OPERATOR'S MANUAL

DUPLEX
MODEL
3000
Pull-Type Windrower

Westward Parts Services Ltd.

6517-67 Street
Red Deer, Alberta T4P 1A3
Canada

INTRODUCTION

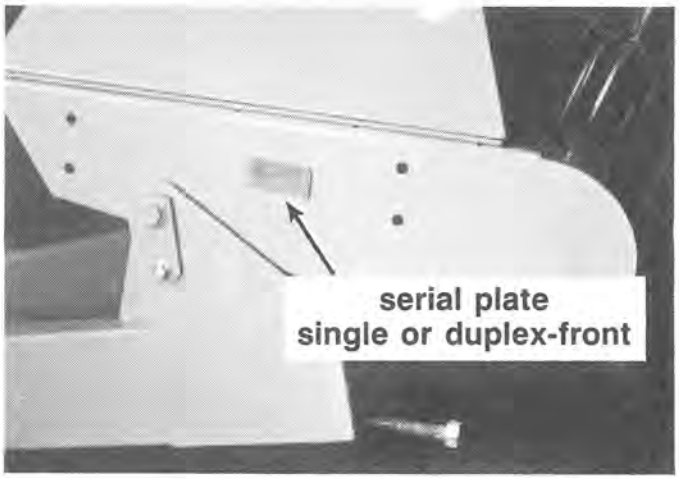
This manual is provided to assist you in the Operation and Maintenance of your swather. Assembly Instructions are also included towards the rear of the manual to guide you in initial set-up.

The manual contains information on both the single unit swather and the duplex swather (made up of front and rear units). Any information not pertaining to all units (single, duplex front and duplex rear) will be designated as such. Be sure the information you are using is correct for your machine.

We recommend that you read this manual carefully to become completely familiar with your machine. Please pay special attention to the CAUTION notes throughout the manual and on the machine. They are for your SAFETY!

Repair or replacement parts may be ordered from your nearest dealer. When ordering parts be sure to include the proper serial number. For serial number plate locations, see Figures **2** and **4**

NOTE: For assembly and parts description purposes, right and left hand are determined by standing behind the machine and facing forward (in the direction of travel). These may be abbreviated using R/H and L/H.



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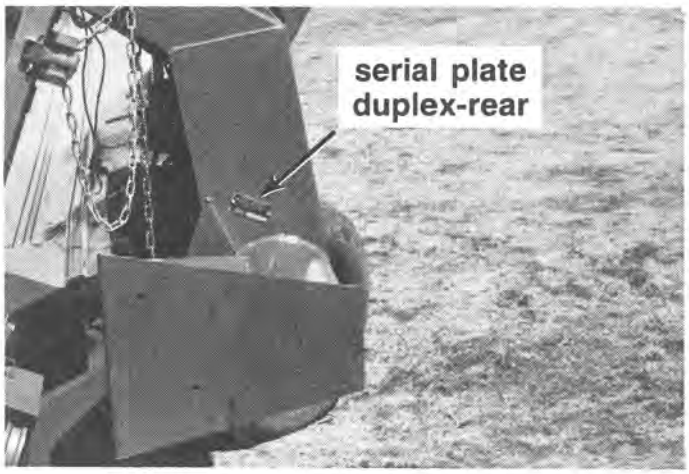

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SAFETY

WATCH FOR THIS SYMBOL to bring your attention to important safety precautions. Safety messages are located throughout this manual, as well as on the machine. Be certain that EVERYONE operating this machine is familiar with the procedures recommended and follows safety precautions. REMEMBER, most accidents can be prevented. DO NOT RISK INJURY OR DEATH.

BEFORE RUNNING MACHINE

- Read the Operator's Manual
- Ensure all safety shields are properly installed.
- Check that all observers are clear of machine.

WHEN OPERATING MACHINE

- Keep all riders off the machine
- Never wear loose fitting clothing.
- Keep hands, feet, clothing and hair away from moving parts.
- Keep all safety shields in place.
- Keep a charged fire extinguisher in tractor at all times.

WHEN SERVICING MACHINE

- Always stop the machine, disengage the drive, and stop tractor engine before performing checks, adjustments or lubrication.
- Engage header and reel safety locks before servicing header or reel in raised position.

WHEN TRANSPORTING MACHINE

- Check local laws regarding the lighting and marking of vehicles before travelling on public roads.
- Be sure safety chain is attached to tractor.
- The gross weight of the trailed equipment (without brakes) should not exceed the weight of the towing vehicle.

WHEN STORING MACHINE

- Clean thoroughly to remove flammable substances.
- Cover cutter bar and knife guards to prevent accidents while unit is in storage.

SAFETY DECALS

**PLEASE
PAY HEED TO THESE
SAFETY MESSAGES,
LOCATED ON THE MACHINE,
TO MAKE SAFETY A HABIT.**

⚠ CAUTION

Belt drive inside frame.

K-31925-1

located on main drive frame (duplex rear unit).

⚠ CAUTION

- Maximum transport speed 20 mph (30 km/h).
- Minimum weight of towing vehicle 5000 lbs. (2300 kg).
- Reduce speed for corners and slippery conditions.
- Ensure all safety pins and chain are in transport position.
- And obey all highway traffic regulations in your area when transporting this equipment on public roads.
- Read operator's manual before transporting.

SINGLE UNIT

located on front hitch.

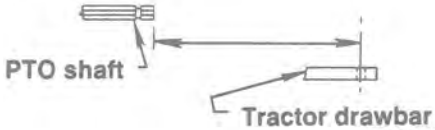
⚠ CAUTION

- Maximum transport speed 15 mph (25 km/h).
- Minimum weight of towing vehicle 8000 lbs. (3600 kg).
- Reduce speed for corners and slippery conditions.
- Ensure all safety pins and chains are in transport position.
- And obey all highway traffic regulations in your area when transporting this equipment on public roads.
- Read operator's manual before transporting.

DUPLEX UNIT

⚠ WARNING

To avoid bodily injury, keep all power drive system safety shields in place.
Operate only with 1000 rpm PTO.
Adjust tractor drawbar to 16.0 in. (406mm).

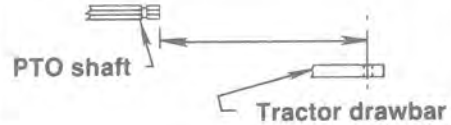


K-31913-1

appropriate decal located c front hitch.

⚠ WARNING

To avoid bodily injury, keep all power drive system safety shields in place.
Operate only with 540 rpm PTO.
Adjust tractor drawbar to 14.0 in. (356mm).



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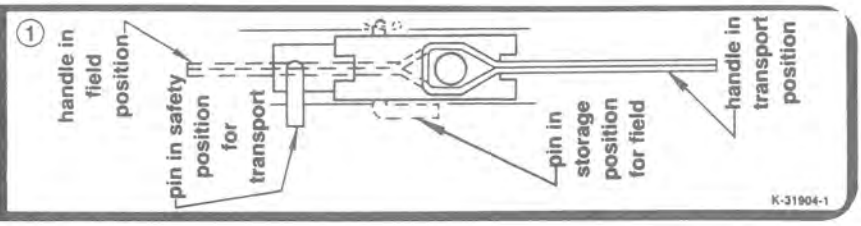
⚠ CAUTION



K-31904-1

located on front hitch.

SAFETY DECALS

⚠ CAUTION

LEARN TO OPERATE THIS MACHINE SAFELY. DO NOT RISK INJURY OR DEATH.
Before operating this machine, READ THE OPERATOR'S MANUAL and all safety instructions. If you do not have a manual, obtain one from your nearest dealer.

1. Make certain everyone is clear of machine before starting engine or operation.
2. Stop the engine, remove the key and wait for all movement to stop before leaving operator's position for any reason.
3. Keep all shields in place. Keep hands, feet, clothing and hair away from moving parts.
4. Keep all riders off the machine.
5. Never adjust, lubricate, clean or unplug machine with the engine running. See owner's manual for all adjustment and lubrication procedures.
6. Use slow moving vehicle identification emblem and flashing warning lights when operating on highway except when prohibited by law.

K23438-1

located on main drives shield.

⚠ DANGER

DO NOT RIDE ON MACHINE

K-31910-1

located on duplex hitch.

⚠ DANGER

Lower cutter bar to ground and unload springs before removing pins for repairs.

SEE OPERATORS MANUAL

K-31911-1

located on front wheel support (duplex rear unit).

⚠ WARNING

To avoid injury from fall of raised reel, completely raise reel, stop engine, remove ignition key, and set safety prop on or under reel. Safety prop is located on each reel arm behind top cylinder pin.

To avoid injury from fall of raised header, completely raise header, stop engine, remove ignition key, and install header lock. Header lock is located behind header lift cylinder.

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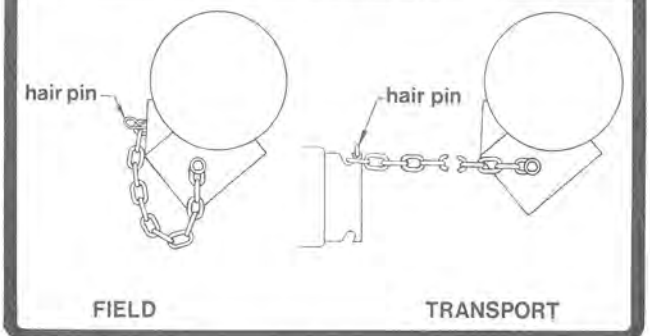
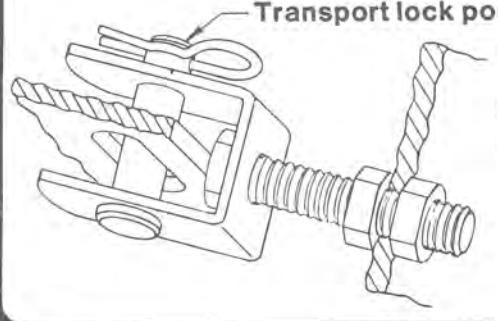
located on knife drive cover (single and duplex front unit) and on front wheel support (duplex rear unit).

⚠ CAUTION



located on back tube rear R/H wheel (duplex front unit).

⚠ CAUTION



located on back tube near L/H end (single and duplex front unit), back tube near R/H wheel (single and both duplex units) and on front wheel support upper link (duplex rear unit.

SPECIFICATIONS

	SINGLE UNIT	DUPLEX UNIT	
DIMENSIONS:	30'	42'	50'
Overall Width			
Cutting Position	34'4" (10450mm)	45' 4" (13818 mm)	53'4" (16550mm)
Transport Position	11'2" (3400mm)	12' 4" (3760 mm)	13'2" (4000mm)
Overall Length			
Cutting Position	13'4" (4070mm)	37' 4" (11370 mm)	37'4" (11370mm)
Transport Position	41' (12500mm)	61' 8" (18796 mm)	69'5" (21170mm)
Overall Height - header and reel down	57" (1450mm)		
Main Frame to Ground Clearance	34" (870mm)		
Mass	3200 lbs. (1450 kg)	6690 lbs. (3035 kg)	7210 lbs. (3270 kg)

KNIFE			
Drive	Crank Wheel - Pitman System		
Cutting Height Range	0 - 45" (0 - 1150mm)		
Stroke Length	3" (76mm)		
Speed	1250 strokes/minute		
Width of Cut (nominal)	30' (9150mm)	42' (12800 mm)	50' (15240mm)
Header Lift	Hydraulic (from tractor)		
REEL:			
Diameter	54 1/2" (1384mm)		
Lift Range - above cutter bar	1" to 28 1/2" (25 - 725mm)		
Speed	26.8 RPM to 50 RPM		
Lift	Hydraulic (from tractor)		
DRAPERS:			
Width	41 1/2" (1054mm)		
Speed	275 to 479 ft/min. (84 to 275m/min.)		
Angle - at 6" (150mm) cutting height	16°		
Delivery Opening Adjustable to	44.1" (1120mm)	Front Unit 44.1"(1120mm)	Rear Unit
	51.6" (1310mm)	51.6"(1310mm)	
	59.1" (1500mm)	59.1"(1500mm)	59.1"(1500mm)
TIRES:			
Size	8.5L x 14 (2 tires)		8.5L x 14 (5 tires)
Pressure	24 to 28 psi (165 to 190 kPa)		

SPECIFICATIONS

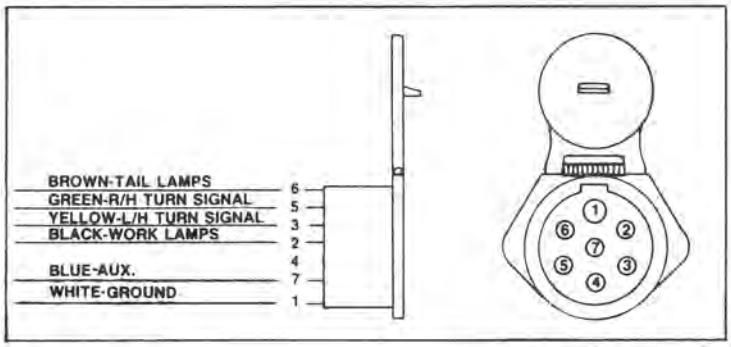
	SINGLE UNIT	DUPLEX UNIT	
DRIVES:		Front Unit	Rear Unit
Knife	Mechanical	Mechanical	Hydraulic to Mechanical
Reel	Mechanical	Mechanical	Hydraulic to Mechanical
Drapers	Mechanical	Mechanical	Hydraulic to Mechanical
HYDRAULICS:			
System Capacity - lines full	-	10 Imp.gal,(45 L),12 US gal.	
Pump Pressure	-	2800 psi (19300 kPa)	
DELIVERY MODES:	Center Delivery	Two Center Delivery Swaths or Two Side by Side Swaths with 41" (1040mm) center to centre of swath (with standard conveyor). or Two Side by Side Swaths with 58" (1470mm) center to center of swath (with optional short conveyor). or Two Swaths Stacked with rear directly on top of front (with standard conveyor plus optional short conveyor)	
TRACTOR REQUIREMENTS:			
Minimum Weight	5000 lbs. (2250 kg)	10,000 lbs. (4500 kg)	
Minimum Power	40 hp. (30 kw)	80 hp. (60 kw)	
PTO Speed	540 or 1000 RPM	1000 RPM	
Hydraulics: Type	Dual	Dual	
Minimum Pressure	1800 psi (12400 kPa)	1800 psi (12400 kPa)	

AT FIRST USE: ELECTRICAL

FOR TRACTORS WITHOUT SEVEN POLE RECEPTACLE, Figure **50**

1. Mount a seven pole receptacle (available from your dealer) on the tractor cab rear wall as close as possible to the hydraulic couplings.

2. Connect the tractor wiring harness to the receptacle as shown.
   NOTE: The tractor must have a 20 amp supply connected to receptacle terminal 7. The circuit should de-energize when the key is turned off to prevent the windrower's electric clutch from draining the battery.



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ELECTRICAL CONNECTIONS

When attaching windrower to tractor:

1. Connect seven pole plug on the windrower wiring harness to the seven pole receptacle on the tractor.

2. Place switch box in tractor cab and connect switch box wiring harness to windrower wiring harness at four-way connector.

AT FIRST USE (continued)

TRACTOR PTO (SINGLE UNIT)
The single unit can be operated with 540 or 1000 RPM PTO. If the machine is not equipped to match the tractor to be used, an adapter kit must first be installed. (Installation instructions included with kit).

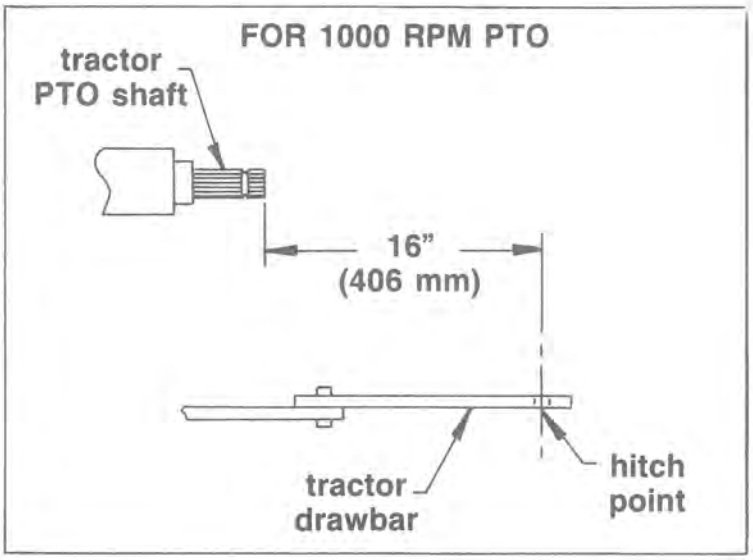
If tractor PTO RPM is 1000, set tractor drawbar to 16 inches (406 mm) as shown in Figure **56.** If tractor PTO RPM is 540, set tractor drawbar to 14 inches (356 mm) as shown in Figure **58.**

TRACTOR PTO (DUPLEX)
The duplex unit must be operated with a 1000 RPM PTO. Set tractor drawbar as shown in Figure **56.**

IMPORTANT: The telescoping PTO shaft should slide under hand pressure. DO NOT let shaft pull loose from tractor or the swather. The PTO shaft must always be operated in as straight a line as possible and may be adjusted vertically as shown in Figure **60.**

When the tractor is equipped with a swinging drawbar, be sure to lock it directly beneath the PTO shaft.

CAUTION: When attaching the yoke of the universal to the tractor PTO, it is important that the yoke is secured to the PTO shaft with the spring loaded collar. Be sure the collar slides fully forward to lock the P.T.O. shaft to the tractor.



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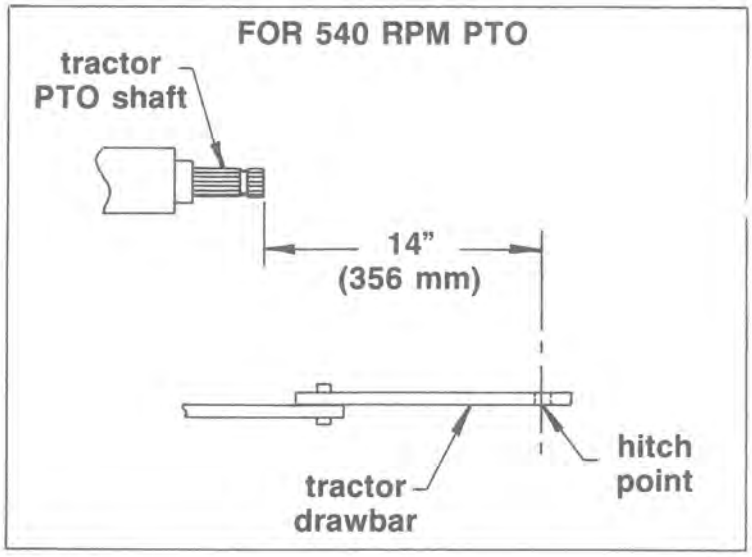

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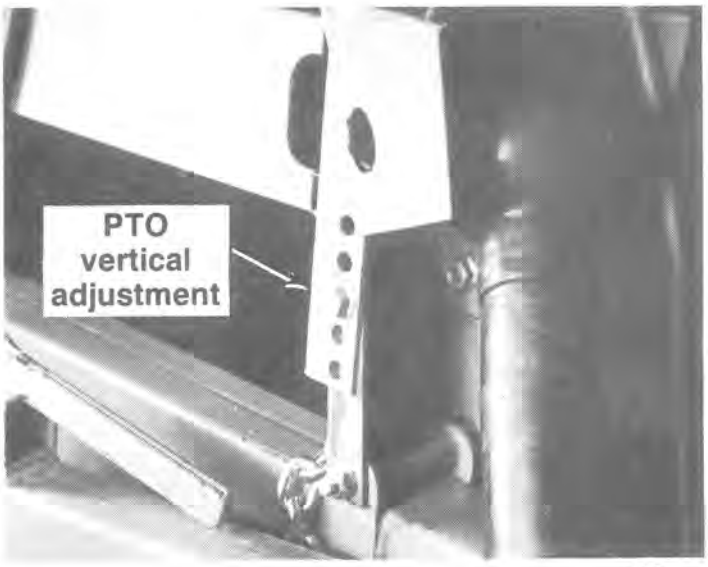

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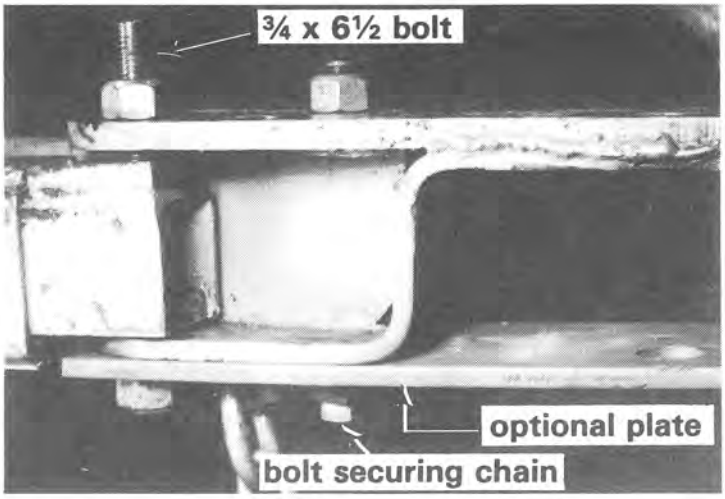
AT FIRST USE (continued)

OPTIONAL HITCH PLATE, Figure **61**
An optional hitch plate is available to provide a clevis-type hitch.
To install:

a) Remove pin securing telescoping hitch member.
b) Replace pin with 3/4 x 6½" bolt through hitch and additional plate. Secure with locknut.
c) Remove nut on bolt securing safety chain and re-install through additional plate.



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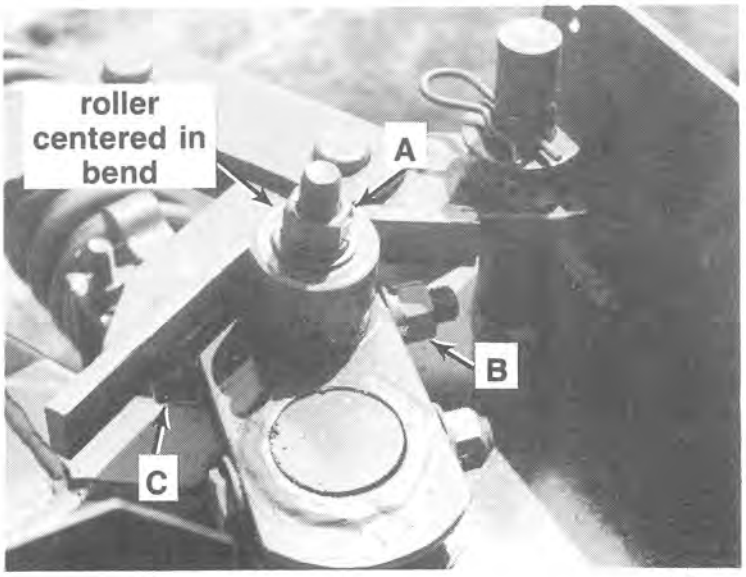
DUPLEX ONLY: DUPLEX INITIAL FIELD ADJUSTMENT

At first use the operator should perform the following initial field checks and adjustments:

1. Align front wheel- rear machine.

   The front wheel should lead to the right (3° to 5° off parallel with the other wheels) when the roller is positioned in the bend of the cam as shown in Figure **62**.

   To Adjust Wheel Alignment:
   1. Raise rear header fully up and install header lock.
   2. Loose nut "A", Figure **62**.
   3. Position roller with nuts B and C.
   4. Tighten nut A.



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AT FIRST USE (continued)

DUPLEX INITIAL FIELD ADJUSTMENT (continued)

2. Adjust rear machine overlap to reduce material missed on corners and hills. See Adjustments Section: Duplex Hitch for details.

3. Adjust front wheel spring pressure - rear machine. Spring pressure should be such that wheel is steered by cam, but does not skid excessively in corners. See Adjustments Section: Front Wheel Spring Pressure for adjustment detail.

4. Adjust hitch spring force. See Adjustments Section: Duplex Hitch for details.

NOTE: Adjustments 3 and 4 work together to prevent the rear machine from rolling forward when going down hills. The springs should be operated with the minimum pressure required to give satisfactory operation to minimize wear on pins and other parts.

HYDRAULIC OIL FILTER

Change oil filter after the first 5 hours of operation with the spare filter provided.

WHEEL BOLTS

Check wheel bolt torque after first 5 hours operation. Re-torque to 80-90 ft.lbs. (110-120 N.m).

SWITCH BOX, FIGURE **64** - DUPLEX ONLY.

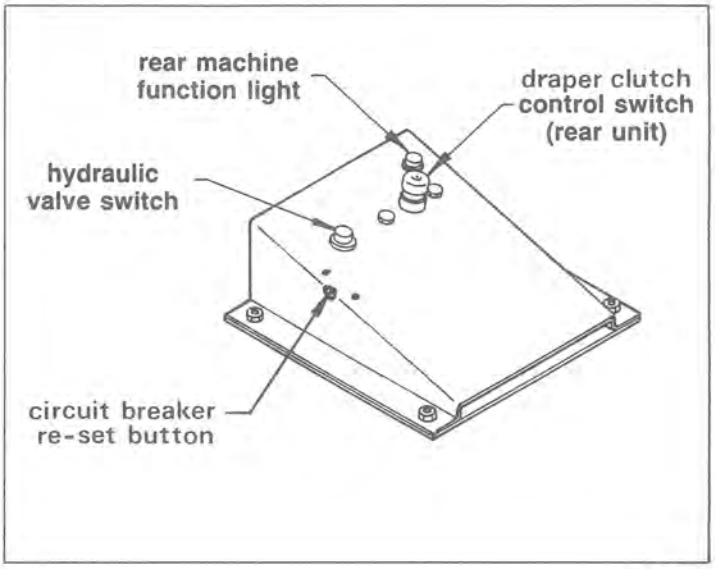
The switch box, positioned at the operator's feet provides the following:

1. Draper Clutch Control Switch - Pressed once, this switch will stop the drapers on the rear machine only. Pressed again drapers will resume motion.
   Stopping the rear drapers in corners prevents accumulation of large piles of crop. The operator has the option of having the rear reel stop with the drapers, or having the reel turn continuously. See Figure **66** for details on controlling rear reel operation.

2. Hydraulic Valve Switch - Solenoid valves are set so that hydraulic lift controls will normally lift the reels for front and rear machines. Pressing and holding this switch will divert hydraulic flow to the header lift cylinders, allowing raising and lowering of both headers. Releasing the switch reverts flow back to the reel lift cylinders.

3. Rear Machine Function Light - Light will be on when rear draper clutch is engaged, and off when clutch is disengaged.

4. Circuit Breaker:Manual Re-Set - Electrical system is protected by a 20 amp circuit breaker. Should this breaker be tripped, it must be manually re-set by pushing the button shown.



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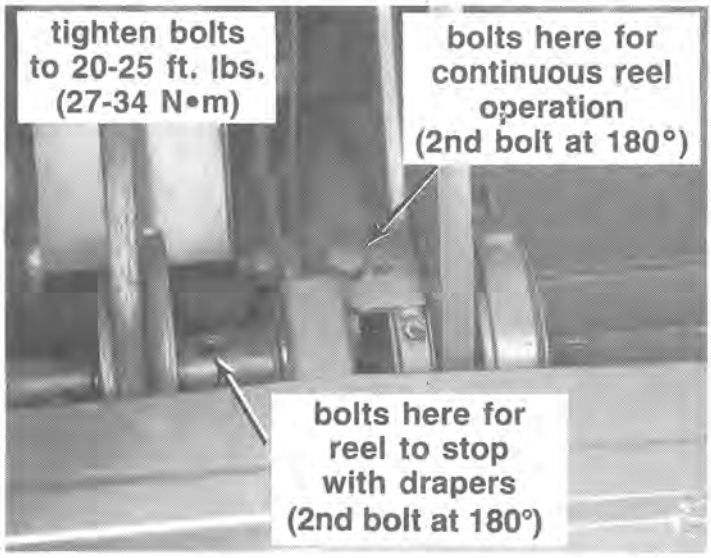

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OPERATION

PRE-SEASON CHECK

1. Install drapers. See Assembly Section - Drapers.
2. Adjust tension on drapers and belts. See Adjustments Section for details.
3. Inflate tires to 24 to 28 psi (165 - 190 kPa).
4. Lubricate machine. See Lubrication Section for details.
5. Ensure all shields are in place.
6. Run machine, check for belt interference. Stop machine, check for heated bearings.

END OF SEASON CHECK

1. Remove drapers and store in a dark, dry place.

   NOTE: If the drapers are not removed, release tension and position header so water/snow will not accumulate on the drapers. This accumulation of weight can stretch draper material and put excessive stress on draper slats and draper tracks.

2. Clean the machine thoroughly and store in a dry place if possible.
3. Grease all fittings, leaving excess grease to keep moisture away from bearings.
4. Oil knife and guards and cover to prevent accidents while unit is stored.
5. Connect plugs in wiring harness to ensure auxillary circuits are live and to prevent plugs from corrosion. Store switch box inside. (DUPLEX ONLY).

TRANSPORTING THE WINDROWER

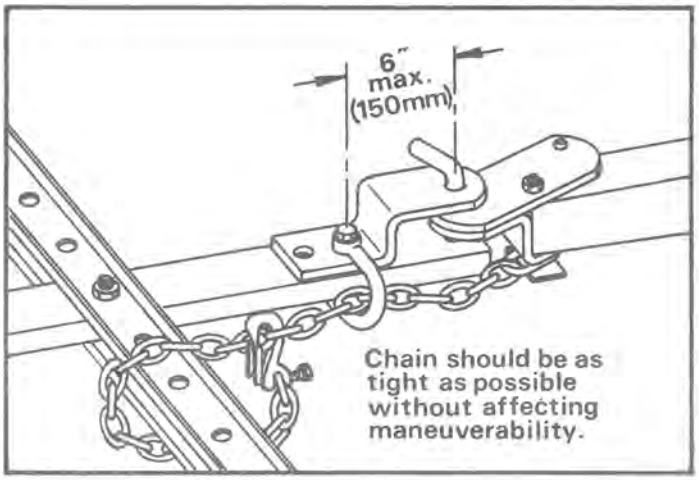
Instructions follow for converting to transport from field position and vice-versa for both the single and duplex units.

CAUTION: Lights have been installed to make transportation on public roadways safer. Check local laws regarding the lighting and marking of vehicles before travelling on public roadways.

CAUTION:: Maximum transport speed is 15 MPH (25 km/h) for the duplex unit and 20 MPH (30 km/h) for the single unit. Reduce speed before corners and in slippery conditions. Ensure all safety pins and chains are in transport position and safety chain is properly attached to tractor. See Figure **98**.
Ensure R/H wheel (both units if duplex) is adjusted to provide minimum transport width. See Adjustments Section: Trail Width.
DUPLEX ONLY - Be especially careful when transporting the duplex machines. In transport the rear machine is steered by the rear wheel of the front machine. Excessive speed may cause this wheel to skid on loose gravel or slippery roads. Applying tractor brakes during a corner at excessive speed may result in a loss of control, machine damage and personal injury. See Figure **99**.
To reduce tendancy to skid, ensure both headers are fully raised and wheel casters are well lubricated.

The gross weight of the trailed equipment (without brakes) should not exceed the weight of the towing vehicle.

Allow no riders.



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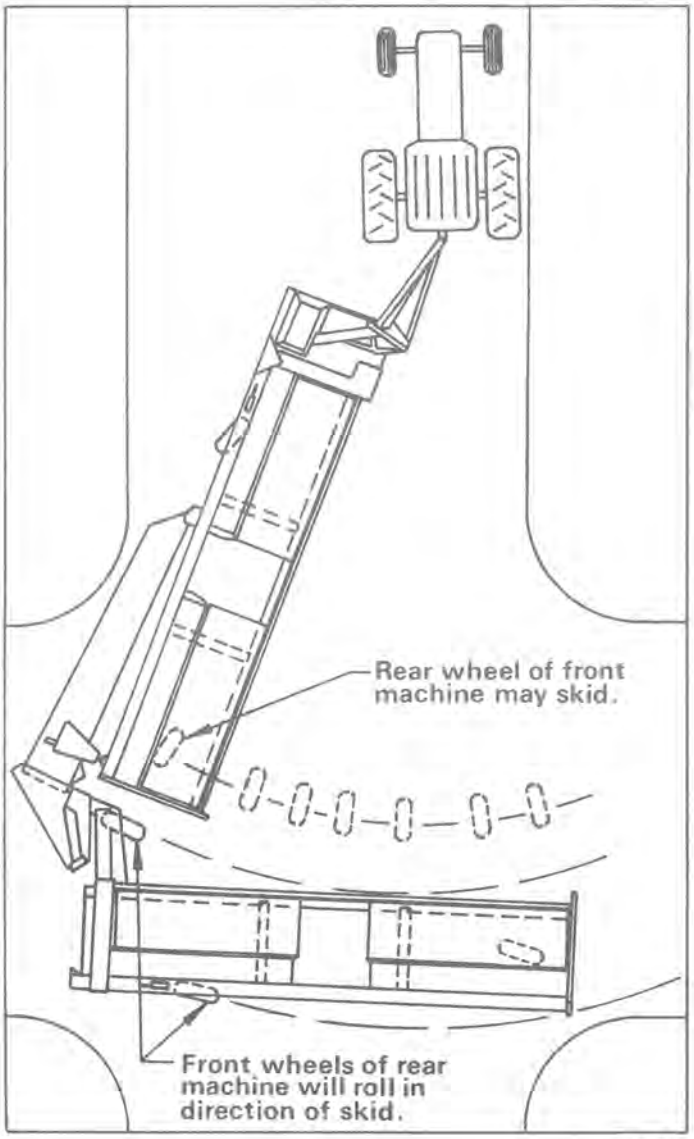

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TO CONVERT SINGLE UNIT FROM FIELD POSITION TO TRANSPORT

1. RAISE HEADER to full up position.

2. MOVE LEVERS FROM FIELD TO TRANSPORT POSITIONS:

   a) Move lever on hitch to transport position. See Figure **100**.

   b) Move lever on L/H wheel lock to transport position. See Figure **102**.

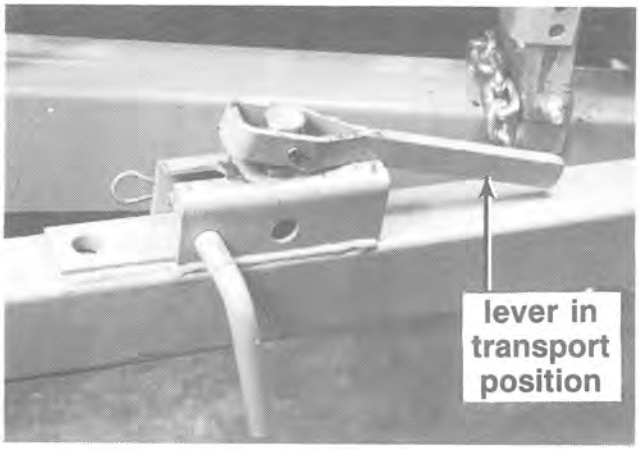
3. DRIVE FORWARD, holding header lift valve in UP position, until telescoping hitch locks and R/H wheel moves into transport position.

4. INSTALL LOCK PINS:

   a) Install lock pin in transport safety position on hitch. See Figure **104**.

   b) Install pin to secure header lock to lug on main hitch. See Figure **106**. The header lock should be adjusted to the minimum length required to permit installation.

   c) Install lock pin in transport safety position at R/H wheel. See Figure **108**.



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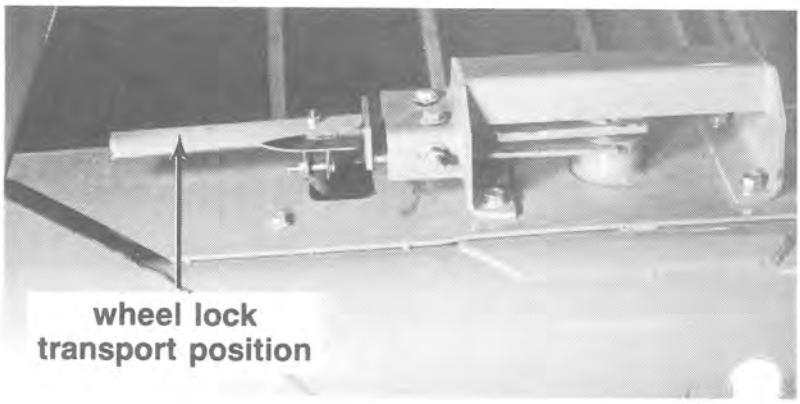

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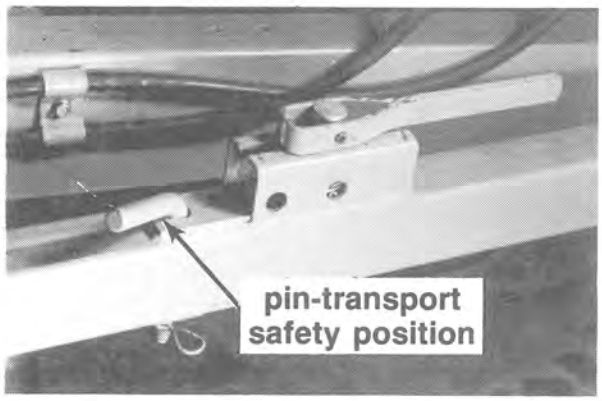

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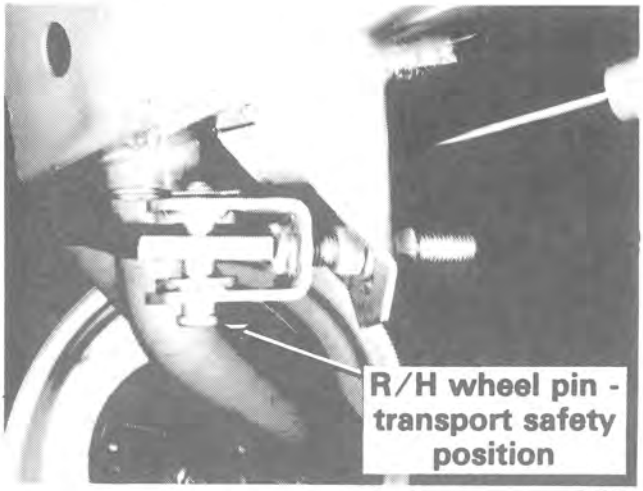

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TO CONVERT SINGLE UNIT FROM TRANSPORT TO FIELD POSITION

1. RAISE HEADER to full up position.

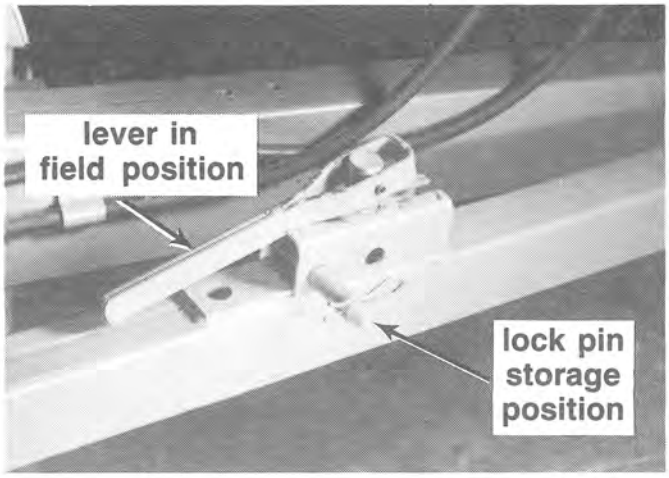
2. PLACE LEVERS AND PINS IN FIELD POSITION:

   a) Remove lock pin at telescoping hitch and place in storage position. Move hitch lever to field position. See Figure **110**.

   b) Remove pin securing header lock to main hitch. Place pin in storage position shown. See Figure **112**.

   c) Move lever on L/H wheel lock to field position. See Figure **114**.

   d) Remove lock pin from R/H wheel assembly and place in storage position. See Figure **116**.



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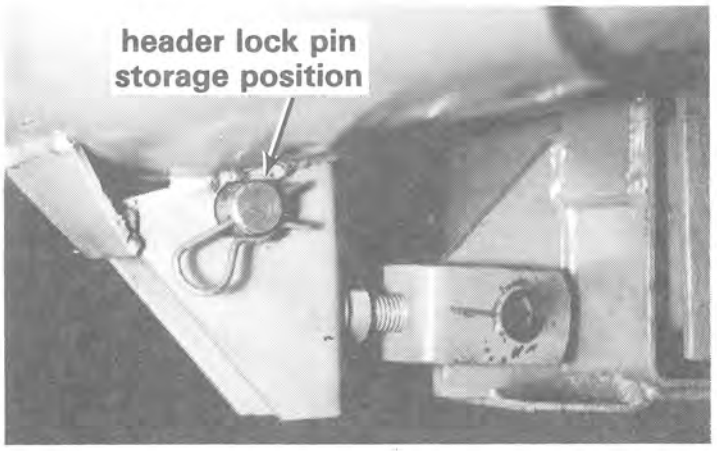

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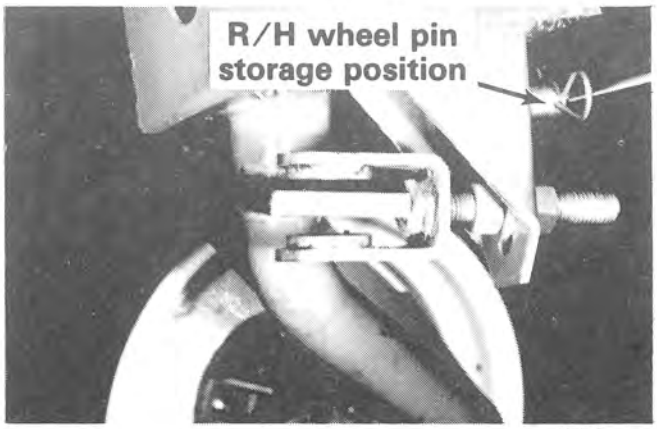

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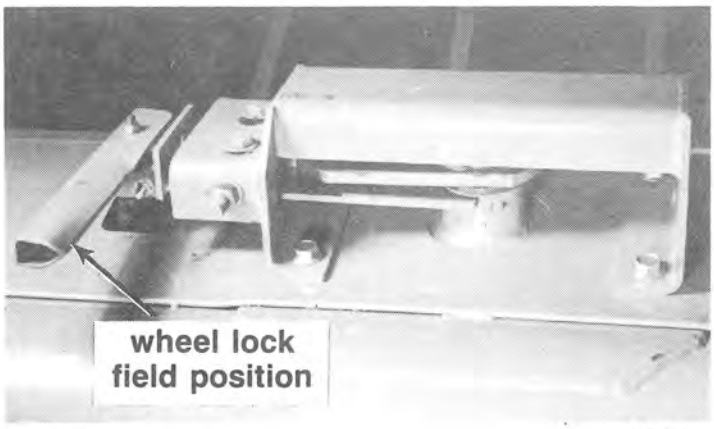

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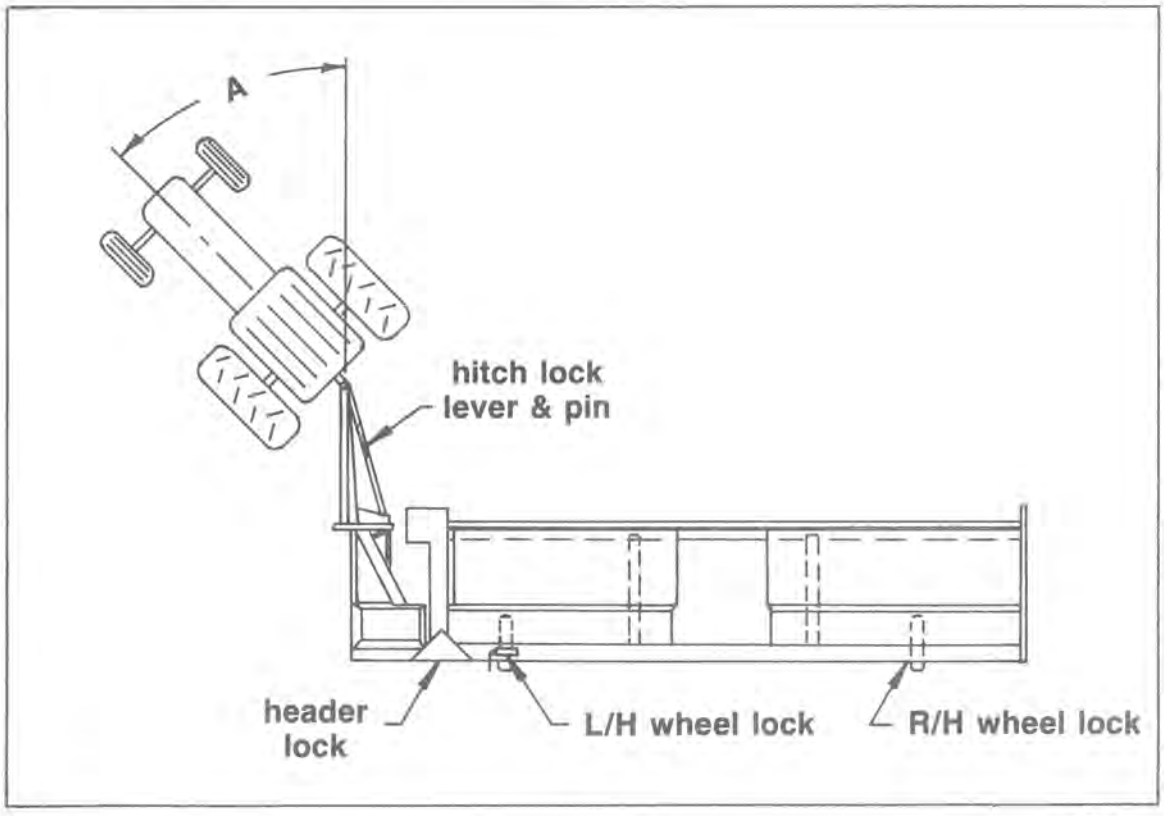
TO CONVERT SINGLE UNIT FROM TRANSPORT TO FIELD POSITION (continued)

3. Back tractor up so that L/H wheel casters to field position and locks, and front hitch pivots to field position and locks.

