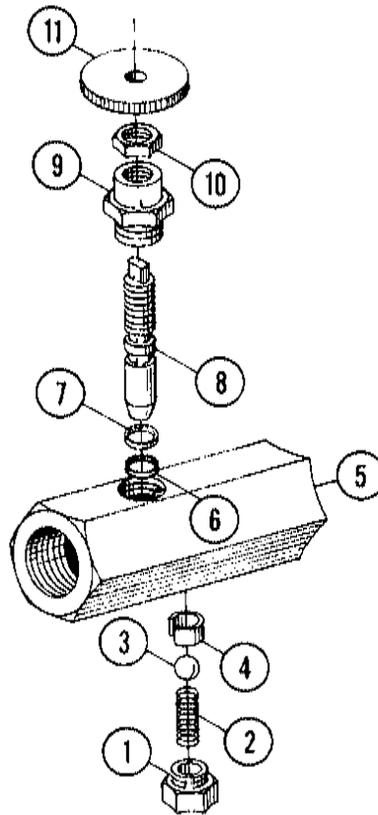
53165-001 Cylinder - Hydraulic (Comp.) (Inc. Ref. 1-12)
 56651-001 Repair Kit

* Items included in repair kit.
 NSS Not Sold Separately

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
 USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

DEXTROL F20-BK FLOW CONTROL VALVE COMPONENTS ASSEMBLY

Figure "23"



<u>REF. NO.</u>	<u>DEXTROL PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
23-1	00145-01	1825-003	Plug - Brass	1
23-2	00275	1825-005	Spring	1
23-3	00331-04	1825-007	Ball	1
23-4	00289	1825-009	Retainer	1
23-5	00034-01R	1825-011	Body - Brass	1
23-6	03008-01	1825-013	O-Ring	1
23-7	00344-03	1825-015	Back-up Washer	1
23-8	00160	1825-017	Needle	1
23-9	00009-01	1825-019	Housing - Brass	1
23-10	00305-05	1825-021	Nut - Brass	1
23-11	02195-02	1825-023	Knob - Steel	1
	01640-01	1825-025	Housing & Needle Ass'y. Kit (Ref. #6-9)	
	01674	1825-027	Needle Ass'y. Kit (Ref. #6-8)	

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

Revised Jan. 1984 due to updating of Decals.

DECAL ASSEMBLY

Figure "24"



WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
 USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

(PAGE 72) 504 SUPER G BALER

Revised Jan. 1984 due to updating of Decals. Changed parts marked w/*.

DECAL ASSEMBLY

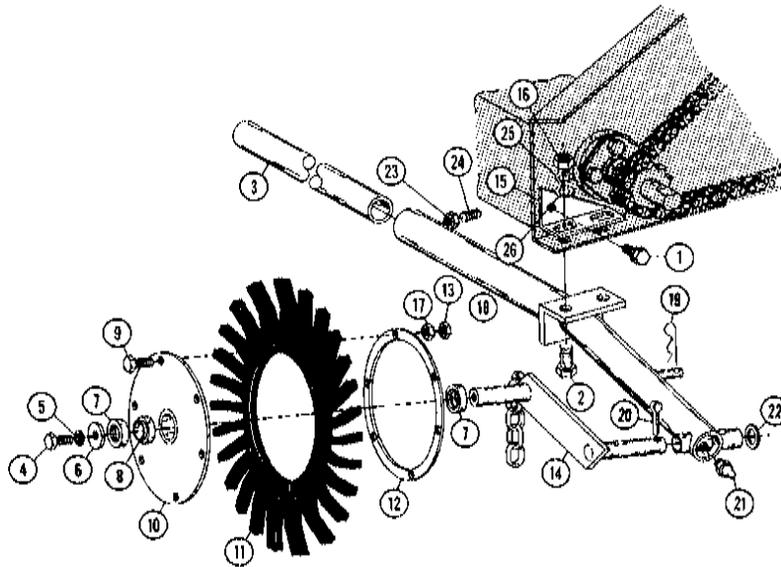
Figure "24"

