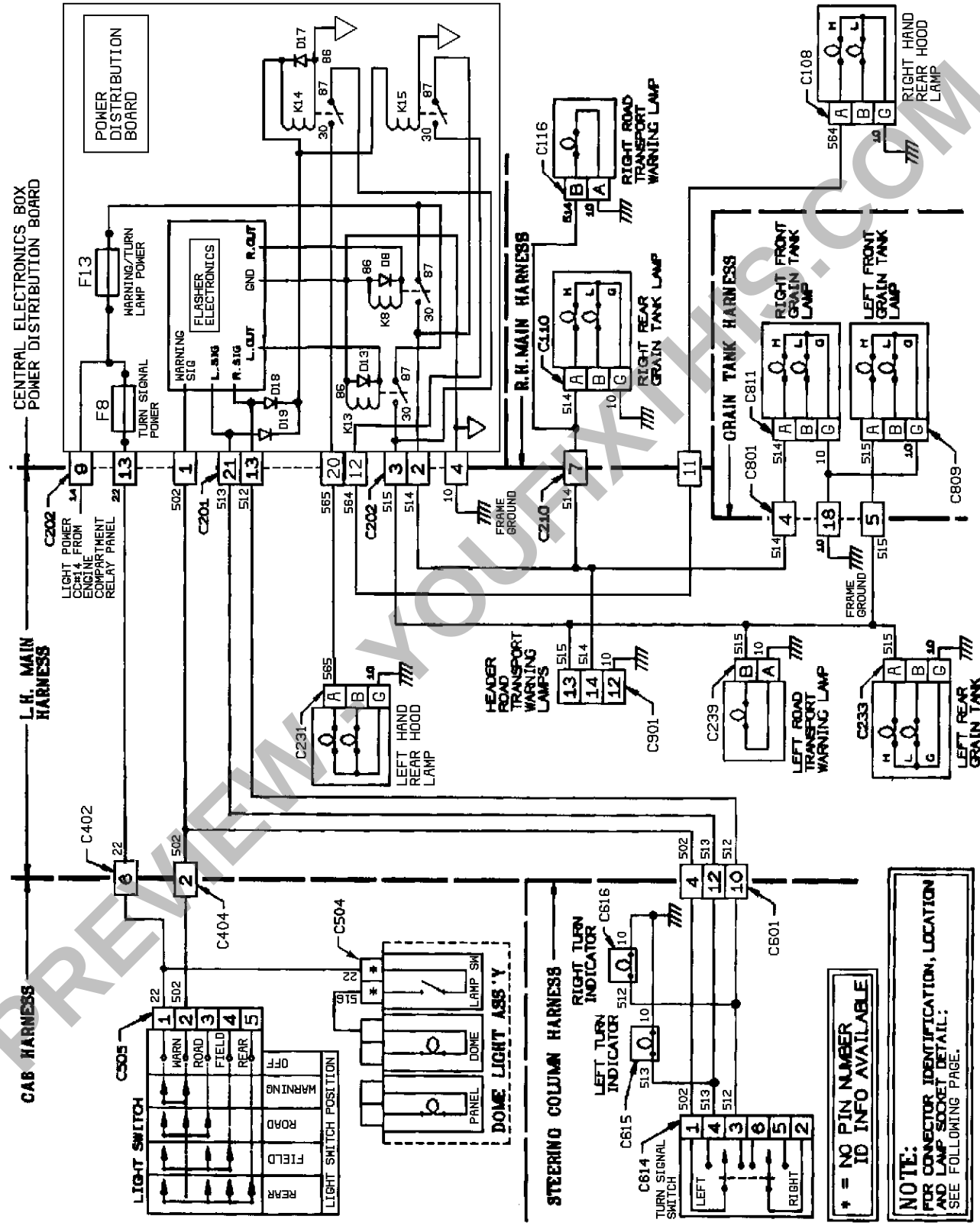
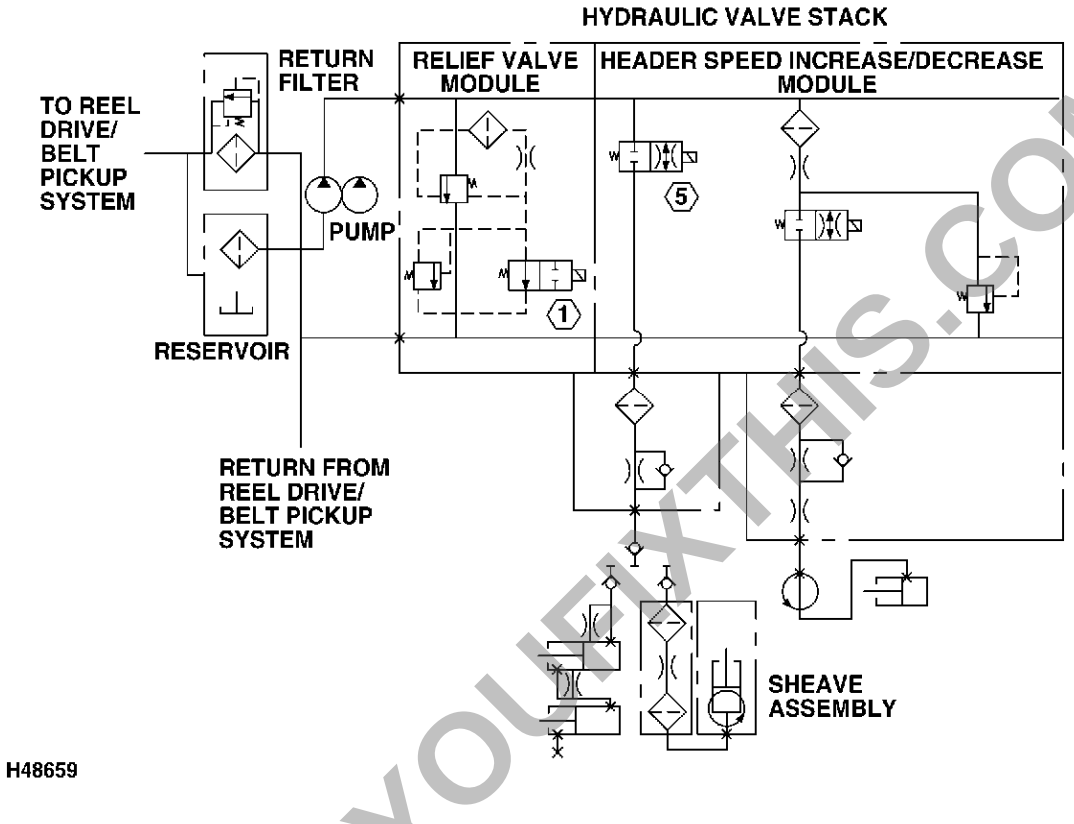
SCHEMATIC—WARNING LAMPS