4. Lower header about 12 inches (300 mm) and drive forward until R/H wheel casters into field position.

5. P.T.O. may be engaged when angle "A" is 45° or less. See Figure **120**.



120

TO CONVERT DUPLEX UNIT FROM FIELD POSITION TO TRANSPORT

1. POSITION HEADERS FOR CONVERSION:

   a) Raise headers to full up position.

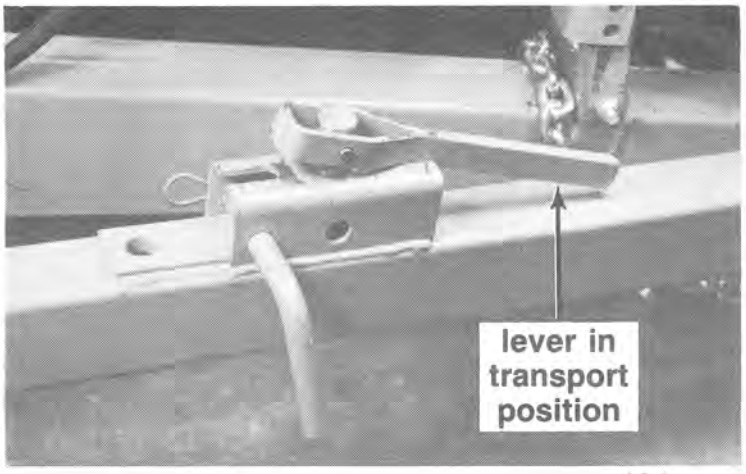
   b) Drive forward and turn right.

   c) Continue until duplex hitch bottoms. See Figure **122**.

2. PLACE LEVERS AND PINS IN TRANSPORT POSITIONS:

   a) Move lever on hitch to transport position. See Figure **124**.

   b) Move lever on L/H wheel lock-front machine to transport position. See Figure **126**.



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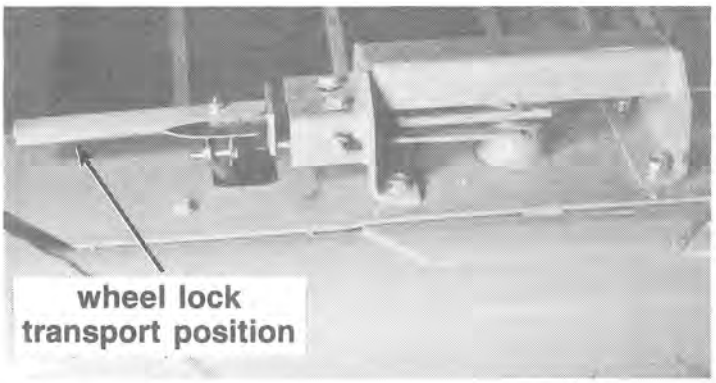

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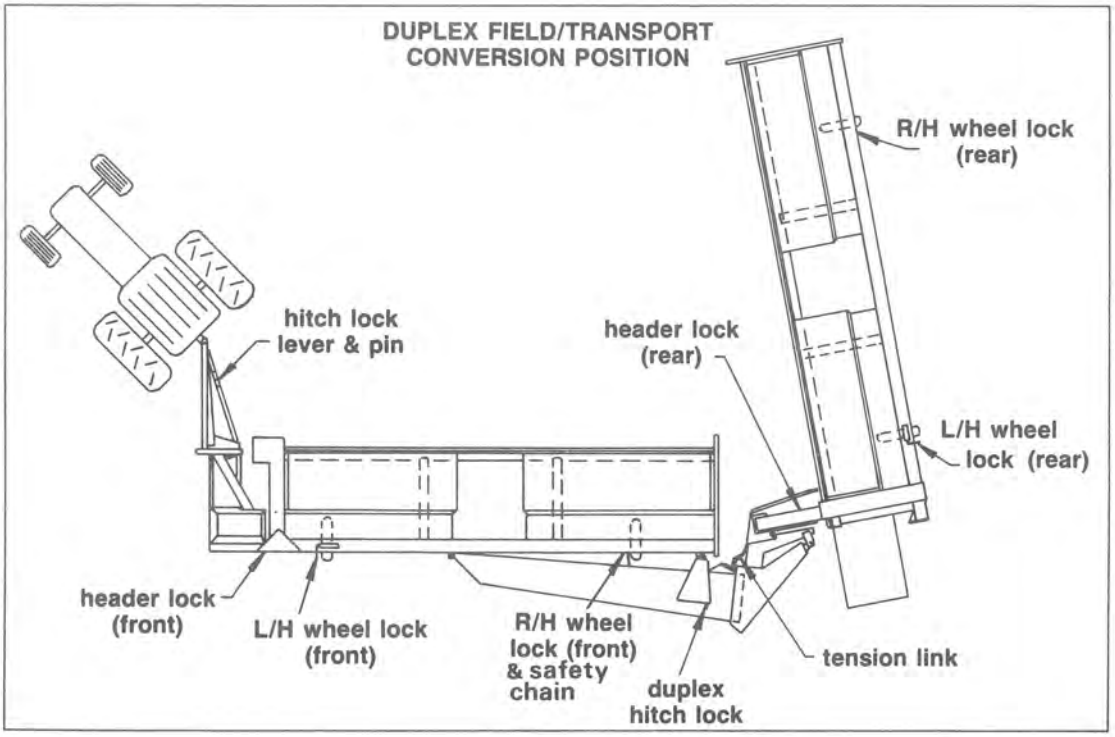


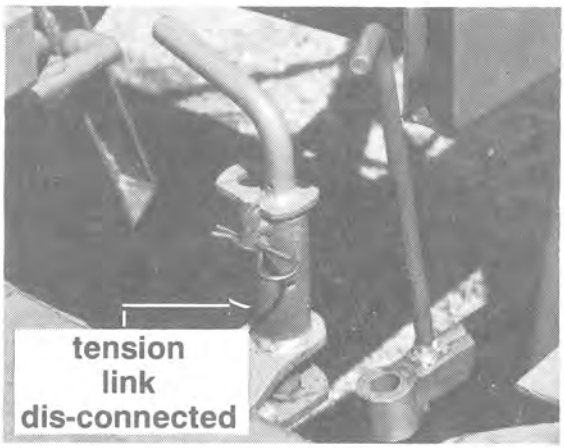
122

TO CONVERT DUPLEX UNIT FROM FIELD POSITION TO TRANSPORT (continued)

2. c) Move duplex hitch lock lever to transport position: Pull handle to release lever, slide lever fully to the right and release handle. Ensure lock engages in stop channel as shown. See Figure **128**.

128

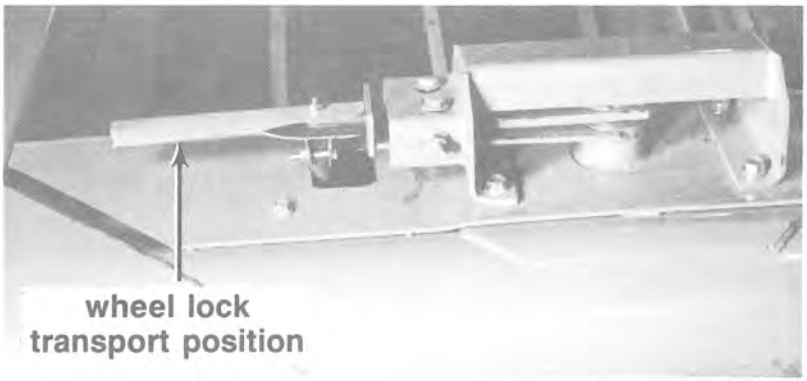
d) Dis-connect tension link from hitch to rear machine. Place hair pin cotter in storage position. See Figure **130**.



130

e) Collapse conveyor sides by releasing rubber latches. Raise conveyor and lock with pins as shown in Figure **132**.

f) Move lever on L/H wheel lock-rear machine to transport position. See Figure **134**.



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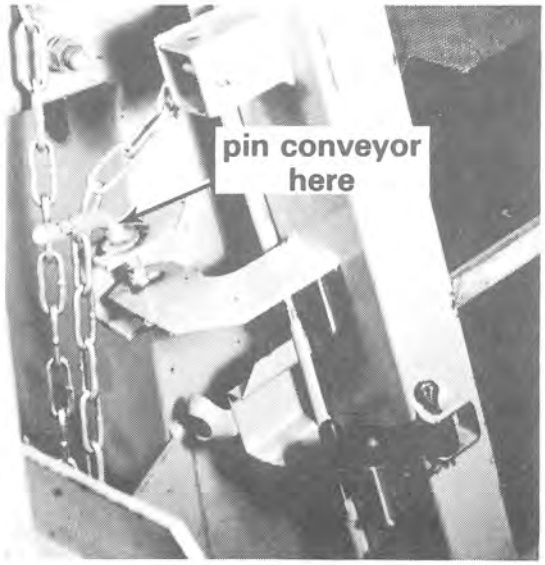


132

TO CONVERT DUPLEX UNIT FROM FIELD POSITION TO TRANSPORT (continued)

3. TURN LEFT, DRIVE FORWARD. When machines begin to straighten out, continue forward and move header lift valves to UP position. Hold until telescoping hitch locks and front and rear R/H wheels move into transport position.

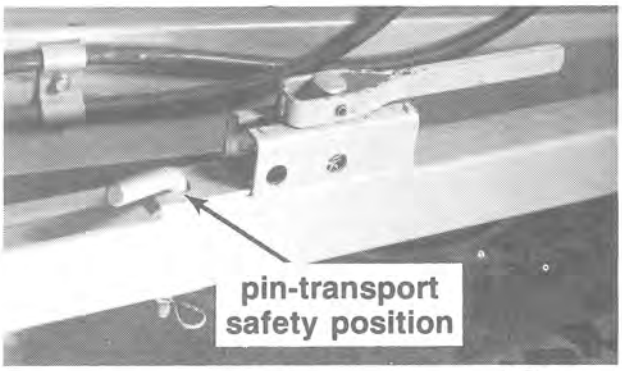
4. INSTALL LOCK PINS & SAFETY CHAIN

   a) Install lock pin in transport safety position on hitch. See Figure **136**.

   b) Install pin to secure header lock to lug on main hitch-front machine. See Figure **138**. The header lock should be adjusted to the minimum length required to permit installation.

   c) Install lock pin in transport safety position at R/H wheel - front machine. See Figure **140**.

   d) Attach safety chain at R/H wheel cylinder support (front machine) to duplex hitch. See Figure **141**.



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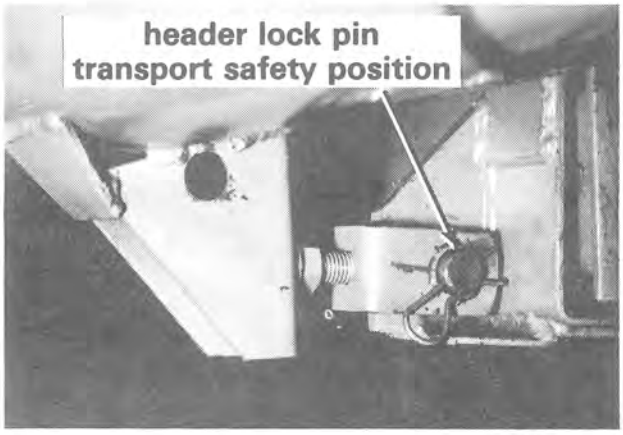

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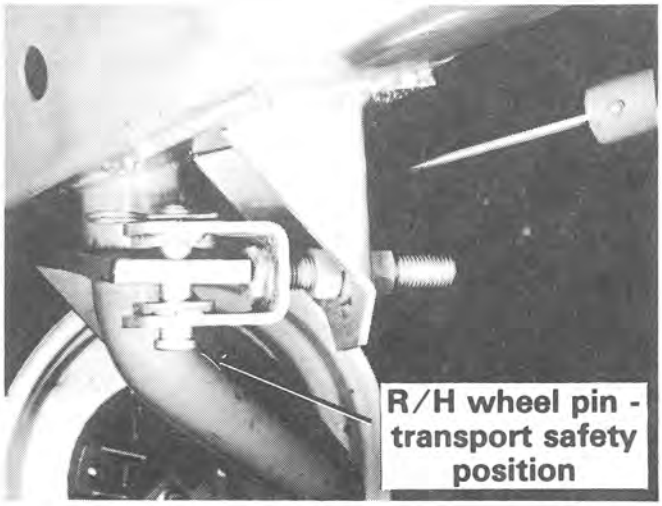

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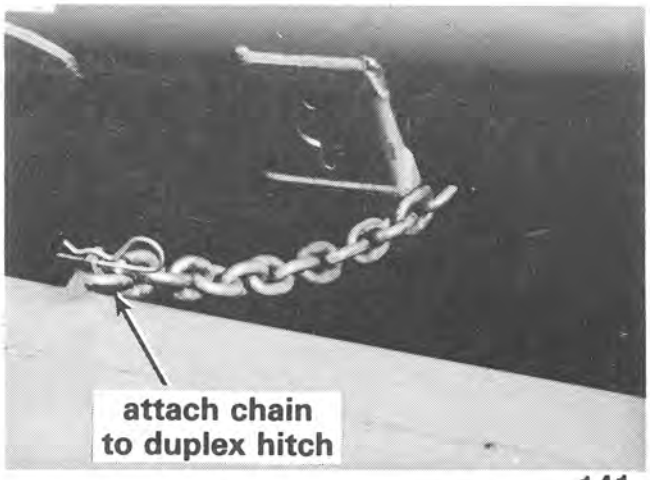
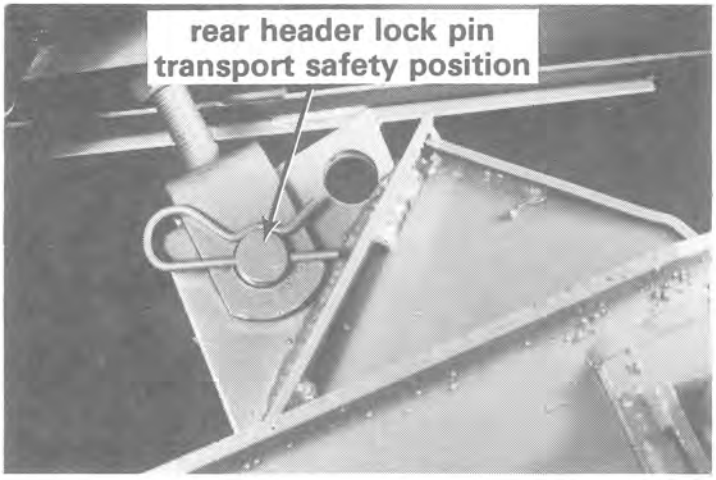


141

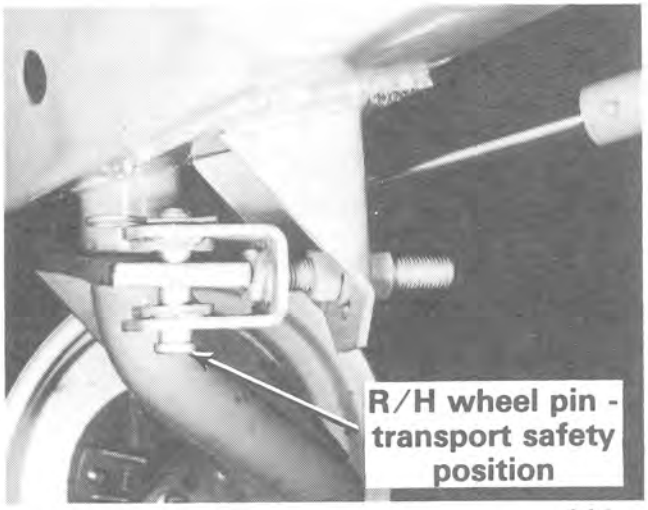
TO CONVERT DUPLEX UNIT FROM FIELD POSITION TO TRANSPORT (continued)

4. e) Install pin to secure header lock to rear machine main frame. See Figure **142**. The header lock should be adjusted to the minimum length required to permit installation.



142

f) Install lock pin in transport safety position at the R/H wheel-rear machine. See Figure **144**.

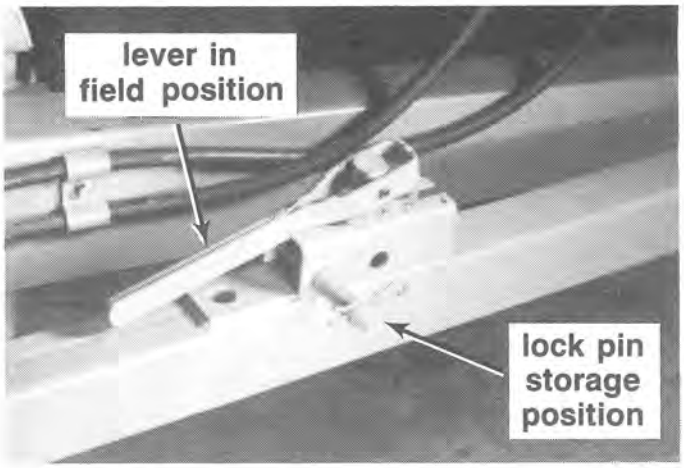


144

TO CONVERT DUPLEX UNIT FROM TRANSPORT TO FIELD POSITION

1. POSITION HEADERS FOR CONVERSION:
   a) Raise headers to full up position.
   b) Drive forward and turn right.
   c) Back up to position shown in Figure **146**.

2. PLACE LEVERS AND PINS IN FIELD POSITION:
   a) Remove lock pin at telescoping hitch and place in storage position. Move hitch lever to field position. See Figure **148**.
   b) Remove pin securing header lock to main hitch-front machine. Place pin in storage position shown. See Figure **150**.



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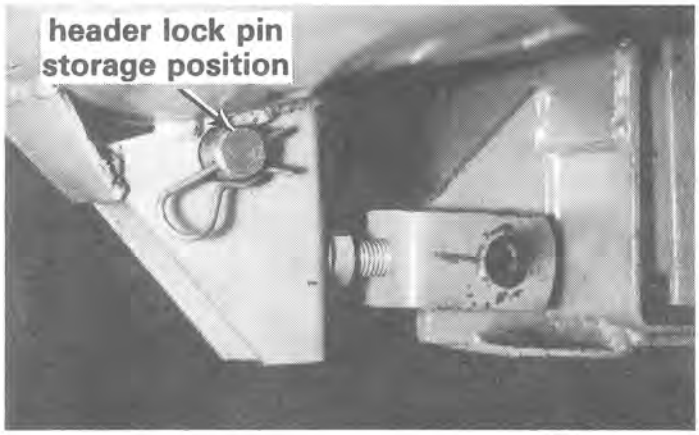

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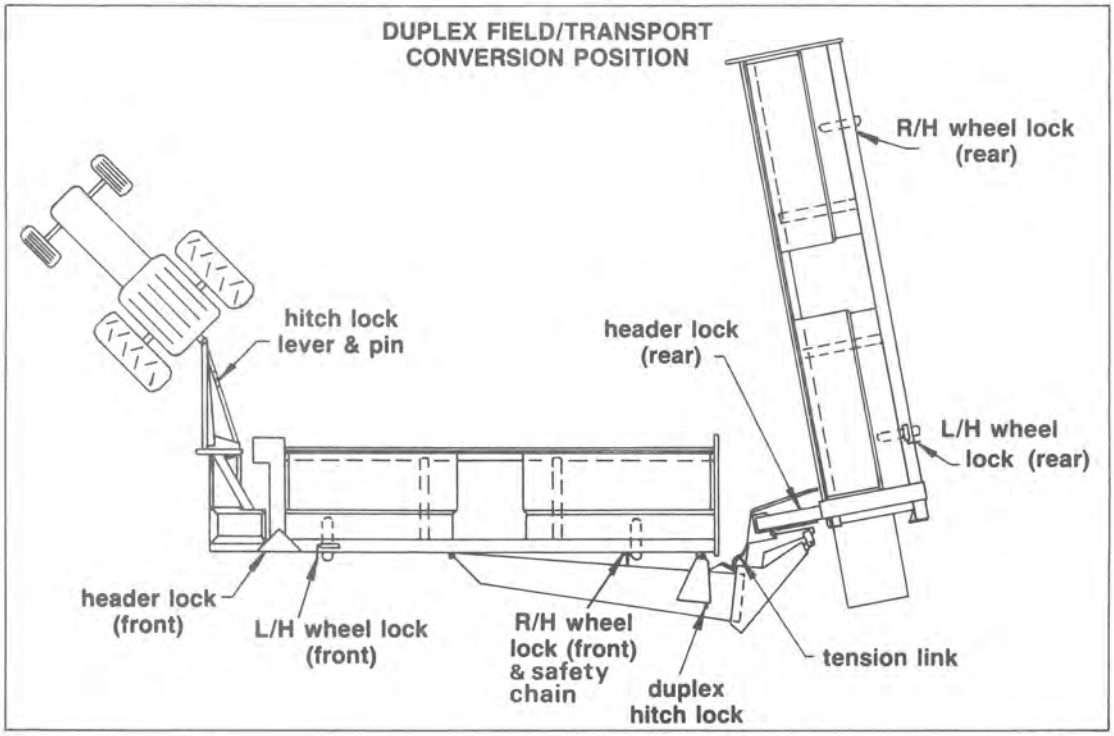
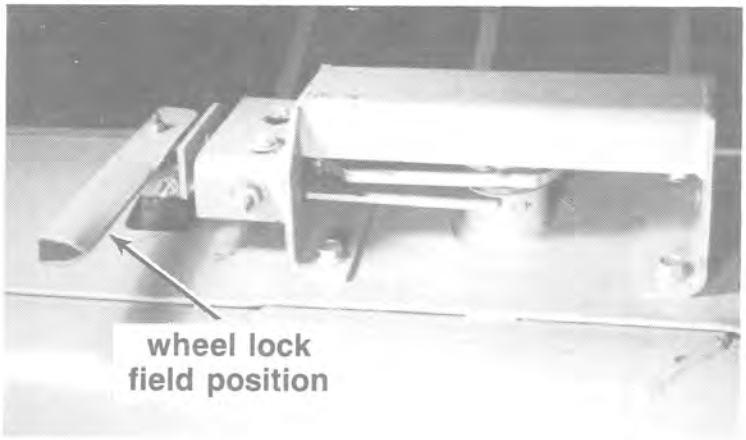


146

TO CONVERT DUPLEX UNIT FROM TRANSPORT TO FIELD POSITION (continued)

2. c) Move lever on L/H wheel lock-front machine to field position. See Figure **152** .
d) Remove lock pin from R/H wheel assembly front machine and place in storage position. See Figure **154** .
e) Disconnect safety chain from duplex hitch and place in storage position. See Figure **155**.
f) Move duplex hitch lock lever to field position: Pull handle to release lever, slide lever fully to the left and release handle. See Figure **156** .
g) Connect tension link between hitch and rear machine as shown in Figure **158** .



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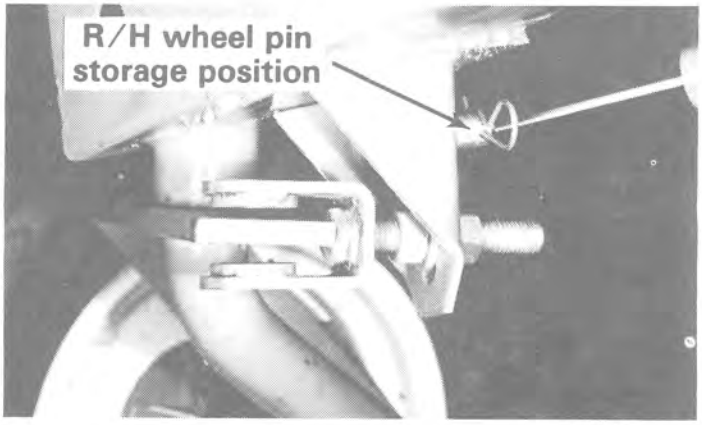

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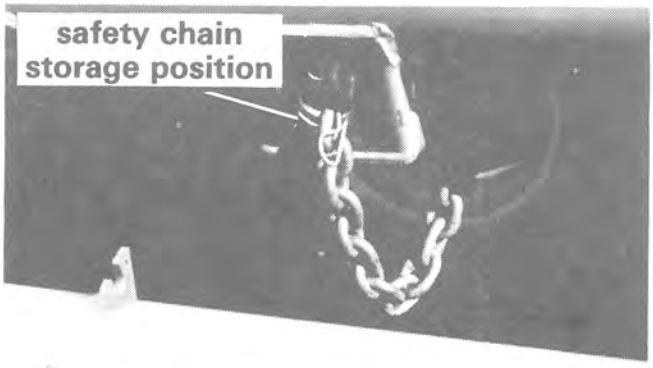

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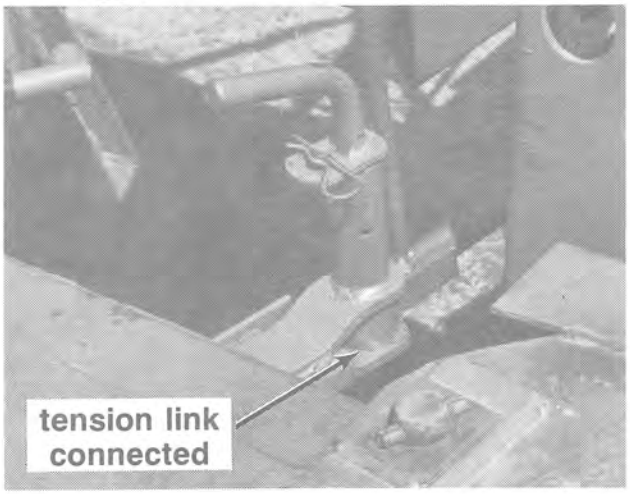

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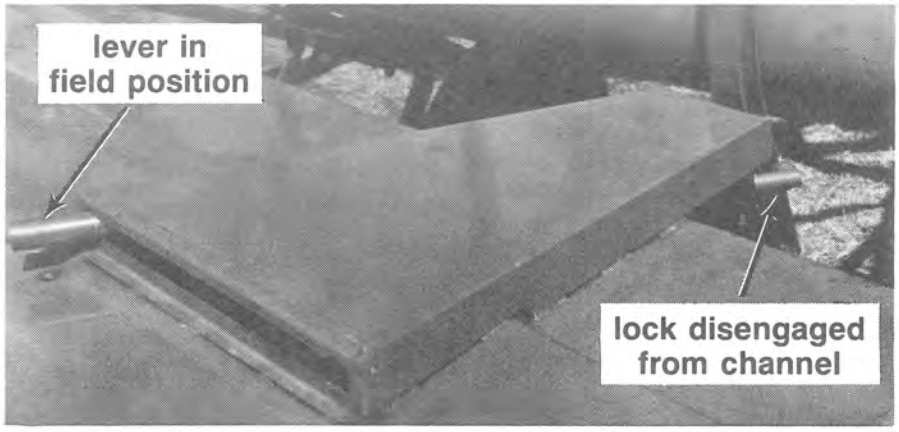
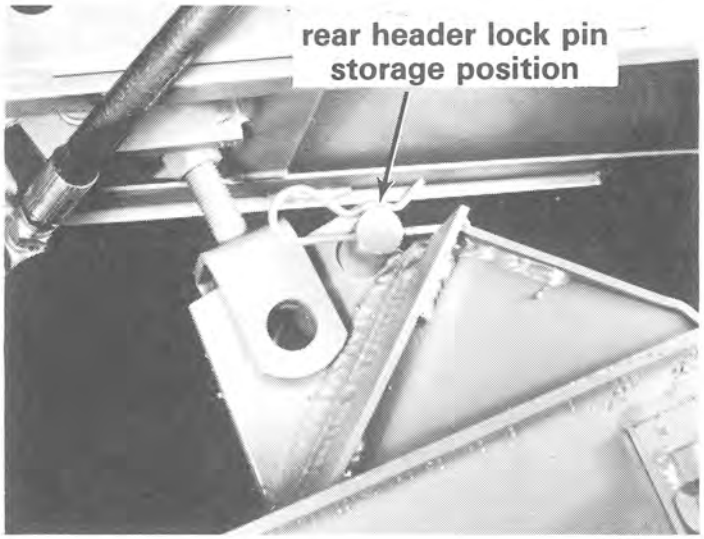


156

TO CONVERT DUPLEX UNIT FROM TRANSPORT TO FIELD POSITION (continued)

2. g) Remove pin securing header lock to rear machine main frame. Install pin in storage position. See Figure **160**.
h) Remove pin and lower conveyor. Raise sides and lock with rubber latches as shown in Figure **162**.
i) Move lever on L/H wheel lock-rear machine to field position. See Figure **164**.
j) Remove lock pin from R/H wheel assembly-rear machine and place in storage position. See Figure **166**.



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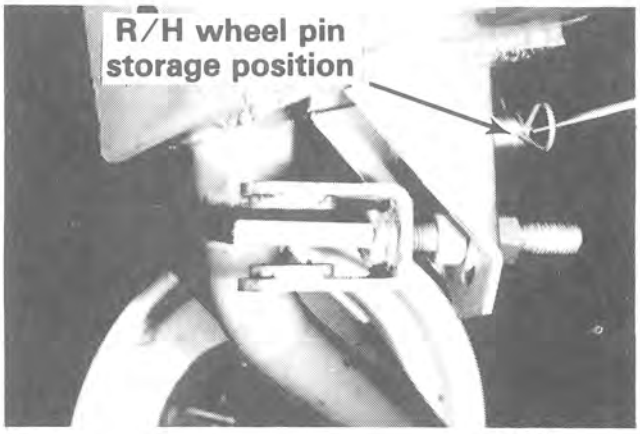

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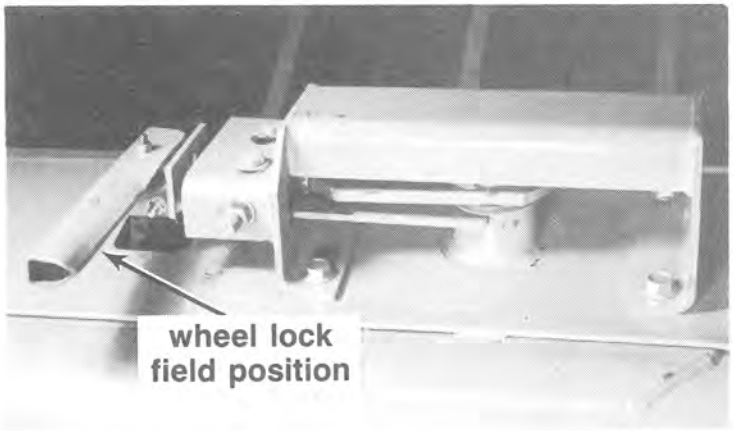


164

TO CONVERT DUPLEX UNIT FROM TRANSPORT TO FIELD POSITION (continued)

3. Back up tractor so that L/H wheel-front machine casters to field position and locks, and front hitch pivots to field position and locks. (It may be necessary to drive forward after hitch locks to caster L/H wheel into field position).
4. Lower front header about 12 inches (300mm) and drive forward until R/H wheel-front machine casters into field position.
5. Lower rear header about 12 inches (300mm) and drive forward until R/H wheel-rear machine casters into field position.
6. If L/H wheel-rear machine is not locked in field position, raise rear header fully up and back up until it locks.

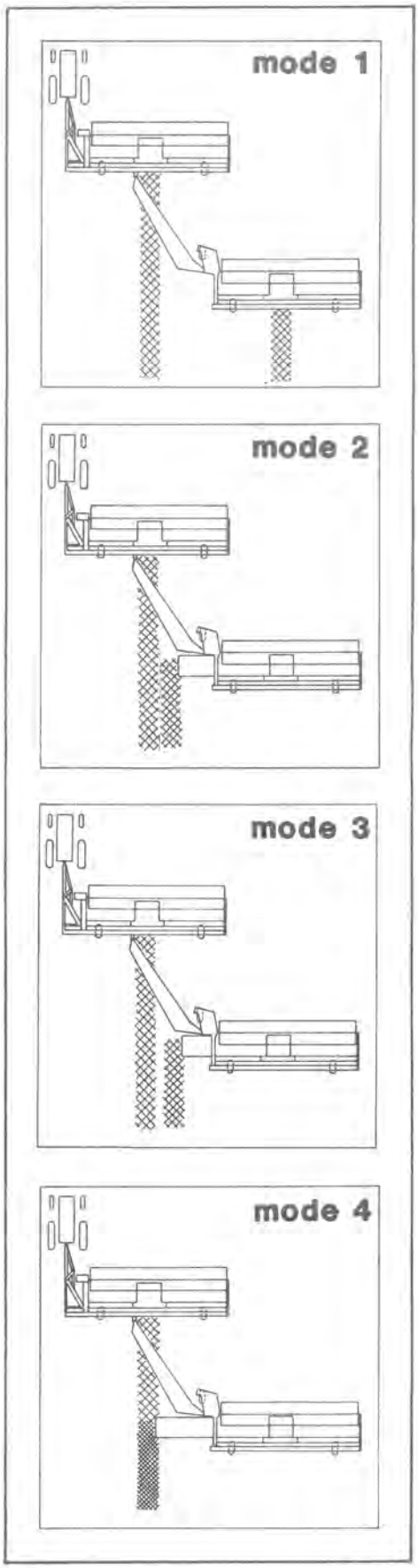
CHANGING MODES OF DELIVERY - DUPLEX ONLY Figure 168

With the standard duplex package, there are two modes of delivering the swath:

1. Center delivery with both units.
2. Center delivery with front unit and L/H end delivery (with conveyor) with rear unit.

An optional Conveyor Extension Package gives the operator two variations on the end delivery of the rear unit:

3. Center delivery with front unit and L/H end delivery (with short conveyor) with rear unit. This mode lays a more spaced double swath.
4. Center delivery with front unit and L/H end delivery (with short conveyor attached to standard conveyor) with rear unit. This mode stacks the rear unit's swath on top of the front swath.



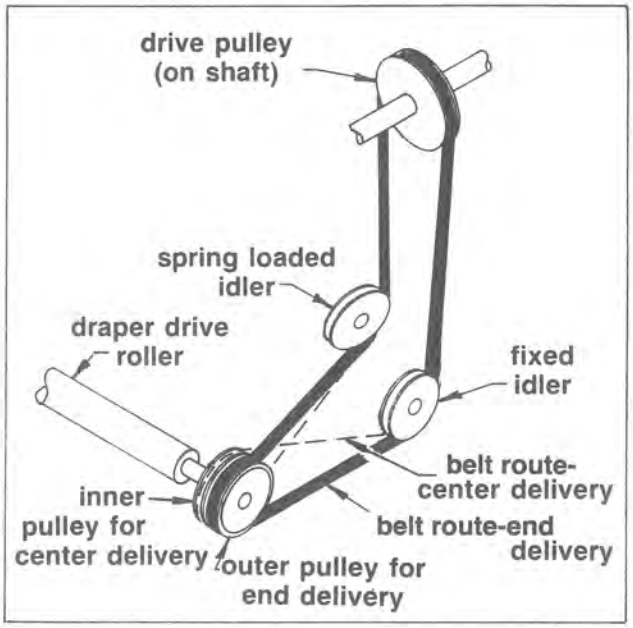
168

The mode of delivery selected will depend on:
- crop condition (light,average or heavy)
- size of combine pick-up
- personal preference.

TO CHANGE REAR UNIT FROM CENTER DELIVERY TO END DELIVERY

1. Remove belt from inner pulley at L/H draper drive roller. Un-cross belt and install on the outer pulley as shown in Figure **170** .
2. Install center deck:
   a) Release clamps securing deck to main tube.
   b) Lower deck into position. Secure with pin at cutter bar. See Figure **172** .
   c) Install draper drive chain as shown in Figure **174** .

   NOTE: When installing center deck, ensure sufficient clearance is maintained between draper rollers to avoid interference between slats on adjacent drapers. It may be necessary to shorten draper(s).
3. Install conveyor. See Assembly Instructions for procedure.
4. To change back to center delivery:
   a) Re-route L/H draper drive belt. See Figure **170** .
   b) Remove deck and store on main tube.
   c) Remove conveyor drive chain, or if practical, remove conveyor entirely.



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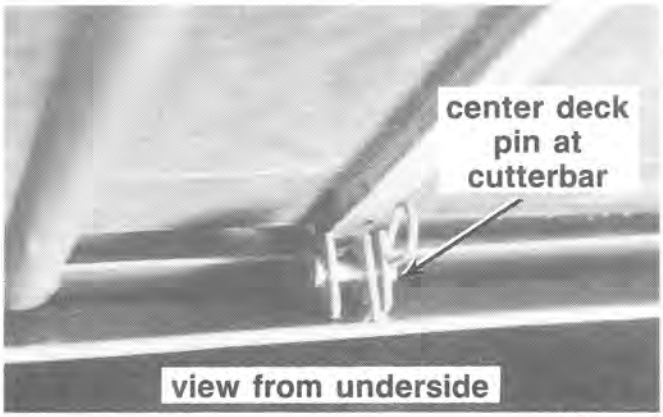

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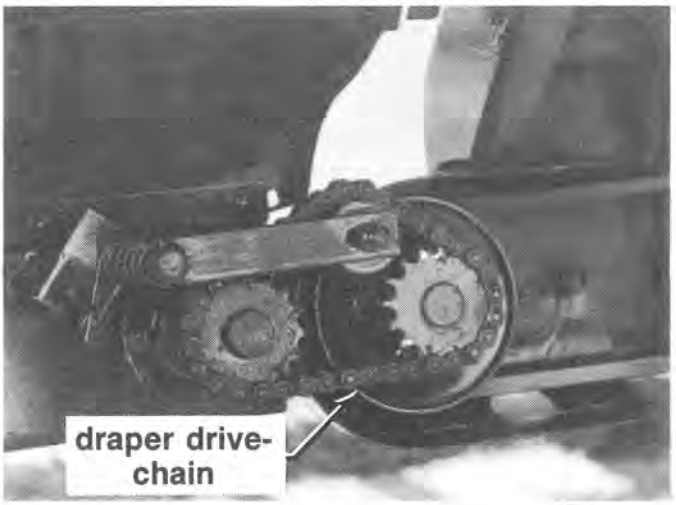
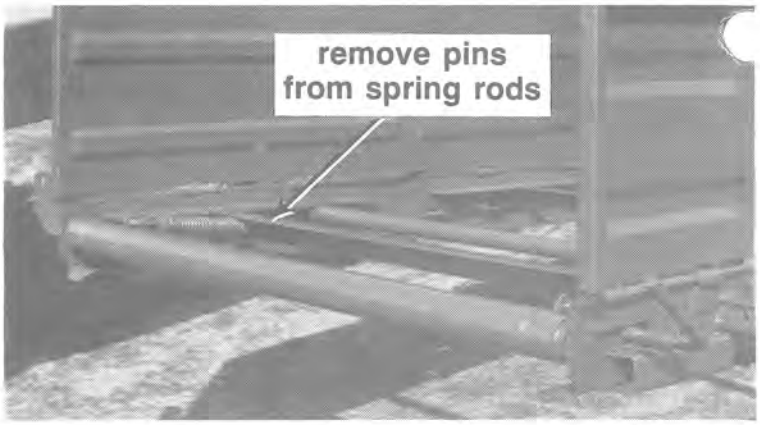


174

TO ADD CONVEYOR EXTENSION PACKAGE (OPTIONAL) TO STANDARD CONVEYOR

1. Remove the draper from the standard conveyor frame.
2. Remove the idler roller assembly by removing cotter pins as shown in Figure **176**.
3. Slide the idler roller assembly into the far end of the extension frame and secure with cotter pins.
4. Bolt the connectors to both sides of the extension frame using four 3/8 x 1" carriage bolts and flange nuts. See Figure **178**.
5. Slide the extension frame into the standard frame.
6. Bolt the channels to the conveyor doors as shown using one 3/8 x 1.0" capscrew and flange nut for each side. See Figure **180**.
7. Connect the two drapers and install.
8. Add extensions to diagonal chains using 3/8 x 1.0" capscrews, flatwashers (2 per side) and locknuts.



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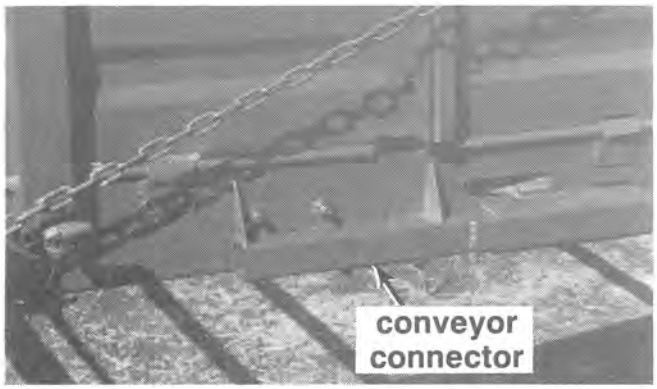


178

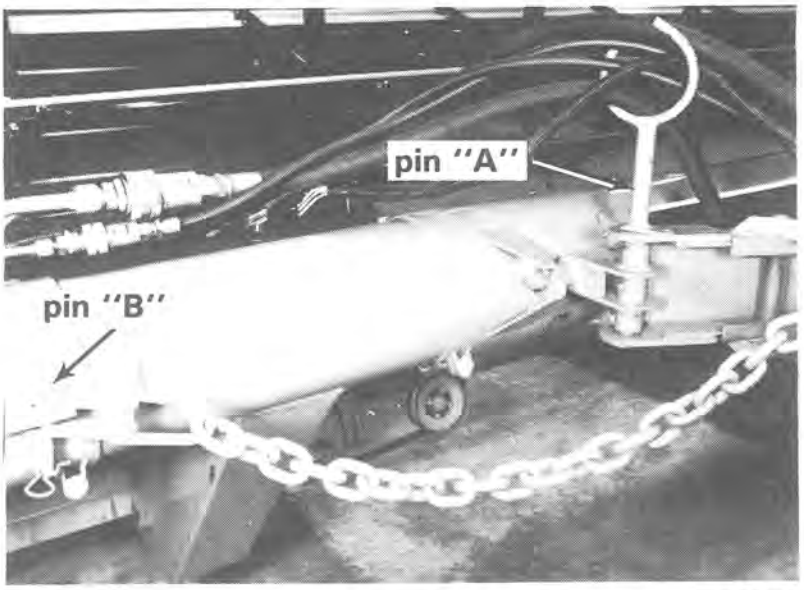
TO CONVERT FROM STANDARD CONVEYOR TO OPTIONAL SHORT CONVEYOR (OR VICE-VERSA)

1. Re-use the idler roller assembly as described above.
2. Remove the pivot brackets connecting the conveyor to the rear machine and re-install on conveyor to be used. See Assembly Section, Attaching Conveyor.
3. Connectors and channels are not required.
4. Use proper length diagonal chains for conveyor being used.

