

MacDon™

Slow Speed Transport Option D50 & D60 Harvest Header® & FD70 FlexDraper® Installation Manual

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INTRODUCTION

This instruction describes the procedures to install the header slow speed transport option on all MacDon 30 to 45 foot D50, D60 Harvest Headers®, and FD70 FlexDraper® headers. This option allows for towing the header behind a combine, a windrower, or a truck. For operating and maintenance procedures, refer to your Header Operator's Manual.

Use the Table of Contents to guide you to specific areas.

CAREFULLY READ ALL THE MATERIAL PROVIDED BEFORE ATTEMPTING TO UNLOAD, ASSEMBLE, OR USE THE MACHINE.



D60 Harvest Header® with Slow Speed Transport



FD70 FlexDraper® with Slow Speed Transport

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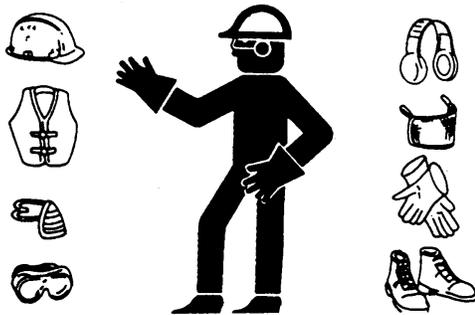
GENERAL SAFETY



CAUTION

The following are general farm safety precautions that should be part of your operating procedure for all types of machinery:

- Protect yourself.
- When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that **COULD** be necessary for the job at hand. Don't take chances.
- You may need:



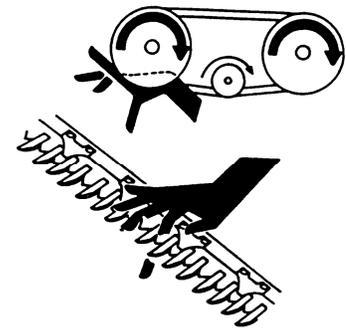
- a hard hat.
- protective shoes with slip resistant soles.
- protective glasses or goggles.
- heavy gloves.
- wet weather gear.
- respirator or filter mask.



- hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.



- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure the extinguisher is properly maintained and be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the Operator is tired, or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.
- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- Keep hands, feet, clothing and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.



- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.
- Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.

(continued next page)

- **Stop engine, and remove key from ignition before leaving Operator's seat for any reason. A child (or even a pet) could engage an idling machine.**



- **Keep the area used for servicing machinery 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.**
- **Keep machinery clean. Do not allow oil or grease to accumulate on service platforms, ladders or controls. Clean machines before storage.**
- **Never use gasoline, naphtha or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.**
- **When storing machinery, cover sharp or extending components to prevent injury from accidental contact.**

RECOMMENDED TORQUES

A. GENERAL

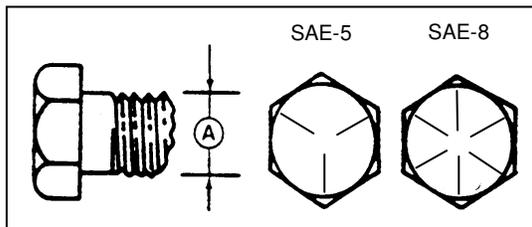
The tables shown below give correct torque values for various bolts and capscrews.

- Tighten all bolts to the torques specified in chart, unless otherwise noted throughout this manual.
- Check tightness of bolts periodically, using bolt torque chart as a guide.
- Replace hardware with the same strength bolt.
- Torque figures are valid for non-greased or non-oiled threads and heads unless otherwise specified. Do not grease or oil bolts or capscrews unless specified in this manual.
- When using locking elements, increase torque values by 5%.

B. SAE BOLTS

BOLT DIA. "A"	NC BOLT TORQUE*			
	SAE-5		SAE-8	
	lbf-ft	N-m	lbf-ft	N-m
in.				
1/4	9	12	11	15
5/16	18	24	25	34
3/8	32	43	41	56
7/16	50	68	70	95
1/2	75	102	105	142
9/16	110	149	149	202
5/8	150	203	200	271
3/4	265	359	365	495
7/8	420	569	600	813
1	640	867	890	1205

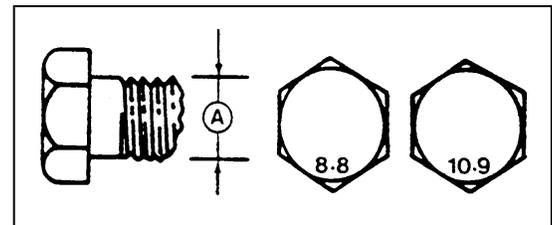
* Torque categories for bolts and capscrews are identified by their head markings.



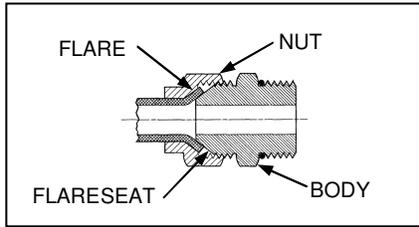
C. METRIC BOLTS

BOLT DIA. "A"	STD COARSE BOLT TORQUE*			
	8.8		10.9	
	lbf-ft	N-m	lbf-ft	N-m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M5	4	6	7	9
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	103	140	148	200
M16	166	225	229	310
M20	321	435	450	610
M24	553	750	774	1050
M30	1103	1495	1550	2100
M36	1917	2600	2710	3675

* Torque categories for bolts and capscrews are identified by their head markings.



D. FLARE TYPE HYDRAULIC FITTINGS

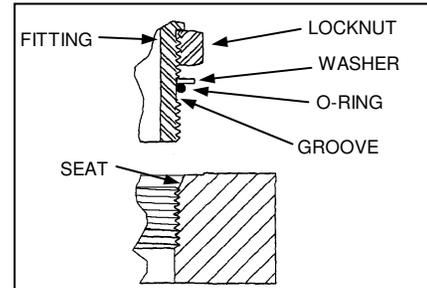


- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection, and hand-tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body, and with the second, tighten the swivel nut to the torque shown below.

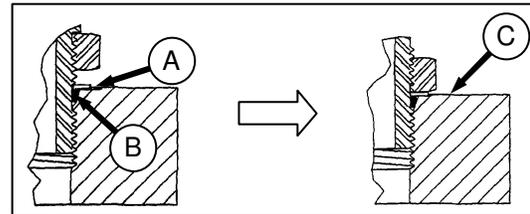
SAE NO.	TUBE SIZE O.D. (in.)	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
				ft-lbf	N-m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1	1/6
10	5/8	7/8	1	46	62	1	1/6
12	3/4	1-1/16	1-1/4	75	102	3/4	1/8
14	7/8	1-3/16	1-3/8	90	122	3/4	1/8
16	1	1-5/16	1-1/2	105	142	3/4	1/8

* Torque values shown are based on lubricated connections as in re-assembly.

E. O-RING BOSS (ORB) HYDRAULIC FITTINGS



- Inspect O-ring and seat for dirt or obvious defects.

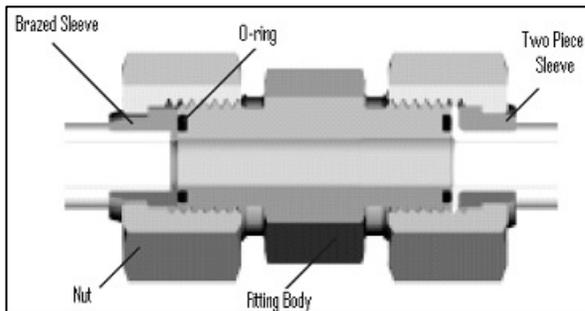
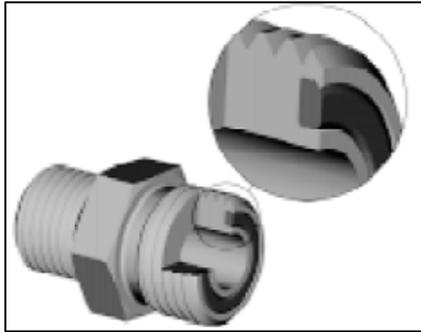


- On angle fittings, back off the lock nut until washer (A) bottoms out at top of groove (B) in fitting.
- Hand-tighten fitting until back up washer (A) or washer face (if straight fitting) bottoms on part face (C), and O-ring is seated.
- Position angle fittings by unscrewing no more than one turn.
- Tighten straight fittings to torque shown.
- Tighten angle fittings to torque shown in the following table, while holding body of fitting with a wrench.

SAE NO.	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
			ft-lbf	N-m	Flats	Turns
3	3/8	1/2	6	8	2	1/3
4	7/16	9/16	9	12	2	1/3
5	1/2	5/8	12	16	2	1/3
6	9/16	11/16	18	24	2	1/3
8	3/4	7/8	34	46	2	1/3
10	7/8	1	46	62	1-1/2	1/4
12	1-1/16	1-1/4	75	102	1	1/6
14	1-3/16	1-3/8	90	122	1	1/6
16	1-5/16	1-1/2	105	142	3/4	1/8
20	1-5/8	1-7/8	140	190	3/4	1/8
24	1-7/8	2-1/8	160	217	1/2	1/12

* Torque values shown are based on lubricated connections as in re-assembly.

F. O-RING FACE SEAL (ORFS) HYDRAULIC FITTINGS



- Check components to ensure that the sealing surfaces and fitting threads are free of burrs, nicks, and scratches, or any foreign material.
- Apply lubricant (typically Petroleum Jelly) to O-ring and threads. If O-ring is not already installed, install O-ring.
- Align the tube or hose assembly. Ensure that flat face of the mating flange comes in full contact with O-ring.
- Thread tube or hose nut until hand-tight. The nut should turn freely until it is bottomed out. Torque fitting further to the specified number of F.F.F.T ("Flats From Finger Tight"), or to a given torque value in the table shown in the opposite column.

NOTE

If available, always hold the hex on the fitting body to prevent unwanted rotation of fitting body and hose when tightening the fitting nut.

- When assembling unions or two hoses together, three wrenches will be required.

SAE NO.	THD SIZE (in.)	TUBE O.D. (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)**	
			ft-lbf	N-m	Tube Nuts	Swivel & Hose
3	***	3/16	---	---	---	---
4	9/16	1/4	11 - 12	14 - 16	1/4 -1/2	1/2 - 3/4
5	***	5/16	---	---	---	---
6	11/16	3/8	18 - 20	24 - 27	1/4 -1/2	1/2 - 3/4
8	13/16	1/2	32 - 35	43 - 47		
10	1	5/8	45 - 51	60 - 68		
12	1-3/16	3/4	67 - 71	90 - 95		
14	1-3/16	7/8	67 - 71	90 - 95	1/3 -1/2	1/3 -1/2
16	1-7/16	1	93 - 100	125 - 135		
20	1-11/16	1-1/4	126 - 141	170 - 190		
24	2	1-1/2	148 - 167	200 - 225		
32	2-1/2	2	---	---	---	---

* Torque values and angles shown are based on lubricated connection, as in re-assembly.

** Always default to the torque value for evaluation of adequate torque.

*** O-ring face seal type end not defined for this tube size.

CONVERSION CHART

QUANTITY	INCH-POUND UNITS		FACTOR	SI UNITS (METRIC)	
	UNIT NAME	ABBR.		UNIT NAME	ABBR.
Area	acres	acres	$\times 0.4047 =$	hectares	ha
Flow	gallons per minute (US) gallons per minute (Imp)	gpm (US) gpm	$\times 3.7854 =$ $\times 4.5460 =$	liters per minute	L/min
Force	pounds force	lbf	$\times 4.4482 =$	Newtons	N
Length	inch	in.	$\times 25.4 =$	millimeters	mm
	foot	ft	$\times 0.305 =$	meters	m
Power	horsepower	hp	$\times 0.7457 =$	kilowatts	kW
Pressure	pounds per square inch	psi	$\times 6.8948 =$	kilopascals	kPa
			$\times .00689 =$	megapascals	MPa
Torque	pound feet or foot pounds	lbf·ft or ft·lbf	$\times 1.3558 =$	newton meters	N·m
	pound inches or inch pounds	lbf·in. or in·lbf	$\times 0.1129 =$		
Temperature	degrees Fahrenheit	°F	$(°F - 32) \times 0.56 =$	Celsius	°C
Velocity	feet per minute	ft/min	$\times 0.3048 =$	meters per minute	m/min
	feet per second	ft/s	$\times 0.3048 =$	meters per second	m/s
	miles per hour	mph	$\times 1.6063 =$	kilometers per hour	km/h
Volume	ounces	oz.	$\times 29.5735 =$	milliliters	ml
	cubic inches	in. ³	$\times 16.3871 =$	cubic centimeters	cm ³ or cc
	quarts (US) quarts (Imperial)	US qt. qt.	$\times 0.96464$ $\times 1.1365$	liters	L
	gallons (US) gallons (Imperial)	US gal. Gal.	$\times 3.7854 =$ $\times 4.5460 =$		
Weight	pounds	lb	$\times 0.4536 =$	kilograms	kg

PREPARE HEADER

STEP 1. PREPARE HEADER

- a. Use a lifting vehicle to raise header, or attach header to windrower or combine and raise header fully.



DANGER

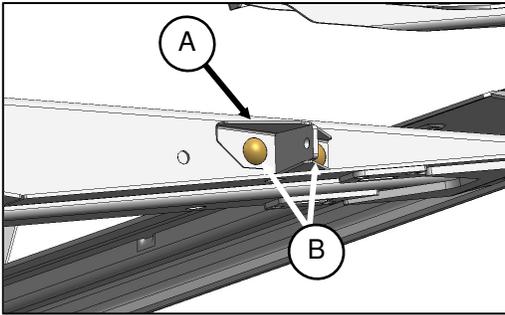
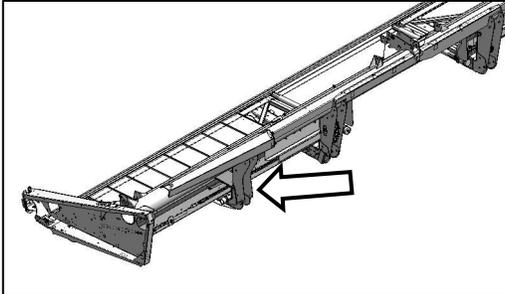
To avoid bodily injury or death from unexpected start-up or fall of raised header, stop engine, remove key and engage header lift cylinder stops before going under header for any reason. If using a lifting vehicle, be sure header is secure before proceeding.

- b. Engage header lift cylinder stops or support header on blocks on level ground. Blocks should support the header approximately three feet off the ground.

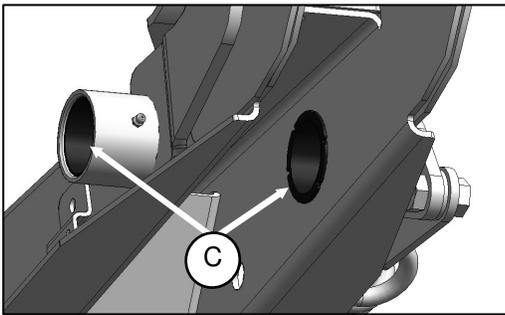
FRONT AXLE



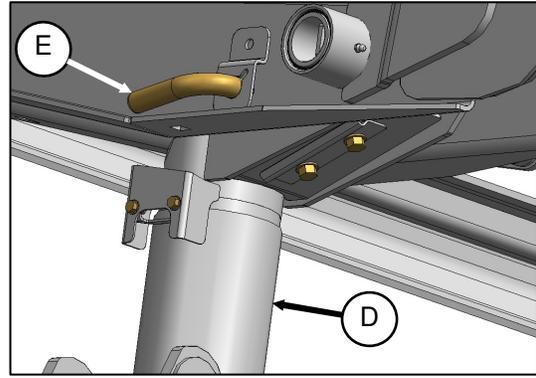
STEP 2. INSTALL FRONT AXLE



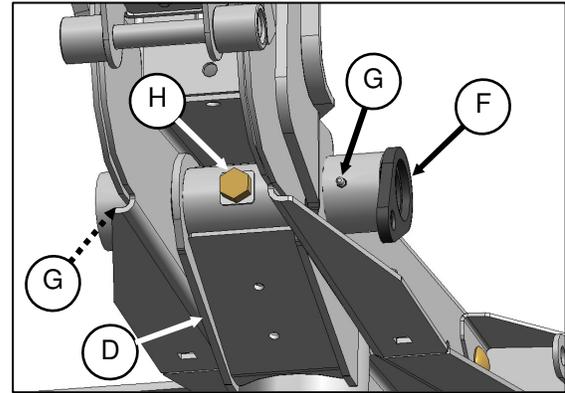
- a. Attach tensioner bracket (A) to **left** leg on **inboard** side with two 5/8 NC X 1.0 LG carriage bolts (B) and nuts.



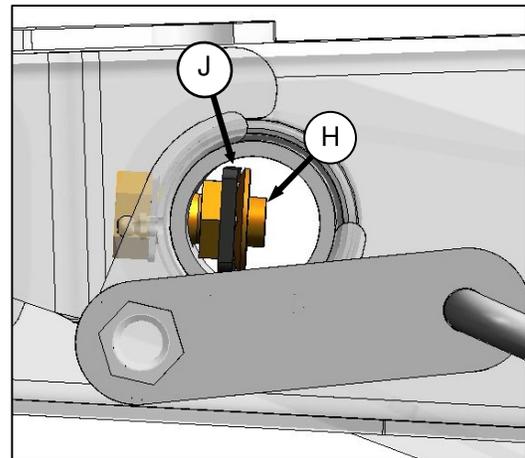
- b. Apply grease to plastic bushings (C) and install in each side of leg **from inside**.