<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
24-1	* +	Decal - 4" Stripe x 146"	1
24-2	* 2326-595	Decal - Vermeer	2
24-3	* 2326-320	Decal - Important: Operator's Manual. . .	1
24-4	2326-317	Decal - Danger: Stay Clear. . .	3
24-5	2326-134	Decal - Oil Chain Daily	1
24-6	2326-310	Decal - Warning: For Your Protection. . .	3
24-7	2326-255	Decal - Caution: Before Working. . .	1
24-8	2326-700	Decal - 504G	1
24-9	2326-511	Decal - Caution: To Avoid Accidents. . .	1
24-10	2326-431	Decal - Patent No.	1
24-11	2326-277	Decal - Danger: Keep Hands. . .	2
24-12	2326-003	Decal - Vermeer World	3
24-13	2326-209	Decal - Reflector	2
24-14	2326-318	Decal - Danger: Stay Clear. . .	2
24-15	2326-334	Decal - To Avoid Damage. . .	1
24-16	2326-430	Decal - Bale Size Indicator	1
	+ 2326-626	Decal - 4" Stripe (Specify Length Per Foot)	
	2496-109	504 Super G Decal Ass'y. Complete (Inc. Ref. 1-16)	

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

HAY SAVER WHEEL ASSEMBLY (OPTIONAL)

Figure "25"



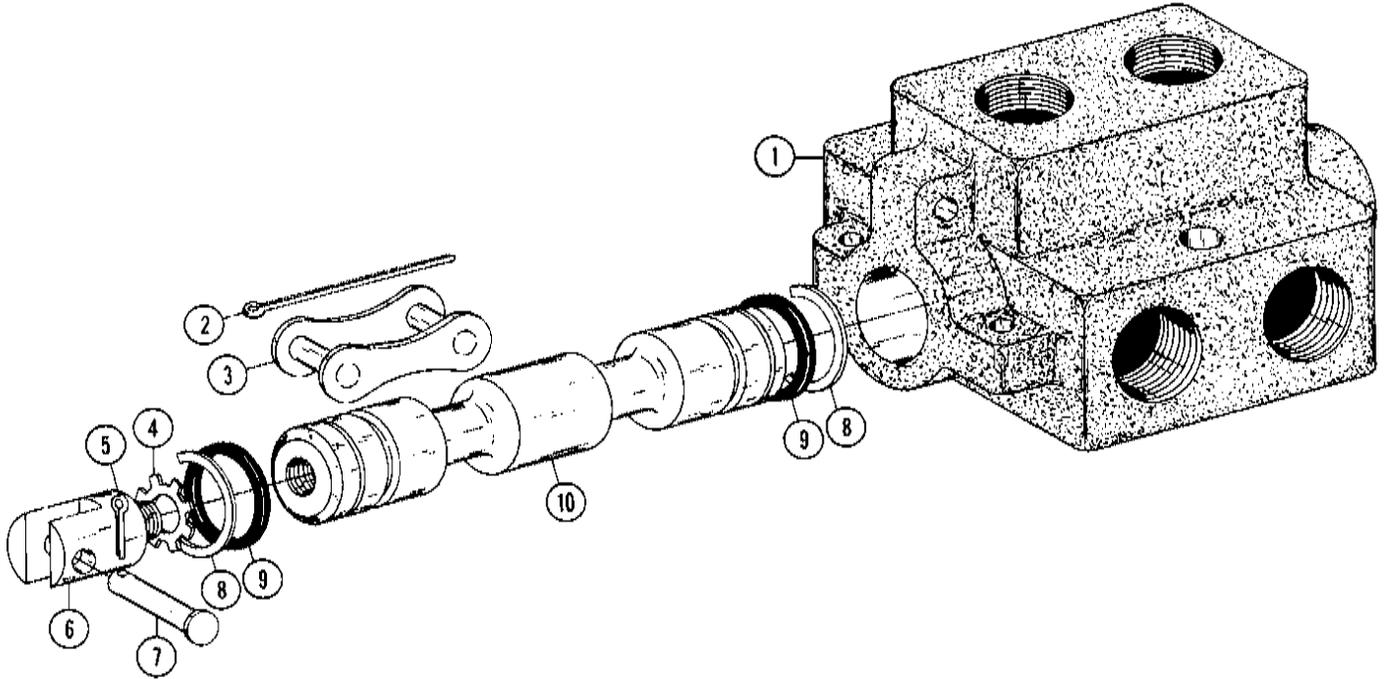
<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>CROSS REF. PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
25-1	353-006	F-2317	Bolt - 5/16" - 18 NC x 3/4" Flanged Self-Tapping	2
25-2	358-012	F-600	Bolt - 1/2" - 13 NC x 1 1/4"	4
25-3	1107-003		Tube - Wheel Mount Stabilizer (2" OD x 12 Ga. x 36")	1
25-4	354-010	F-693	Bolt - 3/8" - 16 NC x 1"	2
25-5	480-007	F-593	Washer - 3/8" Lock	2
25-6	11104-001		Cap - Axle (2 13/32" OD x 13/32" ID x 1/4")	2
25-7	1719-003	F-2220	Collar - 1 1/4" Locking	2
25-8	4051-001		Bearing - 1 1/4" Cylindrical	4
25-9	351-016		Bolt - 5/16" - 18 NC x 1 3/4"	12
25-10	11102-001		Hub - Rubber Wheel	2
25-11	11122-001		Wheel - Hay Saver (Left)	1
	11122-002		Wheel - Hay Saver (Right)	1
25-12	11103-001		Plate - Rubber Wheel Mounting	2
25-13	407-001		Nut - 5/16" - 18 NC Jam	12
25-14	11114-001		Arm - Rubber Wheel	2
25-15	13085-001		Plate - Rubber Wheel Frame Reinforcement (Left)	1
	13085-002		Plate - Rubber Wheel Frame Reinforcement (Right)	1
25-16	421-001	F-512	Nut - 1/2" - 13 NC	4
25-17	406-001	F-784	Nut - 5/16" - 18 NC	12
25-18	11109-003		Mount Ass'y. - Main Frame Wheel, Left (Inc. Ref. #21)	1
	11109-004		Mount Ass'y. - Main Frame Wheel, Right (Inc. Ref. #21)	1
25-19	1794-003	F-751	Pin - #9 Hairpin Cotter	2
25-20	510-023		Pin - 3/16" x 1 3/4" Cotter	2
25-21	598-001	F-655	Zerk - 1/4" - 28 NF Straight Grease	2
25-22	483-005	F-1194	Washer - 1 1/2" OD x 1" ID x 14 Ga.	2
25-23	413-001	F-431	Nut - 3/8" - 16 NC Jam	2
25-24	549-012	F-430	Screw - 3/8" - 16 NC x 1 1/4" Sq. Hd. Set	2
25-25	480-011	F-564	Washer - 1/2" Lock	4
25-26	485-011	F-419	Washer - 1/2" Flat	4

