MacDon

Model 901
OFFSET MOUNT ADAPTER
for
FORD-VERSATILE 9030
BI-DIRECTIONAL TRACTOR

OPERATOR'S MANUAL SUPPLEMENT

for

Model 960 Harvest Header

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INTRODUCTION

This Manual Supplement contains information on the Model 901 adapter which is required to allow attachment of the MacDon Model 960 Harvest Header to the Ford-Versatile 9030 Bidirectional Tractor.

NOTE: This supplement does not provide all the information required to operate the header. It must be used in conjunction with your Harvest Header and Tractor Operator's Manuals.

CAREFULLY READ ALL MANUALS TO BECOME FAMILIAR WITH RECOMMENDED PROCEDURES BEFORE ATTEMPTING TO UNLOAD, ASSEMBLE OR USE THE MACHINE.

This manual is divided into sections on: "Safety", "Attaching and Detaching the Header", "Operation" and "Maintenance/Service".

Use the Table of Contents and the Index to guide you to specific areas. Study the Table of Contents to familiarize yourself with how the material is organized.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your dealer if you need assistance, information or additional copies of the manual.

NOTE: Right hand (R/H), and Left hand (L/H) designations are determined from the operators position, facing the header.

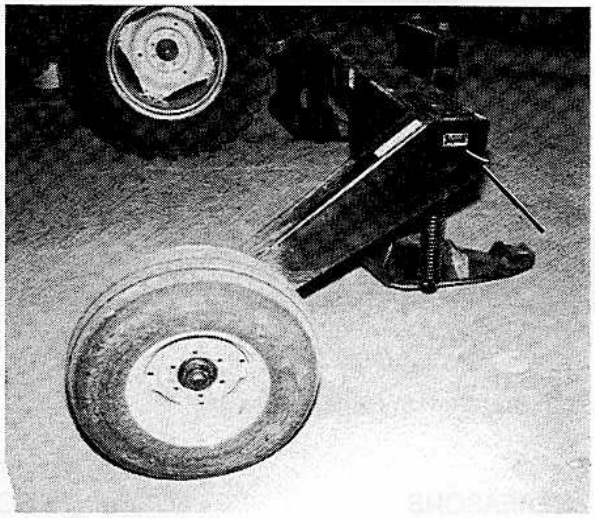
TABLE OF CONTENTS

SERIAL NUMBER LOCATION

Record the serial number in the space provided.

901 Adapter: _____

Plate is located on right side of adapter frame.

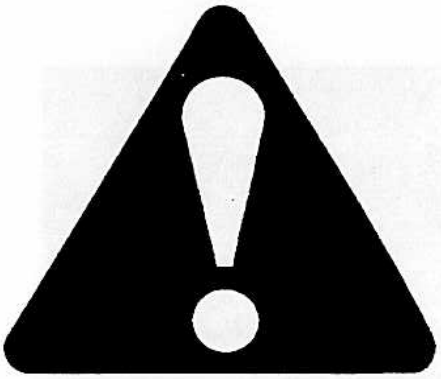


901 ADAPTER SERIAL PLATE

NOTE: When ordering parts and service, be sure to give your dealer the complete and proper serial number.

SAFETY

SAFETY ALERT SYMBOL



This safety alert symbol indicates important safety messages in this manual and on safety signs on the machine.

This symbol means: ATTENTION !
BECOME ALERT !
YOUR SAFETY IS INVOLVED !

Carefully read and follow the safety message accompanying this symbol.

Why is SAFETY important to you?

3 BIG REASONS

- ACCIDENTS DISABLE AND KILL
- ACCIDENTS COST
- ACCIDENTS CAN BE AVOIDED

SIGNAL WORDS

Note the use of the signal words DANGER, WARNING, and CAUTION with safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER

- an immediate and specific hazard or forbidden practice which WILL result in severe personal injury or death if the message is not followed.

WARNING

- a specific or unsafe practice which COULD result in severe personal injury or death if the message is not followed.

CAUTION

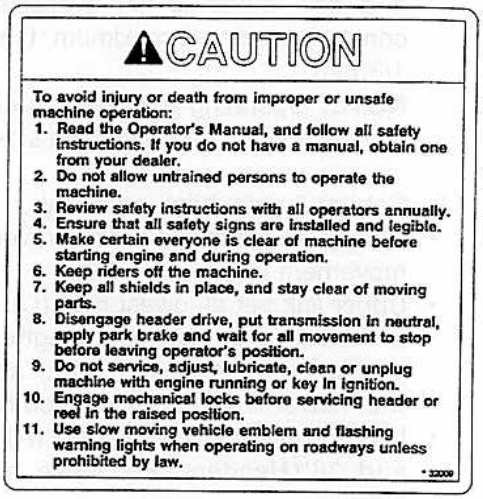
- unsafe practice which could result in personal injury if the message is not followed, or a reminder of good safety practices.

SAFETY SIGNS

- The safety signs below appear on the adapter.
- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or become illegible.
- If original parts on which a safety sign was installed are replaced, be sure the repair part also bears the current safety sign.
- Safety signs are available from your Dealer Parts Department.

To install safety signs:

1. Be sure the installation area is clean and dry.
2. Decide on the exact location before you remove the decal backing paper.
3. Remove the smaller portion of the split backing paper.
4. Place the sign in position and slowly peel back the remaining paper, smoothing the sign as it is applied.
5. Small air pockets can be smoothed out or pricked with a pin.



ATTACHING & DETACHING

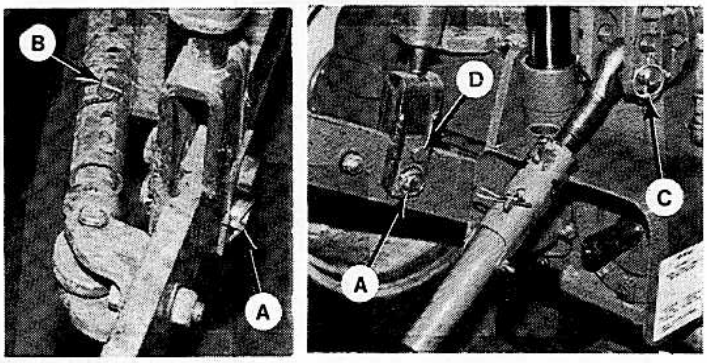
PREPARING THE TRACTOR

1. Check with your dealer to ensure tractor is properly equipped to carry header.

   TRACTOR REQUIREMENTS:
   - Two 3/4 inch female hydraulic quick couplers (20 GPM) (ASAE/SAE/ISO approved).
   - Cab end 3-point hitch (ASAE S217.10 category II).
   - 7 terminal electrical receptacle (SAE J560b) with auxiliary switch in cab.

2. Set the hydraulic oil flow to the header at 20 gallons/minute. See your Tractor Manual.
   If a flow meter is not available, turn flow control in tractor to maximum, then back it off 1/8 turn.
   NOTE: Operating at maximum oil flow of 25 gallons per minute will reduce sickle drive life.

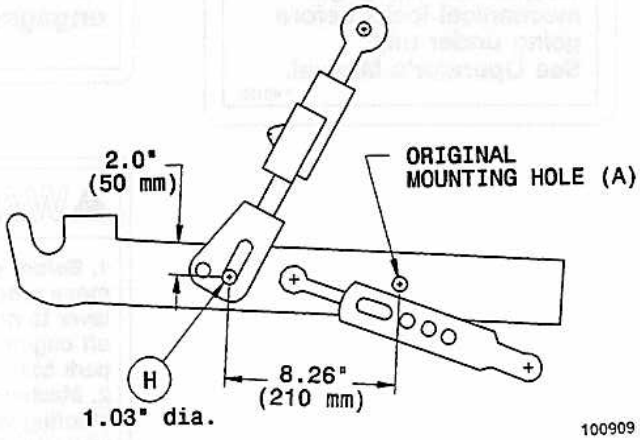
3. Set the 3-point hitch as follows:
   - Stabilizers locked at (B) to prevent sideways movement of the lower links.
   - Upper link set at lowest hole (C).
   - Lift rod links at minimum length and in float position (with button (D) out, as shown, or with newer linkages use slotted hole).
   - Lift rod links mounted at hole (A), **except 30' and 36' Headers.** For these headers, see below.



3-POINT HITCH SETTINGS

   - For 30' and 36' Headers:
     Add a 1.03" diameter hole (H) to lower links at position shown.
     Attach lift rod links to lower links at these new holes.
     NOTE: When position (H) is used, lift rod links must be extended when attaching (or detaching) adapter to achieve adequate lowering of lower links. Return lift rod links to minimum length after attaching adapter.

IMPORTANT: To avoid machine damage, use this lift rod position only for the MacDon adapter and header. Always set lift rod links back to their original position before attaching any other implement.

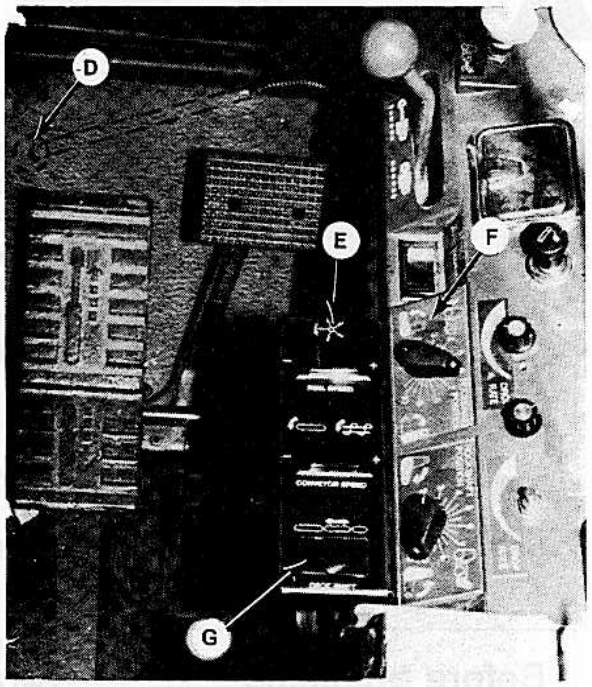


LINKAGE MODIFICATION FOR
30' & 36' HEADERS

PREPARING THE TRACTOR (continued)

4. Install the header control panel in cab:

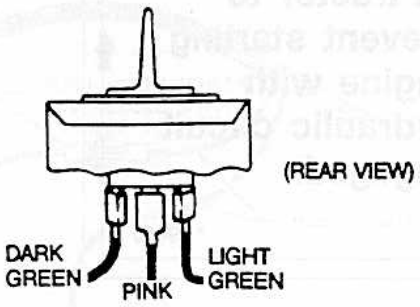
- Pull the floor mat back. Remove the "knock-out" plug from the 1 3/4" (45 mm) hole (D) in the floorboard. Hole is located 7" (180 mm) forward of floor bend-line, and 13" (330 mm) from the side of the console.
- Route the two harness plugs down through the hole. Pull the plugs down between the hoses to the GREEN hydraulic couplers.
- Position controller panel (E) even with the top of console. Align front of panel with edge of Rockshaft Position panel (F). Mark the mounting hole position and drill two 1/8" (3 mm) holes. Secure panel to console with two #10 x 1/2" self-tapping screws.
- **IMPORTANT:** The auxiliary light switch in cab must be on to operate header control panel.



INSTALL HEADER CONTROL PANEL

NOTE: For Triple Delivery Header, install deck shift paddle switch (shipped with the header) in control panel as follows:

- Cut decal to expose third switch hole (G) in panel.
- Push switch into hole and attach wires from harness as shown.
- When header is attached, check function of deck shift switch. Moving switch paddle to the left should shift decks to the left. If moving paddle to the left shifts decks to the right and vice-versa, exchange positions of the two green wires at the switch.



DECK SHIFT PADDLE SWITCH WIRING
(Triple Delivery Headers)

PREPARING THE TRACTOR (continued)

5. Install neutral switch on blue hydraulic circuit:

WARNING: Before attaching adapter to tractor, neutral switch must be installed at tractor's four spool implement valve to prevent starting of engine with hydraulic circuit engaged.

Neutral Switch Operation: The hydraulic neutral switch is wired in series with neutral switches for ground speed (F-N-R) lever and P.T.O. control. The hydraulic neutral switch senses neutral position of the blue spool. After correct installation, tractor will start only if blue hydraulic circuit, ground speed (F-N-R) lever and P.T.O. control are all in neutral position.

NOTE: Right hand (R/H), and Left hand (L/H) designations are determined from the operator's position, facing the header.

a) Remove two mounting bolts at left side of cab and carefully raise side of cab. If a jack is used, be sure to keep cab blocked as it is being raised.

SECURELY BLOCK UP THE CAB BEFORE WORKING UNDER IT.