- c. Position front axle assembly (D) inside header leg and install L-pin (E) to hold axle in place.



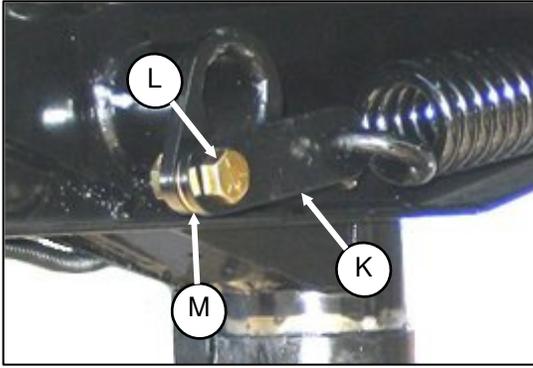
- d. Pivot axle assembly (D) and install pivot pin (F) into leg from **inboard** side. Ensure plastic bushings (C) are not damaged when locating axle assembly and installing pivot pin.
- e. Install grease fittings in leg tube at (G).
- f. Rotate pivot pin (F) to align holes in pin and axle assembly.



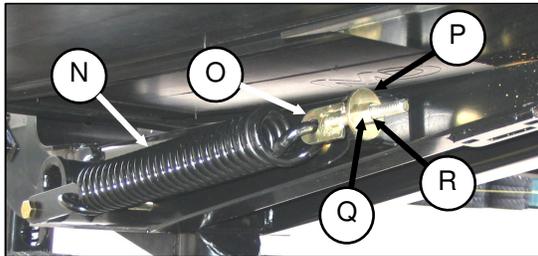
- g. Locate bar-nut (H) inside pivot pin and install a 5/8 NC X 1.375 LG shoulder bolt (H). Ensure bar-nut (J) is oriented with nut protruding to side shown. Tighten bolt (H).

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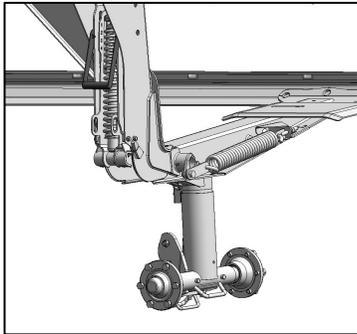
FRONT AXLE



- h. If not factory installed, attach tension link (K) to pivot pin with 5/8 NC X 1.375 LG shoulder bolt (L), washer (M) and locknut. Install washer (M) between link and pin and tighten.



- i. Install spring (N), tensioner bolt (O), washer (P), nut (Q), and jam-nut (R). Spring is tensioned later.

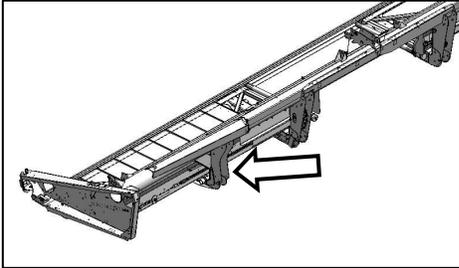


- j. The axle is now in transport position.

ELECTRICAL

STEP 3. INSTALL HEADER ELECTRICAL HARNESS

There are three different factory installed wiring harness configurations and each requires a slightly different installation procedure. The harness is located at the **left** leg.



INSTALLATION A – use this procedure for a 2007 header with a 4-pin flat connector on the wiring harness.

INSTALLATION B – use this procedure for a 2008 header with a modified harness equipped with a 4-pin flat connector and a 6-pin square connector.

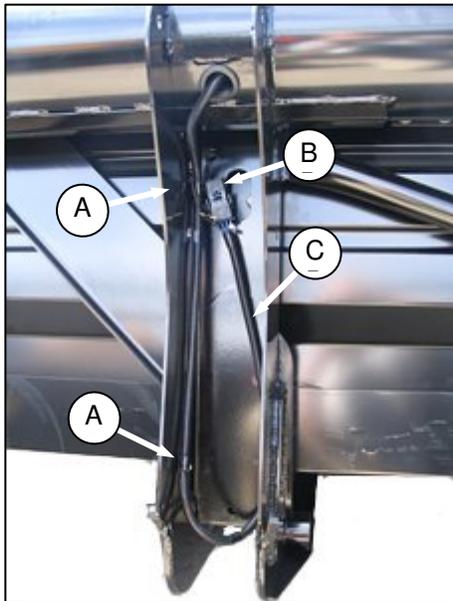
INSTALLATION C – use this procedure for a 2008 or newer header with a 6-pin square connector.

INSTALLATION A

2007 Header with a 4-Pin Flat Connector

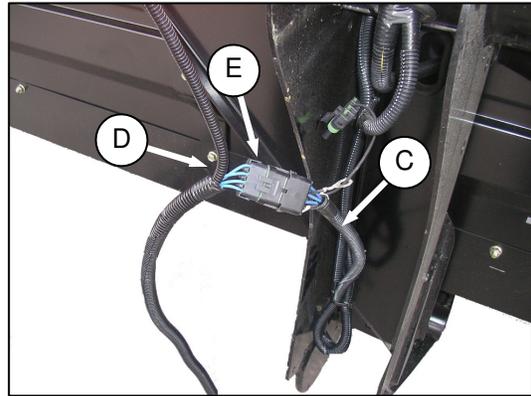
Requires installation of wiring harness #193061 which is included in shipping bundle B4925.

- a. Remove end shields from both ends of header.

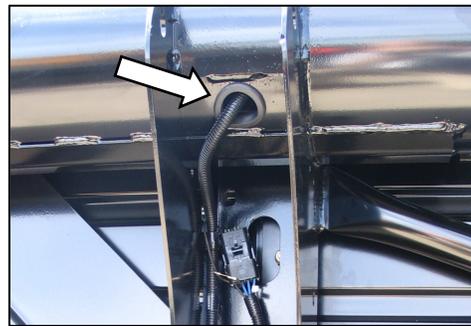
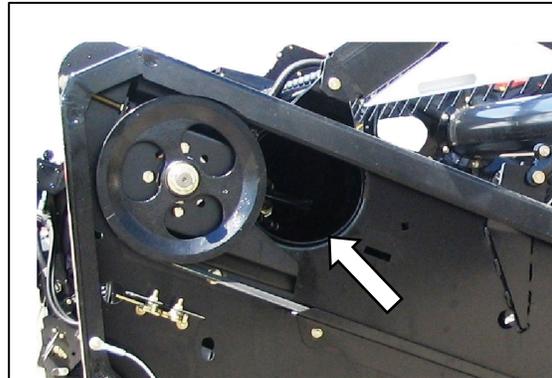


- b. At the header left transport leg, remove the two clamps (A) and retain for reinstallation.

- c. Remove cap on connector (B) existing wiring harness (C).



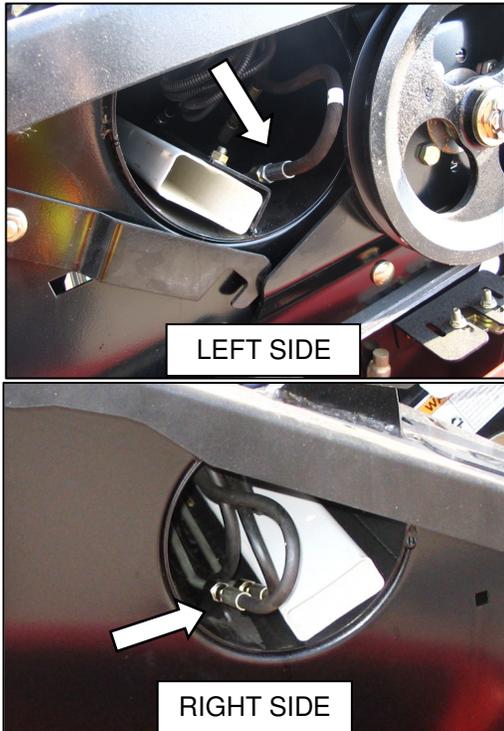
- d. Attach new harness (D) to existing harness (C) with connector (E).



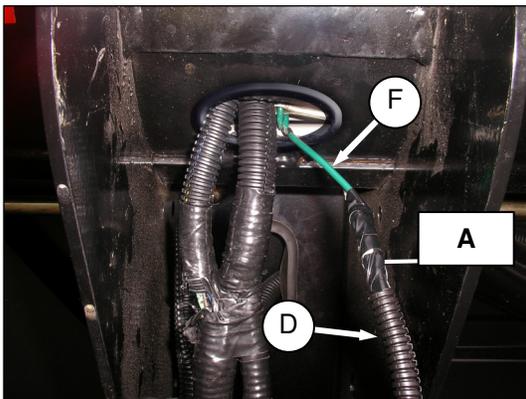
- e. On Double Knife headers, a fish tape or equivalent **must be** used. Insert fish tape into right end of backtube and route tape through backtube until it reaches grommet hole at left transport leg.
- f. On Single Knife headers, insert a fish tape as described above. If you do not have a fish tape, the following procedure can be used:

(continued next page)

ELECTRICAL

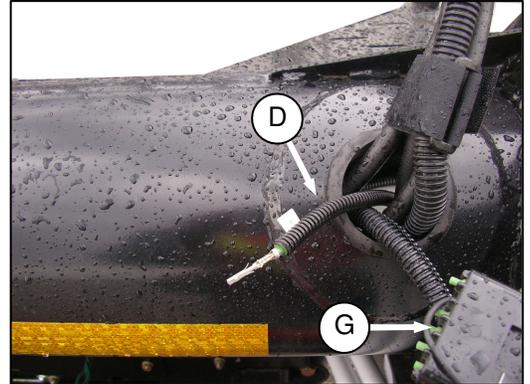


1. Fully lower reel.
2. Disconnect one of the steel hydraulic lines at each end of backtube and install plugs on open lines.
3. Attach a piece of wire to hydraulic line at left end and pull line through backtube until wire (F) can be pulled through grommet hole at left transport leg.

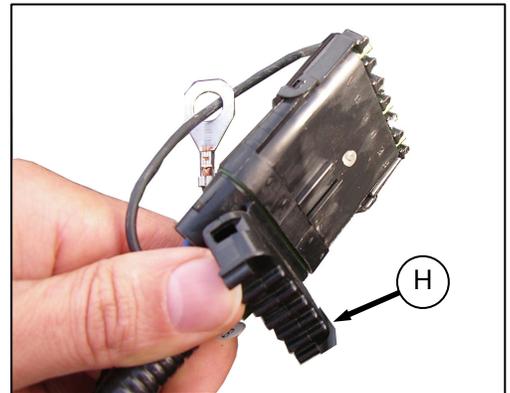


- g. Attach the end (labelled "A") of new harness (D) to fish tape or wire (F) on hydraulic line with electrical tape. If necessary, remove a portion of harness covering so that harness wiring and covering can be secured to fish tape or equivalent.
- h. Feed the harness (D) into the backtube and pull hydraulic line or fish tape through backtube until harness (D) reaches right end.

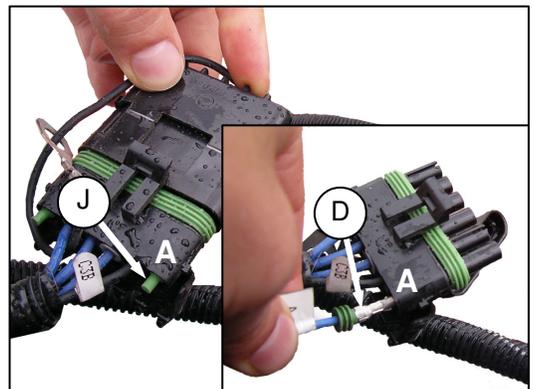
- i. Remove harness from fish tape or hydraulic line.



- j. Feed harness (D) out grommet hole at right side of backtube.
- k. Push hydraulic line back through backtube, remove plugs and re-connect hoses to line.



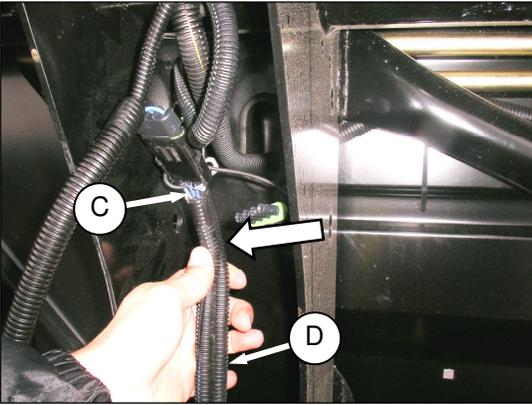
- l. Locate the six pin weather pack connector (G) near right endsheet.
- m. Unclip and pull back the TPA (Terminal Position Assurance) clip (H) on connector (G).



- n. Remove green weather plug (J) (beside black wire and marked "A" on connector) from connector and insert new harness wire (D).
- o. Reattach the TPA clip (H) on the connector.
- p. Tape new harness (D) to existing harness at the base of the connector (G).

(continued next page)

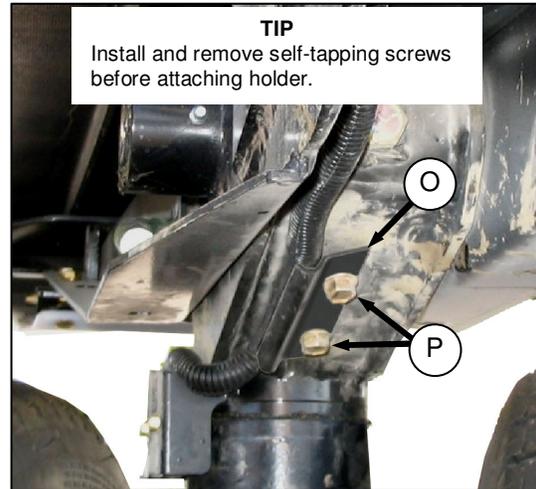
ELECTRICAL



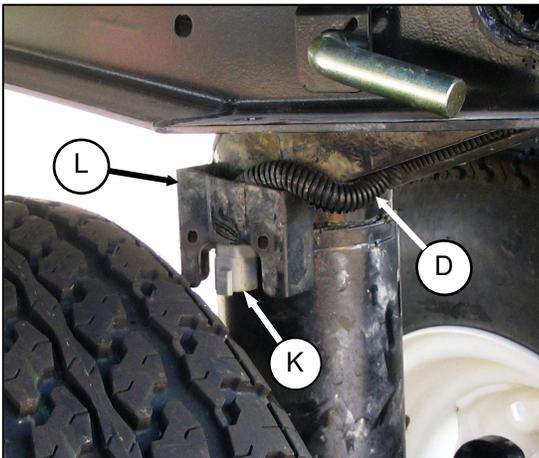
- q. Secure the new harness (D) to the existing harness with electrical tape or plastic ties (C) where shown.

NOTE

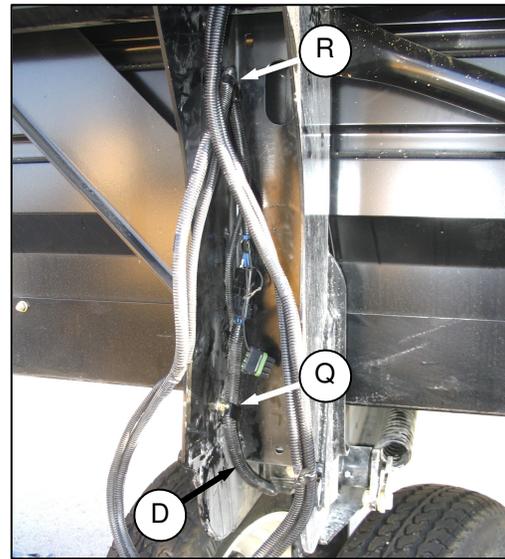
Do not tape 6-pin lead to existing harness.



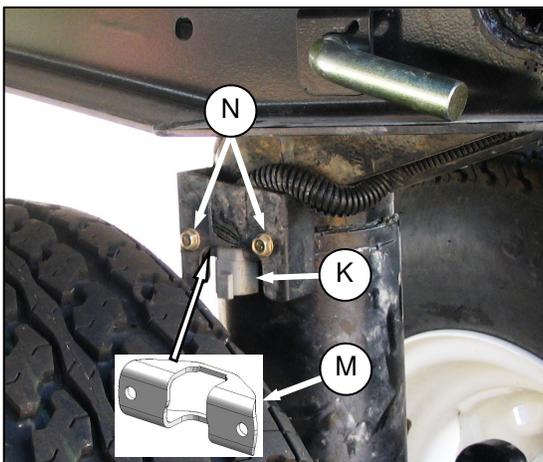
- t. Secure wiring harness to axle with holder (O) and two 3/8 NC X 0.625 LG self-tapping screws (P).



- r. Route the connector (K) and wiring harness (D) under leg to the axle and through bracket (L).



- u. Attach new harness (D) with clamp (Q) to lower end of header leg, and at top of header leg with clamp (R).



- s. Position clip (M) and connector (K) inside bracket (L) and attach clip to bracket with two 1/4 NC X 0.5 LG self-tapping screws (N).

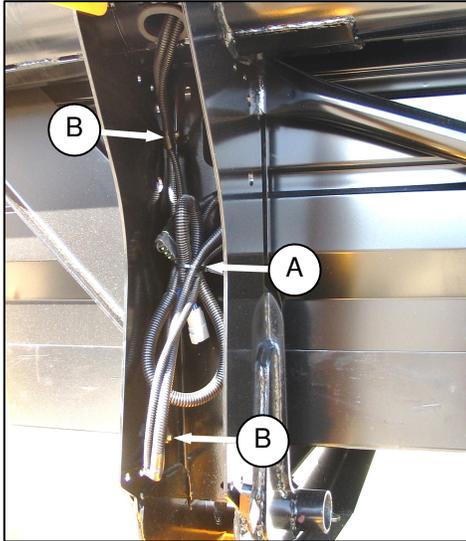


- v. Feed excess harness through hole and into backtube.
w. Proceed to STEP 4. INSTALL FRONT SUSPENSION.