HX,240,DV6208 –19–11AUG97–1/5

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DIAGRAMS



HX,270,DV6542 –19–08AUG97–1/9

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SPECIFICATIONS

HYDROSTATIC DRIVE

Item	Measurement	Specification
Neutral Charge Pressure	Pressure	1586–2000 kPa (15.9–20.0 bar) (230–290 psi)
Forward Charge Pressure	Pressure	1413–1827 kPa (14.1–18.3 bar) (205–265 psi)
Reverse Charge Pressure	Pressure	1413–1827 kPa (14.1–18.3 bar) (205–265 psi)
High Pressure (Pressure Override Valve)		
9410, 9510	Pressure	43818–45610 kPa (438–456 bar) (6354–6613 psi)
9610 (Single Reduction Final Drive)	Pressure	43818–45610 kPa (438–456 bar) (6354–6613 psi)
9610 (Planetary Final Drive)	Pressure	42094–43887 kPa (421–439 bar) (6104–6364 psi)
High Pressure (Relief Valve)		
9410, 9510	Pressure	48265 kPa (483 bar) (6999 psi)
9610 (Single Reduction Final Drive)	Pressure	48265 kPa (483 bar) (6998 psi)
9610 (Planetary Final Drive)	Pressure	46541 kPa (465 bar) (6740 psi)
Case Pressure	Pressure	275 kPa (2.76 bar) (40 psi) Max.
Transmission Lube Pump	Pressure	103 kPa (1.03 bar) (15 psi) Min.

HX,250,DV6308 –19–04AUG97–1/1

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ELECTRICAL SYSTEM

OPERATIONAL CHECKOUT

1702,DV1047 –19–17JUL97–1/1

❶ WARNING LIGHTS CHECK



H39888 –UN–30JUN89



H47499 –UN–14JUN96

Turn signal lever must be in the off (center) position.

Move light switch to the first position for hazard lights.

LOOK: Four turn lights on the front and rear of grain tank should be flashing.

OK: Go To ❷

NOT OK: See Lighting Diagnostics in Section 240.

– – –1/1

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210
15
4

SPECIFICATIONS—9410 COMBINES

Engine:	Make Model Type	John Deere 6068H six-cylinder, in line, valve-in-head, diesel turbocharged
	Brake Horsepower Displacement Bore and Stroke Firing Order Air Cleaner Thermostats (Two)	141 kW (190 hp) 6.8 L (414 cu. in.) 107 x 110 mm (4.20 x 4.33 in.) 1-5-3-6-2-4 Dry Type with Safety Element 82°C (180°F)
Electrical System:		12 volt, negative ground with 95 amp alternator
Transmission:		three speeds
Brakes:		hydraulic shoe
Cylinder:	Types Diameter Width	rasp bar or spike tooth 660 mm (26 in.) 1397 mm (55 in.)
	Number of bars: rasp bar spike tooth	 10 12
Concave:	Types Area	13 or 14 open bar or spike tooth .81 m^2 (1255 sq. in.)
Beater:	Diameter Number of wings	396 mm (15-1/2 in.) 8
Beater Grate:	Type Area	open bar two-position adjustable .53 m^2 (821 sq. in.)

HX,9000SP,K –19–23AUG97–1/2

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SPECIFICATIONS

Item	Measurement	Specification
Evacuating System	Required vacuum at sea level	98 kPa (29 in. Hg)
Refrigerant	R-134a Capacity	1.8—1.9 kg (4—4-1/2 lbs)
Compressor	R-134a Oil Charge	251 mL (8.5 fl-oz)
	R-134a Discharge Pressure (at 2000 rpm)	690—2590 kPa (100—375 psi)
	R-134a Suction Pressure (at 2000 rpm)	83—207 kPa (12—30 psi)
Condenser	Pressure Drop	14—55 kPa (2—8 psi)
Evaporator	Pressure Drop	34—83 kPa (5—12 psi)
Compressor Relief Valve	R-134a Opening Pressure	3450—4140 kPa (500—600 psi)
Hi-Pressure Sensing Switch	Opening Pressure	2310—2517 kPa (335—365 psi)
Lo-Pressure Sensing Switch	Opening Pressure	255 kPa (37 psi)
	Closing Pressure	296 kPa (43 psi)

HX,290,DV6502 –19–07AUG97–1/1

HOSE AND TUBING FLARE CONNECTION

Metal Tube Outside Diameter	Thread and Fitting Size	Steel Tubing[a] Torque		Aluminum or Copper Tubing[b] Torque	
		N•m	(lb-ft)	N•m	(lb-ft)
1/4	7/16	20	(15)	7-9	(5-7)
3/8	5/8	41	(30)	15-18	(11-13)
1/2	3/4	47	(35)	15-18	(11-13)
5/8	7/8	108	(80)	24-29	(18-21)
3/4	1-1/16	135	(100)	31-38	(23-28)

[a]Use steel tubing torques only when both ends of connection are steel.

[b]If a connection is made with steel to aluminum or copper, use the lower torque specification.

