2650

Self-Propelled Mower Conditioner

OPERATOR'S MANUAL

Form No.
903923

GEHL® COMPANY

Warranty

GEHL® COMPANY

New Agricultural Equipment

Gehl Company (Incorporated), hereinafter referred to as GEHL, as manufacturer of quality machinery since 1859, warrants new GEHL machinery and/or attachments at the time of delivery to the original purchaser to be free from defects in material and workmanship if properly set up and operated in accordance with the recommendations set forth in GEHL's Operator Manual.

GEHL's liability for any defect with respect to accepted goods shall be limited to repairing the goods at an authorized GEHL dealer or other GEHL designated location, or replacing them, as GEHL shall elect. The above shall be in accordance with GEHL warranty adjustment policies. GEHL's obligation shall terminate twelve (12) months after the delivery of the goods to the original purchaser.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the GEHL factory or authorized GEHL dealership or in any way so as in GEHL's judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any machine or attachment which shall not have been operated in accordance with GEHL's printed instructions or beyond the company recommended machine rated capacity.

This warranty shall not be applicable to items which are subject to the warranties of their respective manufacturers. Such items would include but would not be limited to engines, clutches, universal joints, knives, hydraulic components, bearings, tires, belts and other trade accessories.

EXCLUSION OF WARRANTIES

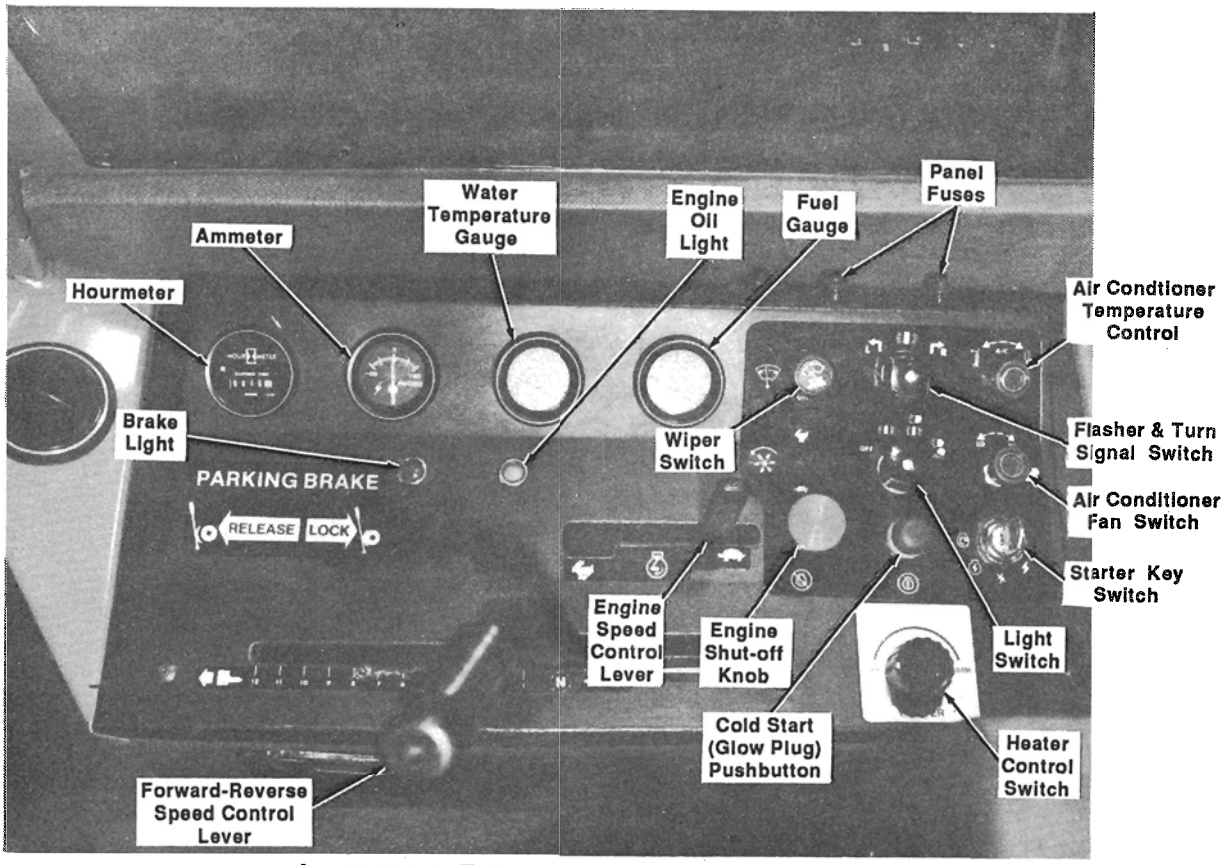
Except as otherwise expressly stated herein, GEHL makes no representation or warranty of any kind, express or implied, AND MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS AND MAKES NO WARRANTY THAT ITS MACHINERY AND/OR ATTACHMENTS ARE FIT FOR ANY PARTICULAR PURPOSE. GEHL shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to inconvenience, rental or replacement equipment, loss of profits or other commercial loss. GEHL shall not be liable for, and the buyer assumes all liability for, all personal injury and property damage resulting from the handling, possession or use of the goods by the buyer.

No agent, employee or representative of GEHL has any authority to bind GEHL to any affirmation, representation or warranty concerning its machinery and/or attachments except as specifically set forth herein.

SUPPLEMENT TO MC2650
Operator's Manual
Form No. 903923
(For Units After SN7850)

MC2650 Self-Propelled Mower Conditioner (After SN7850)

Form No. 904140



Instrument Panel (After Serial # 7850)

In the SPECIFICATIONS section, on page 3,

Under **Standard Features** add,

Cab Heater

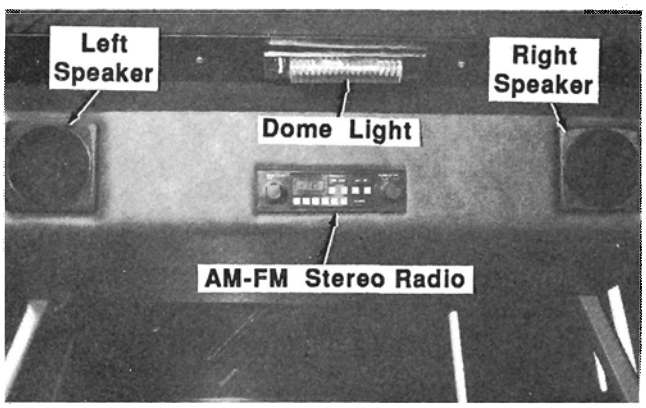
AM-FM Stereo Radio

Under **Optional Features** add,

14-foot, 6-inch Header with 4-Bat Reel and Intermeshing Steel Rolls or

14-foot, 6-inch Header with 4-Bat Reel and Ticor Rubber Rolls

At end of SPECIFICATIONS section, delete the * Battery reference (Battery is furnished as standard equipment).



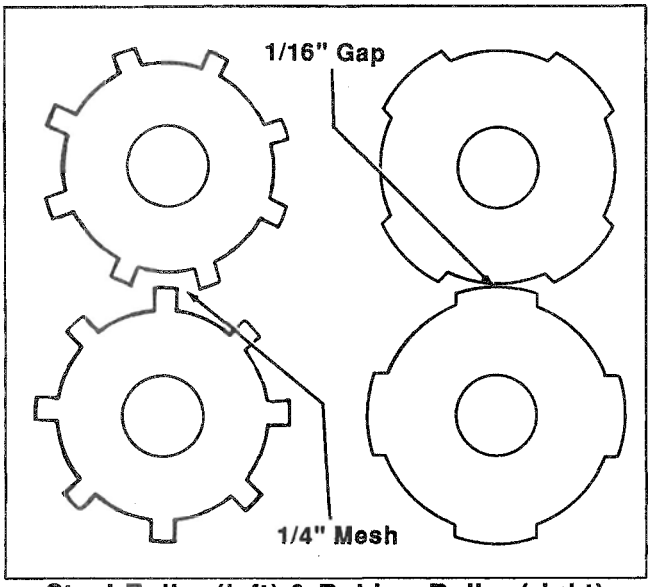
Stereo Radio (After Serial # 7850)

In the CONTROLS & INSTRUMENTS section, on page 12:

Substitute the photographs and callouts displaying the Instrument Panel upgrades and the Stereo Radio on units after SN7850.

In the OPERATION & ADJUSTMENT section on page 19,

Replace the existing text and drawing under "CONDITIONER ROLL SPACING" topic with the following drawing and information for units after SN7850.



Steel Roller (left) & Rubber Roller (right)

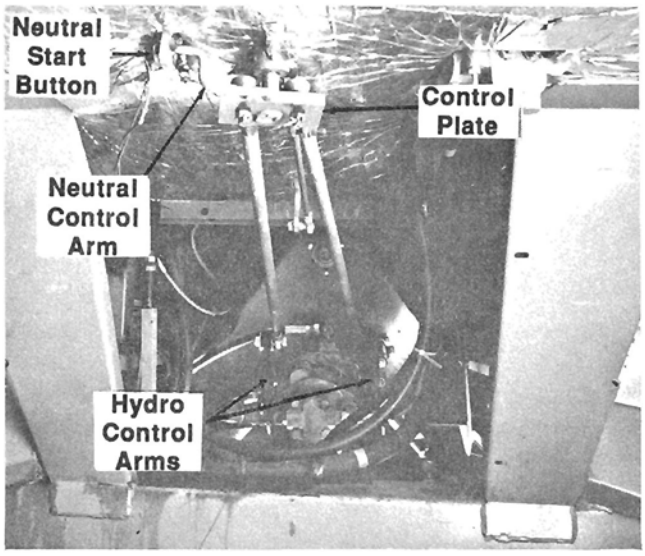
CONDITIONER ROLL SPACING

The Conditioner Rolls can be obtained made of either Steel or Ticor Rubber. **Steel Conditioner Rolls spacing is factory set for a 1/4" mesh of the Steel Bars. Ticor Rubber Conditioner Rolls** spacing is factory set for a 1/16" gap between the Rubber Spirals.

NOTE: Steel Rolls can NOT be exchanged with Rubber Rolls (or vice versa) due to differences in the Spring Pressure Mechanism which is particular to the Roll construction.

As necessary, Roll spacing can be changed by adjusting the appropriate Bumper Bolt. Unlock the Jam Nut, and turn the Bolt in to decrease the spacing or out to increase the spacing. Make certain that both side are adjusted evenly. For minor adjustments of Roll spacing, Roll tension can be left as is. For a large spacing change, releasing the Spring pressure as described below will make the change easier.

NOTE: NEVER allow the Conditioner Rolls to run against each other as excess vibration and damage will result.



Steering Control (After Serial # 7850)

In the OPERATION & ADJUSTMENT section on page 20,

Replace the information under the "Check Engine Radiator Anti-freeze" topic with the following :

The machine comes from the factory with the coolant system filled with a permanent anti-freeze mixture good to 30 degrees below zero. For best operation all year round, maintain a similar solution. Do NOT use water alone because freezing of the coolant can result in summer, due to the Air Conditioning Coils being near the Heater Coils.

In the MAINTENANCE & ADJUSTMENT section on page 31,

Replace the two photographs at the bottom of the page with the new photo that show the redesigned linkage for units after SN7850.

In the MAINTENANCE & ADJUSTMENT section on page 32,

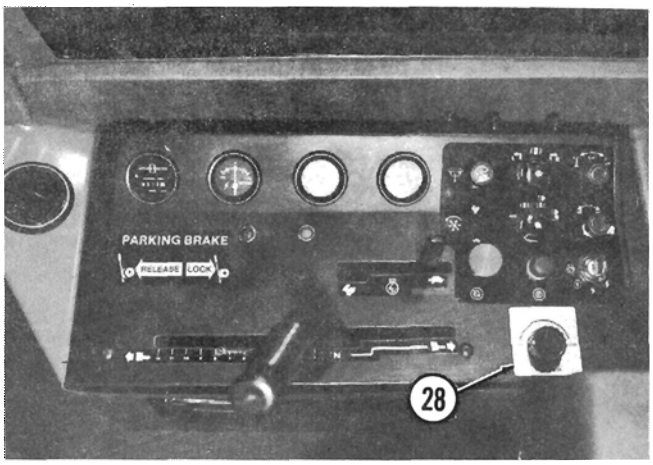
Replace the second paragraph under the "Cooling System" topic with the following information:

The machine comes from the factory with the Coolant System filled with permanent Anti-freeze mixture good for 30 degrees below zero. For best operation all uyear round, maintain a similar solution. Do NOT use water alone because freezing of the coolant can result in summer, due to the Air Conditioning Coils being near the Heater Coils. A Drain Cock is provided at the bottom of the Radiator.

In the MAINTENANCE & ADJUSTMENT section on page 41,

Replace step 3 and the drawing , under the "Roller Timing" topic, with the same Steel Roller & Rubber Roller drawing shown on the previous page (of this Supplement) and the following text:

3. If the above items are tight, and the Conditioner is still **NOT** timed correctly, loosen the Gear Box Mounting Hardware and shift the Gear Box either forward or backward in the slots to get the Steel Roller Bars or the Ticor Rubber Spirals to mesh properly. Then, retighten the Gear Box Mounting Hardware.



In the DECAL LOCATIONS section on pages 76 & 77,

Add a Heater Decal, (Ref. No. 28) Part Number 089181 and replace the photograph on the top right corner of page 77 with the photograph provided.

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Standard Hardware Torque ..... Inside Back Cover

INTRODUCTION

Your decision to purchase this piece of GEHL equipment was a good one. We are sure that your decision was strongly considered and that you are looking forward to many seasons of reliable performance from this machine.

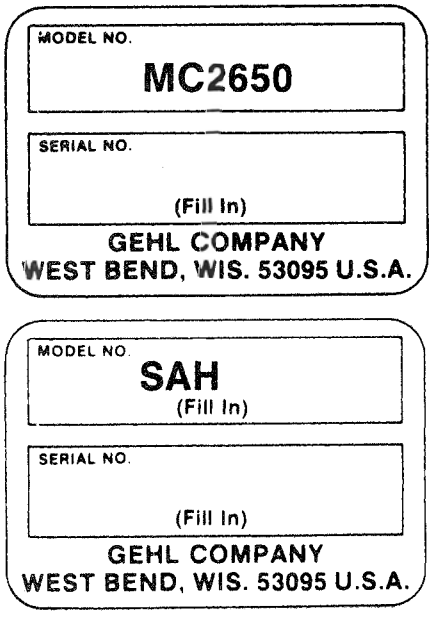
We, as a Company, have invested a great deal of time and effort in developing our lines of agricultural and industrial equipment. The equipment you have purchased is built with a great deal of pride and designed to give you long life, efficient operation, durability and dependability.

This manual was developed specifically for the machine you have purchased. The information, contained within, was prepared for your assistance in preparing, adjusting, maintaining and servicing your machine. More importantly, this manual provides an operating plan for safe and proper use of your machine. Major points of safe operation are detailed in the **SAFETY** section of this manual. Refer to the Table of Contents for an outline of this manual. Use the Index, in the back of the manual, for specific topic/page number references.

Modern machinery has become more sophisticated and, with that in mind, GEHL Company asks that you read and understand the contents of this manual COMPLETELY and become familiar with your new machine, BEFORE attempting to operate it.

Our extensive Dealership network stands by to provide you with any assistance you may require, including genuine GEHL service parts. All parts should be obtained from or ordered through your GEHL Dealer. Give complete information about the part as well as the model number and the serial number of your machine. Record numbers, in space provided, as a handy record for quick reference.

Typical Model & Serial No. Plate



Numbers for this unit are stamped on plates. The Tractor Plate is located on the right side of unit below the Cab. The Header Plates is located on the left side sheet.

"Right" and "Left" are determined from a position sitting in the cab and facing the direction of travel. From this position, the toolbox would then be on the "Left" side.

GEHL Company reserves the right to make changes or improvements in the design or construction of any part without incurring the obligation to install such changes on any unit previously delivered.

Standard hardware torques appear in a chart at the end of the manual.

Throughout this manual, information is provided which is set in **bold type** and introduced by the word **NOTE. BE SURE** to **read carefully** and **comply with** the message or directive given. Following this information will improve your operating or maintenance efficiency, help you to avoid costly breakdown or unnecessary damage and, extend your machine's life.

The GEHL Company, in compliance with the Farm and Industrial Equipment Institute, has adopted this SAFETY ALERT SYMBOL

to pinpoint characteristics which, if not properly followed, can create a safety hazard. When you see this symbol in this manual or on the unit itself, you are reminded to BE ALERT! Your personal Safety is involved.

Specifications

Diesel Engine	Perkins 236 C.I.D.
Engine R.P.M. (Governed speed)	2500
Weight of Tractor (w/cab and air conditioner	approx. 5397 lbs (2448 kg)
Tractor Height (w/cab)	10'5" (3.17 m)
Wheel Base	127¾" (3.24 m)
Windrow Ground Clearance	32" (813 mm)
Drive Tire and Rim Options	
21.5L x 16.1 6-ply	
Turf Tread Tires &Rims	395 lbs (179 kg)
Tread Width	111¾" (2.93 m)
18.4 x 16.1 6-ply Flotation Tires & Rims	365 lbs (165 kg)
Tread Width	105" (2.67 m)
Rear Tires	9.5L x 15 6-ply
Hydrostatic Drive	Vickers
Final Drive	Power Wheel
Steering	Power-Tilt Wheel
Speed Range (Forward)	0 - 12 mph (19.3 k/hr)
(Reverse)	0 - 9 mph (14.5 k/hr)
Electrical System	12 volt, 63 amp*
Fuel Tank Capacity	45 Gallons (170 liters)
Parking Brakes	Disc
Header Sizes and Weights (w/conditioner)	14'6" (4420 mm) 3120 lbs (1418 kg)
	16'6" (5029 mm) 3325 lb (1511 kg)
Cutting Height Range	-3" to < 25" (-76 mm to < 635 mm)
Header Flotation	Lateral & Vertical
Header Float Range	0 - 12" (305 mm)
Guard Angle	10 to 16 degrees
Knife Stroke	3" (76 mm)
Knife Speed	1640 spm
Knife Section	In-line underserrated
Guard Type	Double Forged
Reel Diameter	42¾" (1.08 m)
Reel Bats	4 standard, 6 optional
Reel Speed	Variable
Auger Speed	164-187-210
Length of Condition Rolls	60" (1.52 m)
Diameter of Rolls (Top & Bottom)	7¾" (197 mm)
Type of Rolls	Intermeshing Steel Bar (crimp)
Conditioner Roll Speed	800 RPM

Standard Features

Air-conditioned Cab Enclosure
Neutral Safety Start System
Tilt Steering Wheel
Windshield Wiper
Rear-view Mirror
Fuel Tank Gauge
Hourmeter
Self-contained Toolbox
Pair of Headlights & Combination Work/Taillight
Flashers & Turn Signal Lamps

Optional Features (Customer Selected):

Tall Crop Divider
Gauge Wheels and/or Skid Shoes
Tractor Rear Weights
Adjustable Swath Vane Kit
6-Bat Reel Package

*12 Volt D.C., 650 CCA (minimum) Battery **MUST** be ordered and installed separately.

INTENTIONALLY BLANK

CHECKLISTS

(Remove Dealer's File Copy At Perforation)

PRE-DELIVERY

To reduce the overall width and height for shipment, the Mower Conditioner is shipped in two components; the Tractor and the Header. Refer to the Set-up & Assembly chapter for assembly details. After the unit has been completely set up, the following inspections should be made before delivering it to the customer. Check off each item after prescribed action is taken.

Check that:

____ Mower Conditioner was **NOT** damaged in shipment. Check for such things as dents and loose or missing parts; correct or replace components as required.

____ All bolts and fasteners are in place and tightly secured.

____ Cylinders, Hoses and Fittings are **NOT** damaged, leaking or loosely connected.

____ All Grease Fittings have been properly lubricated.

____ Gearboxes are filled to the proper level. Check Conditioner Gearbox for Vented Plug. If Vented Plug is **NOT** installed, install it. If oil in the Gearbox is **NOT** to the proper level, correct oil level. See Lubrication information in this manual.

____ Check that Battery is properly (-) grounded.

____ Check Radiator water level.

____ Check Push Arm Attaching Pins.

____ Check Bearing and Pitman for proper position and check Sickle register.

____ All Guards, Shields and Decals are in place and securely attached.

____ All Adjustment are made to comply with settings given in the Adjustments chapter of this manual.

____ Tires are properly mounted and inflated to 14 PSIG for the 21.5L front Turf Tread Tires or 20 PSIG for the 18.4 front Flotation Tires and 16 PSIG for the rear Tires.

____ Serial Number for this unit is recorded in the spaces provided on this page and page 2.

After the Header is properly mounted onto the Tractor, test-run the unit while checking that proper operation is exhibited by all components.

Check that:

____ The Rotating PTO Drive Line Shields turn freely.

____ All Drives, Belts and Mechanisms are operating smoothly and properly adjusted.

____ Hydraulic Hoses and connections do **NOT** leak under pressure.

____ The Reel and Conditioning Rolls turn freely and the Tines are **NOT** striking the Sickle or Conditioning Rolls.

I acknowledge that pre-delivery service was performed on this unit as outlined.

_____
Dealer's Name

By _____
Dealer's Set-up Man's Signature

Date Set-up _____

Serial Number _____

DELIVERY

The following Checklist is an important reminder of valuable information that MUST be passed on to the customer at the time the unit is delivered. Check off each item as you explain it to the customer.

____ Give customer the Operator's Manual. Instruct customer to be sure to read and completely understand its contents BEFORE operating the unit.

____ Explain and review with customer the SAFETY information of this manual.

____ Explain and review with customer the Controls & Instruments information in this manual.

____ Completely fill out Owner's Registration including Customer's signature, and return it to the company.

I acknowledge that the above points were reviewed with me at the time of delivery.

_____
Customer's Signature

Date Delivered _____

(Dealer's File Copy)

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(To be removed as Dealer's File Copy)

CHECKLISTS

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By _____

Dealer's Set-up Man's Signature

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_____

Customer's Signature

Date Delivered _____

(Pages 5 and 6 Have Been Removed At Perforation)

SAFETY

BEFORE YOU ATTEMPT TO OPERATE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING SAFETY INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

GEHL Company always takes the operator and their safety into consideration when designing machinery and guards exposed moving parts for their protection; however, some areas cannot be guarded or shielded in order to assure proper operation. In addition, the operator's manual and decals on the machine itself warn you of further danger and should be read and observed closely.

The safety alert symbol above means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** It stresses an attitude of **"HEADS UP"** for safety and can be found throughout this operator's manual and on the unit itself.

Remember: The careful operator is the best operator. Most accidents are caused by human error. Certain precautions must be observed to prevent the possibility of injury or damage.

Please read the rules listed below for safe operation **BEFORE** you operate this equipment.

Use of the word **CAUTION, WARNING** or **DANGER**, herein and on the machine itself, signals three degrees of hazard. **CAUTION** is used for general reminders of good safety practices or to direct attention to unsafe practices. **WARNING** is used to denote a specific potential hazard. **DANGER** is used to denote the most serious specific potential hazard.

MANDATORY SAFETY SHUTDOWN PROCEDURE

Work of any type on machinery is always more dangerous when the machine is operating. Therefore, unless otherwise expressly instructed to the contrary, BEFORE cleaning, adjusting, lubricating or servicing this unit, the following MANDATORY SAFETY SHUTDOWN PROCEDURE should ALWAYS be followed:

1. **Move the Speed Control Lever to the "neutral" position.**
2. **Disengage the PTO Lever to STOP Header operation.**
3. **Lower the Header to the ground.**
4. **Engage the Hand Brake.**
5. **Pull the Engine Shut-off Knob "out" to stop Engine.**
6. **Turn the Ignition Key Switch to "off" and remove the Key and take it with you when leaving the Cab.**

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure could lead to death or serious bodily injury!

Some photographs, used herein, may show Door(s), Guard(s) or Shield(s) open or removed for illustration purposes ONLY! BE SURE that all Door(s), Guard(s) or Shield(s) are in their proper position(s) and securely attached BEFORE operating this unit!

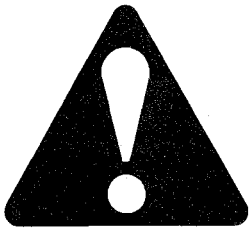
To prevent an emergency situation, while becoming familiar with the location and purpose of all controls! BEFORE starting the Engine, make sure all bystanders are clear of the Mower Conditioner and that the Parking Brake is engaged!

ALWAYS lock Header in up position with Safety Bars, located above Push Arm Lift Cylinders, when working under Header!

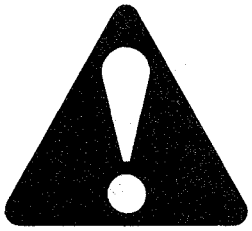
Parking Brake is to be engaged when the unit is NOT in operation!

Header will drop if Engine Starter is used with Foot Pedal in float position!

BE SURE that the pressurized refrigerant containers are NEVER exposed to open flame or temperatures above 125° F. Do NOT discard empty refrigerant containers where they are likely to be subjected to heat or trash burners, etc!



SAFETY



(Continued)

The most important safety measure to be taken while servicing the Air Conditioning system is adequate and constant protection of the eyes. Safety goggles or other adequate eye protection MUST be worn! The liquid refrigerant boils (vaporizes) at minus 21.7° F (21.7° below zero) at atmospheric pressure. Serious injury or blindness could result from refrigerant contacting the eyes. If refrigerant should contact the eyes, do NOT rub them. Splash the eyes with cold water to gradually get the temperature above the freezing point. Consult a doctor or eye specialist immediately! Should the liquid refrigerant come in contact with the skin, the resulting injury should be treated the same as though the skin has been frostbitten or frozen!

GEHL Company does NOT sell replacement tires. In addition, tire mounting, service or inflation can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires, following the tire manufacturer's instruction! If you do NOT have such instructions, contact your tire dealer or the GEHL Company!

CAREFULLY inspect ALL Hydraulic Hoses and connections on a routine basis; NEVER use your hand! Escaping fluid under pressure can cause serious injury! If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is NOT administered IMMEDIATELY!

ALWAYS wear Safety Glasses with Side Shields when striking metal against metal! In addition, it is recommended that a softer (non-chipable) material be used to cushion the blow. Failure to heed could result in serious injury to the eye(s) or other part(s) of the body!

When Mower Conditioner is backed-up, the caster wheels will pivot around 180°. In addition, when Mower Conditioner is backed-up turn bottom of steering wheel in direction you wish to go.

Do NOT attempt to hand feed or kick any crop or material into this machine!

Do NOT allow minors and personnel,other than a qualified operator, to operate or be near this unit unless properly supervised; a Mower Conditioner is NOT a passenger carrying machine!

Do NOT chance an injury to a bystander by starting or operating the Mower Conditioner when someone is in the area! The Sickle area is dangerous to work on because of all the sharp areas. BE SURE NO parts are rotated by someone else while working in the Sickle area! Remember - your fingers can NOT be replaced!

Do NOT dismount from the Mower Conditioner or leave the Mower Conditioner parked without engaging the Parking Brake Lever and placing the Steering Wheel near center position!

Do NOT start the Engine until you have carefully read and followed the instructions in this manual. Do NOT move unit with Engine idling!

Do NOT use ether or any kind of starting fluid with the Colst Start Button or damage to the Engine and personal injury may occur!

Do NOT remove the Radiator Cap when the Engine is HOT, running or overheated! Coolant is extremely HOT and under pressure! Wait for the Engine to cool BEFORE relieving the pressure and removing the Radiator Cap!

Do NOT smoke or allow any type of fire or flame in the immediate area while servicing the refrigeration system. Freon 12 is NOT combustible, however, in the presence of fire, it changes to a highly poisonous and deadly phosgene gas. Liquid refrigerant evaporates so rapidly that the resulting gas may displace the oxygen surrounding the work area, especially if that area is relatively small and enclosed. To prevent possible suffocation in an enclosed area, always discharge the refrigerant from the Air Conditioning system out-of-doors or into an exhaust collector system! Be certain that good ventilation is always maintained around the work area when discharging the system!

SAFETY

(Continued)

Do NOT get near the unit until the Reel and Conditioner Rolls have stopped rotating! Both mechanisms and the Sickle can continue to operate after the PTO is disengaged!

Do NOT attempt to lubricate equipment with the Engine running!

Do NOT weld, solder, steam clean or use any excessive amount of heat on any of the refrigeration system while the system is charged. Heat applied to any part might cause the pressure of the refrigerant within the closed system to become excessive. This could cause a dangerous rupture!

Do NOT exceed a maximum travel speed of 12 mph (20 kmh) when transporting the Mower Conditioner on a public highway!

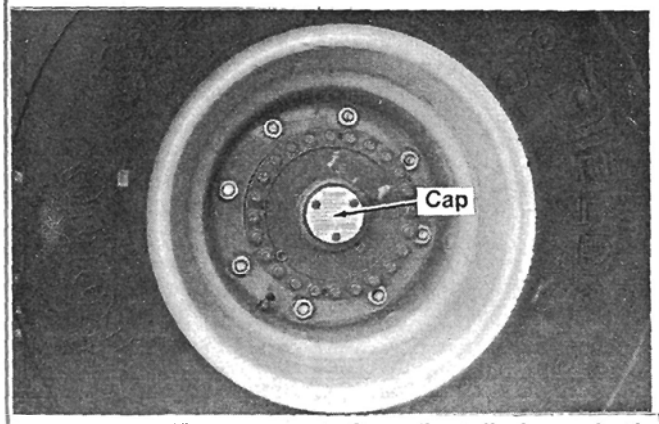
Do NOT attempt to adjust any Belt when the Engine is running!

Do NOT attempt to drive the Mower Conditioner Tractor onto or off truck or a flatbed trailer! This can result in upset of machine and injury to operator if Caster Wheels swivel off edge of truck bed. Use a winch or other means to load or unload the Mower Conditioner with the Engine NOT running. NEVER permit anyone to ride on Mower Conditioner while it is being loaded or unloaded!

Do NOT attempt to tow the Mower Conditioner unless the Final Drive, on each side of the Tractor, has been disengaged!

Do NOT attempt to operate the Mower Conditioner with the Final Drives disengaged!

REMEMBER! It is the owner's responsibility for communicating information on the safe use and proper maintenance of this machine!



Final Drive Engagement Cap (Installed on both sides)

WARNING: Vehicle operation WITHOUT Cap installed can result in loss of control, personal injury or property damage! Remove for towing ONLY!

TRANSPORTING

TRAILERING

To load the Mower Conditioner onto a truck or flatbed trailer, the Final Drive on each side of the Tractor **MUST** be disengaged. Then, using a winch (were provided), draw the machine onto the truck. Another approved method is to raise the rear Caster Wheels free of the ground with a forklift and roll the unit onto the truck with the forklift.

CAUTION: ALWAYS block the truck or flatbed wheels, front and back on both sides, to prevent any movement while loading or unloading. In addition, when the machine has been loaded, BE SURE to properly tie it down to prevent any shifting during transport.

WARNING: Do NOT attempt to drive the Mower Conditioner Tractor onto or off truck or a flatbed trailer! This can result in upset of machine and injury to operator if Caster Wheels swivel off edge of truck bed. Use a winch or other means to load or unload the Mower Conditioner with the Engine NOT running. NEVER permit anyone to ride on Mower Conditioner while it is being loaded or unloaded!

After the Mower Conditioner has been transported, exercise the same precautions and procedures to take the unit off the truck or flatbed. Re-engage the Final Drives immediately after the unit has been taken off the truck or trailer.

WARNING: Do NOT attempt to run the Engine and drive the unit off the truck or trailer.

TOWING

WARNING: Do NOT attempt to tow the Mower Conditioner unless the Final Drive, on each side of the Tractor, has been disengaged!

When it is necessary to tow the Mower Conditioner, **BE SURE** to first disengage the Final Drive on both Tractor Drive Wheels. Access is gained, to either "disengage screw", by removing two of the Cap Screws and Lock Washers, and loosening the third Cap Screw and Lock Washer so that the Cap can be rotated away from the disconnect shaft. Then, retighten the third Cap Screw to hold the Cap. Store the other two Screws and Lock Washers by installing them into the tapped holes.

To place either drive in the disengaged mode, turn the slotted screw 90° so that the disconnect shaft pops-out. Since the rear Wheels are free to caster in any direction, use a rigid link for coupling to two points on the back of the Tractor and a single point on the towing vehicle. Another approved method is to raise the rear Caster Wheels completely off the ground and secure the unit to the forklift with chains to prevent it from slipping off.

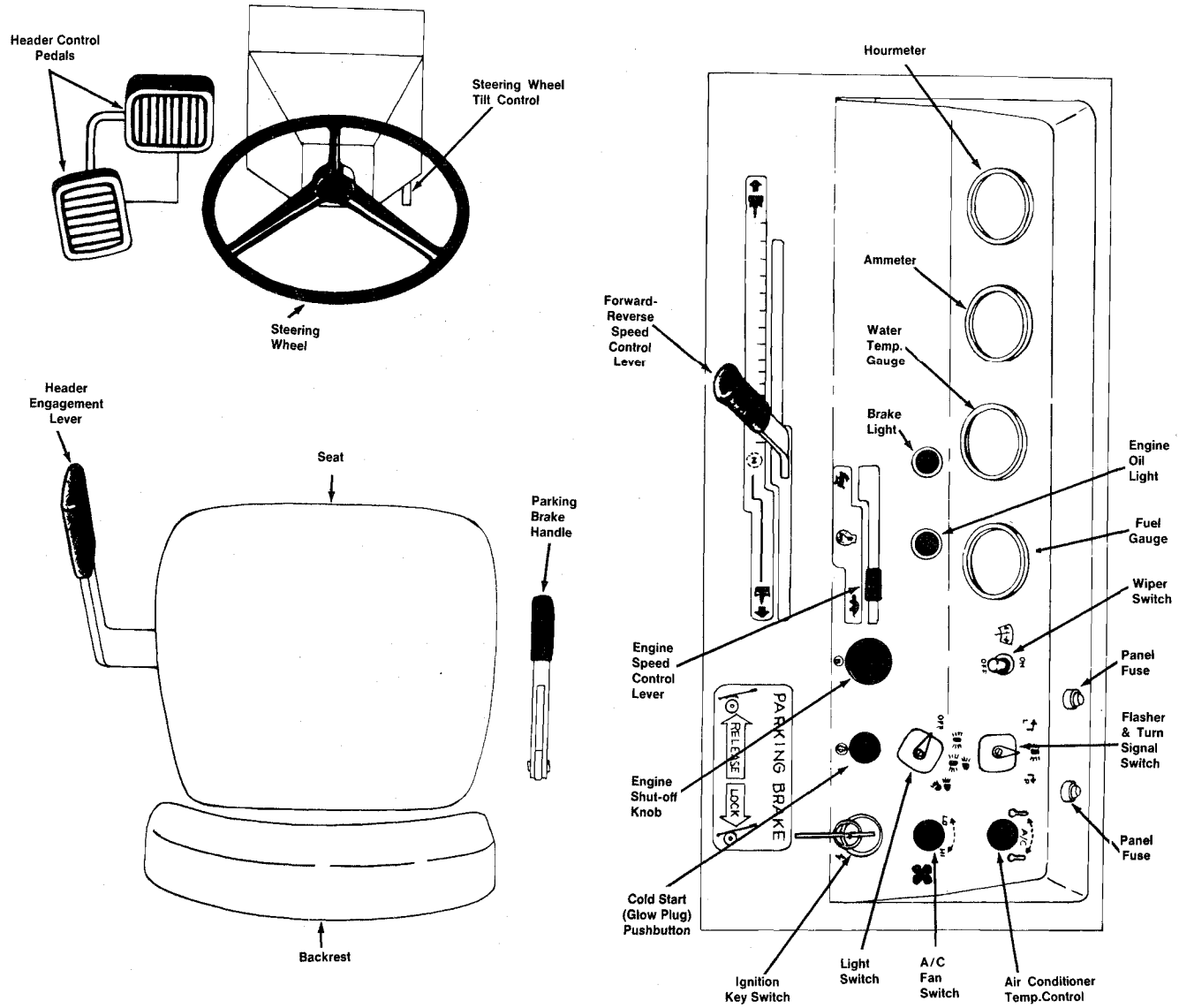
NOTE: Do NOT tow the Mower Conditioner for long distances and drive slowly.