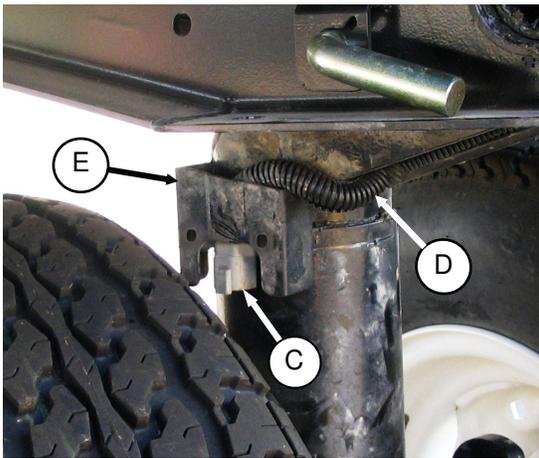
ELECTRICAL

INSTALLATION B

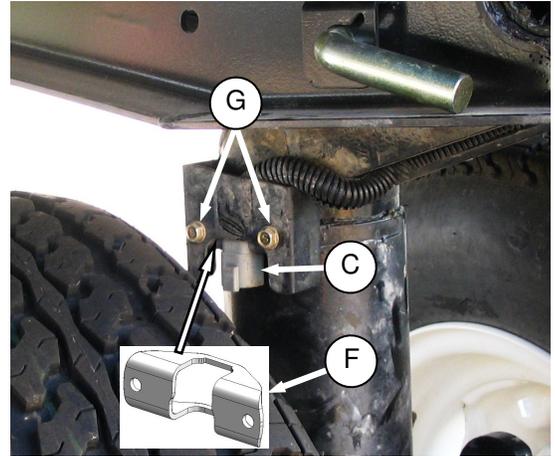
2008 Header with 4-Pin Flat Connector And 6-Pin Square Connector.



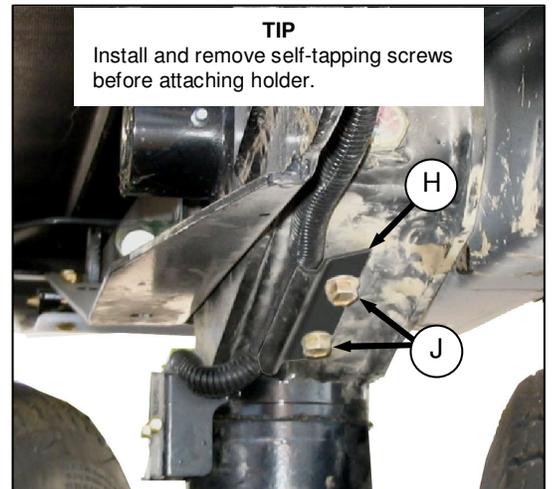
- Cut plastic tie (A) securing harnesses at LH header leg.
- Remove the two clamps (B) on header leg.



- Route the connector (C) and wiring harness (D) under leg to the axle and through bracket (E).



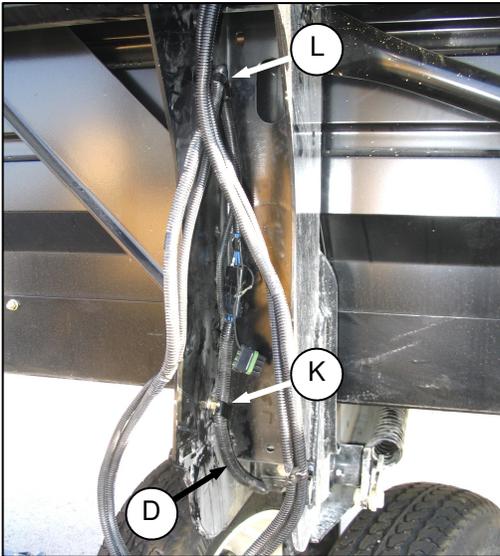
- Position clip (F) and connector (C) inside bracket (E) and attach clip to bracket with two 1/4 NC X 0.5 LG self-tapping screws (G).



- Secure wiring harness to axle with holder (H) and two 3/8 NC X 0.625 LG self-tapping screws (J). If necessary, loosen clamp inside leg and adjust harness length as required.

(continued next page)

ELECTRICAL



- f. Attach harness (D) with clamp to lower end of header leg at (K), and at top of header leg with clamp at (L).

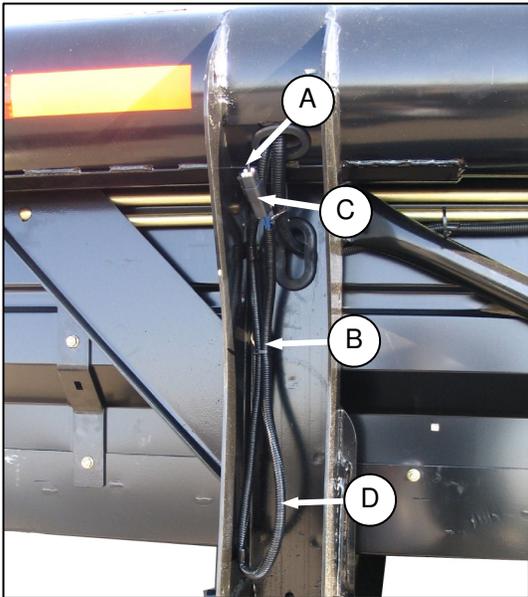


- g. Feed excess harness through hole and into backtube.
- h. Proceed to STEP 4. INSTALL FRONT SUSPENSION.

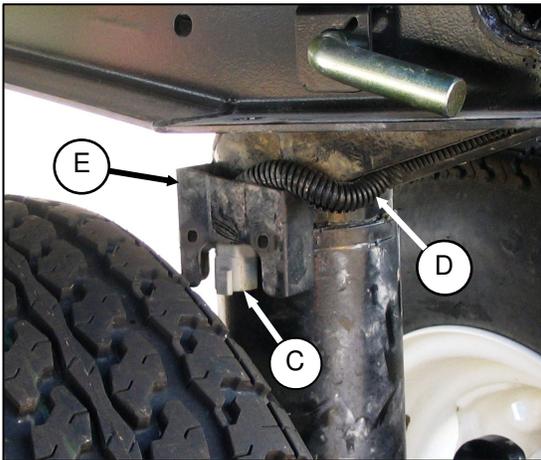
ELECTRICAL

INSTALLATION C

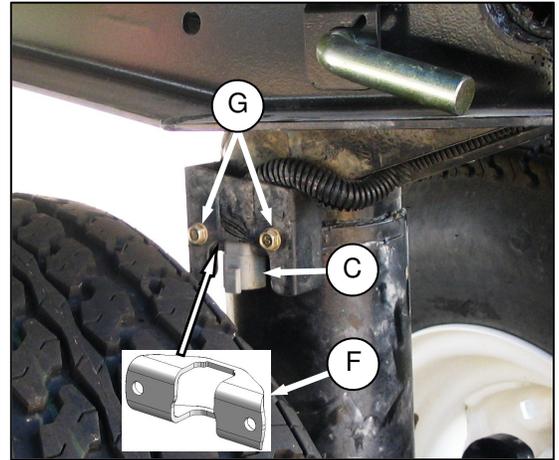
2008 or Newer Header with 6-Pin Square Connector.



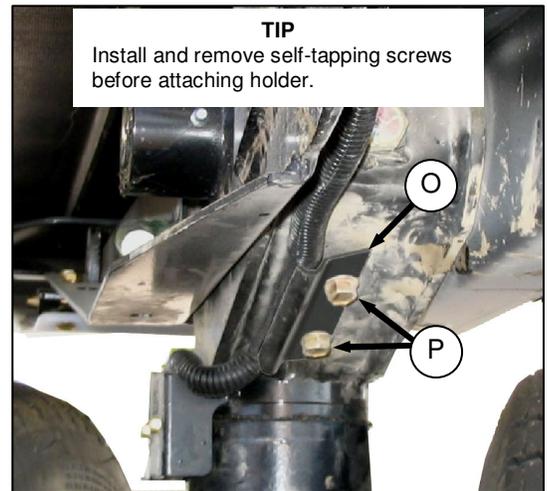
- a. Remove cap on connector (A) and cut plastic tie (B).



- b. Route the connector (C) and wiring harness (D) under leg to the axle and through bracket (E).



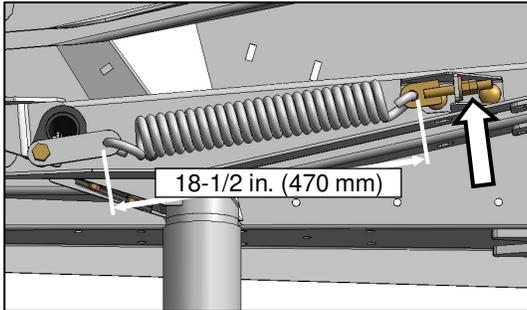
- c. Position clip (F) and connector (C) inside bracket (E) and attach clip to bracket with two 1/4 NC X 0.5 LG self-tapping screws (G).



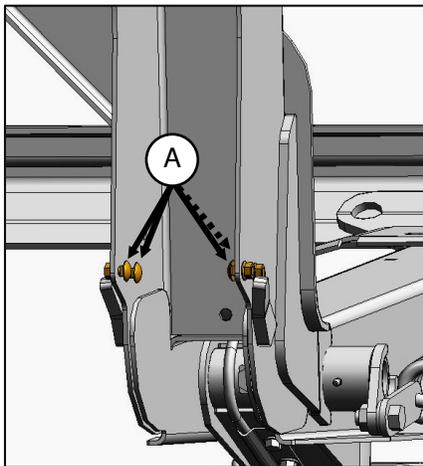
- d. Secure wiring harness to axle with holder (H) and two 3/8 NC X 0.625 LG self-tapping screws (J). If necessary, loosen clamp inside leg and adjust harness length as required.

SUSPENSION

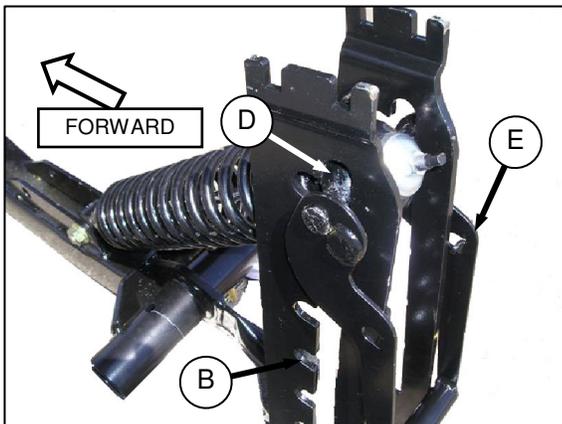
STEP 4. INSTALL FRONT SUSPENSION



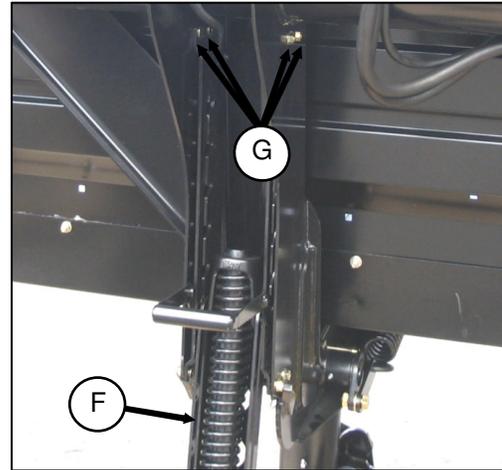
- a. Adjust spring length to 18-1/2 in. (470 mm) with adjusting nut.



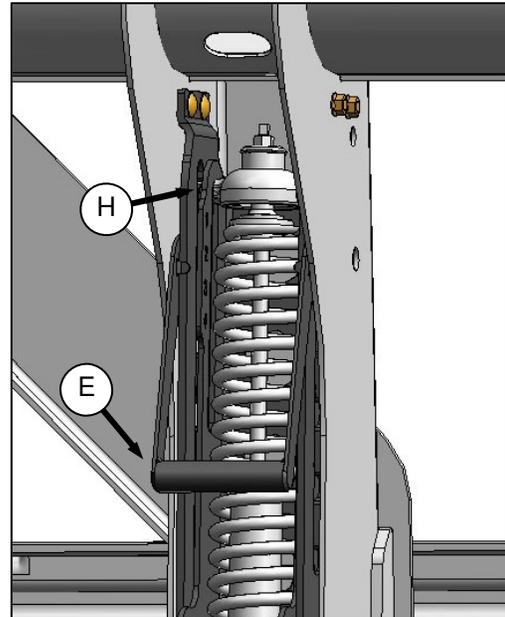
- b. Loosely install four 3/8 NC X 0.75 LG carriage bolts (A) at the base of the vertical leg. Install bolts from inside leg.



- c. For ease of installation, secure suspension assembly in configuration shown in illustration. Slots (B) in plates should face cutterbar with cut-outs (D) at the top and handle (E) hanging down at back of assembly.



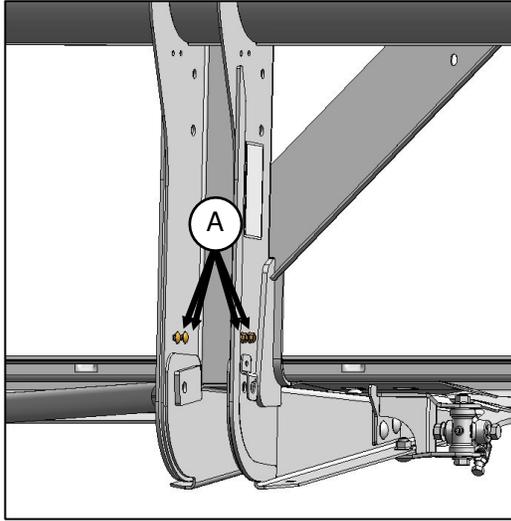
- d. Position channel/spring subassembly (F) on bolts (A) and slide subassembly into leg.
- e. Attach top of subassembly to leg with four 3/8 NC X 0.75 LG carriage bolts (G). Install bolts from inside leg. Tighten all hardware.



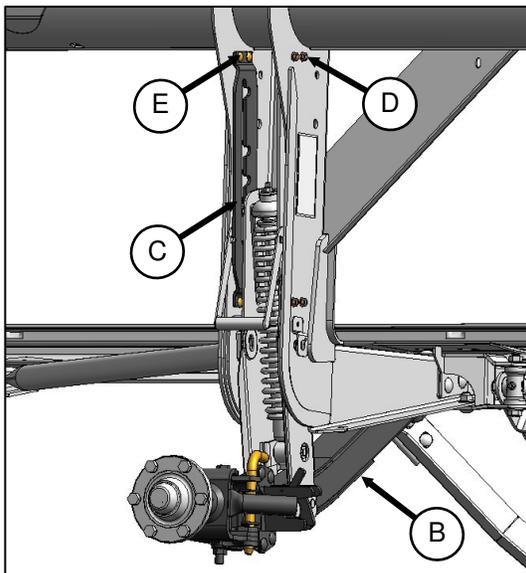
- f. At the left-hand leg, pull handle (E) away from spring to release the spring and position linkage in top slot (H). Lower handle to lock.

SUSPENSION

STEP 5. INSTALL REAR SUSPENSION

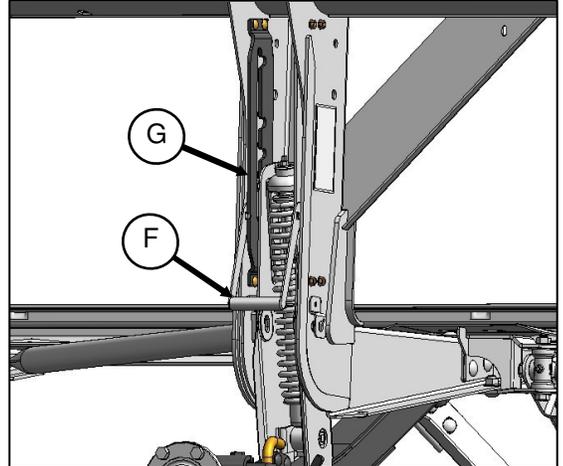


- a. Loosely install four 3/8 NC X 0.75 LG carriage bolts (A) at the base of the vertical leg. Install bolts from inside leg.

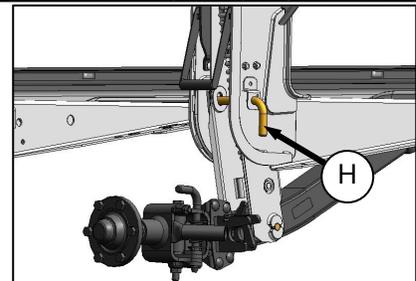
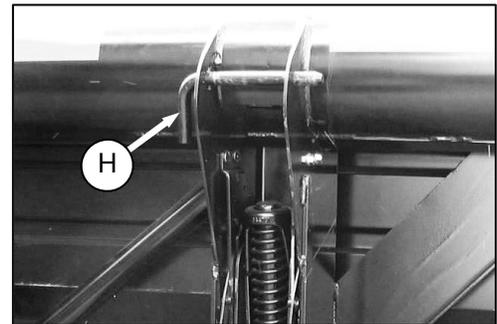


- b. Lift axle (B) and channel/spring subassembly (C), and position lower end of subassembly (C) into leg.
- c. Position lower end of subassembly (C) on bolts (A)
- d. Slide subassembly (C) into leg.
- e. Attach top of subassembly (C) to leg with two 3/8 NC X 0.75 LG carriage bolts (D) and smooth face lock nuts in right side of leg, and two 3/8 NC X 1.0 LG carriage bolts (E) and smooth face lock nuts in left side of leg. Install bolts from inside leg

- f. Tighten all hardware except bolts (E).