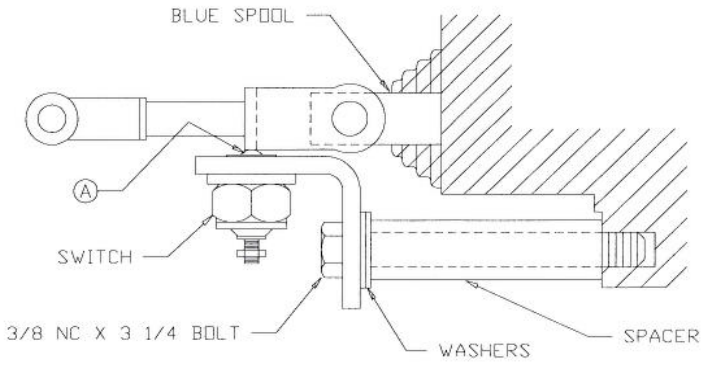
b) Identify the blue spool at tractor four-spool implement valve. There are three links activating the blue, tan and green spools. The left hand link is for the blue hydraulic circuit. Move blue control lever in cab to make sure blue spool is identified.

c) Move the blue control lever to neutral position.
NOTE: The blue hydraulic circuit has three positions:
1. Rearward detent
2. Spring centered neutral
3. Forward detent.

PREPARING THE TRACTOR

5. Install neutral switch on blue hydraulic circuit (continued):

d) Bolt neutral switch assembly to implement valve, using two spacers, four washers and two 3/8 NC x 3.25" bolts, as shown. Position the switch directly under link controlling the blue spool. The base of the link's clevis depresses switch ball at neutral position (A) only. If switch ball is not centered on base of clevis, washers may be added or removed as required. Move support upward until the ball is almost completely depressed. Do not push switch support against control link, as linkage will bind and the blue control lever will not operate smoothly.



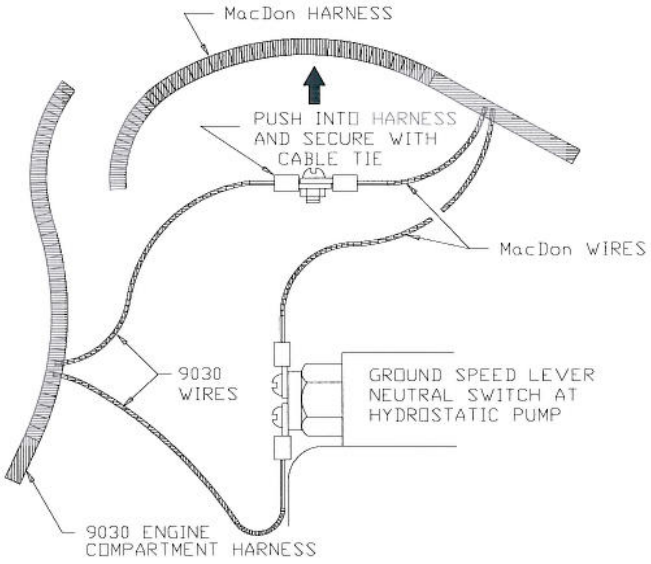
INSTALL NEUTRAL SWITCH

e) Move blue control lever in cab to check for linkage binding. Ensure switch ball is depressed only at neutral position.

f) Route wiring harness towards engine compartment, through upper hydraulic hose shield at articulation area and to ground speed lever neutral switch. This switch is accessible through opening at right hand engine compartment and is mounted to casting of hydrostatic pump, just forward of air cleaner canister.

g) **IMPORTANT:** Assemble wires in series as shown. Failure to do so may result in disabling all neutral switches. Bolted connection (9030 wire to MacDon wire) must be insulated by pushing into harness cover as shown and tied securely.

h) Tie harness away from drivelines, moving parts and pinch points using cable ties provided.



ATTACH WIRING HARNESS

i) Lower cab and install mounting bolts.

j) Test neutral switch as follows:

PREPARING THE TRACTOR

5. Install neutral switch on blue hydraulic circuit (continued):

j) **TEST NEUTRAL SWITCH AS FOLLOWS:**

Shift transmission range lever into neutral. Disconnect wire with blade terminal at fuel pump to prevent engine from running when doing the following tests:

- Move ground speed lever, P.T.O. control and blue lever into neutral position. Try to start the engine. Starter should engage, but engine should not run. If engine runs, disconnect wire at fuel pump.
- Push blue control lever to the "cylinder extend" position. Try to start the engine. Starter should not engage.
- Pull blue control lever to the "cylinder retract" position. Try to start the engine. Starter should not engage. Return lever to neutral position.
- Turn the P.T.O. control on. Try to start the engine. Starter should not engage. Return P.T.O. to "OFF" position.
- Move ground speed (F-N-R) lever out of neutral to slowest ground speed position. Try to start the engine. Starter should not engage. Return lever to neutral position.

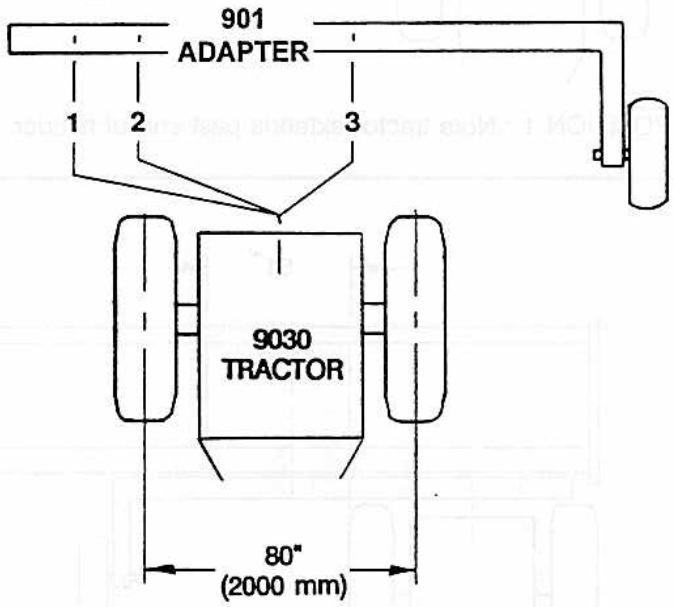
If the neutral start system fails any of the above tests, review installation procedure to isolate the problem.

ATTACHING & DETACHING

PREPARING THE ADAPTER

There are three positions on the Model 901 adapter for the 9030 tractor 3-point hitch mounts:

POSITION 1: Furthest left.
POSITION 2: Approximately 18 inches (450 mm) right of position 1.
POSITION 3: Furthest right.



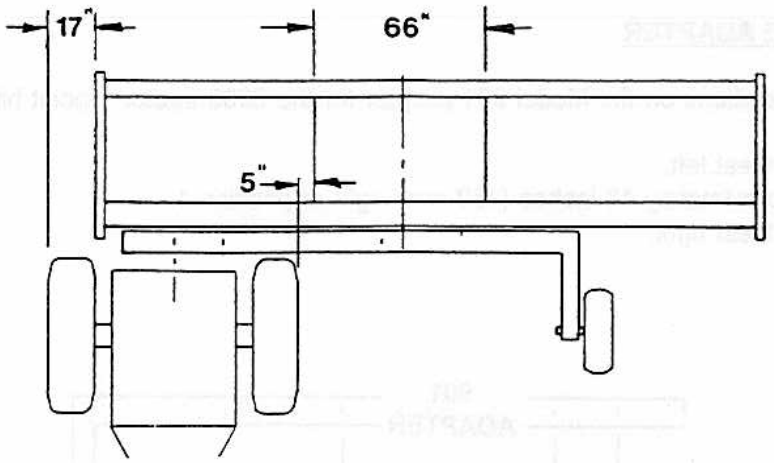
The illustrations on pages 8 to 11, (drawn approximately to scale), show the 9030 tractor at each position for each header size. Maximum delivery opening width (distance between rollers) and clearances are shown with tractor tread width set at 80 inches center-to-center (2000 mm). This is the minimum tread width recommended for the Ford - New Holland loader. Opening width and/or tractor tire-to-swath clearance can be increased by changing tractor tread width. Keep in mind that crop may fan out as it leaves the header. Allow enough clearance to prevent tires running over the swath.

IMPORTANT: Not all mounting positions are recommended for every header size. The best tractor positions for center and end delivery are indicated for each header size. Swath delivery under the 9030 tractor is limited to light crop conditions. Under tractor clearance can be increased by removing the tractor drawbar and drawbar rear support.

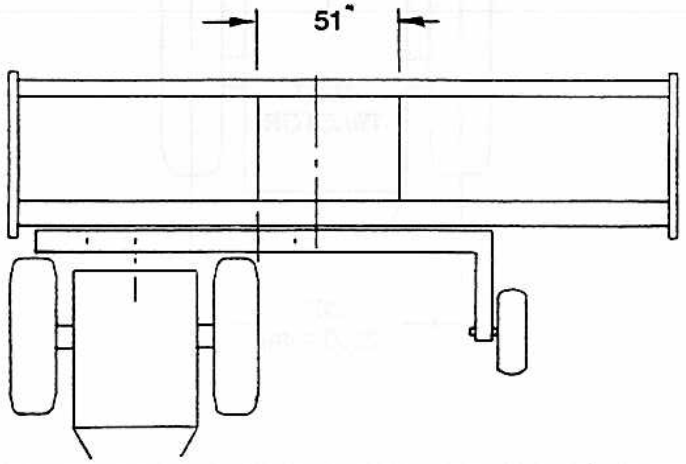
NOTE: Left end delivery opening sizes shown apply to both Double Delivery and Triple Delivery Headers. For Triple Delivery Headers, double swath opening size is limited to the lesser of the left and right end openings listed.

NOTE: See page 16 for instructions on positioning of the 3-point hitch mounts.

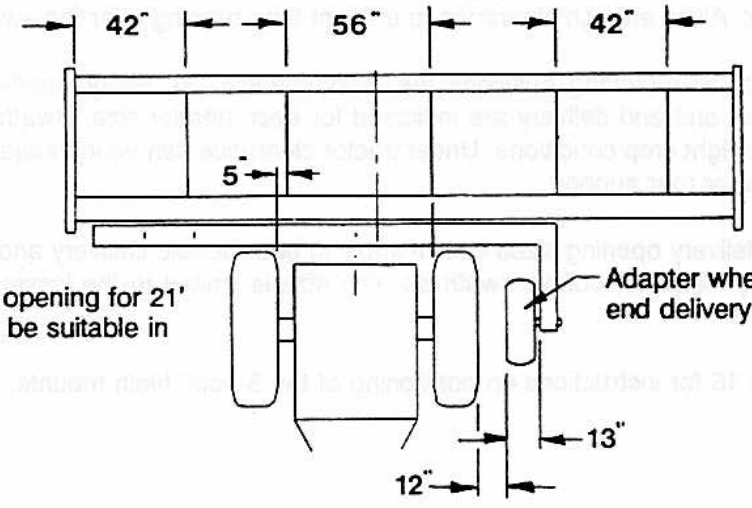
21' HEADER



POSITION 1 : Note tractor extends past end of header.



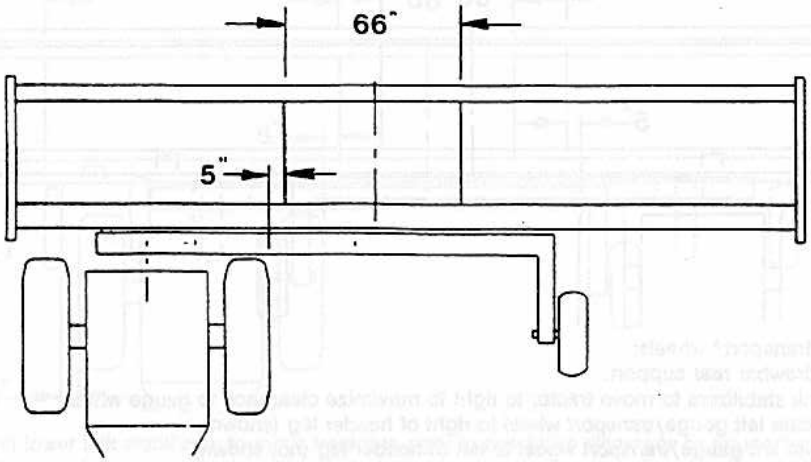
POSITION 2 : Recommended for Center Delivery



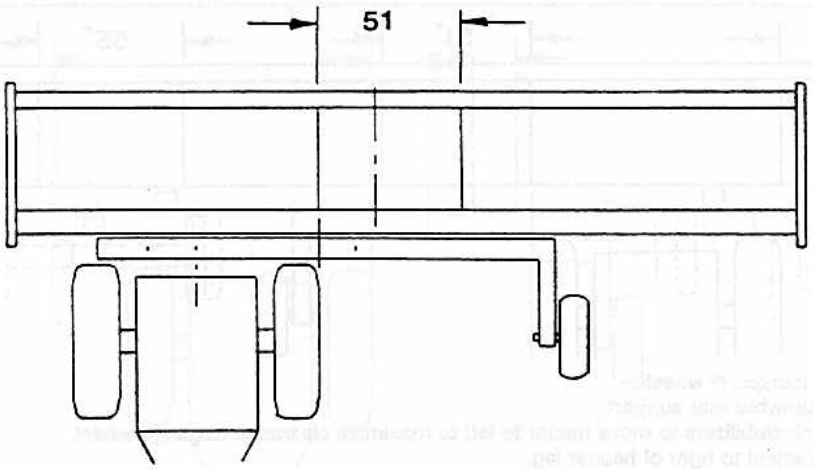
NOTE: Widest end delivery opening for 21' header is 42". This may not be suitable in heavy crop conditions.