180

TO SEPARATE DUPLEX UNITS (IN FIELD POSITION) Figure **182**

1. Lower front header.
2. Lower duplex hitch stand.
3. Raise front header until stand supports duplex hitch.
4. Thoroughly clean hydraulic couplings and disconnect large lines (one at front machine main tube, one at duplex hitch).
5. Reconnect couplings on front machine to each other to close system. Repeat at duplex hitch.
6. Disconnect small couplings and wiring harness.
7. Remove pins "A" and "B" securing hitch and chain.



182

TO RE-CONNECT DUPLEX UNITS (IN FIELD POSITION) Figure **182**

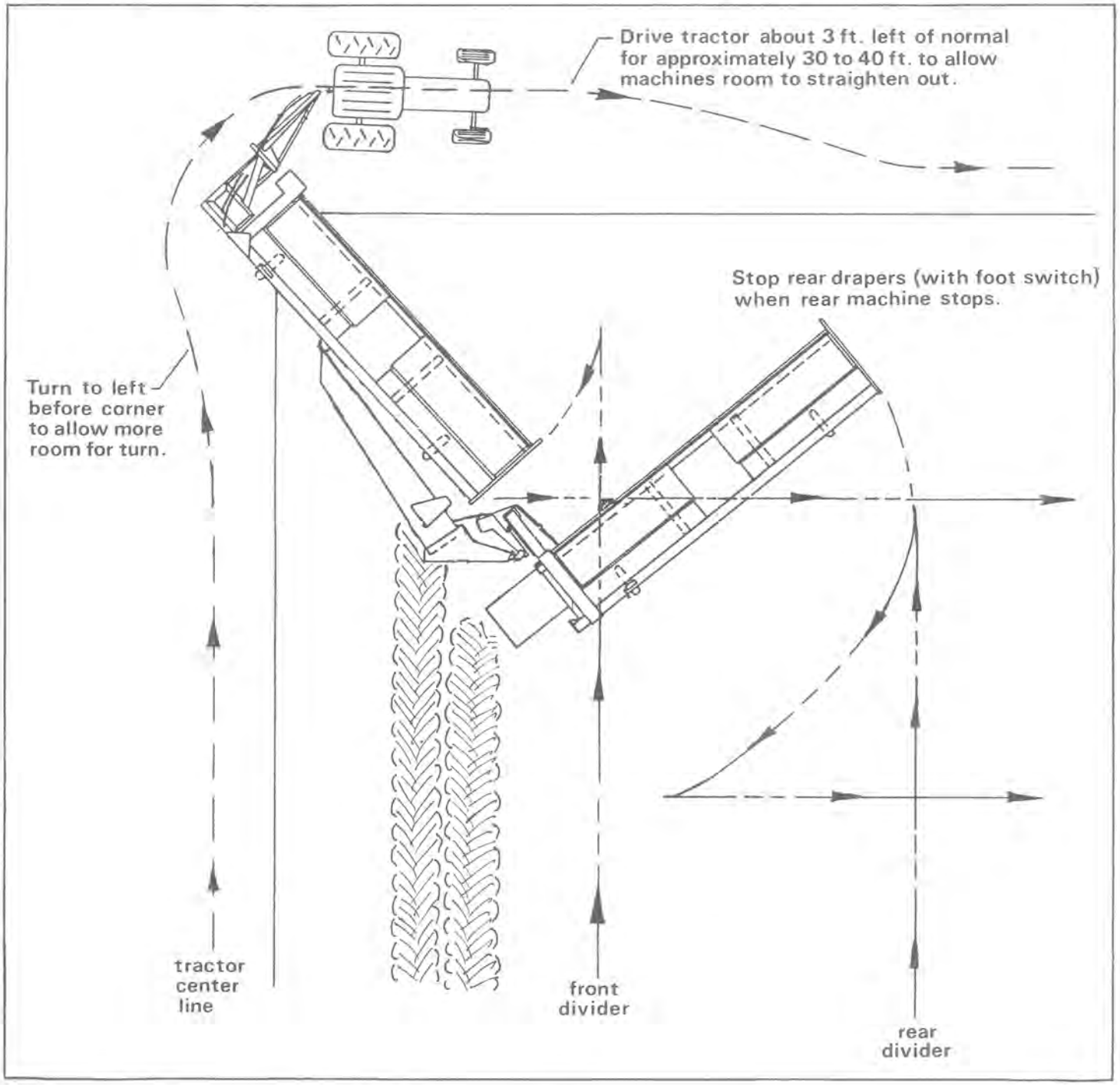
1. Back up front machine until clevis is within 12 inches (300 mm) of duplex hitch.
2. Raise or remove pin "A" and reconnect chain with pin "B".
3. Back up front machine until channel fully engages hitch. Replace pin "A".
4. Thoroughly clean couplings, then re-connect couplings and wiring harness.
5. Lower front header and raise duplex hitch stand to storage position.

DUPLEX OPERATING TIPS

1. When laying two single swaths, it is not necessary to stop the rear drapers in corners.

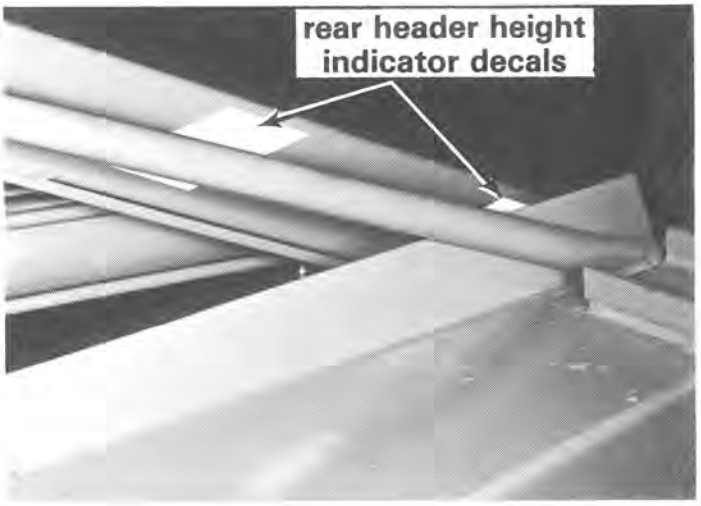
2. When cornering, drive tractor on path shown in Figure **184** to minimize the amount of material left and to minimize the amount run over by the tractor.

3. When double swathing, stop rear drapers in corners (with foot switch). Stop the drapers just as the rear machine stops, and start them again when rear machine begins to cut crop. This procedure avoids piling up the swath, and leaves only the front swath for the combine to pick up on corners.



DUPLEX OPERATING TIPS (continued)

4. When double swathing, it is normal to cut higher with the rear machine. Try setting the reel at an appropriate height, then vary cutterbar height to suit crop. It is easy to see the height of the crop on the reel.
NOTE: The two white marking decals on the rear machine can be used to indicate relative cutting heights by noting their position with respect to the front wheel support. See Figure **186**.



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5. When double swathing, set the conveyor in the lowest position possible (by adjusting diagonal chains) without hitting the ground or rocks.

   If the optional conveyor extension package is added, conveyor must be angled up to clear the front swath. Changing the angle also changes the trajectory of the swath.

6. When double swathing, run the L/H draper as fast as possible without causing discharge from the conveyor to bunch up. The higher draper speed reduces the tendency of the reel to throw material over the back sheet.

7. When laying two single swaths, remove the conveyor drive chain to prevent damage to the plastic roller. Remove conveyor entirely if not required for an extended period.

PROBLEM	CAUSE	CORRECTION	PG.
SWATH FORMATION:CENTRE DELIVERY			
Heads in centre of swath, butts sticking up.	- Ground speed too fast	- Reduce ground speed	-
Heads in centre of swath	- Draper speed too fast	- Reduce draper speed (try slower speed on R/H draper than on L/H draper.)	55
Swath too narrow	- Opening too narrow	- Remove draper extensions (single or duplex front unit only)	56
Swath too wide	- Opening too wide	- Install draper extensions (single or duplex front unit only)	56
	- Drapers too slow	- Increase draper speed	55
Uneven swath	- Ground speed too fast for drapers	- Reduce ground speed	-
	- Reel too low	- Raise reel	-
	- Reel too fast	- Reduce reel speed	52
Swath falls through stubble	- Stubble too high	- Reduce cutting height	-

PROBLEM	CAUSE	CORRECTION	PG.
CROP LOSS AT CUTTER BAR			
Heads shattering or breaking off	- Reel speed too fast	- Reduce reel speed	52
	- Ground speed too fast	- Reduce ground speed	-
	- Crop too ripe	- Swath earlier or at night when humidity is higher	-
Cut grain falling ahead of cutter bar	- Reel too high	- Lower reel	-
	- Header too high	- Lower header	-
Does not pick up down crop	- Cutterbar too high	- Lower header	-
	- Reel too high	- Lower reel	-
	- Reel too far back	- Move reel forward on support arms	48
	- Ground speed too fast for reel speed	- Reduce ground speed or increase reel speed	52
	- Cutterbar not level	- Level cutterbar	58
Crop left at R/H divider	- R/H divider rod pushes crop down	- Remove divider rod or angle rod to gather material	-
Rape or Flax catches at R/H or L/H divider	- Divider rod not installed	- Install divider rod to push crop down to allow cutting	90
CROP LOSS AT DRAPERS			
Draper rollers wrap	- Drapers not tracking straight	- Adjust drive roller	53
	- Drapers running too far back	- Adjust idler roller	53
	- Upper draper track not installed on rear draper track extension	- Install upper draper track	56
	- Draper edges torn	- Replace draper	-
Material catches between draper and header leg after corner.	- Turning corner too sharply causing machine to back over swath	- Turn corners less sharply	-

PROBLEM	CAUSE	CORRECTION	PG.
TRANSPORT			
Transport too wide	- R/H wheel steered incorrectly	- Adjust wheel steering	59
R/H wheel does not go into transport	- Selector valve incorrectly positioned	- Ensure L/H wheel latch is in transport position	16
	- Selector valve not turned to stop	- Adjust selector valve	-
	- Tractor hydraulic pressure low	- Hold header lift valve and drive forward	-
Cannot install header transport pins	- Clevis not in adjustment	- With header fully raised, adjust clevis	-
Hitch brace does not lock in working position	- Shear bolt sheared	- Replace shear bolt	59
L/H Wheel does not lock in working position	- Wheel not castered to working position	- Drive tractor to fully caster L/H wheel to work position	-

PROBLEM	CAUSE	CORRECTION	PG.
DRIVES			
Knife drive pounds	- Loose bolts at radius arm pivot, Knifehead, pitman or crank wheel mount	- Tighten bolts	-
	- Loose bearings in crank wheel	- Adjust	-
	- Bearings loose in pitman	- Replace bearing or pitman	-
	- Loose guards or sections	- Tighten	-
	- Knife driving hard	- Clean knife	47
		- Adjust hold down clips	47
		- Replace worn parts	-
	- Knife running too fast	- Install pulleys for correct PTO speed	-
Ragged cut stubble	- Ground speed too fast	- Reduce ground speed	-
	- Knife operating too slow	- Operate tractor at PTO speed	-
		- Install pulleys for correct PTO speed	-
	- Sections or guards worn or damaged	- Replace and re-adjust	47
	- Sections above guard cutting edge	- Adjust hold down clips	47
Excessive breaking of guards	- Float set too heavy	- Tighten float springs	57

PROBLEM	CAUSE	CORRECTION	PG.
DRIVES- continued			
Main drive belt whips excessively and/or turns over	- Belt loose	- Tighten belt	44
	- Mule idlers not aligned	- Adjust idler alignment	44
		- Replace belt if it has turned over	89
	- Pulleys bent	- Replace pulleys	-
	- Shafts bent	- Replace shafts	-
	- Belt guides missing	- Install guides	88
	- Knife loads excessive	- Clean and adjust knife	47
		- Reduce ground speed	-
	- PTO speed too high	- Operate at recommended speed	-
		- Install correct pulleys for PTO speed	-
Knife drive belt whipping	- Belt loose	- Tighten belt	46
	- Pulley or shaft bent	- Replace damaged part	-
	- PTO speed too high	- Operate at recommended speed	-
		- Install correct pulleys for PTO speed	-
	- Belt guides missing	- Install guides	46
	- Knife loads excessive	- Clean and adjust knife	47
		- Reduce ground speed	-
Draper drive belts come off	- Idlers misaligned	- Adjust idlers	55
Reel final drive belt comes off	- Belt misaligned due to reel position	- Centre reel and tighten reel brace	49
Primary reel drive belt comes off	- Idlers misaligned	- Adjust idlers	50

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
TRACKING			
Insufficient overlap between machines (16 inches (400 mm))	- Wheels steered too far to right on front and/or rear machines	- Adjust wheels so cutterbar is 90° to tractor line of travel	58
	- Tension link and/or control chain too long	- Adjust link and/or chain	60
Machines run ahead	- Wheels steered too far to right	- Adjust wheels	58
Machines trail back	- Wheels steered too far to left	- Adjust wheels	58
	- Ground is soft	- Adjust wheels for best operation	58
	- Float set too heavy	- Adjust float	57
Machines run ahead excessively going down hills and trail back excessively going up hills	- Wheels not parallel	- Adjust wheels	58
Rear machine runs ahead and to left on hills	- Hitch spring does not have enough compression	- Adjust hitch spring	62
	- Front wheel steering spring does not have enough tension	- Adjust front wheel steering spring	62

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
CORNERING			
Leaving excessive material uncut in corner	- Insufficient overlap	- Adjust overlap	60
	- Rear machine steering adjustment incorrectly set	- Adjust rear machine steering	58
	- Turning corner too gradually	- Pull tractor to left, then turn corner more sharply (without banging machines together)	-
	- Corner less than 90°	- Drive to make sharper corner and minimize loss	-
	- Corner on slope	- Drive to make sharper corner and minimize loss	-
Leaving uncut material between machines in gradual right turn	- Insufficient overlap	- Adjust overlap	60
	- Rear machine steering adjustment incorrectly set	- Adjust rear machine steering	58
Material from rear machine piling up in corner	- Drapers stopped too late in corner	- Operate foot switch sooner in corner	13
Swath too wide to pick up in corner	- Rear draper running in corner	- Operate foot switch in corner	13
Material slides forward on cutterbar in corner	- Reel stopped too soon	- Operate foot switch later in corner or set reel to run continuously to clean cutterbar	13
	- Cutterbar angle too steep	- Raise cutterbar in corner	-
	- Excessive material on draper	- Run draper faster - Gear down before corner	55 -

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
CORNERING - continued			
Reel shells grain or breaks heads off in corner	- Reel running too fast	- Reduce reel speed	52
	- Reel hitting heads when rear machine is stopped	- Raise reel - Set reel to stop with draper	- 13
Rear machine front wheel skids excessively in corner	- Front wheel steering spring too tight	- Adjust front wheel steering spring	62
Rear machine cutterbar swings up coming out of corner	- Rear machine float too light	- Adjust rear machine float spring	57

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
SWATH FORMATION:END DELIVERY			
Swath not uniform	- Reel too low	- Raise reel	-
	- Reel too fast	- Reduce reel speed	52
	- Excessive material on draper	- Increase draper speed	55
	- Reel too far back	- Move reel forward on support arms	48
Swath uneven; folds forward and back as it leaves conveyor	- Draper speed too fast for ground speed	- Reduce draper speed	55
Swath too narrow and compact (side by side swaths)	- Conveyor too high	- Lower conveyor to run as close to ground as possible without damage	31
Material falls off cutterbar at left	- Excessive overlap	- Adjust overlap	60
	- Reel too high	- Lower reel	-
	- Drapers too slow	- Increase draper speed	55
	- Rubber flaps missing from reel	- Install rubber flaps	103
Front and rear swaths too close together (side by side)	- Excessive overlap	- Adjust overlap	60
	- Standard conveyor used	- Install optional short conveyor	28
	- Front swath laid too far right	- Install draper extension in R/H draper	56
Front and rear swaths too far apart (side by side)	- Insufficient overlap	- Adjust overlap	60
	- Short conveyor used	- Install standard conveyor	28
Stacked swaths not centered	- Incorrect overlap	- Adjust overlap	60
	- Incorrect conveyor height	- Adjust conveyor height	31
	- Incorrect draper speed	- Adjust L/H draper speed (rear)	55
	- Front swath incorrectly positioned	- Adjust front opening	56

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
HYDRAULIC SYSTEM			
Rear Knife does not move	- Knife jammed	- Clean knife	47
	- Low oil level	- Add oil	67
	- Relief valve opening prematurely	- Check pressure setting (should be 2000 p.s.i.)	-
	- Hose couplings not fully coupled	- Couple hoses	-
	- Motor belt broken or slipping	- Replace and/or adjust belt	45
	- Pump belt broken or slipping	- Replace and/or adjust belt	-
Motor seal leaks	- Machine run with case drain lines uncoupled	- Replace seal and couple case drain lines	-
Oil excessively hot - over 80°C. (176°F.)	- Hose couplings not fully coupled	- Couple hoses	-
	- Relief valve leaks	- Replace valve	-
	- Low oil level	- Add oil	67

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
ELECTRICAL SYSTEM			
Front or rear header does not raise (less than 12V to valve)	- No power to switch box (indicator light does not light)	- Correct poor connection	-
	- Circuit breaker tripped	- Correct fault and re-set breaker	13
	- Fault in wiring (loose connection, poor ground, cut wires etc.)	- Correct fault	-
Power to valve OK, but does not shift	- Contamination in valve	- Clean valve	-
Rear knife runs, clutch does not engage (less than 12V at clutch)	- Circuit breaker tripped	- Correct fault and re-set breaker	13
	- No power to switch box	- Correct poor connection	-
	- Fault in wiring (loose connection, poor ground, cut wires etc.)	- Correct fault - Check voltage at clutch	- -
Clutch slips	- Low voltage caused by poor connection or fault in wiring as above	- Correct fault	-
	- Excessive load	- Increase draper speed	55
		- Set reel to run continuously	13
		- Reduce ground speed	-
		- Check for drapers catching each other at drive rollers, correct if necessary	53
		- Check bearings, replace if necessary	-

DUPLEX TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION	PG.
CONVERSION TO & FROM TRANSPORT			
L/H wheel-rear machine does not lock in working position	- Conversion sequence not followed	- Refer to instructions	23
	- Conversion attempted on sloping ground	- Make conversion on level ground if possible	-
R/H wheel-rear machine does not caster to working position	- Machines jack-knifed for conversion with R/H wheel in a hole	- Drive ahead and lower header	-
Machines pull to left or right in transport	- Inadequate grease on casters	- Apply grease	-
	- Rear machine not fully raised	- Raise machine and lock	22
CENTER DECK-REAR MACHINE			
Material lost between centre deck and L/H and R/H drapers	- Centre deck not level	- Adjust deck	108
Chain hard to remove on centre deck	- R/H drive roller too far right	- Move R/H roller towards centre deck. Square roller with cutterbar and re-adjust draper tension	53 54
Centre deck difficult to install and remove	- Pivot bolts at rear of deck too tight; deck cannot slide in slot	- Loosen bolts	-
R/H roller cannot be adjusted close enough to centre deck	- Improper adjustment of R/H centre deck clamp, pushing deck over and bending deck arms	- Adjust R/H clamp - Straighten deck arms	108 -

MAIN DRIVES

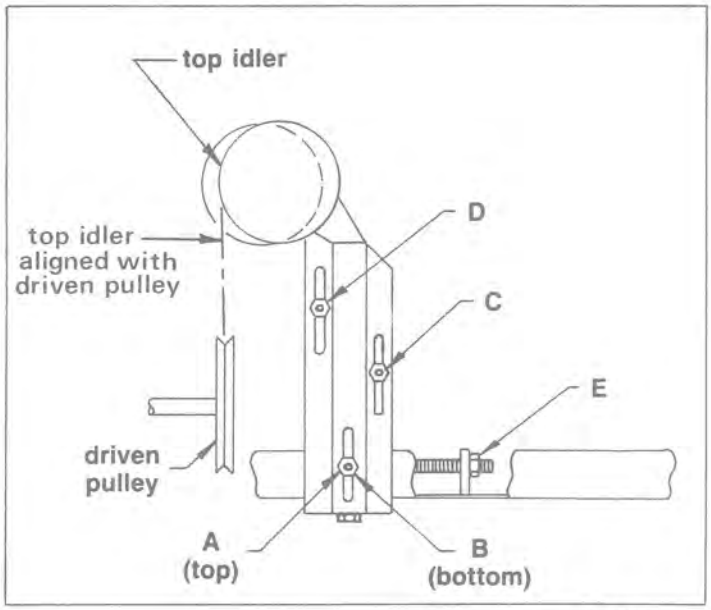
MAIN DRIVE BELT IDLER ALIGNMENT

Figure **200**.

IMPORTANT: The main drive belt idlers must be kept aligned as shown(Figure **200**)to prevent the belt from rolling over in operation, a cause of belt damage.

To align idlers:

1. Loosen nuts A,B,C, and D.
2. Adjust with nut E to achieve required alignment.
3. Re-tighten nuts A,B,C, and D.



200

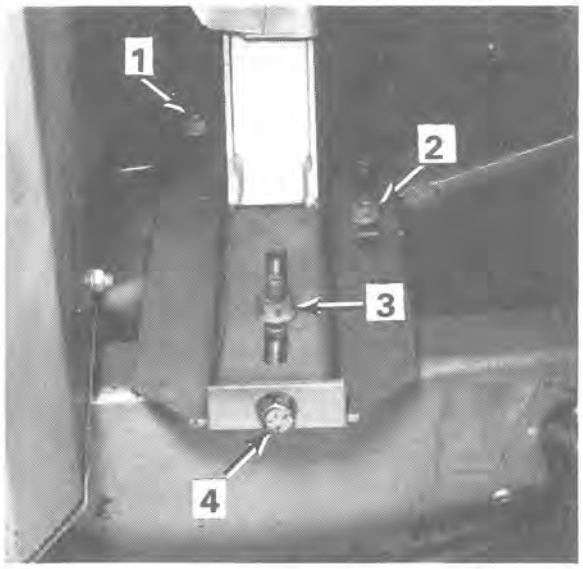
MAIN DRIVE BELT TENSION

Figure **202**.

NOTE: Do not overtighten drive belt. Operate at minimum tension required to prevent slipping and excessive vibration.

To adjust belt tension:

1. Loosen nuts 1,2 and 3.
2. Turn bolt 4 to adjust tension.
3. Re-tighten nuts 1,2 and 3.
4. Ensure belt runs freely through belt guide loops. Bend loops if required.

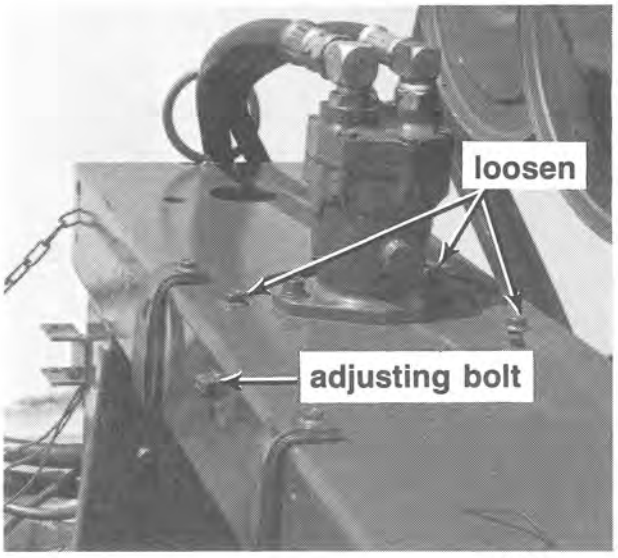


202

MAIN DRIVES (continued)

REAR DUPLEX UNIT - MAIN DRIVE BELTS TENSION Figure **204**.
To adjust main drive belts:

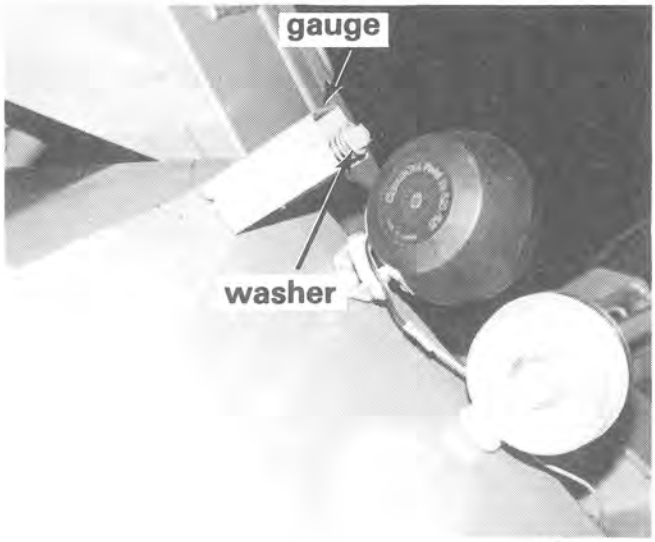
1. Loosen three bolts as shown.
2. Turn adjusting bolt to pivot hydraulic motor and vary belt tension.
3. Tighten bolts loosened in step 1.



204

REAR DUPLEX UNIT - CLUTCH DRIVE BELT ADJUSTMENT . Figure **206** .

To maintain proper clutch drive belt tension, keep washer on adjusting bolt flush with gauge on main frame as shown.

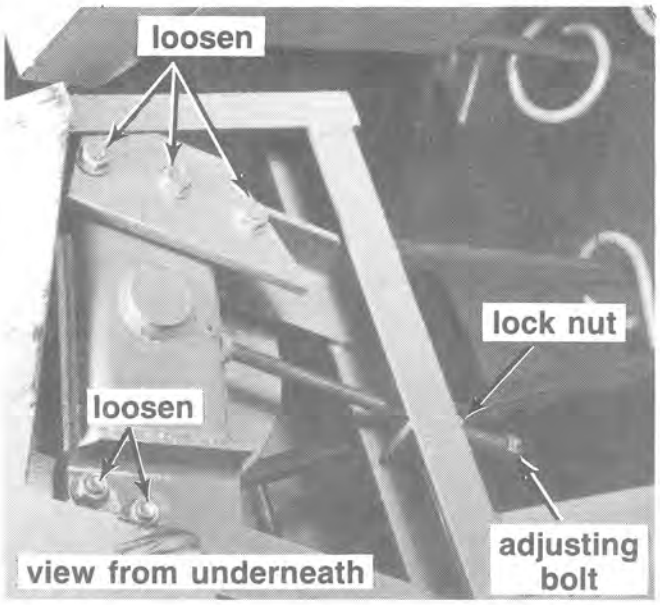


206

KNIFE

KNIFE DRIVE BELT TENSION-
SINGLE UNIT/FRONT DUPLEX UNIT
Figure **208.**
NOTE: Do not overtighten drive belt. Operate at minimum tension required to prevent slipping and excessive vibration.

To adjust belt tension:
1. Raise header and install header lock. See Operation Section: Converting to Transport.
2. Loosen five bolts securing knife drive pulley. Access to these bolts is from underneath.
3. Adjust with bolt shown as follows:
   (a) loosen lock nut
   (b) turn bolt to achieve proper tension
   (c) re-tighten lock nut
4. Tighten five bolts loosened in step 2 to 80 to 90 ft. lbs. (110-120 N.m)
5. Remove header lock and lower header to cutting position.
6. Check belt tension and position belt guide loops so belt runs through the center of the loops. See Figure **210.**



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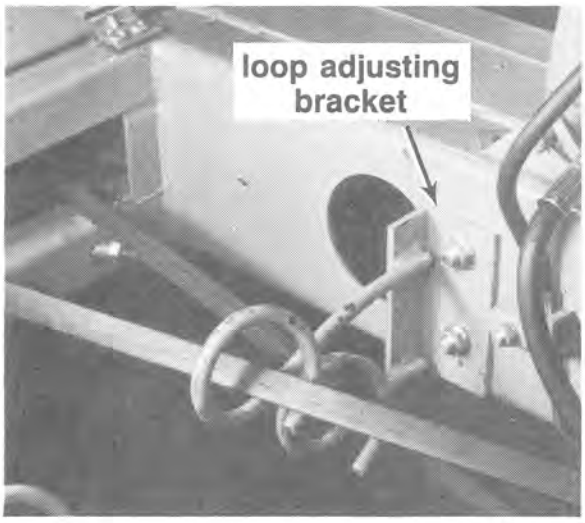


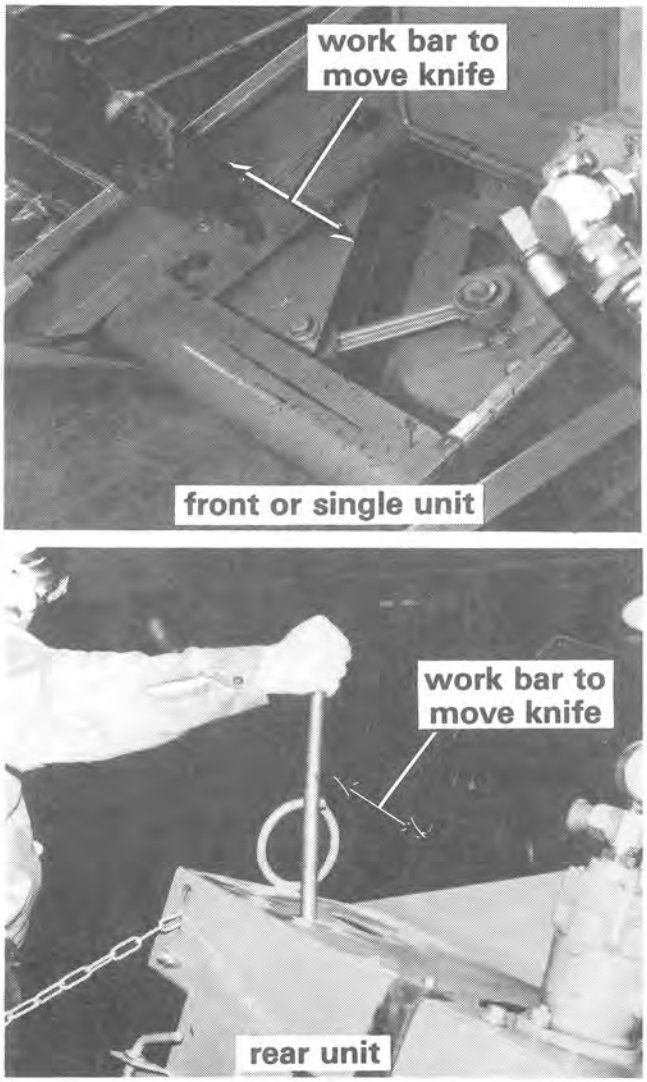
210

KNIFE (continued)

KNIFE MAINTENANCE

The cutting mechanism should be checked periodically to be assured that all guards are in correct alignment and knife sections are sharp and undamaged.
As well, a .020 (1/2 mm) clearance should be maintained between the hold down clips and knife sections.
Keep the knife sections firmly riveted to the knife back. Replace worn or broken sections by shearing off the rivets rather than punching them out, as a punch will enlarge the holes in the knife back.

NOTE: Should knife become plugged, manually work knife back and forth as shown to loosen plugged material. See Figure **212**.

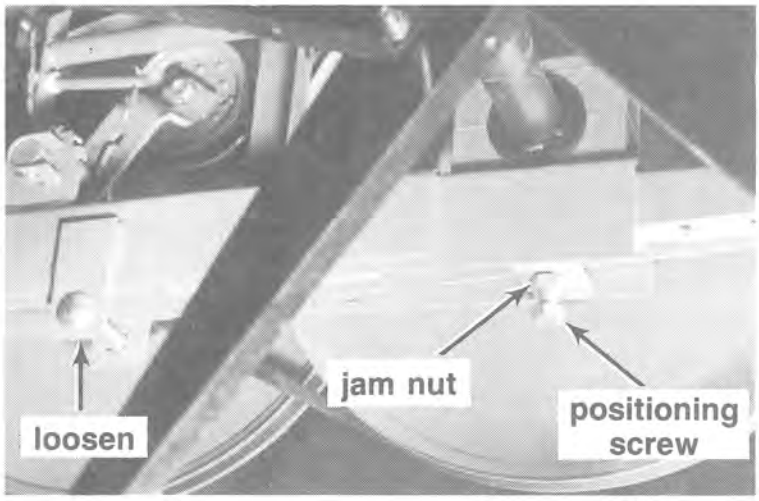


212

REEL

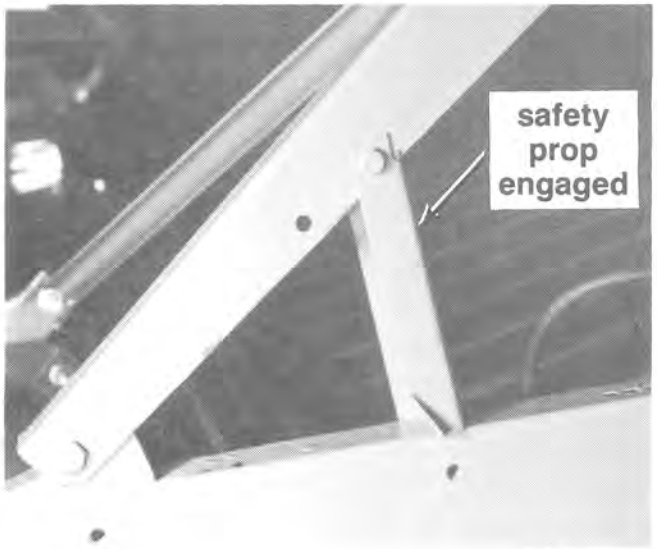
REEL HORIZONTAL POSITION
Figure **214**.
To adjust the fore-aft position of the reel on the support arms:

1. Raise or lower reel until reel support arms are horizontal.
2. Loosen the 5/8 locknut on the reel drive channel (mounted to the L/H reel support arm) to release the channel grip on the arm.
3. Back off the jam nut on the positioning screw under both reel support arms.
4. Loosen the positioning screw at both ends and slide the reel mounting channels to the desired position.
5. Tighten the positioning screw at both ends, then re-tighten the jam nuts.
   NOTE: The positioning screw must be in the same hole at both ends.
6. Re-tighten the 5/8 locknut to secure the reel drive channel to the L/H reel support arm.



214

REEL SAFETY PROPS. Figure **216**.
Keep pivot bolt properly tightened so prop remains in stored position when not in use, yet can be engaged with hand force.

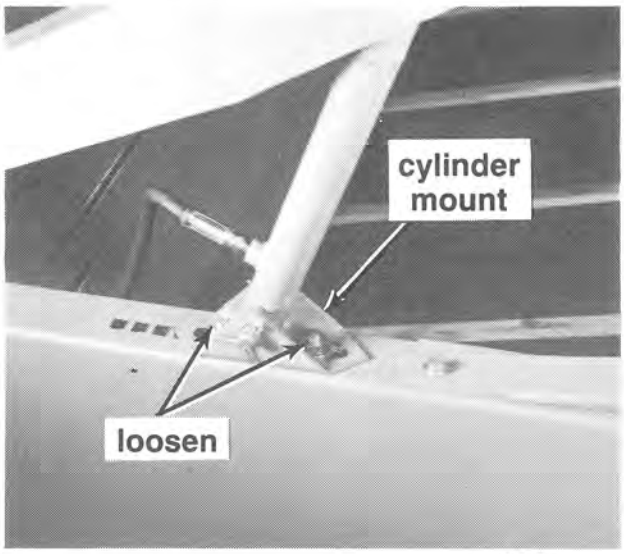


216

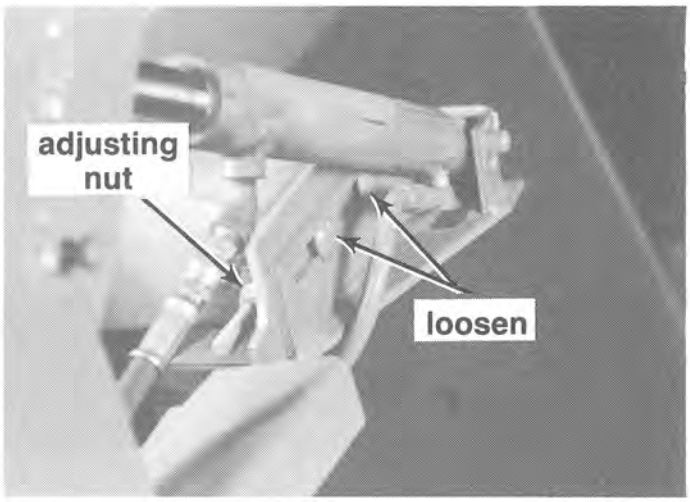
REEL (continued)

REEL CLEARANCE FROM CUTTER BAR
The reel should be adjusted to clear the cutter bar by at least 2 inches (50 mm) at all horizontal positions. Adjust as follows:

1. Raise reel, engage safety props, lower reel onto props.
2. (a) Adjustment for single unit, duplex front unit and R/H side of duplex rear unit: Slide cylinder mount forward to raise reel and back to lower reel. Loosen both flange nuts to allow mount to slide. If it is necessary to move one bolt to the next hole, first re-tighten the nut on the remaining bolt. See Figure **218**.
   (b) Adjustment for L/H side of duplex rear unit. Loosen the flange nuts inside the cylinder anchor. Raise or lower the reel support arm by turning the nut on the adjustment rod as shown in Figure **220**.
3. Tighten all hardware loosened for adjustment, raise reel and rotate safty props to storage position.



218



220

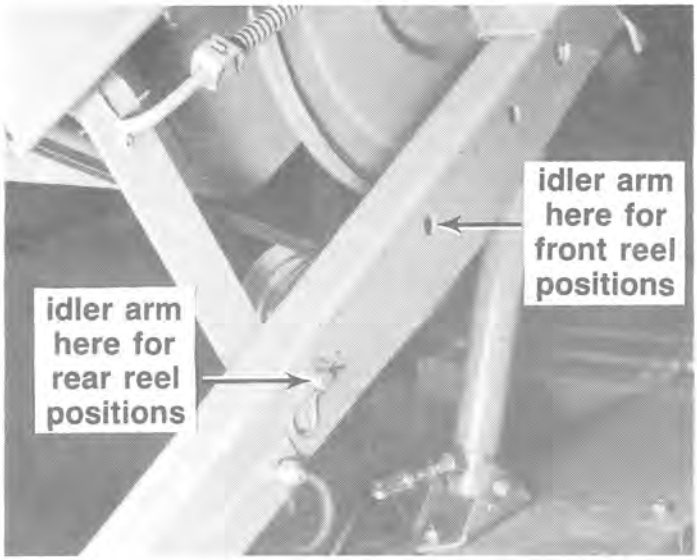
REEL CENTERING Figure **222**

Center the reel between the end sheets by adjusting the reel support arm brace. To adjust, loosen two nuts inside support arm, position brace as required to center reel and re-tighten nuts to 60-90 ft. lbs. (80-120 N.m).

222

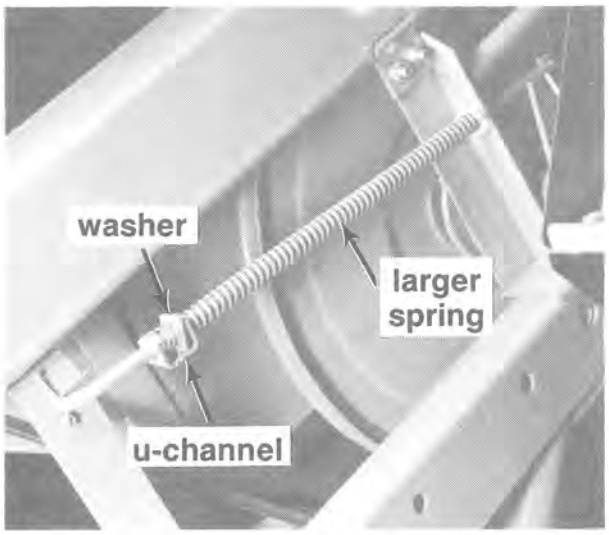
REEL (continued)

REEL DRIVE IDLER POSITION Figure 224.
If the reel is being operated in one of the three forward-most positions on the reel support arms,(see Reel Adjustments - Reel Horizontal Position) the idler arm should be installed in the front hole provided.
If the reel is being operated in one of the three rear positions on the reel support arms, the idler arm should be installed in the rear hole.
To change idler arm position, remove the hair pin and washer, move the idler arm to the new position and re-install washer and hair pin.



224

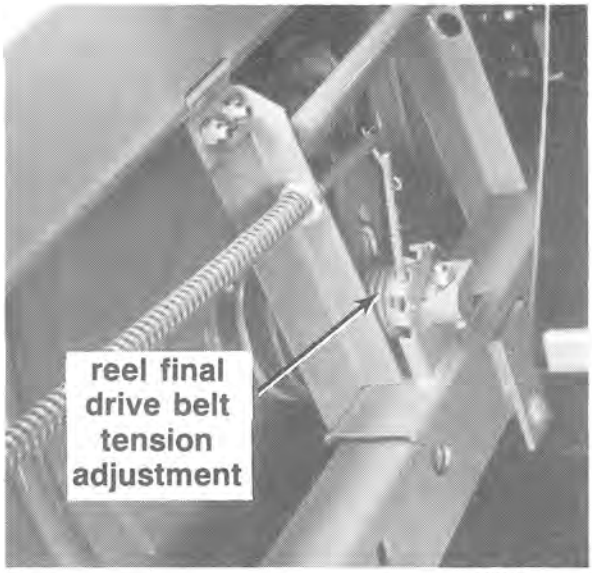
REEL PRIMARY DRIVE BELT ADJUSTMENT Figure 226
IMPORTANT: Belt tension increases as reel is raised. Damage to belt or idler arm could result if belt tension is too high.
To adjust tension of reel primary drive belts:
1. Raise reel fully up.
2. (a) To increase tension, slide the U-shaped channel on the idler adjusting rod towards the larger spring.
   (b) To decrease tension, squeeze the washer and one side of the U-shaped channel together, releasing the washer grip on the rod. Slide the channel away from the larger spring.
3. Lower reel and check tension. If too loose, raise reel and re-adjust tension.



226

REEL (continued)

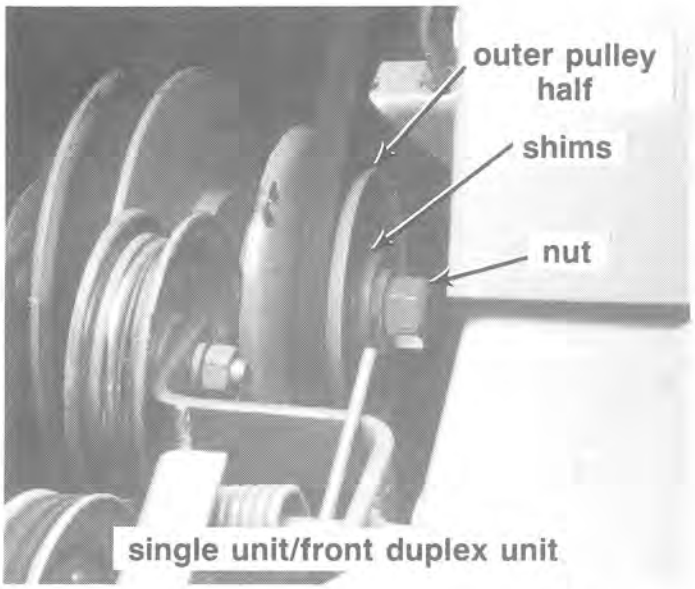
REEL FINAL DRIVE BELT ADJUSTMENT
Figure **228.**
Reel final drive belt tension should be adjusted so the belt will not slip if reel is turned backwards.
Tension is adjusted by repositioning spring handle in notches in drive channel adjusting plate. Moving the handle forward increases tension.