9000,29005,3 –19–07MAY92–1/1

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Group 15AW—Unloading Auger Swing Diagnostics—Type A
Group 15AX—Unloading Auger Swing Diagnostics—Type B
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Group 15AZ—Wiper System Diagnostics
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Group 20G—Overheating Theory of Operation
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Section 230
Fuel/Air Operation and Tests

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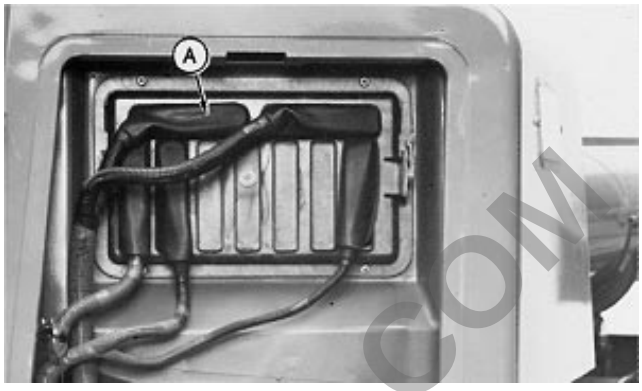
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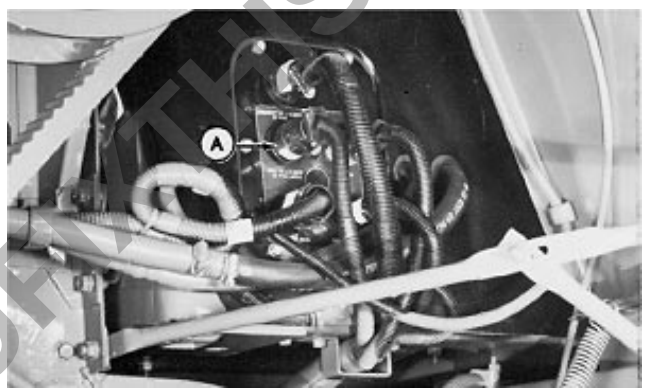
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C201—POWER DISTRIBUTION BOARD CONNECTOR J1



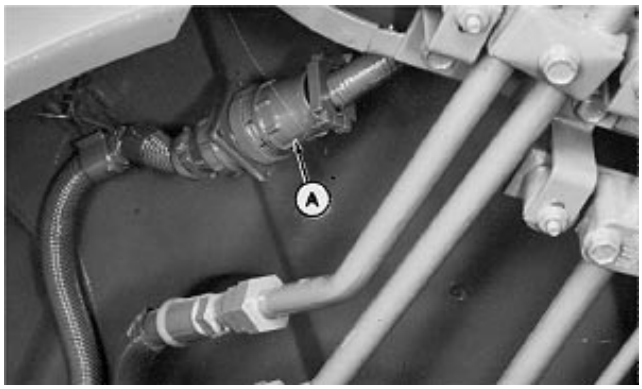
9000,240,C201 –19–16FEB97–1/1

C402—L.H. MAIN/CAB CONNECTOR



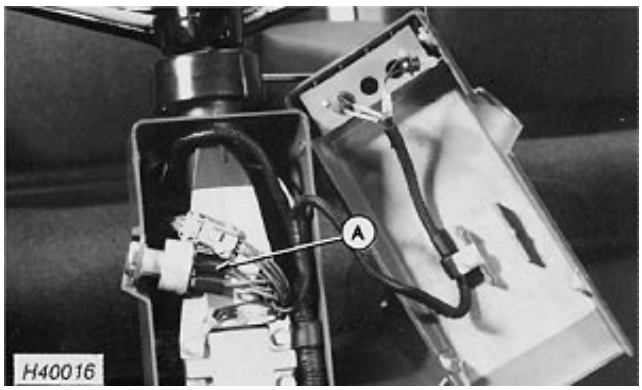
1402,DV737 –19–06MAR97–1/1

C601—STEERING COLUMN/L.H. MAIN HARNESS CONNECTOR



9000,240,C601 –19–16FEB97–1/1

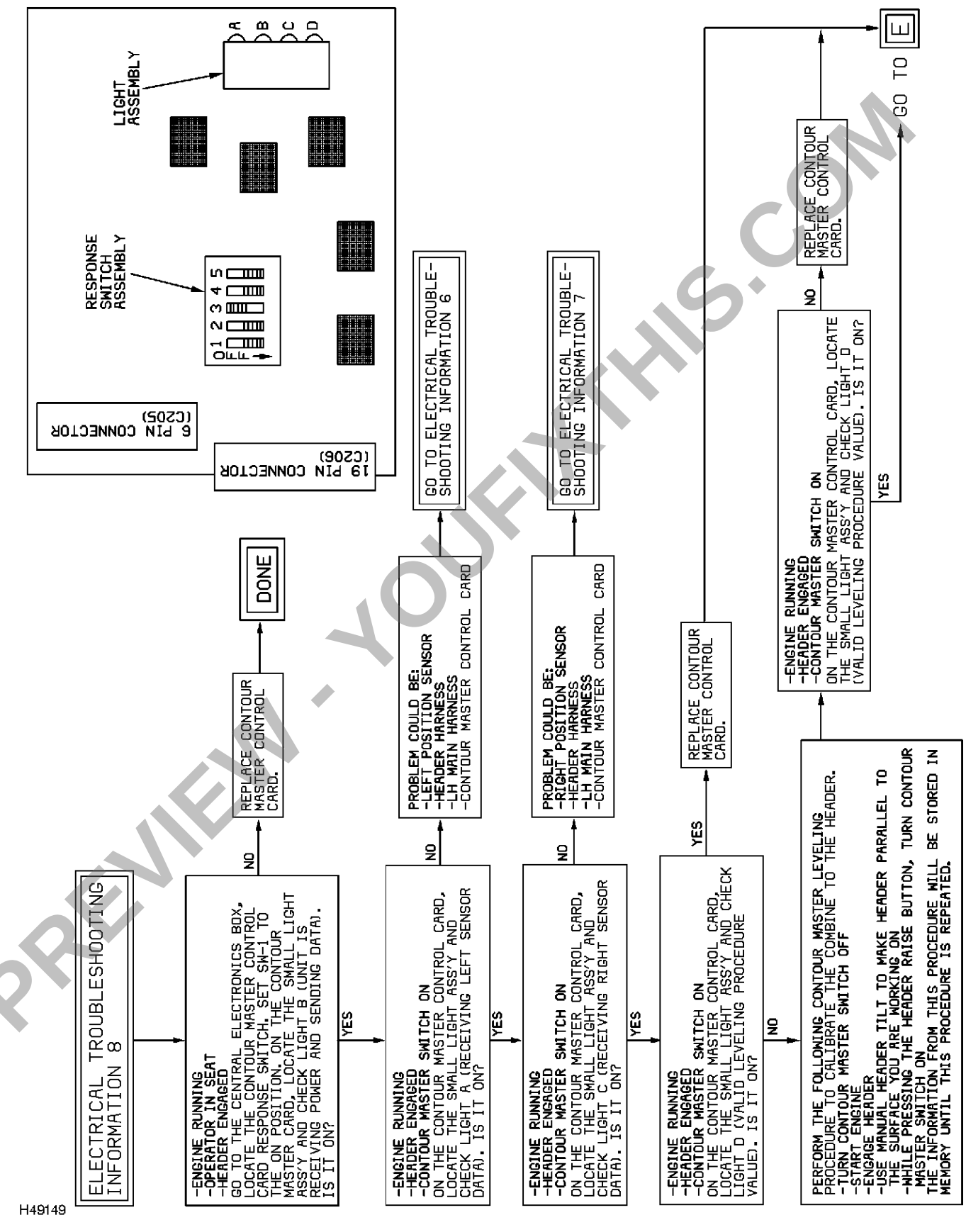
C611—IGNITION SWITCH CONNECTOR—IN STEERING COLUMN