POSITION 3 : Recommended for End Delivery

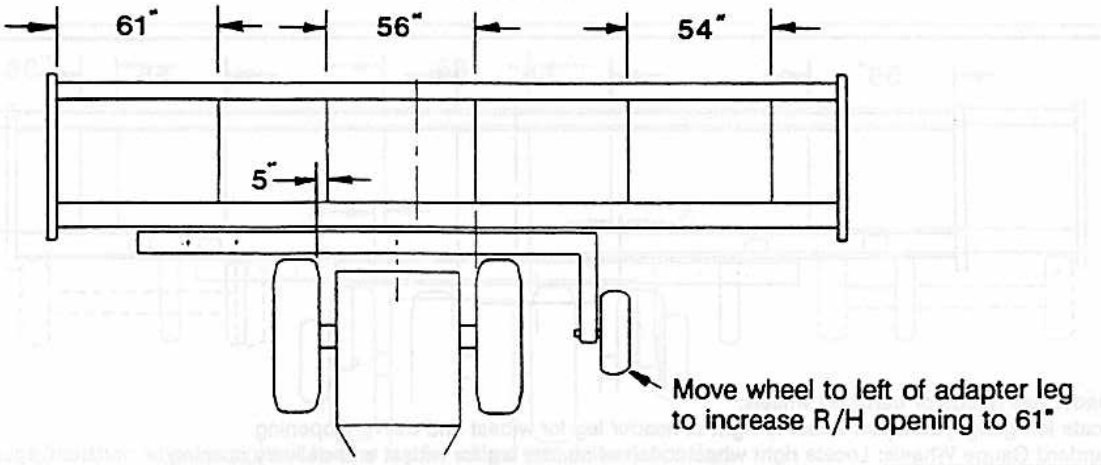
25' HEADER



POSITION 1 : Recommended for Center Delivery

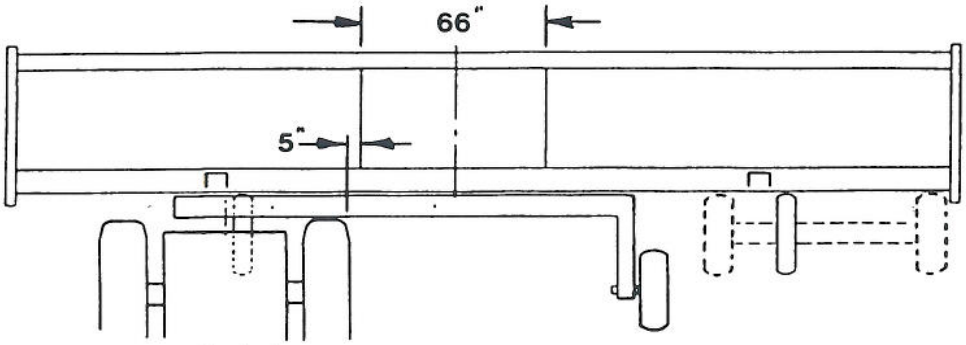


POSITION 2



POSITION 3 : Recommended for End Delivery

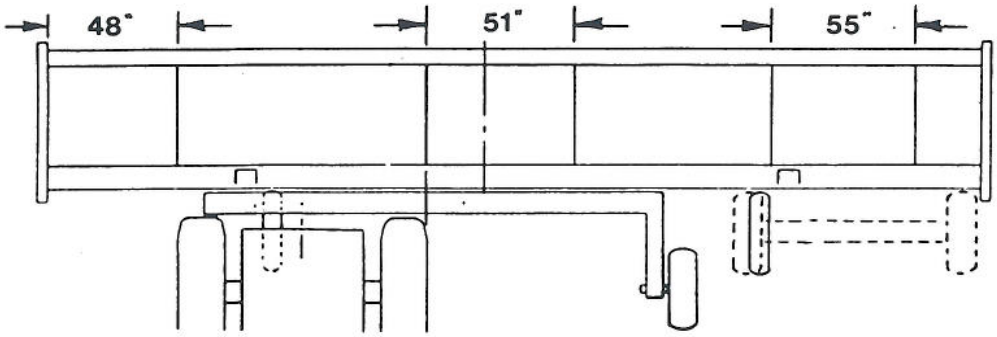
30' HEADER



If header has gauge or 1993 transport* wheels:
- Remove tractor drawbar & drawbar rear support.
- Adjust 3-point hitch lower link stabilizers to move tractor to right to maximize clearance to gauge wheel.
- Double Delivery Header: Locate left gauge/transport wheel to right of header leg (shown).
- Triple Delivery Header: Locate left gauge/transport wheel to left of header leg (not shown).
- Locate right gauge/transport wheel(s) to right of header leg.

* NOTE: 1993 transport left wheel telescopes up into the header leg in field position. For transport package built prior to 1993, remove left wheel, as it will interfere with the tractor.

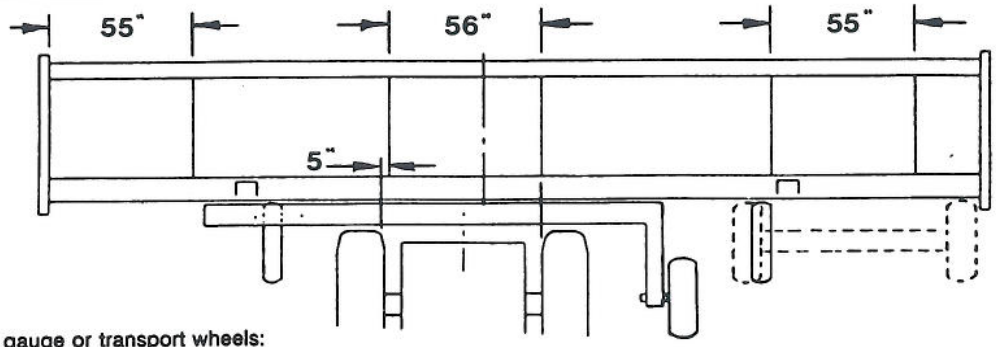
POSITION 1 : Recommended for Center Delivery



If header has gauge or 1993 transport* wheels:
- Remove tractor drawbar & drawbar rear support.
- Adjust 3-point hitch lower link stabilizers to move tractor to left to maximize clearance to gauge wheel.
- Locate left gauge/transport wheel to right of header leg.
- Standard Gauge Wheels: Locate right wheel to left of header leg for widest end delivery opening.
- Transport Gauge Wheels: Locate right wheel axle to right of header leg. Store in raised position for end delivery.

* NOTE: 1993 transport left wheel telescopes up into the header leg in field position. For transport package built prior to 1993, remove left wheel as it will interfere with the tractor.

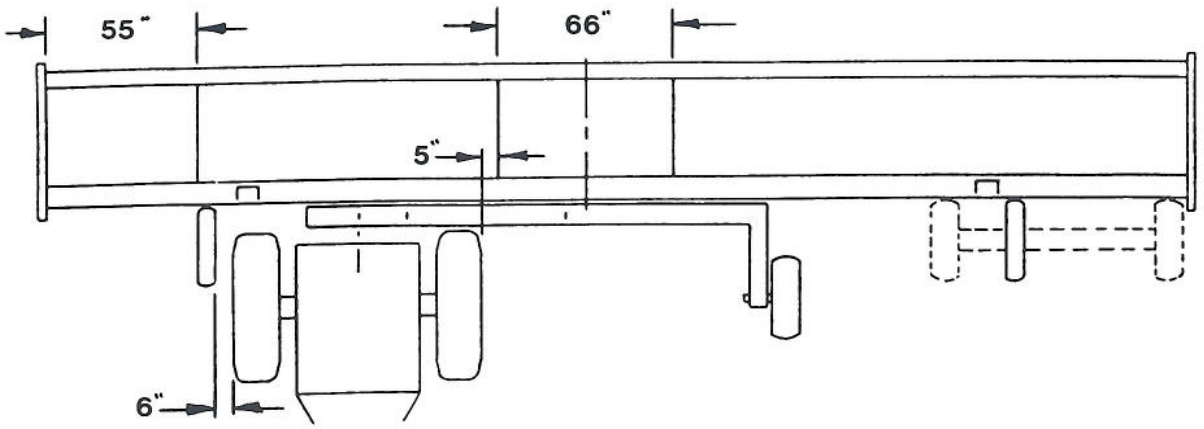
POSITION 2



If header has gauge or transport wheels:
- Locate left gauge/transport wheel to right of header leg for widest end delivery opening.
- Standard Gauge Wheels: Locate right wheel to left of header leg for widest end delivery opening.
- Transport Gauge Wheels: Locate right wheel axle to right of header leg. Store in raised position for end delivery.

POSITION 3 : Recommended for End Delivery

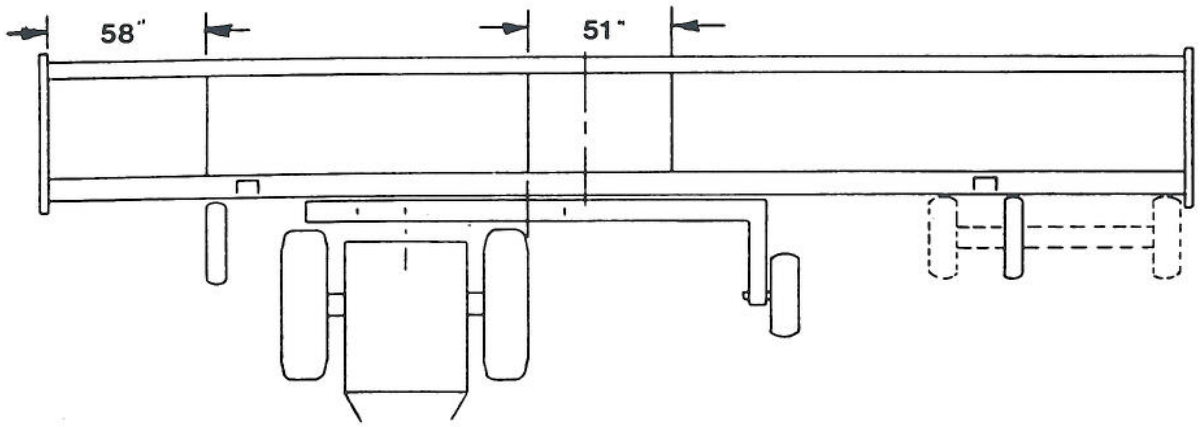
36' HEADER



- Adjust 3-point hitch lower link stabilizers to move tractor to right to maximize clearance to gauge/transport* wheel.
- Reverse rim of left gauge/transport wheel and locate to left of header leg to maximize clearance to tractor tire.
- Locate right gauge/transport wheel(s) to right of header leg. (May be to left of leg if adapter wheel moved to left of adapter leg.)

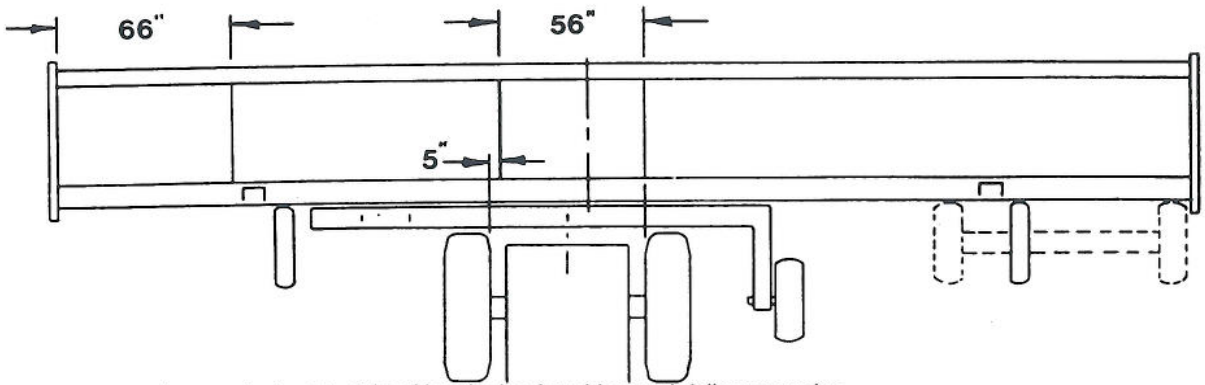
* NOTE: Transport package must be 1993 version, where left wheel telescopes up into the header leg in field position. For transport package built prior to 1993, remove left wheel, as it will interfere with the tractor.