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

DS-12 (MODIFIED) GRESEN SELECTOR VALVE COMPONENTS ASSEMBLY (OPTIONAL)

Figure "26"



<u>REF. NO.</u>	<u>GRESEN PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
	K-14001	3220-003	Repair Kit for Gresen Model DS Selector Valve (Inc. Two Each of Ref. # 8 & 9)	
	K-13003	2533-023	Clevis Adapter (Inc. Ref. # 4 & 6)	
26-1	1475-003	NSS	Housing - Valve w/ Spool (SAE 12 Ports)	1
26-2	1474-001	510-037	Pin - 1/16" x 2" Cotter	1
26-3	1479-001	2533-017	Link - Handle	1
26-4	603-001	481-011	Washer - 3/8" External Star Lock	1
26-5	086-001	510-035	Pin - 3/32" x 1/2" Cotter	1
26-6	1478-001	NSS	Adapter - Handle	1
26-7	085-001	2533-011	Pin - 1/4" x 55/64" (Usable Length)	1
26-8	1127-001	NSS	Ring - Snap	2
26-9	7700-001	NSS	Seal - Spool	2
26-10	1477-001	NSS	Spool - Valve	1

NOTE: Housing & Spools are matched items & are not interchangeable or sold separately.

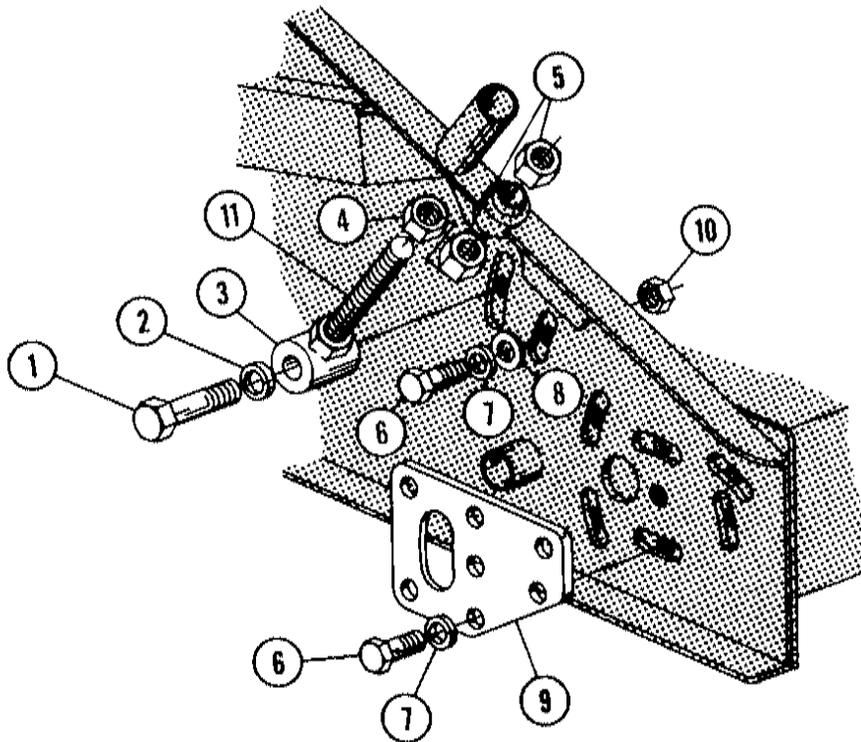
NSS Not Sold Separately

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

Revised Jan. 1984 due to
addition of an Adjustable
Main Frame. Starting w/
Serial #2374.

ADJUSTABLE FRAME ASSEMBLY

Figure "27"



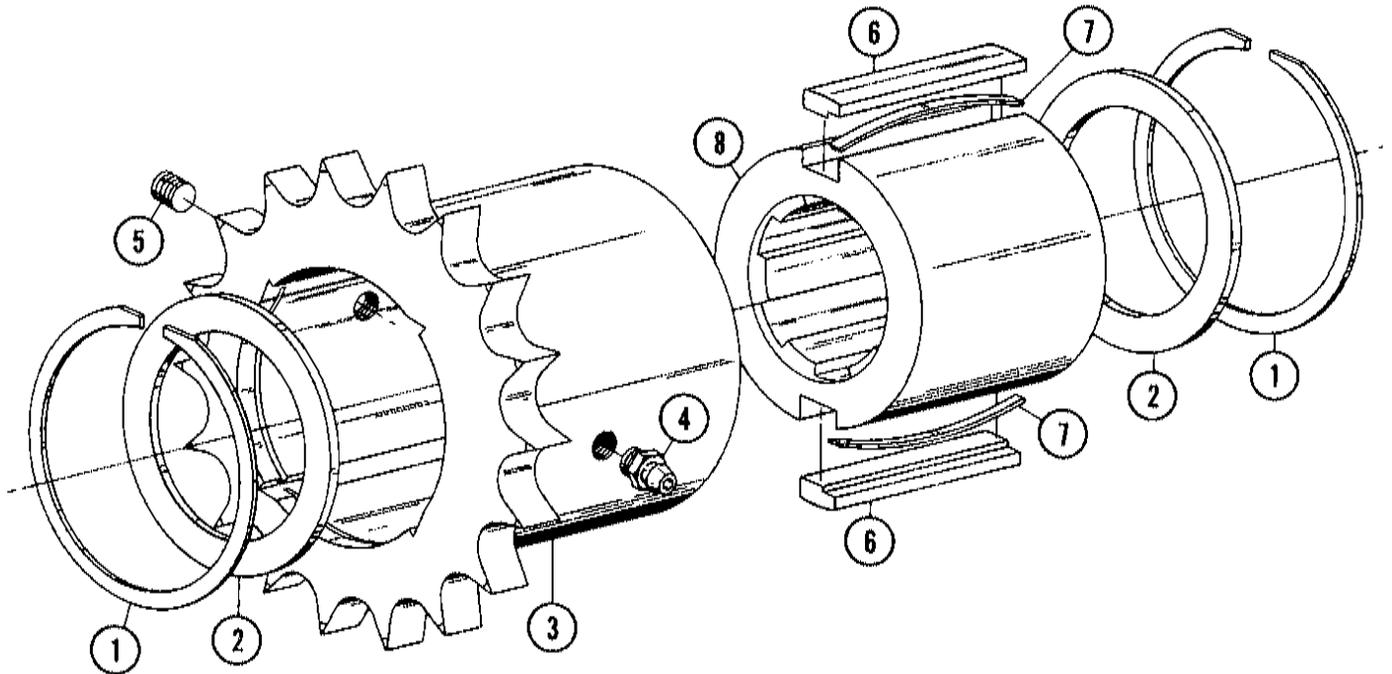
<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
27-1	369-034	Bolt - 3/4" - 10 NC x 3 1/2"	1
27-2	480-017	Washer - 3/4" Lock	1
27-3	58619-001	Bar - Frame Adjustment	1
27-4	433-001	Nut - 3/4" - 10 NC Jam	1
27-5	432-001	Nut - 3/4" - 10 NC	2
27-6	366-012	Bolt - 5/8" - 11 NC x 1 1/4"	8
27-7	480-015	Washer - 5/8" Lock	8
27-8	485-015	Washer - 5/8" Flat	1
27-9	58621-001	Cap - Side Frame	1
27-10	429-001	Nut - 5/8" - 11 NC Jam	1
27-11	6486-027	Rod - 3/4" - 10 NC x 6 3/8" Threaded	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