228

NOTE: If reel drive belts are removed or replaced, be sure they are re-installed correctly. See Assembly Section for proper routing of belts.

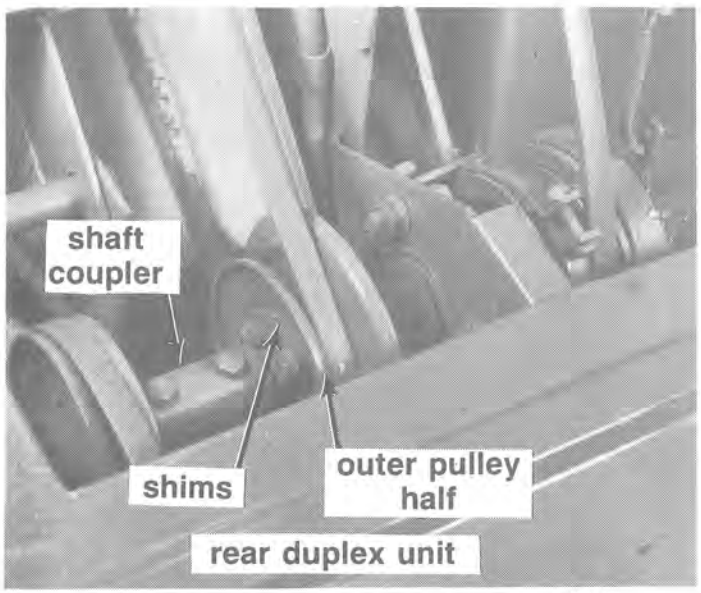
REEL SPEED ADJUSTMENT
Figures **230 & 232.**
The operator may choose either the low or high speed range by exchanging the outer pulley half with the pulley half stored:
(a) inside the main drives cover (single unit or front duplex unit).
(b) on the L/H reel arm (rear duplex unit).
The smaller pulley half is for the lower speed range while the larger, irregular shaped pulley half is for the higher range.



230

<u>To exchange pulleys - single or front duplex unit.</u>
1. Remove nut, shims and outer pulley half.
2. Exchange pulley halves, installing the pulley half removed in the storage position.
3. Re-install new pulley half, shims and nut.

<u>To exchange pulleys - duplex rear unit.</u>
1. Remove three bolts securing pulley halves.
2. Remove the shaft coupler.
3. Remove the outer pulley half and shims.
4. Exchange pulley halves, installing the pulley half removed in the storage position.
5. Re-install new pulley half, shims, shaft coupler and bolts.



232

<u>To change speed within a speed range.</u>

Move shims from outside to between pulley halves to decrease speed. To increase speed remove shims from between halves and store outside the pulley.
NOTE: Duplex rear unit only - It is not necessary to remove the three bolts to change shim position. Loosening the bolts will allow removal and replacement of the shims. Re-tighten bolts when shims are in the desired position.

DRAPERS

DRAPER TIPS

IMPORTANT: The investment in time to set drapers to run true will greatly increase draper life. Be sure that:

1. Draper rollers are adjusted so draper edge runs parallel to and 0 to 3/4 inch (0-20mm) from the cutter bar.
2. Draper tension is set just high enough to prevent slipping.

DRAPER TRACKING

NOTE: When first checking draper tracking, run tractor at idle so drapers can be stopped quickly to prevent damage caused by excessive misalignment.

To align drapers:

1. Adjust drive roller first to get draper running parallel to the cutter bar. See Figure **234** .
   If draper gets further from the cutter bar as it moves away from the drive roller, move drive roller away from draper. If draper gets closer to the cutter bar as it moves away from the drive roller, move drive roller towards draper.

To adjust drive roller:

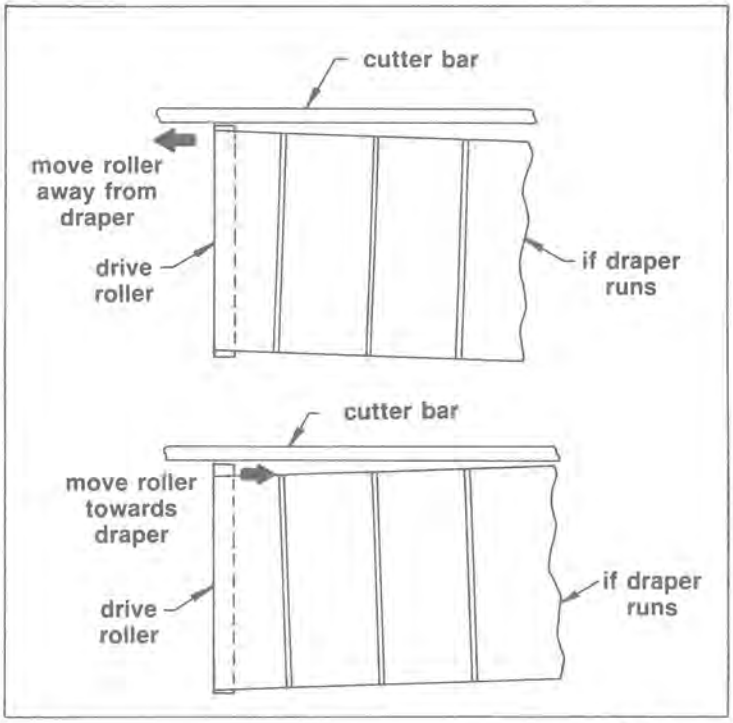
a) Release draper tension by flipping the handle at the idler roller.

CAUTION: Spring loaded over-center action causes handle to kick back when tension is released.

b) Loosen nut shown in Figure **236** . **NOTE:** Best access to this nut is from underside if a wrench is used or topside if a ratchet is used.

c) Move front of roller in or out and re-tighten nut. **NOTE:** With nut tightened, front roller strap is still free to move inside bracket.

d) Re-apply draper tension.



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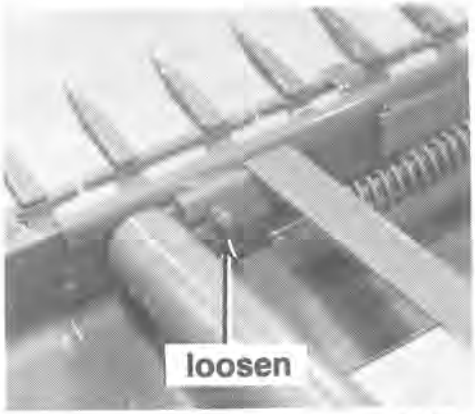


236

DRAPERS (continued)

DRAPER TRACKING (continued)

2. After drive rollers are adjusted and drapers are running parallel, adjust idler roller springs so that draper just touches the cutter bar at cutting height.

3. Re-adjust drive roller if draper no longer runs parallel to cutter bar.

DRAPER TENSION

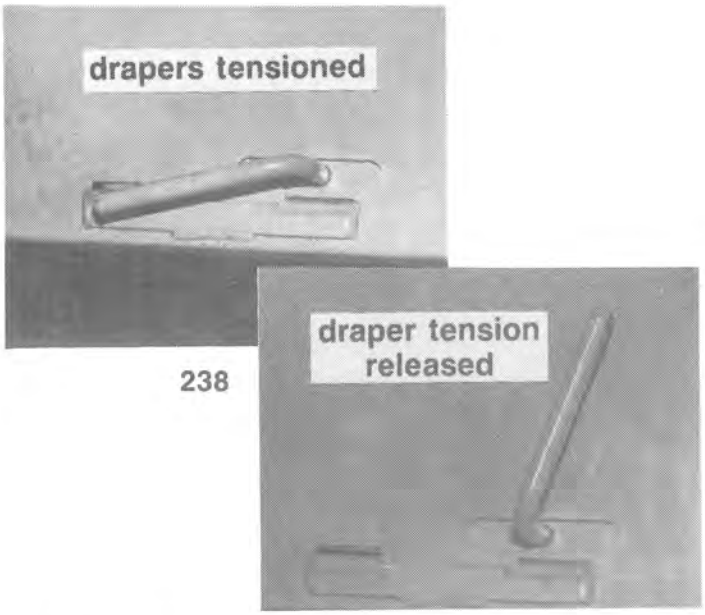
Adjust tension so drapers are just tight enough to prevent slipping as follows:

1. Release tension on draper by flipping the handle at the idler roller as shown in Figure **238**.

CAUTION: Spring loaded over-center action causes handle to kick back when tension is released.

2. With tension released, reach under draper at the idler roller and:
a) To increase tension, slide U-shaped channel towards the larger spring. See Figure **240**.
b) To decrease tension, squeeze the washer and one side of the U-shaped channel together, releasing the washer grip on the rod. Slide the channel away from the larger spring. See Figure **242**. Adjustment must be made at front and rear of idler roller.

3. Re-apply tension by turning tension release handles towards center of draper.



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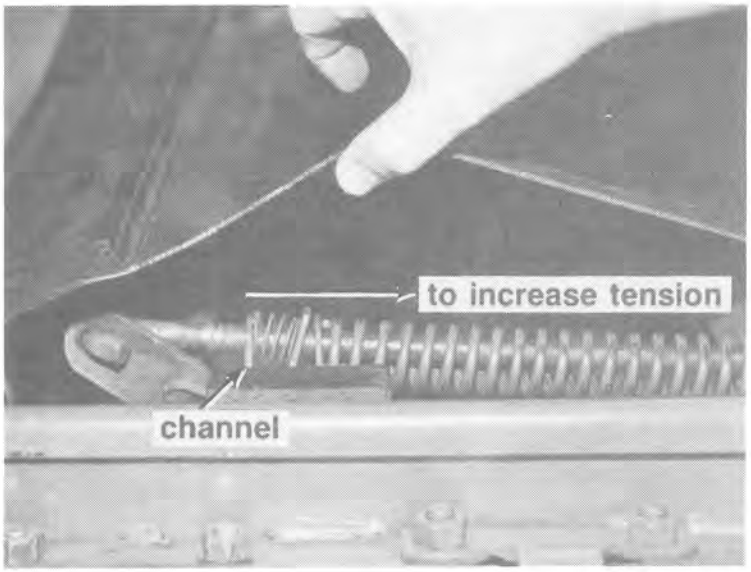

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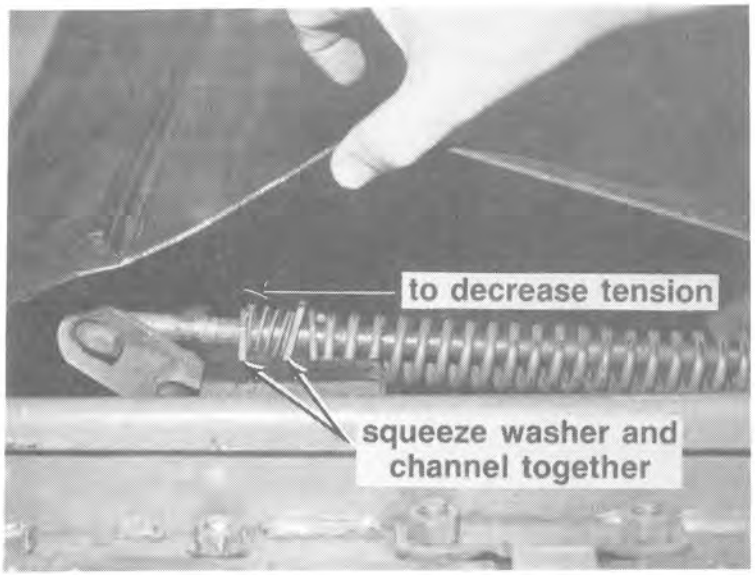
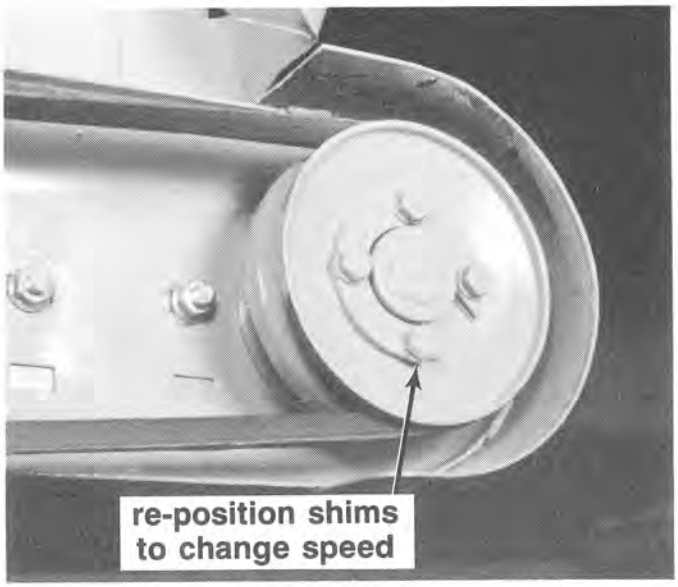


242

DRAPERS (continued)

DRAPER SPEED ADJUSTMENT
Figure **244**.
To increase draper speed:
1. Remove nuts securing pulley halves onto draper drive roller.
2. Add shims between pulley halves as required. One shim will change speed approximately 19 feet per minute (6 m/minute). Shims not used between pulley halves are stored outside of pulley.
3. Replace nuts removed in step 1.

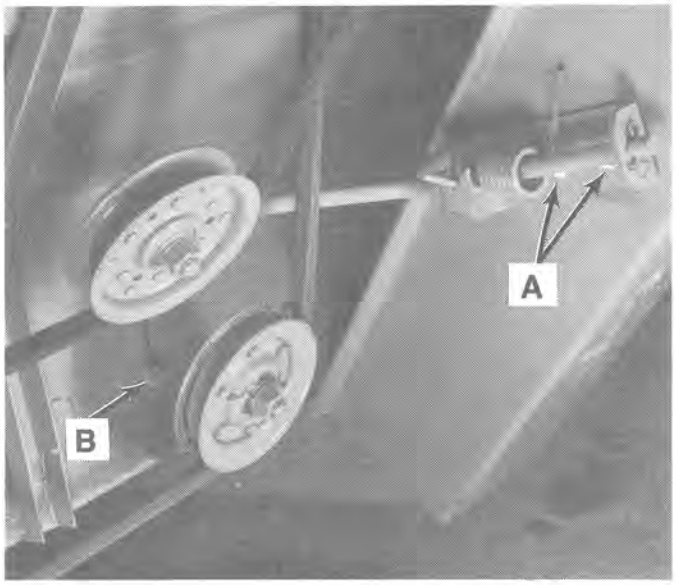


244

To decrease draper speed:
Repeat steps 1-3 above, but remove shims from between pulley halves.

For extra-slow draper speed:
If all shims have been removed from between drive roller pulley halves, the shims can be added between the pulley halves on the drive shaft to further decrease speed. However for maximum life of draper drive belt, draper drive shaft pulley should normally be operated with no shims between the pulley halves. When increasing speed, always remove shims from shaft pulley first.

DRAPER DRIVE BELTS Figure **245**.
The draper drive belt idlers are spring loaded; therefore no adjustment is normally required. Check alignment of sheaves and ensure idler arm is free to pivot.



245

To align idlers:
1. Loosen bolts "A".
2. Turn bracket to best line up idler.
3. Tighten bolts "A".

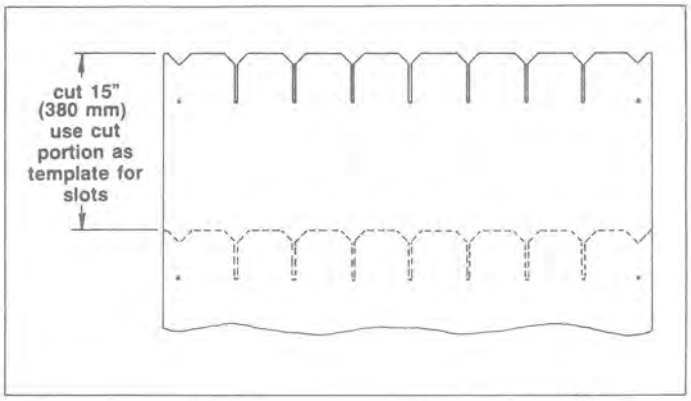
To prevent belt rubbing, or idlers contacting:
1. Loosen bolt B.
2. Slide mount up or down for best clearance and alignment.
3. Tighten bolt B.

DRAPERS (continued)

DELIVERY OPENING ADJUSTMENT - SINGLE UNIT & FRONT DUPLEX UNIT ONLY.
The swather is factory assembled to provide a mid-range delivery opening.

To widen opening:
1. Unfasten connector slat of R/H draper.
2. Shorten R/H draper by 15 in. (380mm) as shown in Fig. **246.**
3. Remove R/H draper drive belt from drive roller pulley. Remove shaft coupler, remove belt from shaft pulley and replace with shorter belt provided. Re-install shaft coupler. See Fig. **247**.
4. Remove R/H draper track extension. Remove drive roller support from extension and store extension on R/H leg. Re-install drive roller support as shown in Fig. **248** .
5. Adjust drive roller to **square** with cutter bar. See Draper Tracking Adjustment.
6. Re-install draper and belt.

The opening can be narrowed with the optional Narrow Opening Package as follows:
1. Unfasten connector slat of L/H draper.
2. Add 19" (490 mm) long draper extension (from Option Package) to the draper.
3. Remove L/H draper drive belt from drive roller pulley. Remove shaft coupler, remove belt from shaft pulley and replace with the longer belt provided. Re-install shaft coupler. See Figure **247**.
4. Remove L/H drive roller support. Attach L/H track extensions (from Option Package) and install extensions and support as shown in Figure **249**.
5. Adjust drive roller to square with cutter bar. See Draper Adjustments - Draper Tracking.
6. Re-install draper and belt.



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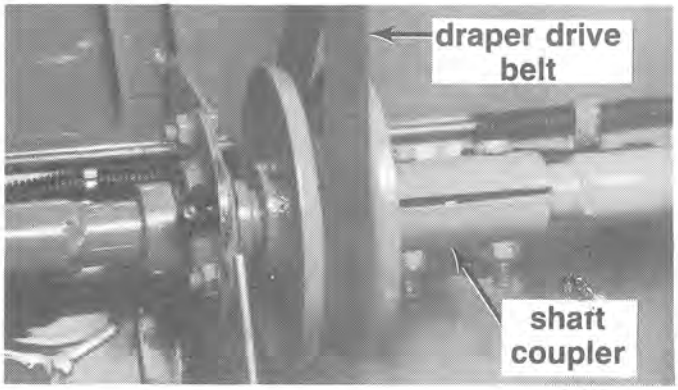

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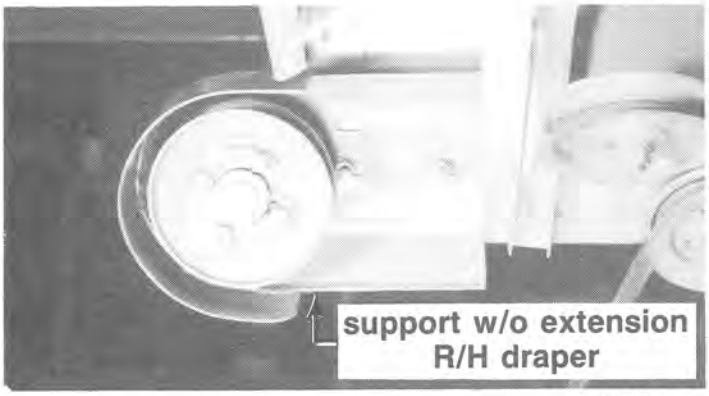

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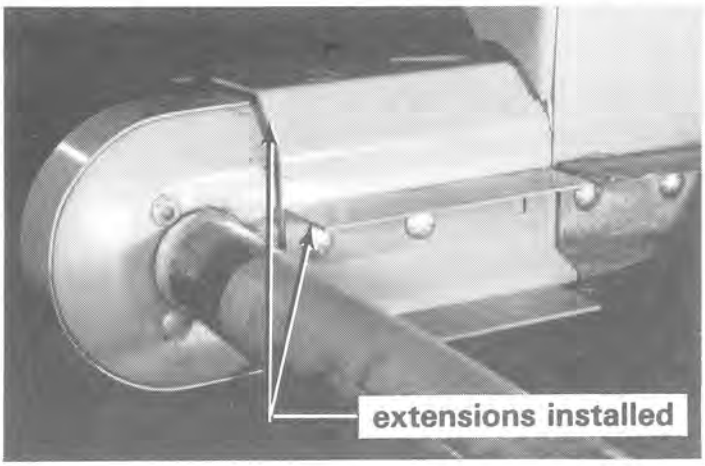
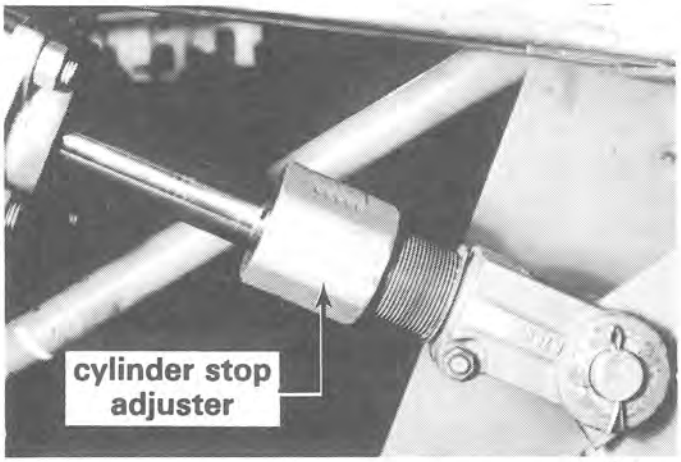


249

HEADER LIFT CYLINDER STOP ADJUSTMENT Figure **251**

Header lift cylinder stop (both units if duplex) can be adjusted by turning hex adjuster on cylinder rod.

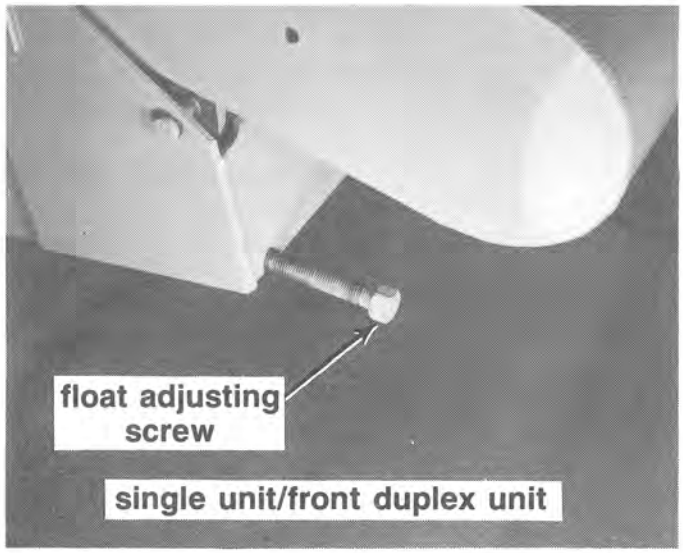


251

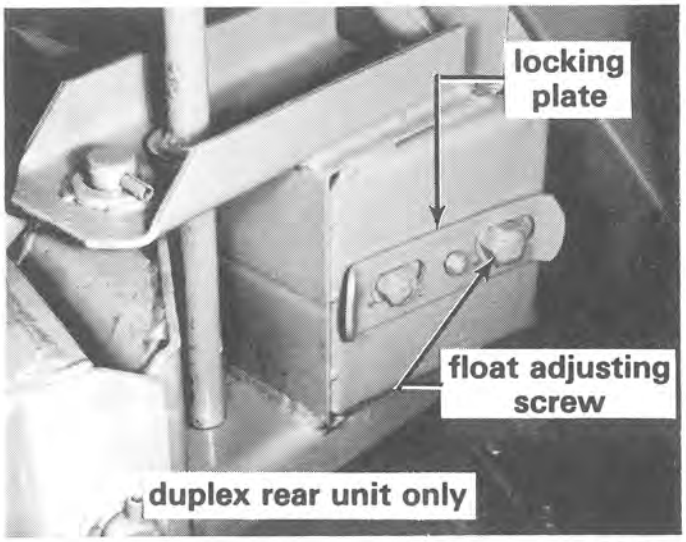
HEADER FLOAT ADJUSTMENT
Figures **252 & 253**
Header float should be adjusted so header can be lifted with 100 to 150 lbs. force (450 to 650 N) at the R/H divider rod.
To adjust float:

1. Support cutter bar on blocks about 6 inches (150mm) off the ground.
2. Loosen locking plate and rotate 90° to allow access to float adjusting screw. (Duplex-rear unit only).
3. Turn Float adjusting screw clockwise to increase header float.
4. Align hex head on adjusting screw with slot in locking plate and retighten plate. (Duplex rear unit only).

NOTE: Keep float adjusting screw(s) well greased.



252



253

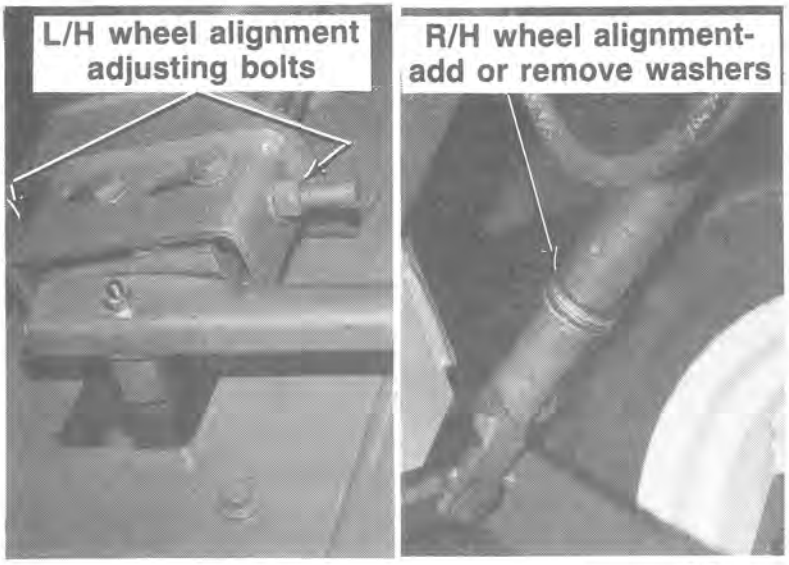
WHEEL ALIGNMENT Figure 254

Soil conditions may make it necessary to change the alignment of the L/H wheel (both units if duplex) to make the machine pull at approximately 90 degrees to the line of travel. Adjust L/H wheel alignment with the bolts on the lock assembly as shown.

If machine runs ahead, steer L/H wheel(s) more to the left. If machine trails back, steer L/H wheel(s) more to the right.

NOTE: It is not normally necessary to adjust the alignment of the R/H wheel (both units if duplex). However, if operating in steep hills it is important to keep the L/H and R/H wheels parallel to prevent machines running forward.

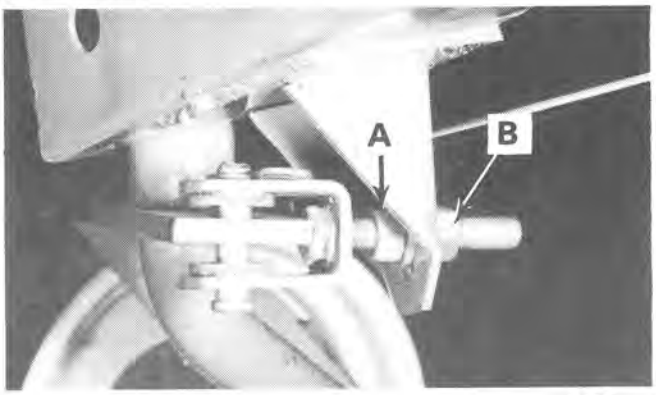
If it becomes necessary to adjust R/H wheel alignment, do so by adding or removing washers from the R/H wheel cylinder assembly as shown. After aligning the R/H wheel it may be necessary to level the cutter-bar by repositioning the R/H wheel spindle on the caster flange. The R/H end of the cutter bar should be 1-3 inches (25-75 mm) higher than the L/H end.



254

TRAIL WIDTH ADJUSTMENT
Figures **255** and **256**

Adjust R/H wheel (both units if duplex) to achieve minimum transport width "x" (Fig. **255**). To adjust; loosen either nut "A" or "B" (Fig. **256**), then adjust with the other. When properly adjusted, re-tighten the nut loosened to lock the position.



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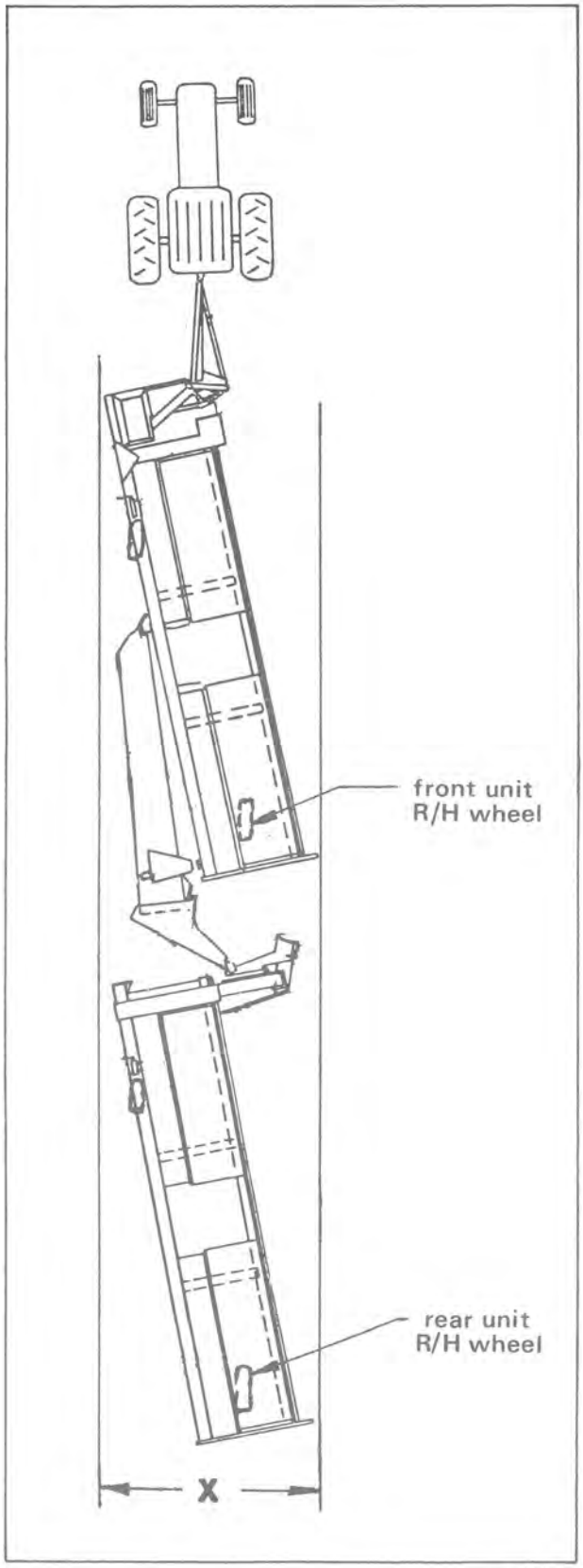


255

DUPLEX HITCH

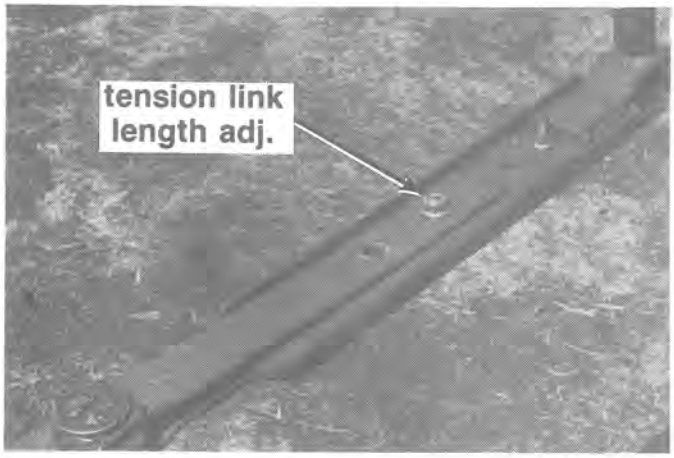
REAR MACHINE OVERLAP ADJUSTMENT

The rear machine cutter bar should overlap front machine cutter bar by approximately 16 inches (400 mm). This overlap minimizes the amount of material missed on corners and hills.

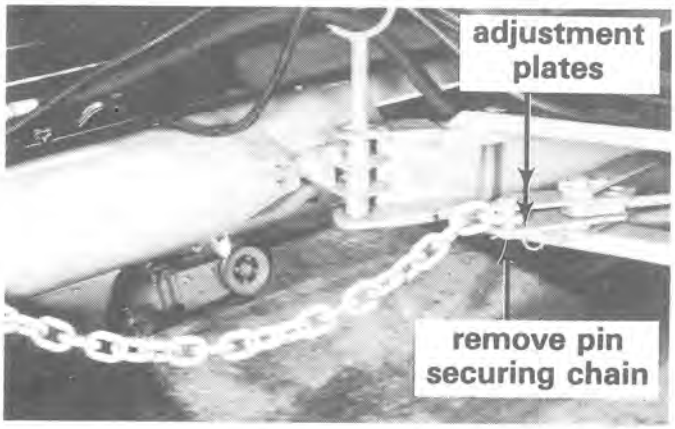
In most conditions, the chain between the duplex hitch and front machine main tube should be in the shortest position. Chain length is varied by re-positioning the pin securing chain to adjustment plates shown in Figure **260**. Plates can be rotated to provide further adjustment.

NOTE: It may be necessary to back machine up to slacken chain sufficiently.

The tension link between duplex hitch and rear machine should be adjusted in length to provide the 16 inch (400 mm) overlap. See Figure **258**.

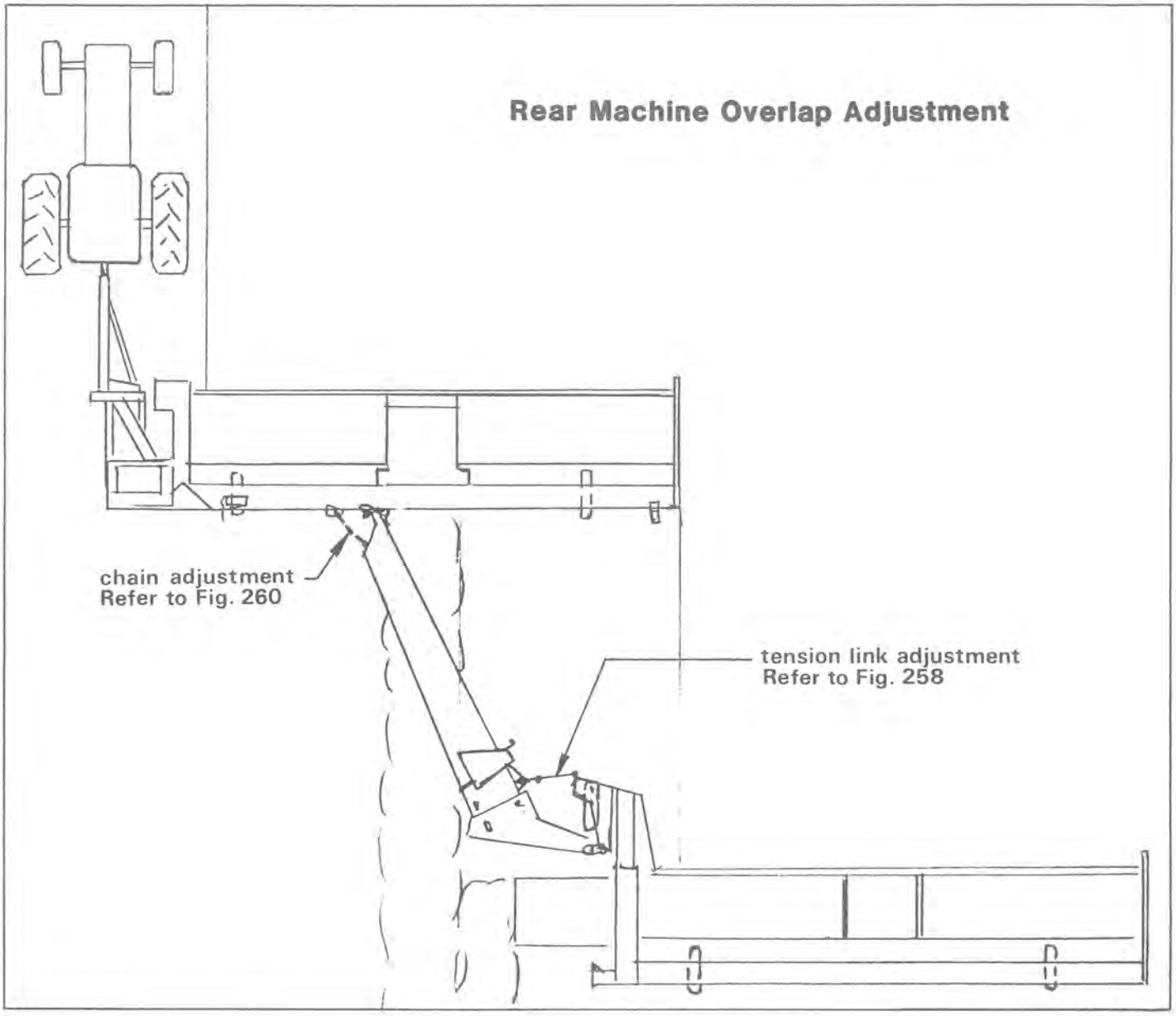


258



260

DUPLEX HITCH (continued)



263

DUPLEX HITCH (continued)

HITCH SPRING ADJUSTMENT

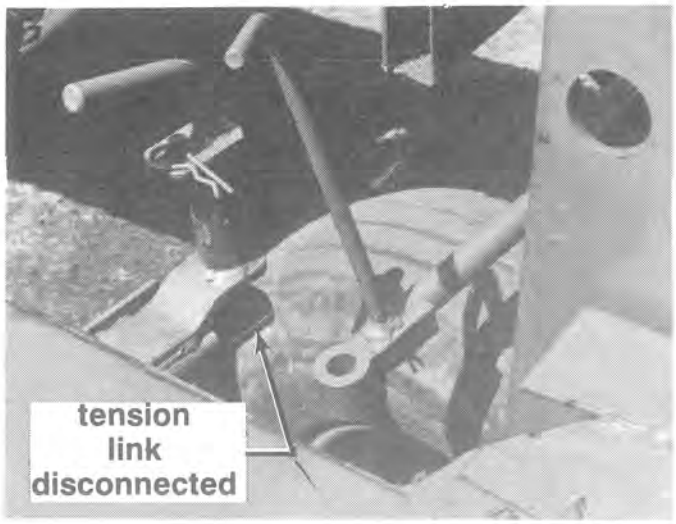
NOTE: The hitch spring and the front wheel steering spring (see adjustment below) work together to prevent the rear machine from rolling forward when going down hills. The springs should be adjusted to the minimum pressure required to give satisfactory operation to minimize wear on pins and other parts.

To adjust hitch spring:

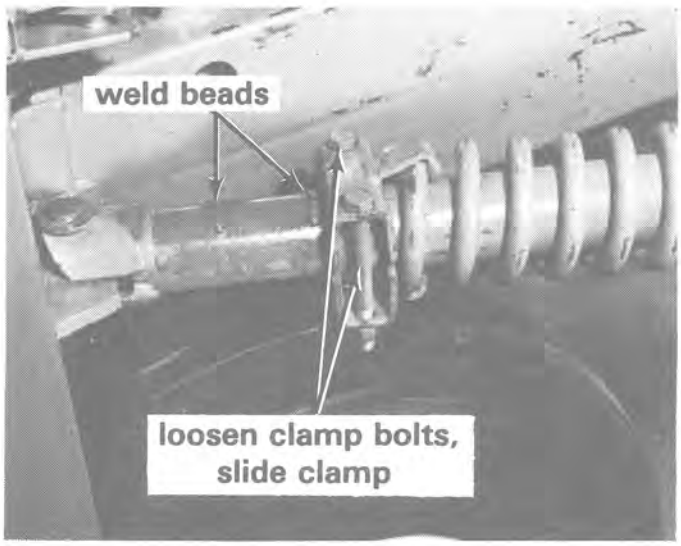
1. Disconnect tension link pin from rear machine. See Figure **264** .
2. Raise and lock conveyor in storage position.
3. Drive tractor forward until spring is free.
4. Loosen clamp bolts shown in Figure **266** to allow clamp to be re-positioned.
5. Tighten clamp bolts. Be sure clamp is not riding on the weld bead. These weld beads ensure clamp will not slip.

CAUTION : Do not move spring clamp beyond the range of weld beads.

6. Back machine up so tension link pin (Figure **264**) can be reconnected.



264

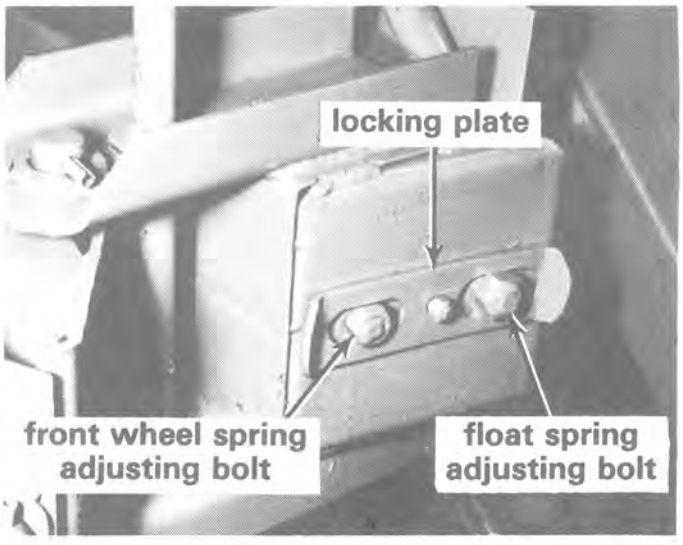


266

FRONT WHEEL SPRING ADJUSTMENT

See **NOTE** above. Adjust front wheel spring pressure so wheel will be steered by cam but does not skid excessively in corners.

To adjust: Loosen locking plate and rotate 90° to allow access to front wheel spring adjusting bolt. Turn bolt shown in Figure **268** clockwise to increase spring pressure. Align hex head on adjusting bolt with slot in locking plate and retighten plate.



268

DUPLEX HITCH (continued)

DANGER: The tension in the front wheel steering spring, duplex hitch spring and header float spring, must be released, and rear cutter bar supported, before the pins securing the front wheel support can be removed.

If the front wheel support must be disassembled, proceed as follows:

1. Disconnect tension link. See Figure **264**. Drive forward to release hitch spring tension.

2. Lower rear header onto supports at left and right ends.

3. Loosen locking plate and rotate 90° to allow access to adjusting bolts, Figure **268**. Turn bolts counter-clockwise until the float spring and front wheel steering spring are completely released.