After the Mower Conditioner has been towed to its destination, re-engage the Final Drives by pushing in the Disconnect Shaft, in the center of each unit, and rotate the slotted screw 90° clockwise to retain the Shaft. Then, replace and resecure the Cap with the three Cap Screws and Lock Washers.

NOTE: It may also be necessary to rock the Wheel, in order to depress the Disconnect Shaft.

WARNING: BE SURE to return both final drives to their engaged mode with the Caps installed, after towing is completed and before resuming field operation. Vehicle operation, WITHOUT Caps installed on both sides, can result in loss of control, personal injury or property damage! Remove for towing ONLY! Towing speed should NOT exceed 25 mph.

CONTROLS & INSTRUMENTS

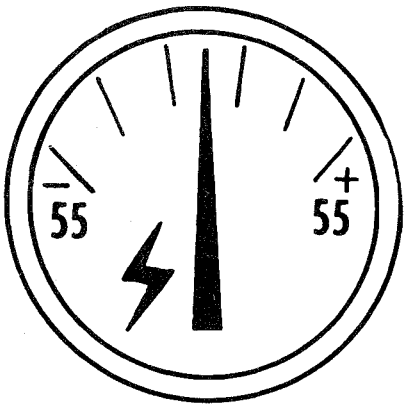


CAUTION: Do NOT attempt to drive this unit until you have completely familiarized yourself with the Steering Wheel, Parking Brake and Forward-Reverse Control Lever operation! This unit steers differently than other vehicles with a steering wheel!

CONTROLS & INSTRUMENTS

CAUTION: To prevent an emergency situation, while becoming familiar with the location and purpose of all controls, BEFORE starting the Engine, make sure all bystanders are clear of the Mower Conditioner and that the Parking Brake is engaged.

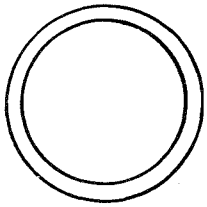
Gauge will show amount of charge or discharge. If Gauge shows discharge while the Engine is running, stop the Engine and determine the cause.



AMMETER

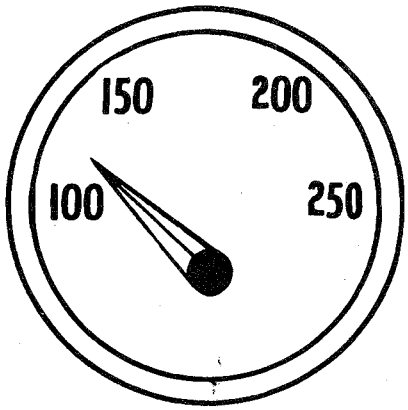
When glowing, this Lamp indicates that the Parking Brake is engaged. Release the Parking Brake Lever when in operation.

CAUTION: Parking Brake is to be engaged when the unit is NOT in operation.



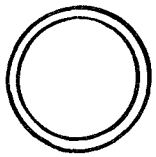
BRAKE LIGHT

This Gauge indicates the temperature of the cooling system and **NOT** the quantity. Normal operating temperature is 170 to 200°F.



WATER TEMPERATURE

If Indicator glows when Engine is running, stop the Engine immediately and determine the cause. This Lamp should glow with the Ignition Switch on, without the Engine running.



ENGINE OIL PRESSURE

OPERATING CONTROLS

HEADER CONTROL PEDAL

To raise the Header press down on the rear of the Pedal. To lower the Header, press the top of the Pedal. Header will stop at any height by releasing the Pedal when raising or lowering. To hold the Header in a floating position, depress the top of the Pedal and leave it in fully depressed position. It is recommended that the Header is lowered, and the Parking Brake engaged, when parking or stopping the machine.

NOTE: The Header will NOT drop with the Engine shut off.

CAUTION: Header will drop if Engine starter is used with Foot Pedal in float position.

HEADER ENGAGING LEVER

To start the Header, push the Lever forward at a low Engine speed. To disengage Header, pull Lever back.

SPEED CONTROL LEVER

The Speed Control Lever controls forward and reverse movement of the machine as well as speed. The Lever gives as infinite speed range from 0 to 12 mph forward and 0 to 9 mph reverse.

NOTE: The Speed Control Lever MUST be in neutral and Steering Wheel in straight forward position before the starter will engage. The Speed Control Lever is used for braking control and to stop machine movement with Engine running. Set Parking Brake before shutting the Engine off.

THROTTLE

The Throttle Lever controls Engine speed. To start the Engine, operate the Preheat Pushbutton as necessary, move the Throttle Lever 3/4 to full and turn the Ignition Key to start the Engine.

NOTE: NEVER move unit with Engine at idle speed. ALWAYS move with Engine at full throttle.

STEERING WHEEL POSITIONING

Turn Steering Wheel to the center position before leaving the operator's area. If the unit was **NOT** left in this position, the center position can be found **WITH THE ENGINE SHUT OFF** by rotating the Steering Wheel fully clockwise until it stops, then fully counterwise while counting the number of revolutions to reach the stop. Then, rotate the Wheel clockwise exactly half the number of revolutions.

DIESEL SHUT OFF

To stop the diesel Engine, turn Ignition Switch off, then pull Shut-Off Knob and hold until the Engine stops rotating. Then, return Shut-Off Knob to operating position, otherwise difficulty may be experienced in restarting the Engine.

PARKING BRAKE

Set the Parking Brake by pulling the Handle up, release by pushing forward. See Maintenance and Adjustments section for Brake adjustment.

CAUTION: NEVER dismount from the Mower Conditioner or leave the Mower Conditioner parked without engaging the Parking Brake Lever and placing the Steering Wheel near center position.

DIESEL COLD-START (PREHEAT) BUTTON

The diesel Engine comes with a Cold-Start (Preheat) Pushbutton to operate the Glow Plugs for cold starting assistance. To use, turn the Switch to the on position and hold the Preheat Button down for about 30 seconds to 1 minute, depending on outside temperature. Then, release the Button and start the Engine.

CAUTION: NEVER use ether or any other kind of starting fluid with a Preheat Button or damage to the Engine and personal injury may occur.

STEERING CONTROL

The Steering Wheel gives the operator steering at the touch of the finger.

With ground speed below 3 mph, a spot turn is possible. Simply turn the steering wheel all the way to the left or right, the wheel on the inside of the turn will reverse its rotation while the outside one moves forward, turning the machine in a tight radius.

The control automatically increases turning radius with increased speed for safer turning above 3 mph.

At a ground speed of 3 to 6 mph, a more gradual pivot turn is possible. When the Steering Wheel is cramped left or right, the hydrostatic unit on the inside wheel is reduced in power causing it to slow down while the outside wheel increases by the same speed. This causes the machine to turn but does **NOT** allow a spin turn.

At ground speeds from 6 to 12 mph, the radius of the turn will increase with the ground speed. At 12 mph, the largest turning radius will occur.

FIELD OPERATION

CAUTION: Do NOT start the Engine until you have carefully read and followed the instructions in this manual. NEVER move unit with Engine idling!

CAUTION: BEFORE starting, make sure all bystanders are clear of Mower Conditioner.

STARTING THE ENGINE

1. Make sure the Parking Brake is set (Lever to the up position).
2. Place Speed Control Lever in neutral position.
3. Open throttle fully for starting.
4. Turn Ignition Switch clockwise to engage starter.
5. Steering Wheel **MUST** be in neutral position before starter will engage. This prevents the possibility of throwing the machine into a spin turn while starting.
6. Give hydraulic oil ample time to warm up before attempting to move machine.
7. After warm-up, **NEVER** operate for any reason, in loading or unloading, in road transport, or in field use, without Engine speed at full throttle. Severe damage to expensive hydrostatic components can result from use of the unit at less than full Engine speed. **NEVER** move unit with the Engine idling!
8. Release the Parking Brake before attempting to move. Always apply Parking Brake and shut off Engine before dismounting from machine.

FIELD OPERATION

Correct field operation can save time and crops. The service you receive from your Mower Conditioner depends on the lubrication, proper adjustments of belts, chains, and correct operating adjustments to meet varying crop conditions.

WHEN TO WINDROW

Small grain is ready to windrow when it passes from the milky stage into the dough stage. It should be windrowed before it reaches the shattering stage. Use Auger and Reel Slow Down Sprocket if needed. Sprocket is obtained from your GEHL dealer.

CROP CURING TIME

The curing of any crop or drying time depends upon the stubble left for air circulation under the material.

GROUND TRAVEL SPEED

Under normal conditions, a speed of 4 to 6 mph will produce a good windrow and not overload the machine. A slower ground speed, in down and tangled crops, is advisable for a clean cutting operation. In grain or light crops, a higher ground speed may be used. Avoid excessive speed, a steady speed can accomplish more. Always use full Engine speed.

PLATFORM AND REEL ADJUSTMENTS

Adjust the platform for good flotation over ground. Lower Header Shoes in rocky conditions to reduce replacement cost of Sections and Guards. Also, tip Header back in rocky conditions.

PUSHBAR

Adjust the Pushbar height to suit your crop. The function of the Pushbar is to bend tall crops for butt-first feeding into the Auger and Hay Conditioner.

CAUTION: Do NOT attempt to operate unit with the Pushbar removed.

Pushbar

OPERATION & ADJUSTMENT

CAUTION: BEFORE proceeding to make any adjustments on this machine, exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (page 8).

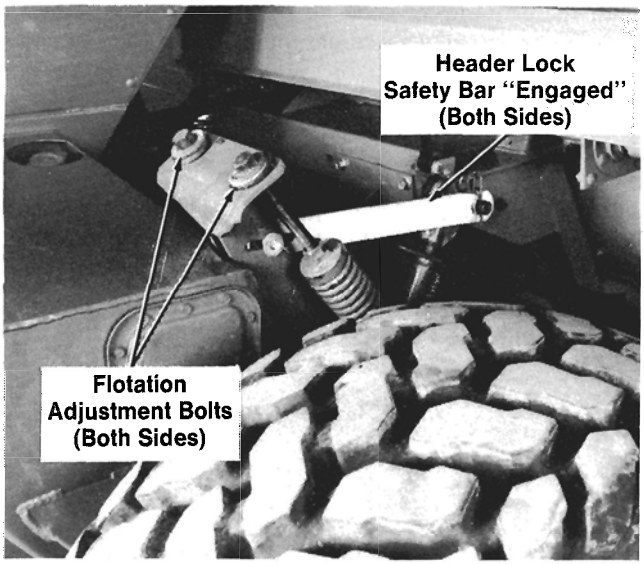
HEADER FLOTATION

Check Header flotation with Header lowered. A force of approximately 50 pounds should lift either end of the Header. Too much weight on the Header can cause excessive Guards and Sickle Sections breakage.

To adjust flotation, turn Flotation Spring Bolts in or out equally as required. Always check flotation after any change in Skid Shoe or Gage Wheel setting or addition of same.

NOTE: Bolts are easier to adjust with Header raised. Lower Header again to check flotation.

CAUTION: ALWAYS lock Header in up position with Safety Bars, located above Push Arm Lift Cylinders, when working under Header.

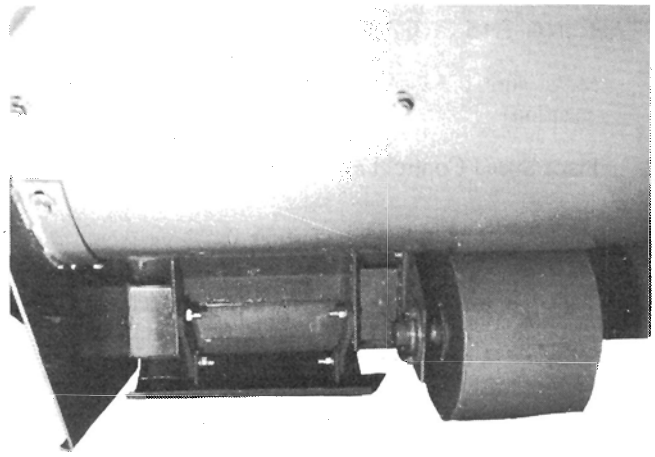


HEADER SHOES OR GAGE WHEELS

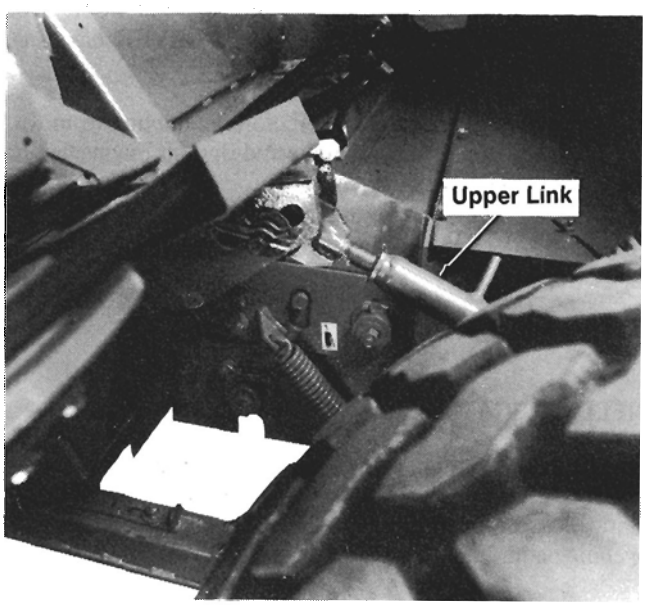
The Skid Shoes or Gage Wheels provide accurate control of cutting height. Adjust height as desired, making certain both sides are the same. Always check flotation following any change in cutting height. In rough and rocky fields, a higher cutting height and adding Shoes to the inside location will protect Sickle and Guards.

If Shoes and Gage Wheels are both used on ends it is recommended that Shoes are mounted on outside and Gage Wheels on the inside. Also run the Gage Wheels about 1/2 to 1″ lower than Shoes.

NOTE: Gage Wheels can be adjusted to maximum up and down position by using one center bolt hole in the Gage Wheel Side Plates.



NOTE: Adjust the Guard angle by making the Upper Links either shorter or longer. Upper Links must be the same length for maximum oscillation.



OPERATION & ADJUSTMENT

CAUTION: BEFORE making any adjustments, shut off Engine.

GENERAL OPERATION

NEVER overload Conditioner. In heavy hay maintain full Roll speed with slower ground speed.

In down and tangled crops use slower ground speed and move Reel forward and down. Avoid overloading the Header by decreasing ground speed or cutting less than full width of Header.

Avoid running machine empty at high speed. Running empty causes excessive wear.

UNPLUGGING

It is possible for the Header to plug in two different areas. It can become plugged in the Sickle Guards area, leaving a skip (narrow band of standing crop) or, it can become plugged in the Conditioning Rolls, causing the Reel Drive Belt to slip.

Plugged Guards

To clear a plugging condition in the area of the Sickle Guards:

1. Stop forward travel but keep Header drive on.
2. If the plug contains a small amount of crop, continue to step 3. If the plug contains a large amount of material, stop the Header and proceed to step 5.
3. After stopping, back-up the unit (about a foot) with the Header down and running.
4. If the Reel does **NOT** clear the plug, raise the Cutterbar away from the ground approximately 6″ with the unit running.
5. If the plug is still **NOT** cleared, perform the following steps:
   a. shut off Header and raise it all the way up
   b. engage both Header Transport Locks (see photo on page 16) and exercise the MANDATORY SAFETY SHUT-DOWN PROCEDURE (page 8).
   c. carefully clear the plug from the Cutterbar area

Plugged Conditioning Rolls

To clear plugging from the Conditioning Rolls, proceed as follows:

1. Shut off Header and raise it all the way up
2. Engage both Header Transport Locks (see photo on page 16) and exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (page 8). Use extreme caution since Sickle position is **NOT** locked; movement of Reel assembly or Conditioning Rolls can cause Sickle movement and potential serious injury.
3. Clean off area on Cutterbar and under Reel.
4. Open the Gearbox Cover and, using a prybar, rotate the PTO Drive Shafts to clear the plug.
5. Remove the remaining crop between the Conditioning Rolls and Reel.
6. Close and secure all Guards before resuming operation.

REEL POSITION

Factory setting of Reel and Cam should **NOT** be changed unless absolutely necessary. In down and tangled conditions, it may be necessary to move the Reel forward and down. To move the Reel up or down, loosen four bolts, then adjust the bolt on the top. To move the Reel forward or back, slide in slots, then retighten four bolts. Adjust cam end of Reel so Reel is parallel with Cutterbar. To adjust cam end of Reel, loosen three bolts and four bolts on Bearing Hanger behind Reel Drive Pulley. Then, using the screw adjustment as above, move the Reel up or down as necessary or slide forward or back in slots. Tighten bolts. Make certain the Reel clears the Cutterbar and Riser Pan by at least 1/8 inch.

Any change in Reel position, check Reel Drive Belt tension.

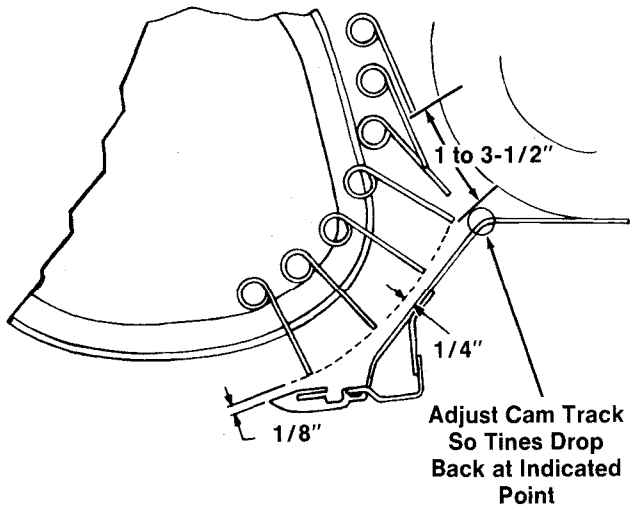
REEL CAM POSITION

To change the cam action of the Tines for proper release of material, loosen three bolts and rotate Cam Track as required; tighten all bolts. Proper material release is evident when the material flow is along the front of the Auger, **NOT** under the Auger or being carried over the Reel.

REEL CAM ADJUSTMENT

This shows the best adjustment range for most crop conditions. Within a 1 to 3-1/2″ dimension is the distance wherein the Tines should start to release material to the Auger. A 3″ distance is usually the best position. If too much material is going over the Reel, have the Tines release (drop back) sooner. If too much material is feeding under the Auger, instead of along the front of the Auger, increase the release point to the maximum 3-1/2″ distance.

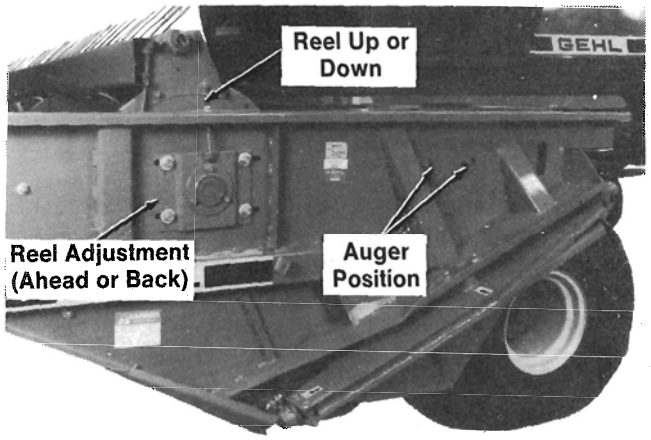
NOTE: If material in the windrow is bunched-up, on a regular basis, adding two extra reel bats will make the windrow move more uniformly. A 6-Bat Reel package can be obtained from your GEHL dealer.



OPERATION & ADJUSTMENT

REEL SPEED

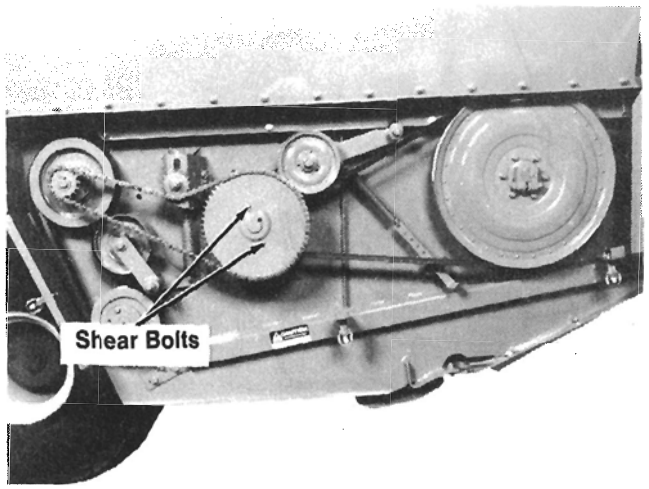
Reel speed is factory set for average ground speed and field conditions and normally does not require any change. If necessary, Reel speed can be changed by removing the four bolts in Variable Drive Sheave and either removing shims to increase or adding shims to decrease Reel speed. Extra shims are stored under the four bolts on the side of the Sheave. If the Reel is running jerky in heavy conditions, slow the Reel down. Higher ground speed will require faster Reel speed for best cutting efficiency. When the Reel speed is changed, check Reel Drive Belt tension (see Maintenance Section).



AUGER POSITION & SHEAR BOLTS

Normally **NO** change is required in Auger position. Clearance between Auger and Stripper Angles should be 1/8 to 1/4. Auger position can be changed by loosening the four bolts on the right Bearing Hanger and three bolts on left side and moving Auger as required, then tightening bolts. Make certain both end of the Auger are adjusted evenly so Auger is parallel with Stripper Angles. Stripper Angles can also be moved to get a constant clearance between Auger and Stripper Angles.

The Auger and Reel Drives are protected by two shear bolts. Make certain any replacement shear bolts are Grade 5 quality with three radial marks on the bolt head. Do **NOT** use Grade 2 or Grade 8 bolts.



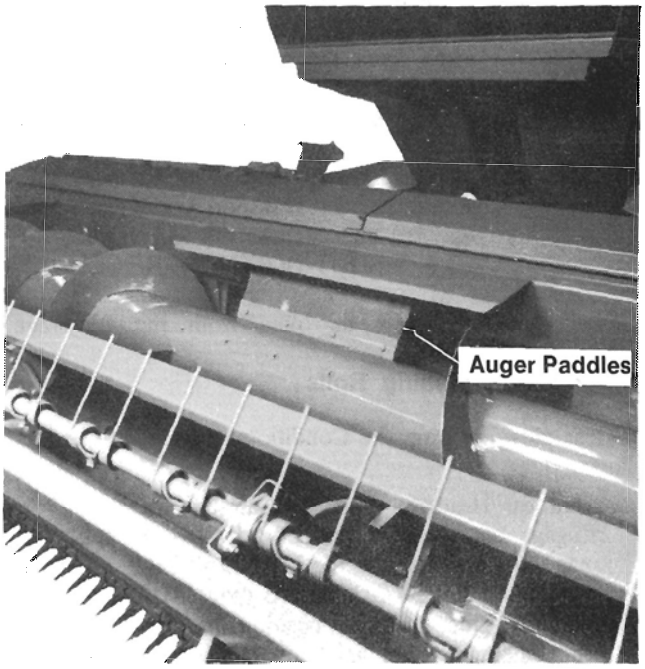
REAR STRIPPERS

The Rear Strippers are two piece assemblies and can be adjusted forward to get exact Auger clearance. Removal of Stripper Angles in front of the Auger may be required in heavy crop with build up problem in center of Auger, and therefore give a smoother flow of material to the Conditioner.

Always keep Rear Strippers adjusted to approximately 1/8 clearance to the Auger. This prevents any material from being carried over the Auger.

AUGER PADDLES

Regular equipment is two Auger Paddle assemblies. The two Auger Paddles should be positioned 180 degrees apart. The Paddles are for feeding material evenly into the Conditioner. For normal hay cutting operations this is all that is required. For adverse hay conditions, if material is not feeding evenly under the Auger to the Conditioner, add two more Paddles. (See your GEHL dealer for parts.) Remove all Paddles and Paddles Brackets only if you are having a wrapping problem in the center of the Auger with the Crop Conditioner removed or when cutting grain or seed crops. Also tall lodge crops may work better with **NO** Paddles.



AUGER SPEED

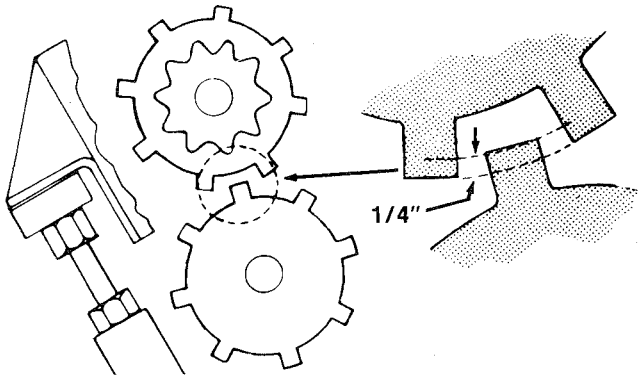
The Auger speed is factory set for average conditions. If necessary, the Auger speed can be changed by changing the Drive Sprocket to a larger or smaller Sprocket. Use the larger Sprocket for heavy crops. Use the smaller Sprocket for cutting grain or seed crops. (Substitute Sprockets are available through your GEHL dealer.)

OPERATION & ADJUSTMENT

CONDITIONER ROLL SPACING

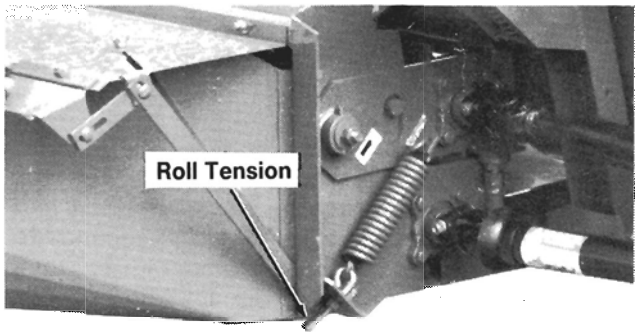
Normal Roll spacing, as set from the factory, is 1/4 inch mesh of the steel bars. If necessary, Roll spacing can be changed by adjusting the proper Bumper Bolt. Unlock Jam Nut, turn Bolt in to decrease spacing and out to increase spacing. Make certain both sides are adjusted evenly. For minor adjustments of Roll spacing, Roll tension can be left as is. For a large spacing change, releasing the Spring pressure as described below will make the change easier.

NOTE: NEVER allow Conditioner Rolls to run against each other as excess vibration and damage will result.



CONDITIONER ROLL TENSION

The Roll tension is adjusted with bolt. Make certain both sides are adjusted equally. Use only enough Roll pressure to crack the stems with minimum leaf damage. As a general rule, thick stemmed crops will require less pressure than grassy crops.

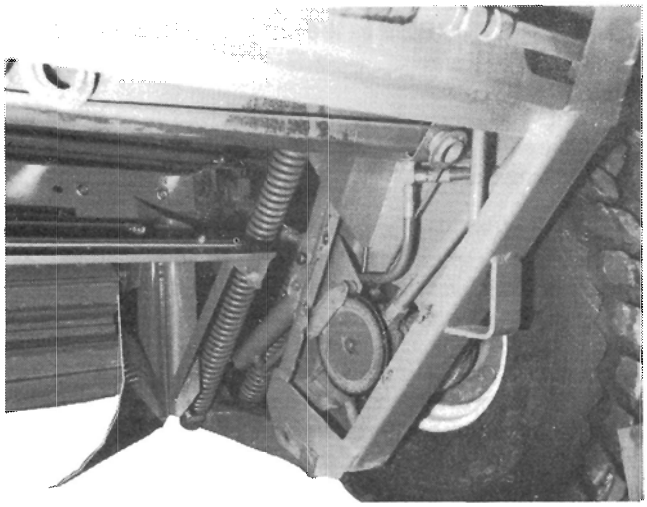


WINDROW FORMING SHIELDS

The width of windrow can be changed by moving Windrow Shields in or out. Loosen Wing Nuts and move Shield in or out. In some conditions, a better Windrow can be obtained by moving one Shield in more than the other.

FLUFFER SHIELD

By moving the Fluffer Shield, the hay can be laid out in a swath the width of the Rolls. To move the Fluffer Shield; loosen bolts and move Fluffer up or down as required.



TORQUE VALUES FOR ACCESSIBLE BOLTS AND CAP SCREWS

Periodically, check all bolts and cap screws on the unit for proper tightness.

Refer to the table at the back of this manual for the torque values for various standard bolts and cap screws.

NOTE: Be careful when tightening hardware. Most of the hardware is tightened to a specific torque at the factory.

COLD WEATHER OPERATION

When starting a Hydrostatic Mower Conditioner in cold weather, let it run until the oil has warmed up enough for good circulation in Hydrostatic units.

If the Engine fails to start in cold weather, an extra 12 volt Battery can be connected in parallel. The extra Battery **MUST** be connected negative to negative and positive to positive. Connecting the extra Battery negative to positive produces a charge of 24 volts which can cause an instantaneous and extensive damage to the electrical system.

Jump-starting a Discharged Battery

CAUTION: The ONLY safe method of jump-starting a discharged Battery is for two people to carryout the following procedure. This is necessary in order to remove the jumper cables without leaving the Cab with the Engine running.

If the Battery becomes discharged and fails to have sufficient power to start the Engine, jumper cables can be used to obtain starting assistance.

WARNING: Do NOT attempt to jump-start the Battery if it is frozen as this may cause it to rupture or explode. Closely follow the procedures in the order listed to avoid personal injury.

NOTE: BE SURE that the jumper battery is also a 12 volt D.C. battery.

1. Turn the Ignition Keys of both vehicles to "Off" and make sure that both vehicles are in "Neutral" and **NOT** touching each other.

2. Remove the Filler Caps and make sure that the electrolyte solution is up to the proper level. In addition, place a clean cloth over the uncapped filler holes to prevent the electrolyte solution from boiling-over.

CAUTION: If acid contacts your skin, eyes or clothing, flush the area IMMEDIATELY with large amounts of water.

3. Make the positive (+) jumper cable connections between both vehicle batteries first.

4. Connect one end of the negative (-) jumper cable connection to the tractor or Engine Block.

WARNING: NEVER attempt to make jumper cable connections directly to the Starter Solenoid of the Engine. ALWAYS make the connections to the positive (+) Mower Battery Terminal and to the Mower Frame (ground). The last jumper cable connection made should ALWAYS be the negative (-) cable connection to the jumper vehicle negative (-) battery terminal.

5. Make the last jumper cable connection (the other side of the negative cable which is onto the Mower Frame) to the negative (-) terminal of the jumper vehicle battery.

NOTE: Twist the jumper cable clamps a couple of times on the battery terminals to insure a good electrical path for conducting current.

6. Proceed to start the Mower tractor. If it does **NOT** start immediately, start the jumper vehicle engine to avoid excessive drain on the booster battery.

7. After the Mower tractor is started and running smoothly, have the second person remove the jumper cables from the jumper vehicle battery and then from the Mower Battery while making sure **NOT** to short the two cables together.

Allow sufficient time for the Mower Alternator to build-up a charge in the Battery before attempting to operate the Mower or shut the Engine off. **BE SURE** to discard the cloths and replace the Vent Caps.

NOTE: If Battery discharging becomes a recurring problem, have Battery checked for a possible dead cell(s) or troubleshoot the electrical system for possible short circuits or damaged insulation.

HOT WEATHER OPERATION

Check the level of the coolant in the Radiator daily, after it has cooled down. Fluid level (cold) should be approximately 1 below the neck of the Filler Cap. Remove Cap slowly.

CHECK ENGINE RADIATOR ANTI-FREEZE

The machine comes from the factory with the coolant system filled with a permanent anti-freeze mixture good for 30° below zero. For best operation all year round, maintain a similar solution. Should water alone be used, add a good quality rust inhibitor, and make certain the system is drained if there is danger of freezing temperatures.

BATTERY

Check the fluid level of the Battery once a week and add distilled water or rain water to bring the contents to the correct level.

Periodically check the specific gravity of the electrolyte with a hydrometer. The reading should be 1,260 to 1,300. A reading below 1,255 indicates the Battery need charging.

Install the Battery, with the negative terminal connected to ground. Tighten Battery Terminal Clamp Bolts securely.

HYDRAULIC SYSTEM AND ENGINE CRANKCASE

Use only lubricants sold by a well known and reputable manufacturer. The correct viscosity of lubricants is necessary for proper protection. See Lubrication page for type required.

NOTE: The diesel Engine comes with a Cold-Start (Pre-Heat) Pushbutton for starting. To use, turn the Ignition Keyswitch to the on position and hold the Pushbutton down for about 30 seconds to 1 minute, depending on outside temperature. Then, release the Button and start the Engine.

CAUTION: NEVER use ether or any kind of starting fluid with a Cold-start Button or damage to the Engine or personal injury may occur.

LUBRICATION & PERIODIC SERVICE

ENGINE BREAK-IN

After the first 50 hours of service on your Mower Conditioner, change the Engine oil and Filter. Thereafter, change the Filter at the normal interval. If, during the break-in period, it is necessary to add Engine oil, see below. Lubrication and service, in this section, is based on normal conditions. If operating under adverse conditions, service more frequently.

HYDROSTATIC TRANSMISSION BREAK-IN

After the first 50 hours of service on your Mower Conditioner, change the Transmission oil and Filter. Thereafter, change the Filter at the normal interval.

CAUTION: Do NOT lubricate equipment with the Engine running.

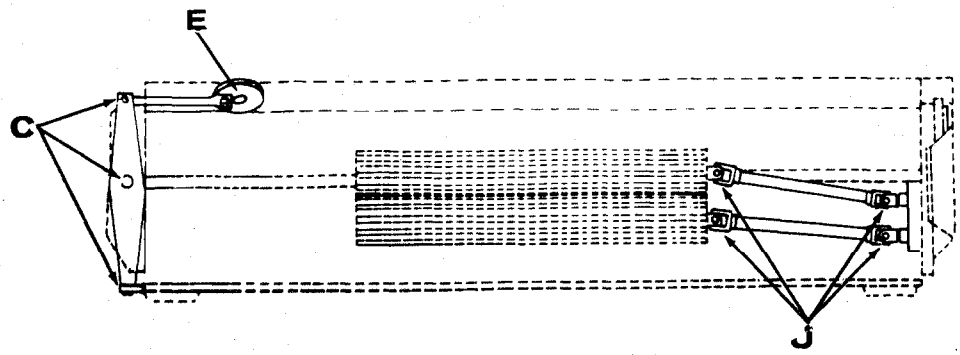
Perkins Diesel Engine	Tractor Power Wheels
Above 80° temperature - SAE 30 API - CC (MIL-B) 30° to 80° temperature - SAE 20W20 API-CC (MIL-B) Fuel Grades - DF-A, DF-1, DF-2 **Altitude -** When operating unit above 2000 ft, it may be necessary to derate the engine by reducing the amount of fuel being fed into the engine. See dealer for setting.	SAE 90 EP Gear Lubrication Fill to center line of power wheel.
Hydrostatic Supply Tank	**Conditioner Drive Gear Box**
Use Automatic Transmission Fluid, Type F, or equivalent Hydraulic Oil with Viscosity Index of 150, in temperature ranges per Table below. 13.75 gallons - check with dipstick.	SAE 90 EP Gear Lubrication Fill to check plug at top of the box.
Header Drive Gear Box	**Cleaning Spark Arresting Muffler**
SAE 90 EP Gear Lubrication Fill to check plug at side.	Easy disposal of the accumulated particles is accomplished by removal of the pipe plug when the arrester is cooled. A slight tap on the arrester may be enough to drain the spark trap. If not, a wire or stiff bottle brush might begin the drainage. Industrial vacuum cleaners do a complete job. (In a safe area you may start the engine and idle in neutral. Alternate between idle and high idle for a couple minutes. Turn off the engine and let the arrester cool again.) Replace the pipe plug. Do this after every 250 hours of use. Although the frequency may seem unnecessary in many applications, some conditions warrant the precaution.
All Mower Conditioner Grease Fittings	
Use a good grade of multi-purpose gun grease.	