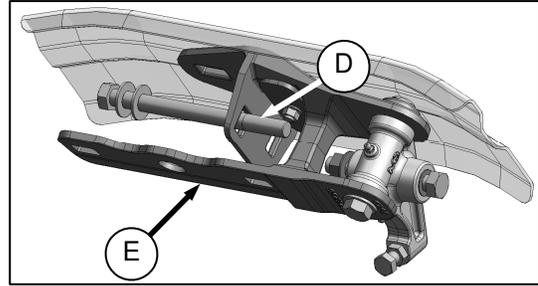


- g. Pull handle (F) to release the spring and position linkage in 4th slot (G) from the top. Lower handle to lock.



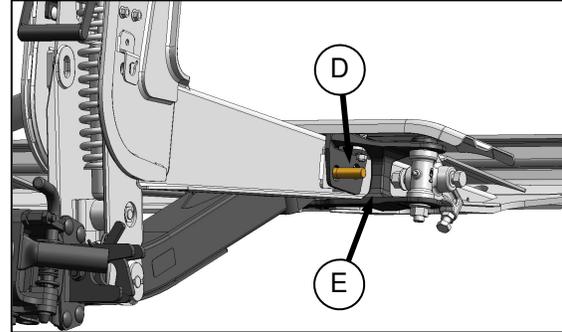
- h. Remove L-pin (H) from leg storage location and install in transport lock position.
- i. The right-hand fixed axle is now in transport position.

REAR AXLES AND WHEELS

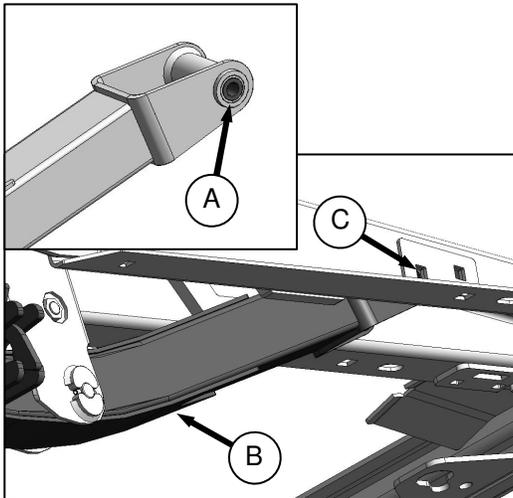
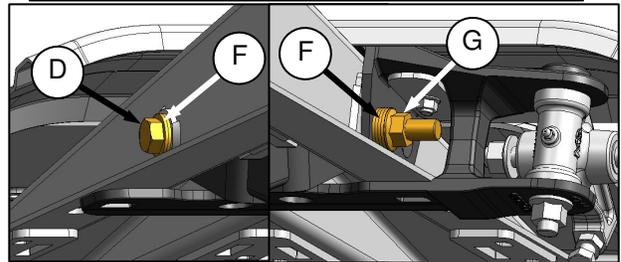


STEP 6. INSTALL REAR FIXED AXLE

- d. Remove bolt (D), washers, and nut from pivot casting (E).



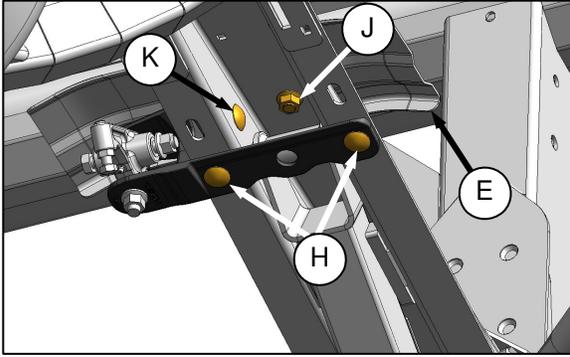
- a. Position a 2x4 wooden block or equivalent between the right-hand leg and draper to allow installation of the support assembly.



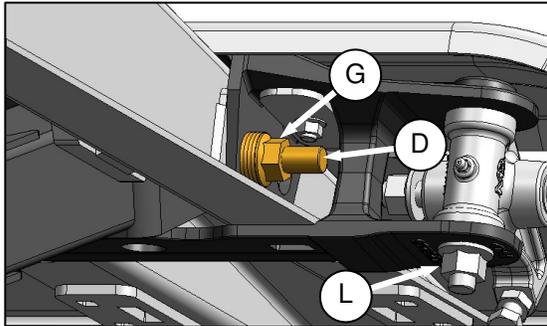
- e. Position pivot casting assembly (E) on leg.
 f. Install two 21/32 in. I.D. flat washers (F) under bolt (D) head and install through leg and assembly (E).
 g. Install four 21/32 in. I.D. flat washers (F) and smooth faced locknut (G) on threaded end of bolt (D). Do not tighten.

- b. Check that spacer (A) is installed in axle.
 c. Position fixed axle assembly (B) in leg and align mounting hole in axle with aft hole (C) in leg.

REAR AXLES AND WHEELS



- h. Install two 5/8 NC X 1.25 LG carriage bolts (H) and smooth faced locknuts in lower flange. Do not tighten.
- i. Install one 5/8 NC X 1.25 LG carriage bolt (J) through top of assembly (E) and through upper flange of leg. Secure with smooth faced locknut. Do not tighten.
- j. Install one 5/8 NC X 1.5 LG carriage bolt (K) and smooth faced locknut through side of the leg. Do not tighten.
- k. Tighten the four carriage bolts and torque to 150 ft·lbf (203 N·m).

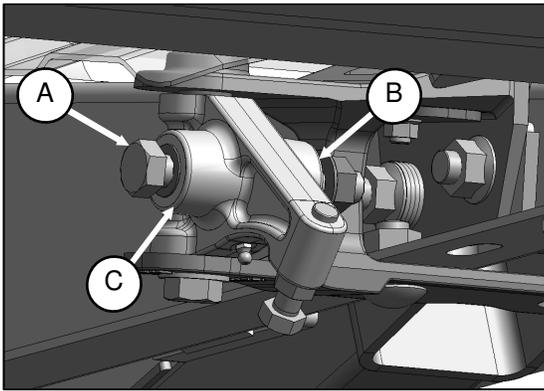


- l. Tighten nut (G) on hex bolt (D) and torque to 160 ft·lbf (217 N·m).
- m. Tighten nut (L) and torque to 160 ft·lbf (217 N·m).

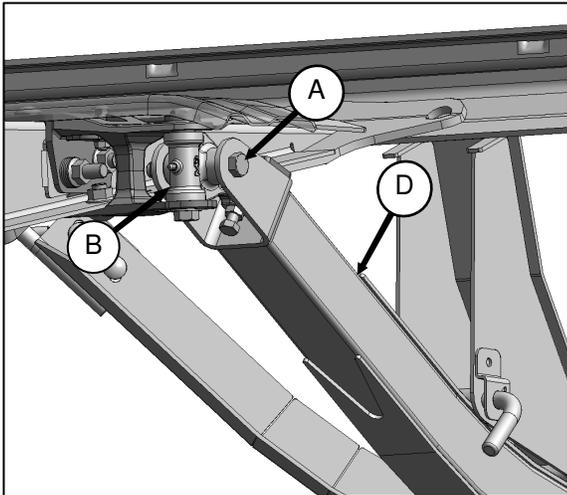
REAR AXLES AND WHEELS



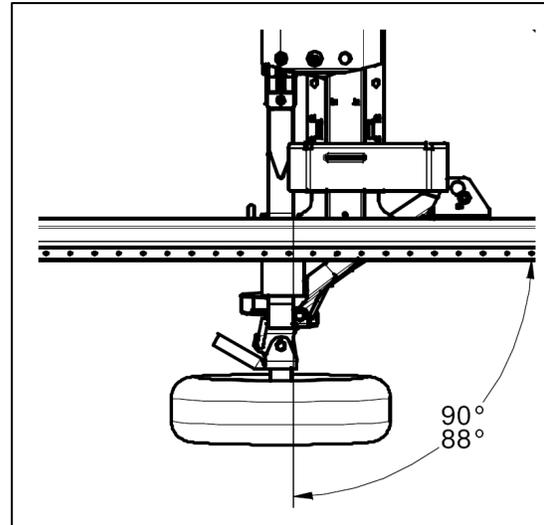
STEP 7. INSTALL REAR SWING AXLE



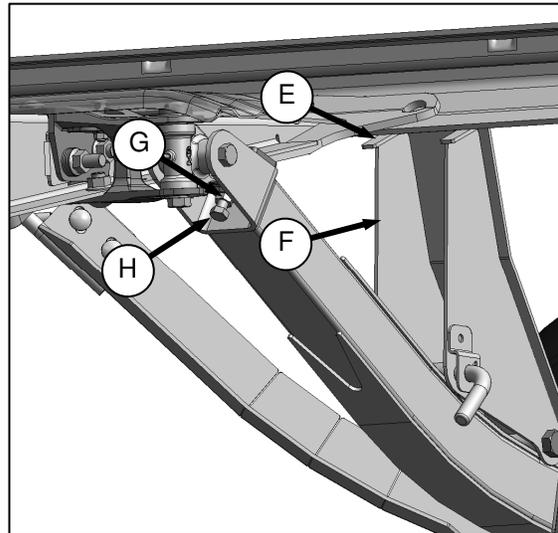
- a. Remove 5/8 NC X 4.5 LG bolt (A) from axle support swivel (B). Ensure spacer (C) remains in place. Make note of hardware orientation for replacement in next step.



- b. Position swing axle (D) on axle support swivel (B) and attach with one 5/8 NC X 4.5 LG bolt (A), and nut. Torque to 160 ft·lbf (217 N·m).



- c. Set the swing axle perpendicular or slightly forward of perpendicular to cutterbar.
d. Raise axle support (D).



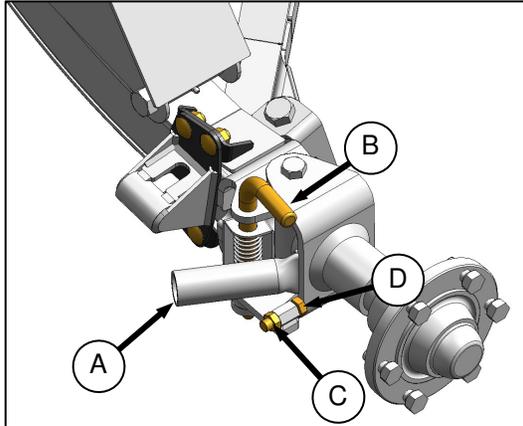
- e. Adjust gap (E) between cutterbar and axle support (F) to 0.02-0.16 in. (0.5-4.0 mm) by loosening jam-nut (G) and turning adjuster bolt (H). Re-tighten jam-nut.

REAR AXLES AND WHEELS

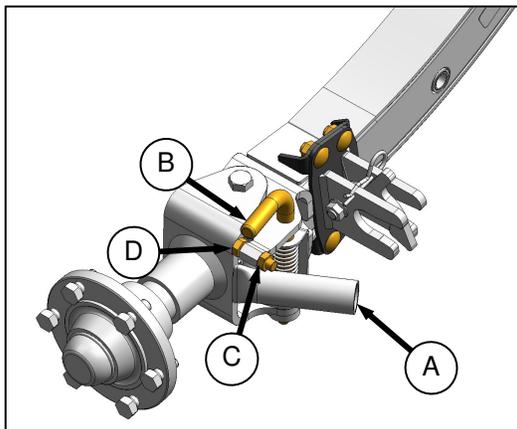
STEP 8. CHECK AXLE SUBASSEMBLIES

A. HUB PIVOT

Perform the following check to ensure that the wheel hub pivot is snug while in the transport position:



SWING AXLE

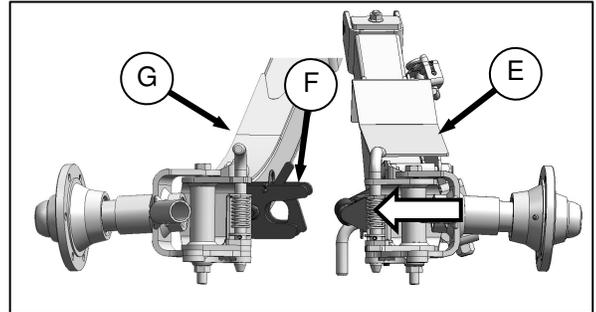


FIXED AXLE

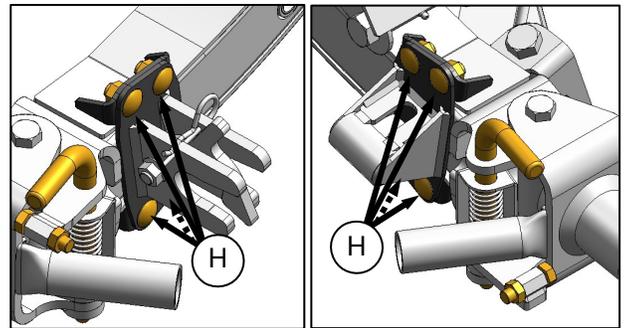
- Check that hub pivot (A) is in transport position and ensure that L-pin (B) has locked the hub.
- Check hub pivot (A) for looseness.
- If hub pivot (A) is snug, check that L-pin (B) can move freely out of and into lock position (down).
- If L-pin (B) is jammed, loosen jam-nut (C) and turn adjuster bolt (D) until L-pin (B) can move. Hub pivot (A) should be snug and L-pin (B) should move freely when properly adjusted.
- If hub pivot (A) is loose when L-pin (B) is engaged, turn adjuster bolt (D) until hub pivot (A) is snug. L-pin (B) should move freely when properly adjusted.
- Tighten jam-nut (C).

B. LATCH ALIGNMENT

- Move the swing axle (E) to field position.



- Check alignment of latching system. Swing axle (E) should freely engage latch (F) on fixed axle (G). If necessary, align the latch as follows:



- Loosen latch bolts (H) (four per axle) to allow parts to adjust position for best fit.
- Latch axles together in field position.

NOTE

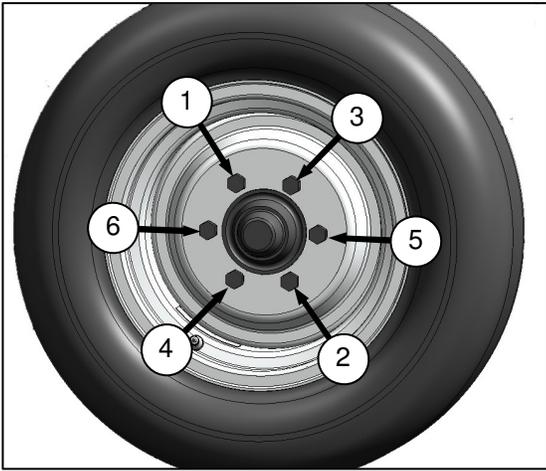
It may be necessary to add washers (J) (not supplied) between plates at top or bottom bolts (H) on one of the axles to achieve plate alignment for proper latching. Some light grinding may also be necessary.

- Tighten bolts (H) while axles are latched together.
- Check fit.

REAR AXLES AND WHEELS

STEP 9. INSTALL WHEELS

- a. Attach the four wheels to hubs with bolts provided in hubs.



- b. Torque wheel bolts to 80-90 ft·lbf (110-120 N·m). Refer to bolt tightening sequence illustration.
- c. Check tire inflation pressure. Inflate to 65 psi (448 kPa).

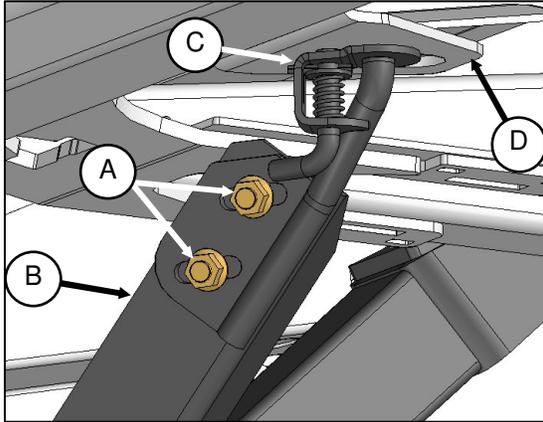
IMPORTANT

Do not exceed maximum pressure specified on tire side wall.

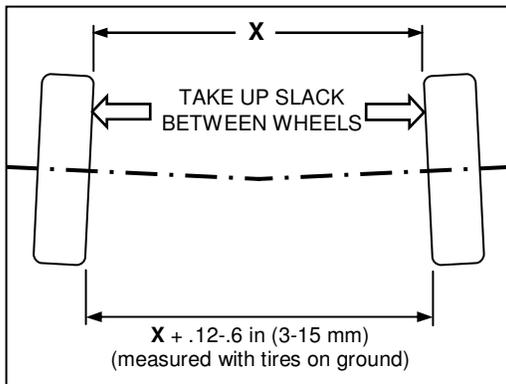
- d. Height adjustment procedures when the stabilizer wheels are in field mode are provided in “D50 and D60 Harvest Header/FD70 FlexDraper Operator’s Manual”.