03-31-30086 (CLOCKWISE) OVERRUNNING COUPLER COMPONENTS ASSEMBLY

Revised Jan. 1984 due to
addition of Overrunning
Coupler to parts list.

Figure "28"



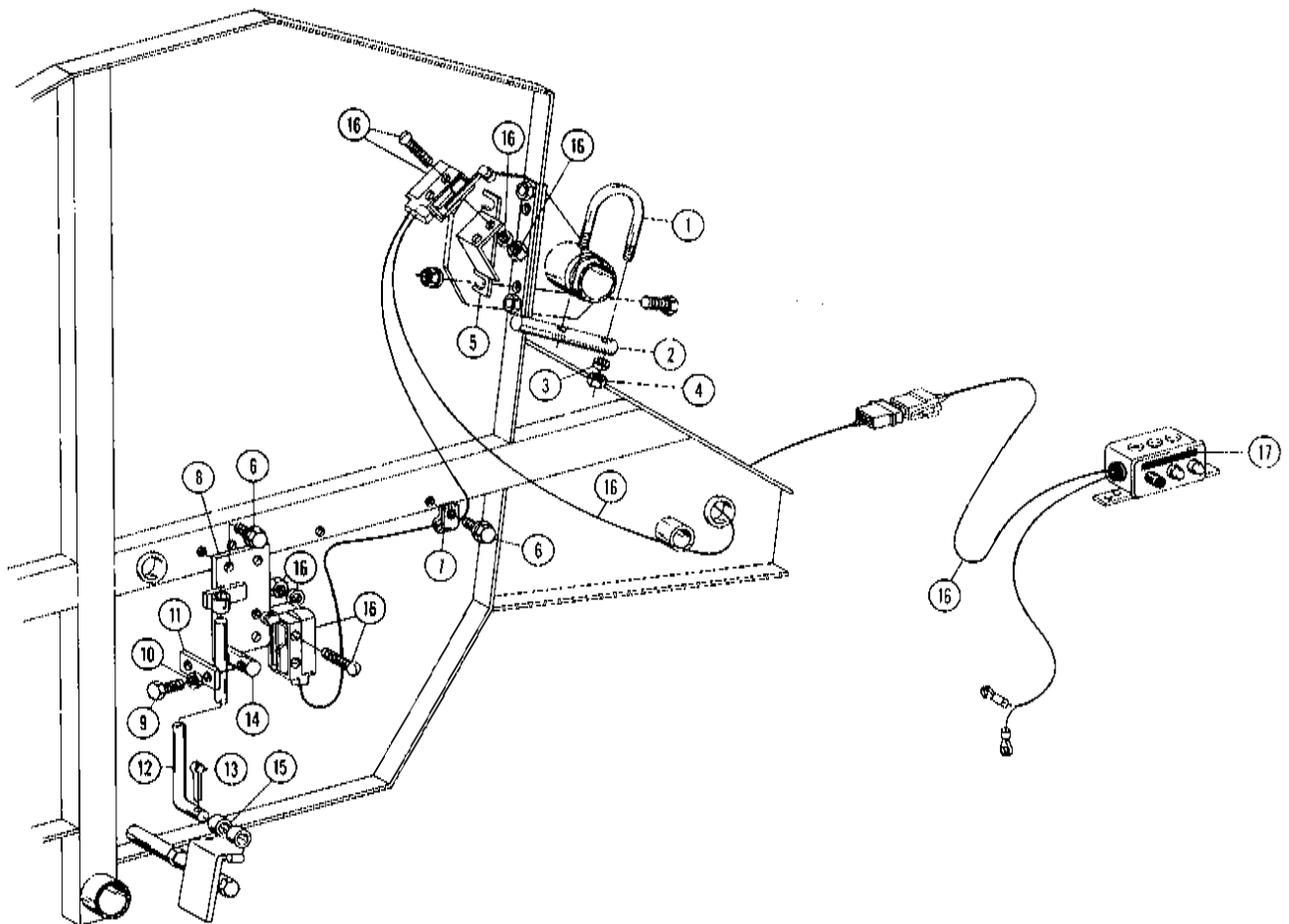
<u>REF. NO.</u>	<u>HUB CITY PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
28-1	8-47-17-86-011	21153-003	Ring - Retaining	2
28-2	8-47-16-01-044	21153-005	Washer - 1 9/16" x 2 1/4" x .130/.1	2
28-3	03-37-30165	21153-007	Housing - Coupler	1
28-4	8-63-12-91-006	21153-009	Fitting - Grease (Alemite 1610BL)	1
28-5	8-63-12-61-002	21153-011	Plug - Pipe Slotted (1/8" NPT)	1
28-6	03-37-00017	21153-013	Key - Drive	2
28-7	03-37-00014	21153-015	Spring	2
28-8	03-37-00066	21153-017	Sleeve - Drive	1