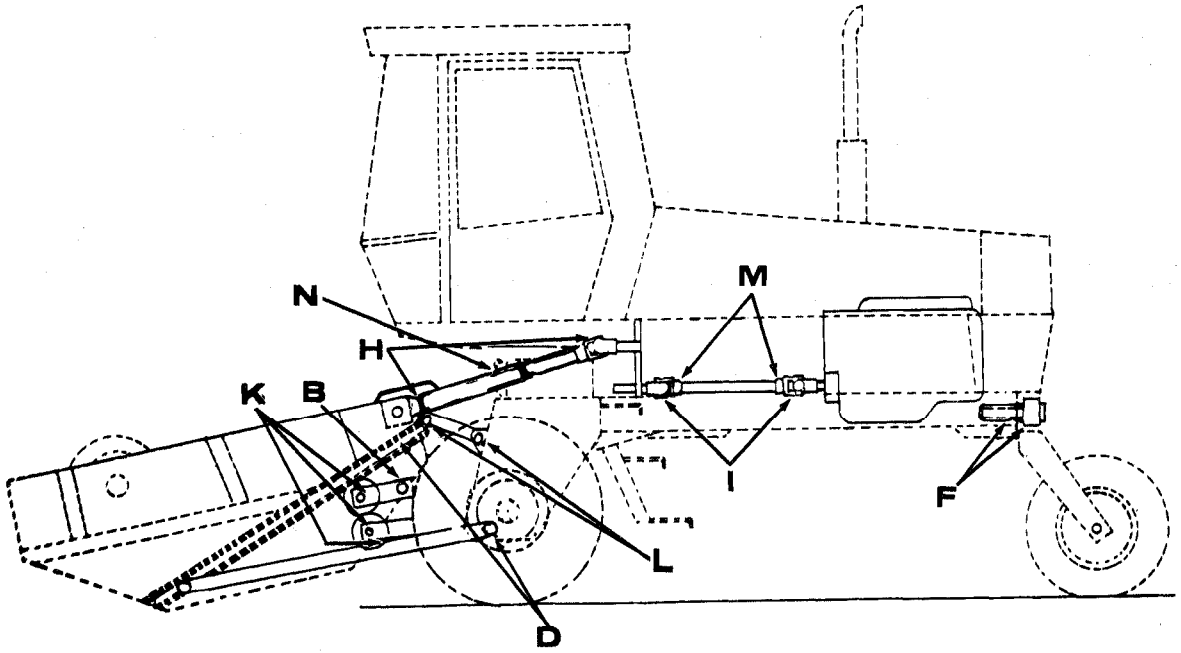
Hydrostatic Supply Oil Temperature/Viscosity Table

Temp. in °F	0°F	100°F	210°F
Viscosity	SSU 5000	SSU 185	SSU 50/52

LUBRICATION & PERIODIC SERVICE

Ref. Hours	Number of Fittings	Name	Amt. of Grease Gun Pumps
Daily			
B 10	2	Conditioner Arm Pivots	3 Pumps
C 5	3	Wobble Arm	2 Pumps
Weekly			
D 50	6	Push Arms & Link Bushing	3 Pumps
E 50	1	Flywheel Bearings	Grease Appears at Dust Cap
F 50	3	Rear Axle Pivots	3 Pumps
2 Weeks			
H 100	2	Header PTO Knuckles	2 Pumps
I 100	2	Tractor PTO Knuckles	2 Pumps
J 100	5	Conditioner PTO Knuckles	2 Pumps
K 100	4	Conditioner Roll Bearings	2 Pumps
L		Tractor & Header Links	Apply Oil Periodically
M 10	2	Spline to Yoke	2 Pumps of Grease with Molydumum
N 5	1	Telescoping Spline	3 Pumps of Grease with Molydumum





PERIODIC SERVICE

GENERAL

Perform regular inspection and maintenance of your GEHL Self-propelled Mower Conditioner. A few minutes spent in lubricating and general maintenance of your machine every day will return itself many times in the prevention of repairs. After the first few hours of operation and periodically thereafter, check all Bolts, Sheaves, Sprockets and Bearing Lock Collars to make sure they are tight.

Check and adjust, if necessary, the following:

1. Belts and Chains on all drives.
2. Control linkages for the Hydrostatic, Neutral Switch, Lockpin, Table, Crimper, Parking Brake and Steering.
3. Crimper Roller Timing, Roller tension, Bumper Stops.
4. Cutterbar for worn, bent or broken Guards, Knife Clips and Knife Sections. Repair, if necessary.
5. Reel speed.

Inspect Daily for First Three Days & Thereafter (Every 1/2, 1, 3, 5, & 10 Hours)

It is important that you check these areas on the machine before using it.

1. Nuts and Bolts; tighten if necessary. Pay particular attention to bolt torques on Wheels (~~220~~ 300 ft-lbs).
2. Nuts and Bolts on the Sickle Drive, Pitman and center of Wobble Arm Pivot. (Torque to 80 ft-lbs)
3. Belt tensions and alignment periodically. Examine Belts for scuffing or wearing on the top, sides and back of the Belts.
4. Cutterbar, Knife Clips and Guards for misalignment and poor cutting.
5. Bearing Locking Collars for looseness.
6. Hydraulic lines for chafing, rubbing and leaking.
7. Chain tension adjustment and Sprocket alignment.
8. Oil levels in Engine, Hydraulic Reservoir and Gear Boxes.
9. Engine coolant level.

WARNING: Do NOT remove the Radiator Cap when the Engine is HOT, running or overheated! Coolant is extremely HOT and under pressure. Wait for the Engine to cool BEFORE relieving the pressure and removing the Radiator Cap!

10. Oil level in Governor.
11. Hydrostatic units and lines for leaks.
12. All moving parts for excessive wear.

WARNING: Carefully inspect all Hydraulic Hoses and connections on a routine basis; NEVER use your hand! Escaping fluid, under pressure, can cause serious injury! If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is NOT administered IMMEDIATELY!

Daily Inspection Check (10 Hours)

1. Oil level in Engine and Hydraulic Oil Reservoir.
2. Radiator coolant level; do **NOT** over-fill.
3. Radiator.
4. Belts for correct tension and condition.
5. Grease.
6. Cutterbar for worn, broken parts.
7. Clean machine of hay and straw, or dirt, especially in area around Pulley and Drives.
8. Check all Nuts and Bolts on machine.
9. Chain on Reel Drive for tightness and proper alignment.

Weekly Inspection Check (50 Hours)

1. Belt alignment and tension.
2. Sickle for correct adjustment.
3. Torque of Wheel Bolts and Pitman Assembly.
4. Check Hydraulic Cylinder fittings, lines, and hoses for leaks.
5. Check Bearing Locking Collars.
6. Nuts and Bolts in areas where vibration may have loosened them.
7. Tapered Bearings in the Wobble Arm and Flywheel Shaft for endplay.
8. Air Cleaner Hose for leaks.
9. Service Air Cleaner.
10. Check electrolyte in Batteries and clean Battery and Cable connections.
11. Tire pressure - See Specifications page.
12. All linkage connections for smooth operation. Lubricate, if necessary.

200 Hour Inspection Check

1. Clean and replace Engine Air Cleaner Element. Clean interior of Air Cleaner body.
2. Engine oil and Filter change.
3. Check and adjust Carburetor and Governor to proper setting.
4. Check Hydrostatic/Hydraulic oil and Filter on the Mower Conditioner.
5. Check and re-torque Wheel Bolts.

Annual Check (400 Hour Inspection)

1. Replace Air Cleaner Element. Clean interior of Air Cleaner body.
2. Replace Engine coolant and flush out Cooling System.
3. Replace Fuel Filter.
4. Pack rear Tail Wheel Bearings.

PERIODIC SERVICE

BELTS AND CHAINS

Maintenance of Belts and Chains is important for the proper and reliable operation of your Mower Conditioner during the harvesting period. Use the following practices in your Mower Conditioner maintenance program:

Belts

Correct Belt tension is important to maximum Belt life, Pulley and Bearing life. Check Belt tension every 50 hours. Refer to Belt Deflection Chart for proper tension settings or to other parts of this section to assist in making proper adjustments.

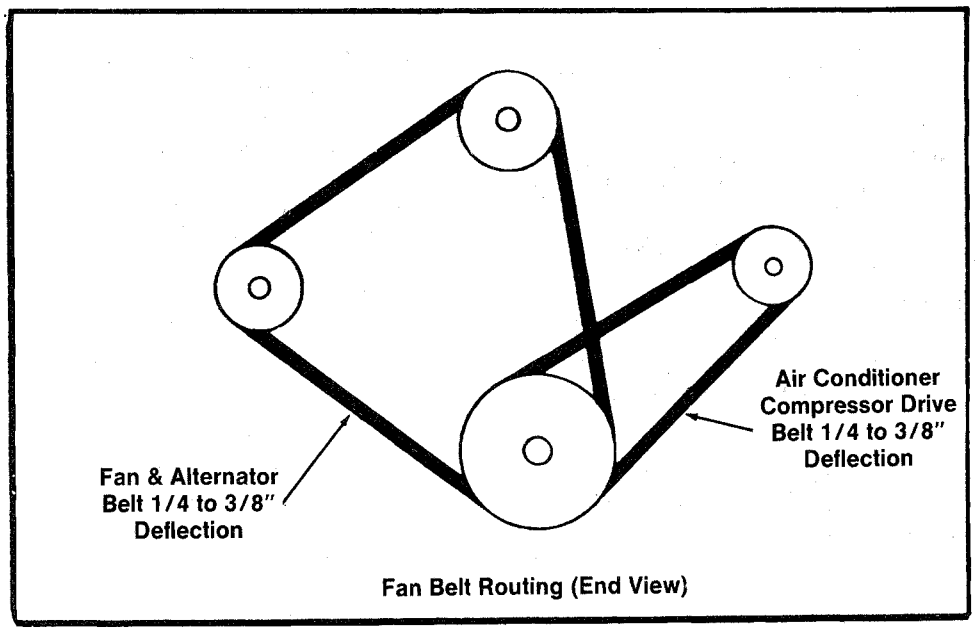
Tension

After a new Belt is installed, watch tension during the first three days of operation. Adjust tension to properly seat Belt. Check Belt tension by using a straight edge and a ruler. Use the Belt Deflection Chart to obtain proper tension. Too much tension causes the belt to heat and stretch. This places a load on the entire Drive Assembly such as Pulleys, Shafts and Bearings. Too little tension causes excessive Belt wear and slippage. Problem encountered are burned spots, overheating and short Belt life. Adjust loose or slipping Belts immediately.

Belt deflection is determined by placing a straight edge across the top of the Pulleys. Pull down on the Belt at the center. Measure deflection from the top of the Belt to the underside of the straight edge.

CAUTION: Do NOT attempt to adjust any Belt when the Engine is running.

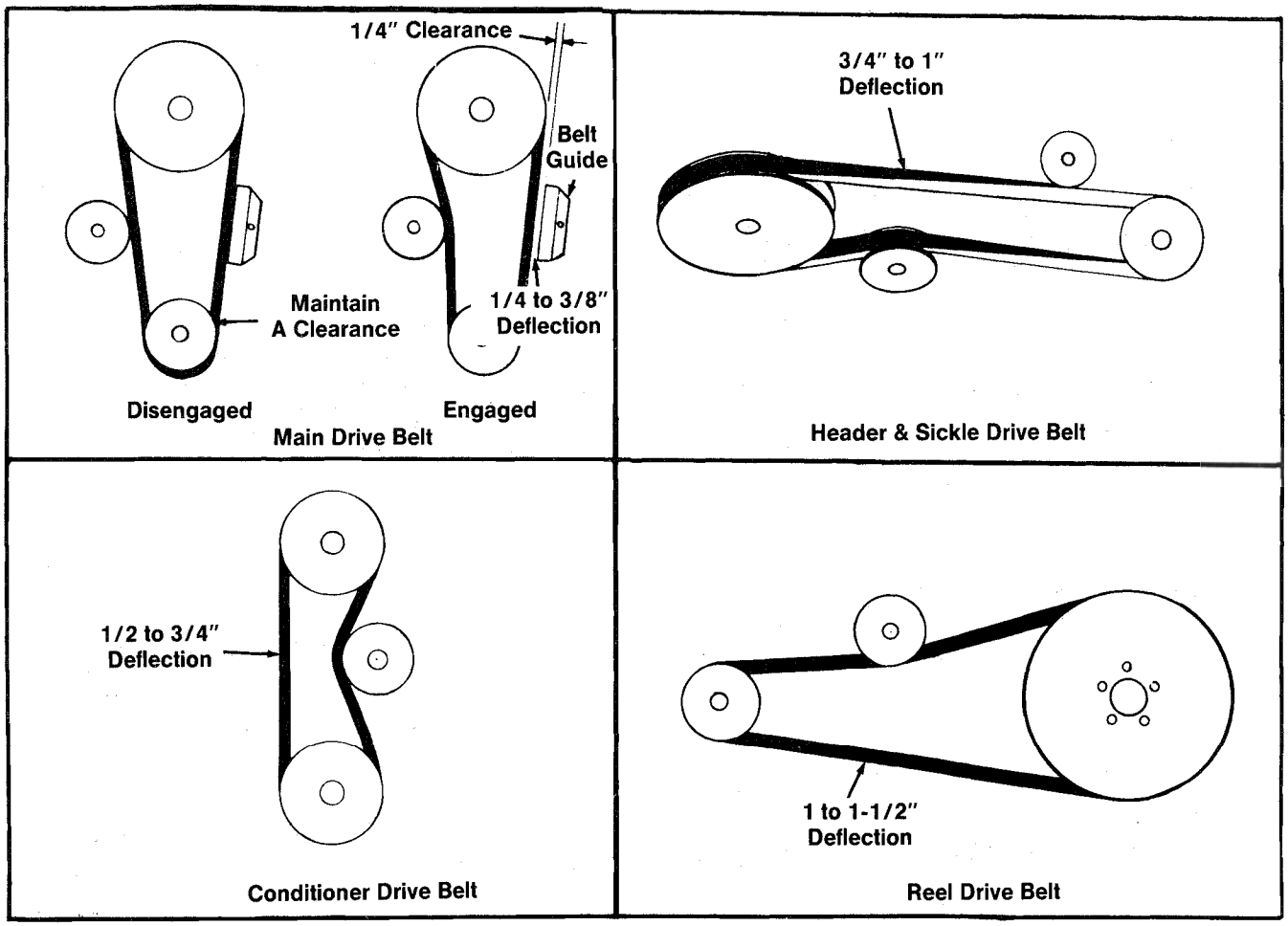
NOTE: All Belts are to deflect, under firm thumb pressure, by the amount indicated. Keep Belts properly tensioned to increase Belt life and efficiency. In addition, pressure should be applied at the center of the longest span of the Belt.



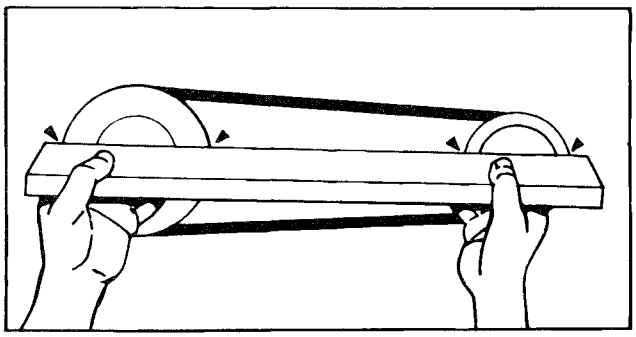
Fan Belt Routing (End View)

PERIODIC SERVICE

NOTE: When a new Belt is installed, it is necessary to recheck the adjustment after a short running period when the Belt will have settled into the grooves of the Pulley and initial stretch, if any, will have been completed.



NOTE: The Main Drive Banded Belt MUST be in perfect alignment to maintain and increase Belt life.



Alignment

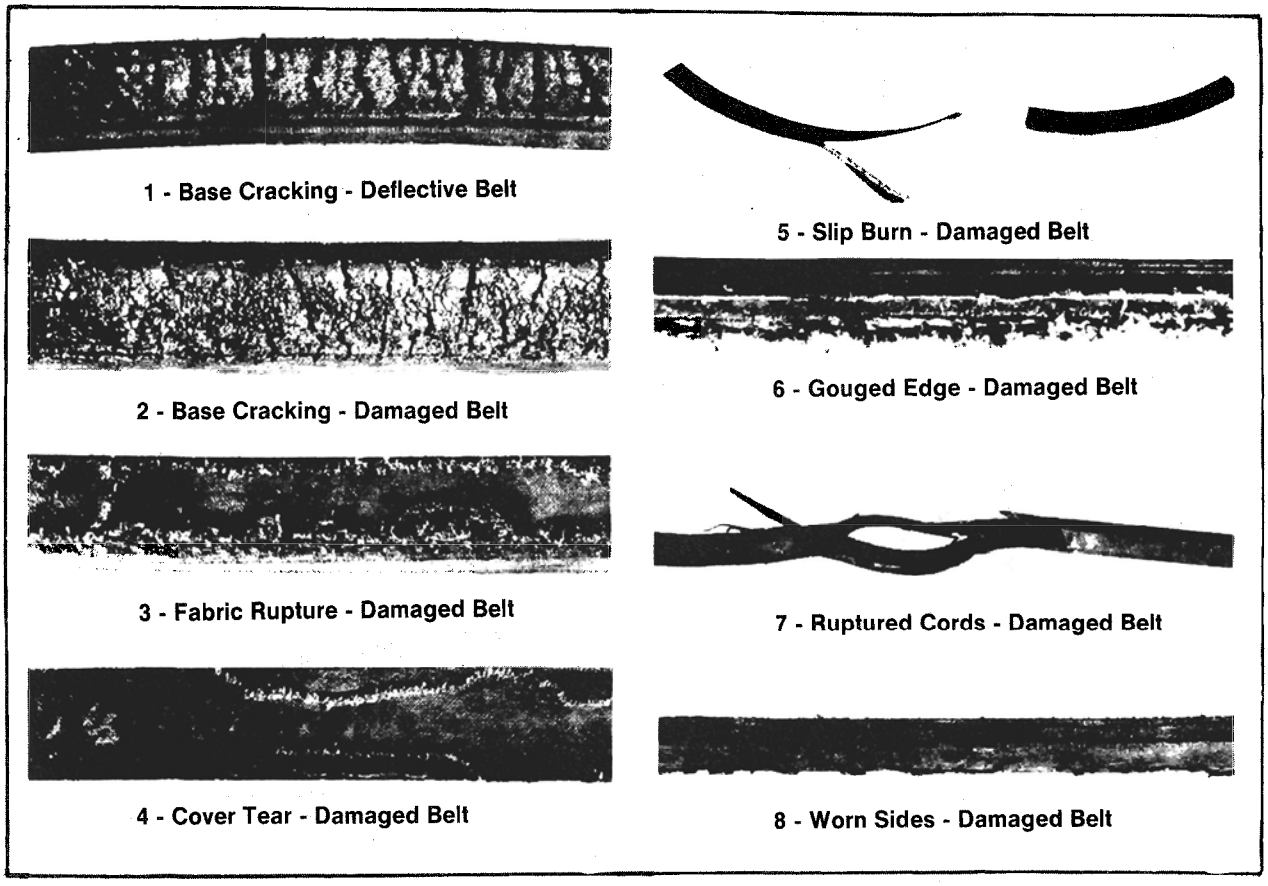
Pulley alignment should be checked every 50 hours to ensure Belts align and Shafts are parallel with each other. Pulley or Sheave alignment is checked by placing a straight edge between the side of the Pulleys. The straight edge must touch the Pulleys at four places. Rotate Pulleys and check at different points and note if there is a variation. If variation occurs, either Pulleys or Sheaves require alignment or replacement.

CARE & MAINTENANCE OF BELTS

V-Belts are an important part of this machine. Their care and maintenance is important. A V-Belt transmits power by friction and a wedging action against the Sheaves. Therefore, proper Belt tension and the condition of the Sheave Sidewalls are of primary importance.

Since the power is transmitted between the Belts and the sides of the Sheave, look there for signs of wear. All Belts and Sheaves wear with use. Normal wear can be recognized as even wear; both on the Belt and the side of the Sheave. It is the unusual signs of wear to look for and correct.

NOTE: When checking Belts remember that many Belts, reported as being defective, have actually been damaged by a bad Sheave, misaligned Drive or some faulty mechanical component of the machine.



Examples of Unusual Wear

CARE & MAINTENANCE OF BELTS

Base Cracking - Excessive cross cracking extending into the rubber on the base of the a Belt having little or no side wear, indicates that the belt has been run a relatively short time and therefore **MUST** be defective. Small cracks, which are in the cover material only, do **NOT** indicate a Belt failure.

If the sidewalls show possibly three of four seasons of use, the Belt should **NOT** be classified as being defective. Actually, the cracks in the base of the Belt show that it has been exposed to weather to the extent that the inner fabric is beginning to rot.

Fabric Rupture - a fabric rupture can be caused by operating a Belt over badly worn Sheaves, by too much tension which forces the Belt face down, or by foreign objects falling into the Sheave grooves while the Drive is operating.

In cases such as this, check the condition of the Sheaves. Avoid prying Belts onto Sheaves.

Cover Tear - A tear in the cover of a Belt is caused by the Belt accidentally coming into contact with some part of the machine. It is **NO** fault of the Belt or its construction.

In many cases, such failure is due to belts running too loose, allowing them to throw-out centrifugal, so that they rub on parts of the machine. Proper Belt tension would prevent this from happening.

NOTE: A slight raveling of the Belt covering at the splice does NOT indicate premature failure. Cut off the raveling if the cover peels at the lap.

Slip Burn - This Belt has been ruined by being operated too loose. The Belt slipped under load, and, when it finally grabbed, it snapped.

Check Belt tension frequently. Turn Drives over by hand to make sure they are free. Advise operators to clear machines of crops before stopping to avoid over-loading Drives when starting up again.

Gouged Edge - A gouged edge in a Belt is caused either by a damaged Sheave or interference with some part of the machine.

Check the condition of the Sheaves. Make sure the Belt does **NOT** rub on any part of the machine while operating.

Burn Due to Locked Drive - A burned area in a Belt is an indication that the Drive locked, causing the Belt to slip on the Sheave.

Prevent the Drive from locking up by checking the tension of any Chain Drives in the Drive Train. Avoid overloading and plugging the machine. **NEVER** attempt to unplug the machine without first exercising the **MANDATORY SAFETY SHUTDOWN PROCEDURE (page 8), BEFORE** attempting to clean it out. Lubricate the machine at the specified intervals to prevent Bearing seizure.

Worn Sides - Badly worn sides of a Belt result from long operations without enough tension. The sides will be worn and the entire circumference will be slightly burned.

Check Belt tension. Also, check Sheaves for incorrect alignment.

Excessive Stretch - A Belt that stretches excessively is one that stretches beyond the Tightener Adjustment provided to take up normal Belt stretch. If this occurs, it will usually develop within the warranty period.

Internal Cord Failure - Failure of one or more of the internal tension cords will result in the Belt rolling over in the Sheaves. (Cords can be broken by prying a the Belt over the Sheaves.)

NOTE: Wipe off oil and grease immediately. Use mild soap and water and brush if necessary to clean. NEVER use strong detergents or solvents to clean. Belt dressing should NOT be used as it will soften the covering of the Belt and shorten Belt life.

GENERAL MAINTENANCE

NOTE: For satisfactory life of Mower Conditioners or mowers and their components, the following points MUST be followed.

1. Speed

Self-propelled Mower Conditioners are designed to operate at a certain Engine speed. This speed is at full throttle. For satisfactory cutting performance and life of the machine, the recommended Engine speed **MUST** be followed. If Engine speed is too slow, the slower Sickle speed will result in ragged stubble at normal ground speed. Also, the machinery may **NOT** form a satisfactory windrow, because of slower Roll speed.

NOTE: If speed is too high, excessive Sickle speed will result in damage to Bearings and other components and will reduce normal Frame life. Engine speed MUST be checked whenever the Engine is tuned or any adjustment to the Governor is made.

NOTE: The warranty on this unit is voided if substitute Cutter parts are used and Cutting Mechanism is NOT properly maintained.

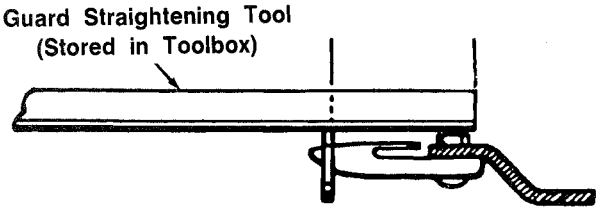
2. Guards

Guards are occasionally bent when running in fields where rock and other obstructions are present.

GENERAL INFORMATION

During the first hour of operation and regularly thereafter, check the machine for loose Bolts, overheated Bearings, or damaged Rolls.

NOTE: Do NOT overload Conditioner. In heavy hay, maintain full Roll speed with slower ground travel. In addition, avoid running machine empty at high speeds. Running empty causes excessive wear.



A Guard Straightening Tool is provided. To bend Guards up, use as shown. To bend down, place under Guard. This is the proper and safe way to straighten Guards.

3. Sections

When Sickle Sections are replaced they should be the same thickness as the original Section. If thick and thin Sections are mixed on the same Sickle, this again causes Sickle binding with result as described above.

4. Flotation

Correct flotation is extremely important to Cutterbar maintenance and overall machine life. If flotation is set correctly (with 50 or 60 pounds required to lift either side of the Header) the Header will tend to ride over obstructions rather than dig in. Improperly set flotation causes Guard bending and breakage and imparts shock forces on the entire machine. Increased cutting height by Skid Shoe setting and tip up of Guard by moving the upper links back can also decrease chances of damage on rocks.

GENERAL INFORMATION

During the first hour of operation and regularly thereafter, check the machine for loose Bolts, overheated Bearings, or damaged Rollers.

NOTE: Do NOT overload Conditioner. In heavy hay, maintain full Roller speed with slower ground travel. In addition, avoid running machine empty at high speeds. Running empty causes excessive wear.

Regularly clean the accumulated dirt from the Header. Too much build-up causes excessive drag on the Header.

PROBLEM CROPS

For down and tangled crops, use slow ground speed. Move Reel forward and down. Increase Reel speed. Cut less than full width of Header, if necessary. Do **NOT** overload by excessive ground speed.

SICKLE

Keep Sickle in good cutting condition. A dull Sickle wastes hay and power.

GUARDS

Check Guards for alignment and make sure Sickle is down on Ledgers.

CUTTERBAR

Soak Cutterbar regularly with water to prevent build-up of dirt and gum.

REEL SPEED

Reel speed should be approximately 20 per cent faster that the ground speed.

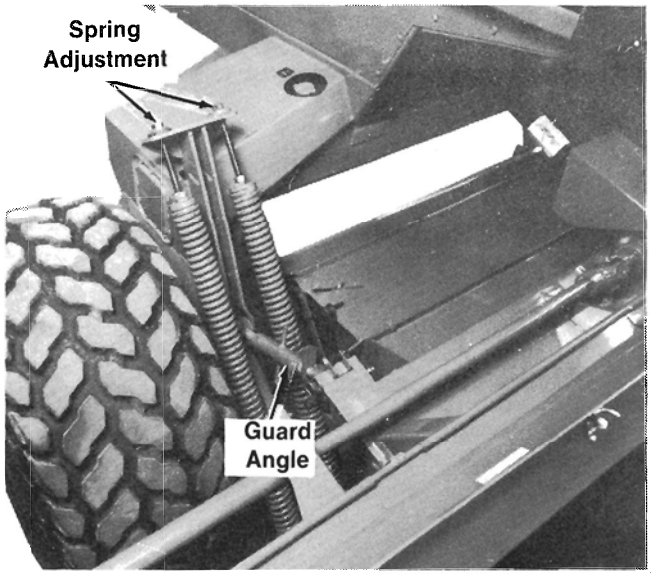
Use lower speed except for special conditions. The lower speed saves wear of Reel Tubes, Bearings, and Drive Parts. See Reel adjustments information.

WINDROW PREPARATION

When windrowing for future pick up with large round baler, make windrow with a uniform cross section (one side should **NOT** be higher than the other). The operator should attempt to cut the full width of the Header or drive where the machine can produce a windrow with symmetrical sides. A windrow that is heavy on one side could cause bales to be cone-shaped.

MAINTENANCE & ADJUSTMENTS

CAUTION: Exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (page 8), BEFORE making any adjustments.



GUARD ANGLE

The Guard angle can be adjusted by turning the Upper Links, where they attach to the tractor.

HEADER FLOTATION

Adjust Header flotation with the Spring Bolts. Raise the Header up and apply gun grease between the Washers. Turn the Spring Bolt to adjust the tension on the Spring. Set the Header flotation to approximately 50 to 60 pounds of downward pressure at each end of the Header. Readjust regularly thereafter, to correct for spring tension drop. **BE SURE** to adjust both Springs equally.

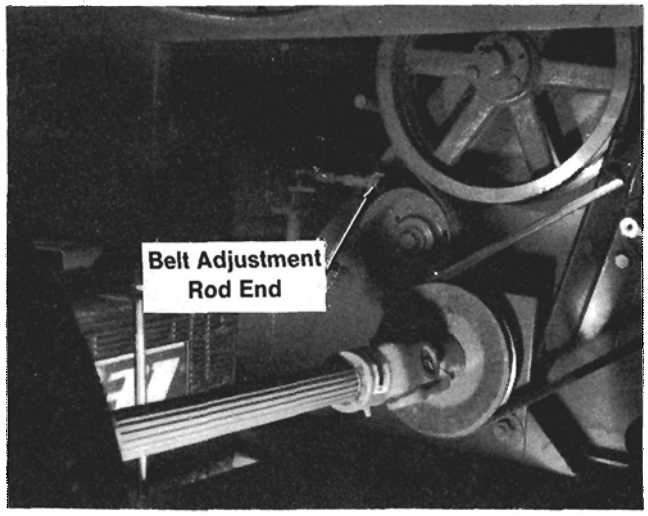
HEADER DRIVE BELT OR COUPLER REPLACEMENT

1. Remove Shaft and Pulley Shield, loosen Air Conditioner Belt and remove from Shaft Pulley.

2. Unseat the Engine PTO Shaft Wire Ring at Universal Joint from the Engine end of the Jack Shaft and slide Engine Shaft back towards the Engine.

3. Remove the 2 Bolts which hold the Flangette Bearing Support Plate to the Jack Shaft Mount and tilt the Flangette away. Remove old Belt and replace with new GEHL part. (It may be necessary to tap the top of Flangette towards front to achieve the needed gap to remove Belt, or remove Flangette and Pulley). **DO NOT LOOSEN** Bolts holding Jackshaft mount to Frame.

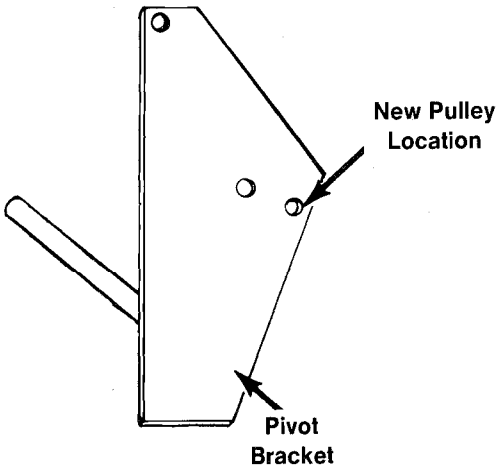
4. Replace the Bearing Bolts and tighten. Reassemble the Engine Shaft to Jackshaft and replace Shield. Make sure the Bearing Support and Shield do **NOT** move, when hardware is tightened. Replace Air Conditioner Belt and tighten Adjustment Screw.



HEADER ENGAGEMENT ADJUSTMENT

The header PTO Drive Belt tension is adjusted by removing the Rod End from Plate, loosening the Jam Nuts and turning Rod Ends. Retighten Jam Nuts, and reinstall Rod Ends. Engage Lever to forward position.

The Lever should remain engaged when operating, if Belt tension is correct. The over-center adjustment is factory set, but may need adjustment due to Belt wear. When further adjustment is required the Rod End location may be changed on the Pivot Plate and the Idler Pulley may be moved to new Hole in Pivot Bracket to achieve over-center lock engagement.



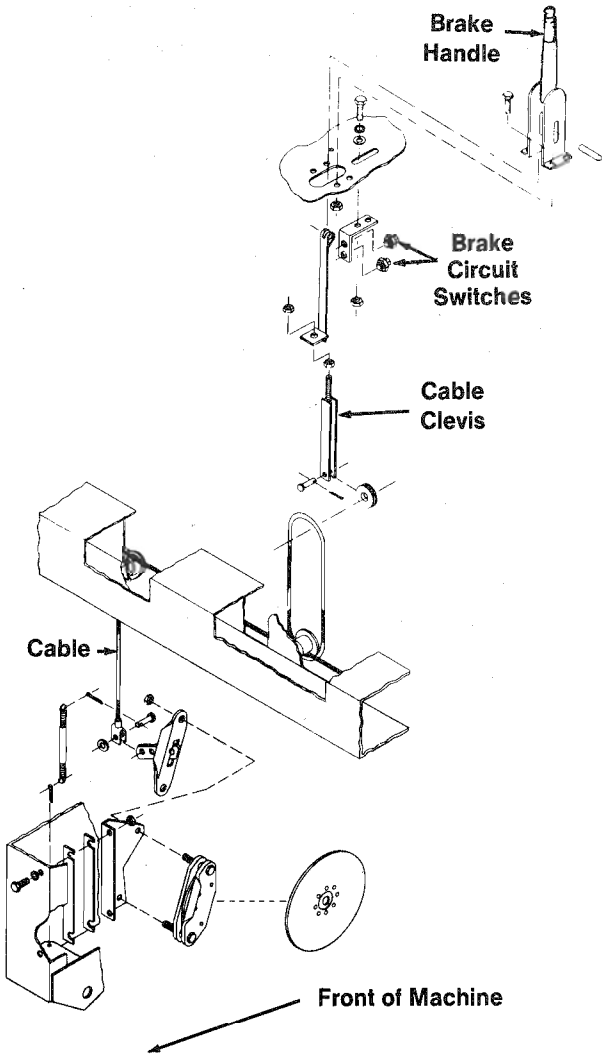
MAINTENANCE & ADJUSTMENTS

PARKING BRAKE ADJUSTMENT

1. Release Lever. Turn end of Lever to release all Cable tension.
2. Turn Cable Clevis adjustment to provide more slack, if necessary.
3. Lubricate Brake Cables where they slide over the Grooved Cable Guide on Leg.
4. Check Brake Caliper for Cam Arms being fully back (Caliper Pads fully open.) Check Cam Arm return Springs and Anchors.
5. Take up all slack with Cable Clevis adjustment.
6. Make final adjustment using Knob on Brake Lever.
7. Observe Caliper contact with Brake Disc, with Brake off. Caliper Pads should be just off contact with Disc.
8. Set Brake Lever on. Check Caliper Pad with Disc for tight clamping.
9. Mount Brake Shields over Caliper Assemblies with 5/16 x 3/4 Cap Screws.

CAUTION: These Shields MUST be in place before operating in field. These Shields prevent combustible material build-up in the Brake area.

10. Test Brakes with unit in parked position.

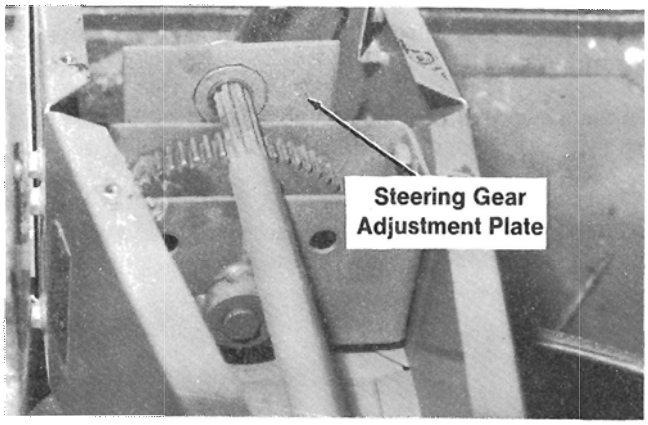


SEAT ADJUSTMENT

The Operator's Seat has a 3" forward and back adjustment, located on the left side of the Seat Base. The Suspension is adjustable from 110 to 280 pound operator's weight, by means of a Knob, located on front Seat Base. The Seat should deflect approximately 1 inch, when sat on. This puts Suspension at mid travel position and will provide a comfortable ride with the least amount of hitting the top and bottom Travel Stops. There is also a 2-1/2 inch vertical height adjustment built into Seat Frame. Higher positions may be attained by lifting Seat to 1st or 2nd Click Stop. Lower position can be attained by first lifting Seat to its highest position and Seat can then be lowered to its lowest position.