POSITION 1 : Recommended for Center Delivery



- Adjust 3-point hitch lower link stabilizers to move tractor to right to maximize clearance to gauge wheel.
- Locate left gauge/transport wheel to left of header leg.
- Locate right gauge/transport wheel(s) to right of header leg. (May be to left of leg if adapter wheel moved to left of adapter leg.)

POSITION 2



- Locate left gauge/transport wheel to right of header leg for widest end delivery opening.
- Locate right gauge/transport wheel(s) to right of header leg. (May be to left of leg if adapter wheel moved to left of adapter leg.)

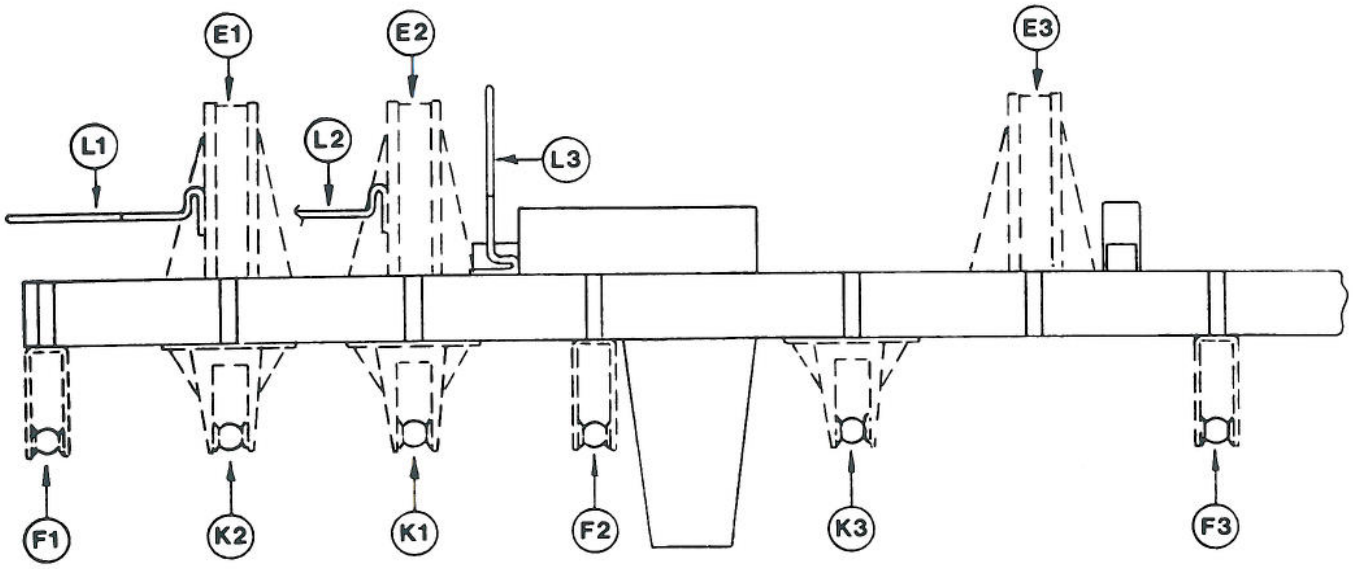
POSITION 3

ATTACHING & DETACHING

PREPARING THE ADAPTER

Move the 3-point hitch mounts and hose guide to Position 1, 2 or 3 on the adapter frame.

(E) - Upper link mount
(F) - Lower link 2-bolt mount
(K) - Lower link 3-bolt mount
(L) - Hose guide



3-POINT HITCH MOUNT POSITIONS

ATTACHING ADAPTER TO TRACTOR

1. With 3-point hitch lower links fully lowered and the top link raised to storage position, drive the tractor slowly towards the adapter until the lower link claw couplers are below the adapter lower mounts. The large claw openings make exact alignment unnecessary.
   NOTE: For 30' and 36' Headers with Pick-Up Reel where tractor lift rod links have been repositioned to new hole in lower links (see page 6), extend lift rod links to allow linkage to lower further.

2. Raise the lower links using the hydraulic lift switch until claw couplers engage the ball bushings. An audible click will be heard as the self-locking latches engage. Stop engine and remove key.

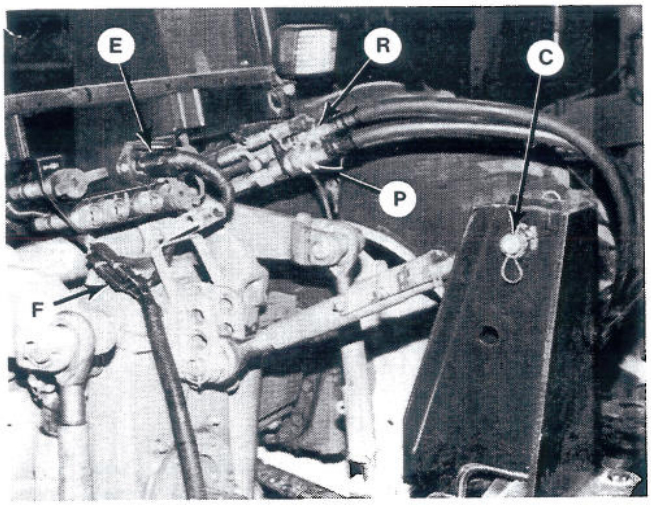
3. Attach top link to adapter at (C).

4. Identify 3/4 inch PRESSURE and RETURN couplers on tractor: Return coupler is connected to a single larger hose. Pressure coupler is attached to two smaller hoses, one of which is routed to BLUE-EXTEND coupler.

   Attach quick coupler (R) to the tractor RETURN coupler.

   IMPORTANT: Coupler (R) comes from the tee fitting on top of the adapter, and must be attached to the RETURN coupler on the tractor. FAILURE TO PROPERLY CONNECT THIS COUPLER MAY DAMAGE SICKLE DRIVE MOTOR. Coupler (R) has a black plastic tie fastened to it. To ease identification of mating couplers, attach the other black tie (supplied) to the tractor RETURN coupler.

   Attach quick coupler (P) to the tractor PRESSURE coupler.



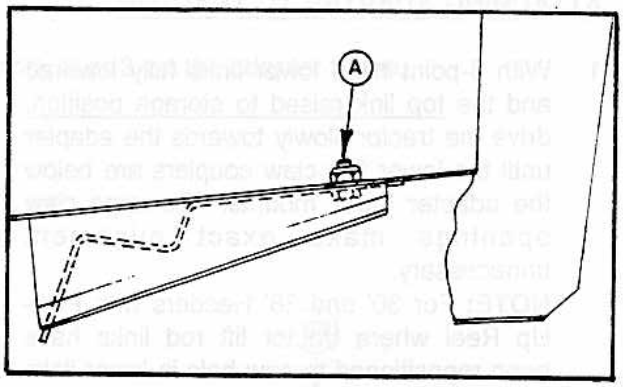
HYDRAULIC & ELECTRICAL CONNECTIONS

5. Attach 7 terminal plug from header lights wiring harness into tractor at (E).
   NOTE: Be sure that harness is routed behind top link storage support to prevent pinching harness when header is raised.

6. Attach header control harness plugs (F) into harness from control panel installed in cab. See "Preparing the Tractor".

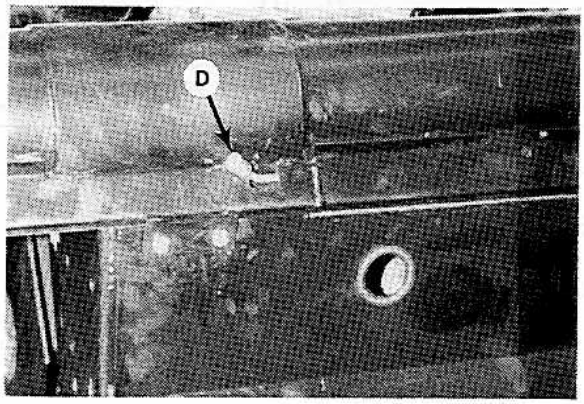
PREPARING THE HEADER

1. Attach linkage supports (supplied with adapter package) to lower header legs with 5/8 locknut at (A).



ATTACH LINKAGE SUPPORTS TO HEADER LEGS

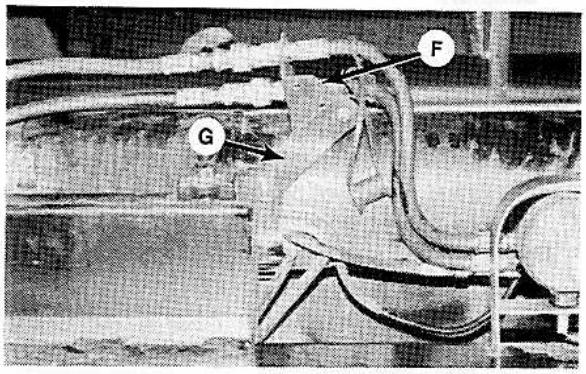
2. Attach hose with 1/2 NPT male quick coupler (supplied with adapter package) to reel lift line (D) on header.



ATTACH REEL LIFT HOSE

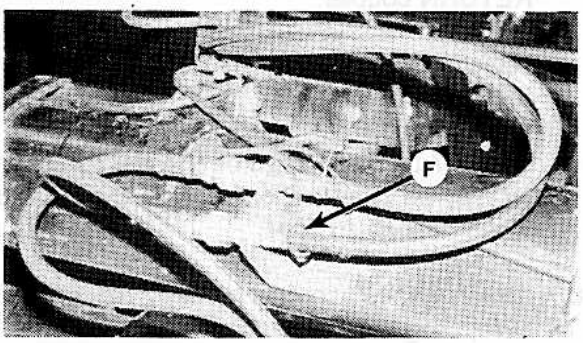
3. Move the mounting plate (F) for the reel drive couplers to the position shown:

   21', 25', and 30' headers: Remove plate from side of header R/H leg and reposition on top of frame tube, using support (G) (shipped with adapter package).



MOVE REEL DRIVE COUPLERS 21', 25', & 30'

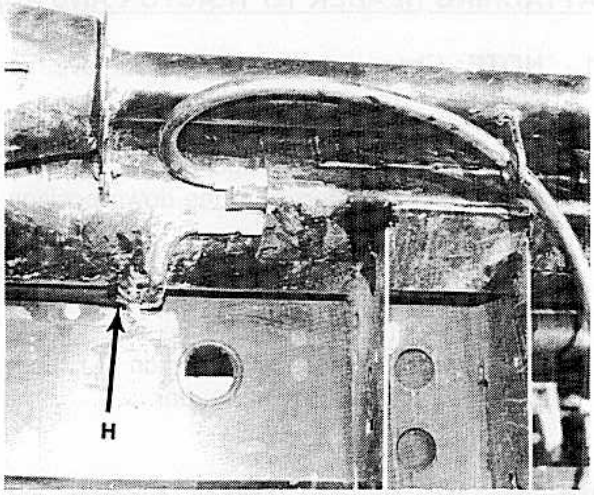
   36' header: Turn plate (F) 180°, so couplers point to the left end of the header instead of the right. (Support (G) is not used for 36'.)



MOVE REEL DRIVE COUPLERS - 36'

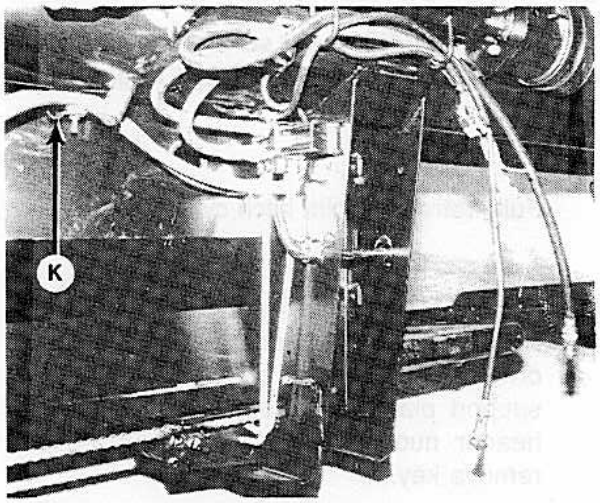
PREPARING THE HEADER (continued)

4. Double Delivery Headers: Release draper return hose (with blue male coupler) from hose clamp (H) at header L/H leg.



RELEASE HOSE FROM CLAMP - D.D. HEADERS
(driveline adapter shown is not used in this application)

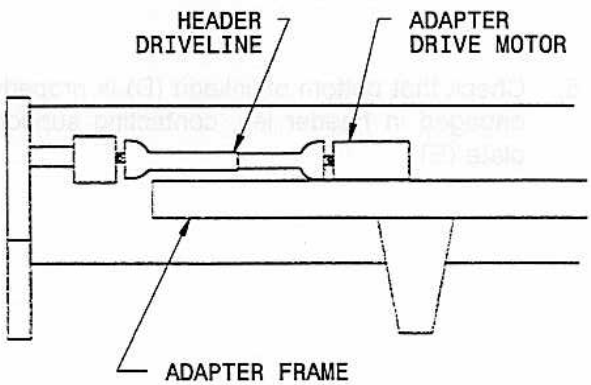
Triple Delivery Headers: Release draper pressure hose (with orange female coupler) from hose clamp (K). Pull draper return hose (with blue male coupler) out from behind short hose.