9000,240,C611 –19–16FEB97–1/1

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HX,240,DV6182 –19–07AUG97–16/16

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TYPE B DIAL-A-MATIC™ SYSTEM

IMPORTANT: Be sure you are diagnosing a Type B DIAL-A-MATIC™ System before continuing here. (Refer to DIAL-A-MATIC™ Identification Section for assistance in determining system type.)

DIAL-A-MATIC is a trademark of Deere & Company.

HX,240,DV6009 –19–28JUL97–1/1

BRIEF DESCRIPTION

The DIAL-A-MATIC™ system allows the operator to select the amount of pressure exerted on the ground by the header being used (this height control always maintains ground contact with some part of the front end equipment).

A four-position DIAL-A-MATIC™ switch is located on the armrest control panel and allows the operator to choose the following system operating characteristics:

- Off - System Inoperative Position 1 - Lowest (Heaviest Pressure)
- Position 2 - Mid Position
- Position 3 - Highest (Lightest Pressure)

For DIAL-A-MATIC™ to be operative, the header must be properly wired to conform to this model.

DIAL-A-MATIC is a trademark of Deere & Company.

9000,24005AI,1 –19–30JUL97–1/1

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BRIEF DESCRIPTION

The engine oil pressure system provides lubrication to the moving parts of the engine.

Oil pressure is also used to electrically interlock the operation of certain hydraulic functions to prevent inadvertent operation while the engine is not running.

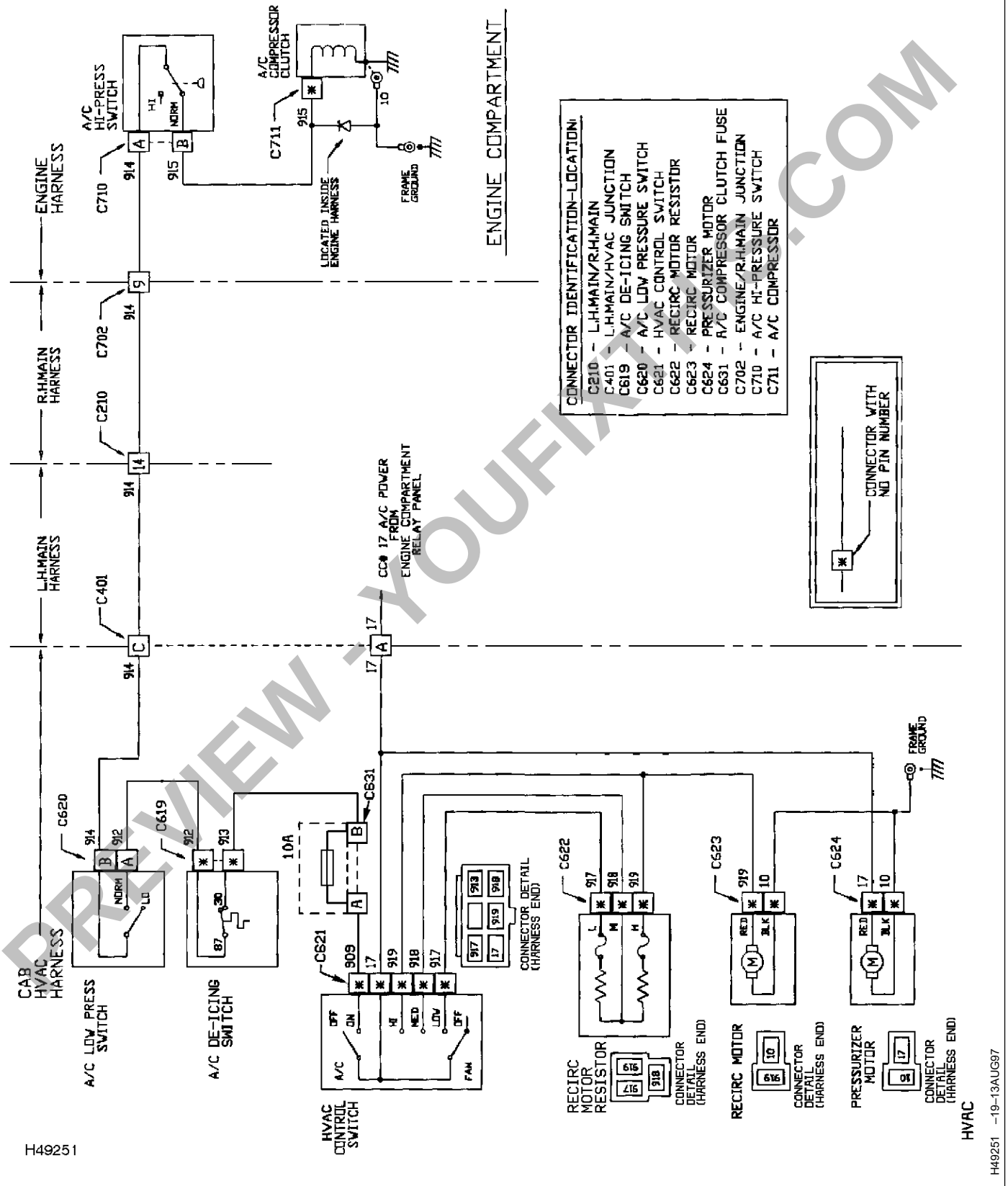
Oil pressure is detected by a sensor located near the rear of the engine block on the engine access area side.