Additional adjustments of Seat Cushion incline angle to 9° tilt-up are made with Knob at front of Seat. The Backrest can be tilted back from 0 to 35° with Knob at lower left side. The Backrest Extension is detachable. The Lumbar Support is infinitely variable by turning the Upper Knob on left side of Seat Back. The Arm Rests can be folded up and the left hand one can be lowered down into cushion. Their angles may be changed 15° and height changed with Adjustment Screw located near hip pivot point on left hand side.

MAINTENANCE & ADJUSTMENTS



STEERING AND SPEED CONTROL

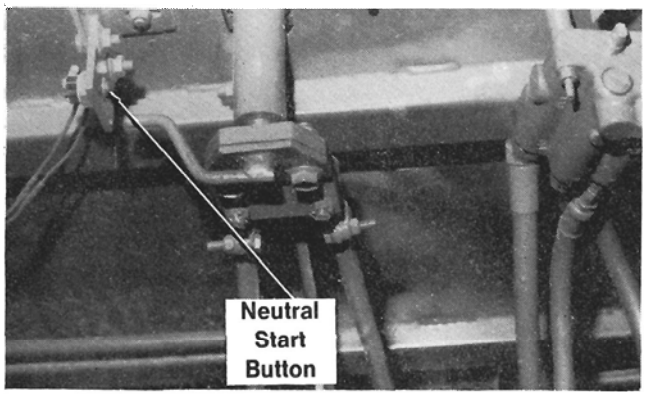
When there is any noticeable play in the Steering, retighten, securing all Cap Screws.

STEERING GEAR ADJUSTMENT

Remove Upper Steer Column Front Cover to further adjust Steering Gears, loosen two 1/2 inch Cap Screws and move Steering Shaft Plate for proper Gear mesh. Retighten Cap Screws securely. Adjust for a binding mesh or with a zero to 0.003 backlash. Relubricate Gear mesh with Gun Grease. Replace Gear or Shaft with excessive wear. Retighten all Cap Screws securely.

ADJUSTING STEERING CONTROL

1. Put Speed Control Lever in full forward position.
2. Turn Steering Wheel to centered position and set tilt of Steering Wheel to normal driving position.
3. Disconnect the two Control Rods from Control Plate located under Cab Floor.
4. Push the Hydro Control Arms to most rearward position.
5. Adjust the Control Rods so the Bolts can be installed freely. Check Steering Wheel for the center position.
6. Install Bolts and retighten all Nuts securely. Install Cotter Pins, where used.



NEUTRAL SAFETY START SWITCH ADJUSTMENT

1. Put Speed Control Lever against Neutral Stop Position and Steering Wheel in centered position and set Parking Brake.

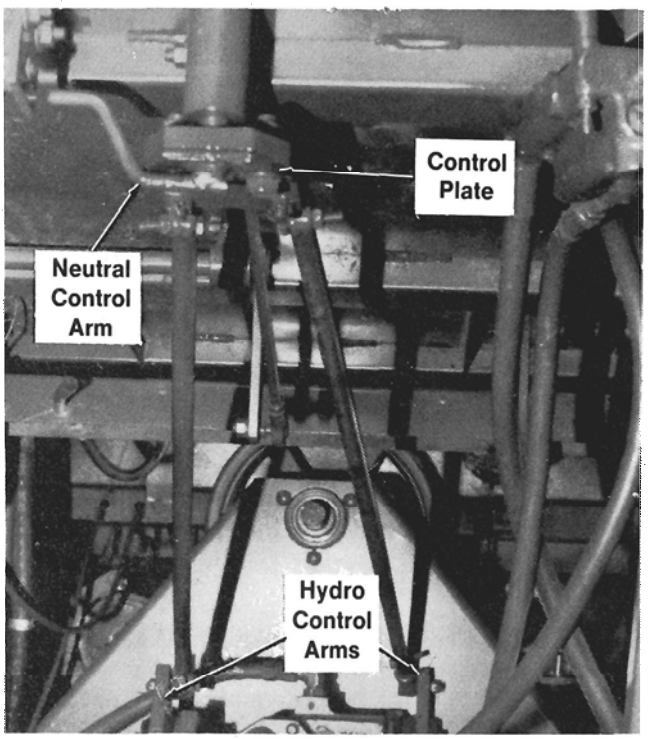
NOTE: Adjustment MUST be made with Control Plate Straight forwards and backwards.

2. Adjust Neutral Switch Button by loosening Flanged Nuts and setting Button to engage when pressing against Neutral Control Arm Rod. Tighten Nuts securely when Button becomes depressed by Rod.

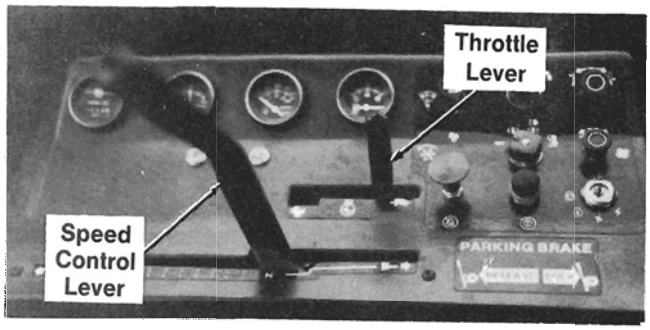
NOTE: Do NOT allow Rod that depresses Switch Button to touch any part of the Switch Ball Housing or Bracket because Switch damage will result.

3. Check Parking Brake Cable Pull Bar to assure contact with Safety Start Switch located under Cab Floor. Adjust forward until contact is made with Brakes on. (For switch location, see drawing with Parking Brake Adjustment topic on the previous page.)
4. Reposition Neutral Start Button if unit does **NOT** start in exact neutral position and recheck by starting unit in neutral. Replace all Shields and Plates previously removed.

Tighten all Cap Screws and set Parking Brake on, before starting unit.



MAINTENANCE & ADJUSTMENTS

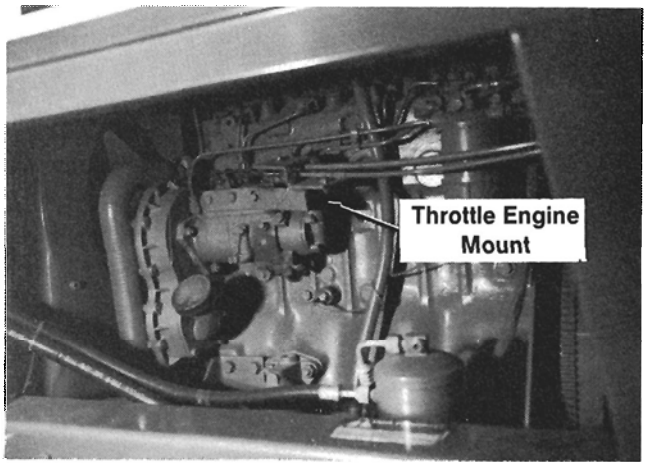


SPEED LEVER ADJUSTMENT

To adjust the friction on the Speed Control Lever, tighten or loosen the Friction Disc Spring Tension Bolt located under Cab Floor. To adjust, use a 9/16″ socket with extension through Access Hole on right side of Cab Deck.

THROTTLE LEVER ADJUSTMENT

To adjust the Throttle Lever, loosen Cable Cap Screw Nuts located under Instrument Panel. Move Cable forward or backward to center Lever movement in Slot and retighten Cap Screw Nuts. Coordinate Lever adjustment with proper Throttle Arm movement at Engine. Readjust, if necessary, until Arm hits Fuel Injection Pump High Idle Stop position. Move Cable in Slots on Engine Mount, if necessary.



NOTE: Throttle Lever MUST be adjusted to assure Engine high idle speed is obtained with lever at full throttle position. Maximum high idle speed is factory set and should NEVER be changed. Vehicle should be moved and operated at full throttle position only.

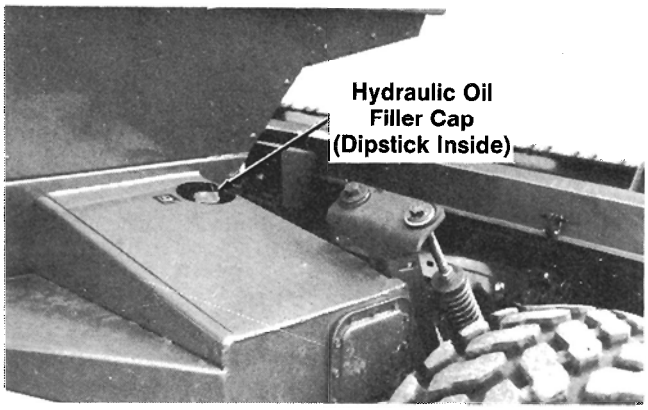
HYDROSTATIC UNIT

The Hydrostatic Unit is precision built to very close tolerances and is properly adjusted at the factory. It is recommended that any hydrostatic servicing be performed by (or under the direction of) your GEHL dealer.

NOTE: Keep oil clean, free of dust, and Sealing Compound.

To drain and refill Hydraulic System, lower header and take out plug on bottom of Reservoir Tube, left side of unit.

After system is completely drained, replace Plug and fill Hydraulic Reservoir. Check oil level with Header down, and fill to the full line on Dipstick.

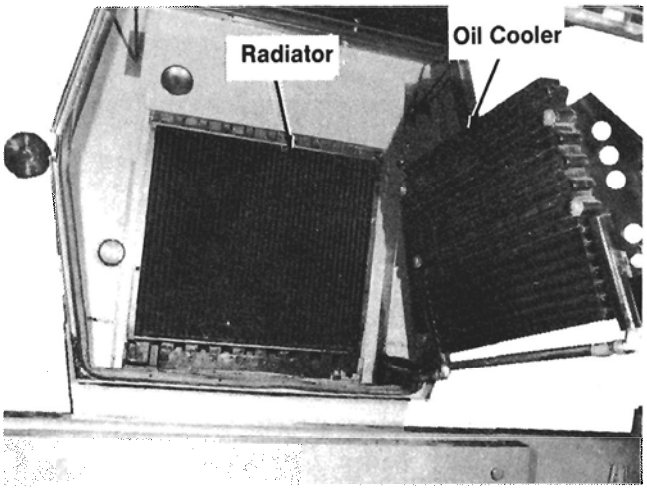


COOLING SYSTEM

Check level of coolant in the Radiator daily. Fluid level should be approximately 1″ below the Neck of the Filler Cap.

The machine comes from the factory with the Coolant System filled with permanent Anti-freeze mixture good for 30° below zero. For best operation all year round, maintain a similar solution. Should Water alone be used, add a good quality rust inhibitor, and make certain the system is drained, if there is danger of freezing temperatures. A Drain Cock is provided at the bottom of the Radiator.

The Radiator Screen traps any chaff and a percentage of dust preventing this foreign material from plugging the Oil Cooler and the Radiator Core. Remove and clean Screen periodically, also check and clean the Radiator Core by swinging Oil Cooler away and washing out with water.



MAINTENANCE & ADJUSTMENTS

HYDRAULIC/HYDROSTATIC SYSTEMS

If, over the course of normal operation, a leak develops in the hydraulic or hydrostatic systems, stop operation immediately and exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (page 8) BEFORE proceeding to locate and correct the problem.

WARNING: BE SURE there is NO pressure in the lines, when loosening the fittings. Hydraulic fluid, under pressure can penetrate the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop, if proper medical treatment is NOT administered IMMEDIATELY!

ELECTRICAL SYSTEM

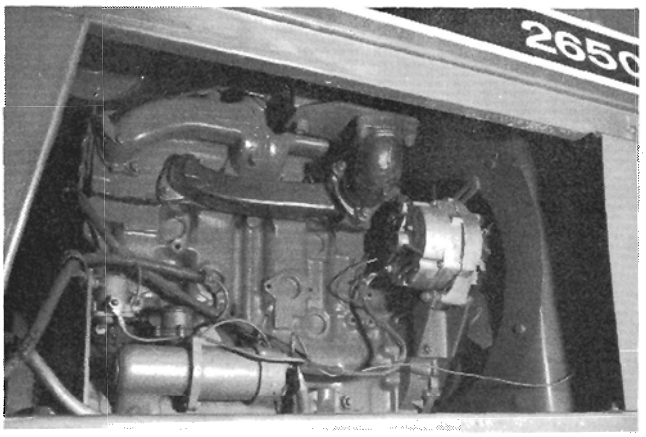
Alternator

The Mower Conditioner is equipped with an Alternator to supply electrical energy. The following points, pertaining to the Alternator, should be observed.

1. Follow directions given in Operating & Adjustments section for jump-starting the Battery and connecting extra Battery Cables for starting Engine.
2. When connecting a Battery Charger to the Battery installed, connect Charger and Battery POSITIVE to POSITIVE to prevent damage occurring to Electrical System.
3. Do **NOT** run the Engine with the Battery out of the Mower Conditioner or the Battery disconnected. If the Engine is run under those conditions, the high voltage build-up by an Alternator can be extremely dangerous to anyone touching the Mower Conditioner.
4. Do **NOT** short or ground any of the terminals. This can cause malfunction and damage to electrical components.
5. An Alternator does **NOT** need to be polarized.
6. An Alternator does **NOT** require periodic lubrication.

Alternator Drive Belt

Periodically check and adjust the tension of Alternator and Radiator Fan Drive Belt. To adjust, loosen Bolt, and relocate the Alternator in Slotted Bracket. **BE SURE** to tighten Bolt securely after adjustment is completed.



TIRES & WHEELS

CAUTION: Our Company does NOT sell replacement Tires. In addition, Tire mounting, repair and replacements should ONLY be attempted by a qualified tire manufacturer's representative or by properly trained personnel following the tire manufacturer's instruction. If you do NOT have such instructions, contact your tire dealer or the Company.

WARNING: Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires. In any event, to avoid possible fatal or serious injury, follow the safety precautions below:

BE SURE the Rim is clean and free of rust.

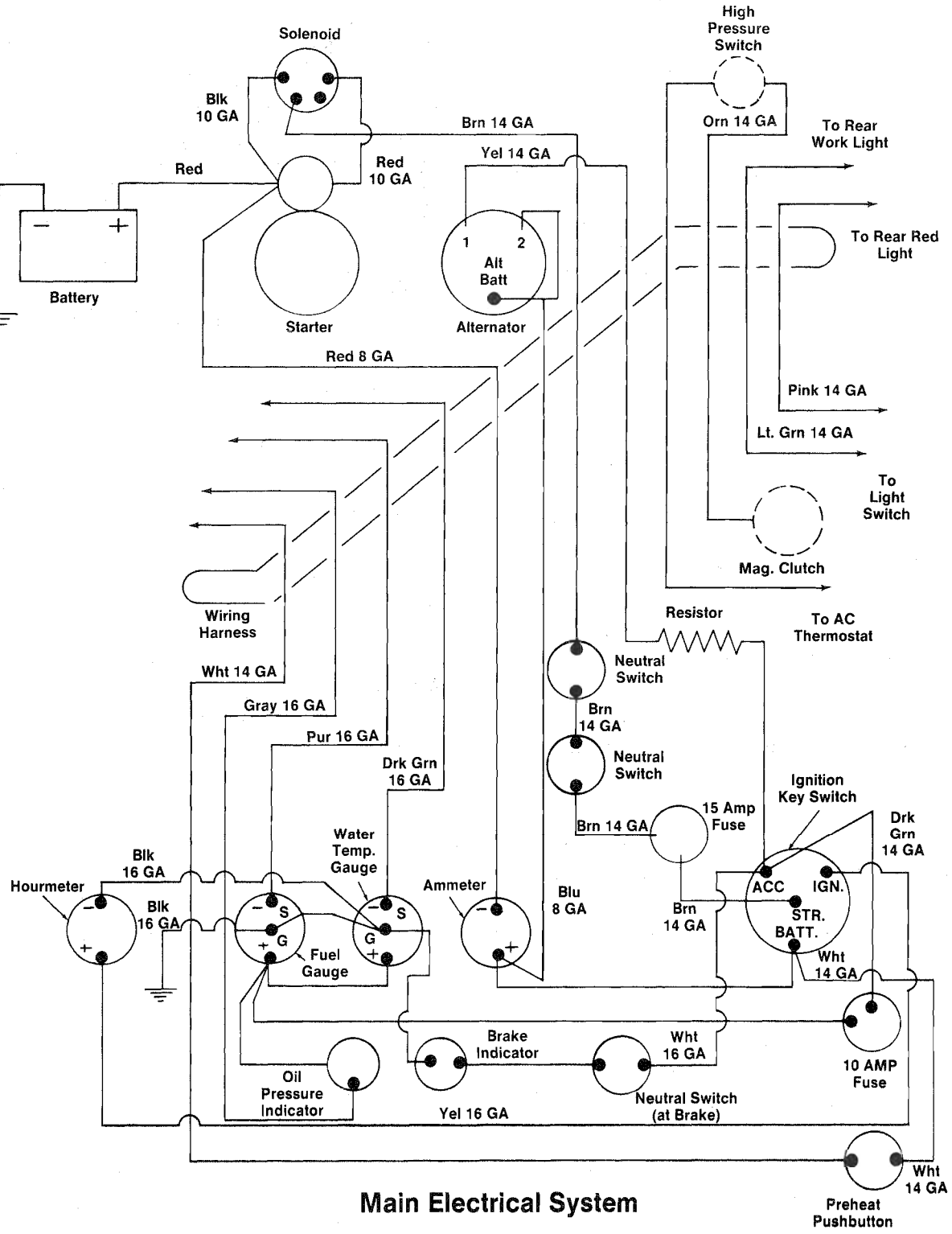
Lubricate both the tire beads and rim flanges with a soap solution. Do **NOT** use oil or grease.

Use a clip-on tire chuck with a remote hose and gauge which allows you to stand clear of the tire while inflating it.

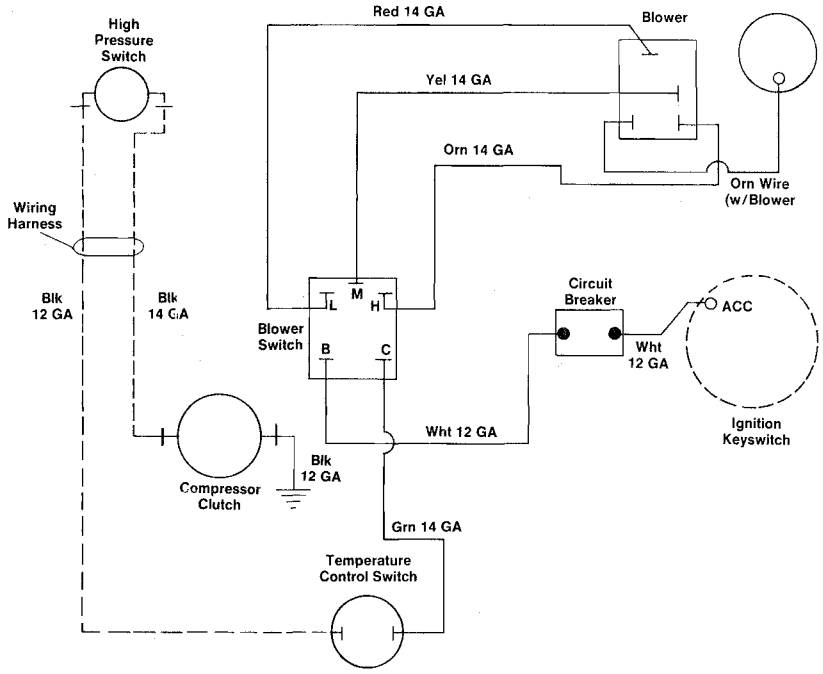
NEVER inflate beyond 35 PSI (240 kPa) to seat the beads. If beads have **NOT** seated by the time the pressure reaches 35 PSI, deflate the assembly, reposition tire on the rim, relubricate both parts and reinflate it. Inflation pressure beyond 35 PSI with unseated beads may break the bead or rim with explosive force sufficient to cause fatal or serious injury.

After seating the beads, adjust the inflation pressure to the recommended operating pressure listed.

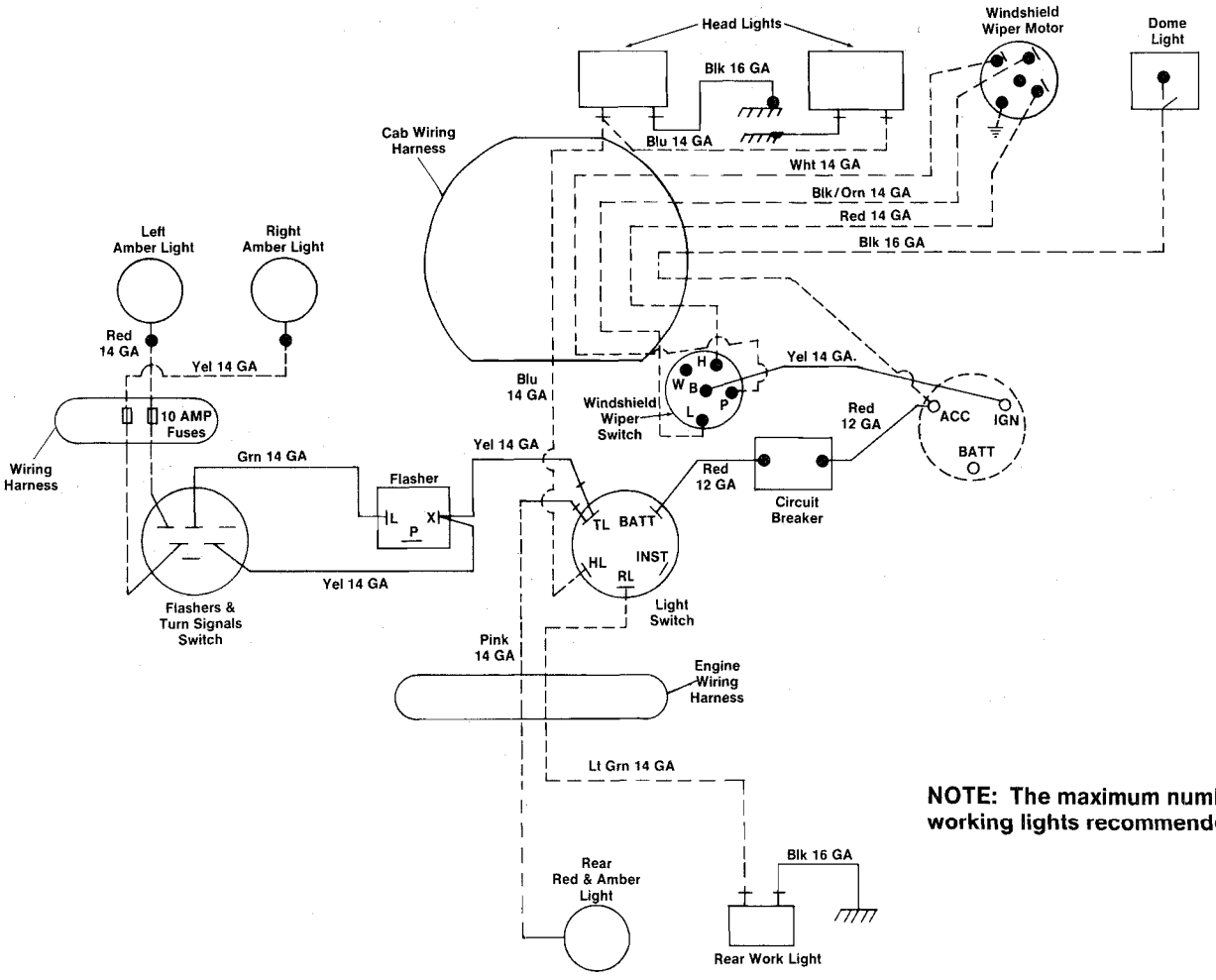
Do **NOT** weld, braze, or otherwise attempt to repair and use a damaged rim.



Main Electrical System



Air Conditioning Wiring Diagram



Cab Lighting Wiring Diagram

NOTE: The maximum number of working lights recommended is 6.

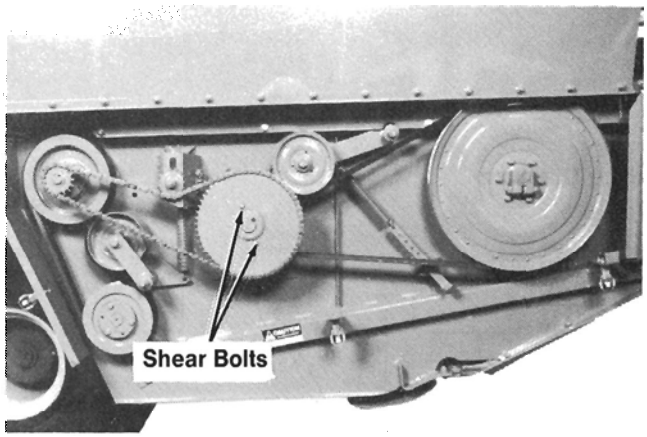
MAINTENANCE & ADJUSTMENTS

SICKLE DRIVE BELT

To replace Sickle Drive Belt, remove Bolts from Wobble Arm on the upper end and pivot Pitman Arm out of Wobble Arm. Remove Bolt from PTO Driveline and slip Driveline off Gear Box Shaft to remove Belt. Put new Belt in place and use reverse procedures to install new Belt making certain all Bolts are replaced and tightened and check that Belt is put on properly.

AUGER DRIVE CHAIN

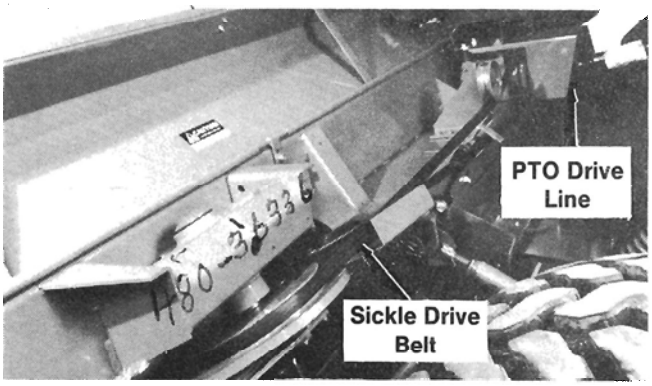
Maintain adequate tension on Auger Drive Chain by adjusting Tightener Sprocket or Tightener Plate. Occasionally check alignment.



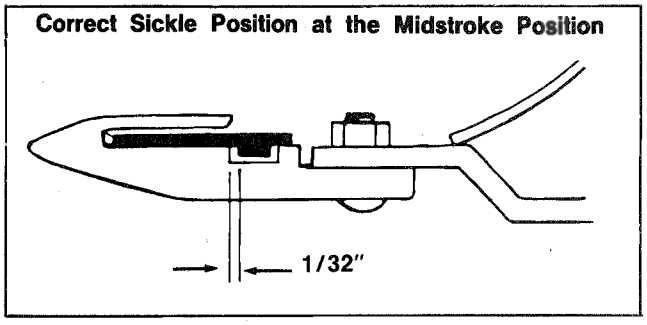
WOBBLE ARM REMOVAL

Remove Bolts from Bearing at the top and bottom of the Wobble Arm. Remove Bolts from Pivot Bolt Strap. Remove two Jam Nuts from Pivot Bolts, lift Pivot Pin out. Wobble Arm will now slide out.

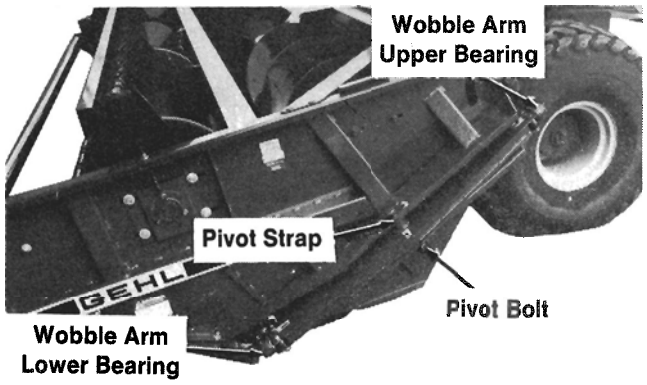
To reassemble, replace Wobble Arm, Spacers, Pivot Pin and all Bolts and Nuts, but do not tighten. Make certain Wobble arm is in center position with at least one heavy washer between Bearings and top and bottom Plates. Then tighten Pivot Pin Bolts making proper adjustment back and forward in Slotted Holes to allow Sickle to run free. Do **NOT** allow Sickle to draw back against the Cutterbar or a knock will occur when Sickle is in operation. Sickle **MUST** be resting flat on Guards and Sickle Strap front edge 1/32″ back of Guide surface, on Guard, with Wobble Arm in mid-stroke position, as shown.



Tighten Wobble Pivot Bolt to 80 ft-lb torque and lock Jam Nut. **NO** Hold-downs are used on first two Guards, at Wobble Arm end of Cutterbar. Loose Wobble Arm Pivot Bearing can cause noise and excessive vibration. Check daily to insure Bearings are **NOT** loose. Tighten Socket Bearing Mounting Bolts to 80 ft-lb torque.



Turn Pitman, by hand, through a full rotation and check that Sickle does **NOT** strike sides of Guard channel at mid-stroke or at either end of stroke.



MAINTENANCE & ADJUSTMENTS

SICKLE REMOVAL

1. Remove Bolts at lower end of Wobble Arm, as shown.
2. Loosen Sickle Head Clamp.
3. Oscillate Wobble Arm lower end fully to the left.
4. Pull out Sickle, complete.
5. Reverse procedure to install Sickle.

NOTE: If Guards are badly bent or very loaded with dirt, they will have to be straightened and cleaned before Sickle can be removed.

CARE OF SICKLE

The Sickle Sections should be firmly riveted to the Sickle Strap. Replace worn or broken Sections, shear off the Rivets rather than punch them out, as a punch will enlarge the holes in the Sickle Strap. To do this, place the Sickle with Sections downward and loosely in a vise. Then use a sharp hammer blow on back edge of Section to shear off each Rivet.

CAUTION: ALWAYS wear Safety Glasses with Side Shields when striking metal against metal! In addition, it is recommended that a softer (non-chipable) material be used to cushion the blow. Failure to heed could result in serious injury to the eye(s) or other part(s) of the body!

SICKLE DRIVE REGISTER

The Sickle stroke is 3 inches. The Sickle Section **MUST** center on the center of the Guard at the end of each stroke. Check register in center of the Header.

1. To adjust, remove the Bolts which fasten the Pitman Tube to the Wobble Arm.
2. Loosen the Cap Screw on the Pitman Tube Clamp.
3. Turn the Sickle Bearing in or out of the Pitman Tube to the proper setting. Do **NOT** turn too far. Thread exposed on upper and lower Bearings should be equal.

NOTE: Tighten Clamp securely, after being sure that Sickle is in register.

SICKLE GUARDS

The double-forged, through-hardened Guard is standard equipment on this unit. When replacing, make certain the Sickle rides freely in the Guard, and new Guards are lined up with old to get a good shearing cut. When each Guard is aligned, tighten the Bolts. The tip of the Guard **MUST** be aligned with the other Guards. Use the Guard Straightening Tool provided, to straighten the Guards per details in the General Maintenance information. Whenever all Guards are removed from Cutterbar, the Cutterbar should be inspected for any kinks in the front edge and straightened accordingly.

NOTE: When tightening Guard Bolts, make sure Guards are parallel with each other and NOT cocked with Cutterbar. As you face Guard when tightening it, BE SURE to tighten the Guard Bolt on your right first, while pushing Guard rearward.

HOLD-DOWN CLIPS

Clips **MUST NOT** put heavy downward pressure on Sickle Sections. Hold-down Clips keep the Section from lifting off the Guards for a good shearing action but allow the Sickle to slide easily. After Guards are aligned, set the Hold-Down Clips. **NEVER** bend down a Clip, when a Section is under it. Clip should only have a maximum of 1/32" clearance to Section, when Sickle is being pressed down on Guard. After all Clips are set, oil and make sure Sickle slides freely. Regular washing of the Cutterbar area with water under pressure will improve performance and facilitate maintenance work.

CARE OF BELTS

Regular checks should be maintained on the Drive Belts. This is required for operational efficiency and to reduce running costs. Here are some important facts about Belt Care.

1. More Belts are ruined by running too loose than too tight. Excess Belt slip reduces Belt life.
2. A loose Belt flexes excessively which weakens the structure and causes the Belt to slip.
3. An over-tightened Belt stretches excessively which weakens the structure. It also applies unnecessary pressure on the Pulleys, Shafts and Bearings.
4. **NEVER** pry a Belt over the rim of a Sheave using a tool or object for leverage. This can rupture the structure of any Belt, including a new one.

NOTE: A new Belt MUST always be checked frequently during the first three days of operation and adjusted as required.

BANDED BELT

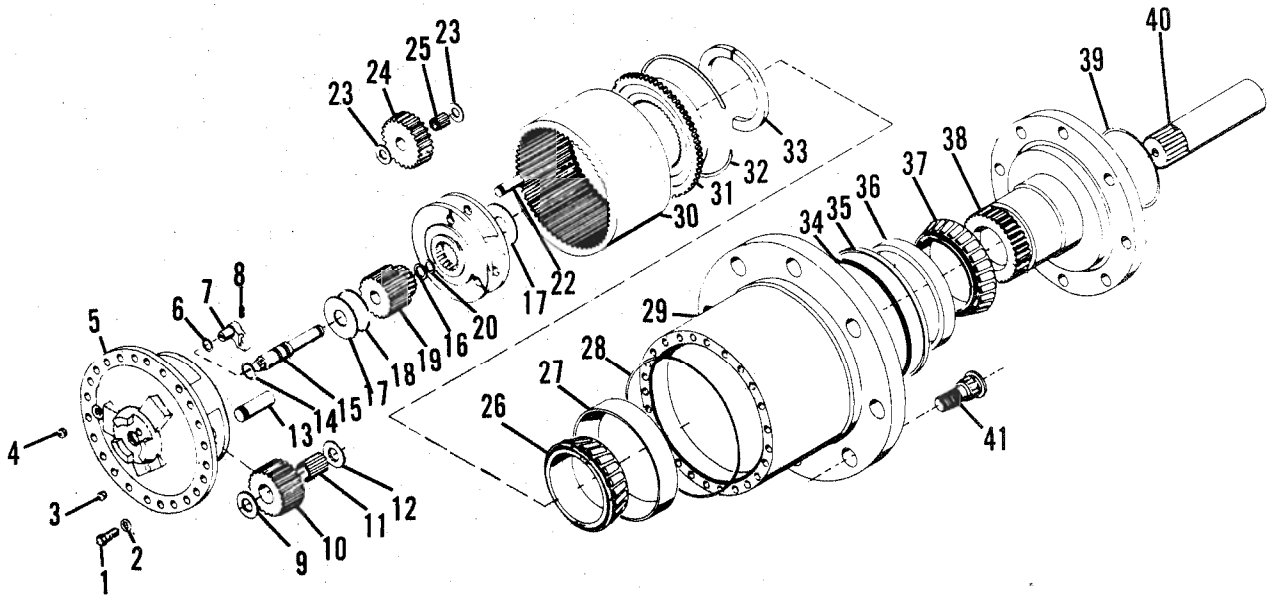
Banded Belt installation is the same as for single strand Belts. So is the tensioning with one addition. The entire Belt **MUST** be deflected uniformly. Placing a rigid bar that extends across the width of the Belt between the tension tester and the Belt accomplishes this.

MAINTENANCE & ADJUSTMENT

WHEEL DRIVE

Disassembly

1. Before removing the Drive from the vehicle, rotate the Hub until the Drain Plug (4) is in its lowest position, remove it, and drain the oil from the Drive.
2. Remove the Hydraulic Motor from the Drive and remove the Drive from the vehicle. Remove the Input Sun Gear (40) from the Drive.
3. Place the Wheel Drive on a sturdy table with the Motor Pad down remove the Cap Screws and Washers (1) and (2).
4. Carefully remove the Cover (5) from the Drive by inserting two Cap Screws (1) into the tapped holes in the Cover and running them in equally. The Cap Screws being tightened will lift the Cover from the Housing.
5. Closely inspect the Output Planet Gears (10) and Sun Gear (19) for sign of pitting or excessive wear. Also, rotate them to feel for signs of wear or roughness in the Bearings (11).
6. If any of these parts need replacement, go to step 14.
7. Reach down into the unit and lift the Input Planet Set (21) (24), etc., out of the Ring Gear.
8. Closely inspect the Input Planet Gears (24) for signs of pitting or excessive wear. Also, rotate them to feel for signs of wear or roughness in the Bearings (25).
9. If any of these parts need replacement, go to step 18.
10. Lift up on the Ring Gear and Retainer Assembly (30) (31) to remove them from the Housing. Inspect the Ring Gear for pitting or excessive wear. If the Ring Gear needs replacement, remove the Retaining Ring (32) and put the Adapter (31) and Retaining Ring (32) into a new Ring Gear.
11. Rotate the Housing (29) on the Motor Adapter (38) to check for signs of roughness or wear of the Main Bearing (26)(27)(36)(37). Also, lift up on the edges of the Wheel Mounting Flange to check for looseness in the Bearings.
12. If the Bearings require service, a suitable press may be needed to remove the Split Ring (33). If it cannot be removed by hand, place the assembly in a press and using a suitable collar, press on the Inner Race of the Bearing (26). After releasing the press, the Split Ring can be removed.
13. Remove the Cone (26). Since this is a slight press fit, the assembly may have to be turned up side down and the Housing (29) driven off the Motor Adapter (38). The Housing can now be lifted from the Motor Adapter. If the Bearings need replacement, the Cups (27)(36) should be removed from the housing using a suitable hammer and punch.