REAR AXLES AND WHEELS

STEP 10. ADJUST AXLE BRACE



- Loosen bolts (A) on latch brace (B).
- Attach latch mechanism (C) to cutterbar.
- Adjust latch mechanism parallel to attachment plate (D) and tighten hardware.



- Check that wheels have appropriate toe-in. See illustration. Loosen bolts (A) and adjust as required. Tighten bolts.
- Latch mechanism (C) should easily attach and detach to plate (D) when correctly adjusted.

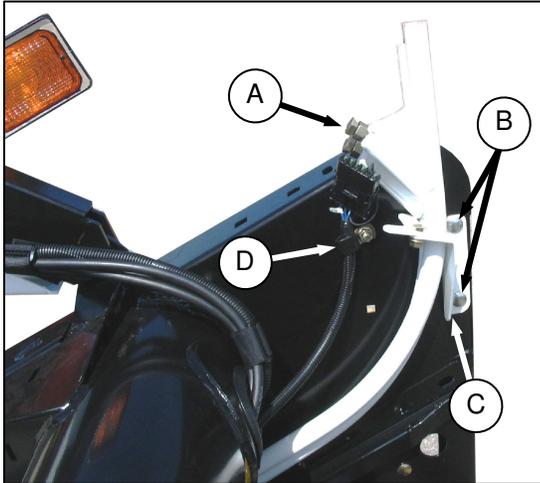
LIGHTS

STEP 11. INSTALL LIGHTS

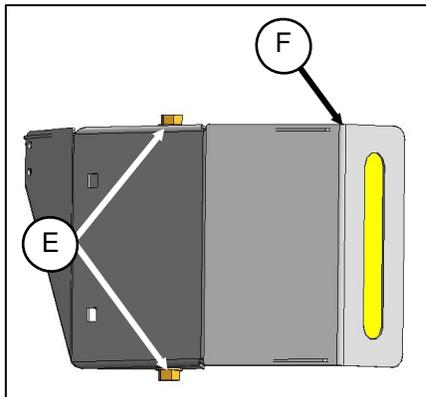
A. ATTACH LIGHTS

I. ENDSHIELD LIGHT

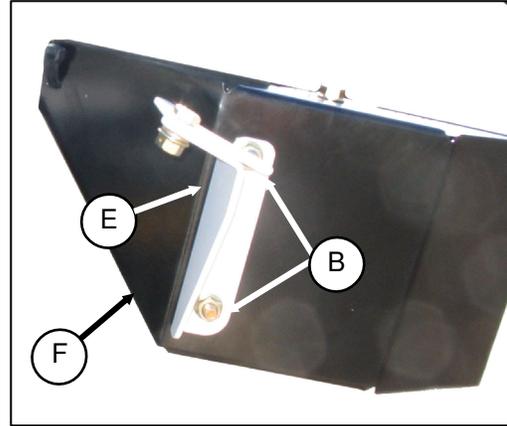
- a. Remove end shield.



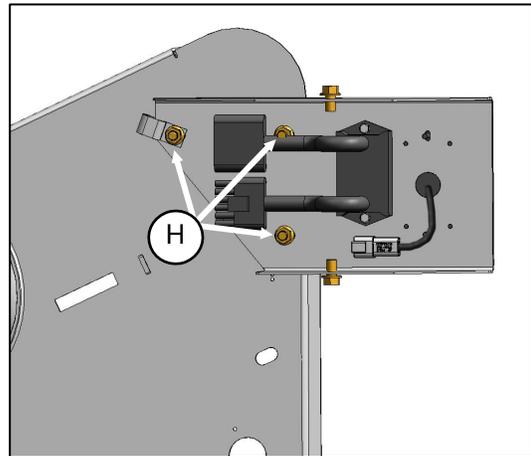
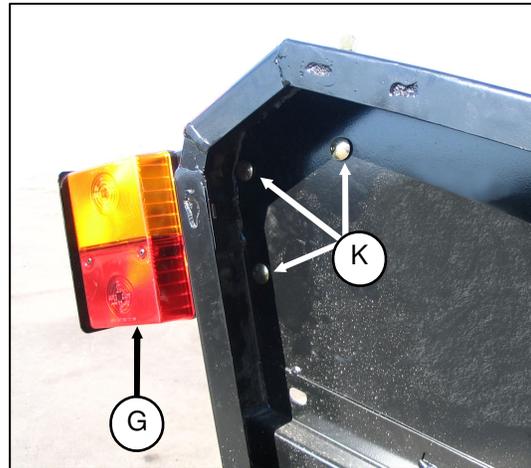
- b. Remove divider rods (A) (if installed) from storage location.
c. Remove bolts (B) and remove bracket (C) on endsheet. Retain hardware.
d. Remove clip (D) that attaches wiring harness to endsheet. Retain for re-installation on reel arm.
e. Retrieve light assembly from transport kit.



- f. Remove screws (E) and remove cover (F) from light assembly.



- g. Reinstall bracket (C) on light cover (F) with existing hardware (B).

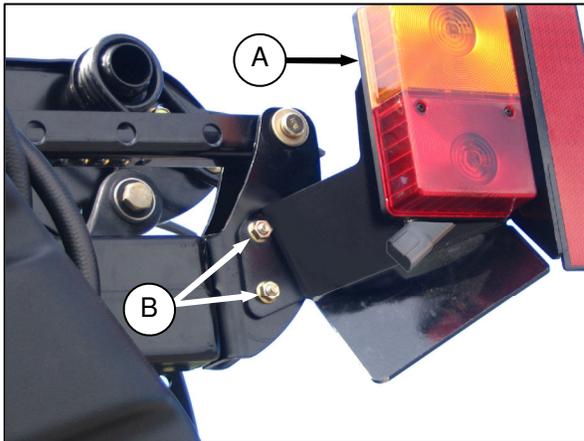


SHOWN WITH MODULE

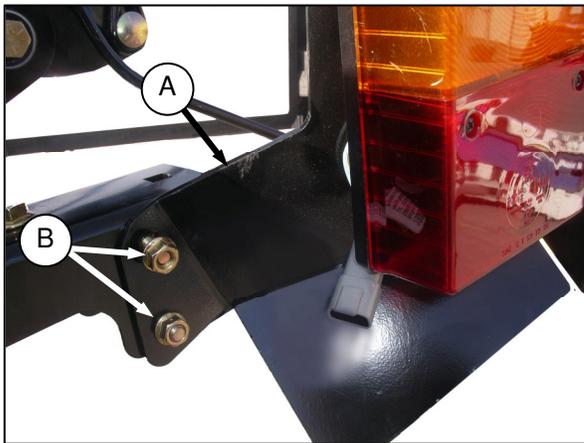
- h. Position light (G) on endsheet picking up existing holes, and install three 3/8 NC X 0.75 LG carriage bolts (H) and nuts.
i. Do not re-install cover (F) at this time.

LIGHTS

II. REEL ARM LIGHT



D60/FD70



D50

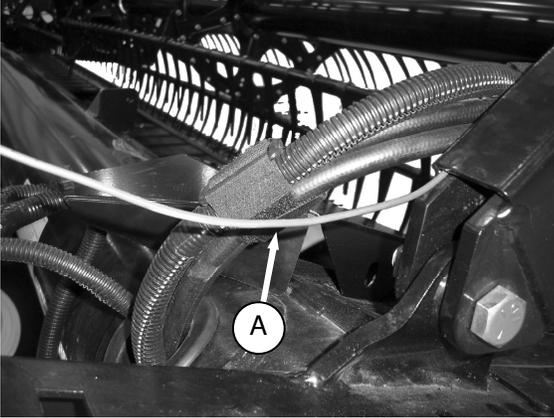
- a. Install light (A) on reel right-hand support arm with two 3/8 NC X 1.0 LG carriage bolts (B).

LIGHTS

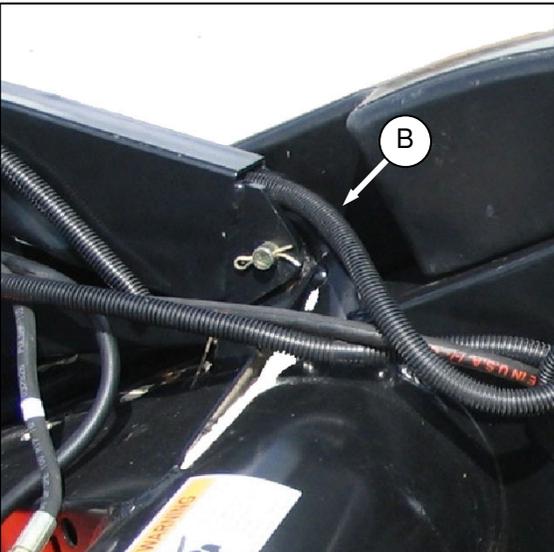
B. INSTALL LIGHT WIRING HARNESS

I. D60, FD70 HEADERS

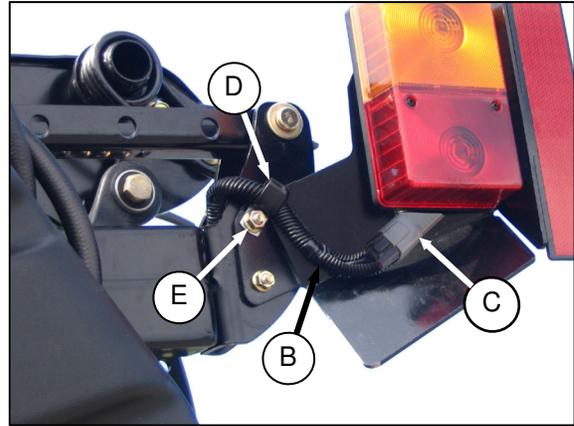
- a. Retrieve wiring harness from transport kit.



- b. Run a piece of fish tape or wire (A) through the front of the arm and route it to the rear as shown.



- c. Attach it to the square connector end of the harness (B).
- d. Pull wiring harness (B) up inside reel support arm to light at end of arm. Remove the fish tape or wire.



- e. Connect harness (B) to light at connector (C).

IMPORTANT

Route wire exactly as shown, otherwise it will get damaged by crop at low reel positions.

NOTE

Wire colours do not match up when connecting harness to lights. Refer to wiring schematic on page 14.

- f. Secure harness (B) at end of arm with clip (D) that was removed from endsheet and a 3/8 NC X 1.0 LG carriage bolt (E) and nut.

LIGHTS

II. D50

- a. Retrieve wiring harness from kit.
- b. Disconnect reel lift cylinder at right side reel arm as follows:

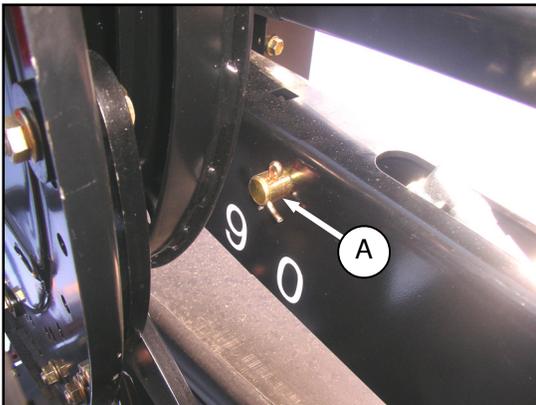
NOTE

The harness cannot be routed down the reel arm without first disconnecting the lift cylinder and routing harness around cylinder and re-installing.

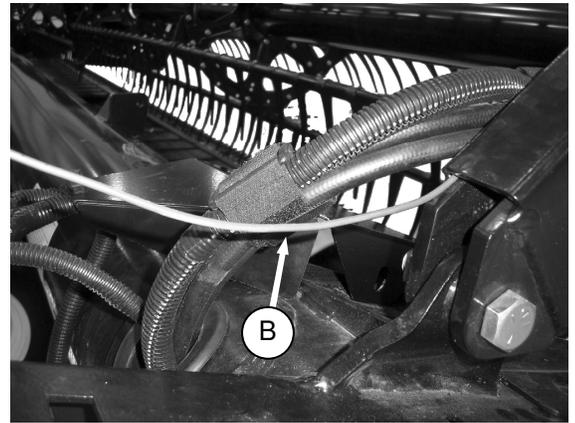
1. If header is attached to combine or windrower, fully raise reel, engage reel safety prop, and then lower reel onto safety prop until lift cylinder is loose. Shutdown machine.



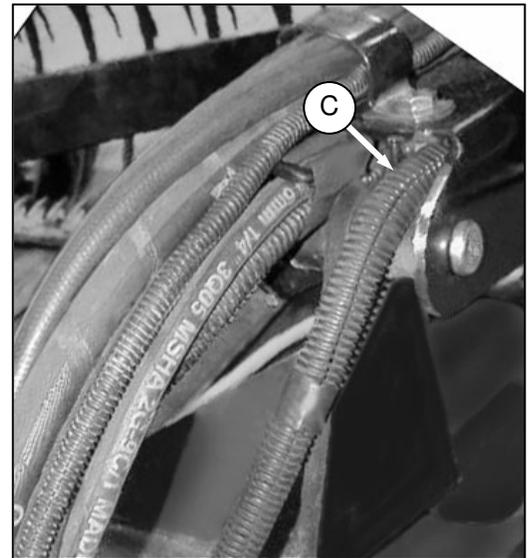
2. If header is not attached to combine or windrower, lift reel fully with a forklift or equivalent, engage reel safety prop, and then lower reel onto safety prop until lift cylinder is loose.



3. Remove cotter pin and clevis pin (A) that connects RH reel lift cylinder to reel arm and lower cylinder from reel arm.



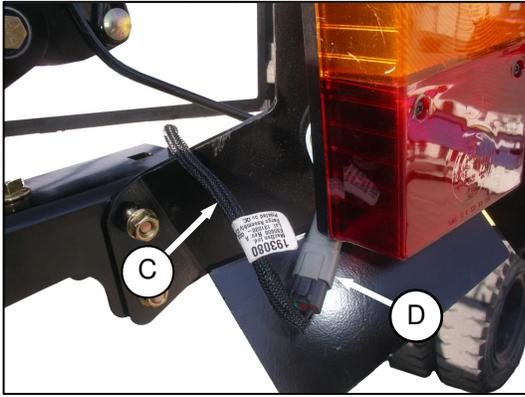
- c. Insert a fish tape or a piece of wire (B) through the front of the arm and route it to the rear of the arm as shown.
- d. Attach the fish tape or wire to the square connector end of the harness (C).



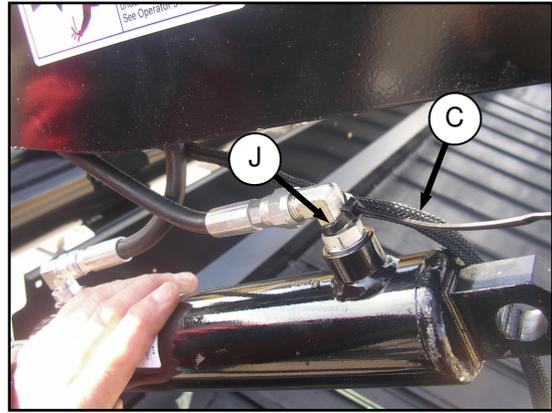
- e. Route wiring harness (C) up inside reel support arm to light at end of arm.
- f. Remove fish tape or piece of wire.

(continued next page)

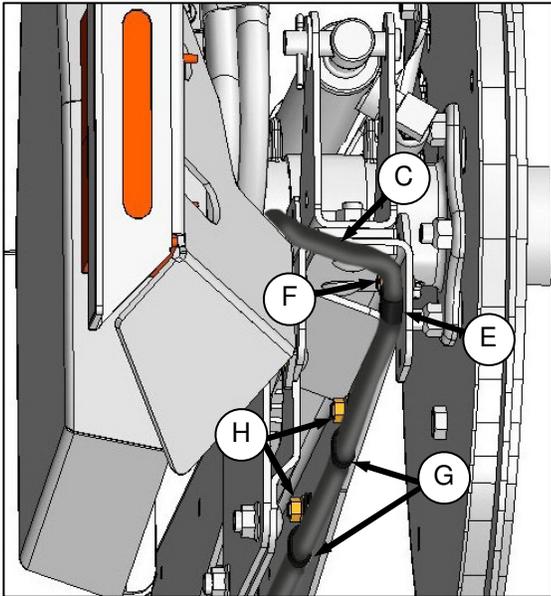
LIGHTS



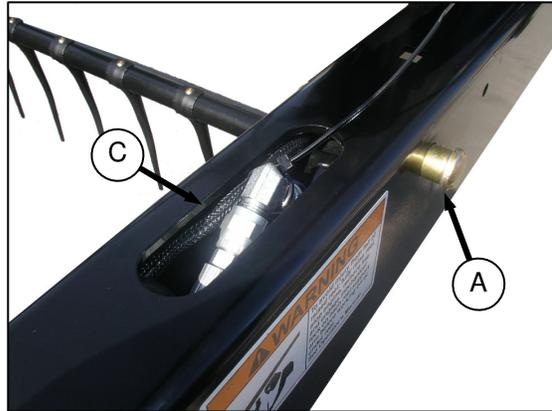
- g. Connect harness (C) to light at connector (D).



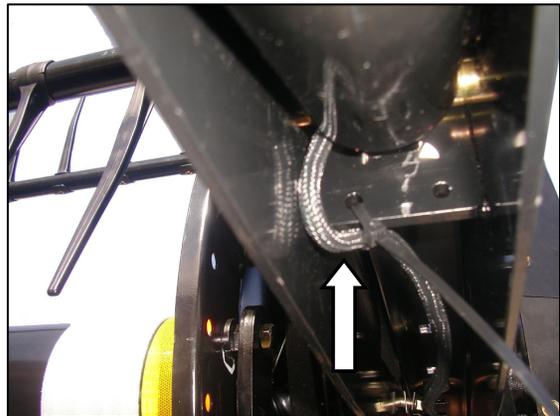
- j. Route harness (C) over lift cylinder and secure to cylinder fitting with plastic tie (J) as shown.