9000,24005M,1 –19–29JUL97–1/1

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DIAGRAMS



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HX,240,DV6267 -19-19AUG97-1/4

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BRIEF DESCRIPTION

The lighting system has been designed to provide area lighting for operation at night and in low light conditions. Many of the systems use halogen lamps to provide the most effective lighting.

The light switch has four positions for the following lights:

- First position (warning lights)
  - warning lights
  - turn signals work if selected
- Second position (road lights)
  - warning lights
  - turn signals work, if selected
  - road lights
  - cab instrument lights
- Third position (field lights)
  - road lights
  - field lights
  - stubble lights
  - unloading auger light if swung out greater than 10 degrees
  - cab instrument lights
  - turn signals do not work
  - side finder lights, if selected (optional)
- Fourth position (rear discharge)
  - road lights
  - field lights
  - stubble lights
  - cab instrument lights
  - turn signals do not work
  - side finder lights, if selected (optional)
  - rear discharge lights

IMPORTANT: Some of the lights use halogen bulbs. These bulbs require special handling. Oil from your skin remains on the bulb and causes heat concentrations that can damage the bulb. Touching the bulb can cause the bulb to explode when it is turned on.

HX,240,DV6110 –19–05AUG97–1/1

240
15AH
1

BASIC OPERATION

The light switch on the overhead console selects the particular lights that will operate (refer to operation chart for list).

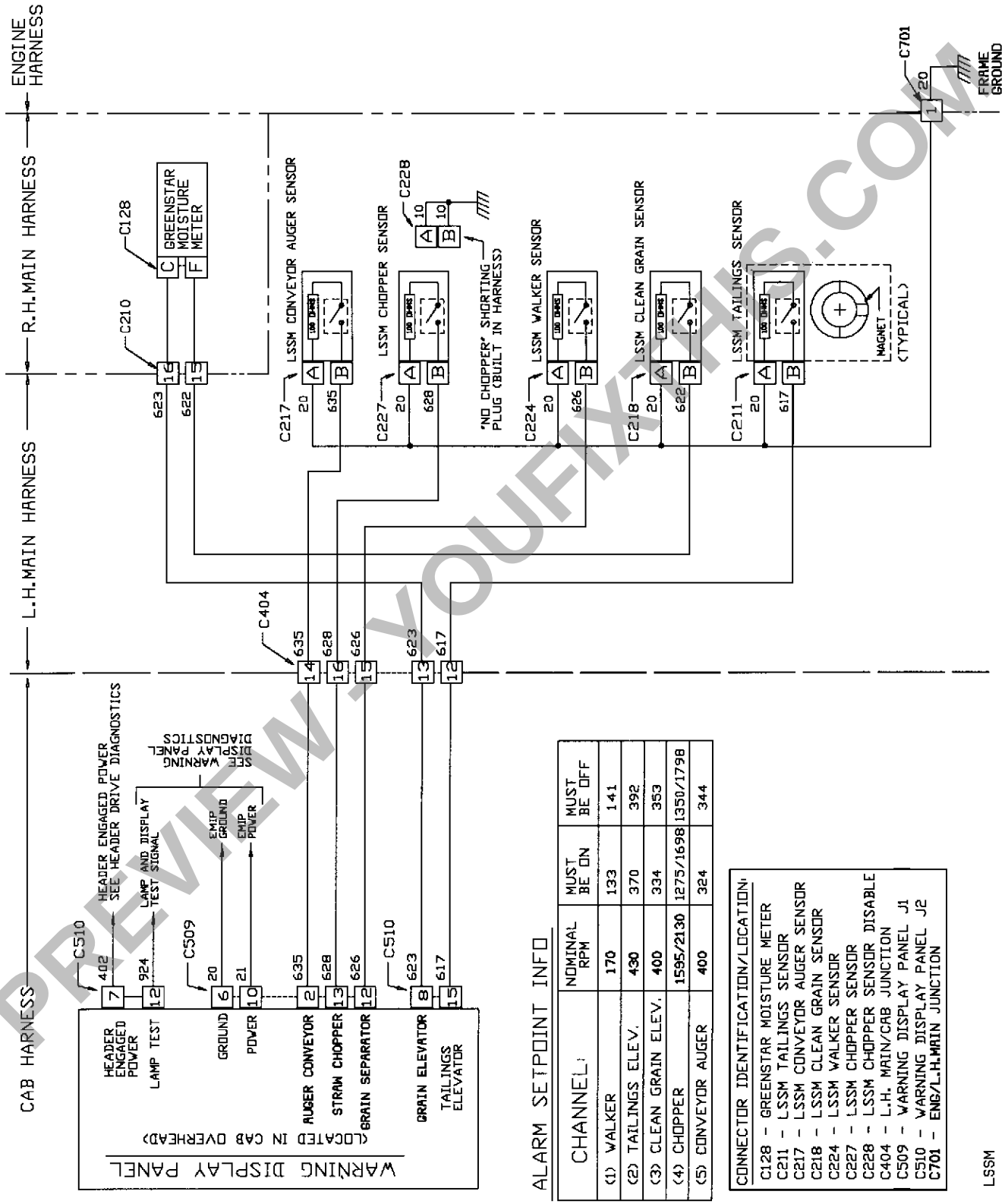
Power from the light switch activates relays located on the Power Distribution Board located in the Central Electronics Box. The actual power for the lamps is then distributed from there.