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER
USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

Revised Jan. 1984 due to
addition of Bale Indicator
Light Assembly.

INDICATOR LIGHT ASSEMBLY

Figure "29"



<u>REF. NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
29-1	2609-013	U-Bolt - 3/8" - 16 NC x 3 1/2"	1
29-2	53047-001	Rod - Switch Actuator	1
29-3	480-007	Washer - 3/8" Lock	2
29-4	412-001	Nut - 3/8" - 16 NC	2
29-5	53039-001	Mount - Switch	1
29-6	19862-006	Bolt - 5/16" - 18 NC x 3/4" Self-Tapping Zinc	4
29-7	2595-001	Clamp - #TS7FR Hose	2
29-8	53042-001	Mount - Switch	1
29-9	351-012	Bolt - 5/16" - 18 NC x 1 1/4"	2
29-10	480-005	Washer - 5/16" Lock	2
29-11	53044-001	Clamp - Switch Actuator Block	1
29-12	53046-001	Rod - Tailgate Indicator	1
29-13	510-009	Pin - 1/8" x 1" Cotter	1
29-14	53045-001	Block - Switch Actuator	1
29-15	1071-033	Tube - 3/4" OD x 12 Ga. x 5/8"	1
29-16	52877-001	Harness Ass'y. - #14466-002 Indicator Light (Breakdown Fig. 41)	1
29-17	2326-656	Decal - Indicator Light (5/8" x 2 7/8")	1