Outside Planet Set Disassembly & Reassembly

14. Remove the Retaining Ring (20) from the Disconnect Shaft (15), then remove the Sun Gear (19). Remove the Retaining Ring (18) and Washer (17) from the Cover. The Disconnect Lever (7), Spring (8), and Disconnect Shaft (15) can now be removed toward the inside of the Cover.

15. The Output Planet Pins (13) are drilled and tapped in the end to accept a 5/16-18NC Cap Screw. Using a suitable Cap Screw and a Bearing Knocker, drive the pins out of the Cover.

16. To reassemble, place a full complement of Bearings (11) in the Bore of each Planet Gear (10). Carefully press them into the Cover, lining up the Washers (9) and Gear as the Shaft is pressed in. Using a suitable staking tool or small chisel, stake each Planet Pin into place in the Planet Carrier.

17. Replace the Disconnect Lock and Spring (7)(8) into the Output Cover and install the Disconnect Shaft (15). Replace the Washers (16)(17), the Sun Gear (19) and the washer and Snap Ring (16)(20).

Input Planet Set Disassembly & Reassembly

NOTE: Input Planet Set is serviced only as an assembly.

18. Using a press, remove the Planet Pins (22) from the Input Planet Carrier (21). Examine the Bearings (25) and Washers (33) for wear and replace if necessary.

19. To reassemble, place a full complement of Bearings (25) into the Bore of each Planet Gear (24). Carefully press each Pin into the Planet Carrier, lining up the Washers (23) and Gear as the Shaft is pressed in.

20. Using a suitable staking tool or small chisel, stake each Planet Pin in one place in the Planet Carrier.

Unit Reassembly

21. All O-rings and Seals should be replace when the unit is reassembled.

22. With the Input Housing (38) setting on the Motor Mounting Face, install a Bearing Cone (37) on it. Carefully lower the Gear Housing, taking care not to cut the Quad Ring (34) or the Flat Seal (35.)

23. Install the second Cone (26) and using the press technique described in step 12, press on the Cone until the two halves of the Split Retaining Ring (33) can be placed into the groove in the Motor Adapter.

24. Lower the Ring Gear Assembly (30)(31)(32) into the Housing and engage the Spline of the Motor and Adapter.

25. Lower the Input Planet Assembly down into the Ring Gear, rotating the Gears as need to line them up.

26. To aid in installation of the Output Planet Assembly, the Disconnect Shaft should be locked in the disconnected position. Lower the Output Planet Assembly down into the Ring Gear, being careful not to cut the O Ring (38). Rotate the Planet Gear as necessary to engage them into the Ring Gear. Also, **BE SURE** that the Bolts are lined up between the two parts.

27. Replace the Cap Screws (1) and the Washer (2) and tighten them equally to draw the Cover down. Then tighten them to 40 ft-lb of torque.

28. The Sun Gear can now be installed from outside the Drive.

29. Reinstall the Drive in the vehicle and bolt the Motor to the Drive. Rotate the Hub to put the Drain Plug in the highest (12 o'clock) position. Replace the Drain and level Plugs. Fill to the level hole with SAE 90w multi-purpose (mild EP) gear lubricant.

MAINTENANCE & ADJUSTMENTS

TOWING DISENGAGE

To prevent serious damage to the Mower Conditioner, do **NOT** tow the machine unless the final drives, on both sides, are placed in the disengaged mode.

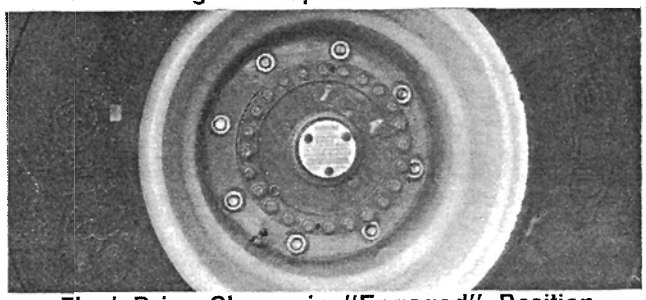
Access is gained, to either "disengage screw", by removing two of the Cap Screws and Lock Washers, and loosening the third Cap Screw and Lock Washer so that the Cap can be rotated away from the disconnect shaft. Then, retighten the third Cap Screw to hold the Cap. Store the other two Screws and Lock Washers by installing them into the tapped holes.

To place either drive in the disengaged mode, turn the slotted screw 90° so that the disconnect shaft pops-out. Since the rear Wheels are free to caster in any direction, use a rigid link for coupling to two points on the back of the Tractor and a single point on the towing vehicle. Another approved method is to raise the rear Caster Wheels completely off the ground and secure the unit to the forklift with chains to prevent it from slipping off.

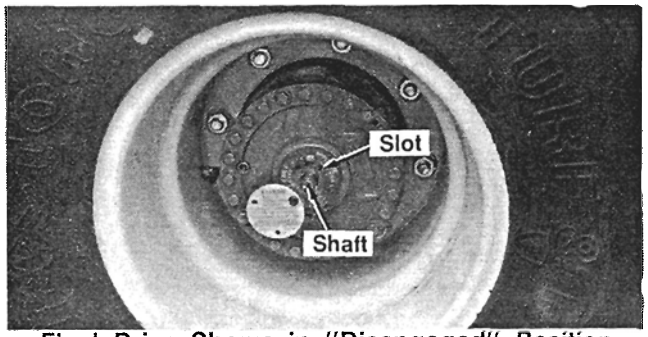
NOTE: Do NOT tow the Mower Conditioner for long distances and drive slowly.

After the Mower Conditioner has been towed to its destination, re-engage the Final Drives by pushing in the Disconnect Shaft, in the center of each unit, and rotate the slotted screw 90° clockwise to retain the Shaft. Then, replace and resecure the Cap with the three Cap Screws and Lock Washers.

WARNING: BE SURE to return both final drives to their engaged mode with Caps installed, after towing is completed and before resuming field operation.



Final Drive Shown in "Engaged" Position with Cap Installed



Final Drive Shown in "Disengaged" Position

SHEAVE REPLACEMENT

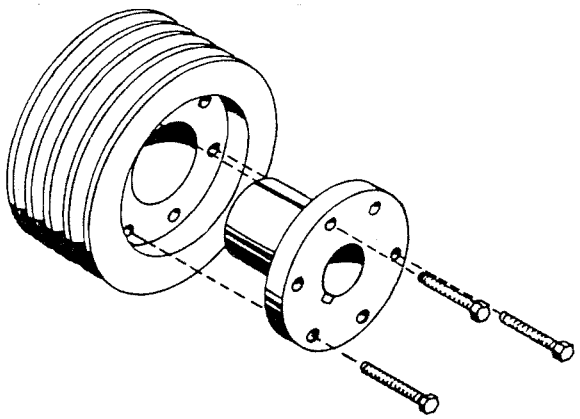
When the Sheaves need replacing, they are attached to the Motor Shaft and driven Machine Shaft with Bushings as follows:

Slide the Hub on the Shaft, Flange end first. Assemble Key. Position Hub on Shaft. Tighten Set Screw over the Key hand-tight with standard Allen wrench only. Do **NOT** use excessive force. Slide large end of Sheave Taper Bore into position over Cone, aligning Pullup Bolt Holes in Sheave with tapered holes in Flange of Hub. Assemble Pullup Bolts and Lock Washers.

Tighten Pullup Bolts alternately and evenly. Do **NOT** use extensions on wrench handles. There should be a gap between the face of the Sheave Hub and the Flange of the Hub to insure a satisfactory Cone grip and press fit. This gap **MUST NOT** be closed.

NOTE: ALWAYS make sure the surfaces of the Sheave and Hub are clean of dirt or grease. A light coating of machine oil will assure easy installation.

When Sheaves and Bushings are on the Shaft, align them before final tightening.



BEARING LOCK COLLARS

Some Bearings on this unit are equipped with Lock Collars. The purpose of a Lock Collar is to secure the inner race of the Bearing to the Shaft. The Lock Collar is tightened by hammering a punch in the hole provided, rotating the Collar in the direction of the Shaft rotation. Then tighten the Set Screw in the Lock Collar.

NOTE: If the Lock Collar is NOT rotated in the correct direction to lock it, it may come loose, causing damage to the Bearing, Shaft and other related components.

MAINTENANCE & ADJUSTMENT

RECOMMENDATIONS - CONDITIONING & OPERATING

Remember, excessive crimping abuses the crop materials as well as using excessive power. After making the first swath, pick up the hay and examine it. Proper crimping is being accomplished when you have to look and feel for the crimp and it is **NOT** readily visible. Another test is to hold the hay out and check the flexibility of the hay. Crimping action shows its effect more an hour after conditioning.

Do **NOT** vary throttle speed. Decreasing the Engine RPM also reduces the RPM of the Conditioner Rolls, which is undesirable. Control the ground speed through the use of the Speed Control Lever. Thus, if cutting conditions dictate a slower ground speed the Conditioner Roll speed will still be fast enough to handle all the material coming through.

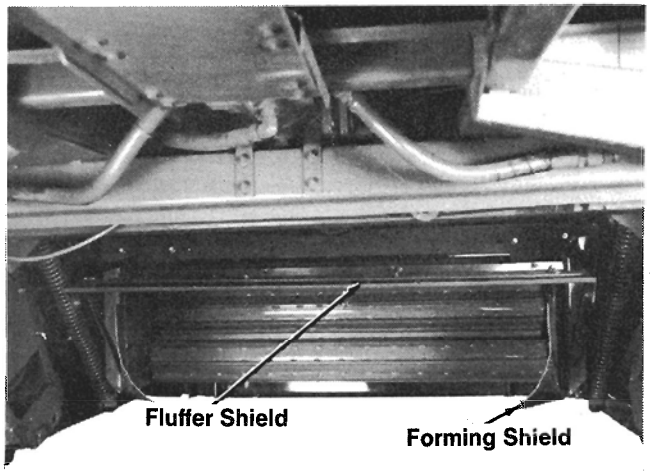
CONDITIONER OPERATION

Windrow Forming Shields

The width of windrow can be changed by moving the Windrow Shields in or out. Loosen Wing Nuts and move Shield in or out. In some conditions, a better windrow can be obtained by moving only one Shield in more than the other.

Fluffer Shield

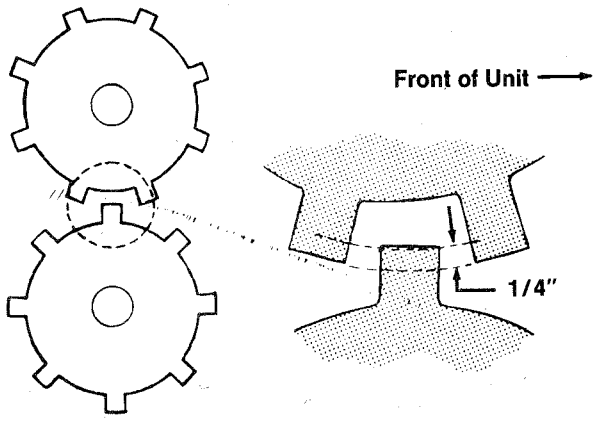
By using the Fluffer Shield, the hay can be fluffed-up in a high fast drying windrow. To move the Fluffer Shield, loosen Bolts at either end and adjust, as desired.

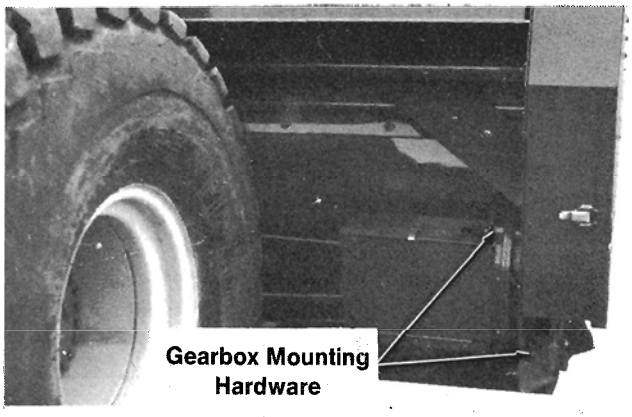


Roller Timing

Should the Conditioner ever get out of time, it is simple to adjust.

1. Check for loose PTO U-Joints.
2. Check for loose Gear Box Mounting.
3. If the above items are tight, and the Conditioner is still **NOT** timed correctly, loosen the Gear Box Mounting Hardware and shift the Gear Box either forward or backward in the slots to get the Roller Bars timed and retighten the Gear Box Mounting Hardware.



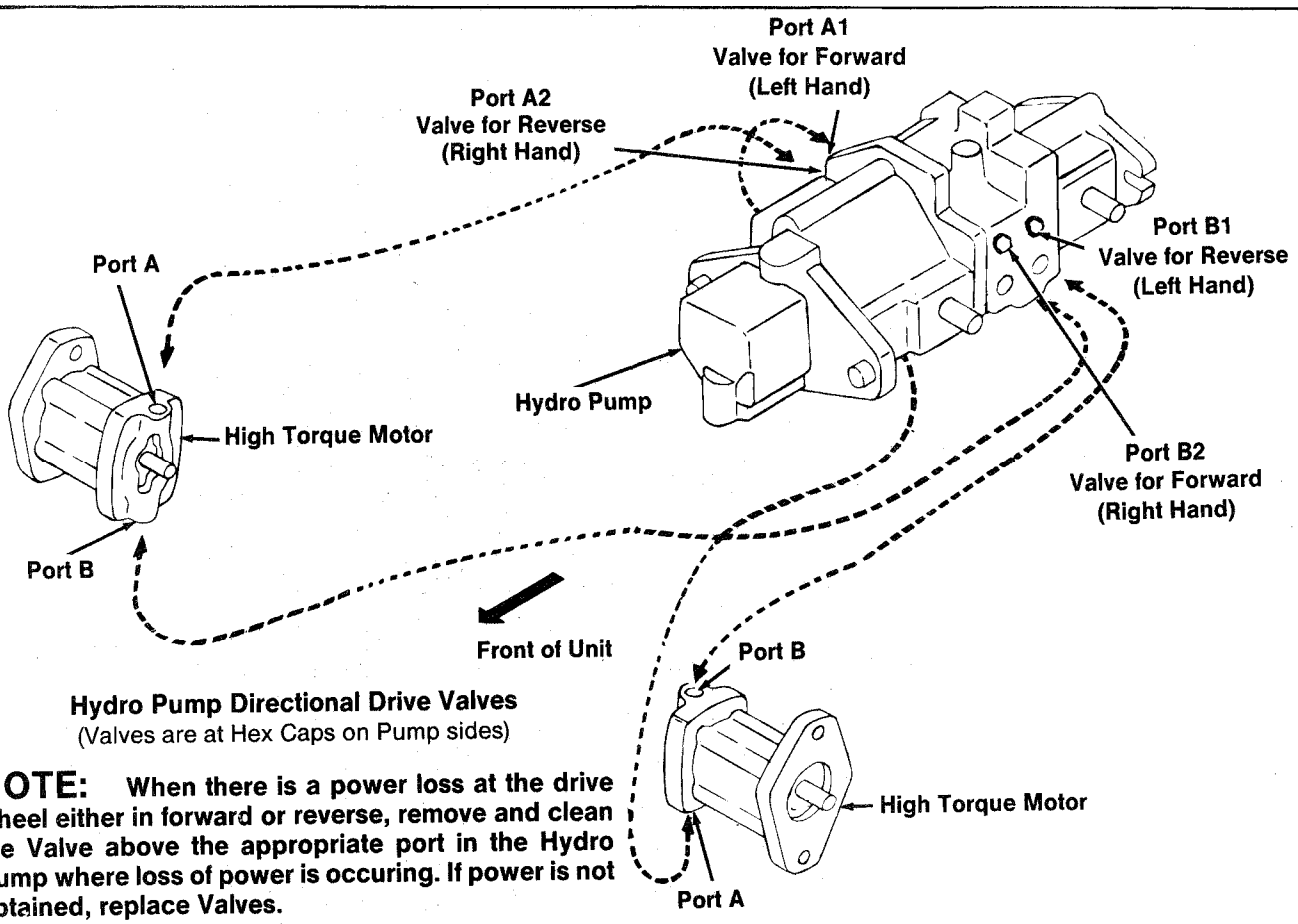


NOTE: Level check fitting is just below and in front of the upper PTO Shaft.

Troubleshooting Hydrostatic System

The majority of Mower Conditioner operating problems can be traced to improper adjustment. The chart which follows, is designed to help you when such a problem develops, by suggesting a probable cause and the recommended solution. These suggested remedies should be applied with caution. Make a sincere effort to understand your Mower Conditioner and know why you are making an adjustment.

PROBLEM	CAUSE	REMEDY
Excessive noise in Hydrostatic Transmission.	Air in the system.	Open reservoir cap and operate hydraulic system until purged.
	Engine RPM too slow.	Set engine speed. **NEVER** operate unit below full throttle.
	Hydro, oil level low.	Bleed hydraulic lines at highest point downstream of auxiliary pump and while system is under pressure fill supply tank.
	Vacuum condition.	Check inlet (suction) lines and fittings for air leaks. Check auxiliary pump function.
	Oil too thick.	Be certain correct type of oil is used for refilling or adding to the system.
	Cold weather operation.	Run hydraulic system until unit is warm to the touch and noise disappears.
Hydraulic Transmission overheating.	Internal leakage. Check for 75 PSI at hose from oil filter to Tandem Pump unit.	If it's established that excessive internal leakage is evident, return vehicle to maintenance shop for evaluation and repair. **NEVER** operate unit below full throttle.
	Oil Cooler not functioning.	Locate trouble and repair or replace.
	Fluid level low.	Add oil to operating level.
System **NOT** developing pressure.	Relief Replenishing Valve open.	Replace one or both. Do **NOT** attempt to repair cartridges; they are factory assembled and preset.
	Loss of fluid internally (slippage).	Return vehicle to maintenance shop for repair of hydraulic system.
Drive Wheel will only go in one direction.	Relief Valve open (There are 4 Relief Valves in Hydro Pump).	Remove Relief Valve. Clean cartridges or replace.
Unit moves when starting and steers erratically.	Control Linkage misadjusted or loose.	Tighten Control Arms at hydro. Check keys in hydro arms. Check all bolts in linkage (Adjust per manual).
Header will **NOT** lift.	Hydraulics system pressure is too low.	Check for 1800 PSI at Header Lift Valve port. If below 1800 PSI, remove and clean Relief Valve.
	Control Valve stuck.	Remove Valve and clean assembly of foreign material.



Hydro Pump Directional Drive Valves
(Valves are at Hex Caps on Pump sides)

NOTE: When there is a power loss at the drive wheel either in forward or reverse, remove and clean the Valve above the appropriate port in the Hydro Pump where loss of power is occuring. If power is not obtained, replace Valves.

Troubleshooting General

PROBLEM	CAUSE	REMEDY
Reel carrying around crop.	Reel speed too fast.	Reduce Reel speed so crop will **NOT** carry over top of Reel.
	Reel **NOT** adjusted correctly.	Adjust Cam Track to let Reel Tines release material sooner.
Reel improperly feeding.	Tines out of adjustment.	Adjust timing of Reel Tines so they start folding as tine nears the front and center of Auger.
Reel **NOT** feeding properly in heavy crops.	Reel out of position.	In down crops, move Reel forward and down.
Auger plugging.	Cam track out of adjustment.	Adjust to narrower clearance between Auger and Stripper Bars.
Bunching of windrow.	Reel clearance too high.	If bunching begins on Guards, move reel down and back so crop is carried over Guards and into the Auger. Adjust to narrower clearance between Auger and Stripper Bars.
Improper conditioning.	Rollers out of adjustment.	Adjust pressure roller clearance and tension.

Troubleshooting General (cont.)

PROBLEM	CAUSE	REMEDY
Noisy Conditioner.	Mud between Bars.	Clean Rolls.
	Loose Gearbox.	Reset Gearbox and tighten bolts.
	U-joints loose.	Retighten bolts.
	Crimping Roll out of time.	Retime Conditioner Rolls.
Rapid wearing or breaking of main Drive Belt.	Belt out of alignment.	Align Sheaves.
	Belt slipping - too loose.	Tighten.
Excessive vibration in Sickle Drive.	Engine running too fast.	Check RPM of Engine and change if incorrect.
	Belt too loose.	Tighten Belt.
	Improper alignment of Universal Joints; Wobble Arm and Sickle misaligned.	Remove one end of PTO and align Universal Joints. Reset and adjust per manual.
Ragged and uneven cutting of crop.	Broken or damaged section in Sickle. Dull Sickle.	Replace with new sections. Sharpen or replace with new sickle.
	Guards bent or loose or out of alignment.	Straighten. Retighten loose guards.
	Ground speed too fast.	Slow down.
	Sickle register incorrect.	Reset register.
Excessive knocking or pounding in Sickle Drive.	Loose bolts in Wobble Arm.	Check and tighten.
	Bent Guards and Sections.	Straighten Guards and Sections.
	Sickle Head Bearing worn.	Replace.
	Wobble Arm Bearing worn.	Replace.
Sickle **NOT** laying down on Ledger Plates.	Hold-down Clips worn or bent up; Guard bent up, holding Sickle off of Ledger Plate.	Bend hold-down Clips down and replace worn ones. Straighten or replace with a new Guard.
Header will **NOT** cut low enough.	Shoes too high.	Adjust Header Shoes.
	Flotation too light.	See Operator's Manual. Reset Header Flotation Springs.
	Guard Angle incorrect.	Adjust upper header links outwards.
Shattering of grain ahead of Cutterbar.	Reel speed **NOT** coordinated with ground speed.	Change Reel Drive to coordinate Reel speed with ground speed.
	Ground speed too fast for condition of crop.	Reduce ground speed.
Material buildup on Guards. Cut crop building up and falling from front of Cutterbar.	Reel **NOT** adjusted low enough for proper delivery of cut crop to Auger.	Set Reel low enough to sweep material from Cutterbar and Riser Sheet.

Troubleshooting Diesel Engine

Will Not Start, or Difficult Starting

Faulty Fuel Injection Pump.
Fuel Pump timing.
Inoperative Lift Pump.
Blocked Fuel Return Pipe.
Insufficient cranking speed (electrics or incorrect lub. oil grade)
Restricted Exhaust System.
Compression pressures too low.
No fuel at Atomisers (fuel shut off or no fuel)
Fuel restriction.
Air leaks on suction side of Fuel System.
Fuel contamination.
Incorrect cold starting procedure.
Faulty thermostat actions.

Starts, Then Stops or Stalls

Partially restricted fuel supply.
Partially restricted air supply.
Air leaks (high or low pressure pipes).
Fuel shutoff or no fuel.
Faulty Lift Pump.
Induction/exhaust restricted.
Idling speed setting incorrect.

Will Not Develop Full Power - Poor Consumption

Maximum speed setting incorrect.
Idling speed setting incorrect.
Faulty Atomisers, Fuel Pump or Lift Pump.
Overloading.
Restricted induction.
Incorrect Fuel Injection/Valve timing.
High or low pressure leaks.
Restricted fuel supply.
Poor compressions.
Blocked Fuel Return Pipe.
Restricted Exhaust System.

Erratic Running

Poor compressions.
Incorrect tappet settings.
Faulty Atomisers.
Fuel leaks.
Firing order-high Pressure Pipes in incorrect order.
Air leaks.
Engine mounting.
Incorrect Fuel Pump/Valve timing.
Sticking Valves.
Restricted induction.
Water in Fuel System.
Fuel Pump mounting.

Fuel and Mechanical Knocks

Faulty Atomiser.
Air leaks.
Overheating.
Incorrect Fuel Pump timing.
Incorrect Valve timing.
Loose Flywheel.
Broken Piston Rings.
Damaged or worn bearings/journals.
Piston striking Valve.

Excessive Exhaust Smoke

Poor compressions
Restricted induction.
Faulty Atomiser.
Incorrect Valve/Fuel timing.
Excessive lub. oil consumption.
Faulty Fuel Injection Pump.
Leaking thermostat.

Overheating

Overloaded.
Loss of coolant.
Slipping/failed Water Pump belt.
Blocked Cooling System.
Incorrect Valve/Fuel timing.
Insufficient air flow.
Faulty thermostat.

Low Oil Pressure

Incorrect grade of lub. oil.
Worn Oil Pump.
Faulty Gauge or Warning Switch.
Faulty Suction Pipe or Fitting.
Lub. oil needs changing.
Worn Bearings.
Faulty Relief Valve.

High Oil Pressure

Incorrect grade of lub. oil.
Faulty Gauge.
Faulty Relief Valve.

STORAGE

END OF SEASON STORAGE

To assure best performance at the beginning of the next season, take your Mower Conditioner to your GEHL dealer for an inspection and any necessary service work at the end of each season.

Mower Conditioner

Clean the Mower Conditioner thoroughly. Chaff and dirt will draw moisture and rust the steel.

Clean and release pressure on all Belts.

Clean all Chains thoroughly. Brush heavy oil on Chains to prevent corrosion.

Lubricate the Mower Conditioner completely. Grease the threads on the Adjusting Bolts and the sliding surfaces of the Variable Sheave assemblies.

Paint all parts from which the paint has worn. Spray cans of correct color and specifications are available at your GEHL dealer.

Level and support the Platform with blocks.

If possible, shelter the Mower Conditioner in a dry place.

Block up the Mower Conditioner, taking load off the tires. Do **NOT** deflate the Tires.

If the Mower Conditioner is stored outside, remove Wheels and Tires, and store them in a cool, dark, dry place. Cover Mower Conditioner with a tarpaulin.

List and order the repair parts that will be needed before the next season. Your dealer can give you better service during the off season, and parts can be installed in spare time, avoiding delay at cutting time.

Engine

Wash the outside of the Engine thoroughly. Use diesel fuel and a stiff brush.

Clean inside of Air Cleaner, remove dirt from the Filter and install a Filter in the Air Cleaner.

With the Engine warm, drain Crankcase. Then, replace Filter and fill Crankcase with new oil of proper weight and quality.

NOTE: Add 1 ounce of rust inhibitor for each quart of Crankcase capacity.

Drain, flush and refill Cooling System. If freezing weather is anticipated, fill system with anti-freeze to lowest temperature expected. If warm weather is anticipated, fill with clean soft water and add rust inhibitor.

Remove diesel fuel from the Tank.

Remove Battery and store in a cool, dry place that is not subject to freezing. Check Batteries in storage every 30 days and charge them, if necessary.

Remove Radiator Screen and Shield and clean out any dust or dirt accumulated in the Radiator Core. Use air or water under pressure for this cleaning.

Seal Air Intake Pipe, Exhaust Opening, and Fuel Tank Cap with sealing tape or plastic bags to prevent the entrance of moisture or foreign material.

STORAGE

BEGINNING OF NEXT SEASON SERVICE

The Mower Conditioner should be carefully checked, before starting the season. By making certain your Mower Conditioner is in tip-top shape, you can avoid costly breakdowns during the season.

Engine

Clean the inside of the Air Cleaner and install a new Filter Element.

Remove covers from all Engine openings.

Check the oil in the Crankcase. If low, check for leaks and add oils as required.

Remove Radiator Cap and check coolant level. If low, check for loose connections or leaks.

Service Cooling System as required.

Fill Fuel Tank with proper fuel.

Install the Battery. Check the electrolyte level and recharge.

Mower Conditioner

Replace the Wheels and remove blocking. Check Tire inflation.

Clean the Mower Conditioner thoroughly.

Drain and flush the Hydraulic System and install a new Oil Filter. Fill Hydraulic System with clean oil.

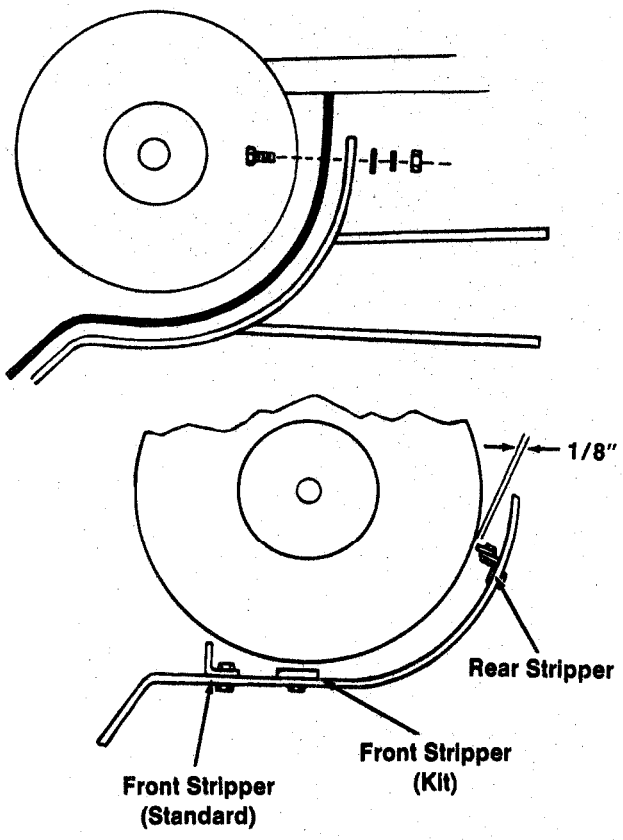
Tighten Belts, making certain they have the proper tension.

Clean and adjust Chains to proper tension. Lubricate with a good grade of foaming aerosol lubricant, such as NAPA Chain and Cable Lubricant or, SAE 30 or heavier oil.

Lubricate Mower Conditioner completely, then run Mower Conditioner at half speed for about an hour. Check Bearings for overheating or excessive looseness.

Inspect Mower Conditioner to see that all the Bolts are tight and Cotter Pins are in place.

ATTACHMENTS



WINDROW FORMING RODS

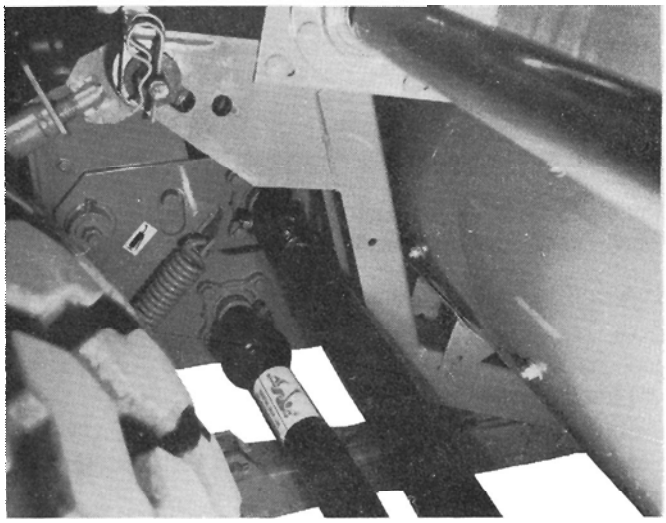
NOTE: Windrow Forming Rods are used only when the Hay Conditioner is removed. The Rods are then bolted into the center opening of the Header.

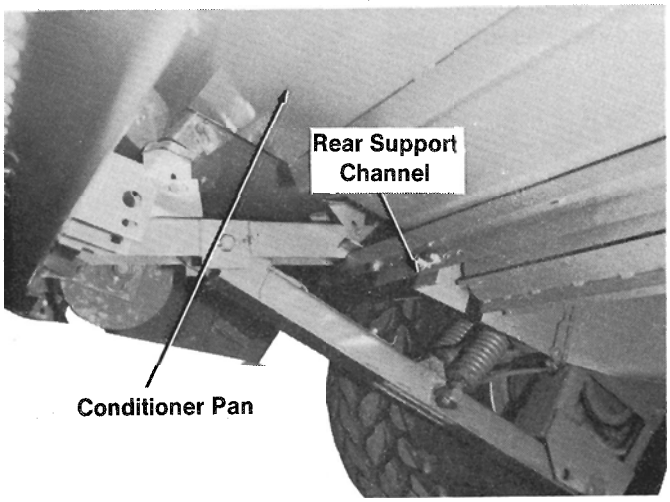
STRIPPER POSITION

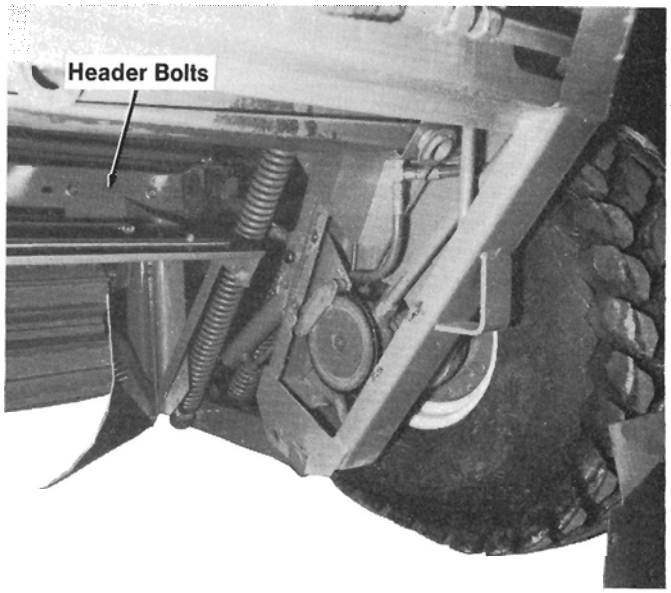
The Rear Strippers are two piece assemblies which can be adjusted forward to get exact Auger clearance. Always keep Rear Strippers adjusted to approximately 1/8" clearance to the Auger. This prevents any material from being carried over the Auger. In heavy crop, the front Stripper can be removed and a Front Stripper Kit installed in the second set of holes provided. If build up in the center of the Auger is still a problem, the Auger can be run with the Rear Strippers only.

CAUTION: To avoid injury, use Drift Pins and NOT your fingers, to line up holes.

ATTACHMENTS

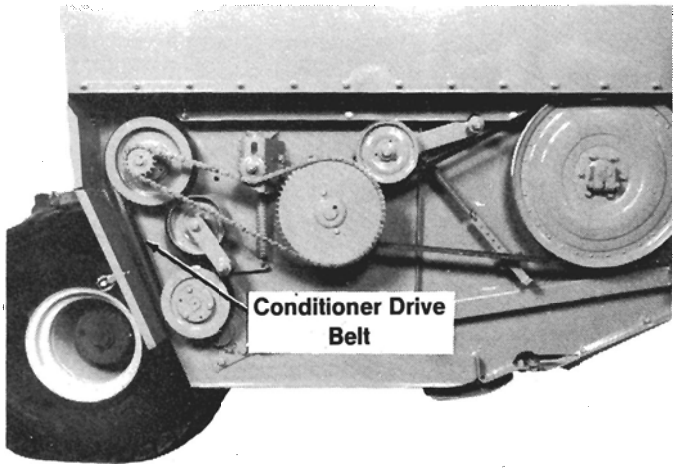






CONDITIONER DISCONNECT

1. Remove the upper and lower Conditioner PTO Shafts.
2. Block Conditioner up with the Header raised enough so the Conditioner will be supported when the Header is lowered.
3. Remove the Bolts from the rear of the Conditioner Pan Support Channel.
4. Remove the Bolts that attach the Conditioner to the Header.
5. After the Conditioner is disconnected, drive the tractor away from the Conditioner.
6. Remove the Conditioner Pan from the Header.
7. Remove the Conditioner Drive Belt or the Gear Box will continue to run.
8. Readjust the Header Flotation Springs for proper flotation with the Conditioner off.
9. Reverse this procedure for putting the Conditioner back on.



WARNING: To avoid the danger of flying objects, NEVER stand directly behind the Hay Conditioner when it is running.