9000,24005BC,2 –19–25JUN96–1/1

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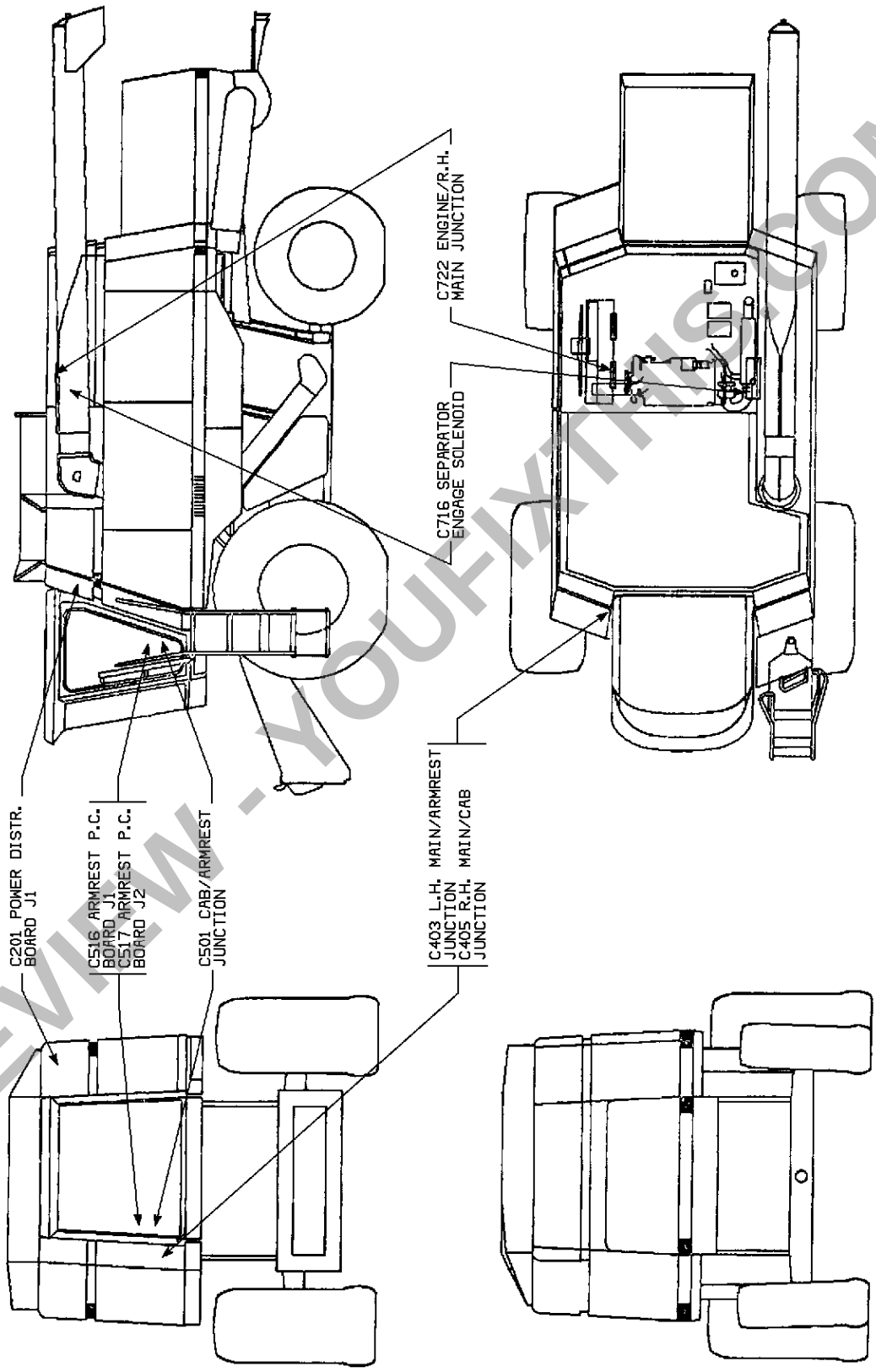
DIAGRAMS



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HX,240,DV6214 –19–11AUG97–1/7

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SEPARATOR ENGAGE

H49374 –19–05AUG97

HX,240,DV6230 –19–12AUG97–2/3

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ENGINE AIR FILTER (YELLOW)

VISUAL INDICATION:

Light ON indicates the air filter system is restricted; limiting combustion air to the engine.

AUDIBLE WARNING:

(Audible Priority 6)
The buzzer will beep three times followed by a 30-minute pause and will repeat until the problem is corrected.

NOTE: This audible warning will not occur if a higher priority (lower number) warning is active.

Clean or replace primary filter element.

Replace safety air filter element.

If the light still remains on, refer to the diagnostic information.

Problem could be:

- Engine Inlet Air System Clogged/Restricted
- Engine Air Filter Restricted Switch and/or Wiring

9000,24005AR,0 –19–13AUG97–1/1

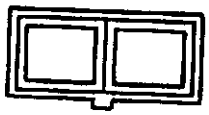
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C524 STANDARD WIPER MOTOR (2 PIN) CONNECTOR

Pin #		Circuit Code
*	-	933
*	-	

*INDICATES NO PIN NUMBER



H46275 –UN–26APR94

1402,24010B,BD –19–19SEP94–1/1

C525 STANDARD WIPER MOTOR (1 PIN) CONNECTOR

Pin #		Circuit Code
*	-	932

*INDICATES NO PIN NUMBER



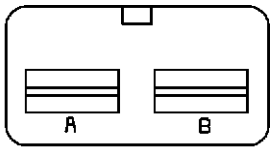
H46101 –UN–23APR94

1402,24010B,BE –19–19SEP94–1/1

240
20B
39

C526 LEFT SPEAKER CONNECTOR (DELCO)

Pin #		Circuit Code
A	-	942
B	-	943



H47706 –UN–12JUL96

H47706

9000,240,DV177 –19–14JUN96–1/1

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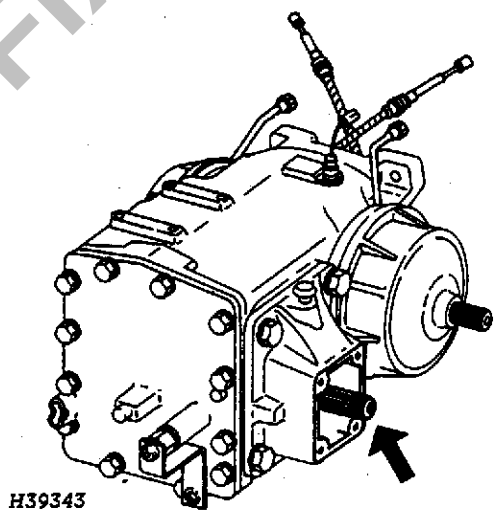
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HYDROSTATIC MOTOR—SHUTTLE VALVE