- h. Secure harness (C) at end of arm with clip (E) that was removed from endsheet and a 3/8 NC X 1.0 LG carriage bolt (F) and nut.
i. Secure harness inside arm with two additional clamps (G) and 3/8 NC X 0.75 LG carriage bolts (H) and nuts.



- k. Reposition cylinder back into reel arm bracket and re-install clevis pin (A). Secure with cotter pin, being careful not to pinch harness (C).

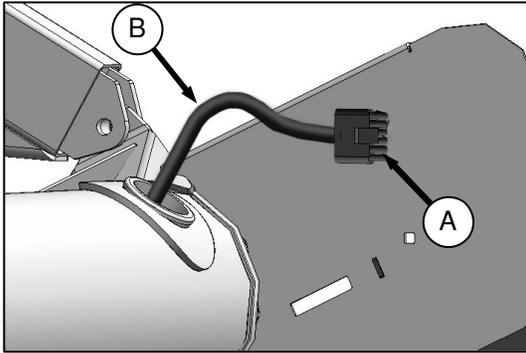


- l. Secure harness to inside of reel arm bracket using another cable tie as shown.

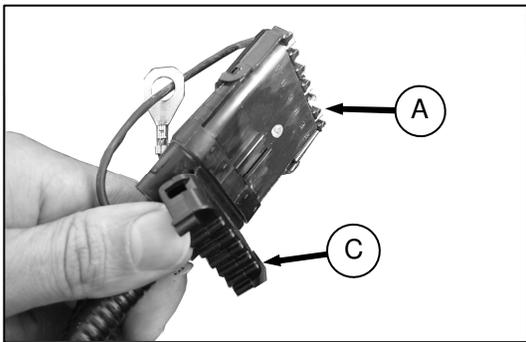
LIGHTS

C. INSTALL SPLICE

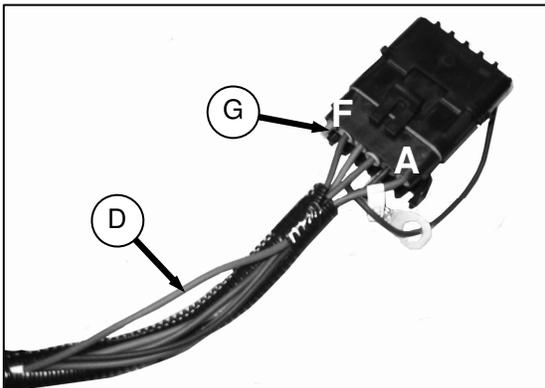
The lighting harness at the endsheet transport light needs to be modified to include a splice at the 6-pin flat connector. This modification is only applicable to some Export kits that have a light without a built in module. Refer to the electrical schematic on page 34.



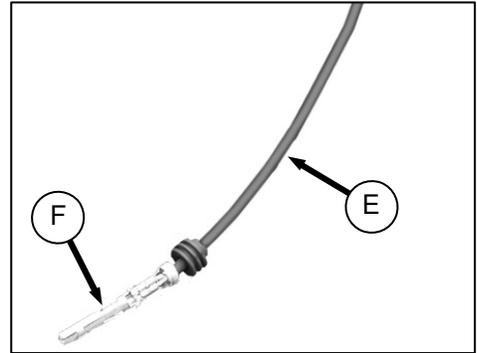
- a. Locate the 6-pin flat connector (A) at the end of the header portion of the electrical harness (B).



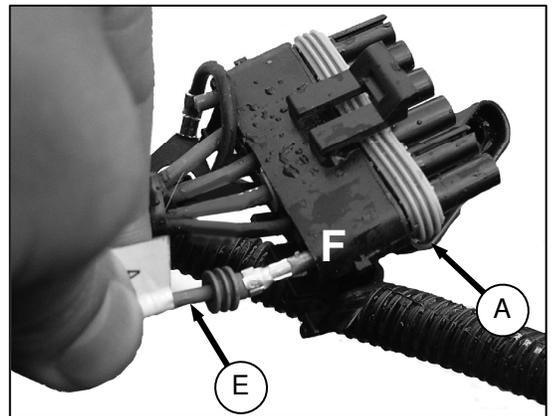
- b. Unclip and pull back the TPA (Terminal Position Assurance) clip (C) on connector (A).



- c. Locate the wire (D) inside the conduit from pin position "A" on connector.
- d. Pull out a short length to accommodate the splice.



- e. Obtain a length of wire (E) the same gauge as the existing wires for the splice.
- f. Attach a pin connector (F), similar to the one shown to the splice (E).
- g. Pull out the green weather plug (G) from position "F" on connector (A).



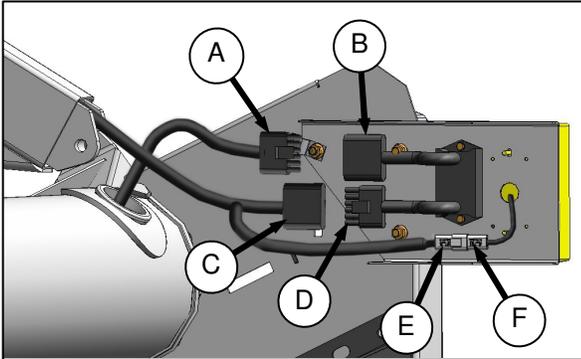
CONNECTOR SHOWN WITH CAP REMOVED

- h. Insert splice (E) at position "F".
- i. Connect other end of splice to wire (D) from pin position "A" with a T-type connector, or by soldering the splice to the existing wire.
- j. Insert the connection into the conduit and wrap the conduit with electrical tape.
- k. Reattach the TPA clip (C) on the connector.

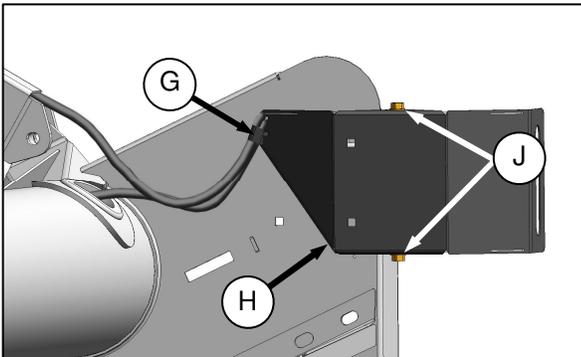
LIGHTS

D. CONNECT HARNESS

I. NORTH AMERICA/AUSTRALIA/CIS (WITH MODULE)

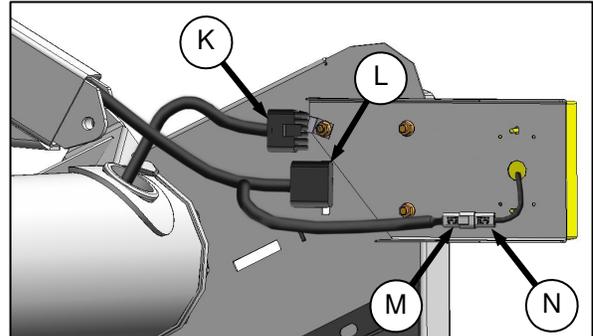


- Remove cap from connector (A) on existing harness and attach connector to light module connector (B).
- Connect light harness flat connector (C) to light module connector (D).
- Connect light harness square connector (E) to light square connector (F).
- Bundle harnesses into light fixture and secure with clamp (G).



- Attach cover (H) and tighten screws (J).

II. EUROPE AND OTHER EXPORT (WITHOUT MODULE)

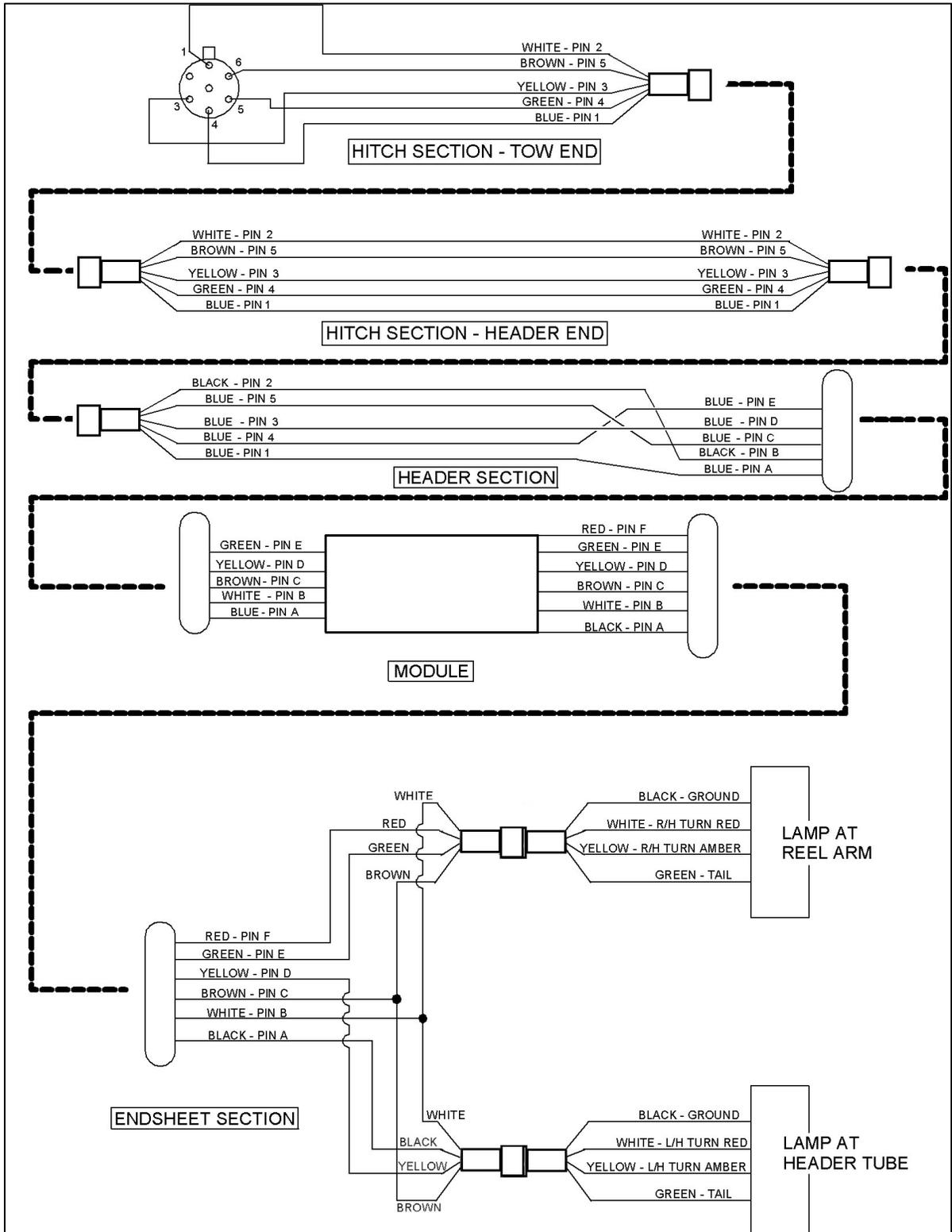


- Remove cap from connector (K) on existing harness and attach connector to light harness connector (L).
- Connect light harness square connector (M) to light square connector (N).
- Bundle harnesses into light fixture and secure with clamp G.
- Attach cover (H) and tighten screws (J).

LIGHTS

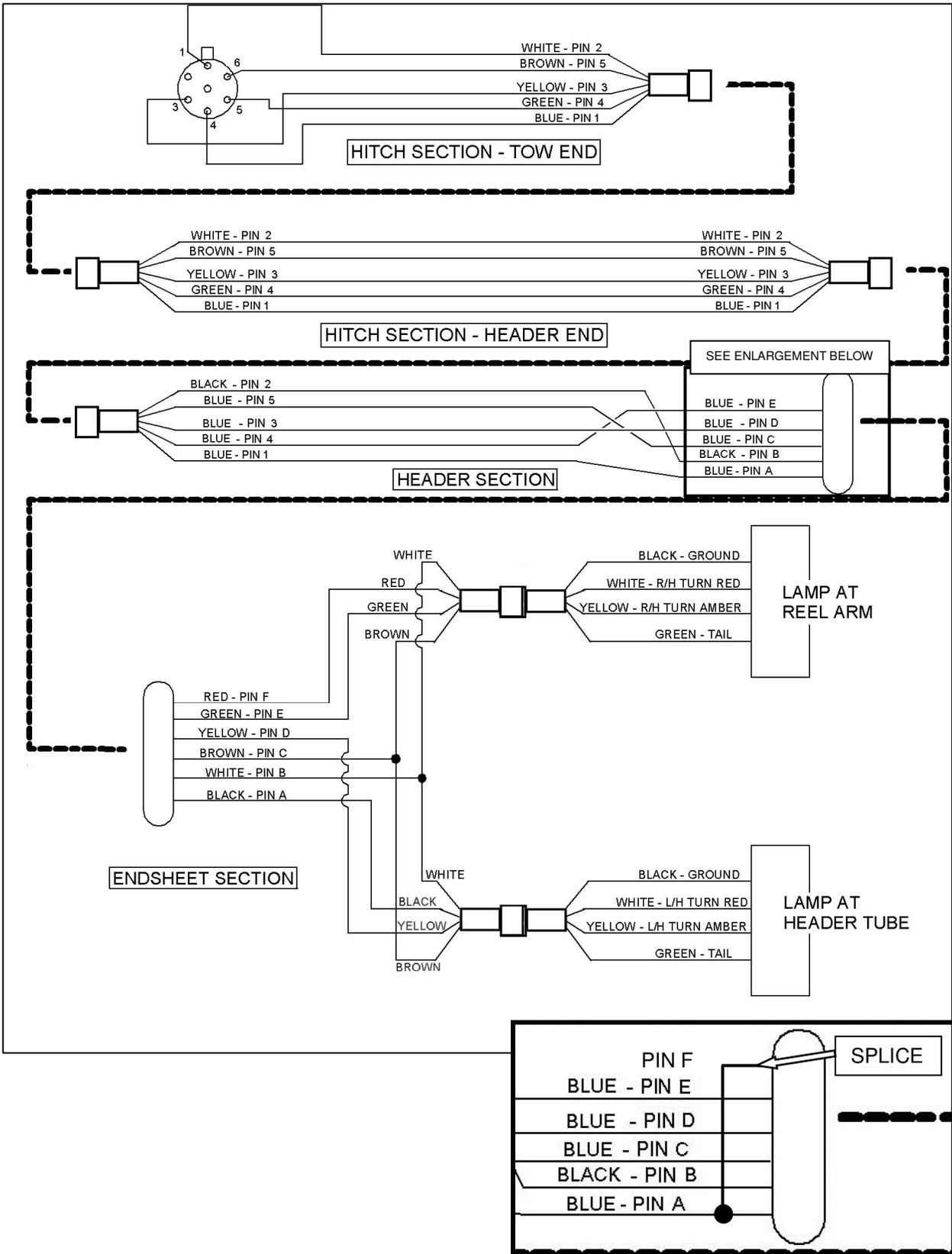
E. ELECTRICAL SCHEMATICS: 2008 AND NEWER:

I. NORTH AMERICA & AUSTRALIA: WITH MODULE



LIGHTS

II. EUROPE AND OTHER EXPORT: WITHOUT MODULE, WITH SPLICE



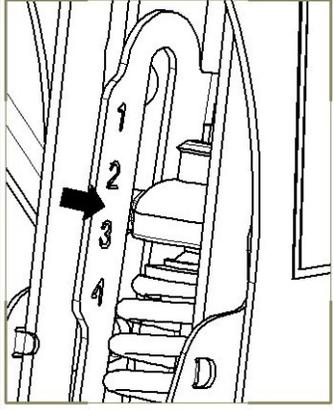
SAFETY SIGNS

STEP 12. ATTACH DECALS

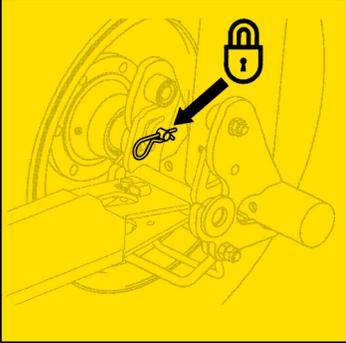
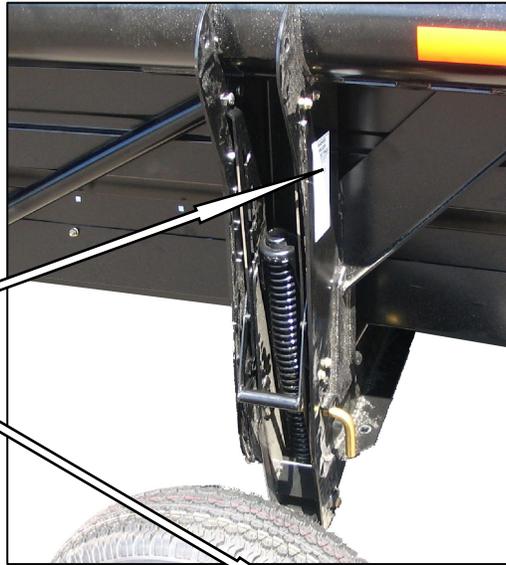
- a. Clean off mounting surface and install decals at locations as shown in illustration.