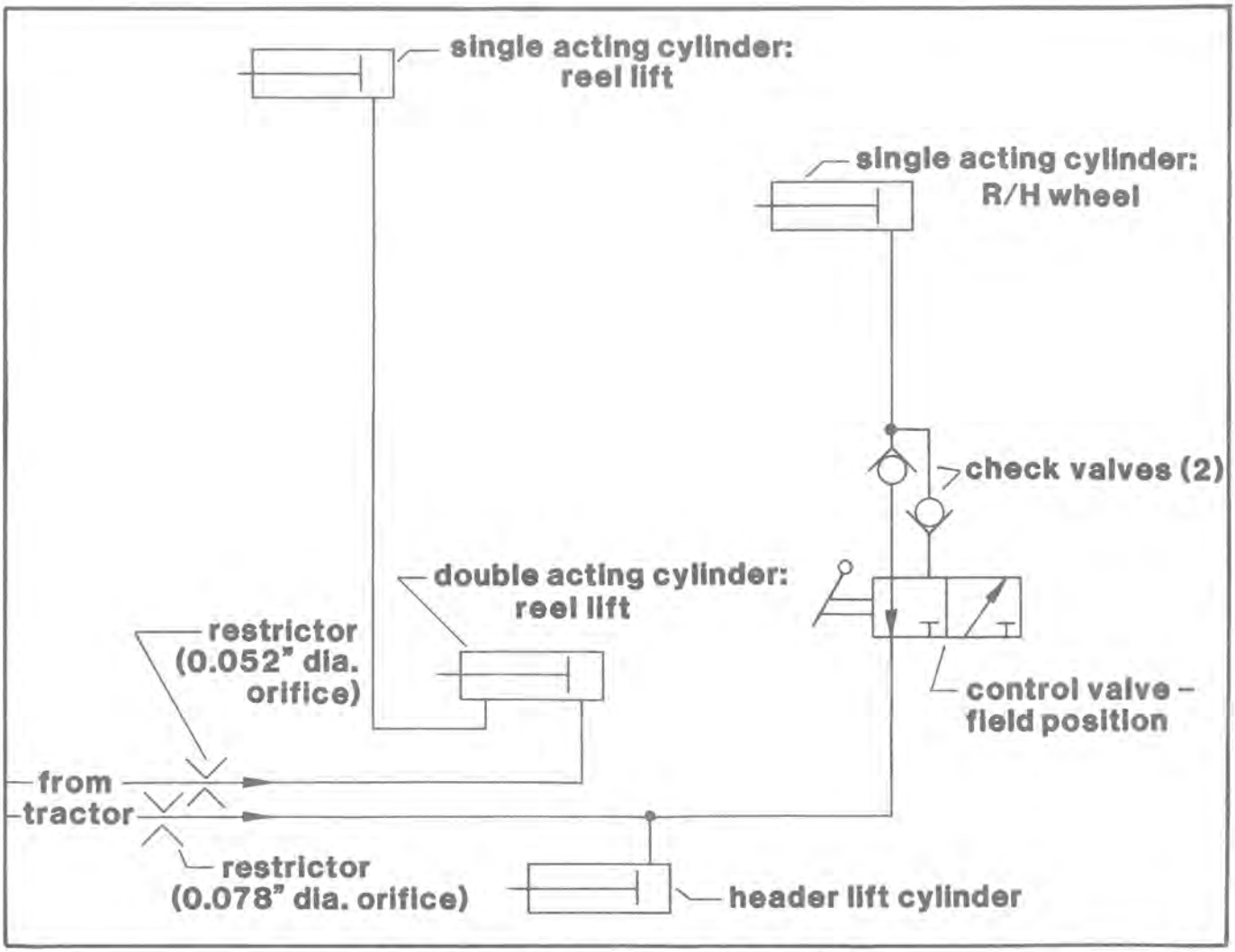
4. Proceed with removal of pins securing front wheel support.

HYDRAULIC SYSTEM

Refer to Figures **270** & **272** for hydraulic system schematics for the single and duplex units respectively.

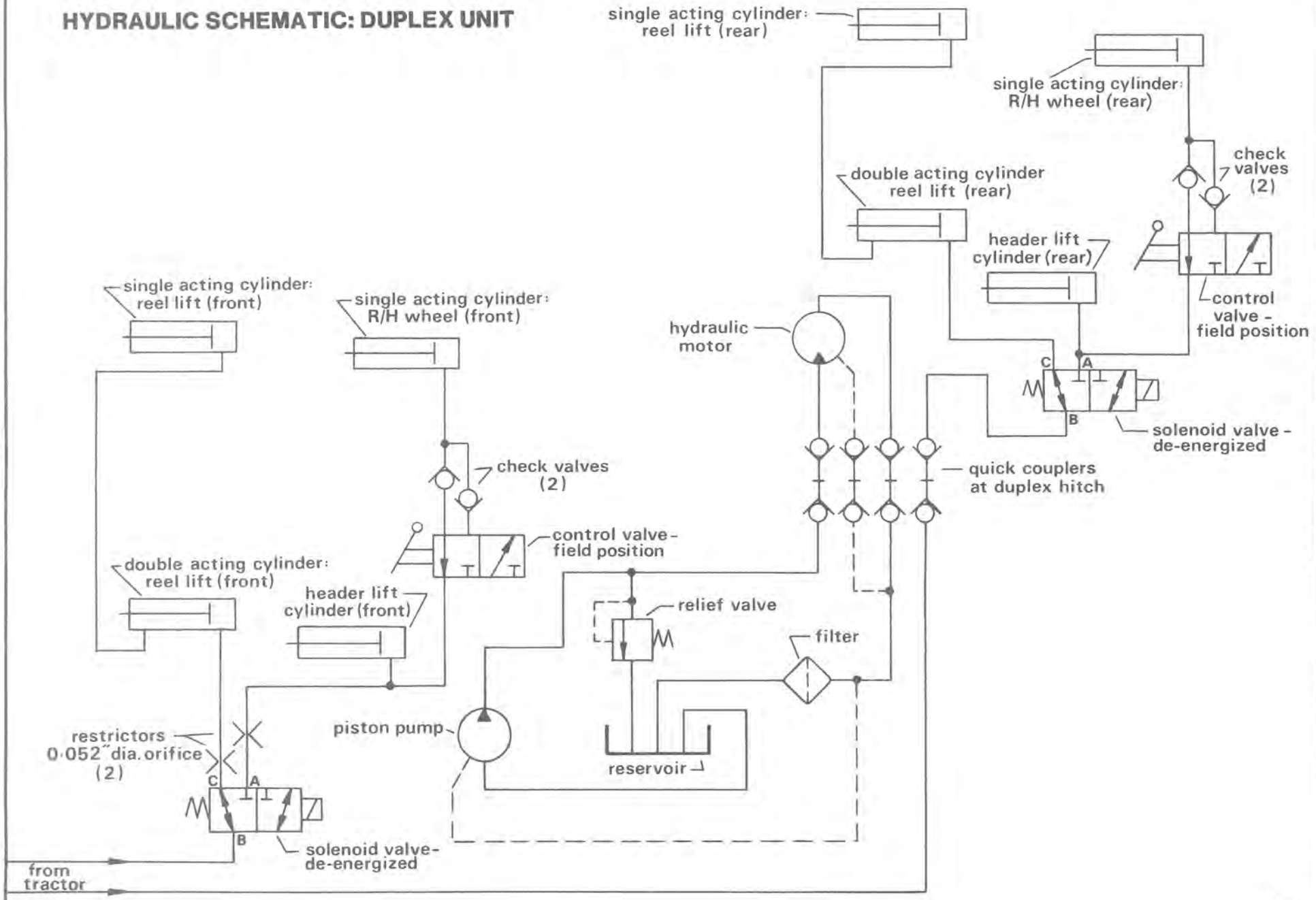
DUPLEX ONLY -
Keep oil level up to strainer level in reservoir at all times. Use SAE 10W30 Class SF or CC engine oil.
Hydraulic oil filter should be replaced after the FIRST 5 HOURS operation with the spare filter provided, and once per season thereafter.

IMPORTANT: Dirt, dust, water and foreign material are major causes of trouble developing in the hydraulic system. DO NOT attempt to field service the transmission. Precision fits require WHITE ROOM CARE during overhaul.



HYDRAULIC SCHEMATIC: SINGLE UNIT 270

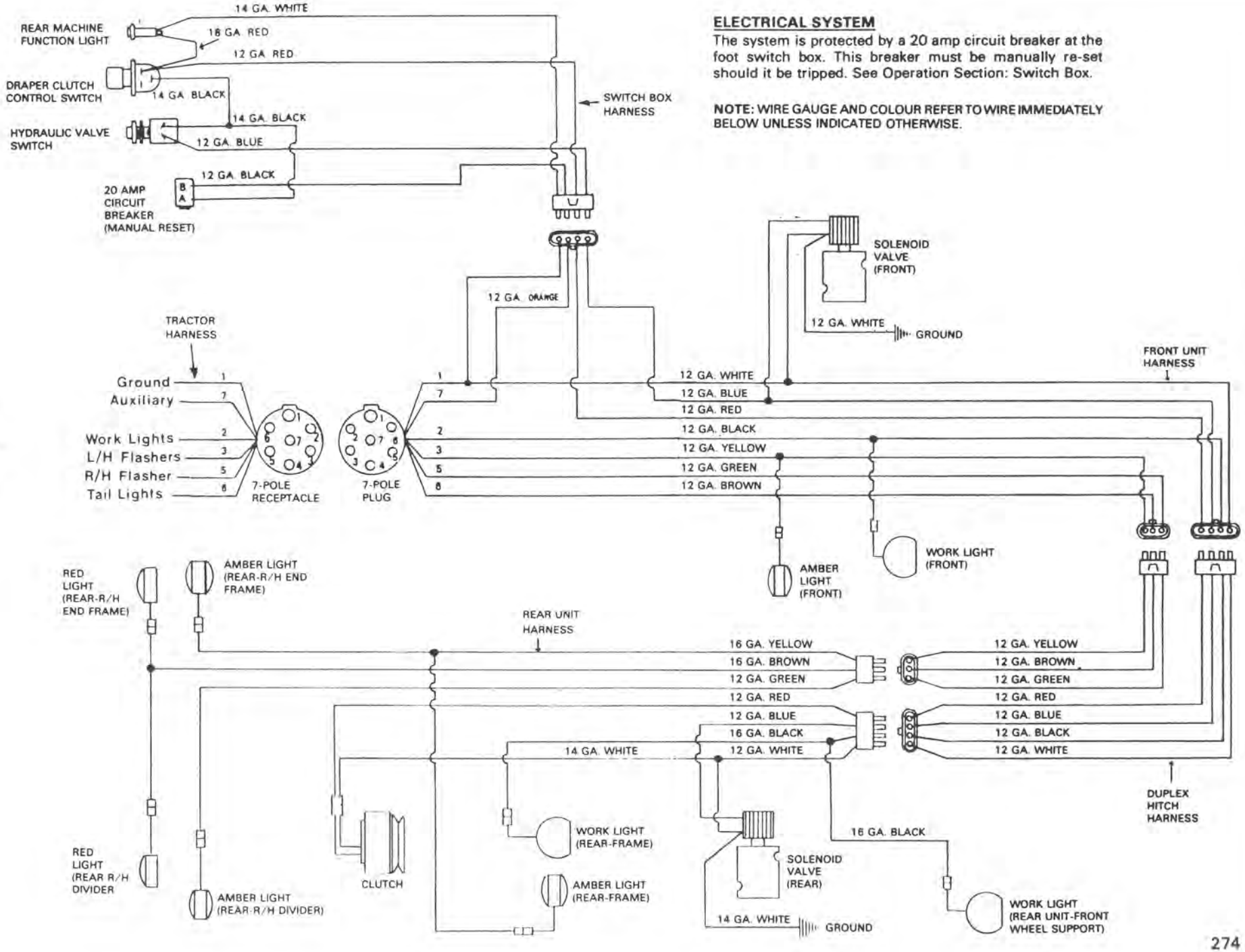
HYDRAULIC SCHEMATIC: DUPLEX UNIT



ELECTRICAL SYSTEM

The system is protected by a 20 amp circuit breaker at the foot switch box. This breaker must be manually re-set should it be tripped. See Operation Section: Switch Box.

NOTE: WIRE GAUGE AND COLOUR REFER TO WIRE IMMEDIATELY BELOW UNLESS INDICATED OTHERWISE.



LUBRICATION & PERIODIC MAINTENANCE

CAUTION: Never attempt to lubricate any part of swather with the tractor engine running.

For grease fittings, lubricate at the specified intervals (in hours of operation) with pressure gun using SAE MULTI-PURPOSE GREASE as follows:

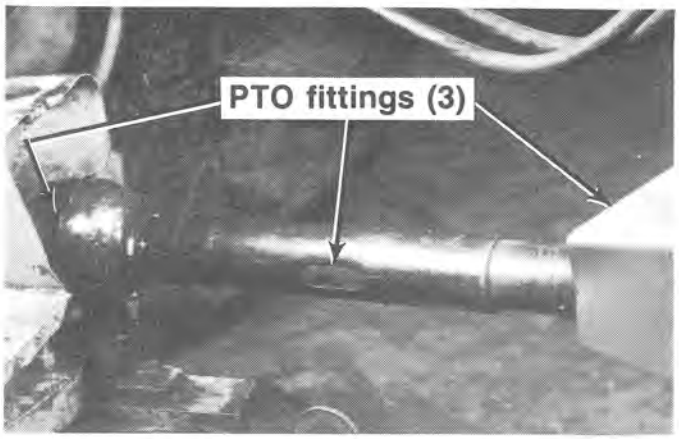
Wipe grease fitting with a clean cloth before lubricating to avoid injecting dirt and grit. Leave excess lubricant on fittings after lubricating to shield fitting from dirt. This excess to be wiped off at next lubrication.
If grease fitting will not take lubricant, clean fitting and lubricant passageway thoroughly. Replace with new fitting if necessary.

10 HOURS

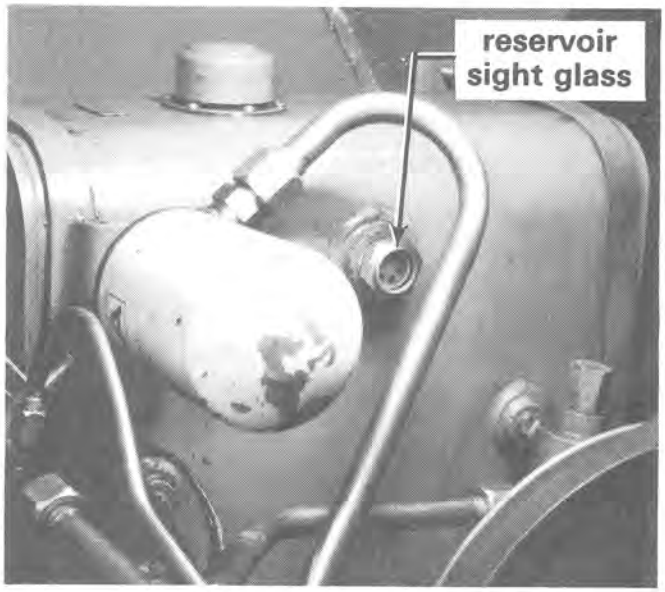
1. PTO SHAFT - 3 fittings
   One fitting on U-joint at each end and one on telescoping shaft (expand shaft to line up slots and expose fitting). Figure **280**.

2. HYDRAULIC OIL RESERVOIR (DUPLEX ONLY)
   Check oil level in reservoir sight glass. If necessary top up with clean SAE 10W30 Class SF or CC engine oil until oil is visible in strainer.
   See Figure **282**.

3. KNIFE ASSEMBLY - Add a few drops of light weight oil along entire length of knife. DO NOT oil knife if operating in sandy conditions.



280



282

LUBRICATION & PERIODIC MAINTENANCE
(continued)

50 HOURS

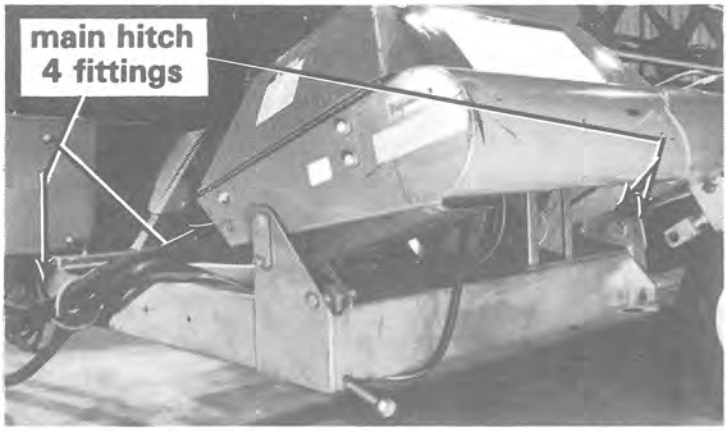
1. PERFORM ALL 10 HOUR MAINTENANCE.

2. MAIN HITCH PIVOTS - 4 Fittings. Figure **284** .

3. DUPLEX HITCH PIVOTS (DUPLEX ONLY)
   4 Fittings Figure **286 & 287**

4. REAR MACHINE FRONT WHEEL SUPPORT PIVOTS
   (DUPLEX ONLY)
   8 Fittings Figure **288** .

5. CLUTCH SHAFT BEARING
   (DUPLEX ONLY)
   1 Fitting Figure **289**.



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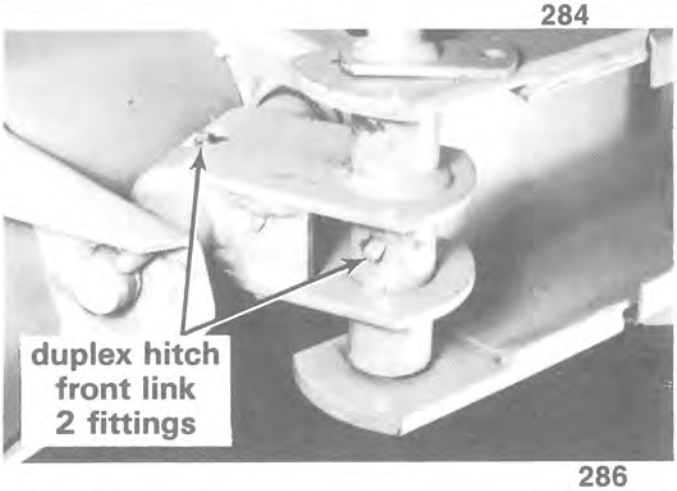

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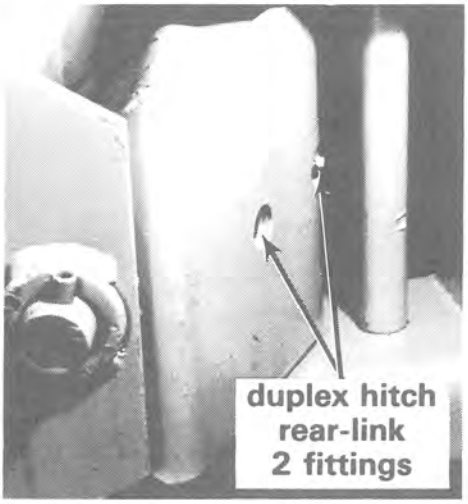

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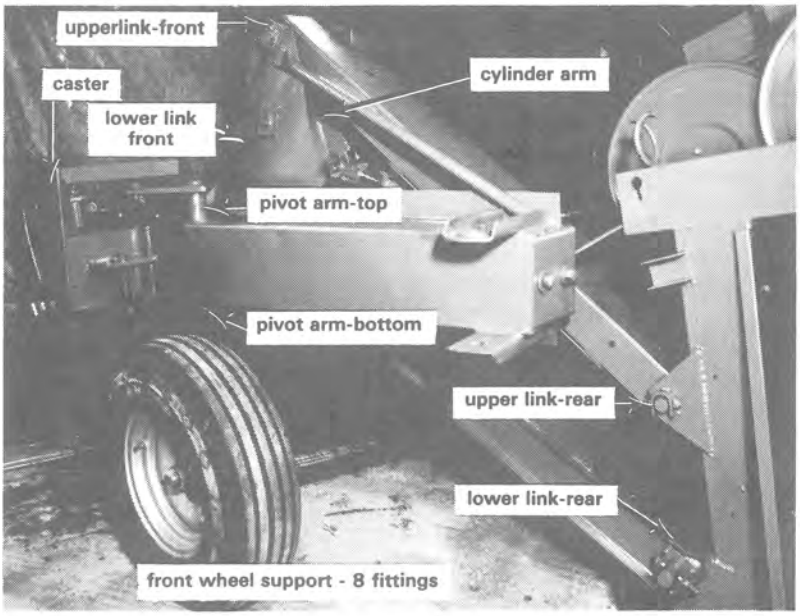


288

289

LUBRICATION & PERIODIC MAINTENANCE (continued)

END OF SEASON

1. PERFORM ALL 10 & 50 HOUR MAINTENANCE.

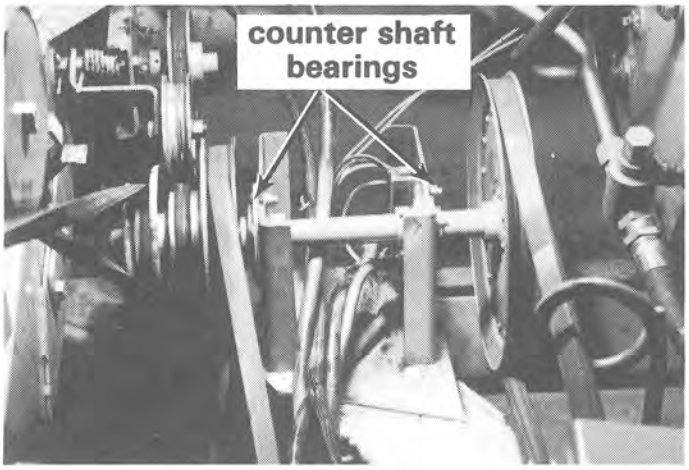
2. DRIVE SHAFT AND COUNTER SHAFT BEARINGS (single unit or front duplex). 4 fittings Figures **290** and **291**

3. TELESCOPING HITCH LOCK PIN - Use lightweight oil to lubricate pin to prevent rusting. Figure **292**.

4. KNIVE DRIVE PULLEY (SINGLE UNIT OR FRONT DUPLEX) 1 fitting Figure **294**.

5. PITMAN BEARINGS 2 fittings (per unit) Figure **294**.

290



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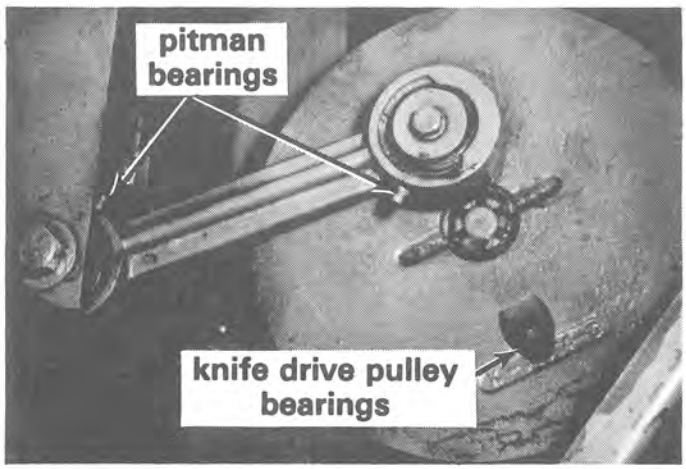

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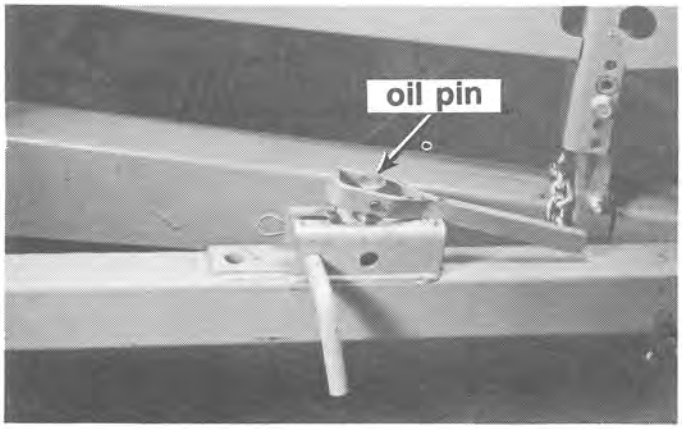


292

LUBRICATION & PERIODIC MAINTENANCE
(continued)

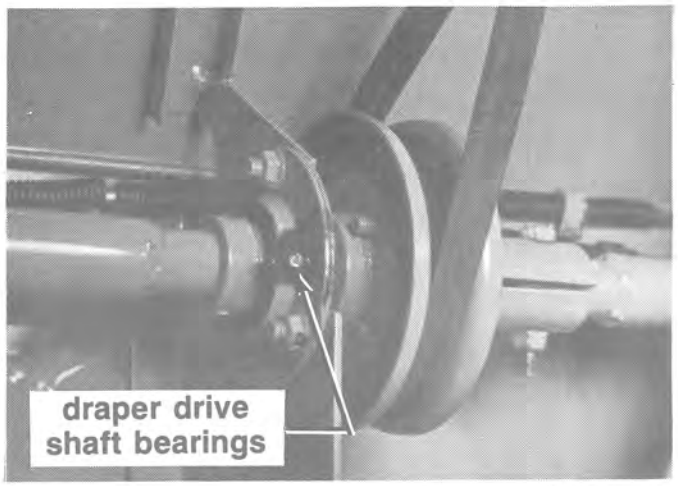
END OF SEASON (continued)

6. DRAPER DRIVE SHAFT BEARINGS
   4 fittings - 30 ft. header
   3 fittings (per unit)-
   21 and 25 ft. headers.
   Figure **296**.

7. DRAPER DRIVE ROLLER BEARINGS
   2 fittings - single unit or
   front duplex.
   3 fittings - rear duplex
   1 fitting - conveyor.
   Fig. **298**.

8. REEL END BEARINGS
   2 fittings (per unit)
   Figure **300**.

9. REEL DRIVE HUB
   1 fitting (per unit)
   Figure **302**.



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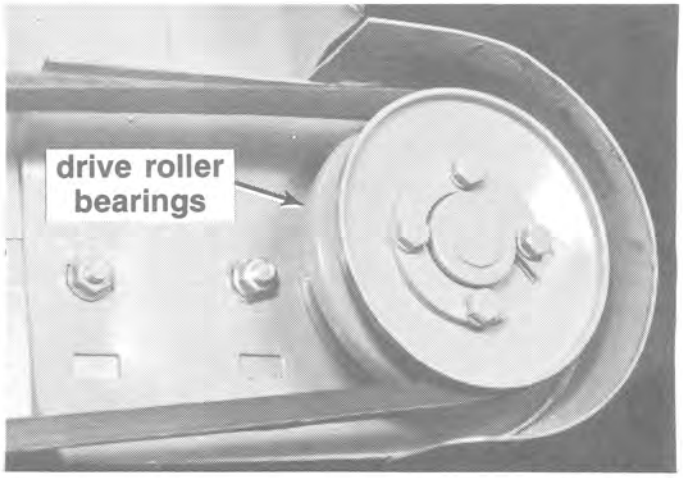

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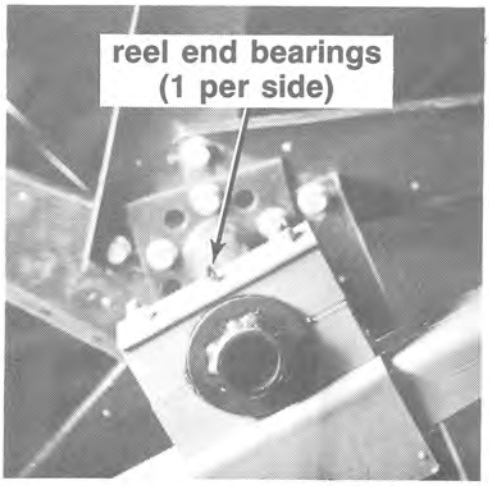


300

302

LUBRICATION & PERIODIC MAINTENANCE
(continued)

END OF SEASON (continued)

10. L/H & R/H WHEEL CASTERS
    2 fittings (per unit)
    Figure **304**.

11. L/H WHEEL LOCK ASSEMBLY
    (1 per unit)
    Lubricate lock assembly and handle with lightweight oil.
    Figure **306**.

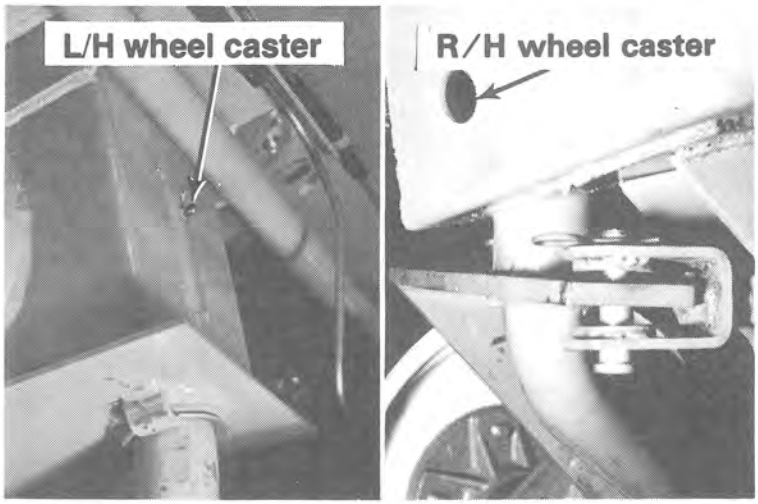
12. WHEEL HUBS
    Grease the wheel hubs and re-pack the bearings with wheel bearing grease.

    NOTE: Remainder of End of Season Checklist for DUPLEX ONLY.

13. KNIFE DRIVE SHAFT BEARINGS-REAR UNIT - 2 fittings
    Figure **308**.

14. DUPLEX HITCH PINS - Lubricate all pins at duplex hitch links with lightweight oil to prevent rusting.

15. HYDRAULIC OIL FILTER - Change filter element at reservoir.



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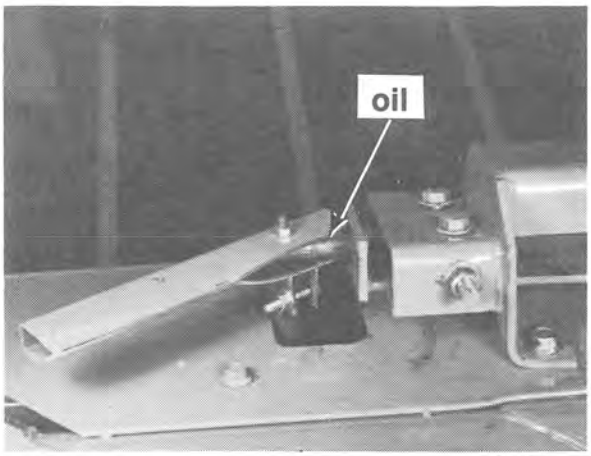

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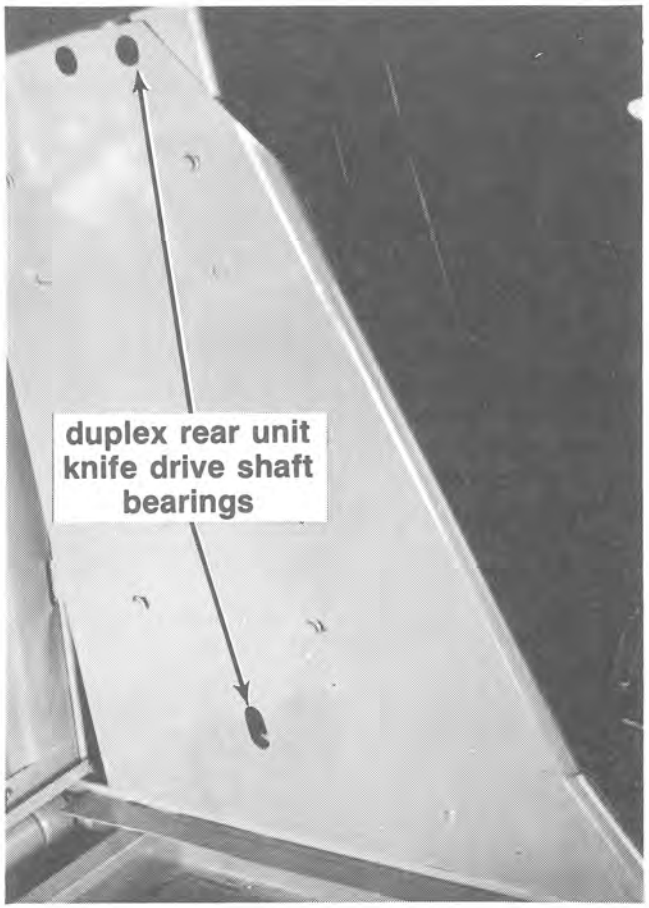


308

STANDARD TORQUE DATA FOR INCH NUTS AND BOLTS — FOOT POUNDS

Recommended torque for all Standard Unplated Nuts and Bolts, provided:

A. Surface finish is oxide coated, oil quenched or bright.

B. All thread surfaces are clean and lubricated with SAE-30 engine oil or equivalent (See NOTE.)

C. Joints are rigid, that is, no gaskets or compressible materials are used.

D. When reusing nuts or bolts use minimum torque values.

NOTE: Multiply the standard torque by:
.65 when finished jam nuts are used.
.70 when Molykote, white lead or similar mixtures are used as lubricants.
.75 when phosphate coated and oiled bolts or nuts are used.
.85 when cadmium or zinc dichromate bolts or nuts are used.
.90 when hardened surfaces are used under the nut or bolt head (this applies to standard unplated hardware only).

1 FOOT POUND = 1.355 NEWTON METERS

Bolt or Stud Diameter	Type 1 Studs Only		Type 1 Bolts 6" length or less		Type 1 Bolts longer than 6"		Type 5 (all lengths)		Type 8 (all lengths)			
									Only when used† in cast (gray) iron		All other applications	
Inches	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	5	6	6	7	4	4	9	10	11	13	13	14
5/16	12	13	11	13	7	8	18	20	22	25	25	28
3/8	21	24	21	24	13	14	33	37	41	46	45	50
7/16	35	38	35	38	20	23	53	60	65	74	75	85
1/2	52	58	52	59	31	35	80	90	100	112	115	130
9/16	70	80	75	85	45	51	115	130	145	160	165	185
5/8	98	110	104	117	62	70	160	180	200	225	225	255
3/4	174	195	185	205	110	125	285	320	355	400	400	450
7/8	280	315	180	200	180	200	460	575	570	640	645	725
1	420	470	265	300	265	300	685	720	855	960	970	1090
1-1/8	595	670	380	425	380	425	850	950	1210	1360	1375	1545
1-1/4	840	945	535	600	535	600	1200	1350	1705	1920	1940	2180
1-3/8	1100	1240	700	785	700	785	1570	1760	2235	2515	2540	2860
1-1/2	1470	1640	925	1045	925	1045	2080	2340	2970	3340	3375	3795

†When bolt penetration is 1-1/2 times the diameter of the bolt.

BOLT TYPE IDENTIFICATION CHART

TYPE	S.A.E. GRADE	DESCRIPTION	BOLT HEAD MARKING
1	EQUIVALENT 1 or 2	STANDARD MONOGRAM IN THE CENTER OF THE HEAD Low or Medium Carbon Steel Not Heat Treated	
5	5	3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	8	6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

STANDARD TORQUE DATA FOR INCH NUTS AND BOLTS – NEWTON METERS

Recommended torque for all Standard Unplated Nuts and Bolts, provided:

A. Surface finish is oxide coated, oil quenched or bright.

B. All thread surfaces are clean and lubricated with SAE-30 engine oil or equivalent (See NOTE.)

C. Joints are rigid, that is, no gaskets or compressible materials are used.

D. When reusing nuts or bolts use minimum torque values.

NOTE: Multiply the standard torque by:
.65 when finished jam nuts are used.
.70 when Molykote, white lead or similar mixtures are used as lubricants.
.75 when phosphate coated or oiled bolts or nuts are used.
.85 when cadmium or zinc dichromate bolts or nuts are used.
.90 when hardened surfaces are used under the nut or bolt head (this applies to standard unplated hardware only).

1 NEWTON METER = 0.738 FOOT POUND

Bolt or Stud Diameter	Type 1 Studs Only		Type 1 Bolts 6" length or less		Type 1 Bolts longer than 6"		Type 5 (all lengths)		Type 8 (all lengths)			
									Only when used† in cast (gray) iron		All other applications	
Inches	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	7	8	8	9	5	5	12	14	15	18	18	19
5/16	16	18	15	18	9	11	24	27	30	34	34	38
3/8	28	33	28	33	18	19	45	50	56	62	61	68
7/16	47	52	47	52	27	31	72	81	88	100	102	115
1/2	71	79	71	80	42	47	109	122	136	152	156	176
9/16	95	109	102	115	61	69	156	176	197	217	224	251
5/8	133	149	141	159	84	95	217	244	271	305	305	346
3/4	236	265	251	278	149	170	387	434	482	543	543	611
7/8	380	427	244	271	244	271	624	780	773	868	875	984
1	570	638	360	407	360	407	929	977	1160	1303	1316	1479
1-1/8	807	909	516	577	516	577	1153	1289	1642	1845	1866	2096
1-1/4	1140	1282	726	814	726	814	1628	1832	2313	2605	2632	2958
1-3/8	1492	1682	950	1065	950	1065	2130	2388	3033	3412	3446	3881
1-1/2	1995	2225	1255	1418	1255	1418	2822	3175	4030	4532	4579	5149

† When bolt penetration is 1-1/2 times the diameter of the bolt.

BOLT TYPE IDENTIFICATION CHART

TYPE	S.A.E. GRADE	DESCRIPTION	BOLT HEAD MARKING
1	Equivalent 1 or 2	STANDARD MONOGRAM IN THE CENTER OF THE HEAD Low or Medium Carbon Steel Not Heat Treated	
5	5	3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	8	6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

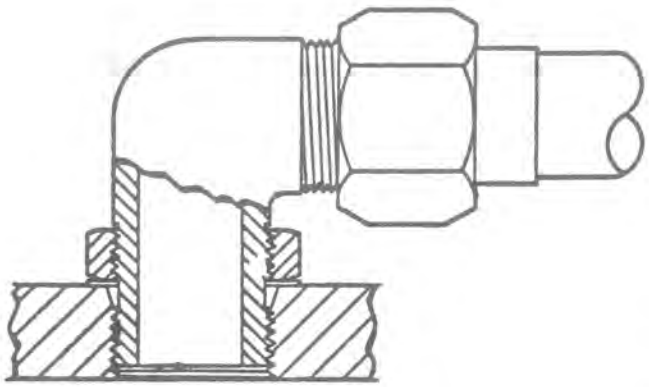
TUBE NUTS FOR 37° FLARED FITTINGS								O-RING BOSS PLUGS, ADJUSTABLE FITTING LOCK NUTS, SWIVEL JIC – 37° SEATS			
				TORQUE				TORQUE			
SIZE	TUBING O.D.		THREAD SIZE	FOOT POUNDS		NEWTON METERS		FOOT POUNDS		NEWTON METERS	
	Inches	mm		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-16	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

Above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations.

Swivel nuts either swaged or brazed.

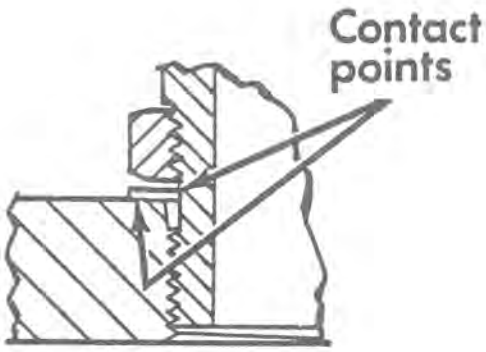
These torques are not recommended for tubes of 1/2" (12.7 mm) O.D. and larger with wall thickness of .035" (.889 mm) or less. The torque is specified for .035" (.889 mm) wall tubes on each application individually.

INSTRUCTIONS FOR THE ADJUSTABLE STANDARD THREAD TUBE FITTINGS



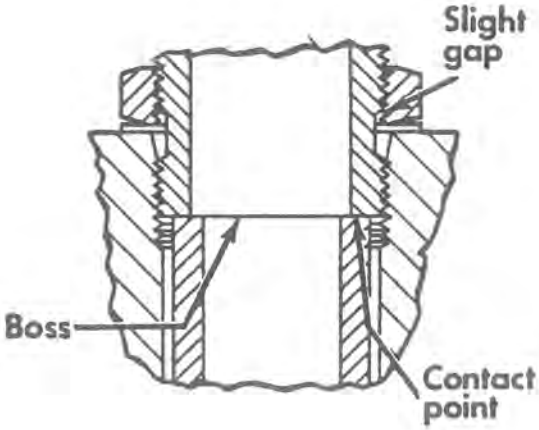
The following general instructions will apply to the adjustable straight threaded hydraulic O-ring boss tube fitting of the 37° style shown.

1. Lubricate the O-ring seal with a light coat of oil or petroleum jelly and install it into the groove of the fitting next to the metal back-up washer.



2. Install the fitting until the metal back-up washer contacts the face of the boss. This locates the maximum depth of the fitting.

NOTE: Do not overtighten and distort the metal back-up washer.



3. Position the fitting by turning it out (counterclockwise) to a maximum of one complete turn and tighten the locknut to the recommended torque.

NOTE: In special applications where this fitting is used, the fitting will contact the internal part of the straight threaded boss prior to the back-up washer.

ASSEMBLY OF SINGLE MACHINE AND DUPLEX- FRONT UNIT

NOTE: For assembly and parts description purposes, right (R/H) and left (L/H) are determined by standing behind the machine and facing forward (in the direction of travel).

1. SET MACHINE DOWN SECURELY ON SHIPPING STANDS ON LEVEL GROUND. See Figure **400**.

CAUTION: Attach loader/forklift to lug on main hitch as shown in Figure **401** to ensure machine cannot tip over should stands break. There should be approximately 20" (500 mm) vertical distance between the lift lug on the hitch and the loader/forklift attachment to allow lowering machine (Step 5).

400

2. DO NOT REMOVE WIRE AND STRAPPING SECURING THE REEL TO THE CUTTER BAR. Other wire-attached bundles, tires, etc. can be removed.

CAUTION: Wire and strapping are under pressure. Be careful when cutting. Remove wire and strapping from assembly area once removed from machine. Where possible, sort and lay out the parts in groups for easy identification.

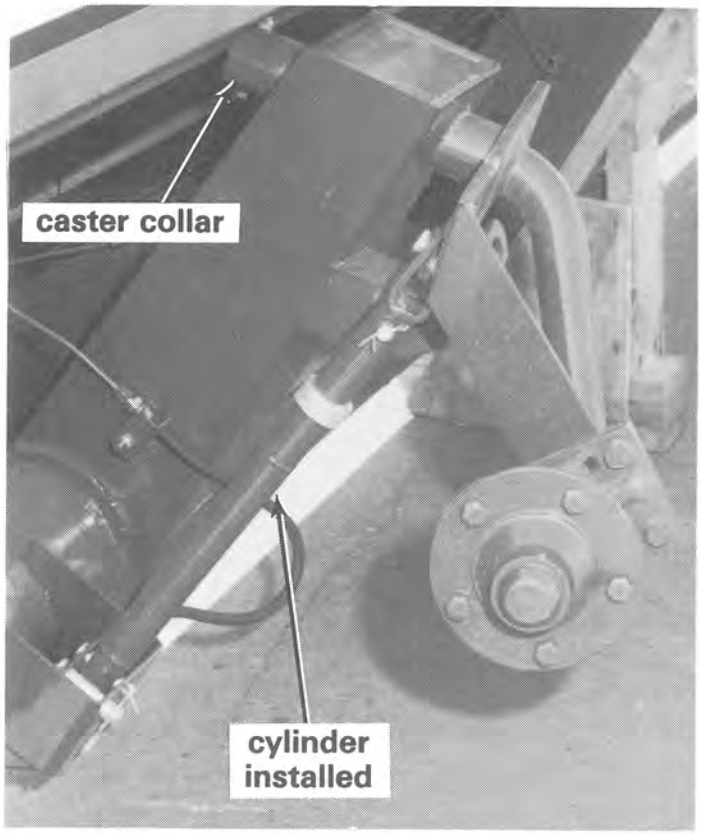
401

3. INSTALL RIGHT CASTER, HYDRAULIC CYLINDER AND WHEEL:

   a) Remove collar from caster, insert caster in frame and re-install collar, securing with bolt and locknut. See Fig. **402**.

   b) Install hydraulic cylinder using clevis pins and cotter pins shipped with cylinder. See Fig. **402**.

   c) Install wheel on hub with five 1/2 NF x 3/4 wheel bolts. See Fig. **404**. Torque bolts to 80-90 ft. lbs. (110-120 N.m).