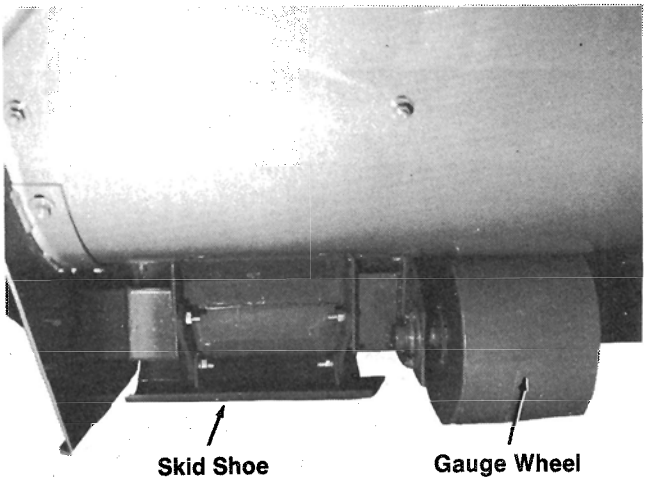
ATTACHMENTS

HEADER SKID SHOES

Two pair of Header Skid Shoes may be used on the Header. For the outer pair, adjust to the desired cutting height by removing the Bolts on the Adjusting Strap and moving Shoe up or down. After the adjustment is made, retighten the Nut on the Adjusting Strap securely. For the inner pair, adjust to he desired height and pin into desired position. (Refer to the installation instruction sheet.)

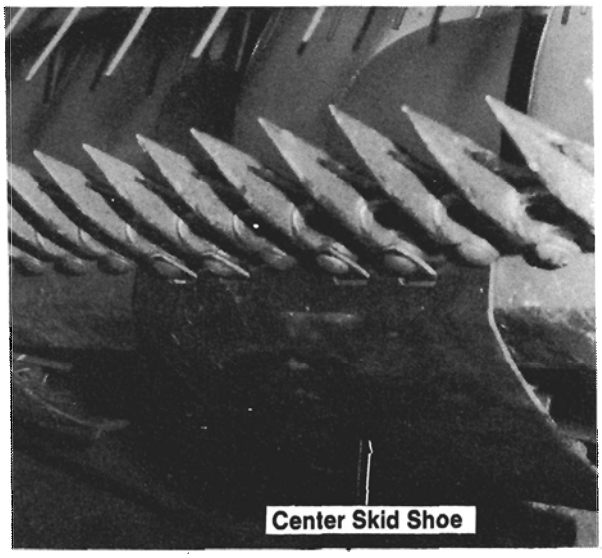
GAGE WHEELS

One set of Gage Wheels and two sets of Shoes may be used at the same time on the Headers. Assemble two Brackets on the Header at the desired height, in range from 0 to 4".



GAGE WHEEL HIGH -LOW BRACKETS

NOTE: Order part number 040-33438 for one; 4 required. These Brackets are for 0 to 3" and 5" to 8" cutting heights.



REAR MOWER CONDITIONER WEIGHTS

Rear Mower Conditioner Weights are available for the Mower Conditioner when backend lightness becomes a problem. The Rear Weights weigh 100 pounds each.

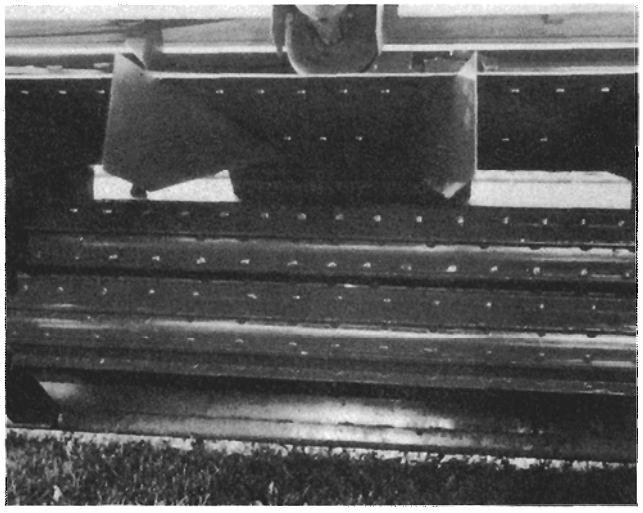
NOTE: When assembling the Rear Weights to the tractor, install the Bolt through the Axle first then put on the number of Weight(s) required for your land contour. Cut off excess Bolt lengths, after Weight(s) installation.

NARROW OPENING KIT

Narrow Opening Pans are used to obtain a narrower windrow when Conditioner is removed.

ADJUSTABLE SWATH VANE SET

Vanes and a new Conditioner Top Shield are used to narrow or control the width of the desired swath.



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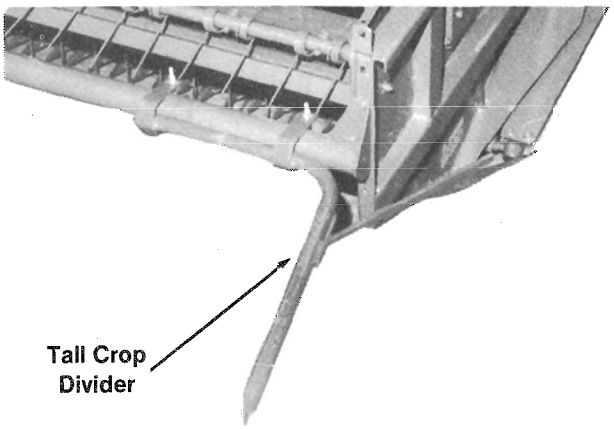
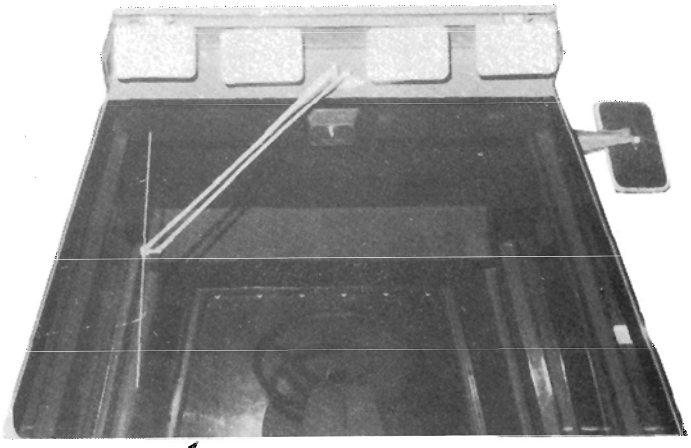


TALL CROP DIVIDER

Attach the Tall Crop Divider as shown and tighten Bolts securely. Orient Divider so that the outer tip lines up with the outer edge of the Fender Panel, or as desired.



CAB SUN SCREEN

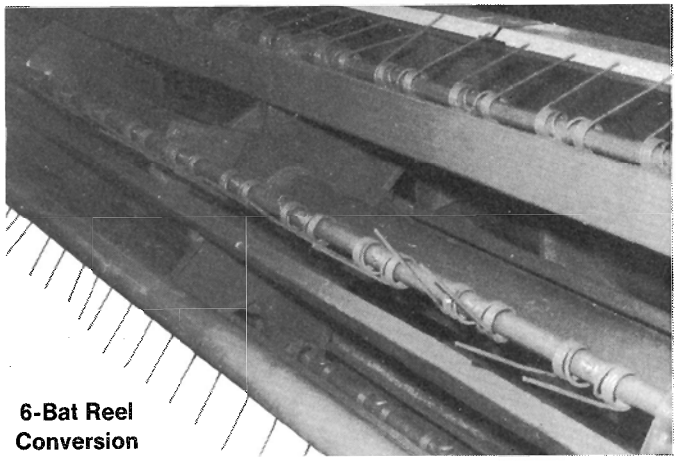
The self-adhering film, added to the side and rear windows, will reflect up to 75% of total solar energy in hot weather.

HEAD LAMPS

Two additional Head Lamps can be added for a total of four and may be adjusted for center and corner lighting.

HIGH RISE RADIATOR SCREEN

The High Rise Radiator Screen adds about 14 inches to the top of the present rear Grill. This is a somewhat self-cleaning system for use in very dirty conditions.



REEL CONVERSION

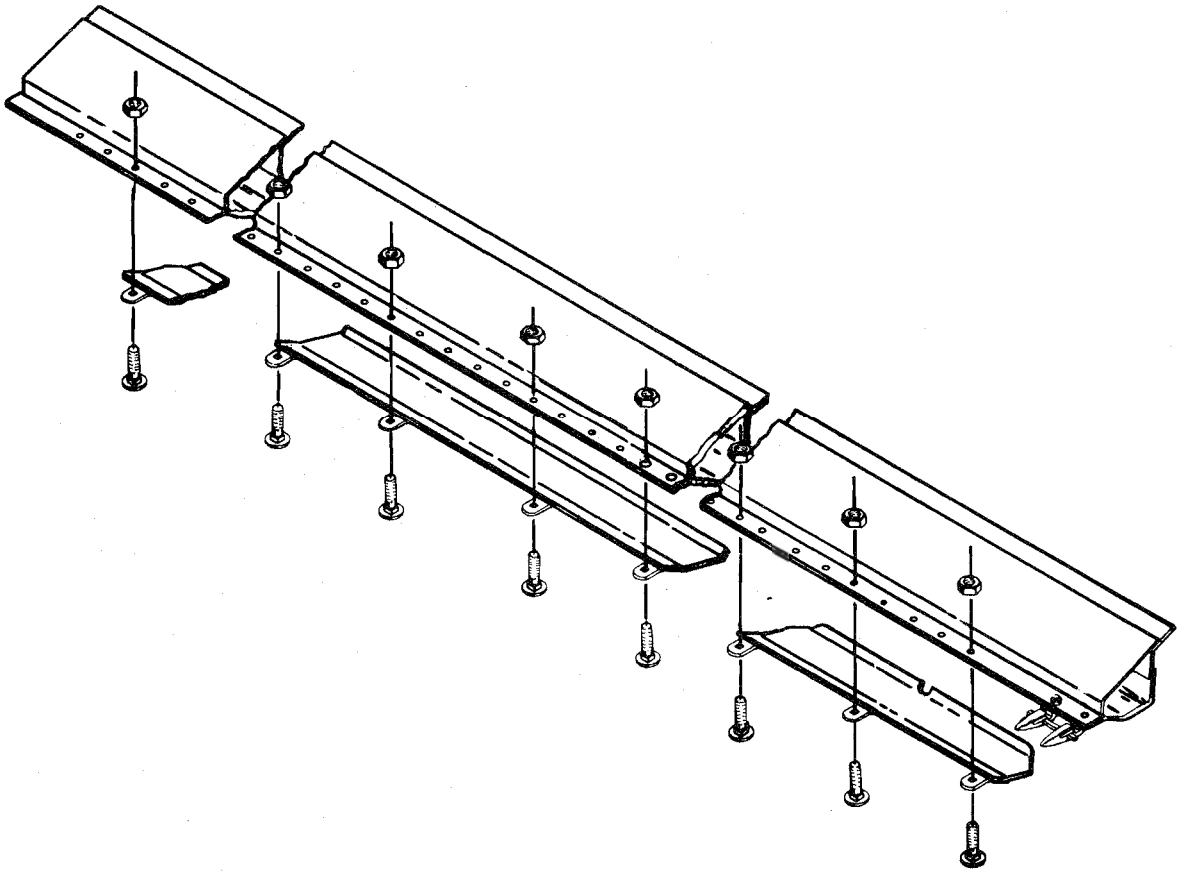
This Conversion package changes the Reel from a (4) Bat to a (6) Bat Reel. This will help when cutting down heavy crops.

ATTACHMENTS

FULL CUTTERBAR WEAR PROTECTION

NOTE: Set of 4, fits V-Bottom style Cutterbar only.

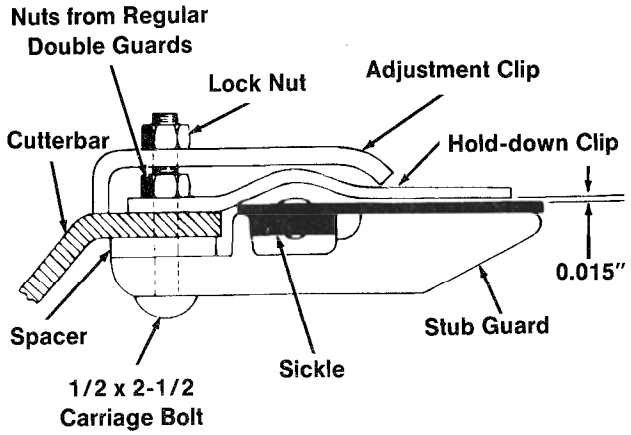
This kit gives full Cutterbar wear protection with no height adjustment. Gage Wheels can be used but not Skid Shoes.



ATTACHMENTS

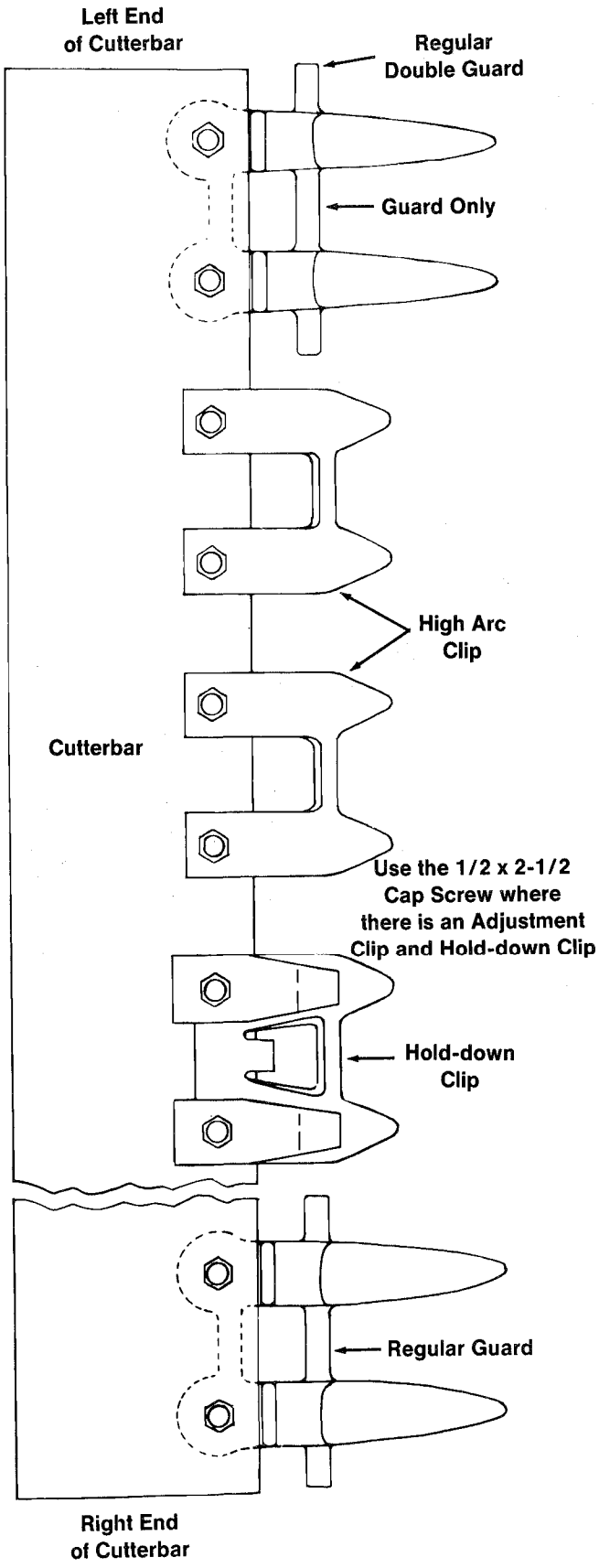
STUB GUARDS

Stub Guards are recommended for use only where extreme down, wet, tangled conditions cause standard Guards to ball up on the bottom. Stub Guards can be obtained through your GEHL dealer.



STUB GUARD INSTALLATION

1. To properly install the Guards, snug up the Bolts tightly, tap the Guard back squarely against Cutterbar. As you face Cutterbar, tighten the right-hand Bolt first and then the left-hand bolt to keep Guard from cocking on the Cutterbar.
2. Sickle Sections **MUST** lie flat on Guard ledger surface, or Cutterbar, Sickle otherwise the Guards **MUST** be straightened until the Sections do rest flat on the Guard ledger.
3. Front of Hold-down Clip should just touch the Sections or have a slight (0.015) clearance. The High Arch Clips require a 3/32 clearance.
4. Use the Adjustment Clip to hold the Hold-down Clip to proper clearance.



AIR CONDITIONER

FUNDAMENTALS OF OPERATION

Cab air conditioning is basically simple and can be compared to an automobile cooling system. The Engine generates heat, which has to be removed. This is accomplished by the Radiator, which unloads the heat, picked up by the water, to the outside air. The Water Pump circulates the water from the Engine to the Radiator and returns it to the Engine to repeat the cycle. The Thermostat controls the system. Normally, most mechanics understand the function of these items and know how to determine which part does **NOT** function properly.

An automobile air conditioning system consists of comparable components. The Evaporator absorbs heat which has to be removed. This heat is removed by the Condenser, which unloads the heat to the outside air. Refrigerant-12 is used as a heat transfer medium instead of water. The Compressor causes the refrigerant to circulate from the Evaporator to the Condenser and then return to the Evaporator. The Thermostatic Expansion Valve controls the flow of refrigerant and maintains the proper heat balance in the system.

If an Engine runs hot in operation, one would check the Radiator, Thermostat or water level. The same is true of cab air conditioning. The Condenser would be checked for possible blockage of air, the Thermostatic Expansion Valve would be checked for proper operation, and the refrigerant quantity or charge would be checked.

If water were to be used for cab air conditioning, and the inside of the cab would be 90° F., circulating it through the Condenser, where 90° air passes over it, would **NOT** cool the water. Therefore, a fluid will have to be used to evaporate at low temperatures, and by the process of evaporation, absorb heat.

Refrigerant-12 answers this purpose. As an example, if a mechanic washes his hands in gasoline, he notices that his hands are cooler. The gasoline, as it evaporates, removes heat from the hands. Refrigerant-12, in the same manner evaporates from a liquid into a gas, and in so doing absorbs heat. When the refrigerant evaporates inside the Evaporator Coil, the Coil and attached Fins become cold. Air blowing over the Coil becomes cold, and is then circulated throughout the interior of the cab. The refrigerant, when it leaves the Evaporator as a gas, is loaded with heat. It is circulated to the Compressor, where it is compressed and then it is circulated to the Condenser. As air passes through the Condenser, it removes the heat from the refrigerant, which returns to a liquid state again, the same as distilling. Please note that the Refrigerant Condenser is the coil mounted at the Engine Radiator.

The liquid refrigerant leaves the Condenser and enters the Receiver-drier. This is nothing more than a reservoir for excess refrigerant, and contains a drying agent to remove any moisture that may be present. The refrigerant then passes to the Thermostatic Expansion Valve on the Evaporator, where the cycle is again repeated.

OPERATION OF AIR CONDITIONER CONTROLS

1. Control & Outlet Louvers

At the right end of the Instrument Panel, is the Air Conditioner Control which permits you to select the right conditioning temperature. Adjustable Directional Louvers are located in the Panel behind the Seat.

These can be adjusted to direct the cooled air wherever required for maximum comfort.

2. To Pressurize Cab

Turn Blower Control to HI position. Adjust to suit your comfort level. The Louver on the right side of the rear window may be adjusted to change the proportion of the exterior inlet air versus inlet recirculating air being circulated by the Blower.

3. To Cool Cab

Turn the Temperature Control Knob to the MAX position. This cools the cab in a minimum of time. After the cab is cooled down, adjust the Temperature Knob to the comfort level desired and adjust the Blower Control to a lower speed position.

NOTE: To assure that your Air Conditioning System functions at maximum efficiency, the Engine MUST be operated at full Governed speed.

4. Electrical Inspection

NOTE: In making the following check, the Engine should NOT be running.

AIR CONDITIONING SYSTEM

With the Air Conditioner Switch in the off position and the Ignition Switch turned to the accessory position, rotate the Blower Switch slowly clockwise through the three detents. At each position the Blower should run and deliver air in three steps as noted on the Switch Plate.

With the Blower Switch on one of its three positions, rotate the Air Conditioner Control clockwise. The Clutch should engage with a clicking sound.

REFRIGERANT-12 (FREON)

Refrigerant-12 is one of a family of liquid refrigerants, basically a hydro-carbon, that has been found to be best suited for automotive air conditioning. It will evaporate at minus 21°F at atmospheric pressure. Refrigerant-12 has a desirable feature in that it has a direct relationship between temperature and pressure. This feature makes it easy to understand and service the air conditioning system. The pressure temperature relationship of Refrigerant-12 is generally 1 pound pressure per 1° Fahrenheit, except in cases of pressure below 20 pounds or above 75 pounds - See Temperature-Pressure Relation Chart provided. In general, a service man can easily determine the temperature of the Evaporator Core by observing the pressure recorded on his gages. When the low side pressure gage reads 35 pounds, one knows the Evaporator temperature is approximately 35° F. If the gage reads 30 pounds, the Evaporator temperature is approximately 30° F.

EVAPORATOR SECTION

Your Air Conditioning System consists of two sections: Evaporator and Condenser. The Evaporator section is in the compartment directly behind the seat of the cab. The Condenser section is located to the rear of the unit behind the hood grille.

The Evaporator section in the cab contains the pressurized Blower, Evaporator (cooling) Coil, Valve, Thermal Control Sensor, and other components. A simple description of this Evaporator section is that is draws in fresh outside air and recirculated cab air and then discharges it from the Directional Air Outlet Louvers.

A. Pressurized Blower

A high pressure, heavy duty, twin centrifugal type Blower is located in the Evaporator section. It is equipped with Squirrel Cage Blower Wheels for quiet and vibration free operation. These light weight Wheels put less load on the high performance three speed series wound Motor. This efficient Blower has ample capacity to pressurize the cab while drawing air through a special purpose Filter and recycle cab air for efficient cooling.

B. Circuit Breaker

Located inside the Console is a 25 ampere Circuit Breaker. This Circuit Breaker protects the circuits from overloads.

C. Evaporator Coil

The Evaporator Coil is constructed with copper tubing, through which passes the Refrigerant-12, and aluminum fins for heat transfer. The refrigerant evaporates within the copper tubes due to heat, which it absorbs from the air passing over and around the tubes and fins. This absorption of heat reduces the temperature of the air passing through the Coil, thus cooling the cab. The Coil is located immediately behind the interior Air Filter and Seat.

D. Drains

The Evaporator Coil, being colder than the air passing through it, condenses the moisture in the air, forming droplets which run down the fins to a Drain Pan. This water is then drained out by Hoses to the outside of the cab. A looped trap installed in this Drain Line at the rear of the cab prevents contaminated air from being sucked into the Evaporator section and depositing foreign matter on the Fins.

E. Expansion Valve

The Expansion Valve is a metering valve which regulates the flow of refrigerant to the Evaporator Coil and is located on the Evaporator. This is the dividing point between the low and high pressure side of the system. Its function is wholly controlled by both thermal and pressure means. The thermal control consists of a Temperature Sensing Bulb, attached to the Outlet Manifold of the Evaporator Core, connected to a diaphragm on the Valve by a capillary tube. The diaphragm activates a Plunger, that open or closes the Valve. The pressure control consists of a Spring, preset at the factory to maintain the proper operating pressure difference, acting against the Valve with a tendency to close it. Also, a Tailpipe is connected to the suction side of the Evaporator Coil. During operation, the Sensing Bulb on the Discharge Manifold of the Evaporator Core senses its temperature. As temperature increases, the thermal charge in the Bulb expands and exerts pressure on

the Diaphram, which pushes the Plunger , opening the Valve, allowing more refrigerant to enter the Evaporator Core. As the temperature decreases, the thermal charge contracts, lessening the Diaphram pressure, allowing the Plunger to move and close the Valve. Under actual operation, the valve will **NOT** close completely, but will act in a throttling manner, allowing the proper amount of refrigerant to flow. When the Compressor stops, the Evaporator pressure exerted against the bottom of the Diaphram, and the Sensing Bulb pressure exerted against the top of the Diaphram, equalize, and the Spring pressure then closes the Valve.

NOTE: The Expansion Valve is factory preset to operate satisfactorily under all operating conditions and should NOT be tampered with.

AIR CONTROL SECTION

A. Master Filter

Located above the rear window at the rear of the cab is the Master Filter. This Filter is made of many corrugations of porous paper and is more than 98% efficient.

NOTE: The importance of this Filter can NOT be over-emphasized, as it allows only clean air to pass through the Evaporator Coil. Dirty air will drop off its impurities on the wet Coil, causing mud and eventual blocking of the Coil with resultant expensive repairs.

B. Interior Air Filters

There are two interior Air Inlet Holes for Blowers to recirculate cab air cooling. One is located to the right of the rear window and the other is located near the floor behind the seat. Their Filters should be checked and cleaned or replaced periodically.

C. Air Louvers

Adjustable Directional Air Outlet Louvers are located in the panel behind the seat. These Louvers allow all the control necessary for the operator to direct air as desired for complete comfort.

D. Thermostat Switch

Located in the upper right hand corner of the Instrument Panel is a rotary Temperature Control Switch that controls the outlet temperature of the Air Conditioner. Turning the Knob will lower or raise the cab temperature.

E. Pressurizer Blower Switch

Located in the upper right hand corner of the Instrument Panel is a Three Position Switch that controls the operation of the Pressurizer Blower. Rotating the Switch clockwise controls the speed of the Blower through Lo-Med-Hi. The off position is fully counter-clockwise. This Switch also controls the power to the Compressor Clutch when the Air Conditioner is operated and the Temperature Control Switch is set for desired cooling effect.

CONDENSER SECTION

The Condenser section is attached to the Radiator. It contains the Condenser Coil. The function of the Condenser Section is to condense the hot gaseous Refrigerant-12 from the Compressor and to store it in liquid form until required by the Evaporator Section.

A. Condenser Coil

The Condenser Coil is constructed similarly to the Evaporator Coil except it is larger. Hot Refrigerant-12 gas from the Compressor enters the top of the Condenser and flows downward through copper tubes. Cool air being passed through the fins removes the heat from the refrigerant gas, and as it becomes cooler, it condenses into a liquid and passes to the Receiver Drier.

B. Receiver Drier

The Receiver Drier provides a storage space for excess refrigerant in the system, necessary in case of slight leaks in the system. It contains a built-in Strainer to prevent any foreign matter from circulating through the system, which might cause faulty operation of the components. A drying agent is also placed in the Receiver to absorb moisture in the system, which could ice-up the Expansion Valve, causing non-operation of the system. A Sight Glass is also incorporated into the Receiver Drier to determine the condition of the freon charge. This Sight Glass is generally the first reference one uses when diagnosing troubles in the system.

C. High Pressure Switch

The High Pressure Switch is located inside the Rear Screen of the Condenser unit. It senses safe operating pressures of the refrigerant. Should the pressure rise to an unnatural condition, the normally closed contacts open and de-activate the Clutch, shutting off the Compressor.

AIR CONDITIONING SYSTEM

COMPRESSOR SECTION

The Compressor Section consists if the Compressor, the Clutch, and the Compressor Mounting Bracket. The Compressor is mounted to the Frame by a specially designed Bracket for the vehicle's particular Engine. It is driven by the Clutch, which is controlled by the Air Conditioner Thermostat Switch. The Clutch is Belt driven by the Engine.

A. Compressor

The Compressor is a four cylinder radial reciprocating unit driven by the vehicle's Engine. It compresses the cool gaseous refrigerant from the Evaporator Coil and circulates it to the Condenser Coil. It has a displacement of approximately 9-3/4 cubic inches per revolution.

The Compressor's compact size design refinements utilize lighter weight metals, Flexing Valves, a Unidirectional-Flow Path, enhanced internal and external cooling, providing low reciprocating and rotating masses. This minimizes vibration and reduces the inertia load the Clutch has to overcome in accelerating from zero up to operating speed during cycling. The result is more uniform torque with reduced power demands.

The Compressor is similar in operation to an air compressor, however, instead of rotating at a fixed RPM, the speed varies according to the Engine idling speed and other cooling requirements. This change in speed, therefore, varies the output or capacity. It also cycles on and off in response to evaporating core temperature and shuts-off automatically when exceeding safe operating pressures in the Condenser Unit.

To keep refrigerant from leaking out of the Compressor, encasement in the housing and a special Shaft Seal is used. This Seal is a precision item and must be handled carefully during service operations.

NOTE: The oil in the Compressor is a special, high quality refrigeration oil. Its use is a MUST, as other oils will contaminate the system and put it out of order.

B. Clutch

The Clutch is an electro-magnetic type, which engages the Compressor according to the desires of the Thermostat in the Evaporator. This cycling of the Clutch and Compressor during high speed operation prevents the Evaporator Core from frosting. A Stationary Field Coil is mounted on the Compressor, concentric with the Shaft. A Pulley Assembly is mounted on the Shaft of the Compressor. When an electric current flows through the Field Coil, a magnetic field is created. The lines of magnetic force bridge the air gap between the Stationary Field and the rotating Pulley, creating a frictional driving force. This brings the Disc and Hub rotation with the Pulley to drive the Compressor.

REFRIGERANT LINES

The Refrigerant Lines used on the Air Conditioning System are special high pressure reinforced Hoses. Their purpose is to carry Refrigerant-12 through the system. Special care must be taken when installing to secure them from vibration and excessive Engine heat.

A. Discharge Line

The Discharge Line carries hot, high pressure gaseous refrigerant-12 from the Discharge Port of the Compressor to the Condenser Coil Inlet Port at the top of the Condenser.

B. Liquid Line

The Liquid Line carries warm, medium pressure liquid Refrigerant-12 from the Receiver Drier to the Expansion Valve Inlet Port.

C. Suction Line

The Suction Line carries cool, low pressure vapor from the Evaporator Outlet Port to the Compressor Suction Port.

MAINTENANCE - ADJUSTMENTS - SERVICE

Helpful Hints

Read these instructions carefully before replacing or repairing or servicing any system components to become familiar with all operations. The following instructions are step by step procedures, but time will be saved by anticipating the next operation before completing the preceding one.

Do **NOT** remove any plugs from any Hose Connection of any component for any reason, until you are ready to make the connection. This procedure will eliminate the possibility of dirt or moisture getting into the system.

BE SURE the work area and the equipment are clean and dry before starting the installation of replaced components.

AIR CONDITIONING SYSTEM

1. Preventive Maintenance

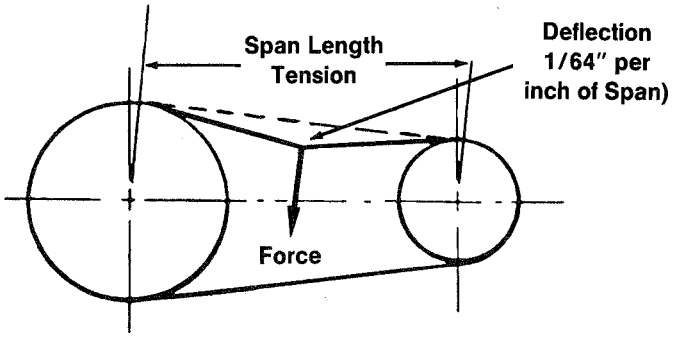
Perform the maintenance procedures listed below at regular intervals to maintain efficient operation of your unit.

A. Belts

Several horsepower is required to drive the system Compressor. Therefore, the Driving Belt(s) should be inspected periodically to be sure they are tight. A loose, slipping Belt will wear out rapidly and lower the Compressor speed sufficiently to cause lack of cooling.

To check proper Belt tension, measure the span between the center of line of the Pulleys. Deflection of the Belt half way between the Pulleys should be 1/64 per inch of span. A few simple rules about tensioning will satisfy most of your requirements.

1. The best tension for a V-Drive Belt is the lowest tension at which the Belts will not slip under the highest load condition.
2. Check the tension on a new Belt frequently during the first day of operation.
3. Check Belt tension periodically, thereafter.
4. Too much tension shortens Belt and wearing life.
5. Keep Belts and Pulleys free from any foreign material which may cause slippage.



B. Cleanliness

Keep all Hoses and Compressor clean to prevent over heating. Daily, or more often if need, clean the Condenser Screen and then lift Screen and blow or wash out any excess dirt accumulations on the Condenser.

C. Drain Lines

In order to prevent spillage of condensate water into the cab, the Drain Lines should be kept clean and open. Periodically blow air backwards through the Hoses to remove any foreign matter.

D. Filter

It is imperative that the Filter be kept clean and operable. It should be inspected at least once a day. A dirty Filter will prevent air flow and result in lack of cab ventilating air. The Master Paper Filter and the Louver and Blower Inlet Filter can be tapped lightly to dislodge heavy or large particles, then with low pressure air, blow in the opposite direction to normal air flow. The Filters can be washed in a mild detergent, rinsed thoroughly and then dried. Do **NOT** use compressed air on a wet Filter.

NOTE: NEVER wash Filters in fuel oil, gasoline or solvent. When the Filter Elements do NOT come clean from washing, replace them. It is a good practice to keep an extra Filters on hand to use while the other filters are being serviced.

E. Off-Season Operation

In order to prevent refrigerant loss and possible damage at the Compressor Seal, the unit should be run at least once a week for several minutes, even during the winter season. This will allow lubrication of the Compressor Shaft Seal, prevent drying, and keep the system in a good operating condition.

AIR CONDITIONING SYSTEM

SAFETY TIPS

Freon 12 is classified a safe non-toxic refrigerant, however, certain precautions must be observed to prevent personal injury to the serviceman.

The most important safety measure to be taken while servicing the Air Conditioning system is adequate and constant protection of the eyes. Safety goggles or other adequate eye protection **MUST** be worn.

The liquid refrigerant boils (vaporizes) at minus 21.7° F (21.7° below zero) at atmospheric pressure. Serious injury or blindness could result from refrigerant contacting the eyes.

If refrigerant should contact the eyes, do **NOT** rub them. Splash the eyes with cold water to gradually get the temperature above the freezing point. Consult a doctor or eye specialist immediately.

Should the liquid refrigerant come in contact with the skin, the resulting injury should be treated the same as though the skin has been frostbitten or frozen.

Do **NOT** smoke or allow any type of fire or flame in the immediate area while servicing the refrigeration system. Freon 12 is **NOT** combustible, however, in the presence of fire, it changes to a highly poisonous and deadly phosgene gas. This gas will also tarnish bright metal surfaces.

Liquid refrigerant evaporates so rapidly that the resulting gas may displace the oxygen surrounding the work area, especially if that area is relatively small and enclosed.

To prevent possible suffocation in an enclosed area, always discharge the refrigerant from the Air Conditioning system out-of-doors or into an exhaust collector system. Be certain that good ventilation is always maintained around the work area when discharging the system.

NEVER weld, solder, steam clean or use any excessive amount of heat on any of the refrigeration system while the system is charged. Heat applied to any part might cause the pressure of the refrigerant within the closed system to become excessive. This could cause a dangerous rupture.

Be certain that the pressurized refrigerant containers are **NEVER** exposed to open flame or temperatures above 125° F. Do **NOT** discard empty refrigerant containers where they are likely to be subjected to the heat or trash burners, etc.

Always use correct refrigerant hoses (freon type) when replacing them. Do **NOT** use hoses other than those specified for refrigeration use.