RE-ROUTE DRAPER HOSES - T.D. HEADERS
(driveline adapter shown is not used in this application)

5. 21 ft. Header Only: Shorten header driveline before attaching to the adapter.
   To shorten:

a) Separate the driveline.
b) Male Shaft Half: Cut plastic shield tube at 740 mm (29-1/8") from center of cross and bearing. Cut steel shaft at 750 mm (29-1/2") from center of cross and bearing.
c) Female Tube Half: Replace with shorter drive-line half, Part No. 40495, available from your MacDon dealer.
d) Join the driveline. Collapsed length (center of cross to center of cross) should be 800 mm (31-1/2").
e) Cut hole in plastic shield to expose grease fitting.



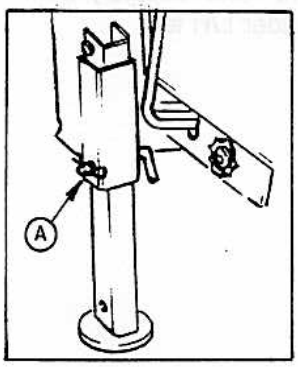
MODIFY HEADER DRIVELINE - 21' ONLY

ATTACHING HEADER TO TRACTOR AND ADAPTER

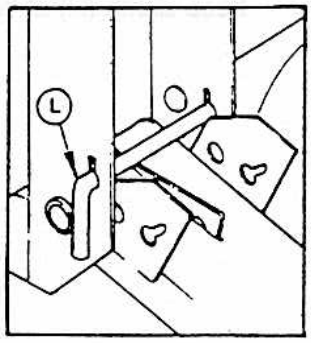
1. **NOTE:** Choose an area that is as level as possible.

   For headers without gauge wheels, be sure header stand is secure in the down position (A).

   For headers with gauge wheels, block both wheels front and rear, and be sure gauge wheel pins are in stand position (L), both sides, to support rear of header.



HEADER STAND



GAUGE WHEELS

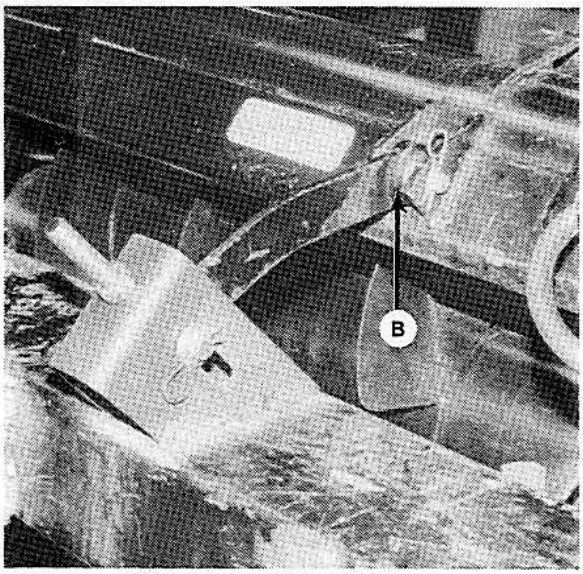
IMPORTANT: Be sure linkage supports are attached to header lower legs. See "Preparing the Header", page 18.

2. **CAUTION: Be sure area is clear of bystanders, then start engine.**

   Fully retract 3-point hitch cylinders.

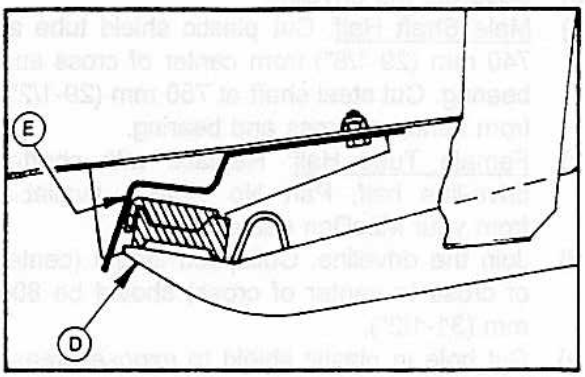
3. Slowly drive tractor forward so that adapter lift linkage enters header legs. Continue to drive slowly forward until linkage contacts support plate in the lower header leg, and header nudges forward. Stop engine and remove key.

4. Install center link (B) from adapter to header. Adjust length of link if required. See "Header Angle" in Operation section.



INSTALL CENTER LINK

5. Check that bottom of linkage (D) is properly engaged in header leg, contacting support plate (E).



CHECK FOR PROPER ENGAGEMENT

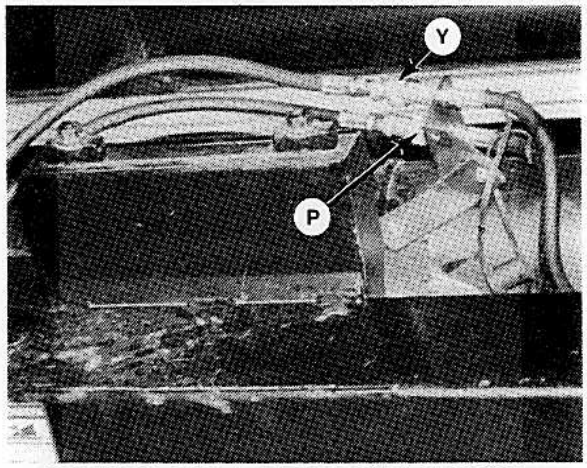
ATTACHING HEADER TO TRACTOR AND ADAPTER (continued)

6. Connect header driveline to spline shaft on adapter at (F): Pull back spring-loaded collar on driveline yoke and slide yoke onto shaft. Release collar, ensuring yoke locks in position on shaft.

7. Connect the electrical wiring harness (G) near hydraulic motor.

8. Make the five hydraulic connections, matching colour coded couplers as follows:

- Four connections from header to adapter:
  - draper drive pressure (orange) (O)
  - draper drive return (blue) (B)
  - reel drive pressure (no colour code) (P)
  - reel drive return (yellow) (Y)

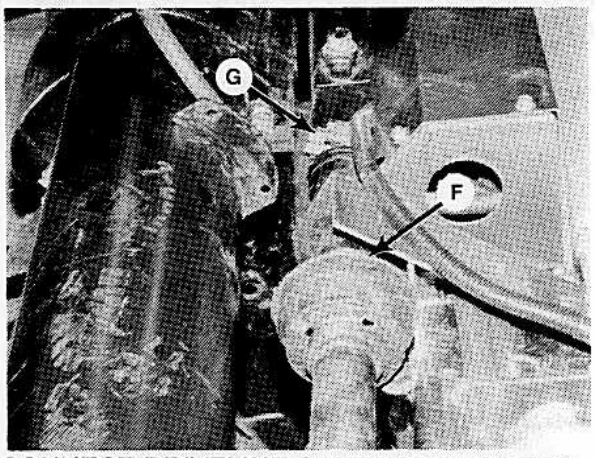


CONNECT REEL DRIVE HYDRAULICS

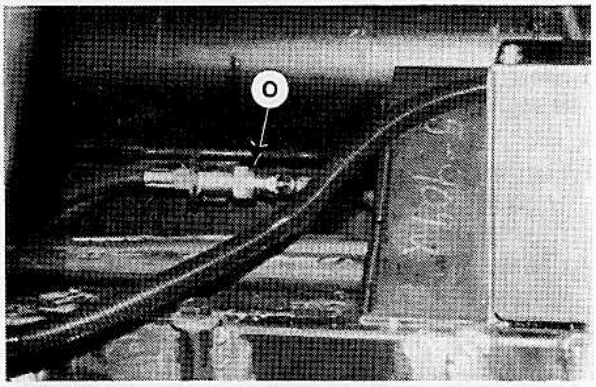
- One connection from header to tractor:
  - reel lift to TAN coloured RETRACT coupler (T)

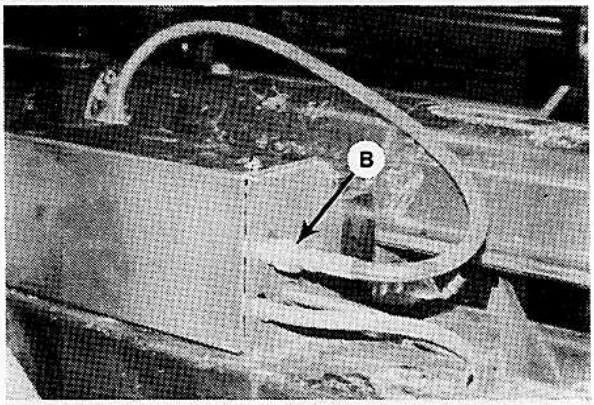
9. Start engine. Activate lower link cylinders to raise adapter until header just starts to lift at cutterbar. Stop engine and remove key.

DANGER: Stay out from under header and adapter when removing or installing pins. Three-point linkage drops at a variable rate when engine is shut off.

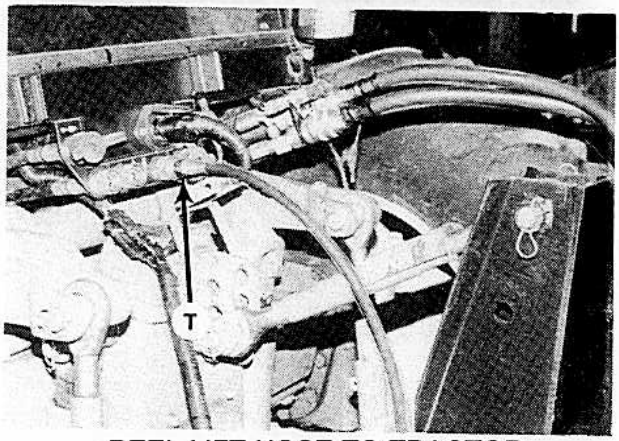


CONNECT DRIVELINE & WIRING HARNESS





CONNECT DRAPER DRIVE HYDRAULICS

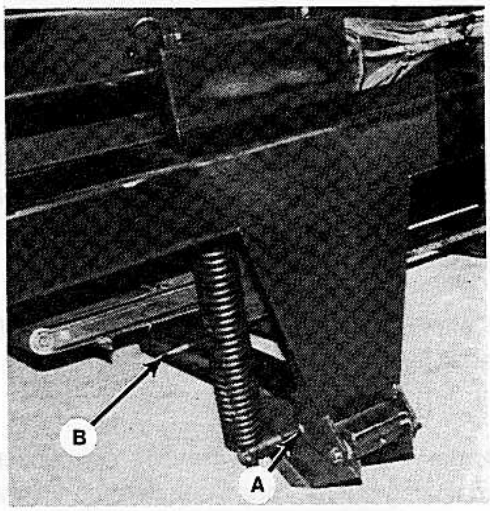


REEL LIFT HOSE TO TRACTOR

ATTACHING HEADER TO TRACTOR AND ADAPTER
(continued)

10. Remove "L" pin from float lock-out position (A) and install through header leg at (B), (engaging U-bracket in lift linkage), both sides.

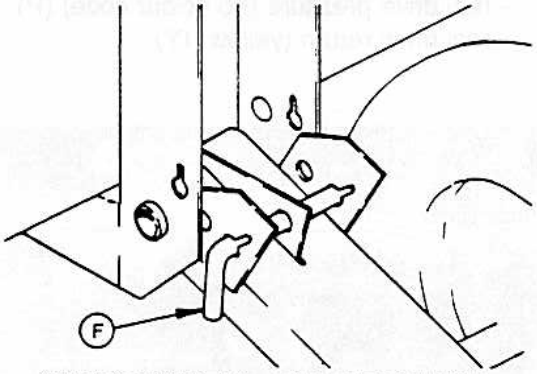
    NOTE: Rotate pin to align roll pin with key slot for removal and installation. Roll pin locks inside to secure the position.



LOCK ADAPTER TO HEADER LEG

11. Start engine. Activate lower link cylinders to raise header fully. Stop engine and remove key.

12. For headers with gauge wheels, remove pins at gauge wheels and place in field position (F). (For headers with gauge wheel/transport option, gauge wheel support is not exactly as illustrated. See decal at support.)