402

404

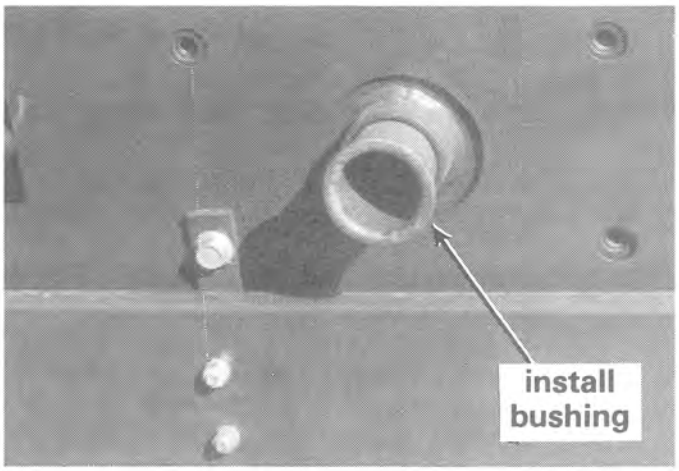
4. INSTALL LEFT WHEEL:

   a) Install bushing in top side of L/H caster socket. See Figure **406** .

   b) Install caster, secure with lock plate and 3/4 x 3 1/8 (80 mm) long pin. See Figure **408** .

   NOTE: Ensure caster spindle and lock plate point in opposite directions as shown in Fig. **409** .

CAUTION: Pin is case hardened. Use a large ball-pein hammer and wear protective glasses to protect from steel chips.



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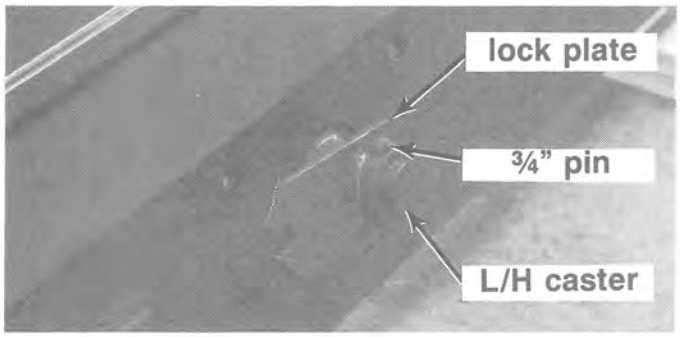

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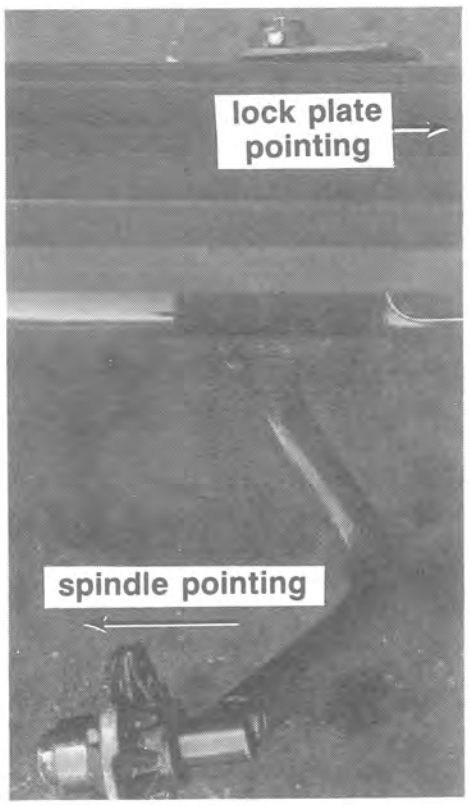
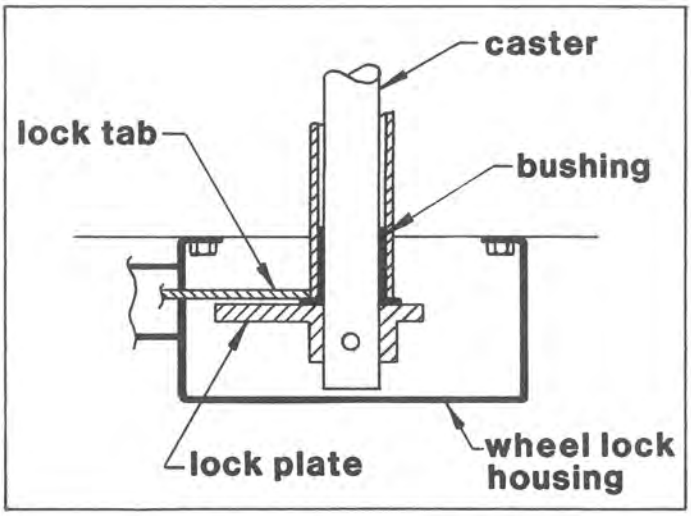


409

c) Apply grease to lock assembly thrust bearing and bolt on lock housing with four 1/2 NC x 1 flange bolts. See Figure **410**.
NOTE: Ensure wheel lock housing is properly positioned with respect to bushing and lock plate. See Figure **412**.

d) Insert end of hose assembly from selector valve into "D" shaped slot under handle. This hose operates the selector valve when the position of the handle is changed.

410



412

4. e) Rotate caster one full turn to ensure it pivots freely, then position lock handle so caster is latched. See Figure **414**.

   f) Install wheel using 1/2 NF x 3/4 wheel bolts. Torque to 80-90 ft.lbs. (100-120 N.m).

414

5. CLEAR THE AREA AND LOWER MACHINE TO GROUND AS FOLLOWS:

   a) Block wheels as shown in Figure **418**.

   b) With loader/forklift attached as described in Step 1 Figure **401**, lift loader to take up slack in chain. Back up SLOWLY to lower machine. Place 14" (350 mm) blocks under cutterbar and lower onto blocks.

CAUTION: STAND CLEAR WHEN LOWERING, AS MACHINE MAY SWING.

418

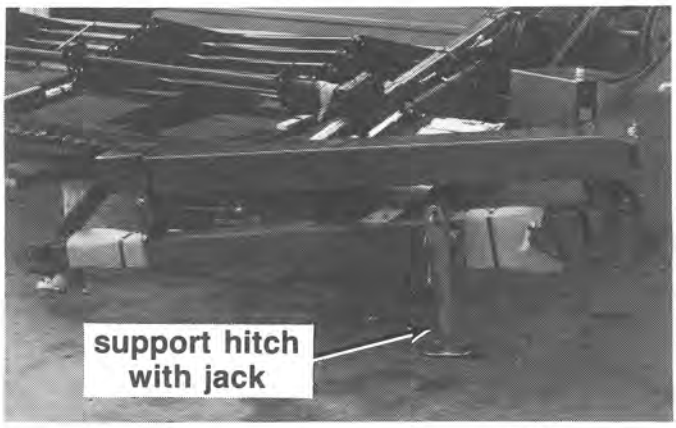
6. INSTALL FRONT HITCH IN WORKING POSITION:

   a) Cutter bar should be blocked 14 inches (350 mm) off ground at both ends.

   b) Adjust height of jack to support weight of hitch. See Figure **420** .

   c) Remove shipping lug securing hitch to knife drive shoe. (Hardware is re-used in step 6 d). See Figure **422** .

   d) Pivot front hitch to work position. Route hoses and electrical harness through as shown. Install rear hitch brace with pin at rear and four flange bolts at front. (Use bolts removed from shipping lug in step 6 c). Attach telescoping hitch member to rear hitch brace with 3/4 diameter pin. See Figure **424** .



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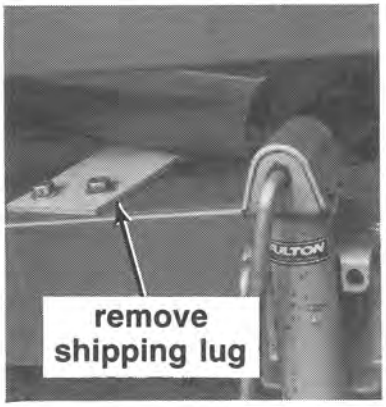

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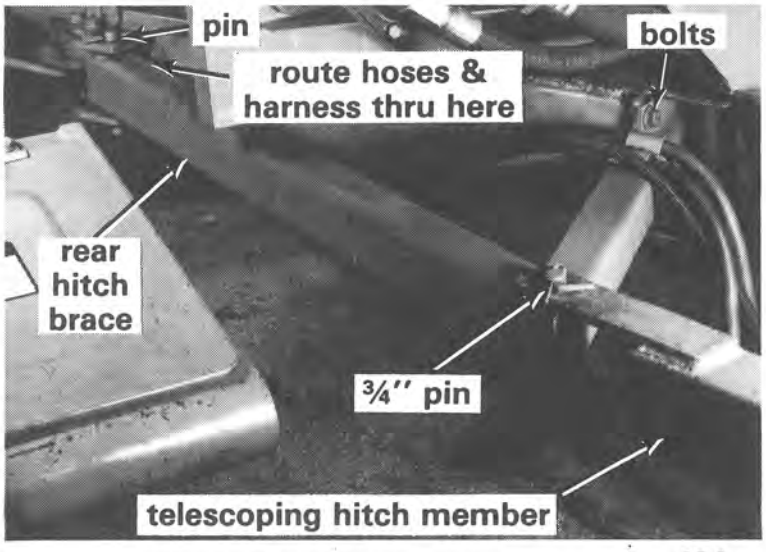


424

7. SET UP REEL ARMS AND CYLINDERS:

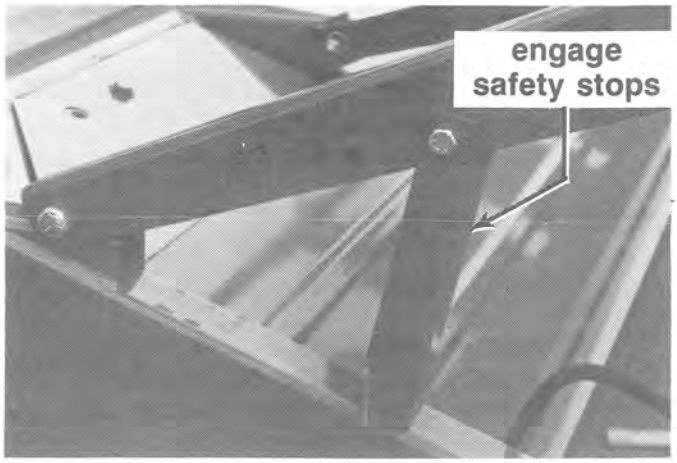
a) Cut strapping and wire securing the reel to the cutter bar.

CAUTION: Wire and strapping are under pressure. Be careful when cutting. Remove wire and strapping from assembly area.

b) Lift L/H and R/H reel arms and position safety stops to support each arm as shown in Figure **426** .

c) Attach R/H reel lift cylinder to reel support arm with 5/8 pin, spacers (2) and cotter pins. Attach to R/H frame with carriage bolts and flange nuts. See Figure **428** .

d) Attach L/H reel lift cylinder to reel support arm with 5/8 clevis pin and cotter pin. Attach to L/H frame with carriage bolts and flange nuts. See Figure **430** .



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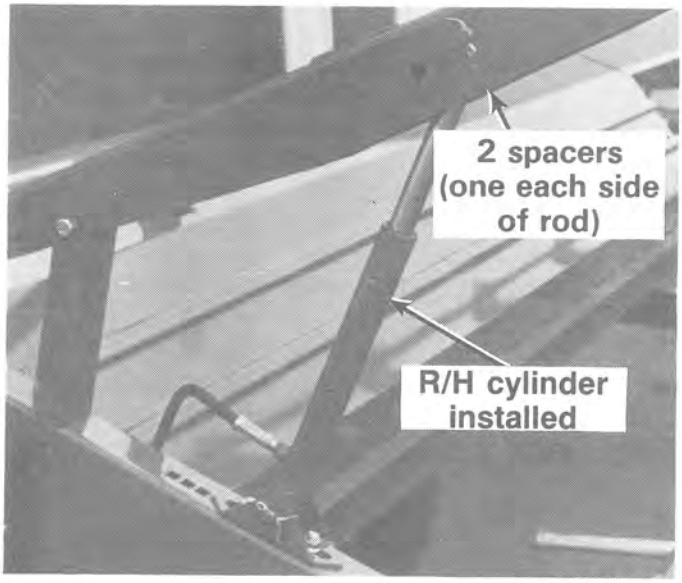

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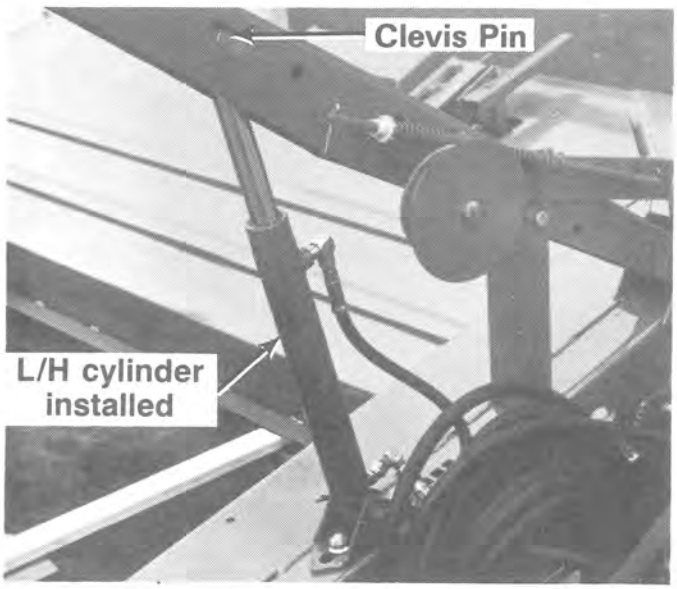


430

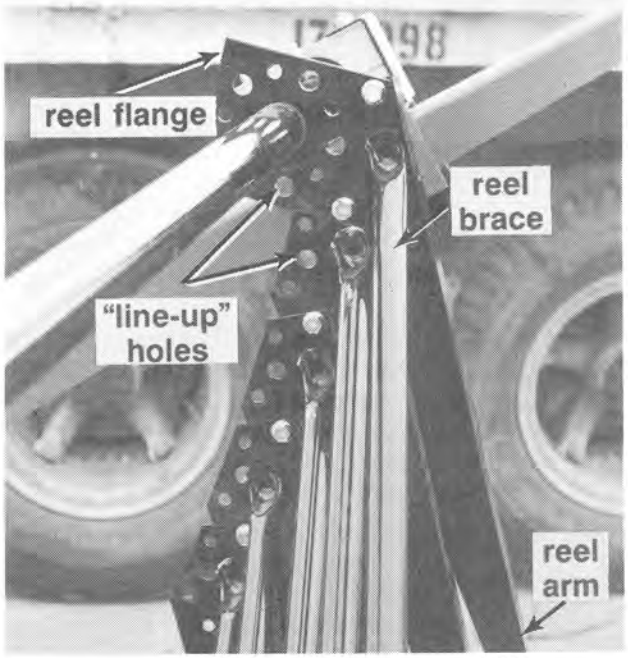
8. ASSEMBLE REEL:

a) Remove the 3/8 flange bolts fastening the reel braces to the reel flanges. See Figure **432**. Loosen all remaining hardware at reel tube flanges to allow arms to swing freely.

b) Rotate (lift) the first bat up 1/5 turn, to align the second set of reel arms. Use a punch in the "line-up" holes (larger holes - Figure **432**) install 3/8 hardware, fastening the second reel arms to the reel flanges. See Figure **434**.

NOTE: Install all hardware finger tight to allow straightening after assembly.

c) Fasten the first reel brace to the reel flange at each end. See Figures **436** and **438**.



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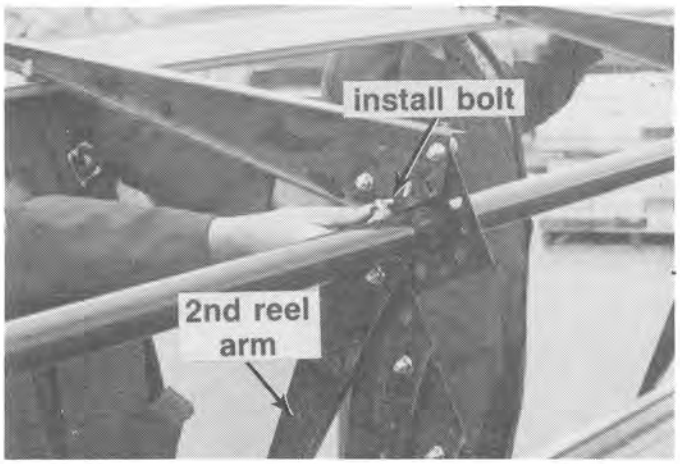

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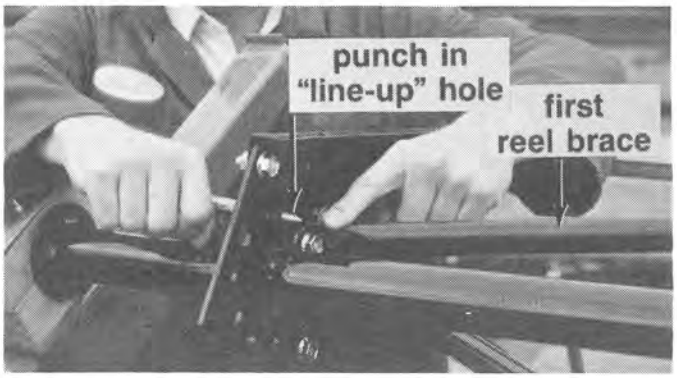


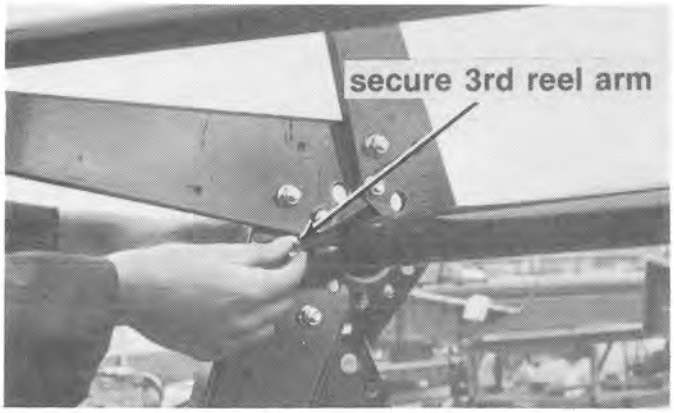
436

438

8. d) Lift second bat to align the third set of reel arms. See Figure **440** . Using a punch in the "line-up" holes, fasten the third set of reel arms (See Figure **442**) and the second set of reel braces (see Figure **444**).

NOTE: The second reel brace on the L/H end will require loosening at the bat to allow fastening at the reel flange. See Figure **446** . The remaining three braces on the L/H end may also require this adjustment.
Remember to retighten when assembled.

440



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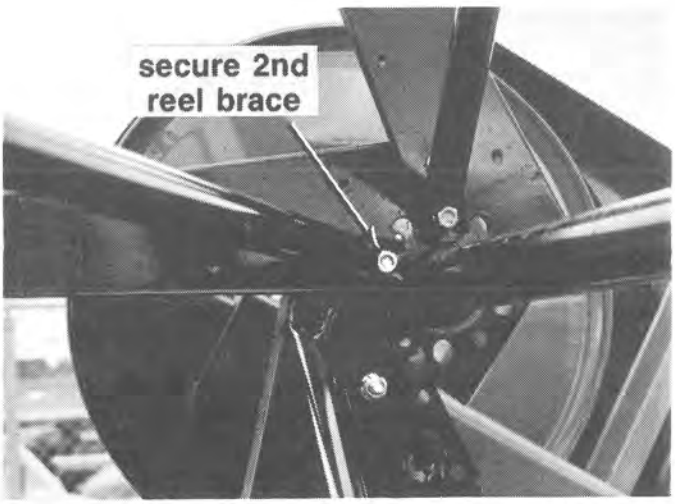

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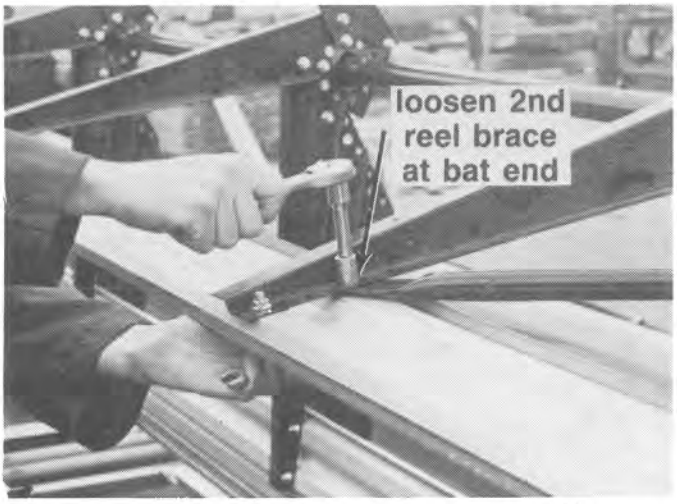
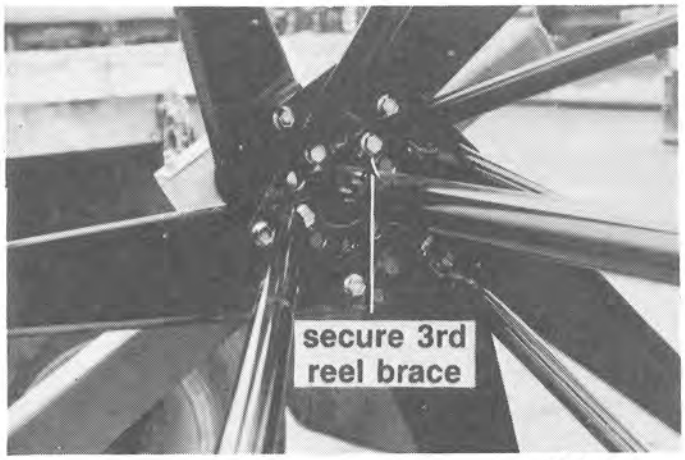


446

8. e) Rotate reel again, now lifting the third bat, and fasten the third reel braces (see Figure **448**) and the fourth reel arms (see Figure **450**).

   f) Remove the flange bolt (one at each reel flange) securing the first reel arm to the reel flange. See Figure **452** .

   g) Rotate the reel the final 1/5 turn, so the fifth reel arm slides past the first reel arm to its proper position. Use the "line-up" holes to fasten the fourth and fifth reel braces (see Figure **454**) and the fifth reel arms as shown (see Figure **456**).



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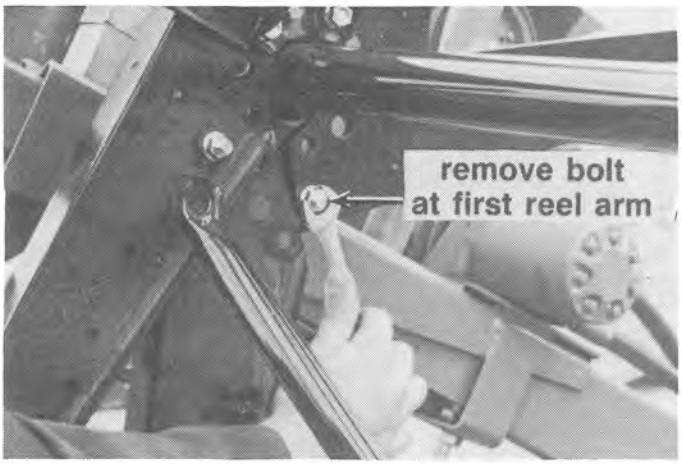

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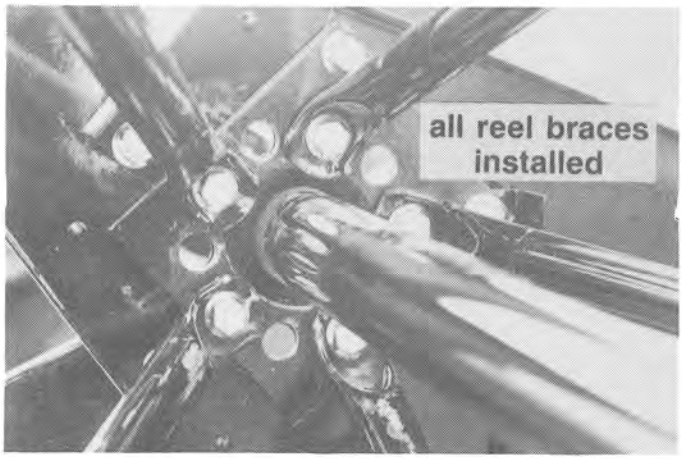


454

456

8. h) Fasten the reel ends to the bats using 5/16 hardware (finger tight only). See Figure **458** . All hardware should now be on reel.

i) With one set of reel arms pointing vertically downwards as shown, look down the length of the bat and make adjustments to straighten the bat. When this bat is acceptably straight, tighten the two 3/8 flange bolts at each reel flange which are lined up vertically and are common to the reel arms attached to the straightened bat. See Figure **460** .

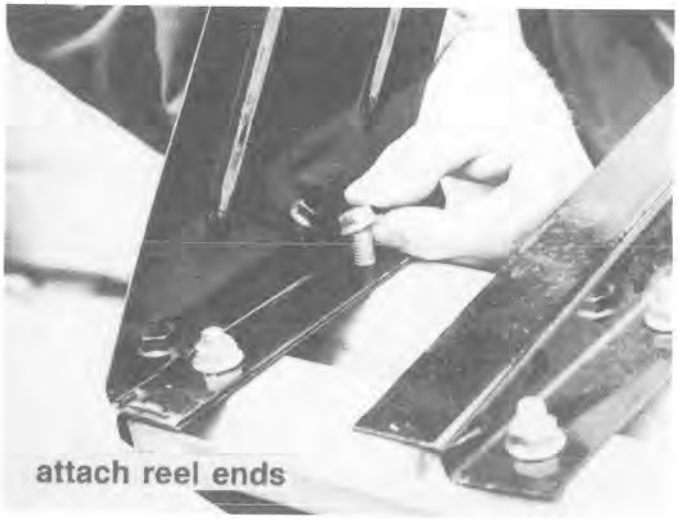
j) Rotate the reel 1/5 turn, so the next set of reel arms is pointing vertically downwards. Repeat the straightening and tightening procedure in Step 8 i). Continue this sequence until all reel flange hardware is tight.

NOTE: In order to straighten the last bat, it may be necessary to loosen the first set of bolts tightened in Step 8 i).

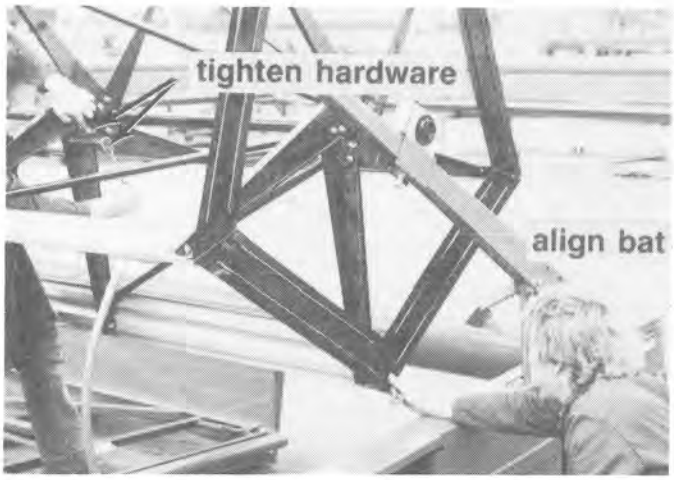
If, after this procedure, bats do not appear straight, loosen hardware as required to adjust.

k) Tighten the 5/16 flange hardware securing the reel ends.

l) Check that all hardware is sufficiently tight, [50 ft. lbs. (68 N.m.)].



458



460

462

9. INSTALL REEL DRIVE

a) Remove two 3/8 nuts from L/H reel bearing mount.

b) Install reel drive assembly on L/H reel arm and secure with the nuts removed above as shown in Figure **464** .

c) Install 5/8 x 4 bolt and locknut to compress channel sides, securing the assembly on the arm. See Figure **464** .

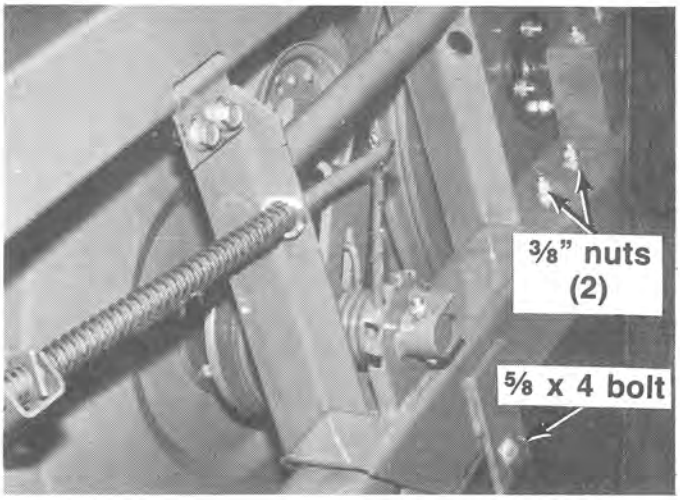
d) Remove cotter pin from forward end of adjusting rod, insert rod in reel drive assembly, with bushing positioned as shown in Figure **466** and re-install cotter pin.

e) Install 20 inch diameter pulley on reel shaft, using four 3/8 x 1 flange bolts.

f) Install final reel drive belt as shown in Figure **468** . (Release tension on idler pulley to ease installation).

g) Install primary reel drive belt as shown in Figure **470** . (Release tension on idler pulley to ease installation).

h) Adjust primary and final reel drive belt tension as described in Adjustments and Maintenance Section: Reel.



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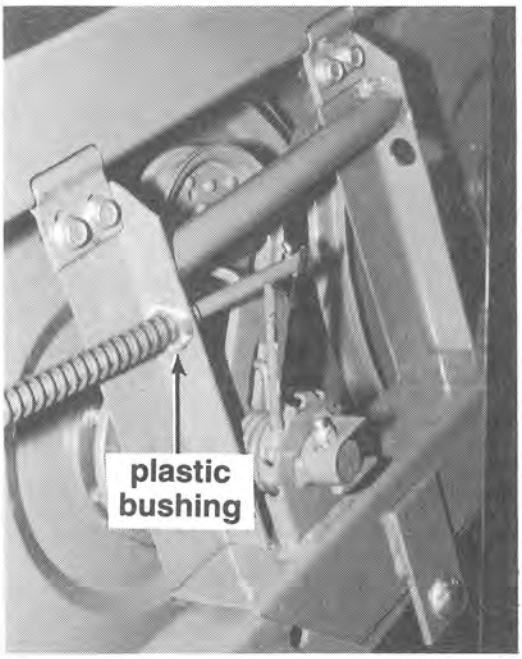

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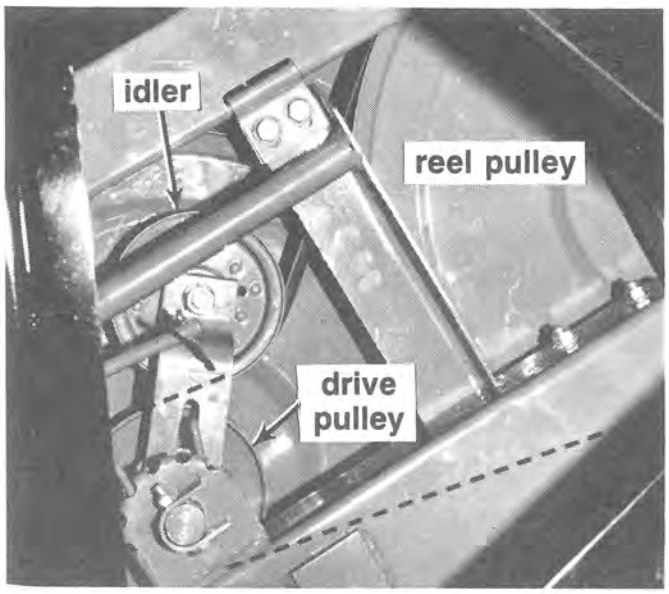
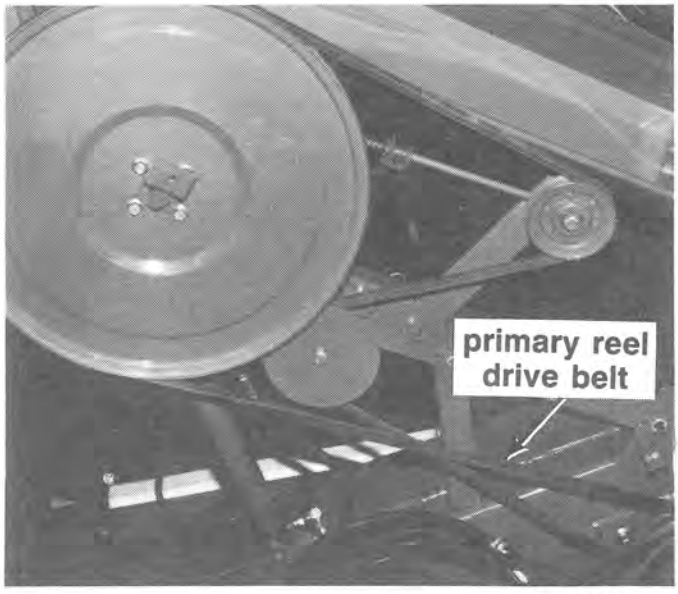


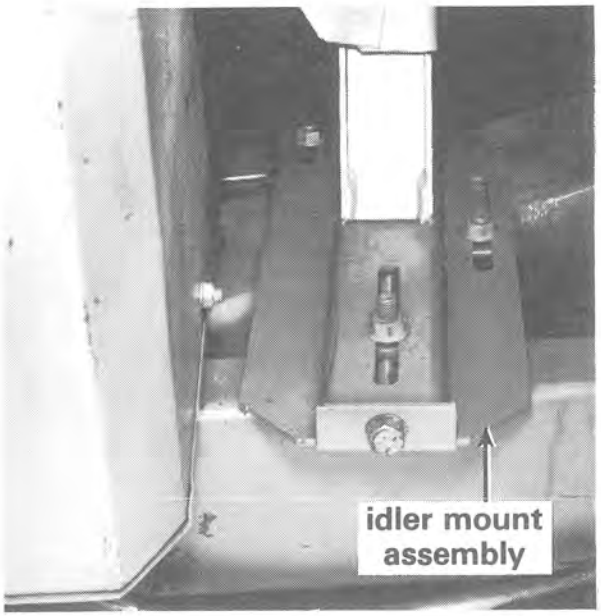
468



470

10. INSTALL MAIN DRIVE BELT AND IDLERS ASSEMBLY:

NOTE: Duplex machine must be operated with 1000 RPM PTO. Single unit machines can be operated with 540 or 1000 RPM PTO. IF THE MACHINE IS NOT EQUIPPED TO MATCH THE TRACTOR TO BE USED, IT WILL BE NECESSARY TO ORDER AN ADAPTER KIT. Installation instructions will be supplied with this kit.



472

a) Bolt idler mount assembly to hitch as shown in Figure **472**. Leave bolts loose.

b) Assemble eyebolt inside hitch section as shown in Figure **474**. Leave bolts loose.

c) Install belt guide as shown in Figure **476**.

474

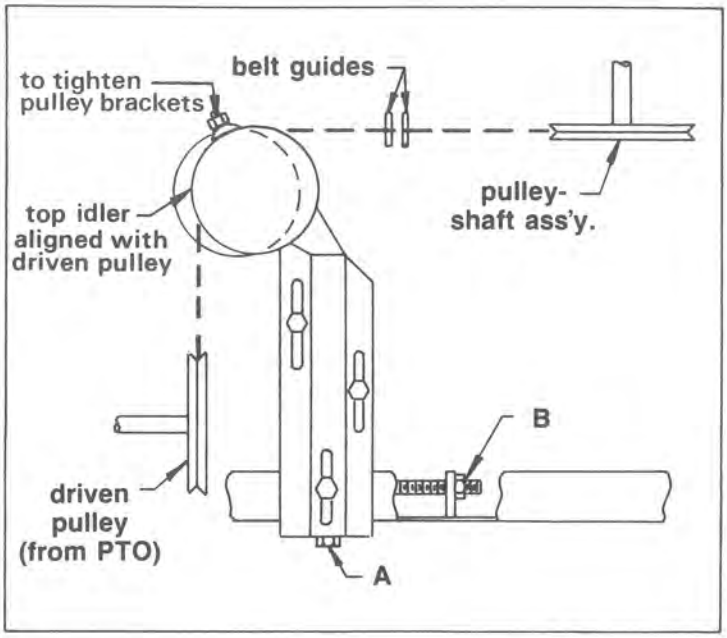
476

10. d) Install belt on driven pulley, routing belt as shown in Figure **478** . Adjust bolt "A" to take up slack in belt. Adjust eyebolt "B" to line up outer edge of top idler with center line of driven pulley as shown.
NOTE: For duplex front unit, ensure there is proper clearance between idler mount and pump drive pulley.

IMPORTANT: If the above adjustment is not made, the belt will roll over in operation, resulting in belt damage.

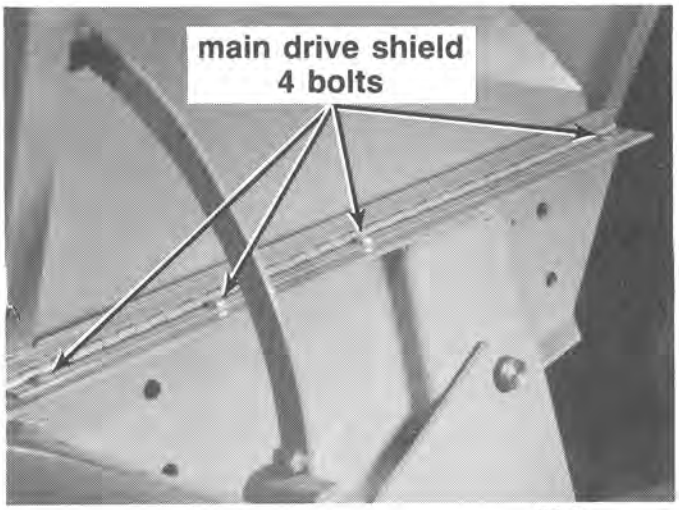
e) Tighten belt with bolt "A" (Figure **478**) and tighten all idler mount hardware.

f) Tighten all idler mount hardware.
NOTE: When tightening locknuts at pulley brackets (Figure **478**), ensure idler pulleys are not pulled out of alignment. Tighten to 80-90 ft. lbs. (110-120 N.m) and re-check alignment.



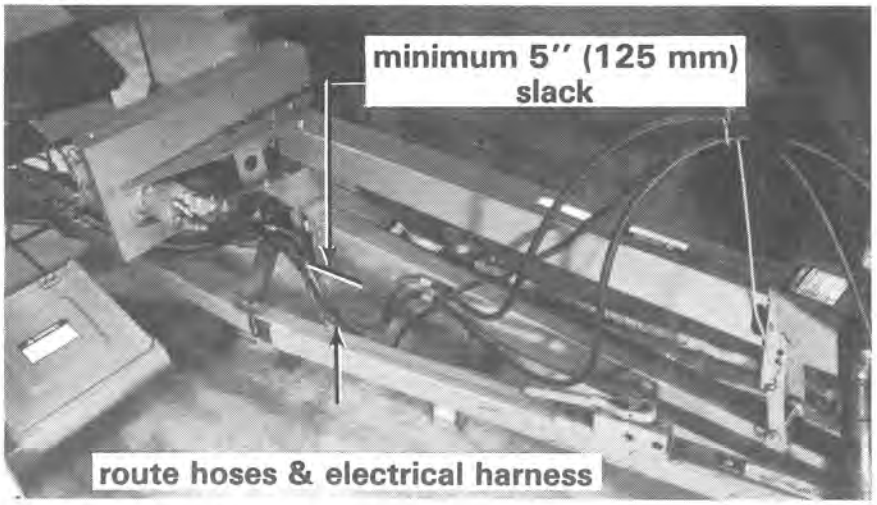
478

11. INSTALL MAIN DRIVE SHIELD TO L/H frame member using four 1/4 x 1/2 capscrews and flange nuts, as shown in Figure **480** . Adjust in slots to ensure proper operation of keeper.



480

12. ROUTE HOSES AND WIRING HARNESS to tractor and clamp as shown in Figure **482** .



482

13. INSTALL SHOES AND DIVIDERS:

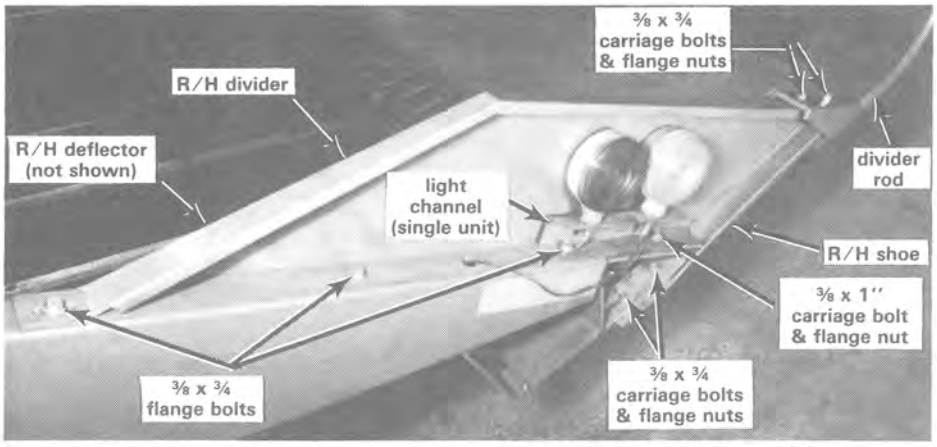
a) Attach R/H shoe to bottom of R/H end sheet support plate as shown in Figure **484**

b) Assemble R/H divider, light channel (single unit only) and R/H deflector to R/H end sheet and R/H shoe as shown in Figure **484** . Connect lights to wiring harness (if single unit).

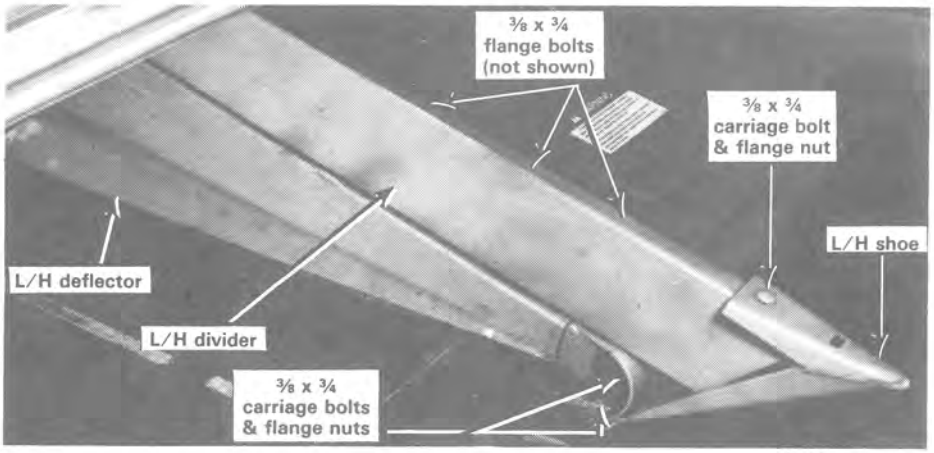
c) Attach divider rod to R/H shoe and R/H divider as shown in Figure **484** .

d) Attach L/H shoe to L/H end frame as shown in Figure **486** .

e) Assemble L/H divider and L/H deflector to L/H end frame and L/H shoe as shown in Figure **486** .