**TRANSPORT
GAUGE WHEEL
SETTINGS**

OPERATE WITH SPRINGS
COMPRESSED BETWEEN #2 & #3
AS SHOWN. DO NOT SET TO
OPERATE BEYOND #4.
SEE OPERATORS MANUAL.



The diagram shows a side view of a transport gauge wheel assembly. Four numbered points are marked: 1 is at the top of the wheel, 2 is at the top of the spring, 3 is at the bottom of the spring, and 4 is at the bottom of the wheel. An arrow points to the space between points 2 and 3.

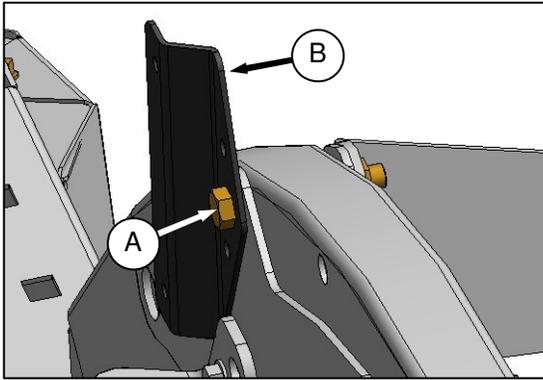


The image shows two yellow safety signs. The top sign features a black triangle with a white border and a white padlock icon. Inside the triangle is a line drawing of a mechanical component with an arrow pointing to a specific part. The bottom sign is identical but shows a different mechanical component with an arrow pointing to a different part. The number 193147 is printed at the bottom right of the signs.



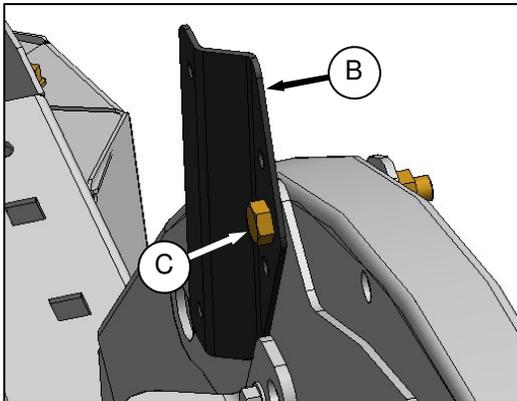
SAFETY SIGNS

STEP 13. INSTALL SMV SIGN



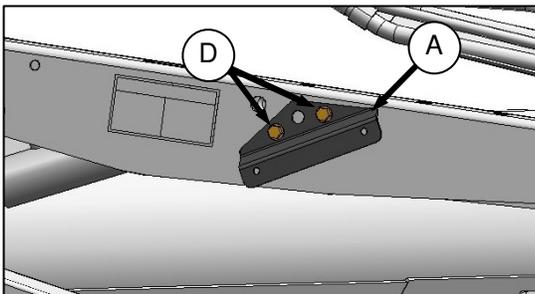
D60

- a. On D60 Harvest Headers, remove reel brace upper bolt (A) from right-hand reel arm.
- b. Install SMV reflector support (B) on outboard side of reel arm with bolt (A) and nut removed in previous step. Do not install the washer. Torque to 75 ft·lbf (102 N·m). Proceed to step e.



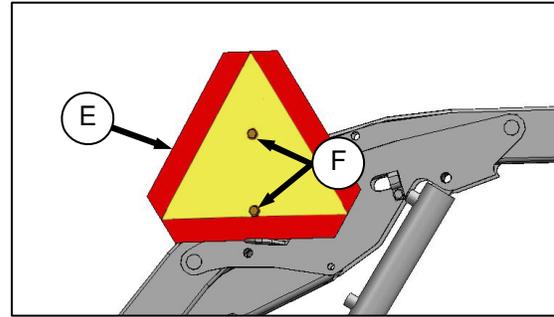
FD70

- c. On FD70 FlexDraper headers, install SMV reflector support (B) on outboard side of right-hand reel arm with 1/2 NC X 3.25 LG bolt (C) and nut. Tighten bolt. Proceed to step e.

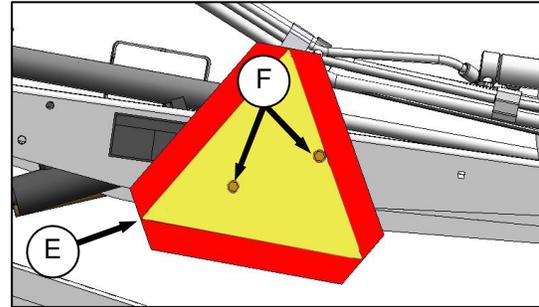


D50

- d. On D50 Harvest Headers, install SMV reflector support (A) on right-hand reel arm with two 3/8 NC X 0.625 LG self-tapping screws (D).



D60 & FD70



D50

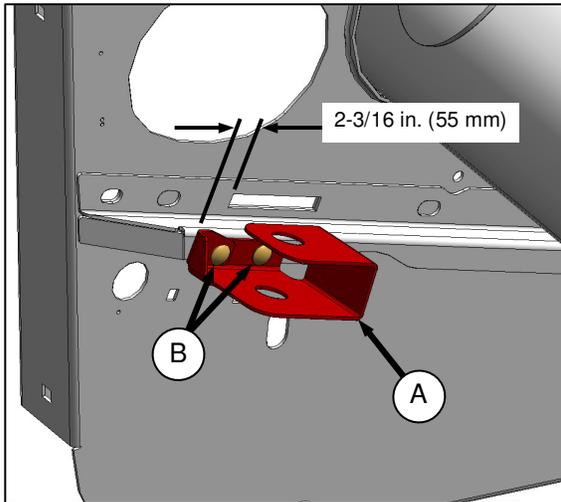
- e. Install SMV reflector (E) onto support with two 3/8 NC X 0.625 LG self-tapping screws (E).

TOW-BAR

STEP 14. INSTALL TOW-BAR BRACKETS

The tow-bar is stored on the header just behind the back-tube. It is secured to each endsheet with a bracket and to the back-tube with two cradles.

A. ENDSHEET BRACKETS

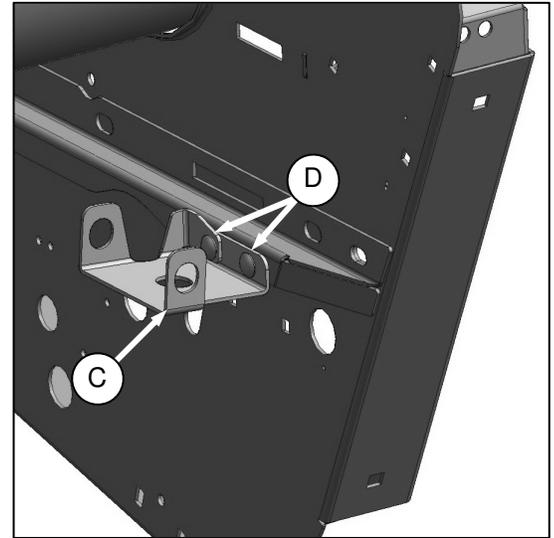


LEFT ENDSHEET

- a. At the left endsheet inboard side, install bracket (A) on channel with two 3/8 NC X 0.75 LG carriage bolts (B) and flanged smooth faced nuts.

NOTE

For 2009 and earlier model headers, locate bracket (A) on endsheet as shown and drill two mounting holes in endsheet brace with a 3/8 inch drill.



RIGHT ENDSHEET

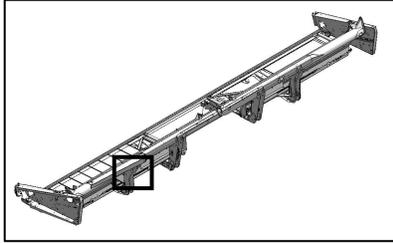
- b. At the right endsheet inboard side, install bracket (C) on channel with two 3/8 NC X 0.75 LG carriage bolts (D) and flanged smooth faced nuts.

TOW-BAR

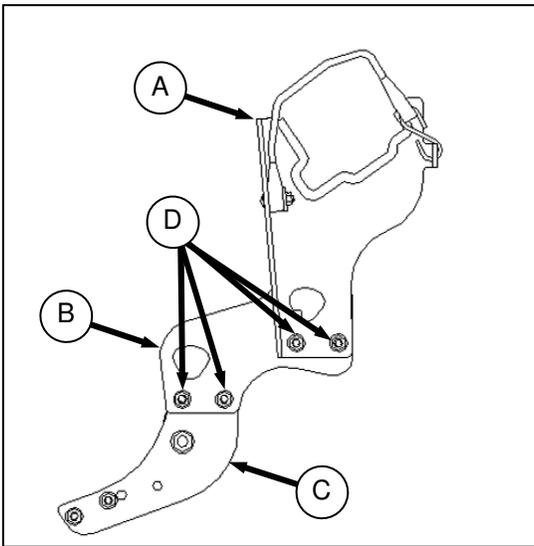
STEP 15. ASSEMBLE TOW-BAR CRADLES

The cradle assemblies are designed for your particular header size and application. Refer to the appropriate section to assemble the LEFT SIDE and RIGHT SIDE cradles.

A. LEFT SIDE CRADLE ASSEMBLY

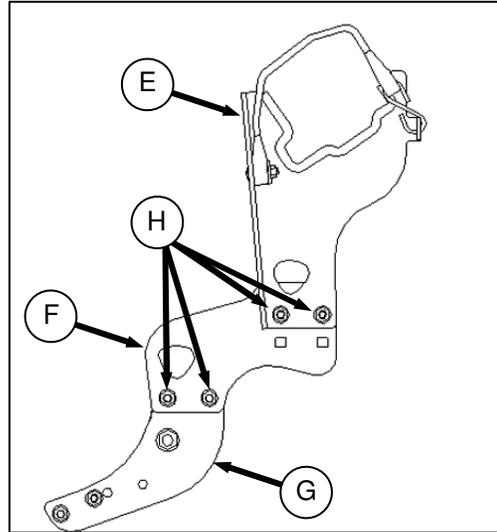


I. WINDROWER 30 FT / COMBINE 30 FT FLEX / ALL 35 FT RIGID



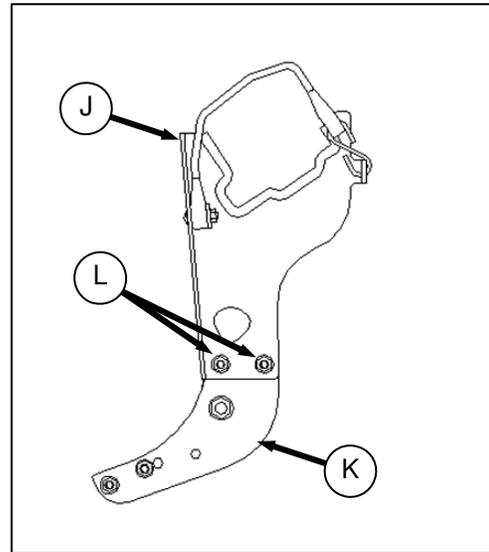
- Retrieve cradle (A), extension (B), and support (C) from kit.
- Assemble parts as shown with four 3/8 NC X 1.0 LG carriage bolts (D) and flanged smooth face lock nuts.
- Tighten hardware.

II. COMBINE 30 FT RIGID



- Retrieve cradle (E), extension (F), and support (G) from kit.
- Assemble parts as shown with four 3/8 NC X 1.0 LG carriage bolts (H) and flanged smooth face lock nuts.
- Tighten hardware.

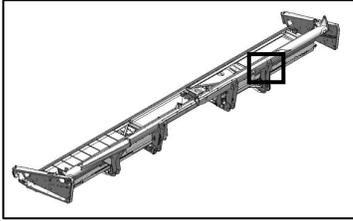
III. COMBINE 35 FT FLEX / ALL 40 – 45 FT



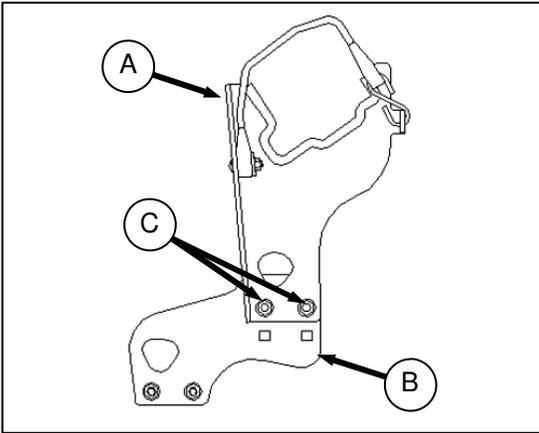
- Retrieve cradle (J), and support (K) from kit.
- Assemble parts as shown with two 3/8 NC X 1.0 LG carriage bolts (L) and flanged smooth face lock nuts.
- Tighten hardware.

TOW-BAR

B. RIGHT SIDE CRADLE ASSEMBLY

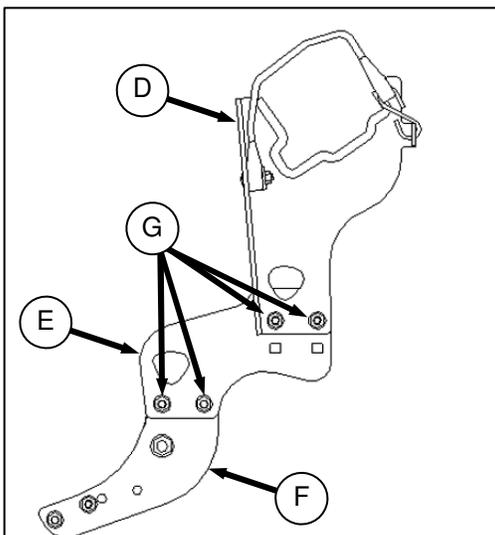


I. WINDROWER 30 FT



- Retrieve cradle (A), and support (B) from kit.
- Assemble parts as shown with two 3/8 NC X 1.0 LG carriage bolts (C) and flanged smooth face lock nuts.
- Tighten hardware.

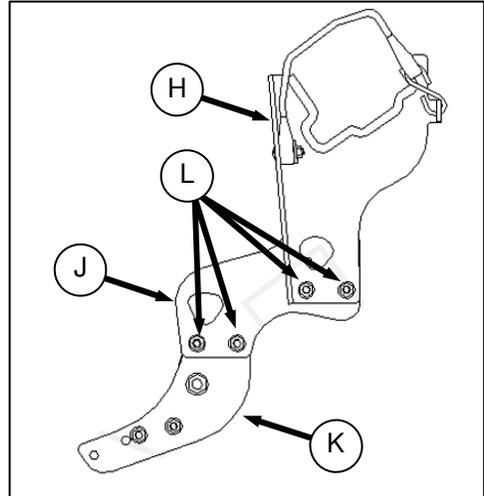
II. COMBINE 30 FT RIGID



- Retrieve cradle (D), extension (E), and support (F) from kit.

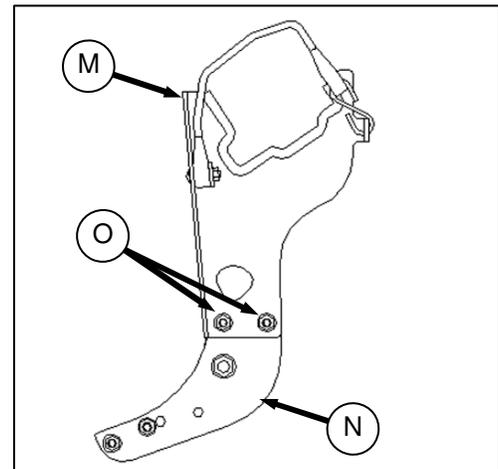
- Assemble parts as shown with four 3/8 NC X 1.0 LG carriage bolts (G) and flanged smooth face lock nuts.
- Tighten hardware.

III. COMBINE 30 FT FLEX



- Retrieve cradle (H), extension (J), and support (K) from kit.
- Assemble parts as shown with four 3/8 NC X 1.0 LG carriage bolts (L) and flanged smooth face lock nuts.
- Tighten hardware.

IV. ALL 35-45 FT



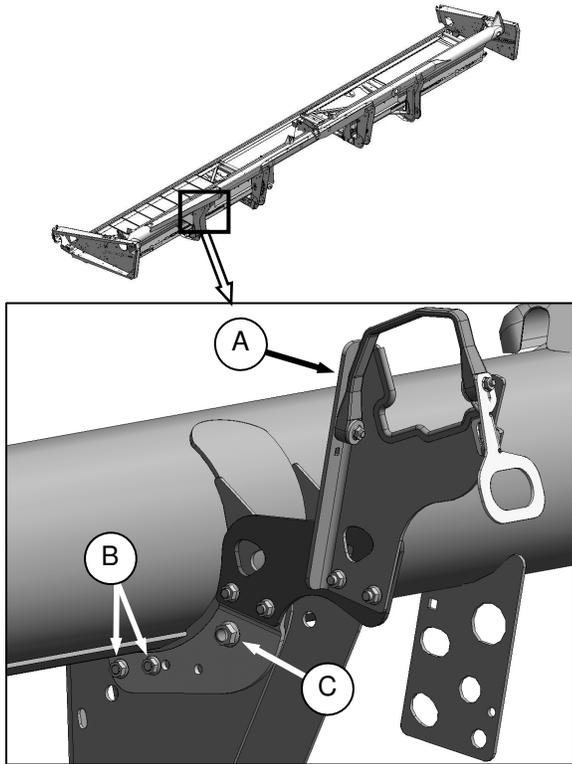
- Retrieve cradle (M), and support (N) from kit.
- Assemble parts as shown with two 3/8 NC X 1.0 LG carriage bolts (O) and flanged smooth face lock nuts.
- Tighten hardware.