Temperature-Pressure Relation Chart (For Refrigerant-12)

Temp. °F	Press. PSI	Temp. °F	Press. PSI	Temp. °F	Press. PSI	Temp. °F	Press. PSI	Temp. °F	Press. PSI
0	9.1	35	32.5	60	57.7	85	91.7	110	136.0
02	10.1	36	33.4	61	58.9	86	93.2	111	138.0
04	11.2	37	34.3	62	60.0	87	94.8	112	140.1
06	12.3	38	35.1	63	61.3	88	96.4	113	142.1
08	13.4	39	36.0	64	62.5	89	98.0	114	144.2
10	14.6	40	36.9	65	63.7	90	99.6	115	146.3
12	15.8	41	37.9	66	64.9	91	101.3	116	148.4
13	17.1	42	38.8	67	66.2	92	103.0	117	151.2
16	18.3	43	39.7	68	67.5	93	104.6	118	152.7
18	19.7	44	40.7	69	68.8	94	106.3	119	154.9
20	21.0	45	41.7	70	70.1	95	108.1	120	157.1
21	21.7	46	42.6	71	71.4	96	109.8	121	159.3
22	22.4	47	43.6	72	72.8	97	111.5	122	161.5
23	23.1	48	44.6	73	74.2	98	113.3	123	163.8
24	23.8	49	45.6	74	75.5	99	115.1	124	166.1
25	24.6	50	46.6	75	76.9	100	116.9	125	168.4
26	25.3	51	47.8	76	78.3	101	118.8	126	170.7
27	26.1	52	48.7	77	79.2	102	120.6	127	173.1
28	26.8	53	49.8	78	81.1	103	122.4	128	175.4
29	27.6	54	50.9	79	82.5	104	124.3	129	177.8
30	28.4	55	52.0	80	84.0	105	126.2	130	182.2
31	29.2	56	53.1	81	85.5	106	128.1	131	182.6
32	30.0	57	55.4	82	87.0	107	130.0	132	185.1
33	30.9	58	56.6	83	88.5	108	132.1	133	187.6
34	31.7	59	57.1	84	90.1	109	135.1	134	190.1

Specifications

The following chart shows the nominal operating characteristics and capacities.

Air Conditioner amperage draw (12 volt)	Low speed 11 amps. Medium speed 18 amps. High speed 21 amps.
BTU capacity-cooling	Low speed 21,800 Medium speed 22,500 High speed 24,000
Design temperature	Dry Bulb 90° Wet Bulb 75° Suction pressure at evaporation 23 PSI Hd pressure at conditioner 216 PSI
Compressor	Tecumseh HR - 980 9-3/4 cubic inch Displacement
Compressor oil*	Texaco Capella "E" or equivalent 500 Viscosity 8 oz required
Compressor Pressure (read at service valves) Ambient Temperature 60° 85° 90° 100°	 Discharge Suction 140 PSI 10 PSI 190 PSI 20 PSI 216 PSI 23 PSI 255 PSI 26 PSI
Filters (one 2-1/8 x 5 x 38 inch) Exterior air inlet (one 1 x 4 x 21-1/2), Recirculating floor air inlet (one 1/2 x 10-3/4 x 16-3/4), Recirculating louver inlet	 Removable, reusable, drytype: Pleated paper element (exterior air); Open Cell polyurethane foam Open Cell polyurethane foam
Refrigerant R - 12	40 oz. required (full charge)

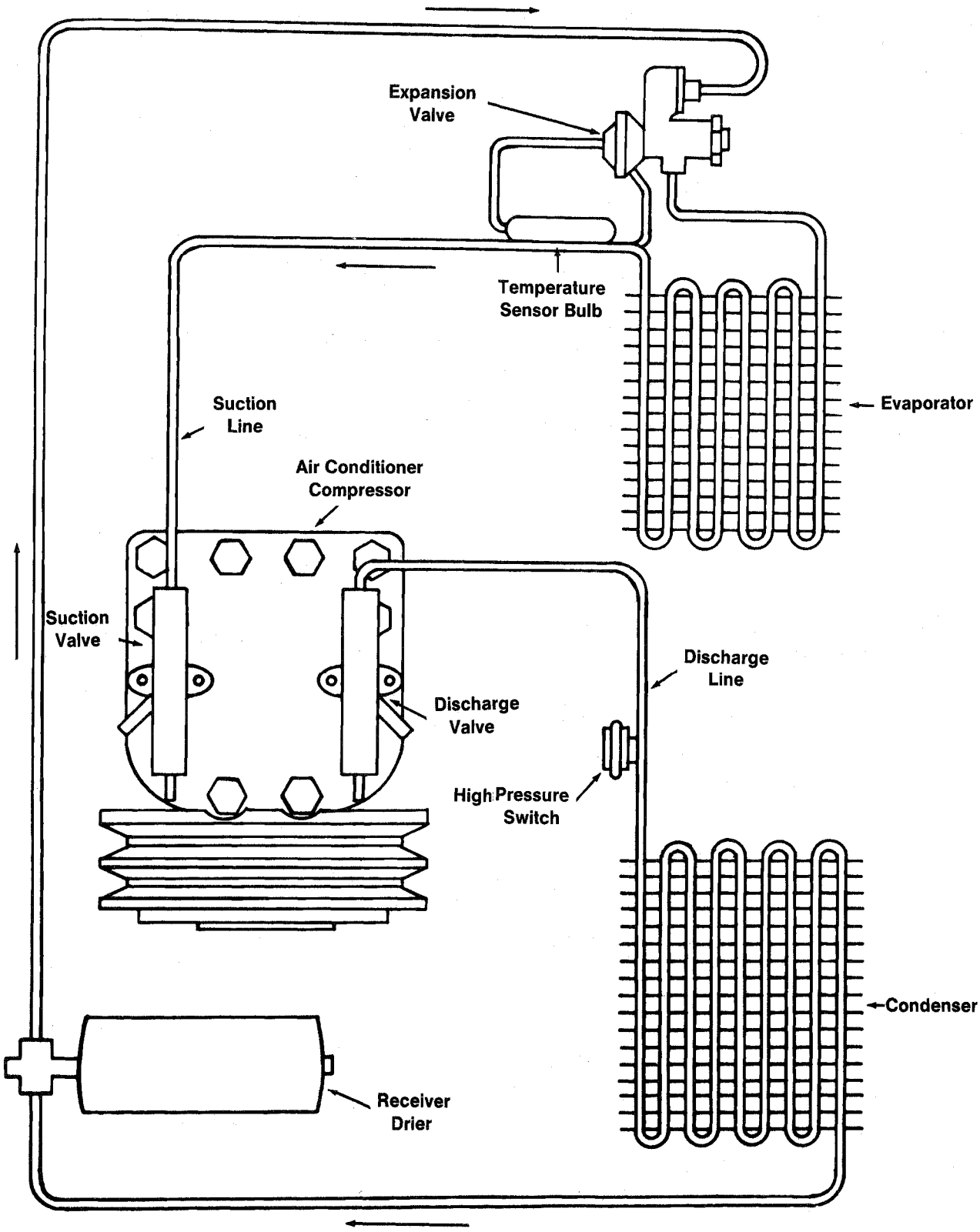
*It is recommended that the compressor **NOT** be operated with an unknown amount of oil.

The proper procedure is to remove and drain the compressor and flush the system. The compressor should be recharged with oil prior to reassembly* on the cleaned flushed system as follows:

With ports in a vertical position pour 7 fl oz (210 ml) into discharge port and 1 fl oz (30 ml) into suction port.

NOTE: When compressor is being handled or installed, care is required to avoid loss of oil from discharge fitting. Be sure to keep the discharge fitting level with or above the shaft when hoses are NOT connected.

Air Conditioning Refrigeration Cycle Flow Diagram



Troubleshooting

The majority of operating problems that occur with the system can be traced to improper adjustments or delayed service. The following chart is designed to help you locate a problem by suggesting a probable cause and the recommended solution.

These suggested remedies should be applied wtih care. Make certain that the source of the problem is **NOT** located someplace other than where the problem exits. A thorough understanding of the system is a **MUST** if operating problems are to be corrected satisfactorily.

Air Conditioning

PROBLEM	CAUSE	REMEDY
Drafts.	Poor air distribution.	Adjust directional air louvers.
	Cab temperature too cold.	Adjust temperature control to a warmer position. Set pressurizer blower switch to "Med." or "Low".
	Improper door adjustment.	Adjust door.
Inadequate air flow.	Clogged air filter.	Clean filter.
	Evaporator air flow restricted.	Clean evaporator and housing with compressed air.
	Faulty pressurizer fan motor.	See your dealer.
	Defective pressurizer fan switch.	See your dealer.
	Loose wire connection.	Tighten wire.
Water leaking or dripping from evaporator compartment.	Drip pan dirty.	Clean evaporator pan and outlet.
	Drain tube plugged. On warm humid days it may be necessary to set fan speed on medium after initial cool down of 15 to 20 minutes to control moisture.	Clean drain tubes and water traps.
Missing noise at expansion valve.	Loss of refrigerant.	Check sight glass for bubbles and system for leaks. See your dealer.
	Restriction in refrigerant system.	Check for kinks in hoses. Check receiver-drier for uniformity of temperature. If temperature is **NOT** uniform, see your dealer.
Partial frosting and sweating of lines combined with poor cooling.	Compressor Belt slipping.	Adjust belt tension of Compressor Belt and Water Pump Belts.
	Loss of refrigerant.	Check sight glass for bubbles and system for leaks. See your dealer.
	Restricted or clogged liquid line.	See your dealer.
Ice flecks blowing from evaporator.	Excessive cooling.	Adjust the temperature control to a warmer position.

Air Conditioning (cont.)

PROBLEM	CAUSE	REMEDY
Failure to cool.	Dirty air filter.	Clean filter.
	Lint or dirt on condenser fins.	Blow out condenser fins with compressed air.
	Refrigerant is lost or extremely low.	See your dealer.
	Broken Compressor Drive Belt.	Install new belt.
	Loose Conditioner Belt.	Tighten belt.
	Compressor Clutch **NOT** engaging.	Check wiring or see your dealer.
	Debris on Condenser Screen.	Clean screen.
	Expansion Valve **NOT** funcitoning.	See your dealer.
	Restriction in Refrigerant System.	See your dealer.
	Loose wiring connector.	Tighten wire.
	Defective Temperature Control Switch.	See your dealer.
	Outside temperature too low.	Wait until day gets warmer. If there is a malfunction in system see your dealer.
	Burned out Clutch field or faulty field.	See your dealer.
	Short circuit in Control Circuit or failure of a Switch in circuit.	See your dealer.
	Condenser is overheating.	Clean Condenser screens, cores and fins.
	Severe restriction in high side.	See your dealer.
Pressurizer Fan, and/or Compressor will **NOT** run.	Defective Circuit Breakers.	Replace Circuit Breakers.
	Defective Motor.	See your dealer.
	Defective Switch.	See your dealer.
	Faulty wiring or loose connection.	Repair or replace wiring.
Strange odors inside Operator's Cab.	Dirty Air Filter.	Clean Filter.
	Evaporator Condenser Pan dirty.	Clean Pan and Outlet.
	Drain Tube is plugged.	Clean Drain Tube.
	Tobacco smoke and tar on Evaporator exterior.	Clean Fins.

AIR CONDITIONING SYSTEM

PROBLEM CHECKING AND CORRECTION

1. Air in System

Air in the system can cause high head pressures even if the suction pressure is normal. This is due to the fact that air is **NOT** condensable and remains as a gas in the system. To correct this condition, the entire system should be purged, evacuated, and recharged.

2. Belt Tension

Improper Belt tension of the Compressor Drive Belt can cause noise, vibration and excessive wear. See Maintenance - Adjustments - Service information.

3. Blower Switch

A defective Blower Switch can cause the Pressurizer Blower and the Clutch to be inoperative. To check this Switch, remove all lead wires and rotate the Switch to its clockwise location. With one lead of an ohmmeter attached to the B terminal, there should be **NO** continuity with the other four terminals. With the Switch rotated clockwise to the first detent, there should be continuity at terminals L and C only. At the second detent, continuity should be at M and C only, and at the third detent, continuity should be at M and C only. If the switch does **NOT** check as above, it is defective and should be replaced.

4. Circuit Breakers

A defective Circuit Breaker will **NOT** allow the Air Conditioning system to operate. It can be checked by checking the voltage at both terminals. (Both should read either 12 or 24 volts.) If one terminal is dead, the Circuit Breaker is defective and should be replaced.

5. Clutch

A defective Clutch can cause non-operation of the Air Conditioning system or noise at the Compressor area. To check for proper operation of the Clutch, disconnect the Clutch lead wire and apply proper voltage from a test lead. The Clutch Disc Assembly should snap toward the Pulley. Start the engine and apply voltage, the Disc should snap into place, and the Center Drive Section should rotate and drive the Compressor. If this action does **NOT** occur, the Field Coil is defective and should be repaired or replaced. The Pulley Assembly should have **NO** play or wobble. If this condition is present, check the Shaft Mount Bolt for tightness. If this is **NOT** the cause, the Bearing is defective and should be replaced.

6. Compressor

A defective Compressor will cause non-operation of the Air Conditioning system and/or loss of refrigerant. A refrigerant loss around the Head Gaskets or Shaft Seal can easily be detected by means of a leak detector. See Types of Leaks and Methods for Checking Leaks. If the gages indicate a high suction pressure and low head pressure, the trouble can probably be traced to a defective Head Gasket or Valve Assembly.

7. Compressor Mount

Periodically inspect the Compressor Mount to be sure it is secure. A loose Mount will cause vibration and noise and eventually lead to expensive repairs.

8. Condenser Coil

A dirty or bug plugged Condenser Coil which restricts the flow of air, would cause a high head pressure. It can easily be cleaned by brushing the face and blowing out with compressed air, or cleaning with a high pressure water hose.

9. Evaporator Coil

A dirty or plugged Evaporator Coil, caused by allowing the unit to be operated without a Filter, will restrict the flow of cab air and reduce cooling. Deposits should be scraped off and blown out with compressed air. Ice formations also will restrict the air flow. Check to see that the Capillary Tube from the Thermostat Switch is properly in place.

10. Expansion Valve

A faulty Expansion Valve could either cause starvation of refrigerant in the Evaporator Core or flooding of the Evaporator Core with refrigerant.

If the gage shows a low suction pressure or vacuum, the Evaporator Core is being starved for refrigerant. To check the Expansion Valve, remove the Sensing Bulb from the Evaporator Core Discharge Tube and heat it with your hand. If the suction pressure does **NOT** return to normal, the Expansion Valve is probably defective and should be replaced. However, first run your hand along the Line from the Condenser to the Receiver Drier and then to the Expansion Valve. If the Line is warm, the Expansion Valve is definitely defective. If however, it is noticed that the Receiver Drier is cooler than the Hose, it indicates that that item is defective and not the Expansion Valve.

If the gage registers a high suction pressure, the Evaporator Core is being flooded with refrigerant. Check the Sensing Bulb to make sure it is rigidly connected to the evaporator Core Discharge Tube and properly insulated. If this does NOT correct the symptoms, it may be that some foreign matter is holding the Valve open. To prove this, place the Sensing Bulb in ice water. If the suction pressure does **NOT** return to normal, the Expansion Valve is defective and should be replaced.

11. Filter

A dirty, restricted Filter can cause reduced air flow in the Evaporator section. This can cause lack of cooling and reduced cab pressurization. See Maintenance - Adjustments - Service information.

12. High Pressure Switch

A defective High Pressure Switch can cause the Clutch to be inoperative. A simple check can be made by removing the two electrical leads. With an ohmmeter, there should be continuity across the terminals as long as the pressure in the system (as shown on the pressure gage) is below 250 PSIG. If **NO** continuity is shown at this pressure, the Switch is defective and should be replaced.

13. Pressurizer Blower Motor

A defective Pressurizer Blower Motor will render the Air Conditioner useless. To check the operation of the Motor, break the orange, yellow, and red leads to the Motor. Apply voltage to each lead separately. The Blower should operate at high speed at the orange lead, medium speed at the yellow lead, and low speed at the red lead. If performance is **NOT** as described above, the Motor is defective and should be replaced.

14. Pulley Alignment

Misaligned Pulleys in the Drive system can cause excessive Belt wear, vibration and noise. Check the Drive and driven Pulleys to make sure they are in one place and, if necessary, add a shim to, or reduce the height of, the Idler Pulley Mounting Base.

15. Receiver Drier

A dirty or plugged Receiver will cause malfunction of the system and be indicated by a loss of system capacity and low suction and head pressures. When the system is in operation, a defective Receiver Drier can be detected by the Outlet Fitting being cooler than the Inlet Fitting. If this is indicated, replace the Receiver Drier.

16. Refrigerant Loss

Refrigerant loss is indicated by loss of cooling capacity, bubbles in the Sight Glass, and low suction and head pressures. With a leak detector, go over the entire system with the sniffing tube. Most common points of leakage are at the Hose or Tubes in the Evaporator Core or Condenser. Locate the leak, correct or replace the defective part and re-charge the system.

17. Refrigerant Overcharge

An overcharge of refrigerant can cause excessive high head pressures, Compressor noise or vibration, or excessive Belt wear. Purge the system and start over.

18. Sight Glass

A Sight Glass is located on the top of the Receiver Drier to check for bubbles in the system.

19. Thermostat Switch

The Thermostat Switch, as previously described, controls the temperature of the cab. If control is **NOT** sensitive, or the unit is **NOT** cooling, first check to make sure the control is rotated past the off position. Next, check to be certain the Capillary Tube is inserted into the Evaporator Coil. If these two suggestions do **NOT** cause the system to operate properly, check in the following manner:

Drop Console Front to gain access to the Thermostat Switch, and remove the two lead wires attached. With an ohmmeter, there should be **NO** continuity between the terminals. Rotate the Knob towards the max position. Continuity should now be noted. If the action is **NOT** as described, the Switch is defective and should be replaced.

PARTS REMOVAL

Depending upon the given service problem, it may be necessary to remove a part from the system. The following list of parts for replacement or repair will require one to purge the system then recharge the system after repair or replacement.

1. Condenser Coil
2. Discharge Hose
3. Evaporator Coil
4. Expansion Valve
5. High Pressure Switch
6. Liquid Hose
7. Receiver Drier
8. Suction Hose

NOTE: With part removed, immediately seal any openings in the refrigeration system.

AIR CONDITIONING SYSTEM

TYPES OF LEAKS AND METHODS FOR CHECKING LEAKS

1. General Information

When leak testing, all Joints and Fittings should be free from oil to eliminate the possibility of a false reading caused by the refrigerant absorption in the oil. Cigarette smoke, purging another unit nearby, as well as vapors in the surrounding air may also give a false reading on the detector.

CAUTION: A Halide Leak Detect MUST ONLY be used in a well-ventilated area. It MUST NEVER be used in spaces where explosive gases are present. When refrigerant comes into contact with an open flame, phosgene gas is formed. NEVER inhale the vapors or fumes from the Halide Leak Detector; they may be poisonous.

2. Types of Leaks

Many times a leak will be a cold or pressure leak as referred to by some. A cold leak is one that is believed to leak only when the unit is **NOT** at operating temperature, such as the period when the unit is parked overnight. On the other hand, a pressure leak is one that is believed to be occurring at periods of high pressure within the system, such as when improper ventilation is getting to the system on a very warm day, There are several methods of detecting leaks in an Air Conditioning system.

A. SOAP SOLUTION

A Soap Solution is sometimes desirable for location of small leaks. Mix about a half cup of soap powder with water to form a thick solution but light enough to make suds with a paint brush. When applying this solution to the suspected area, soap bubbles will reveal a leak.

B. HALIDE LEAK DETECTOR

There are two different types of Halide Leak Detectors, the propane and butane fuel cylinder. Both operate in the same manner and are equally sensitive. The butane cylinder type is much lighter than the propane cylinder type but requires more frequent replacement of the fuel cylinder.

C. REACTION OF HALIDE LEAK DETECTOR IN PRESENCE OF REFRIGERANT

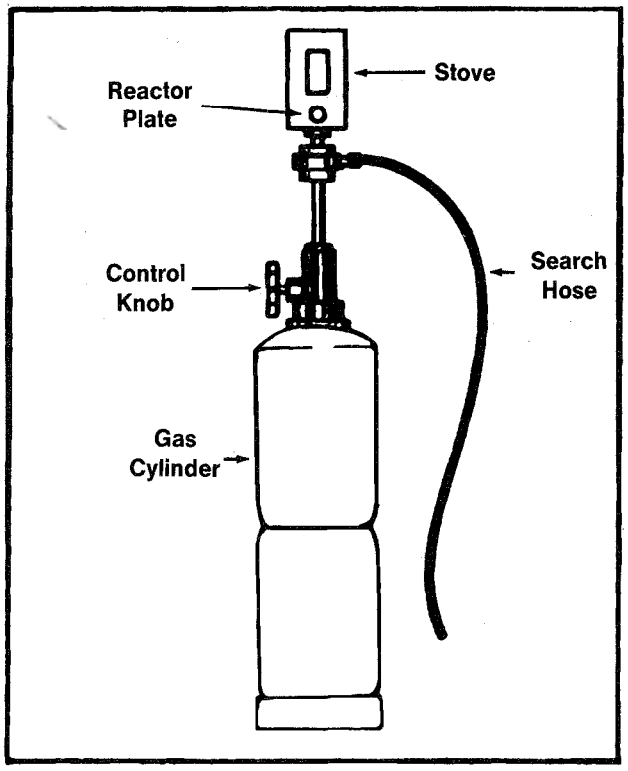
Watch for a color change in the flame.

Butane Type

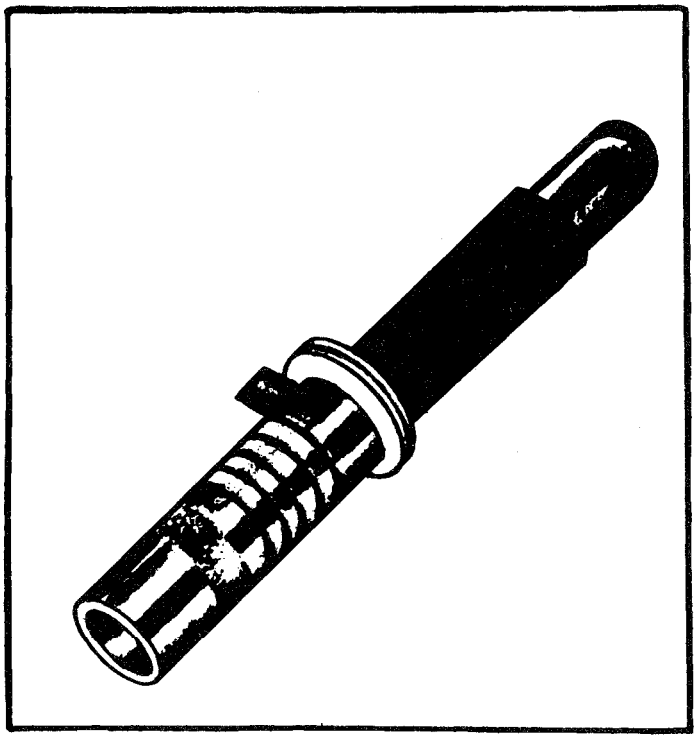
a. Pale Blue - No Leak
b. Bright Blue - Small Leak
c. Vivid Green - Large Leak

Propane Type

a. Greenish Blue - No Leak
b. Yellow - Small Leak
c. Purple - Large Leak



Propane Leak Detector



Butane Leak Detector

AIR CONDITIONING SYSTEM

D. CHECKING FOR LEAKS

The following test described will be done using a halide leak detector. It is the most popular type used.

1. PREPARE THE SYSTEM

a. Connect manifold gage set to the system.
b. Place high low side manifold valves in the closed position.
c. Place high and low side compressor service valves in the cracked position
d. Determine the presence of refrigerant in the system. A minimum of 50 P.S.I is needed for leak detection.

2. ADD REFRIGERANT FOR LEAK TEST PRESSURE

a. Open high and low side hand valves to purge hoses of air, and then close.
b. Attach center manifold hose to refrigerant container.
c. Open refrigerant container service valve. Loosen center manifold hose at manifold to purge hose of air, and then tighten.
d. Open high side manifold hand valve until a pressure of 50 P.S.I. is reached on the low side gage, then close the high side hand valve.
e. Close refrigerant container service valve and remove hose.

3. PREPARE LEAK DETECTOR

a. Open valve or cartridge and light the gas. Adjust for low flame and let it burn for about 20 seconds before beginning the test.
b. Move the search hose under all joints and connections in the system. Seal and control devices must NOT be overlooked.

COMPRESSOR OIL REQUIREMENT

The Compressor and Clutch Assembly are shipped with a pre-charge 10 oz. oil. If you feel oil has leaked out, drain oil through Discharge and Suction Ports. then refill with 8 oz. of Texaco Automotive Refrigerant Oil Capella E with 500 SUS at 100 degrees F. through Suction Port before reinstalling the unit.

NOTE: Do NOT use 525 viscosity oil!

INSTRUCTIONS FOR SERVICING THE CLUTCH

CAUTION: Pressure within the system MUST be relieved prior to Compressor removal and/or service.

I. REMOVAL OF CLUTCH

Removal of the Clutch may be accomplished in the application (mounted) or held firmly in a bench vise (Shaft up position), but do **NOT** clamp on Compressore body.

NOTE: When Compressor is being handled or installed, care is required to avoid oil loss from the Discharge Fitting. BE SURE to leek the Discharge Fitting Lever with or above the Shaft, unless closed with Hoses or Caps.

Step 1 - Remove the Shaft Lock Nut using 13mm socket wrench while holding the Armature Plate with a spanner wrench.

Step 2 - Pull the Armature Plate from the Shaft using the special puller tool by screwing the puller body into the center Bolt while holding the puller body with a wrench.

Remove Key and Spacers and clean the soft grease and dirt from the shaft and surrounding surfaces.

Step 3 - To remove the Clutch Pulley, the Pedestal Nut **MUST** be loosened and removed using the special socket-type tool with lugs and a socket wrench.

Step 4 - Disconnect leads (if **NOT** already off) to allow removal of Clutch from Compressor.

Step 5 - Remove the Pulley carefully, using the puller kit if needed.

II. SHAFT SEAL REMOVAL

Shaft Seal removal can be accomplished with or without previous removal of the Clutch.

Step 1 - If Clutch removal has **NOT** already been accomplished read and perform steps 1 and 2 above.

Step 2 - Remove dust cap using special tool by engaging fingers under the Collar and carefully screwing the tool stem end against the end of the Shaft.

Step 3 - Remove Snap Ring usinng standard snap ring pliers.

Step 4 - Remove Ceramic Seal using seal seat removal tool.

Step 5 - Remove Shaft Seal Assembly using shaft seal removal tool.

Step 6 - Remove O-Ring using stylus type tool, while being careful so as **NOT** to scratch, damage groove or adjacent surfaces.

NEW SHAFT SEAL INSTALLATION

New Shaft Seal installation should be done only following assurance of clear, dry surface inside the Compressor Nose and Shaft area.

Step 1 - Prior to insertion, the new O-Ring should be wetted using clear automotive compressor oil (5G viscosity). Carefully deposit the O-Ring into its groove using stylus or O-Ring tool provided.

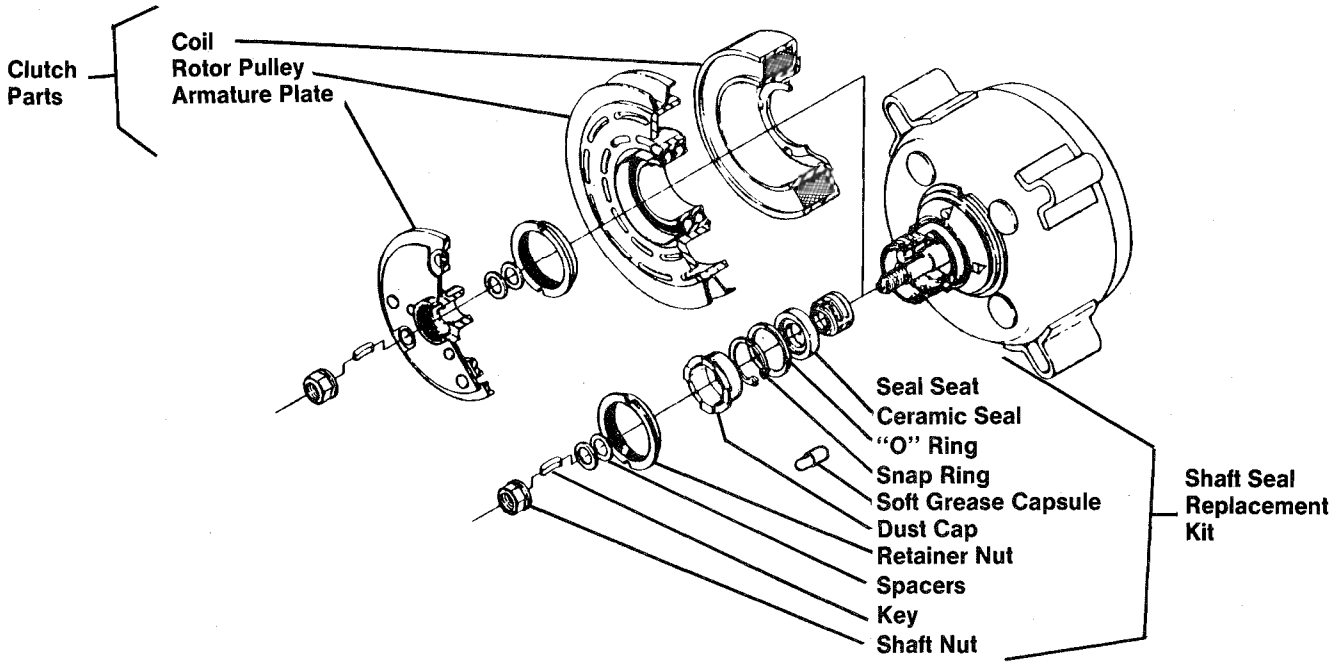
Step 2 - Prepare the new Shaft Seal for use by examining the Seal face. It **MUST NOT** be marred **NOR** damaged. Finger touching should be avoided and the Seal should be wetted by touching it in clean oil or by drops, after placement into position into tool. Install seal protector tool over the end of the Shaft. Assemble Shaft Seal, using seal assembly tool, while being careful to assure that the flats, in the Seal Assembly and on the Shaft, match. This is accomplished by slowly rotating the Seal Assembly to the proper orientation to allow it to bottom out. Rotate counter-clockwise to remove tool.

Step 3 - The Ceramic Seal Ring should also be completely clean and should be wetted with clean oil and then assembled by sliding it onto the Shaft to the point of being contained by the O-Ring in its groove and also against the Shaft Seal face using seal seat installer.

Step 4 - Place the Snap Ring just inside of the Compressor or Housing Nose; do **NOT** attempt to install in the groove. Place the installing tool inside the Housing and tap lightly to drive the Snap Ring into the groove provided.

Step 5 - Assemble the new Dust Cap into the Compressor Nose and drive it into place, using the special sleeve, by tapping it with a mallet.

Step 6 - If new Clutch is going to be installed, proceed to the next topic.



AIR CONDITIONING SYSTEM

NEW CLUTCH INSTALLATION

Step 1 - Place Coil and Pulley onto Compressor Nose being certain to locate Coil Lube Openings to mate with on the Compressor body and have lead connections properly oriented.

Step 2 - Engage the Pedestal Nut, by hand, with Collar in direction away from Compressor and tighten using special tool and torque to 65 ft-lb (8.8 kg-m).

Step 3 - Reconnect leads to coil, if servicing Compressor installed in place in vehicle Engine compartment.

Step 4 - Due to the nature of the design of the Clutch with Dust Shield, the typical feeler gage cannot be readily used.

A set of circular feeler gages is required. They shall be made of flat shim stock, one to be 0.010″ and the other to be 0.040″ thick. They shall be disc-shaped with a 4″ outside diameter and a 2-1/2″ inside diameter.

During the step of the standard instructions which describes the setting of the proper air gap between the Armature Plate and the Pulley Face:

a. Choose two of the small Shaft-to-Armature Plate shims which are provided and put them into place on the Shaft.
b. Put the 0.010″ circular feeler gage against the Pulley Face and assemble the Armature Plate.
c. Firmly press the Armature Plate against the shims and rotate the Pulley. It should rotate freely. If **NOT**, add another small shim between the Armature Plate and the Shaft, and check for Pulley freedom again.
d. Replace the 0.010″ circular feeler gage with the 0.040 gage, and with firm pressure against the Armature Plate, the Pulley should **NOT** spin freely, If it does, reduce the number of shims on the Shaft and recheck.

Step 5 - Use the soft grease supplied in the kit and apply inside the Armature Plate Hub and on the Shaft surfaces including the Keyway. Place selected shims into the Hub of the Armature Plate and Key into the Keyway on the Shaft. Assemble Armature Plate carefully so as to align the Keyway in the Hub and push onto Shaft toward full engaged position.

Step 6 - Add Lock Nut to Shaft and tighten it, to secure Plate, while holding Plate with spanner tool. Use a torque wrench to obtain 10 to 14 ft-lbs (1.4 to 1.9 kg-m) torque.

NOTE: Recheck air gap, after final assembly, to assure that it is correct.

Step 7 - Assemble the Dust Shield to the Pulley using the six cap screws and secure with 20 to 30 in-lb torque.

Troubleshooting

Compressor and Clutch

PROBLEM	CAUSE	REMEDY
Insufficient Cooling and Compressor running:		
A. Smoothly - with Low Suction and Low Discharge Pressures.	Refrigerant charge low.	Find leak and correct.
with High Suction and Low Discharge Pressures.	Compressor **NOT** pumping.	Replace Compressor*.
B. Roughly	Shaft Rotation - has "Catch".	See** below.
C. Intermittently.	1. Belt(s) too loose. 2. Clutch air gap improper. 3. Coil Lead Wire loose. 4. Coil defective.	Tighten Belt(s) Adjust air gap. Replace or tighten. Replace Coil.
Noisy and		
A. Clutch chattering.	Clutch air gap improper.	Adjust air gap.
B. Clutch engaged.	Compressor mounting loose.	Tighten all mounting components.
	Engine components loose.	Tighten as required.
	Belt loose.	Re-adjust tension.
	Clutch slips due to either: Improper air gap Defective coil	 Adjust air gap Replace Coil.
	Clutch Bearing damaged.	Replace Clutch.
	Oil charge - inadequate.	Restore to proper amount.
	Shaft rotation - has "Catch".	See** below.

NOTE: **These suggestions are Compressor related only.**

*When Compressor is being handled or installed, care is required to avoid oil loss from the discharge fitting. **BE SURE** to keep the discharge fitting level with or above the shaft when hoses are **NOT** connected.

****Shaft Rotation Freedom:**

With belt(s) removed and with equalized pressures on the Compressor, the shaft should be free to rotate without a noticeable "catch". If this check reveals any intermittent tightness, the Compressor may need to be replaced.

SET-UP & ASSEMBLY

CAUTION: Keep all personnel clear of the units while they are being removed from the shipping vehicle.

NOTE: Any Bearings installed on this machine that are NOT noted in the lubrication section of this manual are considered lubricated for the estimated life of the Bearing. If one of these Bearings is NOT easily accessible for lubrication, remember that is is considered non-relubeable. If desired, any of these Bearings may be given one pump with a hand-held grease gun, annually.

UNLOADING WITH A CRANE OR SIMILAR LIFTING DEVICE.

1. Lift at the chain attachment points shown. These are the strongest high points on the unit as it sits in the crate, as shown.

NOTE: Do NOT attempt to unload by lifting on the Pushbar.

CAUTION: The center of gravity of this unit is NOT in line with these lift points. When you raise the unit, it will move toward the chain attachment points. BE SURE there is NO one between the unit and the lifting device. In addition, use a stabilizing chain to the rear Header Frame crate supports.

NOTE: Do NOT damage the Shielding during this operation.

2. Lift slowly and carefully on the unit at all times.

3. Transport slowly and with the unit close to the ground. Always look for others around you who may **NOT** be aware of the unit being moved or who may be pinched between the unit and other equipment, structures, trailers, etc.

UNLOADING WITH A FORKLIFT

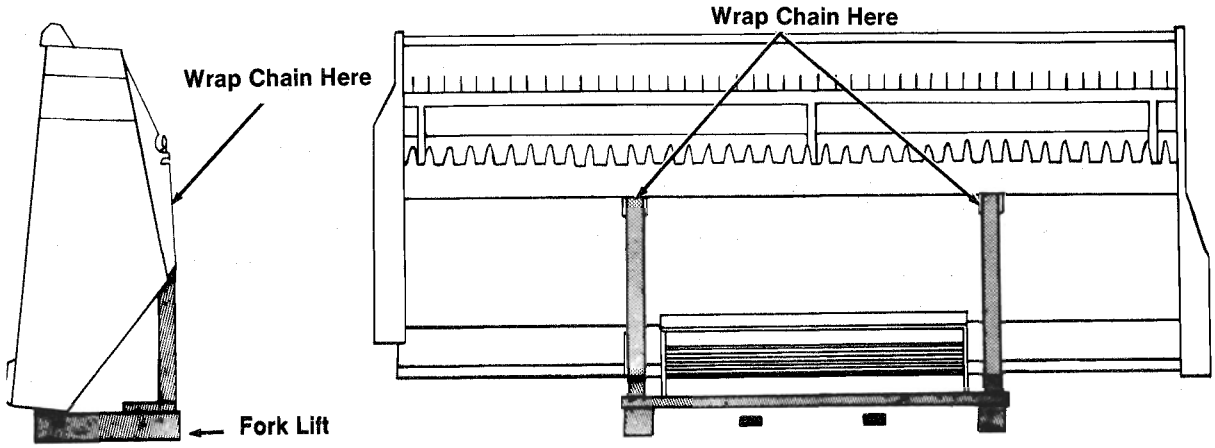
1. Lift beneath the crate at the points shown.