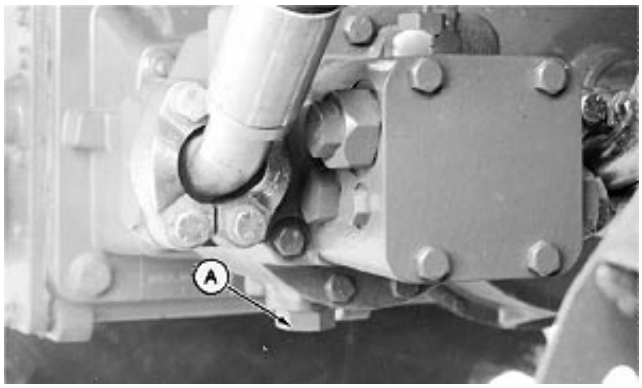
HX,250,DV6335 –19–04AUG97–1/1

HYDROSTATIC MOTOR—TRANSMISSION COUPLER



HX,1402,2505C,M –19–11NOV92–1/1

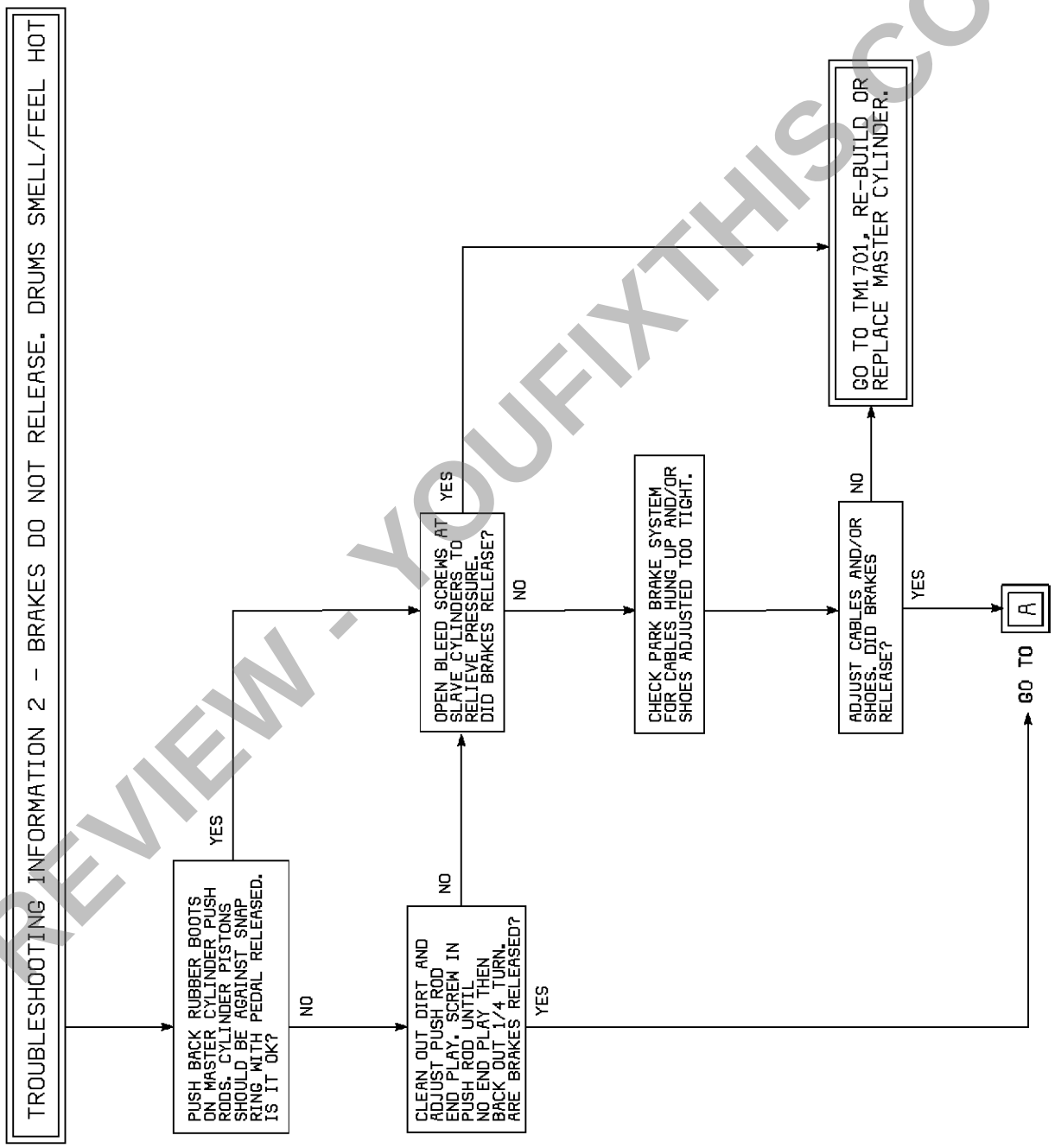
HYDROSTATIC MOTOR—CASE DRAIN PLUG



HX,250,DV6334 –19–04AUG97–1/1

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H49422 –19–06AUG97

HX,260,DV6538 –19–08AUG97–3/5

260
05
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BRIEF DESCRIPTION

The cylinder speed adjust system allows the operator to adjust the cylinder speed while the separator is engaged and the cylinder speed switch is selected for increase or decrease.

9000,24005T,1 –19–29JUL97–1/1

BASIC OPERATION

The cylinder speed adjust system allows the operator to adjust the cylinder speed while the separator is engaged and the cylinder speed increase or decrease switch is activated.

The system consists of an electrically controlled single acting hydraulic system which adjusts a variable speed POSI-TORQ™ belt drive.

The cylinder speed adjust system operates only while the separator is engaged. The cylinder speed adjust switch provides signals to the hydraulic control system for the cylinder drive variable sheave.

When cylinder speed is changed, a signal is sent to the dual display digital tachometer that resets the low cylinder speed alarm set-point.