TOW-BAR

STEP 16. INSTALL CRADLE ASSEMBLIES

A. LEFT SIDE CRADLES

Installation of LEFT SIDE cradles is identical for all headers:

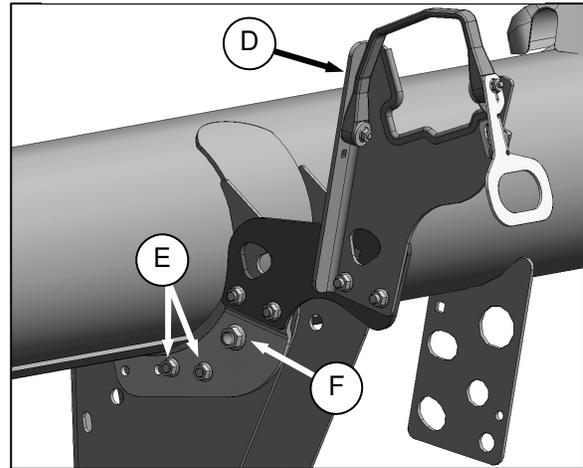
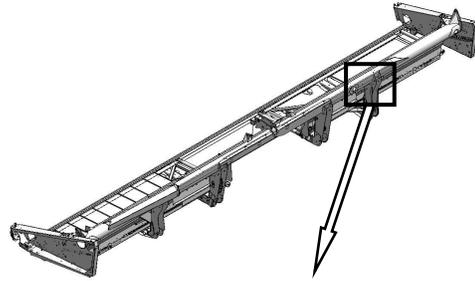


LH -30' FLEX SHOWN

- Install cradle assembly (A) to header frame leg as shown using two 3/8 NC X 1.0 LG carriage bolts and flanged smooth faced lock-nuts at (B) and one 1/2 NC X 1.0 LG Torx head machine screw and flanged smooth faced lock-nut at (C).
- Tighten hardware.

B. RIGHT SIDE CRADLES

I. ALL EXCEPT 30 FT WINDROWER

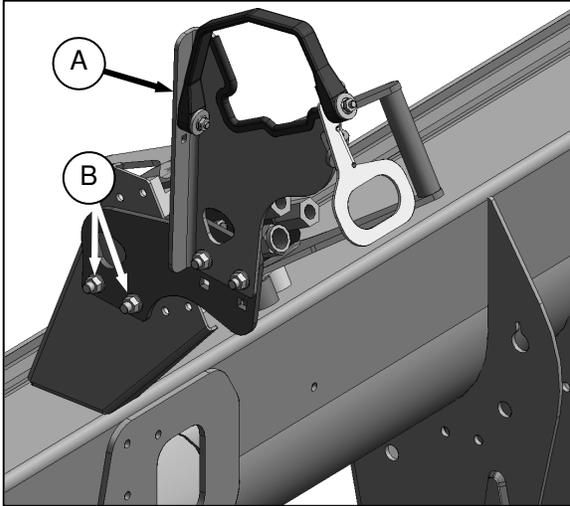
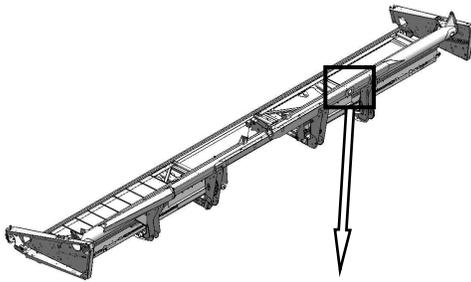


RH -30' FLEX SHOWN

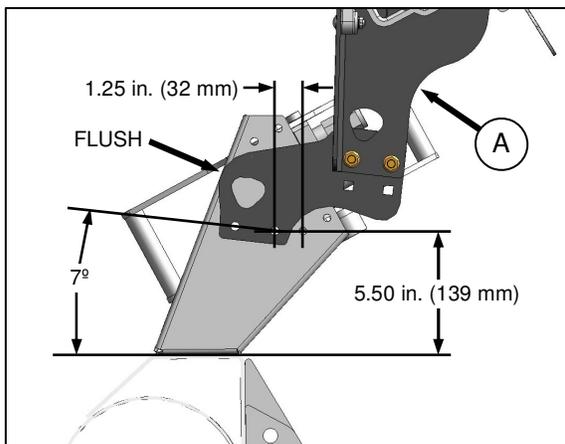
- Install cradle assembly (D) to header frame leg as shown using two 3/8 NC X 1.0 LG carriage bolts and flanged smooth faced lock-nuts at (E) and one 1/2 NC X 1.0 LG Torx head machine screw and flanged smooth faced lock-nut at (F).
- Tighten hardware.

TOW-BAR

II. 30 FT WINDROWER



- a. Install cradle assembly (A) to back-tube multi-coupler support as shown using two 3/8 NC X 1.0 LG carriage bolts and flanged smooth face lock-nuts at (B).



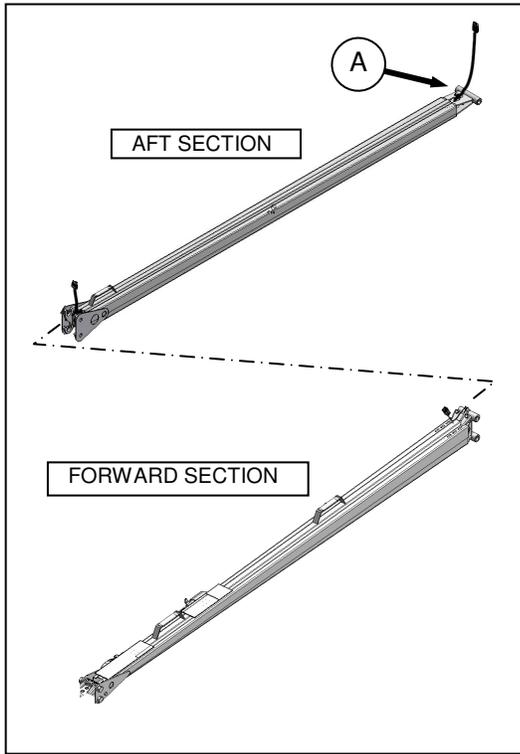
NOTE

For 2009 and earlier model headers, locate cradle assembly (A) on back-tube as shown and drill two mounting holes in support with a 3/8 inch drill.

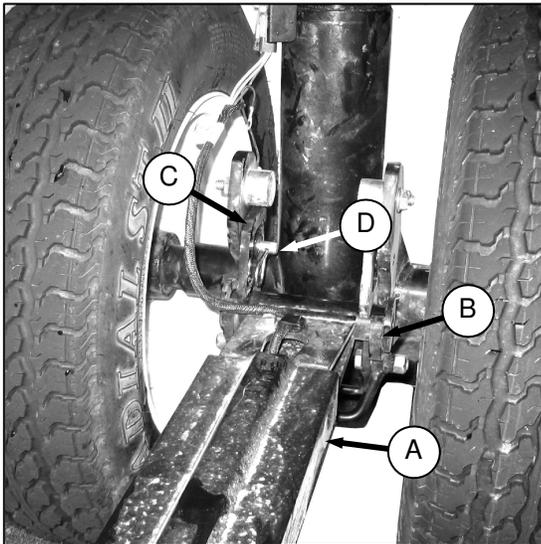
- b. Tighten hardware.

TOW-BAR

STEP 17. ATTACH TOW-BAR

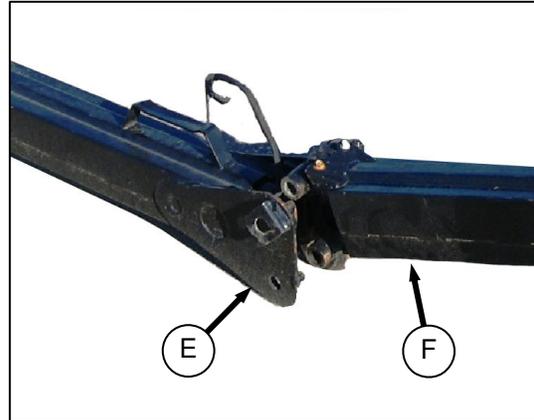


The tow-bar consists of two sections which make storage and handling easier. Attach tow-bar to header as follows:

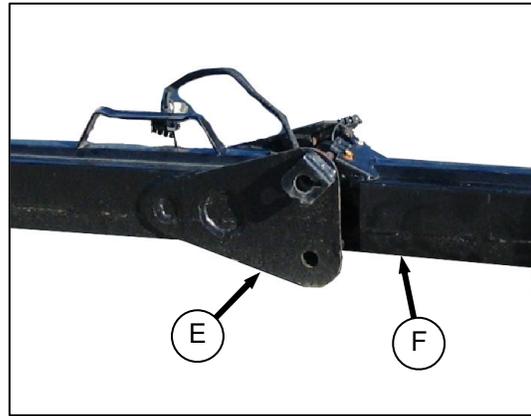


- Position end (A) of the aft section onto front wheel hook (B).
- Push down until latch (C) captures the end (A).
- Secure latch (C) with clevis pin (D).

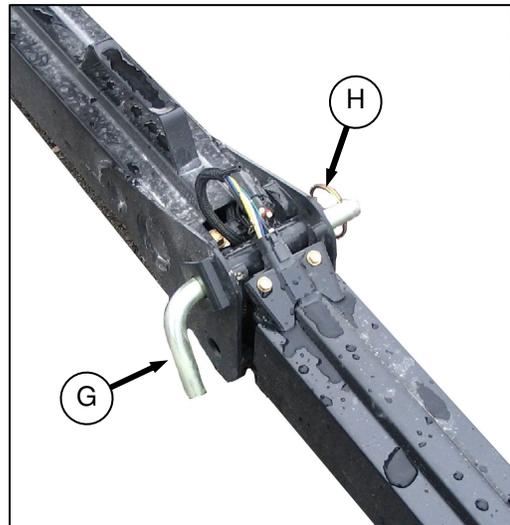
- Remove the L-pin from end (E) of aft section if installed.



- Position end (F) of the forward section into end (E) of the aft section.



- Lower forward section into aft section.



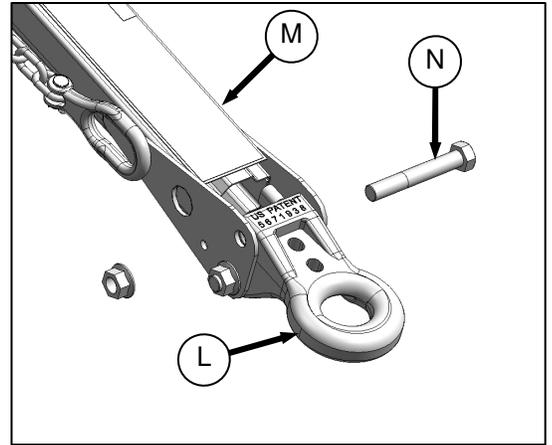
- Fully insert L-pin (G) in upper hole and turn pin to lock it. Secure with ring pin (H).

(continued next page)

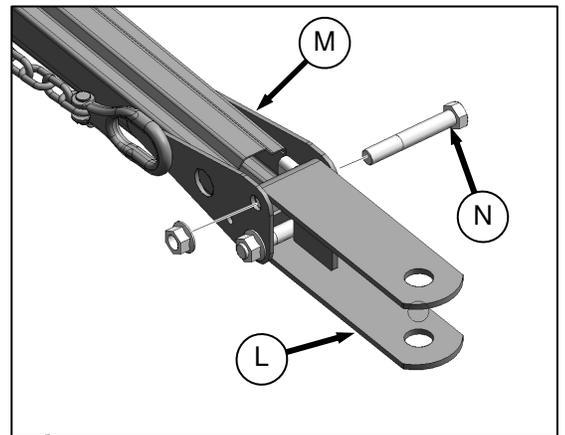
TOW-BAR



- h. Make the electrical connections (J) at the header wheel and at the joint (K).



PINTLE SET-UP

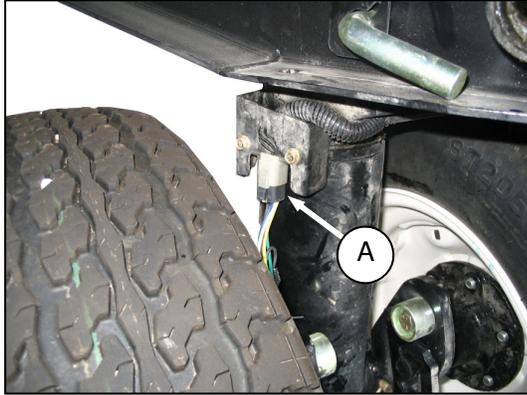


CLEVIS SET-UP

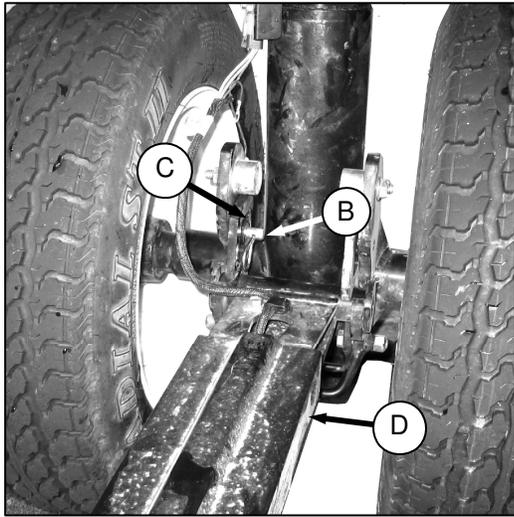
- i. Attach hitch pin clevis/pintle (L) to forward section of hitch (M) using two 5/8 NC X 4.0 LG bolts (N) and flange lock-nuts.
- j. Tighten hardware.

TOW-BAR

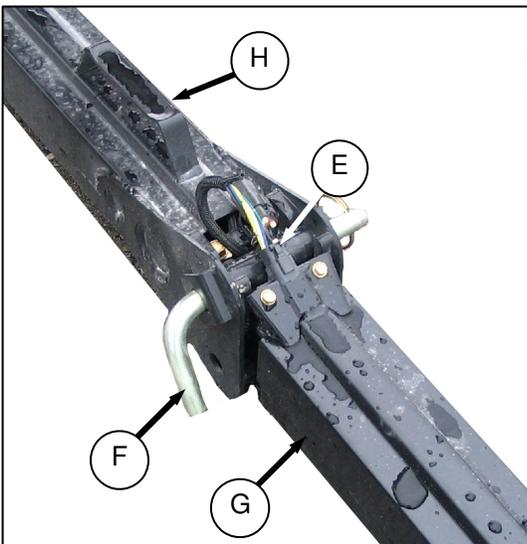
STEP 18. DETACH AND STORE TOW-BAR



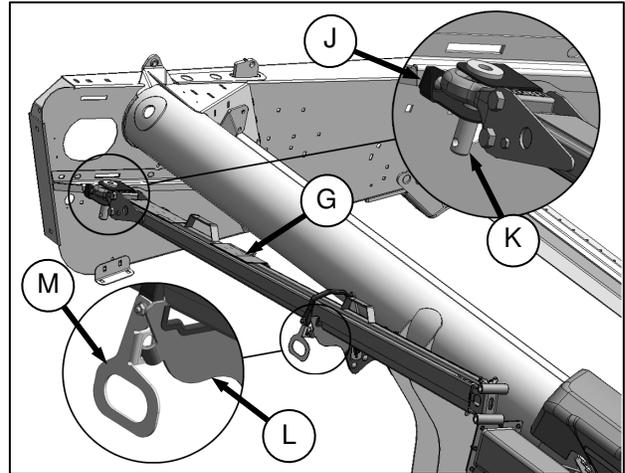
a. Disconnect wiring connector (A) at front wheel.



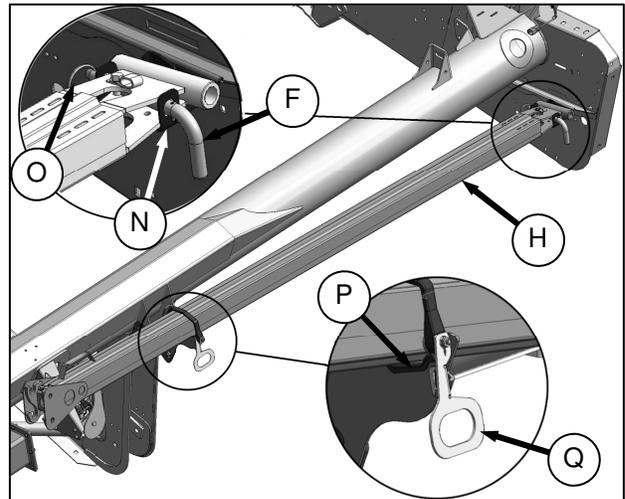
- b. Remove clevis pin (B).
c. Push latch (C) and lift tow-bar (D) from hook. Release latch (C) and replace clevis pin (B).



- d. Disconnect wiring connector (E) on tow-bar.
e. Remove pin (F) from tow-bar and lift forward section (G) out of aft section (H) to disassemble.



- f. Locate end of forward section (G) in bracket (J) on left endsheet and install hitch pin (K). Secure with lynch pin.
g. Position opposite end in cradle (L) and secure with bungee (M).



- h. Locate end of aft section (H) in bracket (N) on right endsheet and install L-pin (F). Secure with split ring (O) as shown.
i. Position opposite end in cradle (P) and secure with bungee (Q).

CONVERSION

STEP 19. CONVERSION TO AND FROM TRANSPORT

Refer to your header Operator's Manual for procedures to convert into and out of transport mode.

NOTES

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