2. Be certain that your forks are long enough to fully support both cross members as shown; at least 48″ (1220 mm).

3. Chain the load to your forklift mast, at the points indicated, to help keep the load from tipping off the forks, especially on rough ground. Be certain you have chained only to that part of the mast which moves with the load, otherwise you may injure yourself or damage your equipment.

4. Spread your forks as wide as possible and balance the load carefully, both side to side and front to back.

NOTE: The Header with Conditioner weighs approximately 2800 lbs (1275 kg) in the crate. Do NOT exceed the rated capacity of your lifting device.



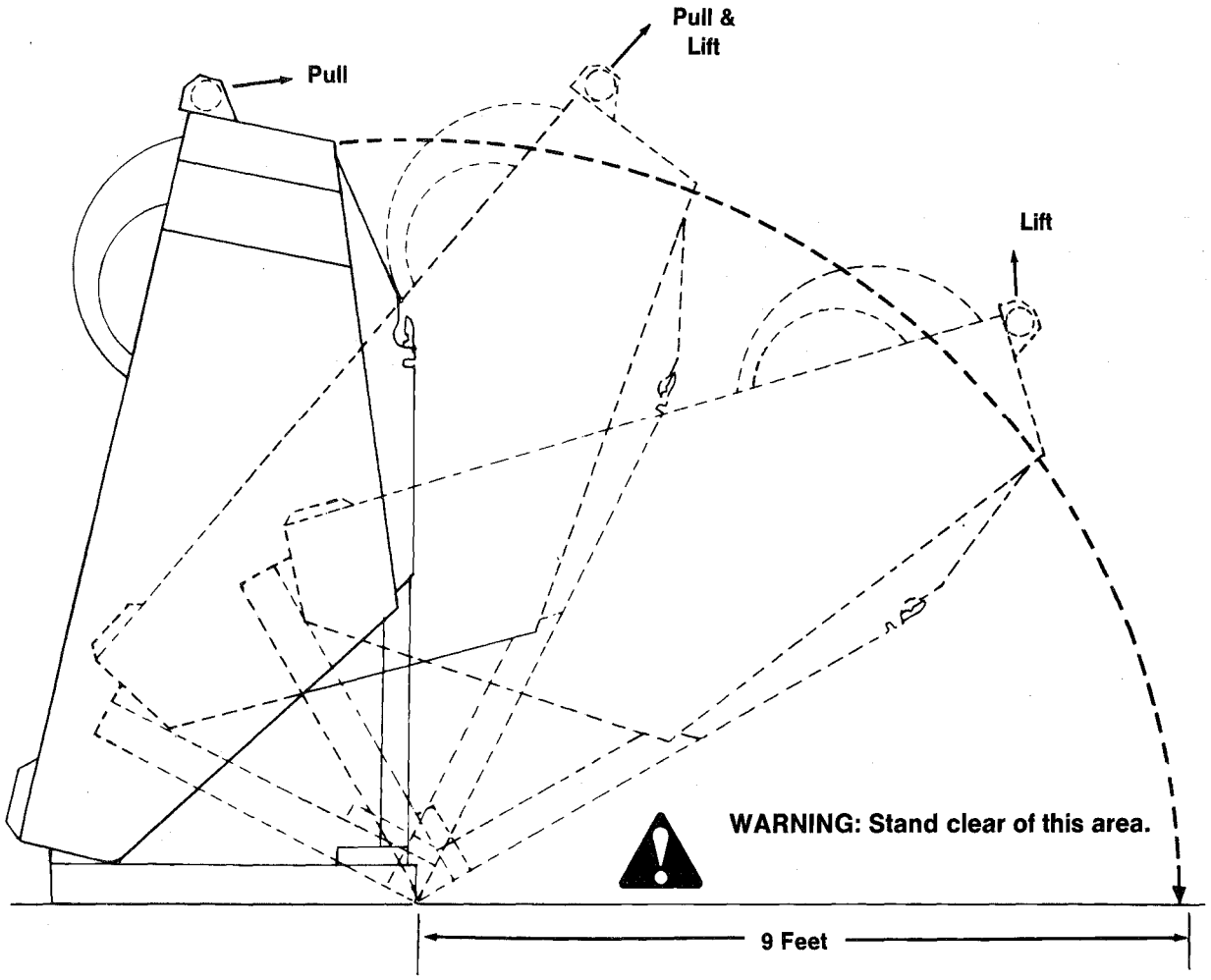
SET-UP & ASSEMBLY

TIPPING CRATED HEADER

In an open area free from obstructions, carefully tip the crated unit down on the ground. This may be done with chains as shown, using two front-end loaders or forklifts to pull and lift simultaneously on the Pushbar at the Header End Panels.

CAUTION: Do NOT allow anyone near the unit during this operation. Also, be certain your chains or cables are long enough and strong enough to do the job. The crate may have been damaged during shipping or handling causing the unit to move to the side as it tips down. Keep everyone well clear of the unit.

CAUTION: The chains or cables MUST be secured to the ends of the Pushbar in such a way that they can NOT slide towards the center of the Header, as this could damage the Header component parts.



SET-UP & ASSEMBLY

CAUTION: Do NOT attempt to unload the Mower Conditioner Tractor from the shipping vehicle before reading and fully understanding the following; to unload the Tractor, the unit MUST be picked-up and moved to a good level area for completing the assembly of the components which is shipped unattached.

BATTERY INSTALLATION

The Tracter is shipped from the factory without a Battery installed. A 12 volt D.C., 650 CCA (minimum) wet cell Battery **MUST** be purchased locally and installed. Working through the Access Door, on the left side, place the Battery in position, secure it with the Hold-down and make the appropriate Cable connections.

WARNING: In the process of installing the Battery, it may be necessary to tip the Battery to place it through the access hole. BE SURE to take appropriate precautions to avoid spilling acid on yourself.

TRACTOR ASSEMBLY INSTRUCTIONS

1. Set the Tractor unit on a good, safe level support.

NOTE: Perform the following steps on both sides of the Tractor. When supporting unit with a fork lift, be careful NOT to damage hydraulic components under the unit.

2. Remove the Shipping Cover (item 6) from the Power Wheel (item 7). Check to make sure the Center Power Wheel Coupler is in place. Remove the O-Ring (item 1), shipped with the Power Wheel, and install it on the Hydro-Motor (item 2). Position the Power Wheel Unit so the Mounting holes, in the center of the Power Wheel, match the holes for mounting the Hydro-Motor. Use the 5/8 x 1-3/4 Cap Screw and Lock Washer to bolt the Power Wheel to the Main Frame Tractor Leg and the 1/2 x 1-1/4 Cap Screw and Lock Washer to bolt the Motor to the Power Wheel.

3. Assemble Mounting Bracket to inside Pad of Brake Caliper. Put the Brake Caliper (item 3) over the Brake Disc (item 4) then slide the Brake Disc over the Hydro Motor Splined Shaft. Then, bolt the Brake Caliper to the Tractor Main Frame Leg with one or two Shims provided. Adjust with Shims for maximum Brake Pad use but do **NOT** have Disc rub Springs on Mounting Bolts. Use the 3/8 x 1-1/4 Cap Screw, Lock Washer and Nut for mounting Bracket.

4. Connect the Brake Cable to the Brake Caliper and connect the Spring to the Caliper Arm and hook in hole on Plate at bottom of Leg with Cotter Pin.

CAUTION: Perform the following step 5 carefully with the unit still on the stands.

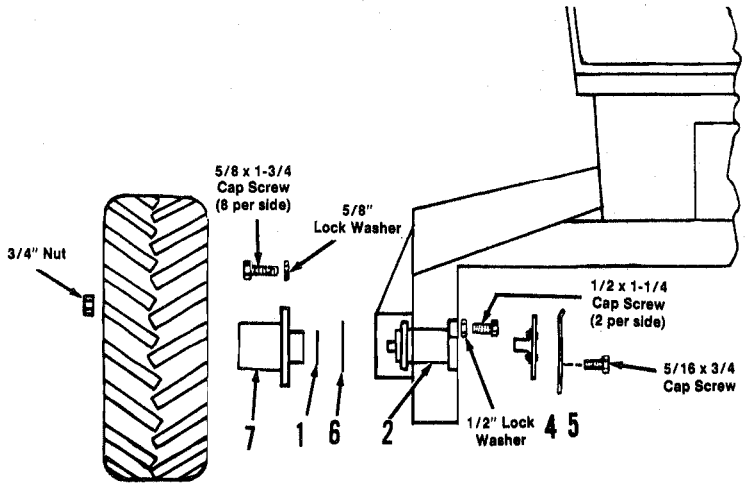
5. With the Unit still on the stands (less Drive Wheels) put the Speed Control in neutral. Start the Engine and run at idle speed, then move the Speed Control Lever forward and reverse until a constant, controlled Drive Wheel rotation can be maintained. (Check for hydraulic leaks.)

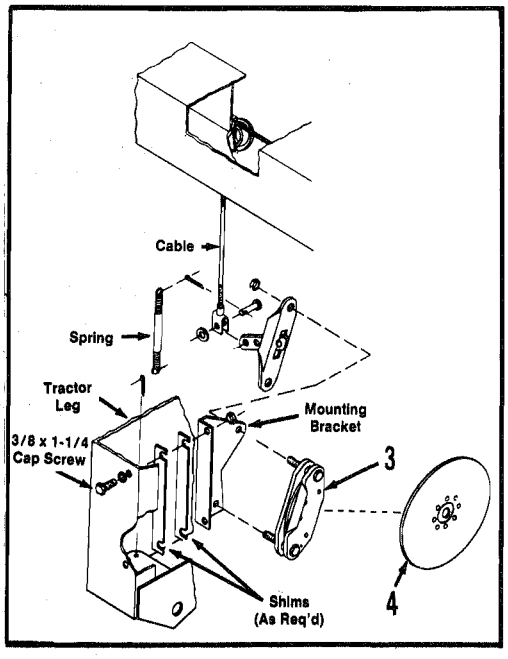
6. After the unit has been run and Brakes adjusted, install the Brake Shield (item 5) using the 5/16 x 3/4 Cap Screws, Flat Washers and Lock Washers.

7. Check lube oil in the Power Wheels. (Refer to the lubrication information.)

8. Mount the Main Drive Wheel to the Power Wheel using the 3/4 NF Nuts.

NOTE: Torque Wheels Nuts to 300 ft-lb.





SET-UP & ASSEMBLY

MOUNTING TRACTOR TO HEADER

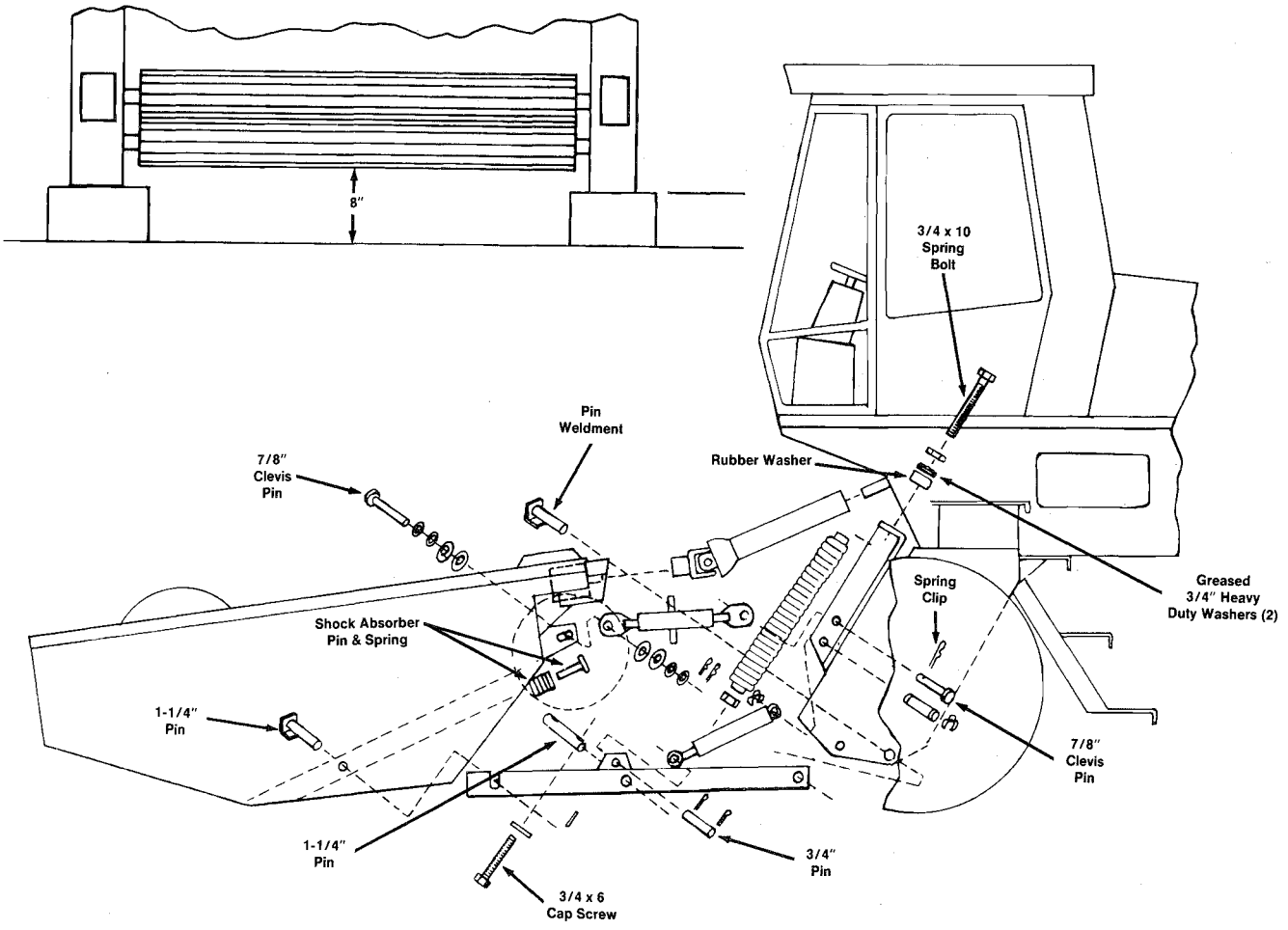
1. Block back of Header as shown then drive the unit up behind the Header.
2. Attach the Push Arm (item 1) to the rear hole in the Tractor Leg using the Pin Weldment and Spring Pin provided with the Arm.
3. Drive the unit forward to get the Push Arm Hole aligned with the hole in the Header Frame Channel.

CAUTION: Do NOT bump Header.

It may be necessary to use a drift punch for final alignment of holes. Then install the 1-1/4″ Pin with the head end to the inside and lock on with 1/4″ diameter Roll Pin.

4. Mount the Header Connecting Link (item 2) between the unit and Header using the 7/8″ Clevis Pin and Clip Ring on the unit and the 7/8″ Clevis Pin (head to the inside), Flat Washers and Clip Ring on the Header. The thicker Washers should be between the Brackets on the Header and the smaller Washers to the outside. Install the Clip Rings (outer space is for Safety Lift Bar).
5. Mount the Header Lift Rams (item 3) to the Push Arm with a 3/4″ Pin and two 3/16″ Cotter Pins.
6. Slip the Header PTO (item 4) over the Tractor Spline End first then slide the U-Joint on the Gear Box Shaft and tighten the U-Joint Clamp.

NOTE: Jack the back of the Header up and block-up the Side Panels of the Conditioner approximately 8 inches as shown.

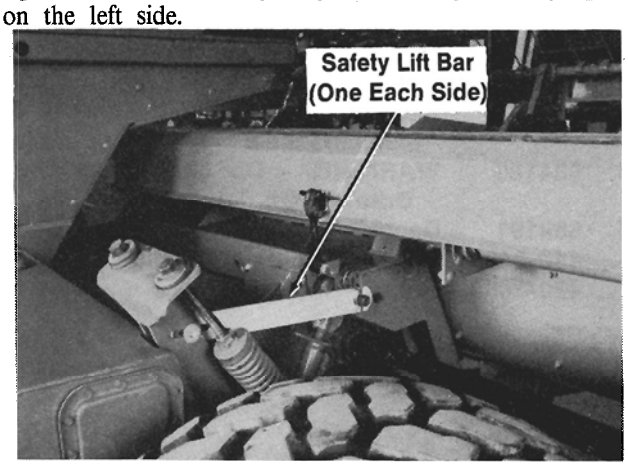


7. Start the Tractor Engine and raise the Header. (May need lift assist to get the Header up to attach the Springs). Adjust the Connecting Links to minimum length. Turn the Engine off and put the Safety Lift Bars over the Header Link Pin and install the Clip Rings.

8. Install the lower Spring Attaching Pin through the Push Arm and attach the Springs using a 3/4 x 6" Cap Screw, Flat Washer and Nut.

NOTE: 2650 Mower Conditioners use two types of Header Flotation Springs. Spring P/N 380-32321 is a heavy duty Spring and Spring P/N 380-32322 is a lighter duty Spring. To identify these Springs, look at the Spring Plugs. The heavy duty Spring uses Plug P/N 230-27100, which has a Head that protrudes above and sits on the top of the Spring Coils. The lighter duty Spring uses Plug P/N 385-27865, which is recessed into the ends of the Spring Coil. In addition, when both a heavy and lighter duty Spring are attached to the Push Arm, BE SURE the heavy duty Spring is to the inside position.

On a 2650 Mower Conditioner with 14-foot Header, use one heavy duty and one lighter duty Spring on each side. The right side of a 2650 Mower Conditioner with 16-foot Header is heavier than the left side. Therefore on 16-foot Header models only, use two heavy duty Springs on the right side and one heavy duty and one lighter duty Spring on the left side.

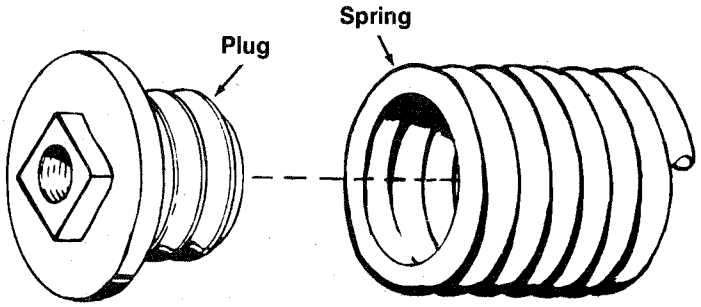


The 6" Cap Screw is turned-in, until all the threads are used. Then, install the upper Spring Bolt and Washers as shown.

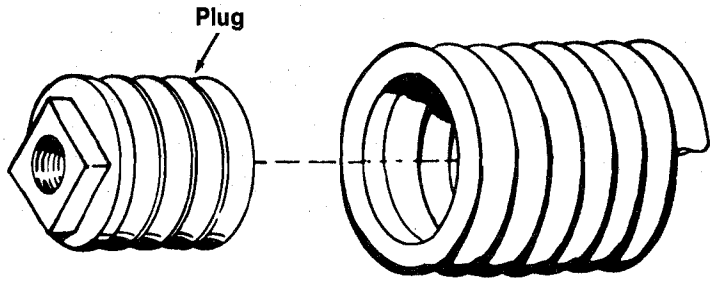
NOTE: Apply gun grease, between the (2) Heavy Duty Washers, for easier turning, when tightening the Spring Bolts.

Header flotation is very important to the Cutterbar life. Adjust the Header flotation with the Spring Bolts. Turn the Spring Bolt to adjust the tension on the Spring. Set the Header flotation to approximately 50 - 60 pounds down pressure, at each end of the Header. Thereafter, readjust regularly to correct for Spring tension drop.

NOTE: After the Header is installed and properly adjusted, BE SURE to check the oil levels in both the Header Drive and Conditioner Drive Gearboxes.



Heavy Duty Spring Assembly



Light Duty Spring Assembly

DECAL LOCATIONS

GENERAL INFORMATION

Decal Locations information is provided to assist in the proper selection and application of new decals, in the event the original decal(s) become damaged or the machine is repainted. Refer to the listing for the illustration reference number, part number, description and quantity of each decal provided in the Kit. Refer to the appropriate illustration(s) for replacement location(s).

To insure proper selection of the correct replacement decals, compare all of the various closeup location photographs to your machine, before starting to refinish the unit. Then, circle each pictured decal (on or otherwise applicable to your machine) while checking-off its part number in the listing. After you have verified all the decals needed for replacement, place any extra unnecessary decals aside for disposal.

NEW DECAL APPLICATION

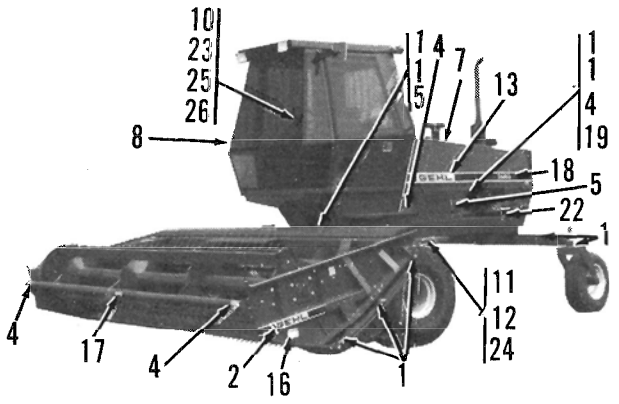
Surfaces **MUST** be free from dirt, dust, grease and other foreign material before applying the new decal. To apply a solid-formed decal, remove the smaller portion of the decal backing paper and apply this part of the exposed adhesive backing to the clean surface while maintaining proper position and alignment. Peel the other portion of the backing paper off slowly while applying hand pressure to smooth-out decal surface. To apply a die-cut decal, first remove the backing paper. Then, properly orient and position the decal onto the clean mounting surface. After the decal is firmly applied and smoothly pressed-down, remove the front covering paper.

CAUTION: ALWAYS observe Safety Rules shown on Decals. If Decal become damaged, or if the unit is repainted, replace the Decals. If repainting, BE SURE that ALL Decals from the Kit(s), which apply to your machine, are affixed to your unit.

The Decal Set Number for the MC2650 is 084251. The Set includes the following decals for both the Tractor and Header:

Ref. No.	Part Number	Description & Quantity
1.	061187	Grease Symbol (12 Places)
2.	061201	GEHL - Header (2 Places)
3.	067493	Red Reflector Strip (2 Places)
4.	067926	Amber Reflector Strip (2 Places)
5.	072058	CAUTION - Close or Replace Guard (5 Places)
6.	072794	Decal - Hydraulic Oil
7.	072797	Decal - Diesel Fuel
8.	073031	GEHL - Cab Front
9.	073081	GEHL - Cab Rear
10.	073155	Decal - Fasten Seat Belt
11.	073391	CAUTION - Operator's Manual Location
12.	075738	Decal - DO NOT RIDE
13.	080124	GEHL - Tractor (2 Places)
14.	080126	DANGER - Rotating Drive Line (3 Places)
15.	080127	WARNING - Rotating Drive Line
16.	082665	DANGER - Maintain Safe Distance While Operating (2 Places)
17.	082666	Decal - Pushbar
18.	082678	2650 (2 Places)
19.	083508	Decal - Negative Ground
20.	083511	WARNING - Do NOT Use Starting Fluid
21.	083512	WARNING - HOT Liquid
22.	083513	WARNING - HOT Engine (2 Places)
23.	084188	Decal - Operating Adjustments & Maintenance
24.	084189	WARNING - Do NOT Drive Unit Onto or Off Truck
25.	084191	Decal - Instrument
26.	420-34694	Decal - Indicator Lights
27.	420-34802	Decal - Filtration

NOTE: Order PN 080068 for 50 yd roll of 2-7/8" high Striping or PN 080070 for 50 yd roll of 4-3/4" high Striping.



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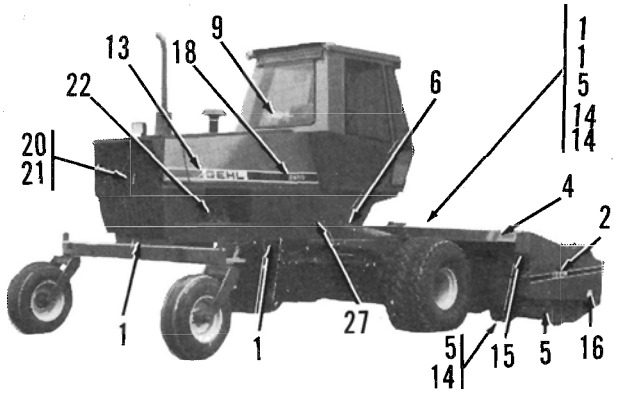

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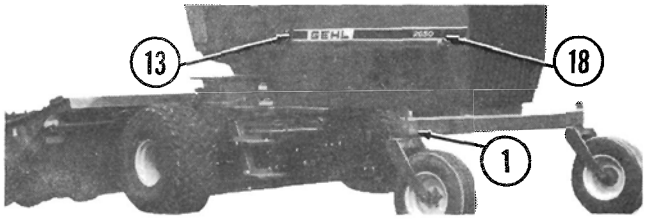
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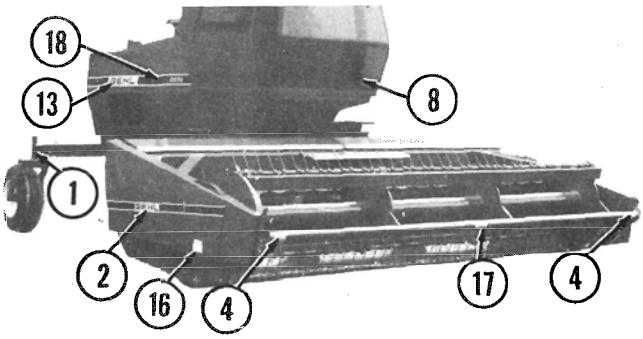
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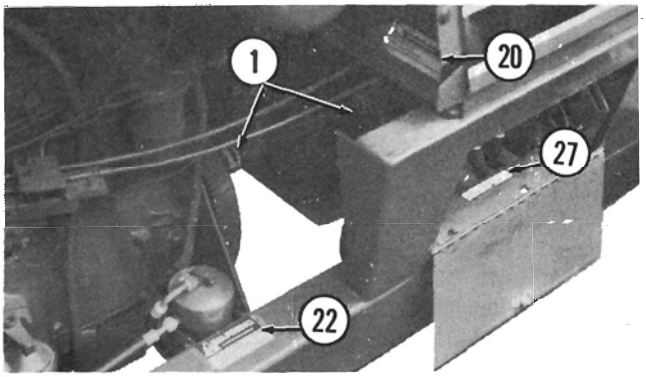
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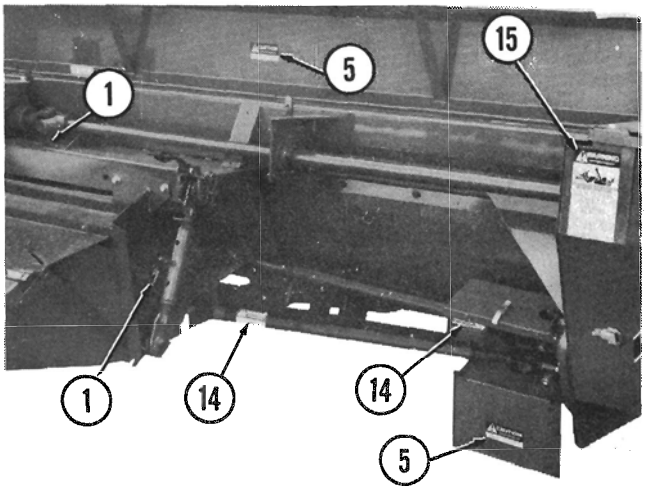
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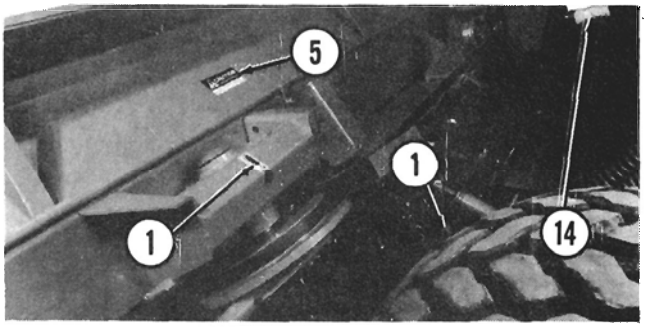
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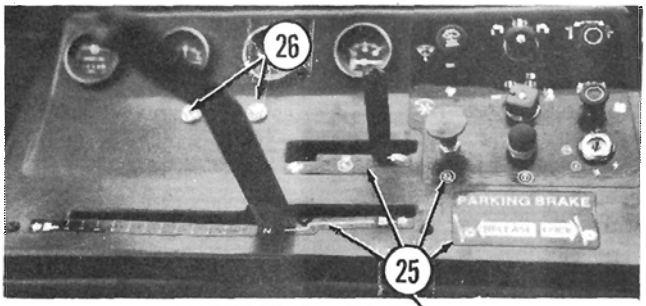
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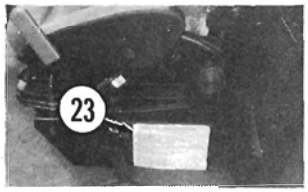
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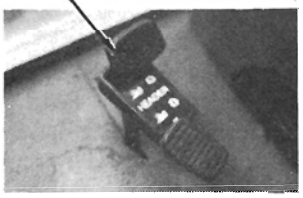

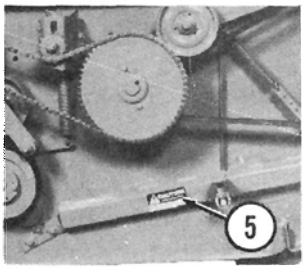
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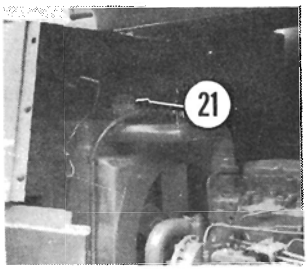
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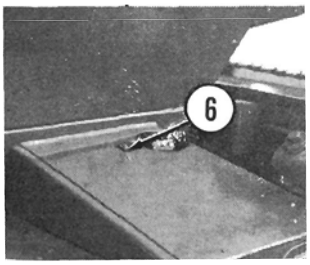
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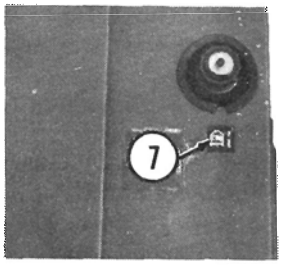
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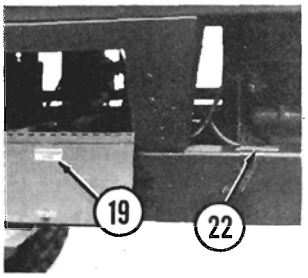
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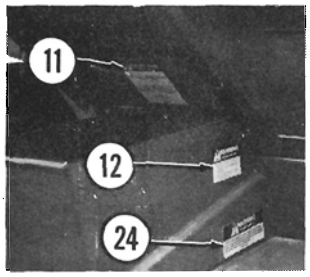
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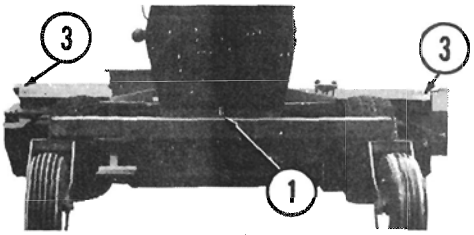
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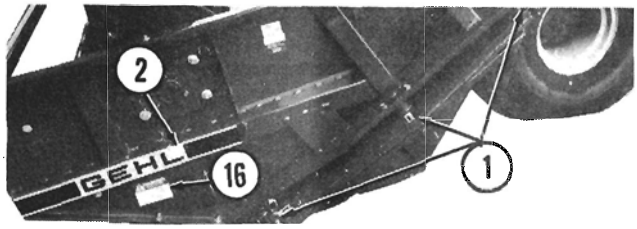
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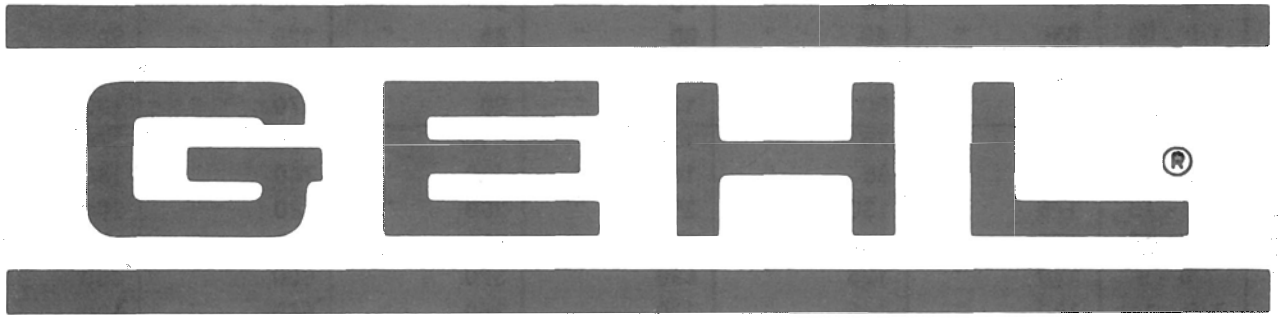
Standard Hardware Torque ..... Inside Back Cover

TORQUE SPECIFICATIONS FOR STANDARD MACHINE HARDWARE

SIZE	SAE GRADE #2				SAE GRADE #5				SAE GRADE #8			
	DRY		LUB.		DRY		LUB.		DRY		LUB.	
8 - 32	19	In. Lbs.	14	In. Lbs.	30	In. Lbs.	22	In. Lbs.	41	In. Lbs.	31	In. Lbs.
8 - 36	20	"	15	"	31	"	23	"	43	"	32	"
10 - 24	27	"	21	"	43	"	32	"	60	"	45	"
10 - 32	31	"	23	"	49	"	36	"	68	"	51	"
1/4 - 20	66	"	50	"	9	Ft. Lbs.	75	"	12	Ft. Lbs.	9	Ft. Lbs.
1/4 - 28	76	"	56	"	10	"	86	"	14	"	10	"
5/16 - 18	11	Ft. Lbs.	9	Ft. Lbs.	17	"	13	Ft. Lbs.	25	"	18	"
5/16 - 24	12	"	9	"	19	"	14	"	25	"	20	"
3/8 - 16	20	"	15	"	30	"	23	"	45	"	35	"
3/8 - 24	23	"	17	"	35	"	25	"	50	"	35	"
7/16 - 14	32	"	24	"	50	"	35	"	70	"	55	"
7/16 - 20	36	"	27	"	55	"	40	"	80	"	60	"
1/2 - 13	50	"	35	"	75	"	55	"	110	"	80	"
1/2 - 20	55	"	40	"	90	"	65	"	120	"	90	"
9/16 - 12	70	"	55	"	110	"	80	"	150	"	110	"
9/16 - 18	80	"	60	"	120	"	90	"	170	"	130	"
5/8 - 11	100	"	75	"	150	"	110	"	220	"	170	"
5/8 - 18	110	"	85	"	180	"	130	"	240	"	180	"
3/4 - 10	175	"	130	"	260	"	200	"	380	"	280	"
3/4 - 16	200	"	150	"	300	"	220	"	420	"	320	"
7/8 - 9	170	"	125	"	430	"	320	"	600	"	460	"
7/8 - 14	180	"	140	"	470	"	360	"	660	"	500	"
1 - 8	250	"	190	"	640	"	480	"	900	"	680	"
1 - 12	270	"	210	"	710	"	530	"	1000	"	740	"

Multiply In. Lbs. by (0.113) or Ft. Lbs. by (1.355) for metric Nm

NOTE: **These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, and sheet metal screws. Unless otherwise noted, all torque values must meet this specification.**



FARM EQUIPMENT

GEHL COMPANY WEST BEND, WISCONSIN 53095 U.S.A.

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