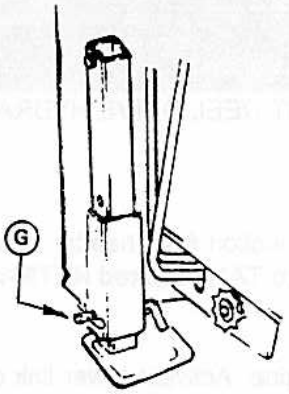


GAUGE WHEELS - FIELD POSITION

13. For headers without gauge wheels, raise header stand to storage position (G).

14. Lower header to cutting height and check that header is level end-to-end. Adjust if required. See "Header Levelling" in Operation section.

15. Lower header and adapter to ground.



HEADER STAND - STORAGE POSITION

DETACHING HEADER FROM TRACTOR AND ADAPTER

Using this procedure, adapter will remain attached to the tractor. This would be appropriate when header is to be used on a combine. Instructions for detaching both header and adapter from tractor are given on the next page.

1. Choose a level area. Lower the reel and raise the adapter until header just starts to lift at cutterbar. Stop engine and remove key.

DANGER: Stay out from under header and adapter when removing or installing pins. Three-point linkage drops at a variable rate when engine is shut off.

2. Remove "L" pin from header leg at (B) and install in float lock-out position (A), both sides. **NOTE:** "L" pin goes on top of lift linkage lower member, not through hole (C). This leaves the lift linkage in a position to pick up the header when reattaching. Hole (C) is used only when a header with the optional self-contained transport package is being converted to transport.

3. Start engine. Activate lower link cylinders to raise header fully. Stop engine and remove key.

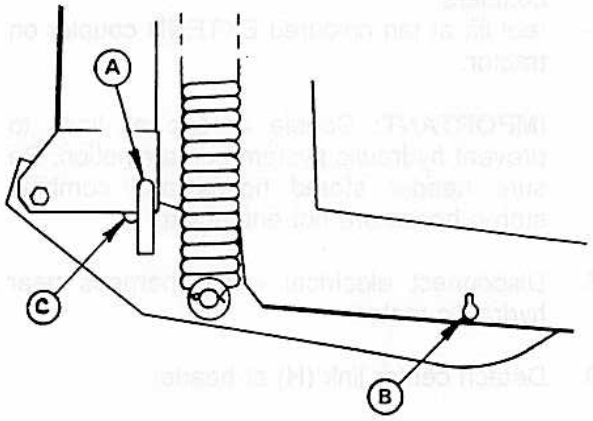
4. For headers with gauge wheels, remove pins at gauge wheels and place in stand position (D).

   For headers without gauge wheels, lower header stand into position (E).

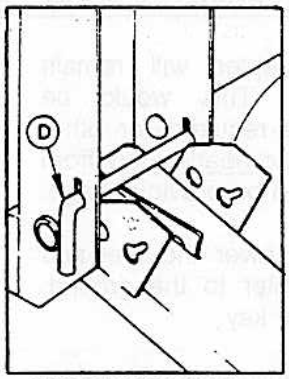
5. Be sure area is clear of bystanders, then start engine. Retract 3-point hitch cylinders to lower header and adapter to the ground. Stop engine and remove key. Block header gauge wheels, if applicable.

DANGER: Wait for all movement to stop. A rotating driveline can cause entanglement resulting in serious personal injury or death.

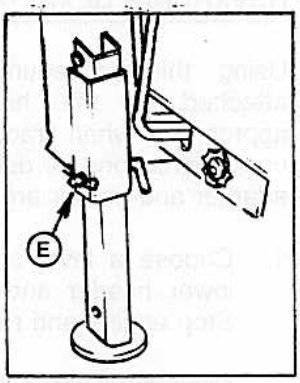
6. Disconnect header driveline from motor shaft and install on pin (F) on header tube.



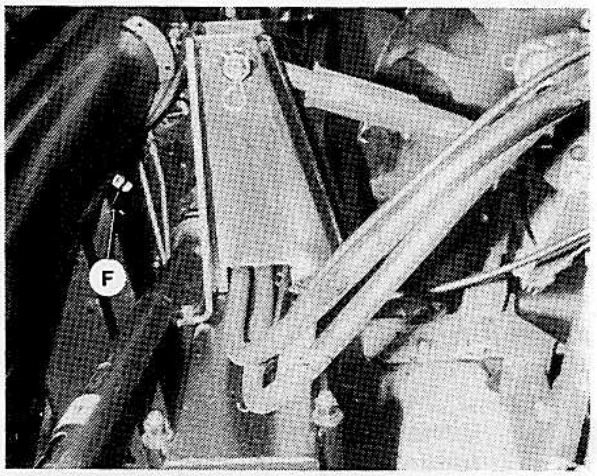
LOCK OUT HEADER FLOAT



GAUGE WHEELS



HEADER STAND



DISCONNECT AND STORE DRIVELINE

DETACHING HEADER FROM TRACTOR AND ADAPTER (continued)

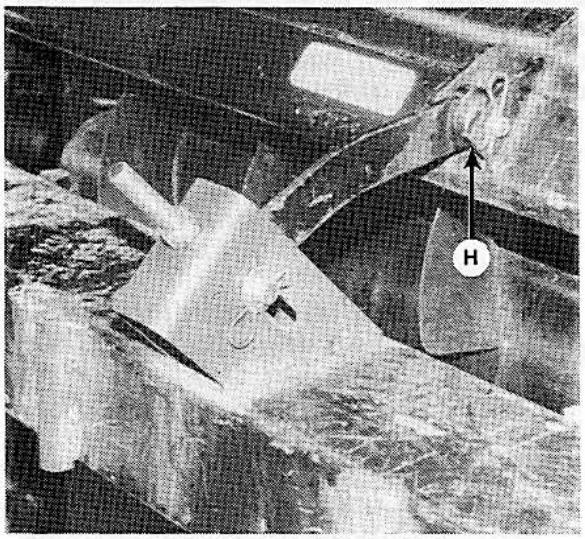
7. Disconnect five hydraulic lines:
   - reel drive pressure, reel return (yellow), draper drive pressure (orange) and draper return (blue) at adapter-to-header quick couplers.
   - reel lift at tan coloured EXTEND coupler on tractor.

   IMPORTANT: Couple or cap all lines to prevent hydraulic system contamination. Be sure header stored hoses and combine stored hoses are not entangled.

8. Disconnect electrical wiring harness near hydraulic motor.

9. Detach center link (H) at header.

10. Slowly back away from header.



DETACH CENTER LINK

DETACHING HEADER AND ADAPTER FROM TRACTOR

Using this procedure, adapter will remain attached to the header. This would be appropriate when tractor is required for other use. Instructions for detaching header only from adapter and tractor are given on previous page.

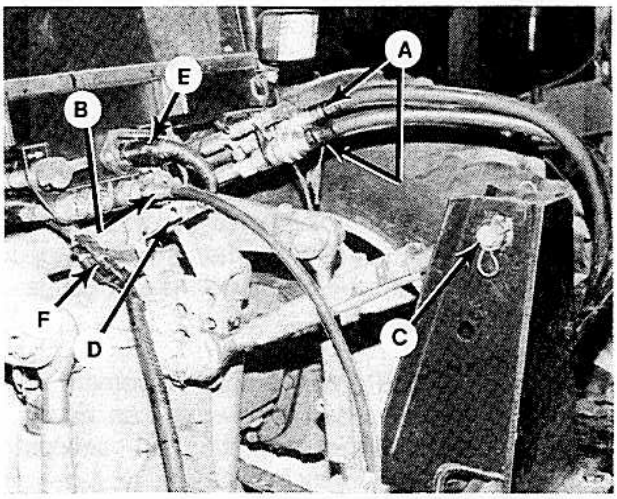
1. Choose a level area. Lower the reel and lower header and adapter to the ground. Stop engine and remove key.

2. Disconnect three hydraulic lines at tractor quick couplers:
   • Two large couplers (A) at tractor left side.
   • One (reel lift) at TAN-RETRACT coupler (B).
   Couple or cap all lines to prevent hydraulic system contamination.

3. Detach top link (C) at adapter and place in storage support (D).

4. Manually retract latches on 3-point hitch lower links.

5. Detach electrical plug from receptacle (E). Detach header control harness plugs at (F).



DISCONNECT HYDRAULICS, ELECTRICAL AND 3-POINT LINKS

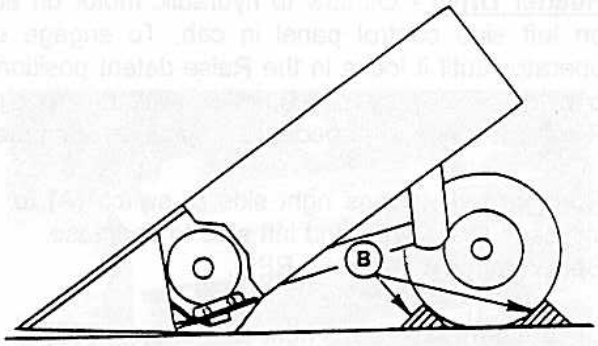
CAUTION: Be sure area is clear of bystanders, then start engine. Fully retract 3-point hitch cylinders and slowly back away from header.

ATTACHING HEADER AND ADAPTER TO TRACTOR

1. If applicable, block both gauge wheels front and rear (B).

   NOTE: Choose an area that is as level as possible.

   CAUTION: Be sure area is clear of bystanders before starting engine.



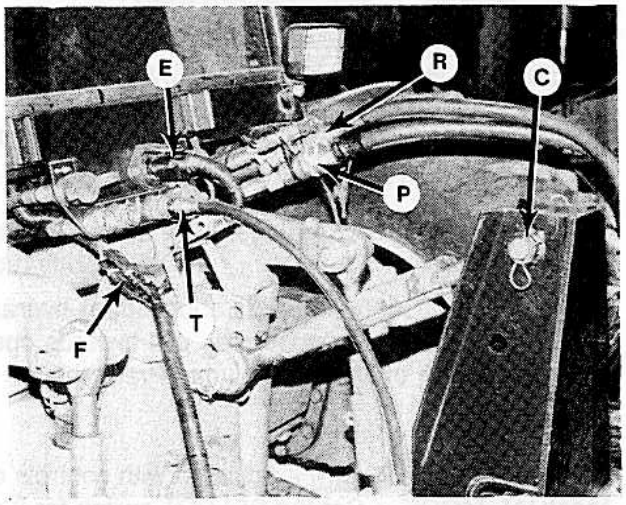
BLOCK GAUGE WHEELS

2. With the 3-point hitch lower links fully lowered and the top link raised, drive tractor slowly towards the adapter until the lower link claw couplers are below the adapter lower mounts. The large claw openings make exact alignment unnecessary.
   NOTE: For 30' and 36' Headers with Pick-Up Reel where tractor lift rod links have been repositioned to new hole in lower links (see page 6), extend lift rod links to allow linkage to lower further.

3. Raise the lower links using the hydraulic lift switch until claw couplers engage the ball bushings. An audible click will be heard as the self-locking latches engage. Stop engine and remove key.

4. Attach top link to adapter at (C).

5. Attach two 3/4" quick couplers (R) and (P). **IMPORTANT:** Coupler (R) comes from the tee fitting on top of the adapter, and must be attached to the RETURN coupler on the tractor. FAILURE TO PROPERLY CONNECT THIS COUPLER MAY DAMAGE SICKLE DRIVE MOTOR. These mating couplers should both have a black plastic tie fastened to them to ease identification. See "Attaching Adapter to Tractor", page 17, step 4.



HYDRAULIC & ELECTRICAL CONNECTIONS

6. Attach header reel lift hose coupler to TAN coloured RETRACT coupler (T) on tractor.

7. Attach 7 terminal plug from header lights wiring harness into tractor at (E).
   NOTE: Be sure that harness is routed behind top link storage support to prevent pinching harness when header is raised.

8. Attach header control harness plugs (F) into harness from control panel installed in cab.

9. Raise header to cutting height and check that header is level end-to-end. Adjust if required. See "Header Levelling" in Operation section.