484

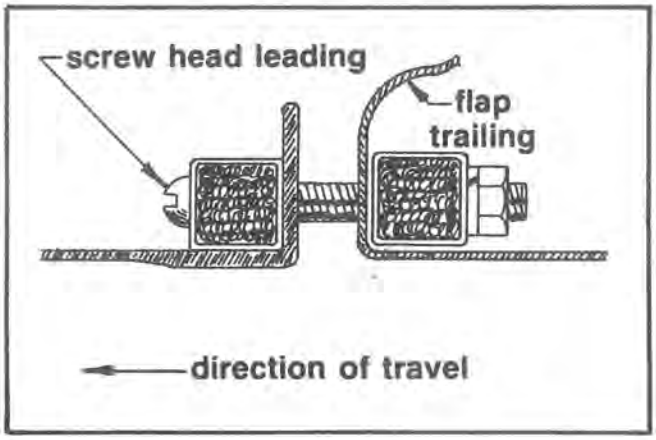


486

14. INSTALL DRAPERS:

NOTE: The machine has been factory assembled to provide a mid-range delivery opening. The opening can be made wider (or narrower with optional package) to suit crop conditions. See Adjustments Section: Delivery Opening Adjustment.

a) Install drapers with flaps trailing in direction of travel. See Figure **488** . Pull flaps evenly through metal connector slats until screws are at end of flap slots.



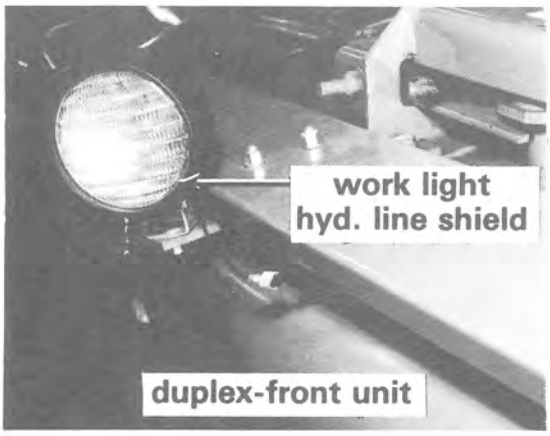
488

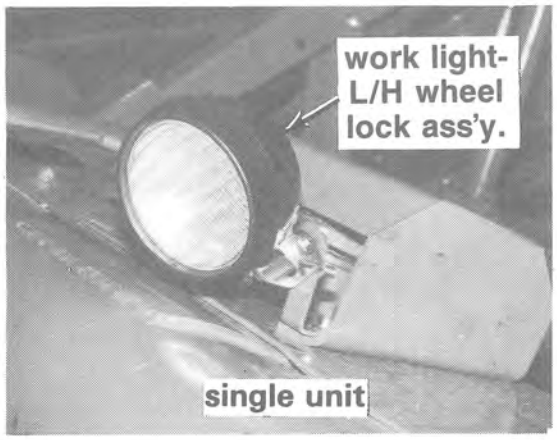
15. INSTALL LIGHTS:

Assemble lights to main frame as shown in Figures **492** , **493** , and **494** . Connect lights to wiring harness.

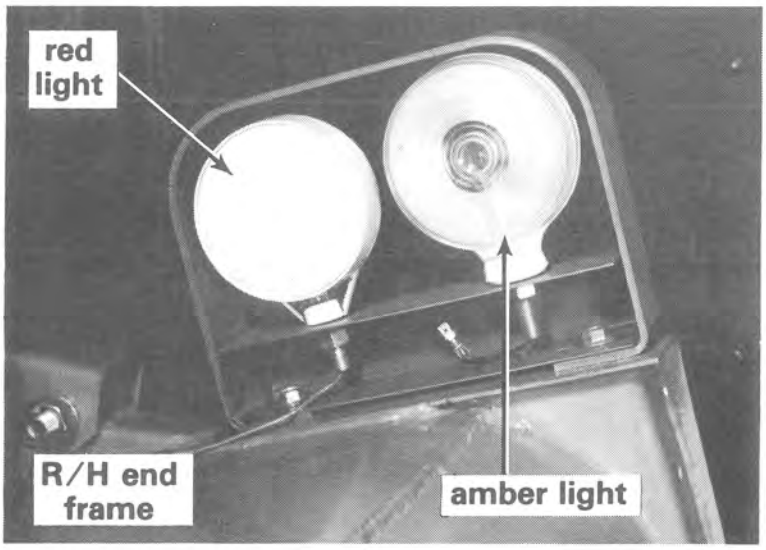
NOTE: Install lights shown in Figure **494** only if machine is a single unit. If machine is a duplex, these lights will be installed on the rear unit.

492





493



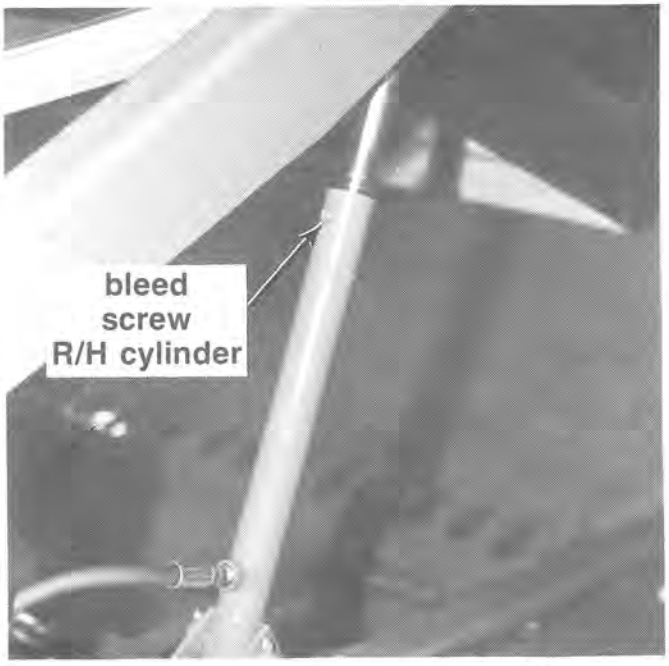
494

16. DUPLEX ONLY: DO NOT PROCEED with Step 17. Continue Assembly Instructions with Rear Machine Assembly, which follows Step 17.

    IMPORTANT: DUPLEX UNIT IS SHIPPED WITHOUT OIL IN HYDRAULIC RESERVOIR. DO NOT OPERATE PTO UNTIL RESERVOIR IS FILLED.

17. CHECKS AND ADJUSTMENTS: (Single Machine) Attach hitch to tractor drawbar, couple hoses to tractor hydraulics and complete the following checks and adjustments before attaching PTO:

    a) Bleed R/H reel lift cylinder.



495

CAUTION: Take care during this procedure as air in the system can cause the hydraulic components to operate erratically.

i) Raise the reel fully. The L/H cylinder will move first. When it reaches full stroke, fluid will pass to R/H cylinder.

ii) Leaving reel raised, slowly loosen the bleed screw in the R/H reel lift cylinder. See Figure **495** .

iii) When clear fluid (free of bubbles) flows from cylinder, re-tighten screw.

iv) Lower reel, raise again and repeat bleeding procedure.

17. b) Adjust reel brace to center reel between end sheets. See Figure **496** .

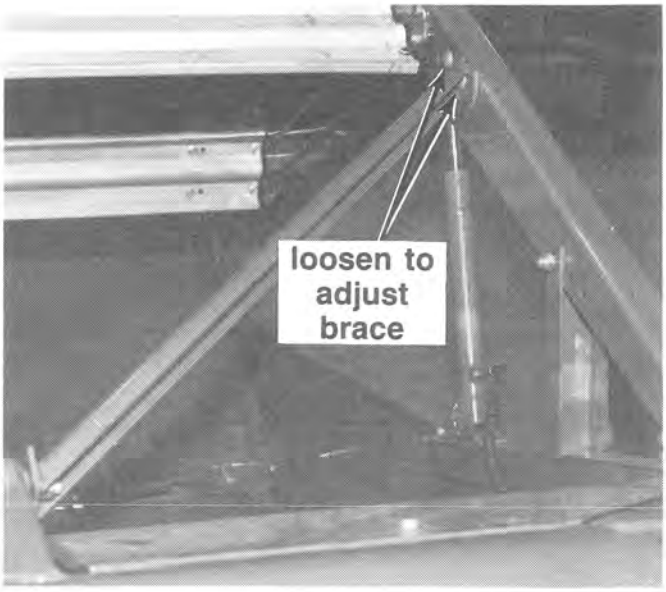
c) Grease float adjusting screw at L/H end. See Figure **498** . Adjust float until header can be lifted with 100 to 150 lbs. (450-650 N) lifting force at the R/H divider rod. See Adjustments Section: Header Float.

d) Turn machine over by hand to check for binding.

e) Attach PTO to tractor and run machine slowly for about 10 seconds. Check draper tracking. Drapers should run parallel to cutter bar. If not, adjust DRIVE ROLLER as described in ADJUSTMENTS SECTION - DRAPER TRACKING.

If draper runs parallel to cutter bar, but rubs either at cutter bar or rear draper track, adjust IDLER ROLLER as described in ADJUSTMENTS SECTION - DRAPER TRACKING.

When properly adjusted, drapers should run parallel to and 0 to 3/4" (0-20mm) from cutter bar with header on ground. Draper should shift back when header is raised.



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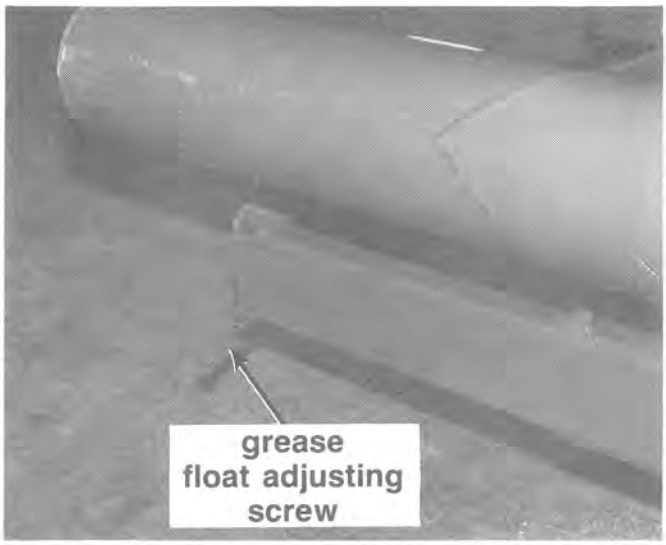
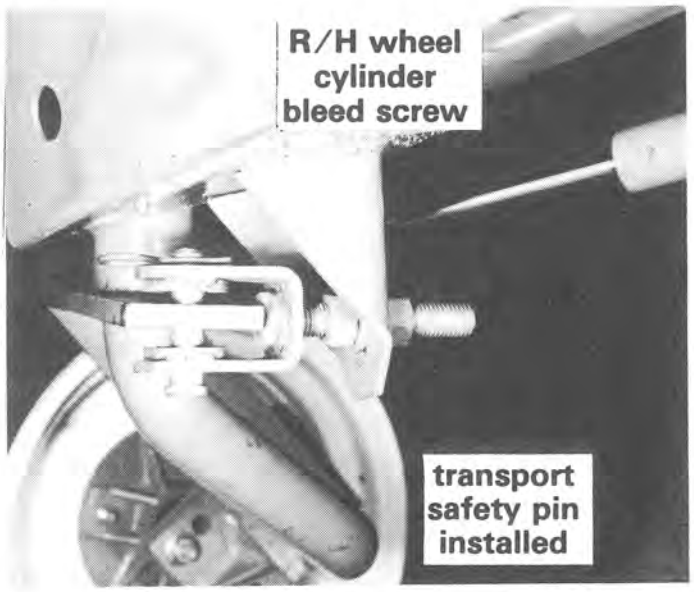


498

17. f) Run machine for 15 minutes, STOP MACHINE, and check alignment of all belts and idlers. Check for heated bearings.

g) Convert machine to transport mode. See Operation Section: Converting to Transport. Be sure safety pin is in place securing the R/H wheel in transport position. Open the bleed screw slowly to bleed air from the R/H wheel cylinder. Close the bleed screw and move hydraulics to raise header. See Figure **499**.



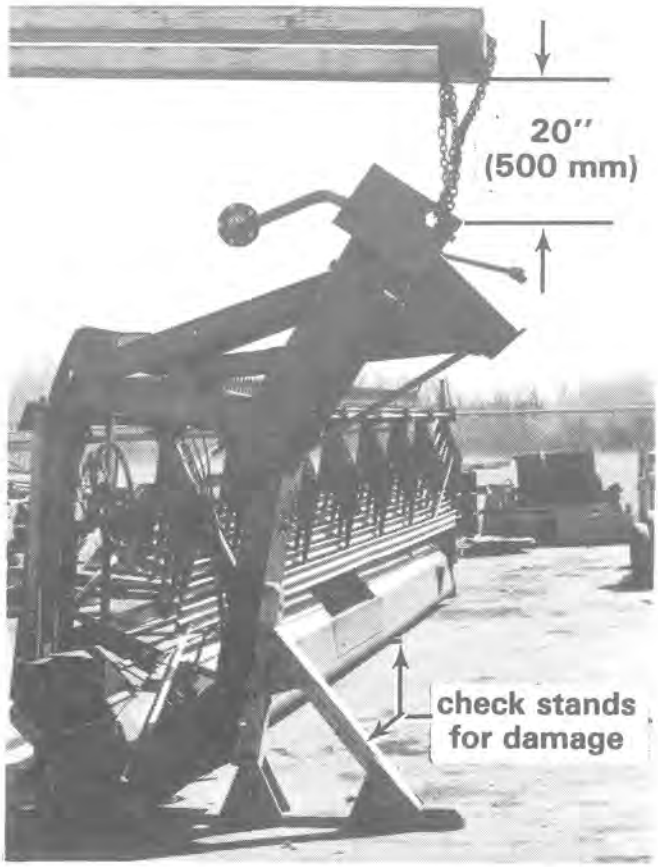
499

ASSEMBLY OF DUPLEX-REAR MACHINE

NOTE: For assembly and parts description purposes, right (R/H) and left (L/H) hand are determined by standing behind the machine and facing forward (in the direction of travel).

1. SET MACHINE DOWN SECURELY ON SHIPPING STANDS ON LEVEL GROUND. See Figure **500**.

CAUTION: Attach loader/ forklift to front wheel support as shown in Figure **500** to ensure machine cannot tip over should stands break. There should be approximately 20" (500 mm) vertical distance between the top of the machine and the loader/forklift attachment to allow lowering machine (Step 5).



500

2. DO NOT REMOVE WIRE AND STRAPPING SECURING THE REEL TO THE CUTTER BAR. Other wire-attached bundles, tires etc. can be removed.

CAUTION: Wire and strapping are under pressure. Be careful when cutting. Remove wire and strapping from assembly area once removed from machine. Where possible, sort and lay out the parts in groups for easy identification.

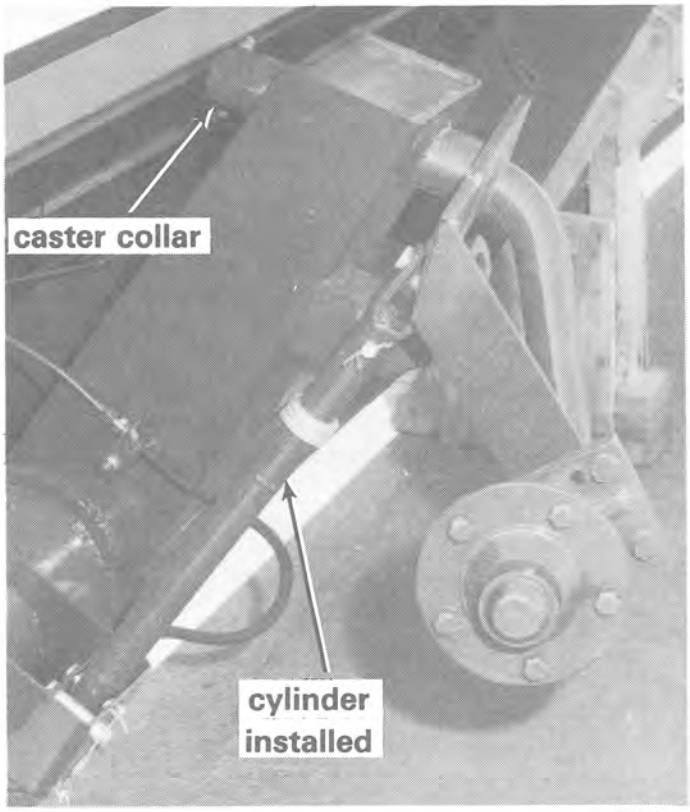
CAUTION: If hoisting machine in shipping position, follow unloading instructions to ensure proper lift points are used. Machine can be unstable if improperly hoisted.

3. INSTALL RIGHT CASTER, HYDRAULIC CYLINDER AND WHEEL:

   a) Remove collar from caster, insert caster in frame and re-install collar, securing with bolt and locknut. See Figure **502**.

   b) Install hydraulic cylinder using clevis pins shipped with cylinder. See Figure **502**.

   c) Install wheel on hub with five 1/2 NF x 3/4 wheel bolts. See Figure **504**. Torque bolts to 80-90 ft.lbs. (110-120 N.m).



502

504

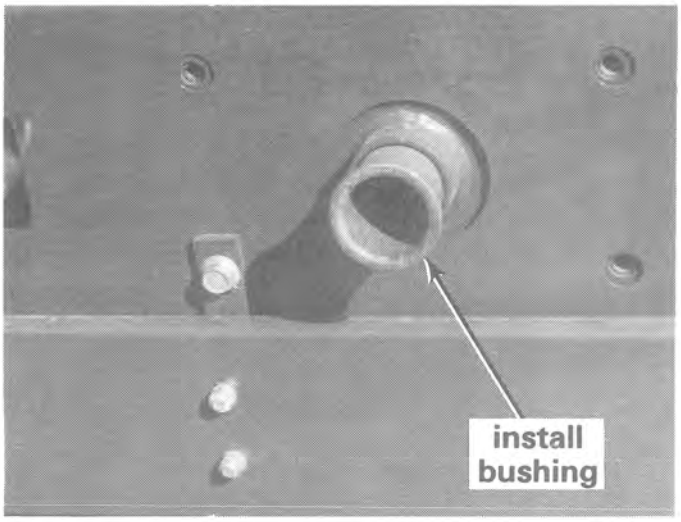
4. INSTALL LEFT WHEEL:

a) Install bushing in top side of L/H caster socket. See Figure **506** .

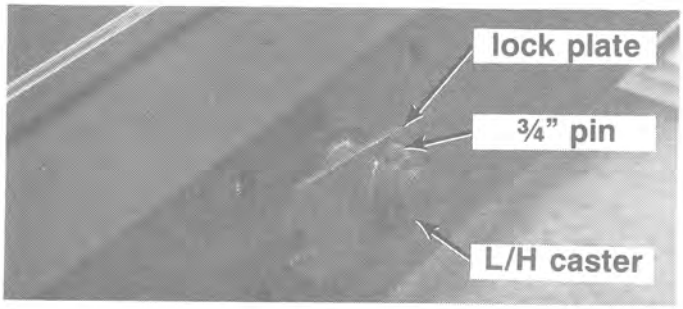
b) Install caster, secure with lock plate and 3/4 x 3 1/8 (80 mm) long pin. See Figure **508** .

NOTE: Ensure caster spindle and lock plate point in opposite directions as shown in Figure **509** .

CAUTION: Pin is case hardened. Use a large ball-pein hammer and wear protective glasses to protect from steel chips.



506



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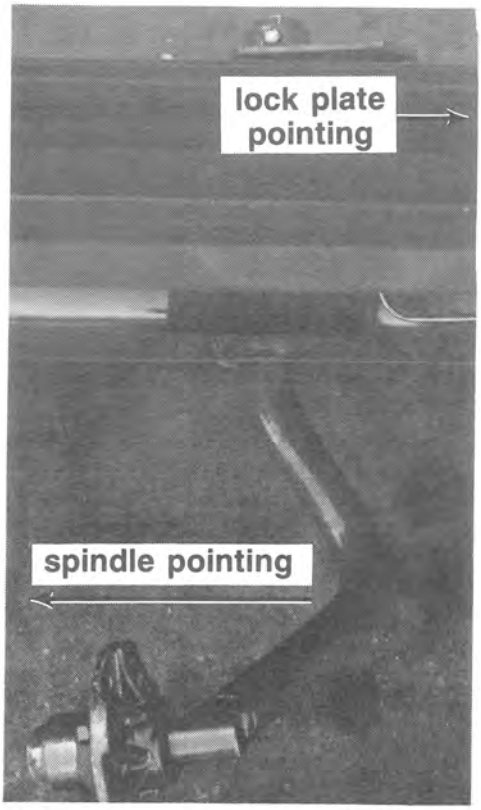
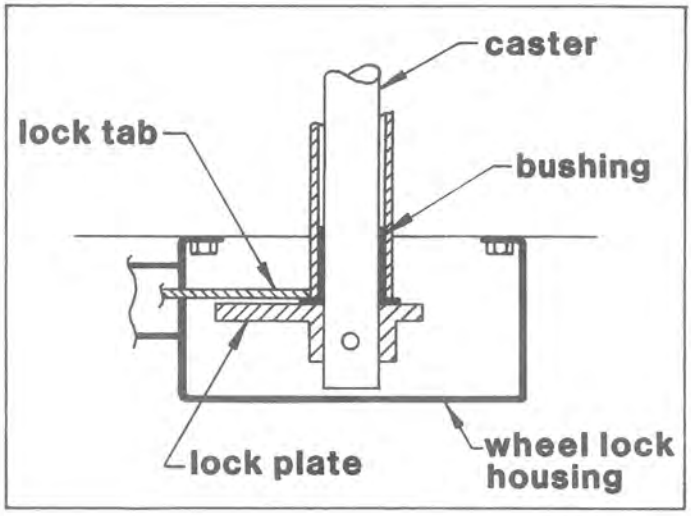


509

c) Apply grease to lock assembly thrust bearing and bolt on lock housing with four 1/2 NC x 1 flange bolts. See Figure **510** .
NOTE: Ensure wheel lock housing is properly positioned with respect to bushing and lock plate. See Figure **512** .

d) Insert end of hose assembly from selector valve into "D" shaped slot under handle. This hose operates the selector valve when the position of the handle is changed.

510



512

4. e) Rotate caster one full turn to ensure it pivots freely, then position lock handle so caster is latched. See Figure **514** .

   f) Install wheel using five 1/2 NF x 3/4 wheel bolts. Torque bolts to 80-90 ft.lbs. (110-120 N.m).

5. CLEAR THE AREA AND LOWER MACHINE TO GROUND AS FOLLOWS:

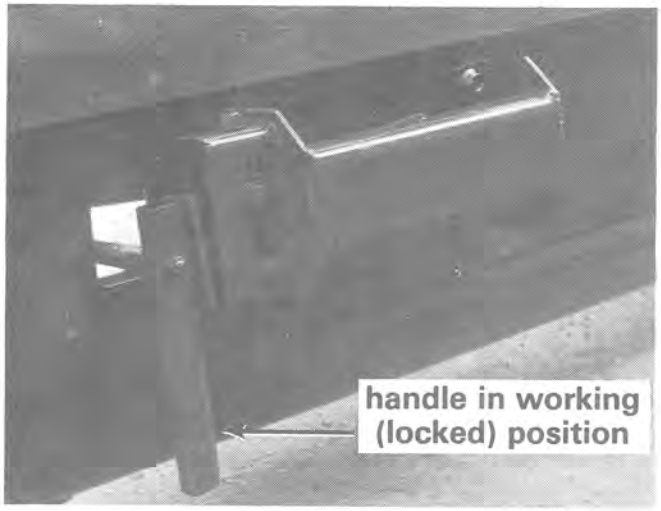
   a) Chock wheels with 4" x 4" blocks.

   b) With loader/forklift attached as described in STEP 1 Figure **500** , proceed as follows:

   c) Raise loader to take some weight. Slowly back up while gradually raising loader to keep chain vertical. **IMPORTANT:** Do not allow chain to become angled away from vertical or machine will drop suddenly as it rolls over center. Lower until cutter bar is on ground.

CAUTION: Stand clear when lowering, as machine may swing.

   d) Leave chain and loader attached to front wheel support.



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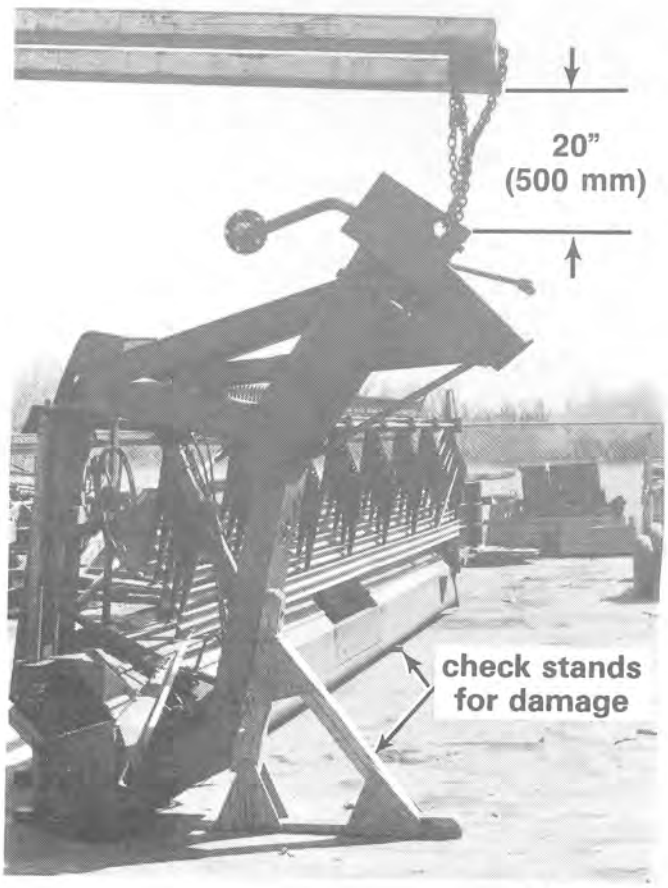


518

6. INSTALL FRONT WHEEL:

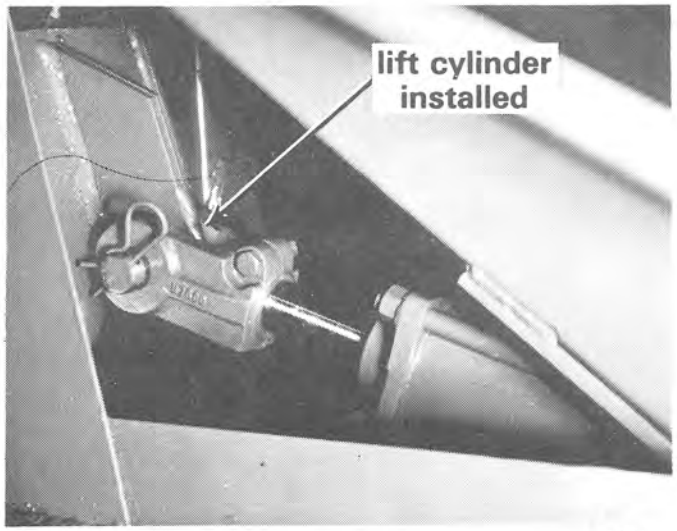
a) Install wheel using five 1/2 NF x 3/4 wheel bolts. See Figure **520** . Torque bolts to 80-90 ft.lbs. (110-120 N.m).

b) With chain attached to loader still supporting frame, remove shipping strap. See Fig. **522** .

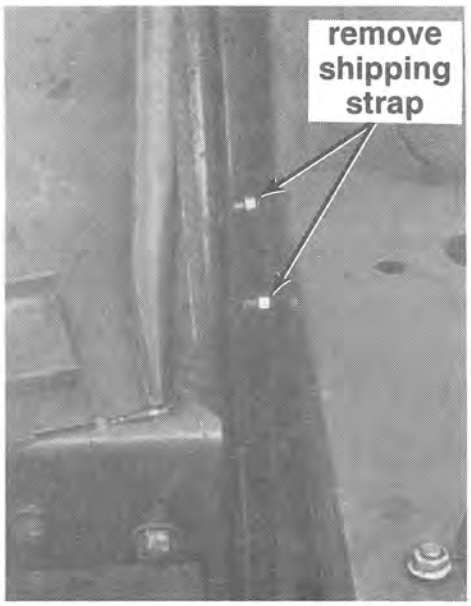
CAUTION: If front wheel support is not held up by chain, it will fall when shipping tie strap is removed.

c) Install lift cylinder as shown in Figure **524** .

520



524



522

7. SET UP REEL ARMS AND CYLINDERS:

a) Cut strapping and wire securing the reel to the cutter bar.

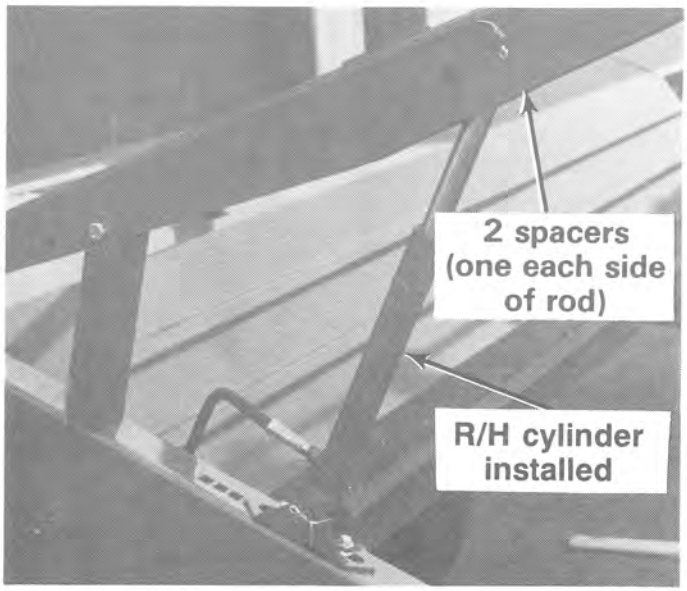
CAUTION: Wire and strapping are under pressure. Be careful when cutting. Remove wire and strapping from assembly area.

b) Lift L/H and R/H reel arms and position safety stops to support each arm as shown in Figure **526** .

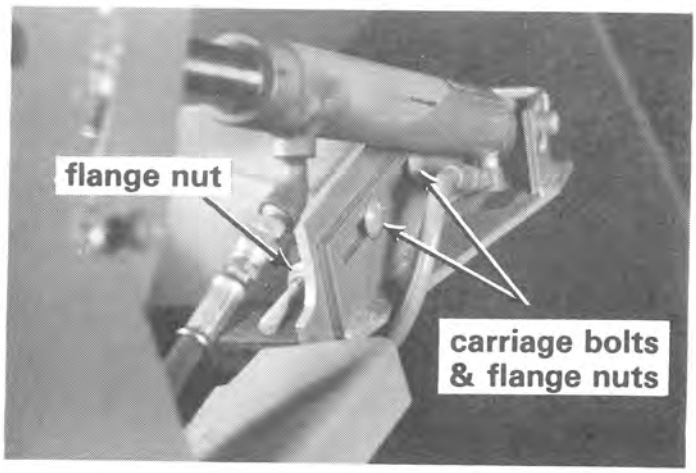
c) Attach R/H reel lift cylinder to reel support arm with 5/8 pin, spacers (2) and cotter pins. Attach to R/H frame with carriage bolts and flange nuts. See Figure **528** .

d) Attach L/H reel cylinder to frame anchor with carriage bolts (2) and flange nuts (3) as shown in Figure **530** .

526



528

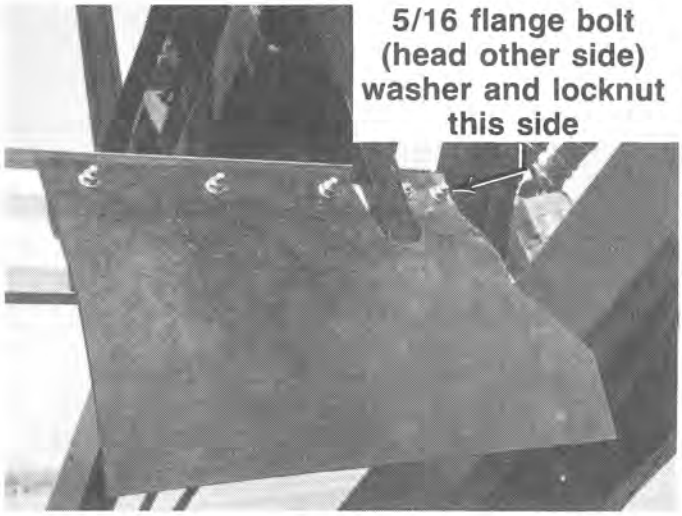


530

8. ASSEMBLE REEL:

   a) Follow reel assembly instructions given in Assembly Section - Duplex Front Machine, Assembly Note 8.

   NOTE: FOR DUPLEX-REAR MACHINE ONLY: There are 5 rubber flaps (one per bat) at the L/H end of the reel. When assembling reel end shields here; use 5/16 x 3/4 flange bolts, flatwashers and locknuts as shown in Figure **532**.



532

9. INSTALL REEL DRIVE:

a) Remove two 3/8 nuts from L/H reel bearing mount.

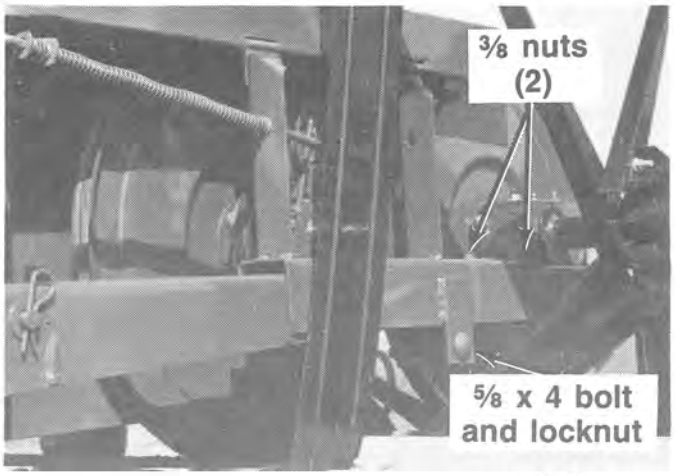
b) Install reel drive assembly on L/H reel arm and secure with the nuts removed above as shown in Figure **534** .

c) Install 5/8 x 4 bolt and locknut to compress channel sides, securing the assembly on the arm. See Figure **534** .

d) Remove cotter pin from forward end of adjusting rod, insert rod in reel drive assembly, with bushing positioned as shown in Figure **536** . Re-install cotter pin.

e) Install 20 inch diameter pulley on reel shaft, using four 3/8 x 1 flange bolts.

f) Remove the 1/2" flange bolt from bracket on L/H reel arm shield. Loosen the 3/8 flange bolt attaching shield to the side of the reel arm and swing shield into working position. Re-install the 1/2" flange bolt, securing the shield to the reel arm. Tighten 3/8 flange bolt loosened above. See Figure **538** .



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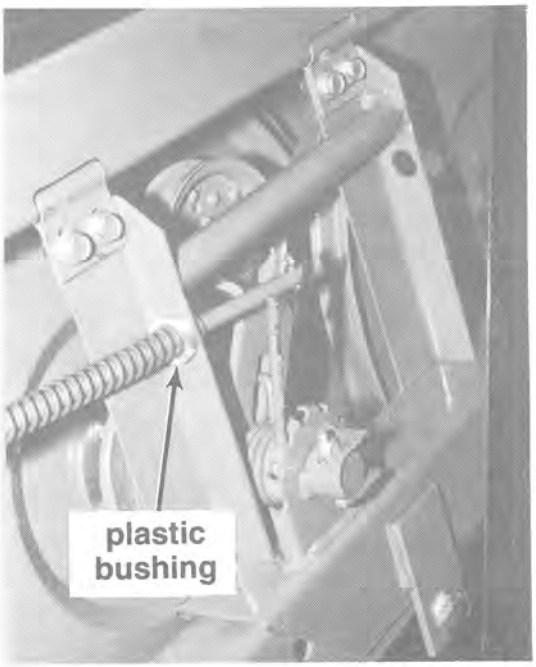
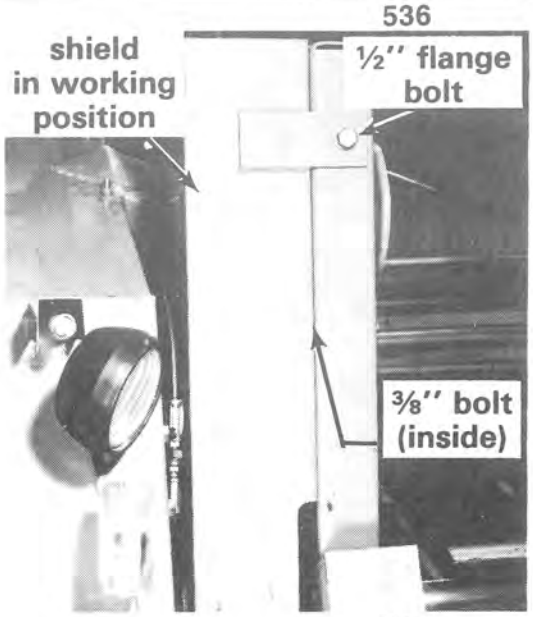


536

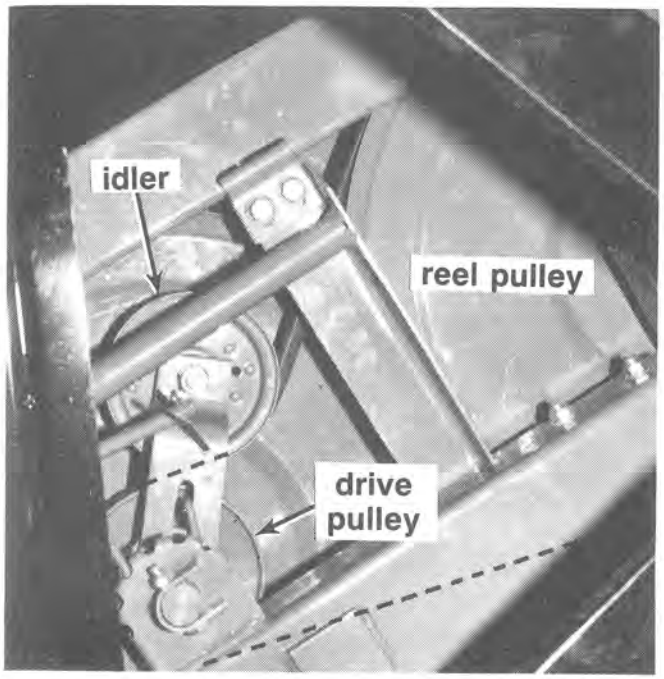


538

9. g) Install final reel drive belt as shown in Figure **540**. (Release tension on idler pulley to ease installation).

h) Install primary reel drive belt as shown in Figure **542**. (Release tension on idler pulley to ease installation).

i) Adjust primary and final reel drive belt tension as described in Adjustments and Maintenance Section: Reel.



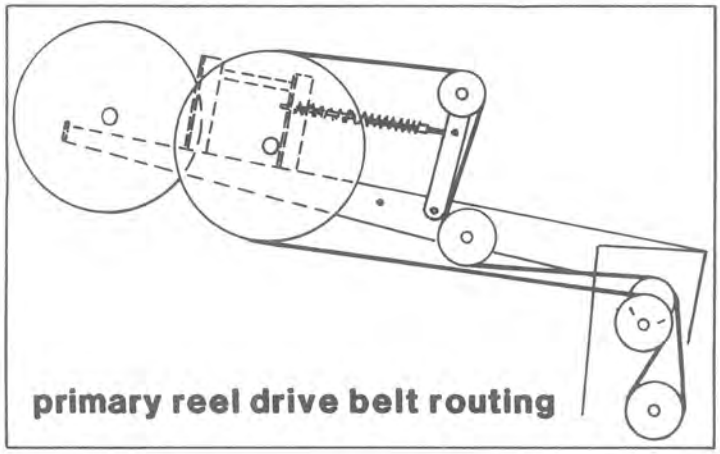
540

10. INSTALL DIVIDERS AND DEFLECTORS:

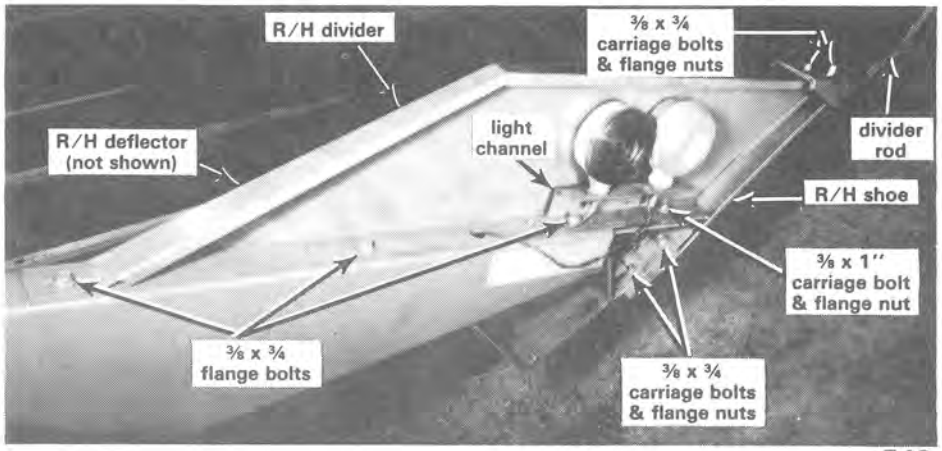
a) Attach R/H shoe to bottom of R/H end sheet support plate as shown in Figure **543**.

b) Assemble R/H divider, light channel, and R/H deflector to R/H end sheet and R/H shoe as shown in Figure **543**. Connect lights to wiring harness.

c) Attach divider rod to R/H shoe and R/H divider as shown in Figure **543**.



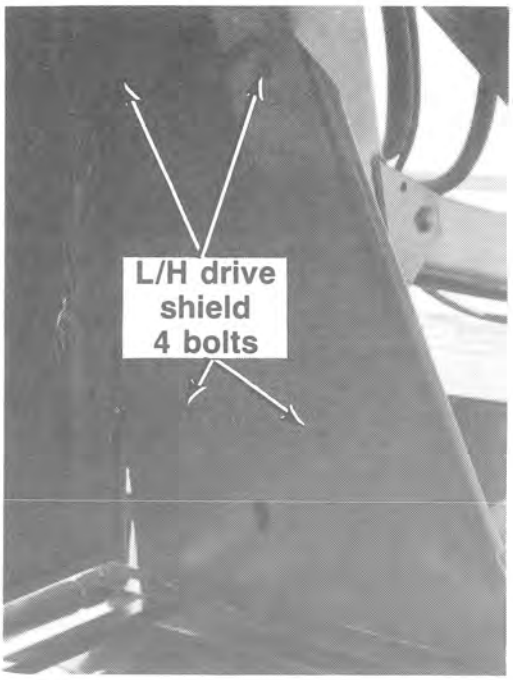
542



543

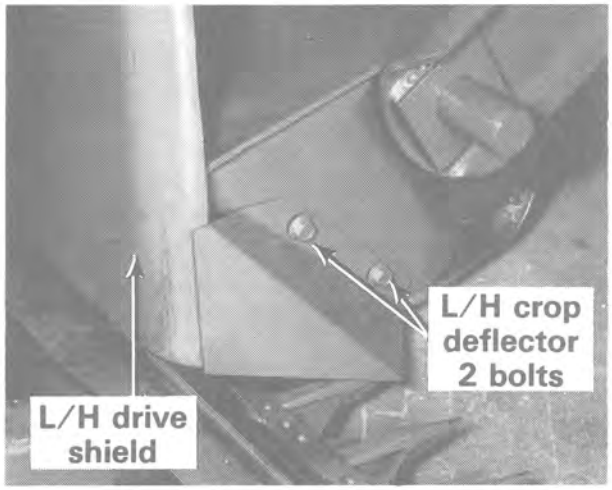
d) Install L/H drive shield using 5/16 x 3/4 flange bolts as shown in Figure **544** .

e) Install L/H crop deflector using 5/16 x 3/4 flange bolts as shown in Figure **545** .