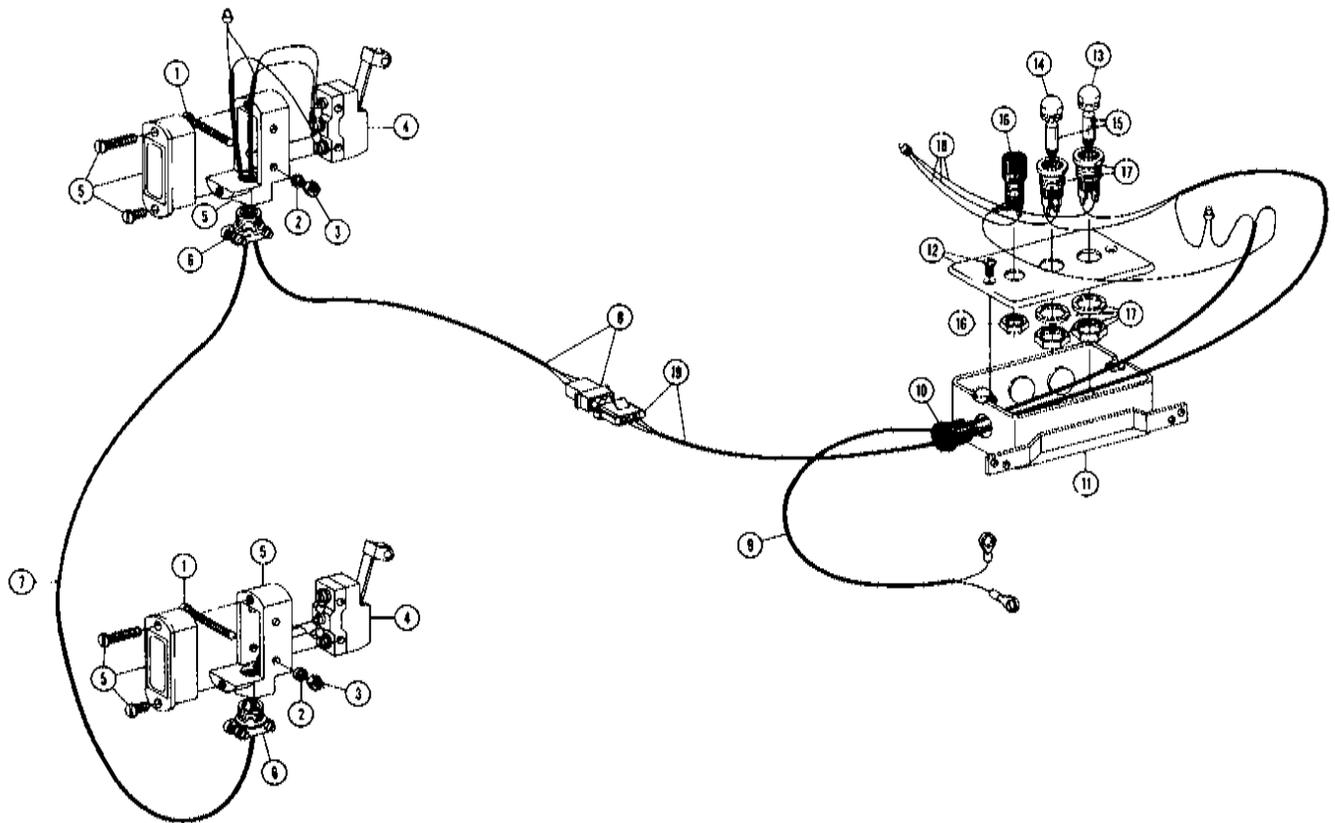
WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

14466-002 INDICATOR LIGHT HARNESS COMPONENTS ASSEMBLY

Revised Jan. 1984 due to
addition of Bale Indicator
Light Assembly.

Figure "30"



<u>REF. NO.</u>	<u>RAMCO PART NO.</u>	<u>CUSTOMER ORDER NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
30-1		28932-001	Bolt - #6-32 NC x 1 3/8"	4
30-2		28933-001	Washer - #6 Int. Star Lock	4
30-3		27164-001	Nut - #6-32 NC	4
30-4	2HBA-260-5	52877-003	Switch	2
30-5	TC2	52877-005	Box - Switch	2
30-6	7316 DC	1673-001	Holder - Metal Cable	2
30-7			Wire - 16 Ga. x 60" 2-in-1 Electrical	1
30-8	124143	52877-023	Wire Ass'y. - Male Plug End	1
30-9			Wire - 16 Ga. x 100" 2-in-1 Electrical	1
30-10	A1	20922-001	Holder - Plastic Cable	1
30-11	4CS VB-1/2	52877-009	Box - Light	1
30-12	2540	52877-011	Cover - 3-Hole (Mod.) Box	1
30-13	30110	52877-013	Lens - Red	1
30-14	30112	52877-015	Lens - Green	1
30-15	12PSB	52877-017	Bulb - Light	2
30-16	342828	52877-019	Holder - Fuse	1
	312001		Fuse - 1 Amp	1
30-17	30099	52877-021	Socket - Light	2
30-18			Wire - 16 Ga. x 4" Red Electrical	3
30-19	123143	52877-007	Wire Ass'y. - Female Plug End	1
		52877-001	#14466-002 Indicator Light Harness Ass'y. Comp. (Inc. Ref. #1-19)	

WHEN ORDERING PARTS ALWAYS SPECIFY UNIT SERIAL NUMBER

USE ONLY AUTHORIZED VERMEER PARTS FOR REPAIR AND REPLACEMENT