10. Lower header and adapter to ground.

HEADER CONTROLS

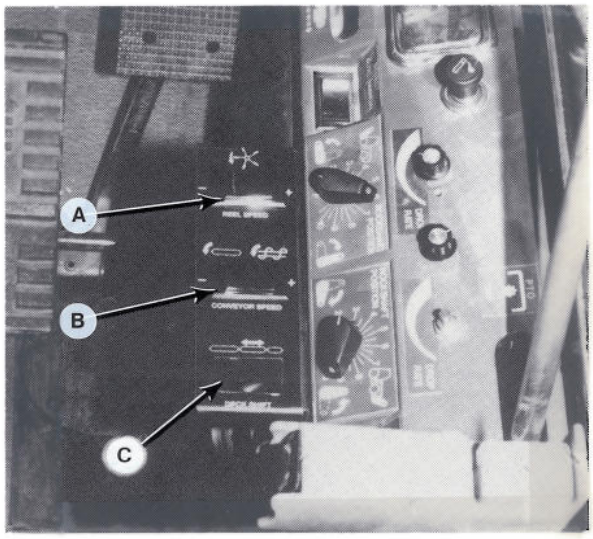
Header Drive - Oil flow to hydraulic motor on adapter is controlled with "Detent" (blue) hydraulic lever on left side control panel in cab. To engage sickle, reel and draper drives, push lever away from operator until it locks in the Raise detent position. To disengage these drives, pull lever back to neutral position. Also may be controlled with the foot pedal immediately right of the left side control panel. Press the toe end of pedal to engage drives, press heel end to disengage.

Reel Speed - Press right side of switch (A) to increase reel speed and left side to decrease. Speed range is 10 to 60 RPM.

Draper Speed - Press right side of switch (B) to increase draper speed and left side to decrease. Speed range is 0 to 800 roller RPM, or 0 to 470 ft./minute (145 m/min.). A mid-range setting is suggested.

NOTE: If sufficient reel or draper speed cannot be achieved, a possible cause is low relief pressure. See "Hydraulics" in Maintenance/ Service section.

Deck Shift (Triple Delivery Only) - Move switch paddle (C) to the left to shift decks to the left and reverse draper travel. Move paddle to the right to shift decks to the right and reverse draper travel. For center delivery, move paddle to center position.



HEADER CONTROL PANEL

Reel Height - Controlled with "Float" (tan) hydraulic lever on left side control panel in cab. Push lever away from operator to raise reel, pull towards operator to lower. Also may be controlled with foot pedal immediately left of steering column. Press the toe end of the pedal to raise reel, press heel end to lower.

Header/Adapter Height - Adjusted with controls on side console to the operator's right:

MANUAL MODE
- Set the SELECT switch for 3-point hitch operation to MANUAL mode.
- Control height with 3-point hitch switch on Forward-Neutral-Reverse lever. Press top of switch to raise and bottom to lower. Release switch when desired position is reached.

AUTO MODE
- Set the SELECT switch to AUTO mode.
- Set cab-end ROCKSHAFT POSITION control to desired cutting height.
- Control height with 3-point hitch switch on Forward-Neutral-Reverse lever. Press top of switch to raise header to maximum height. Press bottom of switch to lower header to pre-set cut height.

NOTE: See Tractor Operator's Manual for information regarding variable lowering rate.

When raising the unit, adapter will raise first, then the header. When lowering, the sequence is reversed.

DANGER: Stay out from under header and adapter. Three-point hitch drops at a variable rate when engine is shut off.

OPERATION

HEADER FLOTATION

IMPORTANT:
To avoid:
- frequent breakage of sickle components
- scooping soil
- soil build-up at cutterbar in wet conditions,

set header float as light as possible without causing excessive bouncing.

Under normal conditions, adjust float spring tension so 50 to 70 lbs. force (220 to 300 N) is required to lift cutterbar off ground at each end.

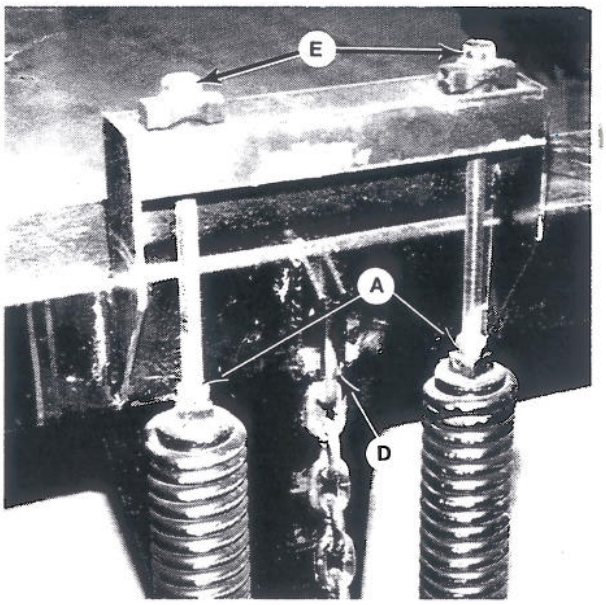
To adjust header float on 9030 adapter:

1. Lower header and adapter to ground.

2. Back jam nut (A) away from spring (two at each adapter leg).

3. Turn bolts (E) clock-wise to increase float (which makes header lighter at cutting height).

   Turn bolts counter-clockwise to decrease float (which makes header heavier at cutting height).



FLOAT ADJUSTMENT - 9030 ADAPTER

NOTE: Both springs on one side should be adjusted equally (same exposed bolt length). Due to weight differences side-to side, adjustments may differ from one leg to the other.

4. Raise adapter until header just starts to lift at cutterbar and check float at both ends. Force required to lift cutterbar should be approximately the same at both ends.

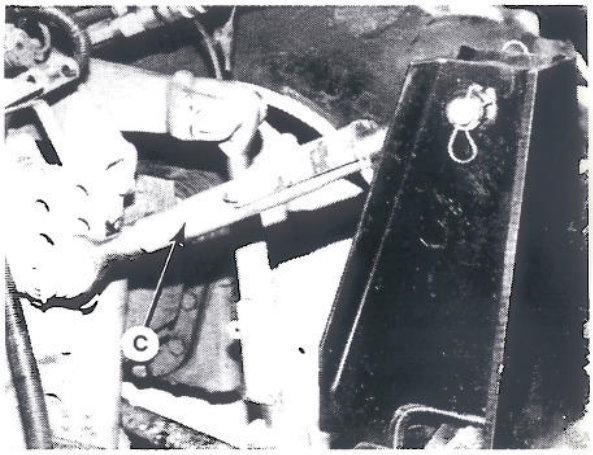
HEADER LEVELLING

To adjust header end-to-end level:

1. Lower header and adapter to ground. Stop engine and remove key.

2. Adjust length of 3-point hitch top link (C) to level header. Turn the sleeve on top link to change length:
   - Shortening link (C) will raise the right end of the header.
   - Lengthening link (C) will lower the right end of the header.

3. If further adjustment is required than can be obtained with link, lower header until chains (shown in photo above) are loose, then move one chain (D) to alternate mounting hole as required to level header. (Remove chain link for further adjustment.)



HEADER LEVELLING

HEADER ANGLE

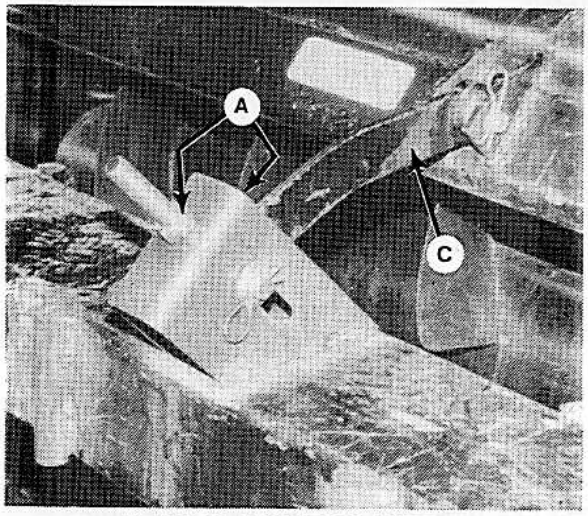
Header angle is adjustable by changing the length of the center link between header and adapter. Further adjustment can be obtained by repositioning lift pads on adapter linkage.

Total header angle adjustment range is 9° to 13° below horizontal, measured at guard tip.

IMPORTANT: A flatter header angle is recommended for normal conditions. A flatter angle reduces sickle section breakage and reduces soil build-up at the cutterbar in wet conditions.
Use a steeper angle to cut very close to the ground, or for better lifting action in down crops.

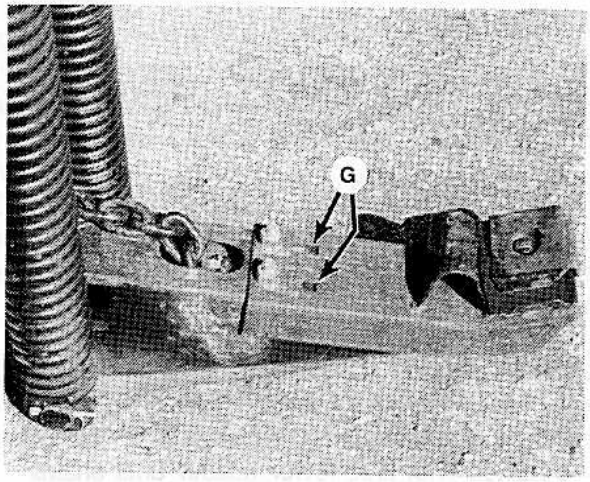
To adjust header angle:

1. Adjust linkage length with nuts (A). Shortening the link (pulling bar (C) back), will give a flatter angle. Lengthening the link (pushing bar (C) forward) provides a steeper angle.



HEADER ANGLE ADJUSTMENT

2. If a steeper header angle is required than can be achieved by adjusting center link:
   Remove the header and move header lift pads on adapter back by moving mount hardware to holes (G).



MOVE LINKAGE PADS BACK
FOR STEEPER ANGLES

SERVICE PROCEDURES

CAUTION: To avoid personal injury, before servicing machine or opening drive covers:

1. Fully lower header and reel. If it is necessary to service reel in the raised position, first engage reel props.
2. Disengage header drive.
3. Stop engine and remove key.
4. Engage park brake.
5. Wait for all moving parts to stop.

Park on level surface when possible. Block wheels securely. Follow all recommendations in your Tractor Operator's Manual.

Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.

Wear protective shoes with slip resistant soles, a hard hat, protective glasses or goggles and heavy gloves.

Be prepared if an accident should occur. Know where the first aid kit and fire extinguisher are located and how to use them.

Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.

Use adequate light for the job at hand.

Replace all shields removed or opened for service.

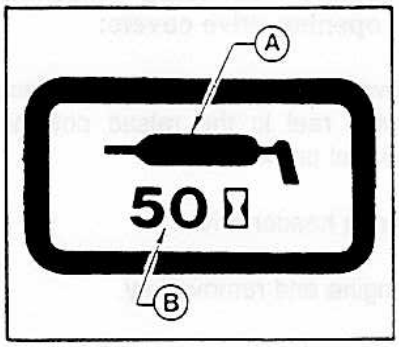
Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design or safety requirements.

Keep the machine clean. Never use gasoline, naphtha or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.

GREASING THE ADAPTER

Use an SAE Multi-Purpose High Temperature Grease with Extreme Pressure (EP) Performance and containing at least 1.5% molybdenum disulphide. Also acceptable is an SAE Multi-Purpose Lithium Base Grease.

The following greasing points are marked on the adapter by decals showing a grease gun (A), and grease interval (B) in hours of operation. Use the hour meter in the tractor cab and the "Maintenance Checklist" provided in the Header Operator's Manual to keep track of scheduled maintenance.



SAMPLE GREASE DECAL

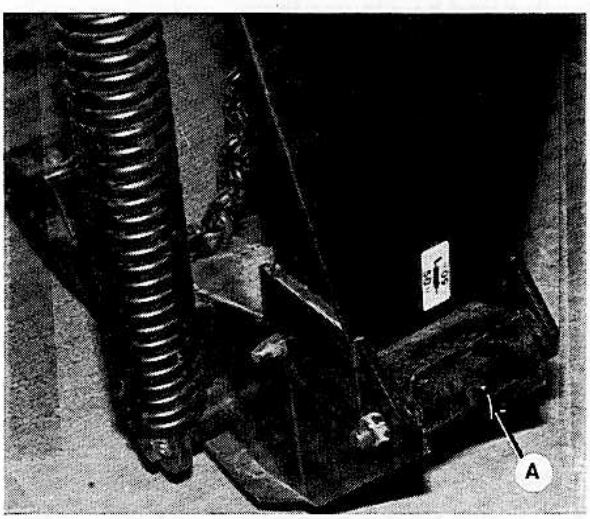
Procedure:

1. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
2. Inject grease through fitting with grease gun until grease overflows fitting.
3. Leave excess grease on fitting to keep out dirt.
4. Replace any loose or broken fittings immediately.
5. If fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

50 Hours

1. Float Arm Pivots (A) - two fittings

NOTE: Add this grease point to the Maintenance Checklist in the Header Operator's Manual.