544

11. ATTACH CONVEYOR:
An optional short conveyor is available for delivering a more spaced double swath, or, when added to the standard conveyor, a stacked double swath. See Operation Section: Changing Modes of Delivery for instructions on changing conveyor length.
a) Attach conveyor to the L/H side of the rear machine by sliding the two pivot brackets (bolted to the conveyor) into position. See Figure **546** .



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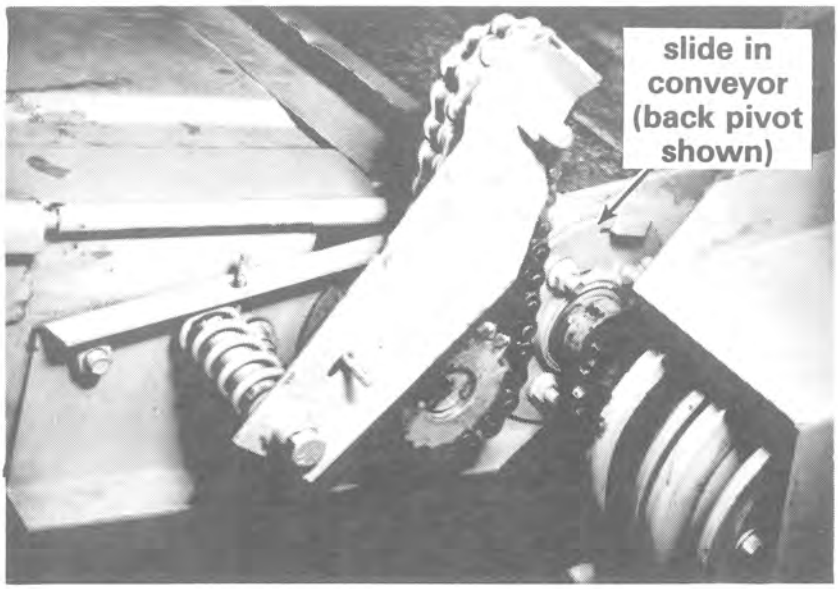


546

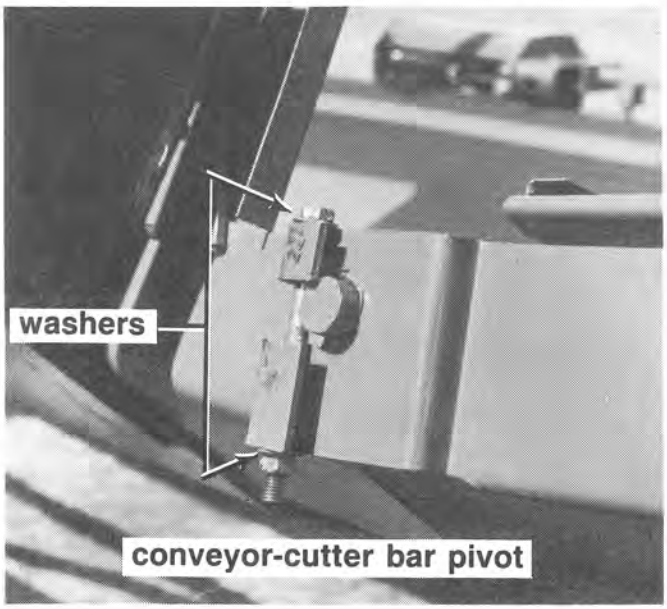
b) At the cutter bar pivot bracket, install a 3/8 x 4" bolt, two flatwashers and a locknut, as shown in Figure **547**.

c) Hook the chains provided into the two keyhole slots in the rear machine left end frame. See Figure **548**.

d) Bolt the other ends of the chains to the conveyor frame using a 3/8 x 2½" bolt, flatwasher and locknut. See Figure **549**.

e) Install the drive chain by removing the draper drive belt and slipping the chain over the pulleys. Route chain as shown in Figure **550**. Reinstall belt. (Belt routing changes, depending whether or not conveyor is to be used. See Operation Section: Changing Modes of Delivery).

f) Install draper. See Step 12, next page.



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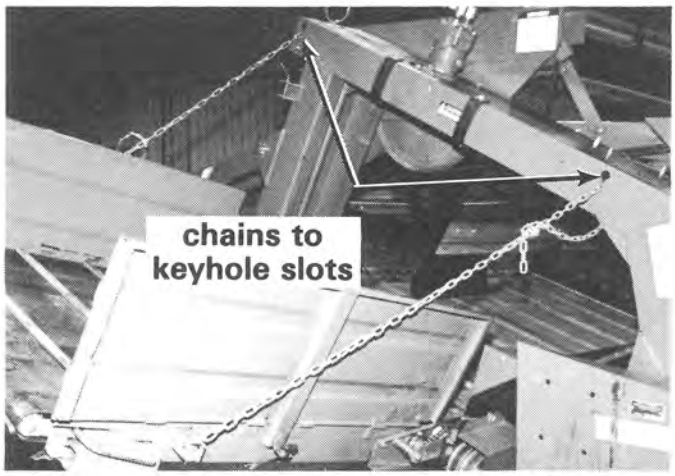

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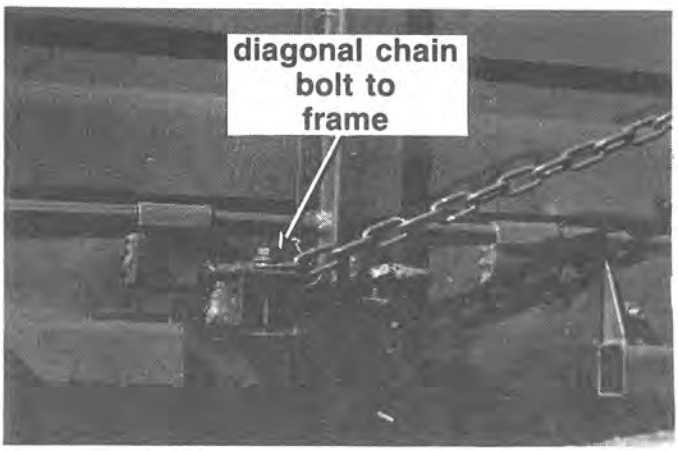

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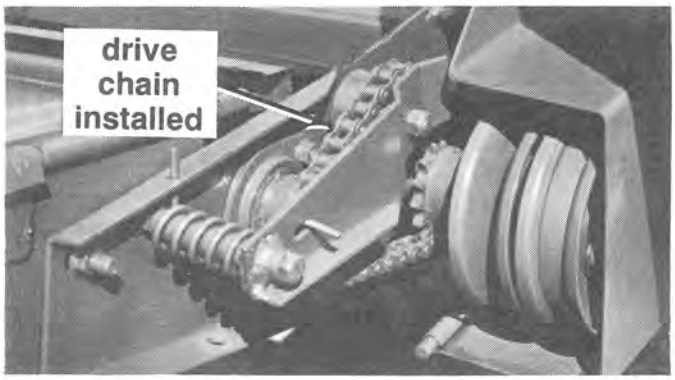
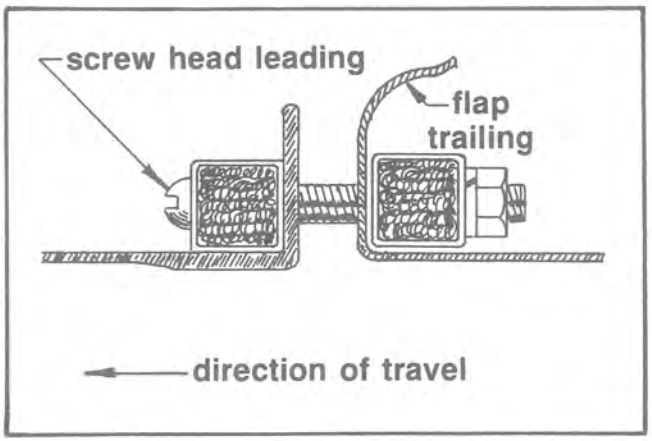


550

12. INSTALL DRAPERS

a) Install drapers with flaps trailing in direction of travel (for L/H draper, install with flaps trailing direction of travel in center delivery mode.) See Figure **552** . Pull flaps evenly through metal connector slats until screws are at end of flap slots.



552

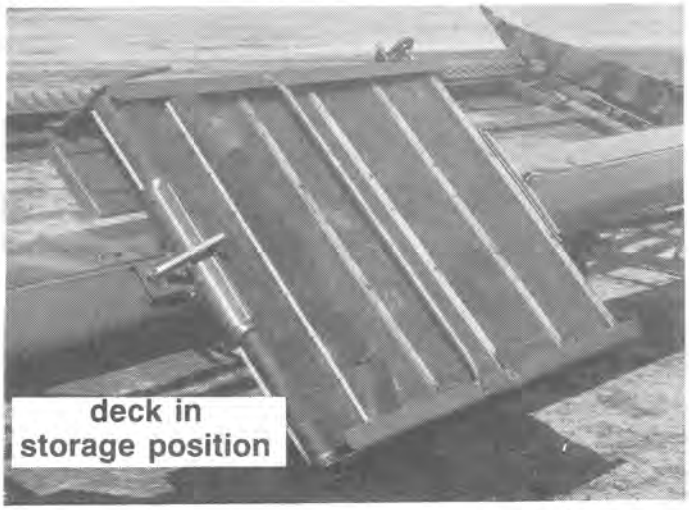
13. INSTALL CENTER DECK:

a) Install center deck clamps on main frame as shown in Figure **554** . Leave hardware loose.

b) Position deck on main tube and adjust the R/H clamp so it is tight against the drive roller in the closed position. Tighten R/H clamp hardware. Adjust the L/H clamp so that when tightened, the springs in the draper tightener on the idler roller deflect at least 1/2 inch (12 mm). Tighten L/H clamp hardware. This will secure the deck in its storage position. See Figure **556** .
IMPORTANT: If the R/H clamp is adjusted too tightly, the deck support arms may be bent or twisted, causing an improper fit in working position.

See Operation Section: Changing Modes of Delivery for information regarding installing the deck in working position.

554



556

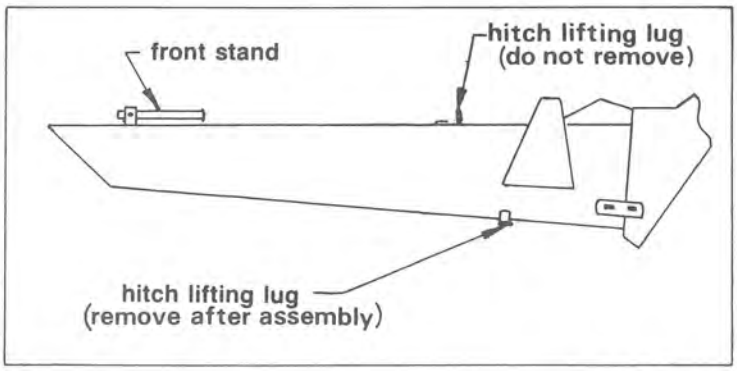
14. INSTALL DUPLEX HITCH:

a) Attach chain to hitch lifting lugs and lift with loader as shown in Figure **558** .
b) Install rear pin and secure with 3/8" roll pin as shown in Figure **560** . Install hose support, securing safety chain as shown.
c) Swing front stand down and pin to secure stand as shown in Figure **562** . Set hitch down on stand.
d) Remove lifting lug at rear of hitch. Front lug remains for transport safety chain.

15. INSTALL HITCH SPRING:

a) Install pins as shown to secure spring. See Figure **564** .

NOTE: If spring cannot be compressed enough to allow installation, this may be done following Conversion to Transport, STEP 25.



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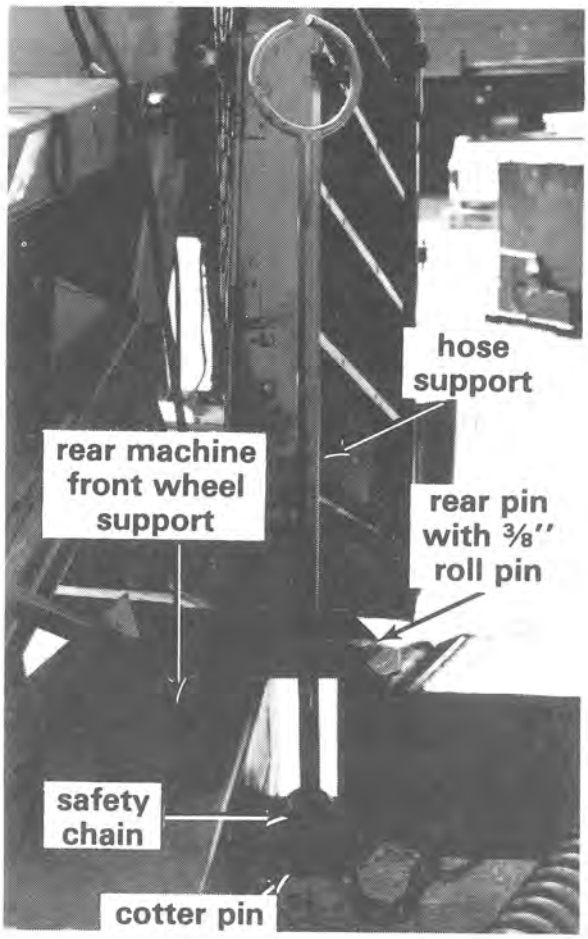

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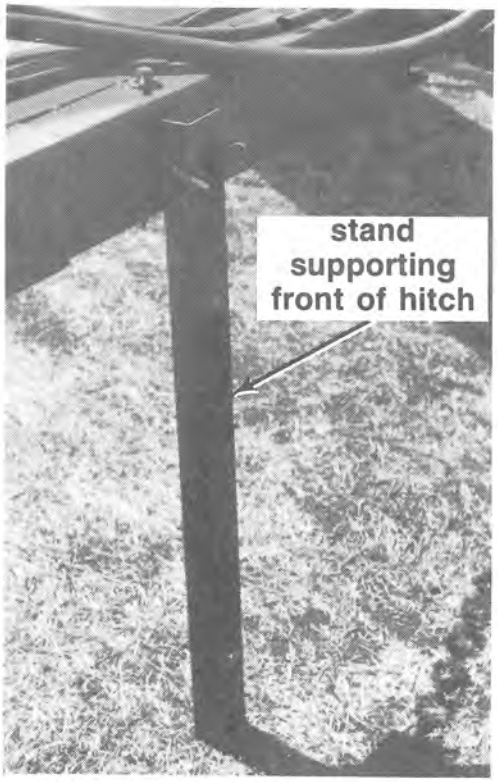

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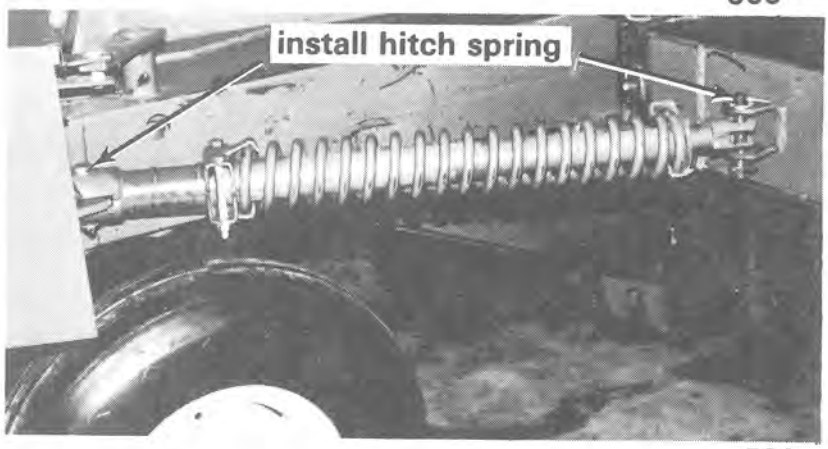


564

16. ATTACH FRONT MACHINE TO TRACTOR:

IMPORTANT: Do not attach PTO at this point. Machine is shipped without oil in hydraulic reservoir. DO NOT OPERATE PTO until reservoir is filled.

a) Attach front machine hitch to tractor drawbar.

b) Connect electrical power to machine wiring harness and switch box. Refer to Operation Section: At First Use.

c) Couple hydraulic hoses to tractor hydraulics.

d) Raise front header. See Operation Section: Switch Box.

17. CONNECT FRONT AND REAR MACHINES:

a) See Figure **566** . With front machine in field position, back machine up until clevis pin "A" is within 12 inches (300 mm) of lining up with clevis support on hitch.

b) Remove pin "B".

c) Pull front channel out and install pin "A". Raise or lower front machine as required to line up mounting holes.

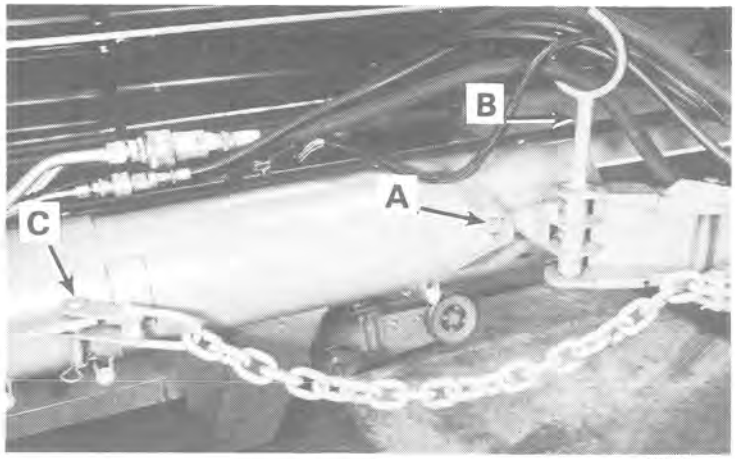
NOTE: Raising cutter bar lowers rear frame.

d) Back front machine up until channel bottoms.

e) Install pin "B".

f) Install pin "C".

g) Connect the two large hydraulic couplings. See Figure **568 & 569**



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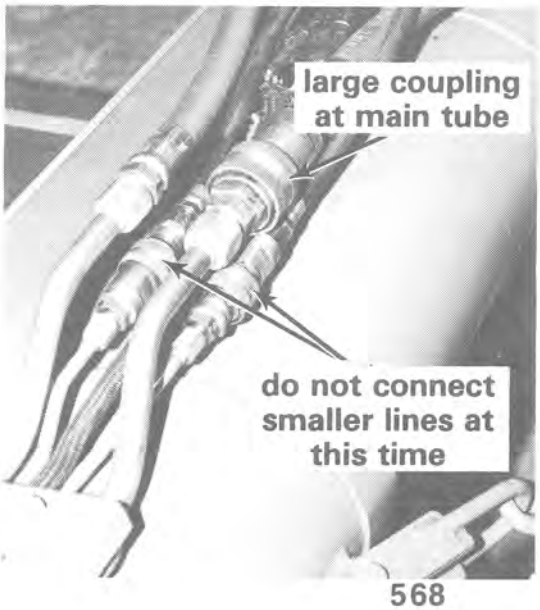

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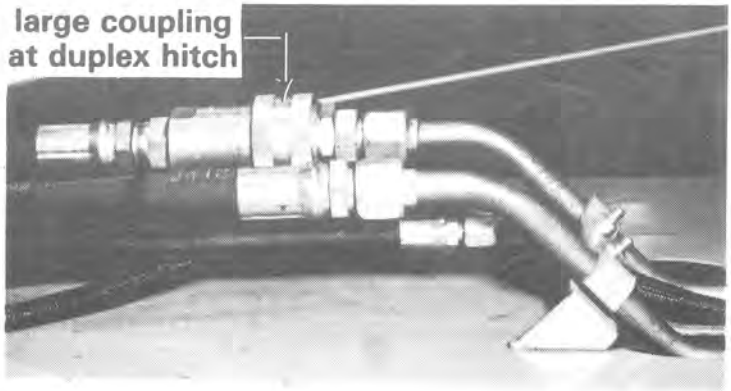

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18. FILL HYDRAULIC RESERVOIR AND FLUSH LINES:

IMPORTANT: Flush the lines as instructed below. Ensure that NO DIRT enters the hydraulic system. The piston pump and hydraulic motor are manufactured with very small clearances and can easily be destroyed by a small piece of grit.

a) Fill hydraulic reservoir with clean SAE 10W30 Class SF or CC engine oil until oil is visible in strainer. See Figure **570** .

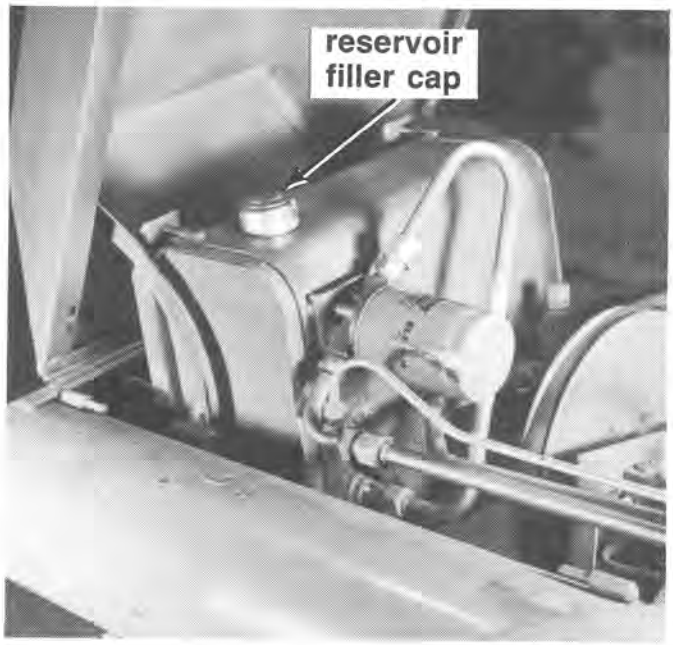
b) Remove tension from draper idler rollers. See Adjustments Section: Draper Adjustments.

c) Turn PTO shaft over by hand to ensure no parts are binding.

d) Attach PTO to tractor.

NOTE: 1000 RPM PTO is required to drive the duplex swather.

IMPORTANT: The two large hydraulic couplings must be connected to the duplex hitch as instructed in Step 17 g). These lines go through the duplex hitch and are connected at the rear of the hitch for shipping purposes. Leave the connector in place while flushing lines. The two smaller hydraulic lines should not be connected at this point.



570

18. e) Engage PTO at idle speed. Run at this speed for 5 minutes.

    f) Gradually increase tractor speed. Run tractor at rated PTO speed for 15 min.

NOTE: If the hydraulic pump has air in the suction side, there will be a sound like gravel hitting the pump case. Should this occur, STOP PUMP and check oil level. Add oil if necessary, then start pump slowly again.

19. FRONT MACHINE CHECKS AND ADJUSTMENTS:

    a) Bleed R/H reel lift cylinder.

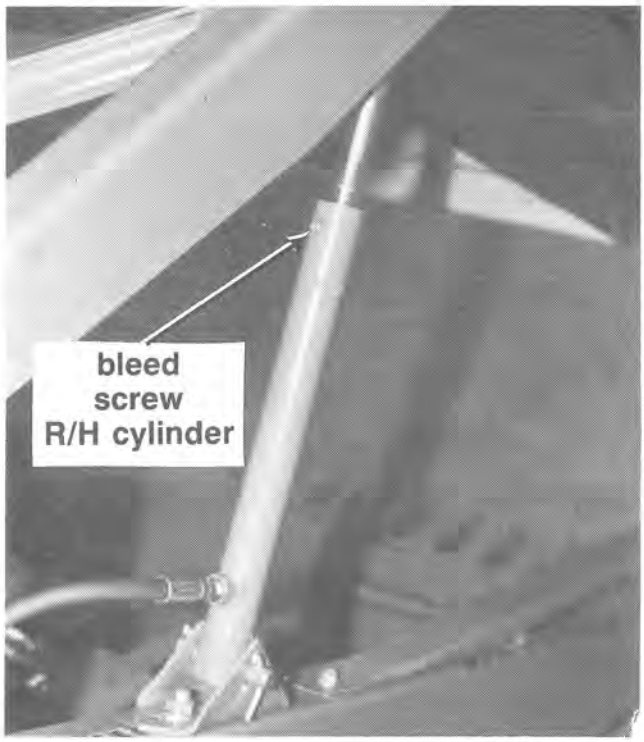
CAUTION: Take care during this procedure as air in the system can cause hydraulic components to operate erratically. DO NOT ATTEMPT TO BLEED CYLINDER WITH REEL IN MOTION.

i) Raise the reel fully. The L/H cylinder will move first. When it reaches full stroke, fluid will pass to the R/H cylinder.

ii) Leaving reel raised, slowly loosen bleed screw in R/H reel lift cylinder. See Figure **572** .

iii) When clear fluid (free of bubbles) flows from cylinder, re-tighten screw.

iv) Lower reel, raise again and repeat bleeding procedure.



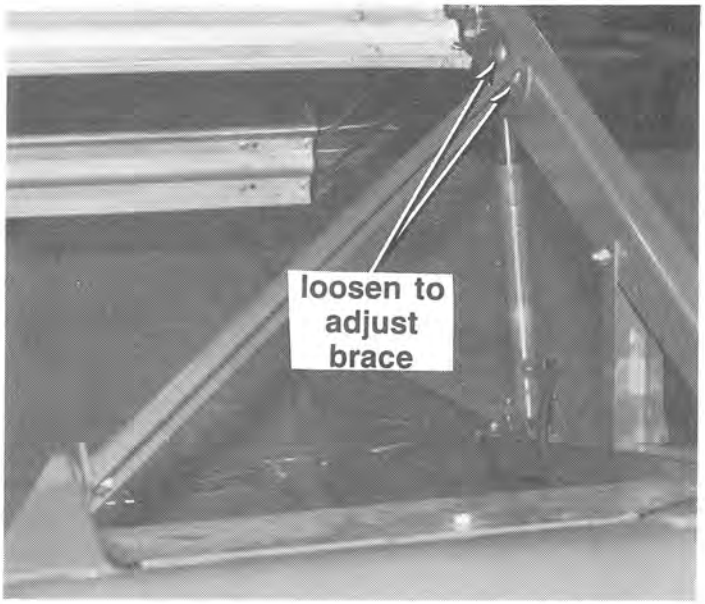
572

19. b) Adjust reel brace to center reel between end sheets. See Figure **574**.

    c) Grease float adjusting screw at L/H end. See Figure **576**. Adjust float until header can be lifted with 100 to 150 lbs. (450 to 650 N) lifting force at the R/H divider rod. See Adjustments Section: Header Float.

    d) Run machine slowly for about 10 seconds to check draper tracking. Drapers should run parallel to cutter bar. If not, adjust DRIVE ROLLER as described in ADJUSTMENTS SECTION - DRAPER TRACKING.

    If draper runs parallel to cutter bar, but rubs either at cutter bar or rear draper track, adjust IDLER ROLLER as described in ADJUSTMENTS SECTION - DRAPER TRACKING. When properly adjusted, drapers should run parallel to and 0 to 3/4" (0-20 mm) from cutter bar with header on ground. Draper should shift back when header is raised.



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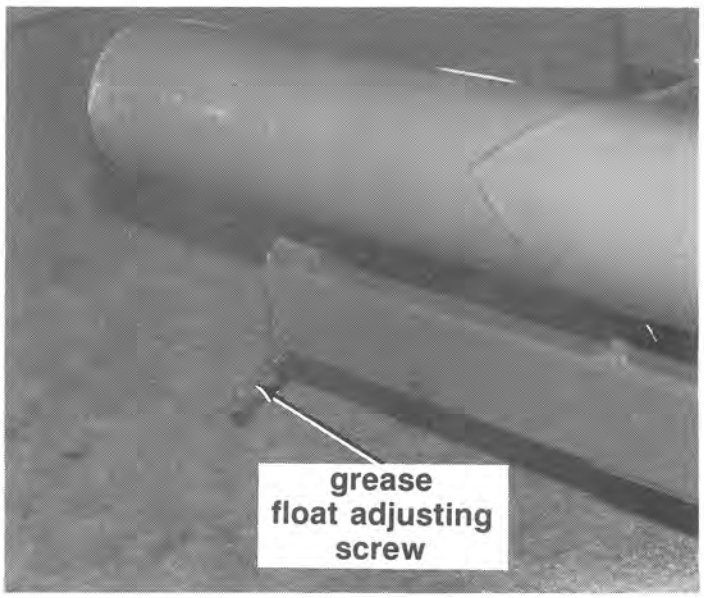
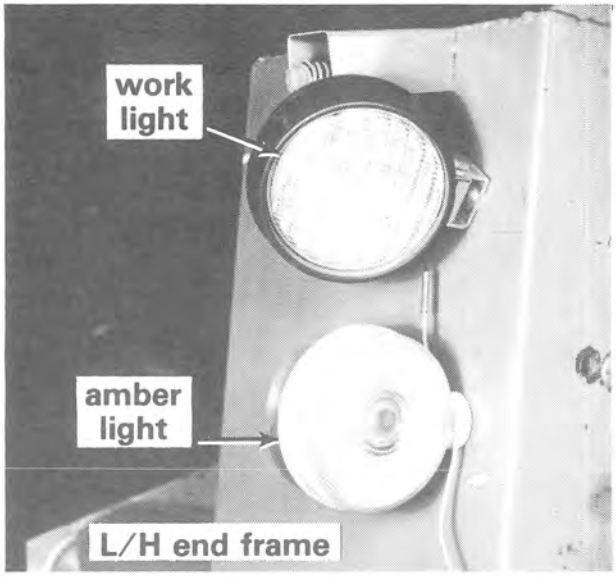


576

20. INSTALL LIGHTS:
Assemble lights to rear main frame as shown in Figures **582**, **584** and **586**.



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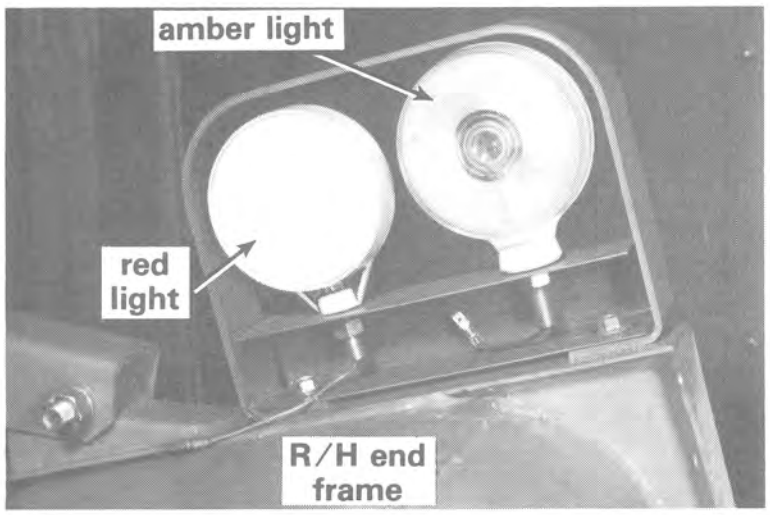

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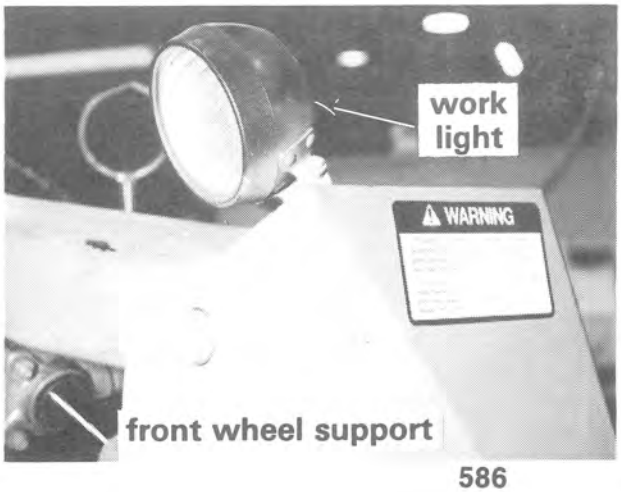


586

21. HYDRAULIC AND ELECTRICAL CONNECTIONS:

Turn rear machine crank shaft over by hand to ensure no parts are binding.

a) Connect the two smaller hydraulic couplings and plug in electrical connection at front of duplex hitch. See Figure **588**.

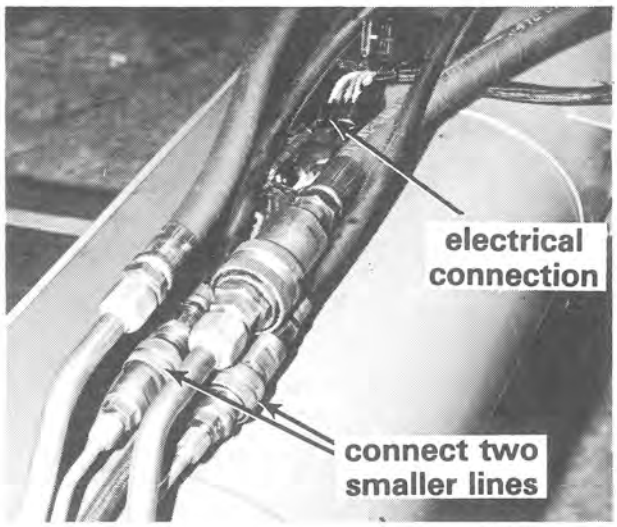
b) Route hoses through hose support rings. See Figure **590**.

c) Wipe hydraulic motor and fittings thoroughly to remove all dirt.

d) Remove the connector joining the two large hydraulic hoses. Connector is no longer required. Install the hoses in the hydraulic motor.

IMPORTANT: Install the hose identified as LEFT in the L/H motor port. (Remember R/H and L/H are determined by standing behind the machine facing forward). See Figure **592**.

e) Install case drain hose. See Figure **592**.



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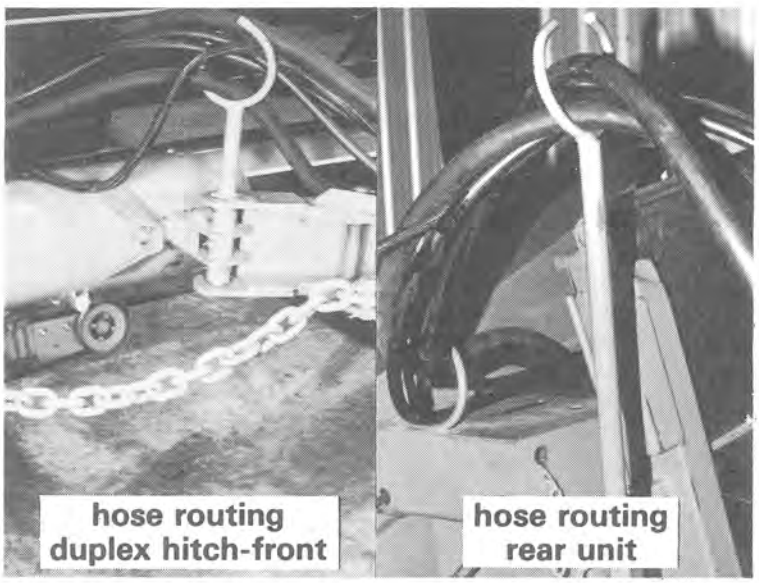

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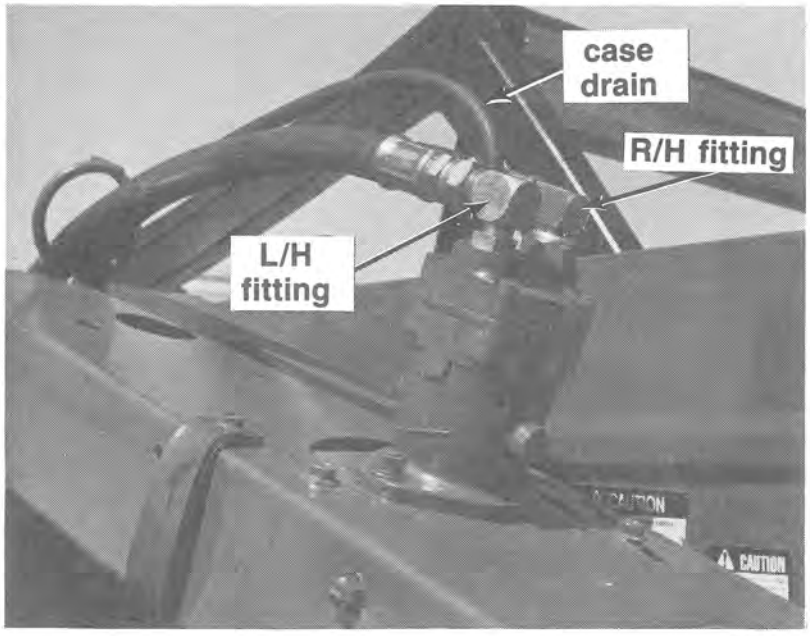


592

21. f) Connect hose from solenoid valve to hydraulic line at duplex hitch (accessible from underneath). See Figure **594**.

    g) Plug hitch section of electrical wiring harness into rear machine section See Figure **596**. Ensure harness is routed properly, clear of all moving parts.

22. REAR MACHINE CHECKS AND ADJUSTMENTS:

    a) Bleed R/H reel lift cylinder. Repeat procedure given in Step 19 a) for front machine.

    b) Adjust reel brace to center reel between end sheets. See Step 19 b).

    c) Check draper tracking as in Step 19 d).

    d) Adjust rear machine float until header can be lifted at the R/H divider rod with 100 to 150 lbs. (450 to 650 N) force. See Adjustments Section: Header Float.

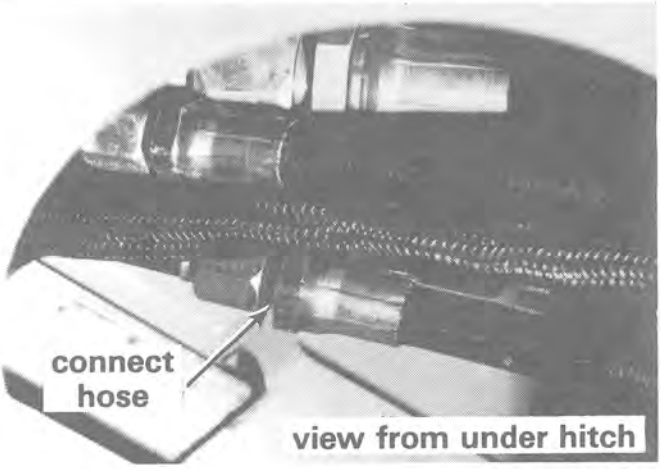
23. CHECK BELTS, IDLERS AND BEARINGS:

    a) Run machine for 15 minutes.

    b) STOP MACHINE.

    c) Check alignment of all belts and idlers on front and rear units.

    d) Check for heated bearings on front and rear units.



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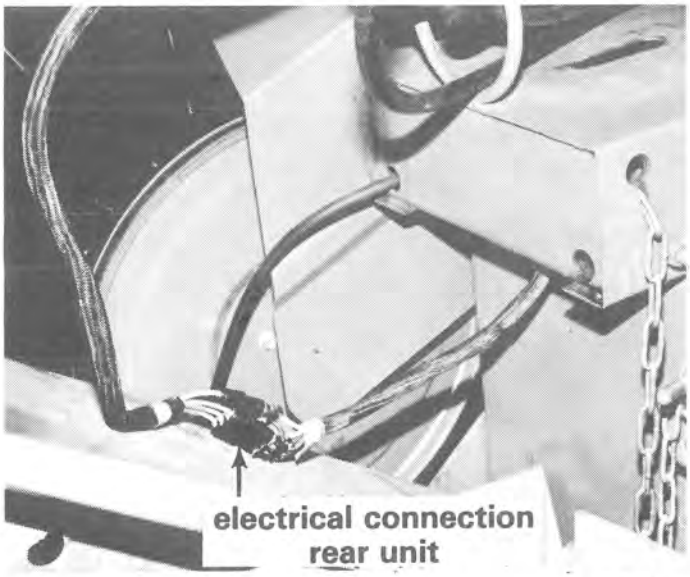


596

24. INSTALL STOP CHANNEL:

a) Bolt stop channel to front frame with four 1/2 inch flange bolts. Leave bolts loose. See Figure **598** .

b) Turn tractor right and drive slowly forward until duplex hitch contacts stop channel.

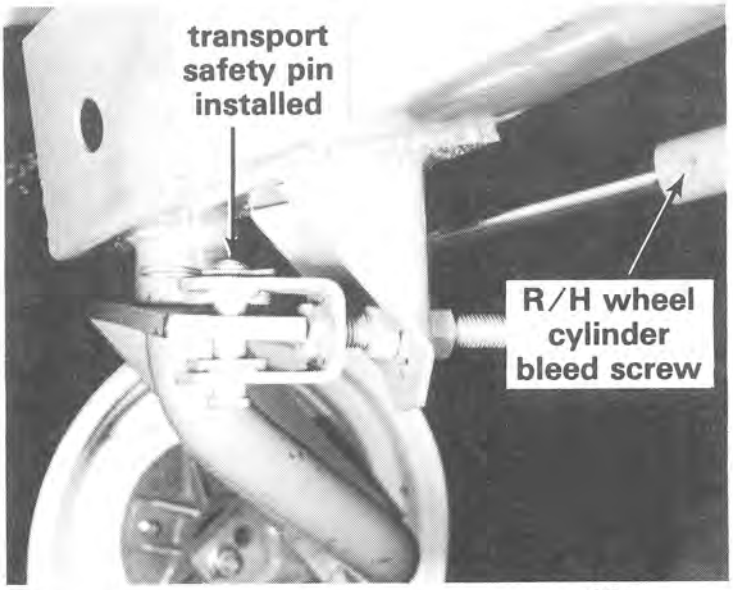
c) Adjust stop channel to give approximately 1/8 inch (3 mm) clearance. Tighten the four bolts.

598

25. CONVERT TO TRANSPORT-BLEED WHEEL CYLINDER:

Convert machines into transport mode. See Operation Section: Converting to Transport. Be sure safety pins are in place to secure both front and rear R/H wheels in transport. Open bleed screws slowly to bleed air from both front and rear R/H wheel cylinders. Close bleed screws and move hydraulics to raise headers. See Figure **600** .

NOTE: If hitch spring was not installed at STEP 15, do so at this point. See Figure **564.**



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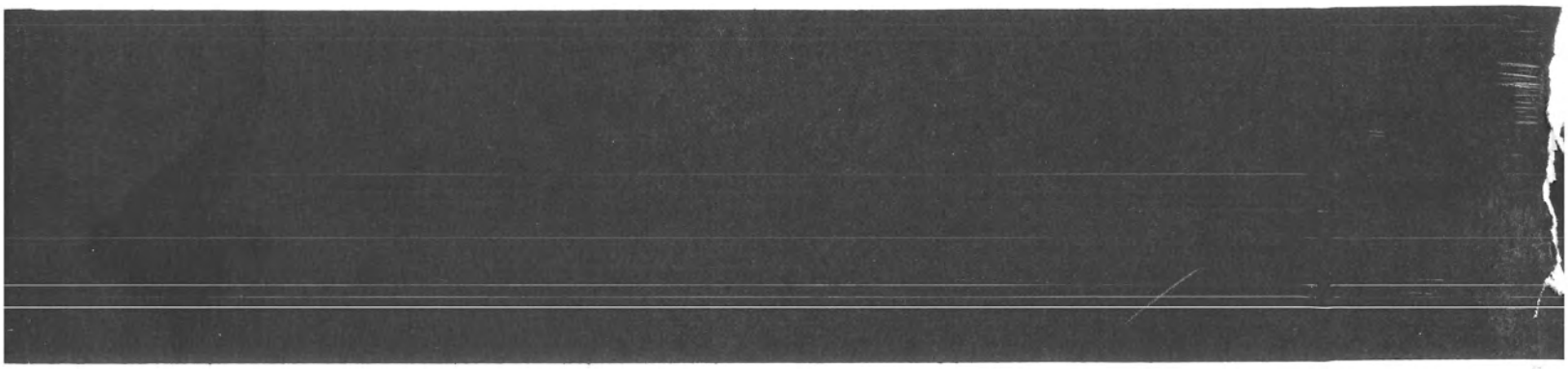

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