NOTE: The cylinder speed will not respond to a decrease command while certain hydraulic functions are operating, such as: auger swing in or out, header raise, reel raise, or reel fore/aft.

It is normal for the cylinder speed to increase slightly over time due to the thermal expansion of the oil in the system. Cylinder speed will decrease over time due to small amounts of oil leakage.

When working on the hydraulics of this system, air may become trapped in the plumbing causing erratic system operation. Before diagnosing the electrical system, bleed air from the hydraulic system at the variable sheave assembly.

To increase cylinder speed, coils 1 and 4 on the hydraulic valve stack are activated.

To decrease cylinder speed, coil 4 on the hydraulic valve stack is activated.

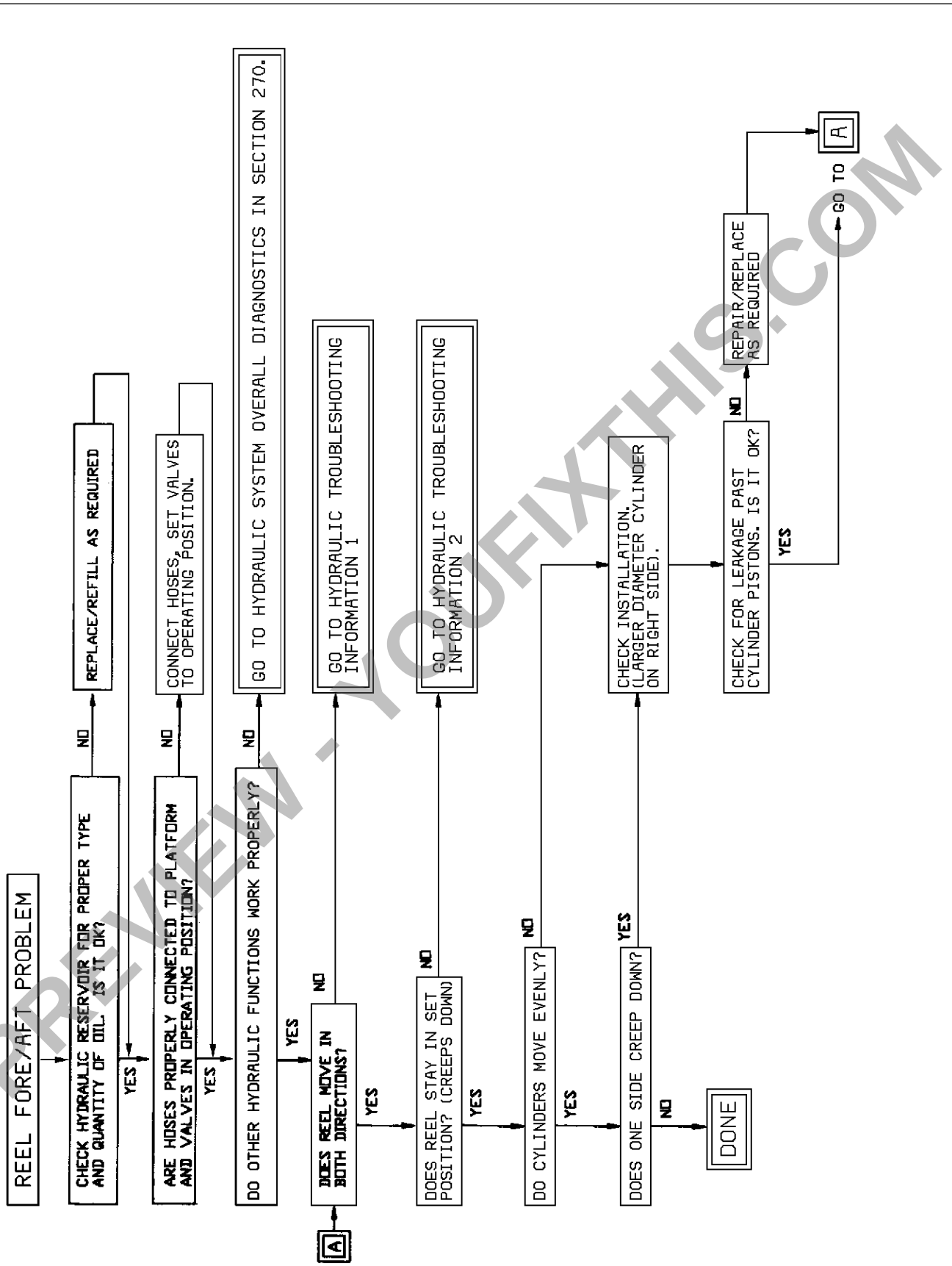
270
15D
1

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HX,270,DV6401 –19–05AUG97–1/2

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H48693 –19–07MAY97

HX,270,DV6540 –19–08AUG97–2/4

270
15J
11

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When turning the steering wheel for a right turn, the steering metering pump (A) directs metered steering flow (H) to the head end of the right-hand steering cylinder (B), and to the rod end of left-hand steering cylinder (C). Metered steering fluid flow varies with the speed that the operator turns the steering wheel.

Oil flow that is not directed to the steering cylinders joins return flow from the steering cylinders under regulated pressure (G). Therefore, oil flow to the gearcase filter (D) and the gearcase control valve (E) is not decreased during steering operation.

Under normal conditions, metered steering flow (H) will reach a pressure required to move the steering wheels.

A relief valve in the steering metering pump (A) limits high pressure oil (F) if the cylinders reach the end of their stroke or excessive steering force is required.

If high pressure oil (F) is not available because of a malfunction, an emergency check valve for manual steering is located in the steering metering pump (A). Temporary steering control will allow the operator to stop the combine safely. The steering wheel will require a higher force to turn and the separator drive pressure warning light and buzzer on the Warning Display Panel will come on.

The attenuator (L) reduces noise and vibration in the steering system.

1402,27055,4 –19–09MAY97–2/2

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The effect of a raise or lower signal is to cause the mechanical linkage to move in the opposite direction from the direction that started the signal. Therefore, the header will raise or lower in small amounts, following the ground contour closely.

The adjustable slot (I) is used to be certain the brush holder reaches all pads as the cutterbar moves through its float range.

9000,28010E,3 –19–29MAY96–2/2

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