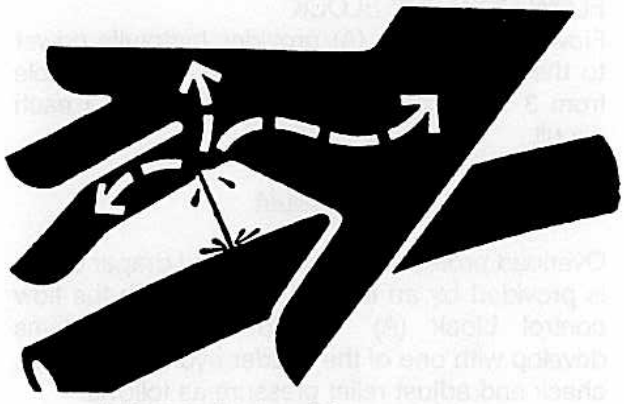


FLOAT ARM PIVOTS

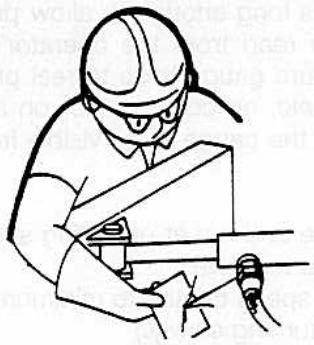
HYDRAULIC SYSTEM

Hydraulic Hoses - Check hydraulic hoses daily for signs of leaks.

WARNING: Avoid high-pressure fluids. Escaping fluid can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure. Keep hands and body away from pin-holes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. IF ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.



AVOID HIGH-PRESSURE FLUIDS



CHECK PROPERLY FOR LEAKS

IMPORTANT:

- Ensure all hydraulic couplings are properly mated and fully engaged before operating header. In particular, be sure return flow from adapter is connected to tractor return coupler. Failure to connect hydraulics correctly may damage sickle drive motor. See "Attaching Adapter to Tractor", page 9, step 4.
- To avoid damage to sickle drive motor, do not exceed 16 gallons/minute flow or 3000 psi relief pressure. See Tractor Operator's Manual.
- Keep hydraulic coupler tips and connectors clean. Dust, dirt, water and foreign material are the major causes of hydraulic system damage.
- To prevent improper mixing of oils: If header is to be switched back and forth from combine to Bi-Directional tractor, change oil in tractor hydraulic system and in combine adapter hydraulic reservoir to match combine hydraulic system.

HYDRAULIC SYSTEM (continued)

FLOW CONTROL BLOCK

Flow control block (A) provides hydraulic power to the reel and draper drives with flow variable from 3 to 8 gallons per minute (gpm) to each circuit.

Header Drive Relief Pressure

Overload protection for the reel and draper drives is provided by an internal relief valve in the flow control block (A). Should stalling problems develop with one of the header hydraulic circuits, check and adjust relief pressure as follows:

1. Attach a 3000 psi (20 MPa) pressure gauge to a hose that is long enough to allow pressure gauge to be read from the operator's seat. Attach pressure gauge hose to reel pressure coupler (female, no colour code) on adapter and position the gauge to be visible from the seat.

2. • Start engine and run at operating speed.
   • Engage header drive.
   • Adjust reel speed control to minimum. (Reel should be turning slowly.)

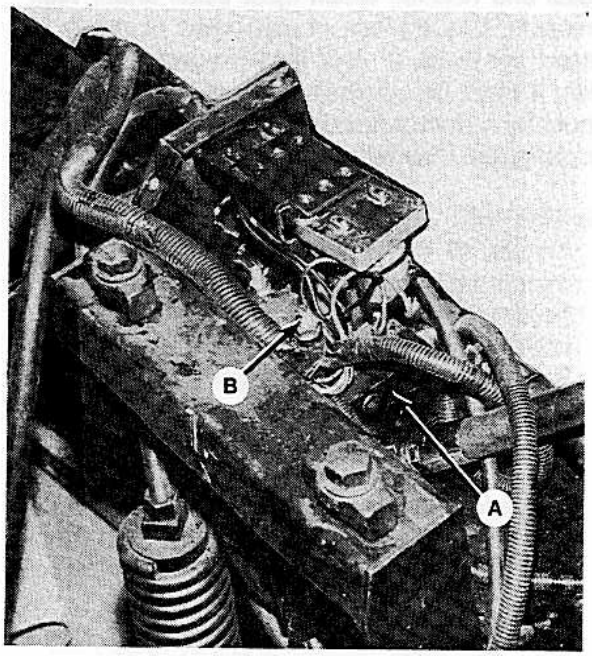
3. Pressure should be 1900 to 2150 psi (13.1 to 14.8 MPa). If not, proceed with adjustment:

4. Move header drive switch to disengaged position. Shut off engine and remove key.

5. To adjust relief setting:
   • Loosen jam nut at relief valve (B).
   • Turn the adjustment screw in 1/4 turn increments, clockwise to increase pressure, counter-clockwise to decrease.

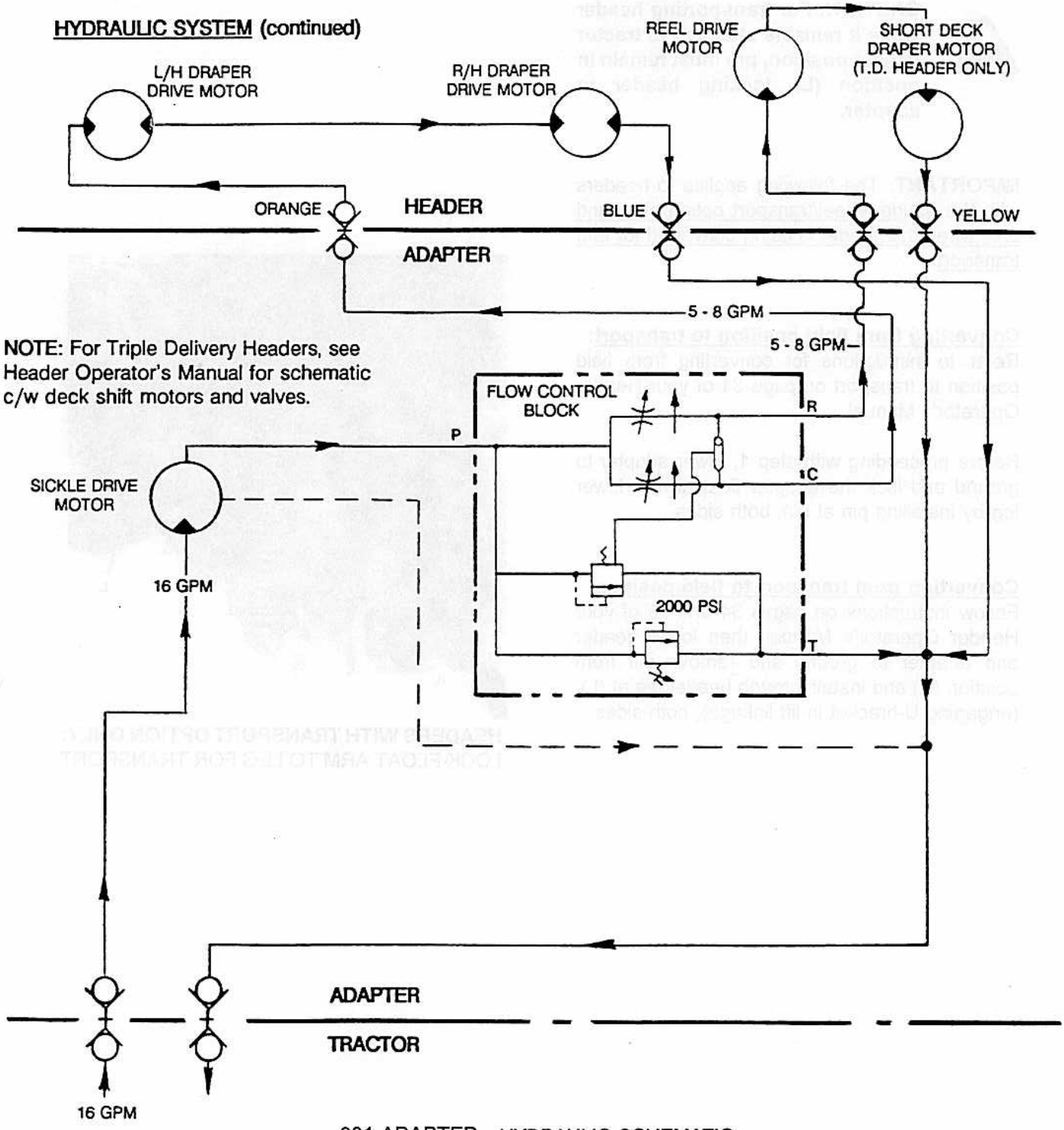
6. Repeat checking and adjustment until relief pressure is correct, then tighten jam nut at (B).

IMPORTANT: If relief pressure does not increase after adjusting the screw two or three times, check relief valve as follows: Remove relief valve (B) from flow control block. Check that no contaminant is preventing the spring-loaded poppet from properly seating against the valve body. Clean as required, and reinstall valve. Reset adjustment screw to original position before checking relief pressure.



HEADER DRIVE FLOW CONTROL BLOCK

HYDRAULIC SYSTEM (continued)



NOTE: For Triple Delivery Headers, see Header Operator's Manual for schematic c/w deck shift motors and valves.

901 ADAPTER - HYDRAULIC SCHEMATIC

WHEEL & TIRE MAINTENANCE

For maintenance of the adapter wheel, see Header Operator's Manual for instruction on:

- Wheel Bolt Torque
- Wheel Bearing Lubrication
- Tire Safety & Care

TRANSPORT

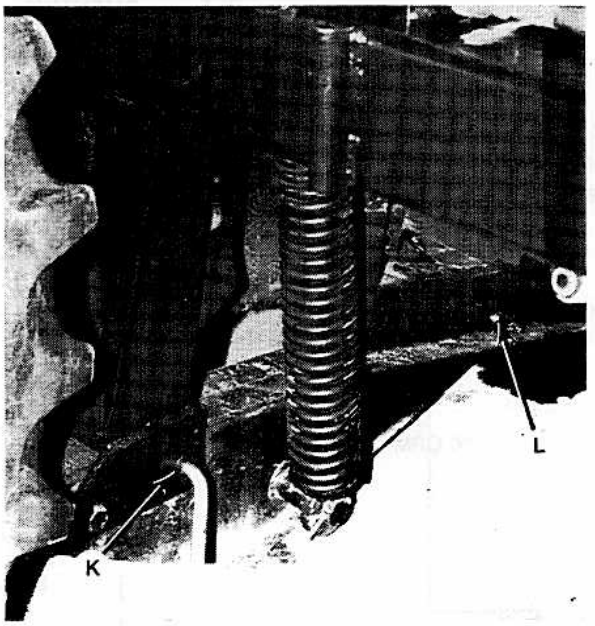
CAUTION: For transporting header while it remains attached to tractor in field position, pin must remain in position (L), locking header to adapter.

IMPORTANT: The following applies to headers with the gauge wheel/transport option only, and only when the header is being converted for end transport.

Converting from field position to transport:
Refer to instructions for converting from field position to transport on page 31 of your Header Operator's Manual.

Before proceeding with step 1, lower adapter to ground and lock the adapter float arm to lower leg by installing pin at (K), both sides.

Converting from transport to field position:
Follow instructions on pages 34 and 35 of your Header Operator's Manual, then lower header and adapter to ground and remove pin from position (K) and install through header leg at (L), (engaging U-bracket in lift linkage), both sides.



HEADERS WITH TRANSPORT OPTION ONLY:
LOCK FLOAT ARM TO LEG FOR TRANSPORT

TROUBLE SHOOTING

SYMPTOM	PROBLEM	SOLUTION	REF.
Header will not lift.	Improper relief setting on tractor.	Adjust relief setting.	*
	3-point hitch lift links too long.	Shorten lift links to minimum length.	6
	36' Header with Pick-Up Reel too heavy.	Move 3-point hitch center link to upper hole at tractor.	6
Improper feeding.	Crop catches on float springs.	Install back sheet extensions.	**
	Crop will not go under tractor.	Offset tractor from delivery opening.	16
		Install cross auger assembly from combine adapter.	**
		Install windrow deflector under tractor.	**
Tractor will not push adapter frame.	Adapter wheel packed with mud.	Move tractor to center.	16
		Lock out float on 3-point hitch.	*
		Remove wheel and spindle on adapter.	---
Cutterbar not level.	Center link improper length.	Adjust center link length.	27
	Chains not tight.	Reduce float.	27
	Center link too high at tractor.	Move link down to lowest hole.	6
	Chain lengths not equal.	Move chain to alternate mounting hole.	27
		Remove link from chain.	27
Cutterbar does not float or pushes dirt.	Float too heavy.	Adjust to lighter float.	27
	Float lockout not disengaged.	Raise header and disengage float lockout.	34

* - See Tractor Operator's Manual
** - See MacDon Dealer

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